

**Adams Soil Consulting
1676 Mitchell Road
Angier, NC 27501
919-414-6761**

March 10, 2020
Project #879

Bill Kemp

RE: Preliminary Soil/Site Evaluation for two parcels of approximately 190 acres adjacent to Josey Williams Road in Harnett County (PIN #0555-81-8771).

Mr. Kemp,

Adams Soil Consulting (ASC) conducted a “limited” preliminary soil evaluation on the above referenced parcel to determine the areas of soils which are suitable for subsurface wastewater disposal systems (conventional & LPP). The evaluation was performed using hand auger borings during moist soil conditions based on the criteria found in the State Subsurface Rules, 15ANCAC 18A .1900 “Laws and Rules for Sewage Treatment and Disposal Systems”. From this evaluation a soil boundary was delineated between the suitable vs. unsuitable soil. The boundary was marked onto an aerial photographic map of the property. This evaluation was limited in that all areas of the property were not evaluated, additionally mapping was not performed on a level for a major subdivision. The primary purpose of this evaluation was to identify areas of potential for onsite wastewater disposal. Per our conversation the future purposes of the land may be do subdivide into 10 acre or more parcels. A more detailed evaluation is recommended prior to the final subdivision plan.

The parcel is located in the Coastal Plain Region of Harnett County. The soils have formed from marine and flood plain type parent materials. The attached soils map indicates the areas of suitable vs. unsuitable soils. The suitable soil unit is generally suitable for subsurface wastewater systems. That is, the morphology of the soils contains suitable characteristics that would support subsurface septic systems such as clay textured subsoils which is not considered expansive and have blocky structure with no indicators of restrictive characteristics within 20 inches of the soil surface.

The attached soils map indicates the areas of soils which are suitable for subsurface wastewater systems. The “hatched soil unit” contains soil with greater than 30” of usable soil and has potential for conventional type septic systems. There may be areas of soils with less than 30” of suitable depth that will have potential for LPP, Ultra-shallow conventional, Low profile chambers, or drip type septic systems.

Several factors should be considered before a final subdivision plan is created for this property. The suitable soil areas cannot be affected by future homes, driveways, patios, excavation or filling activities and if an on-site well is used then a 50’ setback is required around the well head. An exact square footage of suitable soils required per lot to obtain a permit cannot be given due to soil variability and topographic characteristics on each lot. The amount of suitable soils required to support a 3-bedroom residence may range between 10,000ft²-14,000ft² per lot. These soil area estimates are based upon soil

application rates for a sandy clay loam to clay textured subsoil with a range of 0.275 gallons per day/square foot and 0.6 gallons per day/square foot for conventional type systems. The ultimate application rate will be assigned by the Harnett County Health Department based on a detailed evaluation. During construction activities the disturbed areas should be minimized as much as possible. The same precautions should be taken when the individual lots are cleared for home sites. Only the vegetation should be removed in the areas of the proposed drain fields on lots to prevent any disturbance of the naturally occurring soil. A lot with adequate areas of suitable soils can be deemed unsuitable due to poor planning or site disturbance. Adams Soil Consulting recommends that all lot clearing activities are delayed until a permit is issued by the local health department, with the exception of clearing thick vegetation to access the lot.

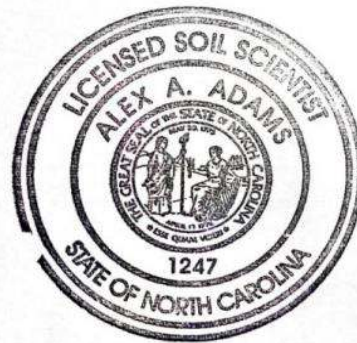
This report discusses the location of suitable soils for subsurface wastewater disposal systems and does not guarantee any permits or approval required by the local health department. Any potential lots may require septic systems utilizing pumps, shallow or ultra-shallow conventional trench placement, low pressure pipe systems, and/or reductions systems for final approval. The rules governing on-site wastewater disposal systems are complex and the interpretation of the rules are based upon the opinions of regulators (state and county level). Due to the subjective nature of the permitting process and the variability of naturally occurring soils, ASC cannot guarantee that areas delineated as suitable for on-site wastewater disposal systems will be permitted by the governing agencies. These permitting considerations should be taken into account before a financial commitment is made on a tract of land.

If you have any questions regarding the findings on the attached map or in this report, please feel free to contact me anytime. Thank you allowing me to perform this site evaluation for you.

Sincerely,




Alex Adams
NC Licensed Soil Scientist #1247

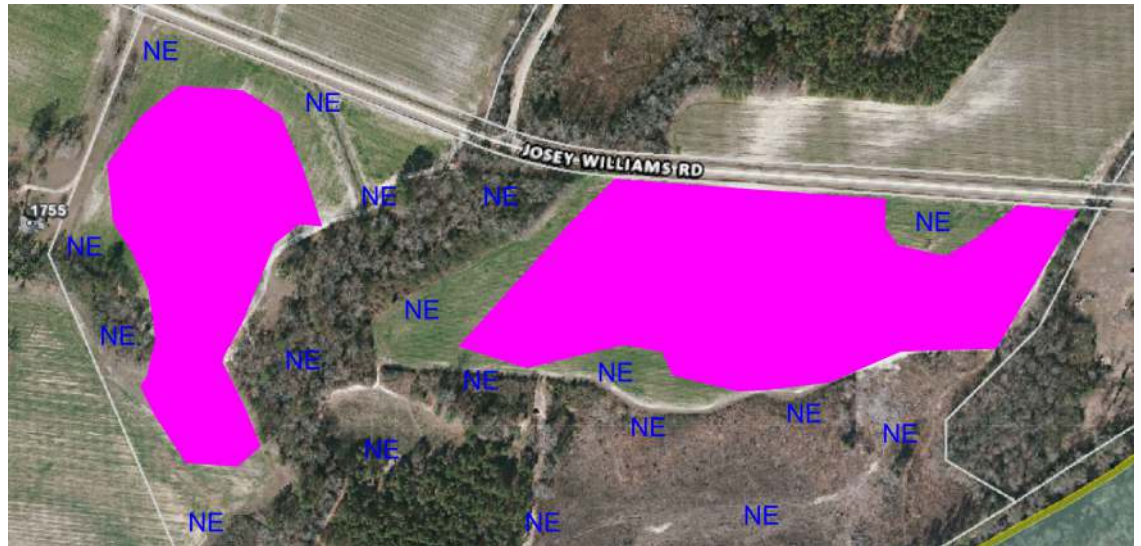


Preliminary Soils Evaluation
 Bill Kemp
 Josey Williams Road
 Harnett County

Legend

 Areas contain soils with 30 inches or more of useable material and have potential for conventional, modified conventional, LPP or ultra-shallow conventional septic systems. There may be inclusion of soils 24-29 inches to a restrictive horizon that will have potential for LPP septic systems.

 Areas Not Evaluated or Unsuitable Areas



*Preliminary Soils Evaluation

*Not a Survey (sketched from public records).

*Septic system setbacks listed below for new lots.

- 1) 10' from property lines.
- 2) 100' from wells for primary and repair systems.
- 3) 50' from surface waters (streams, ponds, lakes).

*Any mechanical disturbances such as grading, cutting and filling of the suitable soil areas can render areas unsuitable for future septic areas.

*See accompanying report for additional information.

*Base map sketched from preliminary plat map

*Due to Soil Variability, Adams Soil Consulting cannot guarantee that the areas shown as suitable will be permitted by the local Health Department.

*A more detailed soil evaluation should be performed prior to further subdivision.

*Not a Survey
 (sketched from public records)

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GRAPHIC SCALE
 1" = 250'



**Adams Soil Consulting
1676 Mitchell Road
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June 20, 2020
Project #879

Bill Kemp

RE: Preliminary soil/site evaluation for Lots 6A & 6B of the minor subdivision for Bill Kemp located adjacent to Josey Williams Road in Harnett County, NC.

Mr. Kemp,

Adams Soil Consulting (ASC) conducted a preliminary soil evaluation on the above referenced parcel to determine the areas of soils which are suitable for subsurface wastewater disposal systems (conventional & LPP). The soil/site evaluation was performed using hand auger borings during moist soil conditions based on the criteria found in the State Subsurface Rules, 15ANCAC 18A .1900 "Laws and Rules for Sewage Treatment and Disposal Systems". From this evaluation, ASC sketched the boundary between the suitable soils and unsuitable soils onto preliminary plat map of the property supplied by your surveyor. The suitable soils shown on the accompanying soil map are suitable for conventional type septic systems.

Lots 6A and 6B both contain greater than 20,000 ft² of provisionally suitable soil that could be used for a septic system or repair area and should support a house foot print of at least 60' X 60'. The suitable soils found on this property consist of a sandy loam, sandy clay, or clay subsoils that can support a daily loading rate of 0.3-0.4 gallons/day/ft².

The specific septic system and loading rates for each lot will be permitted by the Harnett County Health Department. The areas for the proposed septic fields shall not be impacted by home sites, pools, garages and shall not be mechanically altered from the natural lay of the land.

The lots will require a detailed soils evaluation by the Harnett County Health Department prior to issuance of any permits for septic systems. A septic system design/ layout may be required before a permit can be issued on the above referenced lot demonstrating available space for the primary and repair septic areas. I can offer these services if requested. Due to the subjective nature of the permitting process and the variability of naturally occurring soils, Adams Soil Consulting cannot guarantee that areas delineated as suitable for on-site wastewater disposal systems will be permitted by the governing agency. The lots may require septic systems utilizing pumps, shallow or ultra-shallow conventional trench placement, low pressure pipe system, and/or reductions system for final approval. The accompanying soil map is

preliminary in nature, no further assumptions or subdivision should be made without a more detailed evaluation.

Thank you for allowing me to perform this service for you. Please let me know if you have any questions regarding this report or the accompanying soil map.

Sincerely,




Alex Adams
NC Licensed Soil Scientist #1247
Encl: Soil Map



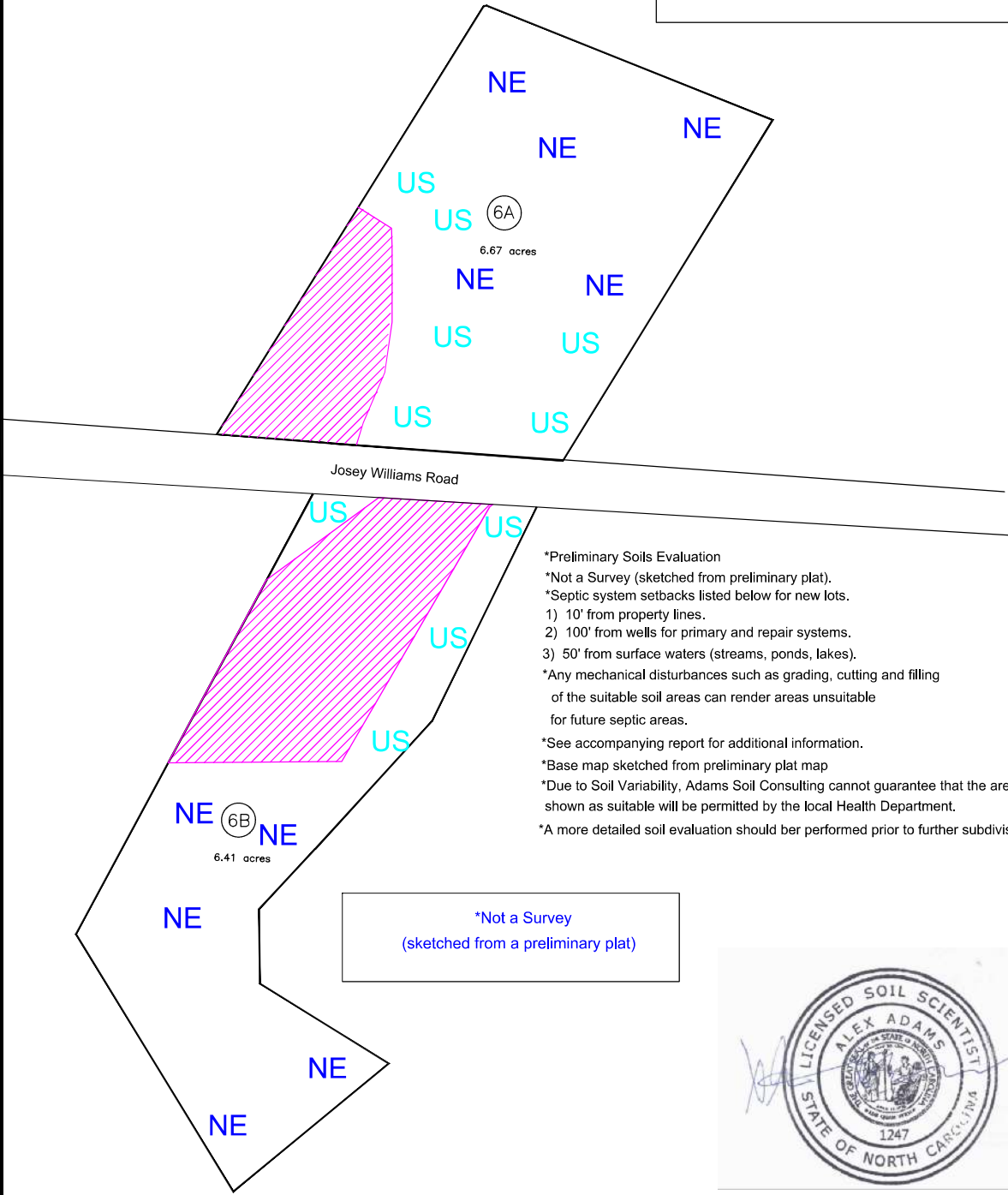
Preliminary Soils Evaluation
 Bill Kemp
 Josey Williams Road
 Harnett County
 Lots 6A & 6B

Legend

 Areas contain soils with 30 inches or more of useable material and have potential for conventional, modified conventional, LPP or ultra-shallow conventional septic systems. There may be inclusion of soils 24-29 inches to a restrictive horizon that will have potential for LPP septic systems.

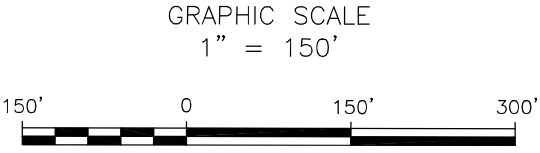
NE Areas Not Evaluated

US Unsuitable Areas



- *Preliminary Soils Evaluation
- *Not a Survey (sketched from preliminary plat).
- *Septic system setbacks listed below for new lots.
 - 1) 10' from property lines.
 - 2) 100' from wells for primary and repair systems.
 - 3) 50' from surface waters (streams, ponds, lakes).
- *Any mechanical disturbances such as grading, cutting and filling of the suitable soil areas can render areas unsuitable for future septic areas.
- *See accompanying report for additional information.
- *Base map sketched from preliminary plat map
- *Due to Soil Variability, Adams Soil Consulting cannot guarantee that the areas shown as suitable will be permitted by the local Health Department.
- *A more detailed soil evaluation should ber performed prior to further subdivision.

*Not a Survey
 (sketched from a preliminary plat)



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