



APPENDICES

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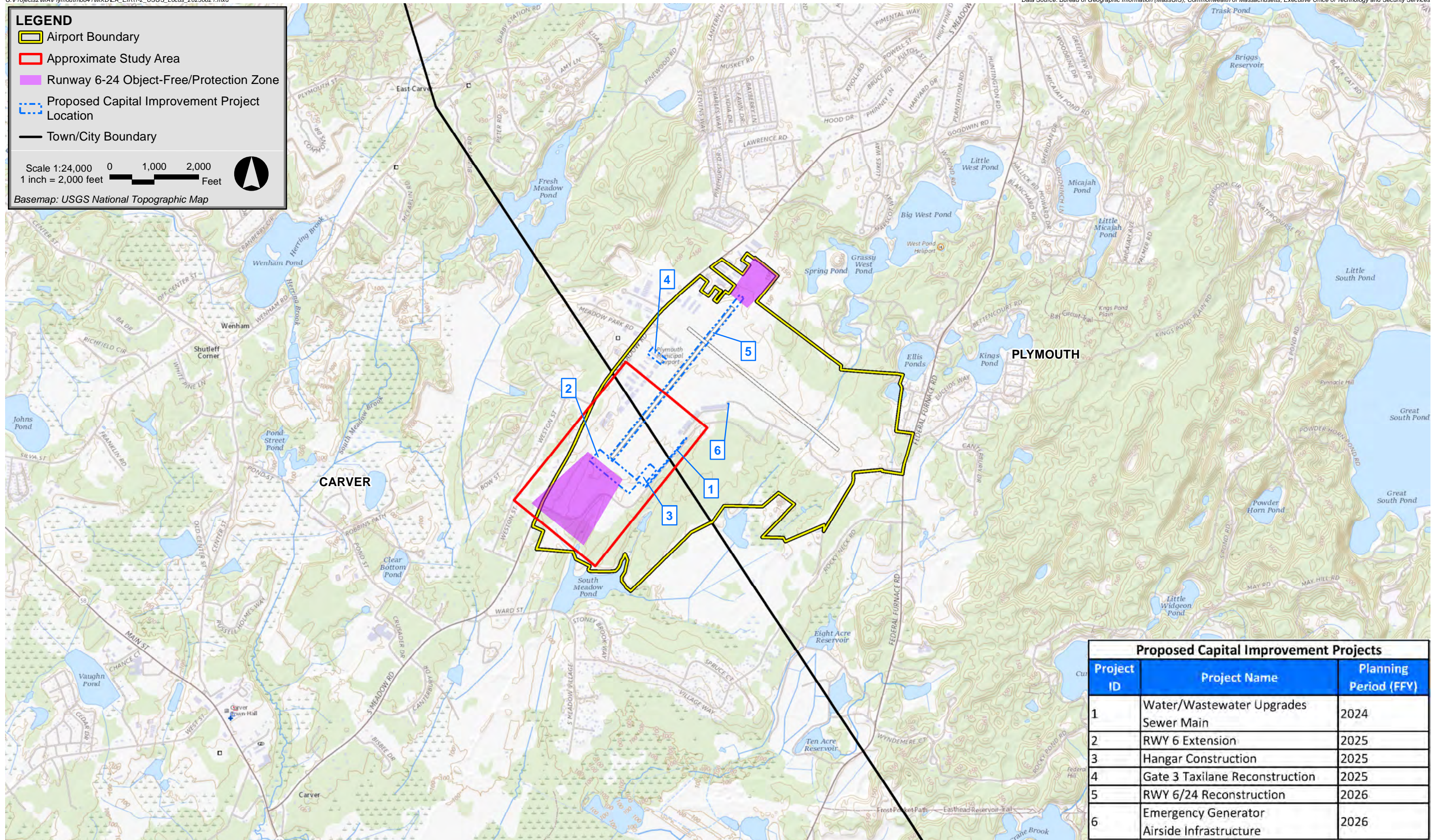
APPENDIX A Figures / Maps (11" x 17")

LEGEND

- Airport Boundary
- Approximate Study Area
- Runway 6-24 Object-Free/Protection Zone
- Proposed Capital Improvement Project Location
- Town/City Boundary

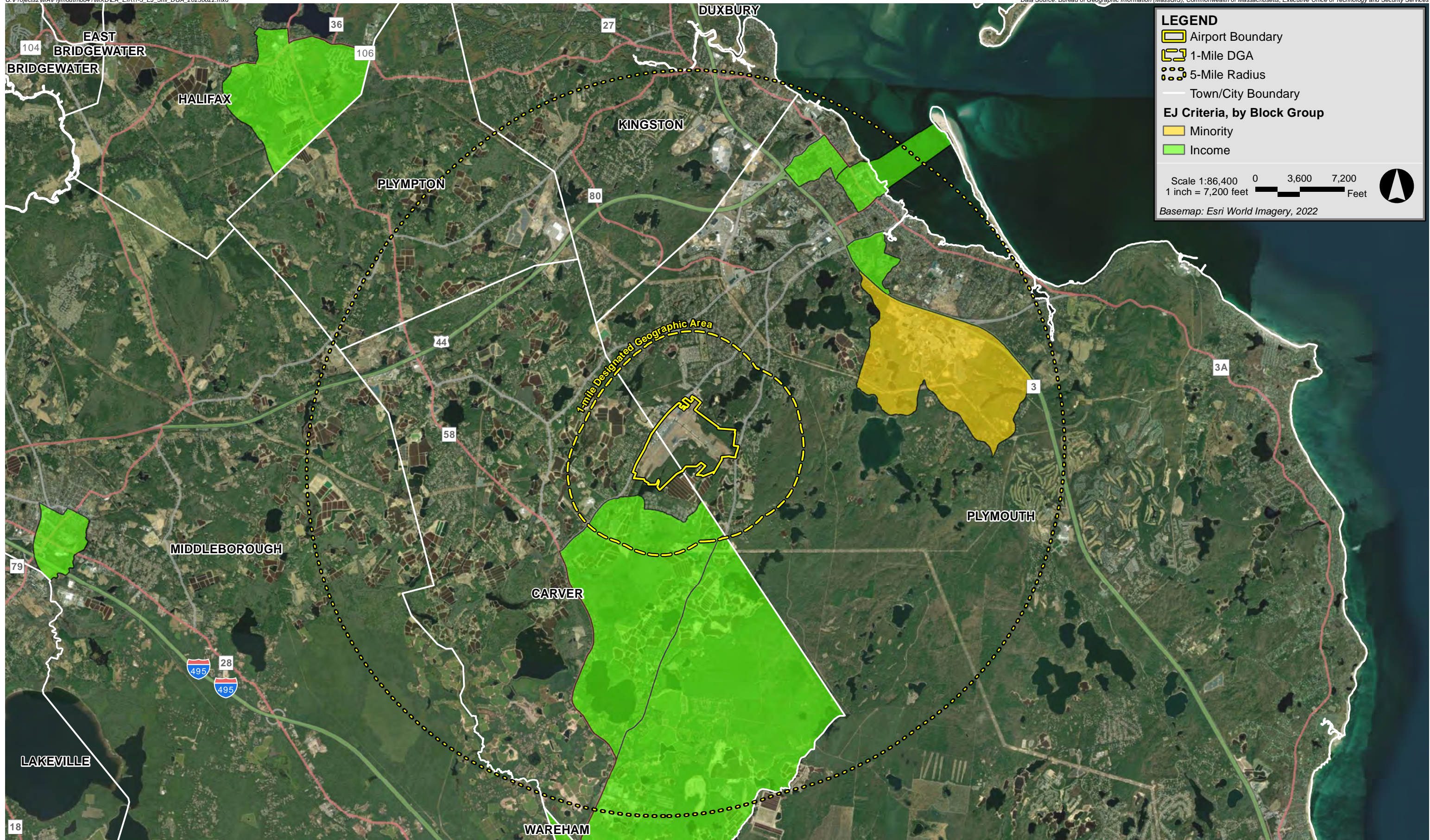
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Basemap: USGS National Topographic Map

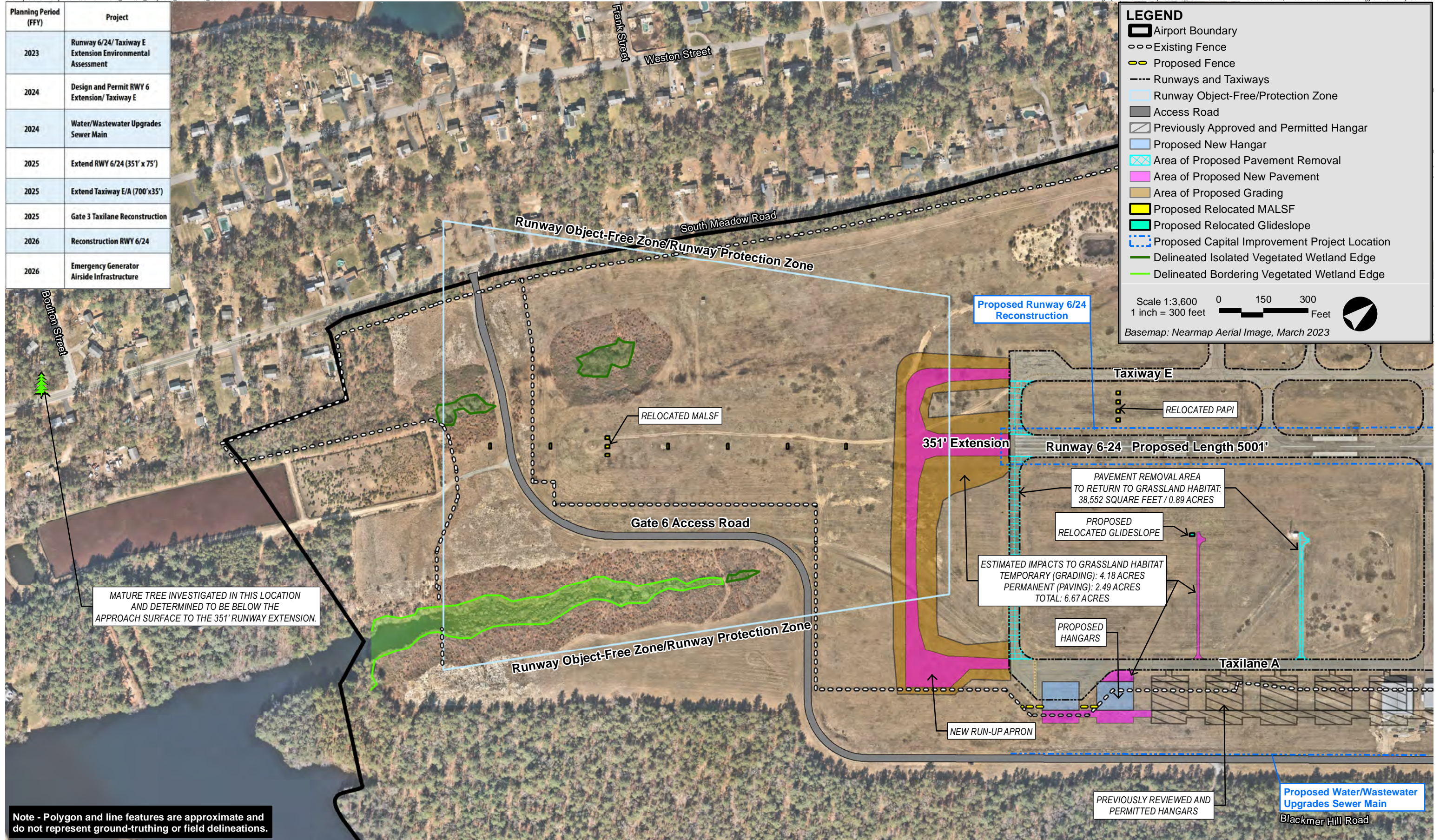


Proposed Capital Improvement Projects		
Project ID	Project Name	Planning Period (FFY)
1	Water/Wastewater Upgrades Sewer Main	2024
2	RWY 6 Extension	2025
3	Hangar Construction	2025
4	Gate 3 Taxilane Reconstruction	2025
5	RWY 6/24 Reconstruction	2026
6	Emergency Generator Airside Infrastructure	2026

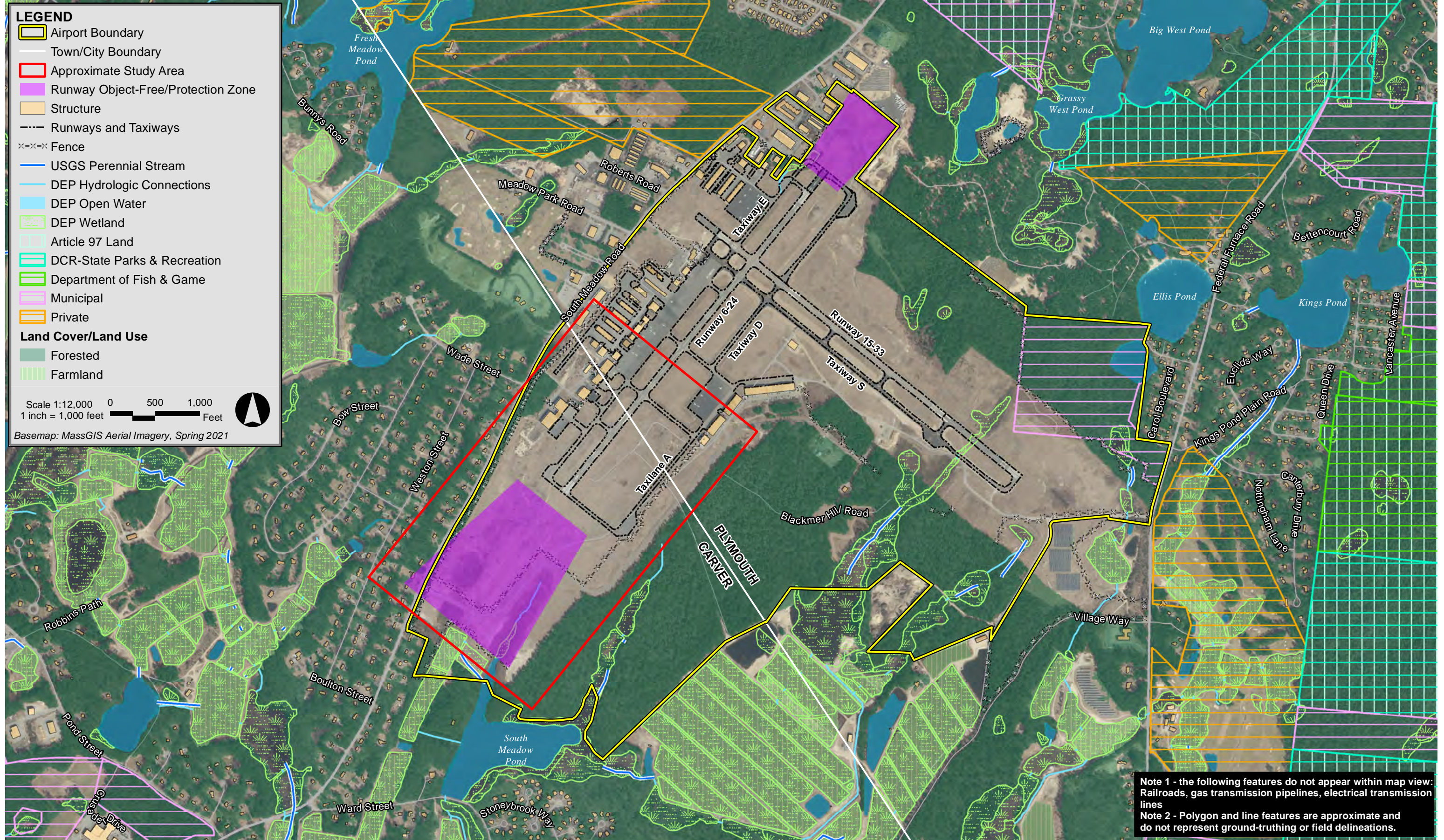
Plymouth Municipal Airport Plymouth, Massachusetts



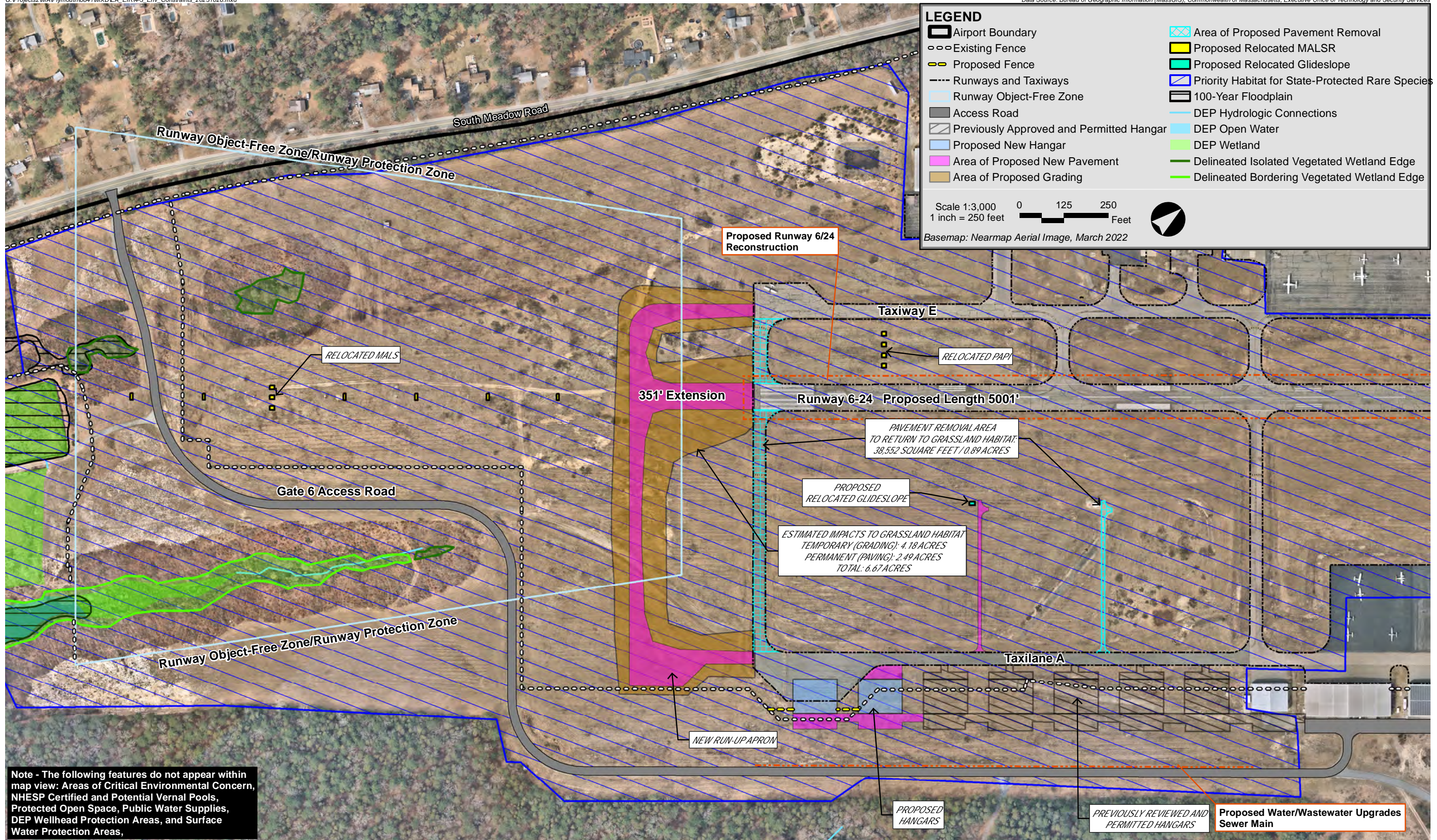
Plymouth Municipal Airport Plymouth, Massachusetts



Note - Polygon and line features are approximate and do not represent ground-truthing or field delineations.






Plymouth Municipal Airport Plymouth, Massachusetts



Note - The following features do not appear within map view: Areas of Critical Environmental Concern, NHESP Certified and Potential Vernal Pools, Protected Open Space, Public Water Supplies, DEP Wellhead Protection Areas, and Surface Water Protection Areas,

LEGEND

-  Airport Boundary
-  Article 97 Land
-  Protected and Recreational Open Space

Scale 1:12,000
1 inch = 1,000 feet



0 500 1,000 Feet

Basemap: MassGIS Aerial, Spring 2021



Plymouth Municipal Airport Plymouth, Massachusetts

LEGEND

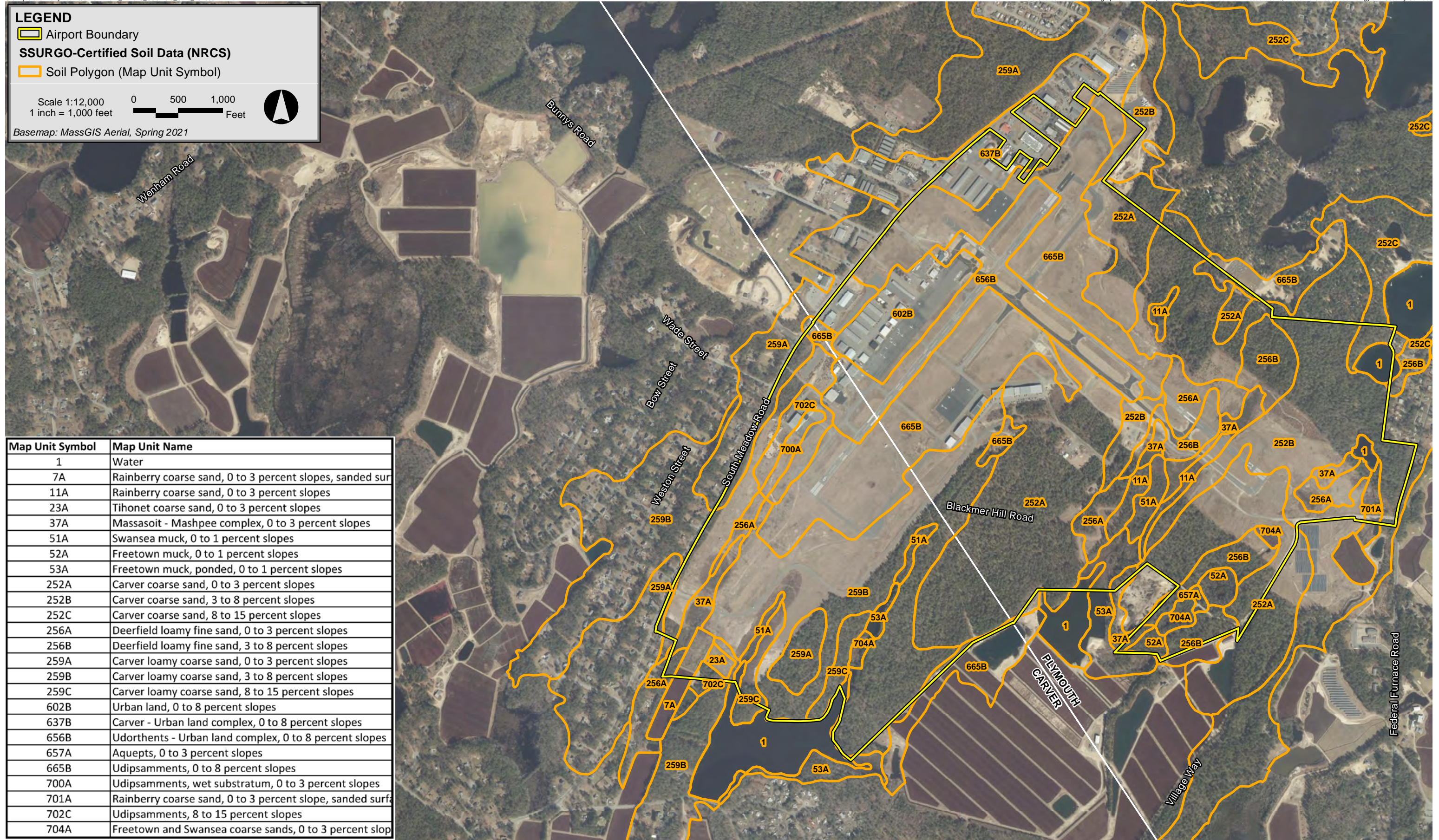
-  Airport Boundary
- SSURGO-Certified Soil Data (NRCS)**
-  Soil Polygon (Map Unit Symbol)

Scale 1:12,000
1 inch = 1,000 feet

0 500 1,000 Feet

Basemap: MassGIS Aerial, Spring 2021

Map Unit Symbol	Map Unit Name
1	Water
7A	Rainberry coarse sand, 0 to 3 percent slopes, sanded surf
11A	Rainberry coarse sand, 0 to 3 percent slopes
23A	Tihonet coarse sand, 0 to 3 percent slopes
37A	Massasoit - Mashpee complex, 0 to 3 percent slopes
51A	Swansea muck, 0 to 1 percent slopes
52A	Freetown muck, 0 to 1 percent slopes
53A	Freetown muck, ponded, 0 to 1 percent slopes
252A	Carver coarse sand, 0 to 3 percent slopes
252B	Carver coarse sand, 3 to 8 percent slopes
252C	Carver coarse sand, 8 to 15 percent slopes
256A	Deerfield loamy fine sand, 0 to 3 percent slopes
256B	Deerfield loamy fine sand, 3 to 8 percent slopes
259A	Carver loamy coarse sand, 0 to 3 percent slopes
259B	Carver loamy coarse sand, 3 to 8 percent slopes
259C	Carver loamy coarse sand, 8 to 15 percent slopes
602B	Urban land, 0 to 8 percent slopes
637B	Carver - Urban land complex, 0 to 8 percent slopes
656B	Udorthents - Urban land complex, 0 to 8 percent slopes
657A	Aquepts, 0 to 3 percent slopes
665B	Udipsamments, 0 to 8 percent slopes
700A	Udipsamments, wet substratum, 0 to 3 percent slopes
701A	Rainberry coarse sand, 0 to 3 percent slope, sanded surf
702C	Udipsamments, 8 to 15 percent slopes
704A	Freetown and Swansea coarse sands, 0 to 3 percent slop



Plymouth Municipal Airport Plymouth, Massachusetts

National Flood Hazard Layer FIRMette



70°44'30"W 41°54'29"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
		Area of Undetermined Flood Hazard <i>Zone D</i>
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped
	The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.	




This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/21/2023 at 11:30 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

FIGURE 4-6 - FEMA

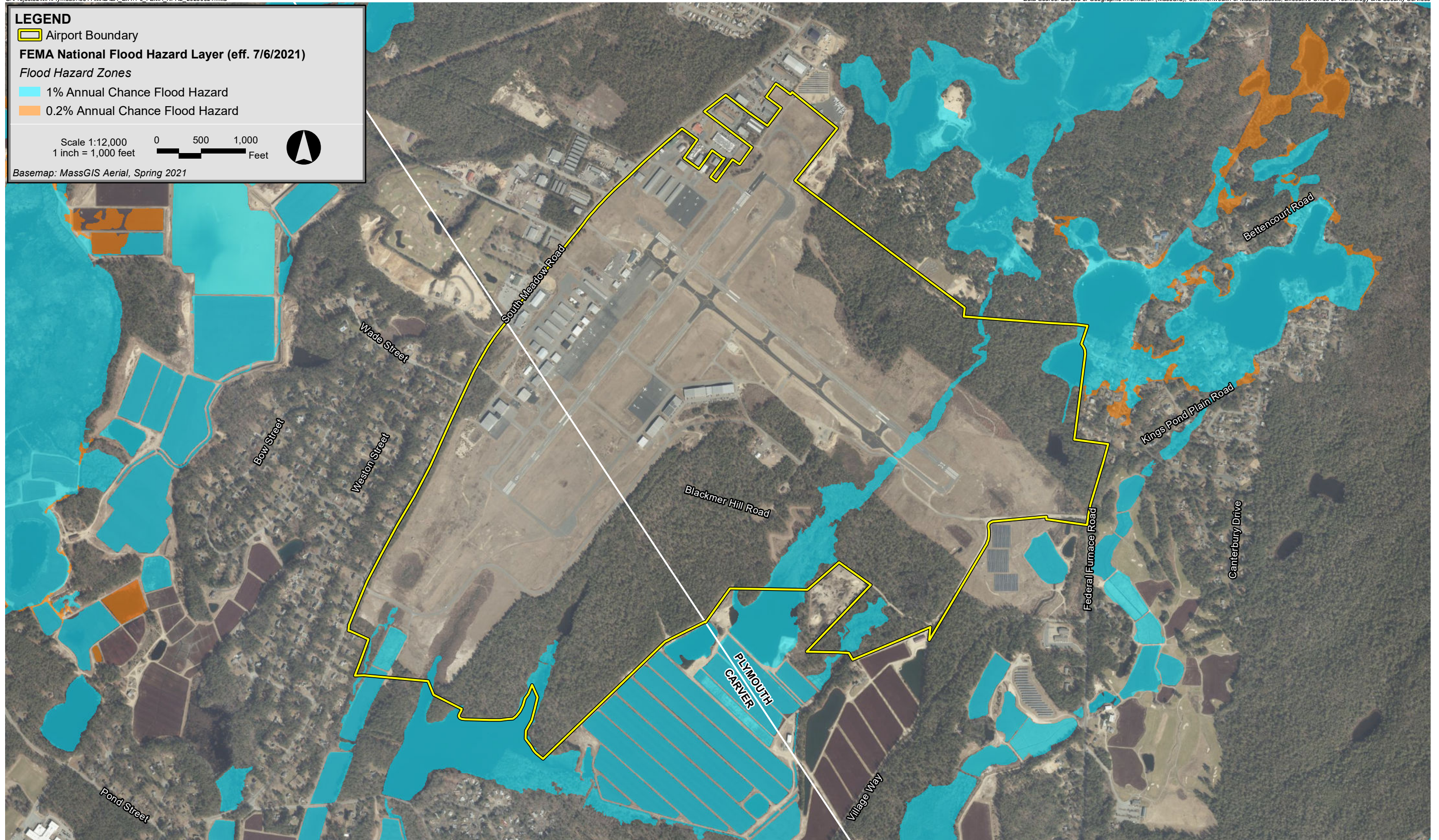
LEGEND

-  Airport Boundary
- FEMA National Flood Hazard Layer (eff. 7/6/2021)**
- Flood Hazard Zones*
-  1% Annual Chance Flood Hazard
-  0.2% Annual Chance Flood Hazard

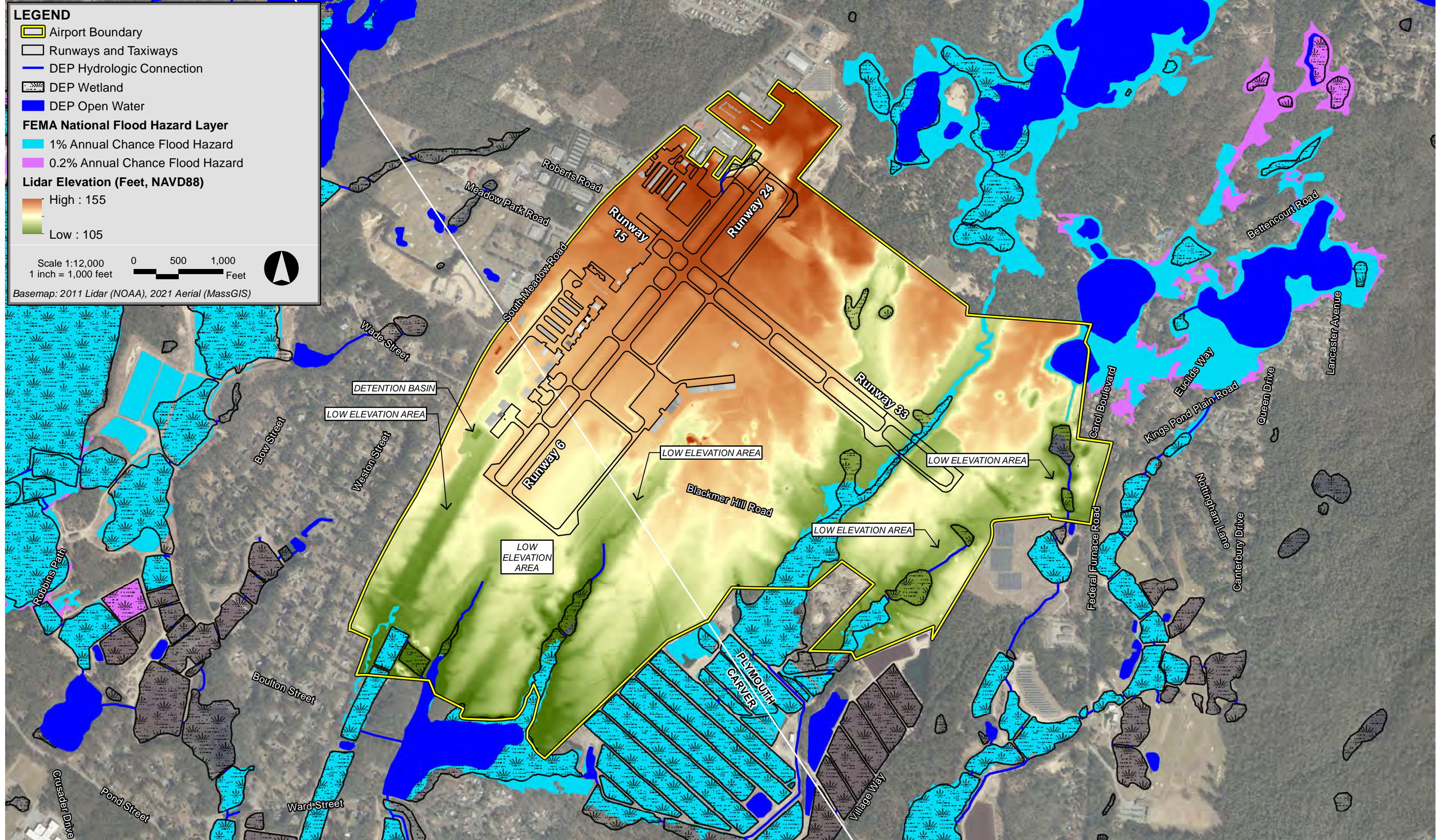
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1 inch = 1,000 feet

0 500 1,000 Feet

Basemap: MassGIS Aerial, Spring 2021










Plymouth Municipal Airport Plymouth, Massachusetts



Plymouth Municipal Airport Plymouth, Massachusetts

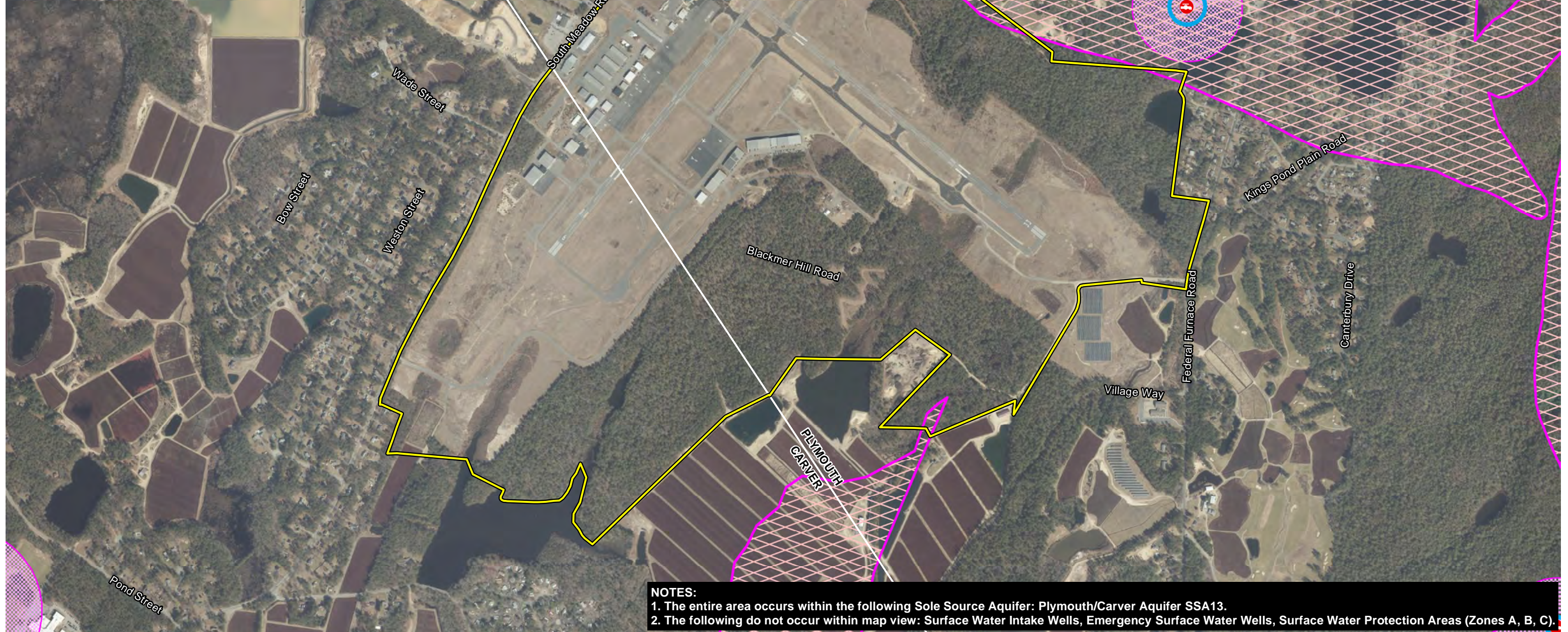
LEGEND

-  Airport Boundary
-  USGS Groundwater Monitoring Well (Active)
- Public Water Supplies**
-  Community Groundwater Source
-  Non-Community Groundwater Source
- Wellhead Protection Areas**
-  DEP Approved Zone I
-  DEP Approved Zone II
-  Interim Wellhead Protection Areas (IWPA)

Scale 1:12,000
1 inch = 1,000 feet






0 500 1,000 Feet

Basemap: MassGIS Aerial, Spring 2021



NOTES:
 1. The entire area occurs within the following Sole Source Aquifer: Plymouth/Carver Aquifer SSA13.
 2. The following do not occur within map view: Surface Water Intake Wells, Emergency Surface Water Wells, Surface Water Protection Areas (Zones A, B, C).

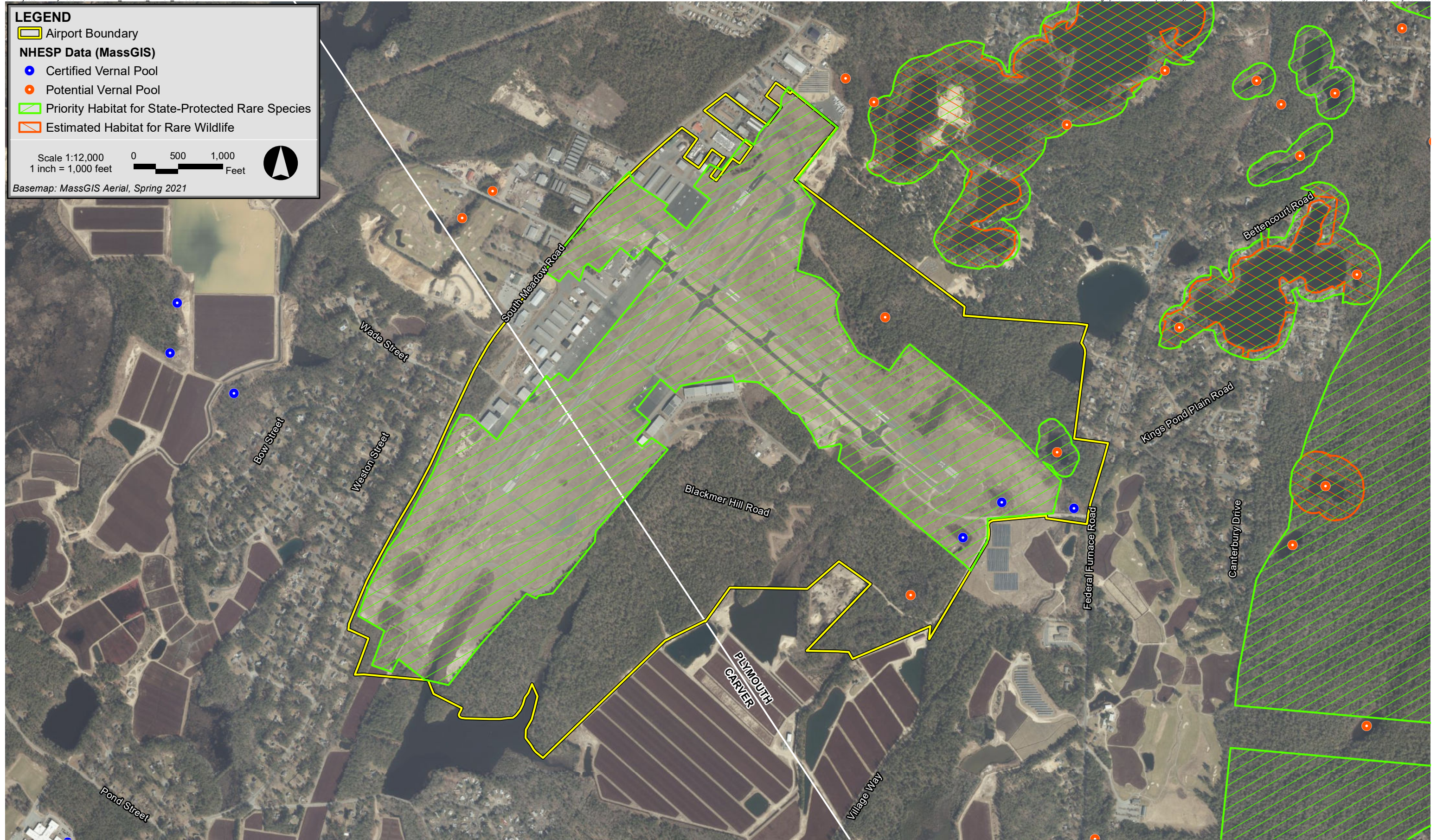
LEGEND

-  Airport Boundary
- NHESP Data (MassGIS)**
-  Certified Vernal Pool
-  Potential Vernal Pool
-  Priority Habitat for State-Protected Rare Species
-  Estimated Habitat for Rare Wildlife

Scale 1:12,000
1 inch = 1,000 feet

0 500 1,000 Feet

Basemap: MassGIS Aerial, Spring 2021



Plymouth Municipal Airport Plymouth, Massachusetts

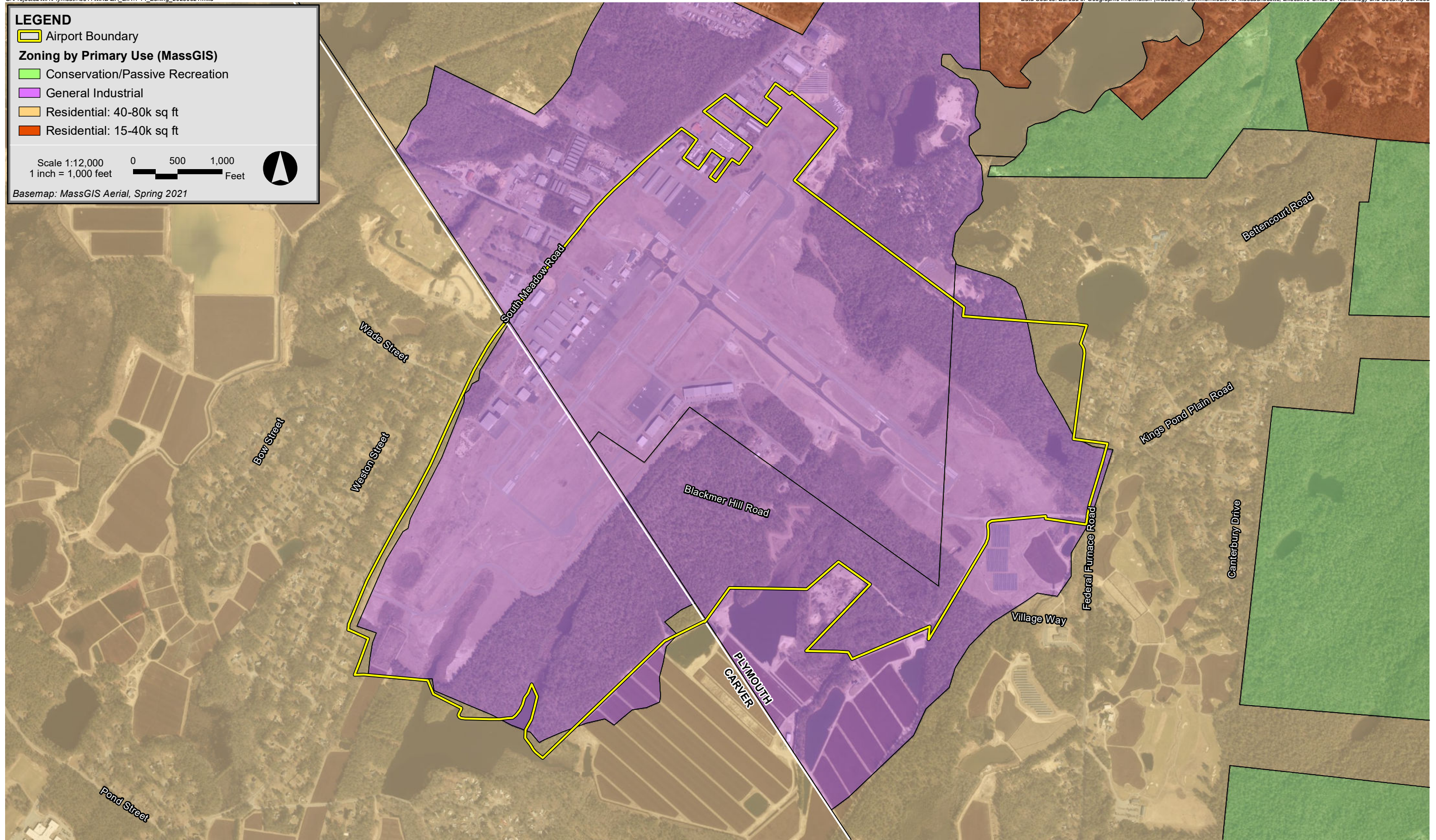
LEGEND

- Airport Boundary
- Zoning by Primary Use (MassGIS)**
- Conservation/Passive Recreation
- General Industrial
- Residential: 40-80k sq ft
- Residential: 15-40k sq ft

Scale 1:12,000
1 inch = 1,000 feet

0 500 1,000 Feet

Basemap: MassGIS Aerial, Spring 2021



Plymouth Municipal Airport Plymouth, Massachusetts

LEGEND

Airport Boundary	Schools (PK-12)
Childcare	Private*
Places of Worship	Public
Church	Colleges and Universities
Mosque*	Private*
Synagogue*	Public*

*Not within map view.

Scale 1:14,400
1 inch = 1,200 feet








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Basemap: MassGIS Aerial, Spring 2021



Plymouth Municipal Airport Plymouth, Massachusetts

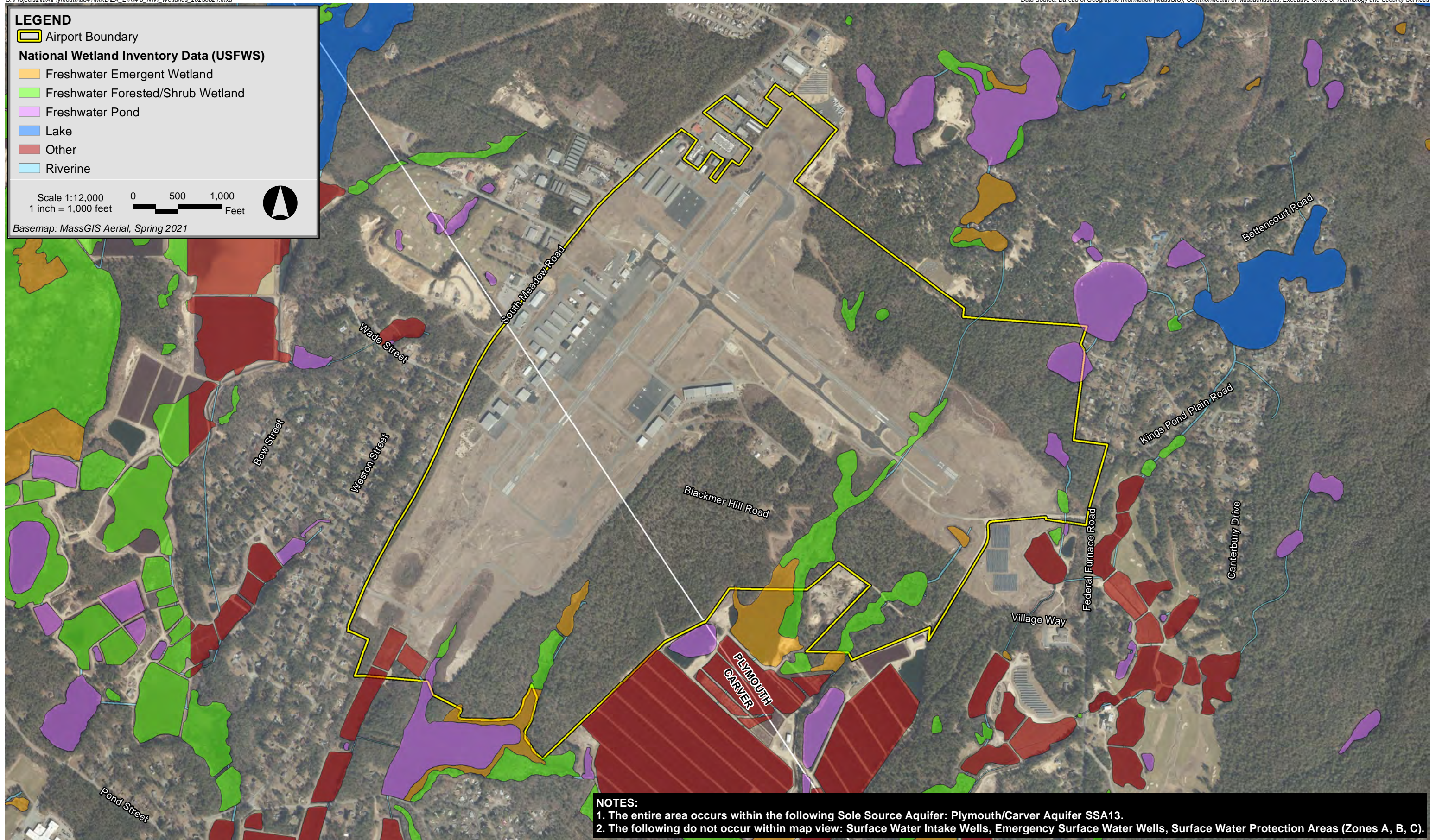
LEGEND

-  Airport Boundary
- National Wetland Inventory Data (USFWS)**
-  Freshwater Emergent Wetland
-  Freshwater Forested/Shrub Wetland
-  Freshwater Pond
-  Lake
-  Other
-  Riverine

Scale 1:12,000
1 inch = 1,000 feet

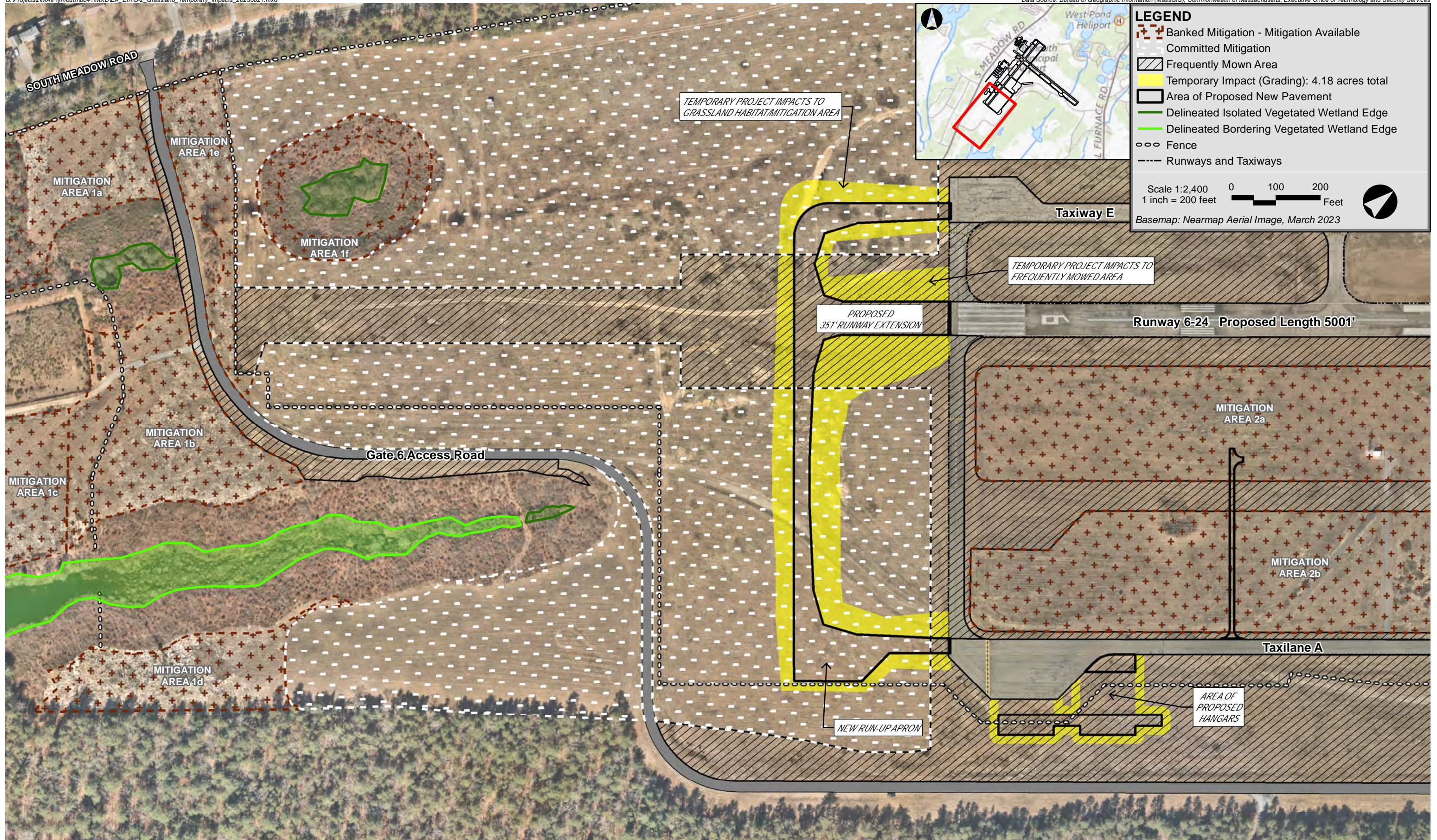
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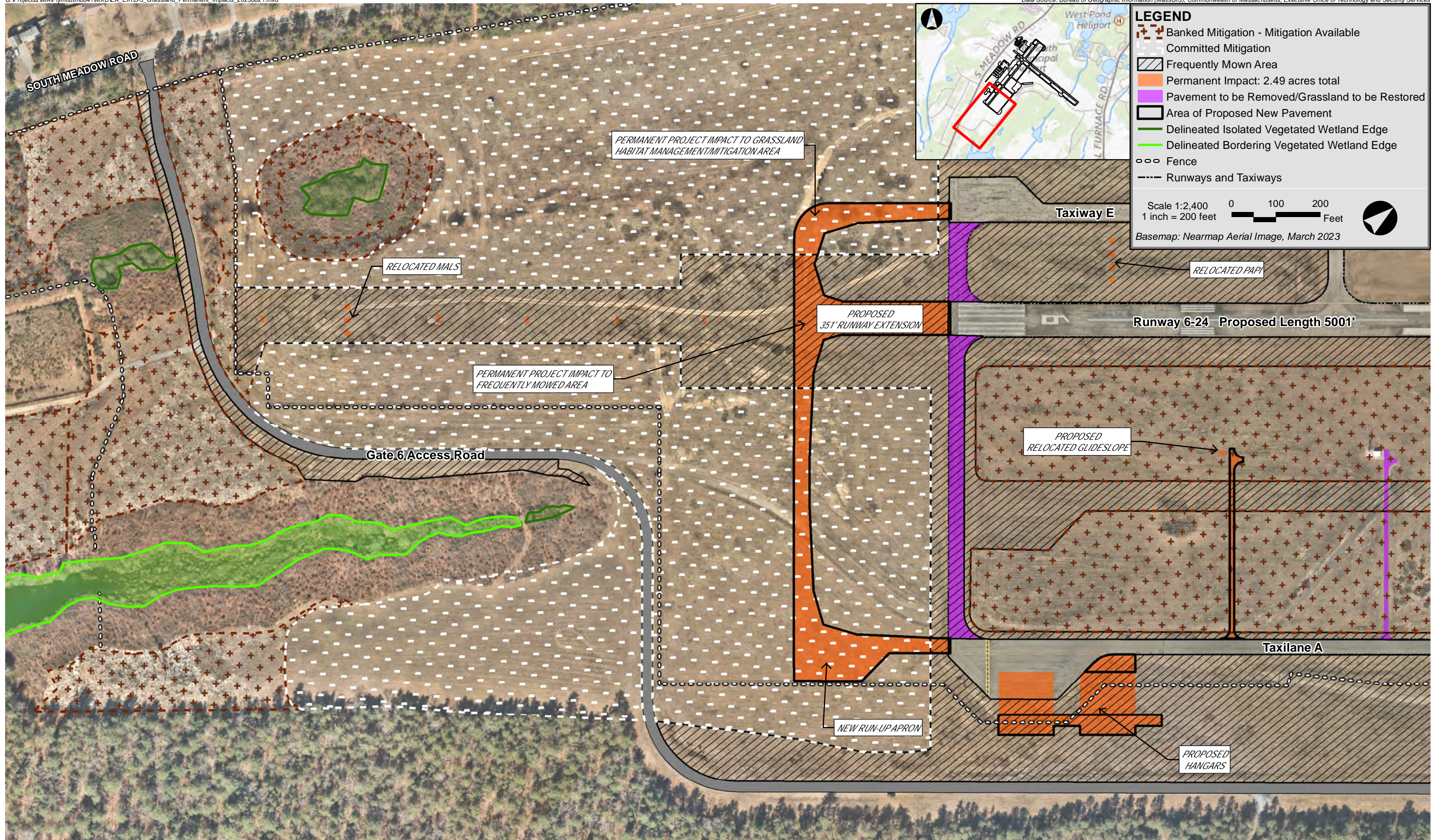
Basemap: MassGIS Aerial, Spring 2021

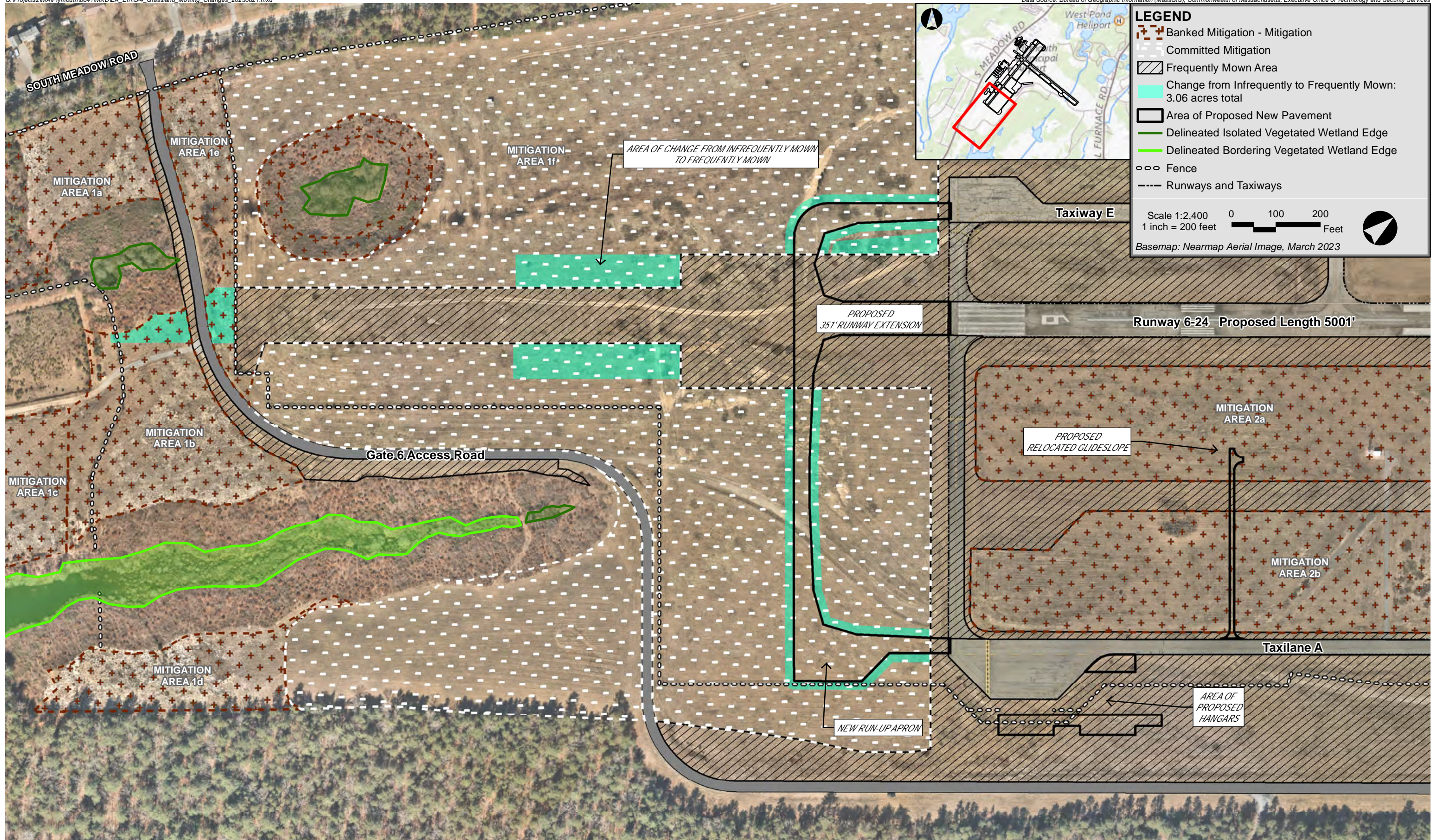


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Plymouth Municipal Airport Plymouth, Massachusetts









APPENDIX B References

APPENDIX B REFERENCES

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[“The FFRMS gives flexibility and requires agencies to select one of the three approaches for establishing the flood elevation (“how high”) and corresponding flood hazard area (“how wide”) used for project siting, design and construction.”]

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APPENDIX C Final Public Participation Plan & Updated MEPA EJ Screening Form



FINAL PUBLIC ENGAGEMENT PLAN

Plymouth Municipal Airport
Plymouth, MA
Environmental Assessment
Runway 6 Extension & TMPU/5-Year CIP

This document and engagement strategies build upon extensive public and stakeholder outreach efforts that were conducted as part of the Airport's Technical Master Plan Update (TMPU) and Capital Improvement Plan (CIP) development that included three public presentations over the course of fourteen months (January 2022-March 2023). These efforts included pointed approaches to include neighboring Environmental Justice (EJ) community members, generally interested parties, and potentially affected parties with interests in Airport improvements and those with concerns over various aspects of the Airport operations and potential environmental, economic, and other impacts. It is expected that the successful implementation of the Public Engagement Plan will promote and foster an atmosphere of cooperation that will ultimately result in successful completion of the project.

I. Objectives of the Public Participation Plan:

1. Ensure that a sound process is in place to continue familiarizing the general public, local private groups and environmental justice communities, and government agencies at local and state levels with the proposed project ("Proposed Action") previously presented under the recent TMPU efforts.
2. Provide a forum for the reception and consideration of public input regarding the environmental assessments being conducted under the Massachusetts Environmental Policy Act (MEPA) and the National Environmental Policy Act (NEPA). The desired input includes not only opinions but also other data that is not formally collected as part of the project initiation.
3. Provide notification and additional outreach efforts regarding the current preparation of a joint NEPA Environmental Assessment (EA)/MEPA Environmental Impact Report (EIR) that started with the MEPA Environmental Notification Form (ENF) and continues through the EA/EIR phases.
4. Conduct specific outreach to community residents and citizens in the vicinity of the Airport, local private groups, and government agencies at local and state levels.
5. Provide multiple methods of acquiring and consideration of public input regarding the environmental assessment throughout the process, to include directed digital communications (*i.e.*, emails), Airport website notices and posted documentation, traditional newspaper notices, Town outlets in Plymouth and Carver, MEPA screening form distributions, MEPA website distribution, and in-person public meetings.
6. Collect and incorporate pre-existing resource data regarding the Airport, including the recent Technical Master Plan Update (Technical MPU) and results of public outreach, including multiple public meetings held over the course of a year during that process.
7. Clarify or describe the potential effects of the alternatives under consideration for Proposed Action presented in the earlier TMPU process and final Airport Layout Plan (ALP) approved by the FAA on March 20, 2023.
8. Collect comments from interested agencies and citizens, consider them in the decision-making and environmental assessment process, and provide responses to address those comments within the publicly released EA/EIR documents.

II. Stakeholders and Mailing List:

1. The stakeholders and distribution/ mailing lists are categorized into three groups as described below. The intent of categorizing the stakeholders is to promote and facilitate public participation by a range of interest groups and allow them to efficiently and effectively participate and provide input on the environmental reviews.

Group 1 – Project Sponsor, regulatory agencies, local/regional public interest groups, federal, state, and local governments, and elected officials that include the following:

- Town of Plymouth
 - Town/ Airport Officials
 - Police and Fire Departments
 - Planning and Zoning Commissions
 - Plymouth Airport Advisory Group
 - Other groups as recommended by the Town
- MEPA Statewide Environmental Justice Community-Based Organizations
- Indigenous Organizations
- Massachusetts Department of Transportation
- Federal Aviation Administration: New England Region

Group 2 – Airport abutting residents, identified environmental justice (EJ) community(ies) residents, abutting businesses, airport businesses, airport lessees, abutting commercial properties, airport employees.

Group 3 – Residents, businesses, commercial properties and landowners within the Runway Protection Zones and affected properties within the area defined by FAA Order 5100.38D.

Mailing lists for Groups 1 and 2 are included in Appendix 1 of this Public Participation Plan (and as an attached spreadsheet). Groups 1 and 2 will generally be notified and contacted via email. Group 3 will be notified by public notices published in the local and regional newspapers and on the Town of Plymouth website. The public notices for Group 3 will be published prior to any meetings in accordance with the Town of Plymouth's public notification policy or process, along with NEPA and MEPA requirements for notifications.

III. Techniques to Facilitate and Promote Participation:

1. Plymouth Airport officials will meet with the Group 2 and 3 Stakeholders at a minimum of two specific points in the process:
 - a) Prior to the filing of the MEPA Environmental Notification Form (ENF) to introduce the project and invite comments and input on the proposed project and environmental considerations;
 - b) Following the Draft Environmental Assessment (NEPA EA)/Environmental Impact Report (MEPA EIR) to allow the public adequate review and comment opportunities on the environmental assessment prior to finalizing the EA/EIR.
2. Send out digital mailings to all Stakeholders containing information concerning the process to develop the EA/EIR and to announce meetings.

3. Publish notification on the Town website informing Group 1, 2 & 3 Stakeholders of the meeting(s).
4. Provide status update of the Draft EA/EIR and Final EA/EIR and publish on the Airport website.
5. Collect e-mail address lists during Stakeholder/public meetings to allow for electronic notifications and updates to additional interested parties.

IV. Schedule of Public Participation Support activities and Responsible Party:

1. On-going - Various Planning Meetings and Teleconferences between the Town, planning team, and MASSDOT Aeronautics Bureau and FAA.
 - o Responsible – D&K Planning Team and Airport.
2. Publish Meeting notices - Minimum 10 calendar days prior to meeting dates.
 - o Responsible – D&K Planning Team and Airport.
3. Stakeholder Meeting #1 – Wednesday, March 29 – Hold meeting with all stakeholders prior to filing the MEPA Environmental Notification Form (ENF) with a focus on ensuring that EJ communities within the 1-mile Designated Geographic Area (per MEPA 11.02 and 11.05[4]) have ample opportunity to learn about and provide comments on the project. This meeting will inform the Stakeholders of the overall process in developing the EA/EIR and provide information concerning the objectives and purpose of the project and the MEPA and NEPA environmental assessment process. This meeting will also be used to seek input on alternatives, concerns, and opportunities.
 - o Responsible – D&K Planning Team and Airport.
4. Stakeholder Meeting #2 – [Date TBD] – Following the release of the Draft EA/EIR on the EEA's online Environmental Monitor (tentatively set for November 8, 2023), hold a meeting within the 30-day public comment period with all Stakeholders (Groups 1, 2, and 3) regarding the Draft EA/EIR. The document will be reviewed and explained. The environmental impacts will be described and the analysis and consequences explained and detailed. Comments will be invited to inform the subsequent updates and production of the Final EA/EIR.
 - o Responsible – D&K Planning Team and Airport.

Public Participation Plan Approved:

Matt Cardillo
Plymouth Municipal Airport Manager

Date



Attachment A: Contact Information*

<u>Group 1</u>			
Project Sponsor, Regulatory agencies, local public interest groups, federal, state and local governments and elected officials			
Representing	Name	Title	Phone/Email

[*TO AVOID DUPLICATION AND EXCESS PAPER, REFERENCE DRAFT EA/EIR DATED OCTOBER 31, 2023, SECTION 6.1 AND SECTION 6.2]

<u>Group 2</u>			
Airport abutting Residents, abutting businesses, airport businesses, airport lessees, abutting commercial properties.			
Name	Contact Info	Affiliation	Location

[*PLEASE NOTE: In observation of private individual confidentiality, the Airport will not release private emails as part of this Public Participation Plan in an effort to avoid distribution beyond our control.]

<u>Group 3</u>			
Residents, businesses, commercial properties, and landowners within the Runway Protection Zones and affected properties with the area defined by FAA Order 5100.38D.			
Name	Contact Info	Affiliation	Location

[*PLEASE NOTE: In observation of private individual confidentiality, the Airport will not release private emails as part of this Public Participation Plan in an effort to avoid distribution beyond our control.]

Environmental Justice Screening Form

Project Name	Plymouth Municipal Airport Runway 6 Extension
Anticipated Date of MEPA Filing	November 8, 2023
Proponent Name	Plymouth Municipal Airport
Contact Information (e.g., consultant)	Brenda Bhatti DuBois and King Sr. Environmental Planner, Wildlife Biologist/Ecologist Phone (603) 637-1043 x 4414 PlymouthMAAirportRW6@dubois-king.com
Public website for project or other physical location where project materials can be obtained (if available)	https://pymairport.com/
Municipality and Zip Code for Project (if known)	Plymouth 02360
Project Type* (list all that apply)	Airport
Is the project site within a mapped 100-year FEMA flood plain? Y/N/unknown	No
Estimated GHG emissions of conditioned spaces (click here for GHG Estimation tool)	N/A

Project Description

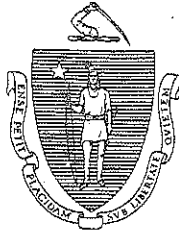
<p>1. Provide a brief project description, including overall size of the project site and square footage of proposed buildings and structures if known.</p> <p>The Airport has recently completed a Technical Master Plan Update (TMPU) identifying this project as a priority. The TMPU identifies a series of projects under the 5-year Capital Improvement Plan from 2023-2026. These projects include the extension of Runway 6 351 feet to the southwest. This project also involves the extension of associated taxiways, Taxiway A and Taxiway E. Additional projects include a water/wastewater extension along the Gate 6 access road at the rear of the Airport (2024), reconstructing the Gate 3 taxilane (2025), reconstructing the existing Runway 6/24 (2026), emergency airside generator infrastructure near the existing aviation school at the rear of the Airport (2026), and installing two additional hangars (timing TBD).</p>
<p>2. List anticipated MEPA review thresholds (301 CMR 11.03) (if known)</p> <p>ENF and Other MEPA Review if the Secretary So Requires</p> <ul style="list-style-type: none"> • 11.03 (6) Transportation (b)3: Expansion of an existing runway at an airport. • 11.03 (2) State-listed Species (b)2: Greater than two acres of disturbance of designated priority habitat, as defined in 321 CMR 10.02, that results in a take of a state-listed endangered or threatened species or species of special concern. <p>301 CMR 11.06(7)(b), the proposed work would require the submittal of a full Environmental Impact Report (EIR) due to the presence of Environmental Justice populations within a one-mile radius of the project.</p>

<p>3. List all anticipated state, local and federal permits needed for the project (if known)</p> <p>NHESP MESA Conservation Management Permit/update to the Airport's existing Rare Species Management Plan</p>				
<p>4. Identify EJ populations and characteristics (Minority, Income, English Isolation) within 5 miles of project site (can attach map identifying 5-mile radius from EJ Maps Viewer in lieu of narrative)</p> <p><u>Plymouth</u> Block Group 1, Census Tract 5302, Income Block Group 2, Census Tract 5303, Income Block Group 2, Census Tract 5305, Income Block Group 5, Census Tract 5306, Minority</p> <p><u>Carver</u> Block Group 3, Census Tract 5442, Income Block Group 1, Census Tract 5442, Income</p>				
<p>5. Identify any municipality or census tract meeting the definition of "vulnerable health EJ criteria" in the DPH EJ Tool located in whole or in part within a 1 mile radius of the project site</p> <table border="1" data-bbox="134 835 1380 911"> <tr> <td data-bbox="134 835 673 869"><u>Plymouth</u></td> <td data-bbox="673 835 1380 869"><u>Carver</u></td> </tr> <tr> <td data-bbox="134 869 673 911">Heart Attack</td> <td data-bbox="673 869 1380 911">Heart Attach</td> </tr> </table>	<u>Plymouth</u>	<u>Carver</u>	Heart Attack	Heart Attach
<u>Plymouth</u>	<u>Carver</u>			
Heart Attack	Heart Attach			
<p>6. Identify potential short-term and long-term environmental and public health impacts that may affect EJ Populations and any anticipated mitigation</p> <p>The Project is anticipated to result in temporary air quality and noise impacts due to construction activities. However, these impacts are not anticipated to exacerbate any existing unfair or inequitable environmental or public health burden on the EJ populations in the DGA. All impacts will be reviewed through MEPA and will be appropriately mitigated in accordance with applicable regulations. No long-term environmental and public health impacts on EJ populations are anticipated as a result of the Project.</p>				
<p>7. Identify project benefits, including "Environmental Benefits" as defined in 301 CMR 11.02, that may improve environmental conditions or public health of the EJ population</p> <ul style="list-style-type: none"> • Construction will contribute to the economy of the region. • Provides significant new construction and long-term job opportunities. • Improves operational safety and efficiency of the Airport. 				
<p>8. Describe how the community can request a meeting to discuss the project, and how the community can request oral language interpretation services at the meeting . Specify how to request other accommodations, including meetings after business hours and at locations near public transportation.</p> <p>Any community member can request a meeting to discuss the project or request oral language interpretation services at the meeting using the email address provided below.</p> <p>A public meeting occurred on March 29, 2023, at 7:00 pm at the Airport meeting room (green hanger). A second meeting is anticipated to be scheduled approximately 14-21 days following the release of the Draft EA/EIR on the EEA Environmental Monitor website (https://eeaonline.eea.state.ma.us/EEA/MEPA-eMonitor/home - Search for project #16692).</p> <p>Brenda Bhatti PlymouthMAAirportRW6EA@dubois-king.com</p>				



APPENDIX D Section 106 SHPO/MHC (950 CMR 71.00) & THPO Consultation Documentation

- Massachusetts Historical Commission Letter (Sept 5, 2023)
- FAA Letter to THPO, Mashpee Wampanoag Tribe (Aug 10, 2023)
- FAA Letter to THPO, Wampanoag Tribe of Gay Head (Aquinnah; Aug 10, 2023)



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

September 5, 2023

Brenda Bhatti
Senior Environmental Planner
DuBois & King, Inc.
15 Constitution Dr., Suite 1L
Bedford, NH 03110

RE: Plymouth Municipal Airport Runway 6 Extension Project, Plymouth, MA. EEA #16692. MHC #RC.6991.

Dear Ms. Bhatti:

Thank you for your inquiry pertaining to the Massachusetts Historical Commission's (MHC) review of the project referenced above that was described in the Environmental Notification Form (ENF) prepared for the project by DuBois & King and Epsilon Associates, a copy of which was received by the MHC on April 20, 2023.

The ENF indicates that the Federal Aviation Administration (FAA) is analyzing the project. As the involved federal agency, the FAA makes findings and determinations pertaining to the effects of an undertaking on historic properties (see 36 CFR 800.2 *et seq.*; 950 CMR 71.04(2) & (3)). The MHC, the office of the State Historic Preservation Officer, looks forward to reviewing the FAA's findings and determinations for the project.

To prepare the Draft Environmental Assessment (EA)/Environmental Impact Report (EIR) section(s) that pertain to historic and archaeological resources, the MHC advises consulting with the FAA about the results of their environmental analysis. A summary of the FAA's findings could be included in the draft EA/EIR in a manner that protects sensitive archaeological information. As always, documents prepared for public review should never contain sensitive archaeological site locational information, and should not include technical archaeological reports, which are "confidential" and "not a public record" to protect the sites (M.G.L. c. 9, ss. 26A & 27C; 36 CFR 800.11(c)).

Thank you once again. These comments are offered to assist in compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (36 CFR 800) and MEPA (301 CMR 11). If you have any questions, please contact me.

Sincerely,

Edward L. Bell
Deputy State Historic Preservation Officer
Senior Archaeologist
Massachusetts Historical Commission

xc:

Richard Doucette, FAA

✓ Matthew Cardillo, Plymouth Airport Manager

Nicholas Moreno, EEA-MEPA Office

Alyssa Jacobs, Epsilon Associates, Inc.



U.S. Department
of Transportation
**Federal Aviation
Administration**

New England Region
Office of the Regional Administrator

1200 District Avenue
Burlington, MA 01803

August 10, 2023

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. David Weeden
Tribal Historic Preservation Officer
Mashpee Wampanoag Tribe
483 Great Neck Road South
Mashpee, Massachusetts 02649

Dear Mr. Weeden:

**Government-to-Government Consultation Invitation
Airport Project at Plymouth Municipal Airport, Plymouth MA**

The Federal Aviation Administration (FAA), in cooperation with airport owners and operators, is proposing a project at Plymouth Municipal Airport (PYM) in (Plymouth County) Plymouth, MA, as outlined herein.

Purpose of Government-to-Government Consultation

The purpose of Government-to-Government consultation, as described in the National Historic Preservation Act, Section 106, Federal Executive Order 13175, "Consultation and Coordination with Indian Tribal Governments," and FAA's Order 1210.20, "American Indian and Alaska Native Tribal Consultation Policy and Procedures," is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA undertakings that uniquely or significantly affect Tribes.

Consultation Initiation

With this letter, the FAA is inviting the Mashpee Wampanoag Tribe to consult on concerns that may significantly affect your Tribe related to the proposed airport improvements. Early identification of Tribal concerns will allow the FAA and the airport owner and operator to consider ways to avoid, mitigate, or minimize potential impacts to Tribal resources and practices as project alternatives are developed and refined.

Project Information

The primary project under consideration includes an extension to Runway 6-24 at the south end. This project includes the construction of a 351-foot (ft) long by 75-ft wide extension to the Runway 6 end of Runway 6-24 for a new total runway length of 5,001 ft. The extension will be accompanied by extensions of Taxiways A and E and two new aircraft hangars approximately

100 ft by 100 ft located along Taxilane A. Additional work may include the relocation of navigational aids within the airport boundary, if necessary.

Other projects anticipated to occur at the Airport between 2023 and 2027 include:

- Water/ Wastewater Sewer Main Upgrades
 - Construction of 3,000 linear feet (lf) of gravity sewer main and associated appurtenances on the southwest side of the Airport
- Gate 3 Taxilane Reconstruction
 - Full-depth pavement reconstruction of the Gate 3 Taxilane (50,000 sf) immediately adjacent to the porta-port hangars
- Reconstruction of Runway 6-24
 - Full-depth pavement reconstruction of a 4,350-ft by 75-ft section of Runway 6-24
- Emergency Generator Airside Infrastructure
 - Purchase and installation of an emergency generator that will serve as a backup power supply to operate airside infrastructure during a power outage.

FAA Contact Information

Your timely response will assist us in incorporating your concerns into project planning. For that reason, we respectfully request that you contact FAA within thirty days of your receipt of this correspondence as to your interest in Government-to-Government Consultation regarding these projects.

You may contact FAA's Regional Tribal Consultation Official, Elisabeth Smeda, by telephone at 781-238-7026 or by email at Elisabeth.Smeda@faa.gov. At that time, the consultation request will be provided to the FAA Airports Division.

Sincerely,

Colleen M. D'Alessandro
Regional Administrator

Enclosure: PYM USGS Locus Map



U.S. Department
of Transportation
**Federal Aviation
Administration**

New England Region
Office of the Regional Administrator

1200 District Avenue
Burlington, MA 01803

August 10, 2023

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Ms. Bettina Washington
Tribal Historic Preservation Officer
Wampanoag Tribe of Gay Head (Aquinnah)
20 Black Brook Road
Aquinnah, Massachusetts 02535

Dear Ms. Washington:

**Government-to-Government Consultation Invitation
Airport Project at Plymouth Municipal Airport, Plymouth MA**

The Federal Aviation Administration (FAA), in cooperation with airport owners and operators, is proposing a project at Plymouth Municipal Airport (PYM) in (Plymouth County) Plymouth, MA, as outlined herein.

Purpose of Government-to-Government Consultation

The purpose of Government-to-Government consultation, as described in the National Historic Preservation Act, Section 106, Federal Executive Order 13175, “Consultation and Coordination with Indian Tribal Governments,” and FAA’s Order 1210.20, “American Indian and Alaska Native Tribal Consultation Policy and Procedures,” is to ensure that Federally Recognized Tribes are given the opportunity to provide meaningful and timely input regarding proposed FAA undertakings that uniquely or significantly affect Tribes.

Consultation Initiation

With this letter, the FAA is inviting the Wampanoag Tribe of Gay Head (Aquinnah) to consult on concerns that may significantly affect your Tribe related to the proposed airport improvements. Early identification of Tribal concerns will allow the FAA and the airport owner and operator to consider ways to avoid, mitigate, or minimize potential impacts to Tribal resources and practices as project alternatives are developed and refined.

Project Information

The primary project under consideration includes an extension to Runway 6-24 at the south end. This project includes the construction of a 351-foot (ft) long by 75-ft wide extension to the Runway 6 end of Runway 6-24 for a new total runway length of 5,001 ft. The extension will be accompanied by extensions of Taxiways A and E and two new aircraft hangars

approximately 100 ft by 100 ft located along Taxilane A. Additional work may include the relocation of navigational aids within the airport boundary, if necessary.

Other projects anticipated to occur at the Airport between 2023 and 2027 include:

- Water/ Wastewater Sewer Main Upgrades
 - Construction of 3,000 linear feet (lf) of gravity sewer main and associated appurtenances on the southwest side of the Airport.
- Gate 3 Taxilane Reconstruction
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FAA Contact Information

Your timely response will assist us in incorporating your concerns into project planning. For that reason, we respectfully request that you contact FAA within thirty days of your receipt of this correspondence as to your interest in Government-to-Government Consultation regarding these projects.

You may contact FAA's Regional Tribal Consultation Official, Elisabeth Smeda, by telephone at 781-238-7026 or by email at Elisabeth.Smeda@faa.gov. At that time, the consultation request will be provided to the FAA Airports Division.

Sincerely,

Colleen M. D'Alessandro
Regional Administrator

Enclosure: PYM USGS Locus Map



APPENDIX E Agency Comments on MEPA ENF and Public Comments Received During Draft EA/EIR Development & Responses to Comments



APPENDIX E – COMMENTS AND RESPONSES

In an effort to maintain a rigorous public outreach and stakeholder input process under both NEPA and MEPA regulations, Appendix E includes comments and responses for those received as part of the MEPA ENF process (per MEPA ENF Certificate directive and CMR 11.07[6][n][5.]), as well as others received during the development of the Draft EA/EIR. Commenters are identified in the section immediately below, and the responses are divided into two sections – “*Responses to ENF Comments*” and “*Responses to Comments Received During EA/EIR Development*”.

[NOTE: PUBLIC COMMENTS ON DRAFT EA/EIR TO BE INCLUDED IN FINAL EA/EIR]

The MEPA ENF Certificate specifically stated, “*A response to the certificate of the Secretary on the previous review document and each comment received on the previous review document, provided that the subject matter of the comment is within the Scope.*” The “*previous review document*” is considered to be the MEPA Environmental Notification Form noticed in the Environmental Monitor on April 26, 2023.

As specified in the MEPA ENF Certificate (page 16), “*the DEIR should contain a copy of the 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.*” The Secretary’s Certificate on the ENF was dated May 26, 2023, and is inserted prior to Chapter 1 in the front matter of this EA/EIR. The Certificate outlines the Scope of the Draft EIR under MEPA. The two comment letters received during the ENF review period and attached to the original ENF Certificate are included after the response matrix further below.

In addition, MEPA CMR 11.07(6)(n)(5.) requires “*Response to Comments to the extent related to an assessment of disproportionate adverse effects, or an increase in the effects of climate change, on Environmental Justice Populations.*” There were no comments received on the ENF regarding EJ communities or any disproportionate impacts. Any additional comments received on the Draft EA/EIR will be included in follow-up responses.



Commenters

Agency/Organization	Commenter/Contact	Comment Source	Date of Comment(s)
Massachusetts Department of Environmental Protection (Mass DEP), Southeast Regional Office (SERO)			
Bureau of Air and Waste (BAW)	Jonathan Hobill, Regional Engineer Solid Waste contact: Elza Bystrom or Mark Dakers	MEPA Certificate on ENF	May 16, 2023
Bureau of Water Resources (BWR)	Jonathan Hobill, Regional Engineer Statewide UIC contact: Joe Cerutti EPA NPDES contact: Sania Kamran		
Bureau of Waste Site Cleanup (BWSC)	Jonathan Hobill, Regional Engineer Alternate Contact: George Zoto		
Massachusetts Division of Fisheries & Wildlife (Mass DFW)			
Natural Heritage & Endangered Species Program (NHESP)	Everose Schluter, Assistant Director Contact: Amy Hoenig, Endangered Species Review Biologist	MEPA Certificate on ENF	May 23, 2023
OTHER COMMENTS RECEIVED DURING DRAFT EA/EIR DEVELOPMENT			
Environmental Protection Agency (EPA)			
Federal	Kira Jacobs	Email	May 1, 2023
Massachusetts Division of Marine Fisheries (DMF)			
State	Emma Gallagher	Email	April 19, 2023
Community Land & Water Coalition			
Regional	Margaret (Meg) Sheehan	Email	July 16, 2023 July 19, 2023 July 24, 2023
Carver Conservation Commission			
Local / Municipal	Gary Flaherty	Email	April 19, 2023

Responses to ENF Comments

In order to avoid duplication and extensive repetitiveness resulting in excess pages, the comments are grouped by category and the response is presented in the right column. Each of the written comment letters are attached herein in Appendix E. Within the letter, a matching numeric code is inserted on the right border to match the Comment Number in the first column of the table below. Note that the numbers are not in numerical order in the table, but instead follow the order they are presented in the letters inserted after the tables. The full comment has not been duplicated in the last column of the tables. Instead, the reader is directed to look at the original letters inserted after the tables to review the full comment with the details that are addressed in the responses below.



Comment No.	Agency	Comment Synopsis	Response
CATEGORY – GENERAL/SCOPE			
1	MassDEP SERO	Construct 351-ft long, 75-ft wide extension on RW 6 approach (total 5001 feet)	Based on MEPA ENF Certificate, Project evaluation must include all activities under the 5-year CIP. Additional activities are described and evaluated in the Draft EA/EIR.
2	Jonathan Hobill, Regional Engineer	Construct a 351-ft long, 35-ft wide extension to parallel taxiway (E)	The ENF included 351-ft extensions to Taxiway E and Taxilane A, as well as the stub taxiway connectors to the end of RW 6. The Draft EA/EIR includes both extensions and stub taxiways.
3		Adds 1.68 acres of pavement (net of removal)	The ENF presented 1.68 acres of pavement after the net of removal for RW 6, TW A, TW E, and two hangars. Per the MEPA ENF Certificate, the Draft EA/EIR updates include all activities presented in the 5-year CIP. The total area of pavement increase has been revised to reflect those activities, including Gate 3 taxilane reconstruction, Runway 6 reconstruction, wastewater pipe extension along the Gate 6 access road, etc.
4		No additional easements are required to be obtained	There are no aviation easements required as part of the Proposed Action.
5		One (tree) obstruction is currently within 10 ft of the approach surface and could be required to be removed; currently, there are no obstructions that would penetrate the approach surface to RW 6 with the 351-ft extension.	The single tree within 10 ft of the approach surface was determined to be a mature pine. Therefore, no obstructions occur that would need to be removed as part of the Proposed Action.
6		Relocated medium intensity runway lighting (MIRL), Medium Intensity Approach Light System with Sequenced Flashing Lights (MALSF), Precision Approach Path Indicator (PAPI), and Runway End Identifier Lights (REILS) on Runway 6.	The lighting associated with the Proposed Action would need to be aligned in accordance with FAA design and safety standards. Therefore, the MIRL, MALSF, and PAPI will need to be added to for the 351' extension project or relocated (e.g., MALSF). There are no REILS on the RW6 end (instead, they are on the RW24 end).



Comment No.	Agency	Comment Synopsis	Response
7		New Hangars – Airport’s total building footprint is 533,068 sf (inclusive of previously committed/approved structures, but not yet built).	The Airport intends to build the previously approved hangars and additional two hangars as part of the Proposed Action. The demand for covered hangars far exceeds capacity.
CATEGORY – AIR QUALITY			
20	MassDEP SERO, BAW Jonathan Hobill, Regional Engineer Solid Waste contact: Eliza Bystrom or Mark Dakers	Construction and operation activities (dust, odor, noise, construction, demolition) EPA Tier 4 emission limits	Requirements under 310 CMR 7.09 (Dust, Odor, Construction, and Demolition) and 310 CMR 7.10 (Noise) will be adhered to during construction and operation activities. All non-road diesel equipment rated 50 horsepower or greater will meet EPA’s Tier 4 emission limits. <ul style="list-style-type: none"> • If a piece of equipment is not available in the Tier 4 configuration, then construction equipment will be retrofitted with appropriate emissions reduction equipment/parts (e.g., EPA-verified, CARB-verified, or MassDEP-approved diesel oxidation catalysts [DOCs] or Diesel Particulate Filters [DPFs]). • A list of all equipment with engines, their emission tiers, and, if applicable, the best available control technology (BACT) installed on each piece of equipment will be provided to MassDEP Bureau of Air and Waste (BAW) for review and file.
21		Massachusetts Idling Regulations	Unnecessary idling (e.g., in excess of five minutes), with limited exception, will not be permitted during construction and operations phases of the Project(s) in accordance with 310 CMR 7.11. Efforts to comply may include driver training, periodic inspections by site supervisors, and posting signage. “Permanent” signage (for the duration of each project within the Proposed Action) will be installed to ensure compliance.
22		Backup Generators	Emergency generator engines employed during construction and as part of the Proposed Action will comply with MassDEP’s Industry Performance Standards at 310 CMR 7.26(4). The engine operator will submit a one-time certification in accordance with the provisions of 310 CMR 70.00 Environmental Results Program Certification.

Comment No.	Agency	Comment Synopsis	Response
24		Industry Performance Standards	Emergency generator engines employed during construction and as part of the Proposed Action will comply with MassDEP's Industry Performance Standards at 310 CMR 7.26(4), including limitations and design criteria (e.g., stack height, limit to 100 hours per calendar year).
25		Noise Regulations at 310 CMR 7.10	The proposed backup generator included in the Proposed Action is being installed at the far side of the airfield adjacent to the flight school and away from residences, which will avoid sound impacts to neighbors.
CATEGORY – BIOLOGICAL/RARE SPECIES			
9	MassDEP SERO, BWR Jonathan Hobill, Regional Engineer Statewide UIC contact: Joe Cerutti EPA NPDES contact: Sania Kamran	The Project proposes to extend the runway by 351 feet for safety and will result in the take of rare species habitat.	The Project Proponent initiated consultation with the Massachusetts NHESP prior to filing the ENF and will continue to engage them through the Draft EA/EIR process. [see answers immediately below in response to comments from NHESP]
31	Massachusetts Division of Fisheries & Wildlife; NHESP	Grassland habitats supporting four (4) state-listed avian species; MESA Conservation and Management Permits	Proponent acknowledges presence of four state-listed species and continues to manage the habitat under existing MESA CMPs with updated CMP anticipated following Draft EA/EIR and Final EA/EIR, public and agency comment periods, and required MESA filing materials are submitted.
32	Everose Schluter, Assistant Director Contact: Amy Hoenig, Endangered Species Review Biologist	Pre-filing consultation regarding proposed RW 6 Extension Project "as proposed, will likely result in a Take (321 CMR 10.18[2][b]) of state-listed species."	The Draft EA/EIR includes all activities proposed under the 5-year CIP, including the RW 6 extension, TW E and TW A extensions, and two hangars presented in the ENF, as well as the Gate 3 taxi lane reconstruction, RW 6 reconstruction, and wastewater extension along the Gate 6 Access Road.
33		"Projects resulting in a Take of state-listed species may only be permitted if	For these important Airport activities within the Project (5-yr CIP), the full Project is evaluated in the Draft EA/EIR and proposes to



Comment No.	Agency	Comment Synopsis	Response
		<p>the performance standards for a Conservation and Management Plan (CMP; 321 CMR 10.23) are met... must demonstrate that the project has avoided, minimized and mitigated impacts to state-listed species" consistent with the referenced performance standards, to include long-term net benefit to the conservation of the state-listed species.</p>	<p>avoid, minimize, and mitigate for potential Take of the four state-listed species to the extent practicable while meeting the Project Purpose and Need.</p>
34		<p>Continue proactive consultation with the Division to determine a "suitable long-term net benefit". "At this time, the full scope of project impacts to state-listed species and their habitats have not yet been determined. However, the [NHESP] Division anticipates that a suitable long-term net benefit could be achieved through the protection of suitable, high-quality habitat, or management of habitat; therefore, the [NHESP] Division anticipates that project should be able to meet the performance standards of a CMP."</p> <p>(NOTE: letter dated May 23, 2023) Proponent should demonstrate compliance with existing CMP(s) and request a Certificate of Permit Compliance from the NHESP/Division, as appropriate.</p>	<p>The Proponent intends to continue consultation with the NHESP to identify a suitable long-term net benefit that could be achieved through the protection of suitable, high-quality habitat, or management of habitat in order to meet the performance standards of a CMP. Proponent intends to demonstrate compliance with existing CMP(s) and request a Certificate of Permit Compliance from the Division, as appropriate.</p>



Comment No.	Agency	Comment Synopsis	Response
35		NHESP/Division will not render a final decision under the MEPA review process and associated public and agency comment period is completed, and until all required MESA filing materials are submitted.	Proponent understands NHESP will not render a final decision until the full MEPA process and MESA filings are completed.
36		No alteration to soil, surface, or vegetation and no work associated with the proposed project shall occur on the property until the NHESP/Division has made a final determination.	No Project work will occur until the NHESP has made a final determination within the regulatory timelines under MESA and MEPA.
CATEGORY – HAZARDOUS WASTE			
16	MassDEP SERO, BWSC Jonathan E. Hobill, MassDEP SERO Bureau of Water Resources Alternate Contact: George Zoto	Database of disposal sites finding of RTN 4-0026005; MassMapper GIS data viewer	RTN 4-0026005 confirmed and record included in Appendix K.
17		Advisory re: oil and/or hazardous material during project implementation must act pursuant to Massachusetts Contingency Plan (MCP; 310 CMR 40.0000); retain LSP	If oil and/or hazardous material(s) are identified during the implementation of the project(s), notification pursuant to the MCP will be made to MassDEP, as necessary. An LSP will be retained as needed to determine if notification is required and to render appropriate opinions, including an evaluation of whether risk reduction measures are necessary if contamination is present. The BWSC will be contacted for guidance if questions arise regarding cleanup.
18		Contaminated Soils Management; retain LSP	If contaminated media is encountered during the project(s), an LSP will be employed or engaged to manage, supervise, or perform the necessary response actions at the site for excavating, removing, and/or disposing of contaminated soil or contaminated media to be conducted in accordance with MGL 21E and/or c21C and all other applicable federal, state, and local laws, regulations, and bylaws. If needed, an appropriate plan will be submitted to the MassDEP (e.g., Release Abatement Measure [RAM] Plan).
19		Spills Prevention and Control	A spills contingency Plan addressing prevention and management of potential releases of oil and/or hazardous materials from pre- and



Comment No.	Agency	Comment Synopsis	Response
26	MassDEP SERO, BAW Jonathan E. Hobill, Regional Engineer Alternate ENF Contact: George Zoto Questions re: Solid Waste Mgt Program Elza Bystrom or Mark Dakers	Solid Waste Management; BWP SW41 Beneficial Use Compliance with Waste Ban Regulations	post-construction activities will be prepared and presented to workers at the site and enforced by the Contractor. If any material is reused, a Beneficial Use Determination – Restricted Application – will be submitted under MassDEP’s BWP SW41. If any materials are discovered during construction that are determined to be solid waste (e.g., construction and demolition waste), and/or recyclable materials (e.g., metal, asphalt, brick, and concrete), they will be disposed, recycled, and/or otherwise handled in accordance with the Solid Waste Regulations, including 310 CMR 19.017 Waste Bans. The Proponent will consider source separation and recyclable materials separation at the job site.
27			
28		Asphalt, brick, and concrete (ABC) rubble	Asphalt, brick, and concrete rubble associated with the removal of existing structure(s) will be handled in accordance with Solid Waste regulations, including possible recycling/reuse of ABC rubble in accordance with provisions of the relevant solid waste regulations.
29		Tree removal / land clearing	The Proponent acknowledges that wood (including “clean wood”, i.e., discarded trees, stumps and brush) is NOT ALLOWED to be buried or disposed of at the Site pursuant to 310 CMR 16.00 and 310 CMR 19.000 unless otherwise approved by MassDEP. Clean wood may be processed onsite for use at the Site (e.g., chipping for landscaping material).
CATEGORY – STORMWATER MANAGEMENT			
12	MassDEP SERO, BWR Jonathan Hobill, Regional Engineer Statewide UIC contact: Joe Cerutti EPA NPDES contact: Sania Kamran	Underground Injection Control (UIC)	The stormwater management systems have not yet been designed, as the project is still at conceptual (<30%) design phase. The system will be designed to meet FAA design standards and other applicable state and federal requirements. Though not currently anticipated, any UIC conveyances would be appropriately registered with the MassDEP UIC program.
13		NPDES Construction General Stormwater Permit	The EPA NPDES program and local authorities will be consulted, as needed, to confirm design and permitting requirements under NPDES. A Stormwater Pollution Prevention Plan (SWPPP) has been developed in



Comment No.	Agency	Comment Synopsis	Response
14		Local Planning Boards (and/or other local authorities) stormwater controls	accordance with the National Pollutant Discharge Elimination System (NPDES) Multi-Sector General Permit (MSGP) that controls maintenance activities and operations on the site that have the potential to impact stormwater.
15		NPDES Multi-Sector S (Air Transportation Facilities) for Stormwater Discharges Associated with an Industrial Activity (aircraft deicing)	The Proponent will confirm all local regulations and controls and design the stormwater management system in accordance with those mandates. The Airport conducts snow removal operations for measurable snowfall events. Snow removal operations at the Airport comply with MassDEP's Snow Removal Guidance (December 2020).
CATEGORY – WETLANDS & WATERWAYS			
8	MassDEP SERO, BWR Jonathan Hobbil, Regional Engineer	FAA analysis of fence / Gate 6 Access	The Proposed Action does not currently include any impacts to wetlands. An evaluation by the FAA on September 22, 2023, indicated that relocation of the glideslope would not cause a conflict and therefore, the fence (and road) and road are not proposed to be moved/shifted.
10		Boston Wetlands Major Projects (rare species habitat) "Currently there are no impacts to wetland resource areas proposed but the ENF states the potential for wetland alterations pending an analysis by FAA [letter dated May 16, 2023]. The Project Proponent plans to present any changes to wetland impacts in the EIR stages. At this time, the Department does not expect a variance for this Project. However, there is an open variance for work at the	Based on the FAA evaluation of the relocated glideslope position (completed 9/22/23), the fence and road will NOT need to be relocated. Even though the Proposed Action extends RW6 and Taxilane A by 351', the glideslope shift is very likely to be a shorter shift in the final design. (The fence could be replaced in its existing location with a non-reflective, "radar-friendly" fencing to avoid the need for shifting the fence and road. This would subsequently avoid the need to encroach or impact the jurisdictional wetland and buffer.) The Proponent acknowledges that work proposed must not conflict with the conditions of an open variance.



Comment No.	Agency	Comment Synopsis	Response
11		<p>project site and this proposal must not conflict with conditions in the open variance."</p> <p>Waterways – no work proposed</p>	<p>The Proponent confirms that there is no work proposed in waterways.</p>
<p>CATEGORY – PROPOSED SECTION 61 FINDINGS</p>			
30	<p>MassDEP SERO Jonathan Hobill, Regional Engineer</p>	<p>Separate Chapter with Proposed Section 61 Findings</p>	<p>MEPA Section 61 Findings are included in Appendix P of the Draft EA/EIR. The Appendix includes: 1) a summary of proposed mitigation measures, 2) findings for each State agency that will issue permits for the Project, 3) clear commitments to implement mitigation measures, 4) estimate of individual cost for each proposed mitigation measure, 5) identification of the parties responsible for implementation, and 6) a schedule of projected implementation.</p>



Responses to Comments During Draft EA/EIR Development (emails attached)

DATE	COMMENT	RESPONSE
US Environmental Protection Agency (EPA)		
May 1, 2023	"Please let me know if this project will receive Federal funding. If that is the case, you will need a project review to be completed by EPA."	"The project components related to the runway extension will receive funding from FAA. We will add your contact information to the distribution list for future filings." [Link to download the ENF filing was provided.] "... this project will also undergo NEPA and a copy of the joint Draft EA/EIR will be supplied to EPA for SSA review at that time."
Massachusetts Division of Marine Fisheries (DMF)		
April 19, 2023	"Does this project have any marine resources associated with it?" "DMF will have no need to comment."	"No marine resources are associated with the project." N/A
Community Land & Water Coalition		
July 16, 2023	"Please provide all documents related to this MEPA and NEPA filing including but not limited to the ENF, any FONSI, NHESP findings, NEPA EA and all documents regarding permits required from the Town of Plymouth. This is to register an objection to the failure to provide proper public notice and conduct fair public notice. Residents of the area who will be impacted have not received a notice and opportunity to comment or be involved in the MEPA scoping or other process. We request another public meeting involving all stakeholders including EJ communities."	From MEPA Analyst – Nick Moreno (via email direct to CLWC) July 17, 2023 "I'm writing to confirm that the project was noticed appropriately in accordance with the MEPA regulations (301 CMR 11.00). Specifically, the Proponent published notice of review of the Environmental Notification Form (ENF) in the following newspaper: <ul style="list-style-type: none"> The Old Colony Memorial on April 20, 2023 Information regarding the ENF filing was also published in the Environmental Monitor, a bi-weekly publication that provides notice of new projects that have been submitted to the MEPA Office for review as well as other projects currently under review, certificates, and public notices. In addition, a notice of the project submittal and the MEPA remote/virtual consultation session was sent to state and local agencies and community-based organizations. These included the local planning board, conservation commission, select board, and board of health. All information relating to the ENF and the issued ENF Certificate is available through the Environmental Monitor using the search feature. Additional MEPA filings on the project are anticipated. If you would like to receive a notice when the newest edition of the Environmental Monitor is available, send a blank email to subscribe-mepa_environmentalmonitor@listserv.state.ma.us. Please ensure that both the subject line and body of the email are blank and that the email does not contain an automatic signature or your email address will not be added to the listserv."



DATE	COMMENT	RESPONSE
April 19, 2023	<p>...is there a plan to file with the Carver Conservation Commission? At first a blurb of a review I didn't see anything to trigger that, but want to make sure..."</p>	<p>"At this time, there are no plans to file with the Con Com. However, the FAA is currently analyzing any potential issues with the relocation of the glideslope, and if interference with the airport perimeter fence/access road is determined these would need to be relocated. The relocation of the fence and access road may require filing a NOI. This analysis is anticipated to be completed prior to filing the DEIR, and we will determine any wetland impacts at that time." [UPDATE NOTE: FAA evaluation of the glideslope was completed on 9/22/23, and the determination by the FAA was that there will be NO impacts requiring relocation of the fence and road. The fence and road will remain at their current location; therefore, there are no wetland impacts proposed.]</p>



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

Bonnie Heiple
Commissioner

May 16, 2023

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

RE: ENF Review EOEEA #16692
PLYMOUTH. Plymouth Municipal Airport
Runway 6 Extension Improvement Plan
at 71 Airport Road

Dear Secretary Tepper,

The Southeast Regional Office of the Department of Environmental Protection (MassDEP) has reviewed the Environmental Notification Form (ENF) for the Plymouth Municipal Airport Runway 6 Extension and Technical Master Plan Update, LLC at South Meadow Road, Plymouth and Carver, Massachusetts ((EOEEA #16692). The Project Proponent provides the following information for the Project:

The project contains the following physical elements:

Runway 6 Extension

- Construct a 351-ft long, 75-ft wide extension on the approach to Runway 6 for a total runway length of 5001-ft;
- Construct a 351-ft long, 35-ft wide extension to the parallel taxiway (E) in order to serve the runway with a full-length parallel taxiway to meet the requirements of Parallel Taxiway Standards of AC/5300-13B in order to maintain less than mile visibility on Precision Approaches or Approaches with vertical guidance;
- Adds 1.68 acres of pavement (net of removal);
- No additional easements are required to be obtained;
- One (tree) obstruction is currently within 10 ft of the approach surface and could be required to be removed in order to maintain a clear and unobstructed approach path to Runway 6 as per AC 5300-13B Tables 3-2 through 3-5 in the future. Currently, there are no obstructions that would penetrate the approach surface to Runway 6 with the 351-ft extension;
- Relocated medium intensity runway lighting (MIRL), Medium Intensity Approach Light System with Sequenced Flashing Lights (MALSF), Precision Approach Path Indicator (PAPI), and Runway End Identifier Lights (REILS) on Runway 6.

Comment
Number

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New Hangers

Within the Airport boundary there is a total building footprint of approximately 533,068-square feet (inclusive of previously committed/approved structures, but not yet built, see EEA# 15663). This includes both group and maintenance hangars. According to the results of the Technical MPU and consistent with the economic needs, the Airport continues to attract new hangar owners and businesses to the airfield. The Airport currently maintains a waitlist for hangar space, and additional hangar space would allow the Airport flexibility in attracting new businesses and meet the facility needs of users. The Project proposes construction of two (2) new aircraft hangars approximately 100'x100' (20,000 square feet total) located north of the Gate 6 Access Road and along Taxilane A, see Figure 4.

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Bureau of Water Resources (BWR) Comments

Wetlands. The Project Proponent describes “potential for wetland alterations will be determined pending an analysis by the FAA relative to relocation and realignment of Gate 6 Access Roadway and perimeter fence line within the Project area to avoid interference with the runway landing instrumentation and navigational aids.”

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Wetlands - Boston Wetlands Major Projects The Project proposes to extend the runway by 351 feet for safety and will result in a take of rare species habitat. Currently there are no impacts to wetland resource areas proposed but the ENF states the potential for wetland alterations pending an analysis by FAA. The Project Proponent plans to present any changes to wetland impacts in the EIR stages. At this time, the Department does not expect a variance for this Project. However, there is an open variance for work at the project site and this proposal must not conflict with conditions in the open variance.

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Waterways. There is no work proposed within Waterways jurisdiction.

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Stormwater Management

Underground Injection Control (UIC)

The Proponent is advised that the conveyances of the Project’s stormwater through underground infiltration structures may be 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>. Additional information can be found at: <https://www.mass.gov/how-to/ws-06-registration-of-a-class-v-uic-well-and-modification-of-an-existing-registration>.

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National Pollutant Discharge Elimination System (NPDES) Construction General Stormwater Permit.

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The Project Proponent acknowledges that its activities will require filing a Notice of Intent (NOI) with the United States Environmental Protection Agency (US EPA). Access to information regarding the NPDES Stormwater requirements and an application for the Construction General Permit is obtained 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.

In addition, the Proponent is reminded that local Planning Boards (and/or other local authorities) may require stormwater controls beyond that of the Wetlands protection Act. These controls are usually created to keep stormwater onsite so as not to create nuisance conditions offsite.

NPDES Multi-Sector S – Air Transportation Facilities

Under the 2015 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity (MSGP), EPA 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. These requirements are found in Part 8.S.8 of the permit. Additional information regarding this permit may be found at: https://www3.epa.gov/npdes/pubs/sector_s_airtransmaint.pdf

Bureau of Waste Site Cleanup (BWSC) Comments

Based upon the information provided, the Bureau of Waste Site Cleanup (BWSC) searched its databases for disposal sites and release notifications that have occurred at or might impact the proposed project area. A disposal site is a location where there has been a release to the environment of oil and/or hazardous material that is regulated under M.G.L. c. 21E, and the Massachusetts Contingency Plan [MCP – 310 CMR 40.0000].

There is one closed MCP disposal site located on the property and upgradient of the proposed project area. RTN 4-0026005 was issued due to a plane crash that resulted in the sudden release of approximately 25 gallons of aviation fuel to the ground surface. The release impacted surficial soils, but groundwater and surface water impacts were not observed. The impacted soil was removed, and the site achieved a Permanent Solution with no Conditions under the MCP.

Interested parties may view a map showing the location of BWSC disposal sites using the MassGIS data viewer at [MassMapper](https://www.mass.gov/info-details/massgis). Under the Available Data Layers listed on the right sidebar, select “Regulated Areas”, and then “DEP Tier Classified 21E Sites”. MCP reports and the compliance status of specific disposal sites may be viewed using the BWSC Waste Sites/Reportable Release Lookup at: <https://eeaonline.eea.state.ma.us/portal#!/search/wastesite>

The Project Proponent is advised that if oil and/or hazardous material are identified during the implementation of this project, notification pursuant to the Massachusetts Contingency Plan

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(310 CMR 40.0000) must be made to MassDEP, if necessary. A Licensed Site Professional (LSP) should be retained to determine if notification is required and, if need be, to render appropriate opinions. The LSP may evaluate whether risk reduction measures are necessary if contamination is present. The BWSC may be contacted for guidance if questions arise regarding cleanup.

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cont.

Contaminated Soils Management

The Project Proponent is advised that If contaminated media is encountered a Licensed Site Professional (LSP) must be employed or engaged to manage, supervise or actually perform the necessary response actions at the site for excavating, removing and/or disposing of contaminated soil or contaminated media (which includes contaminated sediment) must be conducted under the provisions of Massachusetts General Law Chapter 21E (and, potentially, c.21C) and all other applicable federal (including the Environmental Protection Agencies Toxic Substance Control Act - TSCA), state, and local laws, regulations, and bylaws. Contaminated media cannot be managed without prior submittal of appropriate plan to MassDEP (such as a Release Abatement Measure (RAM) Plan), which describes the proposed handling and disposal approach for any contaminated media encountered and health and safety precautions for those conducting the work. If contamination at the site is known or suspected, the appropriate tests should be conducted well in advance of the start of construction and professional environmental consulting services should be readily available to provide technical guidance to facilitate any necessary permits

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Spills Prevention and 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.

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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:

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- 310 CMR 7.09 Dust, Odor, Construction, and Demolition
- 310 CMR 7.10 Noise

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 EPA Tier 4 construction 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



The Project Proponent is advised 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.

21

Massachusetts Idling Regulation. 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 (310 CMR 7.11). With regard to 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.

22

Backup Generators

Many facilities often employ backup generators. Emergency generator engines are subject to MassDEP’s Industry Performance Standards at 310 CMR 7.26(42). These regulations require that the engine operator submit a one-time certification in accordance with the provisions of 310 CMR 70.00: Environmental Results Program Certification.

23

The Industry Performance Standards establish emission limitations and design criteria, including stack height requirements for the engine. Although there are no limits on the amount of operation during a power outage, the regulations do limit engine operation to 100 hours per calendar year, or as otherwise approved by EPA, for maintenance checks and readiness testing, provided that the tests are recommended by federal, state or local government, the manufacturer, the vendor, the regional transmission organization or equivalent balancing authority and transmission operator, or the insurance company associated with the engine. As part of the 100 hours, the engine may operate up to 50 hours per calendar year for nonemergency situations.

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Operation of the engines are subject to MassDEP’s Noise Regulations at 310 CMR 7.10, which prohibit a nuisance condition due to excess sound. Therefore, MassDEP recommends that the generators are installed in an area that will minimize sound impacts on neighbors.

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Solid Waste Management. The ENF states: “The primary demolition waste associated with the Runway 6 end extension will be asphalt, which will be reused on site where feasible. Construction procedures will allow for the segregation, reuse, and recycling of materials.”

As a reminder, the Project Proponent is advised of the following requirements:

1. Reuse of any material requires submittal of MassDEP’s BWP SW41 – Beneficial Use Determination – Restricted Applications. The permit is intended to protect public health, safety, and the environment by comprehensively regulating the reuse of waste materials as

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effective substitutes for a commercial product or commodity. Information pertaining to this requirement is available at <https://www.mass.gov/doc/instructions-sw-39-40-41-42-beneficial-use-determinations/download>.

2. *Compliance with Waste Ban Regulations:* Waste materials discovered during construction that are determined to be solid waste (e.g., construction and demolition waste) and/or recyclable material (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>.

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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>.

3. *Asphalt, brick, and concrete (ABC) rubble* associated with the removal of existing structure 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>.

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4. *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

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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 you have 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 for solid waste comments.

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.

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Other Comments/Guidance

The MassDEP Southeast Regional Office appreciates the opportunity to comment on this ENF. 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, Deputy Regional Director, BWSC
- Seth Pickering, Deputy Regional Director, BAW
- Jennifer Viveiros, Deputy Regional Director, ADMIN
- Greg DeCesare, Acting Chief, Wetlands and Waterways, BWR
- Brendan Mullaney, Waterways, BWR

David Hilgeman, Senior Wetlands Engineer, Wetlands/BWR Boston
N. Tay Evans, Wetlands/BWR Boston
Mark Dakers, Chief, Solid Waste, BAW
Elza Bystrom, Solid Waste, BAW
Angela Gallagher, Chief, Site Management, BWSC
Jennifer Wharff, Site Management, BWSC



MASSWILDLIFE

DIVISION OF FISHERIES & WILDLIFE

1 Rabbit Hill Road, Westborough, MA 01581
p: (508) 389-6300 | f: (508) 389-7890
MASS.GOV/MASSWILDLIFE

May 23, 2023

Rebecca Tepper, Secretary
Executive Office of Energy and Environmental Affairs
Attention: MEPA Office
Nicolas Moreno, EEA No. 16692
100 Cambridge Street
Boston, Massachusetts 02114

Project Name: Plymouth Municipal Airport Runway 6 Extension
Proponent: Plymouth Airport Commission
Location: South Meadow Road, Plymouth Municipal Airport
Project Description: Extend Runway 6 and parallel taxiway (E) by 351 feet
Document Reviewed: Environmental Notification Form
EEA File Number: 16692
NHESP Tracking No.: 23-1142

Dear Secretary Tepper:

Comment Number

The Natural Heritage & Endangered Species Program of the Massachusetts Division of Fisheries & Wildlife (the Division) reviewed the *Environmental Notification Form* (ENF) for the Plymouth Municipal Airport Runway 6 Extension Project located in Plymouth, MA and would like to offer the following comments.

Plymouth Municipal Airport’s grassland habitats support four (4) state-listed grassland-nesting avian species. These species and their habitats are protected pursuant to the Massachusetts Endangered Species Act (M.G.L c. 131A) and its implementing regulations (MESA, 321 CMR 10.00). Portions of Plymouth Airport are currently managed to maintain habitat for state-listed species in accordance with the provisions of the MESA Conservation and Management Permits (005-049.DFW, 014-240.DFW, & 018-329).

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All projects that will occur within *Priority and Estimated Habitat* for state-listed species, which are not otherwise exempt from MESA review pursuant to 321 CMR 10.14, require a direct filing with the Division for compliance with the Massachusetts Endangered Species Act (MESA 321 CMR 10.00). The Proponent has initiated consultation with the Division concerning the proposed Runway 6 Extension Project. As project plans are developed, the Proponent should continue to consult with the Division to minimize impacts to state-listed species and their habitats. Although a formal MESA filing has not yet been submitted, the Division anticipates – based on previously submitted information and ongoing consultations with the Proponent – that the Runway 6 Extension Project, as proposed, will likely result in a Take (321 CMR 10.18 (2)(b)) of state-listed species.

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Projects resulting in a Take of state-listed species may only be permitted if the performance standards for a Conservation and Management Permit (CMP; 321 CMR 10.23) are met. For a project to qualify for a CMP, the applicant must demonstrate that the project has avoided, minimized and mitigated impacts to

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state-listed species consistent with the following performance standards: (a) adequately assess alternatives to both temporary and permanent impacts to the state-listed species, (b) demonstrate that an insignificant portion of the local population will be impacted, and (c) develop and agree to carry out a conservation and management plan that provides a long-term net benefit to the conservation of the state-listed species.

The Proponent has consulted with the Division on a pre-filing basis. It is our understanding that the Proponent intends to meet the performance standards of a CMP. The Proponent should continue proactive consultations with the Division to determine a suitable long-term net benefit for state-listed species. At this time, the full scope of the project impacts to state-listed species and their habitats have not been determined and details of the long-term net benefit required under a CMP have not been finalized. However, the Division anticipates that a suitable long-term net benefit could be achieved through the protection of suitable, high-quality habitat, or management of habitat; therefore, the Division anticipates that project should be able to meet the performance standards of a CMP. At this time, the Division has not determined whether the existing CMP will be amended or if a new CMP will be required. The Proponent should demonstrate compliance with the existing CMP(s) and request a Certificate of Permit Compliance from the Division, as appropriate.

Division will not render a final decision until the MEPA review process and associated public and agency comment period is completed, and until all required MESA filing materials are submitted by the proponent to the Division. As our MESA review is not complete, no alteration to the soil, surface, or vegetation and no work associated with the proposed project shall occur on the property until the Division has made a final determination.

If you have any questions about this letter, please contact Amy Hoenig, Endangered Species Review Biologist, at (508) 389-6364 or Amy.Hoenig@mass.gov. We appreciate the opportunity to comment on this project.

Sincerely,

Everose Schlüter, Ph.D.
Assistant Director

cc: Alyssa Jacobs, Epsilon Associates
Nathan Rawding, Epsilon Associates
Brenda Bhatti, Dubois-King
Plymouth Municipal Airport
Plymouth Board of Selectmen
Plymouth Conservation Commission
Plymouth Planning Department
DEP Southeast Regional Office, MEPA



APPENDIX F Additional CISA Flooding Analysis Exhibits/Maps (11"x17")

- FIGURE 4-8 USGS AdvancedTopo "National Map Viewer"
- FIGURE 4-9 Google Earth Imagery
(with X-section/profile view of swale adjacent to
Proposed Taxiway E extension)

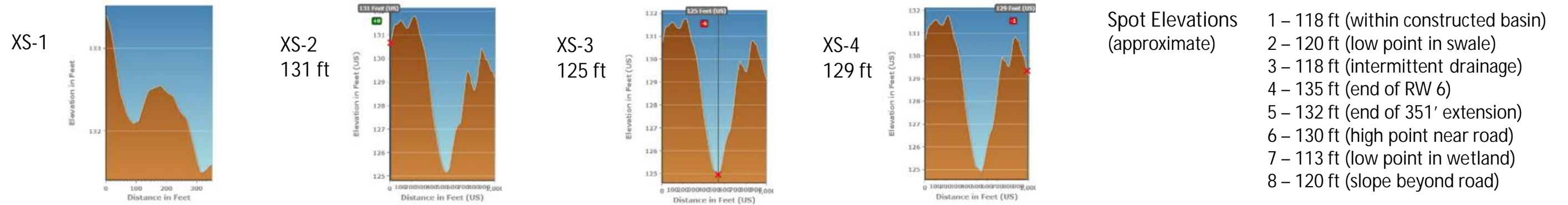
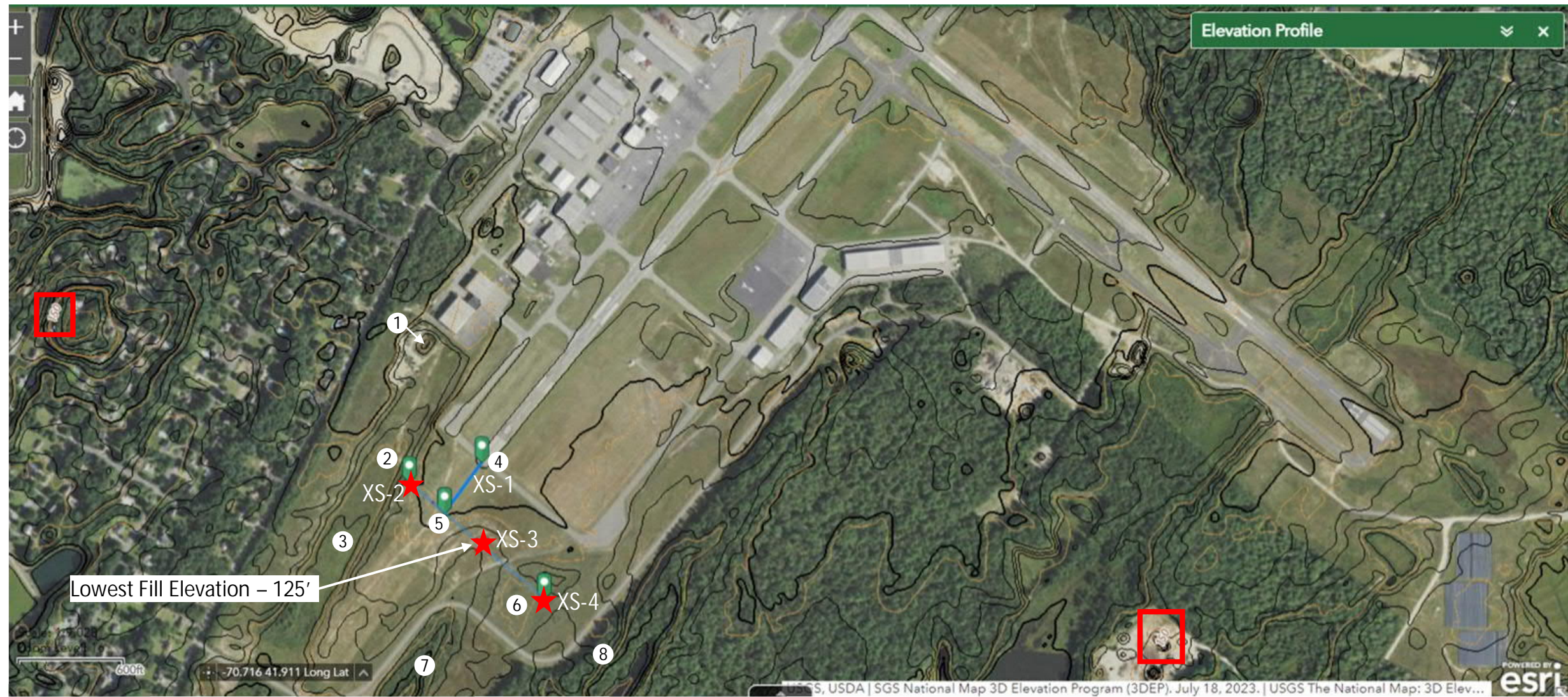


FIGURE 4-8

Plan View of Project Area with Elevation X-sections

[Source: Acquired from USGS Advanced TopoBuilder / "The National Map" Viewer, 9/12/23

NOTE: Low resolution X-sectional profiles exaggerate steepness based on condensed distance output by USGS system]

LEGEND

 USGS Elevations

 X-section Locus

 X-sec Elevation Locus

[Not to Scale; Locations Approximate]



PROJECT

Plymouth Municipal Airport
Runway 6 Project Environmental Assessment

DATE

September 12, 2023



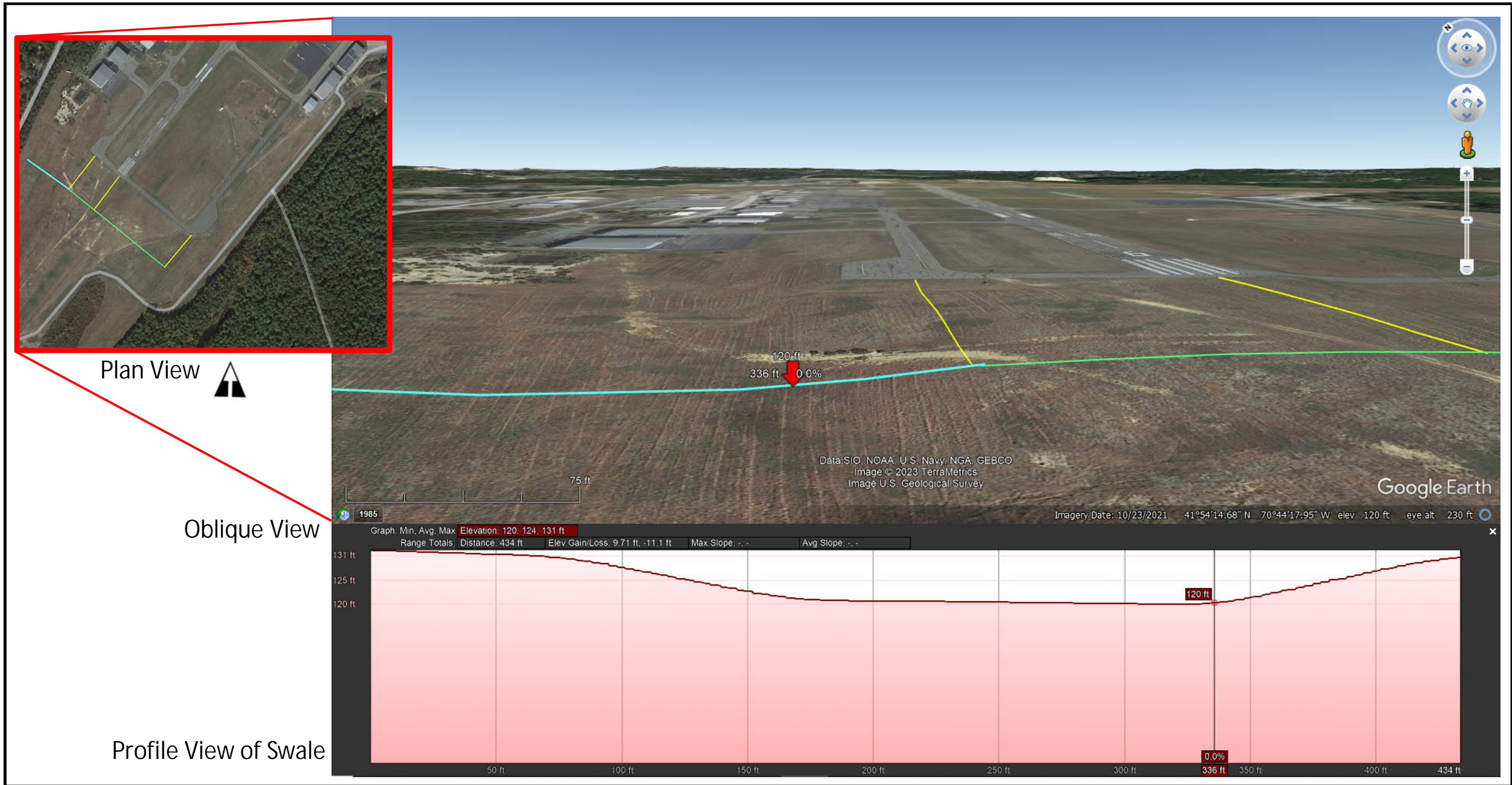


FIGURE 4-9

Google Aerial X-section
Plan & Profile Views of Project Area/Swale

[Source: Google Earth, accessed 9/12/23;
NOTE: Image oblique view, distorted]

[Not to Scale; Locations Approximate]

LEGEND



X-section/Profile Locus



Drainage Swale



351' Extension Terminus



351' Extensions



PROJECT

Plymouth Municipal Airport
Runway 6 Project Environmental Assessment

DATE

September 12, 2023





APPENDIX G EPA EJSscreen Report

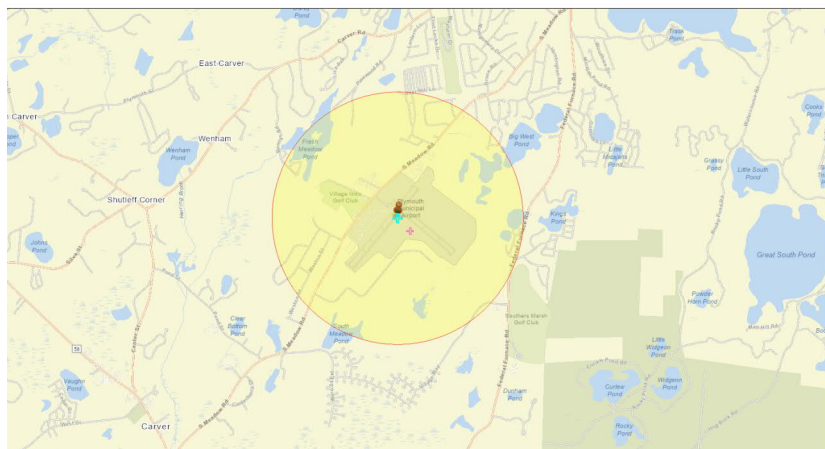


EJScreen Community Report

This report provides environmental and socioeconomic information for user-defined areas, and combines that data into environmental justice and supplemental indexes.

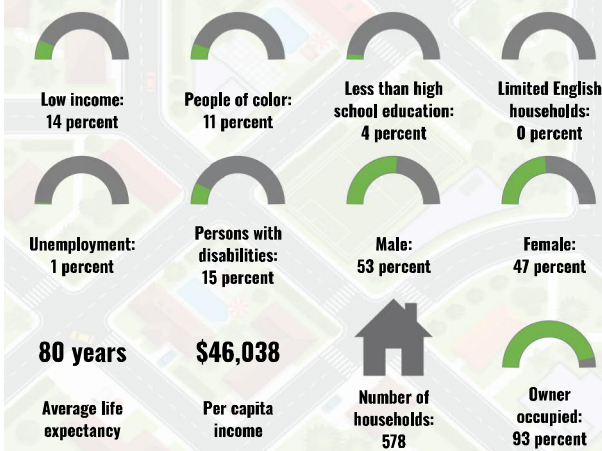
Plymouth County, MA

1 mile Ring Centered at 41.910068,-70.729609
 Population: 1,401
 Area in square miles: 3.14

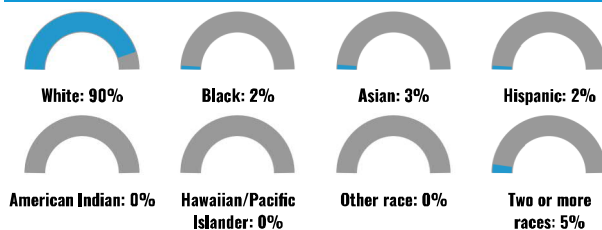


ast 11, 2023
 Plymouth Municipal Airport
 Search Result (point)
 1:36,112
 0 0.33 0.65 1 1.31 2 km
 Esri, HERE, Garmin, Swisstopo, DeLorme, GeoTechnologies, Inc., MITRINGA, USGS, EPA, FIPS, US Census Bureau, USDA

COMMUNITY INFORMATION



BREAKDOWN BY RACE



BREAKDOWN BY AGE



LIMITED ENGLISH SPEAKING BREAKDOWN



LANGUAGES SPOKEN AT HOME

LANGUAGE	PERCENT
English	95%
Spanish	1%
Other Indo-European	2%
Vietnamese	1%
Total Non-English	5%

Notes: Numbers may not sum to totals due to rounding. Hispanic population can be of any race. Source: U.S. Census Bureau, American Community Survey (ACS) 2017-2021. Life expectancy data comes from the Centers for Disease Control.

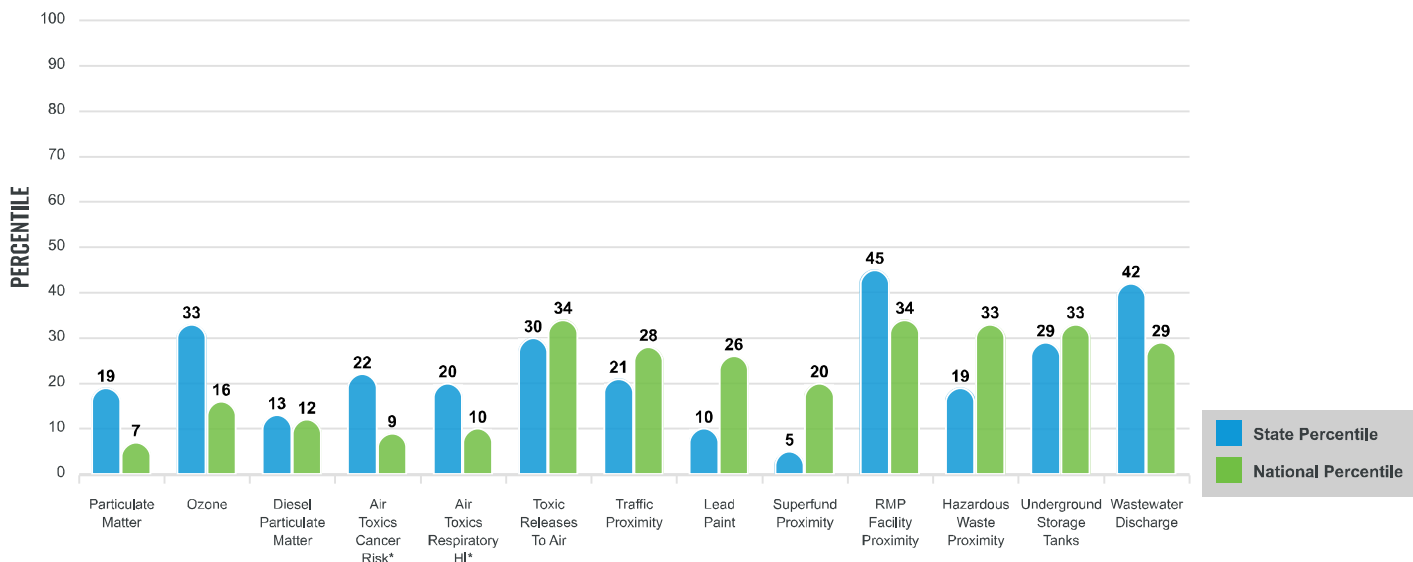
Environmental Justice & Supplemental Indexes

The environmental justice and supplemental indexes are a combination of environmental and socioeconomic information. There are thirteen EJ indexes and supplemental indexes in EJScreen reflecting the 13 environmental indicators. The indexes for a selected area are compared to those for all other locations in the state or nation. For more information and calculation details on the EJ and supplemental indexes, please visit the [EJScreen website](#).

EJ INDEXES

The EJ indexes help users screen for potential EJ concerns. To do this, the EJ index combines data on low income and people of color populations with a single environmental indicator.

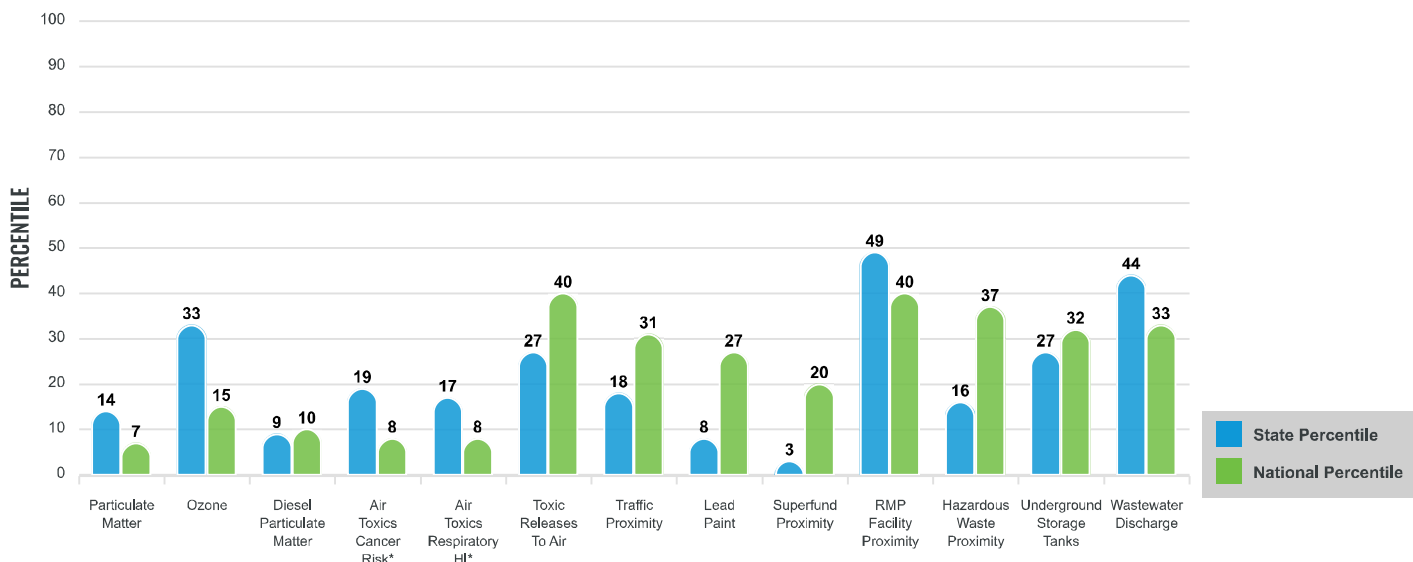
EJ INDEXES FOR THE SELECTED LOCATION



SUPPLEMENTAL INDEXES

The supplemental indexes offer a different perspective on community-level vulnerability. They combine data on percent low-income, percent linguistically isolated, percent less than high school education, percent unemployed, and low life expectancy with a single environmental indicator.

SUPPLEMENTAL INDEXES FOR THE SELECTED LOCATION



These percentiles provide perspective on how the selected block group or buffer area compares to the entire state or nation.

Report for 1 mile Ring Centered at 41,910068,-70.729609

EJScreen Environmental and Socioeconomic Indicators Data

SELECTED VARIABLES	VALUE	STATE AVERAGE	PERCENTILE IN STATE	USA AVERAGE	PERCENTILE IN USA
POLLUTION AND SOURCES					
Particulate Matter (µg/m ³)	6.06	6.62	17	8.08	8
Ozone (ppb)	57.7	58.3	34	61.6	21
Diesel Particulate Matter (µg/m ³)	0.0998	0.253	9	0.261	16
Air Toxics Cancer Risk* (lifetime risk per million)	20	24	1	28	3
Air Toxics Respiratory HI*	0.2	0.26	2	0.31	4
Toxic Releases to Air	910	2,800	31	4,600	57
Traffic Proximity (daily traffic count/distance to road)	76	630	22	210	50
Lead Paint (% Pre-1960 Housing)	0.11	0.51	8	0.3	36
Superfund Proximity (site count/km distance)	0.032	0.18	4	0.13	30
RMP Facility Proximity (facility count/km distance)	0.19	0.36	58	0.43	55
Hazardous Waste Proximity (facility count/km distance)	0.63	6.7	17	1.9	53
Underground Storage Tanks (count/km ²)	0.53	3.4	26	3.9	40
Wastewater Discharge (toxicity-weighted concentration/m distance)	0.00095	0.2	50	22	48
SOCIOECONOMIC INDICATORS					
Demographic Index	13%	26%	30	35%	15
Supplemental Demographic Index	7%	12%	31	14%	18
People of Color	11%	30%	28	39%	25
Low Income	14%	22%	43	31%	26
Unemployment Rate	1%	5%	21	6%	24
Limited English Speaking Households	0%	6%	0	5%	0
Less Than High School Education	4%	9%	39	12%	28
Under Age 5	4%	5%	51	6%	45
Over Age 64	23%	17%	76	17%	76
Low Life Expectancy	18%	17%	57	20%	34

*Diesel particulate matter, air toxics cancer risk, and air toxics respiratory hazard index are from the EPA's Air Toxics Data Update, which is the Agency's ongoing, comprehensive evaluation of air toxics in the United States. This effort aims to prioritize air toxics, emission sources, and locations of interest for further study. It is important to remember that the air toxics data presented here provide broad estimates of health risks over geographic areas of the country, not definitive risks to specific individuals or locations. Cancer risks and hazard indices from the Air Toxics Data Update are reported to one significant figure and any additional significant figures here are due to rounding. More information on the Air Toxics Data Update can be found at: <https://www.epa.gov/haps/air-toxics-data-update>.

Sites reporting to EPA within defined area:

Superfund	0
Hazardous Waste, Treatment, Storage, and Disposal Facilities	0
Water Dischargers	6
Air Pollution	0
Brownfields	0
Toxic Release Inventory	0

Other community features within defined area:

Schools	0
Hospitals	0
Places of Worship	0

Other environmental data:

Air Non-attainment	Yes
Impaired Waters	Yes

Selected location contains American Indian Reservation Lands*	No
Selected location contains a "Justice40 (CEJST)" disadvantaged community	No
Selected location contains an EPA IRA disadvantaged community	No

Report for 1 mile Ring Centered at 41.910068,-70.729609

EJScreen Environmental and Socioeconomic Indicators Data

HEALTH INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Low Life Expectancy	18%	17%	57	20%	34
Heart Disease	6.3	5.4	78	6.1	56
Asthma	10.2	10.8	31	10	58
Cancer	8.1	6.6	83	6.1	89
Persons with Disabilities	15.1%	11.9%	78	13.4%	66

CLIMATE INDICATORS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Flood Risk	6%	12%	39	12%	49
Wildfire Risk	0%	0%	0	14%	0

CRITICAL SERVICE GAPS

INDICATOR	HEALTH VALUE	STATE AVERAGE	STATE PERCENTILE	US AVERAGE	US PERCENTILE
Broadband Internet	9%	10%	54	14%	42
Lack of Health Insurance	1%	3%	31	9%	6
Housing Burden	No	N/A	N/A	N/A	N/A
Transportation Access	Yes	N/A	N/A	N/A	N/A
Food Desert	No	N/A	N/A	N/A	N/A

Footnotes

Report for 1 mile Ring Centered at 41.910068,-70.729609



APPENDIX H USFWS IPaC Documentation – Species List & Consistency Letter



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To:
Project Code: 2023-0114215
Project Name: Plymouth Municipal Airport

October 27, 2023

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

Updated 4/12/2023 - Please review this letter each time you request an Official Species List, we will continue to update it with additional information and links to websites may change.

About Official Species Lists

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Federal and non-Federal project proponents have responsibilities under the Act to consider effects on listed species.

The enclosed species list identifies threatened, endangered, proposed, and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested by returning to an existing project's page in IPaC.

Endangered Species Act Project Review

Please visit the “**New England Field Office Endangered Species Project Review and Consultation**” website for step-by-step instructions on how to consider effects on listed

species and prepare and submit a project review package if necessary:

<https://www.fws.gov/office/new-england-ecological-services/endangered-species-project-review>

NOTE Please do not use the **Consultation Package Builder** tool in IPaC except in specific situations following coordination with our office. Please follow the project review guidance on our website instead and reference your **Project Code** in all correspondence.

Northern Long-eared Bat - (Updated 4/12/2023) The Service published a final rule to reclassify the northern long-eared bat (NLEB) as endangered on November 30, 2022. The final rule went into effect on March 31, 2023. You may utilize the **Northern Long-eared Bat Rangewide Determination Key** available in IPaC. More information about this Determination Key and the Interim Consultation Framework are available on the northern long-eared bat species page:

<https://www.fws.gov/species/northern-long-eared-bat-myotis-septentrionalis>

For projects that previously utilized the 4(d) Determination Key, the change in the species' status may trigger the need to re-initiate consultation for any actions that are not completed and for which the Federal action agency retains discretion once the new listing determination becomes effective. If your project was not completed by March 31, 2023, and may result in incidental take of NLEB, please reach out to our office at newengland@fws.gov to see if reinitiation is necessary.

Additional Info About Section 7 of the Act

Under section 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to determine whether projects may affect threatened and endangered species and/or designated critical habitat. If a Federal agency, or its non-Federal representative, determines that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Federal agency also may need to consider proposed species and proposed critical habitat in the consultation. 50 CFR 402.14(c)(1) specifies the information required for consultation under the Act regardless of the format of the evaluation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<https://www.fws.gov/service/section-7-consultations>

In addition to consultation requirements under Section 7(a)(2) of the ESA, please note that under sections 7(a)(1) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species. Please contact NEFO if you would like more information.

Candidate species that appear on the enclosed species list have no current protections under the ESA. The species' occurrence on an official species list does not convey a requirement to

consider impacts to this species as you would a proposed, threatened, or endangered species. The ESA does not provide for interagency consultations on candidate species under section 7, however, the Service recommends that all project proponents incorporate measures into projects to benefit candidate species and their habitats wherever possible.

Migratory Birds

In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see:

<https://www.fws.gov/program/migratory-bird-permit>

<https://www.fws.gov/library/collections/bald-and-golden-eagle-management>

Please feel free to contact us at **newengland@fws.gov** with your **Project Code** in the subject line if you need more information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat.

Attachment(s): Official Species List

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office

70 Commercial Street, Suite 300

Concord, NH 03301-5094

(603) 223-2541

PROJECT SUMMARY

Project Code: 2023-0114215
Project Name: Plymouth Municipal Airport
Project Type: Airport - Maintenance/Modification
Project Description: The Proponent proposes several improvements to the Plymouth Municipal Airport (the Airport) as outlined in the 2022 Technical Master Plan Update (TMPU), which evaluated aviation demand forecasts, facility requirements, airport access and geometry, and airside facility requirements over a 20-year planning horizon through 2042. The TMPU was developed with a focus on airside infrastructure (areas of the airport that support aircraft activity) needed to meet Federal Aviation Administration (FAA) airport safety standards as well future aviation demand. The primary project under consideration consists of an extension to Runway 6-24 at the south end (“Runway 6 project”). This project consists of the construction of a 351 foot (ft) long by 75 ft wide extension to the Runway 6 end of Runway 6-24 for a new total runway length of 5,001 ft. The extension of Runway 6 will be accompanied by 351 ft long by 35 ft wide extension of Taxiway E, a full-length parallel taxiway on the north side of the runway.¹ The Runway 6 project will also construct a 351 ft extension to Taxilane A, a partial length taxilane located on the south side of the runway; a new run-up apron area along the southwestern end of the extended Taxiway A; and two new aircraft hangars approximately 100 ft by 100 ft (20,000 square feet (sf) total) located along Taxilane A. Additional work will include the relocation of the Medium Intensity Runway Lighting (MIRL), Medium Intensity Approach Light System with Sequenced Flashing Lights (MALSF), Precision Approach Path Indicator (PAPI), and Runway End Identifier Lights (REILS) for Runway 6. Pending an analysis being conducted by the FAA, relocation and realignment of the adjacent Gate 6 Access Roadway and perimeter fence may also be required to avoid interference with the Runway 6 landing instrumentation and navigational aids. One (tree) obstruction is currently within 10-ft of the approach surface and could be required to be removed in order to maintain a clear and unobstructed approach path to RWY 6 as per AC 5300-13B. Currently, there are no obstructions that would penetrate the approach surface to RWY 6 with the 351-ft extension. Projects identified in the TMPU are anticipated to be constructed over five years as funding is allocated as part of the FAA and Massachusetts Department of Transportation (MassDOT) Aeronautics Division capital planning cycle.

Project Location:

The approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@41.9044199,-70.72682620715929,14z>



Counties: Plymouth County, Massachusetts

ENDANGERED SPECIES ACT SPECIES

There is a total of 3 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered

REPTILES

NAME	STATUS
Plymouth Redbelly Turtle = Plymouth Redbelly Cooter <i>Pseudemys rubriventris bangsi</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/451	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.



United States Department of the Interior



FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104

In Reply Refer To:
Project code: 2023-0114215
Project Name: Plymouth Municipal Airport

October 27, 2023

Federal Nexus: yes
Federal Action Agency (if applicable): Federal Aviation Administration

Subject: Record of project representative's no effect determination for 'Plymouth Municipal Airport'

Dear Brenda Bhatti:

This letter records your determination using the Information for Planning and Consultation (IPaC) system provided to the U.S. Fish and Wildlife Service (Service) on October 27, 2023, for 'Plymouth Municipal Airport' (here forward, Project). This project has been assigned Project Code 2023-0114215 and all future correspondence should clearly reference this number. **Please carefully review this letter.**

Ensuring Accurate Determinations When Using IPaC

The Service developed the IPaC system and associated species' determination keys in accordance with the Endangered Species Act of 1973 (ESA; 87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.) and based on a standing analysis. All information submitted by the Project proponent into IPaC must accurately represent the full scope and details of the Project.

Failure to accurately represent or implement the Project as detailed in IPaC or the Northern Long-eared Bat Rangewide Determination Key (Dkey), invalidates this letter. ***Answers to certain questions in the DKey commit the project proponent to implementation of conservation measures that must be followed for the ESA determination to remain valid.***

Determination for the Northern Long-Eared Bat

Based upon your IPaC submission and a standing analysis, your project has reached the determination of "No Effect" on the northern long-eared bat. To make a no effect determination, the full scope of the proposed project implementation (action) should not have any effects (either positive or negative), to a federally listed species or designated critical habitat. Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed

action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. (See § 402.17).

Under Section 7 of the ESA, if a federal action agency makes a no effect determination, no consultation with the Service is required (ESA §7). If a proposed Federal action may affect a listed species or designated critical habitat, formal consultation is required except when the Service concurs, in writing, that a proposed action "is not likely to adversely affect" listed species or designated critical habitat [50 CFR §402.02, 50 CFR§402.13].

Other Species and Critical Habitat that May be Present in the Action Area

The IPaC-assisted determination for the northern long-eared bat does not apply to the following ESA-protected species and/or critical habitat that also may occur in your Action area:

- Monarch Butterfly *Danaus plexippus* Candidate
- Plymouth Redbelly Turtle = Plymouth Redbelly Cooter *Pseudemys rubriventris bangsi*
Endangered

You may coordinate with our Office to determine whether the Action may affect the animal species listed above and, if so, how they may be affected.

Next Steps

Based upon your IPaC submission, your project has reached the determination of “No Effect” on the northern long-eared bat. If there are no updates on listed species, no further consultation/coordination for this project is required with respect to the northern long-eared bat. However, the Service recommends that project proponents re-evaluate the Project in IPaC if: 1) the scope, timing, duration, or location of the Project changes (includes any project changes or amendments); 2) new information reveals the Project may impact (positively or negatively) federally listed species or designated critical habitat; or 3) a new species is listed, or critical habitat designated. If any of the above conditions occurs, additional coordination with the Service should take place to ensure compliance with the Act.

If you have any questions regarding this letter or need further assistance, please contact the New England Ecological Services Field Office and reference Project Code 2023-0114215 associated with this Project.



APPENDIX I Massachusetts Contingency Plan (MCP) Hazardous Waste Database Record



Waste Site & Reportable Releases Information

Related links

Supporting Documents

(<https://eeaonline.eea.state.ma.us/EEA/FileViewer/Rtn.aspx?rtn=4-0026005>)

LSP Lookup

Site Number ?

4-0026005

Category ?

TWO HR

Site Name ?

PLYMOUTH MUNICIPAL AIRPORT

AUL Info ?

Compliance Status ?

PSNC

Address ?

246 S MEADOW RD

Compliance Date ?

05/03/2016

Town ?

PLYMOUTH

Phase ?

Zip Code ?

02360

RAO Class ?

PN

Official Notification Date ?

02/27/2016

Location Type ?

MUNICIPAL,
AIRPORT

Initial Status Date ?

02/27/2017

Source ?

FUELTANK,
AIRPLANE

Response Action Information

RESPONSE ACTION TYPE	STATUS	SUBMITTAL DATE	RAO CLASS	ACTIVITY & USE LIMITATION DATE
RAO Response Action Outcome - RAO	TSAUD Level I - Technical Screen Audit	05/02/2020	PN	
IRA Immediate Response Action	APORMD Oral Approval of a Modified Plan	03/11/2016		
REL Potential Release or Threat of Release	REPORT Reportable Release or Threat of Release	02/26/2016		

LSPs

LSP	LSP NUMBER
Nickerson, Todd W	N/A

RAO Detail

CLASS	METHOD	GW CATEGORY	SOIL CATEGORY
PN	N	N	3

Location

+

-



● Open Sites ● Closed Sites ● Closed Sites with Use Limitation

◀ PREVIOUS

🔍 SEARCH AGAIN

[EEA Site Policies \(https://www.mass.gov/site-policies\)](https://www.mass.gov/site-policies)

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APPENDIX J 2007 Historic Noise Study Summary

APPENDIX J Historic 2007 Noise Model Summary

As indicated in AC 150/5070-6B (605)(b), noise levels, along with air and water quality, are the most common environmental concern associated with airports. As part of the 2011 Comprehensive Airport Master Plan, a supplemental noise analysis and sustainability assessment were completed based on 2007 data and the Recommended Airport Development Strategy at that time.

The noise environment at Plymouth Municipal Airport was previously modeled in 2007 to determine potential noise impacts in the Airport vicinity resulting from the forecasted operations over earlier the planning period. That noise model analysis was incorporated into the previous Master Plan in 2011. Noise contours were generated for the base year (2007), Year 2012, Year 2017, and Year 2027 operation levels using the older Federal Aviation Administration (FAA) Integrated Noise Model (INM) Version 7.0. The FAA standards prescribe Day-Night Average Sound Level (Ldn or DNL) as the commonly accepted method for describing cumulative noise exposure and identifying aircraft noise/land use compatibility issues. The DNL noise metric is a 24-hour logarithmic average of noise levels in A-weighted decibels, as recommended by the FAA for evaluating aircraft noise impacts. Sound occurring during the night hours (defined as between 10:00 p.m. and 7:00 a.m.) is typically found more intrusive due to low levels of ambient noise. Therefore, the DNL metric adds a 10-decibel penalty for any nighttime aircraft operation.

According to FAA Order 5050.4B, the 65 DNL exposure limits are used to evaluate potential adverse noise impacts on noise sensitive areas such as residential neighborhoods, educational, health or religious structures, or sites and outdoor recreational, cultural or historic sites. The DNL generated by the INM did not delineate a strict demarcation between acceptable noise levels and unacceptable noise levels, rather the DNL contour line attempted to describe the general outline of expected noise impacts. Several simplifying assumptions had to be made while generating noise contours, such as flight tracks, aircraft types, day-night operational patterns, and arrival/departure flight profiles. Further, the DNL represents average annual conditions rather than single-event noise occurrences. Noise exposure on any given day may be greater or less than average depending on environmental factors and aircraft performance. However, the noise model does provide a useful and scientifically based method for comparing various noise levels and provides a reasonable basis for performing airport noise compatibility planning for the affected community.

In the 2011 forecast (2007-2027), a Median/Base Forecast Scenario was selected at the preferred forecasted growth rate. Using the methodology applied from the General Aviation Manufacturers Association 2006 Statistical Databook and Honeywell Aerospace Forecast 2006, a growth rate of 1.45 percent was applied to Plymouth Municipal Airport's (PYM) based aircraft of 142 in 2007 and it was forecasted that by 2027 PYM would have 190 based aircraft. Once the 2011 Forecast estimated the operations per based aircraft, further refinement to account for transient operations was included. It was stated that:

"While transient aircraft are estimated to account for approximately 30 percent of an airport's total operations, the airports with runways over 4,000 feet are considered to be business jet capable (including PYM), therefore the transient aircraft mix must account for these types of operations. To reflect this in the recommended forecasts, the initial operations forecasts were reduced by 30 percent for all types of aircraft, and that 30 percent was modified with the distribution of transient operations that shows a higher percentage of business aircraft usage."

As a result, the total forecast average was reduced to 2.2 percent and at the time this was considered consistent with growth rates observed in the FAA Terminal Area Forecast (TAF) for general aviation (GA) airports in the New England Region with the anticipated increase in business jet based aircraft. The Hawker 850 was identified as the critical aircraft in the Master Plan and the Airport Layout Plan (ALP).

TABLE 5-3. Summary of Forecast (2007-2027) from 2011 Master Plan Update

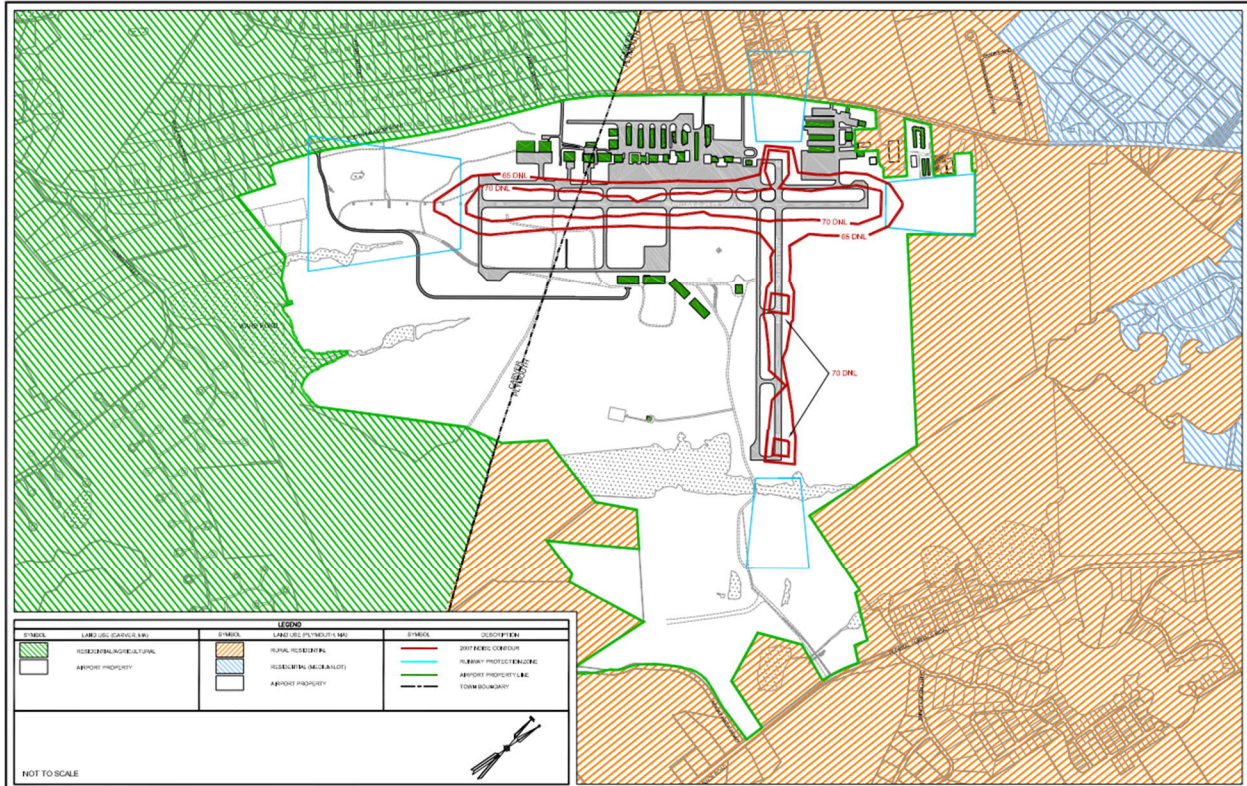
<i>Summary of Forecast (2007-2027)</i>					
Forecast Period	Base Year 2007	Base Year +5	Base Year +10	Base Year +20	Average Annual Growth Rate
Operations	56,466	62,164	68,843	86,374	2.3%
Itinerant	28,759	32,231	36,443	48,074	2.8%
Local	27,707	29,933	32,400	38,300	1.6%
Based Aircraft	142	151	162	190	1.45%
SE	102	105	107	113	0.3%
ME	13	13	13	13	0.0%
Turbo-Prop	5	6	7	9	2.2%
Business Jet	9	12	16	29	6.0%
Helicopter	13	15	17	22	4.1%
Other	0	1	2	4	---

Source: DuBois & King / Campbell & Paris Engineers, 2011

The noise contour map generated for the base year (Year 2007) was based on existing aircraft operations, fleet mix, and runway orientation and is still an accurate portrayal of current noise at the airport (see screenshot of "Figure 5.2" from 2011 Master Plan below). The 2007 model was validated and it was determined that current operations at Plymouth remain within the 65 DNL contour and this contour remains within the airport boundary for the RW 6 end, therefore nothing has changed.

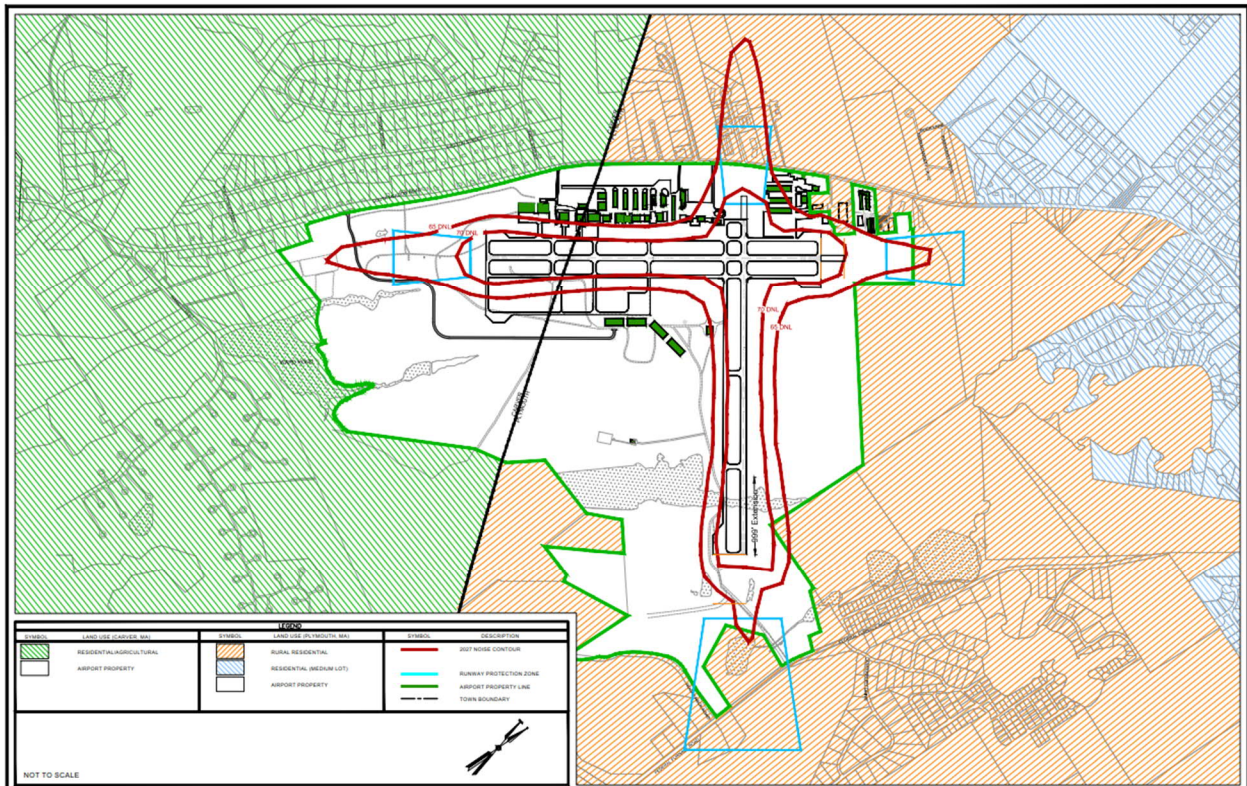
The INM models were conducted for Year 2012, Year 2017, and Year 2027 and were based on the preferred development plan as well as changes in operation levels and fleet mix. These contours were based on development and operation counts that exceed the current infrastructure and activity (see screenshot of "Figure 5.3" from 2011 Master Plan below). Further, in 2007, the assumptions included:

"Acreage within the 65 DNL (outer RED contour) is anticipated to increase from approximately 84 acres in Year 2007 to 240 acres by Year 2027 (see Figure 5-3). Unless land acquisition occurs near the ends of Runways 24, 15, and 33, by Year 2027 approximately 18 acres within the 65 DNL contour will be located off airport property. The majority of this area located off of airport property is the 18 acres located off the northern end of Runway 15. It should be noted that in Year 2007, all of the 65 DNL is contained within the existing airport property. Also, predicted noise levels were calculated for 2017 and 2027 without the extension of Runway 33. With no corporate traffic operating on Runway 15-33, the 65 DNL surrounding Runway 6-24 protrudes well outside of the Airport property and into the surrounding neighborhood. If Runway 15-33 is not extended, the existing neighborhood off the ends of Runway 6-24 would be more impacted by noise as business traffic would only be able to utilize Runway 6-24."



PLYMOUTH MUNICIPAL AIRPORT
PLYMOUTH, MASSACHUSETTS
FIGURE 5.2: 2007 Noise Contours

CAMPBELL & PARIS ENGINEERS
Suite 2 4219 Lafayette Center Dr.
Cherry Hill, NJ 08001 (762) 802-0090



PLYMOUTH MUNICIPAL AIRPORT
PLYMOUTH, MASSACHUSETTS
FIGURE 5.3: 2027 Noise Contours

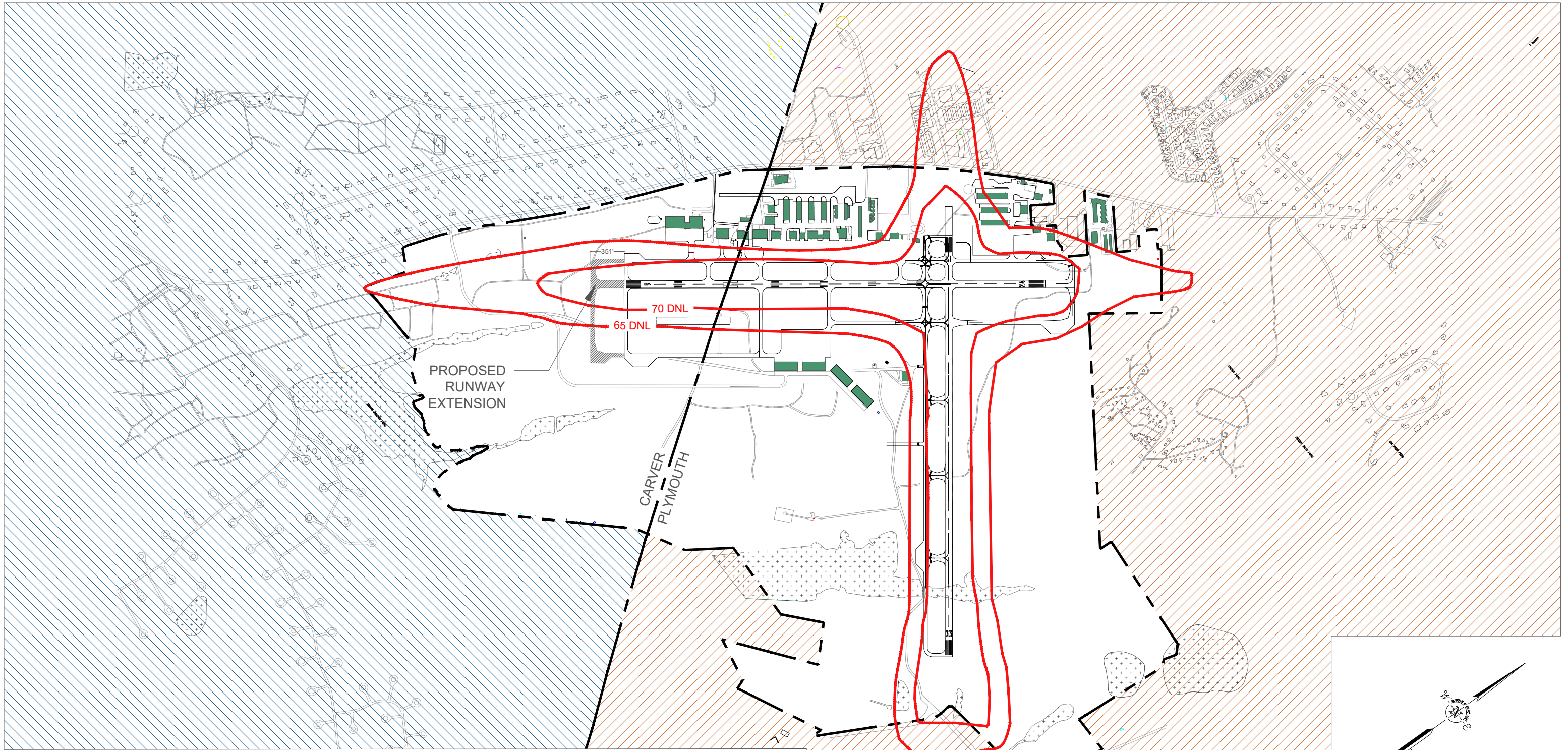
CAMPBELL & PARIS ENGINEERS
Suite 2 4219 Lafayette Center Dr.
Cherry Hill, NJ 08001 (762) 802-0090

Based on the 2007-2027 Forecast, assumptions were made that the airport's noise footprint would increase as airport operations continued to grow, future airport improvements (e.g., runway extension), and the evolving fleet mix of aircraft at PYM sways toward increasing corporate demand at that time (now in pandemic recovery with very minimal forecasted growth; see Section 1.2.3 in main EA/EIR narrative, Tables 1-2, 1-3, 1-4). Since the 2011 Master Plan, Runway 15-33 was extended 980' to the south making it the exact same length and width of Runway 6-24 at 4,650' long' X 75' wide in 2016. The extension of Runway 15-33 would be the only runway extension in the previous decade. It should be noted that this extension was anticipated and included in the 2027 Noise Contours.

No part of the DNL 65 dB contour extended onto any land uses identified as non-compatible per FAA guidance. The current requirement under Order 1050.1F is that noise analysis is not needed for projects involving Design Group I and II airplanes (wingspan less than 79 feet) in Approach Categories A through D (landing speed less than 166 knots) operating at airports whose forecast operations in the period covered by this NEPA document do not exceed 90,000 annual propeller operations (247 average daily operations) or 700 annual jet operations (2 average daily operations) [FAA 1050.1F Desk Reference 2020]. Because the Airport exceeds the annual jet operations, additional consideration was given in the evaluation.

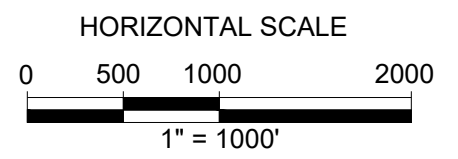
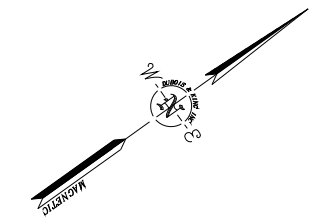


APPENDIX K 2023 Noise Model Contour Map



LEGEND

-  RESIDENTIAL/AGRICULTURAL (CARVER)
-  RURAL RESIDENTIAL (PLYMOUTH)
-  PLYMOUTH AIRPORT PROPERTY AREA
-  2022 NOISE CONTOUR
-  AIRPORT PROPERTY LINE
-  CITY BOUNDARY



**PLYMOUTH MUNICIPAL AIRPORT
2022 NOISE CONTOURS**

DRAWN BY AJL	DATE AUG. 2023
CHECKED BY BP	D&K PROJECT # 328670
PROJ. MGR. BB	SCALE

**FIGURE
1**



APPENDIX L PYM Noise Abatement Procedures

Plymouth Municipal Airport Noise Abatement Procedures

In an effort to be a good neighbor and sensitive to the surrounding communities we ask for your cooperation in abiding by the guidelines outlined in our voluntary noise abatement procedures. The following are some techniques to minimize the noise impact produced by aircraft operating near the ground. These AOPA recommendations are general in nature, some may not be advisable for every aircraft in every situation. **No noise reduction procedure should be done that would compromise flight safety.**

General Aviation Users

- a.** If practical, avoid noise-sensitive areas, such as residential areas and open-air assemblies (e.g. sporting events, graduations, concerts). Make every effort to fly at or above 1,100 feet MSL with conventional piston type aircraft and 1,600 feet for turbo-prop and turbo-jet aircraft over the surface of such areas when overflight cannot be avoided.
- b.** Consider using reduced power setting if flight must be low because of cloud cover or overlying controlled airspace or when approaching the airport. Propellers generate more noise than engines; flying with the lowest practical rpm setting will reduce the aircraft's noise level substantially.
- c.** On take-off, gain altitude as quickly as possible without compromising safety.
- d.** Retract the landing gear as soon as a landing straight ahead on the runway can no longer be accomplished. If practical, maintain best-angle-of-climb airspeed until reaching 50 feet or an altitude that provides clearance from terrain or obstacles. Then accelerate to best-rate-of-climb airspeed. If consistent with safety, make the first power reduction at 500 feet.
- e.** Fly a tight landing pattern to keep noise as close to the airport as possible. Practice descent to the runway at low power settings and with as few power changes as possible.
- f.** Use Runway PAPI's. They will indicate a safe glide path and allow a smooth, quiet descent to the runway.
- g.** If possible, do not adjust the propeller control for flat pitch on the downward leg; instead, wait until short final. This practice provides a quieter approach.
- h.** Avoid low-level, high-power approaches, which not only create high noise impacts, but also limit options in the event of engine failure.
- i.** Flying between 11:00 P.M. and 7:00 A.M. should be avoided whenever possible. (Most aircraft noise complaints are registered by residents whose sleep has been disturbed by noisy, low-flying aircraft)

The calm wind runway is 24
The preferred grass runway is ?
There are no straight out departures from runway 6

TURBO-JET BUSINESS AIRCRAFT

Pilots of turbo-jet business aircraft are requested to use NBAA recommended noise abatement procedures developed for take-off over close-in residential communities and for VFR and IFR approaches (the NBAA procedures manual is available in the airport manager's office).

HELICOPTERS

Helicopter operators are requested to use HAI - Recommended Noise Abatement Measures.
Helicopters shall fly a close pattern which stays on the airport property whenever possible. Flight paths near the tree line are helpful for noise abatement.
Hover times should be kept to 15 minutes or less if possible.
Helicopter training should be between 8.00am and 9.00pm.

MAINTENANCE RUN-UPS

Maintenance run-ups should be conducted between the hours of 7:00 A.M. and 9:00 P.M.

TOUCH-AND-GO OPERATIONS

- a. Touch-and-go aircraft use best-rate-of-climb to pattern altitude as soon as possible.
- b. Touch-and-go operations are not recommended from 9:00 P.M. to 7:00 A.M.
- c. Whenever possible, please avoid continuous overflight of the close-in noise sensitive areas shown on the map.



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Current Fuel Price

Jet A Full Service	6.10
JetA+FSII Full Service	6.15
100LL Full Service	6.50

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Aircraft Arrival Noise Abatement

Plymouth Municipal Airport - Noise Abatement Procedures

In an effort to be a good neighbor and sensitive to the surrounding communities we ask for your cooperation in abiding by the guidelines outlined in our voluntary noise abatement procedures. The following are some techniques used to minimize the noise impact produced by aircraft operating near the ground. These AOPA recommendations are general in nature; some may not be advisable for every aircraft in every situation. **No noise reduction procedures should be done that would compromise flight safety.**

Flight Procedures for all General Aviation Users

- Whenever possible please try to avoid overflight of the close-in noise sensitive areas shown on the map.
- Runway 24 is the preferred runway in calm wind conditions.
- Departures: Straight out or 45 degrees left from runways 15, 24 and 33. No straight out departures from runway 6. On departure, make first left turn at 850 ft MSL.

Aircraft Flight Track Procedure

- If practical, avoid noise-sensitive areas. Make every effort to fly at or above 1,100 feet MSL with conventional piston type aircraft and 1,600 feet for turbo-prop and turbo-jet aircraft over the surface of such areas when overflight cannot be avoided.
- Consider using reduced power setting if flight must be low because of cloud cover or overlying controlled airspace or when approaching the airport. Propellers generate more noise than engines; flying with the lowest practical rpm setting will reduce the aircraft's noise level substantially.
- On take-off, gain altitude as quickly as possible without compromising safety.
- Retract the landing gear as soon as a landing straight ahead on the runway can no longer be accomplished. If practical, maintain best-angle-of-climb airspeed until reaching 50 feet or an altitude that provides clearance from terrain or obstacles. Then accelerate to best-rate-of-climb airspeed. If consistent with safety, make the first power reduction at 500 feet.
- Fly a tight landing pattern to keep noise as close to the airport as possible. Practice descent to the runway at low power settings and with as few power changes as possible.
- Use Runway PAPI's. They will indicate a safe glide path and allow a smooth, quiet descent to the runway.
- If possible, do not adjust the propeller control for flat pitch on the downward leg; instead, wait until short final. This practice provides a quieter approach.
- Avoid low-level, high-power approaches, which not only create high noise impacts, but also limit options in the event of engine failure.
- Flying between 11:00 P.M. and 7:00 A.M. should be avoided whenever possible. (Most aircraft noise complaints are registered by residents whose sleep has been disturbed by noisy, low-flying aircraft)

TURBO-JET BUSINESS AIRCRAFT

Pilots of turbo-jet business aircraft are requested to use NBAA recommended noise abatement procedures developed for take-off over close-in residential communities and for VFR and IFR approaches (the NBAA procedures manual is available in the airport manager's office).

HELICOPTERS

Helicopter operators are requested to use HAI - Recommended Noise Abatement Measures. Helicopters shall fly a close pattern which stays on the airport property whenever possible. Flight paths near the tree line are helpful for noise abatement. Hover times should be kept to 15 minutes or less if possible. Helicopter training should be conducted between 8:00am and 9:00pm. Arrivals and Departures: From the North, please avoid flight over the Vaughan Estates area. Flight over the Golf Course is preferable. If departing to the Southwest please avoid the South Meadow Village area. Try to avoid flying over the same houses whenever possible but especially at night.

MAINTENANCE RUN-UPS

Maintenance run-ups should be conducted between the hours of 7:00 A.M. and 9:00 P.M.

TOUCH-AND-GO OPERATIONS

- Touch-and-go aircraft use best-rate-of-climb to pattern altitude as soon as possible.
- Touch-and-go operations are not permitted between 9:00 P.M. and 8:00 A.M.
- Please avoid flying over the same exact tract each time around.

Updated 11/2016



Plymouth Municipal Airport
246 South Meadow Road
Plymouth, MA 02360
Tel : (508) 746-2020
Fax: (508) 747-4483
Email: mcardillo@plymouth-ma.gov

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- Technical Master Plan Update
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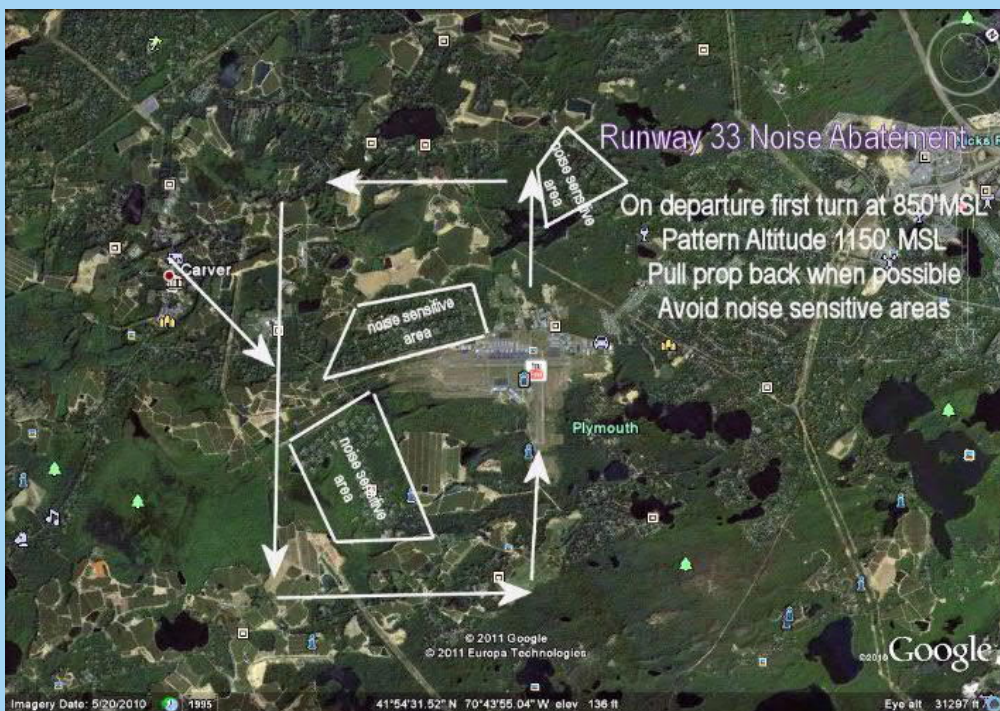
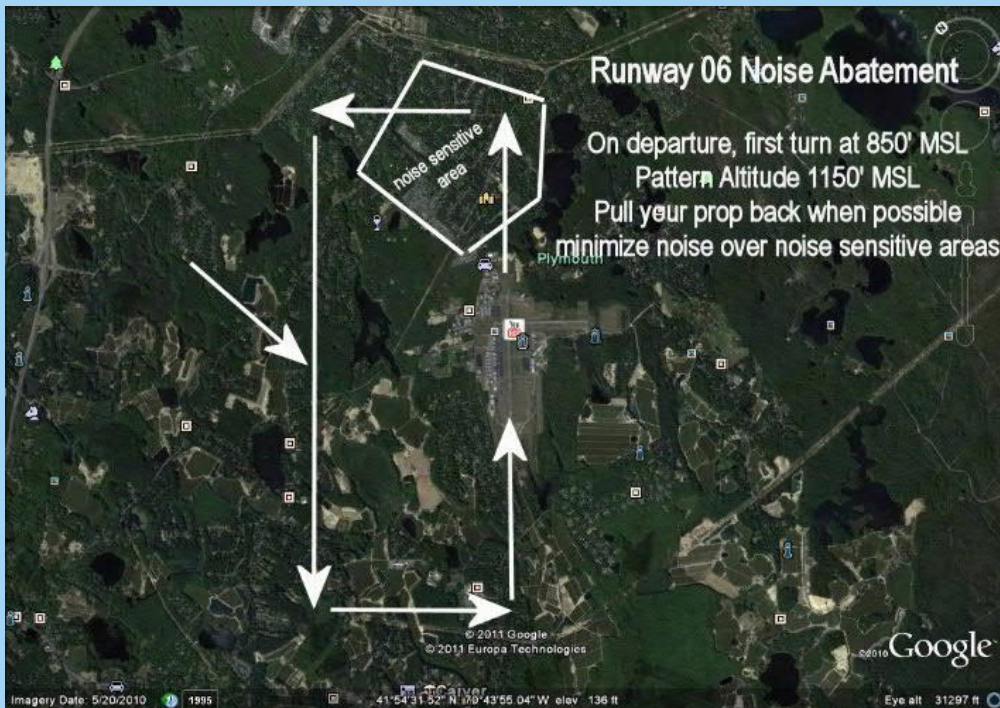
Current Fuel Price

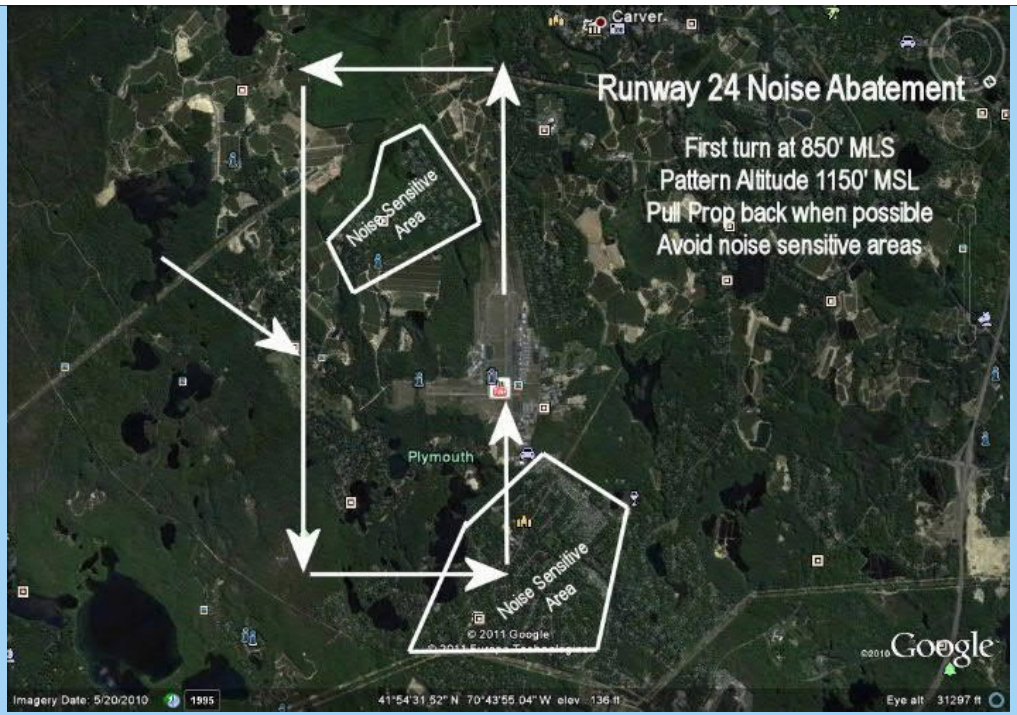
Jet A Full Service	6.10
JetA+FSII Full Service	6.15
100LL Full Service	6.50

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Voluntary GA Noise Abatement Procedures





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- Technical Master Plan Update
- Environmental Assessment

Current Fuel Price

Jet A Full Service	6.10
JetA+FSII Full Service	6.15
100LL Full Service	6.50

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Voluntary Corporate Noise Abatement Procedures

Runway 06 Departures



ATC will normally give a right, southeasterly turn on departure. We request that a "quicker right turn" be initiated when reaching the airport boundary. This faster right turn (about a 20 degree bank angle) helps avoid the noise sensitive areas off the departure end of runway 06.

Runway 24 Departures



ATC will normally give a left, southerly turn on departure. We request that a "slow left turn" be initiated when reaching the airport boundary. This slow left turn (approximately standard rate) helps to keep departing aircraft over the cranberry bogs off to the southwest of the departure end of the airport.

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Current Fuel Price

Jet A Full Service	6.10
JetA+FSII Full Service	6.15
100LL Full Service	6.50

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Voluntary Helicopter Noise Abatement Procedures



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APPENDIX M Massachusetts Design Resiliency Tool [RMAT] Reports

- August 17, 2023 All TGPU/CIP Proposed Projects
- January 26, 2023 Runway 6 Extension Project only
(from MEPA ENF, submitted April 18, 2023)

Climate Resilience Design Standards Tool Project Report

Plymouth Municipal Airport Runway 6 extension and Technical Master Plan update_v1

Date Created: 8/17/2023 9:18:29 AM

Created By: nrawding@epsilonassociates.com

Date Report Generated: 8/17/2023 10:00:31 AM

Tool Version: Version 1.2

Project Contact Information: Matthew Cardillo (mcardillo@plymouth-ma.gov)

Project Summary

[Link to Project](#)

Estimated Capital Cost: \$15630000.00

End of Useful Life Year: 2095

Project within mapped Environmental Justice neighborhood: No

Ecosystem Service	Scores
Benefits	
Project Score	Moderate
Exposure	
Sea Level Rise/Storm Surge	Not Exposed
Extreme Precipitation - Urban Flooding	High Exposure
Extreme Precipitation - Riverine Flooding	High Exposure
Extreme Heat	High Exposure



Asset Preliminary Climate Risk Rating

Number of Assets: 6

Summary

Asset Risk	Sea Level Rise/Storm Surge	Extreme Precipitation - Urban Flooding	Extreme Precipitation - Riverine Flooding	Extreme Heat
Aircraft Hangars	Low Risk	High Risk	High Risk	High Risk
Extend RWY 6/24 (351' x 75') and Extend Taxiway E/A (700'x35')	Low Risk	High Risk	High Risk	High Risk
Gate 3 Taxilane Reconstruction	Low Risk	High Risk	High Risk	High Risk
Reconstruction Runway 06-24 (4350' x 75')	Low Risk	High Risk	High Risk	High Risk
Emergency Generator Airside Infrastructure	Low Risk	High Risk	High Risk	High Risk
Water/ Wastewater Upgrades Sewer Main	Low Risk	High Risk	High Risk	High Risk

Climate Resilience Design Standards Summary

	Target Planning Horizon	Intermediate Planning Horizon	Percentile	Return Period	Tier
Sea Level Rise/Storm Surge					
Aircraft Hangars					
Extend RWY 6/24 (351' x 75') and Extend Taxiway E/A (700'x35')					
Gate 3 Taxilane Reconstruction					

Reconstruction Runway 06-24 (4350' x 75			
Emergency Generator Airside Infrastructure			
Water/ Wastewater Upgrades Sewer Main			
Extreme Precipitation			
Aircraft Hangars	2070	25-yr (4%)	Tier 2
Extend RWY 6/24 (351' x 75') and Extend Taxiway E/A (700'x35')	2050	10-yr (10%)	Tier 2
Gate 3 Taxilane Reconstruction	2050	10-yr (10%)	Tier 2
Reconstruction Runway 06-24 (4350' x 75	2050	25-yr (4%)	Tier 2
Emergency Generator Airside Infrastructure	2050	10-yr (10%)	Tier 2
Water/ Wastewater Upgrades Sewer Main	2070	25-yr (4%)	Tier 2
Extreme Heat			
Aircraft Hangars	2070	50th	Tier 2
Extend RWY 6/24 (351' x 75') and Extend Taxiway E/A (700'x35')	2050	50th	Tier 2
Gate 3 Taxilane Reconstruction	2050	10th	Tier 2
Reconstruction Runway 06-24 (4350' x 75	2050	50th	Tier 2
Emergency Generator Airside Infrastructure	2050	50th	Tier 2
Water/ Wastewater Upgrades Sewer Main	2070	50th	Tier 2

Scoring Rationale - Project Exposure Score

The purpose of the Exposure Score output is to provide a preliminary assessment of whether the overall project site and subsequent assets are exposed to impacts of natural hazard events and/or future impacts of climate change. For each climate parameter, the Tool will calculate one of the following exposure ratings: Not Exposed, Low Exposure, Moderate Exposure, or High Exposure. The rationale behind the exposure rating is provided below.

Sea Level Rise/Storm Surge

This project received a "Not Exposed" because of the following:

- Not located within the predicted mean high water shoreline by 2030
- No historic coastal flooding at project site
- Not located within the Massachusetts Coast Flood Risk Model (MC-FRM)

Extreme Precipitation - Urban Flooding

This project received a "High Exposure" because of the following:

- Increased impervious area
- Maximum annual daily rainfall exceeds 10 inches within the overall project's useful life
- No historic flooding at project site
- Existing impervious area of the project site is between 10% and 50%

Extreme Precipitation - Riverine Flooding

This project received a "High Exposure" because of the following:

- Part of the project is within a mapped FEMA floodplain, outside of the Massachusetts Coast Flood Risk Model (MC-FRM)
- Part of the project is within 200ft of a waterbody and less than 30ft above the waterbody
- Project is potentially susceptible to riverine erosion
- No historic riverine flooding at project site

Extreme Heat

This project received a "High Exposure" because of the following:

- Increased impervious area
- Existing impervious area of the project site is between 10% and 50%
- 10 to 30 day increase in days over 90 deg. F within project's useful life
- Located within 100 ft of existing water body
- No tree removal

Scoring Rationale - Asset Preliminary Climate Risk Rating

A Preliminary Climate Risk Rating is determined for each infrastructure and building asset by considering the overall project Exposure Score and responses to Step 4 questions provided by the user in the Tool. Natural Resource assets do not receive a risk rating. The following factors are what influenced the risk ratings for each asset.

Asset - Aircraft Hangars

Primary asset criticality factors influencing risk ratings for this asset:

- Asset can be inaccessible/inoperable more than a week after natural hazard event without consequences
- Less than 1,000 people would be directly affected by the loss/inoperability of the asset
- Inoperability of the asset would not be expected to result in injuries
- Inoperability may moderately impact other facilities, assets, or buildings, but is not expected to affect their ability to operate
- Spills and/or releases of hazardous materials would be relatively easy to clean up

Asset - Extend RWY 6/24 (351' x 75') and Extend Taxiway E/A (700'x35')

Primary asset criticality factors influencing risk ratings for this asset:

- Asset may inaccessible/inoperable for more than a day but less than a week after natural hazard event
- Loss/inoperability of the asset would have regional impacts
- Inoperability of the asset would be expected to cause a loss of confidence in government agency
- Cost to replace is less than \$10 million
- There are no hazardous materials in the asset

Asset - Gate 3 Taxiway Reconstruction

Primary asset criticality factors influencing risk ratings for this asset:

- Asset can be inaccessible/inoperable more than a week after natural hazard event without consequences
- Loss/inoperability of the asset would have impacts limited to the location of infrastructure only
- Inoperability of the asset would not be expected to result in injuries
- Cost to replace is less than \$10 million
- There are no hazardous materials in the asset

Asset - Reconstruction Runway 06-24 (4350' x 75')

Primary asset criticality factors influencing risk ratings for this asset:

- Asset may inaccessible/inoperable for more than a day but less than a week after natural hazard event
- Loss/inoperability of the asset would have regional impacts
- Inoperability of the asset would be expected to result in minor impacts to people's health, including minor injuries or minor impacts to chronic illnesses
- Inoperability may moderately impact other facilities, assets, or buildings, but is not expected to affect their ability to operate
- There are no hazardous materials in the asset

Asset - Emergency Generator Airside Infrastructure

Primary asset criticality factors influencing risk ratings for this asset:

- Asset must be operable at all times, even during natural hazard event
- Loss/inoperability of the asset would have impacts limited to the site only
- Inoperability of the asset would be expected to cause a loss of confidence in government agency
- Inoperability may moderately impact other facilities, assets, or buildings, but is not expected to affect their ability to operate
- Spills and/or releases of hazardous materials would be relatively easy to clean up

Asset - Water/ Wastewater Upgrades Sewer Main

Primary asset criticality factors influencing risk ratings for this asset:

- Asset may inaccessible/inoperable during natural hazard event, but must be accessible/operable within one day after natural hazard event
- Loss/inoperability of the asset would have impacts limited to the location of infrastructure only
- Inoperability of the asset would not be expected to result in injuries
- Inoperability may moderately impact other facilities, assets, or buildings, but is not expected to affect their ability to operate
- There are no hazardous materials in the asset

Project Climate Resilience Design Standards Output

Climate Resilience Design Standards and Guidance are recommended for each asset and climate parameter. The Design Standards for each climate parameter include the following: recommended planning horizon (target and/or intermediate), recommended return period (Sea Level Rise/Storm Surge and Precipitation) or percentile (Heat), and a list of applicable design criteria that are likely to be affected by climate change. Some design criteria have numerical values associated with the recommended return period and planning horizon, while others have tiered methodologies with step-by-step instructions on how to estimate design values given the other recommended design standards.

Asset: Aircraft Hangars

Building/Facility

Sea Level Rise/Storm Surge

Low Risk

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation

High Risk

Target Planning Horizon: 2070

Return Period: 25-yr (4%)

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

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Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Aircraft Hangars	2070	25-Year (4%)	7.9	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Extreme Heat

High Risk

Target Planning Horizon: 2070
Percentile: 50th Percentile

Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE
[Methodology to Estimate Projected Values](#) : Tier 2

Projected Heat Index: APPLICABLE
[Methodology to Estimate Projected Values](#) : Tier 2

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE
[Methodology to Estimate Projected Values](#) : Tier 2

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE
[Methodology to Estimate Projected Values](#) : Tier 2

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): APPLICABLE
[Methodology to Estimate Projected Values](#) : Tier 2

Asset: Extend RWY 6/24 (351' x 75') and Extend Taxiway E/A (700'x35')

Infrastructure

Sea Level Rise/Storm Surge

Low Risk

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation

High Risk

Target Planning Horizon: 2050
Return Period: 10-yr (10%)

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

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Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Extend RWY 6/24 (351' x 75') and Extend Taxiway E/A (700'x35')	2050	10-Year (10%)	6.1	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Extreme Heat

High Risk

Target Planning Horizon: 2050

Percentile: 50th Percentile

Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Heat Index: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Asset: Gate 3 Taxilane Reconstruction

Infrastructure

Sea Level Rise/Storm Surge

Low Risk

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation

High Risk

Target Planning Horizon: 2050

Return Period: 10-yr (10%)

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through

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Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Gate 3 Taxi Lane Reconstruction	2050	10-Year (10%)	6.1	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Extreme Heat

High Risk

Target Planning Horizon: 2050
Percentile: 10th Percentile

Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Heat Index: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Asset: Reconstruction Runway 06-24 (4350' x 75

Infrastructure

Sea Level Rise/Storm Surge

Low Risk

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation

High Risk

Target Planning Horizon: 2050

Return Period: 25-yr (4%)

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

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Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Reconstruction Runway 06-24 (4350' x 75)	2050	25-Year (4%)	7.3	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Extreme Heat

High Risk

Target Planning Horizon: 2050

Percentile: 50th Percentile

Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Heat Index: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Asset: Emergency Generator Airside Infrastructure

Building/Facility

Sea Level Rise/Storm Surge

Low Risk

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation

High Risk

Target Planning Horizon: 2050

Return Period: 10-yr (10%)

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

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Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Emergency Generator Airside Infrastructure	2050	10-Year (10%)	6.1	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Extreme Heat

High Risk

Target Planning Horizon: 2050

Percentile: 50th Percentile

Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Heat Index: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Asset: Water/ Wastewater Upgrades Sewer Main

Infrastructure

Sea Level Rise/Storm Surge

Low Risk

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation

High Risk

Target Planning Horizon: 2070

Return Period: 25-yr (4%)

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

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Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (Inches)	Step-by-Step Methodology for Peak Intensity
Water/ Wastewater Upgrades Sewer Main	2070	25-Year (4%)	7.9	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE
[Methodology to Estimate Projected Values](#) : Tier 2

Extreme Heat

High Risk

Target Planning Horizon: 2070
 Percentile: 50th Percentile

Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE
[Methodology to Estimate Projected Values](#) : Tier 2

Projected Heat Index: APPLICABLE
[Methodology to Estimate Projected Values](#) : Tier 2

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE
[Methodology to Estimate Projected Values](#) : Tier 2

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE
[Methodology to Estimate Projected Values](#) : Tier 2

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Project Inputs

Core Project Information

Name:	Plymouth Municipal Airport Runway 6 extension and Technical Master Plan update_v1 2095
Given the expected useful life of the project, through what year do you estimate the project to last (i.e. before a major reconstruction/renovation)?	2095
Location of Project:	Carver, Plymouth
Estimated Capital Cost:	\$15,630,000
Who is the Submitting Entity?	City/Town Plymouth Matthew Cardillo (mcardillo@plymouth-ma.gov)
Is this project identified as a priority project in the Municipal Vulnerability Preparedness (MVP) plan or the local or regional Hazard Mitigation Plan (HMP)?	No
Is this project being submitted as part of a state grant application?	No
Which grant program?	
What stage are you in your project lifecycle?	Permitting
Is climate resiliency a core objective of this project?	Yes
Is this project being submitted as part of the state capital planning process?	No
Is this project being submitted as part of a regulatory review process or permitting?	Yes
Brief Project Description:	MEPA
Project Submission Comments:	

Project Ecosystem Service Benefits

Factors Influencing Output

- ✓ Project reduces storm damage
- ✓ Project protects public water supply
- ✓ Project recharges groundwater
- ✓ Project filters stormwater using green infrastructure
- ✓ Project improves water quality
- ✓ Project protects fisheries, wildlife, and plant habitat
- ✓ Project prevents pollution

Factors to Improve Output

- ✓ Incorporate vegetation that provides pollinator habitat

Is the primary purpose of this project ecological restoration?

No

Project Benefits

Provides flood protection through nature-based solutions	No
Reduces storm damage	Yes
Recharges groundwater	Yes
Protects public water supply	Yes
Filters stormwater using green infrastructure	Yes
Improves water quality	Yes
Promotes decarbonization	No
Enables carbon sequestration	No
Provides oxygen production	No
Improves air quality	No
Prevents pollution	Yes
Remediates existing sources of pollution	No
Protects fisheries, wildlife, and plant habitat	Yes
Protects land containing shellfish	No
Provides pollinator habitat	Maybe
Provides recreation	No
Provides cultural resources/education	No

Project Climate Exposure

Is the primary purpose of this project ecological restoration?	No
Does the project site have a history of coastal flooding?	No
Does the project site have a history of flooding during extreme precipitation events (unrelated to water/sewer damages)?	No
Does the project site have a history of riverine flooding?	No
Does the project result in a net increase in impervious area of the site?	Yes
Are existing trees being removed as part of the proposed project?	No

Project Assets

Asset: Aircraft Hangars

Asset Type: Typically Unoccupied
Asset Sub-Type: Other
Construction Type: New Construction
Construction Year: 2025
Useful Life: 70

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.

Building may be inaccessible/inoperable more than a week after natural hazard event without consequences

Identify the geographic area directly affected by permanent loss or significant inoperability of the building/facility.

Impacts limited to site only

Identify the population directly served that would be affected by the permanent loss of use or inoperability of the building/facility.

Less than 1,000 people

Identify if the building/facility provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

The building/facility does not provide services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

If the building/facility became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?

Inoperability of the building/facility would not be expected to result in injuries

If there are hazardous materials in your building/facility, what are the extent of impacts related to spills/releases of these materials?

Spills and/or releases of hazardous materials would be relatively easy to clean up

If the building/facility became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?

Moderate – Inoperability may impact other facilities, assets, or buildings, but is not expected to affect their ability to operate

If this building/facility was damaged beyond repair, how much would it approximately cost to replace?

Less than \$10 million

Is this a recreational facility which can be vacated during a natural hazard event?

No

If the building/facility became inoperable for longer than acceptable in Question 1, what are the public and/or social services impacts?

Many alternative programs and/or services are available to support the community

If the building/facility became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?

No impact on surrounding natural resources is expected

If the building/facility became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the building is not able to serve or operate its intended users or function)?

Loss of building is not expected to reduce the ability to maintain government services.

If the building/facility became inoperable for longer than acceptable in Question 1, what are the impacts to loss of confidence in government (i.e. the building is not able to serve or operate its intended users or function)?

Reduced morale and public support

Asset: Extend RWY 6/24 (351' x 75') and Extend Taxiway E/A (700'x35')

Asset Type: Transportation

Asset Sub-Type: Other Transportation

Construction Type: New Construction

Construction Year: 2025

Useful Life: 20

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.

Infrastructure may be inaccessible/inoperable for more than a day, but less than a week after natural hazard without consequences.

Identify the geographic area directly affected by permanent loss or significant inoperability of the infrastructure.

Impacts would be regional (more than one municipality and/or surrounding region)

Identify the population directly served that would be affected by the permanent loss or significant inoperability of the infrastructure.

Less than 100,000 people

Identify if the infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

The infrastructure does not provide services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

Will the infrastructure reduce the risk of flooding?

No

If the infrastructure became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?

Inoperability of the infrastructure would not be expected to result in injuries

If there are hazardous materials in your infrastructure, what are the extents of impacts related to spills/releases of these materials?

There are no hazardous materials in the infrastructure

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?

Minor – Inoperability will not likely affect other facilities, assets, or buildings

If the infrastructure was damaged beyond repair, how much would it approximately cost to replace?

Less than \$10 million

Does the infrastructure function as an evacuation route during emergencies? This question only applies to roadway projects.

No

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?

No impact on surrounding natural resources is expected

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the infrastructure is not able to serve or operate its intended users or function)?

Loss of infrastructure is not expected to reduce the ability to maintain government services

What are the impacts to loss of confidence in government resulting from loss of infrastructure functionality (i.e. the infrastructure asset is not able to serve or operate its intended users or function)?

Loss of confidence in government agency

Asset: Gate 3 Taxilane Reconstruction

Asset Type: Transportation

Asset Sub-Type: Other Transportation

Construction Type: Maintenance (critical repair)

Construction Year: 2025

Useful Life: 30

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.

Infrastructure may be inaccessible/inoperable more than a week after natural hazard event without consequences.

Identify the geographic area directly affected by permanent loss or significant inoperability of the infrastructure.

Impacts limited to location of infrastructure only

Identify the population directly served that would be affected by the permanent loss or significant inoperability of the infrastructure.

Less than 5,000 people

Identify if the infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

The infrastructure does not provide services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

Will the infrastructure reduce the risk of flooding?

No

If the infrastructure became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?

Inoperability of the infrastructure would not be expected to result in injuries

If there are hazardous materials in your infrastructure, what are the extents of impacts related to spills/releases of these materials?

There are no hazardous materials in the infrastructure

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?

Minor – Inoperability will not likely affect other facilities, assets, or buildings

If the infrastructure was damaged beyond repair, how much would it approximately cost to replace?

Less than \$10 million

Does the infrastructure function as an evacuation route during emergencies? This question only applies to roadway projects.

No

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?

No impact on surrounding natural resources is expected

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the infrastructure is not able to serve or operate its intended users or function)?

Loss of infrastructure is not expected to reduce the ability to maintain government services

What are the impacts to loss of confidence in government resulting from loss of infrastructure functionality (i.e. the infrastructure asset is not able to serve or operate its intended users or function)?

Reduced morale and public support

Asset: Reconstruction Runway 06-24 (4350' x 75

Asset Type: Transportation

Asset Sub-Type: Other Transportation

Construction Type: Maintenance (critical repair)

Construction Year: 2026

Useful Life: 20

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.

Infrastructure may be inaccessible/inoperable for more than a day, but less than a week after natural hazard without consequences.

Identify the geographic area directly affected by permanent loss or significant inoperability of the infrastructure.

Impacts would be regional (more than one municipality and/or surrounding region)

Identify the population directly served that would be affected by the permanent loss or significant inoperability of the infrastructure.

Less than 100,000 people

Identify if the infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

The infrastructure does not provide services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

Will the infrastructure reduce the risk of flooding?

No

If the infrastructure became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?

Inoperability of the infrastructure would be expected to result in minor impacts to people's health, including minor injuries or minor impacts to chronic illnesses

If there are hazardous materials in your infrastructure, what are the extents of impacts related to spills/releases of these materials?

There are no hazardous materials in the infrastructure

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?

Moderate – Inoperability may impact other facilities, assets, or buildings, but cascading impacts do not affect the ability of other facilities, assets, or buildings to operate

If the infrastructure was damaged beyond repair, how much would it approximately cost to replace?

Less than \$10 million

Does the infrastructure function as an evacuation route during emergencies? This question only applies to roadway projects.

No

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?

No impact on surrounding natural resources is expected

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the infrastructure is not able to serve or operate its intended users or function)?

Loss of infrastructure may reduce the ability to maintain some government services, while a majority of services will still exist

What are the impacts to loss of confidence in government resulting from loss of infrastructure functionality (i.e. the infrastructure asset is not able to serve or operate its intended users or function)?

Loss of confidence in government agency

Asset: Emergency Generator Airside Infrastructure

Asset Type: Typically Unoccupied

Asset Sub-Type: Generator

Construction Type: New Construction

Construction Year: 2026

Useful Life: 30

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.

Building must be accessible/operable at all times, even during natural hazard event

Identify the geographic area directly affected by permanent loss or significant inoperability of the building/facility.

Impacts limited to site only

Identify the population directly served that would be affected by the permanent loss of use or inoperability of the building/facility.

Less than 100 people

Identify if the building/facility provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

The building/facility does not provide services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

If the building/facility became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?

Inoperability of the building/facility would not be expected to result in injuries

If there are hazardous materials in your building/facility, what are the extent of impacts related to spills/releases of these materials?

Spills and/or releases of hazardous materials would be relatively easy to clean up

If the building/facility became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?

Moderate – Inoperability may impact other facilities, assets, or buildings, but is not expected to affect their ability to operate

If this building/facility was damaged beyond repair, how much would it approximately cost to replace?

Less than \$10 million

Is this a recreational facility which can be vacated during a natural hazard event?

No

If the building/facility became inoperable for longer than acceptable in Question 1, what are the public and/or social services impacts?

Many alternative programs and/or services are available to support the community

If the building/facility became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?

No impact on surrounding natural resources is expected

If the building/facility became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the building is not able to serve or operate its intended users or function)?

Loss of building is not expected to reduce the ability to maintain government services.

If the building/facility became inoperable for longer than acceptable in Question 1, what are the impacts to loss of confidence in government (i.e. the building is not able to serve or operate its intended users or function)?

Loss of confidence in government agency

Asset: Water/ Wastewater Upgrades Sewer Main

Asset Type: Utility Infrastructure

Asset Sub-Type: Wastewater

Construction Type: Major Repair/Retrofit

Construction Year: 2024

Useful Life: 70

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.

Infrastructure may be inaccessible/inoperable during natural hazard event, but must be accessible/operable within one day after natural hazard event.

Identify the geographic area directly affected by permanent loss or significant inoperability of the infrastructure.

Impacts limited to location of infrastructure only

Identify the population directly served that would be affected by the permanent loss or significant inoperability of the infrastructure.

Less than 5,000 people

Identify if the infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

The infrastructure does not provide services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

Will the infrastructure reduce the risk of flooding?

No

If the infrastructure became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?

Inoperability of the infrastructure would not be expected to result in injuries

If there are hazardous materials in your infrastructure, what are the extents of impacts related to spills/releases of these materials?

There are no hazardous materials in the infrastructure

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?

Moderate – Inoperability may impact other facilities, assets, or buildings, but cascading impacts do not affect the ability of other facilities, assets, or buildings to operate

If the infrastructure was damaged beyond repair, how much would it approximately cost to replace?

Less than \$10 million

Does the infrastructure function as an evacuation route during emergencies? This question only applies to roadway projects.

No

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?

No impact on surrounding natural resources is expected

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the infrastructure is not able to serve or operate its intended users or function)?

Loss of infrastructure is not expected to reduce the ability to maintain government services

What are the impacts to loss of confidence in government resulting from loss of infrastructure functionality (i.e. the infrastructure asset is not able to serve or operate its intended users or function)?

Reduced morale and public support

Report Comments

N/A

Climate Resilience Design Standards Tool Project Report

Plymouth Municipal Airport Runway 6 extension and Technical Master Plan update

Date Created: 1/26/2023 11:35:03 AM

Created By: nrawding@epsilonassociates.com

Date Report Generated: 1/26/2023 12:23:24 PM

Tool Version: Version 1.2

Project Contact Information: Matthew Cardillo (mcardillo@plymouth-ma.gov)

Project Summary

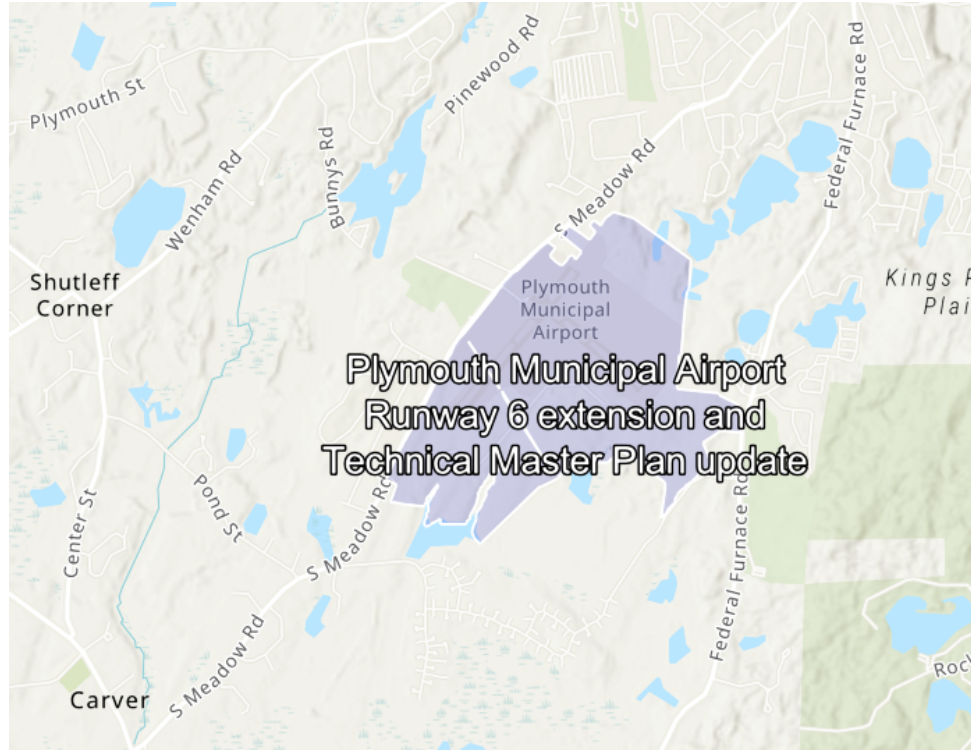
[Link to Project](#)

Estimated Capital Cost: \$7600000.00

End of Useful Life Year: 2045

Project within mapped Environmental Justice neighborhood: No

Ecosystem Service	Scores
Benefits	
Project Score	Moderate
Exposure	
Sea Level Rise/Storm Surge	Not Exposed
Extreme Precipitation - Urban Flooding	High Exposure
Extreme Precipitation - Riverine Flooding	High Exposure
Extreme Heat	Moderate Exposure



Asset Preliminary Climate Risk Rating

Number of Assets: 1

Summary

Asset Risk	Sea Level Rise/Storm Surge	Extreme Precipitation - Urban Flooding	Extreme Precipitation - Riverine Flooding	Extreme Heat
Runway 6 extension	Low Risk	High Risk	High Risk	Moderate Risk

Climate Resilience Design Standards Summary

	Target Planning Horizon	Intermediate Planning Horizon	Percentile	Return Period	Tier
Sea Level Rise/Storm Surge					
Runway 6 extension					
Extreme Precipitation					
Runway 6 extension	2050			10-yr (10%)	Tier 2
Extreme Heat					
Runway 6 extension	2050		50th		Tier 2

Scoring Rationale - Project Exposure Score

The purpose of the Exposure Score output is to provide a preliminary assessment of whether the overall project site and subsequent assets are exposed to impacts of natural hazard events and/or future impacts of climate change. For each climate parameter, the Tool will calculate one of the following exposure ratings: Not Exposed, Low Exposure, Moderate Exposure, or High Exposure. The rationale behind the exposure rating is provided below.

Sea Level Rise/Storm Surge

This project received a "Not Exposed" because of the following:

- Not located within the predicted mean high water shoreline by 2030
- No historic coastal flooding at project site
- Not located within the Massachusetts Coast Flood Risk Model (MC-FRM)

Extreme Precipitation - Urban Flooding

This project received a "High Exposure" because of the following:

- Increased impervious area
- Maximum annual daily rainfall exceeds 10 inches within the overall project's useful life
- No historic flooding at project site
- Existing impervious area of the project site is between 10% and 50%

Extreme Precipitation - Riverine Flooding

This project received a "High Exposure" because of the following:

- Part of the project is within a mapped FEMA floodplain, outside of the Massachusetts Coast Flood Risk Model (MC-FRM)
- Part of the project is within 200ft of a waterbody and less than 30ft above the waterbody
- No historic riverine flooding at project site
- Project is not likely susceptible to riverine erosion

Extreme Heat

This project received a "Moderate Exposure" because of the following:

- Increased impervious area
- Existing impervious area of the project site is between 10% and 50%
- Located within 100 ft of existing water body
- No tree removal
- < 10 day increase in days over 90 deg. F within project's useful life

Scoring Rationale - Asset Preliminary Climate Risk Rating

A Preliminary Climate Risk Rating is determined for each infrastructure and building asset by considering the overall project Exposure Score and responses to Step 4 questions provided by the user in the Tool. Natural Resource assets do not receive a risk rating. The following factors are what influenced the risk ratings for each asset.

Asset - Runway 6 extension

Primary asset criticality factors influencing risk ratings for this asset:

- Asset may be inaccessible/inoperable for more than a day but less than a week after natural hazard event
- Greater than 100,000 people would be directly affected by the loss/inoperability of the asset
- Inoperability of the asset would be expected to cause a loss of confidence in government agency
- Cost to replace is less than \$10 million
- There are no hazardous materials in the asset

Project Climate Resilience Design Standards Output

Climate Resilience Design Standards and Guidance are recommended for each asset and climate parameter. The Design Standards for each climate parameter include the following: recommended planning horizon (target and/or intermediate), recommended return period (Sea Level Rise/Storm Surge and Precipitation) or percentile (Heat), and a list of applicable design criteria that are likely to be affected by climate change. Some design criteria have numerical values associated with the recommended return period and planning horizon, while others have tiered methodologies with step-by-step instructions on how to estimate design values given the other recommended design standards.

Asset: Runway 6 extension

Infrastructure

Sea Level Rise/Storm Surge

Low Risk

Applicable Design Criteria

Projected Tidal Datums: NOT APPLICABLE

Projected Water Surface Elevation: NOT APPLICABLE

Projected Wave Action Water Elevation: NOT APPLICABLE

Projected Wave Heights: NOT APPLICABLE

Projected Duration of Flooding: NOT APPLICABLE

Projected Design Flood Velocity: NOT APPLICABLE

Projected Scour & Erosion: NOT APPLICABLE

Extreme Precipitation

High Risk

Target Planning Horizon: 2050

Return Period: 10-yr (10%)

LIMITATIONS: The recommended Standards for Total Precipitation Depth & Peak Intensity are determined by the user drawn polygon and relationships as defined in the Supporting Documents. The projected Total Precipitation Depth values provided through the Tool are based on the climate projections developed by Cornell University as part of EEA's Massachusetts Climate and Hydrologic Risk Project, GIS-based data as of 10/15/21. For additional information on the methodology of these precipitation outputs, see Supporting Documents.

While Total Precipitation Depth & Peak Intensity for 24-hour Design Storms are useful to inform planning and design, it is recommended to also consider additional longer- and shorter-duration precipitation events and intensities in accordance with best practices. Longer-duration, lower-intensity storms allow time for infiltration and reduce the load on infrastructure over the duration of the storm. Shorter-duration, higher-intensity storms often have higher runoff volumes because the water does not have enough time to infiltrate infrastructure systems (e.g., catch basins) and may overflow or back up during such storms, resulting in flooding. In the Northeast, short-duration high intensity rain events are becoming more frequent, and there is often little early warning for these events, making it difficult to plan operationally. While the Tool does not provide recommended design standards for these scenarios, users should still consider both short- and long-duration precipitation events and how they may impact the asset.

The projected values, standards, and guidance provided within this Tool may be used to inform plans and designs, but they do not provide guarantees for future conditions or resilience. The projected values are not to be considered final or appropriate for construction documents without supporting engineering analyses. The guidance provided within this Tool is intended to be general and users are encouraged to do their own due diligence

Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Total Precipitation Depth & Peak Intensity for 24-hr Design Storms: APPLICABLE

Asset Name	Recommended Planning Horizon	Recommended Return Period (Design Storm)	Projected 24-hr Total Precipitation Depth (inches)	Step-by-Step Methodology for Peak Intensity
Runway 6 extension	2050	10-Year (10%)	6.1	Downloadable Methodology PDF

Projected Riverine Peak Discharge & Peak Flood Elevation: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Target Planning Horizon: 2050

Percentile: 50th Percentile

Applicable Design Criteria

Tiered Methodology: Tier 2

Projected Annual/Summer/Winter Average Temperatures: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Heat Index: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Growing Degree Days: NOT APPLICABLE

Projected Days Per Year With Max Temp > 95°F, >90°F, <32°F: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Number of Heat Waves Per Year & Average Heat Wave Duration: APPLICABLE

[Methodology to Estimate Projected Values](#) : Tier 2

Projected Cooling Degree Days & Heating Degree Days (base = 65°F): NOT APPLICABLE

Project Inputs

Core Project Information

Name:	Plymouth Municipal Airport Runway 6 extension and Technical Master Plan update
Given the expected useful life of the project, through what year do you estimate the project to last (i.e. before a major reconstruction/renovation)?	2045
Location of Project:	Carver, Plymouth
Estimated Capital Cost:	\$7,600,000
Who is the Submitting Entity?	City/Town Plymouth Matthew Cardillo (mcardillo@plymouth-ma.gov)
Is this project identified as a priority project in the Municipal Vulnerability Preparedness (MVP) plan or the local or regional Hazard Mitigation Plan (HMP)?	No
Is this project being submitted as part of a state grant application?	No
Which grant program?	
What stage are you in your project lifecycle?	Permitting
Is climate resiliency a core objective of this project?	Yes
Is this project being submitted as part of the state capital planning process?	No
Is this project being submitted as part of a regulatory review process or permitting?	Yes
Brief Project Description:	MEPA
Project Submission Comments:	

Project Ecosystem Service Benefits

Factors Influencing Output

- ✓ Project reduces storm damage
- ✓ Project protects public water supply
- ✓ Project recharges groundwater
- ✓ Project filters stormwater using green infrastructure
- ✓ Project improves water quality
- ✓ Project protects fisheries, wildlife, and plant habitat
- ✓ Project prevents pollution

Factors to Improve Output

- ✓ Incorporate vegetation that provides pollinator habitat

Is the primary purpose of this project ecological restoration?

No

Project Benefits

Provides flood protection through nature-based solutions	No
Reduces storm damage	Yes
Recharges groundwater	Yes
Protects public water supply	Yes
Filters stormwater using green infrastructure	Yes
Improves water quality	Yes
Promotes decarbonization	No
Enables carbon sequestration	No
Provides oxygen production	No
Improves air quality	No
Prevents pollution	Yes
Remediates existing sources of pollution	No
Protects fisheries, wildlife, and plant habitat	Yes
Protects land containing shellfish	No
Provides pollinator habitat	Maybe
Provides recreation	No
Provides cultural resources/education	No

Project Climate Exposure

Is the primary purpose of this project ecological restoration?	No
Does the project site have a history of coastal flooding?	No
Does the project site have a history of flooding during extreme precipitation events (unrelated to water/sewer damages)?	No
Does the project site have a history of riverine flooding?	No
Does the project result in a net increase in impervious area of the site?	Yes
Are existing trees being removed as part of the proposed project?	No

Project Assets

Asset: Runway 6 extension

Asset Type: Transportation
Asset Sub-Type: Other Transportation
Construction Type: New Construction
Construction Year: 2025
Useful Life: 20

Identify the length of time the asset can be inaccessible/inoperable without significant consequences.

Infrastructure may be inaccessible/inoperable for more than a day, but less than a week after natural hazard without consequences.

Identify the geographic area directly affected by permanent loss or significant inoperability of the infrastructure.

Impacts would be regional (more than one municipality and/or surrounding region)

Identify the population directly served that would be affected by the permanent loss or significant inoperability of the infrastructure.

Greater than 100,000 people

Identify if the infrastructure provides services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

The infrastructure does not provide services to populations that reside within Environmental Justice neighborhoods or climate vulnerable populations.

Will the infrastructure reduce the risk of flooding?

No

If the infrastructure became inoperable for longer than acceptable in Question 1, how, if at all, would it be expected to impact people's health and safety?

Inoperability of the infrastructure would not be expected to result in injuries

If there are hazardous materials in your infrastructure, what are the extents of impacts related to spills/releases of these materials?

There are no hazardous materials in the infrastructure

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts on other facilities, assets, and/or infrastructure?

Minor – Inoperability will not likely affect other facilities, assets, or buildings

If the infrastructure was damaged beyond repair, how much would it approximately cost to replace?

Less than \$10 million

Does the infrastructure function as an evacuation route during emergencies? This question only applies to roadway projects.

No

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the environmental impacts related to natural resources?

No impact on surrounding natural resources is expected

If the infrastructure became inoperable for longer than acceptable in Question 1, what are the impacts to government services (i.e. the infrastructure is not able to serve or operate its intended users or function)?

Loss of infrastructure may reduce the ability to maintain some government services, while a majority of services will still exist

What are the impacts to loss of confidence in government resulting from loss of infrastructure functionality (i.e. the infrastructure asset is not able to serve or operate its intended users or function)?

Loss of confidence in government agency

Report Comments

N/A



APPENDIX N Public Meeting Materials (March 29, 2023 presentation)



Technical Master Plan Update & Environmental Assessment Phase

Technical Master Plan Team & Environmental Review Team



Airport / PAC

The Airport, overseen by the Plymouth Airport Commission, has undertaken a Technical Master Plan Update.



FAA/ MASSDOT

The Plan is 90% funded by the Federal Aviation Administration. 5% funded by the MASSDOT Bureau of Aeronautics with the remainder, a local match.



You

Input from the Public is crucial to ensuring the Master Plan reflects the needs of the local community & the environmental review provides opportunities for meaningful public input.



D&K
and Epsilon Associates

The DuBois and King team has over 30 years of experience serving Plymouth Municipal Airport and its community.



Agenda

- Community Asset
- Timeline & Transition to Environmental Assessment Phase
- Final Technical Master Plan Update
- Next Step – MEPA and NEPA
- Environmental Evaluation Process
- Alternatives Overview & Preferred Alternative
- Proposed Conditions and Regulatory Framework
- Questions

Plymouth Municipal Airport – Community Asset



GOOD FOR THE ENVIRONMENT

- 150 preserved acres of Natural Habitat
- DEP standards
- Compatible Wildlife Program
- State wildlife approval for construction
- 800 acres of rural legacy



HUB OF PUBLIC SERVICE

- State Police Air Wing
- Boston Medflight
- Cape Cod Community College
- Local Pilot Humanitarian Missions
- Civil Air Patrol



GOOD NEIGHBOR

- Administration Building open to Public
- Public interaction with Airport activity- Patio and Play Area
- Public tours
- Precinct 11 voting location
- Noise Briefings



GOOD FOR THE ECONOMY

- Municipal Enterprise Account
- \$450,000+ real estate tax revenue on ~60 Buildings
- \$62 million in Total Annual Economic Output

Timeline

JAN 2022 –
JAN 2023

Background and three
TMPU public meetings,
TMPU and ALP
finalized

MEPA Process Initiated
w/MEPA office,
Pre-ENF Public
Meeting

FEB 2023-
MAR 2023

April 2023-
August 2023

MEPA ENF Filing
MEPA Scoping Field
Visit
Proposed Joint Draft
NEPA EA/MEPA EIR
Development

Final NEPA EA/MEPA
EIR Completed &
Submitted to FAA for
FONSI & MEPA

August
2023
Goal



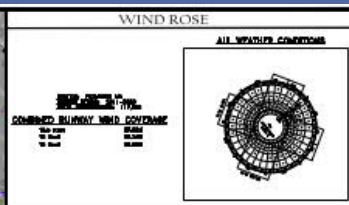
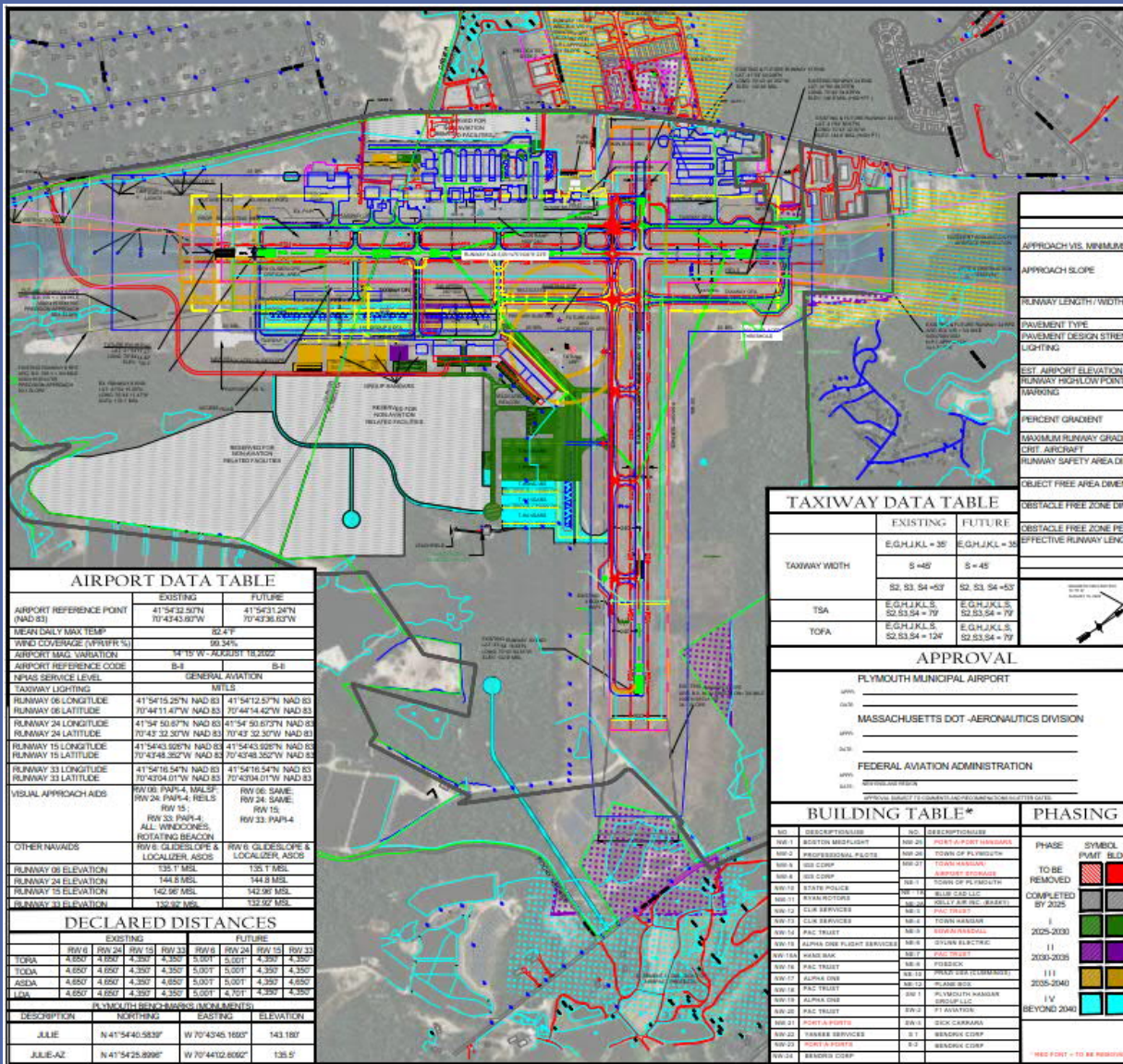
Plymouth Municipal Airport

Technical Master Plan Update 2022



Final TMPU

- Comprehensive Evaluation of Airport and Needs for 20 years into future – 2040+
- Extensive Public Engagement
- Evaluated four Alternatives for Runway 6
- Airport Layout Plan



RUNWAY DATA TABLE

	EXISTING	FUTURE
APPROACH VIS. MINIMUMS	RW 6: ≥ 34 M; RW 24: ≥ 1 M RW 15: ≥ 1 M; RW 33: ≥ 34 M	RW 6: ≥ 34 M; RW 24: ≥ 34 M RW 33: ≥ 34 M; RW 15: ≥ 1 M
APPROACH SLOPE	SURFACE 6: RW 6, 24 & 33: 20:1 SURFACE 6: RW 6, 24 & 33: 30:1 SURFACE 6: RW 15: 20:1	SURFACE 6: RW 6, 24 & 33: 20:1 SURFACE 6: RW 6, 24 & 33: 30:1 SURFACE 6: RW 15: 20:1
RUNWAY LENGTH / WIDTH	RW 6-24: 4,387 x 75' RW 15-33: 4,350 x 75'	RW 6-24: 5,307 x 75' RW 15-33: 4,350 x 75'
PAVEMENT TYPE	BITUMINOUS CONCRETE	SAFELY
PAVEMENT DESIGN STRENGTH	12,500 LBS (SW)	30 FXT
LIGHTING	MRL	RW 6-24: FHTL RW 15-33: MRL
EAT AIRPORT ELEVATION	148.9 MSL	148.9 MSL
RUNWAY HIGHFLOW POINTS	H 148.9 MSL; L 130.2 MSL	H 148.9 MSL; L 130.2 MSL
MARKING	RW 6: PRECISION RW 33: 15: 24: NONPRECISION	RW 6: PRECISION RW 33: 15: 24: NONPRECISION
PERCENT GRADIENT	RW 6-24: 0.2% RW 15-33: 0.2%	RW 6-24: 0.22% RW 15-33: 0.28%
MAXIMUM RUNWAY GRADE	1.5%	1.5%
CRIT AIRCRAFT	FALCON 2000	FALCON 2000
RUNWAY SAFETY AREA DIMENSIONS	RW 6-24: 4,949 x 150' RW 15-33: 5,257 x 150'	RW 6-24: 5,257 x 150' RW 15-33: 5,257 x 150'
OBJECT FREE AREA DIMENSIONS	RW 6-24: 4,949 x 500' RW 15-33: 5,257 x 500'	RW 6-24: 5,257 x 500' RW 15-33: 5,257 x 500'
OBSTACLE FREE ZONE DIMENSIONS	RW 6-24: 4,949 x 400' RW 15-33: 4,750 x 400'	RW 6-24: 5,257 x 400' RW 15-33: 4,750 x 400'
OBSTACLE FREE ZONE PENETRATIONS	NONE	NONE
EFFECTIVE RUNWAY LENGTH	RW 15-33: 4,650' RW 6-24: 4,650'	RW 15-33: 4,650' RW 6-24: 5,000'

TAXIWAY DATA TABLE

TAXIWAY WIDTH	EXISTING	FUTURE
	E.G.H.J.K.L. = 35'	E.G.H.J.K.L. = 35'
	S = 40'	S = 45'
	S2, S3, S4 = 57'	S2, S3, S4 = 57'
TSA	E.G.H.J.K.L.S. S2, S3, S4 = 75'	E.G.H.J.K.L.S. S2, S3, S4 = 75'
TOFA	E.G.H.J.K.L.S. S2, S3, S4 = 124'	E.G.H.J.K.L.S. S2, S3, S4 = 124'

AIRPORT DATA TABLE

	EXISTING	FUTURE
AIRPORT REFERENCE POINT (NAD 83)	41°54'32.287N 70°43'43.897W	41°54'31.247N 70°43'36.837W
MEAN DAILY MAX TEMP	52.4°F	
WIND COVERAGE (APPROX %)	14 TO 19° AROUND 18, 20, 25	50-54%
AIRPORT MAG. VARIATION	S-8	S-8
AIRPORT REFERENCE CODE	S-8	S-8
NPAS SERVICE LEVEL	GENERAL AVIATION	
TAXIWAY LIGHTING	MTELS	
RUNWAY 06 LONGITUDE	41°54'16.257N NAD 83	41°54'12.57N NAD 83
RUNWAY 06 LATITUDE	70°44'11.47W NAD 83	70°44'14.42W NAD 83
RUNWAY 24 LONGITUDE	41°54'08.67N NAD 83	41°54'07.67N NAD 83
RUNWAY 24 LATITUDE	70°43'32.307W NAD 83	70°43'32.307W NAD 83
RUNWAY 15 LONGITUDE	41°54'43.526N NAD 83	41°54'43.526N NAD 83
RUNWAY 15 LATITUDE	70°43'48.352W NAD 83	70°43'48.352W NAD 83
RUNWAY 33 LONGITUDE	41°54'16.547N NAD 83	41°54'16.547N NAD 83
RUNWAY 33 LATITUDE	70°43'04.017W NAD 83	70°43'04.017W NAD 83
VISUAL APPROACH AIDS	RW 06: PAW-4, MALSP RW 24: PAW-4, RELS RW 15: RW 33: PAW-4, ALL WINDCONES, ROTATING BEACON	RW 06: SAME RW 24: SAME RW 15: RW 33: PAW-4
OTHER NAVAIDS	RW 6: GLEDSCOPE & LOCALIZER AID RW 24: GLEDSCOPE & LOCALIZER AID	RW 6: GLEDSCOPE & LOCALIZER AID RW 24: GLEDSCOPE & LOCALIZER AID
RUNWAY 06 ELEVATION	135.1 MSL	135.1 MSL
RUNWAY 24 ELEVATION	144.8 MSL	144.8 MSL
RUNWAY 15 ELEVATION	142.97 MSL	142.97 MSL
RUNWAY 33 ELEVATION	132.92 MSL	132.92 MSL

DECLARED DISTANCES

	EXISTING		FUTURE	
	RW 24	RW 15	RW 6	RW 33
TOFA	4,850'	4,350'	5,000'	4,350'
TOFA	4,850'	4,350'	5,000'	4,350'
ASDA	4,850'	4,350'	5,000'	4,350'
LOA	4,850'	4,350'	5,000'	4,350'

PLYMOUTH MUNICIPAL AIRPORT (NAD 83)

DESCRIPTION	NORTHING	EASTING	ELEVATION
JULIE	N 41°54'40.5839"	W 70°43'45.1650"	143.180'
JULIE-AZ	N 41°54'25.8996"	W 70°44'12.8992"	135.5'

APPROVAL

PLYMOUTH MUNICIPAL AIRPORT

MASSACHUSETTS DOT - AERONAUTICS DIVISION

FEDERAL AVIATION ADMINISTRATION

BUILDING TABLE*

NO.	DESCRIPTION	NO.	DESCRIPTION
NO. 1	BOSTON BEDFORD	NO. 20	PISTON AIRPORT
NO. 2	PROFESSIONAL FLORE	NO. 21	TOWN OF PLYMOUTH
NO. 3	WELLS	NO. 22	TOWN OF PLYMOUTH
NO. 4	WELLS	NO. 23	TOWN OF PLYMOUTH
NO. 5	STATE POLICE	NO. 24	STATE POLICE
NO. 6	EVAN ROTORS	NO. 25	STATE POLICE
NO. 7	CLUB SERVICES	NO. 26	STATE POLICE
NO. 8	CLUB SERVICES	NO. 27	STATE POLICE
NO. 9	PAC TRUST	NO. 28	STATE POLICE
NO. 10	ALPHA ONE FLIGHT SERVICES	NO. 29	STATE POLICE
NO. 11	WMS BAK	NO. 30	STATE POLICE
NO. 12	PAC TRUST	NO. 31	STATE POLICE
NO. 13	PAC TRUST	NO. 32	STATE POLICE
NO. 14	PAC TRUST	NO. 33	STATE POLICE
NO. 15	PAC TRUST	NO. 34	STATE POLICE
NO. 16	PAC TRUST	NO. 35	STATE POLICE
NO. 17	PAC TRUST	NO. 36	STATE POLICE
NO. 18	PAC TRUST	NO. 37	STATE POLICE
NO. 19	PAC TRUST	NO. 38	STATE POLICE
NO. 20	PAC TRUST	NO. 39	STATE POLICE
NO. 21	PAC TRUST	NO. 40	STATE POLICE
NO. 22	PAC TRUST	NO. 41	STATE POLICE
NO. 23	PAC TRUST	NO. 42	STATE POLICE
NO. 24	PAC TRUST	NO. 43	STATE POLICE

LEGEND

DESCRIPTION	EXISTING SYMBOL	FUTURE SYMBOL
RUNWAY SAFETY AREA	[Symbol]	[Symbol]
RUNWAY OBJECT FREE AREA	[Symbol]	[Symbol]
RUNWAY PROTECTION ZONE	[Symbol]	[Symbol]
BUILDING RESTRICTION LINE	[Symbol]	[Symbol]
TAXIWAY - TAXIWAY CPA	[Symbol]	[Symbol]
TAXIWAY - TAXIWAY CENTERLINE	[Symbol]	[Symbol]
SPOT ELEVATIONS	[Symbol]	[Symbol]
AIRPORT REFERENCE POINT	[Symbol]	[Symbol]
AIRPORT PROPERTY LINE	[Symbol]	[Symbol]
RUNWAY VISIBILITY ZONE	[Symbol]	[Symbol]
ROADWAYS	[Symbol]	[Symbol]
TO CONTOURS	[Symbol]	[Symbol]
FENCE LINE	[Symbol]	[Symbol]
NON-AERONAUTICAL AREAS	[Symbol]	[Symbol]
FIELD LINES	[Symbol]	[Symbol]
ON AIRPORT BUILDINGS	[Symbol]	[Symbol]
OFF AIRPORT BUILDINGS	[Symbol]	[Symbol]
BRANDS WITHIN RWY	[Symbol]	[Symbol]
FUTURE PROPERTY FREE	[Symbol]	[Symbol]
FUTURE PROPERTY EASEMENT	[Symbol]	[Symbol]
TREES TO BE REMOVED	[Symbol]	[Symbol]
MALSP	[Symbol]	[Symbol]
OBSTRUCTION LIGHT TOWERS	[Symbol]	[Symbol]
TOWN BOUNDARY	[Symbol]	[Symbol]
PRECISION OBSTACLE FREE ZONE	[Symbol]	[Symbol]
PROPOSED RUNWAY & TAXIWAY	[Symbol]	[Symbol]
PAVEMENT	[Symbol]	[Symbol]
EXISTING RUNWAY & TAXIWAY	[Symbol]	[Symbol]
EASEMENT	[Symbol]	[Symbol]

PHASING

PHASE	SYMBOL	PHASE	SYMBOL
TO BE REMOVED	[Symbol]	COMPLETED BY 2025	[Symbol]
COMPLETED BY 2025	[Symbol]	2025-2030	[Symbol]
2025-2030	[Symbol]	2030-2035	[Symbol]
2030-2035	[Symbol]	2035-2040	[Symbol]
2035-2040	[Symbol]	BEYOND 2040	[Symbol]

PHASE KEY

PHASE	SYMBOL	PHASE	SYMBOL
TO BE REMOVED	[Symbol]	COMPLETED BY 2025	[Symbol]
COMPLETED BY 2025	[Symbol]	2025-2030	[Symbol]
2025-2030	[Symbol]	2030-2035	[Symbol]
2030-2035	[Symbol]	2035-2040	[Symbol]
2035-2040	[Symbol]	BEYOND 2040	[Symbol]

MAINTENANCE - TO BE MAINTAINED

NO.	DESCRIPTION	NO.	DESCRIPTION
NO. 1	BOSTON BEDFORD	NO. 20	PISTON AIRPORT
NO. 2	PROFESSIONAL FLORE	NO. 21	TOWN OF PLYMOUTH
NO. 3	WELLS	NO. 22	TOWN OF PLYMOUTH
NO. 4	WELLS	NO. 23	TOWN OF PLYMOUTH
NO. 5	STATE POLICE	NO. 24	STATE POLICE
NO. 6	EVAN ROTORS	NO. 25	STATE POLICE
NO. 7	CLUB SERVICES	NO. 26	STATE POLICE
NO. 8	CLUB SERVICES	NO. 27	STATE POLICE
NO. 9	PAC TRUST	NO. 28	STATE POLICE
NO. 10	ALPHA ONE FLIGHT SERVICES	NO. 29	STATE POLICE
NO. 11	WMS BAK	NO. 30	STATE POLICE
NO. 12	PAC TRUST	NO. 31	STATE POLICE
NO. 13	PAC TRUST	NO. 32	STATE POLICE
NO. 14	PAC TRUST	NO. 33	STATE POLICE
NO. 15	PAC TRUST	NO. 34	STATE POLICE
NO. 16	PAC TRUST	NO. 35	STATE POLICE
NO. 17	PAC TRUST	NO. 36	STATE POLICE
NO. 18	PAC TRUST	NO. 37	STATE POLICE
NO. 19	PAC TRUST	NO. 38	STATE POLICE
NO. 20	PAC TRUST	NO. 39	STATE POLICE
NO. 21	PAC TRUST	NO. 40	STATE POLICE
NO. 22	PAC TRUST	NO. 41	STATE POLICE
NO. 23	PAC TRUST	NO. 42	STATE POLICE
NO. 24	PAC TRUST	NO. 43	STATE POLICE

PLYMOUTH MUNICIPAL AIRPORT LAYOUT PLAN

ULTIMATE AIRPORT LAYOUT PLAN

DATE: _____

SCALE: _____

SHEET NO. 3 OF 12

DATE: _____

SCALE: _____

SHEET NO. 3 OF 12

Plymouth Municipal Airport 2022 Ultimate Airport Layout Plan

Purpose of Environmental Assessment

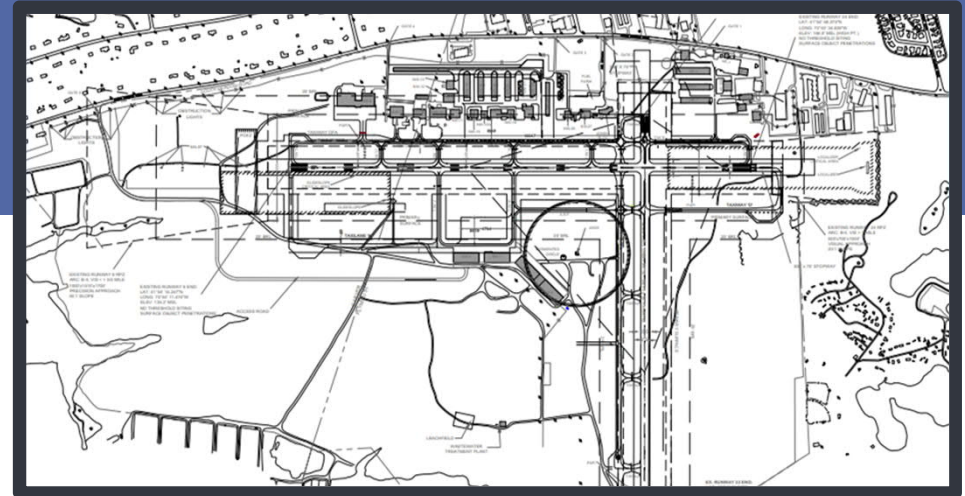


- Fulfill obligations under federal National Environmental Policy Act (NEPA) and Commonwealth's MEPA programs
- Incorporate Public Involvement
- Aligning Airport future with the Master Plan updates without "significant impacts" to natural resources
- Evaluate Environmental Impacts of Preferred and "No Action" Alternatives
- Evaluate Natural Resource Mitigation impacts to Airport Operations and Safety Needs (FAA mandates); cannot create hazards

Environmental Evaluation Process – Joint MEPA/NEPA

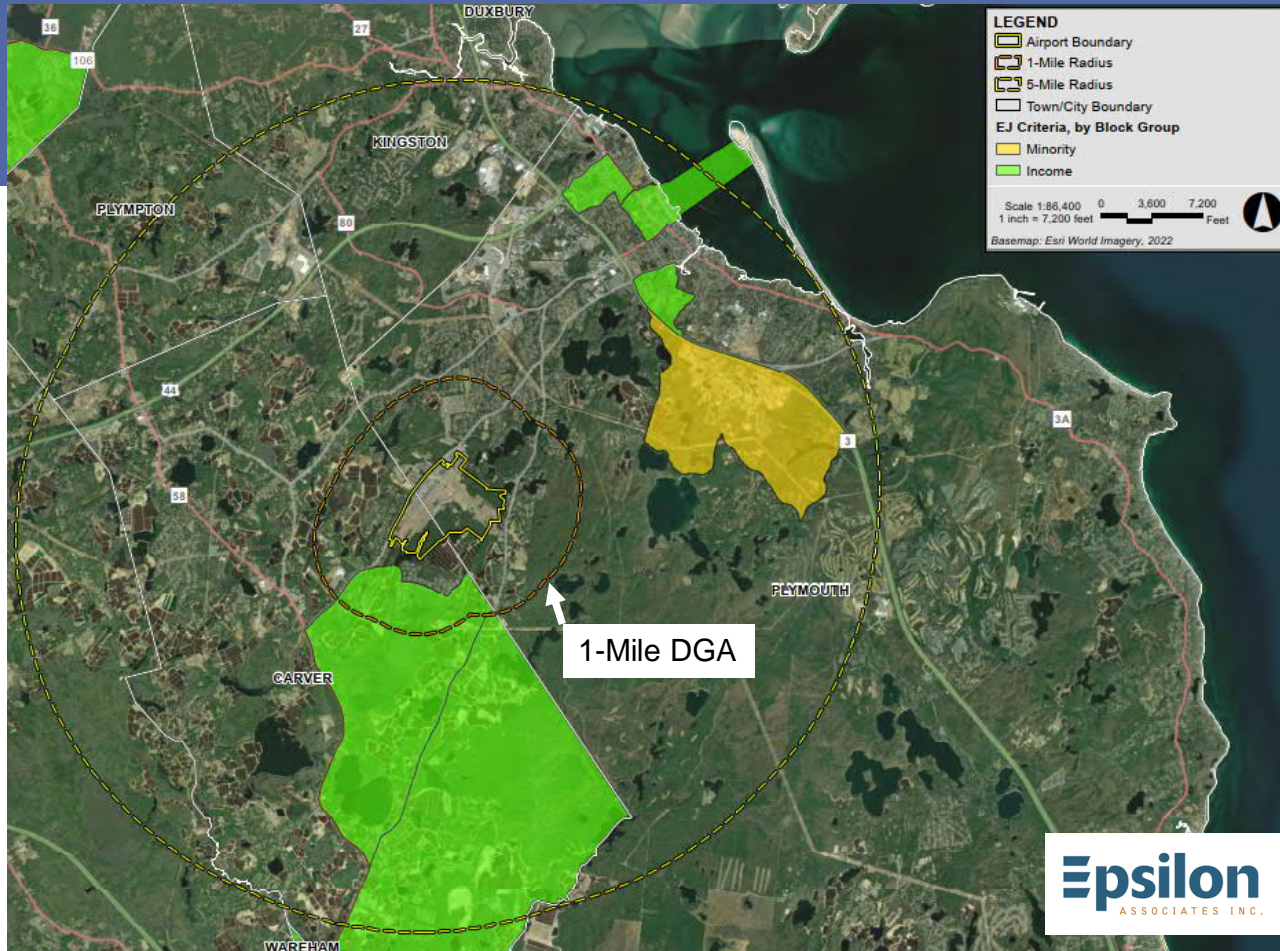


- Meet with MEPA office to Introduce the project (2/2/23)
- Public Outreach - “meaningful input before the ENF is filed”
- Notice of this meeting & Screening Form disseminated to >150 organizations, parties, and individuals that were compiled during the TMPU process, including designated “Environmental Justice” communities
- 1st step Environmental Notification form (ENF)
- 2nd step Site Walk with MEPA staff (public invited to attend)
- Confirm Scope of Environmental Impact Report (EIR)

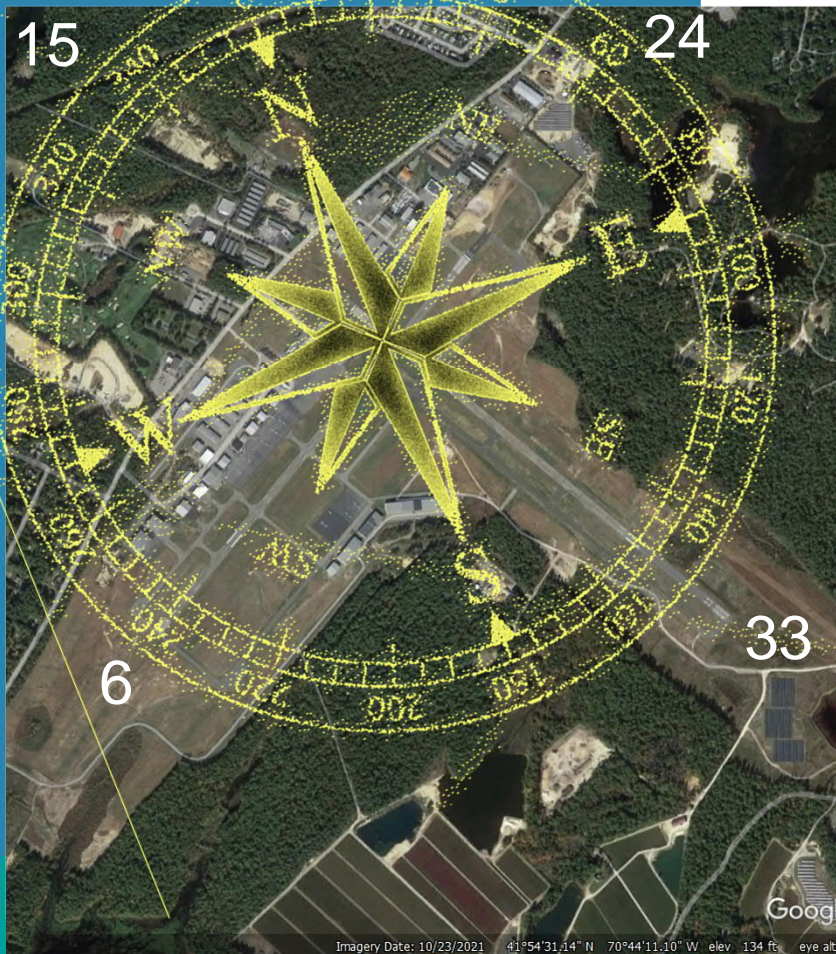


- National Environmental Policy Act (NEPA)
- Under FAA 1050.1F
- Met with FAA and MassDOT to identify scope
- “Environmental Assessment” (EA) under NEPA
- 14 categories of natural resources to be evaluated
- Must stay below designated “significance thresholds” for each category using avoidance, minimization, and mitigation opportunities

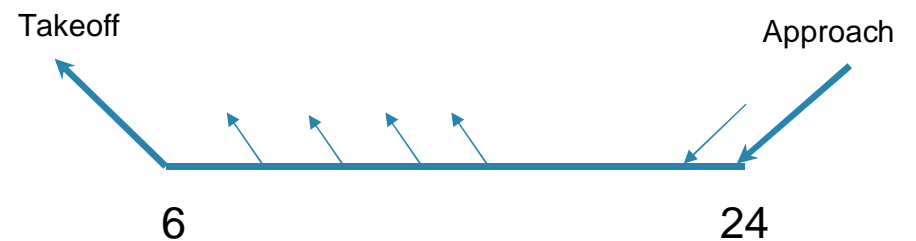
MEPA Designated Geographic Area (DGA) – 1-Mile



Plymouth Airport – Orientation



- Compass or “Wind Rose”
 - Horizontal & Vertical “Planes” = Surfaces
- [NOTE: “Plane” vs “Airplane” or “Aircraft”]



Overarching Guidance & Grant Mandates – Safety Paramount

FAA Grant Assurance 5 & Grant Assurance 21 [funding mandates]

GA 5 – Preserving Rights and Powers
GA 21 – Compatible Land Use

Compliance Order 5190.6b, Chapter 20

Under the airport compliance program, the FAA has the responsibility to assure airport sponsors comply with certain obligations that arise from FAA grant agreements...
Chapter 20 – Compatible Land Use and Airspace Protection

Compliance Order 5190.6b, paragraph 7.13, Grant Assurance 20

Hazards and Mitigation
GA 20 – requires airport sponsors to protect terminal airspace...instrument and visual flight operations...includes protecting against establishment or creation of future airport hazards, including wildlife hazards.

AC 150/5200-33C, paragraph 2.9

Hazardous Wildlife Attractants on and near Airports
Habitat for State and Federally Listed Species on Airports
...may increase wildlife hazards and be inconsistent with safe airport operations.

Runway Ends – Safety Paramount

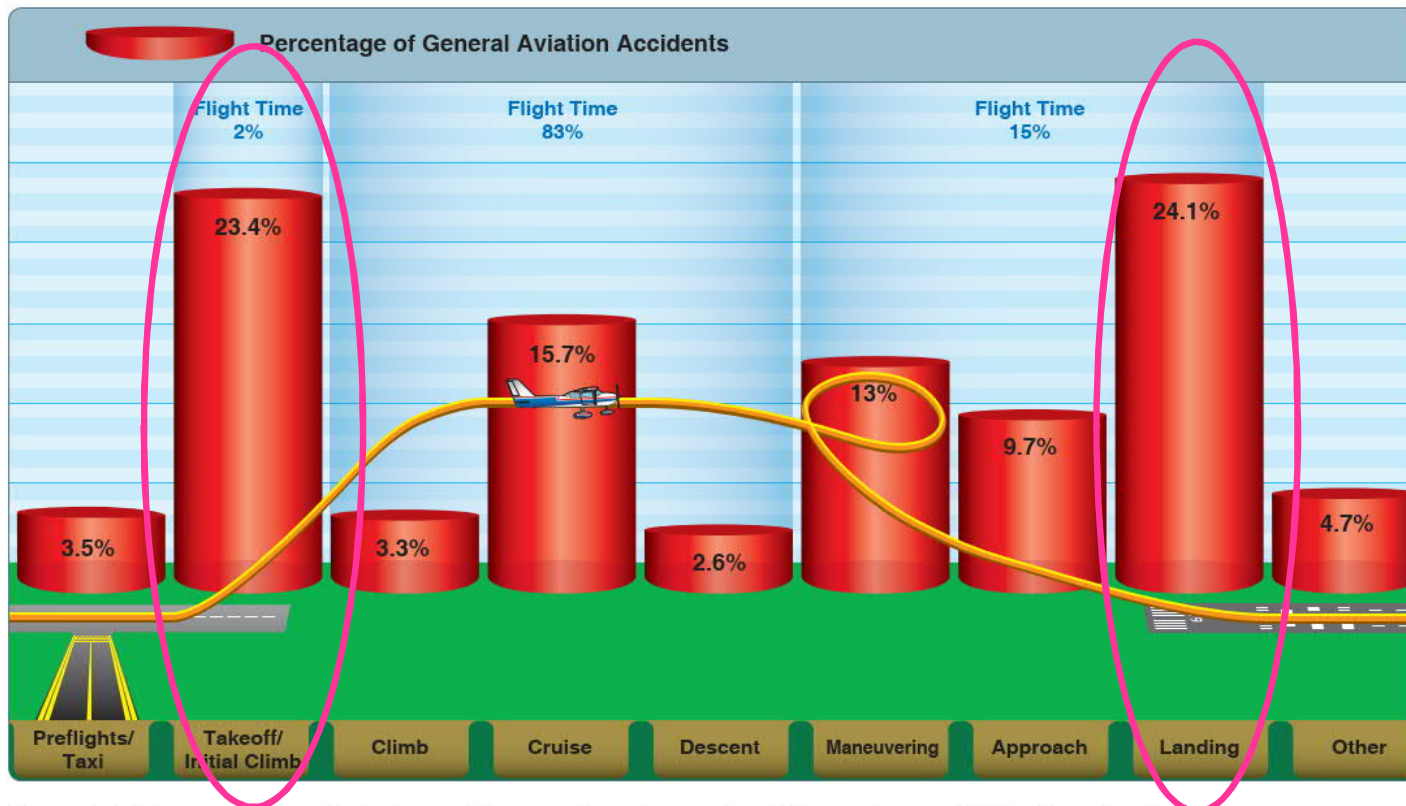


Figure 2-1. The percentage of aviation accidents as they relate to the different phases of flight. Note that the greatest percentage of accidents take place during a minor percentage of the total flight.

SOURCE: Pilot's Handbook of Aeronautical Knowledge, 2016, FAA-H-8083-25B

Forecast 2022 vs 2041 Purpose & Need

Table 3-9 - Summary of Baseline Data			
Based Aircraft (Table 3-3)	105		
Local Itinerant Split (Table 3-4)	Local	Itinerant	Total
	33,103	27,918	61,021
Operations by Aircraft Type (Table 3-6)	Operations	% Total Operations	
Single-Engine	41,494	68.00%	
Multi-Engine	5,492	9.00%	
Turbo-Prop	7,323	12.00%	
Turbo-Jet	4,271	7.00%	
Rotorcraft	2,441	4.00%	
Glider	0	0.00%	
Light Sport	0	0.00%	
Military	0	0.00%	
Operations by FAA Grouping (Table 3-7)			
AAC/ADG	Operations	% Total Operations	
A-I	58,595	96.00%	
A-II	697	1.10%	
A-III	3	0.00%	
B-I	384	0.60%	
B-II	1,122	1.80%	
B-III	3	0.00%	
C-I	90	0.10%	
C-II	96	0.20%	
C-III	2	0.00%	

Source: DuBois & King

Findings

- 8% Increase in Total Operations
- 8% Decrease in Based Aircraft

Summary

- Modest changes. On track with National Average.

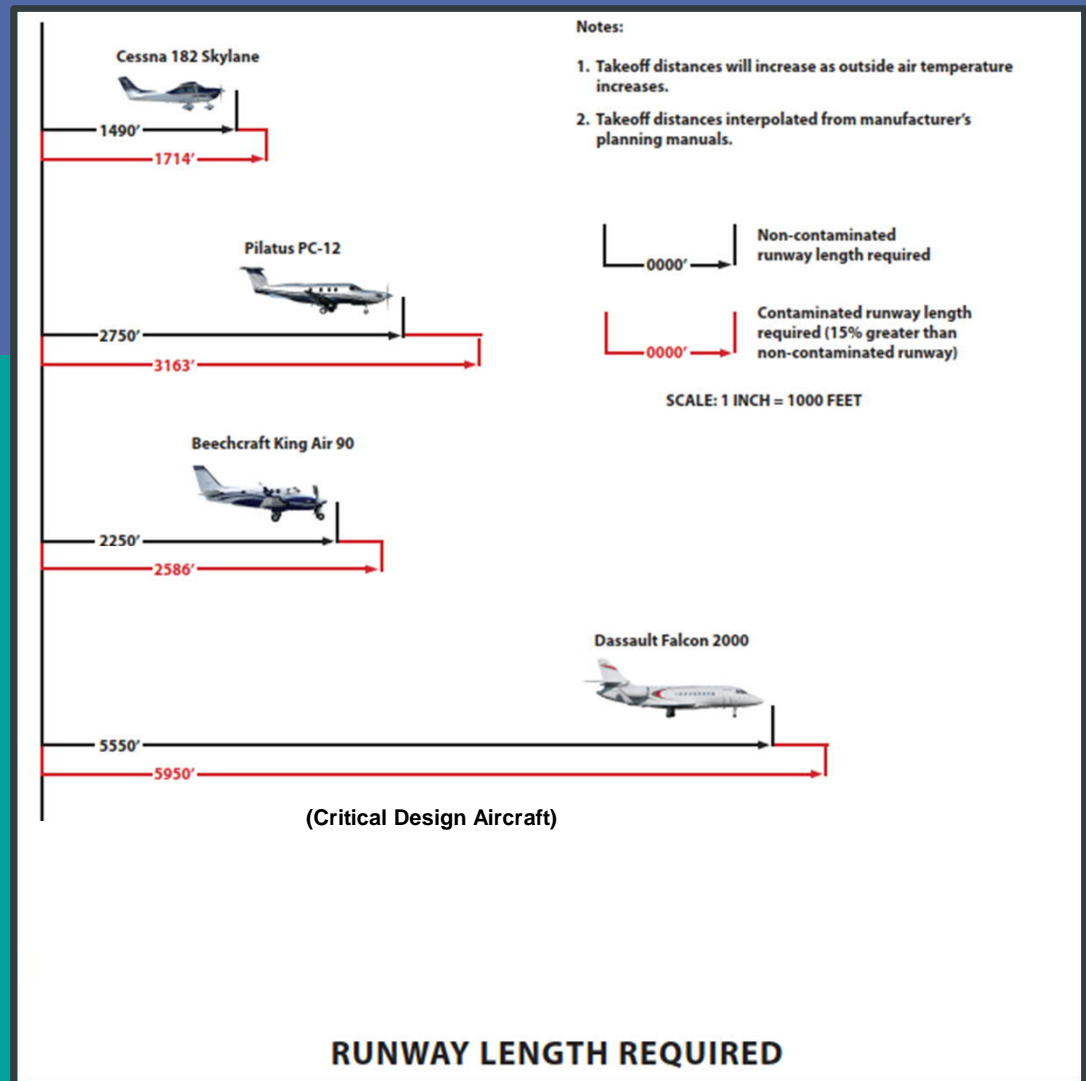
Table 3-16 - Summary of Forecast Data for 2041			
Based Aircraft (Table 3-11)	96		
Local Itinerant Split (Table 3-14)	Local	Itinerant	Total
	36,078	30,411	66,489
Operations by Aircraft Type (Table 3-14)	Operations	% Total Operations	
Single-Engine	44,932	67.6%	
Multi-Engine	5,835	8.8%	
Turbo-Prop	8,041	12.1%	
Turbo-Jet	4,847	7.3%	
Rotorcraft	2,834	4.3%	
Glider	0	0.0%	
Light Sport	0	0.0%	
Military	0	0.0%	
Forecasted Operations by FAA Grouping (Table 3-15)			
AAC/ADG	Operations	Operations	
A-I	63,845	96.0%	
A-II	759	1.1%	
A-III	3	0.0%	
B-I	419	0.6%	
B-II	1,222	1.8%	
B-III	3	0.0%	
C-I	98	0.1%	
C-II	105	0.2%	
C-III	3	0.0%	

Source: DuBois & King

Typical Runway Length Requirements "Critical Aircraft"

Temperature = 30°C - Average Temperature Hottest Month
 Flaps = 0
 Max Gross Takeoff Weight
 Zero Wind
 Zero R/W Gradient
 Pressure Altitude = Sea Level

Aircraft Planning Manual Vs FAA Runway Length Analysis



Runway Length Analysis

B-II Jet Composite		
Aircraft Type	Operations	% of Composite
Cessna CJ3/4	4	0.8%
Cessna Citation Bravo	4	0.8%
Cessna Citation Encore	7	1.4%
Cessna Citation Excel	68	13.3%
Cessna Citation Sovereign	13	2.5%
Cessna Citation Latitude	69	13.5%
Cessna Citation X	2	0.4%
Embrear Legacy 450	15	2.9%
Embrear Phenom 300	45	8.8%
Dassault Falcon 2000	149	29.0%
Dassault Falcon 900	75	14.6%
Dassault Falcon 50	7	1.4%
Hawker 4000	55	10.7%
Total Operations	513	



Falcon 2000

The Falcon 2000 is the most demanding aircraft (critical design) in the composite of aircraft with more than 500 annual operations.

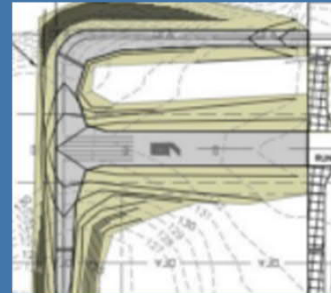
FAA Runway Length Analysis - Unconstrained Runway Length - 5,500-ft.

Alternatives - Overview



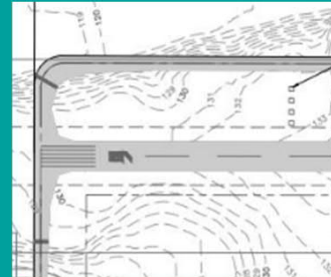
Alternative #1: No Build

- Everything remains the same, no changes are applied
- No Penetrations



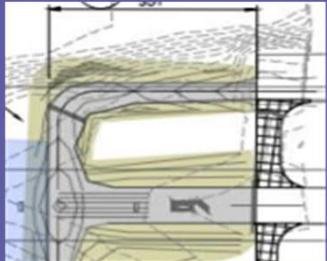
Alternative #2: 351-ft ext

- 5001 Feet
- Taxiway A and E extensions
- Relocation of Glideslope and MALS
- No penetrations



Alternative #3: 550-ft ext

- ~~5200 Feet~~
- ~~Taxiway A and E extensions~~
- ~~Relocation of Glideslope and MALS~~
- One penetration area

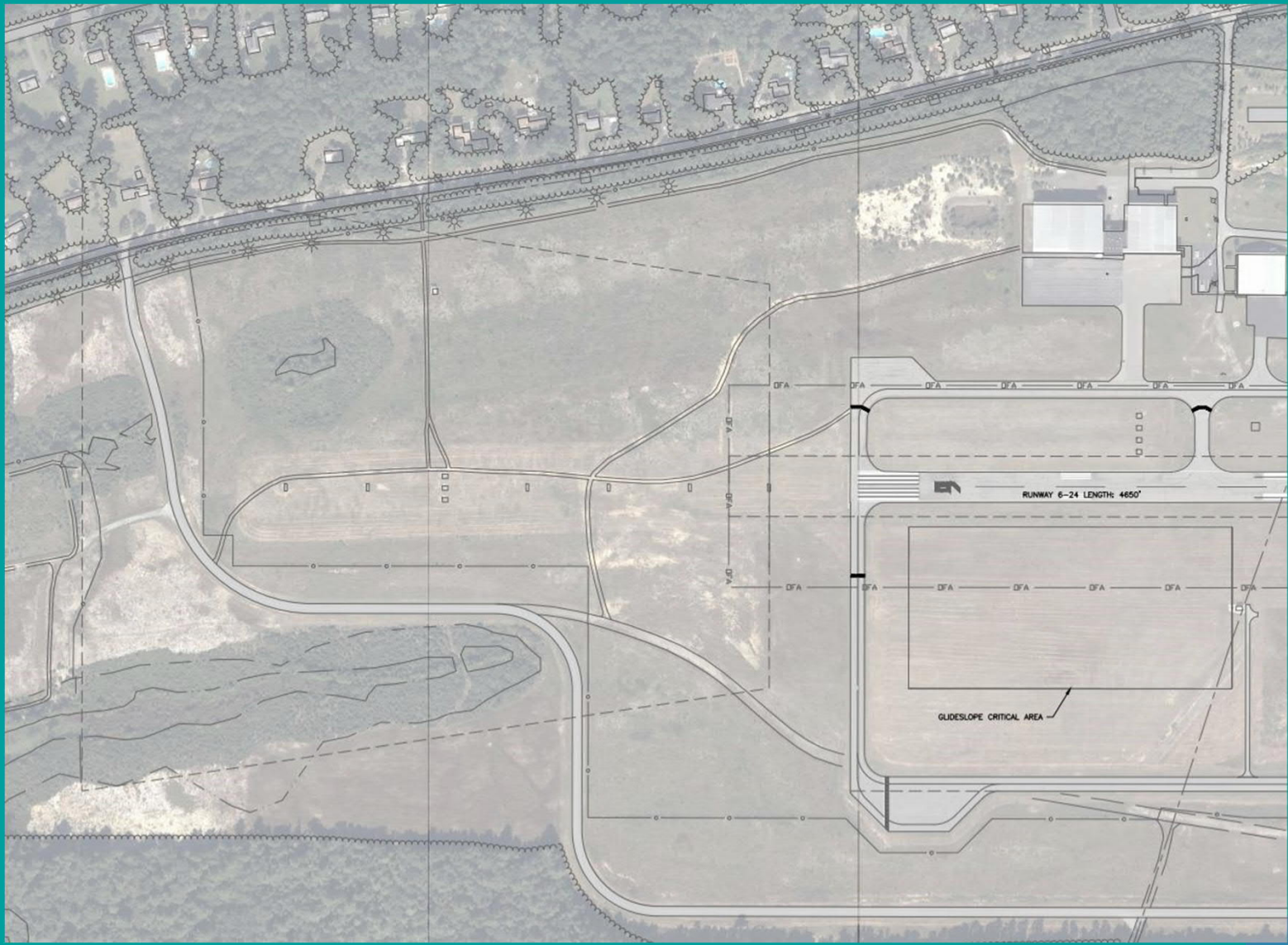


Alternative #4: 850-ft ext

- ~~5500 Feet~~
- ~~Taxiway A and E extensions~~
- ~~Relocation of Glideslope and MALS~~
- Multiple penetrations

Alternative #1 : No Build

LEGEND	
---	AIRPORT PROPERTY LINE
---	OFA OBJECT FREE AREA
---	MARKING - TAXIWAY AND RUNWAY
	HOLDING POSITION MARKING
---	RUNWAY SAFETY AREA
---	RUNWAY OBJECT FREE ZONE AND RUNWAY PROTECTION ZONE
---	GLIDESLOPE CRITICAL AREA
○	EXISTING CHAIN-LINK FENCE
---	WETLAND
---	EXISTING ROADWAY



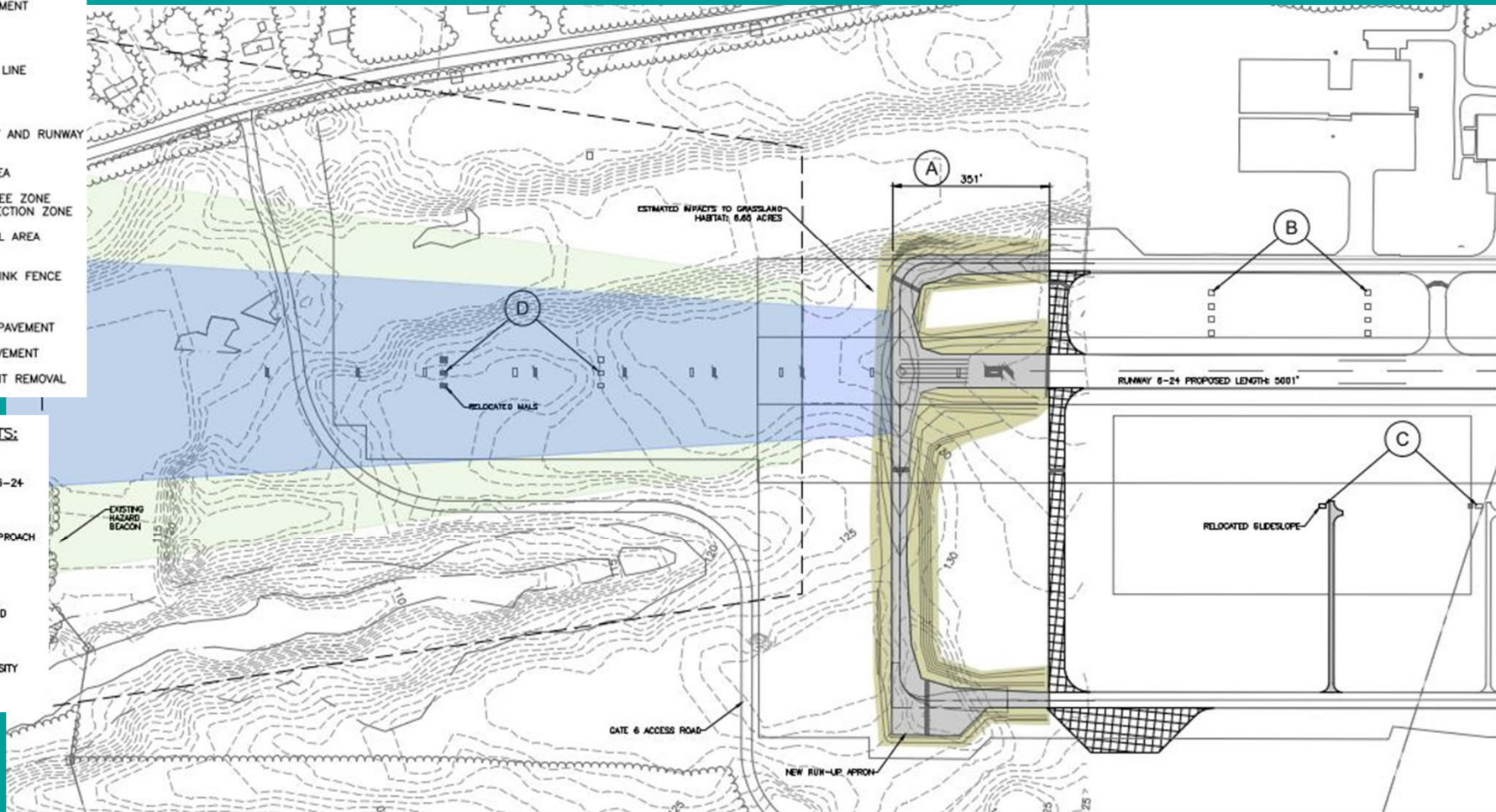
Alternative #2: 351-ft Extension

LEGEND

(A)	PROJECT WORK ELEMENT
---	AIRPORT PROPERTY LINE
---	OFA OBJECT FREE AREA
	MARKING - TAXIWAY AND RUNWAY
---	RUNWAY SAFETY AREA
---	RUNWAY OBJECT FREE ZONE AND RUNWAY PROTECTION ZONE
---	GLIDESLOPE CRITICAL AREA (RELOCATED)
○	PROPOSED CHAIN-LINK FENCE
---	WETLAND
---	EXISTING EDGE OF PAVEMENT
---	PROPOSED NEW PAVEMENT
XXXXX	PROPOSED PAVEMENT REMOVAL

PROJECT WORK ELEMENTS:




- (A) 351' EXTENSION OF RUNWAY 6-24
- (B) RELOCATION OF PRECISION APPROACH PATH INDICATOR.
- (C) RELOCATION OF GLIDESLOPE, GLIDESLOPE ACCESS ROAD, AND CRITICAL AREA.
- (D) RELOCATION OF MEDIUM INTENSITY APPROACH LIGHTING SYSTEM.



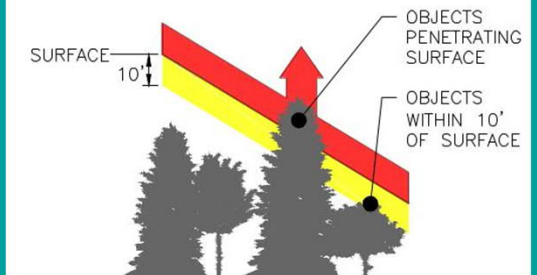
Alternative # 2 Obstruction Map: 351-ft Extension



SURFACE LEGEND

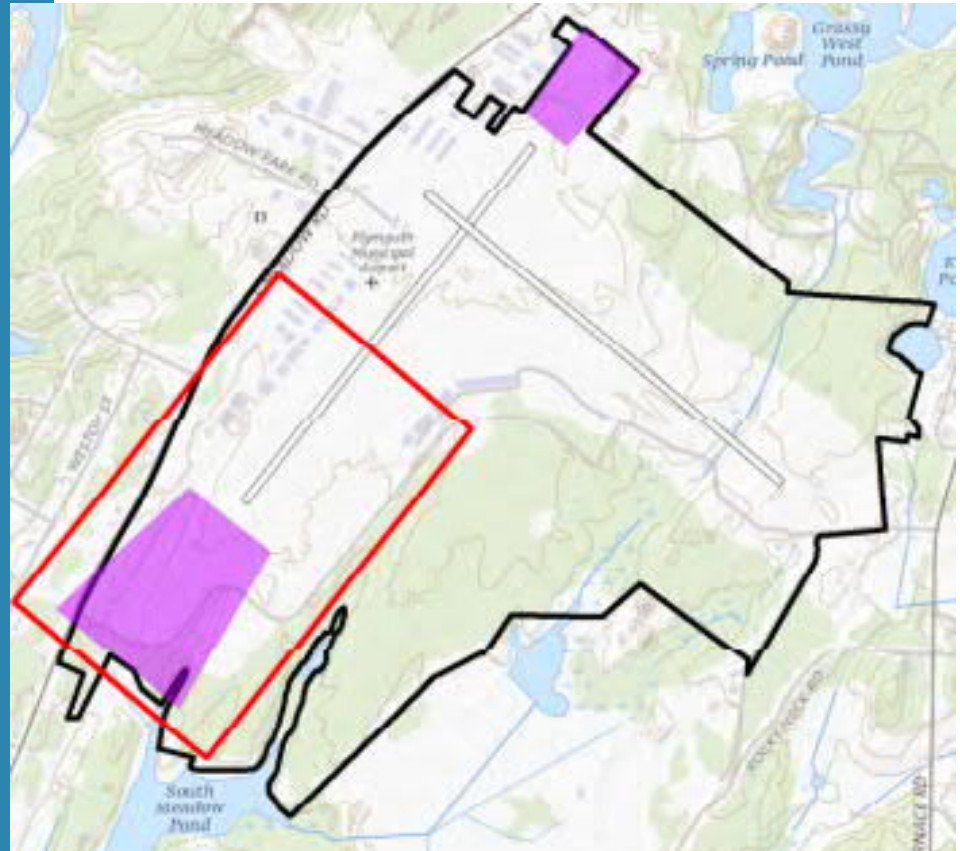
-  AC 150/5300-13A TABLE 3-2 ROW 4 OBSTACLE CLEARANCE SURFACE
-  AC 150/5300-13A TABLE 3-2 ROW 6 OBSTACLE CLEARANCE SURFACE
-  VEGETATIVE OBSTRUCTION (REFER TO PENETRATION KEY)

VEGETATIVE PENETRATION KEY



Primary Project Components – Preferred Alternative

- Runway 6 – 351' Extension
- Taxiway A – 351' Extension + 649' Connector to RW 6 end [remove former connector]
- Taxiway E – 351' Extension + 349' Connector to RW 6 end [remove former connector]
- NavAids relocated

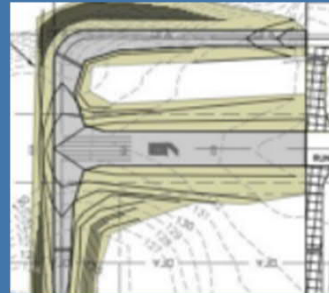


Next Steps – Confirm Existing Conditions & Evaluate Impacts



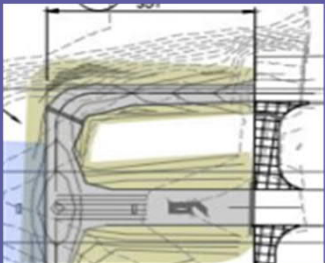
Supplemental Desktop & Field Data Collection

- TMPU identified “Existing Conditions”
- Field verification of specific natural resources potential impacted



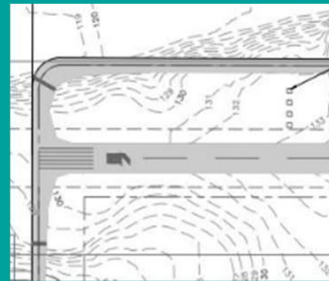
MEPA

- Identify “thresholds”
- Submit Environmental Notification Form (ENF)
- Site Visit w/MEPA agents to Scope the documentation



NEPA

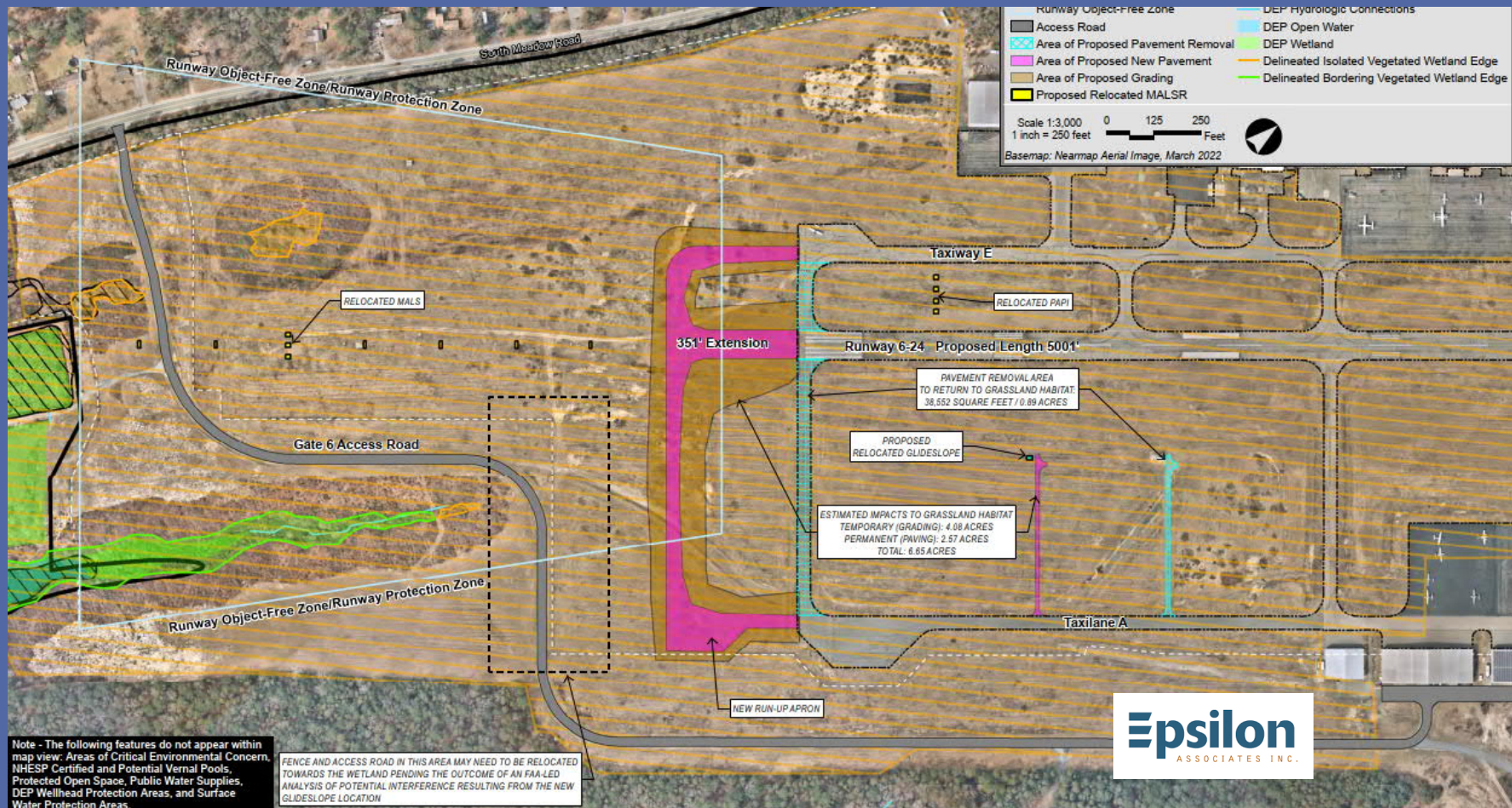
- Evaluate Potential Impacts under 14 Subject Areas based on Project
- Stay below “significance” thresholds



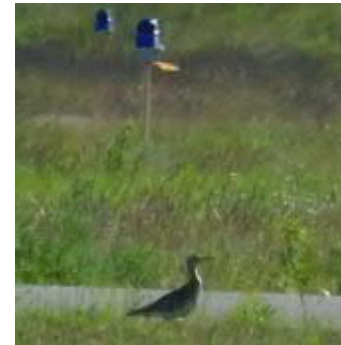
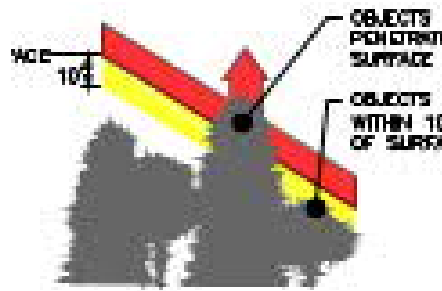
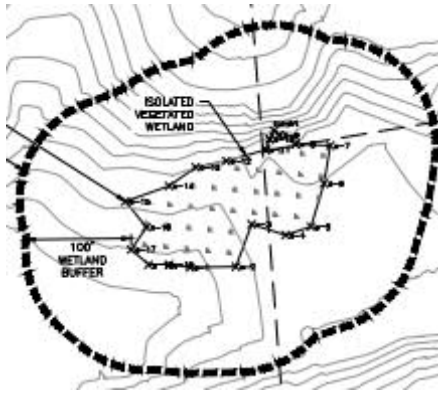
NEPA/MEPA

- Joint EA/EIR
- Draft ~July
- Final ~August
- Goal is NEPA FONSI & MEPA Certificate

Environmental Constraints & Potential Impact Areas



Impact ("Consequences") & Mitigation



Avoid

e.g., wetlands

Minimize

e.g., tree removal

Mitigate

e.g., grassland birds

Below Significance
Thresholds

NEPA FONSI



THANK YOU!

Questions?

PlymouthMAAirportRW6EA@dubois-king.com



Comments

The opportunity to comment on the ENF will end 20 days after ENF is noticed on the Massachusetts Environmental Monitor website (<https://eeaonline.eea.state.ma.us/EEA/MEPA-eMonitor/home>).



Photo permissions granted by Airport Management



APPENDIX O MEPA Department of Public Health (DPH) EJ Tool Maps & Reports

2020 EJ Block
Group
Boundaries

[53 - 13 131]



2020 EJ Block
Group
Boundaries

[53 - 13 131]

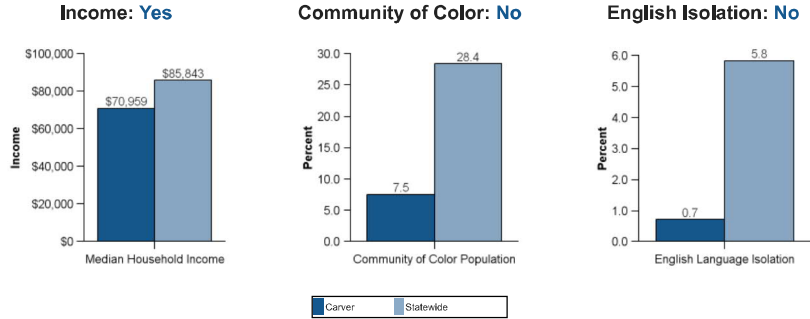


0 200 400 600 800m

Carver - EJ Report

EJ Report Vulnerable Health Report

Carver contains one or more neighborhoods meeting the following EJ Policy criteria.



Number of EJ neighborhoods in the city or town: 2

EJ Criteria	Carver	Statewide
Community of Color Population	7.5% of population	28.4% of population
English Language Isolation	0.7% of population	5.8% of population

Carver - EJ Report

EJ Report Vulnerable Health Report

Carver contains EJ neighborhoods that meet: **Income: Yes** **Community of Color: No** **English Isolation: No**

Heart Attack

Childhood Blood Lead

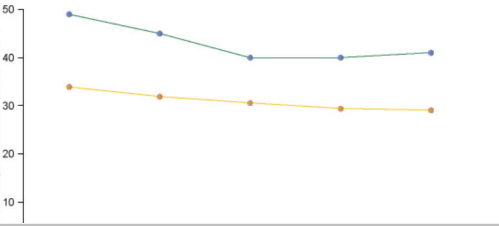
Low Birth Weight

Childhood Asthma

Carver meets the Vulnerable Health EJ criterion for heart attack.

■ Carver
■ 110% Statewide Rate

Community Rate, 110% Statewide Rate



Year Range	Meets Vulnerable Health EJ Criteria	Age-adjusted Rate per 10,000	Stability
2009 - 2013	Yes	49	Stable
2010 - 2014	Yes	45	Stable
2011 - 2015	Yes	40	Stable
2012 - 2016	Yes	40	Stable
2013 - 2017	Yes	41	Stable

NS = not shown due to [small numbers](#).
[Stability](#) refers to the reliability of the rate; when there are too few cases in a city or town, the rate is unstable and considered unreliable.
 Heart attack hospitalization data are not currently available for geographies below the city or town level.
 Source: Massachusetts Center for Health Information and Analysis

Carver - EJ Report

EJ Report Vulnerable Health Report

Carver contains EJ neighborhoods that meet: **Income: Yes** **Community of Color: No** **English Isolation: No**

Heart Attack

Childhood Blood Lead

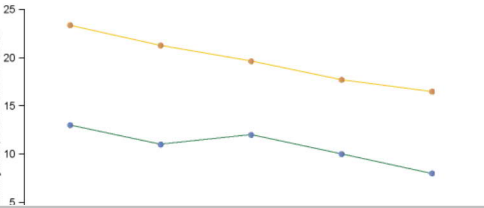
Low Birth Weight

Childhood Asthma

Carver does not meet the Vulnerable Health EJ criterion for childhood blood lead. Explore census tract-level data for childhood blood lead Vulnerable Health EJ criteria by using [Custom Mapping](#).

■ Carver
■ 110% Statewide Rate

Community Rate, 110% Statewide Rate



Year Range	Meets Vulnerable Health EJ Criteria	BLL ≥5 ug/dL Prevalence per 1,000	Stability
2012 - 2016	No	13	Stable
2013 - 2017	No	11	Stable
2014 - 2018	No	12	Stable
2015 - 2019	No	10	Stable
2016 - 2020	No	8	Unstable

NS = not shown due to [small numbers](#).

[Stability](#) refers to the reliability of the rate; when there are too few cases in a city or town, the rate is unstable and considered [unreliable](#).

Source: MA DPH Childhood Lead Poisoning Prevention Program

Carver - EJ Report

EJ Report Vulnerable Health Report

Carver contains EJ neighborhoods that meet: **Income: Yes** **Community of Color: No** **English Isolation: No**

Heart Attack

Childhood Blood Lead

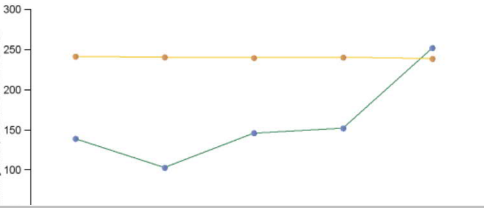
Low Birth Weight

Childhood Asthma

Carver meets the Vulnerable Health EJ criterion for low birth weight, Explore census tract-level data for low birth weight Vulnerable Health EJ criteria by using [Custom Mapping](#).

■ Carver
■ 110% Statewide Rate

Community Rate, 110% Statewide Rate



Year Range	Meets Vulnerable Health EJ Criteria	Crude Rate per 10,000	Stability
2007 - 2011	No	139	Unstable
2008 - 2012	No	103	Unstable
2009 - 2013	No	146	Unstable
2010 - 2014	No	152	Unstable
2011 - 2015	Yes	252	Unstable

NS = not shown due to [small numbers](#).

[Stability](#) refers to the reliability of the rate; when there are too few cases in a city or town, the rate is unstable and considered [unreliable](#).

Source: Massachusetts Registry of Vital Records and Statistics

Carver - EJ Report

EJ Report Vulnerable Health Report

Carver contains EJ neighborhoods that meet: **Income: Yes** **Community of Color: No** **English Isolation: No**

Heart Attack

Childhood Blood Lead

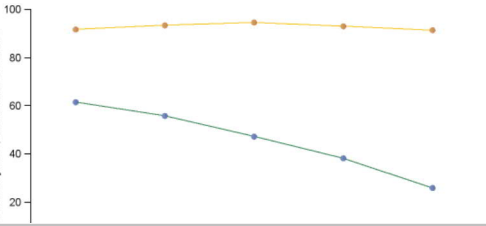
Low Birth Weight

Childhood Asthma

Carver does not meet the Vulnerable Health EJ criterion for childhood asthma.

■ Carver
■ 110% Statewide Rate

Community Rate, 110% Statewide Rate



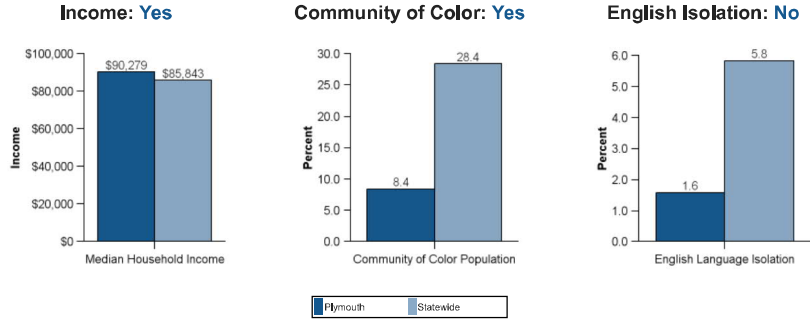
Year Range	Meets Vulnerable Health EJ Criteria	Crude Rate per 10,000	Stability
2009 - 2013	No	62	Unstable
2010 - 2014	No	56	Unstable
2011 - 2015	No	47	Unstable
2012 - 2016	No	38	Unstable
2013 - 2017	No	26	Unstable

NS = not shown due to [small numbers](#).
[Stability](#) refers to the reliability of the rate; when there are too few cases in a city or town, the rate is unstable and considered unreliable.
 Childhood asthma emergency department visits data are not currently available for geographies below the city or town level.
 Source: Massachusetts Center for Health Information and Analysis

Plymouth - EJ Report

EJ Report Vulnerable Health Report

Plymouth contains one or more neighborhoods meeting the following EJ Policy criteria.



Number of EJ neighborhoods in the city or town: 5

EJ Criteria	Plymouth	Statewide
Community of Color Population	8.4% of population	28.4% of population
English Language Isolation	1.6% of population	5.8% of population

Plymouth - EJ Report

EJ Report Vulnerable Health Report

Plymouth contains EJ neighborhoods that meet: **Income: Yes** **Community of Color: Yes** **English Isolation: No**

Heart Attack

Childhood Blood Lead

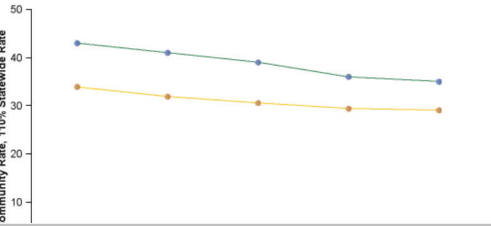
Low Birth Weight

Childhood Asthma

Plymouth meets the Vulnerable Health EJ criterion for heart attack.

■ Plymouth
■ 110% Statewide Rate

Community Rate, 110% Statewide Rate



Year Range	Meets Vulnerable Health EJ Criteria	Age-adjusted Rate per 10,000	Stability
2009 - 2013	Yes	43	Stable
2010 - 2014	Yes	41	Stable
2011 - 2015	Yes	39	Stable
2012 - 2016	Yes	36	Stable
2013 - 2017	Yes	35	Stable

NS = not shown due to [small numbers](#).
[Stability](#) refers to the reliability of the rate; when there are too few cases in a city or town, the rate is unstable and considered unreliable.
 Heart attack hospitalization data are not currently available for geographies below the city or town level.
 Source: Massachusetts Center for Health Information and Analysis

Plymouth - EJ Report

EJ Report Vulnerable Health Report

Plymouth contains EJ neighborhoods that meet: **Income: Yes** **Community of Color: Yes** **English Isolation: No**

Heart Attack

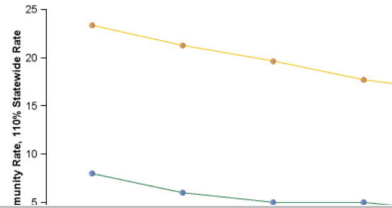
Childhood Blood Lead

Low Birth Weight

Childhood Asthma

Plymouth does not meet the Vulnerable Health EJ criterion for childhood blood lead. Explore census tract-level data for childhood blood lead Vulnerable Health EJ criteria by using [Custom Mapping](#).

■ Plymouth
■ 110% Statewide Rate



Year Range	Meets Vulnerable Health EJ Criteria	BLL ≥5 ug/dL Prevalence per 1,000	Stability
2012 - 2016	No	8	Stable
2013 - 2017	No	6	Stable
2014 - 2018	No	5	Stable
2015 - 2019	No	5	Stable
2016 - 2020	No	4	Stable

NS = not shown due to [small numbers](#).

[Stability](#) refers to the reliability of the rate; when there are too few cases in a city or town, the rate is unstable and considered [unreliable](#).

Source: MA DPH Childhood Lead Poisoning Prevention Program

Plymouth - EJ Report

EJ Report Vulnerable Health Report

Plymouth contains EJ neighborhoods that meet: **Income: Yes** **Community of Color: Yes** **English Isolation: No**

Heart Attack

Childhood Blood Lead

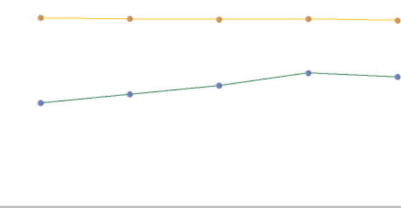
Low Birth Weight

Childhood Asthma

Plymouth does not meet the Vulnerable Health EJ criterion for low birth weight. Explore census tract-level data for low birth weight Vulnerable Health EJ criteria by using [Custom Mapping](#).

■ Plymouth
■ 110% Statewide Rate

Community Rate, 110% Statewide Rate



Year Range	Meets Vulnerable Health EJ Criteria	Crude Rate per 10,000	Stability
2007 - 2011	No	153	Unstable
2008 - 2012	No	162	Unstable
2009 - 2013	No	171	Unstable
2010 - 2014	No	184	Unstable
2011 - 2015	No	180	Unstable

NS = not shown due to [small numbers](#).
 Stability refers to the reliability of the rate; when there are too few cases in a city or town, the rate is unstable and considered unreliable.
 Source: Massachusetts Registry of Vital Records and Statistics

Plymouth - EJ Report

EJ Report Vulnerable Health Report

Plymouth contains EJ neighborhoods that meet: **Income: Yes** **Community of Color: Yes** **English Isolation: No**

Heart Attack

Childhood Blood Lead

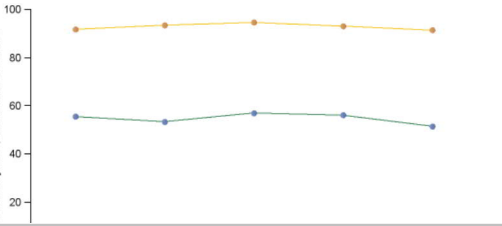
Low Birth Weight

Childhood Asthma

Plymouth does not meet the Vulnerable Health EJ criterion for childhood asthma.

■ Plymouth
■ 110% Statewide Rate

Community Rate, 110% Statewide Rate



Year Range	Meets Vulnerable Health EJ Criteria	Crude Rate per 10,000	Stability
2009 - 2013	No	56	Stable
2010 - 2014	No	53	Stable
2011 - 2015	No	57	Stable
2012 - 2016	No	56	Stable
2013 - 2017	No	51	Stable

NS = not shown due to [small numbers](#).
[Stability](#) refers to the reliability of the rate; when there are too few cases in a city or town, the rate is unstable and considered unreliable.
 Childhood asthma emergency department visits data are not currently available for geographies below the city or town level.
 Source: Massachusetts Center for Health Information and Analysis



APPENDIX P MEPA Proposed / Draft Section 61 Findings

APPENDIX P

MEPA Proposed Section 61 Findings MITIGATION AND DRAFT SECTION 61 FINDINGS

This *appendix* summarizes all proposed mitigation measures including construction-period measures. It also includes a comprehensive list of all commitments made by the Proponent to avoid, minimize, and mitigate the impacts of the project, and mitigation commitments. Table P-1 and Table X-2, provide an estimate of costs, identify the parties responsible for implementation, and contain a schedule for implementation

P.1 Introduction

M.G.L.c.30, s.61 requires that “[a]ll authorities of the Commonwealth...review, evaluate, and determine the impact on the natural environment of all works, projects or activities conducted by them and...use all practicable means and measures to minimize [their] damage to the environment. Any determination made by an agency of the Commonwealth shall include a finding describing the environmental impact, if any, of the project and a finding that all feasible measures have been taken to avoid or minimize said impact.” Each state agency that issues a permit for the Project shall issue a Section 61 Finding in connection with permit issuance, identifying mitigation that is relied upon to satisfy the Section 61 requirement. Proposed Section 61 Finding are provided in Section P.3, and a table of mitigation measures is included as part of the Section 61 Finding.

P.2 Anticipated State Permits and Approvals

Table P-1 identifies the Agencies that are expected to take Agency Action on the Project and, therefore, issue Section 61 Findings. It also identifies the Agency Actions anticipated to be required. Two state permits are anticipated for the Project.

Table P-1 Agency Actions Required for the Project

Agency Name	State Action / Permit	Notes
Executive Office of Energy and Environmental Affairs	Secretary's Certificate under the Massachusetts Environmental Policy Act (MEPA)	A FEIR will be noticed following the close of the comment period and issuance of the Secretary's Certificate on the DEIR
Natural Heritage & Endangered Species Program (NHESP)	Potential Amendment to Conservation and Management Permit (CMP)	MESA Review under the Massachusetts Endangered Species Act

P.3 Proposed Section 61 Findings

Project Name: Plymouth Runway 6 Extension and
5-Year Capital Improvement Plan (CIP)
Project Location: Plymouth, MA
Project Proponent: Plymouth Airport Commission (PAC)
EEA Number: #16692
Date Noticed in Monitor: April 25, 2023

The potential environmental impacts of the Project have been characterized and quantified in the DEIR filed on March 31, 2023, which are incorporated by reference into this Section 61 Finding. Throughout the planning and environmental review process, the Proponent has been working to develop measures to mitigate impacts of the Project. With the mitigation proposed and carried out in cooperation with state agencies, [AGENCY] finds that there are no significant unmitigated impacts.

The Proponent recognizes that the identification of effective mitigation, and implementation of that mitigation throughout the life of the Project, is central to its responsibilities under the Massachusetts Environmental Policy Act (MEPA). The Proponent has accordingly prepared the annexed Table of Impacts and Mitigation Measures that specifies the mitigation that the Proponent will provide.

Now, therefore, [AGENCY], having reviewed the MEPA filings for the Project, including the mitigation measures itemized on the annexed Table of Impacts and Mitigation Measures, finds pursuant to M.G.L. C. 30, S. 61, that with the implementation of the aforesaid measures, all practicable and feasible means and measures will have been taken to avoid or minimize potential damage from the Project to the environment.

[Agency]

By

[Date]

P.4 Project Impacts and Mitigation Measures

Table P-2 describes the measures to be implemented to mitigate the effects of the Project related to the required state actions and the schedule for implementation. The Proponent will be responsible for all mitigation measures.

Table P-2 Summary of Mitigation Measures

Mitigation	Schedule	Cost
Transportation		
<ul style="list-style-type: none"> ◆ The Proponent will coordinate with the Town of Plymouth to discuss transportation-related construction-period impacts; ◆ Designated truck routes will be established to govern how trucks access the Project sites; ◆ Police detail officers will be used as necessary and as required by the towns to facilitate and maintain safe and efficient passage of vehicles and pedestrians during construction; ◆ The Proponent will avoid full or partial street closures to the extent possible. Should a partial street closure be necessary to accommodate materials transport or construction-related activities, the closure will be limited to off-peak hours; and ◆ Parking for construction workers will be provided within the Project site, and workers will be prohibited from parking along adjacent roadways. The Proponent will encourage contractors to use construction equipment that uses Low Sulfur Diesel fuel or Ultra-Low Sulfur Diesel fuel for construction operations. 	Prior to and during construction	Included in cost of Project
Noise		
The Project will include measures to mitigate and minimize construction related noise impacts, to the extent practicable, the generation of sound levels that will impact off-site receptors. The noise mitigation plan will involve the following mitigation measures:	During construction	Included in cost of Project
<ul style="list-style-type: none"> ◆ Requiring all construction equipment to be equipped with exhaust mufflers, and requiring mufflers to be maintained and lubricated to minimize engine noise; ◆ Mufflers on construction equipment leaving airport property and passing through sensitive areas; ◆ Muffling enclosures on continuously running equipment, such as air compressors and welding generators; ◆ Measures to limit noise from machinery or trucks as they traverse streets in noise sensitive areas (schools, churches, wildlife/conservation areas); ◆ Specifying site construction hours of normal daytime hours 7 AM to 5 PM to avoid early morning, evening, and nighttime periods to minimize disturbing the adjacent receptors; ◆ Scheduling equipment operations to keep average noise levels low, to synchronize the noisiest operations with times of highest ambient levels, and to maintain relatively uniform noise levels; ◆ Turning off idling equipment; ◆ Locating noisy equipment at locations that protect sensitive locations by shielding or distance; ◆ Ensuring construction vehicle operators abide by the Massachusetts Vehicle Idling Regulations (Massachusetts 5- 	During construction	Included in cost of Project

Mitigation	Schedule	Cost
<p>Minute idle Law), idling of construction equipment would comply with 310 CMR 7.11; Replacing specific construction operations and techniques by less noisy ones where feasible;</p> <ul style="list-style-type: none"> ◆ Selecting the quietest of alternative items of equipment where feasible; and ◆ To the extent practicable, specific activities such as crushing and pulverizing, as well as equipment staging areas, would be located at appropriate distances from residential receptors. 		
Air Quality		
<p>Several strictly enforced measures will be used by contractors to reduce potential emissions and minimize impacts including:</p> <ul style="list-style-type: none"> ◆ Implementing dust abatement techniques (e.g., water application) on unpaved or unvegetated surfaces to minimize airborne dust during construction; ◆ Revegetating disturbed areas as soon as possible after disturbance, once heavy construction is completed; and ◆ Covering construction materials and stockpiled soils if they are a source of fugitive dust; ◆ Monitoring actual construction practices to ensure that unnecessary transfers and mechanical disturbances of loose materials are minimized; ◆ Minimizing storage of debris on the site; ◆ Periodic surface cleaning with water to minimize dust accumulations; and ◆ The contractor will follow the National Emission Standards for Hazardous Air Pollutants (NESHAP) throughout demolition and construction activities. 	During construction	Included in cost of Project
<p>Specific measures to be taken to reduce diesel emissions and other construction related air quality impacts include the following:</p> <ul style="list-style-type: none"> ◆ Encouraging contractors to use EPA Tier 4 construction equipment or equipment retrofitted with diesel emission control devices to the greatest extent practicable (e.g., EPA-verified, CARB verified, or MassDEP-approved diesel oxidation catalysts (DOCs) or Diesel Particulate Filters (DPFs); ◆ 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 MassDEP review; ◆ Using Ultra-Low Sulphur Diesel for all trucks and construction machinery; and 	During construction	Included in cost of Project
<ul style="list-style-type: none"> ◆ Maintaining an "idle free" work area and ensuring construction vehicle operators abide by the Massachusetts Vehicle Idling Regulations (Massachusetts 5-Minute idle Law), idling of construction equipment would comply with 310 CMR 7.11 (efforts to include driver training, periodic inspections by site supervisors, and posting signage to limiting idling to five minutes or less on-site). 	During construction	Included in cost of Project
Stormwater Management		
<ul style="list-style-type: none"> ◆ The Airport will prepare and implement a SWPPP pursuant to the NPDES Construction General Permit to protect the quality of receiving waters during construction. The built conditions will include stormwater best management practices to control the 	During construction	Included in the overall Project

Mitigation	Schedule	Cost
<p>quality and quantity of runoff directed to receiving waters for the long-term.</p> <p>Grading for runway, taxiway, taxilane, and hangar construction, construction access, storage and laydown areas have the potential to cause short-term erosion and sedimentation in the vicinity of sensitive areas.</p> <ul style="list-style-type: none"> ◆ Construction activities will comply with the latest FAA Advisory Circular 150/5370-10H Standards for Specifying Construction on Airports. ◆ Existing gravel maintenance access roads will be used for construction access as much as possible. ◆ Pavement side slopes will be stabilized and re-vegetated as soon as practicable. ◆ Properly designed erosion control measures will be used throughout the construction period. 		<p>cost</p>
<p>Stormwater runoff from the Project area will be managed through; 1) the Airport's existing stormwater management system, and 2) the installation of a new drainage system in each discrete project area.</p>	<p>Post construction & operation</p>	<p>In overall Project cost</p>
<ul style="list-style-type: none"> ◆ Stormwater management system will be designed to prevent an increase in peak stormwater runoff and to provide treatment; ◆ The proposed stormwater management system will be designed to comply with MassDEP's stormwater management regulations to the extent practicable; and ◆ A series of deep sump catch basins and oil water grit separators will be constructed to collect the runoff from Taxiway D and Taxiway E. The oil water and grit separators will target runoff from areas with higher pollutant loads such as the fueling station and apron adjacent to Taxiway E. 	<p>During construction</p>	<p>Included in the overall Project cost</p>
<p>Rare Species</p>		
<p>The Airport's <i>Grassland Habitat Management Plan (GHMP)</i>, Updated September, 2018, and associated Conservation Management Permit (CMP) provides a rare species management strategy that sets forth how the Airport will manage future impacts and provide mitigation within the scope of the Massachusetts Endangered Species Act (MESA) and its implementing regulations.</p> <p>The Airport will continue to coordinate with NHESP to provide an amendment to the GHMP demonstrating a net-benefit to listed grassland bird species and identify mitigation areas (including the use of "banked" surplus areas) for the following habitat alterations:</p> <ul style="list-style-type: none"> ◆ Temporary Impact (Grading): 4.18 acres total ◆ Permanent Impact (Pavement): 2.49 acres total ◆ Change from Infrequently to Frequently Mown of 3.06 acres <p>To minimize impacts, the temporarily impacted areas will be restored to existing conditions and seeded with an airport-approved grass seed mix.</p>	<p>During construction & operation</p>	<p>Included in the overall Project cost</p>