



5 Railroad Street, Newmarket, NH 03857 • Ph 603-659-4979 • Fax 603-659-4627 • [www.horizonsengineering.com](http://www.horizonsengineering.com)

March 17, 2022

Michael Behrendt, Town Planner  
Town of Durham  
8 Newmarket Road  
Durham, NH 03824

**RE: Additional information per planning board meeting February 23, 2022 for 19 & 21 Main St.**

Dear Michael,

During discussions at the February 23 planning board hearing, the planning board members requested some additional information. The information requested is as follows:

1. Concern was raised with the proposed snow storage on the fill slope at the south end of the parking area.
2. The board members requested the actual fill quantity for the construction of the proposed parking lot. Confirm comparison to original design.
3. Request to provide information for the construction sequencing including truck traffic and timing.

Attached herewith are revised plan sheets C101 and L100. These two plans show the revisions to the proposed snow storage areas. Additional snow storage has been added on the northeast side of the parking lot and the westerly side as shown. With the addition of these two snow storage areas, up to approximately a 16" snowstorm can be stored on the site. The snow will be managed by plowing into temporary storage piles and then, cars in from of the snow storage areas will be notified to move at a certain time period for final snow removal into the storage areas. Any storms that are greater than 16" or consecutive storms that add additional snow that will not fit on the site will be removed off site.

The fill quantity has been provided in the attached spreadsheet. The quantities for the pavement and select materials (gravels) have been separated out as these materials would be required for any parking lot. The net quantity of fill minus the pavement, select materials and volume taken up by the stormwater system, is approximately 13,702 CY. This equates to 857 truck trips. The original quantity of fill for the first proposal with the retaining wall was approximately 18,525 CY. As stated, it is about a 26% reduction.

**Horizons Engineering, Inc.**

**MAINE • NEW HAMPSHIRE • VERMONT**

Also attached herewith are two preliminary construction sequencing plans that address the final question. To summarize, the project would be broken into two phases. Each phase would be completed between May 15 to August 15 in two consecutive years. Phase one would include construction of the new entrance, clearing, grubbing and preparing the area for fill and installation of the front drainage and the sewer. This phase may also include trucking in some of the fill material to begin the parking lot construction.

The second phase would be completing the fill, grading, drainage installation, paving, and all final completion of the construction. This approach separates the construction into two years, and it is completed at a time when the students are out of school for summer break. This will minimize disruption and traffic impacts due to construction.

If you need additional information or have questions or comments please feel free to contact me.

Sincerely,

A handwritten signature in cursive script, reading "Michael J. Sievert". The signature is written in black ink and is positioned below the word "Sincerely,".

Michael J. Sievert PE  
VP Structural Engineering

**Horizons Engineering, Inc.**

**MAINE • NEW HAMPSHIRE • VERMONT**

**Comparison of cull/fill for currently proposed- and previously proposed development plans**

Proj. number: 18-041

Created by: M. Schrader

Date issued: 2022-03-17

Checked by: M. Sievert

Site location: 19-21 Main Street, Durham NH

	2020-10-28 plan	2022-03-17 plan	
Area of pavement	50394 ft2	37533 ft2	
Depth of wearing course	1 in	1 in	
Depth of binding course	2 in	2 in	
Depth of crushed gravel (NHDOT 304.3)	6 in	6 in	
Depth of bank run gravel (NHDOT 304.2)	12 in	12 in	
Volume asphalt	12599 ft3	9384 ft3	
Volume crushed gravel (NHDOT 304.3)	25197 ft3	18767 ft3	
Volum bank run gravel (NHDOT 304.2)	50394 ft3	37533 ft3	
Volume asphalt	467 CY	348 CY	
Volume crushed gravel (NHDOT 304.3)	934 CY	696 CY	
Volum bank run gravel (NHDOT 304.2)	1867 CY	1391 CY	
Soil stripping (assume 6")	1115 CY	1027 CY	
<b>Overall net fill</b>	<b>21392 CY</b>	<b>15925 CY</b>	25.6% reduction
Pavement and select materials	1867 CY	1391 CY	
MC-3500 chambers	1000 CY	279 CY	
MC-3500 chamber stone		553 CY	
<b>Net fill - chambers and pavement mat.</b>	<b>18525 CY</b>	<b>13702 CY</b>	26.0% reduction
*did not remove volume for pipes/drainage structures			
Truck trips required	1158 trucks	857 trucks	
*Assume 16 CY/trip trucks			

 Approximate value