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Colonial Durham Associates | Mill Plaza

# **Protect Trees During Construction**

Evidence shows that earlier projects have resulted in tree damage and loss. The Board can make sure things turn out better this time.

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For the Planning Board, Durham, NH  
February 1, 2022  
from Robin Mower

## Protecting Trees During Construction

# Pre-Construction Planning Must Be Required

**From:** John Parry  
**Sent:** Monday, June 14, 2021 1:13 PM  
**To:** <rreine@ci.durham.nh.us>  
**Cc:** <mbehrendt@ci.durham.nh.us>; <tselig@ci.durham.nh.us>  
**Subject:** Tree Protection During Construction?

Hi Richard. We have not met yet, but I wanted to introduce myself. I work for the U.S. Forest Service here in Durham with our Urban Forestry program. Over the years I worked with the Town on various committees and projects, and have an interest in planting, care, conservation of trees in the community. If I can help you with community tree issues I would be glad to.

I do have a question for you – I see construction is starting on the vacant lot in Town, that will be converted to parking. It appears that some of the trees on that lot will be kept – that’s great. I am sure you are aware that a significant part of the root system needs to be protected/maintained to maintain tree health (a circle 1 foot in diameter per 1 inch of tree diameter is one common standard).

**Does the Town have a plan for tree protection on this parcel? Ideally fencing/barriers should be up or other techniques used, before construction starts.** [text continues in next column]

As we have seen with most construction in Town, unless tree protection is included in planning, and the trees protected with barriers, damage often occurs.

As an example, I was disappointed to see the tree decline on Rt. 108 in front of Riverwoods. The attached pictures show:

- 1) The area being graded about 2018/19 to install curb for the road. This occurred close to the trees and removed a significant portion of the root system. No tree protection.
- 2) The same area being prepped to grade again to install sidewalk. No tree protection.

One tree now needs removal, a couple show decline and will likely decline further over the next years.

It has been my experience that developers express good intentions in the pre-construction phase, but often do not follow through unless site regulations are enforced. There are a lot of resources available that share techniques to avoid this kind of damage and some simple steps could have been taken to reduce the impact to the trees here.

... [emphasis original; see photo on next page]

# Protecting Trees During Construction

## Critical Root Zone Damage on Rte 108



Photograph accompanying email from John Parry to Rich Reine shown on previous page



# Protecting Trees During Construction

## . . . and at RiverWoods: Trees May Die

Attached are pictures of trees at Riverwoods in the buffer area along Rt. 4. Construction (filling and grading) is occurring within what is typically considered the CRZ [critical root zone]. I think Durham mentions protection of trees in their site regs., but **I don't believe they define what the size of the CRZ should be.**

*[private email from John Parry, February 10, 2019. See photographs on the following pages.]*

Site Plan Regulations adopted on April 24, 2019 include sections on Protecting Trees During Construction that is missing for the Regulations applicable to the Mill Plaza Project. **The Board can require ALL of these these, including:**

3.6.4 No construction activity shall occur within the critical root zone to avoid soil compaction and damage to the tree. This includes: Vehicles and equipment traffic and parking, stock piling of any supplies, soil, stone or any building materials, changing the grade, changing the drainage. If the full CRZ area cannot be fenced the Planning Board may reduce the size of the area; however other measures (see appendix) should be required for protection of the tree and root system.

. . . and *Appendix A – Recommended Landscaping Measures* includes “Protection of Trees During Construction:”

### 3. Protection Techniques for Trees

. . . A general rule of thumb in the protection of open grown trees is to protect a circle called the critical root zone (CRZ) around the tree. The circle radius is equal to 1 foot per 1 inch of trunk diameter for tree species that are tolerant of construction impacts and 1.5 feet per 1 inch of trunk diameter for tree species that are in-tolerant. This is more critical with older trees, than young trees that recover more easily.





**RiverWoods  
Tree protection  
during  
Construction?**

**Critical root is  
zone damaged.  
How long will  
these trees  
survive?**

**Image #1**





**RiverWoods  
Tree protection  
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Construction?**

**Critical root is  
zone damaged.  
How long will  
these trees  
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**Image #2**





**RiverWoods  
Tree protection  
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**Critical root is  
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How long will  
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**Image #3**



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**Trees could die within 5 years\*—perhaps after Colonial Durham leaves town.**

**We must do better.**

**Add tree protection requirements — not just recommendations —  
in the Conditions of Approval, e.g., to “Notes on Plan.”**

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\*C. The following definitions apply to landscaping and buffering provisions including the provisions of the Wetlands Conservation Overlay and Shoreland Protection Overlay Districts:

DAMAGE – Includes any intentional or negligent act which will cause vegetation to decline and die within a period of five (5) years, including but not limited to such damage inflicted upon the root system by the operation of heavy machinery, the change of the natural grade above the root system or around the trunk of a tree and damages from injury or from fire inflicted on vegetation which results in or permits infection or pest infestation. [[Zoning Ordinance that Pertains to the Mill Plaza Project](#)]