P.O. Box 2430
Indian Trail, North Carolina 28079
PLANNING DEPARTMENT

Variance Staff Report

Request:	Approve variance allowing the construction of a single-family house in the rear half portion of the lot.
Location:	520 Allen Way; Parcel #07084308; 0.93 acres; undeveloped/vacant
Current Zoning:	Single-Family Residential, Low Density (SF-1)
Applicant:	Mr. Julio Rangel
Property Owner(s):	Mr. Julio Rangel

REQUEST SUMMARY

Mr. Julio Rangel seeks variance approval from a town development standard that conflicts with his plot plan for a new single-family house. The new house is being proposed in the rear half portion of his property, whereas the town standard requires the house to be located near the front built-to line established by the nearby existing houses. The proposed location of the house cannot be adjusted due to the required placement and size of the septic system.

ANALYSIS

Project Background

On the 17th of May 2024, Mr. Julio Rangel applied for a zoning permit for the construction of a new single-family home on his property 520 Allen Way. The proposed location of the house was towards the rear of the property, with a front setback of 134.6 feet and a rear setback of 42.4 feet. Upon review, staff denied the permit based on the project conflicting with UDO code 1310.030.C "Built-to Line". That standard states:

> *"Infill development in existing residential subdivisions or new home construction on a lot along a street corridor with developed home lots within 300 feet on each side of such lot shall be constructed at a distance from the front property line consistent with the developed homes or to be known as the "build-to line". The build-to line distance is the average of the developed home lots within 300 feet on each side of the new home lot from the front property line to the front primary elevation façades. The new residential structure shall front on the same street as the developed homes"*

The average built-to line for the surrounding houses within 300 feet is 40-50 feet, whereas the proposed setback for Mr. Rangel's new house is 135 feet. The conflict between this standard and the applicant's project was clear and therefore the permit was denied. See *Attachment #2 – 520 Allen Way Plot Plan.*

Site Photos

Photo 1 – Subject Property (facing south)

Photo 2 – Subject Property (facing east)

Photo 3 – Property across the street

Photo 4 – Right-side adjacent property

Photo 5 – Left-side adjacent property

Applicant's Statement of Justification
After learning of the permit denial, Mr. Rangel sought variance approval from the "built-to line" standard, stating that unnecessary hardship would result from the strict application of the ordinance. See *Attachment #1 – Application and Letter of Intent*, to review in-full his statements of justification.

In summary, Mr. Rangel states that the proposed site layout is due to poor soil conditions requiring the placement of the **septic drain field** in the front half of the property, where the best soils were found. The front placement and large size of the septic drain field left no other alternative but to propose the house in the rear half of the property. According to expert determination from his contracted Professional Engineer, Mr. William Gravely, and Licensed Soil Scientist, Mr. Kenneth Owens, the site layout cannot be reconfigured in any other way due to the soil conditions of the site. See *Attachment #3 – Septic System Layout*

What is a septic system drain field? *A drain field, also known as a leach field or absorption field, is an essential part of a septic system responsible for the final stage of wastewater treatment. After wastewater leaves the septic tank, it flows into the drain field (a system of pipes laid out over a portion of land) where it undergoes further purification before returning to the environment.*

Staff Analysis
Staff endeavored to verify the accuracy of the site conditions and constraints by consulting with county staff that have oversight over septic systems and are subject-matter experts. Staff consulted with 1) the UC Water Department, and 2) UC Environmental Health. The following summarizes what was verified.

The subject property lies in a neighborhood where public sewer services are not available. The five (5) existing nearby properties are all served by septic systems, and any infill development is obligated to install septic systems. All five (5) houses were constructed near the front property line, with an average front setback of 40 feet. See *Attachment #5 – Built-to Line Map.* Should not Mr. Rangel's property be able to also accommodate this pattern of development?
It is important to consider some differences. Four (4) of the five (5) existing houses were developed in the 1960's when soil conditions could have been more favorable or septic system regulations were less stringent. The 5th and most recent new house was constructed in 2000 on 1.3 acres of land. While regulations were more stringent by 2000, it's also possible that the soil conditions were more favorable at that moment or that the size of the lot allowed more layout flexibility. In recent years, however, septic system regulations have become more stringent.

One major factor that plays a role in determining the placement and size of a septic system drain field is the site's soil composition. In simple terms, if the soil quality and quantity is high, then it is easier to size, position, and configure the septic system drain field with more flexibility. In the case of 520 Allen Way, the soil study prepared by Mr. Kenneth Owens, LLS, reported poor scores of soil quality and depth throughout the site. See *Attachment #4 – Soil Study Report.* The best soils were identified towards the front of the lot; therefore, the front was identified as the only viable area for a septic system drain field. Additionally, the poor soil conditions also required 1) the size of the drain field to be larger than usual, and 2) the establishment of a repair field area (an alternative drain field in the event the primary drain field needs maintenance or fails).

Variance Request Consistency with Town Purposes

Due to the constraints presented at 520 Allen Way, Mr. Rangel seeks relief from the "built-to line" UDO standard that is blocking the issuance of his zoning permit. Let us consider the town goals and purposes at play in this case.

Unified Development Ordinance (UDO) Consistency

Per UDO section 1310.010, *"The development and design standards of the UDO are intended to promote quality, aesthetically pleasing development throughout Indian Trail and to provide a wide range of nonresidential and residential structure types to accommodate the lifestyles and economic levels of the projected population. The regulations are further intended to promote quality development that complies with all Town and state regulations and minimizes land use conflicts."*

In the case of the "built-to line" standard, the purpose is to promote an organized pattern of development. Without this standard, a cluttered or disorderly pattern of development could occur. It should be noted, however, that Mr. Rangel's proposed layout complies with the minimum building setbacks applicable to the property, thus meeting the UDO's intent of promoting reasonable minimum distances between residential residences.

Comprehensive Plan Consistency

Under Section 2.3 "Goals and Objectives of the Comprehensive Plan", we find the following applicable objectives:

- Land Use and Housing Objective #3: Improve existing Indian Trail neighborhoods to create equitable and vibrant communities.
- Land Use and Housing Objective #5: Emphasize high quality design to ensure attractive land development and redevelopment.
- Land Use and Housing Objective #6: Coordinate with land development stakeholders to help create efficient and predictable land development process that will encourage investment in the community.

As mentioned in goal #5, the Town of Indian Trail strives to produce "attractive land development". The "built-to line" standard seeks to promote this goal. However, goals #3 and #6, highlight the fundamental goal of "improving existing Indian Trail neighborhoods" and "encouraging investment in the community." In the case of 520 Allen Way, an approved variance may disrupt the neighborhood development pattern, but it will also allow continued investment and improvement in a neighborhood that is partially developed and has not seen new-home-construction for more than 20 years.

Other Related Variance Requests

On January 26, 2023, a similar variance was considered by the Board of Adjustment. That case was VAR 2022-0131, 6718 & 6714 Kennedy Dr. The applicant of that case was seeking relief from the same "built-to line" standard. The proposed project was two new single-family homes positioned in the rear of their respective lots, due to the required placement of the septic system drain fields. The variance did not receive the required approval votes and therefore was denied. In that case, it was proven that viable alternatives to adjust his site layout were available and that is was fair for the applicant to share in the same necessary hardships of reasonable regulation experienced by neighboring property owners.

Required Findings

Under UDO Section 380.020, the Board of Adjustment must make these required considerations of public health, safety, and welfare. The Board of Adjustment's authority in the review of this variance application is broad and the Board may approve with conditions if it concludes, based upon the information submitted at the hearing, that the proposed request finds that:

1. Unnecessary hardship would result from the strict application of the ordinance. It shall not be necessary to demonstrate that, in the absence of the variance, no reasonable use can be made of the property; and

2. The hardship results from conditions that are peculiar to the property, such as location, size, or topography. Hardships resulting from personal circumstances, as wells as hardships resulting from conditions that are common to the neighborhood or the general public, may not be the basis for granting a variance; and

3. The hardship did not result from actions taken by the applicant or the property owner. The act of purchasing property with knowledge that circumstances exist that may justify the granting of a variance shall not be regarded as self-created hardship; and

4. The requested variance is consistent with the spirit, purpose and intent of the ordinance, such that public safety is secured and substantial justice is achieved; and

5. The variance will neither result in the extension of a nonconforming situation in violation of DIVISION 1400, Nonconformities nor authorize the initiation of a nonconforming use of land.

If one of these findings cannot be made, then the Board must move to deny the variance request, stating for the record why the Board has decided to do so.

Findings of Fact Checklist (worksheet for board members)

	Does the variance situation meet the "findings of fact" standards?		
	TRUE	FALSE	WHY
Finding #1 – Unnecessary hardship would result?			
Finding #2 – Hardship results from conditions of the property?			
Finding #3 – Hardship did NOT result from property owner's actions?			
Finding #4 – Request is consistent with the spirit of the town's ordinance?			
Finding #5 – Request will NOT result in or extend a nonconforming violation?			

Report Summary and Staff Opinion
It's evident that Mr. Rangel's property suffers from conditions that make it challenging to develop in full compliance with the town's standards. The site's soil cannot be remediated, or the site's size cannot be increased without undergoing unnecessary hardships. Without a variance, the property is left without viable alternatives and Mr. Rangel will likely withdraw his plans to develop a new house.

Staff is of the opinion that Mr. Rangel's situation meets all five (5) required findings of fact.

Recommended Conditions if Approved
If the Board is of the opinion that the required findings can be made to approve the variance, staff recommends the site/project be subject to the following conditions:

1. Applicant must install an evergreen screen or privacy fence (wood, vinyl, or similar high-quality material) along the left property line, from the front building line to the rear-left corner of the property. The purpose of this fence is to protect the privacy of the adjacent property and mitigate the impacts of disrupting the development pattern.
2. Applicant must install/preserve landscaping elements in the front of the home, to deter heavy machinery from entering the septic system area and potentially causing damage to the drain field components.
3. Applicant must submit revised plans showing the proposed locations and specifications of the screening fence and landscaping elements. Applicant must note that an approved variance will not provide relief from compliance to other applicable development standards.
4. Applicant must show in the final as-built property survey the locations of the septic system components, their applicable clearance setbacks, the screening fence, and the landscaping elements, among all other required survey elements.

Staff Contact
Josue Peña, CZO
Planner
jfp@indiantrail.org
704.821.5401

Attachments
Attachment 1 Application and Preliminary Recombination Plat
Attachment 2 520 Allen Way Plot Plan
Attachment 3 Septic System Layout Plan
Attachment 4 Soil Study Report
Attachment 5 Built-to Line Map
Attachment 6 Aerial Map
Attachment 7 Zoning Map

Attachment 1: Application and Preliminary Recombination Plat

See next page

VARIANCE APPLICATION

PLANNING & NEIGHBORHOOD SERVICES
PO Box 2430
Indian Trail, NC 28079
Telephone (704) 821-5401
Fax (704) 821-9045

ONLY COMPLETE APPLICATIONS ACCEPTED

Processing Fees:
$300 for Residential and
$450 for Non-Residential Use

Date Received _____

VARIANCE APPLICATION

Submittal Requirements

- Completed Application
- Notarized signatures of applicant and property owner
- Letter of Intent
- Articles of Incorporation, Certificate of Incorporation, Articles of Organization, Corporate Charter, or similar (unless applicant is an individual)
- Digital copy of Concept Plan and all documents
- Statement of Justification (used to determine if Findings of Fact can be made at public hearing)
- Statement of Appraisal, if necessary

Timeline/Procedures

- The Board of Adjustment, which hears all Variances, meets on the fourth Thursday every month (except in November and December, the third Thursday).
- The hearing is Quasi-Judicial in nature, which means there is no deliberation or communication before the hearing, as in a court case. See Section 310.080 of the UDO for more details.
- You must show that suffer from each of the hardships listed Hardship Description section below with facts alone for the Board of Adjustment grant a Variance.

General Information

Project Address 520 Allen Way

City Indian Trail State NC Zip 28079

Tax Parcel ID 07084308 Zoning Designation Residential

Total Acres 1.3 Impervious Area

Project Description Single family ranch house

Contact Information – Applicant

Contact Name Julio Rangel

Company Name

Address 3707 Wexford Place

City Monroe State NC Zip 28110

Phone 9802390874 Fax

Email 1.juliorangel@gmail.com

VARIANCE APPLICATION

Contact Information – Property Owner

Contact Name: Julio Rangel

Company Name:

Address: 3707 Wexford Pl

City: Monroe State: NC Zip: 28110

Phone: 9802390874 Fax:

Email: 1.juliorangel@gmail.com

Applicant's Certification

Signature: Julio Rangel Date:

Printed Name/Title: Julio Rangel

Signature of Notary Public: Chase P Malone I Date: 07/15/2024

Notary Seal:

CHASE P MALONE I
NOTARY PUBLIC
Mecklenburg County
North Carolina
My Commission Expires 06/03/2029

Property Owner's Certification

Signature: Julio Rangel Date:

Printed Name/Title: Julio Rangel

Signature of Notary Public: Chase P Malone I Date: 07/15/2024

Notary Seal:

CHASE P MALONE I
NOTARY PUBLIC
Mecklenburg County
North Carolina
My Commission Expires 06/03/2029

Project Information

Has work started on the project?	Yes_____	No ✓	
If yes, did you obtain a building permit?	Yes_____	No ✓	If yes, please attach a copy
Have you received a Notice of Violation for this project?	Yes_____	No ✓	If yes, please attach a copy
Has this property been rezoned?	Yes_____	No ✓	If yes, Petition Number_____

VARIANCE APPLICATION

Hardship Descriptions

SUMMARIZE THE EVIDENCE YOU PLAN TO PRESENT FOR THE FOLLOWING ITEMS:

1. Unnecessary hardship would result from the strict application of the ordinance. It shall not be necessary to demonstrate that , in the absence of the variance, no reasonable use can be made of the property; *Summarize Evidence*: If the current front build to line is maintained the required septic system can not be installed due to the soil conditions on the lot, it will make the lot unbuildable for new construction.

2. The hardship results from conditions that are peculiar to the property, such as location, size, or topography. Hardships resulting from personal circumstances, as well as hardships resulting from conditions that are common to the neighborhood or the general pubic, may not be the basis for granting a variance; *Summarize Evidence*:
The required soil for the septic system only existing on the front of the lot not the rear due to an existing wet weather drainage ditch across the lot.

3. The hardship did not result from actions taken by the applicant or the property owner. The act of purchasing property with knowledge that circumstances exist that may justify the granting of a variance shall not be regarded as self-created hardship; *Summarize Evidence*:
The existing soil conditions were unknown at the time of purchase, and only discovered once several test pits were dug on the lot to determine if a septic system was possible to be installed.

4. The requested variance is consistent with the spirit, purpose and intent of the ordinance, such that public safety is secured, and substantial justice is achieved;
Summarize Evidence:
The request to remove the Front Build to Line" will allow for the construction of single family ranch style home, and keep the home inside of the required setbacks for SF-1 zoning.

5. The variance will neither result in the extension of a nonconforming situation in violation of DIVISION 1400 of the Unified Development Ordinance nor authorize the initiation of a nonconforming use of land.
Summarize Evidence:
The single family ranch style home will be placed inside of all existing setbacks for SF-1 zoning and be built with similar exterior finishes to the other homes on the street. We are not asking for a zoning or lot line setback change, just to build the house farther back on the lot.

VARIANCE APPLICATION
LETTER OF INTENT

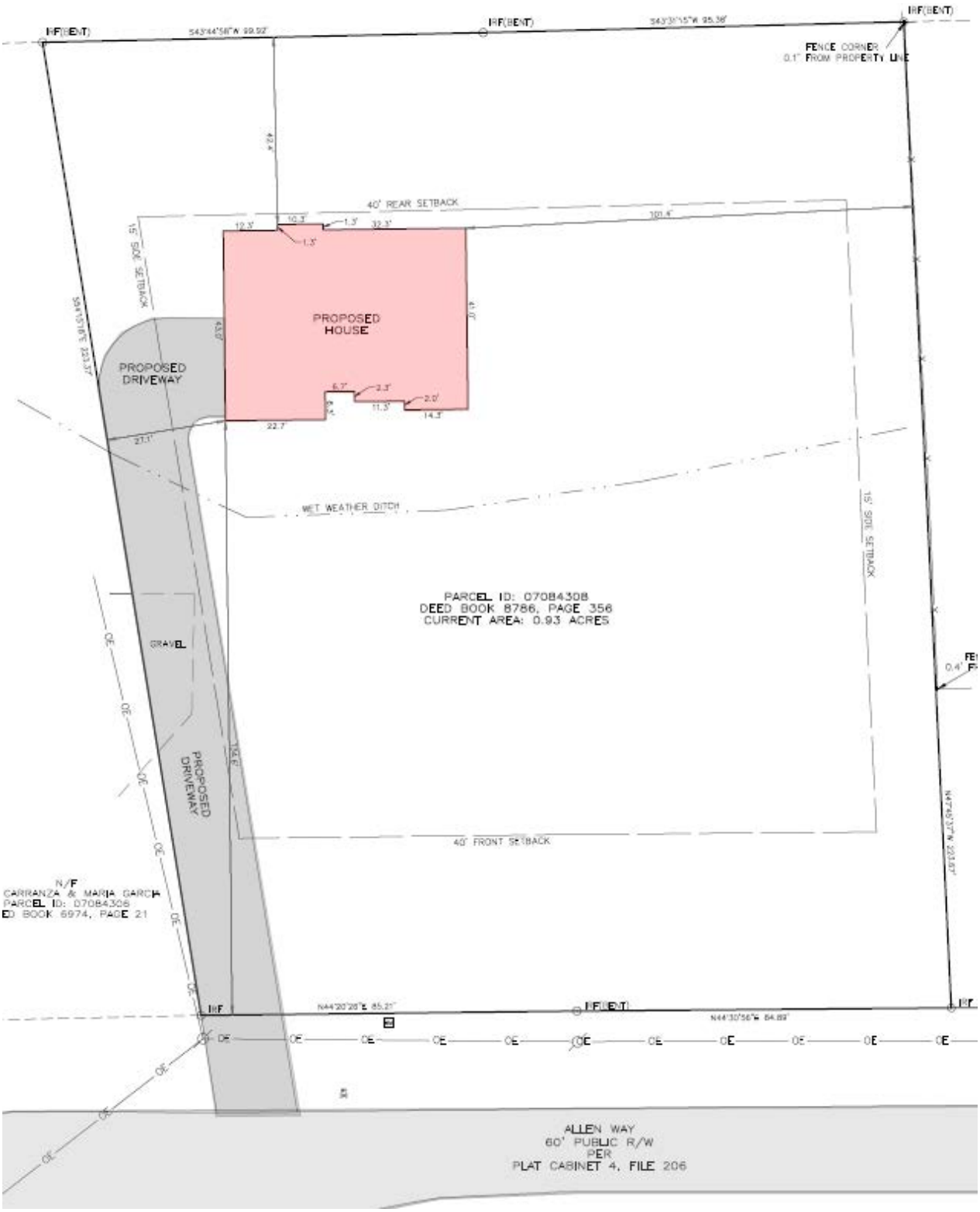
To whom it may concern,

Please find this letter of intent attached to the Variance Application for Tax ID Parcel 07084308. The original property consisted of two lots with Tax Parcel ID's numbers of 07084308 and 07084309, the two combined lots constitute a total area of 0.93 acres. The lots have been combined for the construction of a single family ranch style house with a Heated Floor Area of 1,680 Square Feet, and an attached Two Car Garage with a Floor Area of 536 Square Feet. Due to the lack of Sanitary Sewer located on Allen Way a Septic System will need to be installed on the property as required by the Union County Department of Health. Several test pits were dug for the septic system on the property, and reviewed by Professional Engineer: William Gravely. His Professional conclusion and design of the Type IIIBG Septic System shows it must be placed on the front or street side of the lot due to the soil types on the property. The new house location must be shifted to the left rear corner of the lot due to the location of the primary drain field and the non-pretreated drip area. The proposed new house location in the left rear corner of the property will be inside of all require SF-1 zoning setbacks. We are asking for a variance of the (Front Build To Line) to allow installation of the septic system and construction of a new ranch style home on Allen Way.

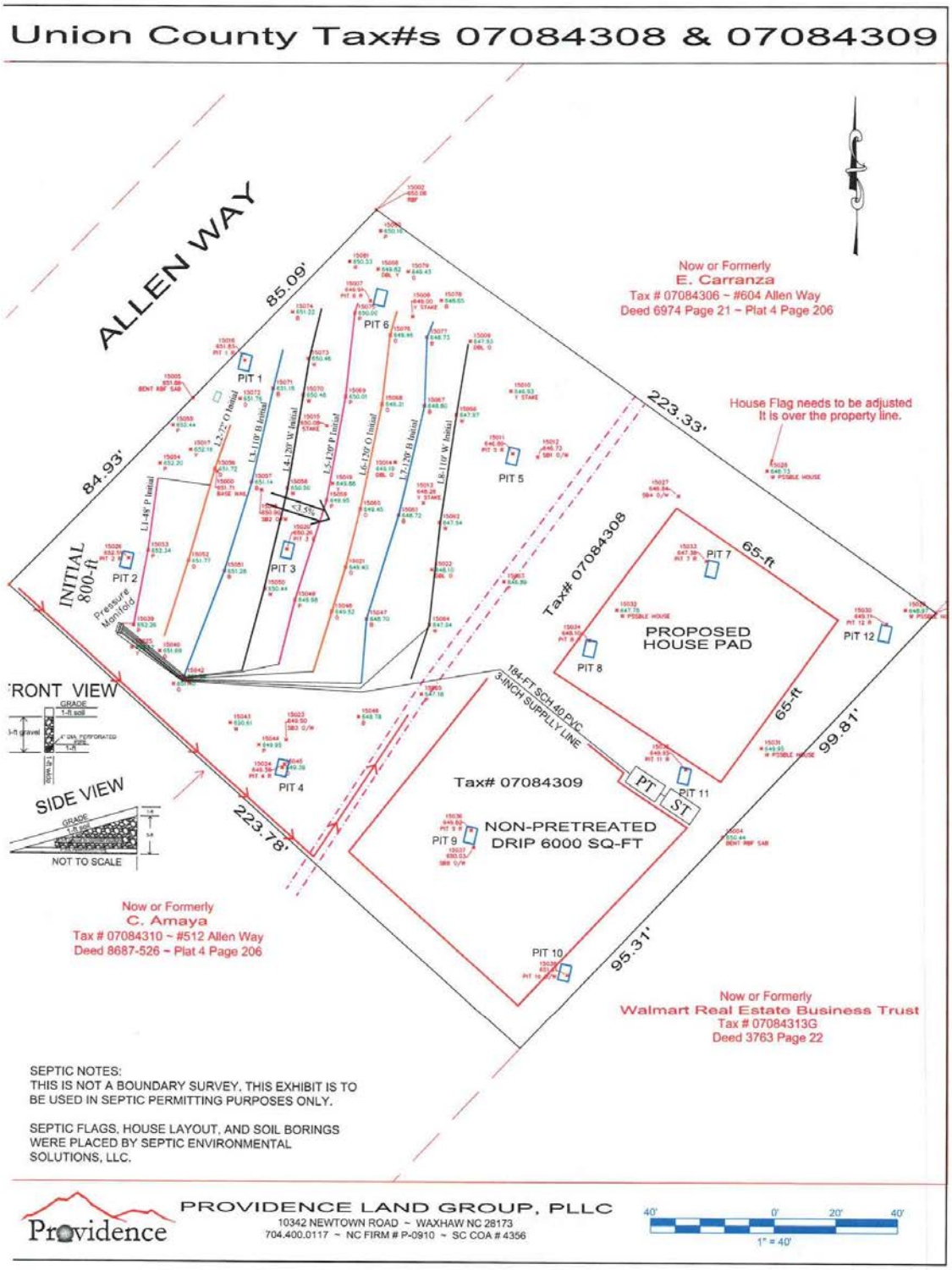
Regards,

Julio Rangle.

Attachment 2: Proposed Plot Plan



Attachment 3: Septic System Layout



Attachment 4: Soil Study Report

See next page

SEPTIC ENVIRONMENTAL SOLUTIONS

Design Specifications Proposal (PO Parcel# 07084309, 07084308)
TBD Allen Way, Union County, North Carolina

Daily Design Flow:	480 gpd
Bedrooms	4
Basement or Crawlspace	Crawlspace
Water Supply	Public and must have a water meter on water line
Top Seam Septic Tank	1500 gallon Shoaf Precast Septic Inc.
Top Seam Proposed Pump Tank	1500 gallon Shoaf Precast Septic Inc.
Primary System Loading Rate (LTAR)	0.200 gpd/ft^{2,} LTAR including Soils Evaluations were determined by Septic Environmental Solutions, Inc..
Primary System	Pump to onsite Low Profile Infiltrator Chambers with no reduction, all lines to be a minimum of 9-ft on center with 3-ft wide trench widths. Trench shall be 10 inches deep on the low side of trench with additional soil cover of 18 inches.
Number and Length of Lines	8 See attached drawing.
Total foot of Primary System	requires 800-ft, must install 830-ft offsite
Distribution Device	Pressure Manifold
Tap Size	See Pressure Manifold Table Below
Tap Material	See Pressure Manifold Table Below
Barrel Size	4-inch
Barrel Material	SCH 80 PVC
Maintenance Agreement Required	No
Dosing Volume	374 gals per dose
Depth of dose draw down	12.92-inch
Supply Line	184-ft, 3-inch SCH 40 PVC

3019 Spring Fancy Lane• Indian Trail, North Carolina 28079
Mobile (704) 502.5588-Email Septicenvsol@yahoo.com

No. of Lines	Line Length (ft)	Tap Size/Type	GPM/Linear Ft	% GPM/Linear Ft
L1&L2	120	3/4 ½ sch 80	0.084167	91.67
L3	110	3/4 ½ sch 80	0.091818	100.00
L4	120	3/4 ½ sch 80	0.084167	91.67
L5	120	3/4 ½ sch 80	0.084167	91.67
L6	120	3/4 ½ sch 80	0.084167	91.67
L7	120	3/4 ½ sch 80	0.084167	91.67
L8	120	3/4 ½ sch 80	0.084167	91.67
Total	830-ft	70.70 gallons		

Flow rate through the system	70.7 gpm, use 71 gpm
Elevation head + pump height	Approximately 10-ft
Pressure head	2 ft
Friction head	2.30-ft
20% Contingency	2.86-ft
Total Head	17.16-ft, use 18-ft
Pump Type	71 gpm@18-ft of head; Use Goulds WE07H Pump with manufacture required equivalent voltage 240V.
Pump Run Time	5.34 minutes per run cycle
Check Valve	Yes
Siphon Break Hole	Yes
Repair System	Non-Pretreated Drip
Repair System Loading Rate	0.10 GPD/SF
Total foot of Repair Required	Provided 6,000+ sq-ft

3019 Spring Fancy Lane• Indian Trail, North Carolina 28079
Mobile (704) 502.5588-Email Septicenvsol@yahoo.com

SEPTIC ENVIRONMENTAL SOLUTIONS

PROPOSAL FOR AN ONSITE RESIDENTIAL SUBSURFACE WASTEWATER TREATMENT AND DISPERSION SEPTIC SYSTEM

for

Mr. Julio Cesar
Lot NA (Parcel # PO 07084309, 07084308)
Union County, North Carolina

Mr. Julio Cesar
3707 Wexford Place
Monroe, North Carolina 28110
980-239-0874

by

Septic Environmental Solutions, Inc.
3019 Spring Fancy Lane
Indian Trail, North Carolina 28079

Engineering aspect of the design was
completed under the direction of Mr. William Gravely, PE.

August 27, 2023

3019 Spring Fancy Lane• Indian Trail, North Carolina
28079 Mobile (704) 502.5588 • Septicenvsol@yahoo.com

Table of Contents

PROPERTY ADDRESS INFORMATIOIN:

Residential: TBD Allen Way
<1.3 Acres Parcel ID 07084309) Lot # NA

Applicate: Mr. Julio Cesar
Indian Trail Rd
Indian Trail, North Carolina 28079
Phone # 843-540-3025

DESIGNER/LICENSED SOIL SCIENTIEST INFORMATION

Designer Contact Information: Mr. William Gravely, PE #029943
1949 Candlewick Drive
Fort Mill, South Carolina 29715
Phone # 704-614-1528

Consultant Contact Information: Septic Environmental Solutions, Inc.
Mr. Kenneth L. Owens, NC LLS # 1134
3019 Spring Fancy Lane
Indian Trail, North Carolina 28079
Phone # 704-502-5588

BACKGROUND:

- If applicable the property was evaluated by the Department Union County Environmental of Health in general accordance with the application.
- Septic Environmental Solutions Inc., Mr. Kenneth Owens, L.S.S. #1134, evaluated the property and submitted documentation to support typical off site tax parcel 07084308 07084309) Pump to Low Profile Infiltrator Chambers septic system for the initial drainfield septic area and a Non-Pretreated Drip system located on site for the repair drainfield area. This system design is submitted to accompany the professional engineer and soil scientist's documentation, with the intent of securing an Improvement and Construction Authorization Septic System permit for the subject property.

KEY DESIGN PARAMETERS:

- **Design flow**: Proposed 480 gallons/day for a 4 bedrooms septic system.
- **Specified secondary treatment system:** None
- **Long-term acceptance rate (LTAR):** LTAR of 0.200 Gallons per day per square foot (gpd/sf) for the initial septic drainfield and 0.10 gpd/sf for the repair septic drainfield as recommended by the if applicable by Environmental Health Specialist of Union County Environmental Department and Septic Environmental Solutions.
- **Drainfield:** The initial septic drainfield consists of 830 linear feet located on-site and the repair septic drainfield consists of 6000sq-ft+ Non-Pretreated Drip located onsite.

AUTHORIZING DOCUMENTS:

These specifications have been prepared in general accordance with the requirements of the following documents. Though all aspects of the design may not be specified to extreme detail, permitting and construction of the system must satisfy the authorizing documents:

- *Laws and Rules for Sewage Treatment and Disposal Systems, 15A NCAC 18A, Section .1900, North Carolina Department of Environment and Natural Resources, Division of Environmental Health, On-Site Wastewater Section, August 2007.*
- *Accepted Wastewater System Approval Number Innovative IWWS-2010-1-R6, 2015. February 8, 2019.*
- *NC State and Local Code.*
- *All installers must provide certification for installation of any septic tank systems.*

SYSTEM OVERVIEW

- **Residence to septic tank**: Influent (raw sewage) will be conveyed from the residence and will be tied into the 4-inch diameter, Schedule 40 PVC pipe. Cleanout access located immediately outside the residence. Plumbing installed in accordance with applicable Building Code.
- **Septic tanks:** The 1,500 gallons septic tank Shoafs Precast septic tanks. Both risers (Ezset or approved equal risers), with bases cast into concrete shall be completed inches above finished grade. Outlet pipe shall be constructed of 4-inch diameter Schedule 40 PVC. Inlet into and outlet from septic tank shall be constructed of 4-inch diameter, Schedule 40 PVC piping and sloped in accordance with applicable Local Building Code to at least 1/8-inch fall per linear foot run.
- At the discretion of Septic Environmental, Inc., the septic system shall be tightness tested with water in accordance with the above referenced rules and regulations. Tanks shall be installed a minimum of 10-foot horizontal distance from the house foundation, and below the foundation level. In the event a sub-grade structure is present or planned for the site, the tanks must be located a minimum of 15 feet any from the basement wall.
- All piping in system shall be SCH 40 PVC. Unless otherwise specified.
- **Effluent filter:** PolyLock PL-68 or approved equal.
- **Pump tank:** If applicable, 1,500-gallon Shoaf Precast tank. Ezset or approved equal risers, with bases cast into concrete and completed at least 6-inches above finished grade.

- **Initial Drainfield Area:** The on-site initial septic drainfield consists of 830 linear feet of typical Pump to Low Profile Infiltrator Chambers septic system. Based on the topographc data, the initial drainfield lines shall be installed with burial depths on the low sideof approximately 11 - inches approximately inches below the existing ground surface. If applicable, in the 18 -inches soil design of additional approved soil cover is required over the drainfield area.
- **Pump Tank Control Panel:** If Applicable, SJE-Rhombus Model 112
- **Pump Model:** If Applicable Use Goulds WE07H Pump required equivalent voltage 240V.

NOTE: Prior to construction and all post installation inspection must be scheduled 5 days in advance, with the soil scientist, if applicable Professional Engineer (designer), construction contractor, owner (at the owner's option), any applicable inspectors/regulators.

PLANS AND DESIGN CRITERIA (SEPTIC AND PUMP TANKS)

The conveyance of the influent from the septic tanks will gravity flow by a 4-inch Schedule Schedule 40 PVC pipe with access cleanouts from the existing building to a minimum 1,500 gallon septic tank located on the individual lot/parcel and site plans. The septic tank must be equipped with a PolyLock PL-68 or approved equal. Shoaf Precast of Lexington, North Carolina, supplied the

attached drawings of the septic and dosing pump tanks. If applicable, sewer cleanout pipes will be installed at each bend into the sewer pipe of 45 degrees or greater, and will be spaced at 50 feet maximum along the sewer pipe and/or per plumbing code. If applicable, the effluent will flow gravity flow into a minimum 1,500 - gallon top seam concrete precast pump tank located on the individual lot and then conveyed by pumping with a 3 -inch Schedule 40 supply line to the initial drainfield area. Note: The top of each tank shall not be greater than 36-inches below grade. In the event greater than 36-inches of soil cover is required, a reinforced tank (traffic rated shall be used. All tanks must meet the approval by North Carolina Department Environmental Quality (DEQ and soil back-filled around the tanks to minimize settlement. Any settlement observed within one-year shall be rectified by the System Installation Contractor. It is the responsibility of the septic tank installation contractor to thoroughly inspect each septic and pump tank prior to accepting delivery. All pipe penetrations into the tank shall be rubber boot (i.e. C-293 Boot with a stainless steel strap.

If deemed necessary by the designer, water-tightness testing of septic and pump tanks shall be demonstrated by a 24-hour leakage test conducted at the installation site. A water level change of ½-inch or more, within a 24-inch riser, over 24-hours, or visual observation of leakage shall be cause for failure of the water-tightness test. Initial water level shall be to 2-inch above the riser/adapter seam.

All access risers and tank lids, shall be installed a minimum of 6-inches above finished grade to prevent surface/stormwater from entering the tanks. The surface grade around the aforementioned components should be compacted and sloped to provide positive drainage away from the tank. Watertight access risers and locking lids, (such as Orenco, EZ-Set or approved equal, shall be installed on all tank access ports for safety and the prevention of water entry. All Risers on the septic and pump tank shall be 24-inch diameter or greater. The aforementioned Septic Design Components including but not limited to: the septic tank, effluent filter, pump tank (dose tank), must comply with applicable State and Local Codes.

PUMP TANK AND SUPPLY LINE SPECIFICATION (IF applicable)

If applicable, provide pumps, piping and controls as indicated on the approved drawings. The pumps, piping, and controls shall be installed as required by NCDEQ On-site Wastewater Section, Union County Health Department, and any other applicable local and state codes.

1. If applicable, pumps shall be Goulds Pump Co submersible effluent pumps, or approved equalivaent installed per the approved plans. All submersible pumps shall be equipped with a rope or corrosion-resistant chain attached to each pump enabling pump removal from the ground surface without requiring emptying or entering the tank.
2. If applicable, the pump discharge piping in the pump tank shall be constructed of 2-inch diameter, Schedule 40 PVC. All fittings used must be pressure type fittings and solvent welded using the appropriate PVC cement for each application. All fittings and valves shall be of compatible corrosive-resistant material. All PVC pipe and fittings shall be PVC Schedule 40 type 1 rated for pressure applications. All glued joints shall be cleaned and primed with PVC primer prior to being glued. Saw cutting PVC pipe shall be followed by cleaning all shavings and/or sawed edges. During system construction, all PVC piping in the work area any open ends shall be covered with duct tape to prevent debris from entering the pipe. Care must be taken to keep all construction debris from entering pipes.
3. Prior to gluing joints, the Installation Septic Contractor shall inspect the PVC piping and remove any observed construction debris.
4. If applicable, all pump discharge piping shall include a threaded PVC Union and PVC Check Valve for easy removal of the pumps for maintenance or replacement with a PVC check valve. Both shall consist of Schedule 40 PVC pressure type and solvent weld. The discharge piping Union shall be located within 18-inches of the top of the riser on all pump tanks.
5. <u>Force mains (if applicable)</u>
    A. Force mains and supply lines shall be installed with the size and materials as indicated on the approved plans (Attached) and be cleaned with PVC pipe cleaner and welded utilizing the appropriate PVC cement for each application. All supply lines shall be laid to the line and grade as indicated on approved plans. The supply line from the pump tank shall be 3-inch PVC Schedule 40 (approximate length of supply line is 184 feet) and shall be placed in a 4-inch diameter Schedule 40 PVC sleeve and have a minimum of 30-inches of *compacted* fill over the top of the 4-inch pipe where it crosses any paved portion of any street. If grades are not provided then the minimum burial depth shall be 36-inches. Supply lines shall include cleanouts at the end of each line and at least every 300 ft. Air release valves must be provided at any high spots along the force main. A coated locating wire, #12 THHH or larger, shall be installed along the entire length of all force mains. The wire shall begin at the pump and terminate at the end of the force main.

6. Water and Sewer Line Separations
    1. Whenever possible sewer should be constructed at least 10 feet horizontally from any existing or proposed water main. If this spacing is not possible, ductile iron pipe is required.
    2. Whenever it is necessary for a water main to cross above the sewer line and a vertical separation of 18-inches cannot be maintained, then the sewer line shall be ductile iron pipe extending a minimum of 10 feet each side of the water line. Whenever a sewer line crosses above a water main, the sewer must be ductile iron pipe extending a minimum of 10 feet each side of the water line.
    3. When sanitary sewer crosses storm sewer of storm drains, allow 1 foot of vertical separation between pipes. If this is not feasible, ductile iron sanitary sewer pipe extending a minimum of 10 feet each side of storm sewer will be required. For storm sewers 24-inches in diameter and larger, where clearance above sanitary sewer is less than 1 foot, concrete piers on each side of sanitary sewer to support storm sewer will be required, in addition to ductile iron pipe.
    4. The minimum setback between any storm drain underneath any paved road or street to any portion of the drainfield shall be 25 feet.
    5. If applicable, valves shall be cast iron as per AWWA C500 for a working pressure of 150 psi, or equal.
7. The Installation Contractor shall locate all underground utilities, and is responsible for repairing all damages his organization causes to any part of the property.
8. Force mains greater than 1,000-feet shall be tested in the manner set forth in Section 13 of AWWA Standard C-600. The Installation Contractor will furnish his own gauges and perform the test at no additional cost to the Owner. Before final acceptance, the force main shall be filled with water, care being taken to expel all air. A pressure test of 150 pounds per square inch (psi) shall be applied to the line at the test pump and shall be maintained at that pressure for a minimum period of two consecutive hours. All defective material found will be replaced by the Installation Contractor. All leaking joints shall be made tight. The pipe

installation will not be accepted unless and until leakage, evaluated on the pressure test of 150 psi for 2 hours, does not exceed 10.0 gallons per day per mile of pipe per inch of nominal diameter.

PUMP TANK CONTROL PANEL SPECIFICATION (If applicable)

1. Pump Control Panels shall be NCDEQ and Union County approved. If applicable, control panels shall be demand dosing SJE-Rhombus Model 112 as specified in the attached plans. Control panels shall include a Nema 4X enclose, cycle counter, elapsed time meter, audio/visual alarm, locking clasp, pump on/off switch and a high water alarm switch. The pump and controls shall be provided with manual circuit disconnects with a watertight, corrosion resistant, Nema 4x rated control panel. The panel and control equipment shall include lighting protection, and protected from unauthorized access but remain accessible at all times to the system operator. The control panel must be securely mounted outside, adjacent to the pump tank riser, at a minimum of 12-inches above finished grade. There shall be two electrical circuits for the pump tank controls, one for the pump and one for the alarm controls. All electrical work shall meet or exceed all applicable State and Local Codes. If applicable, the Installation Septic Contractor shall provide to the Project Engineer cut-sheets of all control panels for approvals.
2. The level controls (float switches) shall be installed as indicated on the approved plans (Attached). Level controls (floats) shall be by SJE Rhombus Controls (or approved equal), mercury-activated, narrow-angle float switch designed to activate pump controls and alarms. Float switch tie downs must be made of a corrosion resistance material (per NCDEQ, all metal in the tanks shall be stainless steel). All floats shall be mounted on a separate "float tree" rather than the pump supply line (see pump tank detail).
3. All electrical power cables and level controls shall be installed in waterproof conduits. All pipe openings shall have moisture seals around all wires in each conduit, including walls, floors, roofs, and all cuts or patched areas, which are subject to moisture penetration. This also applies to the joints around each risers.

DRAINFIELD AREA PREPARATION

The location of the proposed drainfields areas and the proposed septic and pump tanks have been marked on-site by colored metal wire flags. Prior to any installation, the County has to approve the proposed drainfield areas and it is the responsibility of the Installation Septic Contractor to verify drainfield area elevations per the design plan. Note: Once approved by the Environmental Health

Specialist, it is highly recommended that the entire drainfield areas be isolated as much as possible from *any* construction traffic. Under no circumstance shall any construction take place within the drainfield areas if the soil is wet. If any doubt, the Installation Septic Contractor shall contact the Environmental Health Specialist requesting permission to proceed with any installation. All vegetation is to be cleared with minimal site disturbance. At not time should equipment be parked, or materials be stored within the boundary of the drainfield areas.

Site disturbance shall be minimized by limiting activity to any septic drainfield aeas. Any drainfield grading shall be performed using lightweight machinery to provide positive surface drainage. The Installation Septic Contractor shall minimize site disturbance and secure an aggressive turf cover for erosion control and stability. If large trees must be removed from the site, these trees shall be removed by hand or by lightweight machinery. Trees shall be cut flush with ground surface. No grinding or stump removal shall be conducted. After the drainfield lines have been installed, the drainfield areas shall be secured from erosion by establishing an aggressive turf cover. No activity or storage of any equipment or machines shall be performed or placed on any part of the drainfield areas. Site protection is critical. No cutting or filling within 20 feet of the drainfield areas other than what's deemed necessary for the proper installation of the septic and pump tanks septic drainfield lines.

INITIAL DRAINFIELD AREA INSTALLATION

The supply line from the pump tank conveys the effluent to the pressure manifold box which has control valves (gate valves) for each lateral distribution line. From the pressure manifold box the effluent flows into drainfield lines and into the trenches. Each drainfield trench shall be constructed with the centerlines located 9 feet apart. Each trench shall be advanced to a maximum 11 depth and if applicable with 18 inches of approved cover. Trenches be shall be 3 feet wide and shall be carefully excavated so the bottom elevation does not fluctuate more than 2-inches from the highest te lowest points of elevation within the trench. If the bottom elevations need any adjustments following excavation, this may be conducted by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial excavation. All fine grading within the trenches will be done by hand using small tools such as shovels and rakes. No loose material shall be left in any trenches.

Note: Gravel shall be placed under the bottom of the valve box to ensure that any water accumulation inside the valve box will be properly drained through the gravel. Each lateral should be contained within one manifold box as specified on the design plans. The pump tank supply line conveys the

effluent to the supply manifold which conveys the effluent into the lateral distribution lines and into the proposed drainfield trenches. It is the responsibility of the Installation Septic Contractor to install the Pump to Low Profile Infiltrator Chambers septic system per the *manufactures specifications*.

- Do not remove large trees or stumps.
- Where large trees or stumps obstruct drainfield lines, route lines around the trees and stumps. If the drain lines are routed around a tree, the impacted drain line shall be constructed on solid piping in the impacted area.
- All landscaping, filling and site drainage completed before and after the installation must be done in a manner to ensure the integrity of the soil absorption system. Runoff stormwater shall be directed away from the drainfield.
- All drainfield construction shall take place during dry weather. No activity other than prior authorization by the Licensed Soil Scientist and Designer shall be allowed in the drainfield areas while the soil is wet.
- Within 3 days (no wet condition) after completion of the *complete* septic system installation and final inspection and approval by the Licensed Soil Scientist and Designer shall the drainfield areas be planted with grass and covered with light mulch and straw in order to prevent erosion.
- In a drought season, a tolerant grass mix should be planted and maintained. Erosion control measures such as seed, straw, mulch and netting or other suitable means should be employed to prevent erosion until grass is established.

TESTING AND START UP PROCEDURES

The Installation Septic Contractor shall provide one day volume of clean water for startup. The septic shall only be checked once all components of the septic system have been properly installed. With the electrical power turned off, the water level in the tank shall be raised high enough to activate the high water alarm float switch. When the high float switch activates, the main electrical power shall be turned on. The alarm, alarm light and pump should activate at this time. All fittings and piping shall be pressure tested under alarm conditions. Once completed, the drainfield areas shall be graded to shed surface water with additional clean soil as necessary. Following final grading, fescue or other turf cover shall be planted on the drainfield. In cold weather climates, installer shall follow all "cold weather installation" techniques. Refer to local standards.

OPERATION AND MAINTENANCE

The level of maintenance will vary with the complexity of the system and water use habits of the users. Fats, oils, bath oils, greases, paint, solids, water softener backwash solution, water from hot tubs and other constituents that can clog and foul collection and disposal equipment should not be disposed of in the septic drains. Bathroom fixtures cannot be allowed to leak as this could result in excessive flows and potentially lead to hydraulic overloading and subsequent failure of the drainfield areas.

The drainfields and any areas directly up gradient cannot be watered by lawn irrigation systems or other means as the soils may become hydraulically overloaded. The drainfield areas should be maintained to prevent over growth of vegetation. Any damp areas, leakages or malfunctions should be addressed immediately. Divert gutter downspouts and surface water runoff away from the septic tanks, pump tanks and from all areas of the drainfields. Septic tanks and if applicable any other treatment tanks should be pumped whenever the sludge and scum occupy one third of the capacity of the first chamber of the septic tank.

LANDSCAPING

- The drainfield shall be shaped to shed rainwater and be free from low spots. The entire areas of the drainfield should be planted with grass as soon as possible to prevent erosion. The soil should be properly placed, limed (if necessary) and fertilized prior to planting. After applying grass seed, the drainfield area should be heavily mulched with straw or other suitable material.

UTILITY CONFLICTS

- The builder and property owner must take special care in planning for water, power, gas, telephone and cable lines. These utilities shall be kept clear of all parts of the septic system and its proposed initial drainfield area. Improper planning for underground utilities can negatively impact the installation and, in some cases, cause irreparable damage. If there are any questions regarding preferred routes, contact the local or state agency as soon as possible. Lawn irrigation must not be installed in the septic drainfield areas.

SUGGESTIONS TO THE HOMEOWNER

- No garbage disposals.
- If you are planning to use a garbage disposal, you should plan to have your septic and pump tank cleaned out annually.
- Grease, cooking oils, coffee grounds and non-degradable solids (disposable diapers, cigarettes and solid paper wastes) should never by put into a septic tank.
- Used motor oil or any oily liquids should not be disposed of in a septic tank.
- Be aware of the amount of water that you are using in your business. Water saving fixtures and devices can be installed on sinks, toilets and showers to reduce the volume of wastewater that you are sending to your drain field.
- Run dishwashers and washing machines only when you have a full load.
- Use liquid detergents. Powdered detergents have binding agents in them that can precipitate in the wastewater disposal system.
- Repair leaky faucets and toilets. Small drips equal large volumes of water over time and can over burden your drain field.
- Divert gutter downspouts and surface water runoff away from the septic and pump tanks.
- Do not use chemical additives in your system. Several studies indicate that they do not increase the biological activity that naturally occurs in the septic system and, in some cases have been found to be detrimental to the biological activity of a system.
- Finally, taking good care of your septic system will help to assure that you experience years of trouble free service at a relatively low cost. On-site wastewater treatment and disposal is still the most environmentally friendly method of treating residential/commercial waste and you should keep your system in use for as long as it is properly functioning!

LIMITATIONS

These specifications have been prepared for the excusive use of the contracted client and their designated agents for this specific project. The findings discussed herein are relevant to the subject property and should not be relied upon to represent conditions on other properties.

These findings reflect anticipated variations in subsurface conditions intermediate of sample locations and in areas of the project site not evaluated. Should future activities indicate that subsurface conditions differ substantially from anticipated variation, it may be necessary to re-evaluate the current recommendations and conclusions.

These services have been provided in accordance with generally accepted local and state codes and design practices and are subject to and limited by the terms and conditions of Septic Environmental Solution, Inc. agreement for the aforementioned practices. No other warranty, expressed or implied, is made. The contents of this report should not be construed to indicate a recommendation to purchase, sell, or develop the subject property.

The evaluation performed, data developed, and findings presented are based on knowledge and interpretation of the current laws and rules governing all septic systems. Septic Environmental Solutions, Inc. does not assume responsibility for assuring compliance with the laws, rules, and permit conditions regarding system location, installation, operation, maintenance, monitoring, reporting, and repair. That responsibility remains with the entity owning or controlling the wastewater system and the local government regulating these types of septic systems.

This report does not constitute or imply approval or denial any septic system. The permitting of the septic system is the responsibility of agents authorized by the State of North Carolina as described in Rule .1938. If this report is provided to a third party, it must be copied or transmitted in its entirety, including all text, attachments, and enclosures.

Respectfully,

Septic Environmental Solutions, Inc.
Kenneth L. Owens
Licensed Soil Scientist #1134

Please note the following Engineer Option Permit (EOP) conditions:

1. This (EOP) does not include the cost of surveying, existing structures, wells, locating soil borings, pits or property lines etc. It will be assumed that all property lines and corners, if applicable pit locations, soil borings shall be clearly marked. This EOP does not include surveying the drain line lines, pits etc.
2. All right-a-ways, easements, SWIM buffers, post construction buffers etc. must be marked on the property and on a survey plat and is at the responsibility of the client as to the location and requirement onsite per any local or state agency.
3. This EOP does not include clearing of any vegetation for any lot or parcel, if clearing if required additional fees will be incurred upon approval.
4. This EOP does not include any local or state zoning approvals. It is the responsibility of the owner to obtain proper zoning approval to ensure that the property can be used in the manner proposed including proper easements in reference to septic easements.
5. This EOP does not include any permitting fees associated with permit application, permit final approvals and any on-site pump-and-treat facility.
6. This EOP does not include any local or state environmental health application and septic system approvals nor includes any fees. If applicable, it is the responsibility of the owner to apply and obtain for the proper local government and state environmental applications and their approvals to ensure that the property can be used in the manner proposed.
7. If applicable, Septic Environmental Solutions, Inc. assumes no responsibility for any accidents or injuries to others resulting from the land clearing, excavation or septic tank installation from other septic installers.
8. If applicable, this EOP does not include the final fees associated with the Licensed Soil Scientist or PE final inspection before, during and after the septic installation.
9. Septic Environmental Solutions is not responsible for seed and straw and if the owner request seed and straw the client is responsible to provide these services and is between the client and the landscaper/owner/installer etc.
10. A Professional Engineer (EOP) septic notice of intent (NOI) is ***voided*** if any changes to the soil and/or site conditions have been altered or in the event another installer, owner etc. other than the approved installer on the EOP works on any part of the septic system or installs any part of the proposed septic drainfield including french drains, septic or pump installation or installation of soil cover over the drainfield etc.
11. If applicable, nonpayment in full can result in a delayed or voided out EOP.
12. Additional fee will apply if client changes the ***original*** plot plan including the house, garage location, driveways etc.
13. If existing or new owner/client request a change in the installer, a PE re-submittal fee will apply and the original NOI will be revoked and additional fees will apply to oversee the new septic installer installation and the requested installer must show proof of insurance required.
14. The PE has the right to add or extend additional septic lines to any design other than what is recommended by the Licensed Soil Scientist/Profession Soil Classifier in the event substantial variations are encountered during the initial soil and site evaluation/septic installation such as shallow bedrock, buried debris or any soil variation etc.).

3019 Spring Fancy Lane• Indian Trail, North Carolina 28079
Mobile (704) 502.5588•Septicenvsol@yahoo.com

15. Septic Environmental Solutions, Inc. has developed this septic design based on a limited number of test pits and soil borings. This design assumes a reasonable degree of homogeneity across the site. In the event substantial variations are encountered during construction, (i.e historic leach fields, buried waste or structures, shallow bedrock, buried debris or any soil variation etc.) Septic Environmental Solutions shall be notified immediately. Additional costs may be incurred as a result of any such discovery. Failure to notify Septic Environmental Solutions, Inc. of any variation as mentioned above in soil or changes not discussed in these septic design plans will void any warranties expressed or implied and may invalidate the system's EOP permit.
16. If applicable, client is responsible in providing all of the septic design documents to all people, builders, homeowner, developers, agents in reference to the septic design and its location etc.
17. If applicable, Septic Environmental Solutions, Inc. retains the right to have all of the septic maintenance contracts per the State requirement by North Carolina Law.
18. This EOP does not include the septic system installation.
19. The notice of intent (NOI) in good up to 5 years.
20. The limited liability for a notice of intent (NOI) is good up to 5 years.
21. Any additional fees shall be an amendment to this contract.
22. The attached Terms and Conditions is part of this EOP

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ATTACHMENT A
(SOIL PROFILE DESCRIPTIONS

DIVISION OF PUBLIC HEALTH, ENVIRONMENTAL HEALTH SECTION
ON-SITE WATER PROTECTION BRANCH

PROPERTY ID #: 0708489 0708438
COUNTY: Brunswick

SOIL/SITE EVALUATION
***for* ON-SITE WASTEWATER SYSTEM**
(Complete all fields in full)

OWNER: Mr Mrs Trey Stegall
ADDRESS: TBD Alora Way, Leland NC 28479
PROPOSED FACILITY: 4 BR SFR
PROPOSED DESIGN FLOW (.1949): 480
LOCATION OF SITE: TBD Allen Way
APPLICATION DATE
DATE EVALUATED: 5-8-23
PROPERTY SIZE: 2.00 ac
PROPERTY RECORDED: Aerial 1983

WATER SUPPLY: ☐ Private ☐ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☒ Auger Boring ☒ Pit ☐ Cut
TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCY/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	LL <4%	0-13	sil/gr/wk/vfr	nv/np/exp					
		13-22	sicl/wk/sbk/fi	ss/sp/sep		42			
		22-42	cl/wk/sbk/fi	ss/sp/sep					
		42+	Rx		10YR 6/4 @ 22		MW	22	0.20
					10YR 5/1 22 V				
2	LL <4%	0-7	sil/wk/gr/vfr	ns/np/exp					
		7-22	sicl/wk/sbk/fi	ss/sp/sep					
		22-32	cl/wk/fm/fri	s/p/exp	Rx	32	MW	22	0.20
		32+	Rx		10YR 5/1 @ 22"			Rx	
3	LL <4%	0-13	sil/wk/gr/vfr	ns/np/exp					
		13-22	cl/wk/sbk/fi	ss/sp/sep					
		22-39	cl/wk/sbk/fi	s/p/exp	Rx/Rx @ 28	22	MW	22	0.20
					10YR 5/1 @ 28				
4	LL <4%	0-13	sil/gr/wk/vfr	ns/np/exp					
		13-23	sicl/wk/sbk/fi	ss/sp/sep					
		23-45	cl/wk/sbk/fi	s/p/exp		45			0.10
		Rx/Exp/MW+	@ 23		10YR 5/1 @ 26				

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	830	600+
System Type(s)	III b,g	Type V
Site LTAR	0.20	0.10

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1946):
EVALUATED BY:
OTHER(S) PRESENT:

COMMENTS: Most Have Fecal Coliform

Updated February 2014

SOIL/SITE EVALUATION

(Continuation Sheet-Complete all field in full)

DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH SECTION
ON-SITE WATER PROTECTION BRANCH

PROPERTY ID #: 070848...
DATE OF EVALUATION: 020843...
COUNTY: [illegible]

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
[illegible]	Compacted LL <1%			V.S.					V.S.
[illegible]	LL <1%	0-13	sil/gr/wk/FR	ss/sp/NEX	NONE	39	NONE	22	0.20
		13-22	cl/wk/sbk/FI	ss/sp/SEXP					
		22-39	Rx/VFI/m						
[illegible]	LL <1%	0-8	Rx		V.S.				V.S.
		8	Rx						
	Backyard LL <1% Repair	0-8	sil/gr/wk/FI	ss/sp/SEXP	NONE	20	NONE	20	0.20
		8-20	scl/wk/FI	s/p/SEXP					
		20-32	Rx @ 20						
	Backyard <1% Repair	0-11	sil/gr/wk/FI	ss/sp/NEX	NONE	20	NONE	20	0.20
		11-20	scl/wk/FI	s/p/SEXP					
		20-23	Rx @ 20						

COMMENTS:

SOIL/SITE EVALUATION
(Continuation Sheet-Complete all field in full)

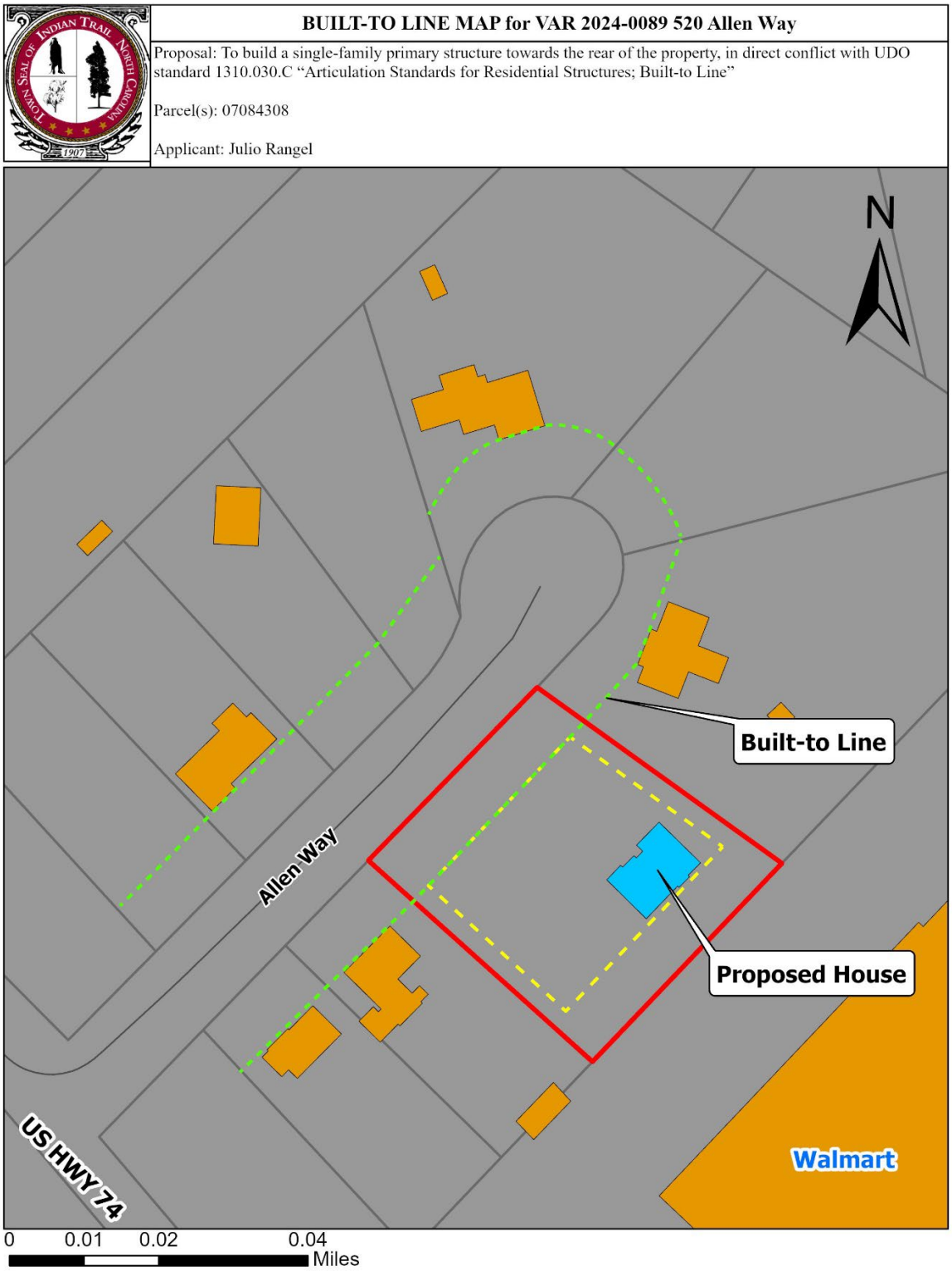
EPARTMENT OF HEALTH AND HUMAN SERVICES
IVISION OF PUBLIC HEALTH
NVIRONMENTAL HEALTH SECTION
N-SITE WATER PROTECTION BRANCH

PROPERTY ID #: [illegible]
DATE OF EVALUATION: 8-2-[illegible]
COUNTY: [illegible]

PROFILE	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
[illegible]	Repair LL <1%	0-8	sil/wk/gr	FR ns/np/nd	None	18	None	18	0-18
		8-18	sil/wk/[illegible]	[illegible] s/p/sexp					
		18 C R	R						
[illegible]	Repair LL <1%	0-6	sil/wk/gr	FR ns/np/nexp	None	26	None	26	0-26
		6-26	sil/wk/sbk	FI s/p/sexp					
[illegible]	Repair LL <1%	0-6	sil/wk/gr	FR ns/np/nexp	None	18	None	18	0-18
		6-18	sil/wk/sbk	FR s/p/sexp					

MENTS:

Attachment 5: Built-to Line Map



Attachment 6: Aerial Map

AERIAL MAP for VAR 2024-0089 520 Allen Way

Proposal: To build a single-family primary structure towards the rear of the property, in direct conflict with UDO standard 1310.030.C "Articulation Standards for Residential Structures; Built-to Line"

Parcel(s): 07084308

Applicant: Julio Rangel

Attachment 7: Zoning Map