

To: Durham Planning Board / From: Joshua Meyrowitz, 7 Chesley Dr / Aug 9, 2022

**Links to, and excerpts from, sample citizen input to the Planning Board on Environmental Impacts of the Church Hill Woods Parking Proposal**

*See full letters for fuller statements and original formatting*

**Nancy Lambert, 17 Faculty Rd. Durham, NH**

*High water floods our neighborhood trail that leads to the Mill Plaza, erodes the stream banks and impacts shoreland habitat. High water also flushes more pollutants and soil into the Brook. This parking lot proposal before you, if realized, will replace a forested hillside in the College Brook watershed with impervious asphalt and concrete and the subsequent impact to water quality and quantity will clearly and inevitably be another blow to College Brook. There is not an engineering solution that will be as effective as the trees on this lot in protecting the brook.*

*The impacts will be felt beyond College Brook to the Mill Pond, the Oyster River and Great Bay. The Towns' Master Plan summarizes well the problem before us: "Surface water, stormwater, and wastewater within the Great Bay watershed flow into the bay and thus directly impact the water quality of the estuary and its tributaries. Over the last decades, the increase in impervious surfaces due to development has contributed to water quality degradation in Great Bay. Both public and private actions are needed to reduce pollution entering the bay and to support the health of valuable aquatic and shoreland wildlife habitat." To this I would simply add that it is difficult to see how the proposed parking lot supports these values articulated in the Master Plan, and I question how the replacement of forest with asphalt could possibly not exacerbate the water quality problem in the already-compromised College Brook and Great Bay watersheds. It seems to me that the area of impervious surface introduced by a 185-space parking lot would certainly have an adverse impact and therefore does not meet the conditional use requirements.*

*I can't help but think that we all feel a loss when a forest becomes a parking lot. As our planet faces existential threats because of so many human decisions both big and small, it is hard to imagine that converting one of the remaining patches of forest downtown into a parking lot will make this a better community. It seems like the kind of decision we made before we knew better, but now we know better. Now we know that these sorts of seemingly small-scale decisions are contributing to an increasingly impaired Great Bay and increasingly uninhabitable planet, I ask you why would we keep making that kind of decision? Thank you. — [Nancy Lambert 12-10-20](#)*

**Susan Richman, 16 Cowell Dr, Durham, NH**

*Furthermore, run-off from this parking mound would end up in College Brook, and ultimately in our Great Bay watershed. Our Master Plan warns that "the Zoning Board of Adjustment, Planning Board, and the general public... [need to be aware] of the cumulative, negative impact of variances, special exceptions, and waivers on the Great Bay Estuary and its tributaries." NR-30*

— [Susan Richman 1-13-21](#)

### **John Hart, 13 Mill Rd, Durham, NH**

*The proposal would destroy a healthy young mixed hardwood forest in central Durham with attendant ecosystem services such as carbon capture, oxygen release, water percolation and groundwater recharge, reduced runoff and low pollutant load to College Brook, and healthy habitat for fauna and microfauna (see letters of scientists Dr. Richard Hallett 12/9/20, John Parry 12/10/20).*

*This healthy ecosystem would be replaced with impervious surface with attendant high runoff, increased pollutant load, all headed to College Brook, along with much reduced (toward zero) ecosystem services.... — [John Hart 1-13-21](#)*

### **Robin Mower, 6 Britton Lane, Durham, NH**

**— Hydrological Impacts : Vegetation (Or, There Goes The Buffer)....**

*The following impacts will be serious, even apart from construction-related loss and damage, and even given the construction protections in our site plan regulations:*

- *removal of trees, which transpire water and shade each other*
- *alteration of slope*
- *replacement of water-retentive and filtering soils with heat-retentive hardscape*
- *stress on remaining trees from higher nighttime (as well as daytime) temperatures associated with the heat island of the parking lot, making it harder for them to minimize moisture loss*
- *thermal impact of runoff: water temperature flowing off an unshaded parking lot will be higher than water filtering through undeveloped soils, particularly shaded wooded areas; what impact would that have on the buffer vegetation, let alone the temperature of water in College Brook, and thence, in Mill Pond? — [Robin Mower 8-6-21](#)*

### **Friday Updates quote in submission from Suzy Loder, 14 Stone Quarry Dr, Durham, NH**

*This summer, a Community-Wide Greenhouse Gas Inventory was completed through the joint efforts of UNH Sustainability Fellows Emily Mello and Cathy Fletcher. This inventory measured greenhouse gas emissions and removals occurring within Durham. Results from this inventory found that the largest sources of greenhouse gas emissions came from transportation (47%) and the built environment (45%), and the largest sources of greenhouse gas removals came from forests and reforestation (80%) and trees outside forests maintaining or gaining their canopy (20%). This inventory also found that carbon dioxide removals from Durham's forests and trees are equivalent to approximately 34% of*

Durham's emissions. This inventory will be used to develop emissions reduction targets and strategies in Durham. <https://www.ci.durham.nh.us/fridayupdate/friday-updates-september-24-2021> — [Suzy Loder 1-14-22](#)

**Kay Morgan, 16 Valentine Hill Rd, Durham, NH**

*The recent report by the Intergovernmental Panel on Climate Change (IPCC) that the planet is warming at a far faster rate than previously understood, brings into sharp focus the seriousness of the consideration which must occur when any development project makes significant changes to terrain and to vegetation as this proposed development does. Not only do you need to take a hard look at what is being destroyed, you must look at what is taking its place.*

*Anyone who walked the site on May 26th during an unusual heat wave for late May, could tell you that there was a marked change in temperature from the asphalt at the end of Chesley Drive and the temperature in the middle of the forest. These cooling islands must be saved, to help maintain the habitability of our towns and cities. Planting trees is one of the foremost ways to help heal the planet. Paving over a forest is one of the worst things to do at this important tipping point.*

— [Kay Morgan 8-17-21](#)

**Kay Morgan, 16 Valentine Hill Rd, Durham, NH**

*Over the years, we have witnessed the gradual death of Mill Pond as stormwater run-off, filled with sand and salt and pollutants from the Mill Plaza and the University parking lot across from the plaza, have drained into College Brook. The Town is now faced with restoration of the riverscape along the Oyster River after the Mill Pond dam is removed, and it seems to me that one of the key factors in that restoration has to involve improving water quality in the nearby watershed as well as farther afield. This proposed development will only exacerbate the degradation of the watershed at this critical moment.* — [Kay Morgan 3-18-22](#)

**Scot Calitri, 125 Longmarsh Rd, Durham, NH**

*College Brook is reportedly the most impaired Oyster River tributary. The Church Hill Woods are currently helping protect the estuary from further nutrient runoff, flood surge and act as thermal refuge. We need these critical functions to continue.* — [Scot Calitri 5-3-22](#)

**John Mince, 23 Faculty Road, Durham, NH**

*Elimination of an Urban Forest: We know that trees and forests act to take CO2 out of the atmosphere, and put Oxygen into it. In nearly every urban center there has been a dedicated effort by planners and builders to preserve urban forests in particular. Besides the forests carbon sequestering benefits, we know that forests help cool the environment. Yet, not only does this proposal do away with the urban forest, but it plans on replacing it with an impervious black parking surface. This creates an enormous heat sink. Anyone who has stepped barefoot onto a blacktop parking lot at the beach remembers the pain of that heat on their feet. If one had to try to*

*figure out how to draw and increase heat in one spot, it would be the black top parking surface.*

*This is not inconsequential. This is the obverse of all that we need to do with a world that is close to being in runaway overheating. No serious observer would doubt this now that the data has become so clear. — [John Mince 5-6-22](#)*

**Emily Malcolm-White, 5 Chesley Dr, Durham, NH**

*College Brook runs directly through my backyard. As a result, its health is of utmost importance to me.... Salt pollution (particularly chloride) will negatively impact aquatic life including crustaceans, amphibians, fish, plants, and other organisms. — [Emily Malcolm-White 6-1-22](#)*

**Eric Lund, 31 Faculty Rd, Durham, NH**

*Chloride is an ion that is generally dissolved in water. As such, stormwater treatment systems are not designed to remove chloride from runoff. Thus the intentional addition of chloride to the proposed parking surface as part of salt used to melt ice and snow will result in additional pollution to Chesley Marsh and College Brook, which are downstream of the site.... Thus the impact of the proposed development on chloride pollution of Chesley Marsh would be greater than the existing uses. Furthermore, salt is normally only required to treat driveways, walkways, and parking areas. In particular, no such treatment should be necessary for any building that might be built by right on the property (assuming that gutters are properly maintained) or on any landscaped areas adjacent to such a building. Therefore the impact of chloride from the proposed project would be greater than what would result from a by-right development on the site. The project therefore fails the external impact criterion for conditional use on this point, in addition to the other points that have been documented in previous projects. — [Eric Lund 6-2-22](#)*

**Robin Mower, 6 Britton Lane, Durham, NH**

**— Parking Lot Expanse: “Negative External Impacts” On College Brook —**

*Our Conditional Use Permit approval criteria require that **“the nature and intensity of the use, shall not have an adverse effect on the surrounding environment.”** The concerns addressed below relate specifically to the nature and intensity of the proposed use:*

- *Snow removal and de-icers / chloride (road salt): Even the proposed state-of-the-art Stormtech stormwater management system cannot mitigate salt.*
- *Additional and far-reaching environmental concerns; see attached National Science Foundation (NSF) article [“Winter road salt, fertilizers turning North American waterways increasingly saltier”](#) and below excerpt....*

## **Chloride and College Brook: already impaired, future chloride load may increase**

- *Parking lot snow management typically relies on chloride-based de-icers (“road salt”)*
- *Ted Diers, Administrator of the NHDES Watershed Management Bureau, expects that climate change will result in greater use of road salt. On February 27, 2020 he told me:*
  - *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.*
- *“Cl complexes—chloride based deicer usually combined with Na, Ca or Mg—found in road deicers can release heavy metals, affect soil permeability, impacts to drinking water, potential toxic effects to small streams” ([Impacts of Impervious Cover on Aquatic Systems](#), Center for Watershed Protection, March 2003) Also see, below, NSF on “cocktail of salts.”... — [Robin Mower 6-3-22](#)*

### **Beth Olshansky, 122 Packers Falls Rd, Durham, NH**

*In light of both current heat wave impacts and the ongoing global crisis, it seems ludicrous that the Durham Planning Board appears to be positioning itself on July 27 to approve an out-of-scale, out-of-compliance, heat-island-creating parking lot to replace a forested hillside that currently provides ecosystem services that help offset climate change, e.g., filtration of nitrogen, sequestration of carbon, and passive cooling. Additionally, a large parking lot built to provide rental spaces for UNH student cars in the heart of our compact downtown defies reason. In addition to being contrary to our Master Plan, it will add more greenhouse gases to our atmosphere and more congestion to our downtown. — [Beth Olshansky 7-25-22](#)*

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For expert input related to environmental impact of the Toomerfs’ parking lot proposal, please also give close attention to the urban-forest expert letters (both long-time employees of the USDA Forest Service): [John Parry 3-21-22](#) and [Richard Hallett 3-17-22](#) (with attached research articles), aquatic ecosystem ecologist expert input from [Wilfred Wollheim 7-7-22](#), Co-Director of UNH’s [Water Systems Analysis Group](#) (resubmitted on Professor Wollheim’s UNH letterhead with his vita and posted as: [William Wollheim 8-4-22](#)), and the letter from Professor William H. McDowell, Director of UNH’s [NH Water Resources Research Center](#), posted as: [Bill McDowell 8-8-22](#).

**See also:**

*“Please REMEMBER and take into account the input on ENVIRONMENTAL FISCAL IMPACT that you have already received about Toomerfs’ proposal and please acknowledge the expertise of the sources,” [Joshua Meyrowitz 7-27-22](#) (text, 6 pages) and*

*“Prof. Wilfred Wollheim’s professional expertise & input to the Planning Board on Church Hill parking plan,” [Joshua Meyrowitz 8-5-22](#) (text, 36 pages)*

Most of all, please remember and embrace the Planning Board’s *authority* to enforce the Zoning Ordinance and its *purpose*!

**THE DURHAM ZONING ORDINANCE**  
**AS ADOPTED BY THE DURHAM TOWN**  
**COUNCIL ON FEBRUARY 20, 2006**  
LAST AMENDED MAY 3, 2021  
**CHAPTER 175**  
**ZONING**

**PART A. ADMINISTRATIVE PROVISIONS**

**ARTICLE I**  
**GENERAL PROVISIONS**

**....175-3. Purpose.**

The provisions of this chapter are intended to regulate the use of land for the purpose of protecting the public health, safety, convenience and general welfare of the residents of the Town of Durham, in accordance with RSA 674:17. This chapter is adopted in accordance with and in order to implement the Master Plan and other policies designed to promote the orderly growth of the Town of Durham. **Among other purposes, this chapter is specifically adopted to preserve air and water quality; to conserve open space and agricultural resources; to encourage the installation and use of renewable energy systems and protect access to renewable energy sources; to protect natural and scenic resources from degradation; to provide for recreational needs; to protect life and property from flooding and other natural hazards; to preserve historic sites and structures; and to ensure that development is commensurate with the character and physical limitations of the land.** Further, this chapter is designed to ensure that the timing, location and nature of new development takes into account the immediate and long-range financial impacts of proposed uses and enhances the achievement of the town's economic development goals. (Emphasis added.)