

April 4, 2016

Representative David Deen
House of Representatives
State of Vermont
115 State Street
Montpelier, VT 05633-5301

via email

*Scientists, Engineers &
Environmental Planners
Designing Innovative
Solutions for Water,
Wetland and Soil
Resource Management*

Honorable Representative Deen:

As a follow up to my testimony on March 22, 2016 and on behalf of Energize Vermont, I thank you for providing an opportunity to participate in the public review of renewable energy projects and the impacts to water resources. It was, and is an honor to be able to discuss such an important issue with you and your legislative committee. One item that I am hearing for not implementing Condition 14 of the 6216-INDS for KCW (individual operational stormwater management permit) is that the monitoring of water quality in the lower elevations of Lowell Mountain is proof enough that the stormwater system is functioning as designed and protective of water quality. It is emphasized that these are two conditions of two separate regulatory documents. While distally related, one cannot be replaced by the other, aside from the fact that they are both required to be implemented as per the issued permits.

The purpose of 6216-INDS's Condition 14, the subject of my testimony, was to ascertain if the Alternative Stormwater Treatment Practice components up at the elevation of the project are functioning to meet the specific performance standards outlined in the VT Stormwater Management Manual (VSMM). These include 1) Water Quality, 2) Channel Protection, 3) Groundwater Recharge, Overbank Flood Protection (10-year recurrence flood), and Extreme Flood Protection (100-year recurrence flood). This is accomplished, according to GMP's consultant, via photo-documentation, video and water sampling during storm events. The purpose of this required study would be to understand if the modeling was accurate and if the system will function in accordance with the regulations. The water quality monitoring, part of the 401 Water Quality Certificate and distinct from Condition 14 of 6216-INDS, is performed thousands of feet to miles downstream, and solely focuses on biological integrity at that location.

Specifically, subparagraph G of the Decision and Certification section of the 401 Water Quality Certificate for KCW outlines the testing required. All the testing is water quality based on, and completed during non-rain events (during base flow). This monitoring does not assess the quality of floodwater associated with stormwater runoff, or whether or not flooding has increased as a result of the project. In fact, the 401 Water Quality Certificate refers back to the 6216-INDS for its specific conditions under subparagraph C of the Decision and Certification, where it states:

“The Conditions of Permit #6216-INDS, issued by the Agency’s Stormwater Management Program, and all amendments and renewals thereto, are incorporated by reference as conditions of this Certification.”

Based on the above subparagraph, Condition 14 of 6216-INDS is also a condition of the 401 Water Quality Certificate, recognizing that the monitoring thousands of feet downslope of the actual stormwater discharges is not a replacement for the required monitoring to determine whether the proposed level spreaders and associated vegetative buffers are functioning as modeled and proposed, and in accordance with the VSMM. As you are aware, it is my professional opinion the level spreaders and vegetated buffers are not functioning as proposed or modeled, and the entire system must be evaluated and assessed for its effectiveness; not just to assess what is happening way down the mountain, but in the regulated

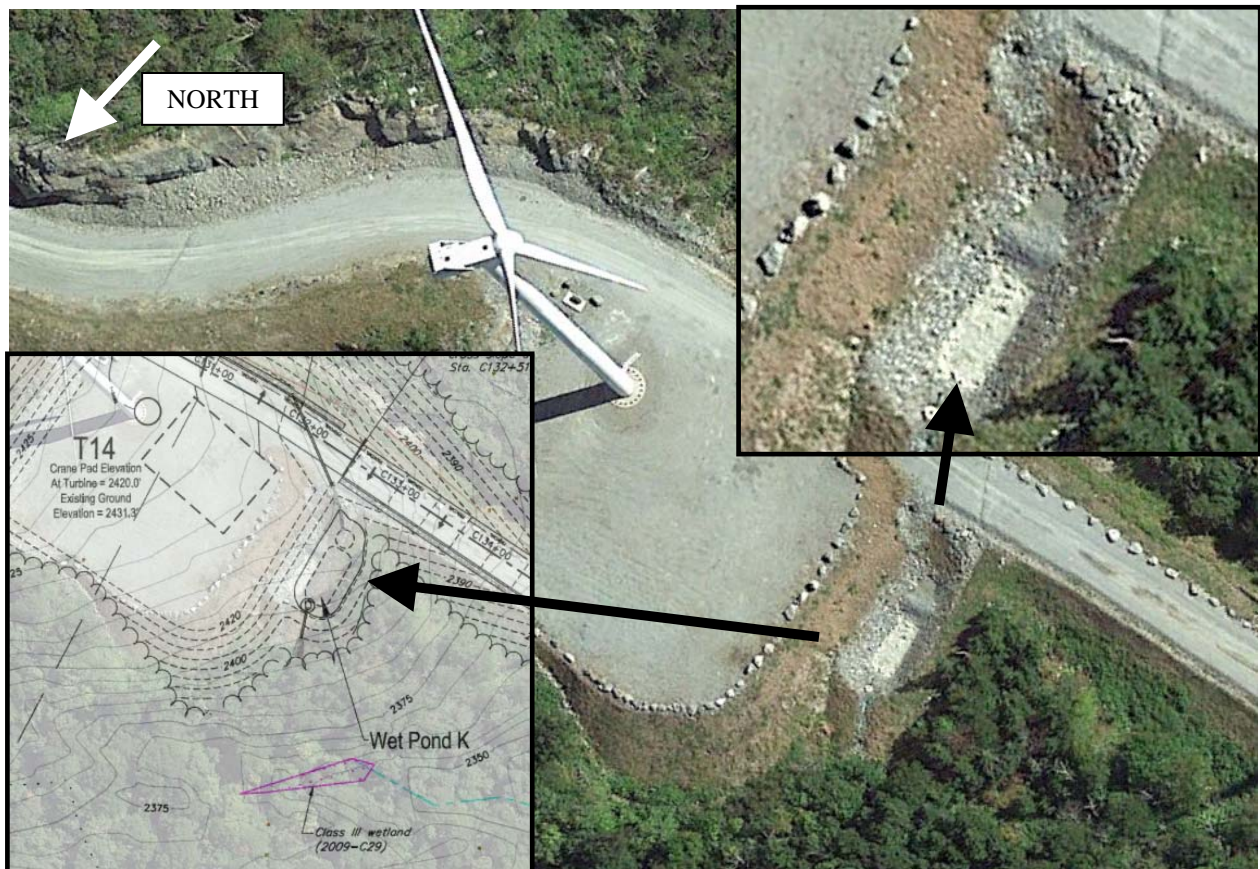
Princeton Hydro, LLC

- 1108 Old York Road Suite 1, PO Box 720 Ringoes, NJ 08551 t. 908.237.5660 f. 908.237.5666
- 1200 Liberty Place Sicklerville, NJ 08081 t. 856.629.8889
- 120 East Uwchlan Avenue Exton, PA 19341 t. 610.524.4220 f. 610.524.9434
- 20 Bayberry Road Glastonbury, CT 06033 t. 860-652-8911 f. 860-652-8922

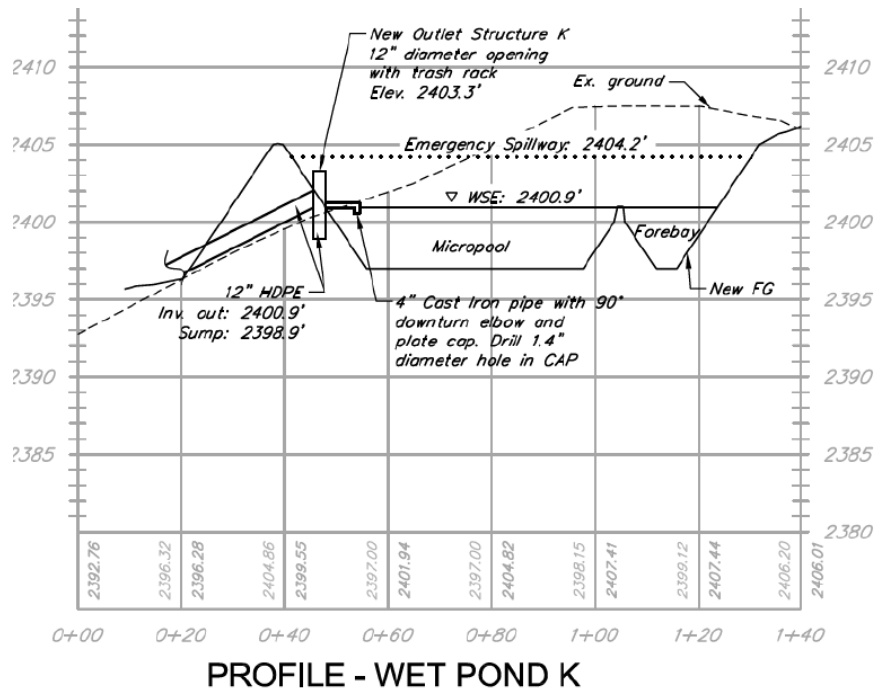
waters at the higher elevations. And, I have reviewed secondary evidence that illustrate that the overall stormwater system is not functioning effectively.

Google Earth now has available its September 2015 aerial natural color imagery of Vermont, that includes the subject industrial wind site. Unfortunately, due to forest cover it is not possible to see how the level spreaders and vegetated buffers are functioning. However, what is very evident in the aerial photographs are the “wet ponds” that were permitted and constructed for this project. Wet ponds are an Accepted Stormwater Treatment Practice, and are, simply put, water filled stormwater ponds.

These include 13 wet ponds located along the crane path on the ridge. A wet pond’s effectiveness in removing pollutants is predominantly reliant upon the permanent pool (emphasis) that is provided to settle out suspended solids, contaminants, and nutrients. Of these 13 wet ponds, 11 of them are nearly or completely dry (empty) with no permanent pool. It is my opinion, and having been in the vicinity of several of the wet ponds back in 2013, that runoff entering the wet pond simply escapes the basins through the fractures in the rock and discharges to the mountain slopes immediately downhill. This means that the required portion of the water quality storm volume is not stored and treated in accordance with requirements of the VSMM. An example of the condition of a wet pond is in the figure below, with the engineering plans overlain on the aerial photograph. This is typical of the other empty “wet” ponds.



Wet Pond K at turbine T-14. Note, there is no permanent water pool in the basin. This is typical of 11 of the 13 ridgeline wet ponds (Sheet C-114 of the Operational Stormwater Plans, VHB, last revised June 2011).



Profile of Wet Pond K at turbine T-14. The Forebay and Micropool are required to be permanently inundated (Sheet C-121 of the Operational Stormwater Plans, VHB, last revised June 2011).

I encourage you to use Google Earth to review and assess the condition of the other remaining wet ponds on the ridge, as well as along the access road. I also encourage you to review the “wet ponds” for the Sheffield Wind project, as for the most part, they are not holding water either.

It is also not clear if the infiltration basin that was supposed to be constructed at the project entrance at Route 100 was ever constructed, although this observation of the aerial imagery needs to be confirmed.

I do hope that this provides you with some additional understanding of the differences between the permitted separate monitoring efforts that are supposed to be conducted. The aerial imagery evidence of the functioning of this stormwater system as a whole is a cause for concern that requires vetting and investigation by the State. With the number of projects in the pipeline for construction around Vermont it is vitally important that you protect your highest quality water and address renewable energy needs at the same time, not at the detriment of each other.

Again, thank you for your time and consideration.

Respectfully,

Geoffrey M. Goll, P.E.
Vice President