S&EC

Soil & Environmental Consultants, PA

8412 Falls of Neuse Road, Suite 104, Raleigh, NC 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
sandec.com

Revised April 18, 2022
March 30, 2022
S&EC Project #12950.S5

Renee Thompson
2320 Loch Haven Drive
Roanoke, VA 24019

Re: Soil/Site Evaluation on the Davis Properties, 24.2 & 3.9-Acre Sites on New Hope Church Road and Hwy 751, Chatham County, NC

Dear Ms. Thompson:

Soil & Environmental Consultants, PA (S&EC) performed a preliminary soil and site evaluation on the above referenced tracts. This was performed at your request as part of the preliminary planning process in order to determine areas of soil that have potential for subsurface and surface wastewater disposal per our agreement from January 19, 2022 and March 28, 2022. Fieldwork was performed on March 8, 2022 and April 13, 2022.

S&EC traversed the property and observed landforms (slope, drainage patterns, past use, etc.) as well as soil conditions (depth, texture, structure, seasonal wetness, restrictive horizons, etc.) through the use of hand auger borings. The site was evaluated during moist soil conditions. From these observations, an evaluation of the site was developed, relative to subsurface and surface disposal of wastewater. Soil areas were estimated in the field. The soil/site evaluation criteria used is that contained in 15 A NCAC 18A .1900 "Laws and Rules for Sewage Treatment and Disposal Systems" and North Carolina Division of Water Resources (NCDWR) Subchapter .02T-Waste not Discharged to Surface Waters.

FINDINGS

This site is located in the Triassic Basin piedmont region of Chatham County. The upland soils on this tract are similar to the Creedmoor, Whitestore, Mayodan, and Mooshaunee soil series. The Creedmoor and Whitestore soils have a loamy surface material over a heavy, sticky clay/clay loam subsoil. These soils are typically unsuitable for subsurface conventional septic systems but can be usable for alternative surface and/or shallow subsurface septic systems. The Mayodan and Mooshaunee soils have a loamy surface material over a clay/clay loam subsoil. These soils are typically suitable for alternative shallower subsurface septic systems.

The accompanying AutoCAD sketch map indicates the estimated areas with potential use for subsurface and/or surface wastewater disposal. The red crossed hatched units indicate areas of soils which are at least 13+ inches deep to prohibitive soil characteristics and these areas have potential for pretreatment subsurface drip septic systems. Some of the red hatched areas may have inclusions of soils only suitable for pretreatment surface drip and/or pretreatment surface spray irrigation septic systems. The blue hatched units indicate areas of soils which have potential for pretreatment surface drip with NCDWR approved soil fill and/or pretreatment surface spray irrigation with NCDWR approved soil fill septic systems. Drip and spray irrigation septic systems are more expensive alternative septic systems and if requested, S&EC can provide additional information concerning these types of systems. Unit "UN" on the attached map indicates areas of unsuitable landscape positions, gullies, ditches, and/or low-lying areas. Unit "NE" on the attached map indicates areas that were not evaluated due to existing structures,

barns, etc. Some of the areas within the "UN" and "NE" areas may be suitable for pretreatment surface drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill septic systems depending on landscape position and site characteristics. If surface septic systems are used setback reduction waivers may need to be signed depending on the proposed lot configuration. The amount of NCDWR approved soil fill in given septic areas for proposed pretreatment surface drip and/or pretreatment spray irrigation septic systems will be determined once a detailed soils evaluation and soil hydraulic conductivity (Ksat) testing has been conducted on the proposed lot's septic area.

The site plan for each lot must ensure that adequate soil area for system and repair (for subsurface drip) is unaffected by site elements (house placement, driveway, wells, patios, decks, etc.) on that or adjacent lots. The area ultimately designated by the health department and/or NCDWR on the site plan for the septic system must remain undisturbed (no mechanical clearing, excavation, heavy traffic or other significant site disturbing activities) until authorized by the appropriate permitting agency. A lot with initially adequate useable soil area may be rendered unusable as a result of improper site planning and/or disturbance. A field layout of the proposed subsurface septic systems may be required as part of the individual lot development process. Surface septic systems and complex subsurface septic systems will require a wastewater engineering septic design and soil hydraulic conductivity (Ksat) testing for each proposed system.

GENERAL WASTEWATER CONSIDERATIONS

Once potentially useable areas are located through vertical borings, the next consideration is the horizontal extent of those areas. The size and configuration of the useable soil area dictate the utility of that area. The size of a subsurface disposal field is determined by: 1) the design flow from the source (120 gallons/bedroom/day in residences), 2) the long term acceptance rate (LTAR) of the soil (based on the hydraulic conductivity of the soil, a function of the soil's texture, mineralogy, structure, porosity, etc.), and 3) the wastewater septic design. The configuration must be such that an efficient layout of disposal lines (on contour) is possible. An additional consideration is the required setbacks for the system from various elements (see Attachments 1 & 2).

The utility of a potential useable soil area for a subsurface pretreatment drip system is most accurately determined by an on-ground layout of the proposed system. The total area needed for system and repair areas will depend upon the system type, the layout of that system or Ksat data and the total design flow (factors mentioned above). A typical area needed for a 4 bedroom residence is approximately 16,000 to 20,000 ft^2 outside of setbacks (could be more depending on site features and soil hydraulic conductivity testing) or 4,800 to 6,000 linear feet of subsurface drip line (system and repair). These estimates reference Laws and Rules for Sewage Treatment and Disposal Systems for North Carolina and use a LTAR of 0.08 to 0.10 gpd/ft^2 for drip septic systems. The ultimate LTAR will be determined by the health department after their lot evaluation and by soil hydraulic conductivity testing (Ksats). S&EC will be glad to assist in any system layout, Ksats, or sizing calculations if requested. Drip and spray irrigation septic systems have to be designed by a wastewater engineer prior to receiving the individual lot septic permit.

With respect to pretreatment surface systems, the LTAR is established by running multiple tests to measure the "saturated hydraulic conductivity" of each soil horizon of all soil series present on a site. Once these rates of water movement are established, the LTAR can be determined using calculations performed with the SFR Irrigation Area Calculation Worksheet (15A NCAC.02T.0600 only). Final LTAR approval will be determined by NC Division of Water Resources (NCDWR). Due to setbacks, streams and wetland locations will need to be determined prior to determining potential locations for proposed pretreatment surface drip and/or pretreatment surface spray irrigation septic systems.

This report discusses the general location of potentially useable soils for on-site subsurface wastewater disposal and, of course, does not constitute or imply any approval or permit as needed by the client from the local health department and/or NC Division of Water Resources (NCDWR). NCDWR issues the septic permits for residential surface septic systems (spray irrigation and surface drip) and the county health department issues residential septic permits for subsurface septic systems (subsurface drip, etc). S&EC is a professional consulting firm that specializes in the delineation of soil areas for wastewater disposal and the layout and design of wastewater treatment systems. As a professional consulting firm, S&EC is hired for its professional opinion in these matters. The rules governing wastewater treatment (interpreted and governed by local and state agencies) are evolving constantly and, in many cases, affected by the opinions of individuals employed by these governing agencies. Because of this, S&EC cannot guarantee that areas delineated and/or systems designed will be permitted by the governing agencies. As always, S&EC recommends that anyone making financial commitments on a tract be fully aware of individual permit requirements on that tract prior to final action.

An individual septic system permit will be required for each lot prior to obtaining a building permit. This will involve a detailed evaluation by the appropriate permitting agency to determine, among other things, system size and layout, well, drive and house location. Only after developing this information can a final determination be made concerning specifics of system design and site utilization.

This report and site evaluation is not conformant to the Engineered Option Permit (EOP) or LSS option permit process. Additional site testing and evaluations will be required to utilize the EOP or LSS option permit process. The soil report and map associated with this project is for the exclusive use of the addressee and the use or reliance by all others is expressly denied without the written consent of S&EC.

We look forward to assisting in any site analysis needs you may have in the future. Please feel free to call with any questions or comments.

Sincerely,
Soil & Environmental Consultants, PA

LICENSED SOIL SCIENTIST
CORY A. CONNELL
STATE OF NORTH CAROLINA
1343

4-18-2022

Cory Connell
NC Licensed Soil Scientist #1343

Encl: Attachment 1
Attachment 2
Soil Suitability Map

Attachment 1

.1950 Location of Sanitary Sewage Systems

(c) Every sanitary sewage treatment and disposal system shall be located at least the minimum horizontal distance from the following:

(1)	any private water supply source including a well or spring	100 feet
(2)	any public water supply source	100 feet
(3)	streams classified as WS-I	100 feet
(4)	water classified as S.A.	100 feet from mean high water mark
(5)	Other coastal waters	50 feet from mean high water mark
(6)	any other stream, canal, marsh, or other surface waters	50 feet
(7)	any Class I or Class II reservoir	100 feet from normal pool elevation
(8)	any permanent storm water retention pond	50 feet from flood pool elevation
(9)	any other lake or pond	50 feet from normal pool elevation
(10)	any building foundation	5 feet
(11)	any basement	15 feet
(12)	any property line	10 feet
(13)	top of slope of embankments or cuts of 2 feet or more vertical height	15 feet
(14)	any water line	10 feet
(15)	drainage systems:	
	(A) Interceptor drains, foundation drains and storm water diversions	
	(i) upslope	10 feet
	(ii) sideslope	15 feet
	(iii) downslope	25 feet
	(B) Groundwater lowering ditched and devices	25 feet
(16)	any swimming pool	15 feet
(17)	any other nitrification field (except repair area)	20 feet

(b) Ground absorption, sewage treatment and disposal systems may be located closer than 100 feet from a private well supply, except springs and uncased wells located downslope and used as a source of drinking water, repairs, space limitations and other site-planning considerations but shall be located the maximum feasible distance and, in no case, less than 50 feet.

(c) Nitrification fields and repair areas shall not be located under paved areas or areas subject to vehicular traffic. If effluent is to be conveyed under areas subject to vehicular traffic, ductile iron or its equivalent pipe shall be used. However, pipe specified in Rule .1955 (e) may be used if a minimum of 30 inches of compacted cover is provided over the pipe.

Note: Systems over 3000 GPD or an individual nitrification fields with a capacity of 1500 GPD or more have more restrictive setback requirements, see .1950 (a) (17) (d) for specifics.

Attachment 2

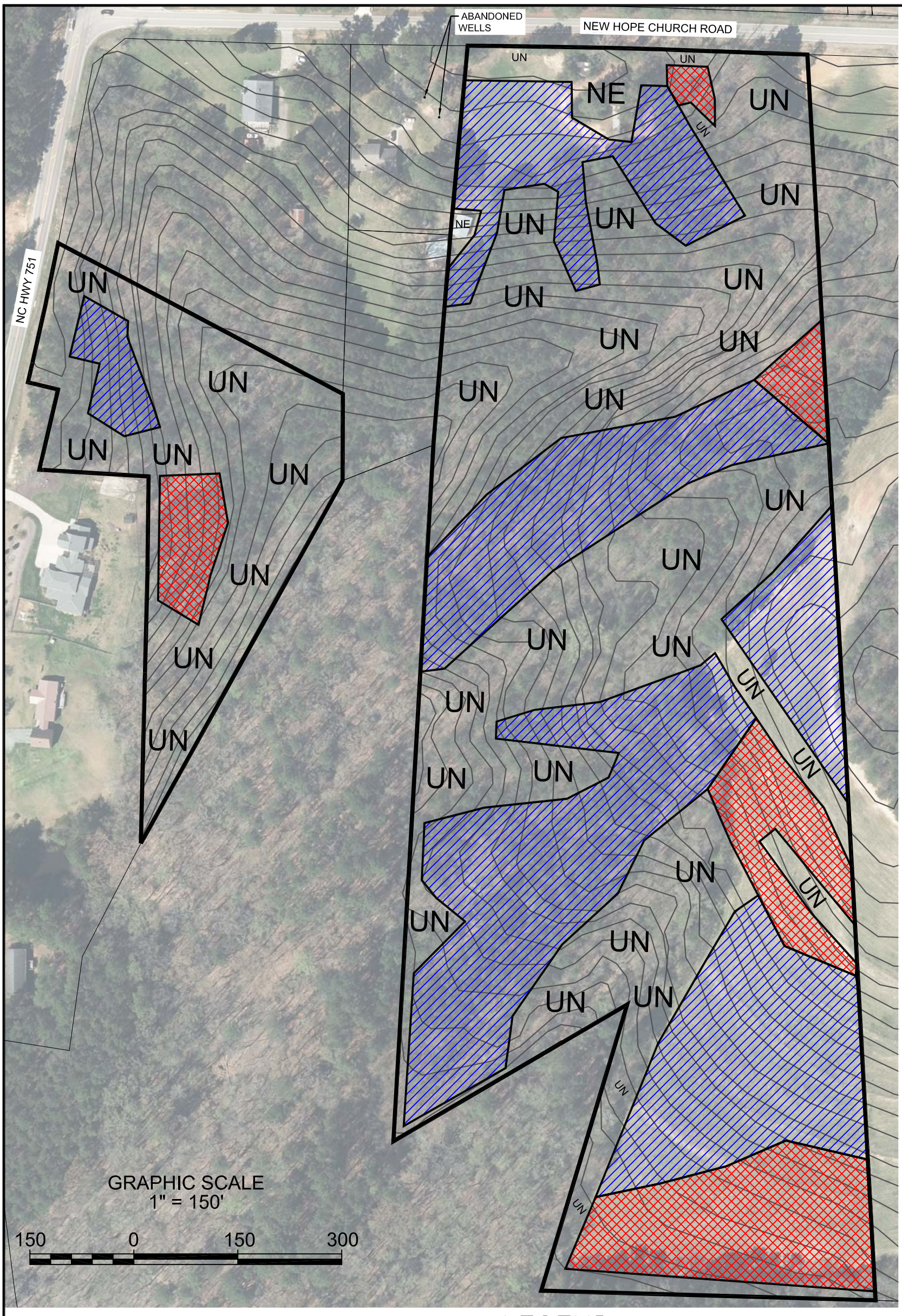
15A NCAC 02T .0606 SETBACKS

(a) The setbacks for irrigation sites shall be as follows:	**Spray** (feet)	**Drip** (feet)
Each habitable residence or place of assembly under separate ownership or not to be maintained as part of the project site	400	100
Each habitable residence or place of assembly owned by the permittee to be maintained as part of the project site	200	15
Each private or public water supply source	100	100
Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands	100	100
Groundwater lowering ditches where the bottom of the ditch intersects the SHWT	100	100
Surface water diversions such as ephemeral streams, waterways, and ditches	25	25
Each well with exception of monitoring wells	100	100
Each property line	150	50
Top of slope of embankments or cuts of two feet or more in vertical height	15	15
Each water line from a disposal system	10	10
Subsurface groundwater lowering drainage systems	100	100
Public right of way	50	50
Nitrification field	20	20
Each building foundation or basement	15	15

(b) Treatment and storage facilities associated with systems permitted under this Section shall adhere to the setback requirements in Section .0500 of this Subchapter except as provided in this Rule.
(c) Setback waivers shall be written, notarized, signed by all parties involved, and recorded with the county Register of Deeds. Waivers involving the compliance boundary shall be in accordance with 15A NCAC 02L .0107.
(d) Setbacks to property lines established in Paragraphs (a) and (b) of this Rule shall not be applicable if the permittee, or the entity from which the permittee is leasing, owns both parcels separated by the property line.
(e) Habitable residences or places of assembly under separate ownership constructed after the non-discharge facilities were originally permitted or subsequently modified are exempt from the setback requirements in Paragraphs (a) and (b) of this Rule

- **The setbacks above are in addition to the setbacks stated in the 15A NCAC 18A .1900 sewage treatment and disposal systems regulations. Some counties may have additional setbacks requirements.**

- **SOME OF THESE SETBACKS MAY BE VARIED IF THE ADJACENT PROPERTY OWNERS SIGN A WAIVER/PERMISSION NOTICE AS PER 02T .0606(c).**



PRELIMINARY SOIL/SITE EVALUATION.
SOIL LINES WERE DELINEATED IN THE FIELD BY S&EC PERSONNEL. THE SOIL LINES WERE SKETCHED ONTO THE MAP BASED ON TOPOGRAPHY, GPS POINTS, AND OTHER SITE FEATURES. S&EC RECOMMENDS STREAMS, WETLANDS, AND SURFACE WATER SETBACKS BE DETERMINED PRIOR TO DETERMINING LOCATIONS FOR SEPTIC SYSTEMS AND/OR PROPOSED LOTS. IF SURFACE SEPTIC SYSTEMS ARE USED THEN SETBACK REDUCTION WAIVERS MAY BE NEEDED DEPENDING ON THE PROPOSED SEPTIC AREAS/LOT CONFIGURATION.
4–18–2022

**SUITABLE FOR PRELIMINARY PLANNING PURPOSES ONLY. SITE WILL REQUIRE APPROVAL BY THE COUNTY HEALTH DEPARTMENT AND/OR NORTH CAROLINA DIVISION OF WATER RESOURCES (NCDWR) ON A CASE BY CASE BASIS. THIS MAP SHOULD BE USED AS A GENERAL GUIDE. SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND TOPOGRAPHIC IRREGULARITIES. THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON–SITE SEPTIC TANK SYSTEMS. SOME OTHER CONSIDERATIONS THAT AFFECT SITE SUITABILITY THAT SHOULD BE CONSIDERED IN DEVELOPMENT DESIGN ARE:

1) 100' SETBACK FROM ANY WELL
2) 25' SETBACK FROM DRAINAGE DITCHES.
3) PROPERTY LINE SETBACKS VARY BASED ON SEPTIC TYPE

SEE ACCOMPANYING S&EC REPORT.

NOT A SURVEY.
PARCEL BOUNDARIES FROM CHATHAM COUNTY GIS. 2–FT CONTOURS AND 2021 AERIAL FROM NCONEMAP.COM.

LEGEND

Areas contain soils with 13 inches or more of useable material and have the potential for pretreatment subsurface drip septic systems. Some of these areas may have inclusions of areas only suitable for pretreatment surface drip and/or pretreatment surface spray irrigation septic systems.

Areas contain soils that have the potential for pretreatment surface drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill septic systems. The amount of NCDWR approved soil fill for a given area will be determined based on the detailed soils/site evaluation for that proposed lot's septic area.

UN Unsuitable areas due to soil wetness condition, soil depth, clay mineralogy, and/or landscape position. Some of these areas may be suitable for pretreatment surface drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill depending on landscape position and site characteristics.

NE Areas that were not evaluated due to existing structures, etc. Some of these areas may be suitable for pretreatment surface drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill depending on landscape position and site characteristics.

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Project: NEW HOPE CHURCH RD & HWY 751
DAVIS PROPERTIES, 24.2 & 3.9 ACRES

Project No.: 12950.55
Project Manager: CC
Drawn: CC
Location: CHATHAM CO., NC
Client: RENEE THOMPSON
Scale: 1" = 150'
Field Work: CC,RP
Sheet Title: PRELIMINARY SOILS/SITE EVALUATION MAP
Sheet No.: 1 of 1

S&EC

Soil & Environmental Consultants, PA

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Maurice Nunn
93 New Hope Church Road
Apex, NC 27523

April 18, 2022
S&EC Project #12950.S6

Re: Soil/Site Evaluation on the Davis Property, 26.3-Acre Site on New Hope Church Road, Chatham County, NC

Dear Mr. Nunn:

Soil & Environmental Consultants, PA (S&EC) performed a preliminary soil and site evaluation on the above referenced tract. This was performed at your request as part of the preliminary planning process in order to determine areas of soil that have potential for subsurface and surface wastewater disposal per our agreement from March 11, 2022. Fieldwork was performed on April 13, 2022.

S&EC traversed the property and observed landforms (slope, drainage patterns, past use, etc.) as well as soil conditions (depth, texture, structure, seasonal wetness, restrictive horizons, etc.) through the use of hand auger borings. The site was evaluated during moist soil conditions. From these observations, an evaluation of the site was developed, relative to subsurface and surface disposal of wastewater. Soil areas were estimated in the field. The soil/site evaluation criteria used is that contained in 15 A NCAC 18A .1900 "Laws and Rules for Sewage Treatment and Disposal Systems" and North Carolina Division of Water Resources (NCDWR) Subchapter .02T-Waste not Discharged to Surface Waters.

FINDINGS

This site is located in the Triassic Basin piedmont region of Chatham County. The upland soils on this tract are similar to the Creedmoor, Whitestore, Mayodan, and Mooshaunee soil series. The Creedmoor and Whitestore soils have a loamy surface material over a heavy, sticky clay/clay loam subsoil. These soils are typically unsuitable for subsurface conventional septic systems but can be usable for alternative surface and/or shallow subsurface septic systems. The Mayodan and Mooshaunee soils have a loamy surface material over a clay/clay loam subsoil. These soils are typically suitable for alternative shallower subsurface septic systems.

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drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill septic systems depending on landscape position and site characteristics. If surface septic systems are used setback reduction waivers may need to be signed depending on the proposed lot configuration. The amount of NCDWR approved soil fill in given septic areas for proposed pretreatment surface drip and/or pretreatment spray irrigation septic systems will be determined once a detailed soils evaluation and soil hydraulic conductivity (Ksat) testing has been conducted on the proposed lot's septic area.

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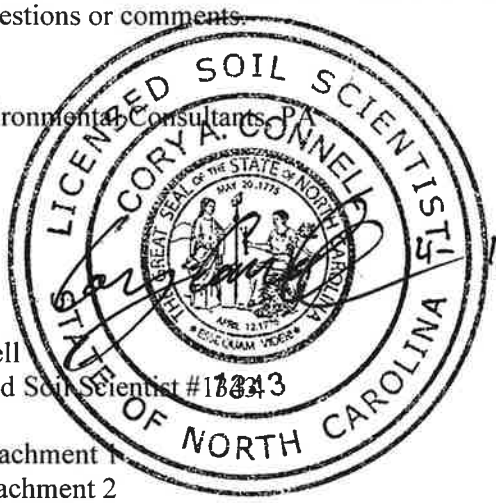
Soil & Environmental Consultants, PA



4-18-2022

Cory Connell
NC Licensed Soil Scientist #1333

Encl: Attachment 1
Attachment 2
Soil Suitability Map

Attachment 1

.1950 Location of Sanitary Sewage Systems

(c) Every sanitary sewage treatment and disposal system shall be located at least the minimum horizontal distance from the following:

(1)	any private water supply source including a well or spring	100 feet
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(c) Nitrification fields and repair areas shall not be located under paved areas or areas subject to vehicular traffic. If effluent is to be conveyed under areas subject to vehicular traffic, ductile iron or its equivalent pipe shall be used. However, pipe specified in Rule .1955 (e) may be used if a minimum of 30 inches of compacted cover is provided over the pipe.

Note: Systems over 3000 GPD or an individual nitrification fields with a capacity of 1500 GPD or more have more restrictive setback requirements, see .1950 (a) (17) (d) for specifics.

Attachment 2

15A NCAC 02T .0606 SETBACKS

(a) The setbacks for irrigation sites shall be as follows:	**Spray** (feet)	**Drip** (feet)
Each habitable residence or place of assembly under separate ownership or not to be maintained as part of the project site	400	100
Each habitable residence or place of assembly owned by the permittee to be maintained as part of the project site	200	15
Each private or public water supply source	100	100
Surface waters such as intermittent and perennial streams, perennial waterbodies, and wetlands	100	100
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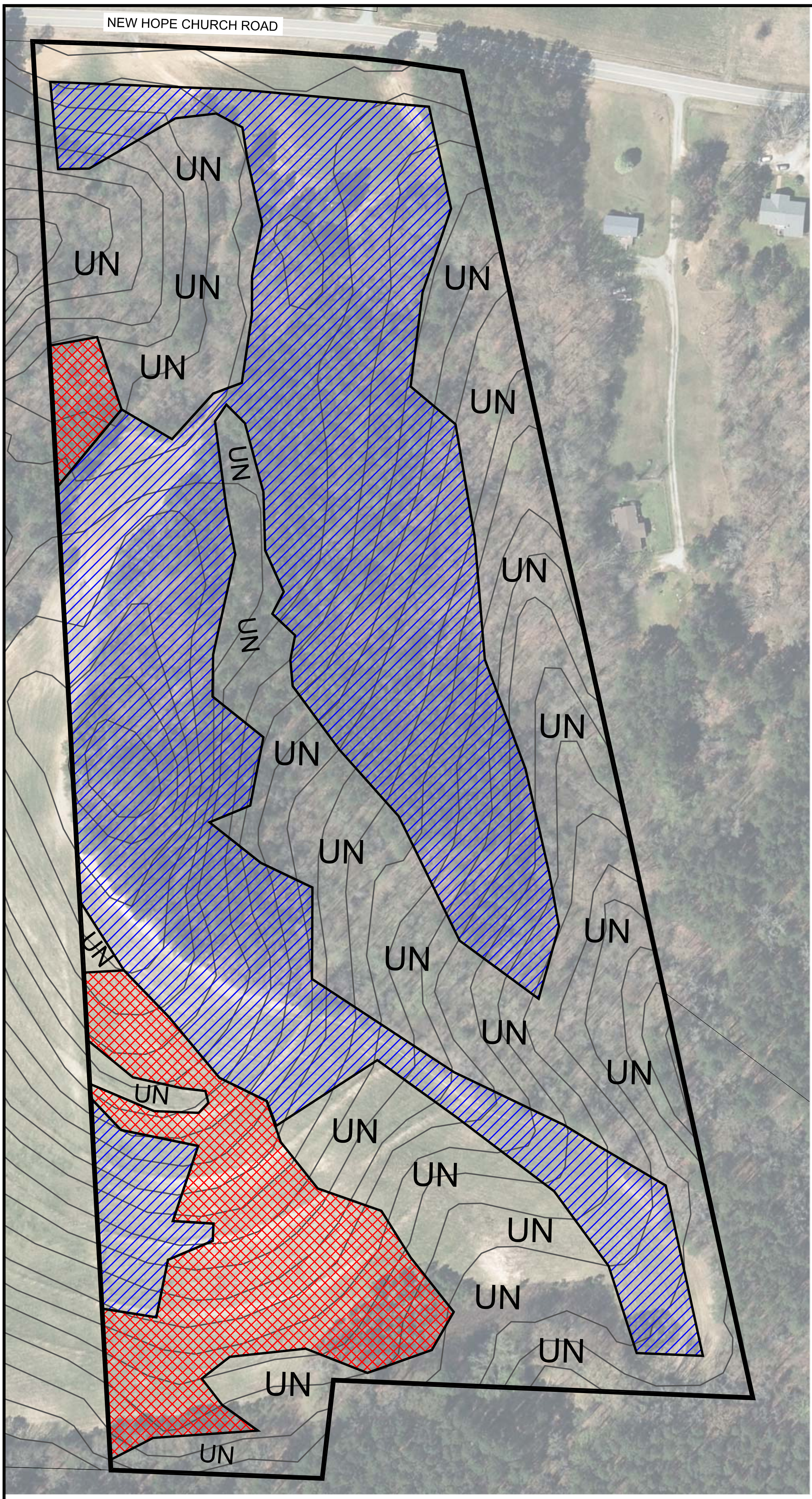
Public right of way	50	50
Nitrification field	20	20
Each building foundation or basement	15	15

(b) Treatment and storage facilities associated with systems permitted under this Section shall adhere to the setback requirements in Section .0500 of this Subchapter except as provided in this Rule.
(c) Setback waivers shall be written, notarized, signed by all parties involved, and recorded with the county Register of Deeds. Waivers involving the compliance boundary shall be in accordance with 15A NCAC 02L .0107.
(d) Setbacks to property lines established in Paragraphs (a) and (b) of this Rule shall not be applicable if the permittee, or the entity from which the permittee is leasing, owns both parcels separated by the property line.
(e) Habitable residences or places of assembly under separate ownership constructed after the non-discharge facilities were originally permitted or subsequently modified are exempt from the setback requirements in Paragraphs (a) and (b) of this Rule

- **The setbacks above are in addition to the setbacks stated in the 15A NCAC 18A .1900 sewage treatment and disposal systems regulations. Some counties may have additional setbacks requirements.**

- **SOME OF THESE SETBACKS MAY BE VARIED IF THE ADJACENT PROPERTY OWNERS SIGN A WAIVER/PERMISSION NOTICE AS PER 02T .0606(c).**



PRELIMINARY SOIL/SITE EVALUATION.
SOIL LINES WERE DELINEATED IN THE FIELD BY S&EC PERSONNEL. THE SOIL LINES WERE SKETCHED ONTO THE MAP BASED ON TOPOGRAPHY, GPS POINTS, AND OTHER SITE FEATURES. S&EC RECOMMENDS STREAMS, WETLANDS, AND SURFACE WATER SETBACKS BE DETERMINED PRIOR TO DETERMINING LOCATIONS FOR SEPTIC SYSTEMS AND/OR PROPOSED LOTS. IF SURFACE SEPTIC SYSTEMS ARE USED THEN SETBACK REDUCTION WAIVERS MAY BE NEEDED DEPENDING ON THE PROPOSED SEPTIC AREAS/LOT CONFIGURATION.
4-18-2022

**SUITABLE FOR PRELIMINARY PLANNING PURPOSES ONLY. SITE WILL REQUIRE APPROVAL BY THE COUNTY HEALTH DEPARTMENT AND/OR NORTH CAROLINA DIVISION OF WATER RESOURCES (NCDWR) ON A CASE BY CASE BASIS. THIS MAP SHOULD BE USED AS A GENERAL GUIDE. SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND TOPOGRAPHIC IRREGULARITIES. THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS. SOME OTHER CONSIDERATIONS THAT AFFECT SITE SUITABILITY THAT SHOULD BE CONSIDERED IN DEVELOPMENT DESIGN ARE:

1) 100' SETBACK FROM ANY WELL
2) 25' SETBACK FROM DRAINAGE DITCHES.
3) PROPERTY LINE SETBACKS VARY BASED ON SEPTIC TYPE

SEE ACCOMPANYING S&EC REPORT.

NOT A SURVEY.
PARCEL BOUNDARIES FROM CHATHAM COUNTY GIS.
2-FT CONTOURS AND 2021 AERIAL FROM NCONEMAP.COM.

GRAPHIC SCALE
1" = 150'

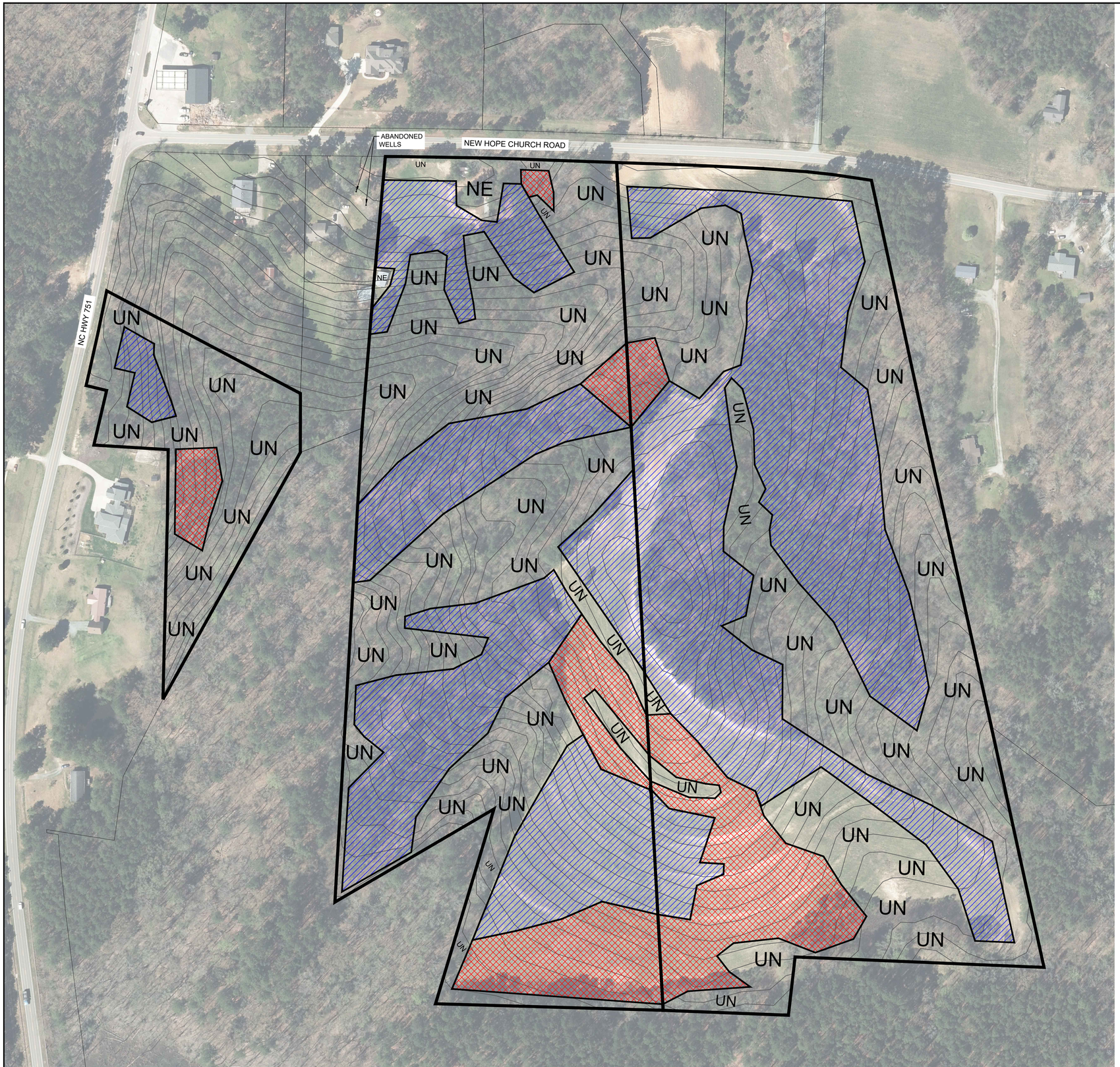
150 0 150 300

LEGEND

(red crosshatch)	Areas contain soils with 13 inches or more of useable material and have the potential for pretreatment subsurface drip septic systems. Some of these areas may have inclusions of areas only suitable for pretreatment surface drip and/or pretreatment surface spray irrigation septic systems.
(blue hatch)	Areas contain soils that have the potential for pretreatment surface drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill septic systems. The amount of NCDWR approved soil fill for a given area will be determined based on the detailed soils/site evaluation for that proposed lot's septic area.
UN	Unsuitable areas due to soil wetness condition, soil depth, clay mineralogy, and/or landscape position. Some of these areas may be suitable for pretreatment surface drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill depending on landscape position and site characteristics.
NE	Areas that were not evaluated due to existing structures, etc. Some of these areas may be suitable for pretreatment surface drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill depending on landscape position and site characteristics.

S&EC
Soil & Environmental Consultants, PA
8412 Falls of Neuse Rd., Suite 104 • Raleigh, North Carolina 27615 • Phone: (919) 846-5900 • Fax: (919) 846-9467
www.SandEC.com

Project: NEW HOPE CHURCH ROAD NUNN PROPERTY, 26.3 ACRES		Project No.: 12950.S6	
		Project Manager: CC	Drawn: CC
Location: CHATHAM CO., NC	Client: MAURICE NUNN	Scale: 1" = 150'	Field Work: CC,RP
Sheet Title: PRELIMINARY SOILS/SITE EVALUATION MAP		Sheet No.: 1 of 1	



GRAPHIC SCALE
1" = 100'

100 0 100 200

LEGEND

Areas contain soils with 13 inches or more of useable material and have the potential for pretreatment subsurface drip septic systems. Some of these areas may have inclusions of areas only suitable for pretreatment surface drip and/or pretreatment surface spray irrigation septic systems.

Areas contain soils that have the potential for pretreatment surface drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill septic systems. The amount of NCDWR approved soil fill for a given area will be determined based on the detailed soils/site evaluation for that proposed lot's septic area.

UN Unsuitable areas due to soil wetness condition, soil depth, clay mineralogy, and/or landscape position. Some of these areas may be suitable for pretreatment surface drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill depending on landscape position and site characteristics.

NE Areas that were not evaluated due to existing structures, etc. Some of these areas may be suitable for pretreatment surface drip with NCDWR approved fill and/or pretreatment surface spray irrigation with NCDWR approved fill depending on landscape position and site characteristics.

PRELIMINARY SOIL/SITE EVALUATION.
SOIL LINES WERE DELINEATED IN THE FIELD BY S&EC PERSONNEL. THE SOIL LINES WERE SKETCHED ONTO THE MAP BASED ON TOPOGRAPHY, GPS POINTS, AND OTHER SITE FEATURES. S&EC RECOMMENDS STREAMS, WETLANDS, AND SURFACE WATER SETBACKS BE DETERMINED PRIOR TO DETERMINING LOCATIONS FOR SEPTIC SYSTEMS AND/OR PROPOSED LOTS. IF SURFACE SEPTIC SYSTEMS ARE USED THEN SETBACK REDUCTION WAIVERS MAY BE NEEDED DEPENDING ON THE PROPOSED SEPTIC AREAS/LOT CONFIGURATION. REFER TO S&EC PRELIMINARY STREAMS, WETLANDS, AND SURFACE WATER BUFFERS DELINEATION MAP FOR APPROXIMATE SURFACE WATER FEATURES & LOCATIONS; SURFACE WATER FEATURES MAY NEED TO BE VERIFIED BY NC DIVISION OF WATER RESOURCES, UNITED STATES ARMY CORP OF ENGINEERS, AND/OR CHATHAM COUNTY PRIOR TO SITE DEVELOPMENT. 4-18-2022

**SUITABLE FOR PRELIMINARY PLANNING PURPOSES ONLY. SITE WILL REQUIRE APPROVAL BY THE COUNTY HEALTH DEPARTMENT AND/OR NORTH CAROLINA DIVISION OF WATER RESOURCES (NCDWR) ON A CASE BY CASE BASIS. THIS MAP SHOULD BE USED AS A GENERAL GUIDE. SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND TOPOGRAPHIC IRREGULARITIES. THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS. SOME OTHER CONSIDERATIONS THAT AFFECT SITE SUITABILITY THAT SHOULD BE CONSIDERED IN DEVELOPMENT DESIGN ARE:

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www.SandEC.com

S&EC

Location: CHATHAM CO., NC

Client: RENEE THOMPSON
MAURICE NUNN

Project: NEW HOPE CHURCH ROAD & HWY 751
DAVIS PROPERTIES & NUNN PROPERTY

Sheet Title: PRELIMINARY SOILS/SITE EVALUATION

Project No.: 12950.55 & 56

Project Manager: CC

Drawn: CC

Field Work: CC,RP

Date: APRIL 2022

Sheet No.: 1 of 1