

December 23, 2020

Conservation Commission  
8 Newmarket Road  
Durham, NH 03824

RE: *Conditional Use Permit review for Wetland Conservation and Shoreland Protection Overlay Districts related to proposal for Colonial Durham Associates' Mill Plaza under Planning Board Site Plan review*

*Topics in this letter: (1) The bigger picture  
(2) Buffer: Goals, rationale, maintenance  
(3) Stream improvements*

Greetings,

After watching the Conservation Commission's December 9th meeting, I'd like to share some observations and suggestions.

**Top line:**

- By all means comment on shared responsibilities of various property owners abutting College Brook, but focus on your sphere of influence: "Think global, act local."
- Provide the Planning Board with explicit, scientifically-based rationale for your buffer recommendations (location, width, quality, maintenance).
- Urge the Planning Board to require the applicant to contribute to stream restoration.

**The bigger picture**

First, to address concerns, raised during your last meeting, relative to how this proposal fits into the "bigger picture:" The Mill Plaza parcel does represent only a portion of the upstream properties that contribute to the health or degradation of the College Brook. But as part of a subwatershed of the Oyster River, College Brook as an entirety contributes to the Mill Pond, Oyster River, and Great Bay.

The "Mill Pond Nutrient Control Measures Final Report," prepared for the Town of Durham by Waterstone Engineering, and dated November 30, 2018, ties the health of College Brook to EPA stormwater permitting requirements:

The goal of the Mill Pond Nutrient Control study was to identify restorative actions that will be effective within the life expectancy of the dam and at the same time help address declining water quality in Mill Pond and NPDES permitting requirements. Aspects of this study are intended to be consistent (in part) with the 2017 MS4 permit. (Executive Summary, page 1)

Transformational change often occurs as the accumulation of small steps over time. To the extent that you can prompt any meaningful change from the status quo, it will also benefit the Mill Pond and the Oyster River watershed. That is not insignificant. So why not take what steps we can and ask a known contributing party to share responsibility?

Second, the Commission may make recommendations that have the effect of setting an example for other parcels under Durham's purview and for locations under the purview of our regional partners. Please note that UNH has been at work over the past several years to address some of its impacts on College Brook through its "Ravine Action Plan." I believe Joshua Meyrowitz may address this in more detail. That UNH has done so should also prompt the Town and private developers in our community to pitch in.

Third, while the task before you is to come up with advice for the Planning Board specific to the Conditional Use Permit applications regarding wetland and shoreland protection, your larger mandate is to protect the natural resources of Durham. Nothing precludes your commenting to the Board—whether within that advisory or separately, whether simultaneously or at another time—on other concerning elements of this or any other development proposal or proposed zoning amendment. The Commission can contribute expertise to the conversation about land use and perhaps even reframe it.

### **Buffer: Goals, rationale, maintenance**

Given the length and nature of your December 9 discussion, I may have missed your addressing these topics explicitly, and if so, I apologize but I hope you will cover the below two topics in your Planning Board advisory regarding the setbacks.

#### **One: What are the Commission's goals—and rationale—for the buffer?**

- Function? (The target width should be derived from desired ecological functions and expert evidence, given site constraints.)
- What values would enhanced College Brook buffers bring to the community? (Making these explicit should highlight ecosystem services and the broader impact of a tributary on larger waterbodies.)

**Subject matter expertise** could help persuade the Board and provide guidance on which it may base both deliberations and potential Conditions of Approval accompanying the Notice of Decision. (The Conditions is where enforceable requirements that lie outside site plan and zoning may be laid out, particularly for Conditional Use Permits.)

One source of expertise is the **Buffer Options for the Bay** consortium, an "informational resource intended to support policy and land use decisions in New Hampshire's Great Bay region that involve buffers, defined for this project as the naturally vegetated stretches of land directly upslope of a water resource, such as a lake, stream, river, pond, estuary, or wetland." I recommend checking out the BOB website in advance of drafting your advisory: <<https://www.bufferoptionsnh.org>>.

**Functions**—Categories of functions and benefits of buffers listed by Buffers Options for the Bay include:

- water quality—reduces inputs of excess nutrients and contaminants, mediates sediment, influences water temperature, provides organic inputs into aquatic systems
- hydrologic effects—provides flood storage capacity, reduces run-off and stabilizes the channel bank, infiltrates surface water....
- habitat for biodiversity

**Widths**—The effectiveness of a buffer in part depends on its quality and in part on its width. In its “Buffer Basics,” Buffer Options for the Bay notes:

“As a result of the limited data on narrower buffers, BOB’s coastal science literature review puts forward the following minimum buffer width recommendations based on what is necessary for buffers to support a particular benefit, with the caveat that we do not always fully understand how well narrower buffers may function. We also must acknowledge that variable width buffers can provide an important tool for meeting an ecosystem service target where it is infeasible to maintain or restore a fixed width buffer as a result of adjacent land use, site and stream conditions, and other factors.”

Please see the website for a complete list, but the table below lists a few:

<i>[SAMPLE / EXCERPTS]</i> <b>Buffer Function / Benefit</b>	<b>Recommended Minimum Width</b>
Influence water temperature	30 feet
Provides organic inputs into aquatic systems	50 feet
Remove pollutants	98 feet
Provide habitat for aquatic macroinvertebrates	98 feet
Reduce runoff & stabilize channel bank	164 feet
Provide habitat for terrestrial wildlife	330 feet
Provide habitat for aquatic macroinvertebrates	98 feet

## **Two: Maintenance considerations, e.g., fertilizer, snow removal, and salt use**

Prohibited uses for the Shoreland Protection and Wetland Conservation Overlay Districts are clearly spelled out in the zoning ordinance, including the use of fertilizer and herbicides. But runoff from impervious surfaces recognizes no boundary lines and will eventually end up in the brook. Thus, all pollutants/contaminants must be regulated **for the entire parking lot**, not just areas of the parcel that fall within the setbacks.

I hope that you will include in your buffer recommendations a request for **monitoring and enforcement**. Again, from Buffer Options for the Bay:

How are buffer regulations enforced?

...Often, however, infractions are minor enough to go unnoticed or they do not fall under NHDES jurisdiction. This can lead to a “death by a million small cuts” scenario. While municipal code enforcement officers can access private land, they often don’t. BOB’s community assessment of community perspectives in the Exeter-Squamscott subwatershed underscored challenges to enforcement, including insufficient capacity, conflicting priorities, the logistical difficulties of implementing and monitoring no clearing and fertilizer ordinances, and the lack of a clear rationale for the regulations.

The Planning Board has briefly discussed, with the cooperation of Tighe & Bond, requiring **no snow storage** on the edge of College Brook. I have shared with the Planning Board my conversation with Ted Diers, Watershed Management Bureau Administrator at NHDES:

“With climate change we will see more storms that will be right at the ice-rain edge, whereas in the past, we had more storms that were pure snow. As we see more ice than snow, we will be using more salt. Freezing rain, with storms at that transition temperature of 30 to 34 degrees, washes salt off, so it must be reapplied.”

[conversation February 27, 2020; not verbatim]

...and urged that the Board require that any snow removal vendor be certified under NHDES Green SnoPro program. (“Commercial Salt Applicators certified by NHDES Green SnowPro under RSA 489-C, and property owners or managers who hire them, are granted limited liability protection against damages arising from snow and ice conditions under RSA 508:22.”)

I hope you will include a similar recommendation in your advisory.

### **Three: Stream improvements**

It was heartening to read Dr. Tom Ballestero’s “Recommendations for Stream Improvements to College Brook” and hear his comments at an earlier Conservation Commission meeting. But I would remind the Commission that Colonial Durham Associates has not submitted a “stream improvement plan,” per se.

The Commission may recommend, but only the Planning Board has authority to require, a stream improvement or restoration plan, likely based on partnerships.

Yes, proposing stream restoration takes you beyond your primary task, but I suggest that the Commission make such a recommendation and include a request for **restoration monitoring**, such as per Buffer Options for the Bay:

Another important lesson regarding buffer restoration is the need to employ an adaptive management approach. Using this approach, each restoration is considered an experiment, and monitoring is conducted post-restoration to determine how and where certain restoration approaches are effective. This monitoring is vital, given that there will inherently be spatial and temporal variability among each restoration project that may affect its outcome relative to other projects. Employing adaptive management enables managers to implement improved and tailored restoration methods going forward.

Thank you for taking my comments into consideration.

Sincerely yours,

Robin