

**STATE OF VERMONT  
PUBLIC UTILITY COMMISSION**

Petition of Northland Solar LLC for a )  
Certificate of Public Good, pursuant to 30 )  
V.S.A. § 248, authorizing the installation )  
and operation of a 4.999 MW solar electric ) Case No. 25-\_\_\_\_-PET  
generation facility off Route 100 in Lowell, )  
Vermont to be known as the “Northland )  
Solar Project” )

**PREFILED DIRECT TESTIMONY OF MICHAEL LEW-SMITH**

October 1, 2025

Summary: Mr. Lew-Smith’s testimony addresses the Northland Solar Project’s compliance with certain Section 248(b)(5) criteria related to natural resources.

**Exhibits**

**NS-MLS-1:** Resume

**NS-MLS-2:** Natural Resources Assessment

1 **Q1. Please state your name, occupation, and business address.**

2 A1. My name is Michael Lew-Smith, and I am an ecologist and botanist and specialize in  
3 conducting wetland delineations, and surveys for RTE plants and significant natural  
4 communities. I am an owner and one of the managing partners of Arrowwood  
5 Environmental (“AE” or “Arrowwood”), a firm that provides environmental services,  
6 including ecological assessments and natural resource mapping. Our primary office is  
7 located at 950 Bert White Road, Huntington, Vermont, 05462.

8  
9 **Q2. What is the purpose of your testimony?**

10 A2. My testimony supports the petition of Northland Solar LLC (“NS” or “Petitioner”) for  
11 approval to construct and operate a 4.999 megawatt (“MW”) solar electric generation  
12 facility, to be known as the Northland Solar Project (“Project”), in Lowell, Vermont. I  
13 testify on its compliance with certain Section 248(b)(5) criteria related to natural  
14 resources.

15  
16 **Q3. Please describe your professional background, qualifications, and experience.**

17 A3. I received a Bachelor’s Degree in Natural Resource Management from the University of  
18 Michigan and a Master’s Degree in Plant Biology from the University of Minnesota. I  
19 am one of AE’s founding partners. Over the past 20 years, I have conducted numerous  
20 environmental assessments for proposed developments and also worked with many towns  
21 in mapping and assessing natural communities. See my resume, *Exhibit NS-MLS-1*.

22

1 **Q4. Have you previously testified before the Public Utility Commission?**

2 A4. Yes. I have provided prefiled testimony and/or exhibits on behalf of a number of  
3 projects, including recent projects such Barnet Solar, Case No. 23-3381-PET; Furnace  
4 Brook Solar, Case No. 23-4028-PET; Post Road Solar, Case No. 23-4324-PET; Little  
5 Brook Solar, Case No. 23-4324-PET; and Stone House Solar, Case No. 25-1827-PET.

6  
7 **Q5. What work have you conducted with respect to the Project?**

8 A5. Under my direction in whole or part, Arrowwood has prepared a technical memorandum  
9 which I rely on when making my assessments under the Section 248(b)(5) natural  
10 resources criteria described in further detail below. See *Exhibit NS-MLS-2*.

11 In making my assessments, support staff at Arrowwood and I have relied upon the  
12 Project site plans developed by Krebs & Lansing Consulting Engineers, Inc. (“K&L”)  
13 (*Exhibit NS-TH-2*) as well as information provided by NS. My understanding of the  
14 Project comes from design planning coordination with K&L’s engineer as well as NS and  
15 its agents. Project support staff and I have provided recommendations to the site plans,  
16 which have incorporated several suggestions to avoid/minimize natural resource impacts  
17 as well as incorporate best management practices/details. The results of Arrowwood’s  
18 specific assessments are included in detail in the above-referenced memorandum, and  
19 generally summarized below.

20

1 **Q6. What areas did you review for natural resources related to your evaluation of the**  
2 **Project?**

3 A6. AE reviewed the full Project parcel, as shown in Figure 1 of the natural resources  
4 memorandum in *Exhibit NS-MLS-2*. In addition to this study area, AE reviewed the  
5 interconnection route to the point of interconnection at an existing pole on the VEC  
6 substation site off Route 100.

7  
8 **Q7. Will there be any impacts to natural resources as a result of the interconnection**  
9 **upgrades from the Project site to the point of interconnection?**

10 A7. No, there are no mapped natural resources that will be impacted by these upgrades, which  
11 was verified by AE's field study and wetland delineation. There are no streams, wetlands  
12 or wetland buffers, rare and irreplaceable natural areas, rare, threatened, and endangered  
13 animal or plant species, or necessary wildlife habitat along the interconnection route from  
14 the Project site to the point of interconnection. The only potential impact to natural  
15 resources is approximately 0.03 acres of vegetative management, which may involve  
16 some tree limbing or removal, including the possible removal of an existing tree near the  
17 VEC substation where the overhead line will cross over onto the VEC substation parcel.  
18 No stumping or grubbing will occur. Other than the limited areas of vegetative  
19 management indicated on the Project site plan (*Exhibit NS-TH-2*), the area where the  
20 interconnection route will run is either existing access drive or mowed lawn and/or hay  
21 field and does not present any potential for undue adverse impacts to any Section 248(b)  
22 environmental criteria.

23



1 area. For these reasons, the Project will have no adverse impact on headwater areas. See  
2 further details in my report, *Exhibit NS-MLS-2*.

3  
4 **Floodways – 10 V.S.A. § 6086 (a)(1)(D)**

5 **Q10. Is the Project within a floodway or floodway fringe, and if so, what are the potential**  
6 **impacts?**

7 A10. The Project is not located within a 100-year flood zone area or a river corridor and will  
8 not restrict or divert the flow of floodwaters or significantly increase the peak discharge  
9 of a river or stream within or downstream from the area of development. Based upon the  
10 above and further details in my report, *Exhibit NS-MLS-2*, the Project will not have any  
11 undue adverse impacts on floodways, floodway fringes, or river corridors, nor will the  
12 Project endanger the health, safety, or welfare of the public or riparian owners as it  
13 relates to flood events or fluvial erosion.

14  
15 **Streams – 10 V.S.A. § 6086 (a)(1)(E)**

16 **Q11. Is the Project on or adjacent to the bank of a stream?**

17 A11. Yes. There are two streams near the Project. As discussed in *Exhibit NS-MLS-2*, an  
18 unnamed intermittent stream, which is a tributary to the LeClair Brook, flows the width  
19 of the Project parcel. The Project's proposed access road involves a crossing over this  
20 stream, which is unavoidable. However, the proposed crossing has been designed with a  
21 36" DHPE culvert, which will minimize impacts to the stream and its associated riparian  
22 buffer. The area of riparian buffer impact is within the existing agricultural field and will  
23 not result in additional tree clearing in this area. No other Project impacts to streams or

1 riparian buffer areas are proposed. Based upon the above and further details in my  
2 report, *Exhibit NS-MLS-2*, the Project will not have an undue adverse impact on streams.

3  
4 **Shorelines – 10 V.S.A. § 6086 (a)(1)(F)**

5 **Q12. Is the Project located on a shoreline?**

6 A12. No. The site of the proposed Project is not located on a shoreline. Thus, the Project will  
7 not result in undue adverse impacts to shorelines. *Exhibit NS-TH-2*.

8  
9 **Wetlands – 10 V.S.A. § 6086 (a)(1)(G)**

10 **Q13. Is the Project located in or adjacent to a wetland or wetland buffer? If so, will the**  
11 **Project comply with the rules of the Agency of Natural Resources (“ANR” or**  
12 **“Agency”) regarding significant (Class 1 or 2) wetlands?**

13 A13. Yes. There are Class II wetlands adjacent to the Project area and a Class III wetland  
14 within the Project area, as shown in the natural resources map in *Exhibit NS-MLS-2*.  
15 However, the Project has been sited to avoid impacts to the Class II wetlands, including  
16 the 50’ buffer around these wetlands. See Site Plan, *Exhibit NS-TH-2*. The Class III  
17 wetland within the Project site is an isolated depression that lacks significant wetland  
18 functions and values. The Project will therefore result in no undue adverse impacts to  
19 wetland resources. See *Exhibit NS-MLS-2* for further discussion.

1 **Q14. Will the Project require a jurisdictional determination, exemption, or permit from**  
2 **the United States Army Corps of Engineers (“USACOE”) for impacts to the Class**  
3 **III wetlands?**

4 A14. No. The proposed impacts to this wetland qualify for “non-reporting” from the  
5 USACOE, and therefore no USACOE permit is required.

6  
7 **Rare and Irreplaceable Natural Areas – 10 V.S.A. § 6086 (a)(8)**

8 **Q15. Is the Project located in or adjacent to any rare and irreplaceable natural areas, or**  
9 **will it have any undue adverse impacts on any such areas?**

10 A15. No. As described in *Exhibit NS-MLS-2*, there are no significant natural communities that  
11 would be considered Rare and Irreplaceable Natural Areas within the Project area and  
12 thus, there will be no adverse impacts on Rare and Irreplaceable Natural Areas.

13  
14 **Endangered Species and**  
15 **Necessary Wildlife Habitat – 10 V.S.A. § 6086 (a)(8)(A)**

16 **Q16. Will the Project impact any necessary wildlife habitat?**

17 A16. Yes. As discussed in greater detail in *Exhibit NS-MLS-2*, the hayfield where the Project  
18 is located is suitable habitat for grassland bird species, although the current mowing  
19 schedule likely impacts the current success of these species. There is mapped white-tailed  
20 deer wintering area (“DWA”) habitat adjacent to the east of the northern Project area and  
21 there is no black bear habitat and no vernal pools within the Project area.

22

1 **Q17. Will the Project destroy or significantly imperil the adjacent DWA habitat?**

2 A17. No. During field inventories, AE confirmed the absence of historic or recent deer  
3 wintering activity or habitat within the Project area. NS has incorporated best  
4 management practices to minimize impacts on the DWA habitat. With the  
5 implementation of these best management practices, the Project will not destroy or  
6 significantly imperil the DWA habitat.

7  
8 **Q18. Will the Project destroy or significantly imperil grassland bird habitat?**

9 A18. No. As presented in greater detail in *Exhibit NS-MLS-2*, the Project proposes to  
10 mitigate the direct impacts to grassland bird habitat, as well as the potential secondary  
11 impacts (per the Vermont Fish & Wildlife Grassland Bird Habitat Guidance), through  
12 annual mitigation payments to the Vermont Audubon Bobolink Project or another ANR-  
13 approved mitigation fund throughout the lifespan of the Project based on a set rate per  
14 acre of impact (direct and secondary) and at a ratio of two-to-one for mitigation-to-  
15 impact. There are 38.3 acres of available grassland bird habitat located at the Project site,  
16 which will require mitigation for impacts to 76.6 acres of habitat. See *Exhibit NS-MLS-*  
17 *2*. With this mitigation, the Project will offset the impacts to the potential grassland bird  
18 habitat and will not destroy or significantly imperil any NWH.

19

1 **Q19. Is the Project located in or adjacent to habitat of any rare, threatened, or**  
2 **endangered (“RTE”) species? If so, will the Project destroy or significantly imperil**  
3 **any endangered species?**

4 A19. Due to the nature of the site as a managed hay field, a rare plant inventory was deemed  
5 unnecessary by ANR botanist Grace Glynn (email communication dated 7/9/2024).  
6 Given the nature of the vegetation on the site, the Project does not present a risk of undue  
7 adverse impact on RTE plant species. *Exhibit NS-MLS-2* provides additional details  
8 supporting these conclusions. With respect to RTE animal species, the Project is located  
9 in the town of Lowell, which ANR has determined is within the predicted summer ranges  
10 for both Northern Long-Eared Bat and Tricolored Bat. However, the Project site is  
11 almost entirely hayfield and involves only 0.03 acres of vegetative management along the  
12 proposed interconnection route, which is less than the threshold applied by VFWD of 1%  
13 of the total forested area within a 1 square mile radius of the Project to trigger further  
14 conservation measures. The Project will therefore have no undue adverse impact on RTE  
15 animal species.

16

17 **Outstanding Resource Waters – 10 V.S.A. § 1424a(d)**

18 **Q20. Is the Project located on or would it affect any segment of any outstanding resource**  
19 **waters designated by the former Water Resources Board, former Water Resources**  
20 **Panel, or ANR?**

21 A20. No. As described in *Exhibit NS-MLS-2*, no outstanding resource waters will intersect  
22 the Project and as such the Project will not affect any segment of any outstanding  
23 resource waters.

1

2

**Use of Natural Resources – 30 V.S.A. § 248(b)(5)**

3

**Q21. Will the Project have an undue adverse impact with respect to the use of natural resources?**

4

5

A21. No, it will not. As described in *Exhibit NS-MLS-2*, and my testimony above, the Project will not have an undue adverse impact on headwaters, floodways, streams, shorelines, wetlands, rare and irreplaceable natural areas, rare threatened and endangered species and necessary wildlife habitat, or outstanding resource waters.

6

7

8

9

10

**Q22. Does that conclude your testimony at this time?**

11

A22. Yes.