

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



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



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



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



- 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



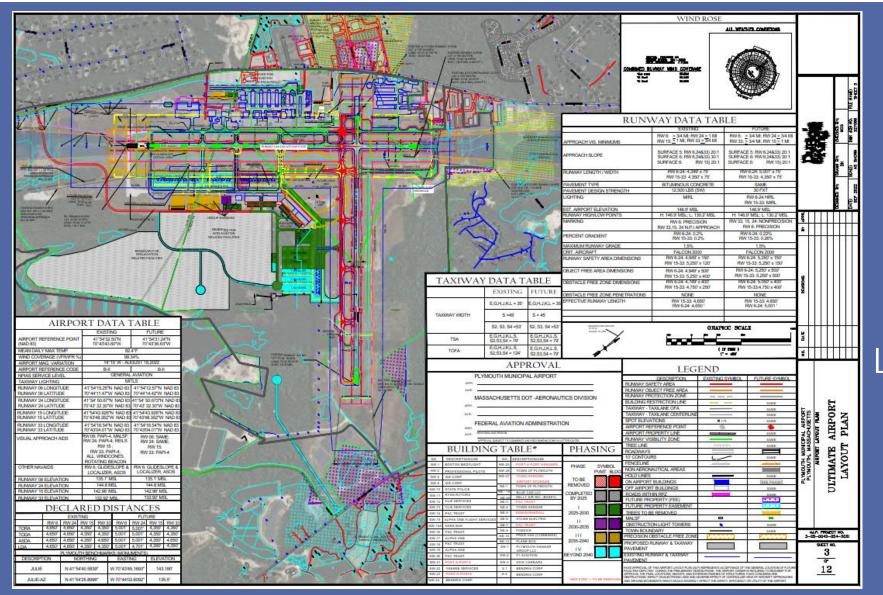
Plymouth Municipal Airport

Technical Master Plan Update 2022



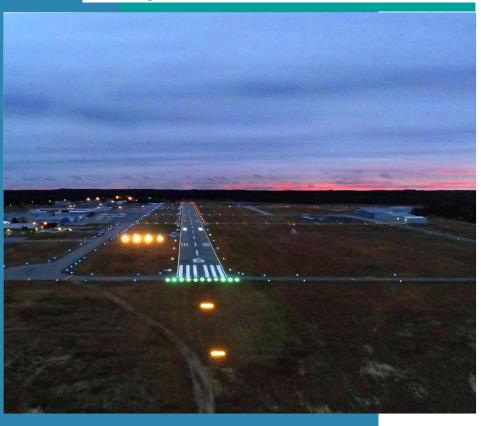
Final TMPU

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



Plymouth Municipal Airport 2022 Ultimate Airport Layout Plan

Purpose of Environmental Assessment

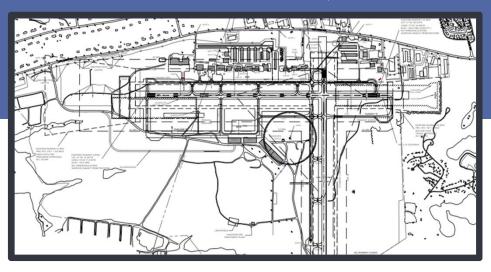


- Fulfill obligations under federal National Environmental Policy Act (NEPA) and Commonwealth's MEPA programs
- Incorporate Public Involvement
- Aligning Airport future with the Master Plan updates without "significant impacts" to natural resources
- Evaluate Environmental Impacts of Preferred and "No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

Environmental Evaluation Process – Joint MEPA/NEPA



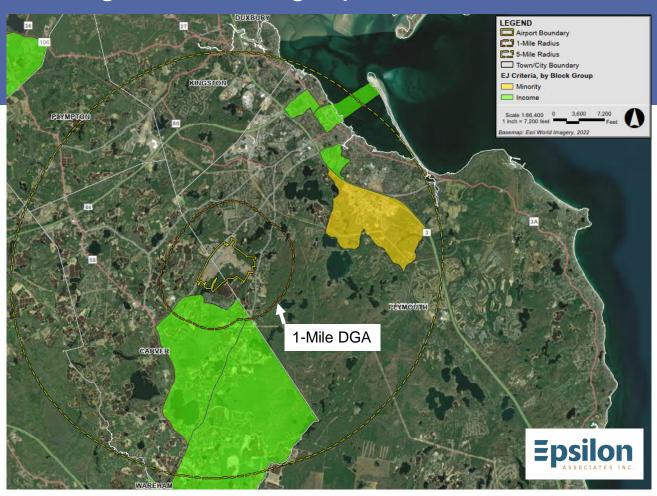
- Meet with MEPA office to Introduce the project (2/2/23)
- Public Outreach "meaningful input before the ENF is filed"
- Notice of this meeting & Screening Form disseminated to >150 organizations, parties, and individuals that were compiled during the TMPU process, including designated "Environmental 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)



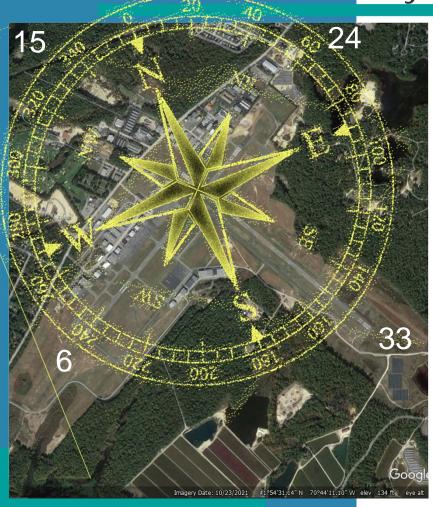
National Environmental Policy Act (NEPA)

- 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

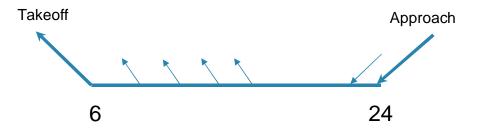


Plymouth Airport – Orientation



- 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

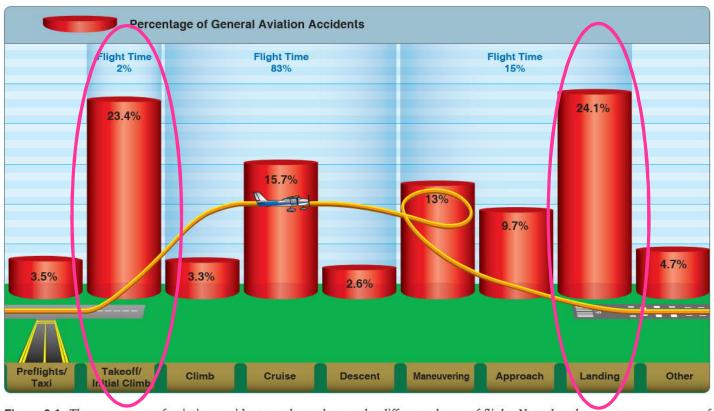


Figure 2-1. The percentage of aviation accidents as they relate to the different phases of flight. Note that the greatest percentage of accidents take place during a minor percentage of the total flight.

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

Table 3-9 - Summary of Baseline Data					
Based Aircraft (Table 3-3)	105				
Local Himanant Sulit (Table 2.4)	Local	Itinerant	Total		
Local Itinerant Split (Table 3-4)	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	Opera	itions	% Total Operations		
A-I	58,	595	96.00%		
A-II	69	97	1.10%		
A-III	3	3	0.00%		
B-I	38	34	0.60%		
B-II	1,1	22	1.80%		
B-III	3	}	0.00%		
C-I	9	0	0.10%		
C-II	9	6	0.20%		
C-III	2	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.

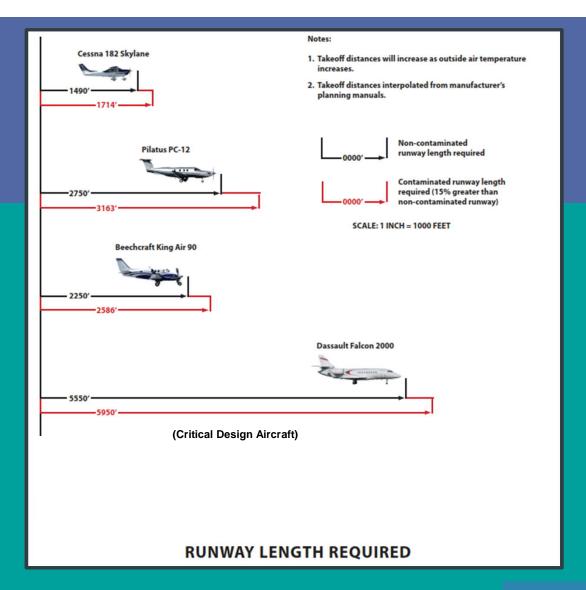
Forecast 2022 vs 2041 Purpose & Need

Table 3-16 - Summary of Forecast Data for 2041						
Based Aircraft (Table 3-11)		96				
Local Himanant Culit (Table 2.44)	Local	Itinerant	Total			
Local Itinerant Split (Table 3-14)	36,078	30,411	66,489			
Operations by Aircraft Type (Table 3-14)	Operations	% Total O	perations			
Single-Engine	44,932	67.	6%			
Multi-Engine	5,835	8.8	3%			
Turbo-Prop	8,041	12.	1%			
Turbo-Jet	4,847	7.3	3%			
Rotorcraft	2,834	4.3	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 Op		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	9	8	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.

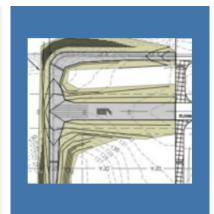
FAA Runway Length Analysis - Unconstrained Runway Length - 5,500-ft.

Alternatives - Overview



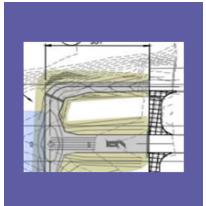
Alternative #1: No Build

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



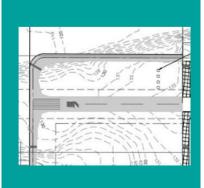
Alternative #3: 550-ft ext

- 5200 eet
- Taxiway 4 and E extension
- Relocation of Glideslope and MALS
- One penetration area



Alternative #2: 351-ft ext

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

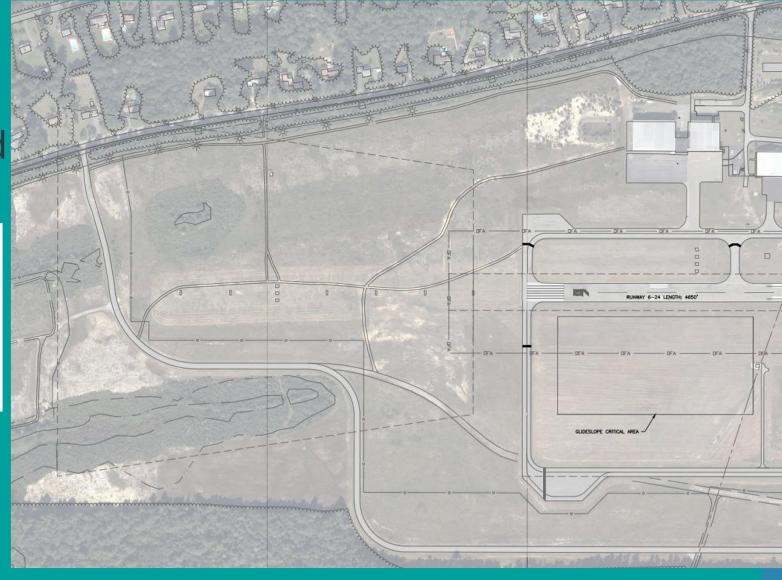


Alternative #4: 850-ft ext

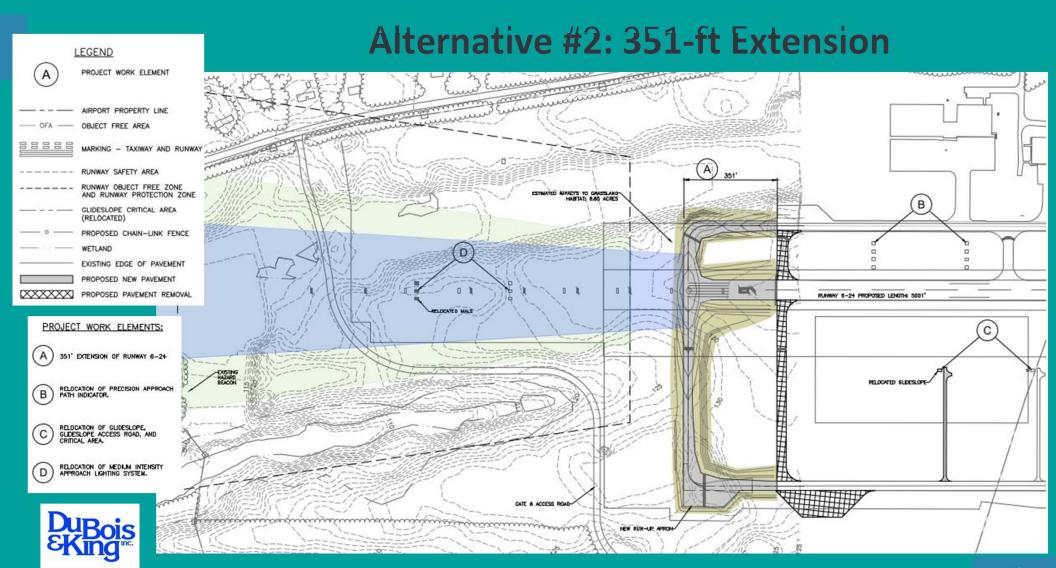
- 5500 Feet
- Taxiwa A 7 id E extension
- Relocation of Glide ope and MALS
- Multiple penetrations

Alternative #1 : No Build

Ţ	LEGEND
	AIRPORT PROPERTY LINE
— OFA —	OBJECT FREE AREA
	MARKING - TAXIWAY AND RUNWAY
88888	HOLDING POSITION MARKING
	RUNWAY SAFETY AREA
	RUNWAY OBJECT FREE ZONE AND RUNWAY PROTECTION ZONE
	GLIDESLOPE CRITICAL AREA
— · —	EXISTING CHAIN-LINK FENCE
	WETLAND
	EXISTING ROADWAY



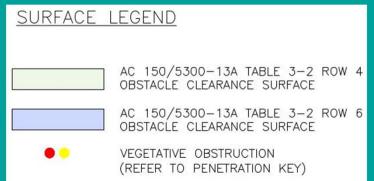


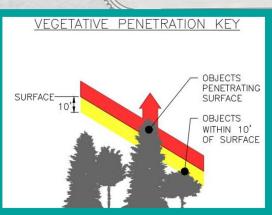


Alternative # 2 Obstruction Map: 351-ft Extension



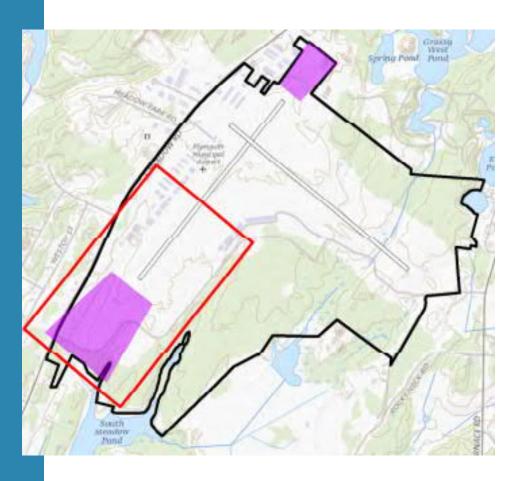




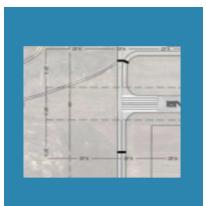


Primary Project Components – Preferred Alternative

- 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

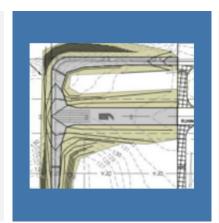


Next Steps – Confirm Existing Conditions & Evaluate Impacts



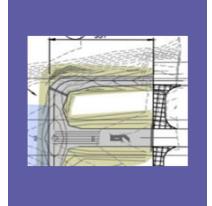
Supplemental Desktop & Field Data Collection

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



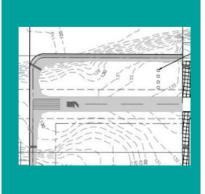
MEPA

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



NFPA

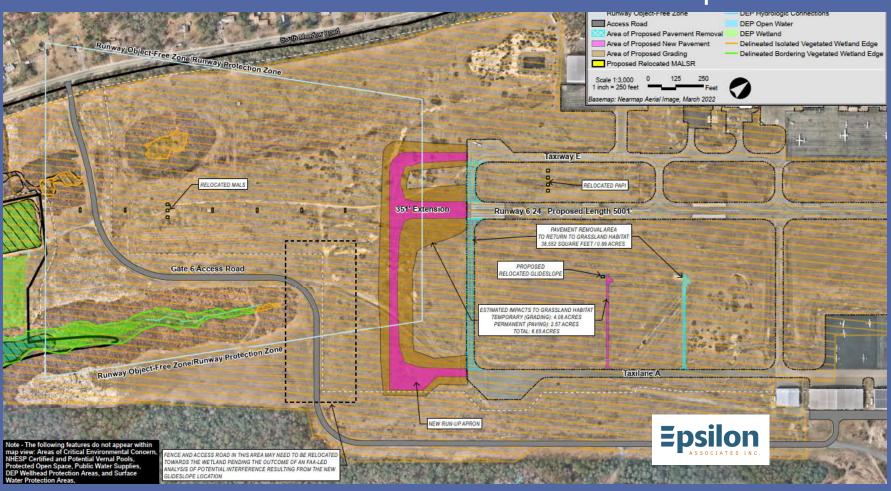
- Evaluate Potential Impacts under 14 Subject Areas based on Project
- Stay below "significance" thresholds



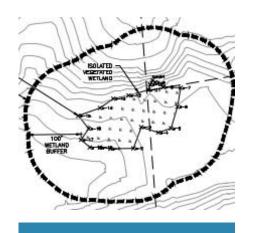
NEPA/MEPA

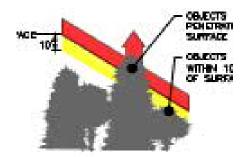
- Joint EA/EIR
- Draft ~July
- Final ~August
- Goal is NEPA FONSI & MEPA Certificate

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?

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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).

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