

STATE OF VERMONT

SUPERIOR COURT

ENVIRONMENTAL DIVISION

Docket No. 252-10-08 Vtec

In re Sheffield Wind Project

Amended Individual Stormwater Permit (No. 5535-INDC.A)

(Appeal of Brouha et al.)

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Decision and Order

Appellants Carol Brouha, Paul Brouha, Greg Bryant, Don Gregory, the King George School, Linda Lavallo, Robert Tuthill, and David Zimmerman initially appealed¹ in October 2008 from a decision of the Vermont Agency of Natural Resources (ANR) issuing individual stormwater discharge permit No. 5535-INDC, covering the construction of the Sheffield Wind Project (the Project) in Sheffield, Vermont. The permit underwent an amendment before the ANR, and, in late May of 2009, Appellants filed a notice of appeal from the amended individual stormwater discharge permit (No. 5535-INDC.A) for the same project. The parties agreed that the amended permit superseded the original one, and that it would be most efficient to incorporate the appeal of the amended permit in the ongoing case.

Appellants are represented by Jared M. Margolis Esq., and Stephanie J. Kaplan, Esq.; Appellee-Applicants Signal Wind Energy, LLC and Vermont Wind, LLC (referred to as in the singular as “Applicant” or “Vermont Wind”)² are represented by Ronald A. Shems, Esq., Andrew N. Raubvogel, Esq., Geoffrey H. Hand, Esq., and Elizabeth H. Catlin, Esq. The Vermont Agency of Natural Resources (ANR) is represented by Judith

¹ In addition, Jane Rollins was an appellant who later withdrew.

² The amended permit lists only Vermont Wind, LLC as the “Principal Permittee” and does not show a co-permittee; however Appellee-Applicants did not withdraw or dismiss Signal Wind Energy, LLC from this proceeding.

L. Dillon, Esq.

The Court issued two decisions on the parties' motions for summary judgment, and on other pending motions, on September 29, 2009 and October 19, 2009, substantially narrowing the issues for trial.³ On October 13, 2009, Appellants filed a more specific statement that further narrowed the issues in Questions 1 and 2 of the Statement of Questions. Thirteen days of trial were held in this matter before Merideth Wright, Environmental Judge. During trial, Question 4 of the Statement of Questions was also resolved, as the parties recognized that no portion of the area proposed to be disturbed by the project was located at an elevation over 2500 feet above sea level. In addition, during trial the parties resolved Question 11 of the Statement of Questions by agreeing to a revision to Part III.A.10 of the Project's Permit⁴ and Erosion Prevention and Sediment Control (EPSC)⁵ Plan to state as follows:

³ The September 29, 2009 Summary Judgment Decision discussed the discrepancies between the initial statement of questions and the statement of questions filed in June 2009 regarding the amended permit, and established a consolidated statement of questions remaining after that decision. The numbering used in the present decision refers to the question numbers used in that consolidated Statement of Questions.

⁴ The Permit at issue in this appeal (Vermont Wind Ex. 1), incorporates by reference an EPSC Plan narrative prepared by VHB Pioneer (also found in VW Ex. 1), and associated EPSC Plan sheets 5C-116 through 123 and detail sheets 5C-601 through 603 prepared by James W. Sewall Co. (VW Ex. 2 and 2a). The Court notes that the part and section numbers referred to in this revision and in the other conditions proposed by Vermont Wind appear in the Permit document itself (Ex.1), rather than in the Plan narrative or Plan sheets, although Vermont Wind's memoranda refer to the revisions as being to the EPSC Plan. Also see n. 8 at p. 8 below.

⁵ Several acronyms are used throughout the evidence and the parties' memoranda and other materials associated with this case and are provided here for the reader's assistance:

BMPs: Best Management Practices

EPSC: Erosion Prevention and Sediment Control

NPDES: National Pollutant Discharge Elimination System

When site conditions between April 15 and May 15 are similar to winter conditions—such as snow cover, frozen ground, or saturated soils—within the areas of planned earth disturbance, the appropriate winter restrictions on page 3.19 of the 2006 Vermont Standards and Specifications for Erosion Prevention and Sediment Control selected by the [On-Site Plan Coordinator] OSPC shall be applied to the portions of the site that are experiencing those conditions.

Thus, as of the close of trial, Questions 1, 2, 3, and 7 remained to be addressed in the appeal.

After trial, the parties were given the opportunity to submit written memoranda and requests for findings. Upon consideration of the evidence and of the written memoranda and requests for findings filed by the parties, the Court finds and concludes as follows.

Vermont Wind, LLC proposes to construct and operate a wind electrical generating facility (the Project) on property on Granby Mountain and Libby Hill in Sheffield, Vermont, near the headwaters of small⁶ unnamed tributaries of Calendar Brook, Nation Brook, Annis Brook, Willoughby Brook, and Clark Brook.

The Project consists of an array of sixteen wind turbines, each located on a concrete pad, along a 16-foot-wide access roadway. The project also includes a permanent meteorological tower, which appears on the project plans and narrative but was not specifically at issue during trial. During construction, the access roadways will be constructed to the 25-foot width necessary for crane access for the equipment used to erect the wind turbine structures; at the conclusion of the need for crane access, the Project's permanent roadways will be reduced to the 16-foot width by seeding and mulching the areas outside that width.

OSPC: On-Site Plan Coordinator

VWQS: Vermont Water Quality Standards

⁶ Many of these small streams are under one foot in width on the Project property.

An electrical substation and a small operations and maintenance building are also proposed as part of the Project. They are located on the lower portion of the property, on either side of the project access road, near the public roadway. Electricity will be conducted by underground and above-ground transmission lines from the turbines down to the electrical substation. The Project is located adjacent to and will tie into an existing VELCO electrical transmission line. In the amended permit application now before the Court, the Project's path or layout was altered from that presented in the original permit application to decrease the total area of disturbed land, to minimize the need to work on steep slopes and erodible soils, and to reduce impacts on wetlands and streams.

The overall property on which the Project is located consists of approximately three thousand acres leased from Meadowsend Timberlands, some of which has been logged in the past. The Project will follow the path of existing logging roads and use existing cleared areas to the greatest extent possible without adversely affecting wetlands or streams on the Project property. Additional logging by Meadowsend is anticipated to occur on approximately 500 acres of the overall project property over the next five years.

Approximately 83.2 acres of the Project property is located within the flagged limits of construction. Within that limits-of-construction area, approximately 65.6 acres of the project property actually is proposed to be disturbed during construction of the project, including construction of the Project's associated permanent and temporary stormwater management features. All the features are capable of being constructed in lifts or stages to avoid equipment intruding beyond the required limits.

The project is proposed to be constructed in a sequence of segments or work areas, not to exceed 7 acres of earth disturbance at any one time, working generally upwards along the project roadways from the lowest elevation to the highest, so that areas of disturbed earth are stabilized as the project progresses. Exhibit 48 shows the

relative sizes of the different work areas, and the potential for sequencing the construction in that manner. The project therefore has the characteristics of a linear project, as that term is used in the construction field, in that areas that are worked on earlier are completed and stabilized as new areas are opened up, progressing along the Project roadways. The more rapidly that construction can progress through a linear project, the less time any one area of the project remains disturbed but unstabilized, thereby minimizing the risk of erosion.

The Project required a variety of permits and approvals not at issue in the present appeal. With regard to the regulation of stormwater discharge from the Project, it required two permits. The Project required one NPDES stormwater permit governing the discharge of stormwater from impervious surfaces created by the project after it is fully constructed, sometimes referred to as its Operational stormwater discharge permit. The Operational stormwater permit for the project was approved without appeal, and became final. The Project required another NPDES stormwater permit governing erosion prevention and sediment control due to the flow of stormwater over disturbed earth surfaces during construction; that is the permit at issue in this appeal, sometimes referred to as its Construction stormwater discharge permit. Vermont Wind proposes to install all of the permanent stormwater management systems approved in the final Operational stormwater permit for each disturbed area, prior to disturbance of the area to be served by those systems, so that those systems would function as supplemental features to control sediment and prevent erosion during the construction of the Project, together with additional temporary erosion prevention and sediment control measures. As a linear project, the pre-construction and construction elements of the Project's erosion prevention and sediment control plans are combined and considered together.

As described in testimony and in Part 2 of the Vermont Standards and Specifications for Erosion Prevention and Sediment Control (Vermont Standards and

Specifications) (VW Ex. 3, 2.4–2.8) construction projects pose the risk of exposing large areas of disturbed soil to erosion from rain and stormwater runoff during storm events. Erosion occurs at far greater rates to exposed soils at construction sites than it does to soils that are stabilized by vegetation. Eroded sediment can be transported by stormwater into streams and wetlands, reducing water quality and damaging the habitats of fish and other aquatic organisms.

Construction projects therefore must develop an erosion prevention and sediment control plan to minimize the amount of sediment that erodes during the construction of the project (erosion prevention) and to control the transport of any eroded sediment so that it does not damage water quality (sediment control). Depending on certain risk factors laid out in the Vermont Standards and Specifications, a project may be eligible to be considered under the Construction General Permit, or may be required to obtain an individual stormwater discharge permit covering its construction activities. Appendix A of the application form contains the risk evaluation protocol, which analyzes whether a project will involve steep slopes, highly erodible soils, the area of disturbed earth exposed at any one time, the length of time disturbed earth will be exposed before temporary or final stabilization, whether earth disturbance will occur upslope of streams, and whether stormwater will pass through at least 50 feet of established vegetated buffer before entering a receiving water. Based on this assessment, the Sheffield Wind Project was not eligible to be considered under the Construction General Permit, but instead required an individual stormwater discharge permit for its construction activities.

Logging and other clearing of vegetation on the Project property, necessary to clear the proposed construction areas of trees and smaller vegetation, up to but not including the stage of digging up any stumps or roots of the cut trees and vegetation (“grubbing and stumping”), is covered by the Agency of Natural Resources Department of Environmental Conservation’s Acceptable Management Practices for Maintaining

Water Quality on Logging Jobs, sometimes referred to as the AMPs. Such logging is not governed by the Vermont Standards and Specifications for Erosion Prevention and Sediment Control (Vermont Standards and Specifications) and the NPDES permitting program applicable to stormwater runoff during construction; rather, those programs are triggered by earth disturbance, that is, disturbance of the soil surface. This distinction is recognized by Note 2 of the General Notes and Construction Specifications on Sheet 5C-601 of the EPSC Plan, which states that all vegetation clearing is to be conducted in accordance with the AMPs and applicable permits.⁷ However, some confusion has been imported into the EPSC Plan by the fact that the Construction Sequence and Phasing Notes, also on Sheet 5C-601 of the EPSC Plan, describes Phase 1 of the overall project as “Clearing of Vegetation” without distinguishing those aspects of logging and vegetation removal that do not involve earth disturbance from those that do, such as Phase I, Note 7 involving “stumps to be removed” and chipped on site. Although Vermont Wind has proposed to add a condition to Part II.A.6 of the EPSC Plan (or of the Permit, see n. 8 at p. 8 below) clarifying that the “[c]ontractor shall install all required sediment control devices within a given work area prior to disturbance of earth within that work area” and that “[e]arth disturbance includes stumping and grubbing of cleared areas,” the same note should appear on Sheet 5C-601 of the EPSC Plan. That is, the “Erosion Control During Construction” notes requiring that the “contractor shall install all erosion control devices prior to the disturbance of any work area” must state that the requirement applies to the earth disturbance involved in removing stumps, that is, to “grubbing and stumping.”

In addition to proposing compliance with the amended permit as issued by the

⁷ All references to the EPSC Plan sheets are to the edition of the Plan shown in Vermont Wind Exhibit 2a, unless reference to the earlier Exhibit 2 Plan is necessary to discuss an issue in this appeal.

ANR and with the proposed EPSC Plan, Applicants propose to comply with five additional conditions, presented here in the order in which they would appear in the Permit.⁸ First, to clarify the sequence of sediment pond and sediment trap construction, Applicants propose that the following requirement be added to Part II.A.4 of the EPSC Plan (or of the Permit, see n. 8):

The Permittee shall assure [that] construction of sedimentation ponds and sediment traps, where proposed on the site, is completed prior to upslope disturbance of areas [for which] these features are [designed] to provide large area sediment control in accordance with the 2006 Vermont Standards and Specifications for Erosion Prevention and Sediment Control.

Second, to clarify the sequence and placement of silt fence installation, Applicants propose that the following requirement be amended or added as Part II.A.5 of the EPSC Plan (or of the Permit, see n. 8):

[The Permittee shall assure that,] prior to earth disturbance within any area of the site located within 100 feet upslope of a stream or wetland, silt fence shall be installed in accordance with the [2006] Vermont Standards and Specifications for Erosion Prevention and Sediment Control, and [Plan] Sheet 5C-602, Detail H of the EPSC Plan, at an appropriate distance downslope from disturbed areas and upslope from such waters.

Third, to clarify the sequence of sediment control device installation within each work area, and to clarify that the term “earth disturbance” includes “stumping and grubbing” of cleared areas, Applicants propose that the following requirement be amended or added as Part II.A.6 of the EPSC Plan (or of the Permit, see n. 8):

⁸ Vermont Wind’s Finding ¶ 134, which contains these proposed additional conditions, refers to them as being added to a specific “Part” of the “Project EPSC Plan.” Also see n. 4 at p. 2 above. However, it is the Permit, rather than the Plan sheets or narrative, that contains the numbered “Parts”; in addition, some of the subsection numbering even in the Permit (VW Ex.1) does not appear to match with the numbering proposed for the additional conditions. This decision notes the discrepancies, and requires Vermont Wind to provide a conformed copy of these permit conditions with the appropriate numbering.

Contractor shall install all required sediment control devices within a given work area prior to disturbance of earth within that work area. Earth disturbance includes stumping and grubbing of cleared areas.

Fourth, as discussed above, to resolve Question 11 of the Statement of Questions according to the parties' stipulation, Applicants propose to add or revise Part III.A.10 of the EPSC Plan (or of the Permit, see n. 8) to state as follows:

When site conditions between April 15 and May 15 are similar to winter conditions—such as snow cover, frozen ground, or saturated soils—within the areas of planned earth disturbance, the appropriate winter restrictions on page 3.19 of the 2006 Vermont Standards and Specifications for Erosion Prevention and Sediment Control selected by the [On-Site Plan Coordinator] shall be applied to the portions of the site that are experiencing those conditions.

Finally, to correct an error in the orientation of sedimentation basin 62P due to the omission of depictions of a tributary of Calendar Brook on Sheet 5C-121 of the EPSC Plan (Exh. 2a), Applicants propose to revise that sheet and add the following requirement as Part II.A.7 of the EPSC Plan (or of the Permit, see n. 8), as follows:

The location or orientation of sedimentation basin 62P, shown as "62P" on Sheet 5C-121 of the EPSC Plan (Exh. 2a) shall be modified [rotated] to maximize the area of undisturbed forested buffer between the area of earth disturbance and the adjacent Calendar Brook tributary. This modification [shall] be implemented as a plan substitution, documented by the [On-Site Plan Coordinator] on the appropriate [ANR Department of Environmental Conservation] (DEC) form available for DEC review [as a field adjustment pursuant to Part II.F.4 of the Permit.]

Even though stormwater discharges and process wastewater discharges both fall within the NPDES program, the two types of discharges have different characteristics and must therefore be regulated differently. Stormwater discharges are precipitation-driven and episodic, and therefore variable in nature, unlike the type of steady-state process wastewater discharge from an industrial process or municipal wastewater treatment plant. That is, stormwater is characterized by natural variability in flow

amount, and physical and chemical characteristics, such as turbidity, temperature, and pH, independent of the effect of the regulated project. Moreover, numerical limits on pollutants from process wastewater discharges are monitored in the receiving stream during low-flow conditions, whereas by definition stormwater discharges occur during storms, that is, during higher flow conditions in the receiving streams, when it is difficult to assess what their effect will be on the receiving stream after the storm is over.

As explained by EPA in its 1996 guidance on storm water regulations, the difficulty of applying numeric effluent limits to storm water discharge stems from the fact that such limits are derived from methodologies designed primarily to calculate water quality impacts from “process wastewater discharges which occur at predictable rates with predictable pollutant loadings under low flow conditions in receiving waters.” By contrast, storm water discharge is highly variable both as to flow and pollutant type and concentration, and storm water permits are issued on a system-wide basis, thus rendering it largely incompatible with numeric effluent calculation methodologies.

In re City of Irving, Tex., Mun. Separate Storm Sewer System, 10 E.A.D. 111, n.13 (U.S. E.P.A. Environmental Appeals Board, 2001) (citations omitted).

Because stormwater discharges are so highly variable, the standard for their control is to apply a suite of best management practices or techniques (BMPs) tailored to the particular topography of the project and circumstances of the receiving waters, rather than to measure physical or chemical water quality during the storm event.

[T]he highly variable conditions associated with stormwater discharges—including the intensity and duration of rainfall, the fluctuation of pollutants, and the varying property uses and space limitations within the sub-watersheds—make the application of a numeric [water quality-based effluent limitation] or [technology-based effluent limitation] standard complex and nearly unfeasible. Fortunately, EPA regulations, guidance and persuasive case law provide a simplified approach for regulating stormwater through NPDES permits: the use of “best management practices” (“BMPs”).

In re: Stormwater NPDES Petition, No. 14-1-07 Vtec, slip op. at 17 (Vt. Env'tl. Ct. Aug. 28, 2008) (Durkin, J.) (citing 40 C.F.R. § 122.44(k)(2)).

It is extremely important to understand that the EPSC Plan does not only consist of the physical erosion prevention and sediment control features that will be constructed or installed on the site and are shown on the Plan sheets (the BMPs whose specifications are found in Parts 4 and 5 of the Vermont Standards and Specifications). Equally, the EPSC Plan also consists of the supervision, inspections, monitoring, and response practices, protocols or methodologies, also considered to be BMPs, which are administered on the site by the On-Site Plan Coordinator and the EPSC Specialist, with oversight by ANR personnel.

The On-Site Plan Coordinator will be supervised by Josh Bagnato, who has environmental compliance authority within the Permittee to take action to stop or modify construction activities, as will the On-Site Plan Coordinator as required by the Permit. Mr. Bagnato will be on site several days per week during construction and the On-Site Plan Coordinator or designee will be on the site on a daily basis during active construction, as required by the Permit. In addition, VHB-Pioneer will be the EPSC Specialist, in the person of Krista Reinhart and supervised by Jeff Nelson, both of whom are knowledgeable about the EPSC requirements for the project and were responsible for development of the EPSC Plan. Contractors for the Project are required to meet with the Project personnel and ANR personnel, to be briefed on all the requirements pertaining to the Project, prior to commencement of construction.

The suite of structural BMPs for the Project include eighteen features, shown in details on Sheets 5C-601 through 5C-603 of the EPSC Plan. Each of these BMPs functions to prevent the erosion of disturbed earth surfaces or to convey runoff so that sediment can be detained or settle out in an appropriate pond or other feature. The details are associated with alphabetic symbols used on Plan Sheets 5C-117 through 123 to show the location of the structural BMP features.

These symbols were shown as “typical” features on the version of the Plan sheets in evidence as VW Ex. 2; some have been drawn out to scale on the version of the Plan sheets in evidence as VW Ex. 2a. It is customary practice in the EPSC field to show the location of features as “typicals.” With the exception of the volumes to be used for the wet ponds (sediment ponds), which are found in the Operational stormwater permit and plans; all the information necessary to construct or install the actual feature at a given location is found in the instructions and construction notes for the particular detail, found on the EPSC Plan sheets 5C-601 through 603, together with the Standards and Specifications for that particular detail in Parts 4 and 5 of the Vermont Standards and Specifications.

The non-structural BMPs describe an iterative process of inspection of the functioning of the BMPs during construction, monitoring of turbidity in runoff flowing from the site⁹ and modifying or amending BMPs and the Plan as necessary to achieve the required erosion protection and sediment control. Any minor field changes or more significant modifications to the BMPs or the Plan must be at least reported to the ANR and, depending on their significance, receive ANR approval. The non-structural BMPs are designed to maintain control, in real time, of the stormwater discharges from the site.

⁹ The action level of 25 NTU in stormwater runoff from the site is an extremely protective level, as the VWQS in a stream under base flow conditions is a yearly average of 10 NTU. The Permit requires the OSPC to inspect runoff during or as soon as possible after a rainfall event, and, if there is visibly discolored stormwater, to inspect and maintain the (structural) BMPs and to sample the runoff as it leaves the construction site. If the runoff exceeds an instantaneous reading of 25 NTU, the OSPC must evaluate the need for, and install, supplemental structural BMPs necessary to correct the runoff as soon as practicable.

Question 3 of the Statement of Questions

Question 3 of the Statement of Questions asks whether “the baseline studies and identification of existing uses” required by the anti-degradation policy in § 1-03 of the Vermont Water Quality Standards (VWQS) must be done before the Permit can issue.

In the Decision and Order issued on September 29, 2009, the Court determined that the presumption of compliance found in the applicable statute, 10 V.S.A. 1264(g)(1) applies in the present case, and specifically that it applies to the anti-degradation requirements embodied in § 1-03 of the VWQS, and that therefore

in this appeal the Appellants bear the burden of rebutting the presumption that compliance with the permit will ensure that all VWQS standards have been met, including the anti-degradation policy’s requirements that existing uses and water quality of the receiving waters will be maintained and protected.

Decision on Summary Judgment, at 11 (filed Sept. 29, 2009) (citing 10 V.S.A. § 1264(g), (h); Re: CCCH Stormwater Discharge Permits, Permit Nos. WQ-02-11, WQ-03-05, WQ-03-06, & WQ-03-07, Findings of Fact, Concl. of Law, & Order, at 40, n.10 (Vt. Water Res. Bd. Oct. 4, 2004). The Court went on to explain, in footnote 8, that, assuming that the Vermont Standards and Specifications establish the BMPs for construction permits, consistency with the Vermont Standards and Specifications for construction-phase permits creates the statutory presumption of compliance with all VWQS. Therefore, the Court ruled that the rebuttable presumption establishes that the BMPs in place in the permit will achieve the requirements of § 1-03(C), but that Appellants could come forward with evidence at trial to rebut the presumption. However, the Court also required that:

[a]n agreed or otherwise established benchmark of the existing uses and existing quality of the receiving waters is necessary against which to measure that evidence. Such a benchmark is also necessary to determine during the life of the permit whether the requirements of the permit and the anti-degradation policy are being met. See Amended Permit, § J.

Decision on Summary Judgment, at 12 (filed Sept. 29, 2009).

It is important to note that the Court did not find the benchmark to be necessary in order to set any standards in the permit or to require any monitoring in the Project's receiving waters during construction. Because stormwater discharges are intermittent, precipitation-driven events characterized by high flow conditions, they must be managed by applying BMPs rather than by monitoring the concentrations of pollutants in the receiving waters. The numerical water quality standards are designed to monitor concentrations of pollutants in base flow conditions, when they are least diluted, not during storm events.

Instead, the Court found the benchmark to be necessary to establish what are the existing uses and the existing quality of the receiving waters. That is, on the one hand, VWQS § 1-03(B) requires that existing uses of all waters be maintained and protected, whether the waters are impaired or unimpaired. On the other hand, for waters "the existing quality of which exceeds any applicable water quality criteria," § 1-03(C)(1) requires them to be managed "to maintain and protect the higher water quality and minimize risk to existing and designated uses."¹⁰

The parties did not agree on a benchmark to establish the existing uses or the existing quality of the waters potentially affected by the project. Accordingly, in October 2009 Applicant had a water quality study (the Benchmark Study) performed by environmental professionals on the receiving waters potentially affected by the project. This study sampled the chemistry and physical characteristics of the receiving waters during a precipitation/storm event and during base flow conditions, on two separate days in October 2009. In October of 2009, the study also sampled the macroinvertebrate

¹⁰ Section 1-03(C)(2) also allows a "limited reduction in the existing higher quality of such waters," under certain circumstances, but not so far as to jeopardize the maintenance of "the level of water quality necessary to maintain and protect all existing uses as well as applicable water quality criteria" required to be maintained "in all cases" by the final sentence of § 1-03(C)(1).

aquatic biota of the streams, and characterized the streams' aquatic habitat. The study also considered macroinvertebrate sampling performed in October of 2006 during the planning stage of the Project.

The Agency of Natural Resources has characterized the natural or 'reference' conditions of Vermont streams, through many site-specific field studies over the past twenty-five years, resulting in the "Biocriteria for Fish and Macroinvertebrate Assemblages in Vermont Wadeable Streams and Rivers" (Biocriteria). The Biocriteria reflect the physical, chemical, and biological characteristics of the reference conditions, including the assemblages of typical macroinvertebrate communities residing in the reference condition streams. Prior to the development of the Biocriteria, water quality could only be assessed by measuring certain physical and chemical parameters of the water, such as phosphorus, pH, dissolved oxygen, or turbidity (suspended solids), which function as surrogates for whether the water quality is sufficiently good to support various aquatic biota such as macroinvertebrates and fish. The Biocriteria now allow a more direct measurement of the health of aquatic biota and their habitat in streams, by establishing the expected assemblages of macroinvertebrates and, to some extent, the fish, to be found in the reference waters minimally influenced by human activity.

The reference conditions in the Biocriteria establish the "attainable chemical, physical, and biological conditions for specific water body types against which the condition of waters of similar water body type [may be] evaluated." Biocriteria, Implementation Phase at 2. Of the four different water body types reflected in the Biocriteria: small high-gradient streams, medium high-gradient streams, warmwater moderate gradient streams and rivers, and slow winding streams, the streams that are the receiving waters on the Project property are small high-gradient streams. The Biocriteria contain reference conditions for three macroinvertebrate community stream categories, one of which is the category of small high-gradient streams. The Vermont

Water Quality Standards categorize waters of the state by class and management type. The receiving waters on the Project property fall within Class B, and Water Management Type 2–3. The Biocriteria contain the expected departures from the reference conditions for each class and water management type.

The Benchmark Study revealed that the receiving waters on the Project property are consistent with the macroinvertebrate Biocriteria for small high-gradient Class B 2–3 streams.¹¹ The related physical and chemical sampling were consistent with the same level of quality. The Benchmark Study assumed all existing uses for the receiving waters, including as habitat for brook trout, as claimed by Appellants and any other party, and analyzed their present status as supported by the existing water quality.

The Benchmark Study is therefore adequate to establish the existing uses and existing water quality for the receiving waters on the Project property. The assemblages of macroinvertebrates for small high-gradient Class B2–3 streams found in the Biocriteria provide the benchmark for the receiving waters on the Project property.

The September 29, 2009 Summary Judgment Decision ruled as to Question 7(b) of the Statement of Questions that material facts are in dispute as to whether any more stringent requirements are necessary to meet the requirements of the VWQS. Appellants were given the opportunity to present evidence at trial as to whether any more stringent requirement is necessary to meet any specific standard in the VWQS. Appellants continue to propose additional conditions; Appellants' proposed additional conditions 1 and 2 are here addressed in connection with Question 3.

Appellants' first proposed additional condition seeks a full year of baseline monitoring to reflect year-round conditions in the streams before construction could

¹¹ A single exception was found at one sampling station (AN-1 on Annis Brook) at base flow, which yielded an "indeterminate" rating because the 'density' value was near the threshold value. Further analysis of the chemical and physical properties at that station shows that it meets all applicable VWQS, has favorable habitat conditions, and therefore conforms to the VWQS for Class B2–3 waters.

begin. Because the Baseline Study characterized the project streams, by use of the Biocriteria, as falling within a certain stream type, management category, and macroinvertebrate community, the Biocriteria for that category of stream can be used as the benchmark. A year of monitoring would not add relevant data and has not been shown to be necessary to achieve or maintain water quality in those streams. Appellants' first proposed additional condition therefore is not appropriate to be included in this construction stormwater permit.

Appellants' second proposed additional condition seeks continuous in-stream monitoring of turbidity, pH, temperature and water flow during the entire construction period, together with fish sampling by multiple-pass electrofishing methods to provide population estimates and information on relative brook trout ages. This proposed condition misunderstands the nature of construction stormwater permitting. The purpose of the conditions in a stormwater permit applicable to the construction period is to prevent or minimize erosion of the exposed soil from the site and to control the migration of any eroded sediment so that it does not violate the VWQS in the receiving waters. The BMPs, if correctly chosen and properly implemented, will have this result. Such in-stream monitoring during storm events, and fish sampling of the brook trout population, might yield interesting scientific information, if the sampling could be done without harm to the fish population, but it is not related to erosion prevention and sediment control and has not been shown to be necessary to achieve or maintain water quality in the project streams. Appellants' second proposed additional condition therefore also is not appropriate to be included in this construction stormwater permit.

Questions 1 and 2 of the Statement of Questions

Appellants narrowed the issues in Questions 1 and 2 by a more specific statement dated October 9, 2009 and filed with the Court on October 13, 2009.

Question 1 addresses the Project's compliance with the general statutory water

policy in 10 V.S.A. § 1250.¹² To the extent that it is even possible for a proposed project to be said to “comply” (or not) with a general, hortatory policy statement, Appellants did not present evidence that could support a conclusion that the EPSC Plan and Permit before the Court violates or is inconsistent with this policy. Judgment as a matter of law is therefore granted to Appellee-Applicants on Question 1 of the Statement of Questions.

Question 2 of the Statement of Questions, as narrowed by Appellants’ October 13, 2009 filing, raises questions of the Project’s compliance with certain subsections of the Vermont Water Quality Standards. As the Project enjoys a rebuttable presumption that the BMPs in the EPSC Plan and Permit, if properly implemented, will cause the construction of the project to comply with the VWQS, the issue here is whether the evidence presented by Appellants successfully overcame that presumption.

Three of the listed VWQS, like § 1250 of the statute, simply present state policy, respectively, for water quality (VWQS § 1-02.A), riparian areas (VWQS § 1-02.C) and hydrology (VWQS § 1-02.E). To the extent that these statements have any regulatory effect, Appellants’ evidence did not show that the Project would violate or be inconsistent with these policies, and did not in any event overcome the rebuttable presumption of compliance.

The VWQS governing hydrology, VWQS § 3.01.C, is not applicable to this construction stormwater permit, as the construction itself, as distinct from the Project, has no effect on the hydrology of the area. If permanent features of the project have any effect on the hydrology of the area, they were dealt with in the Operational stormwater permit, which is final and not at issue in this appeal. For example, the wet ponds that

¹² The other statutory section raised in Question 1, § 1264(e)(1), allowing ANR to impose additional conditions in a permit, is simply a statement of the ANR’s authority. The question of whether any additional conditions should be imposed is addressed as appropriate in connection with the other specific questions remaining in the Statement of Questions.

also serve a sediment control function during construction may be used as detention ponds to detain and slowly release stormwater during the operation of the Project, to minimize the Project's effect on area hydrology, but that effect was analyzed and became final in the approval of the Operational stormwater permit.

Appellants' evidence simply did not overcome the rebuttable presumption of the Project's compliance with any of the remaining VWQS addressed in the more specific statement of Question 2. Although it is Appellants' burden to overcome the presumption, and not Applicants' responsibility to bolster it, Applicants' Benchmark Study, discussed above regarding Question 3 of the Statement of Questions, provided evidence that the existing water quality meets the physical, chemical, and biological standards or indices, and support the full range of existing uses and aquatic biota, referenced in the VWQS.

Appellants did present testimony that a wholesale breach and failure of a sediment basin, if it were to occur, could have the potential to adversely affect the VWQS for turbidity, temperature, or pH, but did not show either that such failure was likely, if the BMPs are properly implemented and maintained, or that such a failure could reasonably result in any specific exceedance of the VWQS in any specific receiving water.

Question 7(a) of the Statement of Questions

Question 7 originally presented two separate issues, which the Court and the parties have dealt with separately and have referred to as Questions 7(a) and 7(b). Question 7(a) asks whether the Applicants' Erosion Prevention and Sediment Control Plan (EPSC Plan) complies with specific sections of the Vermont Standards and Specifications for Erosion Prevention and Sediment Control (Vermont Standards and

Specifications). The original section remaining for trial was in Part 3¹³, Step 4, ¶3 at page 3.8 of the Vermont Standards and Specifications: whether the EPSC Plan provides for prompt stabilization of disturbed areas.¹⁴

As a basically linear project, the Project is anticipated to proceed along the roadways, divided into work areas generally defined by their associated structural EPSC measures such as sedimentation basins and the berms and drainage swales conducting water to the basins. The structural EPSC measures will be installed prior to disturbance of upslope areas drained by those features, which is the appropriate phasing plan for a project of this nature. Part II.H.2 of the Permit limits the maximum area of earth disturbance at any time to 7 acres, so that it is in the interest of the project developers to finish and stabilize the trailing edge of the project so as to be able to open additional areas of earth disturbance at the leading edge of the project.

Part II.H.3 of the Permit requires that all areas of earth disturbance must be stabilized within 14 days of initial disturbance, and on a daily basis thereafter.

¹³ In fact, Part 3 of the Vermont Standards and Specifications simply provides guidance for preparing EPSC plans; § 3.1 characterizes Part 3 as “a recommended approach to EPSC development,” except for the minimum requirements in § 3.3. Section 3.3 by its terms is only applicable to those projects that are eligible for coverage under the Construction General Permit. It does not provide requirements applicable to individual construction stormwater permits, as such individual permits must be tailored to the particular site and will be individually reviewed and approved by the ANR. Parts 4 and 5 of the Vermont Standards and Specifications, on the other hand, function as a handbook for the proper design and installation of erosion control features (Part 4) and sediment control features (Part 5) and are applicable to an individual permit. In addition, Note 3 of the General Notes on Sheet 5C-601 makes it clear that the project must comply with the Vermont Standards and Specifications.

¹⁴ Applicants argue that Appellants failed to respond to Requests to Admit that the EPSC Plan complies with all relevant sections of the Vermont Standards and Specifications, and that they should therefore be precluded from addressing the ‘prompt stabilization’ issue that they had raised in the original statement of questions. However, the Court will reach the ‘prompt stabilization’ question based on the parties’ expectations that it was reserved for trial.

However, this 14-day period represents an outside limit of the period before stabilization, because specific notes on Sheet 5C-601, and specific requirements of certain EPSC details, require stabilization immediately upon completion of the EPSC feature or project structure. For example, Note 4 of Phase 2B, involving construction of the permanent stormwater management systems, requires stabilization once final grades are achieved. Similar requirements pertain to Note 8 of Phase 2C, Note 12 of Phase 2D, and Note 19 of Phase 2E. The following specific erosion control features also require prompt or immediate stabilization: Level Lip Ditch Turnout (Detail D); Rock Sandwich (Detail E) and Culvert Apron (Detail I). In addition, the notes on Sheet 5C-601 governing erosion control during construction require stabilization of all disturbed areas not to be paved or rip rapped, and require immediate stabilization of slopes greater than 3:1. Most importantly, General Note 3 on Sheet 5C-601 of the EPSC Plan requires compliance with the Vermont Standards and Specifications. The specifications, for example, for Sediment Basins, at page 5.44, require that the embankment and emergency spillway be stabilized “immediately following construction” and “[i]n no case shall the embankment remain unstabilized for more than seven (7) days.” Thus, the berms, embankments and steeper slopes, as shown on Sheet 5C-603 without specific notes, will be immediately stabilized pursuant to the specific requirements in Parts 4 and 5 of the Vermont Standards and Specifications. In addition, during winter conditions, the notes on Sheet 5C-601 require areas of disturbed soil must be stabilized at the end of each work day unless no storm is forecast for the following work day.

Beyond the specific requirements for prompt or immediate stabilization, under the Permit, the On-Site Plan Coordinator and the EPSC Specialist, as well as the ANR staff, have authority to stop construction activities if necessary to comply with the Plan and the Permit, as well as to require areas to be stabilized temporarily if repair or modification of necessary BMPs is impracticable before an anticipated storm event.

Appellants propose an alternative condition restricting the area of concurrent

disturbance to 2 acres, and requiring stabilization within 7 days. However, they have not shown that the additional restriction is “necessary to achieve compliance” with the VWQS. 10 V.S.A. § 1264(e)(1).

Accordingly, the EPSC Plan and Permit provide for prompt stabilization, and the 7-acre disturbed area, 14-day stabilization limits, with the additional specific stabilization requirements for various specific features, represent an appropriate balance between progressing with construction and managing areas of disturbed earth to prevent erosion and control the transport of sediment.

Supplemental Statement of Questions

Appellants moved during trial to supplement their Statement of Questions to raise additional issues as to VW Exhibit 2a’s compliance with Part 3 of the Vermont Standards and Specifications, arguing that such issues could not have been raised earlier based on their analysis of the former version of the EPSC Plan, VW Exhibit 2. The Court at trial denied any supplemental questions based on features that were unchanged in Exhibit 2a compared to Exhibit 2. The Court left for the parties’ post-trial memoranda the question of whether Exhibit 2a is different from Exhibit 2.

Exhibit 2a simply represents a different graphic depiction of the information that was already contained in the application materials, the Permit and the EPSC Plan (Exhibits 1 and 2). That is, Exhibit 2a shows some of the features that were only shown as typical symbols on Exhibit 2 drawn out or graded out to scale. All the information that was necessary to Exhibit 2a was available in the earlier materials, although the link to the information from the Operational stormwater permit was not made as clear as it could have been in Exhibit 2. In particular, Detail R of Exhibit 2, on Sheet 5C-603, refers the reader to “a table shown on this page” for the dimensions of each sediment basin, that is, the volume of the basins. Without that information, it would not have been possible to grade out the sediment basins on the plans. Although no table is in fact

shown on Sheet 5C-603, that information was intended to be drawn from the Operational stormwater permit that had become final. Note 3 of the Phase 2B notes on sheet 5C-601 of both Exhibit 2 and Exhibit 2a, governing Construction of Permanent Stormwater Management Systems, states clearly that, for those features, “grading [is] to be conducted in accordance with permitted (GP 3-9015) permanent stormwater management design.” This note provides the necessary information as to where to find the basin dimensions in both Exhibit 2 and Exhibit 2a; the misleading reference to a non-existent table has been removed from Detail R on Sheet 5C-603 of Exhibit 2a.

Moreover, none of the supplemental issues under Part 3 of the Standards and Specifications relate to any of the differences between Exhibit 2 and Exhibit 2a. Further, Part 3 of the Standards and Specifications, see n. 13, above, simply provides guidance and contains no mandatory provisions for EPSC plans for individual construction stormwater permits. In any event, the EPSC Plan and all its details comply with the Vermont Standards and Specifications, recognizing that Parts 4 and 5 provide the Standards and Specifications for the specific BMPs.

Accordingly, Appellants’ sixth proposed additional condition, to provide a full set of amended plans, fully graded out, is unnecessary.

Question 7(b) of the Statement of Questions

Question 7(b) asks whether, even if the EPSC Plan does meet the Vermont Standards and Specifications, more stringent requirements should be imposed to meet the VWQS. Appellants were given the opportunity to present evidence at trial directed at the merits of whether any more stringent requirement is necessary to meet any specific standard in the VWQS.

Appellants propose seven additional conditions. Appellants’ proposed additional conditions 1 and 2 have been addressed in connection with Question 3, above; Appellants’ proposed additional condition 5 has been addressed in connection

with the discussion of “prompt stabilization” in Question 7(a), above; Appellants’ proposed additional condition 6 has been addressed in connection with the discussion of the differences between VW Ex. 2 and 2(a) above. Appellants’ proposed additional conditions 3, 4, and 7 are addressed here.

Appellants’ third proposed additional condition seeks a full-time EPSC specialist or OSPC to be hired by ANR rather than by the Permittee, and to be overseen by the Environmental Court. On summary judgment the Court ruled that such a condition was not required as a matter of law, but allowed Appellants the opportunity to show at trial why such a condition should be required. Appellants did not present evidence to show that the supervision, inspection, monitoring and reporting scheme established in the Permit and EPSC Plan would result in any violations of the VWQS. The Permit provides for ANR inspection and monitoring as well as the oversight provided by the On-Site Plan Coordinator and the EPSC Specialist. In addition, the ANR has independent inspection and investigation authority under 10 V.S.A. § 8005.

Appellants’ fourth proposed additional condition seeks a bond to cover the remedial costs of any BMP failure. Although on summary judgment the Court determined that the statute does not provide for such a bond, it left open the opportunity for Appellants to show at trial why such a condition should be required as “necessary to achieve compliance” with the VWQS. 10 V.S.A. § 1264(e)(1). As Appellants did not show that installation of the structural BMPs, application of the non-structural BMPs, and the iterative inspection, monitoring, and response methodology required by the Permit would fail to achieve compliance with the VWQS, they did not show the need for a bond to achieve compliance with the VWQS.

Appellants’ seventh proposed additional condition is that a fifty-foot buffer be required to be provided along all streams and wetland boundaries. First, Criterion H in Part II of the detailed risk evaluation that resulted in this project’s being classified as requiring an individual permit (found in Appendix A to the project narrative in VW

Ex. 1) asks whether stormwater leaving the construction site will pass through at least 50 feet of established vegetated buffer before entering a receiving water. This criterion shows that higher risk projects requiring individual construction stormwater permits may have less than a fifty-foot buffer to receiving waters.

The project is designed to have a buffer of at least fifty feet to streams, except where stream crossings are necessary or where portions of the existing logging road are already located closer than that distance to streams. In any event, the Vermont Standards and Specifications do not require a buffer of any specific width either to streams or to wetlands. As described in the EPSC project narrative, the delineated wetlands on the site that are proposed to be affected by the project are all Class 3, not subject to state regulation under the Vermont Wetland Rules, and only approximately 0.09 of an acres of such wetlands are anticipated to be affected. Further, the protection of wetlands on the site is addressed in the federal Army Corps of Engineers permit and not by the Vermont Agency of Natural Resources. Although a fifty-foot-buffer condition could be imposed if necessary to achieve compliance with the VWQS, Appellants did not show that such a buffer was necessary for that purpose in the limited areas that are not already designed to have that extent of a buffer (or more).

Accordingly, based on the foregoing, it is hereby ORDERED and ADJUDGED that amended individual stormwater discharge permit No. 5535-INDC.A is hereby GRANTED as issued by the Vermont ANR, based on the narrative incorporated in VW Ex. 1 and the plans submitted as VW Ex. 2a in the present proceeding, and with the following additional conditions or revisions:

1. The following language shall be added as Part II.A.4 of the Permit (see n. 8, above), and as a note in the EPSC Plan, to clarify the sequence of sediment pond and sediment trap construction:

The Permittee shall assure that construction of sedimentation ponds and sediment traps, where proposed on the site, is completed prior to upslope disturbance of areas for which these features are designed to provide large area sediment control in accordance with the 2006 Vermont Standards and Specifications for Erosion Prevention and Sediment Control.

2. The following language shall be added as Part II.A.5 of the Permit (see n. 8, above), and as a note in the EPSC Plan, to clarify the sequence and placement of silt fence installation:

The Permittee shall assure that, prior to earth disturbance within any area of the site located within 100 feet upslope of a stream or wetland, silt fence shall be installed in accordance with the 2006 Vermont Standards and Specifications for Erosion Prevention and Sediment Control, and Plan Sheet 5C-602, Detail H of the EPSC Plan, at an appropriate distance downslope from disturbed areas and upslope from such waters.

3. The following language shall be added as Part II.A.6 of the Permit (see n. 8, above), and as a note on Sheet 5C-601 of the EPSC Plan, to clarify the sequence of sediment control device installation within each work area, and to clarify that the term "earth disturbance" includes "stumping and grubbing" of cleared areas:

Contractor shall install all required sediment control devices within a given work area prior to disturbance of earth within that work area. Earth disturbance includes stumping and grubbing of cleared areas.

4. Part III.A.10 of the Permit (see n. 8, above), shall be added or revised, per the parties' stipulation, and an equivalent note shall be added to the Winter Conditions section on Sheet 5C-601 of the EPSC Plan, to state as follows:

When site conditions between April 15 and May 15 are similar to winter conditions—such as snow cover, frozen ground, or saturated soils—within the areas of planned earth disturbance, the appropriate winter restrictions on page 3.19 of the 2006 Vermont Standards and Specifications for Erosion Prevention and Sediment Control selected by the On-Site Plan Coordinator shall be applied to the portions of the site that are experiencing those conditions.

5. To correct an error in the orientation of sedimentation basin 62P on Sheet 5C-121 of the EPSC Plan (Ex. 2a) the following requirement shall be added as Part II.A.7 of the Permit (see n. 8, above), as follows:

The location or orientation of sedimentation basin 62P, shown as "62P" on Sheet 5C-121 of the EPSC Plan (Ex. 2a) shall be modified (rotated) to maximize the area of undisturbed forested buffer between the area of earth disturbance and the adjacent Calendar Brook tributary. This modification shall be implemented as a plan substitution, documented by the On-Site Plan Coordinator on the appropriate ANR Department of Environmental Conservation (DEC) form available for DEC review as a field adjustment pursuant to Part II.F.4 of the Permit.

6. At any pre-construction meeting the EPSC Specialist, the On-Site Plan Coordinator, all personnel employed by Vermont Wind on the project, and any contractors working on any segment of the project shall be made aware of the need to comply fully with the Permit, the EPSC Plan, the requirements of the Vermont Standards and Specifications for Erosion Prevention and Sediment Control, and the Vermont Water Quality Standards.

Appellee-Applicants shall prepare a clean conformed copy of the Permit and EPSC Plan as approved by this decision, reflecting all the changes or clarifications, whether proposed by Vermont Wind or agreed by the parties, as imposed by the Court, including all necessary detail sheets and any incorporated-by-reference tables or other documents from the operational stormwater permit. On or before September 10, 2010, a copy approved as to form by the parties shall be filed with the court for the issuance of the judgment order in this appeal, and a copy shall be provided to the ANR for it to complete any ministerial tasks necessary to maintain an approved copy of the Permit and EPSC Plan in its permit files.

Done at Berlin, Vermont, this 26th day of August, 2010.

Merideth Wright
Environmental Judge