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28 December, 2001

Mr. Oliver Tolksdors
Harnett County Environmental Health
P.O. Box 9
Lillington, NC 27546

Reference: Septic System Design for a Four Bedroom Single Family Dwelling
Lots 6M-8M, Captain's Landing
Wayne and Lynn Lasalle Property

Dear Mr. Tolksdors,

A site investigation and septic system design was conducted and prepared for the above referenced property located on the northwest side of Burgandy Street in Captain's Landing Subdivision, Buckhorn Township, Harnett County, North Carolina. The purpose of the investigation was to demonstrate the ability of this combination of lots to support a subsurface sewage waste disposal system and 100 % repair area for a four-bedroom home. Public water supplies will be utilized for this lot. A foundation drain will not be possible with the present location of the home in relation to the proposed septic systems.

The soils present on Lot 6M are rated as provisionally suitable soils for fill systems due to a shallow depth to excessive soil wetness. Although most of Lot 7M & 8M have been disturbed, an area remains behind the home that also exhibits similar soils but were not utilized in the septic system design. This area may be useful for partial additional repair area if needed in the future. The upper 18-24 inches of the provisionally suitable soils on Lot 6M were observed to be friable clay loams. Wetness conditions were typically observed between 15-20 inches below ground surface thus the utilization of fill systems. The lowest application rate that is in this textural group is required for this type of system; therefore the system design has been based on a 0.3 gpd/sqft application rate. The proposed initial system utilizes eight 70-foot conventional drainlines in this bed of fill material. The proposed fill system for the repair utilizes six 70-foot innovative drainlines. These drainlines will need to be located approximately three inches above the natural ground surface. These proposed drainlines are flagged on site with various colored pin flags for your review. These pin flags were laid out on contour and maintain at least a 22-foot setback off the side property line where the drainlines run perpendicular to it and 23.5-foot off the rear property line where the drainlines run parallel. Once a permit is issued, the area required for the initial system will need to be cleared carefully so that fill material for the trenches can be applied to the site.

Fifteen inches of fill material is required for the base of this system and should be a sandy or loamy sand texture up to the top of the nitrification lines. This material should be nearly free of any fibrous organics, debris or building rubble. This fifteen inches of sandy fill should be added in five inch layers with the first layer to be tilled to a depth of 6 inches in order to incorporate the soils and obtain a transitional layer between the original and new material. The remaining fill can then be added up to 15 inches above the original surface. The drainlines can be installed at grade at this point. The cover material (15-21 inch depth above original surface) can then be added and should be a finer textured soil such as a sandy loam or sandy clay loam to enable the growth of a vegetative cover. This bed of fill material should extend 5 feet beyond the edges of the entire drainfield and then taper to the original surface at a rise to run ratio of 1:4 feet. Immediately after the cover material is added and the site shaped to shed surface water; a grass cover needs to be established.

Attached is the septic system layout and supporting information for this lot. We trust that this report provides all the information that you require at this time. If you have any questions or need additional information, please contact us at your convenience.

Sincerely,



Laura J. Fortner
Soil Scientist in Training III



Hal Owen
Licensed Soil Scientist



Lot 6M-8M, Captain's Landing

On-Site Wastewater Design Specifications

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House Footprint: 28' x 72' (No Foundation Drain)
 Bedrooms: 4

Initial System: 8 x 70' conventional fill system
 on contour at: 3 inches above natural surface
 LTAR: 0.3 gpd/sqft

Repair System: 6 x 70' innovative fill system
 on contour at: 2 inches above natural surface
 LTAR: 0.4 gpd/sqft (w/innovative)

LEGEND

★	EIP	□	Septic Tank
⌋	Step-down	■	Pump Tank
⊕	Proposed Well	○	D-Box
⊗	Existing Well	⊠	Pressure Manifold

