STATE OF VERMONT

ENVIRONMENTAL COURT

In re: Rivers Dev. Conditional Use Appeal	**}**	**Docket No. 7-1-05 Vtec**
In re: Rivers Dev. Act 250 Appeal	**}**	**Docket No. 68-3-07 Vtec**

Index to the Decision on the Merits

STATE OF VERMONT

ENVIRONMENTAL COURT

In re: Rivers Dev. Conditional Use Appeal	**}**	**Docket No. 7-1-05 Vtec**
In re: Rivers Dev. Act 250 Appeal	**}**	**Docket No. 68-3-07 Vtec**

Decision on the Merits

These appeals arise out of applications by Rivers Development, LLC ("Rivers") to develop and operate a rock quarry and crushed rock processing facility on a 93± acre parcel off of Vermont Route 100B in the Town of Moretown. In Docket No. 7-1-05 Vtec, Rivers appealed a decision of the Town of Moretown Development Review Board dated December 10, 2004.[1] In Docket No. 68-3-07 Vtec, Rivers appealed a decision of the District #5 Environmental Commission ("District Commission") dated January 19, 2007.[2]

Appellant Rivers has been assisted in these consolidated proceedings by its Attorneys, James A. Caffry and Christopher J. Nordle. The Town of Moretown, its Planning Commission, and its School Board (hereinafter collectively referred to as "Town") were active participants in these consolidated appeals and were assisted by Town Attorneys Ronald A. Shems and Geoffrey H. Hand.

A number of neighbors and Town residents entered their appearances in one or both of these consolidated appeals. As a consequence of the various motions to intervene, dismiss one or more parties, or otherwise determine party status, the Court issued Entry Orders on July 3, 2007, and February 20, 2008; the Court attached a spreadsheet, with hand-written modifications, to its February 20, 2008 Entry Order that identified the individuals who sought and retained party

[1] At the request of Applicant Rivers, this initial appeal was placed on inactive status, pending Rivers' submission of an Act 250 permit application and possible appeal to this Court. See Entry Order on Motion for Stay, dated April 4, 2005. Once the appeal of the Act 250 proceedings was filed with this Court, these appeals were consolidated and the stay of the municipal appeal was lifted. See Entry Order of October 22, 2007.

[2] Rivers also responded to the District Commission's January 19, 2007 negative findings on Act 250 criteria 1(a) and 10 (conformance with town plan) by filing a motion to alter with the District Commission. With the exception of two minor corrections of misstatements, the District Commission denied Rivers' motion to alter by way of its Memorandum of Decision dated March 14, 2007.

status in these appeals and, in the instance of the Act 250 application appeal, a list of the Act 250 criteria under which each party retained status. See 10 V.S.A. § 6086(a). A copy of that modified spreadsheet is attached to this Decision and incorporated herein by reference. These individuals are hereinafter referred to as "Neighbors."

Some of these Neighbors, as noted on the attached spreadsheet, have been assisted in these appeals by Attorneys David Grayck and Zachary K. Griefen. While not represented by counsel, neighbors Arthur and Linda Hendrickson also played active roles in the pretrial proceedings and merits hearing.

The Vermont Agency of Natural Resources ("ANR") was first assisted in these proceedings by Attorney Aaron D. Adler, then by Attorney Michael R. Steeves, and finally by Attorney Judith L. Dillon. The Land Use Panel of the Vermont Natural Resources Board was provided with informational notice of the Act 250 appeal proceedings, but did not play an active role in these appeals.

The Town filed cross-appeals in both matters, as did the Neighbors represented by Attorneys Grayck and Griefen, joined by Mr. and Mrs. Hendrickson. Their respective Statements of Questions on cross-appeal, as clarified on January 25, 2008, and as modified by orders of this Court, provide the jurisdictional limits of their respective cross-appeals.

Rivers' proposal to develop this quarry has engendered strong opinions, both in favor of and in opposition to its development. The municipal appeal generated forty-seven pretrial motions; the Act 250 appeal generated thirty-nine pre-trial motions. These motions caused the Court to issue an equivalent number of decisions or entry orders, nearly twenty of which included a substantive analysis of legal issues presented by the parties. Where the Court has been asked to revisit those legal issues in this Merits Decision, we have made reference, where appropriate, to those pretrial decisions and entry orders.

The consolidated appeals were the subject of a de novo merits hearing that spanned seventeen calendar days. Prior to the first day of trial (February 12, 2008), Applicant Rivers requested that the trial be bifurcated so that issues related to possible impacts from blasting and alleged air and water issues could be addressed at a later date. The Town, Neighbors, and other parties objected to this trial-bifurcation request, particularly on the grounds of the resulting added expense and delay, but given Rivers' explanation of an evolution of the treatment of water and

air issues, the Court granted Rivers' request. See Entry Order dated January 18, 2008, and the parties' Stipulation and Court Order of February 5, 2008.

The first phase of the trial was completed on February 22, 2008. The second phase of the trial commenced on December 8, 2008, and was completed on January 14, 2009. The parties requested the opportunity to make post-trial filings of proposed findings of fact and conclusions of law, and to thereafter have an opportunity to respond to the filings of other parties. This process of post-trial filings was completed on April 28, 2009, after which this matter became ripe for the Court's consideration.

The Court has reviewed the nearly 1,000 pages of post-trial filings submitted by the parties, as well as the evidence admitted at trial, other relevant filings, and the Court's own trial notes, which together take up four bankers' boxes. Even in light of this volume, the undersigned has allowed these consolidated appeals to remain under advisement for far longer than was reasonable, thereby causing a substantial delay in the current resolution of these appeals. The undersigned regrets this error, and has attempted to craft a complete Decision on the Merits, so as to not contribute to further delay in these proceedings.

The Court conducted two site visits with the parties, which included walks within the project site, once while the natural vegetation provided some screening on the project site, and once when the natural vegetation had fallen. The first site visit was on September 24, 2007, and the second on November 19, 2007, both in accordance with a "Site Visit Protocol" initially agreed to by the parties and adopted by the Court, pursuant to its Entry Order of August 23, 2007, but which was the subject of disputes and addressed in the Court's Entry Orders of September 18, 2007, and November 16, 2007. During the site visits, the Court also visited the Village of Moretown, the Moretown Elementary School (including its two front classrooms that were the subject of discussion during trial), several traffic intersections between Vermont Route 100B and Town highways, and several locations along Moretown Mountain Road, Moretown Commons Road, the Town road commonly known as Old Route 100, and Vermont Route 100B. The proposed quarry site could be seen from several of the areas visited during the Court's site visits; it was suggested during trial that the proposed quarry operations would be heard from these areas as well. The Court also visited the residence of Mr. and Mrs. Hendricks and the sites where the Sainsbury and McMullin horse riding facilities have been operated. These site visits

provided the Court with a beneficial context within which to receive the evidence admitted at trial.

Based upon the evidence admitted at trial, including that which was put into context by the site visits, and after having determined the appropriate weight and credibility to afford such evidence, the Court does hereby render the following Findings of Fact and Conclusions of Law:

Findings of Fact and Conclusions of Law

First, an explanation of the format of this Merits Decision. This Court has generally followed a format of decision writing that is similar to other trial courts and our Supreme Court: that is, to begin with a full recitation of the facts and then to proceed to a discussion of the legal issues. Conversely, Act 250 district environmental commissions follow a slightly different format, whereby factual findings and legal conclusions were completed on each applicable Act 250 criterion before then moving on to the next applicable criterion. We experiment here with a variation on the latter decision format, similar to that of the district commissions and that which the parties here have followed in their post-trial filings. Our Findings are cumulative; all discussion of legal conclusions relies upon all of the Findings stated in the prior sections of this Decision, so as to avoid the necessity of repeating previously stated Findings.

As we have often stated, our jurisdiction does not encompass all issues raised by an appealed application, but rather is limited to the factual and legal issues preserved for our review by the parties. In re Jolley Assoc., 2006 VT 132, ¶ 9 (quoting In re Garen, 174 Vt. 151, 156 (2002)); see also V.R.E.C.P. 5 (f) ("The appellant may not raise any questions on the appeal not presented in the statement [of questions] as filed . . . ."). A review of the Statement of Questions filed by Appellant Rivers and Cross-Appellants Town and Neighbors, as well as the various pretrial decisions and entry orders that addressed multiple challenges to those appellate issues, shows that certain Act 250 criteria, as well as correlating provisions of the 2003 Zoning Regulations for the Town of Moretown, Vermont ("Zoning Regulations") remain at issue in these appeals. Those Act 250 criteria are:

- 1 (air and water), 1(B), 1(D), 1(E), 1(F), 2, 3, and 4 (all of which are addressed below under our heading "II. Air, Water, and Erosion Issues");
- 5 (addressed under the heading below "III. Traffic");
- 6, 7, 9(H), 9(J), and 9(K) (addressed under the heading below "IV. Economic Impacts");

- 8 (addressed under the heading below "V. Aesthetics, Area's Natural Beauty, and Historic Sites");
- 8(A) (addressed under the heading below "VI. Necessary Wildlife Habitat and Endangered Species");
- 9(E) (addressed under the heading below "VII. Extraction of Earth Resources");
- 9(K) (addressed under the heading "VIII. Impact Upon Public Investments"); and
- 10 (addressed under the heading below "IX. Conformance with Town Plan").

The factual and legal issues preserved for our review under the Zoning Regulations are reviewed under the analogous Act 250 criteria headings. Our first sub-heading concerns an overview of the proposed quarry, the neighborhood surrounding it, and other affected areas in Town.

I. General Findings of Fact.

A. The quarry and its general description.

1. Rivers owns a parcel of undeveloped land containing 93± acres. Access to the Rivers parcel is off of Vermont Route 100B; this access is located about two and a half miles north of the Village of Moretown and about four miles south of the intersection between Vermont Routes 2 and 100B, which is between the interchanges known as Exits 9 and 10 to Interstate 89. Rivers proposes to develop its rock quarry and crushed-rock-processing facility on its parcel along Route 100B.

2. Rivers filed its application with the Town of Moretown Development Review Board ("DRB") on May 17, 2004. This application sought conditional use approval and a zoning permit for the proposed quarry.

3. Rivers subsequently filed an application for an Act 250 state land use permit for its proposed quarry and crushed-rock-processing facility. Its Act 250 permit application was received by the District Commission on October 15, 2005.

4. The Rivers parcel is generally wooded with a mixture of hardwoods and softwoods. The only improvements to the parcel are internal woods roads, generally established during historical timber cuts.

5. Rivers proposes to disturb about nineteen acres generally located in the center of the ninety-three acre parcel. The quarry itself will encompass about seventeen acres; clearing around the brim of the quarry will encompass about two additional acres. This additional

clearing will be done to accommodate a rough woods road around the brim of the quarry that will be used for quarry access by drilling and other equipment.

6. To prepare the site, Rivers would clear phases of the quarry site of all trees and vegetative cover, strip and store the topsoil on site for future use, and remove and store the overburden,[3] all to expose the rock for excavation, drilling, and blasting.

7. Excavation is proposed to occur in six phases, as depicted in Rivers' final amended site plan (Exhibit R-4(E)).[4] Rivers asserted that it could not guarantee that these operational phases would occur in numerical order, as decisions would have to be made on site as to the proper sequence of phases once the excavation work at the quarry began.

8. Rivers further asserted that once the quarry is operating and an individual phase was cut, cleared, and its topsoil stockpiled, rock would be excavated within each phase. The topography of the site ranges widely, particularly due to rock outcroppings. While some rock may initially be harvested through simple excavation, Rivers represents that its quarry will largely rely upon drilling and blasting, the plan for which is addressed in more detail below in Section VII. Once a blast occurs, rock would be collected and stockpiled on site. Rock that is of an appropriate size will be stockpiled on site for later sale. Rock that the blasting operation leaves of a size too big for market will be processed on site through the use of a diesel-powered rock crusher and screener. This processed rock will also then be stockpiled on site for future sale.

9. Fuel and blasting materials and supplies will only be brought on site when needed; no such products will be stored on site.

10. Equipment operating within the quarry will be limited to the following: one hydraulic rock drill; one excavator; one bucket loader; one rock crusher; one triple-deck crushed rock screener; one yard truck, with water tank, to be used for dust suppression; one backhoe; and miscellaneous small hand and power tools as needed. Rivers will also use several large haul trucks to deliver processed rock from the quarry site to its customers' job sites, and will allow customers to use their own haul trucks to receive and transport processed rock that they purchase from the Rivers quarry.

---

[3] "Overburden" refers to the earthen material and loose rock that is between the topsoil and the rock ledge.

[4] Rivers caused its site plan to be revised and amended on several occasions, including during the first phase of the merits hearing. This revision process caused much consternation for the other parties and the Court. Rivers asserted that its revisions were made for clarification purposes and to address criticisms offered by the opposing parties. The Court ultimately allowed the admission of the final revised site plans: Exhibit R-4(E) (pages 1–7).

11. Drilling, blasting, crushing, and excavation at the quarry will operate on a seasonal basis, from April 15 through December 15 of each year. Thus, the quarry will be in operation during some months when vegetative cover is thin or no longer present. During its operational season, the quarry will operate Monday through Friday between 7:00 AM and 5:00 PM, not including state and federal holidays. Blasting will be limited to Monday through Friday, between 10:00 AM and 4:00 PM.

12. Quarry employees will also be on site during its operational season on Saturdays from 7:00 AM until noon. Off-season sale of stockpiled material may only occur during its conventional operational hours, and only upon the prior written approval of the ANR Department of Fish and Wildlife.

13. The annual rock production will occur within 150 to 170 operating days. Rivers estimates that its drilling equipment will run about sixty days during each of its operating seasons, in preparation for the estimated twelve blasts per operational year. The rock crusher and screener will need to be operated between seventy-five and ninety days each year to process the blasted rock.

14. The quarry will have a maximum annual extraction rate of 75,000 cubic yards of rock product. Estimates of the available rock on site have lead Rivers to propose that the quarry will operate for approximately thirty-three years.

15. This extraction rate will generate a maximum of fifty-four loaded haul trucks per day (i.e., 108 one-way truck trips) and up to twenty one-way trips of other vehicles per day by quarry employees, customers, and delivery drivers.

16. All rock extracted and processed at Rivers' quarry will be available for sale to retail and wholesale customers and contractors. The crushed stone products will include large landscaping stones, rip rap stones for river and highway bank construction and fortification, various dimensional stone, and smaller stone for drainage and road construction projects.

17. Retail and wholesale customers will be allowed to visit the Rivers quarry site to inspect and purchase stone. Rivers will also offer to haul processed rock to its customers' job sites, using its own haul trucks.

18. Processed rock will be loaded onto haul trucks belonging to Rivers or its customers by use of a front-end loader depositing the rock into the truck bed.

19. Employees and customers will access the quarry site by a 1,400-foot access road from Route 100B. This access road is currently a minimally improved woods road last used for logging the site. To satisfy the traffic generated by the quarry, the access road will need to be improved, including widening in many areas and improvement with gravel and stone that will come from the initial quarry operations. In addition, removal of earthen material and stone along the westerly side of Route 100B, north of the quarry access road, will be necessary to meet the minimum site distances required by the Vermont Agency of Transportation ("VTrans") for state highways. This excavation along the edge of Route 100B may require blasting of ledge, as may some areas of the access-road improvements.

20. Both the Zoning Regulations and the Town of Moretown Town Plan ("Town Plan") that are applicable to the pending applications locate the Rivers property in the Agricultural-Residential Zoning District ("Ag-Res District").[5] Due to the dates on which Rivers filed complete applications, the Town Plan applicable to these proceedings is that which was adopted on August 27, 2002. The Town Plan identifies a portion of the Rivers property as being within the Route 100B/Mad River Corridor. While portions of the quarry may also be viewed from the Route 100B/Mad River Corridor, the quarry itself is outside the 300-foot limits of the Corridor, as measured from the edge of Route 100B. The best estimate is that the area to be disturbed for quarry operations is about 760 feet from the edge of Route 100B.

21. Rivers proposes to reclaim the quarry site in phases as rock extraction is completed in each phase. Because of the steep and varied topography of the quarry site, blasting will result in benches left on the rock walls of the quarry. Each bench will be about fifteen feet in height and width/depth. The highest benched wall will be on the northwestern face of the quarry, where the area rises most steeply. This area will include about fourteen benches and rise about 210 feet from the quarry floor.

[5] The Court determined the Zoning Regulations last amended in 2003 and Town Plan last amended in 2002 were applicable to the Rivers' applications in its Corrected Decision on Rivers' Initial Motions, filed January 18, 2008 (copy available at http://www.vermontjudiciary.org/GTC/Environmental/ENVCRT%20Opinions/Rivers%20 Deveopment%20LLC,%207-1-05%20Vtec.pdf) (The Court's web page incorrectly lists the filing date of this decision as February 5, 2008.). The parties and the Court sometimes referred to the applicable Zoning Regulations as the Zoning Regulations "adopted on March 7, 2000," because the subsequent amendment, adopted in 2003, is not applicable to rock quarries or the Ag-Res District. Id. at 4.

22. Rivers proposes to use the stockpiled topsoil to cover the quarry floor and some of the horizontal faces of the rock benches, then to seed and mulch these areas and to allow other bench areas and faces to regenerate vegetation over time by unassisted natural conditions.

B. The surrounding neighborhood.

23. The Ag-Res District and other areas surrounding the general area of the quarry are thinly developed; where development has occurred, it is mostly with single-family residences. No other sand, gravel, or rock quarries were identified within the immediate area or in this region of Moretown, nor were any commercial developments or light or heavy industrial uses identified in this region of Town.

24. Four horse farms are also located in the vicinity of the Rivers quarry; all are located on the opposite side of Route 100B. Several of the horse farms have indoor and outdoor riding arenas, riding trails, and pastures, where they provide riding lessons and boarding. Two of these horse farms, owned by the Sainsbury and McMullin families, are adjacent to the Rivers parcel, across Route 100B.

25. Route 100B traverses this region of Town in a general north/south direction. This state highway is identified as a rural collector highway. It begins to the south of Moretown Village at a junction with Vermont Route 100, which travels to the west of Route 100B in a more direct north/south direction. Route 100B is easterly of Route 100; Route 100B provides an alternate, southerly access to Vermont Route 2 and Interstate 89.

26. Route 100 travels the length of Vermont, from the border with Massachusetts along the central portion of southern Vermont to the border with Canada along the western edge of northern Vermont. Route 100B is an approximately six and a half mile spur off of this rural highway. Route 100B generally follows the Mad River as it travels from its junction with the Winooski River, south and through Moretown Village.

27. Traveling along Route 100B and that portion of the Mad River represents one of the most beautiful highway and river traverses in our State. The views are mostly of sparsely settled valleys and hillsides, with recreation outlets along the river bank. While Route 100B is often used as access for visitors traveling from the south along Interstate 89 to the Mad River Glen and Sugarbush Mountain Ski Resorts, located to the south of Moretown and off of Route 100 in the Towns of Waitsfield and Warren, the character of Route 100B is more rural and sparsely settled than the areas along Route 100 that provide a gateway to those resorts.

28. Route 100B also serves as a bike riding corridor for both individual riders and participants in commercial bike-riding tours. The roadway of Route 100B is particularly well suited for bicycle riding once the traveler leaves the Village section of Route 100B. North of the Village, and until Route 100B ends at its junction with Vermont Route 2, the road shoulders are wide and many portions of the roadway are gently rolling. The views for a bicyclist along this section of Route 100B are picturesque, even breathtaking, especially as the highway travels closely to the banks of the Mad River, which lies just east of Route 100B.

C. Moretown Village.

29. Route 100B travels through Moretown Village; it represents the Village's Main Street. The highway through the Village is narrow and lacks shoulders. The Town Offices, U.S. Post Office, Moretown General Store, Town Library, and Town Elementary School are all within the Village limits; some buildings are set very close to the paved limits of the highway.

30. While there are sidewalks along a short portion of the highway, as it travels through the Village, the sidewalks are in poor condition. There are many sections within the Village where there are no sidewalks, thereby necessitating that pedestrians sometimes use the highway to walk from one Village building to the next. Where there are sidewalks in the Village, they are in deplorable condition; they often have no curbing, or curbing that is much deteriorated. It is often difficult to distinguish between the sidewalk and the travel lane of the highway.

31. The Town did not provide a satisfactory explanation for why it has allowed these sidewalks to deteriorate so greatly, even as the Town offered examples of injuries suffered by pedestrians as they traveled along these sidewalks, which on several occasions caused pedestrians to fall onto the highway roadway.

32. Moretown Village appears as a typical small, beautiful, quaint Vermont village. School children and other individuals walk along its Main Street, traveling between its school, library, town offices, and athletic fields behind the town buildings. Single-family homes line Main Street, and some are quite close to the paved edges of the Street in the lower and upper parts of the Village.

33. As one travels south of the Village along Route 100B, the roadway narrows even further to a bridge that crosses the Mad River. There is a roadway pull-off just south of the bridge that provides access to a swimming hole along the western river bank. Travel along this portion of Route 100B can be difficult for vehicles, bicyclists, and pedestrians.

34. Traveling further south, the Route 100B roadway widens, particularly after an intersection with a town highway that was recently improved. Some of this intersection's improvements required blasting along the roadway, which left exposed rock surfaces near the intersection.

35. While testimony at trial referenced two rock quarries in Town, one of which is located at the Town Landfill on particularly steep slopes, there was no evidence of quarries or light or heavy industrial developments in the vicinity of the Rivers quarry site or Moretown Village.

II. Air, Water, and Erosion Issues.

A. Air Pollution (Act 250 criterion 1 and Zoning Regulations § 4.10(B)(4)).

36. Diesel engines will power most all of the quarry equipment; these diesel engines will emit some polluting particles into the air. Haul trucks using the quarry will also emit pollution particles into the air from their diesel engines, both while the trucks are operating in the quarry and while traveling along Route 100B to their destinations. Each engine will be fitted with exhaust mufflers in accordance with federal regulations.

37. The improved access road will be a gravel road bed. As trucks and other vehicles travel over this access road, dust and small stones will be thrown up into the air. Rivers proposes to use water from the on-site detention pond to spray and suppress dust along the access road. Rivers also proposes to apply calcium chloride to the access road and other site areas where the haul trucks will travel, so as to further assist in the suppression of dust.

38. Water sprayed from the yard truck will also be used to suppress dust on the quarry floor and on the stockpiles of topsoil and overburden.

39. The process of drilling into the rock ledge to prepare it for a blast requires a series of holes to be drilled into the rock. Holes will be drilled in a row somewhat parallel to the rock face. Additional rows of drilled holes will be aligned further back from the rock face. These rows are sometimes aligned in a slight "V" formation so that the blast will direct the blasted rock into itself, so as to further assist in the break up of the rock. This orientation and procedure for blasting will cause dust, small rock, and sometimes larger rock to fly into the air.

40. The drilling and crushing of rock creates dust. Rivers proposes to also suppress this operational dust by way of dust collection and water misting, either through a collector or mister attached to the drilling and crushing apparatuses or by water sprayed from the yard truck.

41. Rivers had not determined as of the time of trial whether it will employ its own rock crusher or that of an outside contractor. If and when it uses its own rock crusher, Rivers represents that its crusher will have a maximum product output of 100 tons per hour ("tph") of rock product and an internal combustion engine with a rating of no greater than 450 brake horsepower. Such a crusher will not exceed the operational limits for a crusher that may be operated without an air pollution control permit issued by the ANR Department of Environmental Conservation Air Pollution Control Division. See Vermont Air Pollution Control Regulations §§ 5-401(5) and 5-501.

42. If Rivers employed an outside contractor to operate its on-site rock crushing operation, it would not allow its contractor to operate a crusher on site that ran in excess of the Vermont Air Pollution Control Regulations maximums (150 tph output or over 450 brake horsepower) without first securing an air pollution control permit from the DEC Air Pollution Control Division. During trial, Rivers noted that an area contractor that leases out its crusher already has secured a DEC Air Pollution Control permit and may be available to crush rock at the Rivers quarry.

43. Rivers will cause all diesel equipment used at the quarry site to be outfitted with required air emission control devices, including exhaust mufflers and catalytic converters. The haul trucks used at the quarry site and traveling outside the quarry that are subject to federal regulations will comply with applicable federal emissions standards.

44. Rivers will require that its haul-truck drivers cover their loads before exiting the quarry site, so as to minimize spillage of rock from the truck bed. All other drivers transporting rock from the Rivers quarry will be directed to do so as well. Rivers will also install a sign at the base of the quarry access road to remind all truck drivers to cover their loads before exiting the site.

45. Several parties expressed concern about rock product spilling from the haul trucks and dislodging from the haul-truck tires when the trucks exit the quarry and travel onto Route 100B. In response, Rivers committed to installing a cobblestone strip at the base of the access road to help dislodge this rock from truck tires, inspecting the intersection of the quarry access road and Route 100B on a daily basis, and sweeping or cleaning it as needed.

46. The federal Mine Safety Health Administration ("MSHA") administers regulations governing mines and quarries such as the Rivers quarry. In particular, the MSHA regulations were established to protect mine and quarry workers from particulate emissions in such a manner

that it is not necessary for such workers to use breathing apparatuses. There was no convincing evidence that the Rivers quarry will be operated in violation of the MSHA regulations.

47. The Vermont Air Pollution Control Regulations ("Air Regulations") authorize ANR to require a project applicant to conduct air dispersion modeling for a project site or other affected areas. Air Regulations § 5-406. ANR did not request Rivers to conduct any such air modeling. Nonetheless, Rivers conducted air dispersion modeling for the quarry-related impacts at the project site and in Moretown Village.

48. The federal Environmental Protection Agency ("EPA") has established air standards known as the National Ambient Air Quality Standards ("NAAQS") for coarse and fine particulate matter (measured as PM10 and PM2.5, respectively, which references the diameter of the particulate matter in micrometers). While Vermont has not fully implemented the federal NAAQS standards, they have historically been used in some Act 250 proceedings where conformance with Act 250 criterion 1(A) has been contested.

49. The principal source of air emissions from the quarry will be the portable crusher. The remaining quarry activities will also cause air emissions, especially the traversing of the quarry floor and unpaved access road by quarry equipment and haul trucks.

50. No background data concerning historical air emissions was available for the project site or Moretown Village. Rivers' air expert therefore relied upon recommendations provided by ANR for other Vermont communities where air emission data was available. Rivers' air expert then added the background data available from other Vermont communities to the air emissions the quarry operation was estimated to produce. While this exercise did not provide a perfect prediction of the consequent air quality readings at the site and in the Village, if the quarry were to operate, it served as reliable evidence concerning resulting air quality. Based upon this modeling, the most credible evidence showed that the quarry operation is unlikely to exceed air quality standards established in the Vermont Air Regulations and NAAQS.

51. Rivers air modeling predicts, as perhaps may be expected, that the quarry's highest concentration of air emissions will occur on site, at the quarry walls, near where the rock crusher and drill would operate.

52. Air modeling that Rivers conducted in Moretown Village focused upon diesel emissions from haul trucks. This modeling was based upon an assumption that most haul trucks would pass through Moretown Village, so as to model the highest possible impact from quarry

operations. Rivers' air modeling also took into consideration the river valley setting of the Village, and assumed that peak haul-truck traffic traveling through the Village would coincide with the most adverse meteorological conditions in regard to air quality.

53. The Rivers' modeling provided a credible prediction of the probable impact from the proposed quarry operation on Village air quality. The Rivers' modeling estimated that the quarry operation would have a minimal or no measurable increase on the air quality in the Village.

Legal Conclusions as to Air Pollution Impacts (Act 250 criterion 1 (air) and Zoning Regulations § 4.10(B)(4)).

Act 250 criterion 1 concerning air pollution, codified in 10 V.S.A. § 6086(a)(1), requires that a permit may only issue when a finding is made that the proposed project "will not result in undue . . . air pollution." 10 V.S.A. § 6086(a)(1). While the criterion provides no specific air quality levels, it directs that the district commission, and by analogy, this Court on appeal,[6] consider several factors, the most applicable to air quality being "the applicable health and environmental conservation department regulations." Id. In considering the applicable federal and state air quality standards, the most credible evidence presented causes us to conclude that the proposed quarry will not result in the "undue air pollution" against which Act 250 criterion 1 seeks to protect.

The historical interpretations of Act 250 criterion 1 concerning air pollution do not establish a sole reliance upon governmental air quality standards, but rather vest the adjudicating tribunal with the responsibility of determining whether all applicable factors support a finding of undue air pollution. For example, in its decision in McLean Enterprises Corp., the former Vermont Environmental Board noted that:

> Nothing in Act 250 specifically defines "undue air pollution." There are a wide range of potential substances and nuisances that may be considered air pollution. Whether a pollutant is "undue" depends on factors such as the nature and amount of the pollution, the character of the surrounding area, whether the pollutant complies with certain standards or recommended levels, and whether effective measures will be taken to reduce the pollution. "Undue" has been defined . . . to mean "that which is more than necessary—exceeding what is appropriate or normal."

[6] We are directed to apply "the substantive standards that were applicable before the tribunal appealed from," which in this case would be the District #5 Environmental Commission. 10 V.S.A. § 8504(h).

Re: McLean Enters. Corp. No. 2S-1147-1-EB, Findings of Fact, Conclusions of Law, and Order at 41 (Vt. Envtl. Bd. Nov. 24, 2004) (citation omitted) (quoting Brattleboro Chalet Motor Lodge, Inc., #4C0581-EB, Findings of Fact, Conclusions of Law, and Order at 6 (Vt. Envtl. Bd. Oct. 17, 1984)).

While both the Town and the Neighbors offered much in the way of criticism of Rivers' air modeling and other presentations under criterion 1 (air), they offered little evidence specifically contradicting Rivers' actual estimates. As the former Environmental Board reinforced in McLean and Brattleboro Chalet, whether a project will generate "undue" air pollution establishes a threshold beyond mere annoyance. Here, while Rivers' proposed quarry will bring about concerns justified under other criteria addressed in this Decision, the most credible evidence presented fails to support a finding that the air pollution the Rivers quarry will generate constitutes "undue" air pollution.

Before leaving the question of air pollution, we note that the noise a proposed project may generate can be of such an adverse level as to constitute air pollution. See Re: Bull's-Eye Sporting Center, No. 5W0743-EB, Findings of Fact, Conclusions of Law, and Order at 14 (Vt. Envtl. Bd., Feb. 27, 1997) ("The test for undue air pollution caused by noise is whether the noise has 'impacts rising above annoyance and aggravation to cause adverse health effects such as hearing damage.'" (quoting Re: Talon Hill Gun Club' Inc. and John Swininem, No. 9AO192-2-EB, Findings of Fact, Conclusions of Law, and Order at 8 (Vt. Envtl. Bd., June 7, 1995))). There was no evidence presented in these proceedings that Rivers' proposed quarry will cause noise to be emanated from the site at such a high level as to cause such health effects and hearing damage. We therefore conclude that the proposed Rivers quarry satisfies Act 250 criterion 1 concerning air pollution.

We address noise effects further in our analysis under Act 250 criterion 8, together with a review of the effects of quarry noise under the applicable Zoning Regulations.

The Zoning Regulations also provide for the restriction of projects that contribute smoke, dust, dirt, or noxious gases that endanger or adversely affect the health, comfort, safety, or welfare of the public. Zoning Regulations § 4.10(B)(4). No credible evidence provided a foundation for a determination that the Rivers quarry would emit air pollutants at such a harmful level. We therefore conclude that the quarry's air emissions conform to this regulation.

B. Water Pollution and Waste Disposal (Act 250 criteria 1 (water), 1(B) and 1(D); Zoning Regulations §§ 3.5(C)(3), 4.10(B)(5), and 5.2(D)(5)).

54. The Rivers quarry site includes intermittent streams, although none will be impacted by the quarry operations. Initially, no wetlands were identified on the Rivers property. Further examination confirmed that there were no wetlands that federal or state regulations required be protected (i.e., Class I or Class II wetlands), although there were three less significant wetlands identified on the Rivers site, all classified as Class III wetlands.

55. Due to the rising topography of the site, the Rivers quarry will be higher in elevation than any drinking water well in the vicinity. The nearest drinking water well is approximately 1,000 feet away and serves a primary residence. It was undisputed that the lowest elevation of the quarry floor will be 105 feet above the top of this nearest residential well.

56. Water currently flows through the project site in the form of rain water, intermittent stream flows, and ground water. The topography of the site directs some of this water through the project area and towards Route 100B. Some of this water leaches into the ground; some flows over the ground, collects in a ditch along the westerly edge of Route 100B, and passes through three culverts that transmit the collected waters under Route 100B to outflows on the easterly side of the highway. The evidence presented tended to show that, except in extreme storm events, this flow of water does not currently cause damage to adjoining properties, including the primary residential property of Mr. and Mrs. Hendrickson.

57. During the proposed quarry operations, rain water and some ground water will flow into the quarry area. Rivers intends to construct a detention pond into which stormwater will be directed from the quarry area. Rivers has significantly increased the size of this detention pond since it first submitted its applications in order to accommodate the estimated flows of surface and ground water through the project site and to provide sufficient water storage for Rivers' dust suppression plans. The pond will be clay lined to minimize infiltration of the detained water into the ground; the pond is designed to treat the collected water so that silt and other materials that flow with the water will settle into the base of the pond.

58. Treated stormwater will then travel from the detention pond to the nearest preexisting Class III wetland. Only after the collected water passes through this wetland will it then possibly travel across the remaining Rivers parcel and into the culverts under Route 100B. The most

credible evidence shows that the quarry will not cause a measureable increase of stormwater, or the contaminants it may carry, to areas beyond the boundaries of the Rivers parcel.

59. The proposed quarry is not located within a floodway or floodway fringe of any river or stream.

60. The Neighbors and the Town expressed concern that Rivers' use of water misting and spray will cause a flow of water that will transmit silt and pollutants from the quarry area and access road into groundwater and stormwater, including that which is directed to the detention pond. The manner in which Rivers pledged to apply the mist and spray for dust suppression does not support these claims. It is most likely that the applied water will evaporate in its application to the dust and surrounding surfaces. Were we to approve this project, we would condition approval upon an application of water in a manner that causes no runoff or transmission of silt or pollutants.

61. ANR fulfills its obligation to protect and guard against pollution of ground and surface waters by administering a variety of regulations governing the discharge into waters of the State. In this regard, ANR administers several permit proceedings that may be applicable to quarry discharges, including programs that permit direct discharges, indirect discharges, and the control of underground injections. Initially, Rivers and the parties debated the applicability of these permit proceedings to the Rivers quarry.

62. Rivers sought determinations of whether its proposed quarry required a direct or indirect discharge permit or an underground injection control permit. The ANR determinations on these requests, or subsequent permit determinations were appealed to this Court. See In re Rivers Dev. ANR Underground Injection Control Jurisdiction Opinion Appeal, No. 183-8-07 Vtec and In re Rivers Dev. Indirect Discharge Jurisdiction Opinion Appeal, No. 248-11-07 Vtec. Both of these appeals were ultimately dismissed, pursuant to a Decision and Judgment Order in those Dockets, both filed on November 24, 2008, thereby rendering as final the ANR determinations regarding such discharge permits. Id.

63. Rivers continued to preserve its appeal of ANR's denial of its amended direct discharge permit application, but subsequently sought dismissal of its own application; the Court granted Rivers' dismissal request. See In re Rivers Dev., LLC Direct Discharge Permit Application (3-1524), No. 157-7-08 Vtec, Entry Order (Vt. Envtl. Ct. April 9, 2009).

64. Rivers sought dismissal of its own ANR discharge permit appeals, and consented to the dismissal of the Neighbors' appeal of the ANR determination, because Rivers, in consultation with ANR officials, determined that the most appropriate vehicle for the regulation of quarry discharges was to seek and secure ANR's approval for coverage of its planned quarry activities under the National Pollution Discharge Elimination System ("NPDES")[7] Multi-Sector General Permit ("MSGP"). The MSGP is a NPDES permit that covers new and existing discharges from quarries, mining, and industrial facilities into the waters of the State.

65. The current MSGP (#3-9003) became effective on August 18, 2006, and continues through August 18, 2011, when it will be subject to renewal. Quarrying and mining activities are governed by MSGP Subsection J, which includes crushed and processed stone projects.

66. To receive authorization for coverage under the MSGP, Rivers submitted a Stormwater Pollution Prevention Plan ("SWPPP"), into which are incorporated an Erosion Prevention and Sedimentation Control plan ("EPSC") and a Best Management Practices ("BMPs") protocol for its quarry operations.

67. Under the MSGP, Rivers is responsible for maintaining all BMPs identified in its SWPPP, including (but not limited to) the BMPs associated with the use and maintenance of its detention pond. These responsibilities continue until the quarry operations are terminated, the site is reclaimed, and the MSGP coverage is no longer required.

68. On January 8, 2009, ANR approved Rivers for coverage under MSGP #3-9003, including a specific Authorization to Discharge—Permit No. 4103-9003—a copy of which was admitted into evidence as Exhibit No. 101. No appeal was taken from ANR's MSGP authorization determination.

69. No hazardous materials or waste will be stored or disposed of on site during the operation of the quarry. ANR determined that Rivers is not required to obtain a hazardous waste disposal permit for its quarry project.

70. Neighbors expressed fears that the blasts proposed for the quarry site will not consume all components of the blasting charges. Such materials constitute hazardous waste; the Neighbors expressed concern that such materials, if not fully consumed, would be transported by rain and ground water to the groundwater aquifer and to off-site areas. However, the most credible

[7] ANR administers the federal NPDES program through a delegation of authority by the federal EPA, pursuant to provisions of the federal Clean Water Act, and ANR does so in conjunction with its administration of the Vermont Water Quality Act.

testimony and other evidence was that all such blasting materials will be consumed when incorporated into Rivers' planned quarry blasts and therefore would not enter the stormwater or groundwater, or otherwise contaminate waters on or off site.

71. One of the blasting agents that gave Neighbors their greatest concern was perchlorate, which is a recognized carcinogen. Rivers confirmed that its blasts will not use compounds containing perchlorate.

72. When the area of the access road and sight distance improvements along Route 100B are included into the calculations, Rivers proposes to clear cut, strip, or otherwise disturb a total of 23.39 acres of its property. At no time, however, will this entire area be left disturbed, unprotected from erosion, or not reclaimed.

73. The first phase of construction will include improvements to the access road, the sight distance area along Route 100B, and the area identified as "Phase 1" on Rivers' final amended site map (Ex. R-4(E), p. 1). This Phase 1 area includes establishment of the detention pond and the initial phase of the quarry floor area. The lowest point of the quarry floor will have an elevation of 820 feet above sea level.

74. Once construction, blasting, excavation, and extraction work has been completed in the initial phase, Rivers will begin work in a second phase. No more than two phases of the quarry will remain open or disturbed at a given time; once work is completed in one phase, and while work is being conducted in a second phase, Rivers will commence reclamation work in the completed phase. These procedures will minimize the opportunity for stormwater to escape the planned detention swales and pond, and will minimize the aggregate flow of stormwater over the exposed quarry area and from the project site.

Legal Conclusions as to Water Pollution Impacts (Act 250 criteria 1 (water) and 1(B); Zoning Regulations §§ 3.5(C)(3), 4.10(B)(5), and 5.2(D)(5)).

Similar to our analysis under Act 250 criterion 1 concerning undue air pollution, our analysis here centers on the question of whether the quarry will produce undue water pollution. 10 V.S.A. § 6086(a)(1). Criterion 1(B) presents a similar legal issue in that we are asked to determine whether the proposed quarry "will meet [all] applicable health and environmental conservation department regulations regarding the disposal of wastes, and will not involve the injection of waste materials or any harmful or toxic substances into groundwater or wells." 10 V.S.A. § 6086(a)(1)(B).

The parties engaged in a vigorous debate over the multitude of ANR permits that could be required for this project. This debate sometimes included ANR, the very entity charged with the administration of such permits. At one point, these consolidated proceedings included five different dockets, but were reduced to two dockets by stipulations of the parties and orders of this Court, as detailed in Findings No. 58–62. All the resolved dockets concerned questions of whether, and under what conditions, a certain type of ANR permit was required for this quarry.

The remedy to these combined questions offered by Rivers and ANR provides the most credible response: that coverage under the current NPDES Multi-Sector General Permit provides the most comprehensive administration for the protection of surface and ground water, as well as the management of waste and any other contaminants that may flow with stormwater and groundwater. None of the contested ANR permits provided this comprehensive review; two of the ANR determinations from which appeals were taken concerned jurisdictional determinations that the Rivers quarry did not need to acquire such permits.

MSGP #3-9003, including Authorization to Discharge Permit No. 4103-9003, provides a specific protocol for Rivers' operation of its quarry and treatment of stormwater, including a requirement to abide by the approved BMPs protocol. Pursuant to its application and SWPPP, Rivers asserted that no "processed generated wastewater," as that term is defined in 40 C.F.R. § 436.21(e), which would require additional ANR discharge permits, will be discharged from the project site. Rivers' SWPPP and BMPs protocols impose a continuing obligation upon Rivers to identify and disclose to ANR any such future discharges.

The Neighbors and the Town expressed concerns regarding the flow of wastes and hazardous materials into groundwater and from the project site. They offered persuasive arguments for why all stormwater, including general rainfall upon the project site, should be regarded as wastewater. But we find no statutory rationale for such a broad definition of the term "wastewater." In fact, we fear that such a broad definition would include all rain water that falls upon any developed property. Without a clear statutory directive for such a broad statutory definition of wastewater, we decline to embrace it.

We therefore conclude that the admitted evidence supports our conclusion that the Rivers quarry, were it to be approved and operated in accordance with the SWPPP and BMPs established under the approved MSGP coverage, would not contribute undue water pollution and will conform with all applicable health and Department of Environmental Conservation

regulations. We further conclude that the project as proposed will not involve the injection of waste materials or any harmful or toxic substances into groundwater or wells. We therefore conclude that the proposed quarry would be in conformance with Act 250 criteria 1 and 1(B).

The Zoning Regulations provide similar protections in the following three provisions:

- Section 3.5(C)(3) prohibits projects that will have an "undue adverse effect" on surface waters;
- Section 4.10(B)(5) prohibits projects from causing any discharge of harmful wastes into any public waters, wetland, or aquifer; and
- Section 5.2(D)(5) requires a project developer to manage stormwater in such a manner that there will be no adverse impacts to neighboring properties, town roads, or water quality.

As noted in our analysis under Act 250 criteria 1 and 1(B), the project conforms to all applicable discharge and waste regulations. While the Neighbors' and Town's arguments were persuasive and exhaustive, the most credible evidence supports our conclusion that if the Rivers quarry were operated as proposed, and in conformance with the approved MSGP coverage, the quarry will not cause undue adverse effects upon surface waters, will not discharge harmful wastes, and will not cause water discharges that will impose an adverse impact upon neighboring properties, town roads, or water quality.

Legal Conclusions as to Flood Waters (Act 250 criterion 1(D)).

Act 250 criterion 1(D) requires an initial determination of whether the proposed project is located within a floodway or floodway fringe and, if so, whether the project will be operated in such a manner as to restrict, divert, or significantly increase the flow of flood waters. Neither the Rivers project in general, nor its quarry site in particular, are located within any floodways or fringe areas of any river or stream.

Stormwater currently travels from the undeveloped Rivers parcel; some stormwater travels under Route 100B and eventually makes its way to the Mad River. Since we have concluded that the proposed quarry will not measurably increase the flow of stormwater off of the Rivers parcel, and have concluded that the quarry construction and operation will not introduce contaminants or hazardous materials into the stormwater that travels from the Rivers parcel, we conclude that the project as proposed conforms to Act 250 criterion 1(D).

C. Impact upon Streams, Shorelands, and Wetlands (Act 250 criteria 1(E) and 1(F);[8] Zoning Regulations §§ 3.5(C)(3), 4.10(D)(5), and 4.11(B)).

75. There were no streams identified within the quarry area. The Mad River is buffered from the quarry project by the remaining lands of Rivers, Route 100B, and lands of Rivers' neighbors adjacent to Route 100B. The Mad River lies to the east of these neighbors' lands. Quarry land disturbances will be no closer than 1,000 feet to the Mad River.

76. The three Class III wetlands identified on the Rivers parcel have been assigned the following identification tags: 2001-1, 2007-2, and 2007-3. They were discovered in 2007, after Rivers filed its applications, and after it caused its wetlands expert to reexamine the parcel.

77. These three wetlands have been classified as Class III wetlands pursuant to state and federal regulations, due either to their small size or relative insignificance, or both.[9] They are not afforded the protections under federal and state laws that are afforded to Class I and Class II wetlands.

78. The Rivers quarry will not disturb wetlands 2007-1 and 2007-2 and will respect a fifty-foot buffer surrounding each of these wetlands.

79. Rivers' site plan initially envisioned that the quarry and its service road would encroach into wetlands 2007-3. Part of Rivers' revisions to its site plan reduced the encroachment into the wetlands to only the splash pad that would be installed for the run-off area from the detention pond; this encroachment will be limited to 140 square feet of the wetland and a consequent area of the wetland buffer, as delineated on Rivers' revised site plan (Ex. R-4(E)). In all other respects, Class III wetlands 2007-3 and its fifty-foot buffer will be undisturbed.

80. Only two streams were identified on the Rivers parcel. An intermittent stream, identified as 2007-TB-1, flows from wetlands 2007-1. Quarry activities will respect an undisturbed, fifty-foot buffer along this stream. An unnamed tributary of the Mad River is located on the southwest portion of the Rivers parcel. No quarry activities will come within 450 feet of this unnamed tributary. Analysis conducted on behalf of ANR confirmed that no other steams were identified on the Rivers parcel.

---

[8] Act 250 Criteria 1(G) also addresses impacts upon "significant wetlands." 10 V.S.A. § 6086(a)(1)(G). We do not review conformance with criteria 1(G) because no party appealed that issue to this Court. We therefore only address impacts upon wetlands pursuant to the applicable Zoning Regulations.

[9] Class III wetlands are defined as all wetlands that are not significant enough to qualify as Class I or Class II wetlands. Vermont Wetland Rules §§ 4.1–4.4, 6 Code of Vermont Rules 12 004 056-10 (2002).

Legal Conclusions as to Impacts on Streams, Shorelands, and Wetlands (Act 250 criteria 1(E) and 1(F); Zoning Regulations §§ 3.5(C)(3), 4.10(B)(5), 4.11, and 5.2(D)(5)).

Act 250 criterion 1(E) directs that a proposed project must be shown to "whenever feasible, maintain the natural condition of the stream[s on or adjacent to the project], and . . . not endanger the health, safety, or welfare of the public or of adjoining land owners." 10 V.S.A. § 6086(a)(1)(E). The quarry will not encroach upon or interfere with the streams on the Rivers parcel. Intermittent stream 2007-TB-1 and its fifty-foot buffer will be left undisturbed; the Mad River tributary in the southwest portion of the Rivers parcel will enjoy a 450-foot buffer from the quarry activities. The quarry as proposed will conform to criterion 1(E).

Criterion 1(F) provides similar protection to shorelands. See 10 V.S.A. § 6086(a)(1)(F) (providing protection for shorelands "in their natural condition" when encroached upon by development). Our review of criterion 1(F) is equally succinct, since the Rivers parcel contains no shorelands and the quarry project will not impact any shorelands. Conformance with criterion 1(F) is also proved.

The Zoning Regulations contain several independent sections that seek to protect streams, neighboring properties, and wetlands from a project's potential adverse impacts in regard to stormwater or other runoff. Subsection 3.5(C)(3) directs the DRB, and therefore this Court on appeal, to determine whether a proposed extraction of earth resources[10] will "cause a hazard to public health or safety, or otherwise have an undue adverse effect on: . . . surface and ground water[s] . . . ." Regulations § 3.5(C)(3). Subsection 5.2, governing the conditional use review standards for all land use activities, and made applicable to the Rivers quarry by reference in § 3.5, requires that stormwater from a project site be managed "to ensure that such runoff will not result in adverse impacts to neighboring properties, town roads, or water quality[, and that a] stormwater management and/or erosion control plan may be required and incorporated as a condition to approval." Regulations § 5.2(D)(5).

Given our previous Findings, we conclude that the Rivers proposed quarry conforms to these municipal regulatory provisions. The coverage under MSGP #3-9003, including the SWPPP and BMPs Rivers has committed to follow in its construction and operation of the

[10] Zoning Regulations § 3.5 specifically regulates the extraction of earth resources; it notes that the "removal of soil, sand, rock, stone or gravel . . . may be permitted in designated zoning districts subject to conditional use review in accordance with Section 5.2 and findings that the proposed" extraction activity meets the specific standards of § 3.5 and any other applicable standards contained in the Zoning Regulations. Regulations § 3.5(a).

quarry, provide adequate assurances that surface and groundwater will not be adversely affected, and that neighboring properties, town roads, and water quality will not suffer because of the runoff from the Rivers quarry. The SWPPP and BMPs that Rivers has committed to follow in connection with its coverage under this NPDES general permit provide adequate stormwater management and erosion control provisions.

Regulations § 4.10(B)(5) prohibits "discharge of sewage, septage, or other harmful wastes into any public water, wetland, [or] aquifer" from a project. Regulations § 4.10(B)(5). The Neighbors and the Town expressed concerns regarding the quarry's introduction of hazardous materials into the surface and ground waters. As we noted in our prior analysis concerning water pollution impacts (supra pp. 19–20), the opposing parties expressed legitimate concerns regarding the quarry's possible introduction of hazardous materials into the waters that flow on, through, and under the parcel. However, the most credible evidence supports our conclusion that the quarry as proposed will not commit these offenses.

Subsection 4.11 provides for protection of streams, streambanks, and wetlands. It provides for a buffer from streams and their banks (twenty-five feet) that is narrower than that called for in state regulatory review (fifty feet or more) and less than that provided in Rivers' site plans. Regulations § 4.11(B). This regulatory provision prohibits encroachment into a stream buffer strip, with limited exceptions not applicable to the Rivers project. See Regulations §§ 4.11(B)(1)–(5). No aspect of the Rivers quarry project will encroach into a stream or its buffer. Subsection 4.11(E) provides for protection of Class I and Class II wetlands and their fifty-foot buffers. Since no Class I or II wetlands will be impacted by the Rivers quarry, the proposed project satisfies the requirements of subsection (E).[11]

We therefore conclude that the construction and operation of the proposed quarry conforms to all zoning regulations applicable to possible impacts upon streams, shorelands, and wetlands, and the possible impacts that may flow from those waters onto adjoining neighbors' properties or town roads and general water quality.

[11] The second sentence of this subsection uses the general term "wetlands." We understand this reference to be to the specific wetlands identified in the first sentence of § 4.11(E) (i.e., Class I and II wetlands), and not as a general reference to all wetlands.

D. Impacts Upon and Adequacy of Water Supplies (Act 250 criteria 2 and 3; Zoning Regulations §§ 3.5(C)(3) and 4.10(B)(5)).

81. The principal and perhaps sole material use of water in the quarry operations will be the application of water by mist and spray on the quarry floor, stockpiles, access road, and via the apparatuses attached to the rock drilling, crushing, and sorting machines. The water mist and spray will be regulated to only use so much water as is necessary to dampen and suppress the dust that will arise in the quarry operations. This water application will not be so excessive as to cause the water flow that the opposing parties fear may transport stormwater or contaminants.

82. The source of the water used in this misting and spraying processes will be the planned detention pond, to be located and initially constructed in the first phase of the project

83. This detention pond will be constructed in two stages as the quarry operation progresses. The expected annual recharge of water detained in the first stage pond is best estimated to be over 500,000 gallons; when the second stage construction of the pond is completed, the annual recharge is estimated to be over 1,000,000 gallons. These recharge estimates were credibly calculated using the driest historical rainfall data for the region and calculated based upon only a small area (five to ten acres) from which the rainfall will be contributed.

84. The operation using the largest amount of water at the quarry will be rock crushing. The crusher mists the rock during processing at the rate of 1.8 gallons of water per minute, which will equate to about 1,080 gallons of water per operational day. The credible evidence was that the remaining uses of detention pond water (for suppressing dust on the quarry floor, the access road, and stockpiles) will be at a rate of about 200 gallons of water per day. Based upon these calculations, it is estimated that the quarry will need approximately 123,000 gallons of water per year for its dust suppression and other operations. This estimate is a fraction of the water that the detention pond will make available, even in a year that mirrors historically low rainfall rates.

85. The parties concurred that there are eleven residences within a 2,000-foot radius of the quarry site, all served with on-site wells for water supply. Most wells supplying water to residences are over 1,000 linear feet away from the quarry site.

86. The quarry is also separated from these residential water supply wells by elevation; the quarry floor is no less than 105 feet in elevation above the highest residential wellhead. Most wells are a far greater distance away from the quarry site.

87. Based upon the expert testimony offered by all offering parties, the most credible evidence is that the groundwater aquifer located beneath the quarry site begins more than 200 feet underneath the quarry floor, thereby negating the assertion that quarry activities will directly impact an underground aquifer from which the residential wells will immediately draw water.

88. The parties disputed the extent, direction, and duration of fractures in the rock at and below the quarry site. Underground rock fractures allow surface and ground water to travel quickly, without the benefit of filtration through soil and sand. While rock fractures are evident at the quarry site, the assertion by Neighbors' expert regarding the extensive nature of significant rock fracture at the quarry site and beyond was not credible.

89. Rivers also proposed to take quality and quantity tests of all wells within 2,000 feet of the quarry site, where allowed by the well owners, prior to the commencement of quarry activities. These tests would provide baseline, pre-quarry data for the tested wells. Rivers would also conduct interim testing of these same wells during operation of the quarry. Were we to permit the quarry to be constructed and operated, we would adopt Rivers' recommendation that it be required to remediate or replace water supply wells that this data evidenced were impacted by the quarry operation.

Legal Conclusions as to Impacts Upon and Adequacy of Water Supplies (Act 250 criteria 2 and 3; Zoning Regulations §§ 3.5(C)(3) and 4.10(B)(5)).

Act 250 criteria 2 and 3 are commonly reviewed in tandem. The former asks whether there is sufficient water supply available "for the reasonably foreseeable needs of the" project; the latter prohibits the project from having "an unreasonable burden on an existing water supply." 10 V.S.A. §§ 6086(a)(2)–(3). For the reasons stated below, and the Findings stated above, we conclude that the Rivers quarry conforms to both criteria.

While the opposing parties expressed several legitimate concerns, when expressed in general terms, the most credible evidence is that there will be more than enough water available for the proposed quarry activities, and that those activities are unlikely to cause a burden or adversely impact neighboring water supply wells. Even with this factual foundation, Rivers proposes a reasonable and reliable mechanism for identifying possible impacts to neighboring wells, and it commits to being responsible for remediation of any wells that are burdened or adversely impacted by quarry operations. While we would accept this testing and remediation condition if we were to permit this quarry, we were persuaded that remediation would not likely

be needed at the Rivers quarry due to the manner in which the quarry would be operated and the distance (both over land and in elevation) between the quarry and the nearest neighboring wells. We found persuasive the testimony of Rivers' expert that, during his many years of experience concerning quarries and conformance with Act 250 criterion 3, he has not identified a quarry with isolation distances and operational designs similar to the Rivers quarry that has impacted a neighboring well.

Zoning Regulations §§ 3.5(C)(3) and 4.10(B)(5), referenced in the above discussion on streams, shorelands, and wetlands, provide protections similar to Act 250 criteria 2 and 3. For the same reasons as noted in our discussion of Regulations §§ 3.5(C)(3) and 4.10(B)(5), we conclude that the project as proposed will conform to these municipal regulatory requirements in regards to possible impacts upon neighboring wells.

E. Soil Erosion (Act 250 criterion 4; Zoning Regulations §§ 3.5(C)(3) and 4.10(B)(5)).

90. The topography of the Rivers parcel in general and the quarry site in particular includes many areas with slopes ranging from 15% to 25%. Some areas, especially along rock outcroppings, exceed 25% slope. Excavation and clearing of the site could therefore cause significant erosion if proper erosion control measures were not installed.

91. Rivers will employ many erosion control measures; their erosion control plan was reviewed and approved by ANR in connection with Rivers' application for coverage under the MSGP.

92. On areas of steep slopes, Rivers will employ rolled erosion control mats and crushed stone as well as other measures recommended by ANR in its administration of the Vermont Standards & Specifications for Erosion Prevention & Sediment Control.

93. Quarry areas will be disturbed and cleared in phases. No more than two complete phases will contain areas of exposed earth that would be susceptible to erosion. All stormwater entering the quarry area will be directed to the constructed pond for detention and treatment. Ditches and water bars along the access road will minimize its erosion.

94. In addition to these physical erosion control measures, Rivers pledges to cause weekly and special inspections to be conducted by an on-site erosion control coordinator, pursuant to the Stormwater Construction General Permit, to assure that the installed erosion controls are performing as designed, including during significant rains.

Legal Conclusions as to Soil Erosion (Act 250 criterion 4; Zoning Regulations §§ 3.5(C)(3) and 5.2(D)(5)).

Act 250 criterion 4 obligates us to determine that the proposed quarry "[w]ill not cause unreasonable soil erosion or reduction in the capacity of the land to hold water so that a dangerous or unhealthy condition may result." 10 V.S.A. § 6086(a)(4). The most credible evidence is that no such soil erosion or unsafe conditions will result from the construction and operation of the Rivers quarry.

This site provides many challenges to an erosion control planner due to its slopes and the planned soil disturbances. Such challenges often appear in areas where sand, gravel, and rock have value sufficient to justify the expense of extraction. Rivers and its experts and consultants have worked cooperatively with ANR officials to plan for these erosion challenges and have presented a plan that will assure against the adverse impacts from which criterion 4 seeks to protect. The erosion control measures Rivers proposes to put in place allow us to render a positive finding under criterion 4.

Zoning Regulations §§ 3.5(C)(3) and 5.2(D)(5) provide similar protections from the dangers of soil erosion. The Rivers quarry and its erosion control plans provide sufficient conformance with those Regulations.

III. Traffic.

95. Stone and processed rock for development within the Mad River Valley currently is extracted from quarries far outside of Moretown, including quarries located in Berlin, South Barre, Williamstown, Williston, Granville, Hinesburg, Bolton, Northfield, and Morrisville. The rock product from these quarries travels to the sites of its end use within the Mad River Valley via Vermont Route 100 (both from the north and south), Vermont Route 17, Interstate 89, Moretown Town highways (including Moretown Mountain Road, taking haul trucks through its dangerous intersection with Main Street), and Route 100B.

96. A rock quarry identified as operating in the Town is at the Moretown Landfill. The rock extracted from the Landfill quarry is inferior to the rock that would be available from the Rivers quarry; this point was confirmed by the Town Highway Foreman, who purchases rock, gravel, and sand for the Town on a regular basis.

97. In addition to quality of stone, the Rivers quarry would have the commercial benefit of being closer to its customers in the Mad River Valley and therefore have less highway travel

time and expense. Transportation costs can represent a significant portion of the total cost of rock products.

98. Many quarries are located in isolated areas, far removed from other land uses with which the quarry may conflict. Such locations often require that trucks hauling rock product must travel a significant distance over town roads, some of which may be dirt and not adequate to support the frequent use by heavy haul trucks. The Rivers quarry will originate from an established rural major collector highway—Route 100B—and will not need to travel over under-improved town roads, except in the rare instances when a customer on such a road purchases rock product for their individual development.

99. Thus, were the Rivers quarry to operate, its haul trucks would begin their travels exclusively from Route 100B, whereas the rock purchased for Mad River Valley projects from existing quarries begins its travel from several more distant areas; some which do not ever travel on Route 100B to reach its destination.

100. Rivers' haul trucks will mostly travel south on Route 100B from the Rivers quarry; some may travel north on Route 100B, depending upon the destination designated by the customer.

101. Much of the rock product purchased from the Rivers quarry will be delivered by Rivers using its own haul trucks. Some rock product will be delivered using customers' or independent contractors' haul trucks.

102. Rivers proposes that the number of one-way haul truck trips from its quarry would not exceed 108 one-way trips per operational day; it estimates that the average will be 72 one-way trips per operational day.

103. Most of the trucks Rivers expects to use to haul rock from its quarry will be single rear axle, heavy duty dump trucks, with estimated load capacities ranging from seven to sixteen cubic yards. Rivers' customers and independent contractors will likely use similar trucks. A few larger, tri-axle trucks with greater load capacities (up to twenty cubic yards) may be used, but these trucks will represent no more than 10% of the trucks used.

104. Rivers estimates that the average truck load will be fourteen cubic yards. That average load calculates to just over 5,357 truck loads to haul the 75,000 cubic yards that Rivers commits to be its maximum annual extraction rate.

105. Rock will be loaded from the quarry floor staging area by a backhoe and into the empty bed of each haul truck, which will then travel down the 1,400-foot improved access road to the

intersection of Route 100B. Due to the difference in elevation between the quarry floor and the access road intersection with Route 100B, these trucks, once loaded, will travel several hundred feet down slope in elevation while on the access road. Testimony throughout the trial presumes that loaded trucks while on the access road and when returning to the quarry will often use engine or "jake" brakes to decelerate.

106. Rivers will widen and improve the access road/Route 100B intersection to comply with VTrans' standards for intersections onto state highways, commonly referred to as the "VTrans Standard B71."

107. The access road intersection provides for more than adequate sight distances to the south; the existing site distance to the south is in excess of 1,500 feet. The existing sight distances to the north are inadequate. Rivers has pledged to improve the northern sight distances by excavation and rock removal, including blasting where necessary. Once completed, the sight distance to the north will afford a truck driver stationed at the access road intersection to see vehicles approaching from the north from up to 895 feet away.

108. A truck driver at the access road intersection, waiting to turn onto Route 100B, will need to look both ways. Drivers turning to the south will need to have sufficient interruptions in the flow of traffic from the north to turn right into the southbound lane of Route 100B and achieve acceleration to the lawful or prevailing speed without interfering with the oncoming southbound traffic.

109. A driver at the access road waiting to turn north onto Route 100B will need to have sufficient time (and sight of on-coming traffic to allow for sufficient time) to cross through the southbound lane and achieve sufficient acceleration in the northbound lane.

110. VTrans initially determined that the Route 100B/access road improvements would provide adequate sight distances of on-coming traffic in both directions. VTrans specifically determined that the 895-foot sight distance to the north would be adequate for quarry haul trucks turning north or south onto Route 100B.

111. The posted speed limit for the area of Route 100B adjoining the quarry site is 50 miles per hour; the parties agreed that the prevailing speed of the 85th percentile of vehicles traveling along Route 100B is 58 miles per hour.

112. The Sanders and other neighboring parties expressed concerns to VTrans officials that the proposed quarry sight distance to the north would be inadequate for heavy, loaded haul trucks,

even with the improvements planned by Rivers. VTrans officials reviewed these parties' concerns, again evaluated the planned improvements and estimated sight distances, and determined that the improved visibility of traffic coming from the north would be adequate for the planned haul truck traffic.

113. Even with its rural, scenic setting (and perhaps because of it), Route 100B experiences a great deal of daily traffic. In fact, by use of traffic counting stations, VTrans estimates that Route 100B, in the area just south of the Village, has an annual average daily traffic count ("AADTC") of 3,500 one-way vehicle trips.

114. The vast majority of these trips are passenger vehicles. Of these AADTC trips, VTrans reports that only 32 are tractor trailers and 181 are single rear axle trucks. The VTrans counters have the capacity to distinguish between passenger vehicles, tractor trailers, and single axle trucks.

115. The counted single rear axle trucks include all forms of delivery trucks, from USPS, UPS, and FedEx delivery trucks, general delivery trucks, and small school busses.

116. Of these counted one way truck trips, the best estimate is that about sixty-two (62) of those one way truck trips were executed by haul trucks similar to those to be used at the Rivers quarry.

117. VTrans also establishes weight limits for vehicles traveling on state highways. The weight limit for single rear axle trucks traveling on Route 100B is 55,000 pounds; 60,000 pounds for tri-axle or combination trucks. These weights may be exceeded by trucks for which VTrans has issued an overweight highway permit.

118. A cubic yard of processed rock weighs between 2,600 to 3,000 pounds. The annual maximum of 75,000 cubic yards Rivers estimated would be extracted from the quarry is therefore calculated to weigh between 195,000,000 to 225,000,000 pounds.

119. A single rear axle haul truck, unloaded, weighs about 22,000 pounds. Its average load (8 cubic yards) would increase its total weight to about 44,400 pounds. The maximum volume of processed rock that could be hauled while keeping the total truck weight below the 55,000 pound limit is just below 12 cubic yards.

120. To achieve its maximum extraction rate of 75,000 cubic yards per operational year, at the average and maximum volumes stated in the above Finding, the truck traffic generated by the Rivers quarry would average between thirty-nine (39) and fifty-four (54) daily round-trip truck

trips. This calculation is based upon an average of 160 days in an operational year, with trucks loaded with as much as 12 and as little as 8 cubic yards of processed rock, divided into a maximum output of 75,000 cubic yards. The maximum of fifty-four (54) round trips per day is used because Rivers has pledged not to exceed this daily maximum.

121. Rivers' traffic expert predicts that the proposed quarry will increase the heavy haul truck traffic, both on Route 100B generally, and as the highway passes through the Village in particular.

122. The percentage of the trucks traveling from the Rivers quarry that will pass through the Village is uncertain. Rivers' traffic expert did not offer an estimate as to the number of truck trips from the Rivers quarry that will travel north or south from the quarry, nor did he opine as to the number of existing haul truck trips originating from other quarries that will now originate from the Rivers quarry.

123. The opposing parties expressed concern about the increased truck traffic, generally along Route 100B, in the Village area, and in particular where Route 100B intersects with town highways, especially the intersection in the Village with Moretown Mountain Road. This town highway is narrow and winding in places; most of it is unpaved. As Moretown Mountain Road approaches the Village intersection, it is steep and arrives at Route 100B at an awkward angle. Busses and some trucks travel through this intersection, which creates potentially dangerous traffic intersection scenarios.

124. Trucks originating at the Rivers quarry will not generally use Moretown Mountain Road and are unlikely to turn onto or out of this road from Route 100B in the Village.

125. VTrans maintains records of high accident locations along state highways. VTrans reports no high accident locations along state highways in Moretown or Middlesex, including along Route 100, US Route 2, or Route 100B, which includes the portion of Route 100B that passes through the Village.

126. Rivers' traffic expert conducted a credible analysis of the level of service ("LOS") for affected intersections of state highways, including the intersections between Routes 100 and 100B, just south of the Village; Route 100B and US Route 2; and the quarry access road intersection with Route 100B. This expert analyzed all three intersections using the procedures established in a respected highway capacity manual. This analysis provided a credible foundation for concluding that each intersection enjoyed a high LOS rating (rating A or B, on a

scale from A being best and F being worst), and that the quarry operations will not materially change those respective LOS ratings.

Legal Conclusions as to Traffic (Act 250 criterion 5; Zoning Regulations § 5.2(C)).

The traffic the Rivers quarry is expected to generate caused many concerns that were expressed under a variety of Act 250 criteria and municipal regulatory provisions. While we have attempted to present a broad range of Findings above, our analysis here is limited to the specific concerns expressed in criterion 5 and Regulations § 5.2(C) concerning the project's impact upon the flow of traffic along area roads. Other concerns arising because of the traffic generated by the quarry are addressed in subsequent sections of this Decision.

Act 250 criterion 5 directs that a project may only be approved if it is found to "not cause unreasonable congestion or unsafe conditions with respect to use of the highways, waterways, railways, airports and airways, and other means of transportation existing or proposed." 10 V.S.A. § 6086(a)(5). Criterion 5 concerns the impact a project may have on area highways and the traffic that flows over those highways, including whether a proposed project may exacerbate an already hazardous traffic situation. In re Pilgrim Partnership, 153 Vt. 594, 596–97 (1990). When reviewing a project's impact on area traffic, we are reminded that one purpose of Act 250 is "to insure that Vermont 'lands and environment are devoted to uses which are not detrimental to the public welfare and interests'" of our State. Id. (quoting Pub. Act No. 250, § 1 (1969 Adj. Sess.); see also In re Juster Assocs., 136 Vt. 577, 580 (1978).

Our response to a project's traffic impacts must be somewhat muted, however, since no project may be denied an Act 250 permit solely due to adverse impacts under criteria 5, 6, or 7. 10 V.S.A. § 6087(b). Further, while an Act 250 applicant bears the initial burden of production under all applicable Act 250 criteria, the ultimate burden of proving that a project does not conform to criteria 5 through 8 rests upon the project's opponents. 10 V.S.A. § 6088(b). See also In re Route 103 Quarry, No. 205-10-05 Vtec, slip op. at 8 (Vt. Envtl. Ct. Nov. 22, 2006) (Durkin, J.), aff'd, 2008 VT 88.

In regards to the proposed quarry's impact upon area traffic, the greatest source of impact is, of course, from the traffic that the quarry will generate: maximums of 108 one-way heavy haul truck trips and twenty one-way trips by other vehicles (i.e., cars and small truck driven to and from the quarry by employees and business invitees). This volume of additional traffic, in and of itself, does not cause or contribute to "unreasonable congestion or unsafe conditions." 10

V.S.A. § 6086(a)(5). Route 100B is designated as a rural major collector highway; the increase in vehicle traffic, currently totaling up to 3,500 trips per day, caused by the quarry operations (a maximum of 108 trips per day) will not materially decrease the level of service at measured intersections at the quarry access road, Route 100B's intersection with US Route 2 to the north, or its intersection with Route 100 to the south.

Extensive trial testimony centered on the narrowness of Route 100B as it traversed the Village area, the proximity of town and school buildings to the highway, and the poor quality of Village sidewalks. Interestingly, the Town was the main proponent during trial of the assessment of its sidewalks as dangerous. The Court found frightful the testimony of pedestrians, particularly older individuals with some debilitating medical conditions, fearing and actually falling off of the Village sidewalks and into the highway travel lanes. So too was it frightful to hear from bicyclists who compete for limited travel space on the Village highway, as well as their fear of being thrown from a bicycle, perhaps as it accelerates downhill in the vicinity of the quarry access road, due to small stones having been deposited on the highway shoulder by passing quarry haul trucks.

There is no doubt that the Village Main Street portion of Route 100B is dangerously narrow and includes dangerous intersections, including its intersection with Moretown Mountain Road. The evidence on this portion of the traffic presentation was close and compelling, but we cannot conclude on the facts before us that the contribution of quarry haul trucks to the already extensive traffic that flows through the Village Main Street is likely to measurably increase the congestion and traffic conditions, such that this proposed quarry will cause unreasonable congestion or unsafe conditions on area highways. Our conclusion here is premised upon the circumstances of existing and proposed traffic, as well as Rivers' proposal for reasonable traffic mitigation measures at the access road intersection. Were we to approve this project, we would require Rivers to enforce the following traffic mitigation measures:

1. Install a wide strip of cobblestone at the base of the access road, so as to assist in dislodging small stone from the haul truck tires before they exit onto Route 100B;
2. Regularly inspect this intersection, and regularly sweep or otherwise remove stone and rock along Route 100B and its shoulders in the vicinity of its access road; and
3. Require all loaded trucks departing the quarry to cover their loads before exiting the Rivers property.

Zoning Regulations §5.2, the provision relating to general conditional use review standards, provides in subsection (C)(3) a review standard quite similar to Act 250 criterion 5: that a project's impact upon the "condition, capacity, safety and function of roads and associated infrastructure (e.g., bridges, culverts)" should be considered. Our above analysis under Act 250 criterion 5 provides such an analysis. Within the narrow prospect of the project's projected impact upon traffic and related infrastructure, we conclude that the project as proposed, including the mitigating conditions described above, do not conflict with and are therefore in conformance with Act 250 criterion 5 and Zoning Regulations § 5.2(C)(3).

IV. Fiscal Burdens.

127. The Rivers quarry will employ approximately six individuals on site; its employees will most likely be individuals already residing in the area. It is unlikely that the quarry will be the cause of more than a few individuals moving into the area, and will therefore not be the cause of any measurable increase in the need for educational services or other school facilities, or a measurable increase in the municipal spending on these educational services.

128. Nearly all the providers of area municipal services provided written confirmation that the project as detailed to them by Rivers will not exhaust their ability to provide their respective municipal services. These "ability to serve letters" were received from officials within the Moretown Fire Department, the Mad River Valley Ambulance Service, and the Vermont State Police.

129. The Harwood Union School District Superintendent of Schools identified no adverse impacts or other school deficiencies that would be caused by the Rivers project. This disclosure was made on a response form attached to Rivers' Act 250 application. The District Superintendent advised that he would not be available to testify in the Act 250 proceedings.

130. The most convincing testimony is that the Rivers haul trucks will travel almost exclusively over state-maintained highways. Haul trucks will only travel on town highways for limited periods of time: to reach the project destinations identified by its customers. In this regard, the Rivers quarry will not have a measurable impact upon the municipal expenditures to maintain town roads, which is one of Moretown's highest line item expenses for municipal services. The Rivers quarry will not contribute to the degradation of town highways, as is often caused by existing quarries that are located in outlying areas and have haul trucks that regularly travel over less-improved town highways.

131. In fact, the close proximity of the Rivers quarry to the Town Highway Garage and stockpile area may allow the Town to realize a reduction in the cost of rock product, given that the length of transportation significantly contributes to the cost of rock products. The exact measure of such cost savings was not credibly offered at trial.

132. During a day in which the Rivers quarry generates a maximum number of trips by its haul trucks (i.e., 108 one-way trips), the Rivers quarry could increase the number of haul trucks that travel over Route 100B in the Village area by nearly 175%: Rivers will generate 108 one-way haul truck trips, compared to 62 such truck trips estimated in existing traffic. These calculations are premised upon an assumption that all haul-truck trips generated by the Rivers quarry would travel south on Route 100B and through the Village area.

133. Rivers' traffic expert estimated that the increase in truck traffic generated by the Rivers quarry through the Village area could be as little 21%. Although we conclude that it is unlikely that all of the haul-truck traffic generated by the Rivers quarry will pass through the Village, we conclude that a mere 21% increase is not credible, especially upon the most relevant comparison: the quarry-generated haul-truck traffic as compared to the heavy haul-truck traffic that currently passes through the Village.

134. Most credible is the estimate of experts that at least 60% of the Rivers quarry haul truck traffic will pass through the Village area on Route 100B. While 60% of the maximum quarry truck traffic represents a small number (less than 65 one-way haul-truck trips) when compared to the estimated pre-quarry traffic through the Village (3,500 one-way vehicle trips per day), this estimate of pass-through haul-truck traffic will represent nearly a doubling of similar heavy truck trips estimated to now be passing through the Village each day.

135. Heavy haul-truck traffic is markedly different that all other traffic, including other truck traffic. The impact upon bicyclists and pedestrians in the Village is markedly different when a heavy haul truck passes than when a passenger vehicle or even a delivery truck passes.

136. The Town offices, Elementary School, and other Village buildings and residences are located close to Route 100B in the Village area.

137. The Elementary School has two classrooms in the front of its building; they currently host the fifth and sixth grade classes. Heavy haul trucks passing by can clearly be heard within these classrooms, and they may even cause disruptions.

138. Noise impacts upon educational activities in these front classrooms have been a cause of concern for the School principal, who provided compelling testimony at trial. However, when challenged to provide reference for the level of these disturbances, the school principal could not cite to a single student or parent complaint having been received since she first became school principal in 1995, nor could she cite to a single school board report or meeting where such noise complaints were discussed.

139. While Town officials expressed several concerns regarding the impact of quarry truck traffic as it passes the Town offices and Elementary School, Town Officials did not present evidence as to any specific school construction or increase in per pupil spending that the quarry traffic would directly cause. The School Principal admitted that she had never advocated for, or given any consideration to, physical improvements or planning at the school in response to the detrimental noise impact from traffic that passes in front of the school, even though she asserted that traffic noise had caused detrimental impacts at the school since 1995.

140. One independent measure of noise impacts upon educational settings is derived from the American National Standards Institute ("ANSI"), which establishes a 40 decibel ("dB") maximum level for background noise in a classroom. When exceeded, this ANSI standard recommends that the background noise be regarded as disruptive to the classroom.

141. The current noise background level measured in the two front classrooms of the Town elementary school often exceeds the ANSI 40 dB maximum, particularly when the classroom windows are open, which often occurs during warm days. There is no air condition system in place at the school. This background noise level maximum is often exceeded even when the noise readings in the classroom are taken during times when no trucks are passing the classrooms on Main Street/Route 100B. When trucks, including heavy trucks in the flow of current traffic, pass the classroom, whether the classroom windows are open or closed, the ANSI standard is exceeded even further. These noise exceedance levels already occur without the addition of the traffic the proposed Rivers quarry would generate.

142. The Town offered no recommendations as to measures that could be implemented at the Elementary School, or elsewhere by Rivers, to mitigate the impact from heavy haul traffic from the quarry that passes in front of the School.

143. The Town does not presently have in effect a capital improvement program that could be considered in these proceedings in relation to the project's potential impact upon growth and the rate of growth under Act 250 criterion 9(A).

144. The quarry does not represent a development that will have a direct impact upon, or will contribute to, the rate of growth in the region. The only impact of this quarry upon growth and rate of growth in the region will be tangential, at best, and only if its proximity to developments in the region is closer than other quarries and will therefore reduce the cost of processed rock that such outlying developments may use. We regard this impact to be minimal and not material.

145. The Rivers quarry is not next to or contiguous to an existing development. However, it will not contribute to the costs of scattered development governed by Act 250 criterion 9(H), in that it will not encourage the type of development that, due to its isolation from other development, contributes to adjoining growth and increases in the costs of public services and facilities. No evidence was offered that this quarry development will attract or encourage adjoining scattered developments in its vicinity.

Legal Conclusions as to Fiscal Burdens (Act 250 criteria 6, 7, 9(A), 9(H), and 9(J); Zoning Regulations §§ 3.5(C)(2), 4.10(B)(3), and 5.2(C)(1)).

a. Act 250 Criteria 6 and 7.

We have previously combined a review of these Act 250 criteria under a general heading of "economic impacts." In re JLD properties of St. Albans, LLC, No. 129-5-06 Vtec, et. al., slip op. at 34 (Vt. Envtl. Ct. Jan. 20, 2010) (Durkin, J.). Such a combined review is appropriate in these proceedings, including a combined review with the analogous provisions in the Zoning Regulations.

Act 250 criteria 6 and 7 are often reviewed together due to their common purpose. Criterion 6 cautions that a project cannot be allowed if it will cause an "unreasonable burden on the ability of a municipality to provide educational services." 10 V.S.A. § 6086(a)(6). Criterion 7 includes an analogous prohibition concerning "the ability of local governments to provide municipal or governmental services." 10 V.S.A. § 6086(a)(7).

In most Act 250 proceedings, conformance with criteria 6 and 7 is often proved by "ability to serve" letters from the affected municipal entities. In these proceedings, officials from the departments or entities that provide police protection, emergency services (fire and ambulance), and union district middle and high school services have all provided uncontradicted

representations that the Rivers quarry will not unreasonably interfere with their departments' or agencies' respective abilities to provide such services to the Town and region. Thus, the remaining dispute under criteria 6 and 7 relates to the impact from the quarry upon the ability of the Town Elementary School to provide education to its students.

Criteria 6 and 7 bring a similar allocation of the burdens of proof as does criterion 5: while the applicant must present some facts to satisfy its initial burden of production, the burden of persuasion and ultimate burden of proof under criteria 6 and 7 rests with the parties opposing the project application. 10 V.S.A. § 6087(b). Under each criteria, the opposing parties must offer persuasive evidence that the proposed project "will place an unreasonable burden" upon local governments' ability to provide educational and municipal services. 10 V.S.A. §§ 6086(a)(6) and (7).

In regard to the noise impacts of the quarry on the Town Elementary School, there can be no dispute that additional heavy trucks passing by on Route 100B will increase the frequency of noise disruptions at the school, particularly in the two front classrooms. The existing traffic already contributes noise disruptions in excess of the ANSI standards. In fact, the school principal moved her office, which once was in one of the front classroom areas, and testified that she did so because of the existing road noise. However, the Town's response to the current road noise distractions tends to prove that existing road noise has not placed an unreasonable burden upon the school's operation. We therefore conclude that the incremental increase in road noise that the quarry will bring cannot be regarded as creating an unreasonable burden either.

Our conclusion here is supported by the lack of complaints received by the school, and the lack of discussion at school board meetings that the existing road noise had generated material distractions. Our analysis here may have been different if any evidence had been provided that school officials had acknowledged and attempted to take corrective action in response to the noise distractions from existing traffic, which already exceed ANSI standards. Such evidence would have tended to show that the Town had concluded that the expenditure of municipal funds was required to address these noise distractions. But we received no such evidence. There is therefore no credible foundation for us to conclude that the quarry truck traffic, while disruptive, will place or contribute to an unreasonable fiscal burden upon the Town Elementary School, or the provision of any other municipal services. The Rivers project is therefore in conformance with Act 250 criteria 6 and 7.

b. Act 250 Criteria 9(A), 9(H), and 9(J).

Act 250 criterion 9(A) requires us to consider the population growth for the Town and region and whether the proposed project would "significantly affect their existing and potential financial capacity to reasonably accommodate both the total growth and rate of growth" generated in the Town and region generally, and that which the project will generate. 10 V.S.A. § 6086(a)(9)(A). Our analysis here is succinct because the Rivers quarry is not the type of development that has the capacity to materially contribute to growth or the rate of growth, and it is unlikely to affect the Town or region's financial capacity to accommodate the growth it experiences, distinct from the quarry project. The proposed quarry is not the type of development that will encourage other residential or commercial developments in its vicinity; that is the type of development that affects growth and the rate of growth from which criteria 9(A) seeks to protect. There was no credible evidence that the proposed project will directly encourage growth or impede the Town or region's ability to accommodate growth. We conclude that the proposed quarry satisfies Act 250 criterion 9(A).

Act 250 criterion 9(H) is often described as the criterion that protects against "scattered development;" it is titled as such. 10 V.S.A. § 6086(a)(9)(H). The premise of this criterion is that when scattered residential or commercial development occurs, the host municipality is called upon to provide municipal services to this outlying development, thereby increasing the municipality's fiscal burden. This situation is exacerbated because once the municipality provides the infrastructure and incurs the costs of providing those services to these new developments outside of or not adjacent to existing settlements, these municipal expansions encourage even further development in the outlying areas. Outlying or scattered development tends to have a negative domino effect upon municipal expenditures. Therefore, Act 250 criterion 9(H) prohibits developments that do not generate sufficient municipal tax revenues "and other public benefits" that do not outweigh "the additional costs of public services and facilities caused directly or indirectly by the proposed development." Id.

There is no dispute that the Rivers quarry is not in or next to an existing development. Proposed quarries may be far less likely to succeed in obtaining the necessary land use permits if they were. However, by locating outside of the existing settlements in Moretown and the Mad River Valley, the Rivers quarry will not bring, directly or indirectly, the added costs of scattered development that criterion 9(H) seeks to guard against. The proposed quarry requires no

municipal services, including water supply or wastewater disposal facilities, to be extended to its project site. Its presence in this neighborhood is unlikely to encourage new residential or commercial developments to move to this area. The proposed quarry conforms to criterion 9(H).

Criterion 9(J) seeks to protect against developments that require "supportive governmental and public utility facilities and services" that are either not yet available in a community, or for which the community has not yet planned. 10 V.S.A. § 6086(a)(9)(J). This criterion specifically prohibits projects that will place "an excessive or uneconomic demand" on such public facilities or services. Id.

Other than the general, incremental services that any activity in an area may require, such as municipal emergency services, there was no credible offering of evidence that the Rivers project would need such public facilities or services. There was certainly no support offered for an assertion that the Rivers project will place an excessive or unreasonable demand on needed public services. The project conforms to criterion 9(J).

c. Zoning Regulations §§ 3.5(C)(2), 4.10(B)(3), and 5.2(C)(1).

Zoning Regulations § 3.5 provides the standards by which specific rock and gravel extraction projects can be permitted; subsection (C)(2) specifically prohibits an extraction project that would have an "undue adverse effect on: . . . public facilities and services." Regulations § 3.5(C)(2). As noted above, § 3.5 also imposes an obligation upon any extraction project to conform to the general and specific standards for conditional use review found in Regulations § 5.2. In subsection (C)(1), a proposed extraction project must meet the general standard of not adversely affecting the capacities of existing or planned community services or facilities. Regulations § 5.2(C)(1).

Each of these regulatory provisions mirror the protections afforded to a municipality and region under Act 250 criteria 9(A), 9(H), and 9(J). For the same reasons as are expressed above, we conclude that the Rivers quarry as proposed conforms to Zoning Regulations §§ 3.5(C)(2) and 5.2(C)(1).

Lastly, Regulations § 4.10 imposes general and specific performance standards for all land uses or structures in all zoning districts. Subsection (B)(3) provides that a project shall not cause "fire, explosive or safety hazard . . . which significantly endangers other property owners or which results in a significantly increased burden on municipal facilities." Regulations § 4.10(B)(3). We analyze the question of possible endangerment to neighboring property owners

by Rivers' planned blasting practices in our subsequent discussions under Act 250 criteria 8, 9(E), and 10. In all other respects, we conclude that the proposed extraction project conforms to Regulations § 4.10(B)(3).

No fires are planned for the Rivers site. Trees and stumpage will be processed or disposed of by other means. Hazardous materials will only be brought on site when needed for the planned rock blasting; all explosives will be removed from the site and stored off site. We were not made aware of any significant increased burden on municipal facilities that the Rivers project will cause, save for the on-site blasting practices that we review in subsequent sections of this Decision. In all other respects, the Rivers quarry conforms to Regulations § 4.10(B)(3).

V. Impact Upon Aesthetics, Area's Natural Beauty, and Historic Sites.

146. Route 100B follows the general low-lying areas of the Mad River Valley. For nearly all of its six and a half mile distance, Route 100B lies to the east of the Mad River. Hillsides and ridgelines stand above the highway on either side as it travels from its junction with US Route 2 and Interstate 89 from the north, to its terminus at its junction with Route 100, just south of Moretown Village.

147. Route 100B is a spur off of Route 100, which travels the full length of our State. Route 100B provides access to the rural settings and sparsely-settled residential areas along its route, the Moretown Village area, and (after the junction with Route 100) the recreational resorts located in the adjoining towns of Waitsfield and Warren to the south.

148. No evidence was provided of any commercial or heavy or light industrial developments along the full span of Route 100B, at least until one reaches the Moretown General Store in the Village. To the extent that there are commercial or industrial developments in Moretown, they are located away from the Ag-Res District and the boundaries of Route 100B.

149. Part of the area along Route 100B has been designated a Vermont Byway/Scenic Highway corridor. The corridor reaches 300 feet on either side of Route 100B. While a portion of the Rivers parcel is within this corridor, the quarry site itself is not. However, the quarry site can be viewed from various points within this scenic corridor.

150. The area more than earns this scenic designation; it represents one of the most scenic and aesthetically charming areas one can travel along a Vermont state highway. Testimony revealed that the Route 100B corridor has been recognized as an especially scenic road since at least the early 1970s.

151. The project area and its surrounding neighborhood are particularly scenic. The classic "V" shaped valley, the bottom of which hosts the Mad River, is accentuated by the opposing ridgelines that run north to south. The Rivers property sits along an area where the land rises from Route 100B to the west; the Rivers property faces the opposing ridgeline in a southeasterly direction.

152. The area that sits along the easterly ridgeline hosts Moretown Common Road and the sparsely-spaced residences that run along it. Many of these homes enjoy a view of the area that would host the Rivers quarry.

153. No opposing home site will observe the entire exposed area of the quarry; many will observe some portion of the quarry; some will observe most, but not all of the benches of the quarry along its tallest, westerly wall; some opposing residents will view none of the quarry, or less than a one-acre portion of the quarry.

154. Meadows, pastures, croplands, and residences rise from the river bank and along the hillsides adjacent to Route 100B, including in the vicinity of the Rivers quarry.

155. Much of the area surrounding the quarry site is forested. About sixteen residences, many belonging to the individual neighbors who are parties to these proceedings, are within a half mile of the quarry site; about twenty-eight more residences are within one mile of the quarry site.

156. The project area has historically hosted farming and forestry activities. Portions of the area continue to host these historic uses; several of the current residences are historic farmhouses, dating back 100 years or more.

157. The project area also hosts several popular recreational sites and activities, including the Ward public recreation area and river access site and popular fishing holes directly accessed from Route 100B. The State also uses these areas to stock the nearby portions of the Mad River with fish for sport fishing.

158. Route 100B, for most of its length and particularly in the vicinity of the Rivers parcel, has wide paved shoulders that are used by walkers, bicyclists, and "dry" skiers (skies on rollers, not requiring snow).

159. There are no historical or active quarries within or adjacent to the Route 100B corridor; there are no such quarries in the vicinity of the Rivers property.

160. There are no uses within any vicinity near the Route 100B corridor that employ blasting practices for their respective uses. There are no heavy or light industrial uses that generate any

significant numbers of truck trips, particularly trucks similar to the heavy haul trucks to be employed at the Rivers quarry.

161. There were no uses identified in the area of the quarry, or anywhere within the Ag-Res District, that employ a rock drill, crusher, or sorting machines, nor any mechanism employed in the area that would generate similar levels of noise to the equipment that would be employed at the Rivers quarry.

162. The current uses in the project area, and in all of the Ag-Res District, are predominately agricultural, residential, and forestry.

163. Four horse farms are located in the vicinity of the quarry, across Route 100B. Two of these horse farms, owned by the Sainsbury and McMullin families (both families also live on these properties) have indoor and outdoor riding arenas, riding trails and pastures, and provide riding lessons and horse boarding services to the general public.

164. The initial work at the quarry will include improvements to the access road and establishment of the quarry floor and the initial phase of the detention pond. Some blasting of rock will be required during these improvements, including along Route 100B, so that the northerly sight distances are increased.

165. Once general quarry operations begin, extraction activities would proceed along a pattern that follows a traditional process for extracting rock. This involves stripping soil and overburden with excavation equipment, drilling holes into the rock mass, loading and stemming light explosives, and detonating those explosives in a series of controlled delays as part of a single blast.

166. There was much dispute during trial as to how the blasts would be planned, orientated, and drilled. Planning blasts is as much an art as it is a science; there are many variables to be considered, including orientation of the rock wall to be blasted; number of holes to be drilled; the number of rows of drilled holes and how many holes should be drilled in each row; the alignment of the rows of drilled holes; the need to track a drill bit, so as to avoid it straying from the planned alignment of the hole; the amount of explosives to be placed in each blast; whether PVC piping needs to be used to avoid the flow of explosives into rock fragmentation that may be intercepted by the drilled holes; and the time that each explosive detonation may need to be "delayed," so as to plan the most efficient blasting of the rock.

167. Blasted rock generally flies up into the air and settles on the quarry floor. Sometimes, the rows of drilled holes in which the delayed explosives are placed are aligned in a wide "V" formation, so that the blasted rock is thrown against itself and further broken up. Sometimes, rock is thrown beyond the quarry floor area; on rare occasions, blasts will cause rock to fly beyond the boundaries of the quarry site. While most all blasted rock is thrown up in the air, the term "fly rock" is often used to refer to the rare, dangerous, unintended occurrences at some quarries in which projectiles of rock are thrown beyond the designated quarry areas and sometimes onto neighboring properties.

168. Fly rock beyond a quarry's boundaries rarely occurs because it is never intended by the blaster or the quarry operator. To cause rock, sometimes large rocks, to be blasted beyond a quarry's boundaries results in the energy from detonated explosives being used to throw rock an unintended distance, rather than being devoted to the break-up of the rock; it represents energy from the blast being wasted.

169. While fly rock that travels onto adjoining properties is rare, when it does occur, it can cause physical injury and property damage. At trial, credible testimony and other evidence was offered by Mr. Hendrickson, and corroborated by Rivers' blasting expert, tending to show that outer-boundary fly rock has occurred in several quarries within a fifty mile radius of the Rivers property. Such fly rock at one quarry damaged one or more homes; fly rock at the quarry near the airport in West Lebanon, New Hampshire, caused extensive damage to personal vehicles and other property at the airport. In these instances, fly rock traveling in excess of 1,500 feet was corroborated by Rivers' expert.

170. Rivers' expert credibly maintained that a properly planned and executed blast will not result in fly rock beyond the boundaries of the Rivers property; the expert maintained that most or all blasted rock from properly planned and executed blasts would not travel beyond the limits of the quarry floor.

171. However, Rivers' expert could not assure that no blasts at the Rivers quarry would result in rock being thrown beyond the Rivers' boundary limits. He speculated that rock could be thrown, unintentionally, as far as 1,500 feet from the quarry floor. Because some homes are located within this distance, he recommended that area residents be notified prior to a blast and that they stay in their homes during a blast.

172. Rivers' blasting expert also recommended, in response to concerns about fly rock, that the blasts at the Rivers quarry be orientated away from Route 100B and the nearby residences "as much as possible." Blasts generally throw the blasted rock in a direction perpendicular to the row of drilled holes, with a deviation of up to forty-five degrees.

173. While we found this recommendation responsive to the expressed concerns, we cannot understand how all or even a significant minority of the blasts at the quarry site could be orientated away from its neighbors and Route 100B. The site slopes significantly towards Route 100B; no quarry activities are planned on the other side of the ridgeline on the Rivers parcel. While some planned quarry faces are perpendicular to and even face opposite Route 100B, the most significant quarry face, where the majority of the blasting will occur, faces Route 100B. Once quarry operations are completed in 33 years, this blasted face and its resulting quarry benches will rise 210 feet above the quarry floor. No other quarry face will experience the blasting that this northwesterly face will experience.

174. When a blast occurs, the delays between the detonations of explosives in each hole will be measured in small fractions of a second. The delays are so minute in sequence that the human ear will only recognize their combined detonation as a single blast. It is for this reason that the individual detonation of explosives in each hole, sometimes more than sixty in number, is often referred to as a single blast. These combination blasts will be significant enough to be heard off site.

175. Generally, noise and the impact upon individuals' hearing is measured in decibels. Sound levels detectable by unassisted human hearing are typically measured on a weighted "A" scale ("dBA"), with 0 dBA being the threshold of human hearing and 135 dBA being the level at which the noise causes pain and physical damage to the human ear.

176. Sound is measured on a logarithmic scale; its level rises exponentially as its measurement increases. For example, sound measured at 65 dBA is twice as loud as sound measured at 55 dBA.

177. Current traffic along Route 100B creates background noise measured by each party's noise expert as at or exceeding 55 dBA at some nearby residences.

178. The quarry operations will cause a variety of noises to be created and heard at the nearby residences, along Route 100B, and at the nearby recreational and fishing sites. These noise sources include the blasting, crushing, and sorting of rock; rock drilling; operation of excavation

equipment; haul trucks, including those operating on the quarry floor and up and down its access road; and the loading of processed rock by excavators into the empty metal beds of single- and multi-axle haul trucks. None of these types of quarry activity noises currently exist in the neighborhood.

179. The experts disagreed on the proper measurement of noises originating from the quarry. There was some general agreement, offered on different terms, that some quarry activity will cause noise to be heard at the Rivers property line in excess of 70 dBA and at the nearest residences in excess of 55 dBA. These estimates of quarry noise are separate from the measurement of existing background noise, which sometimes also exceeds these levels.

180. Different noises, even when at the same measured dBA level, can be differentiated by the human ear. Birds chirping at the same level as highway noises are distinguishable; rock dropping into a metal haul-truck bed, as well as the variety of noises emanating from the quarry, are distinguishable from equally loud traffic and other background noises.

181. In terms of noise mitigation measures on the Rivers quarry site, the existing vegetation that will remain undisturbed by quarry operations will provide some shielding to dissipate noise. However, the tree and vegetative cover is thin in places on the Rivers property, including in the areas between the quarry site, Route 100B, and the nearest residences. Also, since the quarry is proposed to operate from April 15 to December 15 each year, there will be months of operation when the intervening trees and vegetation will be leafless.

182. Rivers also proposes to use temporary noise barriers that will be re-orientated as quarry operations progress to place it between the drilling and crushing equipment, Route 100B, and the neighboring properties. Rivers' experts referred to these temporary noise barriers as their "kit of parts," since the "kit" would include a variety of placards and other pieces to be employed to construct shields from quarry noise sources. In any event, the parties' noise experts took into account, to a varying degree, the mitigation that the vegetation and kit of parts would effectuate when they arrived at the noise level estimates in Finding 179 above.

183. The noise measurements also took into consideration that all equipment operating at the Rivers quarry would employ exhaust mufflers and other noise reduction measures required by federal regulations.

184. When blasting, rock extraction, and reclamation is completed, which Rivers estimates will take thirty-three years, the quarry site will be visible from several locations along Route

100B, Moretown Common Road, and other locations in the neighborhood. No immediately adjacent homes will be able to see the excavated portions of the quarry due to the steep topography and tree cover in the immediate area. The most prominent views of the quarry will be from homes and properties of a mile or more away.

185. From these distant properties, portions of the completed quarry will be visible, but no view of the whole quarry will be available from any of these locations. The parties vigorously disputed the measure and offensiveness of the view of the quarry from any number of off-site locations. The only clear evidence was that some, but not all of the quarry would be visible from one or more miles away.

186. The trees near the edge of the quarry would continue to grow; some are nearly sixty feet tall and will grow taller. As soon as quarry and reclamation operations cease, the area will begin to be revegetated. These trees and vegetation will obscure the off-site partial views of the quarry.

187. Vermont is a rocky place; rock ledge can be viewed in many places along Route 100B, Interstate 89, and along town highways. When viewed from distances of a mile or more, the details of even 200-foot-tall ledge expanses are somewhat obscured.

188. The ledge at the completed Rivers quarry will not be fully visible from any location. In most locations, only a small portion of the seventeen-acre site will be visible. Many area residents will have no view of the quarry; some will only be able to view a small portion of the quarry, estimated to be less than one acre of the exposed portion of the quarry.

189. The quarry site does not contain any buildings or structures; no stone walls, cellar holes, of other evidence of historical significance were identified on the Rivers parcel.

190. The Division of Historic Preservation of the Vermont Department of Housing and Community Affairs is the state agency responsible for identifying historic or archeological properties that are either listed on, or are eligible for, inclusion in the State or national Register of Historic Places. The Division conducted an on-site field inspection of the Rivers parcel; it did not identify any such historic places or artifacts.

Legal Conclusions as to Impacts Upon Aesthetics, Area's Natural Beauty, and Historic Sites (Act 250 criterion 8; Zoning Regulations §§ 3.5(C)(1), 3.5(C)(4), 4.10(B)(1), 4.10(B)(2), 4.10(D)(6), and 5.2(C)(2)).

a. Act 250 Criterion 8.

An Act 250 applicant must present convincing evidence that the proposed project "will not have an undue adverse effect on the scenic or natural beauty of the area, aesthetics, historic sites or rare and irreplaceable natural areas." 10 V.S.A. 6086(a)(8). Once this initial burden of production has been met, the burden of proof rests with the opposing parties to show that the proposed project will have the undue adverse effect that criterion 8 seeks to protect. 10 V.S.A. § 6088(b). This criterion has faced some of the most vigorous inquisition and analysis, both before the former Environmental Board and our Supreme Court; the cause of this detailed scrutiny is the nature of its inquiry: whether a proposed project "fits" into its surrounding environment.

The relative subjectivity of criterion 8 has even been the basis of constitutional attacks, including that this criterion is "so vague that it violates the Due Process Clause" of the United States Constitution and that it amounts to an improper delegation of power by our Legislature, based upon an assertion that "Act 250 provides no intelligible standards for interpreting the subjective concepts of 'undue adverse effect,' 'scenic beauty' and 'aesthetics.'" Re: Brattleboro Chalet Motor Lodge, Inc., No. 4C0581-EB, Findings of Fact, Conclusions of Law and Order at 5 (Vt. Envtl. Bd. Oct. 17, 1984).[12]

The former Environmental Board rejected these constitutional challenges. In so doing, the Board noted that the standards employed by Act 250 provide sufficient notice and guidelines to be deemed constitutional. While it relied upon a thorough analysis of the due process requirements employed by our Supreme Court, the Board summarized the basis for its legal determination of constitutionality with vernacular interpretations of the terms "undue" and "adverse":

> The term "undue" generally means that which is more than necessary -- exceeding what is appropriate or normal. The word "adverse" means unfavorable, opposed, hostile. "Scenic and natural beauty" pertain to the pleasing qualities that emanate from nature and the Vermont landscape. In short, through Criterion 8 the Legislature has directed that no project within our jurisdiction be approved if it

[12] The applicant's name here is somewhat misleading; the proposed project was not in Brattleboro. Rather, the project was proposed to be located in Williston, along Interstate 89.

> has an unnecessary or inappropriate negative impact on the enjoyment of surrounding natural and scenic qualities. Criterion 8 is, therefore, sufficiently specific to constitute a proper delegation [of power, as prescribed by the U.S. Constitution].

Id. at 6.

The Brattleboro Chalet decision, while nearly twenty-six years old, provides precedent that remains authoritative and particularly relevant to the case at bar. The Brattleboro Chalet applicant sought to place a 103-room motor lodge, with amenities, within 200 feet of Interstate 89, in an area that was then acknowledged to be a scenic corridor. While similar commercial structures existed along I-89, none existed in this particular section of the highway. The applicant proposed to use a design that was similar to its other motels, but one that it did not intend to modify for alignment with the scenic qualities of its proposed location. Id. at 7–10.

The Board described the structure as "a large rectangular monolith, the design of which has not taken into consideration the unique features of the site, the character of the land surrounding the site, or the scenic qualities of the general area." Id. at 10. The Board went on to describe how landscaping could have "softened" the building, but that its mass and alien design could not be "effectively screened." Id. The signage and lighting proposed by the applicant, the Board concluded, would further alienate the building from its surroundings, thereby interfering with a visitor's "enjoyment of the area." Id.

The Board concluded that the motel structure proposed in Brattleboro Chalet would be "an intrusion on the scenic enjoyment of the traveling public," basing its conclusion, in large part, on the designation of this section of interstate highway as a "scenic corridor." Id. at 11. In light of this "intrusion," the Board concluded that "that the project will have an undue adverse impact upon the aesthetics and scenic and natural beauty of the area." Id.

These conclusions appear applicable and analogous to the legal issue before us now, even in light of the twenty-six year time span.

Brattleboro Chalet may be one of the origins of the Board's detailed analysis under criterion 8, but it is not the most often cited. A year later, and after citing the precedent of Brattleboro Chalet, the Board provided a more detailed explanation of the analysis criterion 8 requires; this analysis has been relied upon so repeatedly that it gained a title, founded on its case name: the Quechee analysis. See Re: Quechee Lakes Corp., Nos. 3W0411-EB and 3W0439-EB, Findings of Fact, Conclusions of Law and Order (Vt. Envtl. Bd. Nov. 4, 1985).

As the Neighbors here suggest, while the Quechee analysis is often remembered for its oft-quoted two part analysis, the rationale for adopting this analysis was more succinct: the Board concluded that "the cornerstone [of an analysis under criterion 8] is the question: will the proposed project be in harmony with its surroundings—will it 'fit' the context within which it will be located?" Id. at 18.

The Board reached this conclusion after having received testimony from experts presented both by the project proponents and project opponents, in addition to hearing from experts the Board itself had retained. Id. The Board noted that it was "struck by the commonality of understanding by [architecture and landscape design] professionals . . . concerning the considerations one applies in evaluating the aesthetic impacts of new developments. Our approach to aesthetics analysis is based upon this common understanding." Id. at 17–18.

The Board then went on to provide guidelines as to how an "undue adverse impact" may be assessed for an individual project. First, the Board provided guides as to how a determination could be made as to whether a project would have an "adverse impact"; the Board offered five specific guides, as well as several general guides for determining whether a project will bring adversity to an area:

> Several features must be evaluated in answering this question:
>
> 1) What is the nature of the project's surroundings? Is the project to be located in an urban, suburban, village, rural or recreational resort area? What land uses presently exist? What is the topography like? What structures exist in the area? What vegetation is prevalent? Does the area have particular scenic values?
>
> 2) Is the project's design compatible with its surroundings? Is the architectural style of the buildings compatible with other buildings in the area? Is the scale of the project appropriate to its surroundings? Is the mass of structures proposed for the site consistent with land use and density patterns in the vicinity?
>
> 3) Are the colors and materials selected for the project suitable for the context within which the project will be located?
>
> 4) Where can the project be seen from? Will the project be in the viewer's foreground, middleground or background? Is the viewer likely to be stationary so that the view is of long duration, or will the viewer be moving quickly by the site so that the length of view is short?
>
> 5) What is the project's impact on open space in the area? Will it maintain existing open areas, or will it contribute to a loss of open space?

> All of these factors must be weighed collectively in deciding whether the proposed project is in harmony with—i.e., **"fits"**—its surroundings. The land uses which surround a project are crucial to the analysis.
>
> . . .
>
> The expert witnesses agreed that certain types of land forms are especially sensitive to change, because these land forms tend to be visible from a wide area or they are seen by large numbers of people. These sensitive areas include ridgelines, steep slopes, shorelines and floodplains. Other features are sensitive because they are aesthetically unique; examples may include historic structures, wetlands and natural areas. In evaluating a project proposed in a sensitive area, the Board and District Commissions should give special attention in assessing whether the scenic qualities of these sites will be maintained.

Id. at 18–19 (emphasis in original).[13]

The Board next noted that if the evidence did not support a finding of an adverse impact, the analysis under criterion 8 must result in a positive finding. However, if an adverse impact was evident, the Board directed that a determination must next be made as to whether the adverse impact was undue. In rendering a determination on this second step of the Quechee analysis, the Board provided the following three guiding principals:

> 1) Does the project violate a clear, written community standard intended to preserve the aesthetics or scenic, natural beauty of the area? Such standards may, for example, be set forth in the local or regional plan, or be adopted in the creation of an historic design district, or be incorporated into a municipal or State scenic road designation. If the Board or Commissions find that such standards do exist, and that the project as designed would violate those standards, the adverse impact would be undue.
>
> 2) Does the project offend the sensibilities of the average person? The Legislature has directed the Commissions and this Board, composed of lay people from many different communities within Vermont, to determine what is acceptable in terms of new developments' impact on aesthetics and scenic and natural beauty. If our sensibilities are, collectively, offended by a project, its impact under Criterion 8 is undue. It is not enough that we might prefer to see a different design or style of building, or that we might prefer a different type of land use, but that the project,

[13] The Board Decision cited here is most often referenced as the origin of the Quechee analysis. However, the Quechee Lakes project had a long and somewhat tortured history before the former Environmental Board and the Supreme Court. The Board's 1985 Decision concerned an application to expand the Quechee Lakes project; the first Act 250 permit was issued by the District 3 Environmental Commission in a prior proceeding. No party chose to appeal the Board's 1985 Decision. However, a later permit amendment proceeding, necessitated by unpermitted revisions to the design of the Quechee Lakes buildings, was the subject of an appeal to the Vermont Supreme Court. See In re Quechee Lakes Corp., 154 Vt. 543 (1990). The Supreme Court in those proceedings affirmed the Board's analysis of undue aesthetic impacts of the unpermitted improvements at the project. Id. at 551–57.

when viewed as a whole, is offensive or shocking, because it is out of character with its surroundings, or significantly diminishes the scenic qualities of the area.

3) Has the Applicant failed to take generally available mitigating steps which a reasonable person would take to improve the harmony of the proposed project with its surroundings? Such steps may include selection of less obtrusive colors and building materials, implementation of a landscaping plan, selection of a less obtrusive building site within the project area, or reduction of the mass or density of a project. If there are reasonable alternatives available to the Applicant that would mitigate the adverse impact of the project, failure to take advantage of those alternatives may, in some circumstances, render undue an otherwise acceptable aesthetic impact.

Id. at 19–20.

Thereafter, the Board again cautioned that the primary purpose of an analysis under criterion 8 is whether a proposed project is "in harmony" with its surroundings; whether it will "fit." Id. at 20.

For the reasons expressed in more detail below, based upon the Findings of Fact detailed above and below in our analysis of criterion 10 (town plan), we conclude that the proposed Rivers quarry would not "fit" into its surrounding area, which has been designated and is actively used as a scenic resource, and will therefore bring an undue adverse impact upon this area. The proposed quarry does not conform to criterion 8.

The noises and activity that the proposed quarry will bring to this area will be unique; they are not currently experienced in any fashion within the Ag-Res District and along the scenic corridor that is Route 100B. Interestingly, when the former Environmental Board reviewed the area of Williston in which Brattleboro Chalet proposed its development in 1984, the Board noted that there were already similar commercial developments not far from the project site. See Brattleboro Chalet, No. 4C0581-EB, at 8–9. However, these nearby, preexisting commercial developments did not dilute the undue adverse impact the proposed motel would have, in the Board's analysis, upon the scenic area in which it was sited. This legal analysis makes the hurdle for the Rivers quarry even more substantial, given that Rivers must concede that no similar commercial activities exist anywhere near its project site.

Route 100B is a rural major collector highway, but its route has been designated a scenic corridor. The area has historically hosted residential and agricultural activities and continues to do so to this day. Some forestry activities have also occasionally occurred on the project site and

in the area, but forestry brings minimal intrusion into a residential or agricultural setting. It often occurs on an individual parcel once in only twenty years or so. When forestry activities do occur, they are often of a short duration; we have not been made aware of any instance in which forestry activities occurred in any area, and particularly in this area, for more than a matter of months. The Rivers quarry is proposed to continue in operation for thirty-three years.

While highway noises from the traffic on Route 100B can be regularly heard in the area, there is a certain commonality and regularity to this traffic noise; it becomes less intrusive as it occurs and becomes background noise for area residents and visitors. True, some traffic noise registers at or above levels established in prior Board decisions and the applicable zoning regulations (70 dB at the boundary line; 55 dB at a residence), but to the extent Rivers argues that this level of background noise makes the noises at those levels from the Rivers quarry less intrusive, we reject that argument.

The noises emanating from the quarry at regular intervals will exceed the established maximums at both the property line and at the nearby residences. But that is not the sole determining characteristic for the noises generated at the quarry site; the quarry will bring to this neighborhood, already deemed scenic and residential/agricultural in character, noises completely foreign and not presently experienced in this region.

The former Environmental Board most recently addressed the impacts of a proposed quarry in the case of McLean Enterprises Corp. In reviewing the impacts of this proposed quarry operation, the Board rendered Findings and Conclusions that we find appropriate for the case at bar and the impacts the Rivers quarry will have upon its neighborhood:

> 142. An operational quarry generates noise from sources such as rock crushers, rock drills, blasting, moving trucks. These sources generate loud sounds that do not blend in with any natural environment. Examples of instantaneous noises that may originate from a quarry are the noises generated by dropping, crushing, blasting, moving, and drilling rock.
>
> 143. The expected noise from the Project is markedly different than the existing rural context of this area. The sounds that would be generated by the Project would be impulsive and more like industrial sounds than anything now part of the background of the area. The noises would be harsh and intermittent, unlike the usual sounds experienced in a rural setting and not merely louder versions of the same noises already present.
>
> ***Access Road Construction and Hillside Quarry***
>
> 144. This Project's noise issue is compounded by [the fact that] . . . the access road is a steep winding road which will require the trucks to go up and

> down in low gears and also use engine brakes (colloquially referred to as "jake brakes") to control speed on the descent.

Re: McLean Enters. Corp., No. 2S1147-1-EB, Findings of Fact, Conclusions of Law and Order at 23–24 (Vt. Envtl. Bd. Nov. 24, 2004).

While the Rivers access road may not be winding, testimony revealed that it is steep and that the haul trucks descending the access road, and trucks on Route 100B decelerating to turn on to the access road, will occasionally be downshifting and using jake brakes, a practice Rivers did not significantly dispute. While this neighborhood hosts a rural major collector highway (Route 100B), these trucking noises do not occur with as much frequency as will occur if the Rivers quarry is allowed to operate. Credible estimates of heavy truck traffic suggest that the Rivers quarry could double the number of heavy trucks traveling from the quarry and through the Village on Route 100B.

We also concur with the Board in its McLean Enterprises Decision that when quarry noises will be so new and foreign to an existing area, the quarry noises will be a recognizable intrusion into the scenic setting. This will even be true in the Rivers neighborhood, which is bisected by Route 100B. The area is known for its scenic beauty and tranquility; it is used by bicyclists, walkers, pavement skiers, fisherman, swimmers, and those simply enjoying a lazy float down the Mad River. The noises emanating from the quarry, most of which will be at or above the sound levels of the background traffic noises, will be a disruption of and intrusion upon the neighbors' and visitors' enjoyment of this scenic area. So too will the increased frequency of heavy truck traffic, including in the Village area. All these quarry activities will represent an adverse impact upon the Rivers neighborhood, and the scenic corridor of Route 100B; the increased truck traffic through the Village, particularly when predicted to double the heavy haul trucks traveling though that narrow strip of Route 100B, will also have an adverse impact upon its residents, school children, and school administrators.

We are less inclined to characterize the distant views of a portion of the quarry as intrusive and of an adverse impact. No area resident will have a full view of the exposed portion of the quarry; most will have a view of only a small portion of the quarry; some (including the quarry's closest neighbors) will have no view. Natural rock outcroppings and rock walls left from drilling and blasting are seen everywhere in Vermont; they are a constant reminder of the predominant nature of what lies beneath our soils. We found Rivers' depictions of the distant views of the exposed rock walls within the quarry more credible than those offered by the

opposing parties. In the abstract, and without the ability to be disturbed by the on-going quarry noises, the view alone of the quarry does not constitute an adverse impact.

Because we have concluded that the quarry activities will have an adverse impact, we next consider whether it is undue. Our determination is guided by the three standards from Quechee cited above (written community standard, sensibilities of the average person, generally available mitigating steps). First, we note the scenic corridor designation along a 300-foot wide expanse along either side of Route 100B. A portion of the Rivers parcel lies within this corridor. While the quarry site itself is outside this corridor, the noise and activity originating at the quarry will be heard and felt within the scenic corridor. The quarry will contradict the very characteristics that brought the scenic designation upon this area; it will offend an average person visiting the area, expecting to enjoy its scenic quality, but not anticipating the noises emanating from the drilling, blasting, crushing, and loading of rock at an adjacent quarry.

We conduct below, in our legal conclusions regarding criterion 10 and conformance with the Town Plan, an analysis of the proposed quarry's conformance with the overall standards in the Moretown Town Plan. We conclude that it does not conform to the most applicable standards. In fact, while it is indisputable that earth extraction may be allowed as a conditional use in the Ag-Res District, we are at a loss to find another expressed community that supports the Rivers quarry as proposed. When coupled with the offense to someone expecting to experience the scenic qualities espoused for the region, we conclude that the quarry activities and the noises emanating from it constitute an undue adverse impact.

A further small influence upon our analysis here is the number of parties that have expressed sincere opposition to the quarry in these proceedings. The Town and those Neighbors represented by counsel have presented detailed and multi-layered attacks upon the quarry and the activities it would bring to their neighborhood. Other neighbors, including Mr. and Mrs. Hendrickson, articulated specific, sincere concerns regarding the effects that the quarry would bring to their neighborhood.

When our Supreme Court was reviewing the propriety of the former Environmental Board's determination that a proposed RV campground along the banks of the White River constituted an undue adverse impact, the Court was quick to defeat an attack on the Board's application of the "second inquiry" under Quechee that was based upon an assertion that "there was no general public outcry against the project." In re McShinsky, 153 Vt. 586, 592 (1990).

The Court concluded that no such showing was necessary to satisfy the "offense to the sensibilities of the average person" test for whether a project's adverse impact is "undue" under Quechee. Id. While we do not solely rely upon it for our determination here, we note that the Neighbors were universal in their opposition, and they stated their concerns with credibility.

Rivers did a commendable effort at presenting somewhat convincing evidence of how the quarry would be shielded by trees and vegetation that it would leave undisturbed, and how equipment mufflers and its "kit of parts" could be used to mitigate the quarry's impacts. But we conclude that these efforts will not be sufficient to diffuse the quarry's impacts below the level of an undue adverse impact upon this scenic area. We were not made aware of further mitigation efforts that could sufficiently offset the quarry's impacts. This development, at this level of drilling, blasting, crushing, and trucking, simply cannot "fit" within this scenic area. It fails under criterion 8.

b. Zoning Regulations §§ 3.5(C)(1), 3.5(C)(4), 4.10(B)(1), and 5.2(C)(2)).

The provisions within Regulations § 3.5 pertain specifically to earth resource extraction projects; subsections (C)(1) and (C)(4) direct that approval should only be provided for such projects that will not have an undue adverse effect upon "neighboring properties and uses" and "the scenic or natural beauty of the area, other aesthetic values, . . . or rare or irreplaceable natural resources or areas." Regulations § 3.5(C)(1), (4). Our prior analysis shows that the Rivers project fails to meet these standards. The proposed quarry does not conform to Regulations §§ 3.5(C)(1) or 3.5(C)(4).

Pursuant to Regulations § 3.5(A), an earth extraction project must also satisfy the conditional use standards, which are found in § 5.2. Regulations § 5.2(C)(2) requires that the proposed project not have an adverse effect upon the character of its surrounding area. We have already concluded that the proposed quarry will commit this error; the project does not conform to § 5.2(C)(2).

Regulations § 4.10 establishes performance standards for all land uses or structures within Moretown; subsection (B)(1) prohibits "noise which is excessive at the property line or is incompatible with the reasonable use of the surrounding area." Regulations § 4.10(B)(1). Perhaps anticipating the need for guidance in determining when noise is "excessive," the provision was drafted to direct that "[e]xcessive noise shall be considered a sound pressure level that exceeds 70 decibels at the property line on a regular or recurring basis." Id.

Rivers concedes that its quarry operations will exceed 70 dBA; it counters that traffic from Route 100B and other area noises often exceed this sound pressure level, and that therefore its quarry should be found to conform to Regulations § 4.10(B)(1). This argument may have merit were it not for the fact that the noises from the Rivers quarry will be so out of character with the scenic area. These industrial-type noises will be readily distinguished from the noises that accompany this scenic setting, even when the background traffic noises are factored. The quarry noises will be incompatible with this neighborhood; the quarry does not conform to Regulations § 4.10(B)(1).

VI. Impact Upon Necessary Wildlife Habitat and Endangered Species.

191. There was no evidence presented that tended to show that the Rivers parcel was host to any rare, threatened or endangered species or significant natural wildlife communities.

192. The ANR Department of Fish and Wildlife, as part of its administrative responsibilities, produces and maintains maps to indicate where rare, threatened, or endangered species or significant natural wildlife communities are located; no Department maps evidenced such wildlife or endangered plants or animals at the Rivers site.

Legal Conclusions as to Impacts Upon Necessary Wildlife Habitat and Endangered Species (Act 250 criteria 8(A)).

A party opponent may defeat a proposed project when they can show that it "will destroy or significantly imperil necessary wildlife habitat or any endangered species." 10 V.S.A. § 6086(a)(8)(A). Even when such a showing is made, an applicant may still overcome a negative finding under criterion 8(A) by making certain showings that could mitigate the impact upon the necessary wildlife habitat or endangered species on the site. 10 V.S.A. §§ 6086(a)(8)(A)(i)–(iii). We need not delve into that analysis, however, since there has been no showing of necessary wildlife habitat or endangered species on the Rivers parcel. The project conforms to criterion 8(A).

VII. Impact of the Proposed Extraction of Earth Resources.

193. The principal impacts to the environment and the surrounding land uses will come from the operational phase of the quarry. These will involve the drilling, blasting, crushing, sorting, and transporting of rock within and from the quarry site. Our prior Findings address the details of all aspects of the quarry construction and operation.

194. Once the quarry is fully operational, Rivers expects to produce 75,000 cubic yards of processed rock. Ten to twelve blasts are expected to be required to produce this volume of rock from the Rivers quarry. At this rate during the operational year, one blast will occur every few weeks. Drilling will need to occur for about five straight days to prepare for each blast. Thus, drilling could occur as frequently as every other week, for consecutive days at a time, and then followed by a combined blast.

195. Rivers expects each blast to require sixty-two holes to be drilled. Some blasts may require more holes to be drilled. Each hole will be about 3.5 inches in diameter and forty-two feet deep. A conventional blast plan shows that the rows of drilled holes will be within an eight-foot by nine-foot grid.

196. The first row of holes for each blast will often be drilled about eight feet from the face of rock to be blasted. Subsequent rows will be drilled with an eight-foot separation between each row. This distance will help minimize the potential for rock to fly beyond the quarry floor and beyond the boundaries of the Rivers parcel. Fly rock that has caused damage to neighboring properties has sometimes resulted from the initial row of drilled holes being much closer to the rock face, and from rows of holes being drilled closer to each other.

197. Fly rock traveling beyond a quarry limits or boundaries has also occurred when too much explosive has been loaded into one or more holes. This can occur unintentionally when the explosives being poured[14] into a hole seep into fragments in the rock and stray from the drilled hole. Rivers suggested that this straying of explosives could be minimized by using PVC piping as a sleeve that is inserted into the drilled hole. It was unclear from the trial testimony how regularly Rivers was committing to follow this practice, other than to follow it when on-site inspections of employees suggest. Rivers pledges to use hole liners in the holes in the front row of each blast plan.

198. Rivers also proposes to carefully measure the amount of explosives that is poured into each hole, either while it is pumped from a delivery truck or poured from pre-mixed bags. Each hole will receive a maximum of 128.2 pounds of explosives. Thus, for a 62-hole detonation, a combined blast could expend as much as 7,848.4 pounds of explosives.

199. Blasts will represent a series of detonations, each separated by a small fraction of a second. The detonations will be arranged in sequence, with the first row of hole explosives

[14] Quarry blasting explosives are most often in a powered form.

being detonated simultaneously, and each row thereafter being detonated a small fraction of a second thereafter. The detonations are so close together that they are recognized by the human ear as a single blast.

200. There are two other consequences of these delayed, sequenced blasts. First, the delays increase the frequency with which rock pieces collide and break apart, thereby increasing the efficiency of the blast. Second, the combined blast, often recognized as just a single blast, is more equivalent to the sound and consequence of expending 128.2 pounds of explosives, and not the combined total of explosives expended in each delayed row of holes. This effect will occur provided that the detonation of rows is separated by about eight milliseconds (i.e., eight thousandths of a second).

201. These parameters for planned blasts, when followed, result in the most efficient use of the explosive materials and the least opportunity of fly rock to leave the quarry site and the Rivers parcel. However, even Rivers' blasting expert conceded that no blasting plan can guarantee that a blast will not cause rock to fly onto neighboring property. It is for this reason that Rivers' blasting expert recommended that any resident or visitor within 1,500 feet of the quarry during blasting operations remain indoors until after the blast is completed and all fly rock has settled.

202. Blasts at the quarry will present two types of shock waves within the quarry and onto neighboring properties: ground vibrations and airborne shock waves. The level at which these shock waves will be recognized by the quarry's neighbors and their visitors was subject to great dispute, but there was no dispute that some ground vibrations and airborne shock waves would be recognized off site.

203. Rivers plans to reclaim the quarry site in a series of phases, much like its blasting and extraction plan. Once the valuable rock in a phase of the quarry is fully excavated, and after quarry operations move into another phase, Rivers will begin its planned reclamation work in the completed phase. At no time will more than ten acres of the quarry site be exposed from excavation and not reclaimed.

204. To secure funding for the completion of its planned reclamation work, Rivers has committed to establishing a reserve account, to be administered by the District Commission, and into which Rivers will periodically deposit five cents for every yard of processed rock sold from its quarry. These funds will be made available, if necessary, to complete the reclamation work

after Rivers quarry extraction operations are completed. In any event, Rivers would be financially responsible for all planned reclamation work.

205. As noted above in Paragraph 21, when all blasting is completed on a specific quarry wall, walls will be composed of a series of benches. Each bench will be about fifteen feet in height and width/depth. The highest benched wall will be on the northwestern face of the quarry, where the area rises most steeply. This area will include about fourteen benches and rise about 210 feet from the quarry floor.

206. Rivers will use the stored overburden and topsoil to cover the quarry floor and some of the quarry wall benches. The area will then be seeded or allowed to naturally vegetate. The result will be a flat area, surrounding by three steep, benched quarry walls of varying heights and lengths. The easterly side of the quarry, near where the detention pond will be, will remain open to the access road.

207. This reclamation plan cannot be classified as unique; it follows a pattern often used for reclamation in many quarries. A number of quarries plan for successive uses, including residential development and community or recreational uses. While Rivers suggests that its site may be used after reclamation for a community use, no specific use has been suggested.

Legal Conclusions as to Quarry Impacts Upon the Environment and Surrounding Land Uses (Act 250 criteria 9(E) and Zoning Regulations §§ 3.5 and 4.10).

a. Act 250 Criterion 9(E).

Act criterion 9(E) provides specific protections from the "unduly harmful impact upon the environment or surrounding land uses and development" of earth resource extraction projects. 10 V.S.A. § 6086(a)(9)(E)(i). This criterion further restricts the allowable extraction projects to those that show "a site rehabilitation plan which insures that upon completion . . . [the site] will be left by the applicant in a condition suited for an approved alternative use or development." 10 V.S.A. § 6086(a)(9)(E)(ii). For the reasons stated below, we conclude that the Rivers quarry will impose an unduly harmful impact upon area land uses and development.

As we have previously noted, the area around the Rivers quarry site enjoys many scenic characteristics and designations. Its residents and visitors use the area to enjoy its scenic attributes, including the Mad River and the swimming, fishing, and floating opportunities it offers; the scenic corridor of Route 100B; the historic residential and agricultural uses in the vicinity of the Rivers parcel, and the scenic hillsides beyond the immediate area.

To this area, the Rivers quarry will bring activities and noises not yet experienced; they will be new intrusions into this neighborhood and District. While the prospect of fly rock trespassing upon neighboring properties will be rare, if occurring at all, Rivers could not provide assurances that fly rock will not descend upon neighboring properties and perhaps onto Route 100B. While Rivers' expert credibly asserts that this is unlikely to happen, he also recommended that those within 1,500 feet of the quarry site remain indoors during blast events. Thus, at least as frequently as a dozen times each operational season, the lives of neighboring property owners will be interrupted and they will be directed to remain indoors, lest they wish to risk limb, life, or property damage. Both the frequency of these intrusions into neighbors' lives and the disparity between such interruptions and the character of this area, leads us to conclude that the project will cause the unduly harmful impacts from which criterion 9(E)(i) seeks to protect.

Rivers correctly notes that the "unduly harmful impact" standard employed in criterion 9(E) "has been interpreted to include and go beyond aesthetic impacts" of criterion 8, but that assessment has not been interpreted as a directive to disregard the project's conformance with criterion 8; in fact, the analysis under these criteria has been interpreted as overlapping and related. See Re: John and Marion Gross, d/b/a John Gross Sand and Gravel, No. 5W1198-EB, Findings of Fact, Conclusions of Law and Order at 12[15] (Vt. Envtl. Bd. April 27, 1995) (relying upon the findings and conclusion under criterion 8 to buttress and provide foundation for initial findings and conclusions under criterion 9(E)(i)). In fact, the Board in Goss Sand and Gravel gave great weight to facts and legal conclusions particularly applicable to a review of the Rivers quarry:

> The Adjoiners' residential use of their tracts pre-dates, in some cases by decades, the inception of the crusher plant operation. To borrow from the language of nuisance law, they did not come to the nuisance; the nuisance came to them. Accordingly, the Board gives great weight under Criterion 9(E) to the Adjoiners' use and enjoyment of their land.

Id. at 12.

[15] The Court has relied upon the web-based research tool known as "Casemaker," offered through the Vermont Bar Association. The copy of the Goss Sand & Gravel Decision provided through Casemaker, as well as the copy provided through the web page maintained by the Land Use Panel of the Vermont Natural Resources Board, does not provide the pagination of the original Decision. The copy retrieved by the Court contains 14 pages; the original undoubtedly contains more pages, since Rivers' citation is to page 16. The Court regrets the confusion its resources may cause the parties.

The Rivers quarry perhaps presents more undue harmful impacts than the quarry expansion proposed in Goss Sand and Gravel. Rivers is recommending that neighbors within 1,500 feet of the quarry suspend their use and enjoyment of their outdoor property whenever a blast is to occur. A dozen times per year, for the next thirty-three years. All of Rivers' neighbors presently enjoy the scenic natural beauty of their property without interruption; some have done so for decades prior to the Rivers quarry being proposed for their neighborhood. The Rivers quarry will bring undue harmful impacts to its neighbors; it fails to conform to criterion 9(E)(i).

Interference with neighbors beyond this 1,500 foot recommended zone is less severe; to the extent that they are free from fly-rock hazards, even if rare, and the adverse impacts of new noises, we conclude that the impact by the Rivers quarry upon these outlying neighbors does not rise to the level of undue harmful impact under criterion 9(E)(i), even in light of our previously stated conclusion of non-conformance to criterion 8. The impact may be adverse, although less adverse than that imposed upon Rivers' more immediate neighbors. We conclude that the showing as to the impact upon these other neighbors, including the horse farm owners and operators, may be adverse, but does not go beyond that level to reach the heightened standard under criterion 9(E)(i) of undue harmful impacts.

Neighbors Arthur and Linda Hendrickson assert that the Rivers quarry, or rather the "prospect of" the quarry, has already had an unduly harmful impact by virtue of a negative influence upon the assessed fair market value of their home. They offer evidence of this impact through Exhibit N-27: a decision from the Division of Property Valuation and Review of the Vermont Department of Taxes regarding the Hendricksons' appeal of the assessed value of their real property, in which a determination was made that the estimated fair market value[16] of the Hendricksons' property declined in value from $129,300 to $116,700. This decline in value is explained in general terms by an undefined "public perception" of the prospect that Rivers may

[16] "Estimated" is perhaps worthy of the greatest emphasis in this phrase. Estimated fair market value sometimes has little correlation with the actual sales price of a property in the future. Appraisers attempt to find comparable properties that have actually sold and then adjust that reported sales price based upon an estimated value of the differences between the sold home and the subject home. Exhibit N-27 includes an explanation that the Hendricksons' home may have decreased in value by as much as 10% due to the "public perception" of the quarry Rivers proposes for possible future construction and operation. No further explanation is provided for the assessment of a 10% downward impact upon value.

construct and operate a quarry on its adjoining property. For the reasons detailed below, we decline to rely upon this evidence for purposes of criterion 9(E)(i) review.

Neighbors concede that their offer of Exhibit N-27, and reliance upon it for purposes of criterion 9(E)(i) review, is not premised upon precedent from any court or former Environmental Board decision. Our own research verifies this point; we have found no precedent supporting their assertions. However, to say that the issue before this Court is one of first impression is not fully accurate. As a former chair of the District 2 Environmental Commission, the undersigned recalls more than a few attempts being made by project opponents to introduce speculative evidence of possible impacts upon their property values, should a project be approved. Our research reveals no precedent of such evidence being admitted or relied upon in an Act 250 proceeding or appeal.

Criterion 9(E)(i) presents a heightened threshold: only projects whose impact upon the environment or surrounding land uses rises to the level of "unduly harmful" are to be denied an Act 250 permit. We have received no foundation for how a speculative estimate of impact upon the value of an adjoining property can satisfy the standard of "unduly harmful."

To allow such speculative evidence in a state land use permit proceeding opens these proceedings to being unduly extended as possible impacts upon property values are argued. We saw a small example of such in these proceedings. To establish the precedent that Neighbors suggest would open future Act 250 appeals to evidence and arguments that may not even be tangentially related to the legal issues properly raised under criterion 9(E)(i).

Rule 403 of the Vermont Rules of Evidence cautions against the admission of evidence whose "probative value is substantially outweighed by the danger of unfair prejudice, confusion of the issues" or that may be misleading to the factfinder. Neighbors' Exhibit N-27 is guilty of such dangers. V.R.E. 403. This determination in a tax assessment appeal presents a valuation that appears speculative at best; it is founded upon "public perception" of the Rivers quarry; we have no foundation that such "perception" is accurate or even casually related to the project Rivers actually proposes here.

Since we deferred our decision on the admissibility of Exhibit N-27 until after the parties had filed their post-trial arguments, we announce now that Exhibit N-27 is not admissible for the purpose proposed; we decline to rely upon it in our review of criterion 9(E)(i).

Subsection (E)(ii) of criterion 9 requires us to assess the sufficiency of Rivers' site rehabilitation plan; it requires a showing that reclamation will leave the site "in a condition suited for an approved alternative use or development." 10 V.S.A. § 6086(a)(9)(E)(ii). The opposing parties here assert that Rivers must be held to an even higher standard; they assert that Rivers be required to return the quarry site to its original contours and appearance. We find no support for such a standard; we surmise that if criterion 9(E)(ii) were interpreted to require a virtual, or even actual, restoration of a site to its original conditions prior to development, no quarry could secure Act 250 approval in the entire State of Vermont.

As stated in our Findings, Rivers' reclamation plan is far from original or unique. It provides for remedial work once all valuable stone has been extracted. The rock walls and faces will remain visible, although we do not find that to be adverse or offensive to the preexisting uses in the area. One is hard-pressed to live a day in Vermont without observing rock walls and faces, including man-made faces. The opposing parties take issue with Rivers' plan to cover and stabilize the quarry floor and benches, at least those that can be safely reached. But their opposition appears to be premised more upon aesthetic issues than actual stabilization of the site. While criterion 9(E)(ii) provides no direct guidance on this point, we regard its directive that the site be "suited for an approved alternative use or development" to mean just that: that the reclamation plan must show that the site will be stable and unlikely to suffer material erosion or other disturbances once quarry activities are completed and reclamation is accomplished. We conclude that Rivers plan does just that.

b. Zoning Regulations §§ 3.5 and 4.10.

Any proposal to commercially extract earth resources, including the drilling, blasting and excavation of rock, must be found to "not cause a hazard to public health or safety, or otherwise have an undue adverse effect on: (1) neighboring properties and uses." Zoning Regulations §§ 3.5(C), (C)(1). Since this regulatory language is stated in the alternative "or," we focus upon the provision for which we have already found non-conformity: neighbors will be asked to suspend their use and enjoyment of their property during each of the dozen blasts, for each of the consecutive thirty-three years of operation. We conclude that this constitutes an undue adverse impact upon neighboring properties and uses. The quarry operation as proposed is in conflict with § 3.5(C)(1). For similar reasons, we conclude that the Rivers project is in conflict with the performance standards contained in Regulations §§ 4.10(A), 4.10 (B)(3), and 4.10(B)(4).

Rivers proposals to commence reclamation of portions of its site, even while excavation in other phases continues, together with its pledge to maintain and regularly fund a reserve account, controlled by the District Commission, provides sufficient surety for the completion of its reclamation plan. We therefore conclude that Rivers has satisfied the surety requirements that may be imposed under Regulations § 3.5(E).

VIII. Impact Upon Public Investments.

208. Roads, rivers, and other resources that are maintained by public funds constitute public investments. The Mad River and Route 100B and its scenic corridor constitute such public investments that are located within the vicinity of the Rivers quarry.

209. The importance of the Mad River as a public investment is reinforced by the public uses and activities upon it: fishing, swimming, the stocking of fish in it by the Department of Fish and Wildlife, and the general use and enjoyment of the River are just some examples of the benefits flowing from this public resource.

210. Route 100B and the scenic enjoyment it provides to its residents and visitors are some examples of the benefits of the highway and scenic corridor as a public resource.

211. Rivers presented little evidence as to the impacts upon the public investments, other than Route 100B.

Legal Conclusions as to Quarry Impacts Upon Public Investments (Act 250 criteria 9(K))

Criterion 9(K) directs that when a proposed development is on lands "adjacent to governmental and public utility facilities," or other such facilities in which the public has an investment, the development must be shown to "not unnecessarily or unreasonably endanger the public or quasi-public investment in the facility, . . . or materially jeopardize or interfere with the function, efficiency, or safety of, or the public's use or enjoyment of or access to the facility, service, or lands." 10 V.S.A. § 6086(a)(9)(K). The parties' discussion of this topic direct us to an initial issue: what is an "adjacent" public investment?

Much of the prior precedent cited by the parties has little discussion of this term. See Re: Pittsford Enters., LLP, No. 1R0877-EB, Findings of Fact, Conclusions of Law and Order at 36 (Vt. Envtl. Bd. Dec. 31, 2002) (citing multiple cases). We therefore turn to lay dictionaries for guidance; both the Webster's II College Dictionary (2005) and the website Dictionary.com define "adjacent" as being "near to" and "close"; the latter resource provides the additional

definitions of "contiguous; adjoining." Given the breadth of these definitions, we conclude that both Route 100B and the Mad River (although it is over 1,000 feet away) constitute adjacent public investments, but that the other facilities suggested by the opposing parties, including public facilities in the Village, are beyond the reach of "adjacent" public investment, as the term is used in criterion 9(K).

When considering the impact upon a state or local highway, as a public investment, review can be very similar under criteria 5 and 9(K). Pittsford Enters., No. 1R0877-EB at 36. Further, criterion 9(K) provides for a lower threshold, since its focus is upon whether the proposed project will "materially jeopardize or interfere with the function, efficiency, or safety of, or the public's use or enjoyment of or access to the facility, service, or lands." 10 V.S.A. § 6086(a)(9)(K). We regard this standard as lower than the standard of criterion 5 ("will not cause unreasonable congestion or unsafe conditions"), as did the former Environmental Board in Pittsford. Id. (quoting Re: John A. Russell Corp., No. 1R0849-EB, Findings of Fact, Conclusions of Law, and Order at 9 (Vt. Envtl. Bd. July 10, 2001)).

We have already discussed extensively the impacts the quarry will likely have on Route 100B and those who use that public resource. For reasons similar to those expressed in our analysis under criterion 5, we conclude that, while the quarry will have an impact upon Route 100B and its travelers, its impact will not be so significant as to materially jeopardize or interfere with the function, efficiency, or safety of, or the public's use or enjoyment of or access to Route 100B. We therefore conclude that the Rivers quarry conforms to criterion 9(K).

In regards to the quarry's impact upon the Mad River, and the public's use and enjoyment of this public resource, we find even less basis for conflict with criterion 9(K). There was no credible evidence to support a determination that the quarry operations will materially jeopardize or interfere with the function of the River or the public's access to it. Noises and other quarry impacts will be more distant than for those on Route 100B or the quarry's most immediate neighbors. There is no conflict presented by the quarry with the interests protected by Act 250 criterion 9(K).

IX. Conformance with Town Plan.

212. Extraction of earth resources within the Ag-Res District may be authorized, if granted conditional use approval under the Zoning Regulations. Regulations Table 2.3(3)(8).

213. As previously stated, due to the dates on which Rivers filed complete applications, the Town Plan applicable to these proceedings is that which was adopted on August 27, 2002. Subsequently adopted versions of the Moretown Town Plan are not applicable to these proceedings.

214. The Town Plan is organized in the following Chapters:

1) Planning Process;
2) Population;
3) Housing;
4) Natural and Cultural Resources;
5) Transportation;
6) Facilities and Services;
7) Land Use; and
8) Plan Implementation.

215. Each Chapter of the Town Plan closes with a section entitled *"Goals, Policies, Tasks and Strategies."* Each subsection to each Chapter of the Town Plan is indexed; the Plan provides a clear directive of the Town's desires, directives, goals, policies, tasks, and strategies.

216. Chapter 4 contains a subsection titled "Soils and Earth Resources." Town Plan at 22–23. Within this subsection, a portion entitled "Gravel Resources" states as follows:

> No commercial mineral deposits have been located in Moretown, although several concentrations of sand and gravel have been excavated over the years. Because of the importance of sand and gravel to the community for road maintenance and construction, some future extraction of these resources should be anticipated. However, the environmental and social impacts of large scale extraction need to be considered prior to development. Such impacts can be avoided or mitigated through careful site planning, operation and reclamation. Demonstrating, during the permitting process, that adverse impacts on neighbors and the Town will be minimized and adequate provision for site reclamation made, are an important means of avoiding problems.

Id. at 23.

217. Chapter 4 of the Town Plan, under the heading "Steep Slopes," notes that "[l]arge areas of steeply sloping hillsides are a significant feature of Moretown's varied terrain. Such areas pose several land use and development challenges, including susceptibility to erosion and high rates of run-off, particularly when cleared for construction, agriculture or forestry." Id. at 24.

218. This subsection of Chapter 4 goes on to note:

> [g]enerally, slopes in excess of 25% should not be developed and clearing for agriculture and forestry should be conducted with careful attention to erosion

> control and stormwater management measures. Most development should also be avoided on slopes of 15–25%, although limited development may take place providing measures are taken to ensure slope stabilization, erosion control and down-slope protection from stormwater runoff.

Id.

219. In Chapter 7, entitled "Land Use," the Town Plan provides several "Land Use Policies," one of which states: "Development on slopes in excess of 25% shall be prohibited." Id. at 68.

220. The Rivers quarry occurs on lands that currently vary in slope. A portion of the quarry site currently encompasses a plateau area. The slope of the access road to the project site also varies, but some limited areas are in excess of 15%. No large area to be disturbed by the quarry operation is in excess of 25%. We use the term "large area" with reference to that specific term being used in the introduction to the "Steep Slopes" subsection within Chapter 4. Id. at 24.

221. Chapter 4 also includes a subsection titled "Open Space/Scenic Resources." Id. at 30–31. This subsection provides the following description for the Route 100B/Mad River Corridor:

> **Route 100B/Mad River Corridor:** The drive along the length of Route 100B is among the most beautiful in Vermont. The meandering river, broad flood plains, rolling hills and deep gorges combine to create a stunning landscape. The Planning Commission studied this route in 1999–2000 and concluded that most of its defining features are located within a broad corridor defined by a distance of 300 feet east and west of the 100 year floodplain.

222. Under the heading: "Natural and Cultural Resources & Strategies," Chapter 4 contains the following directive: "The Development Review Board shall, through the conditional use review process, ensure that the extraction of gravel and other mineral resources do not permanently scar the landscape, adversely impact ground or surface waters, or unreasonably impact adjacent neighbors." Id. at 35.

223. Chapter 7 includes under the subsection "Planning Considerations" the directive that "two areas of special concern regarding the impact of new development on the town's natural and scenic resources are upland areas and the Route 100B/Mad River Corridor." Id. at 68.

Legal Conclusions as to Conformance to Town Plan (Act 250 criterion 10).

Act 250 requires that a proposed project conform to a duly adopted Town Plan. 10 V.S.A. § 6086(a)(10). This criterion also requires a showing that the project conforms to a duly adopted regional plan and capital improvement program. We do not address conformance with a regional plan, since that issue was not preserved for our review by any appellant in these

proceedings. We have not been made aware that a capital improvement program has been duly adopted, or preserved for our review in this appeal.

Any review of this criterion can be daunting, since most town or regional plans are more easily measured in inches than in pages. The Moretown Town Plan is no different, although it is well organized and indexed. Our review of this criterion has also been made more succinct, since the parties exhaustively researched and presented the issues related to Town Plan conformance in a number of pretrial motions. Those motions and the issues the parties raised are most directly addressed in two Corrected Interim Decisions, both filed on January 18, 2008. See Corrected Decision on Rivers' Initial Motions (filed Jan. 18, 2008) and Corrected Decision on Neighbors' Motion for Summary Judgment (filed Jan. 18, 2009). We refer the reader to those decisions for our legal determinations as to permissive and regulatory language in the Town Plan, and the role of Zoning Regulations in deciphering an ambiguous Town Plan provision. That reference allows us to avoid repeating that analysis in this Decision.

Much discussion was had, both before and during trial, as to whether the Rivers quarry conflicts with the steep slopes provisions in the Town Plan. Our analysis is made more difficult here because the Plan contains conflicting provisions. Compare the references in our Findings to Chapters 4 and 7, above. However, we conclude that the Rivers quarry does not conflict with the applicable Town Plan provisions regarding steep slopes, since the Chapter 4 provisions help clarify that it is "large areas" of steep slopes that the Plan provisions express concern about, not the undulating topography that is evident on the Rivers site.

There is no dispute that the Rivers site rises in elevation from its access on Route 100B. Other than the plateau area, near where the detention pond will be situated, there are few examples of level ground on the site. But the terrain is undulating, especially where rock exposes itself from the ground. We received no evidence that the land rises steeply and consistently in large areas. Our two site visits helped provide context to this and other evidence.

Further, Rivers has provided sufficient planning and secured coverage under the MSGP, so as to receive positive findings in this proceeding as to stormwater and soil erosion. These are the very concerns which the "Steep Slopes" subsection of Chapter 4 lists as concerns. We are unconvinced that a quarry such as the one Rivers proposes here is the type of "development" on large areas of steep slopes that the Plan sought to protect against. We find no conflict in the Rivers quarry with these provisions.

More troubling are the conflicts the Rivers quarry presents in regards to the Plan provisions concerning the importance of the scenic features of the area, and the need for earth extraction projects to respect those scenic resources and the safe use and enjoyment of neighboring properties. Our analysis is more detailed on these topics in connection with similar provisions in Zoning Regulations §§ 3.5, 4.10, and 5.2. For those same reasons, we conclude that the Rivers quarry, as proposed, is in conflict with the scenic features of the Route 100B/Mad River corridor and the use and enjoyment of neighboring properties. Since both provisions are given specific expression in the Town Plan, we conclude that the quarry is in conflict with the Plan.

Conclusion

For all the reasons stated in more detail above, we conclude that the quarry proposed by Rivers Development, LLC is in conflict with Act 250 criterion 8, 9(E), and 10, as well as the applicable provisions contained in the Moretown Zoning Regulations §§ 3.5, 4.10, and 5.2. Due to these nonconformities, we hereby **DENY** Rivers' pending applications for an Act 250 state land use permit and a municipal conditional use permit.

This concludes the current proceedings before this Court. A Judgment Order accompanies this Decision.

Done at Newfane, Vermont, this 25th day of March, 2010.

_____

Thomas S. Durkin, Environmental Judge

Below reflects the party status determinations from the Environmental Court following Appellant's Request for Dismissal, Parties' Responses and the Court's July 3, 2007 ruling and subsequent Notices of Appearances.

Party Name	Status on Docket 68-3-07 (Act 250 Appeal)	Represented by in Docket 68-3-07 (Act250 Appeal)	Status / Representation in Docket 7-1-05 (DRB Appeal)	Status / Representation in Docket 183-8-07 (UIC Appeal)	Status / Representation in Docket 248-11-07 (IDP Appeal)
Rivers Development LLC PO Box 555 Waitsfield, VT 05673	**Appellant under Criteria:** 1(air), 1(B), 3, 5, 8 and 10 (Town Plan)	James A Caffry, Esq. Christopher Nordle, Esq. Darby Stearns Thorndike Kolter & Ware 89 South Main Street Waterbury, VT 05676	**Appellant** James A Caffry, Esq. Christopher Nordle, Esq.	**Interested Party** James A Caffry, Esq. Christopher Nordle, Esq.	**Appellant** James A Caffry, Esq. Christopher Nordle, Esq.
Town of Moretown Select Board Planning Commission School Board	**Cross-Appellant under Criteria:** 5, 6, 7, 8 and 9. **As to other Criteria on appeal—** Statutory Party (Selectboard and PC); Party (School Board)	Ronald A. Shems, Esq Geoffrey H Hand, Esq Shems Dunkiel Kassel & Saunders 91 College Street Burlington, VT. 05401	**Appellee/Cross-Appellant** Ronald A. Shems, Esq Geoffrey H Hand, Esq	**Entry of Appearance** Ronald A. Shems, Esq Geoffrey H Hand, Esq	**Entry of Appearance** Ronald A. Shems, Esq Geoffrey H Hand, Esq
Vermont Agency of Natural Resources 103 South Main Street, Center Building Waterbury. VT 05671	**Statutory Party**	Aaron Adler Deputy General Counsel Vermont Agency of Natural Resources 103 South Main Street, Center Building Waterbury. VT 05671		**Intervenor/Interested Person** Aaron Adler Deputy General Counsel	**Intervenor/Interested Person** Aaron Adler Deputy General Counsel
Thomas Allen 2444 Route 100B Moretown, VT 05660	**Cross-Appellant under Criteria:** 5, 8, and 10(Town Plan).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602			
Jack Byrne and Virginia Farley 173 Old Route 100 Moretown, VT 05660	**Cross-Appellants under Criteria:** 1(Air), 1(B), 1(E), 3, 4, 5, 8, 9(E), 9(K), and 10(Town ~~and Regional Plans~~). 150.	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	**Cross-Appellant** David Grayck, Esq. Zachary K Griefen, Esq.	**Appellant** David Grayck, Esq. Zachary K Griefen, Esq.	**Entered Appearance pursuant to V.R.E.C.P. 5(c)** David Grayck, Esq. Zachary K Griefen, Esq.

Below reflects the party status determinations from the Environmental Court following Appellant's Request for Dismissal, Parties' Responses and the Court's July 3, 2007 ruling and subsequent Notices of Appearances.

Party Name	Status on Docket 68-3-07 (Act 250 Appeal)	Represented by in Docket 68-3-07 (Act250 Appeal)	Status / Representation in Docket 7-1-05 (DRB Appeal)	Status / Representation in Docket 183-8-07 (UIC Appeal)	Status / Representation in Docket 248-11-07 (IDP Appeal)
Robert Dansker 420 Stevens Brook Road Waterbury, VT 05676	**Cross-Appellant under Criteria:** 1(Air), 5, 8, 9(E), and 10(Town Plan).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	**Cross-Appellant** David Grayck, Esq. Zachary K Griefen, Esq.		
Douglas and Cindy Hall 335 Honan Road Moretown, VT 05660	**Cross-Appellants under Criteria:** 1(Air), 8, and 10(Town Plan).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	Member of the Common Road Group (see groups listed below).		
Life Estate of June Holden (Pam, Tracey, Holly) 3981 Route 100B Moretown, VT 05660	**Cross-Appellants under Criteria:** 1(Air), 1(B), 3, 4, 5, 8, 8(A), and 9(E).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	**Cross-Appellant** David Grayck, Esq. Zachary K Griefen, Esq.	**Appellant** David Grayck, Esq. Zachary K Griefen, Esq.	**Entered Appearance pursuant to V.R.E.C.P. 5(c)** David Grayck, Esq. Zachary K Griefen, Esq.
Rick Hungerford PO Box 564 Moretown, VT 05660	**Cross-Appellant under Criteria:** 5 and 8.	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	Member of tThe North End Group (see groups listed below).		
Rita LaRocca 2956 Moretown Common Road Moretown, VT 05660	**Cross-Appellant under Criteria:** 8 and 10(Town Plan).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	Member of the Common Road Group (see groups listed below)		

Below reflects the party status determinations from the Environmental Court following Appellant's Request for Dismissal, Parties' Responses and the Court's July 3, 2007 ruling and subsequent Notices of Appearances.

Party Name	Status on Docket 68-3-07 (Act 250 Appeal)	Represented by in Docket 68-3-07 (Act250 Appeal)	Status / Representation in Docket 7-1-05 (DRB Appeal)	Status / Representation in Docket 183-8-07 (UIC Appeal)	Status / Representation in Docket 248-11-07 (IDP Appeal)
Robert and Beverly McMullin 170 Old Route 100 Moretown, VT 05660	**Cross-Appellants under Criteria:** 1(Air), 1(B), 1(E), 3, 4, 5, 8, 9(E), and 10 (Town Plan).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	**Cross-Appellant** David Grayck, Esq. Zachary K Griefen, Esq.	**Appellant** David Grayck, Esq. Zachary K Griefen, Esq.	**Entered Appearance pursuant to V.R.E.C.P. 5(c)** David Grayck, Esq. Zachary K Griefen, Esq.
John and Sandy (Elizabeth) Porter 537 Old Route 100 Moretown, VT 05660	**Cross-Appellants under Criteria:** 1(Air), 3, 4, 8, 9(E), and 10 (Town Plan).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	**Cross-Appellant** David Grayck, Esq. Zachary K Griefen, Esq. 05602	**Appellant** David Grayck, Esq. Zachary K Griefen, Esq.	**Entered Appearance pursuant to V.R.E.C.P. 5(c)** David Grayck, Esq. Zachary K Griefen, Esq.
Scott and Patricia Sainsbury 75 Bridge Road Moretown, 05660	**Cross-Appellants under Criteria:** 1(Air), 5, 8, 9(E), and 10 (Town and Regional Plans).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	**Cross-Appellant** David Grayck, Esq. Zachary K Griefen, Esq.		
Benjamin and Denise Sanders 3549 Route 100B Moretown, VT 05660	**Cross-Appellants under Criteria:** 1(Air), 1(B), 1(E), 1(F), 2, 3, 4, 5, 8, 8A), 9(E), and 10(Town Plan).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	**Cross-Appellant** David Grayck, Esq. Zachary K Griefen, Esq.	**Appellant** David Grayck, Esq. Zachary K Griefen, Esq.	**Entered Appearance pursuant to V.R.E.C.P. 5(c)** David Grayck, Esq. Zachary K Griefen, Esq.
Karen Sharpwolf 247 Honan Road Moretown, VT 05660	**Cross-Appellant under Criteria:** 1(Air), 8, and 9(E).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	Common Road Group (see below)		

Below reflects the party status determinations from the Environmental Court following Appellant's Request for Dismissal, Parties' Responses and the Court's July 3, 2007 ruling and subsequent Notices of Appearances.

Party Name	Status on Docket 68-3-07 (Act 250 Appeal)	Represented by in Docket 68-3-07 (Act250 Appeal)	Status / Representation in Docket 7-1-05 (DRB Appeal)	Status / Representation in Docket 183-8-07 (UIC Appeal)	Status / Representation in Docket 248-11-07 (IDP Appeal)
Marten and Ruth Van Heuven 731 Farnham Road Moretown, VT 05660	**Cross-Appellants under Criteria:** 8 and 10(Town Plan).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602	Member of the Common Road Group (see groups listed below)		
Wichard and Constance Van Heuven 3452 Moretown Common Road Moretown, VT 05660	**Cross-Appellants under Criteria:** 8 and 10(Town Plan).	David Grayck, Esq. Zachary K Griefen, Esq. Cheney, Brock & Saudek 159 State Street Montpelier, VT 05602			
Arthur and Linda Hendrickson 495 Old Route 100 Moretown, VT 05660	**Cross-Appellants under Criteria:** 1(Air), 1(B)(runoff), 1(D), 1(E), 3, 5, 8, 9(E), and 10(Town ~~and Regional Plans~~). 150.	Arthur and Linda Hendrickson 495 Old Route 100 Moretown, VT 05660	**Cross-Appellant** Arthur and Linda Hendrickson 495 Old Route 100 Moretown, VT 05660	**Appellant** David Grayck, Esq. Zachary K Griefen, Esq.	**Entered Appearance pursuant to V.R.E.C.P. 5(c)** David Grayck, Esq. Zachary K Griefen, Esq.
~~Catherine Jonas and John Gallagher~~	**Cross-Appellant sunder Criteria:** 8 and 10(Town Plan).	**Cross-Appellant** ~~Catherine Jonas and John Gallagher~~ 2987 Moretown Common Road Moretown VT 05660	Member of the Common Road Group (see groups listed below)		
Patrick Quimby			**Cross-Appellant** Patrick Quimby P.O. Box 1333 Waitsfield, VT 05683-1333		
Edith Tracy Drury and Ray Holland			**Cross-Appellant** Edith Tracy Drury and Ray Holland 3432 Cobb Hill Road Moretown, VT. 05660		

Below reflects the party status determinations from the Environmental Court following Appellant's Request for Dismissal, Parties' Responses and the Court's July 3, 2007 ruling and subsequent Notices of Appearances.

Party Name	Status on Docket 68-3-07 (Act 250 Appeal)	Represented by in Docket 68-3-07 (Act250 Appeal)	Status / Representation in Docket 7-1-05 (DRB Appeal)	Status / Representation in Docket 183-8-07 (UIC Appeal)	Status / Representation in Docket 248-11-07 (IDP Appeal)
Sharon Cote and Roger Quirion			**Cross-Appellant** Sharon Cote and Roger Quirion 3152 Cobb Hill Road Moretown, VT 05660		
Patricia LaBarge and Mark Pfister			**Cross-Appellant** Patricia LaBarge and Mark Pfister 3148 Cobb Hill Road Moretown, VT. 05660		
Barbara and Donald Buska			**Cross-Appellant** Barbara and Donald Buska Route 100B/Stevens Brook Road Moretown, VT 05660		
Laura Grala and William Brobeil			**Cross-Appellant** Laura Grala and William Brobeil 104 Stevens Brook Road Moretown, VT 05660		
Jacqueline Sainsbury	(Jacqueline Sainsbury remains a party ISO.		**Petitioner to Intervene** Jacqueline Sainsbury 75 Bridge Road Moretown, 05660		
Bikers/Walkers Safety 100B Group			**Cross-Appellant** Bikers/Walkers Safety 100B Group Lise Wexler 609 Dickerson Road Moretown, VT 05660		

Below reflects the party status determinations from the Environmental Court following Appellant's Request for Dismissal, Parties' Responses and the Court's July 3, 2007 ruling and subsequent Notices of Appearances.

Party Name	Status on Docket 68-3-07 (Act 250 Appeal)	Represented by in Docket 68-3-07 (Act250 Appeal)	Status / Representation in Docket 7-1-05 (DRB Appeal)	Status / Representation in Docket 183-8-07 (UIC Appeal)	Status / Representation in Docket 248-11-07 (IDP Appeal)
Common Road Area Group Catherine Jones			**Cross-Appellant** Common Road Area Group Rita LaRocca 2956 Moretown Common Rd Moretown, VT 05660		
Moretown Village Action Association Dennis Fekert			**Cross-Appellant** Moretown Village Action Association Frank Piazza PO Box 525 Moretown, VT 05660		
The North End Group			**Cross-Appellant** The North End Group Rick Hungerford PO Box 564 Moretown, VT 05660		