

Citizen Comment for ZBA Meeting April 8, 2021

To: Members of the Zoning Board of Appeals

Elizabeth Akehurst-Moore, chair

CC: Elizabeth Hughes, Town Planner

Subject:

Symes Development & Permitting, LLC, for a Special Permit under Sections 7.5 and 11.6 of the Zoning Bylaw for the construction of a Definitive Subdivision requiring the removal of 60,690c.y. of earth at 146B & 1442 Main Street, 110 & 11B Highland Street (Parcels #2407, 2408, 2409, 2409-1).

Date: April 2, 2021

From: Ellen Quackenbush / 206 Prairie St / Concord MA

I strongly object to Symes Development's request for a Special Permit to remove 60,000 CY of soil under Section 7.5.3 and 11.6 of the Zoning Bylaw on the following grounds:

7.5.3: Removal of earth subject to board approval

The plans will be "detrimental to both the abutters and neighborhood...by the alteration of the existing topology."

The conditions to deny a special permit have been met based on the following sections of 7.5.3:

7.5.3.2: Changes in existing contours

The subdivision proposes to level the hill and clear-cut the trees that currently shield pedestrians, bikers and strollers along Main Street and create two serious negative impacts:

1. Dramatically changing the streetscape and village feeling of this section of Highland St and Main St
2. Removing an essential environmental buffer to the noise of trains passing along the elevated MBTA tracks at the rear of the property. This leveling of the existing contour will increase ambient noise

7.5.3.3: Alternation of existing topography

My comments to 7.5.3.2 apply to this section as well. Symes proposes to dramatically change the topography of the site, reducing the environmental and aesthetic value of the site to the West Concord community.

11.6: Special Permit Cost/Benefit Assessment

The plans should not be granted a special permit because the adverse effects of the plan greatly outweigh the beneficial impact to the public interest, town, and neighborhood.

Specifically:

11.6.1: Impacts on economic or community needs

The soil removal, and associated tree, stump, and shade removal have a significant negative impact on abutters and the overall West Concord neighborhood. Using data from Concord's TreeKeeper8 software, each tree removed costs the neighborhood/town \$109 (see Exhibit 1):

- \$46/tree/year in increased energy heating and cooling loads, based on the loss of shade that these trees would have provided
- \$44/tree/year in property value, based on the aesthetic value of mature trees
- \$18/tree/year in GHG, water usage and air quality

Using TreeKeeper8 data, a rough estimate of the economic impact to the neighborhood of the proposed Symes soil/tree removal is \$314,748/year, or \$3.1 million over ten years, a reasonable planning horizon.

Clearly, this project has significant negative economic impacts on the West Concord neighborhood.

11.6.4: Impacts on the neighborhood character

As stated in 7.5.3.2, the removal of a significant number of trees impacts the neighborhood character in three ways:

1. A starkly different streetscape to walkers, bikers and motorists traveling along Main Street, who will now have a clear, line-of-site view of the MBTA trains that pass on the top of the elevated rail bed at the rear of the property
2. An increase in noise from the MBTA trains traveling, at high speed, on an elevated bed with a dramatically reduced buffer from mature trees
3. Change the village feeling and character of this section of Highland St and Main St

11.6.5: Impacts on the natural environment

The removal of 60,000 CY of soil, and the associated clear-cutting of trees and removal of stumps will generate 7.8 million lbs. (3,924 Tons) of CO₂ emissions/year (see Exhibit 2). This increase in GHG (Green House Gas) emissions is detrimental to the natural environment and runs counter to Concord's Climate and Sustainability Plan. The town has made significant investment in reaching these GHG reduction goals.

The Symes development is asking for a ZBA special permit which will increase the cost—to the town—of reaching these climate goals.

The existing trees and vegetation absorb pollutants, cleaning the air in the neighborhood. The proposed clear-cutting will reduce the air quality, harming neighborhood families.

In summary, I believe that the Symes Development request for a special permit to remove over 60,000 CY of soil should be denied because the harm—economic, environmental, cultural—greatly outweigh any benefit to the town.

Exhibit 1: Economic loss from tree removal

TreeKeeper8	Trees inventoried	Economic Value	
		\$/year	\$/tree/ year
	23,782		
Green House Gases		\$21,000	\$1
Water		\$228,000	\$10
Energy		\$1,101,000	\$46
Air Quality		\$177,000	\$7
Property Value		\$1,058,000	\$44
Total		\$2,585,000	\$109
	SF	Trees	Trees/000 SF
Lot A	12,569	60	4.77
Lot B	11,450	184	16.07
LotC			
Lot D1	10,330		
Lot E			
Lot F			
Total	34,349		
Average	11,450		10.42
Development	347,300		3,620
% clear-cut			80%
Total removed			2,896
Economic value (\$/year)			\$314,748
10 year			\$3,147,477

Exhibit 1: Symes CO2 Emissions

Item	Unit	Value	Source
1. Soil moved offsite			
Soil Removed--mostly hill leveling	Cubic Yards (CY)	60,840	Symes Definitive Subdivision Plan
Weight	lbs/CY	2,200	Web search
			<u>USDA Forest Service / Northeast Region:</u> https://www.nrs.fs.fed.us/fmg/nfmg/bl_hardwood/eco/site/soils.html#:~:text=in%20the%20soil-,Soil%20organic%20matter,to%2060%20p
Soil Organic Matter (SOC)	% organic matter		
	Bottom land	2-5%	
	Upper Land	.4-1.5%	
	Assumption	2%	
			<u>Ecomatcher:</u> https://www.ecomatcher.com/how-to-calculate-co2-sequestration/
Carbon content in SOC	%	56%	
Carbon in Symes soil removal	lbs	1,499,098	
			<u>Ohio State University:</u> https://ohioline.osu.edu/factsheet/AEX-
Molecular ratio CO2/C	44/12	3.67	
	lbs	5,501,688	90.43
CO2 from soil moved offsite	Tons	2,751	
1. Soil disturbed by tree/stump removal			
Site Acreage		8	Symes Definitive Subdivision Plan
% site disturbed outside hill leveling		67%	estimate
SF/acre		43,560	
Depth of excavation to remove stump		3	estimate
Total cubic feet disturbed		700,445	
Cubic yard/cubic foot		27	
Soil disturbed	Cubic yards	25,942	
Co2 lbs / CY soil		90.43	see above
	lbs	2,345,971	
CO2 form tree/stump removal	Tons	1,173	
Total CO2	lbs	7,847,659	
	Tons	3,924	