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18 February 2016

Mr. Oliver Tolksdorf
Harnett County Health Department
Environmental Health Section
307 W Cornelius Harnett Boulevard
Lillington, NC 27546

Reference: Soil Investigation and Septic Consulting
Alvin Robinson Property—Lot 178 Crystalview Estates Ph 4

Dear Mr. Tolksdorf,

A site investigation was conducted on 17 February 2016 for the above referenced property, which is located at 604 Crystal Spring Drive, Sanford, in Harnett County, North Carolina. The purpose of this investigation was to determine the feasibility of modifying the existing septic system for the existing three-bedroom home to allow for installation of a storage building. A soil and site investigation was conducted, and it appears that the septic permit for this lot can be modified to allow for the storage building. This report represents my professional opinion as a Licensed Soil Scientist. The home utilizes the public water supply and no wells were observed in the vicinity. The proposal is to locate a metal storage build at the right rear of the lot. The proposed building is an enclosed structure with no permanent foundation and no floor other than the ground.

I reviewed the septic permit issued by the Harnett County Health Department and identified the existing septic system at the site. The existing septic system utilizes a 1000 gallon septic tank and a 1000 gallon pump tank from which effluent is pumped to a distribution box to five 80-foot long drainlines (tire chips) that were installed at grade with a good (at least 6 inches in every observation) soil capping added. The repair area was designated as the front yard by the permit and was not investigated and is not proposed to change.

It appears the building would cover the last 40 feet of the first two drainlines of the initial septic system. A soil investigation was conducted in the remaining portion of the drainfield to determine the quality of the soils at the site. I was surprised to find that most of the site is underlain by well drained, friable sandy loam subsoils that would easily support higher application rates than the 0.3 gal/day/sqft utilized for the permit. One observation, near the end of lines 4 and 5 exhibited firm sandy clay loam subsoils, but I believe the investigator was thrown off by the presence of some kaolin that he thought was soil wetness (therefore the ultra shallow placement and the low application rate). It appears that the soils are capable of supporting a long term application rate of 0.4 gal/day/sqft.

Utilizing a lower application rate of 0.375 gal/day/sqft, the drainfield would require 320 linear feet of drainline. It is recommended that the second drainline be cut off from the distribution box and that a flow divider be installed at the first line to divide effluent equally between the first and second line. The effective length of each of the first two lines would be 40 feet. The owner wishes to leave the remaining 40 feet of each of the first two drainlines in place.

I trust this report provides the information you require to evaluate the proposed site modification. If you have any questions or need additional information, please contact me at your convenience.

Sincerely,

Hal Owen

Hal Owen
Licensed Soil Scientist

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Sketch of Proposed System Design
(Not to Scale)