

Permitting & Environmental Science for
Heavy Civil Construction

April 21, 2023

PR & R Development, LLC
Observatory Road
Hinesburg, VT 05461
c/o Jason Barnard of Barnard and Gervais, LLC
via email to: jason@barnardandgervais.com

**Re: Sketch Plan Conditional Approval Order 3.h
8-lot PUD on Tax Map Parcel Number: 09-01-69.100**

Jason-

You asked for feedback on the revised site plan - dated January 24, 2023 – developed by Barnard and Gervais for PR & R's major subdivision off Observatory Road on the Hinesburg parcel referenced above. The request relates to the town's Subdivision Rules that protect natural and cultural features, Sections 5.1.2 and 5.1.3. The Hinesburg Development Review Board (DRB) gave conditional approval of this site plan pending a list of orders, one of which (Conditional Order 3.h) specifically asks that a qualified professional assess the width of the proposed wildlife migratory corridor.

I have worked as a professional ecologist for approximately 25 years in 7 states for various federal agencies, consulting companies, and research organizations. I earned a bachelor's degree in biology from the University of Montana and a master's degree in environmental science from the University of Maine. I completed an amphibian breeding survey, a wetlands delineation, and toured VT DEC regulatory staff around this Hinesburg parcel in the spring of 2022.

Within the last 5 years I have helped develop wildlife crossing enhancements on large transportation projects built for the VT Agency of Transportation. I am familiar with solutions to accommodate migrating wildlife at roadway crossings. I know of no standards or specifications available to help designers size and locate migratory corridors through residential subdivisions in New England.

In researching the topic for this response, I found one state agency that concluded a 50-foot wide migratory corridor was the functional minimum to maintain habitat connectivity in

temperate forests. Another found that a 2500-foot wide corridor is best to maintain long-distance seasonal migration patterns between distant habitat reserves. Also, an adequate width is site-specific, depending on the mobility and habitat requirements of the target species, the surrounding ecosystem and land-uses, and the physical characteristics of the land designated to be the corridor. Useful guidance for this situation common among the references I reviewed is that migratory corridors function best when they incorporate the following elements:

- a visual buffer from human activity,
- an established and self-sustaining native plant community,
- multiple height vegetative cover types, and
- topographic variability

To summarize, wider corridors will better accommodate the migration of wildlife species that have a lower tolerance for human activity by allowing a greater separation distance. Wider corridors are more important where the migratory route is long and passes through land uses significantly different from the condition of the habitat areas being linked. A corridor that contains varied landforms and structurally diverse plant communities will provide more cover opportunities than a more homogeneous corridor of the same width and can therefore better accommodate the varied cover requirements of more wildlife species.

In the case of the subject parcel, known locally as the Goodrich property, the land proposed for the migratory corridor has been undisturbed for some time and includes all the beneficial elements listed above. It is relatively short and the proposed rural residential housing adjacent to the corridor would be consistent with all other adjacent parcels along North Road. The clearing required to maintain the proposed lot 8 leach field would still allow an undisturbed migratory corridor of 100-feet along the northern property line. In addition, locating the corridor on the northern edge of the property both directs wildlife away from the core of the proposed development and aligns well with the mapped 'Wildlife Linkages' shown on the 'Goodrich Property Wildlife Habitat' map, dated 12/10/2015 from Hinesburg Planning & Zoning.

Common Vermont wildlife species that are tolerant of human activity like white-tail deer, fox, coyote, and wild turkey should quickly adapt to the proposed condition and the development would not be a migratory barrier. Some species that are shier of humans, like bobcat and fisher, may be reluctant to migrate through the parcel under the proposed condition initially. I expect they will adapt, and the development would not be a long-term migratory barrier. Shifting the building envelopes of the two northernmost lots to the south and away from the designated migratory corridor as much as is feasible would help retain the permeability of the property for bobcat and fisher by increasing the available separation distance from human activity.

It is important to note that in its current undeveloped state the former Goodrich property provides ample wildlife habitat and an east-west migratory corridor. Without question, the parcel's fragmentation from developing house lots will reduce the quality and quantity of habitat available for wildlife refuge on the parcel. That is not the question posed by the DRB. The DRB wants to ensure that the proposed migratory corridor is adequate to allow continued wildlife movement through the parcel under proposed final conditions. The corridor and upland refuge habitat proposed by PR & R would not conserve a comparable amount of area for migrating wildlife relative to the existing conditions. These features would, however, retain an unobstructed and intact swath of the native ecosystem that should be self-sustaining and able to maintain a functional migratory connection between large habitat blocks found east and west of the parcel.

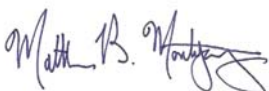
If maintaining a greater amount of habitat and ecological connectivity at the site is a priority for the DRB, versus maintaining a functional migratory corridor that provides relatively little habitat, perhaps PR & R could sell the development rights for the northern 2 lots to the town. These lots, lots 7 and 8, border the proposed wildlife corridor on its southern boundary and if left undeveloped the effective width of the corridor would more than double to approximately 225 feet. **Even if the project is constructed as shown I expect that the current volume of vehicle traffic on VT Route 116 is a much more significant east-west migratory barrier to vulnerable wildlife populations than this proposed development.**

In summary, the mature native plant community and topographic variability in the corridor proposed by PR & R will provide a self-sustaining ecosystem and abundant opportunities for wildlife cover. The development plan would result in a final condition of the land adjacent to the corridor that is very similar to all the surrounding parcels and retains some of the physical characteristics of the native ecosystem retained within the migratory corridor. As long as deed language and some form of permanent field demarcation are in place to prevent future encroachments into the conserved areas, **I expect that a 100-foot-wide migratory corridor will be sufficient to accommodate the continued movement of nearly all wildlife species through the property.**

Thank you for the opportunity to work with you on this project. If I can be of additional assistance don't hesitate to ask. I can be reached at 802-363-6288 if you or the town have any questions.

Best,

VT Compliance Monitoring, LLC



Matt Montgomery

Ecologist and Wetland Scientist