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ENGINEERING: PLANNING
DESIGN
PERMITTING

SEPTIC SYSTEM DESIGN
SITE PLANNING and DESIGN
SUBDIVISION DESIGN

February 27, 2017

Lucy St John, Planning and Zoning Administrator
Town of New London
375 Main Street
New London, NH 03257

RE: Wood Subdivision, King Hill Road, TM 137, Lot 19

Dear Lucy,

Blakeman Engineering, Inc. has been retained to review the drainage on proposed Lot 19-2 and potential impact to Lot 137/17 (Thomas) from new house construction on this proposed lot.

The Wood property, pre-subdivision, totals ± 15.5 acres with slopes ranging up to about 13%. Much of the upland area of the property was wooded until recently when the hillside was cleared. There is one existing house with lawn and general residential usage of the area adjacent to that house. The soils in the upland area of the property are listed on the county soil maps as Peru fine sandy loam, which contains characteristics that are fairly typical for the New London area. With respect to hydrologic characteristics this soil is moderately well-drained and, again, quite typical for what is found around the New London region.

The southern border of the property is mostly wetland with about $2/3^{\text{rd}}$ of it (± 10 acres) draining towards that wetland. About $3\frac{1}{2}$ acres drains to a point along the stonewall delineating the easterly boundary and there is a little less than 2 acres along King Hill Road that drains towards the Fire Pond. The attached Drainage Area Plan shows the 3.7 acre area that drains towards the stonewall with a light green shading. A site inspection on the subject property was conducted February 6th and the low corner of this drainage area was found to exhibit vegetation adapted to a soil profile that is likely more poorly-drained than the contributing hillside. Following heavy storm events, and during periods of late winter snow melt, this area along the stonewall boundary may exhibit periods of ponding water. It may also drain along the stone wall

At the January 24th Planning Board meeting there was discussion regarding site drainage with respect to the abutting property (Thomas; Map 137, Lot 17). As stated earlier, the drainage area contributing runoff to the common stonewall boundary between the properties is depicted on the attached Plan. Hydrology for this particular area was analyzed for pre- and post-development conditions and the results of this analysis are found to be heavily dependent on the size *and location* of where a house is built. If a house is built so that the footprint and driveway are located inside this drainage area, the post-development flows may show a slight increase of up to 0.2 cubic feet per second (*cfs*). Given the views that might be attained by locating a house at the high point of lot 19-2 it's more likely that the house would be located such that half of the storm runoff from it would be directed towards the fire pond. In this scenario there is no increase in the post-development runoff. Furthermore, it's my opinion that once the house is built and the site has been stabilized with lawn and landscaping, any modeled increase, as slight as it is and given the ± 400 LF flow path for any runoff, would not result in a negative impact along the common stone wall boundary.

Wood Subdivision
King Hill Road, New London

Page 2

The one recommendation I could make is that proper erosion control measures be installed during construction so that the potential of sand backfill leaving the immediate development area through erosion during a substantial rain event is minimized

However, I do not see a need for installation of permanent stormwater detention/retention measures for the addition of a single house to this ±3.7 acre drainage area, particularly where such construction would occur in the upper confines of that area.

Respectfully Submitted,
Blakeman Engineering, Inc.

Peter J. Blakeman, PE

Encl: Drainage Area Plan