The Commonwealth of Massachusetts
HOUSE OF REPRESENTATIVES
STATE HOUSE, BOSTON, MA 02133-1054

Mr. Alex Strysky, MEPA Analyst
100 Cambridge Street, Suite 900
Boston, Massachusetts 02114

Subject: EEA No. 16654 – L.G. Hanscom Field North Airfield Development, Bedford

June 14, 2024

Dear Mr. Strysky,

We, as members of the Massachusetts House of Representatives who represent the towns adjacent to Hanscom Field, those being Bedford, Concord, Lexington, and Lincoln, write to submit our comments on the Draft Environmental Impact Report (DEIR) for the proposed North Airfield Expansion at Hanscom Airport (Hanscom).

In preparation for drafting this comment letter, we reviewed the 273-page DEIR and its numerous appendices that Runway Realty Ventures, LLC, and North Airfield Ventures, LLC, (the proponents) submitted to Secretary Rebecca Tepper in support of their proposal. At the outset, the DEIR makes the sanguine claim that this expansion of private jet hangars will cause Hanscom to "serve as a national example of innovative and sustainable aviation practices in line with the Commonwealth's decarbonization goals." DEIR § 1.1.2. One might fairly assume that tucked within this lengthy report full of text and charts would be a modicum of pressure-tested support for that assertion. Instead, the DEIR is strikingly cavalier in its omissions and bold unsupported statements on matters material to the MEPA process and the Commonwealth's stated environmental goals. These omissions and dubious assertions lie at the heart of concerns that have been raised exhaustively and squarely by the Secretary's ENF Certificate,[1] residents, municipalities in and around our districts, legislators, and advocacy groups since long before the proponents submitted the DEIR.

[1] *See, e.g.*, Secretary's ENF at 4 ("According to the ENF, the project will reduce the overall number of aircraft flights and result in an environmental benefit associated with reduced air emissions; as detailed below, the DEIR should provide documentation in support of this benefit."); *id* ("The DEIR should contain a comprehensive discussion of measures to be taken by the project to avoid, minimize and mitigate environmental impacts.").

Whereas the DEIR claims that the proponents revised their proposal based on the public's comments in response to the Environmental Notification Form and the Secretary's Certificate on the ENF,[2] no cogent argument could be made that the DEIR adequately incorporates or addresses these concerns and questions raised by citizens and the Secretary. Below, we describe several of the problematic issues with the DEIR. Our list of issues that we believe must be addressed in a revised DEIR is intended to complement the many objections levied in this process by other individuals and groups.

1. Supply-Demand Economics Applies Here

The proponents assert that "[t]he Project will facilitate progress toward a net zero GHG aviation industry over the coming decades." DEIR § 2.1. On this point, there are two foundational realities lying at the heart of the proposal that cannot be meaningfully contested.

First, the aviation industry is subject to the typical constraints of supply-demand economics. The proponents concede as much multiple times throughout the DEIR in reference to the purported economic desirability of the project. *See, e.g.*, DEIR § 2.1 ("[General Aviation] demand is primarily driven by national and local economic conditions"); *id.* § 2.2 ("Because long term GA demand is primarily driven by local and national economic conditions, the Project is intended to absorb the existing demand, which is evidenced by the volume of ferry flights, inquiries from operators, etc., and address future demand for hangar space."). Accordingly, when the supply of infrastructure and accessibility of a certain type of travel increases, that travel type will become more affordable and more utilized absent other changes in economic conditions. Indeed, the whole reason that the proponents wish to increase the number of hangars is that they recognize there is *already* latent demand for hangar space in our region outpacing supply; by increasing the number of hangars at Hanscom, the proponents will increase the supply of an essential element of private jet infrastructure, reduce the overall price of private jet travel, and create the conditions for a rise in demand barring a serious recession or some other economic calamity. *It should give the Secretary great pause in accepting this DEIR that nowhere in the report is this patently obvious point even tacitly acknowledged.*

2. The Net Effect on Flight Volume Is Extremely Material to the MEPA Inquiry and the Commonwealth's Overall Climate Objectives

Second, private jet travel is an extreme contributor to greenhouse gas emissions on a per-use basis. Each additional private jet at Hanscom could be responsible for up to 12,878,160

[2] DEIR § 1.3. (The proponents declined to use page numbers in the 273-page DEIR, making precise citation difficult.)

kg of CO2e or 14,195 tons annually. For reference, a typical car emits about 5 tons annually.[3] [4] Consequently, even a minor increase in private jet flight volume resulting from this project would completely subsume the efforts of the Hanscom-area towns to reduce GHG emissions. For example, the Town of Concord has committed to reducing its GHG emissions by 80 percent by 2050.[5] In working towards this goal, the Town and private property owners have installed 11.2 MW of solar.[6] These solar installations offset just 4,400 tons of CO2e per year. A single private jet at Hanscom in an average year completely cancels these efforts three times over.

At the state level, Governor Healey's *Clean Energy and Climate Plan for 2050* and the Global Warming Solutions Act of 2021 require Massachusetts to "achieve gross emissions reductions of 85% below 1990 levels . . . and . . . ensure that the total statewide GHG emissions released into the atmosphere are less than or equal to the amount removed from the atmosphere." Nothing could be more antagonistic to the Commonwealth's climate goals than accepting without proper diligence a proposal that threatens to set us back immeasurably from our pursuit of greenhouse gas reduction objectives. The MEPA review process's integrity relies on

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[3] EPA, *Tailpipe Greenhouse Gas Emissions from a Typical Passenger Vehicle*, 2023, 2, *available at* https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P1017FP5.pdf.

[4] The global warming effect of jet emissions is expressed in carbon dioxide equivalent (CO2e), which includes both the CO2 contribution and the heat trapping effects of the radiative forcing of the ozone, methane, and water vapor released in flight. The IPCC estimates that the total radiative forcing multiplier is between 2 and 4 times that of the CO2 alone. IPCC, *Aviation and the Global Atmosphere*, 1999, 9, *available at* https://archive.ipcc.ch/pdf/special-reports/spm/av-en.pdf. The combustion of 1 kg of jet fuel in an aircraft engine produces 3.16 kg of CO2. IATA, *Carbon Offset Program*, April 19, 2022, 8, *available at* https://www.iata.org/contentassets/922ebc4cbcd24c4d9fd55933e7070947/icop_faq_general-for-airline-participants.pdf. Using a conservative estimate of the radiative forcing multiplier of 2, the combustion of 1 kg of jet fuel equates to 6.3 kg of CO2e. Based on the proponent's own assertions, the type of aircraft that will use this proposed facility will consume 350 to 450 gallons per hour, which equates to 1,324 kg to 1,703 kg per hour. DEIR 2.2.1. Conklin & de Decker, *Aircraft Operating Cost and Performance Guide*, 2024, *available at* https://privatejetcardcomparisons.com/the-basics/private-jet-fuel-cost-per-hour-in-gallons/. By this calculation, these flights would contribute, on average, a staggering 8,347 kg to 10,731 kg of CO2e per an hour of flight time. Private jets average 250 to 1,200 hours of flight time per year. Based on the proponent's own assertions, the type of aircraft that will use this proposed facility will consume 350 to 450 gallons per hour, which equates to 1,324 kg to 1,703 kg per hour. DEIR 2.2.1. By this calculation, these flights would contribute, on average, a staggering 8,347 kg to 10,731 kg of CO2e per an hour of flight time. Private jets average 250 to 1,200 hours of flight time per year. ARGUS, *Part 135 Annual Operations*, July 12, 2017, *available at* https://privatejetcardcomparisons.com/2017/07/11/how-many-hours-a-year-do-private-jets-fly/.

[5] Sustainable Concord, *Climate Action and Resilience Plan*, 2020, 8, *available at* https://concordma.gov/DocumentCenter/View/25318/Sustainable-Concord-Climate-Action-and-Resilience-Plan-2020?bidId=.

[6] *Id.* at 22.

contextualizing a new project's environmental impact within the broader context of relevant statewide mandates and objectives. The DEIR supplies inadequate empirical support or specificity to make meaningful assessments of the project's environmental impact.

3. The Proponent's Ferry Flight Theory Is Illogical and Uses Questionable Methodology

Instead of directly addressing the two foregoing concerns, the DEIR toggles between them vis-a-vis an almost dizzying explanation of ferry flights. The proponents' basic theory is that, since some Hanscom private jet clients currently use hangars in other locations, such as Portsmouth and Teterboro, and must fly from there to get to Hanscom, these planes would take less flights – specifically, 3,500 less per year – and fly fewer miles if they could use hangars at Hanscom. DEIR § 2.3. Fair enough. But zooming out even a little bit reveals the fanciful nature of the proponents' "ferry flight theory."

Secretary Tepper, recognizing this as a point of contention and an issue material to the MEPA process, set a clear expectation in the ENF Certificate for the level of detail that was expected in order to support the ferry flight theory:

> A key rationale for the Preferred Alternative is that it will provide an environmental benefit by reducing the overall number of flights and associated air emissions; the ENF asserted that this would result because the project provides hangar spaces for planes that would otherwise generate ferry flights. . . . The DEIR should describe in greater detail how the project will meet the objective of meeting the demand for hangar spaces while also reducing impacts. Specifically, the DEIR should describe the number and type of aircraft to be stored in the hangers and provide a comprehensive explanation of ferry flights, estimate the number of ferry flights that are anticipated under existing and future conditions with explanation of how the estimates were generated, explain how the project concludes that ferry flights would necessarily occur in the absence of hangar spaces (e.g., as opposed to aircrafts departing to serve additional customers instead of seeking parking spaces at another base location), and **discuss why expanding hangar capacity to meet potential future increases in customer demand would not result in a net increase in flights as compared to existing conditions**, even when accounting for a reduction in ferry flights. ENF Certificate at 7.

The ENF Certificate goes on to spell out eight specific factors to be included in the ferry flight analysis. *Id.* at 7.

For two basic reasons, the DEIR falls well short of meeting the expectation set in the ENF Certificate. First, the theory omits any explanation of what will happen to the newly

vacated hangars after private jet clients relocate to Hanscom's new hangars. The basic principles of supply-demand economics dictate that, over time, these non-Hanscom hangars at nearby airports will become occupied by other private jets as part of an increasingly accessible and affordable private jet industry, thanks in significant part to the proliferation of hangars. One could logically infer that these newly hangared jets will take off from Hanscom, just as their predecessors in Portsmouth, Teterboro, and elsewhere did. Indeed, the DEIR acknowledges that irrespective of whether this project is ever completed, Hanscom is able to absorb the "moderate growth rate" expected in overall aircraft. DEIR § 2.1. The DEIR lacks any assessment of how much additional runway capacity exists at Hanscom. That issue is clearly relevant to the impact analysis. A revised DEIR should include existing runway capacity to give a complete picture of the project's impacts.

Second, the very ferry flight theory upon which the proponents rely as a keystone of their environmental assertions uses questionable methodology. It is noted that the proponents' confidence in their own theory seems to have wavered. A year ago, Massport reassured the public that the project will result in a reduction of ferry flights.[7] Now, the DEIR states that the project "may likely reduce annual ferry flights." DEIR § 1.1.1. The use of the phrase "may likely" may be an implicit acknowledgment of a methodology problem. At its core, the ferry flight calculation relies on an assumption that flights landing at Hanscom for 18 hours or less are ferry flights. DEIR § 2.3.2. But there is no validation for this 18 hour-ferry flight connection. Moreover, the 350-mile radius used as a factor in determining ferry flights would include airports as far away as Montreal and Philadelphia. The proponents' ferry flight estimates appear to be based on determinants that are both temporally and geographically overbroad. Given the centrality of the ferry flight theory in assessing the environmental impact of the project, the apparent infirmities of the proponents' ferry flight analysis are alone sufficient cause to send the proponents back for a second try at the DEIR.[8]

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[7] Abel, David, Boston Globe, *Plan to expand hangar space for private jets at Hanscom sparks concerns about a surge in climate pollution*, May 20, 2023 ("'Due to the fact that the development will largely house existing users and, in some cases, reduce ferry flights, it is not assumed that there will be a resulting increase in carbon emissions,' said Sharon Williams, Massport's director of Hanscom.").

[8] It is noted that a consultant hired by project opponents concluded that *only three planes ferried out of Hanscom last year*. The consultant determined that the proponents used an overly broad definition as to what constitutes a ferry flight, that the proponent failed to analyze flight itinerary data to determine whether the aircraft making the 3,543 flights actually follow a ferry pattern, and that the three aircraft meeting a ferry flight criteria only took 132 flights. Industrial Economics, Inc., *Analysis of the Greenhouse Gas Emissions Impact of Proposed Expansion of Hangar Capacity at Hanscom Field*. April 4, 2024, 2, *available at* https://drive.google.com/file/d/1IL0RXoGToGxm4DQRZU4G7XJ0TJAZhbPy/view?usp=sharing.

4. Proponents' Energy-Conserving Infrastructure Measures Are Nearly Immaterial in Comparison to the Net Flight Impact

The DEIR extols the project's sustainability and energy conservation measures to target net-zero GHG emissions through all-electric energy management systems and rooftop solar arrays. DEIR § 1.3. The proponent acknowledges that the installation of a solar array merely targets stationary source GHG emissions. The solar arrays as proposed would offset 2,800 tons of GHG emissions annually, which amounts to less than 20 percent of the total GHG emissions produced by an average jet housed at Hanscom.

5. Preparing for Alternative-Use Fuels Is a Highly Speculative Benefit

The DEIR also outlines lofty aspirations for clean aviation fuels, conversions to electric aircraft and electric service vehicles, and "other sustainable technologies and practices that are emerging in the industry." DEIR § 8.3.4.1. But the FAA's forecasts belie any hope that the proposed development will welcome planes using these technologies anytime soon. According to the FAA's 2021 Climate Action Plan, electrical aircraft are not expected to be introduced in time to meet the U.S. aviation industry's net-zero GHG emissions goal of 2050.[9] This report also outlines a gradual uptake in Sustainable Aviation Fuels (SAFs), which the DEIR relies on, through 2050.[10] The FAA's Climate Action Plan notes that "there is a great deal of interest in using SAF." However, the FAA throws cold water on these aspirations, explaining, "high conversion costs and limited feedstock and production infrastructure have inhibited SAF expansion."[11] Moreover, the GHG impact of these alternative fuel types is unclear and producing purported zero carbon alternatives at a reasonable cost and sufficient scale is theoretical.[12] A revised DEIR should acknowledge the current lack of carbon-free alternatives to jet fuel and provide an explanation for how this proposal aligns with the aviation industry's and the Commonwealth's GHG reduction goals without using these alternatives.

6. Proponents' Carbon Sequestration Narrative Is Incomplete and Misleading

The DEIR states that "the Project will maintain existing areas of healthy trees and woodlands on-site to the extent feasible, which will reduce temperatures of the Project Site by providing shade and continue to provide carbon sequestration." 4.2.4.3. Further on, the DEIR states that to the "extent feasible" results in there being virtually no treed areas remaining on the site if the project is to proceed as outlined in the "Reduced Build Alternative." A comparison of

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[9] FAA, *United States 2021 Aviation Climate Action Plan*, November 2021, 18, *available at* https://www.faa.gov/sites/faa.gov/files/2021-11/Aviation_Climate_Action_Plan.pdf.
[10] *Id.* at 6.
[11] *Id.* at 19.
[12] Pavlenko, Nikita and Stephanie Searle, *Assessing the sustainability implications of alternative aviation fuels*, International Council on Clean Transportation, March 2021, 14, *available at* https://theicct.org/wp-content/uploads/2021/06/Alt-aviation-fuel-sustainability-mar2021.pdf.

the DEIR's Figure 1.2 (existing conditions) to Figure 1.4 demonstrates the extent of the vegetation loss that the proponents' expect will occur.

According to the DEIR, the project will cause 20 acres of land alteration, and a total of 17.85 acres of mature trees to be removed. DEIR § 3.1.2. While we appreciate that an effort was made to characterize the types of species and approximate heights of trees being displaced, the DEIR lacks a detailed accounting with measured caliper and carbon sequestration loss. This shortcoming is problematic in part because the proponents pledge in Section 4.2.5 and elsewhere in the DEIR to work with the Town of Bedford to develop a mitigation plan for the region and claims this as a "Project Benefit" without providing any real commitments and without the benefit of any framework for accountability. The proponents should be required to comprehensively analyze the lost trees and collaborate with all the affected Hanscom communities (Concord, Lexington, Lincoln, and Bedford) to develop a mitigation plan that adheres to and does not retreat from the Commonwealth's climate objectives.

7. Conclusion

The DEIR and the public's comments share an undercurrent of two questions, one empirical and one value-based: Are private jets really necessary to "lengthen our lead" in the Massachusetts economy? And if so, is it worthwhile to mortgage our children's future in order to obtain the economic benefits that expanded private jet hangars purport to deliver? We cannot even have a principled debate, or crystallize the issues, when we lack a cogent analysis of whether these hangars will lead to more or less private jet flights, and by how much.

We respectfully and strongly urge the Secretary to send this profoundly flawed DEIR back to the proponents and require pressure-tested answers to the questions she posed in the ENF Certificate. If this process is going to have any integrity, the proponent must do better.

Sincerely,

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Michelle Ciccolo
State Representative
15th Middlesex District

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