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February 2, 2017

Mr. Modrag Dragich
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Mr. Dragich:

This report concerns the preliminary soils and site investigations for septic system suitability on sections of the 7.89 acre tract located on the north side of Lump Wilkins Road adjacent to Serenity Drive in southern Granville County. The property identification number is 088802760617.

The attached sketch map shows the approximate locations of various soils areas that were identified from field investigations as well as the relevant drainage features that occur on the property. This map was prepared using property information and aerial photography obtained from the Granville County GIS web site. The topographic contours (2 ft. interval-LIDAR) were obtained from the NC DOT GIS web site. The USDA soil survey map of the area and the USGS topographic map were also consulted as to the general nature of the soils, landforms and streams. The areas at the eastern end of the property were not investigated.

The soils areas and boundaries were estimated from hand auger borings made at selected locations having favorable landscape characteristics. The locations of the individual borings as well as selected cultural features and property markers were estimated using a Trimble mapping grade GPS receiver. This information appears to be sufficient to estimate feasibility for the location of at least one sewage disposal site on the property for a three to four bedroom dwelling. Additional follow-up investigations and the field layout of septic drain field systems will be required before a permit for sewage disposal can be finalized.

SOIL SUITABILITY

The suitability classifications of the soils areas based on State Sewage Disposal Regulations (15A NCAC 18A .1900-.1970) area as follows:

SOILS AREA 2: These soils will classify provisionally suitable to unsuitable for conventional septic system drain fields. These soils are formed in materials weathered from sediments of the Triassic Basin. These soils have sandy loam surface layers overlying yellowish brown sandy loam to sandy clay loam subsoils that exhibit soils structures (although weak) and are free of gray wetness mottles within the upper 24 to more than 36 inches of the soil profiles. The subsoils are underlain by loamy weathered sediment materials that are structureless and have restrictive permeability. These soils generally have potential for sewage disposal. The unsuitable soils can be re-classified to provisionally suitable by using Mr. Modrag Dragich

SOIL MAPPING • SITE INVESTIGATION • LAND RESOURCE DATA EVALUATION

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modifications for conventional septic drain fields as prescribed under the State Regulations. These modifications may involve the use of ultra-shallow (at grade) installations, the installation of up-slope interceptor drainage measures or the shallow placement of trenches. It is possible that low pressure pipe (Lpp) systems could be required. The sewage loading rates (LTAR) are estimated to range from 0.30 to 0.35 gal./sq. ft. of trench bottom for conventional drain fields and from 0.10 to 0.12 gal./sq. ft. of drain field area for low pressure pipe systems.

SOILS AREA 2a: These soils will classify provisionally suitable to unsuitable for conventional septic system drain fields. These soils are formed over materials that are weathered from underlying granitic bedrock. These soils have sandy loam to loam surface layers overlying yellowish brown to yellowish red clay to clay loam subsoils that exhibit soil structures and are free of seasonal wetness indicators within the upper 22 to more than 36 inches of the soil profiles. This area has slopes that range from less than 4 percent to more than 20 percent and there are stones and small boulders scattered throughout the area. These elements are major concerns relative to the use for septic drain fields. Additional follow-up investigations with a backhoe will be necessary before specific areas can be identified and the potential for sewage disposal can be finalized. It appears that these areas will have potential for septic drain fields. A significant percentage of the unsuitable soils can be re-classified to provisionally suitable by using modifications for conventional systems or by using alternative septic systems such as the low pressure pipe (Lpp) system or by using the anaerobic drip irrigation system. The sewage loading rates (LTAR) are estimated to range from 0.25 to 0.35 gal./sq. ft. of trench bottom for conventional drain fields and from 0.10 to 0.12 gal./sq. ft. of drain field area for alternative systems.

SUMMARY

The combined areas 2 as shown on the attached sketch map appear to contain in excess of 10,000 sq. ft. of soils that will classify provisionally suitable or can be re-classified to provisionally suitable for conventional septic system drain fields. This combined area should be sufficient to support septic drain fields for a three bedroom dwelling (initial system + repair system) using conventional or modified conventional drain fields. This will be subject to a field layout of the trench systems and the preliminary design of effluent distribution systems, as well as a field inspection by the Granville County Environmental Health Department.

The combined areas 2a as shown are approximately 10,000 sq. ft. As indicated above additional backhoe investigations will be required to determine the specific sewage disposal potential for these areas. There is a good chance that these combined areas could support drain fields for a three bedroom dwelling subject to the follow-up investigations.

STREAMS

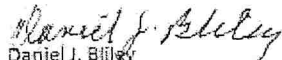
Stream features are shown by symbol on the sketch map. Features 1 & 2 appear as symbols on the USDA soil survey map. They are highlighted in blue marker on the attached map section. These features are subject to riparian buffers under the Neuse Buffer regulations (15A NCAC 2b .0233). A field inspection of these features indicates that they may not meet the specific criteria for streams that are buffered. They can possibly be re-classified to a surface drain status (non-buffered) subject to a field inspection by NCDNER-DWR.

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It is my opinion that at least one permit for sewage disposal can be obtained for this property using conventional or modified conventional septic system drain fields. There is a chance that an additional permit could be obtained. This determination will be contingent on the additional backhoe investigations and the completion of the investigations on the eastern end of the property.

Please call me if you want to discuss this report or these investigations in more detail or if you wish for me to assist with an application for sewage disposal permit.

Sincerely


Daniel J. Bliley
Licensed Soil Scientist

cc: Marr Severs



