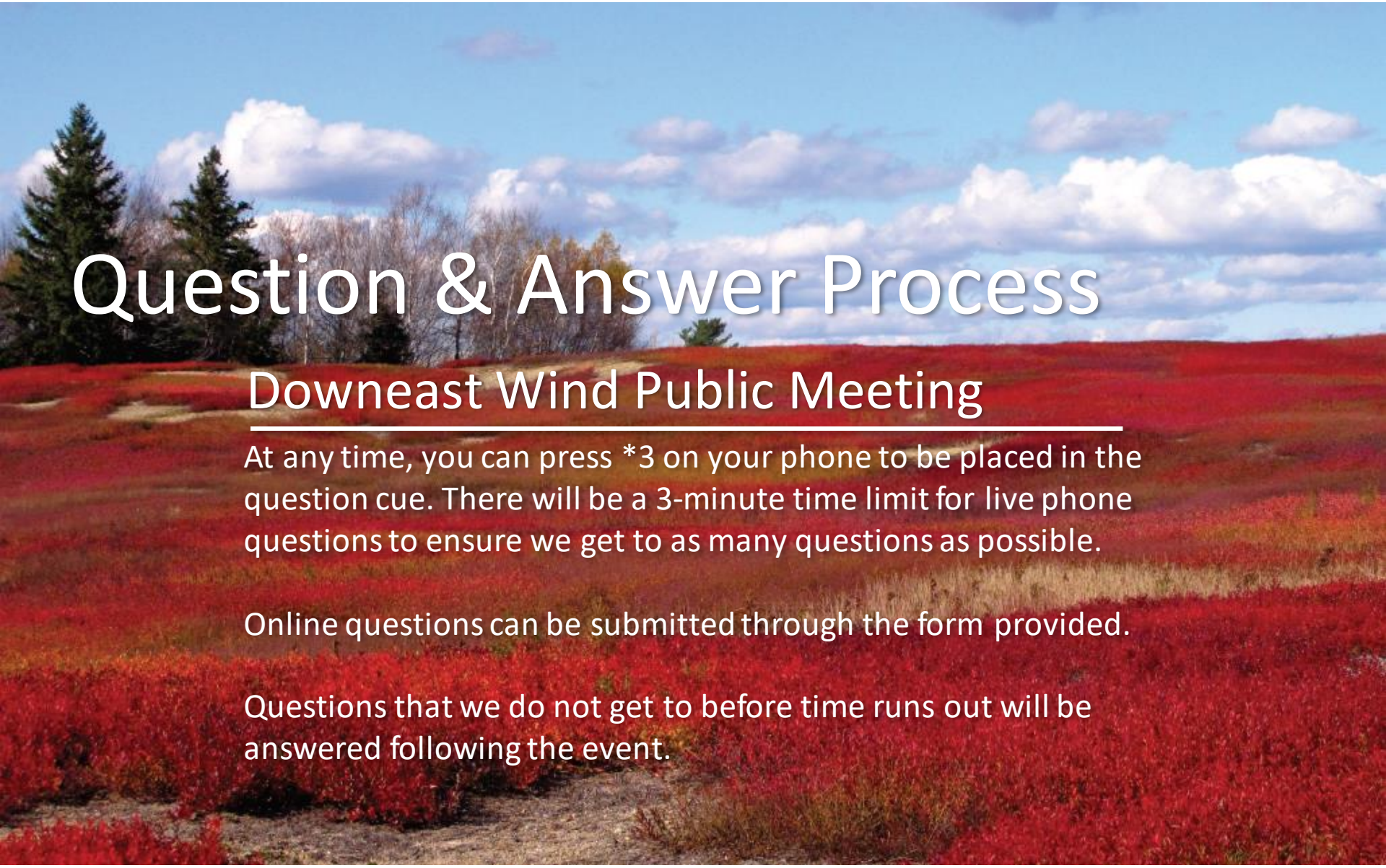
Follow Downeast Wind at www.downeastwindfarm.com
or on Facebook at www.facebook.com/DowneastWind/

Program

- Project Overview
- Site Design & Current Layout
- Environment
- Cultural
- Decommissioning
- Sound & Shadow
- Public Safety
- Economic Benefits
- Permitting Process & Timeline
- Community Q&A



Question & Answer Process

Downeast Wind Public Meeting

At any time, you can press *3 on your phone to be placed in the question cue. There will be a 3-minute time limit for live phone questions to ensure we get to as many questions as possible.

Online questions can be submitted through the form provided.

Questions that we do not get to before time runs out will be answered following the event.

DOWNEAST WIND

Project Overview

Downeast Wind: Project Overview

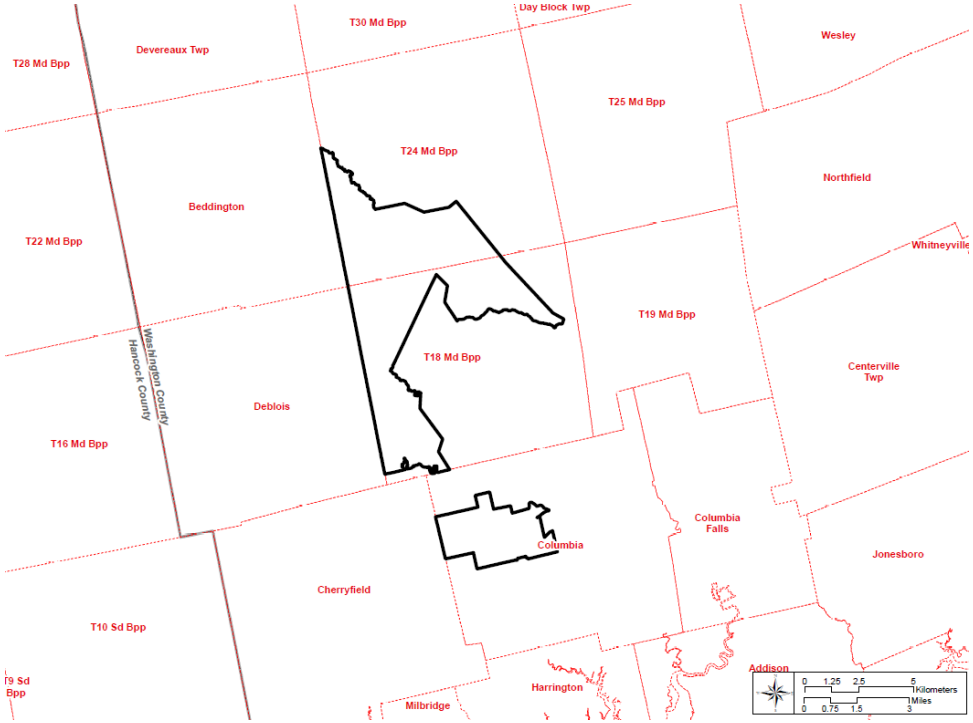
A clean energy opportunity for Washington County, benefiting local merchants, ratepayers, & communities.

Why Here?

- ✓ Compatible with **blueberry operations**
- ✓ Economical **wind resource**
- ✓ Access to existing **transmission** lines
- ✓ Strong **local support**

Project Summary

- **126 MW** project
- **30** turbines proposed - **Vestas V150 4.2 MW**
- Enough energy to power more than **38,000** average U.S. homes.
- Located in the Town of Columbia and T18, T24, in Washington County, Maine



Project Schedule

- Permit submission – **Spring 2021**
- Construction commences – **2022/2023**
- Commercial Operations – **2023/2024**

DOWNEAST WIND

Downeast Wind – Our Team in Maine

Development

Robert Gee, Development Manager
Linda Belfiore, Development Associate

Environmental & Project Design

Adam Gravel & Matt Arsenault, Stantec
Brett Hart, Sewall
Jessica Wagner Kimball, TJDA
Dana Valleau & Randi Jackson, TRC
Juliet Browne, Verrill
Scott Bodwell, Bodwell Enviroacoustics
Rodney Kelshaw, Flycatcher

The development of Downeast Wind has been led by Maine-based developers and designed by Maine engineers using studies performed by Maine wildlife, soil, and plant biologists.

DOWNEAST WIND

The Downeast Wind Team (Available for Questions)

Development

Mark Lyons, Director of Development

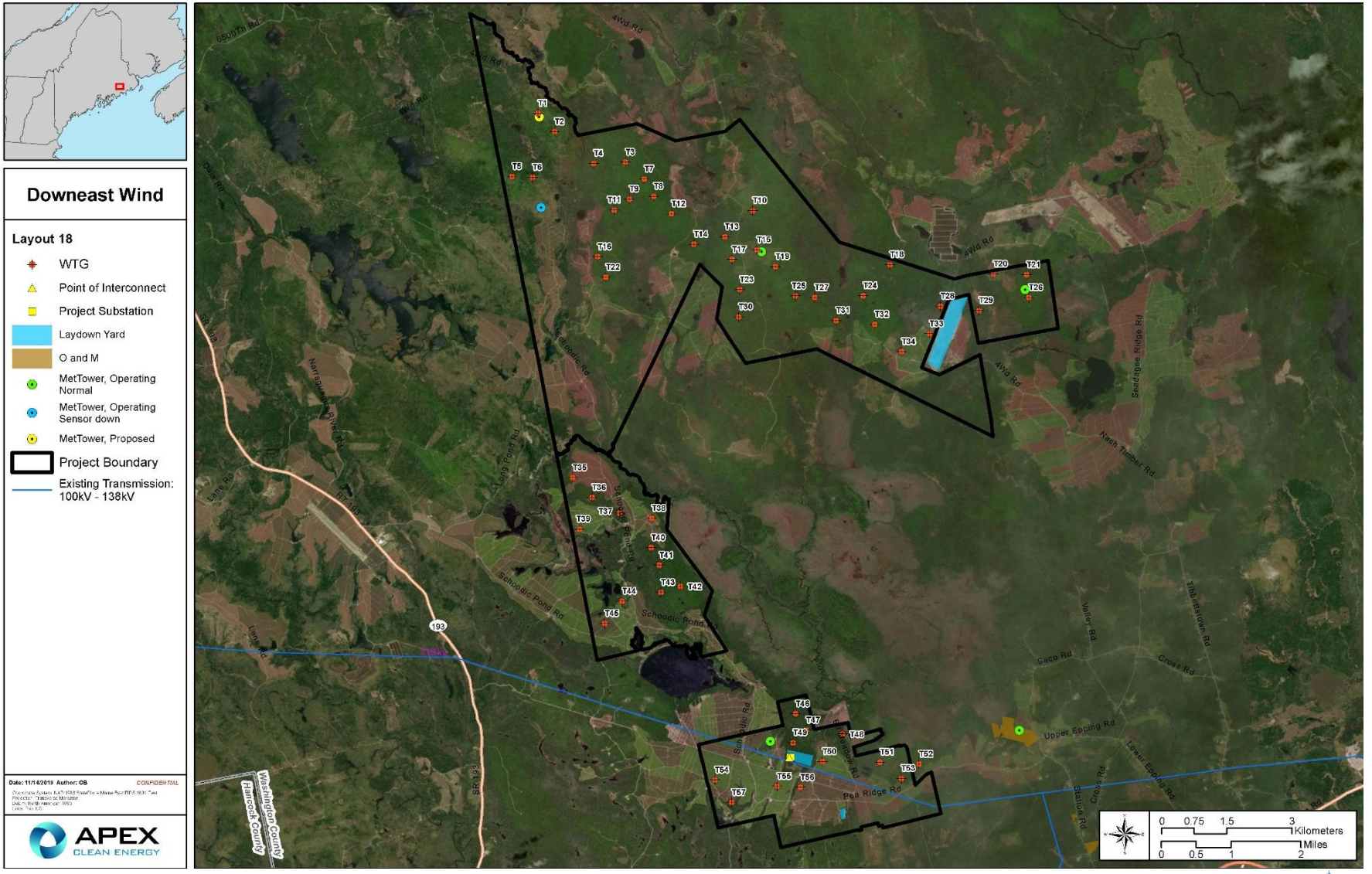
Public Engagement

Brian O'Shea, Public Engagement Manager

Project Design Updates

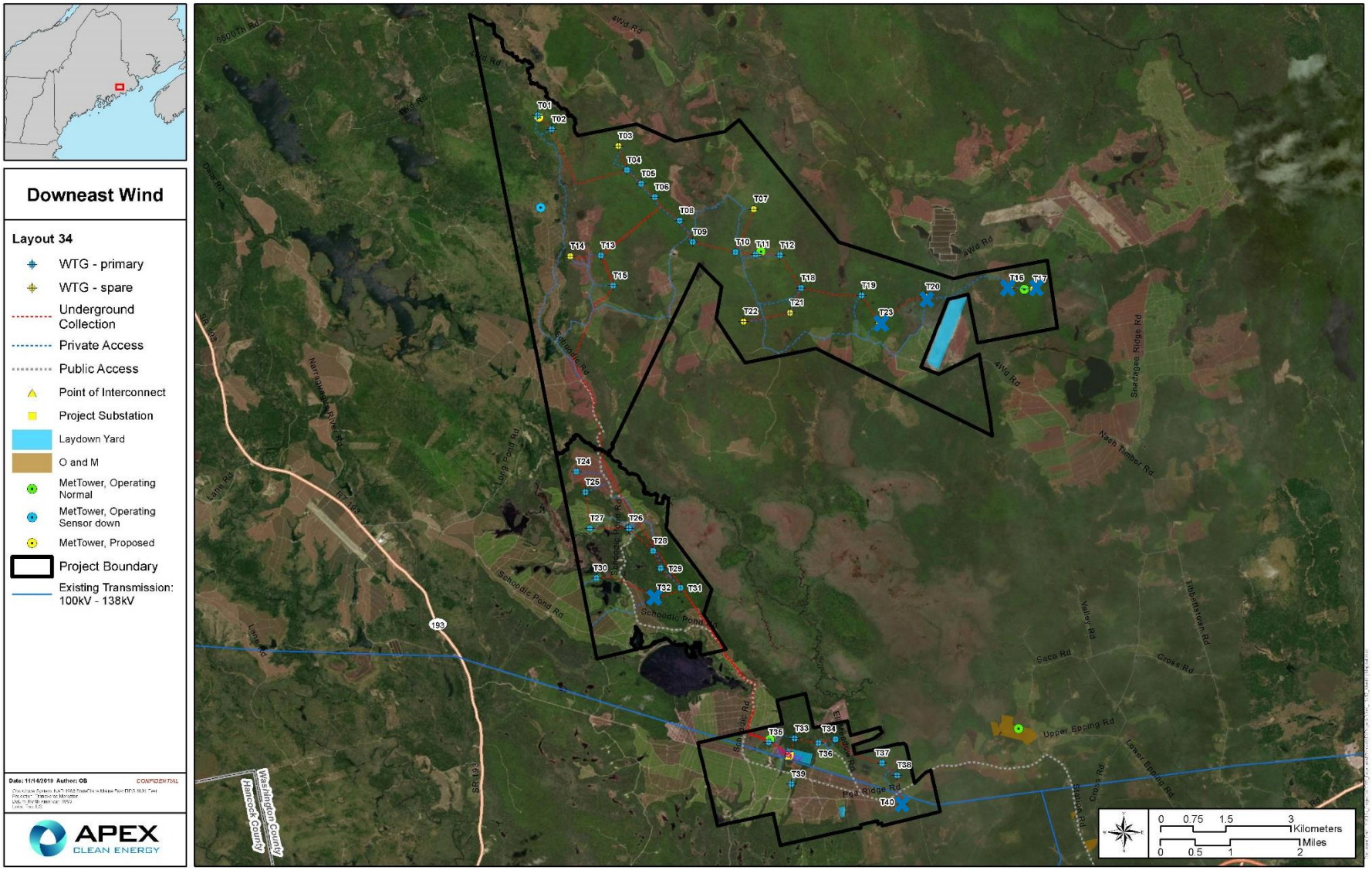
- **Current Project design**
  - 30 Turbines, 126 MW (Down from up to 57 turbines in earlier designs)
  - Turbines relocated to reduce viewshed impact on Schoodic Lake, reduce use of grassland habitat, and promote compatibility with blueberry operations.
  - Withdrawal from T19 and eastern T24
  - Withdrawal from wetland areas
  - Withdrawal from positions south of Baseline Rd, reducing visibility from Schoodic Lake, and minimizing impact to blueberries
  - Shifting of collections corridors to avoid rare plant populations and wetland impacts
  - Reduction of Thousand Hills locations from 9 to 6

Previous Project Layout (#18)

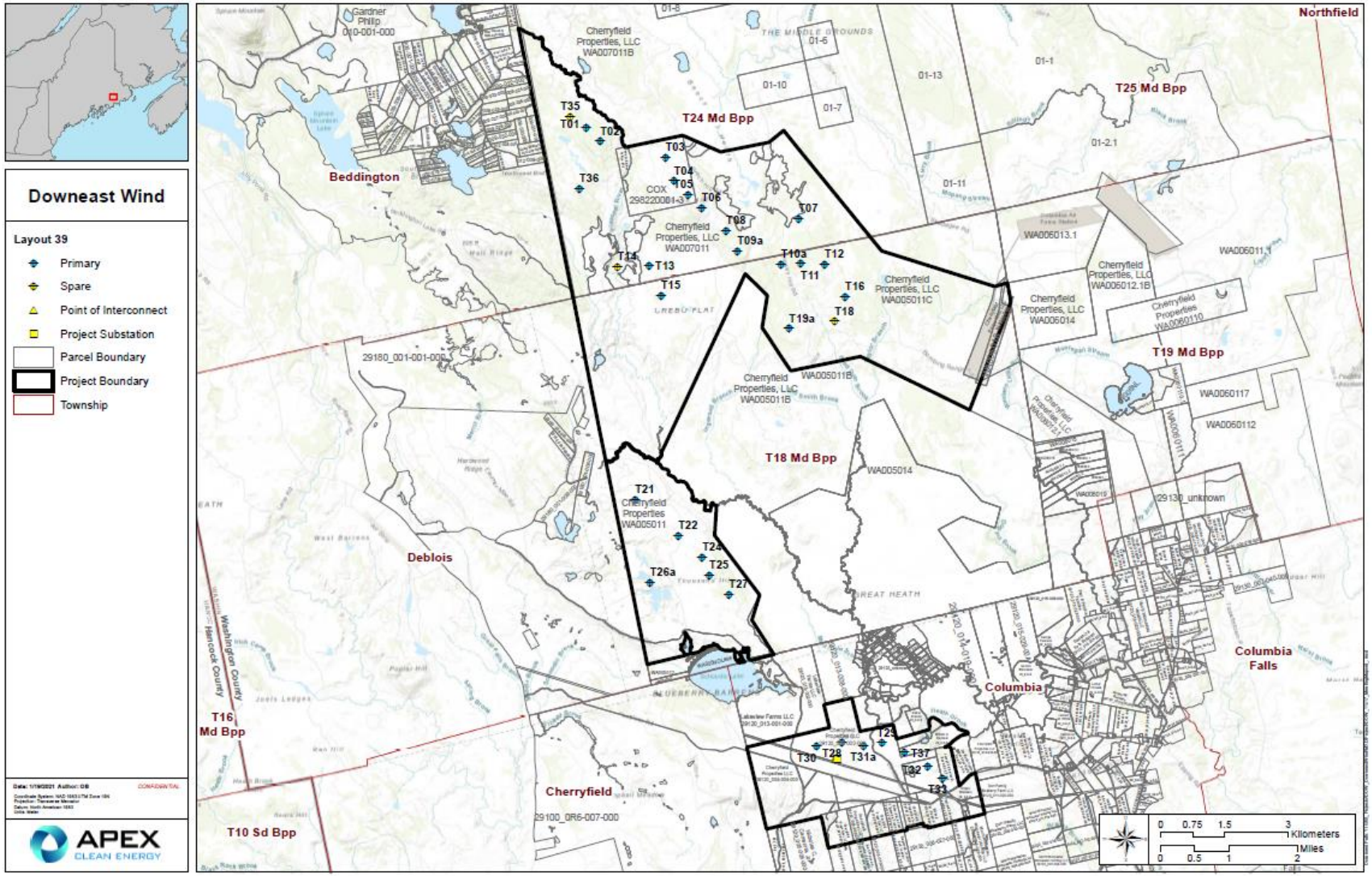


DOWNEAST WIND

Project Layout (#34), circa February 2020



Current Project Layout (#39)



DOWNEAST WIND

Project Design Elements

- 30 4.2 MW Turbines, 125M (410 ft) Hub Height, 200M (656 ft) Tip Height.
- Radar-activated lighting system, no blinking lights when no local air traffic (As expected requirement of MDEP)
- Reduced and controlled lighting on other facilities.
- All setbacks and sound standards meet Town of Columbia and MDEP sound and setback standards.
- Schoodic Lake dwellings:
  - No turbine closer than 3,500 ft (0.66 miles).
  - Nearest visible turbine 7,500 ft (1.4 miles) from nearest dwellings.
- Project includes access roads, crane paths, 1 permanent met tower, 2 temporary power performance towers, a substation and switchyard, a construction laydown yard, and an O&M building (sited on Rt 1 in Columbia).

DOWNEAST
WIND

Downeast Wind
Project Environmental Studies

Studies Completed

Study	Dates
Upland Sandpiper/ Grassland Bird Surveys	June – Sept 2016, April – Oct 2017
Nocturnal Migration Radar Survey	Fall 2015, Spring 2016, Fall 2016
Acoustic Bat Activity Surveys	Fall 2015, Spring 2016, Fall 2016, Spring 2017
Diurnal Raptor Migration Surveys	Fall 2015, Spring 2016, Fall 2016, Spring 2017, Spring 2019
Eagle/Avian Use Surveys	Sept 2015 – Sept 2016
Aerial Bald Eagle Nest/Heron Rookery Survey	Spring 2016, Spring 2017, Spring 2019
Schoodic Lake Eagle Nest Survey	April 2019 – August 2019
Breeding Bird Surveys	May and June 2016
Vernal Pool Surveys	April 2019 to December 2020
Botanical Surveys	Summer 2016 and Spring/Summer 2019

Studies Completed

Study	Dates
Wetland Surveys	Sept. - December 2019, July to December 2020
Eagle/Avian Use Surveys	January 2019 – December 2019
Analysis of Dwellings and Structures	December 2019
Archaeological, Cultural and Historic Resource Assessment	November 2019 – February 2021, ongoing
Soil Survey	October – December 2019, December 2020
Visual Assessment	November 2019 – February 2021
Flicker Assessment	December 2019 – February 2021
Noise Assessment	November 2019 – February 2021
Stormwater Analysis	January to March 2021
Decommissioning Study	December 2020 to February 2021
Stream Assessments	October to December 2020

Environmental Considerations

- Birds (primarily Upland Sandpiper, Whimbrel, Nocturnal Migrant Songbirds, Eagles)
- Bats
- Other Wildlife & Hunting
- Bees
- Wood turtles
- Soils and Plants
- Wetlands, Streams, Vernal Pools, Salmon habitat and passage
- Avoidance, Minimization, and Mitigation of Impacts

Upland Sandpiper Habitat & Potential Disturbance

Additional Minimization for UPSA and WHIM

- Project access roads & collection lines have been sited away from suitable upland sandpiper breeding habitat to the extent practicable.
- Turbines removed from blueberry fields that support upland sandpiper.
- Turbines have been located outside of the whimbrel flight path from Harrington Bay to the blueberry barrens near Schoodic Lake (where MDIFW has documented whimbrel use).

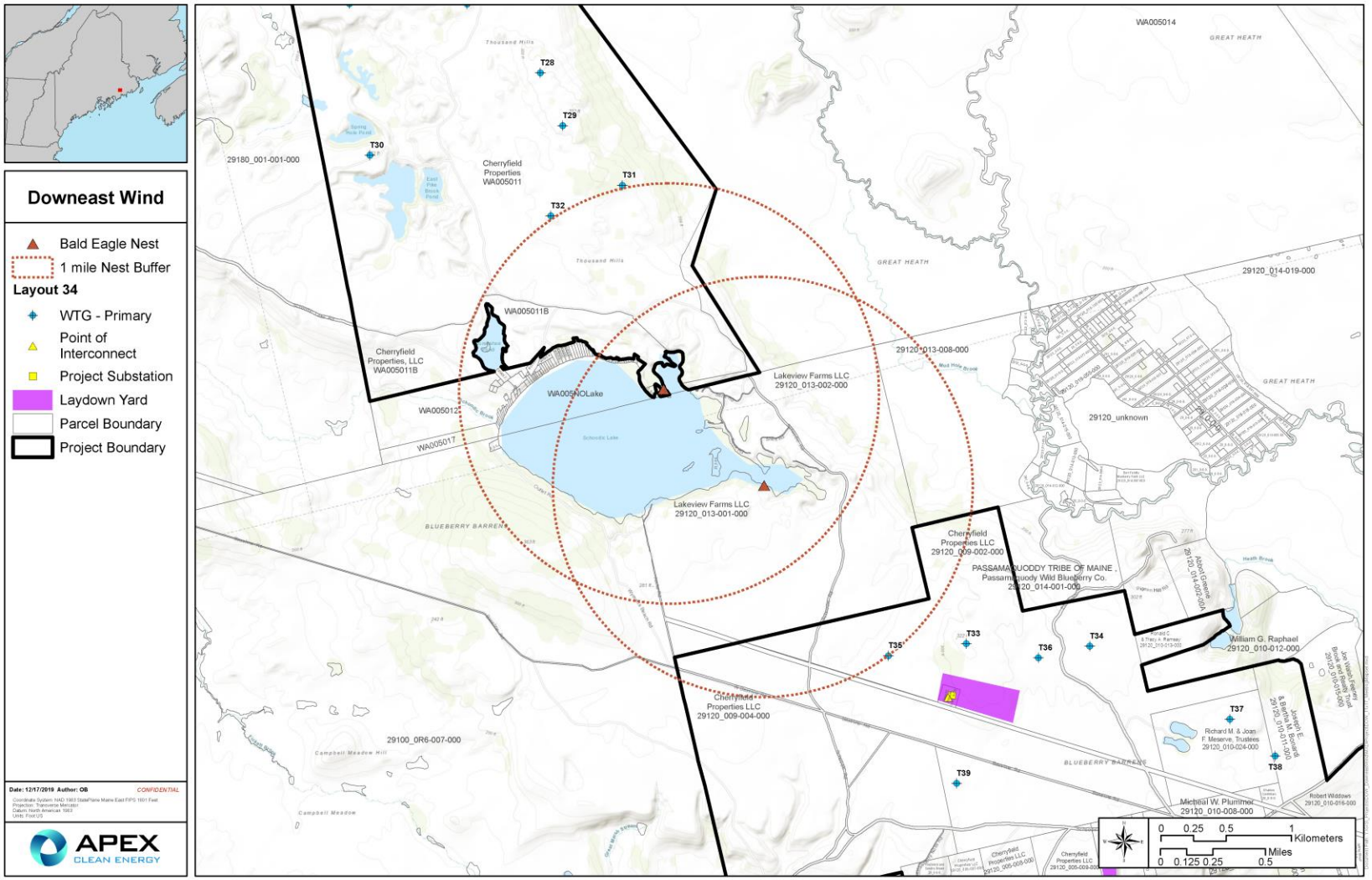
Minimization: Nocturnal Avian Migrants

- Implement FAA-approved flashing lighting on turbines
- No nighttime lighting on nacelles
- Motion-activated lighting will be installed on the substation and O&M

Bald Eagles

- No eagle carcasses have been found at wind projects in Maine.
  - As of 2018, 55 bald eagles carcasses found at wind project comprising the 57,000 wind turbines in the US since the early 1990s.
- Eagle use surveys were completed for 2 years as per USFWS recommendation.
  - Eagle use at the Project was comparable to other wind projects in Maine.
- Known eagle nests were taken into consideration for Project siting.
  - 1 mile setback of turbines
  - Surveys indicated that eagles in Schoodic Lake nest did not venture near proposed turbine locations.
- Low eagle use during surveys.
  - Overall low risk site to eagles

Bald Eagles


Downeast Wind
Bald Eagle Nest
1 mile Nest Buffer
Layout 34
WTG - Primary
Point of Interconnect
Project Substation
Laydown Yard
Parcel Boundary
Project Boundary
APEX CLEAN ENERGY
T28
T29
T30
T31
T32
T33
T34
T35
T36
T37
T38
T39
Cherryfield Properties WA005011
Cherryfield Properties, LLC WA005011B
WA005011B
WA005NOLake
WA005012
WA005017
Lakeview Farms LLC 29120_013-002-000
Lakeview Farms LLC 29120_013-001-000
29120_013-008-000
29120_014-019-000
29120_unknown
Cherryfield Properties LLC 29120_009-002-000
PASSAMAQUODDY TRIBE OF MAINE Passamaquoddy Wild Blueberry Co. 29120_014-001-000
Cherryfield Properties LLC 29120_009-004-000
William G. Raphael 29120_010-012-000
Richard M. & Joan F. Meserve, Trustees 29120_010-024-000
Michael W. Plummer 29120_010-008-000
29180_001-001-000
29100_0R6-007-000
WA005014
GREAT HEATH
BLUEBERRY BARRENS
Kilometers
Miles

Bat Fatality Minimization Measures

Highest risk to bats during the fall migration and three species of bats most likely to be impacted:

- Eastern red bat, silver-haired bat and hoary bat.

Exploring the possibility of combining "smart curtailment" and acoustic deterrents to aim for the highest reduction in bat fatalities.

- "Smart curtailment" uses acoustic and weather data to refine curtailment only during risky times for bats.

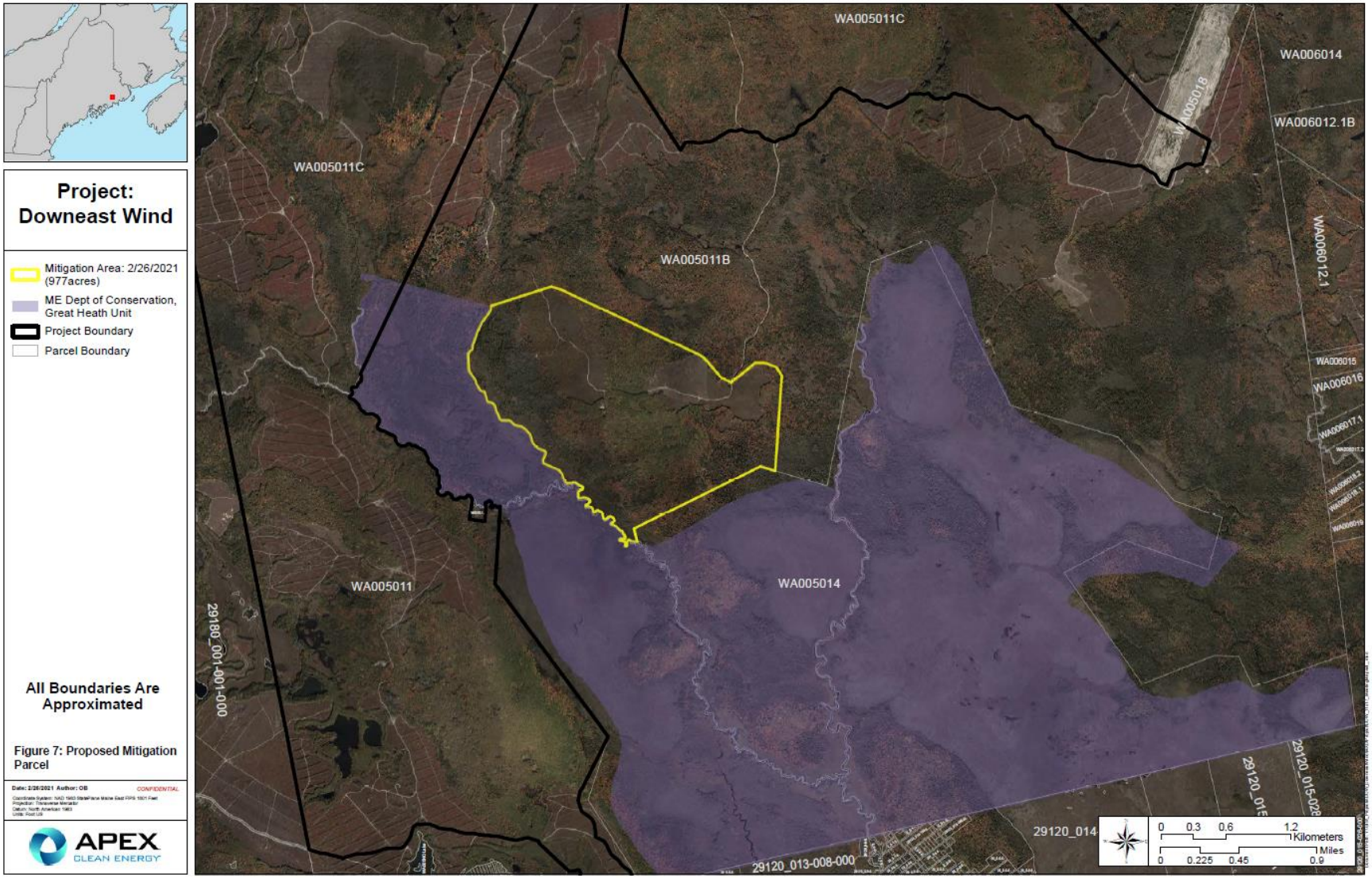
- Acoustic deterrents are effective in reducing bat fatalities, and the combination of curtailment and deterrents has been shown to reduce fatalities by over 70%.

DOWNEAST WIND

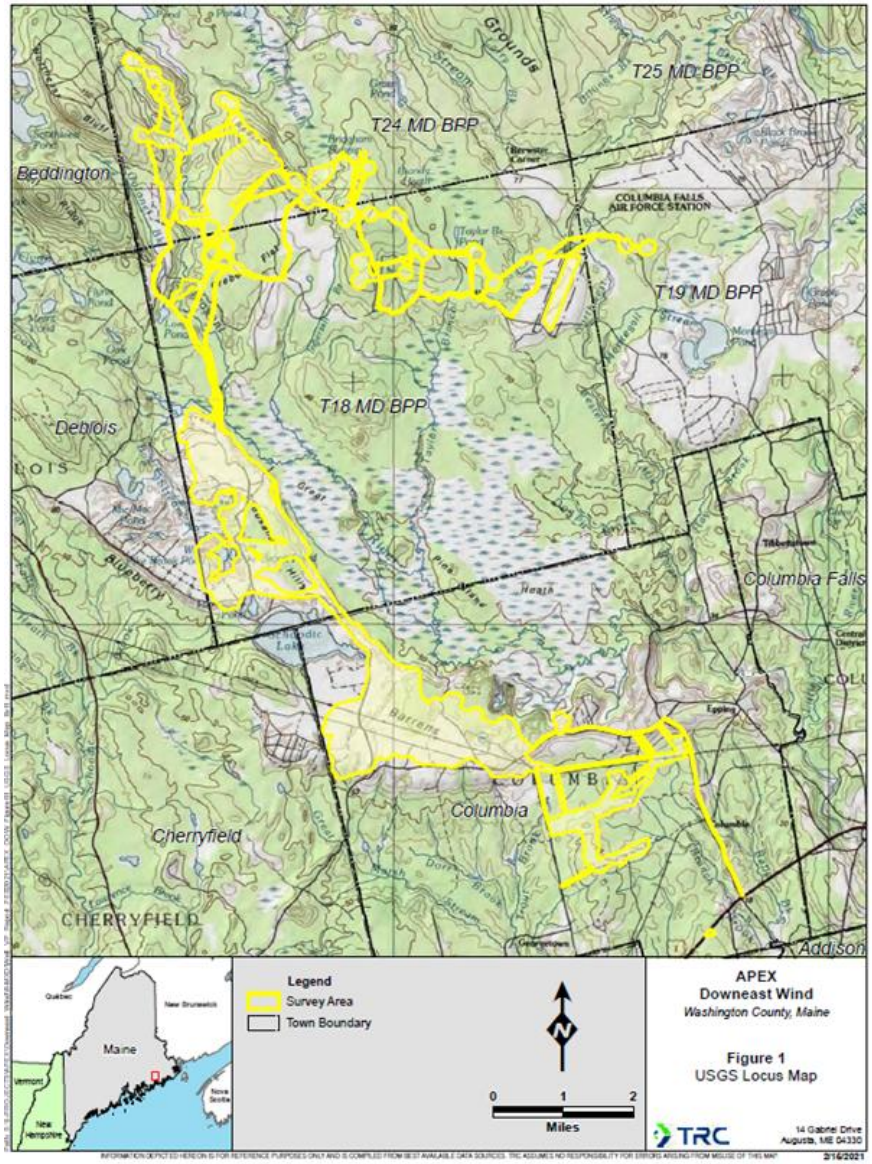
Mitigation

- The potential sites are located near the Project and proximal to already preserved land to add to the value of the mitigation land.
- Identified natural communities within the mitigation area include grassland, scrub-shrub/barren habitat, early successional forest, deciduous forest, coniferous forest, mixed deciduous-coniferous forest, emergent wetland, scrub-shrub wetland, and riparian habitat.
- The habitat quality at the sites and proximity to already preserved habitat more than offsets any potential habitat loss.
- Sites will benefit both birds and bats and other wildlife.
- Project proposes to put this land into a conservation easement and complete a land management plan.

Proposed Mitigation Parcel



Wetlands and Vernal Pools



Wetland impacts reduced through careful siting of turbines, routing of roads around resources, and directional drilling for collections installation.

- Final calculations underway.
- Preliminary calculation between 1 and 2 acres of wetland impact
- 51,000 sq ft of direct impact (fill)
- 31,000 sq ft of indirect impact (clearing)
- Partial impact to 1 vernal pool alongside an existing road

Yellow area covered by wetland and vernal pool surveys.

Environmental Summary

- Project design avoids impacts to grassland birds and plans to mitigate for any potential habitat loss or displacement.
- Measures taken to reduce threat to avian migration.
- Project designed to avoid eagle nests and fatality threat to eagles is very low.
- Propose to use a combination of curtailment and the most advanced technology available (deterrents) to reduce threats to bats.
- Conservation easement will create net benefit for wildlife.
- Site plan adjustments (to turbines, roads, and collections) avoid wetland and vernal pool impacts.
- Working with Project SHARE to manage stream crossings in salmon streams.

DOWNEAST WIND

Cultural & Visual Impacts

Architecture

Milestone marker 5 of the Base Line shown in the foreground, with photo simulations of Columbia turbines along the treeline.

- Base line Rd is a NR-eligible resource but not listed due to landowner preference
- MHPC confirmed finding of no direct impact
- Indirect impact is visibility

Survey Findings:

- 9 MHPC catalogued resources identified in Project APE
- 4 are west of 193 and judged ineligible for listing
- 5 are Baseline Rd mile markers, 4 of which are no longer there

1881 Colby map showing the USCS Base Line, surveyed 1853 to 1857.

Scenic Resources of State or National Significance

A) National Natural Landmarks, federally designated wilderness areas, and other outstanding natural and cultural features, such as the Orono Bog or Meddybemps Heath. There are 14 NNL in Maine, designated primarily for their scientific (and not scenic) value. **NONE IN THE PROJECT AREA**

B) A property on the National Register of Historic Places pursuant to the National Historic Preservation Act of 1966, as amended (e.g., the Rockland Breakwater Light, Fort Knox).
16 NRHP Structures and 1 Historic District within 8 miles
NONE WILL HAVE PROJECT VISIBILITY

C) A National Park or State Park, There are 3 units of the National Park System and 32 designated State Parks in Maine. **NONE IN THE PROJECT AREA**

D) Great Ponds that have been rated as Outstanding or Significant
Lakes and ponds previously identified as having highly significant scenic value in the *Maine's Finest Lakes* study, or designated as "outstanding" or "significant" from a scenic perspective in the *Wildlands Lakes Assessment*.
Two rated great ponds within 8 miles: Mopang Lake and Upper Cranberry Lake
NO PROJECT VIEWS FROM EITHER POND

DOWNEAST WIND

Scenic Resources of State or National Significance

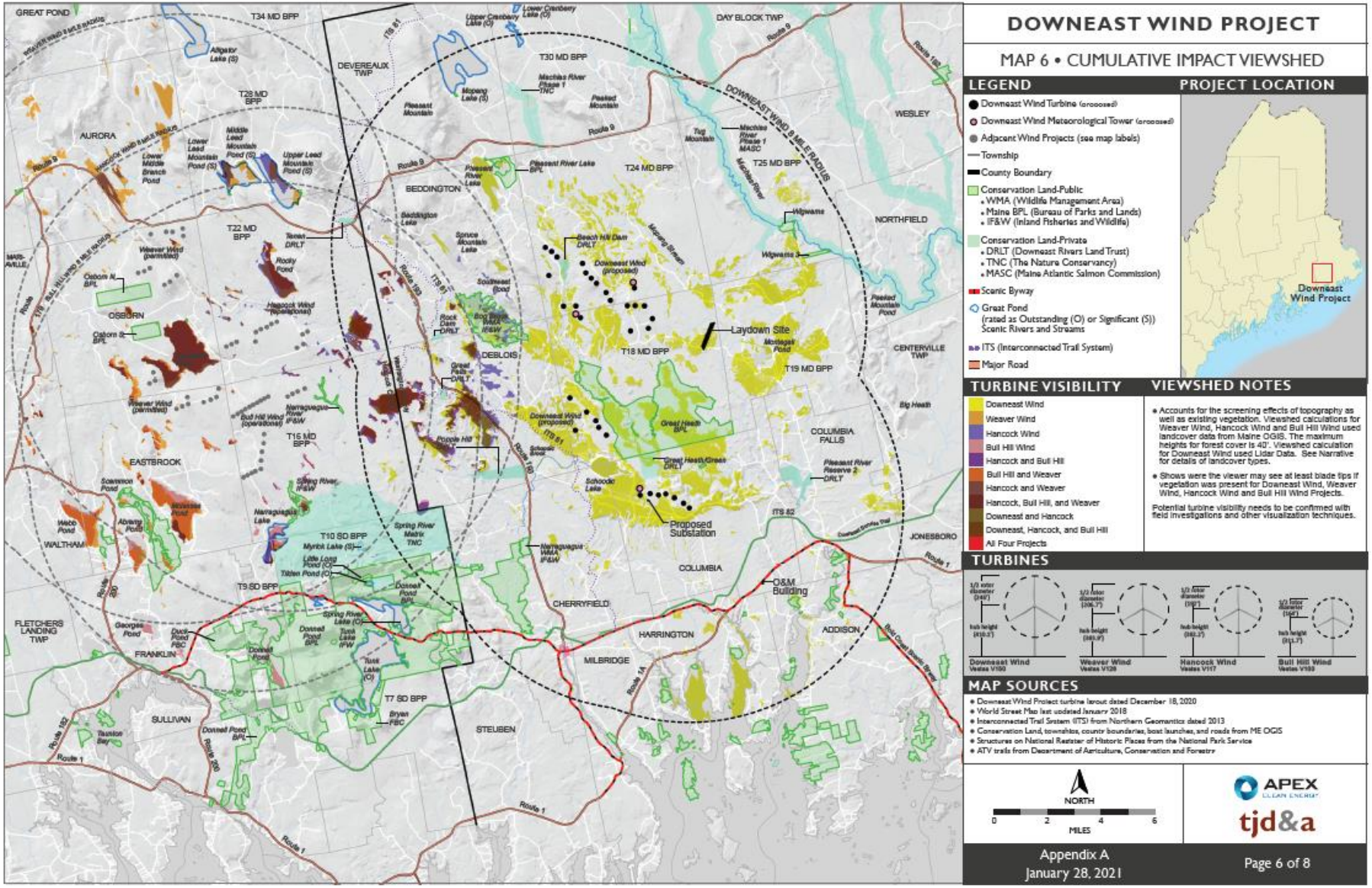
E) A Scenic River or Stream identified as having unique or outstanding scenic attributes, listed in Appendix G of the *Maine Rivers Study*.
Machias River, rated an 'A' River, including Scenic Resources.
Schoodic Brook is identified in the MRS, but not listed in Appendix G
NO PROJECT VIEWS FROM EITHER WATERBODY

F) A scenic viewpoint located on state public reserved land or on a trail that is used exclusively for pedestrian use, such as the Appalachian Trail, that the Department of Conservation designates by rule adopted in accordance with section 3457.
Great Heath is Public Reserve Land but there are no designated scenic viewpoints
NONE IN THE PROJECT AREA

G) A scenic turnout on a scenic highway constructed by the Dept of Transportation.
There are two Scenic Byways within 8 miles: Blackwoods and Bold Coast
NO PROJECT VIEWS FROM EITHER BYWAY

H) Scenic viewpoints located in the Coastal Area that are ranked as having statewide significance or national importance in terms of scenic quality .
NONE IN THE PROJECT AREA

Visual Impact Analysis



Decommissioning

Chapter 382: WIND ENERGY ACT STANDARDS

Decommissioning. An applicant must **demonstrate adequate financial capacity** to decommission the proposed wind energy development if required at any time during construction or operation of the development, or upon termination of development operations. This must include a **demonstration that this financial capacity will be unaffected by any future changes in the applicant's financial condition.**

Facility	Cost of Removal
Wind Turbines	$2,028,000
Site Work/Civil (Site Reclamation)	$187,000
Wind Turbine Foundations	$174,000
Met Tower	$10,000
Substation	$158,000
Electrical Collector Lines	$36,000
O&M Facility	$56,000
Oil and Chemical Removal/Disposal	$50,000
Total	**$3,103,900**

1. Full decommissioning plan must be submitted and approved.
2. Site restoration and turbine removal to minimum of 2 ft depth.
3. Plan and Financial assurance must be re-valuated every 2 years.
4. Decommissioning obligations transfer to any new or future project owner.

DOWNEAST WIND

Sound & Shadow

Noise Standards

SOUND LEVEL LIMITS – ALL DEVELOPMENTS

- Limits apply at “protected locations” – noise sensitive areas such as residential properties and conservation areas
- Quiet area limits – 55 dBA daytime/45 dBA nighttime (within 500 feet of sleeping quarters)

Indoor Setting	Outdoor Setting	Sound Source	Sound pressure level (dBa)
Busy Airport	Heavy Rain	Motor Boat high rpm at 100 feet	80
Light Industrial Workspace	Heavy Surf Beach* Busy City or Highway	AC Unit at 5 feet Automobile 45 mph at 50 feet	70
Busy Office/Conversation Room with TV	Urban Daytime	Strong Wind in Trees* Nighttime Frogs Airplane Flyover*	60
	Suburban Daytime/Urban Nighttime	Bird Calls/Morning Chorus Small waves on shoreline	50
Quiet Office Library	Rural Area Daytime	Moderate Wind in Trees	40
Sleeping Quarters at Night	Rural Area Nighttime	Light Wind in Trees	30

DOWNEAST WIND

Noise Standards

Maine DEP Chapter 375.10 – Control of Noise Section I – Wind Energy Facilities

Major Rulemaking – Adopted 2012

SOUND LEVEL LIMITS – ALL PROTECTED LOCATIONS

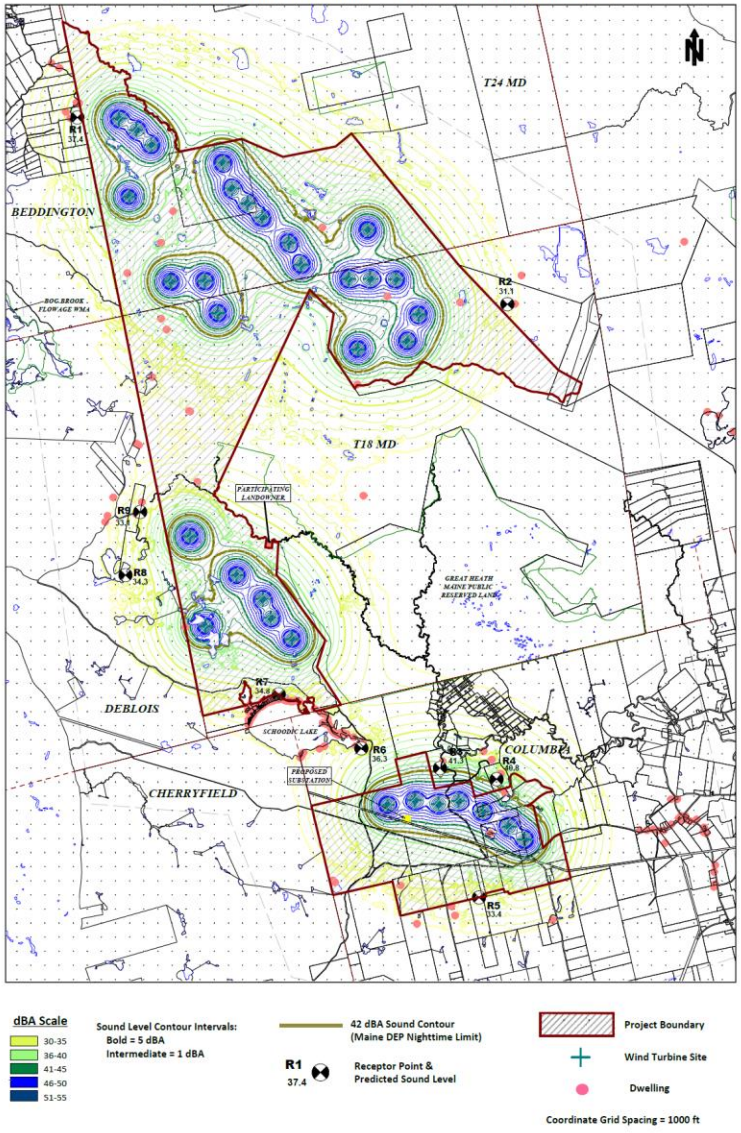
- Reduced nighttime sound limit to 42 dBA nighttime
- 5 dBA penalty if certain types of sounds produced
- Based on annual sound levels of operating wind project in Maine
- Meet nighttime noise guidelines of World Health Organization

TOWN OF COLUMBIA – WIND TURBINE ORDINANCE

- Applies Maine DEP 375.10 Section I by reference

Sound at Downeast

Figure 6-1. Predicted Sound Levels from Full Routine Operation of Downeast Wind



- Maine DEP sound standards: 55 dBa daytime and 42 dBa nighttime within 500 feet of a protected residence
- 42 dBa contour shown in brown
- All modeled receptor points (all near non-participating dwellings and/or camps) below 42 dBa
- Dwellings and residences within the project lease area are subject to waivers of sound and flicker standards.

Sound Summary

- Specifically regulated by Maine DEP to protect noise sensitive land uses
- Rigorous protocols for sound modeling, operations testing and sound complaints
- Detailed Sound Level Assessment reports with predictive sound model based on international standards
- Modeling and sound testing proven at numerous wind projects in Maine

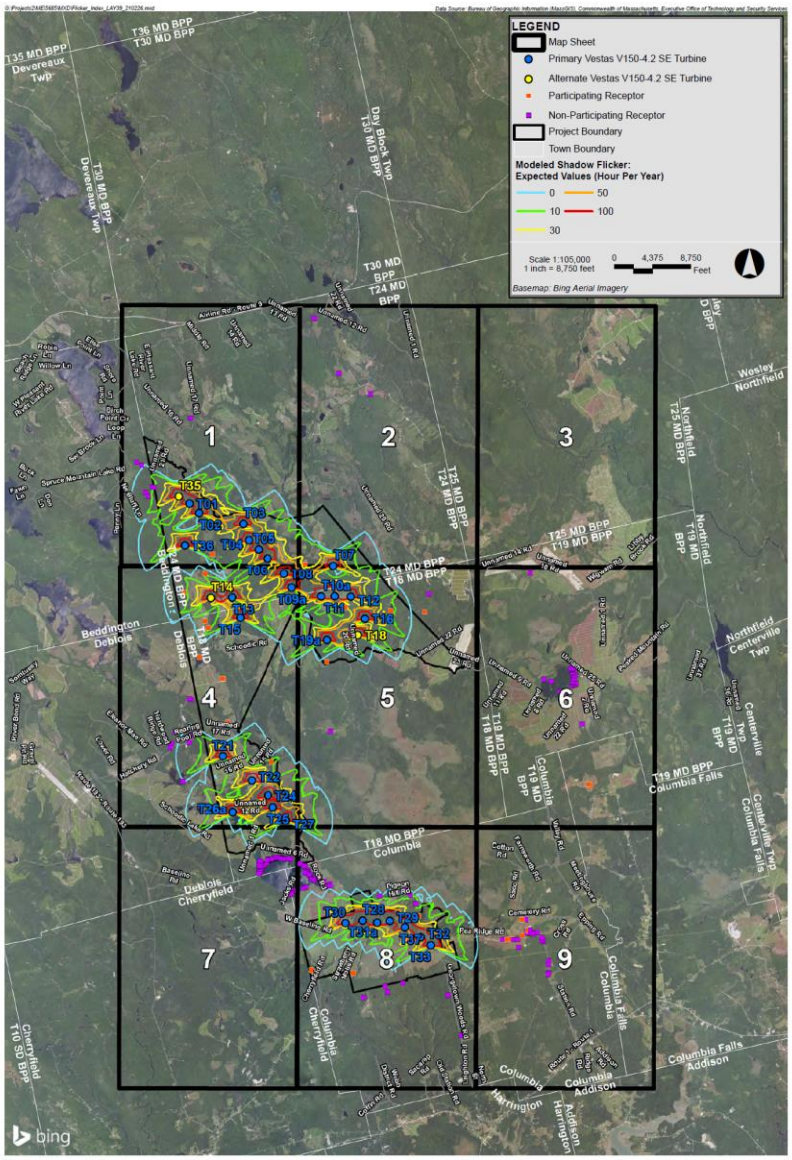
What is Shadow Flicker?

- Shadow flicker is caused by sunlight passing through the rotor sweep area of the wind turbine
- Modern Wind Turbines have a light flickering frequency below 1Hz.
- The amount of shadow flicker diminishes rapidly with distance from the turbine, and should be minimal at 10RD from a turbine

What Does this Assume?

- No Clouds or Fog
- Turbine Continuously Operates
- Turbine Perpendicular to the sun at all times
- No trees or buildings obscuring the shadow
- House windows in all directions
- Sun very diffuse at low angles

Shadow Flicker at Downeast Wind



- 220 receptor points were modeled
- 198 of them experienced no shadow flicker at all
- 11 locations were predicted to experience some, but less than 10 hours annually
- 9 locations modeled at 10-30 hours
- 2 locations over 30 hours per year (both on leased parcels)
- No receptors at or around Schoodic Lake have been modeled to experience any shadow flicker

State standard is 30 hours or less, unless subject to a waiver.

DOWNEAST WIND

Public Safety

Public Safety and Emergency Response

For permitting purposes the Project is required to demonstrate:

- Elements of facilities design that address public safety and fire prevention:
  - Setbacks
  - Turbine design/engineering
  - Operational Oversight Procedures
- Evidence of Local Agency Outreach and Emergency Response Planning and Coordination
- Emergency Action Plan
- Review of Project location, facilities, by area first responders
  - Epping Volunteer Fire District
  - Deblois Fire Department
  - Maine Forest Service

Economic Impact

*Downeast Wind will be a private investment exceeding **$240 million***

Jobs

- **$94+ million** in local spending through construction
- Estimated **164** local and regional construction jobs created
- **6** new long-term operations jobs
- Induced impact from increase local and regional spending and earnings

Community Benefits

*Locally approved TIF and Community Benefit Agreements, along with property tax payments, will bring almost **$20 million** in new local tax revenue to Columbia and Washington County over the next 30 years.*

Columbia

- **$280,000 payment at time of construction**
- **$3.9 million in community benefit payments**
- **$3.4 million in TIF and property tax payments**
- **Over $7.3 million in total local revenue over 30 years**
- **Will not have impact on state aid and revenue share.**

Washington County

- **$500,000 payment at time of construction**
- **$7 million in community benefit payments**
- **$5.3 million in TIF and property tax payments**
- **Over $12.3 million in total local revenue over 30 years**
- **Will not have any impact on state aid and revenue share.**

DOWNEAST WIND

Constructing a Wind Project: Overview

Time Frame
Construction of Downeast Wind is expected to take 12-18 months from start to finish.

Roads
Project access roads and local road improvements are made before turbine components arrive then maintained and repaired as needed

Foundations
Turbine foundations are excavated and assembled with rebar and concrete then covered with reclaimed soil

Grid Interconnection
Project electrical collection system, and substation are routed for grid interconnection

Turbine Assembly
A turbine crane assembles the turbine components as crews inspect and commission each turbine

Site Restoration
In the Spring following construction land is fully restored after the ground thaws.

Project Operations

Project Life
We anticipate a project lifetime of 30 years.

Local Project Representative
A local O&M building provides access to project management for the life of the project

Local Maintenance and Crew
A crew of technicians (~6) will routinely inspect and conduct maintenance on the wind turbines

Turbine Cleaning
Wind turbines are routinely cleaned to maintain appearance and efficiency of the wind turbine blades

Road Repair
Project access roads and local roads are repaired (at the project's expense) of any damage caused during construction or operations

Remote Monitoring
Project is monitored and controlled from central operating center which is manned 24/7, 365 days

What's Next - Project Permitting Timeline

Step	Timeline
Permit Submission	On or about April 30, 2021
Completeness Review (15 business days from submission)	May 2021
MDIFW Consultation re: Mitigation proposal	Spring 2021
DEP Permit Review (275 days)	2021-2022
Local Comment (coordinated by DEP)	Summer/Fall 2021
Construction Commences	2022 / 2023
Construction Completed/Project Begins Operations	Late 2023

DOWNEAST WIND

Opportunities to Comment

- Application Copies
  - MDEP office in Bangor (office not currently open to the public)
  - LUPC office in Augusta & Bangor
  - Town Office in Columbia
  - Washington County offices in Machias
  - Full text available at maine.gov (linked at Downeast Wind site)
- Public Comments can be sent to:
  - Downeastwind.dep@maine.gov.
  - By mail to MDEP, Attn. Maria Eggett, Eastern Maine Regional Office, 106 Hogan Road, Bangor, Maine 04401
- MDEP Information Sheet on Public Participation in the Licensing Process (Hosted on Downeast Wind website)
- COVID-19 Impacts on Process

Contact the Local Downeast Wind Team

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robert.gee@apexcleanenergy.com

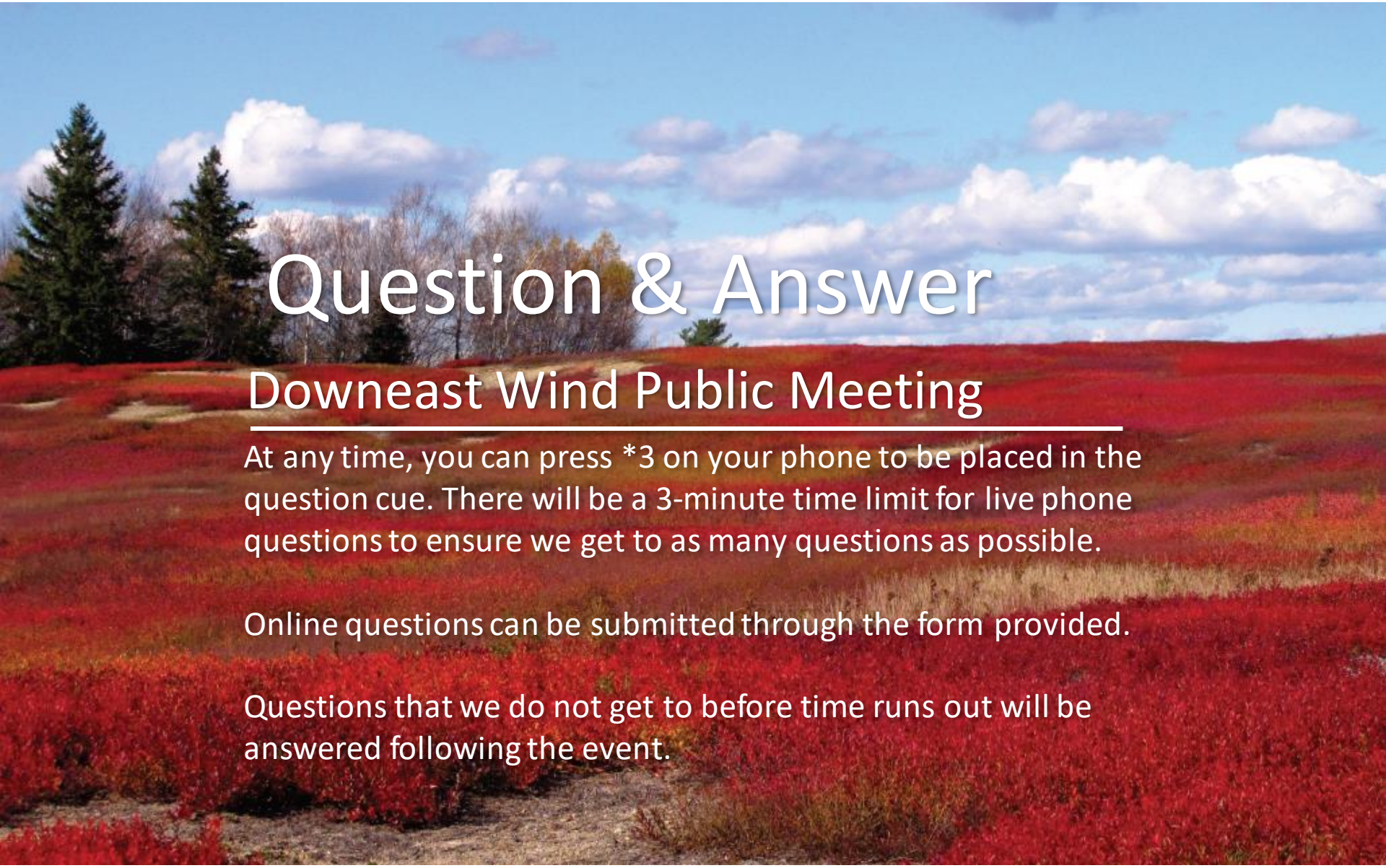
Linda Belfiore
Development Associate
(207) 598-5434
linda.belfiore@apexcleanenergy.com

Downeast Wind, LLC
366 US Hwy 1
Columbia, ME 04623
(office temporarily open by appointment only)

PO Box 219
Columbia Falls, ME 04623

Downeastwindfarm.com

DOWNEAST WIND



Question & Answer

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