HAL OWEN & ASSOCIATES, INC.

SOIL & ENVIRONMENTAL SCIENTISTS
P.O. Box 400, Lillington, NC 27546-0400
Phone (910) 893-8743 / Fax (910) 893-3594
www.halowensoil.com

Project Name: 3440 Matthews Mill Pond Rd., Angier NC 27501

County: Harnett **LHD Reference**: SFD2401-0059

Provided to:

Name: William Stamey, Triverse Builders LLC

Address: 202 Coley Farm Rd Fuquay Varina NC 27526

I, william Stamey, acknowledge receipt of the Licensed Soil Scientist Report which includes:

- Signed and sealed copy of the AOWE's report that includes the information in G.S. 130A-336.2(k)
- Operation and Management Program
- Authorization to Operate

I accept the septic system installation and understand that I will be responsible for continued adherence to the Operations and Management program established by the AOWE.

Signature 01/02/2025
Date

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20 December 2024

William Stamey, Triverse Builders LLC
202 Coley Farm Rd
Fuquay Varina NC 27526

Reference: LSS Report for Authorization to Operate (ATO)
3440 Matthews Mill Pond Rd., Angier NC 27501
LHD # SFD2401-0059

Dear Mr. Stamey,

This LSS Report is being provided pursuant to and meets the requirements of G.S. 130A-336. This report is based on information provided by the property owner or their representative. Hal Owen & Associates, Inc. is not responsible for false or misleading information that may have been provided to us in pursuit of this permit, nor for concealed conditions on the property. Hal Owen & Associates Inc. does not warrant that the septic system will continue to function satisfactorily in the future.

The septic system for the above referenced property has been installed and was inspected by Hal Owen & Associates staff on 18 December 2024. The system has been installed in compliance with applicable NC General Statutes, Rules for Sewage Treatment and Disposal, and all conditions of the AOWE Permit. The system was installed within the design parameters of the Permit with some minor changes, which included adjustments to drainline lengths. Enclosed with this report are the *Septic System Final Inspection Report*, As-Built map (Figure 1), and *Operation and Management Program.*

You will need to sign a document confirming receipt of this report and acceptance of the installed system (pg 1) and submit this report to the Local Health Department (LHD). The LHD shall issue a certificate of occupancy upon receipt of a complete ATO.

I appreciate the opportunity to provide this service. If you have any questions or need additional information, please contact me at your convenience.

Sincerely,

Hal Owen
Licensed Soil Scientist
Authorized Onsite Wastewater Evaluator

Contacts

APPLICANT

Applicant Name	William Stamey, Triverse Builders LLC
Mailing Address	202 Coley Farm Rd Fuquay Varina NC 27526
Telephone Number	9198153200
E-mail Address	bill@triversebuilders.com

SOIL SCIENTIST

Company Name	Hal Owen & Associates, Inc.
Mailing Address	PO Box 400, Lillington, NC 27546
Telephone Number	910-893-8743 Fax: 910-893-3594
E-mail Address	hal@halowensoil.com
Licensed Soil Scientist	Hal Owen, LSS#1102 and AOWE# 10036E
System Designer	Jacoby Kerr
System Inspector	Jocelyn Proulx #9943I

INSTALLER

Company Name	Cory Gilbert Construction
Mailing Address	169 Gilbert Rd, Benson, NC 27504
Telephone Number	(919) 410-5284
Installer & Certification #	Cory Gilbert #4939

LOCAL HEALTH DEPARTMENT

Agency Name	Harnett County Health Department Environmental Health Division
Mailing Address	307 W Cornelius Harnett Blvd, Lillington, NC 27546
Telephone Number	(910) 893-7547
LHD Application #	SFD2401-0059

Septic System Final Inspection Report

Facility Type	Single Family Residence
Wastewater Type	Domestic
Water Supply	Public
Design Wastewater Flow	360 gpd
Soil LTAR	0.45
System Type	IIIbg

Installation

Date	18 December 2024
System Inspector	Jocelyn Proulx, #9943I
Installer	Cory Gilbert #4939

Septic Tank:

Volume (gallons)	1000
Brand and Tank ID#	MCP STB-814
Date of Manufacture	NA
Certified watertight	NA
Distance to Structure	5’
Elevation of tank inlet	4’ 6 ½”
Elevation of tank outlet	4’ 10”

Effluent Filter:

Make and Model	Polylok PL-68

Pump Tank:

Volume (gallons)	1000
Brand and Tank ID#	MCP PT-53
Date of Manufacture	NA
Certified watertight	NA
Elevation of tank inlet	5’
Elevation of tank outlet	5’ 3”

Pump:

Make and Model	Zoeller 152
Pump Sys- Elevation Head	6.57
Pump Sys- Friction Loss	1.45
Pump Sys- Design Head	2.0
Pump Sys- TDH	10.02
GPM (actual)	21.56

Control Panel:

Manufacturer	Zoeller 51354-0002

Distribution:

Supply Line Length to Distribution	240’
Supply Line Diameter	2”
Distribution Device:	Pressure Manifold
Number of outlets (laterals)	4, ½” sch 80 taps

Drainfield:

Type	EZ Flow
Distance to Structure	5’
Distance to Well	NA

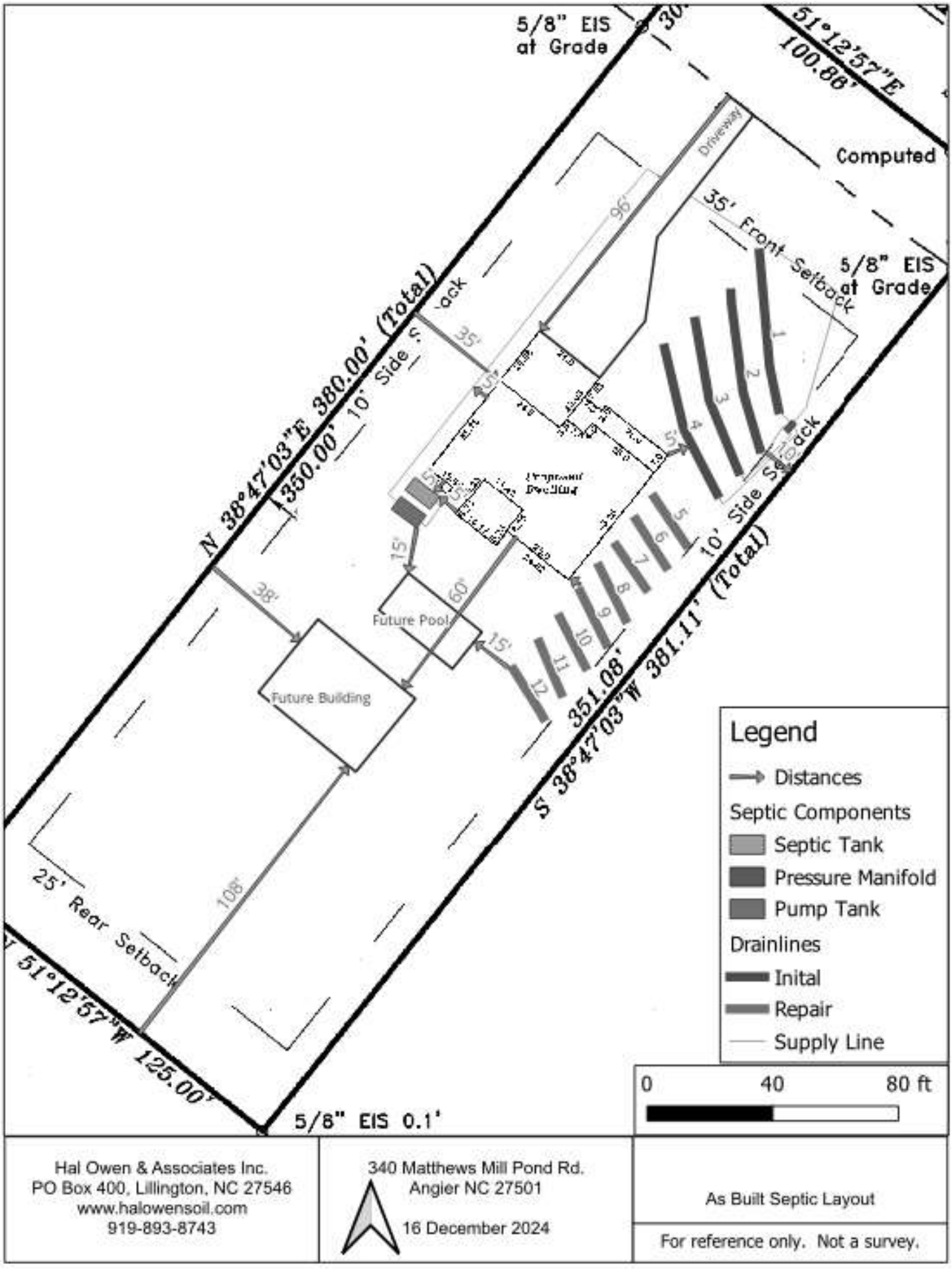
Trench Depth		24”	Trench width	36”
Trench Spacing		9’	Aggregate	Polystyrene
	Length (ft)	Start	Middle	End
Line 1	50	5’	5’	5’
Line 2	50	5’ 2”	5’ 2”	5’ 2”
Line 3	50	5’ 3”	5’ 3”	5’ 2”
Line 4	50	5’ 4”	5’ 4”	5’ 4”
Total	200			

All elevations are given as relative grade rod reading.

Notes:

Drainline elevations are not tied to the septic and pump tank.

Supply line was installed 30 inches beneath driveway


5/8" EIS at Grade
N 51°12'57"E 100.88'
Computed
Driveway
35' Front Setback
5/8" EIS at Grade
N 38°47'03"E 380.00' (Total)
350.00'
10' Side Setback
Future Pool
Future Building
10' Side Setback
S 38°47'03"W 381.11' (Total)
351.08'
25' Rear Setback
108'
N 51°12'57"W 125.00'
5/8" EIS 0.1'
Legend
Distances
Septic Components
Septic Tank
Pressure Manifold
Pump Tank
Drainlines
Inital
Repair
Supply Line
0
40
80 ft
Hal Owen & Associates Inc.
PO Box 400, Lillington, NC 27546
www.halowensoil.com
919-893-8743
340 Matthews Mill Pond Rd.
Angier NC 27501
16 December 2024
As Built Septic Layout
For reference only. Not a survey.

Operation and Management Program

In accordance with G.S. § 130A-336.2, the owner is responsible for continued adherence to the operations and management program. Septic systems safely treat and dispose of wastewaters produced in the bathroom, kitchen, and laundry. These wastewaters may contain disease-causing germs and pollutants that must be treated to protect human health and the environment. Septic systems must be properly used, operated, and maintained by the homeowner to assure the long-term performance of the system.

PERMIT CONDITIONS:

I. Performance: System shall perform in accordance with Rule .1961.
II. Monitoring: As required by Rule .1961.
III. Maintenance: Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank removed, periodically from all compartments, to ensure proper operation of the system. The contents shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.
Other: _____
Subsurface system operator required? Yes _____ No___X_____
If yes, see attached sheet for additional operation conditions, maintenance and reporting.
IV. Operation: _____
V. Other: _____

KNOW WHERE YOUR SEPTIC SYSTEM IS LOCATED

Your property has an onsite subsurface sewage waste disposal system. Familiarize yourself with the location of the system including the tanks, distribution devices, and disposal fields (including repair area). These areas shall be protected from excavation, building additions, outbuildings, pool construction, and soil disturbing activities. Prohibit vehicular traffic over the ground absorption field.

DAY-TO-DAY MANAGEMENT

Don't use too much water.

- The drainfield does not have unlimited capacity.
- Typical daily water use is 50 gallons per person.
- The soil drainfield usually has a maximum daily design capacity of 120 gallons per bedroom, even for short periods of time.
- Overloads can occur seasonally, daily, or on the weekend.
- Water conservation will extend the life of your system.
- Repair dripping faucets and toilets.

Limit disposal to sewage.

- Don't use your septic tank as a trash can for cigarette butts, tissues, sanitary napkins, cotton swabs, cat box litter, coffee grounds, or disposable diapers.
- Restrict the use of your garbage disposal. These add quite a lot of extra solids.
- Don't pour grease or cooking oil down the drain.
- Don't poison your system with harmful chemicals such as solvents, oils, paints, thinners, discarded medications, disinfectants, pesticides, poisons, and other substances.
- Save money. Commercial septic tank additives are usually not necessary.

Protect the system from physical damage (site maintenance).

- Keep the soil over the drainfield covered with vegetation to prevent soil erosion.
- Don't drive vehicles over the system.
- Avoid construction over the system and repair area.
- Don't cover the tank or drainfield with asphalt or concrete.
- Do not install irrigation systems over your drainfield as these could damage the system and/or hydraulically overload the soils.

Dispose of all wastewater in an approved system.

- Don't put in a separate pipe to carry wash waters to a side ditch or the woods. This is illegal.
- Don't connect pipes from air conditioners or ice makers to the septic system.

PERIODIC MAINTENANCE AND REPAIR

Home and yard (site maintenance):

- Protect and maintain the site of your septic tank and drainfield.
- In the drainfield area, cut down and remove trees that like wet conditions. This includes willows, elms, sweetgums, and some maples.
- Landscape the yard to divert surface waters away from the tank and drainfield. Eliminate depressional areas within the drainfield.
- Be sure that the water from the roof, gutters, and foundation drains does not flow over the system.
- Maintain drainage ditches, subsurface tiles, and drainage outlets so that water can flow freely from them.

Septic tank:

- Ensure tank risers remain accessible for measuring and pumping solids as well as cleaning the effluent filter.
- Measure how quickly sludge and scum accumulate in the tank. Pump septage when solids occupy 1/3 to 1/4 of the liquid capacity of the tank (frequency 1 to 3 years).
- Don't wait until your drainfield fails to have your tank pumped. By then, the drainfield may be ruined. With septic systems, an ounce of prevention is worth a ton of cure!

Table 1. Estimated septic tank inspection and pumping frequency (in years). Tank Size (gallons)

	Number of People Using the System				
Tank Size (gallons)	**1**	**2**	**4**	**6**	**8**
900	11	5	2	1	<1
1000	12	6	3	2	1
1250	16	8	3	2	1
1500	19	9	4	3	2

SIGNS OF POSSIBLE SEPTIC SYSTEM PROBLEMS

- Sewage backing up into your toilets, tubs, or sinks.
- Slowly draining fixtures, particularly after it has rained.
- The smell of raw sewage accompanied by soggy soil or sewage discharged over the ground or in nearby ditches or woods.
- Note: pump systems sewage may come to the ground surface when the pump is turned on and then disappear after the pump turns off. This is still a system failure and must be repaired.
- An alarm flashing (red light) or beeping in the house or in the yard indicating a pump is not working properly or that the water level in a pump tank is too high and close to failure.
- Don't attempt to repair a failing system yourself. Get a repair permit and hire an experienced contractor.

REGULATIONS AND PRECAUTIONS:

- Sewage contains germs that can cause diseases. Never enter a septic tank. Toxic and explosive gases in the tank present a hazard. Old tanks may collapse. Electrical controls present a shock and spark hazard. Secure the septic tank lid so that children cannot open it.

For more information about septic systems, contact your county Extension agent or local health department. https://content.ces.ncsu.edu/septic-system-owners-guide

PREVENTIVE MAINTENANCE RECORD

Your Septic System Pumper

Name:_____

Address:_____

Phone:_____Email:_____

Date System Installed:

Date	Work Done	Firm	Cost

SFO 24D1-0059

North Carolina Onsite Wastewater Contractor Inspector Certification Board
Authorized Onsite Wastewater Evaluator Permit Option for Non-Engineered Systems
Notice of Intent (NOI) to Construct

X New ___ Expansion ___ Repair ___ Relocation ___ Relocation of Repair Area

Owner or Legal Representative Information:
Name: William Stamey, Triverse Builders LLC
Mailing address: 202 Coley Farm Rd City: Fuquay Varina State: NC Zip: 27526
Phone: 919-815-3200 Email: bill@triversebulders.com

Authorized Onsite Wastewater Evaluator Information:
Name: Hal Owen Certification #: 10036E
Mailing address: PO Box 400 City: Lillington State: NC Zip: 27546
Phone: 910-893-8743 Email: hal@halowensoil.com

Site Location Information:
Site address: 3440 Matthews Mill Pond Rd
Tax parcel identification number or subdivision lot, block number of property: Lot #2 Richard Gregory Dvision
0671-49-1919 County: Harnett

System Information:
Wastewater System Type: IIIbg (Pump to Accepted Status 25% reduction)
Daily Design Flow: 360 gpd
Saprolite System: ___ Yes X No Subsurface Operator Required: ___ Yes X No
Water Supply Type: ___ Private Well X Public Water Supply ___ Spring ___ Other: ___

Facility Type:
X Residential 3 # Bedrooms 6 Maximum # of Occupants
___ Business Type of Business and Basis for Flow: ___
___ Public Assembly Type of Public Assembly and Basis for Flow: ___

Required Attachments:
✓ Plat or Site Plan
✓ Evaluation of Soil and Site Features by Licensed Soil Scientist

Attest: On this the 8 day of July, 2024 by signature below I hereby attest that the information required to be included with this NOI to Construct is accurate and complete to the best of my knowledge. Furthermore, I hereby attest that I have adhered to the laws and rules governing onsite wastewater systems in the state of North Carolina.
This NOI shall expire on 8 day of July, 2029.

Signature of Authorized Onsite Wastewater Evaluator: Hal Owen

Signature of Owner or Legal Representative: ___

Disclosure: The owner may apply for a building permit for the project upon submitting a complete NOI to Construct and the fee required (if any) to the local health department. An onsite wastewater system authorized by an authorized onsite wastewater evaluator shall be transferable to a new owner with the consent of the authorized onsite wastewater evaluator.

Local Health Department Receipt Acknowledgement:
Signature of Local Health Department Representative: [signature] Date: 7-15-24

HALOWE1 OP ID: TOW

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 06/27/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER 910-893-5707 INSURANCE SERVICE CTR -LILLING LILLINGTON BRANCH OFFICE PO Box 1565 LILLINGTON, NC 27546 DANIEL L. BABB	CONTACT NAME: SHARON WOODY PHONE (A/C, No, Ext): 910-893-5707 FAX (A/C, No): 910-893-2077 E-MAIL ADDRESS: SWOODY@ISCFAY.COM
INSURED HAL OWEN & ASSOCIATES, INC. PO BOX 400 LILLINGTON, NC 27546	INSURER(S) AFFORDING COVERAGE — NAIC # INSURER A : STARSTONE NATIONAL INSURER B : INSURER C : INSURER D : INSURER E : INSURER F :

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
	COMMERCIAL GENERAL LIABILITY						EACH OCCURRENCE	$
	☐ CLAIMS-MADE ☐ OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence)	$
							MED EXP (Any one person)	$
							PERSONAL & ADV INJURY	$
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE	$
	☐ POLICY ☐ PRO-JECT ☐ LOC						PRODUCTS - COMP/OP AGG	$
	OTHER:							$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident)	$
	☐ ANY AUTO						BODILY INJURY (Per person)	$
	☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS						BODILY INJURY (Per accident)	$
	☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY						PROPERTY DAMAGE (Per accident)	$
								$
	☐ UMBRELLA LIAB ☐ OCCUR						EACH OCCURRENCE	$
	☐ EXCESS LIAB ☐ CLAIMS-MADE						AGGREGATE	$
	☐ DED ☐ RETENTION $							$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY Y / N						☐ PER STATUTE ☐ OTH-ER	
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? ☐ N / A (Mandatory in NH)						E.L. EACH ACCIDENT	$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE	$
							E.L. DISEASE - POLICY LIMIT	$
A	PROFESSIONAL LIAB.			42ESP00143901	01/27/2024	01/27/2025	PER OCC.	1,000,000
							AGGREGATE	2,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

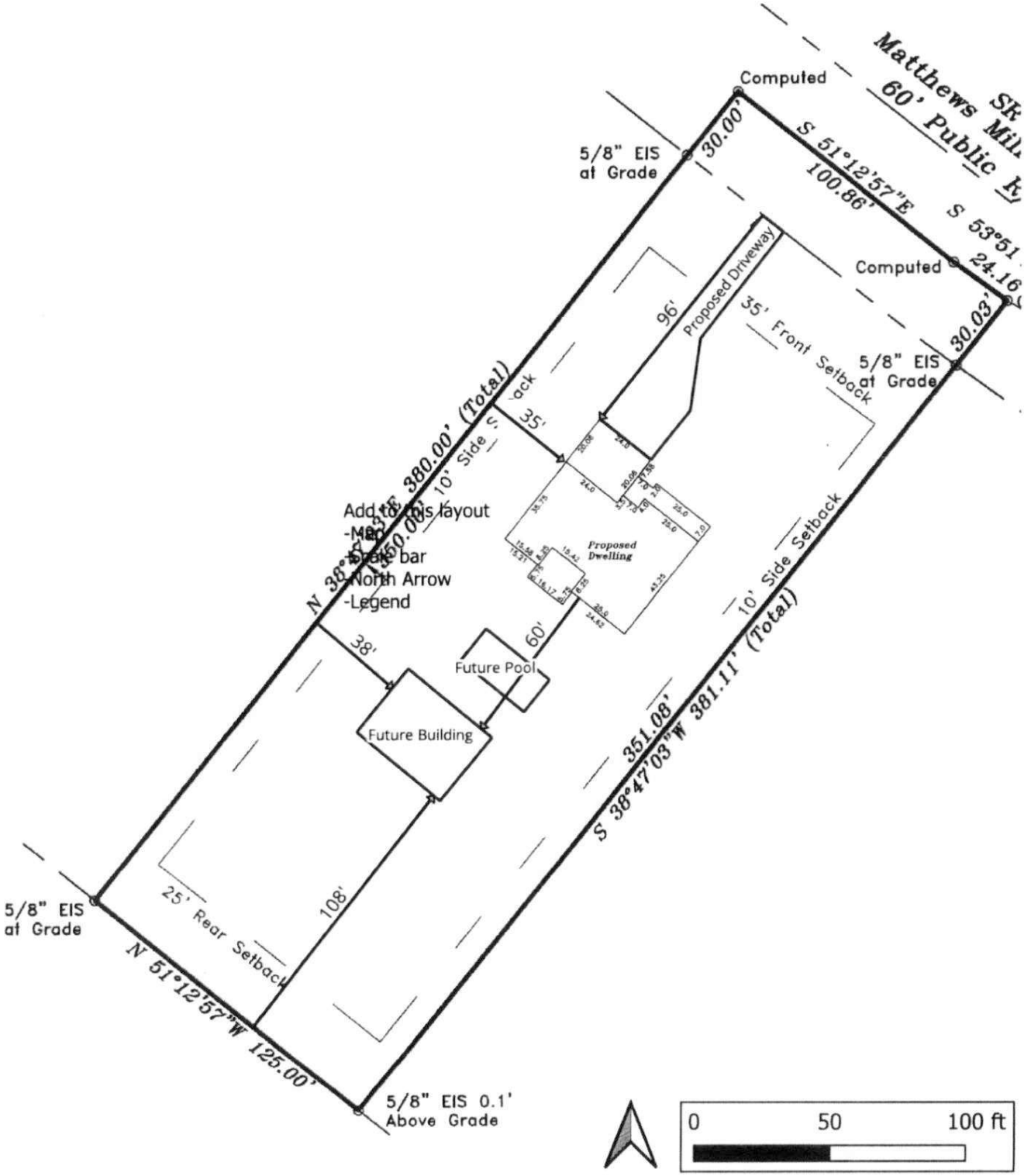
WILLIAM STAMEY
3418 MATTHEWS MILL POND RD
ANGIER, NC 27501

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Taylor Wallace



Hal Owen & Associates Inc. PO Box 400, Lillington, NC 27546 www.halowensoil.com 919-893-8743	3440 Matthews Mill Pond Rd. Angier NC 27501 10 July 2024	Site Plan For reference only. Not a survey.

AOWE EVALUATION

HAL OWEN ASSOCIATES
www.halowensoil.com

 # HOA-AOWE-2407-3

Issue date 7/9/2024
Expiration 7/9/2029

APPLICANT INFORMATION

Name	William Stamey, Triverse Builders LLC		
Mailing Address	202 Coley Farm Rd, Fuquay Varina NC 27526		
E-mail Address	bill@triversebuilders.com	Telephone Number	9198153200

PROPERTY IDENTIFIERS

County	Harnett	PIN	0671-49-1919
Size (Acre)	1.09	County PID	
Site Address	3440 Matthews Mill Pond Rd., Angier NC 27501		
S/D Name and Lot#	Lot #2 Richard Gregory Division		

PROJECT INFORMATION

Wastewater System	New	.0403 Eng Low Flow	No
Wastewater Strength	Domestic	Effluent Standard	DSE
Facility Type	Residential	Water Supply	Public Water
Design Wastewater Flow	360 gpd	gal/unit	120
Basis for Flow	3 bedrooms	max occupancy	6
Basement	No	Fixtures in basement?	No
Crawl Space	Yes	Slab Foundation	No

CONSULTANT INFORMATION

Company Name	Hal Owen & Associates, Inc.		
Mailing Address	PO Box 400, Lillington, NC 27546		
E-mail Address	hal@halowensoil.com	Telephone Number	910-893-8743
Licensed Soil Scientist	Britt Wilson, LSS#1351	AOWE	Hal Owen, #10036E

A soil and site evaluation has been conducted for the referenced property for the purpose of permitting a subsurface wastewater system. This evaluation was prepared based on information provided by the applicant to include the basis for design flow, proposed structure location(s), and property boundaries. Any false, inaccurate, or incomplete information provided by the applicant, owner, or legal representatives may result in denial or revocation of applications, approvals, or permits.

This AOWE Evaluation is being submitted pursuant to and meets the requirements of G.S.130A-336.2. This evaluation includes a soil and site evaluation, specifications, plans, and reports for the site layout and construction of a proposed onsite wastewater system by an Authorized On-Site Wastewater Evaluator (AOWE). The evaluation of soil conditions and site features is provided in accordance with G.S. 130A-335(e), the Rules for "Wastewater Treatment and Dispersal Systems", 15A NCAC 18E, and local septic regulations (if any). This report represents my professional opinion as a Licensed Soil Scientist and Authorized Onsite Wastewater Evaluator.

Britt Wilson

Hal Owen

LICENSED SOIL SCIENTIST JOSEPH BRITT WILSON 1351 STATE OF NORTH CAROLINA

NC ONSITE WASTEWATER Certification Number 10036E EVALUATOR

LICENSED SOIL SCIENTIST HAL OWEN 1102 STATE OF NORTH CAROLINA

AOWE EVALUATION

HAL OWEN ASSOCIATES
www.halowensoil.com

WASTEWATER SYSTEM DESIGN SPECIFICATIONS

Proposed Design Daily Flow	360	gpd	Drainfield Meeets Requirements:	
Septic Tank Size (minimum)	1000	gallons	.0508 Available Space	Yes
Pump Tank Size (minimum)	1000	gallons, if required	.0601 Setbacks	Yes

Initial System

System Type	IIIbg –Pump to Other non-conventional systems			
Pump Required	Yes	10 ft TDH at	21.1	GPM
Trenches:	Accepted (25% reduction) System			
Design LTAR	0.45	gal/day/ft^2	Saprolite System	No
Total Trench/ Bed Length	200	feet	Fill System	No
Trench Spacing	9	ft on center		
Usable soil depth to LC	41	inches		
Maximum Trench Depth	24	inches, measured on downhill side of trench		
Minimum Soil Cover	6	inches		
Artificial Drainage Required	No			

Repair System

System Type:	IIIe – PPBPS gravity system			
Pump Required	No			
Trenches:	PPBPS, horizontal			
Design LTAR	0.45	gal/day/ft^2	Saprolite System	No
Total Trench/ Bed Length	134	feet	Fill System	No
Trench Spacing	9	ft on center		
Usable soil depth to LC	38	inches		
Maximum Trench Depth of	24	inches, measured on downhill side of trench		
Minimum Soil Cover	6	inches		

Potential Drainlines flagged at site on 9-ft centers.

Line #	Color	Relative Elevation (ft)	Drainline Length(ft)	Field Length(ft)	
1	B	99.74	40	40	Initial
2	R	99.65	55	55	
3	W	99.49	55	58	
4	Y	99.23	55	55	
5	R	98.76	17	17	Repair
6	W	98.56	17	17	
7	Y	98.25	17	17	
8	B	97.99	17	17	
9	R	97.69	17	17	
10	W	97.37	17	33	
11	Y	97.11	17	17	
12	B	96.82	17	17	
Septic Tank:		99.17			
Pump Tank:		99.17			
Reference Elev:		**100.00**			

*Property lines per owner
*Trench bottoms shall be level to +/- 1/4" in 10ft
*All parts of septic system must meet minimum setbacks
*No grading or removal of soil in dispersal areas

AOWE EVALUATION

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PERMIT CONDITIONS

The requirements of 15A NCAC 18E are incorporated by reference into this permit and shall be met.

System shall be installed in accordance with the attached Wastewater System Design Specificaitons.
See attached SYSTEM LAYOUT for wastewater system design and location.

Any changes to the site plan or intended use must be approved by Hal Owen & Associates. Permit modification and resubmittal to the LHD may be necessary to ensure regulatory compliance.

Conformance to all regulatory setbacks shall be maintained. Local regulations (such as well or riparian buffer ordinances) may require more stringent setbacks than specified in the septic regulations.

Minimum soil cover of six inches shall be established over dispersal field. Soil cover above the original grade shall be placed at a uniform depth over the entire dispersal field and shall extend laterally five feet beyond the dispersal trench. Site shall be graded to shed water away from field and a vegetative cover established to prevent erosion.

The dispersal field and repair area shall not be subject to vehicular traffic. Vehicular traffic can damage soils, pipes, and valve boxes. Do not use septic areas for parking.

Do not allow underground utilities, water lines, or sprinkler systems to be installed in the septic areas. Damage to the septic areas could result in the septic permit being revoked.

The wastewater system shall not be covered until inspected by Hal Owen & Associates and shall not be placed into use until an Authorization to Operate is issued.

SPECIFIC REQUIREMENTS

A pre-construction conference with the septic contractor is required prior to installation.
Call Hal Owen & Associates at least five days in advance to schedule 910-893-8743

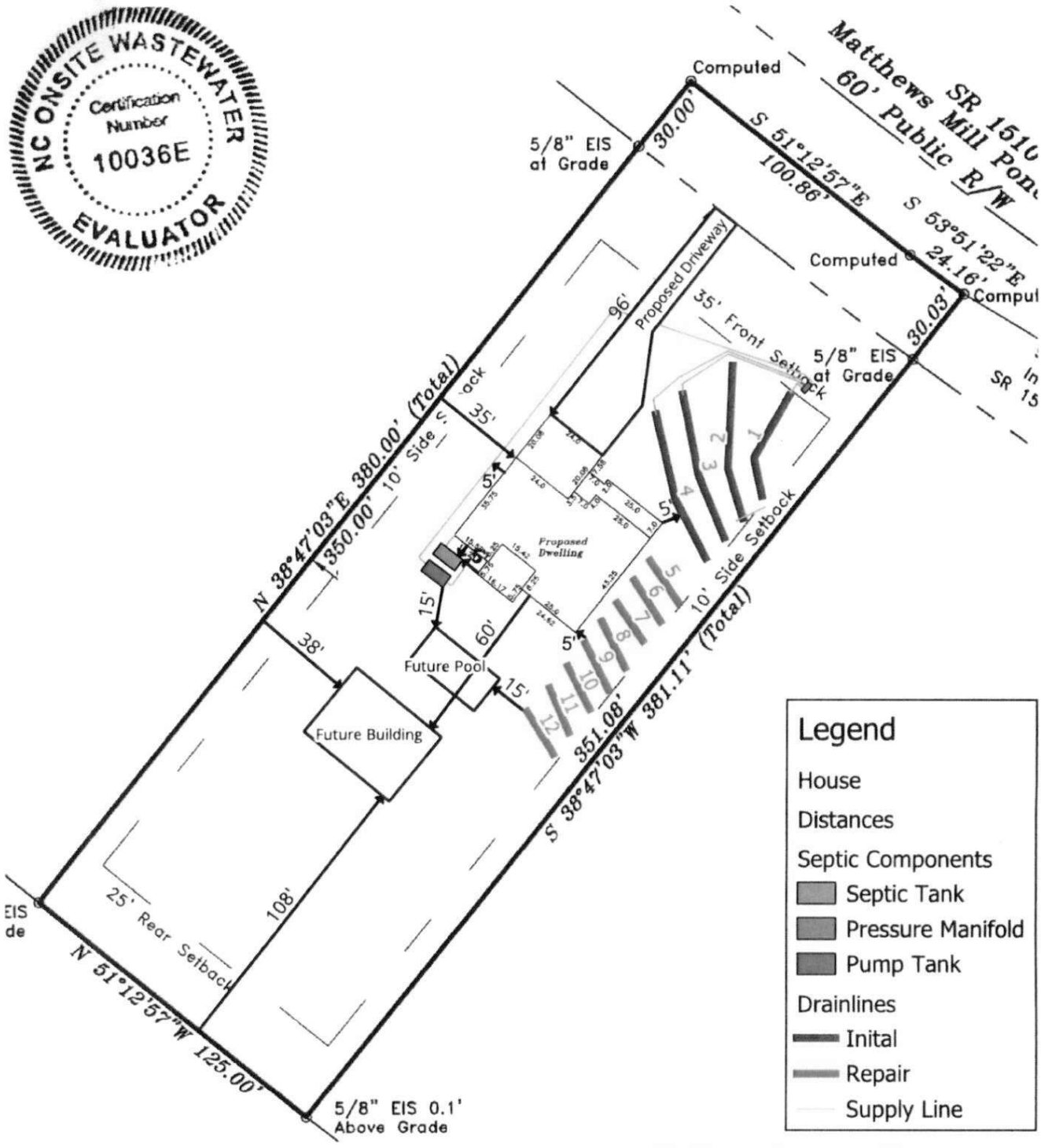
The inlet and outlet of all tanks shall be equipped with an approved pipe penetration boot.

The pump tank may be eliminated if gravity distribution can be demonstrated.

Supply lines conveyed under areas subject to vehicular traffic shall meet the requirements of Rule 18E .0601(h) using ferrous material pipe or other pipe designed and bedded for traffic-bearing loads.

Ensure water line installation meets minimum setback requirements to wastewater system components and dispersal fields.

NC ONSITE WASTEWATER
Certification Number
10036E
EVALUATOR



Notes:
*No grading or removal of soil in initial or repair areas
*Property lines per owner
*Trench bottoms shall be level to +/- 1/4" in 10ft

Hal Owen & Associates Inc. PO Box 400, Lillington, NC 27546 www.halowensoil.com 919-893-8743	340 Matthews Mill Pond Rd. Angier NC 27501 10 July 2024	Figure 2 Septic Layout For reference only. Not a survey.

AOWE EVALUATION

HAL OWEN ASSOCIATES
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INITIAL WASTEWATER SYSTEM

Pressure Manifold Design Criteria

DESIGN DAILY FLOW 360 gallons/day **SOIL LTAR:** 0.45 gpd/ft^2

TANKS (min) Septic Tank: 1000 gallons Pump Tank: 1000 gallons

SUPPLY LINE Length: 80 ft Diameter: 2 " SCH 40 PVC

Minimum flow (gpm) to maintain 2fps scour velocity: 20.9 gpm

TRENCHES Drainline Type: Accepted (25% reduction) System

Maximum Trench Depth of 24 inches, measured on low side of trench

Trench width: 3 feet Effective Trench Width: 4 ft

Absorption Area: 600 ft^2 Minimum Linear Length: 200 ft

MANIFOLD Length (ft): 3 Diameter: 4" sch 80 pvc Elevation: 100.74

Taps 3 Tap Configuration: 6in. spacing, 1 side of manifold

TAP CHART

Line	Color	Relative Elevation	Length(ft)	Tap Size/ Schedule	flow/tap gpm	gpd/ft	LTAR (gpd/ft^2)
1	B	99.74	40 – 95	3/4"sch 80	10.10	1.817	0.606
2	R	99.65	55				
3	W	99.49	55	1/2"sch 80	5.48	1.703	0.568
4	Y	99.23	55	1/2"sch 80	5.48	1.703	0.568
	Total Drainline:		205	Total Flow:	21.06		

Target LTAR:* 0.60

LTAR + 5%: 0.630

PUMP CALCULATIONS

Dose Volume: 100.40 gallons, with Pipe Volume at 75 % *65.3gal/100ft pipe

Dose Pump Run Time (min): 4.77 Daily Pump Run Time (min): 17.09

Drawdown (in.): 100 gallons + 20.25 gal/ inch = 4.96 inches

Pump Tank Elevation (ft): 99.17 Pump Elevation (ft): 94.17

Friction Head: 1.39 *Hazen Williams Formula (use supply line length+70' for fittings in pump tank)

Elevation Head: 6.6

Design Head: 2.0 Total Dynamic Head (TDH): 9.96 ft

Pump to Deliver: **21.1** gpm @ **10.0** ft TDH

NEMA 4X Simplex Control Panel with elapsed time meter, event counter, audible and visible alarm (w/ silence button), hand-off-automatic (HOA) switch, pump run light, and pump on separate circuits is required. Control panel bottom shall be mounted a minimum of 24 in. above finished grade within 50 ft of pump tank. A septic tank filter is required. Floats to be determined by type of pump tank used.

Possible Septic Tank: Brantley 1000 STB-499 *Possible Septic Filter:*

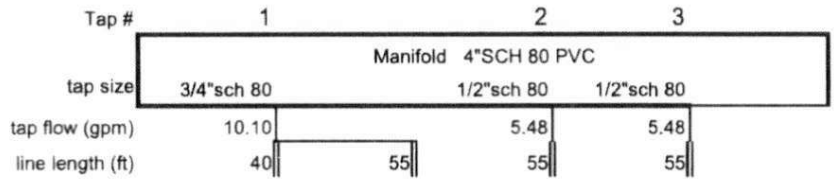
Possible Pump Tank: Brantley 1000_PT-237 *Vol(gal):* 1000 *GPI:* 20.25

Possible Pump: *pump height (in) =* 14

Possible Control Panel: SJE Rhombus 112

INITIAL WASTEWATER SYSTEM

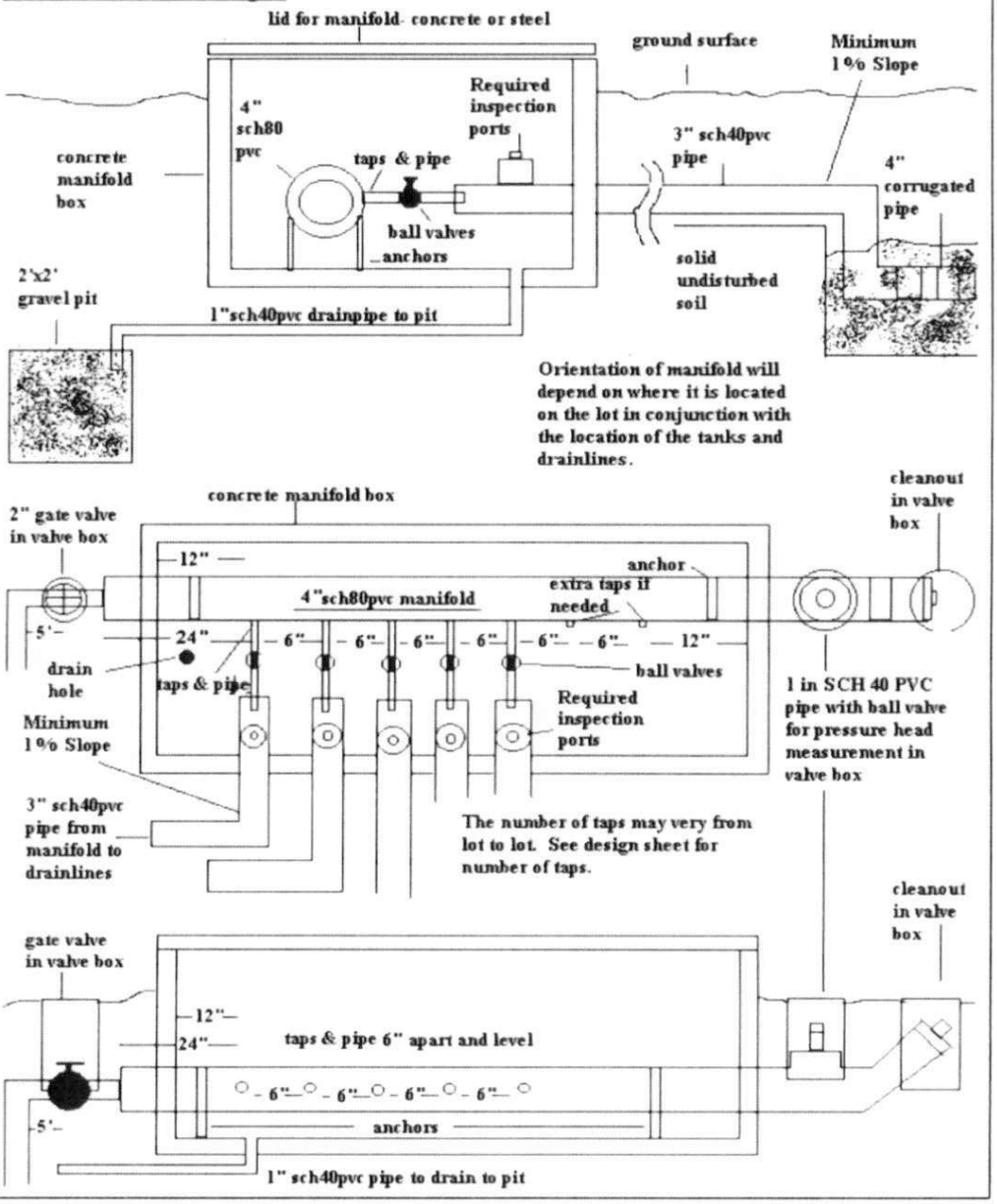
Pressure Manifold Diagram



Typical

APPENDIX C

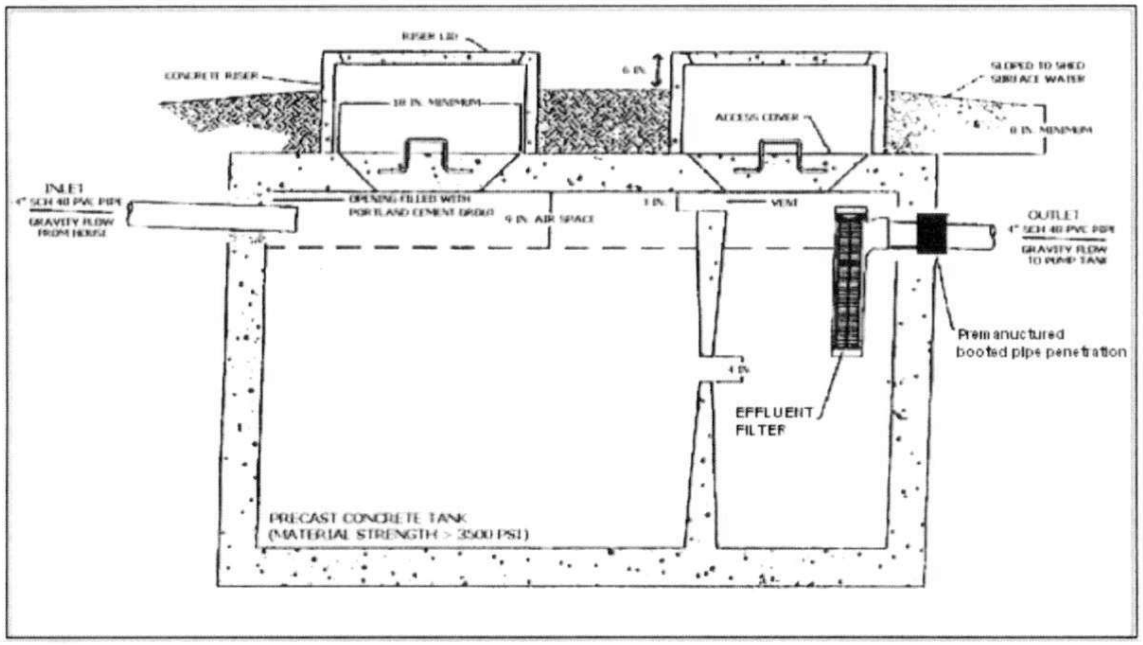
Pressure Manifold Design :

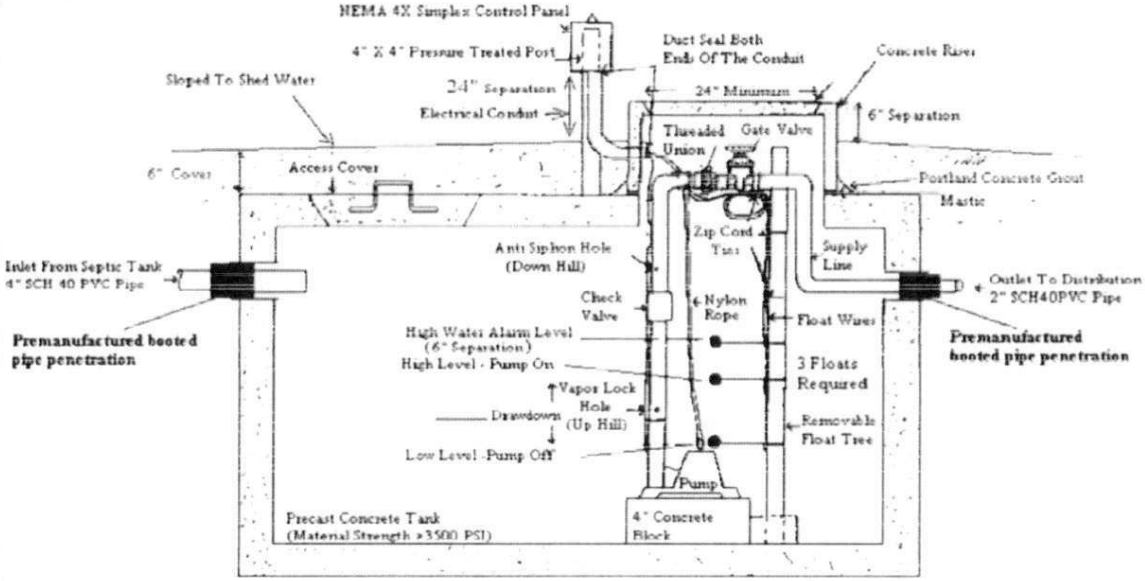


1.

INITIAL WASTEWATER SYSTEM

Typical Septic Tank **1000 GALLON SEPTIC TANK, minimum**





AOWE EVALUATION

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INITIAL WASTEWATER SYSTEM

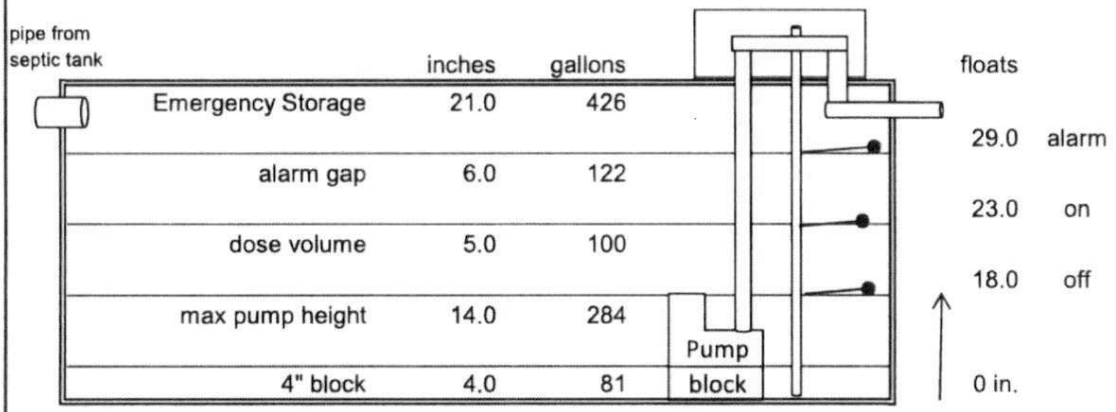
Pump Tank Calculations:

Possible pump tank: Brantley 1000_PT-237 *Possible Pump:*

tank GPI (gal/in): 20.25 calculated height: 14 in

tank volume (gal): 1000 per manufacturer

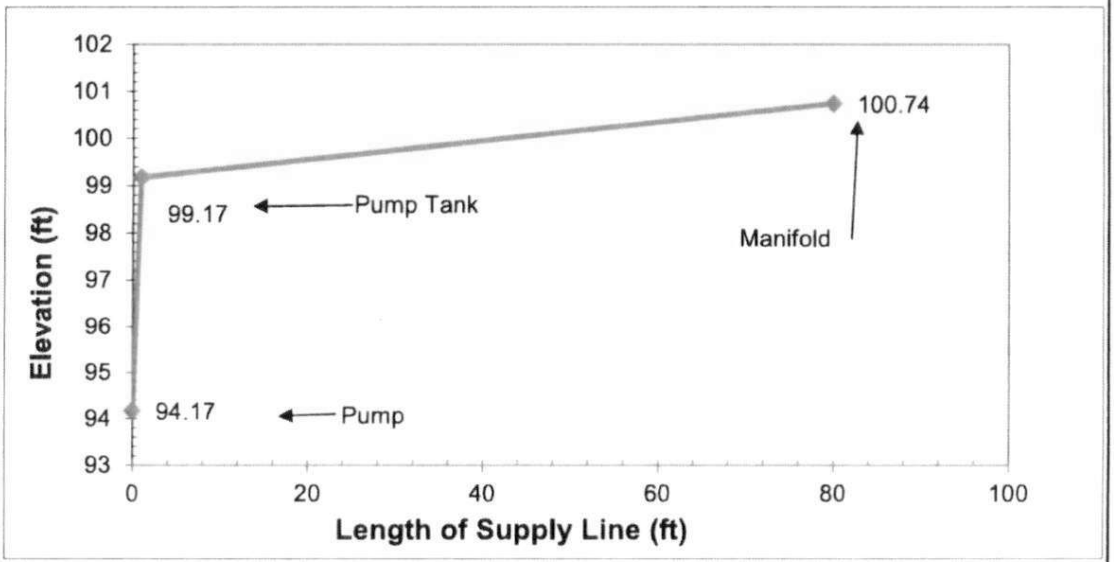
tank height (in): 50.0 *per manufacturer* minimum emergency storage: 360 gal



Drawing N.T.S.

Supply Line Profile

	Distance	Elevation
Pump	0	94.17
pump tank	1	99.17
Pressure manifold	80	100.74



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REPAIR WASTEWATER SYSTEM

DESIGN DAILY FLOW 360 gallons/day **SOIL LTAR:** 0.45 gpd/ft²

TANKS (minimum) Septic Tank 1000 gallons Pump Tank 1000 gallons

SUPPLY LINE Length (ft): 215 Diameter: 2 " sch 40 pvc

Min total flow (gpm) to maintain 2 fps scour velocity = 20.89

TRENCHES Drainline Type: PPBPS, horizontal

Maximum Trench Depth of 24 inches, measured on low side of trench

Trench width: 3 feet Effective Trench Width: 6 ft

Absorption Area: 400 ft² Minimum Linear Length: 133 ft

÷ 4.33 ft per panel : 31 panels

PRESSURE MANIFOLD

Taps 4 Tap Configuration: 6in. spacing, 1 side of manifold

Length (ft): 3.5 Diameter: 4" sch 80 pvc Elevation: 99.76

TAP CHART

Tap #	Line #	Color	Elevation (ft)	Number of Panels	Run Length(ft)	Line Length (ft)	Tap Size/ Schedule	Flow/tap (gpm)	LTAR (gpd/ft²)
1	5	R	98.76	4	17	34	1/2"sch 80	5.48	0.882
	6	W	98.56	4	17				
3	7	Y	98.25	4	17	34	1/2"sch 80	5.48	1.765
	8	B	97.99	4	17				
5	9	R	97.69	4	17	34	1/2"sch 80	5.48	1.765
	10	W	97.37	4	17				
7	11	Y	97.11	4	17	34	1/2"sch 80	5.48	0.882
	12	B	96.82	4	17				
			Totals:	32	136		Total Flow:	21.92	

Target LTAR*: 0.90

LTAR + 5%: 0.945

Pump Calculations:

Number of Panels: 32

Dose Volume: 115.2 gallons # of panels * 3.6 gallons/ panel

Dose Pump Run Time: 5.26 minutes Dose volume/total flow

Daily Pump Run Time: 16.42 minutes Daily Flow/total flow

Drawdown (in.): 115 gallons ÷ 20.25 gal/ inch = 5.69 inches

Pump Tank Elevation (ft): 99.17 Pump Elevation (ft): 94.17

Friction Head: 2.84 *Hazen Williams Formula (use supply line length+70' for fittings in pump tank)

Elevation Head: 5.59 Design Head: 2.0 Total Head: 10.43 feet

Pump to Deliver: **21.92** gpm @ **10.43** ft head

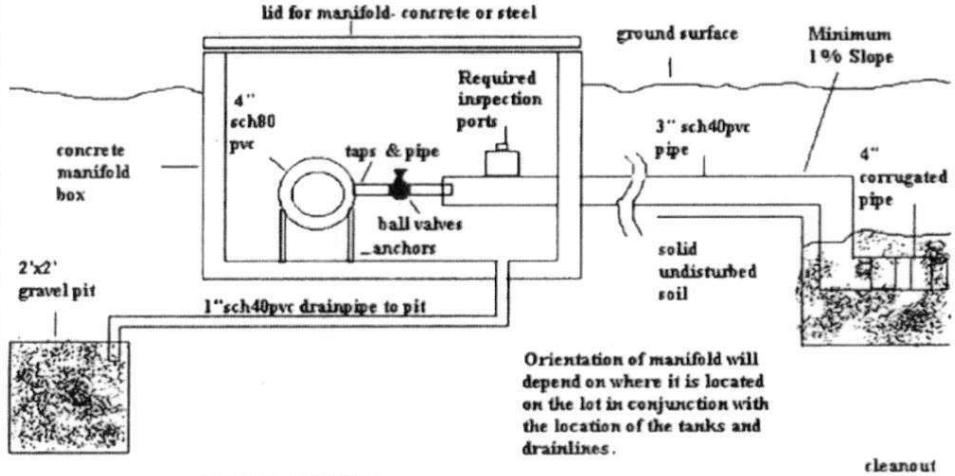
REPAIR WASTEWATER SYSTEM

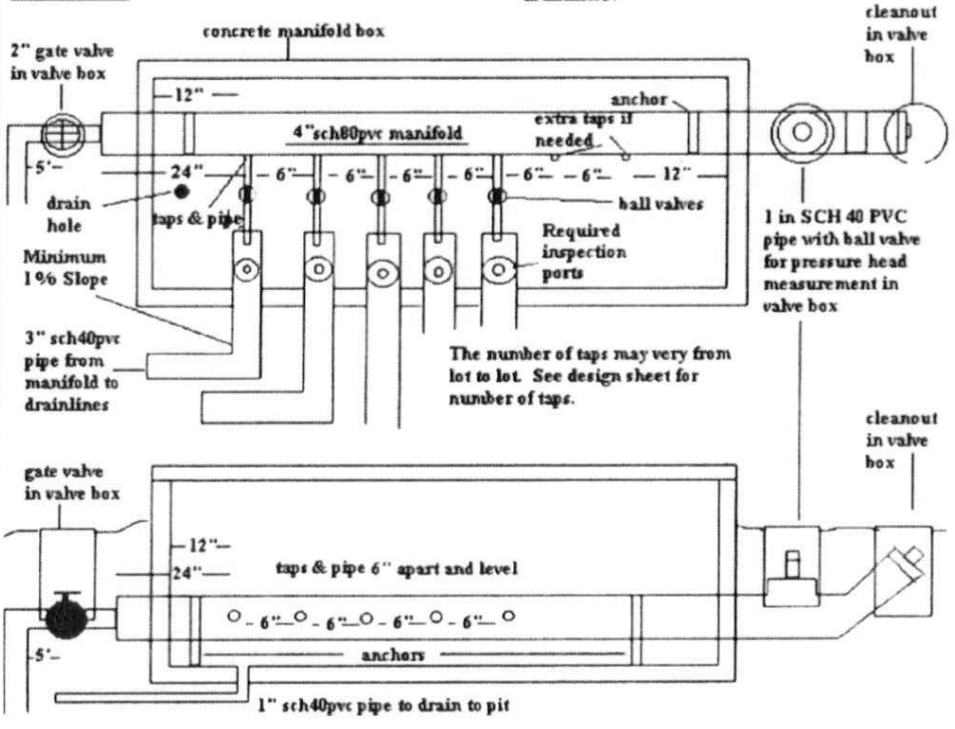
Pressure Manifold Diagram

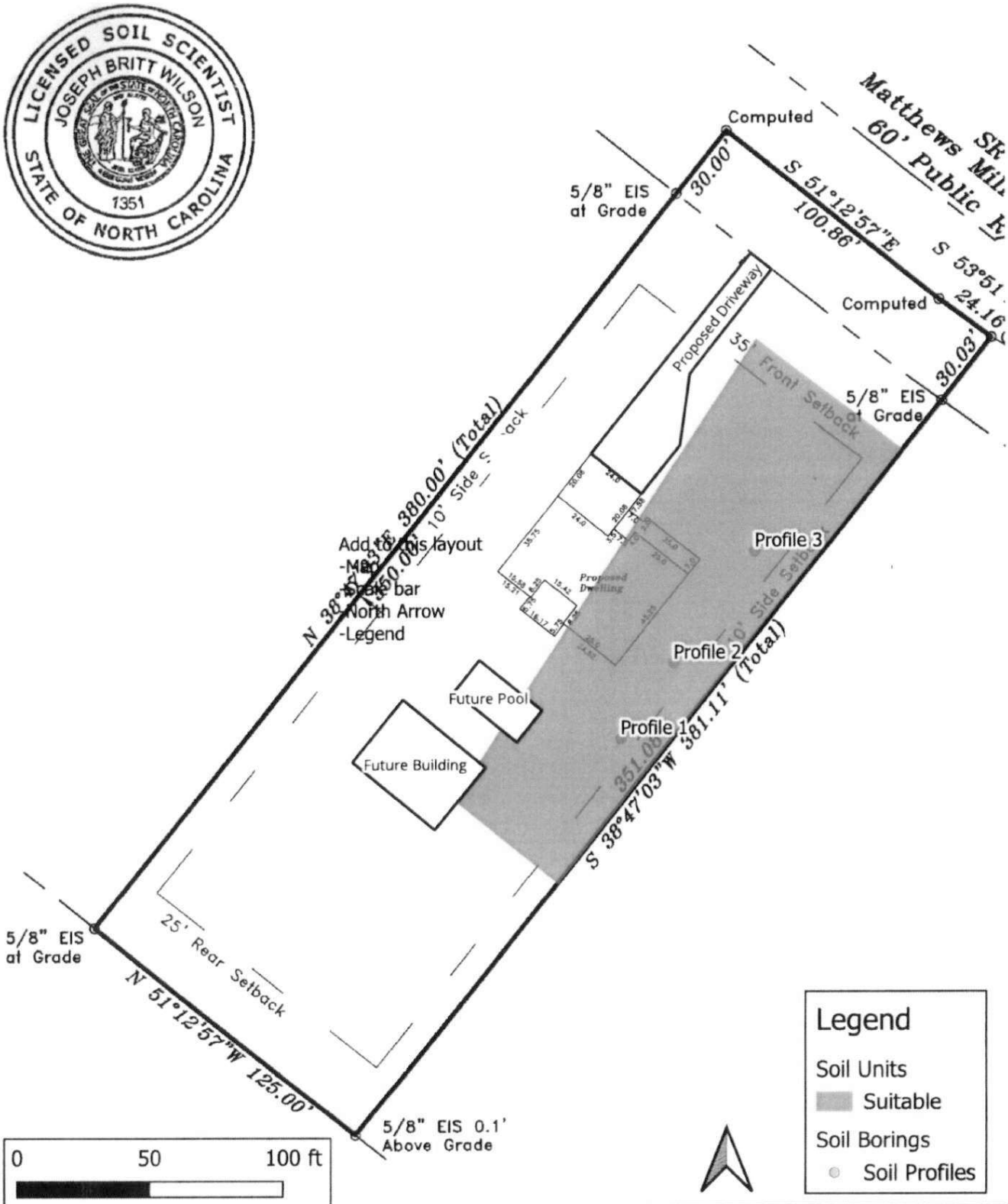
Tap#	1	2	3	4
	Manifold 4"SCH 80 PVC			
	1/2"sch 80	1/2"sch 80	1/2"sch 80	1/2"sch 80
flow (gpm)	5.48	5.48	5.48	5.48
line length (ft)	17 17	17 17	17 17	17 17

Typical:

Pressure Manifold Design :







Hal Owen & Associates Inc. PO Box 400, Lillington, NC 27546 www.halowensoil.com 919-893-8743	3440 Matthews Mill Pond Rd. Angier NC 27501 10 July 2024	Figure 1 Soil Map for Septic Suitability For reference only. Not a survey.

AOWE EVALUATION

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Soil/Site Evaluation Form for On-Site Wastewater System

OWNER NAME: William Stamey, Triverse Builders LLC

PROPOSED FACILITY: Residential DESIGN DAILY FLOW: 360 WATER SUPPLY Public Water

LOCATION OF SITE: 3440 Matthews Mill Pond Rd., Angier NC 27501 PIN: 0671-49-1919

WASTEWATER TYPE: Domestic COUNTY: Harnett

EVALUATION METHOD: AUGER BORING [X] PIT [ ] CUT [ ]

EVALUATED BY: Britt Wilson, LSS#1351 DATE EVALUATED: 6-21-2024

	INITIAL SYSTEM	REPAIR SYSTEM
AVAILABLE SPACE	600 ft^2 trench bottom	400 ft^2 trench bottom
SYSTEM TYPE	Accepted (25% reduction) System	PPBPS, horizontal
SITE LTAR	0.45 gpd/ft^2	0.45 gpd/ft^2
MAX TRENCH DEPTH	24 inches (measured on downhill side)	24 inches (measured on downhill side)

SITE CLASSIFICATION Suitable OTHER FACTORS

COMMENTS:

PROFILE 1

HORIZON DEPTH	COLOR	CONSIS TENCE	TEXTURE	STRUCTURE	MINERA LOGY	OTHER PROFILE FACTORS	
0-10	2.5YR 6/2	FR	SL	GR	SEXP	LANDSCAPE POSITION	H
10-34	10YR 6/4	FI	SCL	SBK	SEXP	SOIL WETNESS DEPTH	40"
34-40	10YR 7/6	FI	SCL	SBK	SEXP	SOIL WETNESS COLOR	10YR 7/1
40-48+	10YR 7/6	FI	CL	SBK	SEXP	SOIL DEPTH	48"+
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	2.5
PROFILE CLASSIFICATION			**Suitable**	LTAR gpd/ft^2	**0.45**	SLOPE CORRECTION (IN)	0.9
COMMENT							

PROFILE 2

HORIZON DEPTH	COLOR	CONSIS TENCE	TEXTURE	STRUCTURE	MINERA LOGY	OTHER PROFILE FACTORS	
0-16	2.5Y 6/2	FR	SL	GR	SEXP	LANDSCAPE POSITION	H
16-38	10YR 7/6	FI	SCL	SBK	SEXP	SOIL WETNESS DEPTH	38"
38-48+	10YR 7/6	FI	SCL	SBK	SEXP	SOIL WETNESS COLOR	10YR 7/1
						SOIL DEPTH	48"+
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	4
PROFILE CLASSIFICATION			**Suitable**	LTAR gpd/ft^2	**0.45**	SLOPE CORRECTION (IN)	1.4
COMMENT							

AOWE EVALUATION

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PROFILE 3

HORIZON DEPTH	COLOR	CONSIS TENCE	TEXTURE	STRUCTURE	MINERA LOGY	OTHER PROFILE FACTORS	
0-8	2.5YR 6/2	FR	SL	GR	SEXP	LANDSCAPE POSITION	H
8-18	10YR 6/4	FI	SL	GR	SEXP	SOIL WETNESS DEPTH	41"
18-41	10YR 7/6	FI	SCL	SBK	SEXP	SOIL WETNESS COLOR	10YR 7/1
41-48+	10YR 7/6	FI	SCL	ABK	SEXP	SOIL DEPTH	48"+
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	4
PROFILE CLASSIFICATION			**Suitable**	LTAR gpd/ft^2	**0.45**	SLOPE CORRECTION (IN)	1.4
COMMENT							

AOWE EVALUATION

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Soil/Site Evaluation Form for On-Site Wastewater System

LEGEND OF ABBREVIATIONS

LANDSCAPE POSITION	TEXTURE GROUP	TEXTURE CLASS	LTAR (gal/day/sqft)
CC - Concave Slope	I	S - Sand	1.2-0.8
CV - Convex Slope		LS - Loamy Sand	
DS - Debris Slump			
D - Depression	II	SL - Sandy Loam	0.8 – 0.6
DW - Drainage Way		L - Loam	
FP - Flood Plain			
FS - Foot Slope	III	SCL - Sandy Clay Loam	0.6 – 0.3
H - Head Slope		CL - Clay Loam	
L - Linear Slope		SiL - Silt Loam	
N - Nose Slope		Si - Silt	
R - Ridge		SiCL - Silt Clay Loam	
S - Shoulder Slope			
T - Terrace	IV	SC - Sandy Clay	0.4 – 0.1
TS - Toe Slope		C - Clay	
		SiC - Silty Clay	
		O - Organic	none

STRUCTURE	MOIST CONSISTENCE	WET CONSISTENCE
G - Single Grain	VFR - Very Friable	NS - Non Stick
M - Massive	FR - Friable	SS - Slightly Sticky
CR - Crumb	FI - Firm	MS - Moderately Stick
GR - Granular	VFI - Very Firm	VS - Very Sticky
SBK - Subangular Blocky	EFI - Extremely Firm	
ABK - Angular Blocky		NP - Non Plastic
PL - Platy	**MINERALOGY**	SP - Slightly Plastic
PR - Prismatic	SEXP - Slightly Expansive	MP - Moderately Plastic
	EXP - Expansive	VP - Very Plastic

MOTTLES			
	f – few	1 - fine	F - Faint
	c – common	2 - medium	D - Distinct
	m – many	3 - coarse	P - Prominent

Give Horizon Depth in inches below natural soil surface and Fill Depth in inches above land surface.

Depth to Soil Wetness: inches below land surface to free water or to soil colors with chroma 2 or less.

Classification: S – Suitable U – Unsuitable

All soil characteristics were described in accordance with the USDA Field Book for Describing and Sampling Soils. The soils were evaluated under moist soil conditions. This evaluation included observations of topography and landscape position, soil morphology (texture, structure, clay mineralogy, organics), soil wetness, soil depth, and restrictive horizons.

AOWE EVALUATION

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TERMS AND CONDITIONS

This AOWE Evaluation is intended to file a Notice of Intent to construct a wastewater system with the Local Health Department and shall expire in five years. This evaluation is not a permit to develop. The owner and subcontractors will need to abide by all state and local rules and regulations pertaining to planning, zoning, and land use development.

Notice of Intent to Construct – Prior to commencing or assisting in the construction, siting, relocation, or repair of a wastewater system, a complete Notice of Intent (NOI) to Construct a wastewater system using an AOWE must be submitted to the Local Health Department (LHD). The owner may apply for a building permit for the project upon submitting a complete NOI and the required fee.

Plan Alterations – If there are any changes in the site plan that can impact the wastewater system, such as moving the house or driveway, site alterations, or if the applicant chooses to change the design daily flow prior to wastewater system construction, a new NOI shall be submitted to the LHD. The applicant shall request in writing that the PE or AOWE invalidate the prior NOI with a signed letter sent to the applicant and LHD.

Site Alterations – The applicant shall be responsible for preventing modifications or alterations of the site for the wastewater system and the system repair area before, during, and after any construction activities for the facility, unless approved by the AOWE.

On-Site Wastewater System Contractor – The AOWE shall assist the owner in the selection of a certified on-site wastewater system contractor who shall be under contractual obligation to the owner and have sufficient errors and omissions, liability, or other insurance for the system constructed.

Inspections, Construction Observations, and Reports – The AOWE shall make periodic visits to the site to observe the progress and quality of the construction of the wastewater system.

Authorization to Operate (ATO) – Upon determining that the wastewater system has been properly installed and is capable of being operated in accordance with the conditions of the permit, the AOWE shall provide the owner with a report that includes inspection reports, a written operation and management program, any special reports, and an Authorization to Operate. The owner shall sign confirming acceptance and receipt of the report, and then provide a copy to the LHD who will issue the certificate of occupancy for the facility.

Operation and Management – The owner shall be responsible for continued adherence to the operations and management program established by the AOWE. This permit shall in no way be taken as a guarantee or implied warranty that the septic system will function satisfactorily for any given period of time.

Change in System Ownership – An authorized wastewater system shall be transferrable to a new owner with the consent of the AOWE. The new owner and the AOWE shall enter a contract for the wastewater system.

Revocation – The AOWE permit is subject to revocation if the site plan, plat, or the intended use changes. This permit is subject to compliance with the provisions of the laws and Rules for Wastewater Treatment and Dispersal Systems and to the conditions of this permit.

Repair of Malfunctioning Systems – The owner may apply for an Improvement Permit and a Construction Authorization from the LHD or obtain a NOI from an AOWE to repair a malfunctioning wastewater system.