

Silver Maple Wind Project

Visual Impact Addendum

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Prepared by SWEB Development USA, LLC,
in collaboration with Strum Consulting Inc.



Dear Jessica Damon,

In response to the latest Peer Review feedback on May 20th, 2020, SWEB Developments and our consultants (Strum Consulting, and CES Inc.) have compiled this addendum document to our Visual Impact Assessment (VIA). The goal of this analysis is to provide a quantitative scaling system to "grade" our visual impacts at the relevant Scenic Resources of State and National Significance (SRSNS). This system will help the Maine Department of Environmental Protection in their decision making process, support the Peer Review process through a quantitative methodology, and also assist the public in interpreting the reporting results of the VIA.

Methodology

We have created several scaling systems through which to interpret the results of the Visual Impact Assessment, using the tabular system outlined by Scenic Quality Consultants on Table 5 (page 13) of the May 20th Peer Review response.

Scenic Value of Resource

The first is a 1-10 scale to grade the Scenic Value of the various SRSNS. The scale is intended to examine only the "scenic" value of these resources, rather than any historic, cultural, environmental-services related, or other value metrics. While some SRSNS, such as East Eddington Public Hall for example, rank low on this scale, we recognize the importance of these resources as significant centers of local and regional cultural use. SRSNS that rank highly in this scale, such as Hopkins Pond, are understood to derive much of their value from viewsheds which simultaneously incorporate both mountain and lake vistas. This scale also aims to capture the degree to which the SRSNS is enjoyed as a unique draw on regional, national, and international levels. A resource located in or near Acadian National Park or Mount Katahdin for example, may yield a "10" on this scale, while SRSNS which are used almost exclusively by local or regional visitors (as a unique, stand alone tourism destination) would rank lower.

Significance of Impact

The second scaling system examines the scope and scale of the visual impact on the SRSNS. The scale ranges from 0-10, with zero (0) representing a state in which the project is not visible within the relevant viewshed. This system aims to capture the degree of change to the user experience of the viewshed in question after the project has been built. These metrics account for the proportion of the viewshed which is already human-made, along with the amount of the skyline/viewshed of which the project will comprise. The highest scoring sites in this metric are SRSNS in which the project may obscure relevant viewsheds comprised with full views of mountains and lakes. An alternative, more quantitative methodology is also put forward on Tables 4 and 5, which we hope the Department finds useful.

We hope that this analysis and methodology are of value in the review process, and can assist the State and the public in their critical analysis of the project.



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Table 1: Results: Summary of SRSNS Scenic Value and Significance of Impacts: Silver Maple Wind Project

	Scenic Value of Resource	Significance of Impact	Scale of Impact (out of 100)	Reference Section in Visual Impact Assessment
Chemo Pond	8	3	24	3.2.2.7
Hopkins Pond	8	3	24	3.2.3.7
Mountainy Pond	8	3	24	3.2.4.7
Parks Pond	8	3	24	3.2.5.7
Upper Union R. Focus Area	6	3	18	3.2.6.7
Bald Bluff River Focus Area	7	1	7	3.2.7.7
West Branch Union River	3	1	3	3.2.8.7
Cliffwood Hall	1	2	2	3.2.9.7
Harold Allen Schoolhouse	1	2	2	3.2.10.7
East Eddington Public Hall	2	2	4	3.2.11.7
Holden Town Hall	2	2	4	3.2.12.7

Results and Conclusion

It should be noted that, while these resources are of great value to both year-round and seasonal residents, none of the ponds themselves are registered as national landmarks. Certainly, these attractions are of great value to the State of Maine, and the protection of their viewsheds should be treated as an important piece of the Silver Maple Wind Project. Fortunately, the project will have a low impact on these resources, from both the perspective of physical proximity to natural scenery, and impact on the entire viewshed of the ponds in question. In the case of human-made historical sites such as the Eddington Public Hall, and the Clifwood Hall, etc. cumulative impacts will be mitigated by the existing Pisgah Mountain wind project, along with the encompassing “manufactured landscape” within which these SRSNS already sit.

Table 2: Metrics: Scenic Value of Resource

Low	1	Low scenic quality with predominantly humanmade features. Or a natural viewshed that draws visitors for reasons other than natural scenery (historic site, museum, etc).
	2	Moderate scenic quality. Natural viewsheds are not a specific draw for recreational enjoyment, but some natural beauty is visible at the extremes of the viewshed.
	3	Scenic viewsheds are mostly human made, with mountains or lakes visible in the middle and extremes of the viewshed. OR viewsheds are natural, but not a major draw for regional or out-of-state tourism.
Medium	4	Scenery is known and enjoyed almost exclusively by residents adjacent or nearby to the resource.
	5	Scenery is known locally, and used primarily by residents of the town
	6	Scenery is known locally. Visitors will regularly cross town lines specifically to experience the viewshed. Out of county viewers will experience this viewshed, but not necessarily plan visits to the region specifically for this viewshed.
High	7	Scenery is known and enjoyed locally and regionally. Visitors regularly cross county lines specifically to experience the viewshed. Out-of state visitors enjoy this viewshed, but do not necessarily plan travel to the region specifically for this viewshed.
	8	Scenery is known and enjoyed by seasonal homeowners, and year round local residents. Visitors regularly travel across state lines specifically to experience this viewshed.
	9	Viewshed is known widely both nationally and internationally. Visitors regularly cross international lines specifically to experience this viewshed.
	10	Viewsheds are known widely, and formally protected as a national or international parks or historical site, <i>and</i> visitors regularly cross international lines specifically to experience this viewshed.

Scenic Value of Resource: Conclusions

Based on the criteria above, it can be determined that the Silver Maple Wind Project truly is located in proximity to a number of scenic resources that are a key draw for visitors to the region. The region is a draw for many visitors from both within Maine and out of state, and while some of these SRSNS are a draw in and of themselves, many of the viewsheds in question are enjoyed from both cold water lakes, and warm water lakes.

Table 3: Metrics: Significance of Impact

Low	0	Project is not visible
	1	Project is glimpsed sporadically, but only to a small degree. Embedded in a field of vision largely composed of other manufactured elements, OR is largely obscured by dense foliage or other naturally occurring elements which dominate the viewshed.
	2	Project infrastructure is glimpsed periodically, and/or is set against a visual context of human-made features
	3	Project infrastructure can be seen at a distance in the viewshed, but is moderated by natural and/or human-made scenery in the foreground.
Medium	4	Project infrastructure is clearly visible from certain angles, if the viewer knows what to look for. Viewshed is comprised of both human-made, and natural scenery.
	5	Project composes a moderate proportion of the field of vision, along with some moderate amount of manufactured infrastructure
	6	Project is visible to a large degree in the viewshed, but natural scenery is limited (low amount of water or significant topography is visible in the same viewshed)
High	7	Project infrastructure is strikingly visible to a large degree, in an environment of mixed natural and human-made features
	8	project comprises a moderate proportion of the viewshed, against a backdrop of sporadic human-made features
	9	Project comprises significant portion of the viewshed, in an environment of moderate scenic natural beauty
	10	Project visuals dominate the field of vision in a landscape with formerly dramatic natural scenery

Significance of Impact: Conclusions

The SRSNS analyzed in the VIA report all fall in the "Low" category, as the project, while visible from a number of SRSNS, is at all points set in the distance and in the background of the viewsheds. In no cases does the Silver Maple Wind Project "dominate" the viewshed of any identified SRSNS.

This assessment is bolstered by a summary of the data generated by Strum Consulting's VIA report. The summary table below compiles the visual impact data relevant to each SRSNS. Of particular note is the Horizontal View Angle column, and the "Project Visible from Percentage of SRSNS (Bare Earth case)" columns. Both highlight the practical user experience of the viewsheds in question. Even under the "worst case" conditions, a total absence of vegetative growth, the project will be contained in a maximum of 16 degrees (out of 360 degrees) at the most visible vantage points. Viewsheds at which the project is visible are also extremely rare, as in nearly all of the ponds in question, the project is only visible from a between 9%-20% of the entire water body. The only exception is Chemo Pond, where the project will be visible from 85% of the pond, yet only encompass a maximum of 7° of the entire 360° viewshed (as measured by its horizontal view angle).

Alternative Methodology

On the following page, Table 4 and Table 5 present an alternative method to calculate the Significance of Impact. This methodology uses several quantitative metrics from the Visual Impact Assessment to derive a score out of 180,000. Both yield the same "Low" conclusions as the initial methodology but are drawn from quantitative evidence derived from WindPro and other GIS software. The Scales used in Table 3 were chosen for inclusion on the primary Results in Table 1, as the scaling system is more in line with usage and the general public.

On Table 4 and 5, the horizontal view range is based on a 360-degree standard, rather than 180 degrees. Since viewers are expected to be taking in scenery on all sides, rather than remaining stationary and looking directly ahead.

A multiplier of 25% has been assigned to the *Project Visible from Percentage of SRSNS* on Historic Buildings in the study, as the typical viewer is drawn to such sites for purposes other than mountains, lakes, and other scenery. Also, viewers are likely to spend more time indoors at these sites, rather than facing scenic mountainscapes on the horizon.

The Significance of Impact score is derived by multiplying the columns to the left. The only deviation is the "Distance to SRSNS". In the "Significance of Impact" column, the distance from the turbine to the SRSNS (in miles) is subtracted from ten (10), in order to assign a higher impact to SRSNS that are **closer** to the project area. Please refer to the workbook for more detail.

Table 4. Significance of Impact: Rating Scale

Significance of Impact - Rating Scale		
	Upper End	Lower End
High	180,000	120,000
Medium	119,999	60,000
Low	59,999	0

Table 5: Alternative Methodology: Significance of Impact

	Horizontal View Angle (degrees, out of 360)	Project Visible from Percentage of SRSNS (Bare Earth case)	Number of Visible Turbines	Distance to SRSNS	Proximity Multiplier*	Significance of Impact Score (x/180,000)**	Significance of Impact - Rating
Chemo Pond	7	85%	5	4.7	5.3	158	Low
Hopkins Pond	16	20%	5	4	6	96	Low
Mountainy Pond	6	13%	5	3.5	6.5	25	Low
Parks Pond	9	9%	5	2.8	7.2	29	Low
Upper Union R. Focus Area	10	20%	5	6.1	3.9	39	Low
Bald Bluff River Focus Area	9	15%	5	6.9	3.1	21	Low
West Branch Union River	10	20%	5	6.1	3.9	39	Low
Cliffwood Hall	12	25%	5	2	8	120	Low
Harold Allen Schoolhouse	16	25%	5	2	8	160	Low
East Eddington Public Hall	16	25%	5	3.4	6.6	132	Low
Holden Town Hall	9	25%	3	6.6	3.4	23	Low

1. * Proximity Multiplier = (Ten (10) - Proximity of Turbines to the SRSNS (miles)).
 - a. This formula is intended to assign a higher value to projects with a closer proximity to the project. The multiplier ranges between 10 (most impactful), and 1 (least impactful)

2. **Significance of Impact Score = (Horizontal View Angle * Project Visible from Percentage of SRSNS * Number of Visible Turbines * Proximity Multiplier)
 - a. The result is a score ranging between 180,000 (maximum impact) and 0 (no impact whatsoever).