

**State of Vermont
WATER RESOURCES BOARD**

**Re: Morehouse Brook, Englesby Brook, Centennial Brook, and Bartlett Brook,
Nos. WQ-02-04, WQ-02-05, WQ-02-06, and WQ-02-07 (Consolidated)**

FINDINGS OF FACT, CONCLUSIONS OF LAW, AND ORDER

The issuance of four watershed improvement permits is reversed because these permits do not include a schedule for bringing the receiving waters into compliance with the classifications and criteria of the Vermont Water Quality Standards.

I. PROCEDURAL BACKGROUND

These appeals arise from the issuance of four watershed improvement permits (WIPs or Permits) by the Vermont Agency of Natural Resources (ANR) on July 1, 2002. These WIPs apply to both existing and new stormwater discharges into Bartlett Brook, Centennial Brook, Englesby Brook, and Morehouse Brook. ANR has determined that the Vermont Water Quality Standards are not being met in these waters due, in whole or in part, to the collected discharge of stormwater runoff.

A. Notices of Appeal and First Prehearing Conference

On July 31, 2002, Conservation Law Foundation (CLF) and the Vermont Natural Resources Council (VNRC) appealed all four WIPs to the Water Resources Board (Board). The City of South Burlington (CSB) filed cross appeals of the Centennial Brook and Bartlett Brook WIPs on August 14, 2002. On September 4, 2002, Board Chair David J. Blythe conducted a prehearing conference in these appeals. The following day, on September 5, 2002, the Greater Burlington Industrial Corporation (GBIC) filed a petition to participate as amicus curiae in all pending WIP appeals.

Chair Blythe issued a Prehearing Conference Report and Order (Prehearing Order) for the above-referenced appeals on September 20, 2002. Among other things, the Prehearing Order placed the burden of proof in these appeals (including both the burden of production and the initial burden of persuasion) on ANR, granted GBIC's petition to participate as amicus curiae, consolidated these appeals, scheduled a site visit, and established a prehearing schedule for the parties to file their direct and rebuttal evidence.

On September 30, 2002, ANR filed objections to the Prehearing Order. In its objections, ANR asked the Board to strike certain language in the rationale for assigning the burden of proof in these appeals to ANR. ANR also asked that the Prehearing Order allow for the possibility of live surrebuttal evidence at the hearing. No responses to ANR's objections were filed. On October 18, 2002, Chair Blythe issued an Order that amended the Prehearing Order to reflect ANR's requests.

B. Prefiled Evidence and Memoranda of Law, Site Visit, and VNRC's Motion for Summary Judgment

In accordance with the prehearing schedule established by the Prehearing Order and subsequent Orders of the Chair, the parties prefiled their direct and rebuttal evidence, and the Board conducted a site visit of the four watersheds involved in these appeals. GBIC filed a Memorandum of Law in Opposition to the memoranda of law that CLF and VNRC filed with their direct evidence.

On November 12, 2002, after ANR prefiled its case in chief, VNRC filed a Motion for Summary Judgment and a Memorandum in Support. CLF filed a Memorandum of Law in Support of VNRC's Motion for Summary Judgment, and ANR filed a Memorandum in Opposition. The Board heard oral argument on VNRC's Motion for Summary Judgment on December 10, 2002. In a 3-2 decision issued December 19, 2002, the Board denied VNRC's Motion.

In its Memorandum of Decision on VNRC's Motion for Summary Judgment, the Board addressed the following issue:

Whether, based on the evidence and arguments presented by VNRC's Motion for Summary Judgment and the responses of the other parties, the WIPs under appeal do not comply with the requirements of 10 V.S.A. § 1264(f)(1), which provides as follows: "Any permit issued for existing discharges pursuant to this subsection shall include a schedule of compliance of no longer than five years reasonably designed to assure attainment of the water quality standards in the receiving waters."

Mem. of Decision at 3 (Dec. 19, 2002).

In support of its Motion for Summary Judgment, VNRC quoted the following prefiled testimony of ANR witness Doug Burnham: "Ultimately, we cannot determine at this time what measures are necessary to achieve water quality standards, nor can we tell whether BMP [best management practice] implementation alone via the WIPs will be enough to meet standards." (VNRC Mem. in Supp. of Mot. for Summ. J. at 2 (quoting ANR Ex. 25 at 18).) In its Memorandum of Law in Support of VNRC's Motion for Summary Judgment, CLF agreed with VNRC and argued, among other things, that state and federal law prohibit new or increased discharges of pollutants of concern into impaired waters without sufficient pollutant load allocations to assimilate them.

In its Memorandum in Opposition to VNRC's Motion for Summary Judgment, ANR argued that the reasonableness of the compliance schedule required by section 1264(f)(1) depends on the "realities of current scientific knowledge." (ANR Mem. in Opp'n at 3.) At oral argument on VNRC's Motion for Summary Judgment, ANR contended that the compliance schedule of five years required by section 1264(f)(1) as a condition of the WIPs involves commencing construction of the stormwater treatment systems and taking such other actions as are required by the WIPs rather than achieving compliance with the Vermont Water Quality Standards. ANR acknowledged at oral argument that the WIPs do not assure attainment of the Vermont Water Quality Standards in the receiving waters within five years.

In its Memorandum of Decision on VNRC's Motion for Summary Judgment, a majority of the Board determined "that mixed issues of fact and law will ultimately determine the meaning of section 1264(f)(1)." Mem. of Decision at 6. Based on the materials submitted with respect to VNRC's Motion for Summary Judgment, the Board found "that genuine issues of material fact remain in dispute and that related questions of law have not been adequately addressed by the parties." *Id.* at 7. The Board therefore denied VNRC's Motion for Summary Judgment but requested the parties to brief the issue of what section 1264(f)(1) requires in conjunction with their proposed findings of fact, conclusions of law, and orders.

**C. Evidentiary Objections; Proposed Findings, Conclusions, and Orders;
Second Prehearing Conference; and Site Visit Report**

On January 3, 2003, ANR filed Evidentiary Objections to CLF's prefiled testimony. CLF filed a Response to ANR's Evidentiary Objections on January 9, 2003. On January 21, 2003, the parties filed their proposed findings of fact, conclusions of law, and orders.

On January 23, 2003, Chair Blythe convened a second prehearing conference in this matter. At the second prehearing conference, the Chair established a preliminary hearing schedule, overruled ANR's prefiled evidentiary objections, established a schedule for CLF and VNRC to prefile surrebuttal evidence, permitted ANR and CSB to offer live sursurrebuttal witnesses and to offer documentary sursurrebuttal evidence at the hearing, and allowed CSB to supplement its previously filed rebuttal evidence with a recently finalized water quality restoration plan for Potash Brook.

The Chair's rulings at the second prehearing conference were memorialized in a Second Prehearing Conference Report and Order (Second Prehearing Order) issued January 30, 2003. ANR filed Objections to the Second Prehearing Order on January 31, 2003. In its Objections, ANR requested an opportunity to present live surrebuttal testimony at the hearing with regard to CSB's recently filed water quality restoration plan for Potash Brook. No other objections to the

Second Prehearing Order were filed. In accordance with the Second Prehearing Order, CLF and VNRC prefiled their surrebuttal evidence on February 3, 2003. The Chair granted ANR's objections to the Second Prehearing Order on February 4, 2003.

On January 30, 2003, the same date that the Second Prehearing Order was issued, the Board issued a Site Visit Report for its November 19, 2002 site visit in these appeals and notified the parties of its intention to take official notice of the Site Visit Report pursuant to 3 V.S.A. § 810(4). The parties were given until February 6, 2003, to file any objections, modifications, or deletions with regard to the Site Visit Report. On that date, CSB filed a Request for Modification To Site Visit Report, which contained three relatively minor modifications. No other objections, modifications, or deletions were filed.

D. Merits Hearing and VNRC's Motion for Involuntary Dismissal

A de novo hearing on the merits of these appeals took place on February 18 and 19, 2003 at the Board's conference room in Montpelier, Vermont. Both days of the hearing were stenographically recorded and transcribed. The hearing was also tape recorded. The Chair informed the parties at the outset of the hearing that the stenographer's transcript would constitute the official record of the hearing. As a preliminary matter, the Chair asked whether the parties had any objections to CSB's Request for Modification To Site Visit Report. Hearing no objections, the Board took official notice of the Site Visit Report, with the modifications requested by CSB.

On the second day of the hearing, at the conclusion of ANR's case in chief, VNRC moved on the record for involuntary dismissal pursuant to Vermont Rule of Civil Procedure 41(b). In support of its motion, VNRC argued on the basis of ANR's evidence that the receiving waters fail to comply with the Vermont Water Quality Standards because of existing stormwater runoff. Echoing its earlier Motion for Summary Judgment in these appeals, VNRC asserted that the WIPs violate the express terms of 10 V.S.A. § 1264(f)(1) by failing to include a schedule reasonably designed to assure that existing stormwater discharges will conform with the water quality standards in the receiving waters within five years.

VNRC further argued that the discharges covered by the WIPs are significant contributors of pollutants to waters of the United States and contribute to the violations of the Vermont Water Quality Standards in the receiving waters. VNRC therefore contended that the WIPs violate section 402(p)(2)(E) of the federal Clean Water Act, 33 U.S.C. § 1342(p)(2)(E), because ANR issued the WIPs under state law alone without also exercising its delegated duty and authority to issue the WIPs pursuant to the Clean Water Act's National Pollutant Discharge Elimination System (NPDES). VNRC asked the Board to reverse ANR's issuance of the WIPs

and to remand the WIPs to ANR with instructions to manage the waterways at issue in conformity with state and federal law.

In support of VNRC's motion, CLF argued that new discharges permitted by the WIPs will unlawfully increase pollutant loads to the receiving waters in the absence of assimilative capacity. ANR and CSB argued in opposition to VNRC's motion, contending that granting the motion would not be in the interests of judicial economy and that unresolved issues of controlling law required a fair opportunity for briefing.

After consulting with the Board, the Chair informed the parties that the Board decided to take VNRC's motion under advisement and that the Board would proceed with the hearing and allow the other parties to present their cases.

E. Stipulations; Record; Supplemental Proposed Findings, Conclusions, and Orders; and Deliberations

At the conclusion of the hearing, ANR and CSB submitted a written stipulation to the Board. This stipulation includes modifications of the Bartlett Brook and Centennial Brook WIPs and specifies that these modifications apply only to ANR and CSB. In this stipulation, ANR and CSB ask the Board to approve the WIPs, subject to the terms of the stipulation. There were no other stipulations in this case.

The record for this hearing consists of the Board's Site Visit Report, with the modifications proposed by CSB; the transcript of the hearing; some seventy-one exhibits, including the prefiled testimony of twelve expert witnesses; the stipulation between ANR and CSB; and the legal arguments filed by the parties and the amicus curiae. The Board recessed the hearing with instructions that any supplemental proposed findings of fact, conclusions of law, and orders must be received no later than two weeks after the filing of the transcript. The transcript was filed on February 28, 2003. Accordingly, the parties and GBIC submitted their supplemental filings on March 14, 2003. ANR accompanied its proposed findings and orders with a Memorandum in Opposition to Appellant's Motion for Involuntary Dismissal.

The Board initially deliberated immediately after the hearing on February 19, 2003 and continued its deliberations on March 11, April 1, April 17, May 13, and May 27, 2003. On May 27, 2003, the Board declared the record complete and adjourned the hearing. This matter is now ready for final decision.

II. ISSUES

These appeals present important issues of first impression that encompass far more than the typical review of an individual discharge permit. The WIPs are general permits that represent ANR's initial effort to establish and implement an innovative stormwater permitting program for waters impaired, in whole or in part, by the collected discharge of stormwater. In these appeals, the Board has been asked for the first time to review ANR's management of stormwater-impaired waters through the use of WIPs. The validity of the WIPs at issue rests in large measure on the requirements of the stormwater section of Vermont's Water Pollution Control Act, 10 V.S.A. § 1264. These appeals present the Board with its first occasion to construe significant amendments to section 1264.

In view of the comprehensive and original nature of these appeals, the parties have raised numerous issues for resolution by the Board. However, the primary issues presented by these appeals may be stated as follows:

1. Do the WIPs violate Vermont law by failing to provide that existing and new discharges will conform with the classifications and criteria of the Vermont Water Quality Standards?
2. Must the WIPs be issued as federal NPDES permits pursuant to the federal Clean Water Act?

III. FINDINGS OF FACT

To the extent that any proposed findings of fact are included herein, they are granted; otherwise, they are denied. See Secretary, Agency of Natural Resources v. Upper Valley Regional Landfill Corp., 167 Vt. 228, 241-242 (1997); In re Village of Hardwick Elec. Dep't, 143 Vt. 437, 445 (1983).

A. Receiving Waters and Vermont's 2000 Section 303(d) List

1. On July 1, 2002, the Water Quality Division of ANR's Department of Environmental Conservation issued Watershed Improvement Permit Nos. 3-9005, 3-9006, 3-9007, and 3-9008 for existing and new stormwater discharges into Bartlett Brook, Centennial Brook, Englesby Brook, and Morehouse Brook, respectively. ANR has determined that the Vermont Water Quality Standards are not being met in these waters due, in whole or in part, to the discharge of collected stormwater runoff.
2. Bartlett Brook, Centennial Brook, Englesby Brook, and Morehouse Brook are located in urbanized areas of Chittenden County and within the Lake Champlain drainage basin. The small drainage areas of these streams range in size from 1.4 to 3.7 square kilometers.

3. Bartlett Brook, Centennial Brook, Englesby Brook, and Morehouse Brook are included in ANR's 2000 EPA-approved State of Vermont list of targeted and impaired waters. ANR submitted this list to EPA pursuant to section 303(d) of the federal Clean Water Act, 33 U.S.C. § 1313(d). (A more recent Section 303(d) List for the State of Vermont, if any, has not been offered into evidence.)
4. Vermont's 2000 Section 303(d) List states that Bartlett Brook and Centennial Brook are impaired (or water-quality limited) as a result of land development, erosion, and urban runoff. Englesby Brook is listed as impaired due to urban stormwater runoff; beach closings are cited as an additional surface water problem associated with Englesby Brook. Urban runoff and erosion are listed as the surface water quality problems associated with Morehouse Brook.
5. Vermont's 2000 Section 303(d) List identifies the pollutants causing the impairment of these brooks as pathogens and "undefined typical" for Englesby Brook and as "undefined typical" for Bartlett Brook, Centennial Brook, and Morehouse Brook. The term "undefined typical" may include sediment, nutrients, toxics, metals, and pathogens.
6. Vermont's 2000 Section 303(d) List identifies aquatic life support as an impaired use in Bartlett Brook, Centennial Brook, Englesby Brook, and Morehouse Brook. For Englesby Brook, contact recreation is listed as an additional impaired use.
7. According to Vermont's 2000 Section 303(d) List, Bartlett Brook, Centennial Brook, Englesby Brook, and Morehouse Brook are characterized by poor biological condition and habitat degradation.
8. Vermont's 2000 Section 303(d) List identifies the need for ANR to complete total maximum daily loads (TMDLs) for Bartlett Brook, Centennial Brook, Englesby Brook, and Morehouse Brook, "unless remediation will be completed prior to the scheduled TMDL." (Ex. ANR-7 at 10, 14.) The TMDL completion year is listed as 2009 for all four streams.¹

¹ Vermont's 2002 Section 303(d) List describes a TMDL as follows:

A TMDL establishes the maximum amount of a pollutant that may be introduced into a water body and still ensure attainment of water quality standards even after the application of technology based or other required controls. A TMDL must specify feasible pollutant load allocations among contributing sources. TMDLs are developed to provide an analytical basis for planning and implementing pollution control, land use management

9. Fish and macroinvertebrate data that ANR has collected over a period of years and from multiple locations indicate that the biological communities in the receiving waters are not of sufficient quality to satisfy the matrices generated by ANR for interpreting the narrative aquatic biota standards in the Vermont Water Quality Standards. In other words, these waters do not comply with the biological criteria of the Vermont Water Standards.
10. The primary pollutant causing the failure of the receiving waters to comply with the Vermont Water Quality Standards is sediment. However, the full suite of pollutants found in typical urban stormwater discharges may contribute to some extent to the impairments of the receiving waters. The causative agent for the sediment loading in these waters is stormwater runoff. This sediment load is generated both within the sewersheds discharging stormwater (known as wash off) and by hydrologic modification of the streams that causes unnaturally aggressive stream bank erosion and stream channel incision.
11. The receiving waters covered by the WIPs currently do not have the assimilative capacity to accommodate all the existing discharges of pollutants of concern or any additional discharges of these pollutants.
12. Stream biology may be negatively impacted when watershed imperviousness reaches six to eight percent. Streams in unmanaged watersheds may become impaired (violate water quality standards) by stormwater runoff when the percent of impervious cover reaches as little as ten percent. The watershed percent imperviousness of the urban watersheds covered by ANR's WIP program ranges from six percent to twenty-six percent. In some cases, however, the aggressive treatment of stormwater runoff in urban watersheds can

practices and restoration projects needed to restore and protect water quality. The six desirable components of a TMDL include: problem assessment statement, pollutant source analysis, numeric targets, maximum allowable loading capacity, allocations of responsibility, and public participation.

(Ex. ANR-7 at i.)

The term TMDL under federal law is similar to the term wasteload allocation under Vermont law. Compare 40 C.F.R. § 130.2(g), (h), and (i) with Vermont Wasteload Allocation Process at 3-4. Both terms describe a pollutant-load-allocation process. For consistency, this process will be referred to by the term TMDL in this decision.

result in the attainment of water quality criteria in the receiving streams even as the percent of impervious cover in these watersheds approaches thirty-five or forty percent.

B. Structure of the WIPs

13. The WIPs rely on BMPs to reduce sediment loading and to improve hydrology in the receiving waters.
14. The WIPs are technology or performance-based, rather than water-quality or effects-based.
15. The WIPs are general permits, issued on a watershed-wide basis, that are designed to avoid the substantial administrative burdens ANR has experienced with its prior efforts to issue stormwater permits discharge-by-discharge.
16. ANR used Vermont's Section 303(d) List as the starting point for identifying watersheds that would be covered by WIPs. The streams that ANR chose to remediate through WIPs were identified by ANR as impaired primarily by untreated or poorly treated stormwater runoff. Other factors that ANR considered in this initial assessment included the percentage of impervious area within the watershed, the lack of other major sources of pollutant loading, and the obvious presence of stream channel instability resulting from altered hydrology.
17. The WIPs are designed to address the most significant contributors of sediment to the receiving streams while avoiding the expense and technical challenges that could be associated with retrofitting numerous smaller-scale sites.
18. The discharges covered by the WIPs are point-sources comprised of manmade conveyances that discharge stormwater from specific outfalls into the receiving waters.
19. The WIPs regulate three classes of stormwater discharges into the receiving waters: new discharges, selected discharges, and previously permitted discharges.

1. New Discharges

20. In watersheds covered by the WIPs, stormwater discharges from new development involving over two acres of impervious surfaces (or one acre in small watersheds) must meet the requirements of ANR's 2002 Stormwater Manual.

21. ANR's 2002 Stormwater Manual represents nationally recognized, state-of-the-art BMPs for stormwater treatment practices.
22. The 2002 Stormwater Manual describes treatment practices, or structural source controls, to meet treatment standards, which include water quality, stream channel protection, groundwater recharge, and flood control. Voluntary nonstructural credits, which reduce the amount of impervious surface at a site, can be used to reduce the size and cost of the structural treatment practices. This voluntary credit system allows for new and innovative solutions to stormwater management.
23. By requiring groundwater recharge and by allowing voluntary nonstructural credits, the 2002 Stormwater Manual goes beyond conventional point-source stormwater treatment. However, the WIPs are treatment tools rather than planning tools and are generally designed to regulate point sources of stormwater rather than nonpoint-source pollution. Neither the WIPs nor the 2002 Stormwater Manual requires the use of nonstructural BMPs (such as vegetated riparian buffers or stream rehabilitation techniques) for the treatment of nonpoint-source discharges of stormwater.

2. Selected Discharges

24. In each watershed covered by the WIPs, ANR identified the existing major discharges of collected stormwater. These major contributors of stormwater pollutants are known as selected discharges. ANR identified selected discharges based on a watershed-wide ranking of the stormwater discharges that have the largest relative impact on the receiving waters. This ranking was based on a formula that considered certain factors, including the extent of impervious surfaces, the efficacy of any existing stormwater treatment, and the degree of connectivity to the receiving water. In identifying selected discharges, ANR also relied on any existing studies of individual watersheds that may have been available.
25. Like new discharges, selected discharges must meet the treatment and control requirements of ANR's 2002 Stormwater Manual. ANR estimates that the application of these treatment and control requirements to the selected discharges will reduce the current wash-off sediment loading into each watershed by around fifty percent. However, the WIPs allow exceptions to these requirements for selected discharges based on costs and technical constraints arising from site conditions. The availability of these exceptions makes it difficult to predict how effective the WIPs will be at reducing current wash-off sediment loads by ANR's fifty-percent goal. ANR has not determined ahead of time the extent to which implementation of the 2002 Stormwater Manual for selected discharges will be practicable or feasible.

3. Previously Permitted Discharges

26. The WIPs require previously permitted discharges that are not selected discharges to comply with their most recent previously issued individual permit. These existing discharges therefore do not need to comply with the 2002 Stormwater Manual but with the BMP manual that was in effect at the time the previous permit was issued. The WIPs require previous permittees to certify that their existing stormwater management system was built and is currently operating in compliance with the terms of the most recent previously issued permit. If such certification cannot be made, the WIPs require that the system be constructed or repaired either to meet the water quality and channel protection standards of the 2002 Stormwater Manual or to meet these standards as closely as possible given costs or technical constraints arising from site conditions.
27. A large number of previous permittees subject to the WIPs failed to timely reapply for renewal of their previous five-year discharge permits or were subject to non-renewable temporary pollution permits. These previous permittees were therefore holding expired permits and discharging without any valid legal authorization at the time the WIPs were issued.
28. Science and experience have now shown that ANR's 1987 and 1997 Stormwater Management Procedures do not effectively protect stream channels. Implementation of these procedures may adversely affect stream channels compared to no control at all by exposing streams to longer durations of erosive flows. Stream channel erosion can contribute to degradation of the stream habitat structure.
29. Unless identified as selected contributors, sources of stormwater runoff that were created prior to 1980 (thus, predating ANR's stormwater permitting system), and sources of stormwater runoff that have not met the permitting thresholds of ANR's stormwater management program, are not required to develop stormwater treatment under the WIPs, regardless of their individual or cumulative effects on the receiving waters.

4. Reporting and Operational Requirements

30. The WIPs establish a series of reporting and operational deadlines relating to the stormwater discharges to which they apply. Dischargers must notify ANR of their intent to seek coverage under a WIP. Dischargers must then file a statement of intent to comply and a formal application for coverage, which may include a timetable for the construction, maintenance, upgrade, or repair of stormwater treatment systems. A

qualified individual, such as a professional engineer, must issue to ANR a statement of compliance with the WIP upon the discharger's submission to ANR of an application for coverage and again upon completion of any construction that may be required. ANR may then issue an authorization to discharge. From time to time, based on a schedule contained in the authorization to discharge, a qualified individual must issue to ANR a statement that the discharge system authorized by the WIP is being properly maintained and operated.

31. Any maintenance or repairs that may be necessary to bring previously permitted treatment systems into compliance with the WIPs must be constructed and certified to ANR by November 15, 2002. Selected dischargers must construct their upgraded treatment systems by November 15, 2003, or by another date no later than November 15, 2004, for good cause shown and approved by ANR. Municipalities named as selected dischargers must complete their system upgrades by November 15, 2004.

C. Effects of the WIPs

32. Even a properly built, modern stormwater treatment system cannot remove all pollutants. A properly designed, installed, and maintained wet pond can be expected to remove eighty percent of total suspended solids, fifty-one percent of total phosphorous, thirty-three percent of total nitrogen, sixty-two percent of metals, seventy percent of bacteria, and eighty-one percent of hydrocarbons.
33. Through the WIP requirements for selected discharges, ANR's goal is to reduce the current wash-off sediment load in each watershed by forty to sixty percent compared to existing conditions. If monitoring reveals that the WIPs under appeal have not reduced sediment loads by about fifty percent, ANR plans to identify additional selected discharges to achieve this goal. If this reduction of sediment loads proves insufficient to attain water quality standards, ANR plans to increase this goal. ANR may require those responsible for previously permitted discharges to employ more stringent stormwater treatment practices if initial iterations of the WIPs have not been successful in achieving water quality standards in the receiving waters. In addition to modifying the WIPs, ANR may also use stream remediation measures that focus on physical stream processes and habitat improvement as may be necessary to bring the receiving waters into compliance with the Vermont Water Quality Standards.
34. The WIPs under appeal represent the first step in ANR's phased approach to address the fact that the receiving waters do not comply with the Vermont Water Quality Standards. This phased approach is characterized by an open-ended, iterative application of BMPs without the guidance of pollutant budgeting based on the assimilative capacity of the receiving waters.

35. The schedule of compliance in the WIPs governs the rate at which regulated discharges will conform with ANR's BMPs, not the rate at which water quality standards will be achieved.
36. The WIPs do not reasonably assure attainment of water quality standards in the receiving waters. This is because the WIPs may not sufficiently remove pollutant loads from existing and new discharges and also because the existing structural instability of the streams may take many years to readjust and may therefore continue to impair the biological uses of these streams even after pollutant loads have been reduced.
37. ANR and CSB entered into a written stipulation that modifies the Centennial Brook and Bartlett Brook WIPs. These modified WIPs would apply only to CSB. The modified WIPs allow CSB, subject to ANR's approval, to substitute a watershed remediation plan for some or all of the structural controls that the original WIPs require for selected discharges. The modified WIPs provide that CSB's watershed remediation plan must be at least as effective as the structural controls it would replace. CSB's watershed remediation plan may include both structural stormwater control measures, such as those found in ANR's 2002 Stormwater Manual, as well as nonpoint-source management measures, such as bank stabilization.

D. Comprehensive Watershed Restoration

38. ANR has documented the rapid restoration of the biological communities in a number of stream reaches following the immediate removal of short-term catastrophic disturbances. For example, Chase Brook was impaired by sediment and sand but quickly recovered following the realignment of gravel parking lots. The elimination of discharges of dairy processing wastes into Coburn Brook led to recovery of the fish community in that stream within one year. In other situations, outside of Vermont, comprehensive restoration efforts involving small watersheds have led to recovery within two or three years.
39. Implementation of the WIPs would result in substantial reductions in pollutant loading into the receiving waters and substantial improvements in watershed hydrology. However, an effective approach to bringing the receiving waters in these appeals into compliance with the water quality standards should evaluate approaches other than the end-of-the pipe treatment and control structures that form the centerpiece of the WIP program.
40. Measures other than structural treatment controls that may be considered in developing cleanup plans for urban streams such as those involved in these appeals include stream

bank stabilization, restoration of riparian zones, the removal of on-stream ponds, and the use of municipal stormwater utilities to finance the management of stormwater runoff. Other options may include snow-storage management; low-impact landscaping; rerouting drainage to pervious surfaces; pet-waste management; pollution-prevention plans for gas stations, plant nurseries, certain industrial sites, and other hot spots; dumpster management; parking-lot sweeping; the location and elimination of illicit discharges of stormwater or other wastes; wetland protection and enhancement; day-lighting storm pipes back to surface channels; and future-development controls. A sustainable-hydrology approach to restoring urban watersheds would use a water budget and site-scale interventions to replicate predevelopment hydrology.

41. The consideration of nonstructural stormwater management approaches in the development of cleanup plans for urban watersheds may not only provide additional pollutant load reductions over and above those provided by structural treatment-and-control BMPs, but also maximize the amount of pollutant reduction achieved per dollar spent.

IV. CONCLUSIONS OF LAW

A. Standard of Review

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 a court's review of the record in an appeal from 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 determining whether ANR's act or decision is lawful. See In re Appeal of Cole, No. WQ-92-13, Mem. of Decision at 3 (Vt. Water Res. Bd. May 28, 1993). See also In re Appeal of VNRC, Nos. DAM-92-02 and WQ-92-05 (Consolidated), Mem. of Decision at 2-3 (Vt. Water Res. Bd. July 13, 1995) (finding that Board's decision in de novo appeals must be based on record developed by parties in course of contested case, that Board's decision is binding on ANR, and that Board's decision stands unless court determines upon review of record that Board's decision is arbitrary, unreasonable, and contrary to law). Accordingly, the Board does not defer to ANR's interpretation of the law in these appeals.

B. VNRC's Motion to Dismiss

Before proceeding further, the Board must consider the motion for involuntary dismissal made by VNRC at the close of ANR's case in chief. In support of its motion, VNRC cited Vermont Rule of Civil Procedure 41(b)(2), which provides as follows: "For failure of the plaintiff to prosecute or to comply with these rules or any order of court, a defendant may move for dismissal of any action or of any claim against the defendant."

Proceedings before the Board are not governed by the Vermont Rules of Civil Procedure but rather by the Board's Rules of Procedure. See Procedural Rule 15(C) (2002). Board Procedural Rule 24 provides in pertinent part that "The Board may, on its own motion or at the request of a party, dismiss, in whole or in part, any matter before the Board for reasons provided by these Rules, by statute, or by law." (Emphasis added.) The Board will treat VNRC's motion for involuntary dismissal as a motion to dismiss under Board Rule 24 but will look to the Rules of Civil Procedure for guidance in reviewing VNRC's motion. See In re City of South Burlington (Bartlett Bay Wastewater Treatment Facility), No. WQ-01-04, Second Prehearing Conference Report and Order at 5 (Vt. Water Res. Bd. Apr. 18, 2002) (reviewing motion to dismiss under standards for summary judgment set forth in Vermont Rules of Civil Procedure).

The Rules of Civil Procedure provide that a motion to dismiss on grounds of legal insufficiency brought under Rule 41 should be treated as a motion for judgment under Rule 52(c). V.R.C.P. 41, reporter's notes (1995 amendment). Rule 52(c) authorizes a trial court to enter judgment on partial findings against a party as a matter of law in a trial without a jury. Rule 52(c) specifically provides that "the court may decline to render any judgment until the close of all the evidence." Rule 52(c) also provides that when considering a motion for judgment, a court must make findings of fact and conclusions of law pursuant to Rule 52(a).

A motion for judgment in a trial by the court serves the function of a motion for a directed verdict in a jury trial. V.R.C.P. 41, reporter's notes. However, because the court cannot grant a motion for judgment without making findings in accordance with Rule 52(a), the court does not consider the evidence relating to a motion for judgment in the light most favorable to the nonmoving party. See New England Educational Training Service, Inc. v. Silver Street Partnership, 156 Vt. 604, 611 (1991).

The Board's review of VNRC's motion to dismiss would involve a de novo review of the record upon which the motion is based—namely ANR's case in chief. At the hearing in these appeals, the Board decided that VNRC's motion to dismiss would be taken under advisement until the close of all the evidence. The Board now decides, in view of the complexity of these appeals and the original legal issues involved, that all the evidence and arguments of the parties should be considered prior to making a decision in this case. To disregard the evidence of the Appellants and the Cross Appellant and to consider only the evidence of ANR would not, at this

juncture, save much time. Further, so doing would deprive the Board of argument that would enable the Board to consider fully the parties' respective positions on a new and important regulatory program. Accordingly, VNRC's motion to dismiss is denied, and the Board will proceed to consider the WIPs in view of all the evidence.

C. Watershed Improvement Permits

1. Background

a. Two-Tiered Approach to Water Pollution Control

Vermont's Water Pollution Control Act and ANR's accompanying regulations set forth a system for water pollution administration under which ANR has the authority and duty to ensure that Vermont's waters comply with the Vermont Water Quality Standards. Vermont law takes a two-tiered approach to water pollution control. In the first tier, ANR administers the federal NPDES permitting program in Vermont and also uses its own technology-based source controls. The second tier applies to a particular water body when state and federal technology-based controls are not sufficient to attain water quality standards. In tier two, a TMDL must be established and implemented for the receiving waters. For a detailed description of Vermont's two-tiered approach to water pollution control, see In re Hannaford Bros. Co., No. WQ-01-01, Mem. of Decision at 15-19 (Vt. Water Res. Bd. June 29, 2001); In re Hannaford Bros. Co., No. WQ-01-01, Mem. of Decision at 5-8 (Vt. Water Res. Bd. Aug. 29, 2001); and In re Hannaford Bros. Co., No. WQ-01-01, Findings of Fact, Conclusions of Law, and Order at 10-14 (Vt. Water Res. Bd. Jan. 18, 2002), aff'd, No. 280-02 CnCv (Chittenden Co. Super. Ct. Apr. 30, 2003). The WIPs at issue involve a technology-based approach to addressing impaired waters.

b. Legal Authority for the WIPs

Act 109 of 2002 authorizes ANR to issue certain discharge permits for waters in which "water quality standards are not met in receiving waters due, in whole or in part, to pollutants contained in or impacts caused by discharges of collected stormwater runoff." 10 V.S.A. § 1264(f). The General Assembly provided that ANR "may utilize watershed improvement permits as a means of ensuring the water quality standards are achieved and maintained in these impaired waters." Id. (emphasis added). ANR may also issue "a permit for an individual project, or a statewide general permit for discharges other than existing stormwater discharges." Id.

These permits are valid for a term of not more than five years, id., and may be issued only under certain conditions. Those conditions are as follows:

(1) Any permit issued for existing discharges pursuant to this subsection shall include a schedule of compliance of no longer than five years reasonably designed to assure attainment of the water quality standards in the receiving waters.

(2) Any permit issued for new stormwater discharges pursuant to this subsection shall require compliance with best management practices for stormwater collection and treatment established by the agency of natural resources' stormwater management manual for watershed improvement permits dated April 2002, as may be amended from time to time, by rule, and any additional requirements for stormwater treatment and control systems as the secretary determines to be necessary to ensure that the permitted discharge does not cause or contribute to a violation of the Vermont water quality standards.

Id. (emphasis added).

As used in section 1264(f)(1), the term “schedule of compliance” “means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation or any other limitation, prohibition, or standard, including any water quality standard.” 10 V.S.A. § 1251(10) (defining schedule of compliance). A watershed improvement permit or other permit meeting the foregoing requirements of section 1264(f) may be issued even if a TMDL has not been prepared for the receiving waters. 10 V.S.A. § 1264(g)(1).

2. Analysis

The dissenting opinion on VNRC's Motion for Summary Judgment concluded, based on the plain meaning of section 1264(f)(1), that watershed improvement permits “must be reasonably designed to achieve compliance with the uses and criteria of the Vermont Water Quality Standards in the waters to which they apply within five years.” Mem. of Decision at 8. The dissenting Board Members added,

ANR's position that this language merely requires the construction of certain treatment systems within five years is not only contrary to the plain language of the statute, but also contrary to the balance of the Vermont Water Pollution Control Act, 10 V.S.A. §§ 1250-1283, Vermont's associated regulations and water quality standards, the federal Clean Water Act, 33 U.S.C.A. §§ 1251-1387, and associated federal regulations.

Mem. of Decision at 8.

The full Board now adopts the dissent's view of Vermont law. In sections 1264(f) and (g), the Vermont Water Pollution Control Act provides a source-control alternative to the TMDL process. The Vermont statute, however, specifies five years as the maximum period of time within which a source-control alternative must bring waters that receive existing discharges into compliance with the Vermont Water Quality Standards. 10 V.S.A. § 1264(f)(1). This statute also specifies that new discharges that will cause or contribute to violations of the Vermont Water Quality Standards cannot be authorized. 10 V.S.A. § 1264(f)(2).

The WIPs at issue provide that certain BMPs will be constructed within five years but provide no assurances with respect to the attainment of water quality standards at all, much less within the five-year time frame mandated by Vermont law. Nor do the WIPs ensure that new discharges will not contribute to these on-going violations. Accordingly, the Board concludes on the basis of Vermont law that each of the four WIPs at issue in these appeals is unlawful.

The expert witnesses in these appeals, including ANR's experts, agree that these WIPs do not reasonably provide that existing and new discharges will conform with the Vermont Water Quality Standards. ANR nevertheless maintains that these WIPs are lawful and advances a number of arguments for this position. First, ANR argues that the schedule of compliance in a WIP need apply only to the construction of stormwater treatment systems and not to attainment of the Vermont Water Quality Standards in the receiving waters. Second, ANR contends that the WIPs could not reasonably provide for compliance with the Vermont Water Quality Standards in the receiving waters within any definite period of time because of the complexity of the pollution problems involved. Third, ANR explains that the WIPs at issue represent substantial progress toward bringing the receiving waters into compliance with the Vermont Water Quality Standards and that subsequent iterations of the WIPs will be designed to finish the job. Fourth, ANR asserts that it cannot incorporate more comprehensive management strategies into the WIPs because its legal authority does not extend to nonpoint-source discharges. Finally, ANR claims

that administrative and economic considerations do not support a more comprehensive approach to managing the receiving waters at this time. As set forth in detail below, the Board disagrees with these rationales.²

a. Schedule of Compliance

ANR's position that the schedule of compliance for existing discharges in section 1264(f)(1) means only a schedule of actions taken without regard to compliance with any particular criteria or standard is not consistent with the statutory definition of "schedule of compliance." As stated above, "'Schedule of compliance' means a schedule of remedial measures including an enforceable sequence of actions or operations leading to compliance with an effluent limitation or any other limitation, prohibition, or standard, including any water quality standard." 10 V.S.A. § 1251(10) (emphasis added). While the schedule must include actions, by definition these actions must lead to compliance with a specific goal, in this case the Vermont Water Quality Standards. Under section 1264(f)(1), a WIP must be reasonably designed to bring impaired waters into compliance with the Vermont Water Quality Standards within five years.

If ANR's source-control plan does not include a schedule of compliance for existing discharges pursuant to section 1264(f)(1), then new or increased stormwater discharges of pollutants of concern into these waters would be prohibited under section 1264(f)(2) in that they would cause or contribute to existing violations of the Vermont Water Quality Standards. To allow watershed improvement permits to be issued without a schedule of compliance with the Vermont Water Quality Standards for existing discharges, as ANR advocates, would substantially alter Vermont's longstanding system of water-quality-based permitting. Based on the foregoing, the Board rejects ANR's position that a construction schedule may substitute for a schedule of compliance with the Vermont Water Quality Standards.

² Although the Board cannot uphold the WIPs under appeal, the Board does not underestimate the difficulty of bringing urbanized watersheds into compliance with applicable standards. The Board commends ANR for the progress it has made in the area of stormwater management and acknowledges the expertise and professionalism of ANR's staff. The considerable work ANR has put into developing the WIPs is not lost. For example, ANR may be able to incorporate portions of the WIPs into modified WIPs reasonably designed to attain water quality standards in the receiving waters within five years or into TMDLs. The Board notes that ANR has gathered a great deal of data for the watersheds involved in these appeals and that additional data has been gathered by other organizations. These efforts will surely remain useful as ANR moves away from its iterative approach to comprehensive watershed planning.

b. Water-Quality-Based Permitting

ANR asserts that it cannot reasonably design these WIPs to attain water quality standards within five years. From this premise, ANR reasons that section 1264(f)(1) could not require ANR to do so because this law would then have no meaning. ANR thus concludes that because the statute would not compel ANR to do that which is effectively impossible, it must be enough for the WIPs to require the construction of BMPs within five years, regardless of whether or not water quality standards will be achieved.

ANR's argument fails because section 1264(f) does not require ANR to use WIPs to address any particular stormwater-impaired waters. WIPs are an option, subject to conditions, one of which is that these WIPs include a schedule reasonably designed to bring the receiving waters into compliance with the Vermont Water Quality Standards within five years. See § 1264(f)(1). If ANR cannot design a WIP that will satisfy that requirement, then a WIP cannot be issued, and ANR must establish and implement a TMDL for the receiving waters. See 10 V.S.A. §§ 1258, 1263(c). See also Hannaford, Mem. of Decision at 15-19 (June 29, 2001) (explaining in detail basis for Board's conclusion that Vermont law prohibits new or increased discharge of pollutants of concern into impaired waters in absence of TMDL).³

³ Section 1-04.A of the Vermont Water Quality Standards plainly provides that a proposed discharge must conform with the classification of the receiving waters, that the receiving waters must have sufficient assimilative capacity to accommodate a proposed discharge, and that adequate assimilative capacity must be allocated to a proposed discharge to maintain the classification of the receiving waters. In the same vein, section 13.4.b(2) of the Vermont Water Pollution Control Permit Regulations requires ANR to establish and implement a TMDL if the application of technology-based controls will not sufficiently ensure that a proposed discharge will be consistent with the Vermont Water Quality Standards. Similarly, ANR's Wasteload Allocation Process provides that ANR must establish a TMDL for a water segment once ANR estimates that existing or projected discharges exceed that segment's assimilative capacity.

These principles are supported by Vermont statutes. For example, 10 V.S.A. § 1258(a) provides that ANR must manage waters to "obtain and maintain" the classification established by the Board. To comply with this provision, ANR must develop effective cleanup plans for impaired waters and issue discharge permits that are consistent with such plans. In addition, 10 V.S.A. § 1263(c) provides that ANR may approve only those discharges that "will not reduce the quality of the receiving waters below the classification established for them."

In its prefiled evidence, ANR points to circumstances in which remedial measures have brought streams into compliance with water quality standards with a period of a year or two. Performing a TMDL might be a needless exercise under such circumstances, in which ANR's experts can investigate the watershed, identify the cause of the impairment, and then develop and apply remedial measures that will bring the waters into compliance with water quality standards in short order. On the other hand, complex urban environments such as those involved in these appeals may represent just the kind of watershed-management challenge that the TMDL process is designed to address. WIPs represent a narrow exception to the longstanding requirement of pollutant budgeting for impaired waters. If ANR's interpretation of this exception controlled, the exception would swallow the rule.⁴ Based on the foregoing, the Board rejects ANR's argument that the complexity of the watersheds at issue in these appeals justifies the use of WIPs that fail to include a five-year schedule for bringing the receiving waters into compliance with the Vermont Water Quality Standards.

Accordingly, in the absence of an effective WIP, ANR must develop TMDLs for impaired waters that will allocate their capacity to assimilate existing and new discharges in a manner designed to obtain and maintain the classifications and criteria established for these waters by the Vermont Water Quality Standards. Neither the Vermont Water Quality Standards, the Vermont Water Pollution Control Permit Regulations, the Wasteload Allocation Rule, nor sections 1258 or 1263(c) were overturned by Act 109. In short, Act 109 did not replace water-quality based permitting with technology-based permitting. As stated herein, Act 109 authorized ANR to use a WIP instead of a TMDL as a cleanup plan for impaired waters, if the WIP complies with certain conditions. However, the requirement that ANR allocate the assimilative capacity of the receiving waters, if necessary to ensure that a discharge does not reduce the quality of these waters below the classifications and criteria established for them, remains intact.

⁴ ANR acknowledges the shortcomings of the source-control approach adopted by the WIPs under appeal. For example, one ANR witness testified that it may take "a very long time" to restore natural processes to urbanized watersheds and that "the solution must lie within the larger river basin planning process and cannot be expected to be achieved within the context of a storm water regulatory program." (Ex. ANR-42 at 12.) As another ANR witness testified, "storm water treatment as it relates to watershed hydrology and channel stability should remain an integral element among a suite of other activities that will be necessary to effectively address the compelling public issues within the impaired watersheds as well as other urbanizing catchments throughout Vermont." (Ex. ANR-38 at 2.) A third ANR witness testified that ANR cannot "tell whether BMP implementation alone via the WIPs will be enough to meet standards." (Ex. ANR-25 at 18.)

c. Iterative Application of BMPs

Instead of establishing and implementing TMDLs for the watersheds at issue, or creating WIPs that will reasonably assure attainment of the water quality standards within five years, ANR proposes a phased approach that relies on the iterative application of BMPs over an indefinite period of time. Because at the outset, ANR cannot say whether or when the WIPs at issue will attain water quality standards in the receiving waters, ANR plans to correct and modify the WIPs as information about their effects becomes available through monitoring and reporting. Subsequent iterations of the WIPs may apply to broader categories of stormwater discharges, include updated BMPs, or extend to stream remediation measures.

ANR argues that in view of the current science of watershed restoration, the iterative application of BMPs, without the guidance of a TMDL, is the only reasonable approach to managing the receiving waters at issue. In support of this position, ANR stresses the scientific uncertainty associated with predicting the impacts to aquatic biota from increasing or decreasing loadings of stormwater pollutants. ANR concludes that the open-ended, iterative application of BMPs is therefore the best scientific and regulatory approach for attaining water quality standards over time.

ANR offers neither legal nor technical support for the iterative application of BMPs to stormwater-impaired waters without the use of TMDLs. The iterative application of BMPs may be appropriate within the TMDL process, but not as a substitute for that process. A TMDL estimates the maximum amount of a pollutant that a water body can assimilate while still meeting water quality standards. The TMDL process works backward to allocate the amount of this total pollutant load among various sources or classes of discharges. ANR's plan to work forward without accounting for the assimilative capacity of the receiving waters substitutes technology-based management for water-quality-based management. Whereas ANR proposes an open-ended, iterative application of BMPs as a substitute for TMDLs, the adaptive management of stormwater-impaired waters can be a component of the TMDL process. Adaptive management makes it possible to establish and implement TMDLs, even in the face of scientific uncertainty, by adjusting the use of BMPs and other components of TMDLs based on monitoring and experience.

Although the Board rejects ANR's position that the five-year schedule of compliance in section 1264(f)(1) refers to the construction of source-controls rather than compliance with the water quality standards, the WIPs at issue in these appeals would be unlawful even if the Board agreed with ANR's reading of the statute. Under ANR's reading of the law, a WIP would still need to be "reasonably designed to assure attainment of the water quality standards in the receiving waters." *Id.* The WIPs under appeal are not so designed. Instead, ANR proposes that water quality standards will eventually be attained through a succession of WIPs. Under that

scheme, the WIPs at issue do not contain the reasonable assurances that section 1264(f)(1) requires.

Under Vermont law, compliance with the Vermont Water Quality Standards is not an aspiration but a requirement. Although ANR maintains that stormwater-impaired waters may lawfully fall short of the classifications and criteria of the Vermont Water Quality Standards, ANR does not suggest how far off the mark is too far or how its decisions to manage Vermont's waters in a polluted state should be measured or reviewed. Accordingly, the Board rejects ANR's position that the iterative application of BMPs may be used in lieu of the TMDL process or a WIP reasonably designed to bring the impaired receiving waters into compliance with the Vermont Water Quality Standards within five years.

d. Nonpoint-Source Pollution in Watershed Cleanup Plans

The record in this case includes extensive evidence and argument relating to whether the WIPs improperly rely on structural controls for point-source discharges to the exclusion of alternative strategies that include nonpoint-source management. CLF and VNRC argued that the WIPs must be modified to incorporate additional management strategies for both point-source and nonpoint-source discharges of stormwater. Similarly, CSB argued that in addition to ANR's treatment and control practices, measures including but not limited to the stabilization of stream banks, the restoration of riparian zones, and the removal of on-stream ponds are necessary for the WIP waters to comply with the Vermont Water Quality Standards.

In its evidence and argument, ANR acknowledged the utility of nonpoint-source management practices to restoring the WIP watersheds and achieving compliance with the Vermont Water Quality Standards. However, ANR witnesses asserted that ANR's legal authority does not extend to the nonstructural strategies recommended by the other parties.⁵ While ANR was somewhat ambiguous on the subject of its regulatory authority, ANR maintained that it does not have the legal authority to modify the WIPs at issue to incorporate more comprehensive management strategies.⁶

⁵ Some but not all of these assertions were stricken from the record as legal conclusions. ANR further asserted that nonpoint-source management needs identified in a TMDL lie beyond its regulatory authority and must be left to voluntary measures.

⁶ CSB and ANR have asked the Board to approve a stipulation that modifies the Bartlett Brook and Centennial Brook WIPs to allow municipalities to substitute watershed remediation plans for selected-discharge requirements. The proposed modified WIPs expressly provide that these remediation plans may include "non-point source management measures." (Stip. attach. at 7.) Any remediation plan proposed by

The Board does not need to determine the precise limits of ANR's regulatory authority in these cases, much less how ANR must use its regulatory discretion under different circumstances. Nor does the Board decide whether ANR can or must consider or implement each and every one of the nonstructural management strategies mentioned in the evidence in these appeals--either through a WIP or through the TMDL process. These questions can be resolved by ANR in future watershed planning or, if necessary, by the Board in future litigation.

As set forth below, the Board concludes that the scope of ANR's regulatory authority, whatever that may be, does not justify the issuance of a WIP that fails to provide that the receiving waters will comply with the Vermont Water Quality Standards. ANR's authority and responsibility extend to nonpoint-source discharges into impaired waters, and a WIP may therefore include appropriate nonpoint-source management strategies. Both WIPs and the TMDL process may require ANR to look beyond structural controls for point-source discharges.

1) Management and Control of Nonpoint-Source Discharges Generally

ANR's permitting authority under the Vermont Water Pollution Control Act extends to both point and nonpoint sources of water pollution. Section 1259(a) provides that "no person shall discharge any waste, substance, or material into waters of the state . . . without first obtaining a permit for that discharge from [ANR]." 10 V.S.A. § 1259(a) (emphasis added). Similarly, section 1263(a) provides that "Any person who intends to discharge any waste into waters of the state . . . shall make application . . . for a discharge permit . . . on a form prescribed by [ANR]." 10 V.S.A. § 1263(a) (emphasis added). "'Discharge' means the placing, depositing or emission of any wastes, directly or indirectly, into . . . the waters of the state." 10 V.S.A. § 1251(3) (defining discharge). The term "waste" is broadly defined to mean "effluent, sewage or any substance or material, liquid, gaseous, solid or radioactive, including heated liquids, whether or not harmful or deleterious to waters . . ." 10 V.S.A. § 1251(12) (defining waste). None of these provisions restrict ANR's permitting authority to point sources.

CSB pursuant to the modified WIPs is subject to ANR's review and approval. ANR treats CSB's proposed nonpoint-source management strategies as voluntary offsets to the point-source strategies required by the WIPs. See 10 V.S.A. § 1264(f)(3). As set forth below, the Stipulation is unlawful because the offsets do not remedy the failure of the WIPs to provide that existing and new discharges will conform with the Vermont Water Quality Standards. However, the Board does not find the Stipulation unlawful because ANR lacks the authority to require or approve nonpoint-source controls such as those that the Stipulation proposes.

Vermont's water quality policy includes a policy to "prevent, abate or control all activities harmful to water quality." 10 V.S.A. § 1250(3) (emphasis added). It is further the policy of Vermont to "provide clear, consistent and enforceable standards for the permitting and management of discharges." 10 V.S.A. § 1250(5). Neither these policies nor the other enumerated policies of section 1250 are limited to point-source pollution.

ANR's authority thus extends not only to discharges, but also to the activities and conditions that cause discharges. See 10 V.S.A. § 1272 (emphasis added). In conformity with the Vermont Water Pollution Control Act, the Vermont Water Quality Standards apply to activities causing nonpoint-source discharges. See VWQS § 2-03.A. Vermont's TMDL process rests on ANR's responsibility and authority with respect to both point-source and nonpoint-source pollution. Thus, ANR's TMDL rule expressly applies to nonpoint sources. Wasteload Allocation Process at 5.

ANR's authority with respect to nonpoint-source management includes permitting and enforcement, but these are not the only strategies available to ANR. Education, technical and financial assistance, and coordination with citizens, municipalities and regional planning commissions may be effective strategies in nonpoint-source pollution management. ANR is not required to apply its permitting authority to every nonpoint-source discharge, just as ANR does not apply its permitting authority to every point-source discharge. Accordingly, ANR must use appropriate strategies to account for and control both point sources and nonpoint sources as reasonably necessary to achieve and maintain compliance with the Vermont Water Quality Standards.

2) Management and Control of Nonpoint-Source Stormwater Discharges

Section 1264 of the Vermont Water Pollution Control Act, 10 V.S.A. § 1264, which addresses stormwater management, calls upon ANR to integrate its management of point-source and nonpoint-source stormwater discharges. Section 1264 specifically directs ANR to prepare a plan for the management of deleterious "collected stormwater runoff." See 10 V.S.A. § 1264(b) (emphasis added). Although the Vermont Water Pollution Control Act does not define the term "collected stormwater runoff," the Board understands this term to refer to point-source discharges. Section 1264 establishes minimum permitting requirements for certain point-source discharges of stormwater. § 1264(d)(1)(B), (e)(1).

The express intent of section 1264 is "to reduce the adverse effects of stormwater runoff." § 1264(a) (emphasis added). Under section 1264(a)(1), "the term 'stormwater runoff' means precipitation that does not infiltrate into the soil, including material dissolved or suspended in it, but does not include discharges from undisturbed natural terrain or wastes from combined sewer overflows." 10 V.S.A. § 1264(a)(1). The term "stormwater runoff" thus

includes both point-source and nonpoint-source stormwater runoff. By comparison, the terms “new stormwater discharge” and “existing stormwater discharge” both apply to “collected stormwater runoff.” See 10 V.S.A. § 1264(a)(2) and (3) (emphasis added).

The General Assembly provided that its intention of reducing the adverse effects of stormwater runoff,

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.

10 V.S.A. § 1264(a) (emphasis added). This process extends well beyond the management of large-scale point-source discharges.

Similarly, the thirteen enumerated provisions for ANR’s enhanced stormwater management plan are not limited to collected stormwater discharges. See 10 V.S.A. § 1264(b)(1)-(13). For example, the first of those provisions is “that the primary goals of the state program will be to assure compliance with the Vermont water quality standards and to maintain after development, as nearly as possible, the predevelopment runoff characteristics.” § 1264(b)(1). ANR’s enhanced stormwater management program must also, among other things, “Incorporate stormwater management into the basin planning process conducted under section 1253 of this title.” § 1264(b)(3). ANR must “Control stormwater runoff from construction sites and other land disturbing activities.” § 1264(b)(6). ANR must promote pollution prevention in municipal operations, § 1264(b)(10), provide technical guidance for managing stormwater runoff, § 1264(b)(11), coordinate with and assist municipalities, § 1264(b)(12), and “Promote public education and participation among citizens and municipalities about cost-effective and innovative measures to reduce stormwater discharges to the waters of the state.” § 1264(b)(13)

“As one of the principal means of administering an enhanced stormwater program, [ANR] may issue and enforce general permits.” § 1264(e)(2). ANR has authority to “issue general permits for classes of stormwater runoff permittees.” Id. (emphasis added.) The statute does not limit these classes to point-source discharges.

3) The Use of WIPs to Manage and Control Nonpoint-Source Discharges

ANR's authority to utilize WIPs is triggered by the adverse impacts of "collected stormwater runoff." 10 V.S.A. § 1264(f) (emphasis added). However, WIPs may be used to address waters impaired "in whole or in part" by collected stormwater runoff. Id. (emphasis added). Causes of impairment other than the collected discharge of stormwater runoff may include conventional point-source discharges (from municipal and industrial wastewater treatment facilities) and nonpoint-source pollution.

WIPs must include conditions for both "existing discharges," § 1264(f)(1), and "new stormwater discharges." § 1264(f)(2). The latter term at least applies only to collected stormwater runoff. See § 1264(a)(2) and (3) (defining "new stormwater discharge" and "existing stormwater discharge"). However, WIPs must reasonably provide that both "existing discharges" and "new stormwater discharges" comply with the Vermont Water Quality Standards. § 1264(f)(1) and (2). WIPs could not so provide in waters impaired only "in part," § 1264(f), by collected stormwater runoff if ANR were unable to manage the other point-source discharges and nonpoint-source pollution contributing to the impairment. ANR may include pollution offsets in WIPs to assure that water quality standards are attained. § 1264(f)(3). The Act does not limit the use of offsets to trading between point sources.

In view of these provisions and the overarching function of the Vermont Water Pollution Control Act to control both point-source and nonpoint-source pollution in conformity with the Vermont Water Quality Standards, the Board concludes that ANR may use a WIP to manage and control nonpoint sources of stormwater pollution, provided the impairment of the receiving waters is at least partly caused by collected stormwater runoff. Accordingly, the Board rejects ANR's position that the limitations of ANR's legal authority justify the issuance of a WIP that fails to reasonably provide that the receiving waters will comply with the Vermont Water Quality Standards.

e. Economic and Administrative Considerations

Even though the WIPs fail to reasonably address on-going violations of the Vermont Water Quality Standards in the receiving waters, ANR maintains that the WIPs are justified because they are cost-effective. The parties disagree about the extent to which ANR may consider economics in establishing and implementing cleanup plans for impaired waters. However, the parties agree that in order to be cost-effective, a cleanup plan must be effective. As set forth herein, an effective cleanup plan must be reasonably designed to bring the receiving waters into compliance with the water quality standards that apply. Thus, ANR may consider economics in selecting reasonable alternatives for effective source-control programs and TMDLs.

ANR further argues that the WIPs represent a necessary solution to its inability to issue and administer individual permits for stormwater discharges due to staffing constraints.⁷ ANR may consider administrative factors, just as ANR may consider economic factors, in selecting reasonable alternatives for source-control programs and TMDLs. Like economic factors, administrative factors, however valid, may be considered in developing cleanup plans only to the extent these plans include a schedule of compliance reasonably designed to achieve and maintain the classifications and criteria of the Vermont Water Quality Standards as required by Vermont law.

In view of the foregoing, the Board rejects ANR's position that economic or administrative considerations justify the issuance of a WIP that does not include a five-year schedule for bringing the receiving waters into compliance with the Vermont Water Quality Standards.

D. New or Increased Discharges

The parties to these appeals have presented conflicting views about the extent to which ANR may issue permits for discharges into receiving waters that do not have the capacity to assimilate these additional pollutant loads. In Hannaford, the Board concluded that in the absence of a TMDL, "Vermont law does not allow a new or increased discharge of measurable and detectable pollutants of concern into impaired waters." Mem. of Decision at 19 (June 29, 2001). The Board decided Hannaford under the law in effect on April 17, 2000. Id. at 1, 13. At that time, the 1997 Vermont Water Quality Standards and the 1987 amendments to section 1264 of Vermont's Water Pollution Control Act applied. Id. at 1, 3, 18 n.2, 19 n.3. The appeals now before the Board are governed by current law, including the 2000 Vermont Water Quality Standards and a series of amendments to the Vermont Water Pollution Control Act: Act 114 of 2000, Act 61 of 2001, and Act 109 of 2002.

Vermont law now specifically recognizes that a source-control plan, such as WIP, may be used as an alternative to a TMDL under specified conditions. See 10 V.S.A. § 1264(f) and (g). In Hannaford, a WIP or other lawful source-control alternative to a TMDL was not under consideration. Hannaford is therefore modified to allow for a WIP or other source-control alternative in lieu of a TMDL under the circumstances described by 10 V.S.A. § 1264(f). However, the principle of Hannaford that ANR may not lawfully issue a permit for a new or increased discharge of pollutants of concern into impaired waters in the absence of a lawful cleanup plan remains sound. Indeed, it is a bedrock principle of Vermont law that every

⁷ Individual permitting for stormwater discharges is not necessarily required by the TMDL process, and ANR's authority to issue general permits is not limited to WIPs. See 10 V.S.A. §§ 1263(b), 1264(e)(2); Vermont Water Pollution Control Regulations § 13.12.

discharge into Vermont's waters must conform with the Vermont Water Quality Standards and that a discharge permit cannot be issued for a new or increased discharge of pollutants of concern into impaired waters in the absence of a valid plan reasonably assuring that the receiving waters will be able to assimilate these pollutant loads.

The WIPs are invalid with respect to existing discharges, including selected discharges, because they do not include a five-year schedule of compliance with the Vermont Water Quality Standards for the receiving waters, as required by section 1264(f)(1). The WIPs are also invalid with respect to new discharges because the WIPs fail to reasonably ensure that these discharges will not cause or contribute to the on-going water-quality standards violations in the receiving waters. See § 1264(f)(2). Because the WIPs do not effectively address existing and new discharges, and because ANR has not developed a TMDL for the receiving waters, new or increased discharges of pollutants of concern into these waters are prohibited until an effective cleanup plan is in place.

As set forth in Hannaford, the baseline for determining whether a permitted discharge is new or increased is the actual discharge from a particular site. Hannaford, Findings of Fact, Conclusions of Law, and Order at 11. ANR may continue to permit and otherwise manage existing discharges pending the development of an effective cleanup plan. Id. Thus, ANR may undertake efforts to restore the receiving waters prior to issuing WIPs that comply with section 1264(f), if that would be possible for these waters, or establishing TMDLs.

E. Stipulation Modifying the WIPs

In the course of these appeals, ANR and CSB entered into a written stipulation that modifies the Centennial Brook and Bartlett Brook WIPs. These modified WIPs would apply only to CSB. ANR and CSB entered their stipulation into evidence at the hearing on the merits and asked the Board to approve it.

The modified WIPs allow CSB, subject to ANR's approval, to substitute a watershed remediation plan for some or all of the structural controls that the original WIPs require for selected discharges. To effect these substitutions, CSB must satisfy ANR that the watershed remediation plan will be at least as effective as the structural controls it would replace. The modified WIPs are therefore not necessarily any more effective than the originals.

ANR may authorize pollution offsets in a WIP "as necessary to ensure the discharge does not cause or contribute to a violation of the Vermont water quality standards. Pollution offsets, where utilized, shall incorporate an appropriate margin of safety to account for the variability in quantifying the load of pollutants of concern." 10 V.S.A. § 1264(f)(3).

The modified WIPs in the Stipulation between CSB and ANR, like the original WIPs, fail to provide that existing discharges are subject to “a schedule of compliance of no longer than five years reasonably designed to assure attainment of the water quality standards in the receiving waters.” 10 V.S.A. § 1264(f)(1). And like the original WIPs, the modified WIPs fail to ensure that new stormwater discharges do “not cause or contribute to a violation of the Vermont water quality standards.” § 1264(f)(2). The stipulation between ANR and CSB is therefore unlawful and cannot be approved.

F. Other Issues

Because the Board has decided on other grounds that the WIPs under appeal are unlawful, the Board does not decide whether the WIPs comply with federal law. The Board does not decide here whether or how the WIPs could be modified to effectively attain water quality standards, particularly within a five-year period, or how ANR must design TMDLs for the receiving waters if WIPs cannot be developed in accordance with this decision. The Board also does not decide whether a cleanup plan for impaired waters may allow previously permitted discharges to continue to discharge under expired permits.

V. ORDER

For the foregoing reasons, the Board hereby **Orders**:

1. VNRC’s motion to dismiss these appeals is denied.
2. The Secretary of ANR’s decision to issue Watershed Improvement Permit Nos. 3-9005, 3-9006, 3-9007, and 3-9008 for existing and new stormwater discharges into Bartlett Brook, Centennial Brook, Englesby Brook, and Morehouse Brook, respectively, is reversed.
3. Watershed Improvement Permit Nos. 3-9005, 3-9006, 3-9007, and 3-9008 are void.
4. Jurisdiction is returned to ANR.

Dated at Montpelier, Vermont, this 2nd day of June, 2003.

WATER RESOURCES BOARD

/s/ David J. Blythe

David J. Blythe, Chair

Concurring:

Lawrence H. Bruce, Jr., Member
Jane Potvin, Member
John D.E. Roberts, Vice Chair
Mardee Sánchez, Member