

Wind Tower Setbacks and Icing Conditions:

Icing Setback Studies:

Six towers of the Granite Reliable Power, LLC wind tower farm lie within the boundaries of the proposed ski area expansion. Under certain weather conditions, ice can form on the blades and be thrown some distance from a tower. To minimize risk of an ice fragment hitting skiers, snowmobilers or others, access within an appropriate setback distance must be restricted or alternately, the wind tower be shut down while icing conditions are present.

In 2016, both Granite Reliable's prior owner, Brookfield Renewables, and the applicant commissioned two separate studies to evaluate recommended setbacks from the towers during icing conditions. The Brookfield-commissioned study, done by AWS-Truepower, predicted a maximum 836' ice throw distance. The study's summary concluded:

"The maximum ice throw distance for wind turbines on Dixville Peak is conservatively predicted to be 255 m (836 ft) when expressed horizontally from the base of the turbines. This value assumes worst case conditions during which a dense ice fragment (e.g. glaze) is shed from the fastest moving portion of the blade at the optimum point of its rotation during very windy conditions to achieve the longest trajectory. This trajectory would result in a ground impact downwind and lateral to the plane of the turbine rotor. The probability of an ice impact within a square meter area of ground at this maximum ice throw distance is estimated to be on the order of once every 1000 years."

The Balsams-commissioned study, done by DNV, evaluated safety risks of an 837' setback during icing conditions and provided comparisons to typical societal risks. Copies of both studies are attached.

This application proposes one trail which extends into the proposed 837' setback area and proposes an operating plan to address skier safety during icing conditions.

Granite Reliable Power's SEC Order:

The NH Site Evaluation Committee's order approving Granite Reliable's application to construct the wind park required Granite Reliable, in cooperation with Coos County, to prepare and implement "gate access protocols and methods to discourage persons from coming within 1,300 feet of any turbine location". The two ground leases on which the towers are located, however, do not have any provisions allowing Granite to establish such a zone beyond an ability to "request" the landowners extend exclusion zones up to 500' or 1000', depending on location, during icing conditions.

Operating Plan for Icing Conditions:

The Balsams worked closely with Granite Reliable's prior owner to develop an operating plan to either close affected trails or shut the applicable turbine(s) down when icing was present. Prior to finalizing

the agreement, however, the wind towers were sold. The new owner has not cooperated with our requests to finalize such a plan, and therefore an operating plan which does not rely on the wind tower owner's cooperation is proposed.

As described in the ice throw studies, icing can occur under certain weather conditions. Since weather conditions significantly impact lifts, snowmaking, and other aspects of ski operations, major ski areas typically have one or more on-site weather stations and actively monitor conditions.

This application proposes one trail which extends within the 837' proposed setback zone as shown on the attached plan. This trail begins near the top of Lift 4 and follows the existing snowmobile trail along most of its path. To address potential ice-throw, this trail will be operated per the following "Operating Plan for Wind Turbine Icing" dated 12-6-22.



Operating Plan for Wind Turbine Icing

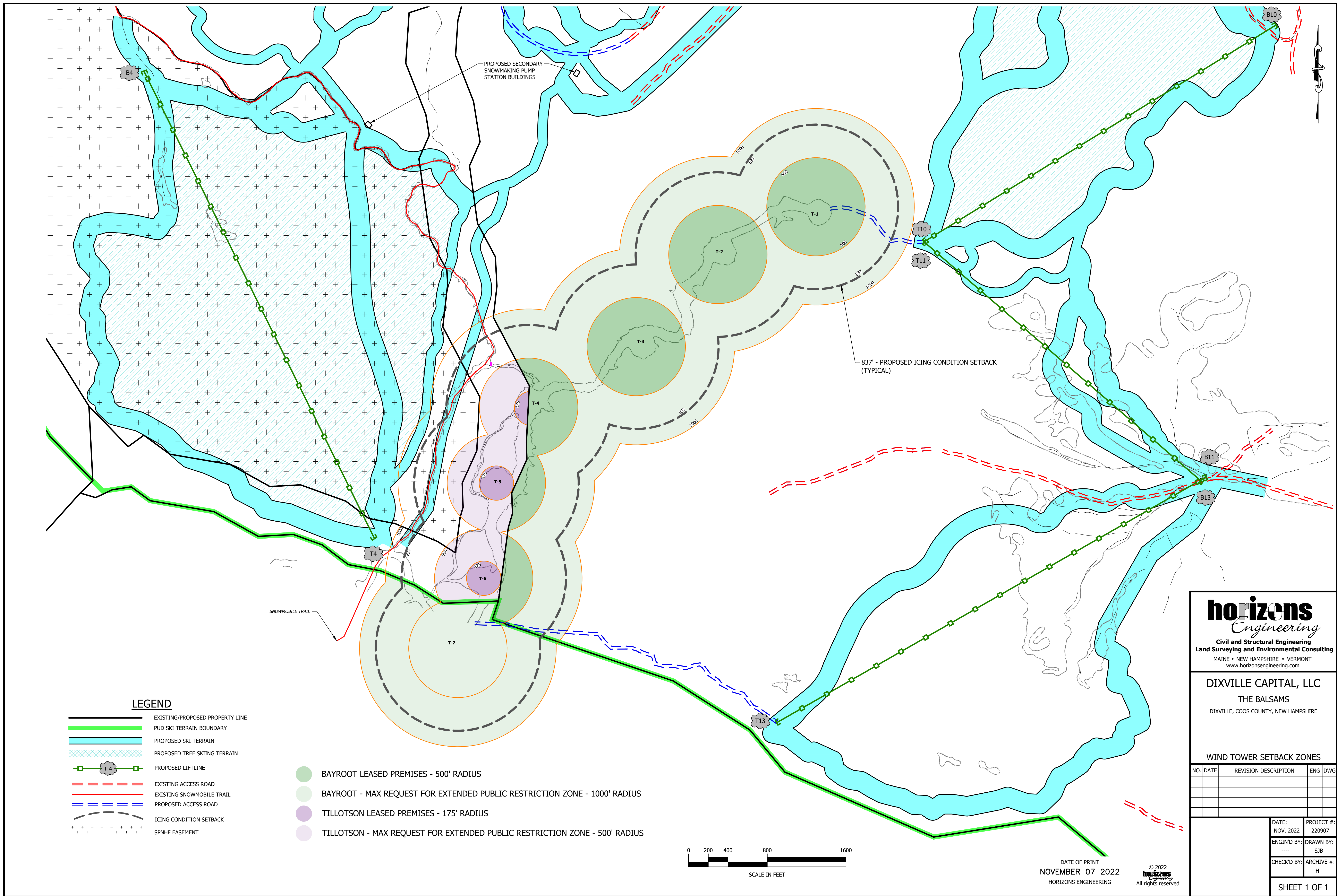
This Operating Plan sets forth how public access to trails within 837' of wind turbines will be managed to address potential turbine icing conditions.

- 1- The Balsams will install a weather station at the top of lift 4 or in closer proximity to wind turbines 5 and 6 which will include temperature, relative humidity, wind speed and direction.
- 2- Weather data will be monitored and logged in 15-minute increments by Dispatch beginning 30 minutes prior to opening lift 4 and during the time the lift remains open. Weather data will also be logged throughout the night and reviewed in the morning prior to opening.
- 3- Prior to opening Lift 4:
 - a. A visual inspection of blades on Turbines 5 and 6 will be made to detect the indications of icing on the blades.
 - b. The ski patrol director or their designee will be responsible for inspection.
 - c. All inspectors will be trained to identify indications of icing.
 - d. If ice is observed the affected trail will be closed.
 - e. If a visual inspection is not possible due to conditions and temperatures are or were 35F or lower during the prior night, the trail will be closed.
- 4- Once the trail is open:
 - a. If the temperature is 35F or below and weather conditions change such that the possibility of icing develops, the turbines will be visually inspected, and the trail closed if icing is observed.
 - b. If the temperature is 35F or lower and the turbines become not visible for more than one hour, the trail will be closed.
- 5- If the trail is closed due to an icing event, it may be reopened when the blades no longer have visible icing.
- 6- In the event the turbines are not operating the trail will be subject to the normal trail open and closed procedures of the resort.
- 7- Whenever this plan indicates a trail closure, the wind turbines creating the need for closure may be shut down in lieu of closing the trail.
- 8- If a wind turbine is restarted while a trail is open and the temperature is 35F or lower, the trail will be closed until the turbine is inspected per #3 above.

Date: 6 December 2022

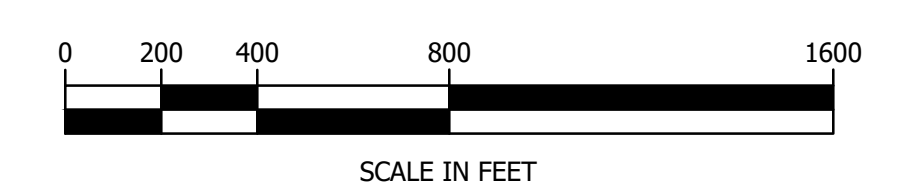
Mountain Operations: _____

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LEGEND

- EXISTING/PROPOSED PROPERTY LINE
- PUD SKI TERRAIN BOUNDARY
- PROPOSED SKI TERRAIN
- PROPOSED TREE SKIING TERRAIN
- PROPOSED LIFTLINE
- EXISTING ACCESS ROAD
- EXISTING SNOWMOBILE TRAIL
- PROPOSED ACCESS ROAD
- ICING CONDITION SETBACK
- SPNH EASEMENT
- BAYROOT LEASED PREMISES - 500' RADIUS
- BAYROOT - MAX REQUEST FOR EXTENDED PUBLIC RESTRICTION ZONE - 1000' RADIUS
- TILLOTSON LEASED PREMISES - 175' RADIUS
- TILLOTSON - MAX REQUEST FOR EXTENDED PUBLIC RESTRICTION ZONE - 500' RADIUS



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DIXVILLE CAPITAL, LLC
 THE BALSAMS
 DIXVILLE, COOS COUNTY, NEW HAMPSHIRE

WIND TOWER SETBACK ZONES

NO.	DATE	REVISION DESCRIPTION	ENG	DWG

DATE: NOV. 2022	PROJECT #: 220907
ENGINE'D BY: ---	DRAWN BY: SJB
CHECK'D BY: ---	ARCHIVE #: H-

SHEET 1 OF 1