STATE OF VERMONT
PUBLIC SERVICE BOARD

In re: Lowell Mountain Wind Project Appeal of Energize Vermont, Inc., et al	))	Docket Nos. 7628-A, 7628-C, & 7628-E

PROPOSED FINDINGS OF FACT AND CONCLUSIONS OF LAW

NOW COME Energize Vermont, Inc., Don and Shirley Nelson, Jim Blair, Kevin McGrath, Robbin Clark, Nancy Warner, and Jack Brooks, individually and collectively (hereinafter "Appellant" or "Appellants"), by and through their attorneys, Hershenson, Carter, Scott & McGee, P.C., P.O. Box 909, Norwich, Vermont, 05055-0909, and respectfully submit the following proposed findings of fact and conclusions of law in the above entitled matter.

I. GENERAL BACKGROUND.

1. Appellee/Applicant, Green Mountain Power ("Appellee") applied to the Vermont Agency of Natural Resources ("ANR") for the following permits in connection with its construction of 21 wind turbines (the "Project") in Lowell, Vermont: 1) an Individual Construction Stormwater Permit; 2) an Individual Operational Stormwater Permit; and 3) a Water Quality Certification under Section 401 of the Clean Water Act.

2. The Project is being constructed on the top of Lowell Mountain, in Lowell, Vermont. The Project is accessed from Route 100 to the west, via an access road that climbs from Route 100 approximately two and three quarter miles and 1,260 vertical feet to the top of Lowell Mountain. Exhibit GMP-JAN-C4. The 21 turbines are located along a three mile long crane path that stretches along the top of Lowell Mountain. *Id.*

3. The Project site is on approximately 2,475 acres of land. Construction of the Project involves a total land area of 159 acres, with 134 acres of tree clearing and 135 acres of earth

disturbance, which is nearly 5.5% of the total Project site. Nelson, Prefiled Testimony, v1, pp. 7, 17. Approximately 90 acres of the earth disturbance will occur along the ridgeline of Lowell Mountain. The remaining 45 acres of earth disturbance will occur in the area of the proposed access road on the side of Lowell Mountain. Nelson, Prefiled Testimony, v1, p. 8. Upon completion, the Project will result in a total of 27.47 acres of new impervious surface. *Id.*

4. A majority of the area within the area of earth disturbance, approximately 79%, is located on steep slopes that are greater than 15%, and the remaining 21% is located on slopes between 5% and 15%. Nelson, Cross Examination Testimony 7/11/12, p. 40.[1] In addition, a majority of the area within the area of the earth disturbance, approximately 83%, is located on soil types that have a high erodibility rating, an additional approximately 12% is located on soil types that have a moderate erodibility rating, and 5% is located on soil types with a low erodibility rating. Nelson, Cross Examination Testimony 7/11/12, p. 40; Nelson, Prefiled Testimony, v1, p. 18; Exhibit GMP-JAN-A11.

5. Almost all of the crane path and the turbine pads are located on soils that Appellee has identified as "Hogback-Rawsonville complex, 36 to 60 percent slopes, very rocky." Exhibit GMP-JAN-A11. The applicable USDA NRCS soil fact sheet states that the erosion hazard on these soils is "very severe." Exhibit GMP-JAN-Reb 2. These soils are also categorized as belonging to hydrologic soil group "D," which is defined as shallow soils over nearly impervious

[1]Where Cross Examination Testimony is cited in this document, copies of the relevant transcript pages are attached hereto.

material with high runoff potential. Exhibit GMP-JAN-C20, Exhibit EVT-JAN-CROSS-05; Nelson, Cross-Examination Testimony 7/11/12, pp. 44-46).

6. Of the 53 subwatersheds that Appellee has identified for the Project, 42, or approximately 80%, are areas of "high" erosion risk based on the factors and guidance set forth in Table 3.1 of *The Vermont Standards & Specifications for Erosion Prevention & Sediment Control.* Exhibits GMP-JAN-A4, GMP-JAN-A13. Nine of the subwatersheds are areas of "medium" erosion risk, and two sub watersheds are areas of "low" erosion risk. Exhibit GMP-JAN-A4.

7. There are numerous potential receiving waters located in the vicinity of the Project that will receive stormwater runoff from the Project. Nelson, Prefiled Testimony, v1, p. 19. Project lands on the western side of Lowell Mountain are within the Vermont River Basin 6, the Missisquoi River Drainage Basin, and ultimately drain to Lake Champlain. Named streams within this area include the upper reaches of the East Branch of the Missisquoi River, Ace Brook, and Truland Brook. Project lands on the eastern side of Lowell Mountain are within River Basin 17, the Lake Memphremagog Drainage Basin. Named streams on the eastern side of Lowell Mountain include Sever Branch, Rogers Branch, Shalney Branch, McCleary Brook and Lamphear Brook, all of which are tributaries of the Black River. Numerous unnamed headwater tributaries originate within or immediately downslope of the Project area on both the eastern and western sides of Lowell Mountain. Nelson, Prefiled Testimony, v1, p. 6.

8. All of the waters within the Project area are classified under the Vermont Water Quality

Standards ("VWQS") as Class B, except small segments of streams above 2,500 feet in elevation which are designated as Class A(1). Nelson, Prefiled Testimony, v4, p. 6, Exhibit GMP-JAN-E1. Water quality monitoring conducted by Appellee prior to commencement of construction of the Project indicated that the receiving waters for the Project are generally considered "high quality waters" for purposes of the VWQS. Burke, Cross Examination Testimony 7/13/12, p. 95.

II. RELEVANT APPELLATE STANDARDS - BURDEN OF PROOF.

9. Pursuant to 10 V.S.A. §1269, all appeals of any act or decision of ANR made pursuant to 10 V.S.A. Chapter 47 are to be made in accordance with 10 V.S.A. Chapter 220. In 2010, the legislature, with the enactment of 10 V.S.A. §8506, transferred jurisdiction over appeals of environmental permits for renewable energy facilities from the Environmental Court to the Public Service Board (the "Board"). While the Board's Rules contain no specific provisions related to such appeals, §8506(e) of Title 10 provides the following guidance:

> (e) In an appeal under this section, the public service board, applying the substantive standards that were applicable before the secretary, shall hold a *de novo* hearing on those issues which have been appealed. In such an appeal, the board shall give the same weight and consideration to prior decisions of the environmental division and of the entities described in subsection 8504(m)(precedent) of this title as the board gives to its prior decisions.

Consequently, the legislature has directed the Board to apply the "substantive standards" that were applicable to a permit application reviewed by ANR and hold a "*de novo*" hearing on the issues which have been preserved for appeal. In this matter, the "substantive standards" are those

identified in Section III of this document and the issues are those identified in the Appellants "Final Statement of Questions on Appeal" dated July 6, 2012.

10. The Vermont Supreme Court in *In Re Poole*, defined a "*de novo*" hearing as follows: "A *de novo* hearing is one where the case is heard as though no action whatever had been held prior thereto. All of the evidence is heard anew, and the probative effect determined by the appellant tribunal (superior court here) as though no decision had been previously rendered." 136 Vt. 242, 245, 388 A. 2d 422, 424 (1978) (citations omitted.); *Cf. In Re Entergy Nuclear Vermont Yankee Discharge Permit, 3-1199*, 2009 VT 124, ¶ 54, 187 Vt 142; 989 A. 2d 563.

11. In interpreting similar *de novo* hearing language contained at 10 V.S.A. §8504(h), the Environmental Division of the Superior Court has uniformly followed the Supreme Court's guidance as laid down in *In Re Poole*. *See In Re Town of Charlotte Recreational Trail*, Docket No. 98-5-08 Vtec, Decision on Town's Motion for Summary Judgment, at 16 (Vt. Envtl. Ct., Feb. 14, 2011). ("Because the proceedings before this Court are *de novo*, the Court will be looking anew at the evidence presented at trial and making its own findings of fact. *See* 10 V.S.A. §8504(h); VRECP 5(g). In fact, this *de novo* standard of review has been interpreted, at least as to the issues preserved by the appeal, to have the same effect as if "no decision had been previously rendered by the Commission." *In Re Entergy Nuclear VT Yankee Discharge Permit, 3-1199*, 2009 VT 124, ¶ 54."); *In Re Pion Sand and Gravel Pit*, Docket 245-12-09 Vtec, Decision on Motion for Party Status, (Vt. Envtl. Ct., July 2, 2010).

12. With respect specifically to ANR appeals heard by the Environmental Division of the Superior Court, prior to the enactment of 10 V.S.A. §8506, the Environmental Division in interpreting the *de novo* hearing standard contained at 10 V.S.A. §8504(h) has held as follows: "The statutory provision under which this appeal is taken is entirely unambiguous that it is *de novo*. 10 V.S.A. §8504(h). Unlike in judicial review of administrative agency action in the federal system, or in some other states, no presumption is afforded the fact that the permit amendment was issued by the ANR, and the Court is not charged with determining whether the ANR determination is supported by substantial evidence on the record as a whole." *In Re Stormwater NPDES Petition*, Docket No. 14-1-07 Vtec, Decision on Motion to Strike and Motion for Reconsideration, at 11. (Vt. Envtl. Ct., Feb. 18, 2009).

13. Similarly, prior to appeals from ANR being heard by the Environmental Division of the Superior Court, they were heard under 10 V.S.A. §1269 by the Water Resources Board. In defining the scope of those appeals with respect to *de novo* review, the Water Resources Board in *In Re Morehouse Brook, Englesby Brook, Centennial Brook, and Bartlett Brook*, held as follows:

> This appeal was filed pursuant to 10 V.S.A. §1269. Section 1269 provides that appeals to the Board are *de novo*. It is well-settled that in a *de novo* appeal, the Board does not review ANR's prior decision to determine whether ANR acted properly. Rather, the Board hears the case "as if there had been no prior proceedings." *In Re Deerfield Hydroelectric Project*, Nos. WQ-95-01 and WQ-95-02 (consolidated) (Chair's evidentiary rulings at 4 (Vt. Water Res. Bd., Feb. 5, 1997) (Construing *In Re Killington, Ltd.*, 159 Vt. 206, 214 (1992)).

> ANR argues in these appeals that the Board must defer to ANR's interpretation and implementation of the law relating to the permits at issue. In support of this position, ANR cites federal cases involving the Court's review of the record in an appeal of a decision of an administrative tribunal. These cases are readily distinguishable from the cases at hand which are de novo appeals to a quasi-judicial administrative agency charged with whether ANR's act or decision is lawful. (Cites omitted). . . Accordingly, the Board does not defer to ANR's interpretation of the law in these appeals.

Docket Nos. WQ-02-04, WQ-02-05, WQ-02-06 and WQ-02-07 (consolidated) Findings of Fact Conclusions of Law and Order, at 14 (Vt. Water Res. Bd., June 2, 2003); *Cf. In Re Hannaford Brothers Company and Lowes Home Centers, Inc.*, Docket No. WQ-01-01 at p. 8 (Vt. Water Res. Bd., June 29, 2001).

14. In connection with the interpretation of the VWQS, Section 1-05 of the VWQS provides in relevant part as follows:

> In most situations it is the Secretary, as the initial decision-maker, in a variety of permit proceedings who is required to make determinations and interpretations of these rules. Where a *de novo* appeal is taken from the Secretary's decision, the appellate decision-maker must make determinations and interpretations under these rules to achieve the purposes of both state and federal law. The decision-maker in a *de novo* appeal is not bound by any determinations or interpretations of these rules made by the Secretary relative to an application, provided that review of such determinations is within the scope of the appeal.

15. It is generally accepted that in administrative proceedings, the applicant or petitioner bears the burden of proof. *In Re CCCH Stormwater Discharge Permits*, Docket Nos. WQ-02-11,

WQ-03-05, - 06 and 07, Findings of Fact, Conclusions of Law and Order, at 16-17 (Vt. Water Res. Bd., October 4, 2004) (citing *In Re Town of Cabot*, docket no. WQ-00-04 Findings of Fact, Conclusions of Law, and Order, at 2 (Vt. Water Res. Bd., September 18, 2000)). The burden of proof consists of the burden of both production and persuasion. *In Re Dean Leary (Point Bay Marina, Inc.)*, Docket No. MLP-96-04, Findings of Fact, Conclusions of Law and Order, at 10 (Vt. Water Res. Bd., August 1, 1997); *Cf. In Re Champlain Marina, Inc.*, Docket No. 28-2-09 Vtec, Decision on the Merits, at 8 (Vt. Envtl. Ct., 10, 2011).

16. Consequently, the Appellee in this appeal bears the burden of producing sufficient evidence to persuade the Board by a preponderance of said evidence that the permits it seeks are in compliance with the statutory and regulatory authority governing storm water discharges in Vermont.

III. RELEVANT STATUTORY AND REGULATORY STANDARDS.

17. Vermont's scheme for managing stormwater discharges is set forth initially in 10 V.S.A. Chapter 47, the Water Pollution Control Statute. 10 V.S.A. §1250 provides the general policy of the state to protect water quality, including protecting Vermont's water resources from stormwater discharges, as follows:

> It is the policy of the state of Vermont to:
> (1) protect and enhance the quality, character and usefulness of its surface waters and to assure the public health;
> (2) maintain the purity of drinking water;
> (3) control the discharge of wastes to the waters of the state, prevent degradation of high quality waters and prevent, abate or

> control all activities harmful to water quality;
> (4) assure the maintenance of water quality necessary to sustain existing aquatic communities;
> (5) provide clear, consistent and enforceable standards for the permitting and management of discharges;
> (6) protect from risk and preserve in their natural state certain high quality waters, including fragile high-altitude waters, and the ecosystems they sustain;
> (7) manage the waters of the state to promote a healthy and prosperous agricultural community, to increase the opportunities for use of the state's forest, park and recreational facilities, and to allow beneficial and environmentally sound development.
>
> It is further the policy of the state to seek over the long term to upgrade the quality of waters and to reduce existing risks to water quality.

(Emphasis added.)

18. The Water Pollution Control Statute requires permits for construction stormwater discharges pursuant to 10 V.S.A. §§1258, 1259, and 1263, and requires permits for post-construction operational stormwater discharges (regulated stormwater) pursuant to 10 V.S.A. §1264.

19. To the extent the Water Pollution Control Statute requires a construction stormwater discharge permit, such requirement is established by the federal Clean Water Act, as amended, 33 U.S.C. §1251 *et seq.*, and the regulations of the federal Environmental Protection Agency, including 40 CFR 122.26, which established the federal National Pollutant Discharge Elimination System ("NPDES"). The federal Environmental Protection Agency ("EPA") has delegated authority to implement the NPDES permitting program to the State of Vermont.

Erosion Prevention and Sediment Control Plans that are utilized to manage construction stormwater discharges are required to utilize best management practices ("BMPs") contained in Part 4 and Part 5 of the Vermont Standards and Specifications for Erosion Prevention and Sediment Control (the "VSS"). In addition, pursuant to the Water Pollution Control Statute and the federal Clean Water Act, all construction stormwater discharges must also comply with the VWQS.

20. With respect to operational stormwater discharge permits, 10 V.S.A. §1264 sets forth the basis for and objectives of the permitting program as follows:

> The general assembly finds that the management of stormwater runoff is necessary to reduce stream channel instability, pollution, siltation, sedimentation, and local flooding, all of which have adverse impacts on the water and land resources of the state. The general assembly intends, by enactment of this section, to reduce the adverse effects of stormwater runoff. The general assembly determines that this intent may best be attained by a process that: assures broad participation; focuses upon the prevention of pollution; relies on structural treatment only when necessary; establishes and maintains accountability; tailors strategies to the region and the locale; assures an adequate funding source; builds broadbased programs; provides for the evaluation and appropriate evolution of programs; is consistent with the federal Clean Water Act and the state water quality standards; and accords appropriate recognition to the importance of community benefits that accompany an effective stormwater runoff management program.

(Emphasis added). In addition, 10 V.S.A. § 1264(e)(1) provides the basic requirements for any operational stormwater discharge permit:

> the secretary shall, for new stormwater discharges, require a permit

> for discharge of regulated stormwater runoff consistent with, at a minimum, the 2002 stormwater management manual. The secretary may issue, condition, modify, revoke, or deny discharge permits for regulated stormwater runoff, as necessary to assure achievement of the goals of the program and compliance with state law and the federal Clean Water Act. The permit shall specify the use of best management practices to control regulated stormwater runoff. The permit shall require as a condition of approval, proper operation, and maintenance of any stormwater management facility and submittal by the permittee of an annual inspection report on the operation, maintenance and condition of the stormwater management system. The permit shall contain additional conditions, requirements, and restrictions as the secretary deems necessary to achieve and maintain compliance with the water quality standards, including but not limited to requirements concerning recording, reporting, and monitoring the effects on receiving waters due to operation and maintenance of stormwater management facilities.

(Emphasis added).

21. Procedural requirements applicable to the issuance of an operational stormwater permit are set forth in the Vermont Stormwater Management Rule, as set forth at Chapter 18 of the Environmental Protection Rules. Section 18-301(a) of the Rule reiterates that "[t]he primary goal for management of regulated stormwater runoff is to assure compliance with the Vermont Water Quality Standards," and Section 18-306(a)(1) specifies that operational stormwater discharge permits must comply with the "treatment standards for new development in the Vermont Stormwater Management Manual."

22. The current Project not only requires an individual construction stormwater permit and an individual operational stormwater permit, but because the Project was required to obtain an

individual wetlands permit and a Rivers and Harbors Act permit from the U.S. Army Corps of Engineers, the Project also requires a state water quality certification ("WQC") pursuant to Section 401 of the federal Clean Water Act, which certifies that the Project overall complies with the VWQS.

23. The VWQS were adopted by the State of Vermont Natural Resources Board, Water Resources Panel. The General Policy of the VWQS incorporates the statutory policy set forth in 10 V.S.A. §1250. Section 1-02 of the VWQS provides as follows:

> it is the policy of the State of Vermont to:
>
> 1. protect and enhance the quality, character and usefulness of its surface waters and to assure the public health;
> 2. maintain the purity of drinking water;
> 3. control the discharge of wastes to waters, prevent degradation of high quality waters and prevent, update or control all activities harmful to water quality;
> 4. assure the maintenance of water quality necessary to sustain existing aquatic community;
> 5. provide clear, consistent and enforceable standards for the permitting and management of discharges;
> 6. protect from risk and preserve in their natural state certain high quality waters including fragile high-altitude waters, and the ecosystems they sustain;
> 7. manage waters to promote a healthy and prosperous agricultural community, to increase the opportunities for use of the state's forest, parks and recreational facilities, and to allow beneficial and environmentally sound development.
>
> It is further the policy of the state to seek over the long-term to upgrade the quality of waters and to reduce existing risks to water quality.

(Emphasis added).

24. Section 1-03 of the VWQS contains the state's Anti–Degradation Policy. The general Anti–Degradation Policy provides that "[a]ll waters shall be managed in accordance with these rules to protect, maintain, and improve water quality." VWQS, Section 1-03.A. In addition, high quality waters "shall be managed to maintain and protect the higher water quality and minimize risk to existing and designated uses." VWQS, Section 1-03.C. (Emphasis added). In the case of high quality waters, no reduction in the existing water quality is permitted, except that a limited reduction may be allowed only when it is shown that:

> a. the adverse economic or social impacts on the people of the state specifically resulting from the maintenance of the higher quality of the waters would be substantial and widespread;
> b. these adverse impacts would exceed the environmental, economic, social, and other benefits of maintaining the higher water quality; and
> c. there shall be achieved the highest statutory and regulatory requirements for all new or existing point sources, and all cost-effective and reasonable accepted agricultural practices and best management practices, as appropriate for nonpoint source control, consistent with state law.

VWQS, Section 1-03.C.2. Appellee has offered no evidence in this matter with regard to the exceptions set forth in VWQS, Section 1-03.C.2, and therefore, no reduction in the Project site's high quality waters is permitted. There is no *de minimis* standard provided for in the Rule and therefore none is assumed or applicable. *See Conservation Law Foundation v. Burke*, 162 Vt. 115, 121, 645 A.2d 495, 499 (1993) ("If the Agency wishes to include an additional *de minimis*

exception, it must do so explicitly.")

25. 10 V.S.A. §1251a(c), requires ANR to adopt rules to implement the VWQS Anti-Degradation policy in connection with the administration of various permitting programs, including construction stormwater discharge permits and operational stormwater discharge permits. ANR has developed an Interim Anti-Degradation Implementation Procedure, but such procedure has not been adopted as a rule.

26. With respect to discharges, including stormwater discharges, the VWQS Discharge Policy, at Section 1-04(A) thereof, provides, *inter alia*, as follows:

> In addition to the other provisions of these rules, new discharges of wastes may be allowed only when all the following criteria are met:
> 1. The proposed discharge is in conformance with all applicable provisions of these rules including the classification of the receiving waters adopted by the Board as set forth in chapter 4 of these rules.
> 2. There is neither an alternative method of waste disposal, nor an alternative location for waste disposal, that would have a lesser impact on water quality including the quality of groundwater, or if there is such an alternative method or location, it would be clearly unreasonable to require its use.
> * * *

VWQS, Section 1-04.A. Appellee's expert witness testified that in his opinion "it would be technically feasible to install accepted STPs on the site without additional significant impacts to protected or sensitive resources . . ." Nelson, Prefiled Rebuttal Testimony, p. 50. Although alternative methods of stormwater treatment, including the use of accepted Stormwater

Treatment Practices ("STPs") pursuant to Section 2 of the VSWM, are available and could be reasonably utilized, they were not so utilized by Appellee in this application. Nelson, Prefiled Rebuttal Testimony, pp. 50-53; Nelson, Cross-Examination Testimony 7/11/12 p. 165.

27. The VWQS defines "receiving waters" as "all waters adjacent to a discharge, and all downstream or other waters the quality of which may be affected by that discharge." VWQS, Section 1-01.B.38. The VWQS defines "waters" as: "all rivers, streams, creeks, brooks, reservoirs, ponds, lakes, springs and all bodies of surface waters, artificial or natural, which are contained within, flow through or border upon the State or any portion of it." VWQS, Section 1-01.B.49.

28. In addition to the General Policy, the Anti-Degradation Policy, and the Discharge Policy, the VWQS contain specific Water Quality Criteria that must be achieved in all waters regardless of their classification. VWQS, Section 3-01.B. These criteria include, without limitation, the following: temperature, phosphorus, nitrates, settleable solids, alkalinity, and pH. *Id.* In addition, waters classified as Class A(1) Ecological Waters must achieve the management objectives and water quality criteria set forth in VWQS Section 3-02, including, without limitation, management objectives related to aquatic biota, wildlife, and aquatic habitat, and aesthetics, and water quality criteria related to turbidity as well as aquatic biota, wildlife, and aquatic habitat. Waters classified as Class B must meet similar management objectives and water quality criteria as set forth in VWQS, Section 3-04.

29. Volume I of the Vermont Stormwater Management Manual ("VSMM") "contains the regulatory requirements for the management of stormwater." VSMM, Introduction. Section 1 of the VSMM "sets forth required stormwater treatment standards and design criteria for water quality, groundwater recharge, channel protection, overbank flood protection and extreme flood control," and "sets forth certain exemptions to the treatment standards for channel protection, overbank flood protection and extreme flood control." *Id.* Section 2 of the VSMM "sets forth stormwater treatment practices that ANR has determined are acceptable to meet the treatment standards set forth in Section 1." *Id.* Section 3 of the VSMM "sets forth certain voluntary stormwater management credits" that are nonstructural design practices that have been approved for use "to gain stormwater credits that will significantly reduce the cost and size of the stormwater treatment practices at a site." *Id.*

30. Acceptable STPs that are approved for use in Vermont are specifically identified in Table 2.1 and Table 2.2 of the VSMM. The VSMM, at Section 2.5, also provides a process for approval of alternative STPs not listed in Table 2.1 or Table 2.2:

> A permit applicant may propose and the Agency may allow the use of STPs other than those listed in Tables 2.1 and 2.2 <u>if the permit applicant can demonstrate to the Agency's satisfaction that the proposed alternative STPs will attain the applicable treatment performance standards for water quality, groundwater recharge, channel protection, overbank flood protection and extreme flood control</u>.

(Emphasis added).

31. For alternative STPs that have "a proven record of longevity in the field" supported by adequate data, such STPs may be considered under Section 2.5.1 of the VSMM. Where no data exists to demonstrate the effectiveness of a new or unproven STP, the applicant may seek approval under Section 2.5.2 of the VSMM, which requires as follows:

> The performance standard for STPs shall meet the applicable treatment standards specified in section 1.1, and shall have the capability to achieve long-term performance in the field. For an alternative STP to be submitted to the Agency for consideration, a designer's certification of compliance, including pertinent design information must be provided. This certification must provide details, with a reasonable level of surety, on how the system will achieve the requisite performance standards. In addition, a plan of study to obtain the following should be provided:
>
> - At least five storm events must be sampled.
> - Storm events must be sampled under a varying and representative range of precipitation intensities and antecedent conditions.
> - Concentrations reported in the study must be flow-weighted.
> - The study and/or design may be independently verified by the Agency.
> - The study must be conducted in the field, as opposed to laboratory testing.
> - The practice must have been in the ground for at least one year at the time of monitoring.
> - The study must be completed within three years of construction.
>
> If the Agency determines that a proposed alternative STP design does not meet the performance standards, and the applicant is not able to modify the system to correct the deficiency to the satisfaction of the Agency within a reasonable period of time, then the permit applicant shall utilize the acceptable STPs set forth in this section. If a proposed alternative STP design is successfully approved by the Agency, then this alternative will be available for

> use by other permit applicants, if determined appropriate by the Agency.

(Emphasis added).

32. Specifically with respect to the performance standard for the Channel Protection Treatment Standard ("CPv") contained in Section 1.1.2 of the VSMM, all STPs, including alternative STPs, are required to provide "12 to 24 hours of extended detention storage (ED) for the one-year, 24-hour rainfall event." The intent of the CPv is to "provide detention of a volume of water . . . to ultimately prevent impacts to stream channels as a result of the discharge." Nelson, Cross Examination Testimony 7/12/12, pp. 14-15. Specifically, CPv is designed "to protect receiving waters from excessive scour due to high flows." Nelson, Prefiled Rebuttal Testimony, p. 46.

33. "For projects that have disconnected the majority of impervious surfaces per use of the credits in Section 3 such that routing to a detention facility is not achieved," CPv may be provided by use of an Alternative Design Standard. VSMM, Section 1.1.2. (Emphasis added). The credits available in Section 3 specifically include the following nonstructural design practices:

> Credit 1. Natural Area Conservation
> Credit 2. Disconnection of Rooftop Runoff
> Credit 3. Disconnection of Non-Rooftop Runoff
> Credit 4. Stream Buffers
> Credit 5. Grass Channels
> Credit 6. Environmentally Sensitive Rural Development
> Credit 7. Watershed Hydrology Protection Credit

Appellee has been clear in its testimony that it has not disconnected the majority of impervious surfaces per the use of the credits in Section 3, and specifically has not utilized, and does not meet the requirements to use, the Watershed Hydrology Protection Credit. Nelson, Prefiled Rebuttal Testimony, pp. 15-16; Nelson, Cross Examination Testimony 7/11/12, p. 162; Nelson, Cross Examination Testimony 7/12/12, p. 23.

34. CPv can be waived all together if the following conditions are met:

> 1. Expansions involving less than or equal to one (1) acre of impervious cover;
> 2. A site where the pre-routed post-development discharge is less than 2 cubic feet per second; or
> 3. A site that directly discharges to a waterbody with a drainage area equal to or greater than 10 square miles, and that is less than 5% of the watershed area at the site's upstream boundary.

Appellee has not claimed, nor does this Project qualify for, the above-stated waivers.

35. With respect to the CPv waivers, both the term "expansion" and the term "site" are specifically defined in the VSMM as follows:

> EXPANSION AND EXPANDED PORTION OF AN EXISTING DISCHARGE - An increase or addition of new impervious surface to an existing impervious surface, such that the total resulting impervious surface is greater than the minimum regulatory threshold.
>
> SITE - Either the drainage area that includes all portions of a project contributing stormwater runoff to one or more discharge points; or, the area that includes all portions of disturbed area within a project contributing stormwater runoff to one or more discharge points. The choice of either of these two methods of calculating the site area shall be at the discretion of the designer. In cases where there are multiple discharges to one or more waters,

> "site" shall mean the total area of the subwatersheds. For linear projects, including but not limited to highways, roads and streets, the term "site" includes the entire right of way within the limits of the proposed work, or all portions of disturbed area within the right of way associated with the project. The method of calculating the site area for linear projects shall be at the discretion of the designer. Calculations of a site are subject to the Secretary's review under Section 18-303 of this Rule.

VSMM, Glossary (emphasis added). Even though the CPv worksheet states that it is to be filled out for each discharge point, the worksheet does not change, either implicitly or explicitly, the definitions of "expansion" or "site" for the purposes of determining applicability of the waivers. Exhibit GMP-JAN-Redirect 2.

36. Based on the foregoing definitions, waiver number 1 is not available for any jurisdictional projects that involve only new impervious surfaces or expansions of greater than 1 acre, and waiver number 2 is not available for any projects with a total combined stormwater runoff of more than 2 cubic feet per second.

IV. INDIVIDUAL CONSTRUCTION STORMWATER PERMIT.

37. Appellee has submitted to the Board application materials for an Individual Construction Stormwater Permit ("INDC") for discharges to the Project's receiving waters during construction. The application materials for the INDC include, *inter alia*, a Risk Evaluation and a set of Erosion Prevention and Sediment Control Plans ("EPSC" Plans). Nelson, Prefiled Testimony, p. 19; Exhibits GMP-JAN-A6, GMP-JAN-A8.

38. The Risk Evaluation form is a document prepared by stormwater designers to determine

whether or not a project is low risk, moderate risk or requires an individual permit. Nelson, Cross Examination Testimony 7/11/12, pp. 53-54. Projects that receive a Risk Evaluation score of 0 are considered "Low Risk." Nelson, Cross-Examination Testimony 7/11/12, p. 61; Exhibit GMP-JAN-A6. Projects that receive a Risk Evaluation score of 2 or less are characterized as "Moderate Risk." Nelson, Cross-Examination Testimony 7/11/12, p. 61; Exhibit GMP-JAN-A6. The Risk Evaluation submitted with the application assigned the Project an overall risk score of 5, which means that the risk score assigned to the Project is significantly higher than the "Moderate Risk" category and requires coverage under an individual permit. Nelson, Cross-Examination Testimony 7/11/12, pp. 61-62; Exhibit GMP-JAN-A6. In addition, the Discharge Area Summary Table submitted with the application demonstrates that 42 of the 53 subwatersheds identified for the Project, or approximately 80%, have been identified by Appellee as "High Risk" based on the factors contained in Table 3.2 of the VSS. Exhibit GMP-JAN-A4.

39. "The EPSC Plans constitute the most critical component of the INDC filing, as these plans depicting the entire area of planned construction activities, identify the BMPs to be used, and the circumstances and/or location at which individual BMPs are to be deployed." Nelson, Prefiled Testimony, v1, p. 20. The "requirements for plans and specifications submitted as part of an application for coverage under a construction stormwater discharge permit" are set forth in parts 4 and 5 of the VSS. VSS, p. 1.4[2].

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[2] The EPSC Plans were required for this Project based upon ANR's determination that the Project required an Individual Stormwater Construction Permit. This determination was based

40. Specifically, with respect to the use of silt fence, the VSS require that the EPSC Plans must at a minium include the "location where the silt fence is to be installed," (VSS, p. 5.6) and with respect to sediment traps, the VSS require that:

> each trap shall be delineated on the plans in such a manner that it will not be confused with any other features . . .. If the drawings are such that this information cannot be delineated on the drawings, then a table shall be developed . . ..
> The following information shall be shown for each trap in a summary table format on the plans.
>
> 1. Trap number
> 2. Type of trap
> 3. Drainage area
> 4. Storage required
> 5. Storage provided (if applicable)
> 6. Outlet length or pipe sizes
> 7. Storage depth below outlet or cleanout elevation
> 8. Embankment-elevation (if applicable)
> 9. The construction detail for each type of sediment trap designated.

(VSS, p. 5.24) (Emphasis added).

41. Notwithstanding the regulatory requirements of the VSS to include the "location where the silt fence is to be installed," according to Appellee's expert witness, "the specific locations

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upon various factors, including: 1) the Project disturbing more than 2 acres of land; 2) the Project having stormwater discharges that do not first pass through a 50-foot vegetated buffer area; 3) the Project having more than 5 acres of disturbed earth at any one time; 4) the Project having earth disturbance within 100 feet (horizontal) upslope of any lake or pond or 50 feet (horizontal) upslope of any rivers or streams (perennial or seasonal); 5) the Project including more than 1 acre of disturbance on soil that is greater than 15% slope; 6) the Project including more than 1 acre of disturbance of soils with high (K>0.36) erodibility rating; 7) the Project disturbing more than 2 acres of soil within erodibility higher than K=0.17; and 8) the Project including more than 2 acres of disturbance on soil that is greater than 5% slope. Nelson, Cross Examination Testimony 7/11/12, pp. 55-60; Exhibit GMP-JAN-A6.

where silt fence might ultimately be deployed are not displayed on the plans." Nelson Prefiled Rebuttal Testimony, p.7. Instead, the EPSC Plans contain "specifications, notes, details, permit conditions, etc." designed to guide the contractor in its installation of silt fence. Nelson, Prefiled Rebuttal Testimony, p.7. Appellee's EPSC Plans use symbols to designate areas for "Construction Demarcation and/or Perimeter Erosion Control" and "Construction Demarcation and/or Perimeter Control Within 100' of Water Resource Areas," but do not specify how to determine whether or not both Construction Demarcation and Perimeter Erosion Control must be employed, or whether one of the practices alone is acceptable. Exhibit GMP-JAN-A8, Sheet C-130. Reviewing the detail on Sheet C-130 of the EPSC Plans indicates that Construction Demarcation can be accomplished by using orange barrier tape or orange flagging without the need for any silt fence. Exhibit GMP-JAN-A8. Even after carefully reviewing the "specifications, notes, details, permit conditions, etc.," contained in the EPSC Plans, it is not possible to determine any specific locations where silt fence is to be installed. Appellee's expert states that notwithstanding the requirements of the VSS that require silt fence locations to be specifically shown on the plans, it was his opinion that "it is much better to establish a general narrative guide for when the measure must be implemented." Nelson, Prefiled Rebuttal Testimony, p. 7. However, Appellee's EPSC Plans have not even done that, in that they require only "Construction Demarcation and/or Perimeter Control," and do not specifically require silt fence to be installed at any location. Exhibit GMP-JAN-A8 (emphasis added).

42. Appellee's EPSC Plans also do not contain the information required by the VSS with respect to sediment traps. Appellee's EPSC Plans specify that "level spreaders" shown on the plans are "to be used as stone outlet sediment traps during construction." Exhibit GMP-JAN-A8, Sheet C-127, D6. Although the EPSC Plans contain a table that specifies the lip elevation and the length of each level spreader to be used as a sediment trap, the EPSC Plans do not contain a summary table with the drainage area, storage required, storage provided, or storage depth below outlet or cleanout elevation, per the requirements of the VSS. VSS, p. 5.24; Exhibit GMP-JAN-A8, Sheet C-127, T1. Instead, the EPSC Plans provide only "general sizing requirements" and a note that the "temporary sediment trap sizing shall be adjusted proportionally for larger drainage areas." Exhibit GMP-JAN-A8, Sheet C-133, D7. Nowhere in the EPSC Plans are the drainage areas identified in summary form as required by the VSS, and determination of sizing is left to the contractor's in the field estimation as to the drainage area – a practice that is not, for obvious reasons, included as a permissible practice in the VSS. *See* VSS, p. 5.24. Appellee's expert has apparently misread the requirements in the VSS: the VSS requires that a summary table describing the sizing of traps shall be shown on the EPSC Plans, but Appellee's expert has stated that such table is to be "developed and utilized by the contractor." VSS, p. 5.24; Nelson, Prefiled Rebuttal Testimony, p. 8. Such a reading is inconsistent with the plain language of the VSS.

43. Construction of the Project began in late August, 2011. Notwithstanding Appellee's contention that the EPSC Plans contain sufficient guidance for the contractor to follow, on

October 5, 2011, barely one month after commencement of construction, ANR issued a "Stop Work Order." Exhibit EVT-GMG-04. ANR issued the Stop Work Order in response to the contractor's failure to install necessary BMPs allegedly shown on the EPSC Plans. Burke, Prefiled Rebuttal Testimony, p. 7. In addition, there have also been numerous discharges from the Project in excess of the ANR required reportable level of 25 NTUs. Exhibits EVT-GMG-02; EVT-JAN-CROSS-29; EVT-JAN-CROSS-31; EVT-JAN-CROSS-32; EVT-JAN-CROSS-33; EVT-JAN-CROSS-34; EVT-JAN-CROSS-35.

CONCLUSIONS REGARDING APPELLEE'S INDC APPLICATION

Without discussing whether or not the VSS constitutes a properly adopted BMP Manual, and assuming, *arguendo*, that it does, the EPSC Plans for Appellee's Project do not comply with the minimum requirements set forth in the plain language of the VSS. Regulations, such as the VSS, are interpreted "using the familiar rules of statutory construction." *In re Foregger Revocable Trust 4 Lot-Subdivision*, Docket No. 157-10-Vtec, slip op., at 2 (Walsh, J.) (Mar. 29, 2012). "That is, we 'construe words according to their plain and ordinary meaning, giving effect to the whole and every part of the ordinance.'" *Id.* The relevant portions of the VSS employ mandatory language: "plans and specifications for installing silt fences shall be in keeping with the standard and shall describe the requirements for applying the practice to achieve its intended purpose"; "the following information shall be shown for each trap in a summary table format on the plans." VSS, pp. 5.6, 5.24. The plain and ordinary meaning of such mandatory language is

that the referenced information is required on the plans. To interpret the language otherwise would be to render ineffective the words actually used. *See In re Bennington Sch.*, 2004 VT 6, ¶ 13, 176 Vt. 584 ("The Court will assume the common and ordinary usage of language in a statute unless doing so would render it ineffective, meaningless, or lead to an irrational result.")

When regulatory language is clear, exceptions to the explicitly stated requirements must also be explicitly stated and may not be improvised by the use of agency discretion in interpreting their rules. *See Conservation Law Foundation v. Burke*, 162 Vt. 115, 121, 645 A.2d 495, 499 ("If the Agency wishes to include an addition *de minimis* exception, it must do so explicitly.") No exceptions are provided in the VSS or elsewhere that modify the mandatory requirements of the VSS that require certain minimum information to be shown on the EPSC Plans. Appellee's EPSC Plans do not provide the minimum level of required detail necessary to enable the contractor in the field to identify, size, and install the required stormwater management practice or installation location necessary to prevent unauthorized discharges. This conclusion is supported by the issuance of the Stop Work Order, which, according to ANR was issued due to the contractor's failure to install the required stormwater controls during the critical early stages of construction. Burke, Prefiled Rebuttal Testimony, p. 7.

Because the EPSC Plans fail to provide even the minimum level of detail required by the VSS, and because these failures have led to numerous discharges with high NTU readings and therefore put the Project's high quality receiving waters at risk, the Board finds that it cannot

approve an INDC permit based upon the EPSC Plans as they currently exists. The Board will require the EPSC Plans, minimally, to be revised to address the noncompliance with the mandatory VSS provisions described above. To issue an INDC permit without requiring the EPSC Plans to be revised would violate the VWQS in that it would fail to protect from risk the high quality receiving waters from discharges from the Project. Accordingly, the Board remands Appellee's INDC permit application to ANR with instructions that should ANR, pursuant to its authorized procedures, issue an amended INDC permit to Appellee, said permit's EPSC Plans shall conform to and be consistent with the Board's findings with respect to the VSS. Specifically, any such reissued or amended permit shall provide the information required in the VSS at pages 5.6 and 5.24. Until the EPSC Plans and INDC permit are duly amended, no construction activities may occur in locations where either silt fence or sediment trap are either in use or shown on the plans.

V. INDIVIDUAL OPERATIONAL STORMWATER PERMIT

A. GENERAL DESIGN

44. Appellee has submitted application materials for an Individual Operational Stormwater Permit ("INDS") that include Operational Stormwater Plans ("Stormwater Plans"). Exhibit GMP-JAN-C4. The Stormwater Plans include a notation as follows: "The design information shown is approximate. Further design work, as may be required for permitting and construction, will likely modify the roadway, grading, buildings, utilities, stormwater treatment practices and

other site characteristics." *Id.* Notwithstanding this very general disclaimer, Appellee's expert testified that there have not "been substantial changes to the plans that would alter the analyses that were done as part of the permit applications." Nelson, Cross Examination Testimony 7/11/12, p. 66. Appellee did not submit any exhibits that purport to change the Stormwater Plans or any of the specifications contained therein.

45. Appellee proposes that the INDS will cover discharges to the Project's receiving waters from the following new areas of impervious surfaces once placed in operation: the access road; crane path; crane pads; turbine foundations; the O & M building rooftop; and associated parking areas. Nelson, Prefiled Testimony, p. 6. Appellee has not treated the remainder of the turbine pads as impervious surfaces based on Appellee's representation that the turbine pads will be constructed using an uncompacted shot rock surface, as described on the Stormwater Plans, Sheet C-132, detail D10. Nelson, Prefiled Testimony, v2, p. 6; Exhibit GMP-JAN-C4.

46. The access road and crane path are proposed to be constructed with a subbase of either "compacted on-site granular fill or on-site shot rock fill," with all granular fill "compacted to at least 95% of the Standard Proctor Value for that fill." Exhibit GMP-JAN-C4, Sheet C-132, detail D8. The surface material of the access road and crane path is proposed per the Plans as follows:

> an 18 inch layer of gravel (VAOT 704.05a coarse or approved equal) or on-site shot rock size conforming generally to that of a typical 3" to 5" inch minus stone from a quarry. Either surface is permissible up to Station A80+50 on the access road. No VAOT 704.05a road gravel surfaces permitted above station A 80+50 on the access road or on any portion of the crane path. *Id.*

Observations made by the Board during the site visit on July 10, 2012, indicate that the actual surface material used on the upper portion of the access road and on the crane path readily compacted from vehicle traffic and from wind blows "fines" to form a smooth surface with little apparent difference from that of a typical gravel or "dirt" road in the state of Vermont.

47. The detail of the "shot rock" surface proposed for the turbine pads, on its face and based on observations made during the site visit, appears to be the same or very similar to materials used for the surface of the upper portion of the access road and the crane path. Exhibit GMP-JAN-C4, Sheet C-132, D8.

B. LEVEL SPREADERS.

48. Appellee has proposed to manage operational stormwater runoff from the Project through the use of 31 level spreaders, 4 dry ponds, 16 wet ponds, 1 infiltration basin and 6 grassed channels. Nelson, Prefiled Testimony, v2, p. 8.

49. The 31 level spreaders that are proposed to manage operational stormwater runoff from the Project are the predominant method proposed for stormwater treatment for the Project, and are to be located along the access road and the crane path. Nelson, Cross Examination Testimony 7/11/12, p. 121; Exhibit GMP-JAN-C4.

50. The level spreaders will receive impervious area stormwater runoff primarily from the access road and the crane path. Exhibit GMP-JAN-C4. Each level spreader discharges into a vegetated buffer area as shown on the Stormwater Plans. Exhibit GMP-JAN-C4. Some of these

vegetated buffer areas are located in the areas of wetland buffer, and certain of the vegetated buffers discharge the stormwater runoff directly to wetlands, including class II wetlands. Nelson, Cross Examination Testimony 7/11/12, p. 116; Exhibit GMP-JAN-C4.

51. Level spreaders are not one of the accepted STPs listed in Table 2.1 or Table 2.2 of the VSMM. Instead of level spreaders, Appellee could use accepted STPs to manage stormwater runoff from the site. Nelson, Prefiled Rebuttal Testimony, p. 50; Nelson, Cross Examination Testimony 7/11/12, pp. 165-66. In fact, Appellee claims that it has already determined that "it would be technically feasible to install Accepted STPs on the site without additional significant impacts to protected or sensitive resources." Nelson, Prefiled Rebuttal Testimony, p. 50. If all 31 of the level spreaders were replaced with accepted STPs the total difference in disturbed area would be approximately 12 acres, or less than 10% of the total disturbed area for the overall Project. Nelson, Cross Examination Testimony 7/12/12, pp. 90-91.

52. Appellee has testified that in utilizing level spreaders it is not relying on the WHPC as set forth in Section 3.7 of the VSMM. Nelson, Prefiled Rebuttal Testimony, pp. 15-16. In fact, in order to qualify for the WHPC "certain specific criteria must be met regarding: (1) limitations on total amount of impervious cover within a given watershed, (2) maintenance of the percentage of forest cover within a given watershed, and (3) maintenance of stream buffers." Exhibit GMP-JAN-C10, p. 2. Appellee is not able to comply with any of these three criteria and therefore would not qualify for the WHPC. *Id.*; Nelson, Cross Examination Testimony 7/11/12, p. 124.

Specifically, "it would not be possible for the project to maintain a maximum impervious cover of 5% or less within all watersheds nor will the project be able to assure ongoing maintenance of at least 90% of the forested land within all contributing watersheds." *Id.* at 3. In addition, based on the Stormwater Plans, the Project will encroach on several headwater streams in violation of the buffer requirements set forth in Table 1 of the WHPC. Torizzo, Prefiled Testimony, p. 18; Exhibit EVT-GMG-07

53. Even though the Project does not qualify for the WHPC, Appellee nevertheless alleges that it "based the design of its level spreaders on the specific design criteria for level spreaders that DEC adopted in the WHPC." Nelson, Prefiled Rebuttal Testimony, p. 17. Nevertheless, Appellee's level spreader design fails to incorporate certain key elements of the site design approach contained in the WHPC.

54. Section 2.1.3 of the WHPC, Cross Drainage, requires that a project must "provide frequent cross drainage under roads," and provides a table of "maximum allowable distance between drainage conveyance structures" which range from 30 feet where the road grade is 40%, to 80 feet where the road grade is 10%, and 400 feet where the road grade is 1%. Appellee's Stormwater Plans, however, indicate long stretches where there is no cross drainage provided, in some cases up to 1,370 feet. Exhibits GMP-JAN-C4, EVT-GMG-07.

55. Section 2.3.1 of the WHPC, General Topography, requires as follows:

> The topography of the disconnection area must be such that stormwater runoff will remain generally well-distributed. Flow

> paths across areas that will result in significant collection or channelization is not allowed.

Appellee's Stormwater Plans reveal topography within the vegetated buffer areas that indicate a propensity for stormwater to re-concentrate in channels within the vegetated buffer areas. Exhibit GMP-JAN-C4; Nelson, Cross-Examination Testimony 7/11/12, p. 139.

56. Section 3 of the WHPC, Application Information Requirements, requires, at a minimum, that the following information be provided with the application:

> Identify all surface water features, including seeps, wetlands, and vernal pools within 150' upslope of the limits of disturbance, and within the required distances of all downslope areas relied upon for disconnection (e.g., within 75 feet for disconnection on the downhill side of the road in a forested condition).
>
> Identify all surface channels with potential to concentrate runoff within 150' upslope of the limits of disturbance and within the required distances of all down-slope areas relied upon for disconnection (e.g., within 75 feet for disconnection on the downhill side of the road in a forested condition).
>
> Identify all areas with potential for significant flow of shallow groundwater flow, including identification of oxyaquic soils, or wet mineral soils that lack redoximorphic features.

Appellee submitted none of this required information with its application, and in fact has admitted that it did no groundwater studies at all and did only a cursory investigation of the portions of the vegetated buffer areas that lie outside of the "Investigation Area" shown on the Stormwater Plans. Nelson, Cross-Examination Testimony 7/11/12, pp. 73, 75-76.

57. Based on the fact that the level spreaders in Appellee's Project design are not listed in

Table 2.1 or Table 2.2 of the VSMM, and based on the fact that Appellee's Project does not qualify under the criteria described above in Section 3.7 of the WHPC, Appellee has proposed the use of its level spreader design under Section 2.5 of the VSMM as an Alternative STP. Nelson, Cross Examination Testimony 7/11/12, pp. 121, 125.

58. With respect to the approval of level spreaders as an Alternative STP, Appellee admitted in its application that "no data associated with performance of these types of systems are currently available." Exhibit GMP-JAN-C10, p. 4; Nelson, Cross Examination Testimony 7/11/12, p. 125. In fact, as will be discussed below, data is available from other states which would prohibit the use of level spreaders on slopes greater than 15%. Thus, the procedure available in Section 2.5.1 for approving an "existing alternative system" as an Alternative STP is not available. Nelson, Cross Examination Testimony 7/11/12, pp. 125-26. Consequently, Appellee has proposed approval of level spreaders pursuant to Section 2.5.2 as a "new-design alternative system." Nelson, Cross Examination Testimony 7/11/12, pp. 125-26.

59. There are four key elements to the approval of a "new-design alternative system" under Section 2.5.2: 1) a designer's certification that includes "details, with a reasonable level of surety on how the system will achieve the requisite performance standards, including pertinent design information, must be provided;" 2) the STP "shall have the capability to achieve long-term performance in the field;" 3) the STP "shall meet the applicable treatment standards specified in section 1.1;" and 4) a plan of study must be provided. VSMM, Section 2.5.2 (emphasis added).

60. The designer's certification provided with Appellee's application materials is, based on Appellee's own admission, on a generic form (Nelson, Cross Examination Testimony 7/11/12, pp. 112-13) and fails to provide any "details, with a reasonable level of surety on how the system will achieve the requisite performance standards." VSMM, Section 2.5.2; Exhibit GMP-JAN-C3. Specifically, the Designer Certification submitted with the Application states only as follows:

> I hereby certify that the design-related information submitted with this application for permit coverage was prepared under my direction or supervision and that the information is, in the exercise of my reasonable professional judgment, true, accurate and complete. I also hereby certify that the stormwater collection, treatment and control system design submitted with this application complies with DEC's Stormwater Management Rule and the Vermont Stormwater Management Manual.

Exhibit GMP-JAN-C3, p. 4.

61. The only document submitted with the application that provides any detail as to how the system will arguably achieve the requisite performance standards is a memo from VHB, dated September 20, 2010, revised December 9, 2010. Exhibit GMP-JAN-C10. Even this document, however, provides no specifics as to how the level spreaders will achieve compliance with any of the Treatment Standards, and the document is not certified. *Id.*

62. With respect to the capability of Appellee's proposed level spreader design to achieve long term performance in the field, Appellee ignores the significant data that indicates that level spreaders are not a reliable or effective STP on sites such as Lowell Mountain. The level spreaders and associated vegetated buffers proposed by Appellee are predominantly located on

steep slopes, i.e., slopes greater than 15%. Exhibit GMP-JAN-Reb 1. The vegetated buffers proposed by Appellee have slopes that range from 12.0% to 26.0% averaged along their length. *Id.* Of the 31 level spreaders, 18, or approximately 60%, are located on average slopes greater than 15%. *Id.*

63. Design guidance and studies of the performance of level spreaders from other jurisdictions have determined that the maximum slope for acceptable performance of level spreaders and vegetated buffers is 15% or less. The design guidance from Idaho, Oregon, North Carolina, New Hampshire, Massachusetts, the U.S. EPA, and the NRCS all specify that level spreaders and/or vegetated buffers should be located on slopes of 15% or less. Exhibits EVT-JAN-CROSS-36, EVT-JAN-CROSS-37, EVT-JAN-CROSS-38, EVT-JAN-CROSS-40, EVT-JAN-CROSS-41, EVT-JAN-CROSS-42, EVT-JAN-CROSS-46, and EVT-JAN-CROSS-47.

64. The Idaho Department of Environmental Quality, Catalog of Stormwater Best Management Practices provides that "vegetated filter strips should not be used on slopes greater than 10% because of the difficulty in maintaining the necessary sheet-flow conditions." Exhibit EVT-JAN-CROSS-36. The Idaho regulations limit the maximum allowable slope for vegetative filter strips to 14%. *Id.* The State of Oregon Low Impact Development fact sheet provides that the ideal slopes for vegetated filter strips are "5% or less, with up to 15% acceptable but not encouraged." Exhibit EVT-JAN-CROSS-37. The North Carolina Department of Environment and Natural Resources Stormwater BMP Manual provides that the maximum slope for vegetative

filter strips is 8%. Exhibit EVT-JAN-CROSS-38. The Natural Resources Conservation Service practice standards provide that "vegetative filter strip shall have slopes of 15% or less." Exhibit EVT-JAN-CROSS-46. Although the State of Maine allows level spreaders to be located on slopes of up to 30%, the Maine regulations limit the use of level spreaders with respect to achieving water quality compliance to slopes of 15% or less. Exhibits EVT-JAN-CROSS-43, EVT-JAN-CROSS-44. In addition, the Maine regulations also limit the maximum size of level spreaders to 25 feet in length in order to limit the drainage areas discharging to any one level spreader and ensure that discharges are dispersed. Exhibits EVT-JAN-CROSS-43, EVT-JAN-CROSS-44. No studies, reports, data or other evidence was offered by Appellee from any other state or jurisdiction which would support the blanket use of level spreaders on slopes greater than 15%.

65. A study of level spreader performance from North Carolina, which evaluated the discharges from numerous types of level spreaders, found that regardless of the design of the level spreader, a level spreader's ability to re-create sheet flow is extremely limited and that re-concentration of water is inevitable. Exhibit EVT-JAN-CROSS-49. The study found that the effective distance of sheet flow on slopes greater than 15% with groundcover of trees and/or shrubs was only 17 feet. *Id.* This finding contrasts with Appellee's application materials, which model sheet flow from the level spreaders to a distance of 100 feet. Goll, Cross Examination Testimony 7/12/12, p. 187.

66. In addition to the fact that studies indicate that level spreaders do not function well in locations similar to those proposed as part of Appellee's Project, the specific design of the level spreaders proposed by Appellee creates additional and unnecessary risk of erosion downslope from the level spreaders due to the potential for reconcentration of stormwater runoff. Typical level spreader design requires the use of a hardened lip that must be perfectly level to ensure that water flowing out of the level spreader and over the hardened lip does not concentrate at any low points. Lake, Prefiled Testimony, p. 13. The EPSC Plans[3] specify for the level spreaders that instead of a hardened lip "the stone used in the outlet shall be VT AOT 706.04 Type 1 stone or approved on-site shot rock, placed on Mirafi 140N or approved equal drainage fabric." Exhibit GMP-JAN-A8, Sheet C-127, D1. The use of stone instead of a hardened lip is likely to create small variations in the "lip" of the level spreader that may not be immediately visible, but will be found by water and will tend to concentrate discharges of water leaving the level spreader. Lake, Prefiled Testimony, p. 13. Concentrated flows leaving the level spreader will increase the risk of downslope erosion within the vegetated buffer areas and consequently will increase the risk of sediment laden discharges to receiving waters. *Id.*; Nelson, Cross Examination Testimony 7/11/12, pp. 129-30.

67. In addition to the shortcomings identified above with respect to Appellee's designer

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[3]The Stormwater Plans themselves do not contain any details that specify the materials to be used in constructing the level spreaders. This information is contained only in the EPSC Plans submitted by Appellee. Exhibits GMP-JAN-A8, GMP-JAN-C4.

certification and the capability of the proposed level spreaders to achieve long-term performance in the field, Appellee has not demonstrated that its proposed level spreaders meet the CPv Treatment Standard in Section 1.1.2 of the VSMM. Nelson, Cross Examination Testimony 7/12/12, pp. 20-21.

68. Appellee has proposed that the level spreaders satisfy CPv by use of the "Alternative Design Standard" identified in Section 1.1.2 of the VSMM. Nelson, Cross Examination Testimony 7/11/12, p. 120. In other words, not only is the Appellee proposing to use an Alternative STP, but it also circularly proposes to piggyback the Alternative STP approval onto an equally inappropriate use of the Alternative Design Standard under Section 1.1.2. Exhibit GMP-JAN-C5. Pursuant to the plain language of VSMM Section 1.1.2, however, the Alternative Design Standard is only available to demonstrate CPv compliance "[f]or projects that have disconnected the majority of impervious surfaces per use of the credits in Section 3 such that routing to a detention facility is not achieved." (Emphasis added). Appellee is clear throughout its testimony that it is not using any of the credits in Section 3 for this Project. Nelson, Prefiled Rebuttal Testimony, pp. 15-16, Nelson, Cross-Examination Testimony 7/11/12, pp. 122, 160; Nelson, Cross Examination Testimony 7/12/12, p. 23.

69. Despite the clear, plain and mandatory language in the VSMM, both Appellee and ANR maintained during their testimony that ANR, and thus the Board in this appeal, is vested with discretion to amend the specific language in Section 1.1.2 to allow use of the Alternative Design

Standard to satisfy CPv without the use of the nonstructural practices set forth in the credits in Section 3. Nelson, Cross-Examination Testimony 7/11/12, pp. 162-63; Burke, Cross-Examination Testimony, 7/13/12, pp. 148, 165. Appellee admitted that it departed from the specific requirements of the VSMM Section 1.1.2 and instead designed the Project by utilizing an approach that is "analogous" to, but not provided for, in Section 1.1.2. Nelson, Cross Examination Testimony 7/12/12, p. 22. Appellee is effectively asking the Board to modify the language of VSMM Section 1.1.2 as part of the approval of level spreaders under VSMM Section 2.5.2, even though there is no language in 2.5.2 that provides the Board with any ability to modify the requirements of Section 1.1.2. VSMM, Section 2.5.2.

70. Appellee also does not qualify for any of the three CPv waivers provided for in Section 1.1.2 of the VSMM. The Project involves the construction of 27.47 acres of new impervious area, and thus exceeds the waiver threshold for expansions involving less than or equal to one (1) acre of impervious cover, regardless of whether the impervious cover is considered "new" or an "expansion." Nelson, Prefiled Testimony, p. 6; VSMM, Section 1.1.2. In addition, based on the definition of "site" provided in the VSMM, the total pre-routed post-development discharge from the Project site is greater than 2 cubic feet per second, and thus exceeds the waiver threshold for sites with discharges of less than 2 cubic feet per second. Exhibit GMP-JAN-C8. No evidence was presented to indicate that the any discharges from the Project qualify for the third waiver in Section 1.1.2.

71. If an applicant is not relying on the Alternative Design Standard or waivers, compliance with CPv is achieved by providing 12 hours of extended detention storage[4] as demonstrated by modeling peak stormwater discharge from the proposed STP for the one-year, 24 hour storm. VSMM, Section 1.1.2; Nelson, Prefiled Rebuttal Testimony, p. 47. If an applicant is relying on the Alternative Design Standard, CPv compliance is demonstrated by modeling peak stormwater discharge runoff from a hypothetical STP that provides the required extended detention storage and comparing those results for the proposed STPs. Nelson, Prefiled Rebuttal Testimony, p. 47.

72. Even assuming, *arguendo*, that it is appropriate to rely on the Alternative Design Standard to demonstrate CPv compliance when none of the Section 3 credits have been employed, several of Appellee's modeling assumptions result in an overstatement of the amount of extended detention storage provided by the level spreaders and vegetated buffers.

73. Appellee has modeled stormwater runoff using the HydroCAD computer modeling software that is based on USDA Natural Resources Conservation Service ("NRCS") Technical Release 55 ("TR-55"). Nelson Prefiled Testimony, v2, p. 8. Both HydroCAD and TR-55 rely upon three variables to calculate runoff for a given rainfall amount: the land area, the hydrologic curve number ("CN"), and the time of concentration ("Tc"). Nelson, Cross Examination Testimony 7/12/12, pp. 44-45. CN values represent the amount of runoff that is likely to occur from a given cover type and a given underlying soil type. Lake, Prefiled Testimony, p. 5. For

[4] Twelve hours for cold water fish habitat, as in the case of the Project, or 24 hours for warm water fish habitat, as appropriate.

example, stormwater runoff from paved surfaces is represented by a CN value of 98, regardless of soil type, which indicates a high amount of runoff to be expected for a given amount of rainfall. Exhibit GMP-JAN-Reb 3. Conversely, stormwater runoff from open space in good condition with grass cover of greater than 75% on hydrologic soil group "C" is represented by a CN value of 74, which indicates a lower amount of runoff to be expected for the same storm event. *Id.* Guidance on the appropriate CN values to use when modeling stormwater runoff is provided both by HydroCAD and by NRCS. *Id.*

74. The guidance provided by both HydroCAD and NRCS indicates that when modeling stormwater runoff from a gravel road, the appropriate CN value is 96. Exhibit GMP-JAN-Reb 3, Torizzo, Prefiled Testimony, pp. 9-10, 11. Notwithstanding the HydroCAD and NRCS guidance, and notwithstanding the fact that the material used to construct the crane path and the upper portion of the access road is essentially gravel, Appellee has, on its own initiative and based upon "professional judgment," assigned a lower CN value to the crane path and portions of the access road. Even though gravel roads are a condition covered in the guidance, Appellee has treated the upper portion of the access road (above station 80+50) and the crane path as a "special condition" and calculated a CN value based on the purported porosity of the shot rock material used to construct the access road and crane path. Nelson, Cross Examination Testimony 7/12/12, p. 55. Appellee has assigned CN values of 89 where the access road and crane path are located on hydrologic soil group "C" soils, and 91 where the access road and crane path are located on

hydrologic soil group "D" soils. Nelson, Cross Examination Testimony 7/11/12, p. 155. Both of these CN values will represent a significantly lower expected runoff volume, between 30% and 50% less, then the CN value of 96. Goll, Cross Examination Testimony 7/12/12, p. 198.

75. Notwithstanding Appellee's attempt to justify the use of lower CN values based on the porosity of the proposed material, porosity is not necessarily indicative of the actual runoff that will occur from any specific material. This is especially true, as was observed on-site, where the shot rock material being used to construct the upper portion of the access road and the crane path contains a significant amount of "fines" which can compact and make a smooth, impermeable surface when exposed to vehicle traffic, wind and/or rain. Nelson, Cross Examination Testimony 7/12/12, p. 47; Torizzo, Cross Examination Testimony 7/13/12, p. 23; Torizzo, Prefiled Testimony, p. 11.[5] Appellee has proposed scarifying the access road and crane path to assure that the design criteria (i.e., CN values of 89 and 91) are achieved during operation. Nelson, Cross Examination Testimony 7/12/12, p. 47. The impermeable surface of the shot rock on the access road and crane path, however, is unlikely to be made permeable simply by scarifying the top layer of material. Torizzo, Cross-Examination Testimony 7/13/12, p. 23. In such a situation, a

[5] Appellants are not relying on the testimony of Donald Lake, who offered an opinion that rainfall would rapidly permeate the surface of the upper portion of the access road and the crane path and runoff elsewhere. Mr. Lake's opinion was based on an analysis of the specification offered in Appellee's EPSC Plans and Stormwater Plans, which indicated that the upper portion of the access road and the crane path would be constructed of 3"-5" minus stone. As was observed on-site, however, this information in the specifications did not accurately describe what Appellee actually constructed in the field, and therefore can no longer be used as the basis of Mr. Lake's testimony.

CN value of 96 more conservatively reflects the amount of stormwater runoff that is likely to be experienced from such a surface. Goll, Prefiled Testimony, p. 26; Torizzo, Prefiled Testimony, pp. 11-12. By using a CN value of 89 and/or 91 to model the upper portion of the access road and the crane path, Appellee has under-represented the amount of stormwater runoff that is likely to enter the level spreaders, resulting in undersized stormwater treatment structures.

76. Appellee's stormwater runoff modeling also assigns CN values to areas of cut-slope and fill-slope adjacent to the access road, crane path, and crane pads. Appellee assigned these areas CN values of 74 for areas with HSG "C" soils and 80 for areas with HSG "D" soils. Nelson, Cross-Examination Testimony 7/12/12, p. 113. These CN values correspond to the values provided in the NRCS guidance for "open space (lawns, parks, golf courses, cemeteries, etc), good condition (>75% grass cover)." Exhibit GMP-JAN-Reb 3. The 75% grass cover requirement contrasts with Appellee's Revegetation Plan for cut slopes, which provides that "[a]reas of cut will not be subject to the [revegetation] treatment described above, as it is assumed that many such instance will result in near-vertical rock faces that are not amenable to revegetation." Exhibit GMP-JAN-D16, p. 2. Even for fill slopes, Appellee's Revegetation Plan only requires that 50% revegetation be maintained. Exhibit GMP-JAN-D16, p. 7. The conflict between Appellee's Revegetation Plan and the guidance for proper CN value assignments is further evidence that Appellee's stormwater runoff model will under-represent stormwater runoff.

77. In addition to under representing the amount of stormwater runoff routed through the level spreaders and vegetated buffers, Appellee's model also under represents how quickly the stormwater runoff discharged from the level spreaders will travel through the vegetated buffer areas. That is, the runoff will move through the vegetated buffer areas more quickly than shown in Appellee's model, and will result in less "extended detention storage" (or higher peak discharge rates) for purposes of evaluating CPv. Appellee's model assumes that the vegetated buffer areas are perfectly flat along a given contour and that water will flow as sheet flow across the entire width of the vegetated buffer for a distance of 100 feet. Goll, Prefiled Testimony, p.31. Appellee's assumption is contradicted by the North Carolina study that indicated that on slopes of 15% or greater, the maximum distance for the maintenance of sheet flow discharged from a level spreader is only 17 feet. Exhibit EVT-JAN-CROSS 49. Appellee's assumption is also contradicted by the topography of the vegetated buffer areas as shown on the Stormwater Plans (Exhibit GMG-JAN-C4) and by the actual conditions (rocks, trees, slopes, gullies, etc.) observed in the vegetated buffer areas during the site visit on July 10, 2012.

78. The combination of the under representation of the amount of stormwater runoff routed through the level spreaders and vegetated buffers and the under-representation of the time that the runoff will spend in the vegetated buffers means that more water will flow through the proposed alternative STPs faster than represented in Appellee's model and will result in shorter detention periods than those modeled by Appellee.

79. The purpose of the plan of study required by the VSMM, Section 2.5.2, is to allow ANR to determine whether an alternative STP meets the required treatment standards. If, based on the study results, ANR "determines that a proposed alternative STP design does not meet the performance standards, and the applicant is not able to modify the system to correct the deficiency to the satisfaction of the Agency within a reasonable period of time, then the permit applicant shall utilize the acceptable STPs set forth in this section." VSMM, Section 2.5.2. The plan of study proposed by Appellee provides for post-construction water quality monitoring "within the receiving stream or wetland in the location that is downstream/downslope of the point at which the resource area receives project-related runoff." Exhibit GMP-JAN-C10, p. 6.

80. The specific water quality monitoring locations proposed by Appellee are downstream/downslope of the Project's discharge locations, but are not at the actual discharge locations and in general are between 0.5 miles and 2 miles downstream from the discharge locations. Nelson, Cross-Examination Testimony 7/11/12, pp. 107-10; Exhibits GMP-JAN-C4, Sheet C-100, GMP-Redirect-1, Appendix 1. The specific water quality monitoring locations were selected "primarily based on the needs of how to measure aquatic biota in a scientifically defensible and repeatable way." Nelson, Cross Examination Testimony 7/12/12, p. 117. Maintaining designated uses for aquatic biota, wildlife, and aquatic habitat is, however, only one of the management objectives contained in the VWQS, and there are other water quality criteria that must be met in order to comply with the VWQS. VWQS, Sections 3-01.B, 3-02.A, 3-04.A.

For example, limits on temperature, phosphorus, nitrates, settleable solids, color, alkalinity, and pH are among the water quality criteria that must be achieved in the Project's receiving waters pursuant to the VWQS. VWQS, Section 3-01.B. Given the distance between the discharge locations and the monitoring locations, the monitoring locations proposed by Appellee will fail to assess water quality impacts on these criteria for long reaches of the Project's receiving waters - in some cases as much as 2 miles downstream from a discharge point - and will not ensure compliance with the VWQS.

CONCLUSIONS REGARDING APPELLEE'S INDS APPLICATION

10 V.S.A. §1264(e)(1) provides that "the secretary shall, for new stormwater discharges, require a permit for discharge of, regulated stormwater runoff consistent with, at a minimum, the 2002 stormwater management manual." In the present case, Appellee's application as proposed does not comply with the regulations contained in the VSMM.

In interpreting regulations such as the VSMM, the "overall goal is to discern the intent of the drafters." *Conservation Law Found. v. Burke*, 162 Vt. 115, 121, 645 A.2d 495, 499 (1993). Regulations such as the VSMM are interpreted "using the familiar rules of statutory construction" which require the Board to "construe words according to their plain and ordinary meaning, giving effect to the whole and every part of the ordinance." *In re Foregger Revocable Trust 4-Lot Subdivision*, Docket No. 157-10-11 Vtec, slip op., at 2, (Vt. Envtl. Ct., Mar. 29, 2012). An agency's interpretation of its own regulations will be upheld "absent compelling

indications of error." *Rogers v. Watson*, 156 Vt. 483, 489, 594 A.2d 409, 412-13 (1991). Error will be found when the agency's interpretation is inconsistent with the plain language of the regulation or are otherwise indicated by the agency's intent at the time of the regulation's adoption. *Id.* Such a review standard, however, "does not equate with mere judicial passivity in determining the propriety of [ANR] interpretations of its own rules." *In re Wal-Mart Stores, Inc.*, 167 Vt. 75, 80, 702 A.2d 397, 400 (1997). The reviewing body on appeal, "as well as the agency, must give effect to the unambiguously expressed intent of [the legislature]." *Levine v. Wyeth*, 2006 VT 107, ¶ 31, 183 Vt. 76, 944 A.2d 179. Specifically, the VWQS provide the following instructions in the case of *de novo* appeals of stormwater discharge permits:

> In most situations it is the Secretary, as the initial decision-maker in a variety of permit proceedings, who is required to make determinations and interpretations of these rules. Where a *de novo* appeal is taken from the Secretary's decision, the appellate decision-maker must make determinations and interpretations under these rules will achieve the purposes of both state and federal law. The decision-maker in a *de novo* appeal is not bound by any determinations or interpretations of these rules made by the Secretary relative to an application, provided that review such determinations is within the scope of the appeal.

The language in the VSMM is plain, clear and mandatory. VSMM Section 2.5.2 provides that "[t]he performance standard for STPs shall meet the applicable treatment standards specified in section 1.1." (Emphasis added). Section 1.1.2 provides that "[f]or projects that have disconnected the majority of impervious surfaces per use of the credits in Section 3 such that routing to a detention facility is not achieved, the designer may use an alternative design

standard." (Emphasis added).

The VSMM provides no discretion to deviate from the regulatory requirements. It does not say, for example, that projects that use an "analogous" approach to the nonstructural practices provided for in Section 3 may use an Alternative Design Standard. Nor does the VSMM grant to ANR, or the Board sitting in the place of ANR on appeal, the ability to amend Section 3 *ad hoc* to create additional credits. If ANR had intended to provide such discretion, it was required to do so explicity. *See Conservation Law Found. v. Burke*, 162 Vt. at 121, 645 A.2d at 499 ("If the Agency wishes to include an additional de minimis exception, it must do so explicitly.") The plain and clear mandatory language of the VSMM is consistent with the intent embodied in the statutory scheme that authorizes the VSMM. Specifically, 10 V.S.A. § 1250 states as follows:

> It is the policy of the state of Vermont to:
> (1) protect and enhance the quality, character and usefulness of its surface waters and to assure the public health;
> (2) maintain the purity of drinking water;
> (3) control the discharge of wastes to the waters of the state, prevent degradation of high quality waters and prevent, abate or control all activities harmful to water quality;
> (4) assure the maintenance of water quality necessary to sustain existing aquatic communities;
> (5) provide clear, consistent and enforceable standards for the permitting and management of discharges;
> (6) protect from risk and preserve in their natural state certain high quality waters, including fragile high-altitude waters, and the ecosystems they sustain;
> (7) manage the waters of the state to promote a healthy and prosperous agricultural community, to increase the opportunities for use of the state's forest, park and recreational facilities, and to allow beneficial and environmentally sound development.

> It is further the policy of the state to seek over the long term to upgrade the quality of waters and to reduce existing risks to water quality.

(Emphasis added).

Finding discretion where none is specifically provided and/or developing special credits for projects on an *ad hoc* basis would be inconsistent with the stated policy goal to "provide clear, consistent . . . standards." Similarly, improvising solutions for Appellee's Project without the formality provided for in the process of adopting or amending regulations would be inconsistent with the stated policy goal of protecting the Project's high quality waters from risk. Thus an interpretation of the VSMM that vests ANR, or the Board in an appeal, with discretion to allow Appellee to satisfy CPv by using the Alternative Design Standard even though it has not used, and does not qualify for, the credits in Section 3, is not consistent with the plain language or the intent of the regulation and cannot be upheld.

Appellee has admitted that the only way its proposed level spreaders can be approved is as an Alternative STP pursuant to Section 2.5.2 of the VSMM, which, as set forth above, requires compliance with the CPv treatment standard. Nelson, Cross Examination Testimony, pp. 121, 125-26. In the case of Appellee's application, Appellee has attempted to demonstrate compliance with the CPv treatment standard by use of the Alternative Design Standard, even though Appellee has not utilized, and does not qualify for, the credits in Section 3. Nelson, Prefiled Rebuttal Testimony, p. 47; Nelson, Cross Examination Testimony 7/12/12, p. 23.

Appellee has admitted that its proposal deviates from the provisions of Section 1.1.2 but suggests that the Board may exercise discretion to create an additional exception to the language in 1.1.2 as part of its review of the level spreaders as an Alternative STP. Nelson, Cross Examination Testimony 7/12/12, pp. 21-23. As discussed above, no such discretion exists and therefore Appellee's Project as proposed does not comply with the VSMM.

Appellee's Project as proposed further fails to satisfy the clear, mandatory provision in Section 2.5.2 that requires the submission of a designer's certification that provides "details, with a reasonable level of surety, on how the system will achieve the requisite performance standards." Not only is the designer certification submitted by Appellee a form certification that omits any reference to details of the level spreader design or its ability to achieve the requisite performance standards, but nowhere in its application has Appellee provided any of the required information. Specifically, Appellee's application omits certain information that ANR would otherwise require to evaluate the performance of level spreaders and vegetated buffers if the Project qualified for use of the WHPC, including surface water features, surface channels, and the location of oxyaquic soils, or wet mineral soils that lack redoximorphic features within the vegetated buffer areas. In fact, Appellee has admitted that it did no groundwater studies at all and did only a cursory investigation of the portions of the vegetated buffer areas that lie outside of the "Investigation Area" shown on the Stormwater Plans. Nelson, Cross-Examination Testimony 7/11/12, pp. 73, 75-76.

Appellee's Project as proposed fails to satisfy the clear, mandatory language in Section 2.5.2 that the "performance standard for STPs shall have the capability to achieve long-term performance in the field." (Emphasis added). Appellee has not offered any evidence to counter the almost unanimous guidance from other states and federal agencies that would prohibit the use of the level spreaders proposed by Appellee for stormwater management on sites such as Lowell Mountain.

For all of the foregoing reasons the level spreaders and vegetated buffers proposed by Appellee are not appropriate for approval as an Alternative STP and therefore Appellee's Project as proposed does not meet the requirements of the VSMM.

Appellee's Project also fails to comply with the requirements of the VWQS. 10 V.S.A. §1264(h), read in conjunction with 10 V.S.A. §1264(g)(1), provides as follows:

> In any appeal under this chapter an individual permit meeting the requirements of [10 V.S.A. § 1264](e) of this section shall have a rebuttable presumption in favor of the permittee that the discharge does not cause or contribute to a violation of the Vermont water quality standards for the receiving waters with respect to the discharge of regulated stormwater runoff.

Because Appellee's Project as proposed does not meet the requirements of 10 V.S.A. § 1264(e)(1) which requires new stormwater discharges to be "consistent with, at a minimum,[6] the

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[6]The plain meaning of the language "at a minimum" indicates the legislature's intent that the requirements in the VSMM would impose a floor, as opposed to a ceiling, for the issuance of a stormwater discharge permit. *See In re Foregger Revocable Trust 4-Lot Subdivision*, Docket No. 157-10-11 Vtec, slip op., at 2, (Vt. Envtl. Ct., Mar. 29, 2012) (body reviewing regulation is required to "construe words according to their plain and ordinary meaning"). This implies that,

2002 stormwater management manual," no presumption of compliance with the VWQS attaches in this appeal.

The VWQS General Policy restates and incorporates the State's Water Quality Policy. VWQS, Section 1-02. The VWQS also sets forth an Anti-Degradation Policy (VWQS, Section 1-03), a Discharge Policy (VWQS, Section 1-04), and specific Water Quality Criteria (VWQS, Section 3). All of the policies and the Water Quality Criteria must be complied with for all waters of the state, including the receiving waters for the Project. VWQS, Section 1-03, Section 3-01.B.

One of the policy goals expressed in the General Policy of the VWQS, which incorporates the policy goals of the Vermont Water Pollution Control Law, is to "protect from risk and preserve in their natural state certain high quality waters . . .." VWQS, Section 1-02.A.6 (emphasis added). The receiving waters for discharges from Appellee's Project have been determined to be "high quality waters," and thus must be protected from risk. Burke, Cross Examination Testimony 7/13/12, p. 95. Appellee's Project site is located primarily on steep slopes with soils that have high erodibility factors and the majority of the watersheds within the Project area are classified as "high" risk. Exhibits GMP-JAN-A4, GMP-JAN-A13; Nelson, Cross

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arguendo, even if the requirements of the VSMM are met, which they are not in this case, a permit does not have to issue if there are other factors that could lead to a violation of the Water Quality Policy, such as constructing a project on a high risk site like Lowell Mountain. *See* 10 V.S.A. § 1250 ("It is the policy of the State of Vermont to . . . protect from risk and preserve in their natural state certain high quality waters.")

Examination Testimony 7/11/12, p. 40. Within this high risk site, Appellee has proposed to use an experimental stormwater management technology, notwithstanding the guidance from other states and federal agencies that would prohibit the level spreader designs proposed by Appellee for stormwater management on sites similar to Lowell Mountain. Without opining as to whether experimental level spreader technology may be appropriate in limited applications on sites with less risk, Appellee's proposal to use experimental level spreader technology as the predominant method of stormwater management on a high risk site is the antithesis of protecting high quality waters from risk.

The VWQS Discharge Policy provides, in part, that "discharges of waste may be allowed only when all of the following criteria are met: . . . There is neither an alternative method of waste disposal, nor an alternative location for waste disposal, that would have a lesser impact on water quality including the quality of groundwater, or if there is such an alternative method or location, it would be clearly unreasonable to require its use." VWQS, Section 1-04.A. Although alternative methods of stormwater treatment, including the use of accepted STPs pursuant to Section 2 of the VSMM are available and could be reasonably utilized, they were not so utilized by Appellee in this application. Nelson, Prefiled Rebuttal Testimony, pp. 50-53; Nelson, Cross-Examination Testimony 7/11/12 p. 165. In fact, Appellee's expert witness testified that in his opinion "it would be technically feasible to install accepted STPs on the site without additional significant impacts to protected or sensitive resources . . .." Nelson, Prefiled Rebuttal Testimony,

p. 50. Appellee's proposal to use experimental technology on a high risk site when accepted STPs could be used without additional impacts and would pose a lesser risk to water quality violates the VWQS Discharge Policy.

The VWQS contain specific water quality criteria that must be achieved in all waters regardless of their classification, including the Project's receiving waters. VWQS, Section 3-01.B. The VWQS defines "receiving waters" as "all waters adjacent to a discharge, and all downstream or other waters the quality of which may be affected by that discharge." VWQS, Section 1-01.B.38. Appellee's proposed monitoring locations, however, are not adjacent to the discharge locations, but are between 0.5 miles and 2 miles downstream from the identified discharge points for the Project. Exhibit GMP-JAN-E13, Attachment 2; Exhibit GMP-JAN-Redirect 1, Appendix 1; Nelson, Cross Examination Testimony 7/11/12, p. 110. The proposed monitoring locations were selected not based on measuring water quality criteria at the discharge points, but instead were selected "primarily based on the needs of how to measure aquatic biota in a scientifically defensible and repeatable way." Nelson, Cross Examination Testimony 7/12/12, p. 117. Impacts related to temperature, phosphorus, nitrates, settleable solids, alkalinity, and pH, for example could occur 0.5 miles or more upstream from a monitoring location and not be detected. The effective result is that significant stretches of the receiving waters will go unmonitored, and thus there can be no assurance that the Project's receiving waters will be protected from risk. As with other components of Appellee's proposed Project,

Appellee's proposal to monitor the Project only at downstream locations fails to satisfy the requirements of the VWQS.

Impacts to high quality waters are only permissible under the VWQS Anti-Degradation Policy when a social economic analysis has been performed in accordance with VWQS, Section 1-03.C2:

> 2. A limited reduction in the existing higher quality of such waters may be allowed only when it is shown that:
>
> a. the adverse economic or social impacts on the people of the state specifically resulting from the maintenance of the higher quality of the waters would be substantial and widespread;
>
> b. these adverse impacts would exceed the environmental, economic, social, and other benefits of maintaining the higher water quality; and
>
> c. there shall be achieved the highest statutory and regulatory requirements for all new or existing point sources, and all cost-effective and reasonable accepted agricultural practices and best management practices, as appropriate for nonpoint source control, consistent with state law.

No such analysis has been provided in connection with Appellee's Project. Burke, Cross Examination Testimony 7/13/12, p. 170.

For the foregoing reasons, Appellee's Project as proposed fails to meet the requirements of the VWQS. For this reason, and, as discussed above, because Appellee's Project as proposed fails to meet the requirements of the VSMM, Appellee's Project fails to meet the requirements for the issuance of an individual operational stormwater discharge permit as designed and said permit is hereby denied. The Board remands Appellee's INDS permit application to ANR with

instructions that, should ANR issue an amended individual operational stormwater permit to Appellee in accordance with the procedures prescribed for the issuance of individual operational stormwater permits, such permit shall be in compliance with the VSMM and the VWQS and consistent with the Board's findings and conclusions in this decision. Specifically, any such amended permit shall contain the following provisions:

1. All level spreaders and vegetated buffers on slopes greater than 15% shall be removed and replaced with accepted STPs listed on Table 2.1 and/or Table 2.2 of the VSMM.

2. For all level spreaders and vegetated buffers not required to be replaced due to slope restrictions, Appellee shall demonstrate compliance with the CPv performance standard by providing 12 hours of extended detention storage, and may not rely on the Alternative Design Standard unless the credits in Section 3 are being used to achieve disconnection of the applicable impervious surfaces. For purposes of modeling extended detention storage, Appellee shall use a CN value of 96 for all areas of the access road and crane path, and must provide scientific support for the modeling assumptions used to model the flow of water through the vegetated buffer area. Any level spreaders and vegetated buffers that cannot demonstrate compliance with the CPv performance standard must be replaced with accepted STPs as set forth in Table 2.1 and/or Table 2.2 of the VSMM.

3. In addition to the water quality monitoring locations already proposed, water quality monitoring must be implemented at the actual discharge points identified on Exhibit GMP-JAN-C4, Sheet C-100.

If Appellee does not apply to ANR for an amended permit in accordance with the terms of this decision, then Appellee shall return the Project site to its natural condition and cease all operations.

VI. 401 WATER QUALITY CERTIFICATION

"Section 401 of the Clean Water Act [33 U.S.C. §§1341(a)(1)] requires the Project proponent to acquire state certification that state water quality standards will not be violated" when a federal permit is required as part of the project. *Port of Seattle v. Pollution Control Hearings Bd.*, 151 Wash.2d 568, 589, 90 P.3d 659, 670 (2004). As discussed above, Appellee's Project, as currently designed and proposed, does not comply with the VWQS. Accordingly, the 401 Water Quality Certification cannot be issued until such time as Appellee has demonstrated that the issues identified above have been addressed.

Dated at Hartford, Vermont, this 17th day of August, 2012.

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