

1.0 PROJECT DESCRIPTION

Weaver Wind, LLC (Applicant), a wholly owned subsidiary of First Wind Energy, LLC, proposes to construct the Weaver Wind Project (project), a 23-turbine utility scale wind energy facility in Hancock County, Maine (Figure 1-1). Eight turbines are proposed to be constructed in the Town of Eastbrook and 15 turbines in the Town of Osborn. The turbines will have an installed capacity of 75.9 megawatts (MW) of electricity.

The project area primarily consists of low elevation mixed forest, which is predominantly managed for commercial timber production. The project will be constructed on hills south of Route 9, including Hardwood Hill, Birch Hill, Een Ridge, Little Bull Hill, and other unnamed hills nearby (Figure 1-1). Ridge elevations within the project area range between 500 and 700 feet above sea level.

As described in greater detail below, other project features will include: upgrades to existing roads and construction of new roads; up to five permanent and up to eight temporary meteorological (met) towers; and a series of 34.5 kilovolt (kV) electrical collector lines among the turbines and connecting to an interconnection facility adjacent to an existing substation in T16 MD. Weaver Wind, LLC will be responsible for permitting, constructing, and operating the project including the following elements: wind turbines and associated collector lines; access roads; crane paths; permanent and temporary meteorological towers; and a substation and interconnection facility.

The project is designed so that two turbine models can be constructed. The specific turbine types are:

- Vestas V117-3.3; 116.5 meter hub height and a maximum height of 574 feet; or
- Vestas V126-3.3; 117 meter hub height and a maximum height of 591 feet.

This permit application provides the most conservative analysis of the tallest turbines (Vestas V126-3.3) for visual, wildlife, and public safety impacts, as well as the largest turbine pad footprint for civil design. The assessments for sound and shadow flicker analyze the impacts of both turbines.

A substantial road network, primarily consisting of gravel logging roads, currently exists within the project area. The Applicant will use existing roads to the extent practicable to minimize project impacts. Approximately four miles of existing access roads will be upgraded to provide construction and maintenance access to the project

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MDEP Site Location of Development/NRPA Combined Application
SECTION 1: PROJECT DESCRIPTION

areas and to connect turbine locations. Additionally, roughly six miles of new roads will be constructed to further connect turbine locations and will be maintained by the Applicant (Exhibit 1A). There are also 17 laydown areas proposed for the project, all of which will be temporary (Exhibit 1A). Tree clearing will be required within the majority of the laydown areas as summarized in Table 1-1.

Table 1-1. Summary of temporary laydown areas proposed for the project.

Laydown Area ID	Location	Town / Township	Approximate Size (acres)	Estimated Tree Cover (%)	Approximate Tree Clearing (acres)
0	Spectacle Pond Road	Osborn	3.9	28.2	1.1
1	O&M Building	Aurora	4.2	16.7	0.7
2	Spectacle Pond Road/Grant Farm Road	Osborn	12.7	27.6	3.5
3	Turbine 4	Osborn	1.8	100	1.8
4	Met Tower pmt_22_23	Osborn	3.8	100	3.8
5	Turbine 8	Eastbrook	0.9	100	0.9
6	Turbine 8	Eastbrook	0.9	100	0.9
7	Turbine 19	Osborn	1.7	100	1.7
8	Turbine 16	Osborn	1.7	100	1.7
9	Turbine 17	Osborn	1.7	100	1.7
10	Turbine 10	Eastbrook	1.8	100	1.8
11	Turbine 20	Osborn	1.7	100	1.7
12	Turbine 11	Eastbrook	1.8	100	1.8
13	Turbine 24	Osborn	1.8	83.3	1.5
14	Turbine 22	Osborn	1.4	0	0
15	Turbine 22	Osborn	2.4	0	0
17	Bull Hill T10-T19 Pads	T16 MD	7.2	0	0

The project will use the Operations and Maintenance (O&M) building permitted as part of the Hancock Wind Project, which will be located in the Town of Aurora (Figure 1-1). The use of this O&M building will not require a change to the approved O&M building design(s) previously approved by the MDEP.

The power from each turbine will be collected in approximately 24.5 miles of 34.5-kV electrical collector lines (Figure 1-1). The majority of collector lines will be underground, though above-ground lines will also be installed. The underground electrical collector lines will be buried in trenches generally located within roadways. Below grade boxes will be installed as needed (typically every 1500 feet) to splice collector cables and will be installed immediately adjacent to roadways. Boxes will be located to avoid natural resource locations. Underground fiber optic communications cables will be installed in typical two-inch conduits routed adjacent to the electrical collector lines, and the fiber optic cables will require splice/pull boxes. Overhead collector lines will avoid impacts to wetlands and will be installed on wood utility poles in areas where roadways do not exist.

Power from the collector lines will be transmitted to the expansion of the Bull Hill substation in T16 MD, where it will tie into the existing electrical grid. The associated expansion may include an oil-water separator within the footprint of the substation, if necessary. Electrical infrastructure will be located within a fence at the substation expansion to “step up” the power to 115 kV and transmit it directly to Emera Energy’s Line 66. Line 66 is an existing 115-kV transmission line that can accept power from the project. Electrical design plans are provided in Exhibit 1B.

The project also includes up to five permanent and eight temporary met towers (Figure 1-2). Both permanent and temporary met towers will be a maximum height of 400 feet, and the footprint for each tower will be a maximum of 3.82 acres per tower. Project plans depict five potential locations for permanent met towers, as well as associated clearing impacts (Exhibit 1A).

During construction, temporary met towers will be placed at turbine pad locations before turbines are erected (Figure 1-2). These temporary towers will be removed prior to the completion of construction. All temporary met towers will either be erected with guy wires or will be self-supporting structures, though it is likely that one tower (tmt_14) will be self-supporting. In restricted areas where guy lines are not possible, permanent met towers will also be self-supporting. Four of the permanent met towers will likely be guyed, while the other tower is expected to be self-supporting.

In addition to met towers proposed for the project, four other met towers in the vicinity of the project were previously permitted for wind resource data collection (Figure 1-2).

All four of these towers have been erected and are guyed, and at least two of the towers will be removed prior to the completion of project construction.

The Weaver Wind Project will use a radar-assisted lighting system. Radar-assisted lighting is designed to minimize the effects of nighttime safety lighting of turbines. Such systems allow turbine obstruction lights to remain off at all times unless an aircraft is operating in the vicinity of the site, thus greatly reducing the time that nighttime lighting is visible. The Federal Aviation Administration (FAA) has yet to approve these systems; therefore, standard turbine lighting will be installed initially. Once the FAA has granted approval, the project will be retrofitted with radar-assisted lighting provided such systems are technically feasible and economically viable. Further details on lighting are presented in Section 27.0.

The Applicant has an Easement Agreement with Ursa Major, LLC for all applicable Ursa Major lands in the Town of Osborn and T22 MD, and a Lease Agreement with Tree Top Manufacturing, Inc. for all applicable Tree Top lands in the Towns of Osborn and Eastbrook. A Lease Agreement exists with Donald Jordan for the Operations and Maintenance (O&M) building site in Aurora, which was permitted for the Hancock Wind Project. For the Bull Hill substation site in T16 MD (including access thereto), the Applicant has an Easement Agreement from Lakeville Shores. Figure 1-3 depicts the lands with leases and easements associated with the project.

As part of the permitting process, the Applicant has completed studies of natural resources and wildlife in the project area and on adjacent lands. Studies involved inventorying natural resources and wildlife species that occur in the area. As designed, the project will not result in any temporary or permanent fill in wetlands. Additionally, there will not be any new stream crossings as a result of the project.

Certain project activities, such as filling, grading, and installing stormwater controls are proposed within the regulated natural resource buffers and will require permits from the MDEP pursuant to the Natural Resources Protection Act (NRPA); therefore, the permit application contained herein is combined application to satisfy the Site Location of Development Law and the NRPA. The Tier 3 NRPA application form is provided aside the Site Location of Development application form, and the associated NRPA content is embedded throughout the text of this application.

1.1 Construction Plan

First Wind, LLC possesses extensive experience constructing wind energy facilities in Maine, with five projects currently in operation and another in construction. First Wind is committed to constructing facilities that minimize environmental impacts and comply with regulatory requirements and recommendations.

Construction of the Weaver Wind Project is projected to begin in the fall of 2015 with the goal of project completion set for fall of 2016. The sequence of project construction will generally adhere to the timeline detailed below (Table 1-2), although adjustments may be necessary to accommodate seasonality and weather conditions.

The project site will be accessed by the network of existing logging roads. Construction will likely be somewhat linear, but multiple areas may be constructed concurrently depending on the final overall construction schedule.

Once the site or portions of the site are cleared, such areas will be grubbed and earthwork to build crane paths and pads will commence. When an area has sufficient roads and pads built to accommodate foundation construction, foundations will be built in place with concrete delivered from a redi-mix concrete plant.

Concurrently to earthwork and foundation installations, the electrical collection system will be installed. Underground collection systems along turbine strings will likely be constructed in conjunction with the earthwork activities in those areas. Underground collection lines located along existing access roads, as well as the overhead collection system, will be constructed at a time that accommodates the overall project schedule.

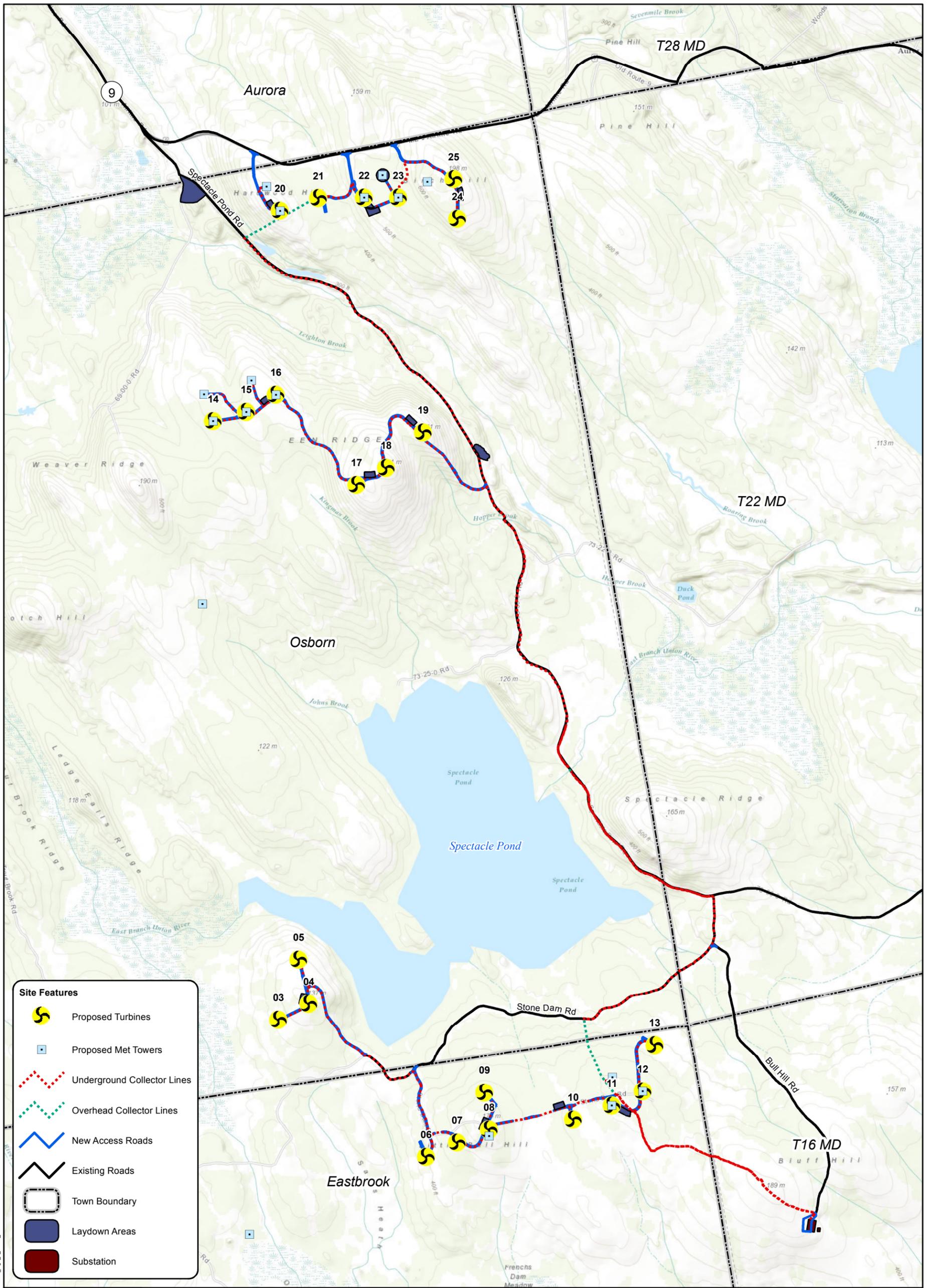
Turbines will be delivered to the site and may be temporarily staged at laydown areas or delivered directly to the turbine pads. This will depend on the final construction schedule. Turbine erection will generally be linear, depending on the final construction schedule. Components will be erected by several crews, with each crew focusing on certain components (i.e. one crew for lower level components and other crews focusing on mid and high level components). As individual turbines are completed, internal electrical and cleaning work will occur.

Substation construction, if needed, will likely occur concurrently with other work on site. The site will be prepared to provide sub-grade or final-grade for foundation construction. Foundations will be constructed either as pre-cast foundations delivered to the site or foundations cast on site with concrete from a redi-mix plant (or a

combination of both). Once foundations are constructed, structural steel will be installed to support the substation components. Other control buildings, as needed, in the substation will either be constructed on site or pre-fabricated and delivered. If necessary, the substation will be energized for back feeding the site collection system and the turbines for final testing and commissioning.

Table 1-2. Proposed construction schedule.

Task	Timeframe
Erect temporary and permanent met towers	Weeks 1 - 4
Preliminary layout and staking of new road segments, turbine clearings, and laydown areas	Weeks 4 - 8
Install erosion control measures in areas to be disturbed	Weeks 9 - 13
Clear for roads, collection system, turbines, and laydown areas	Weeks 12 - 16
Grubbing and initial grading for roads, turbines, and laydown areas	Weeks 16 - 24
Blasting (as needed) and on-site stockpiling of reusable blasted bedrock	Weeks 16 - 30
Remove temporary met towers	Weeks 20 - 45
Underground trench/conduit work	Weeks 22 - 36
Hauling and stockpiling of aggregate from local borrow pits	Weeks 24 - 36
Construct turbine foundations and substation transformer pad	Weeks 24 - 38
Final grading of roads and turbine areas	Weeks 30 - 38
Turbine delivery, assemble rotors, erect towers, lift nacelles and rotor assemblies, construct above ground and underground collection systems, permanent met towers	Weeks 32 - 40
Install transformers and activate turbines	Weeks 32 - 36
Commission and test wind turbine generators and electrical interconnections	Weeks 40 - 46
Remove temporary erosion and sedimentation control measures upon final site stabilization and reseedling	Weeks 46 - 50
Begin commercial operations	Week 50



Site Features

- Proposed Turbines
- Proposed Met Towers
- Underground Collector Lines
- Overhead Collector Lines
- New Access Roads
- Existing Roads
- Town Boundary
- Laydown Areas
- Substation

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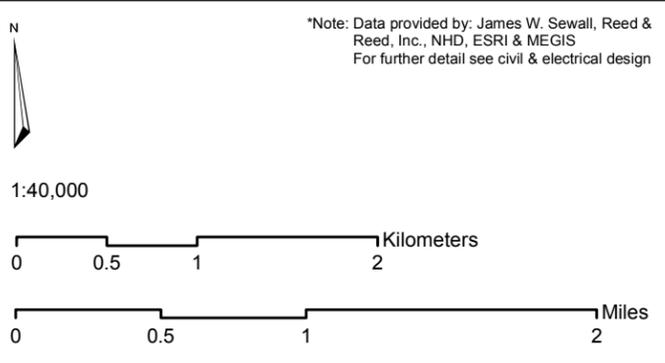


Figure 1-1
Weaver Wind Project
Layout & Location

Weaver Wind Project
Hancock County, Maine



Normandeau Associates
8 Fundy Road
Falmouth, ME USA
04105

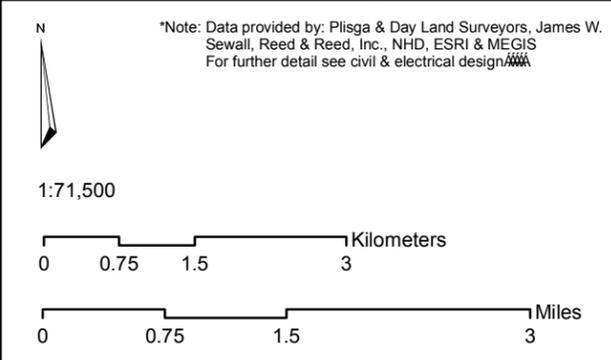
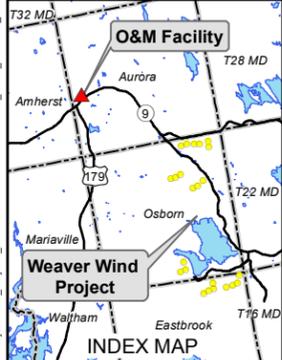
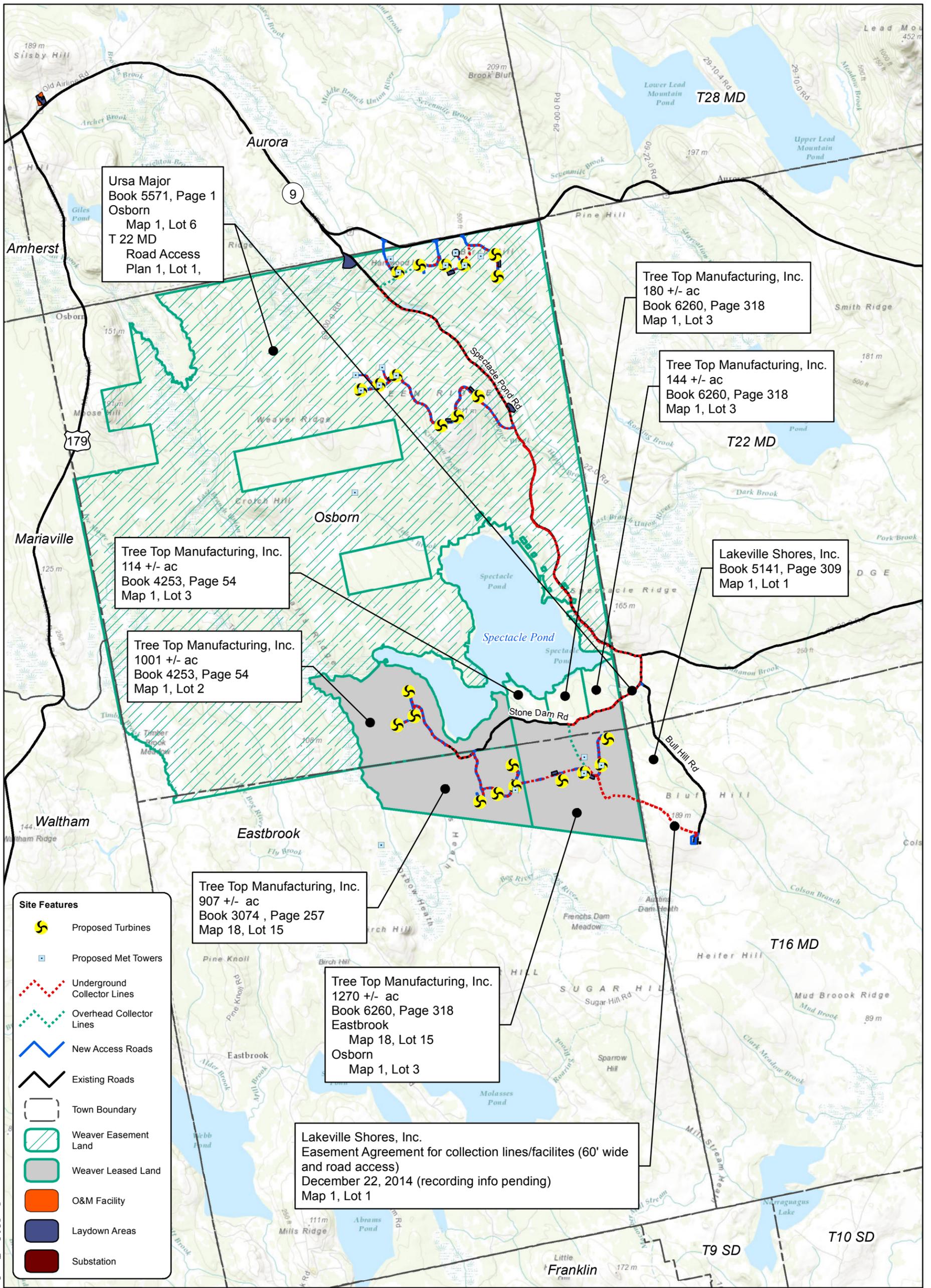


Figure 1-3
Weaver Wind Easement and/or Leased Areas
 Weaver Wind Project
 Hancock County, Maine

Exhibit 1A: Civil Design Plans

Exhibit 1B: Electrical Design Plans