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: Family Building Company
Mailing address: 1016 Mockingbird Dr City: Raleigh State: NC Zip: 27615
Phone: _____ Email: matt@familybuildingco.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: 31 Bourbon St, Fuquay Varina, NC
Tax parcel identification number or subdivision lot, block number of property: _____
Captains Landing, BLK 4 Lot 59 PIN 0613-74-7498 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 13 day of May, 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 13 day of May, 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: _____Date: _____

HALOWE1 OP ID: TOW

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 05/16/2024

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

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

CERTIFICATE HOLDER

FAMILY BUILDING SUPPLY
1016 MOCKINGBIRD LN
RALEIGH, NC 28306

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

SURVEY FOR

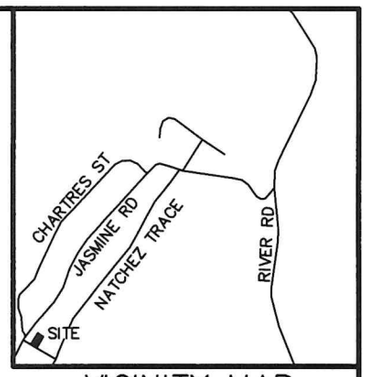
FAMILY BUILDING COMPANY

LOT 59, CAPTAINS LANDING SUBDIVISION, BLK 4
31 BOURBON STREET
PIN# 0613-74-7498
D.B. 1496, PAGE 721
P.B. 21, PG. 52
BUCKHORN TOWNSHIP
HARNETT COUNTY, NORTH CAROLINA
DECEMBER 19, 2023
REVISED FEBRUARY 13, 2024

ADOPTED FROM B.M. 21, PAGE 52

40 20 0 40 80

SCALE 1"=40'

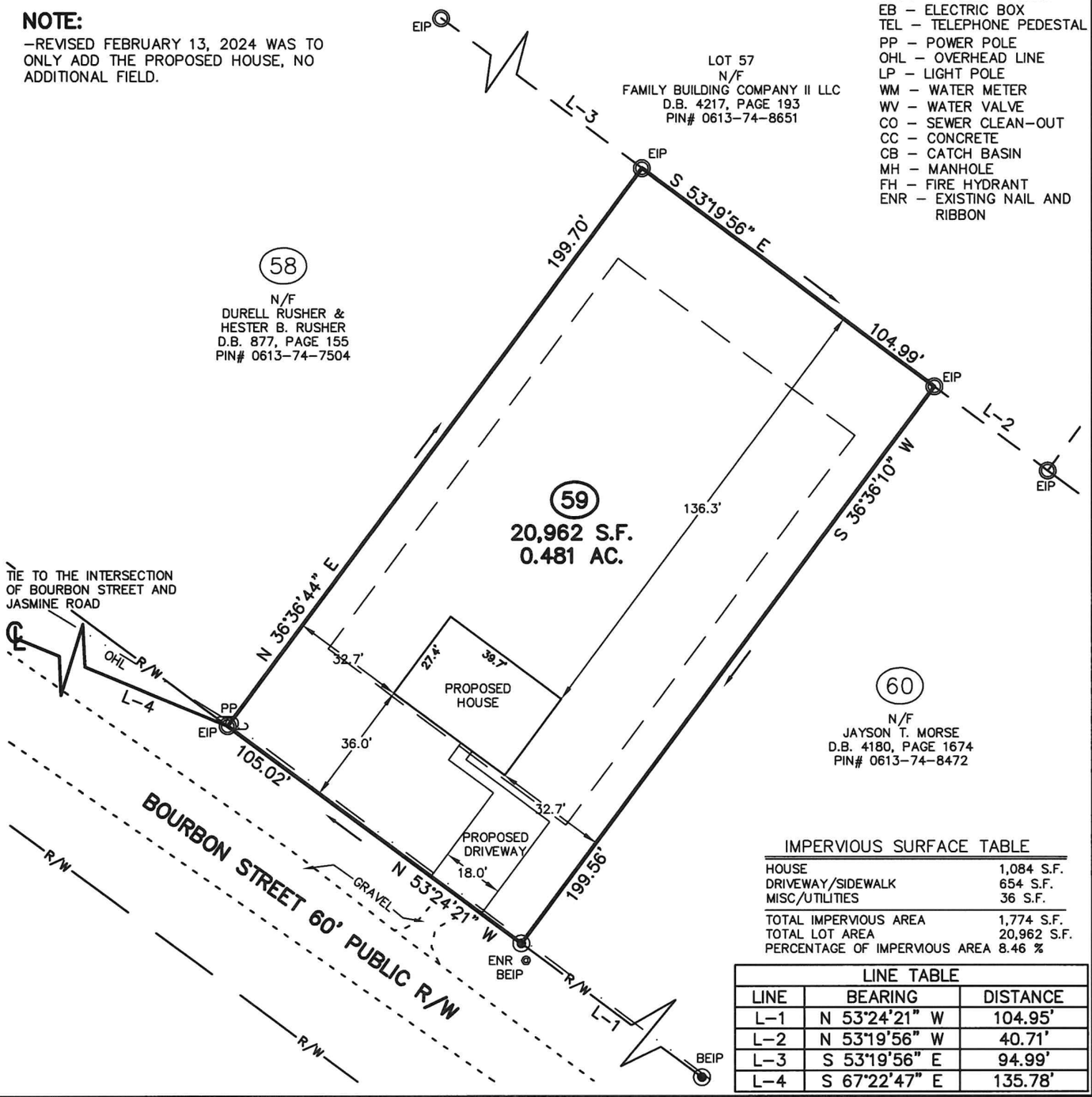


VICINITY MAP

NOTE:
-REVISED FEBRUARY 13, 2024 WAS TO ONLY ADD THE PROPOSED HOUSE, NO ADDITIONAL FIELD.

LEGEND:

EIP – EXISTING IRON PIPE
EIB – EXISTING IRON BAR
BEIP – BENT IRON PIPE
BEIB – BENT IRON BAR
CM – CONCRETE MONUMENT
EPK – EXISTING PK NAIL
SPK – SET PK NAIL
NIP – NEW IRON PIPE SET
R/W – RIGHT OF WAY
CATV – CABLE TV BOX
EB – ELECTRIC BOX
TEL – TELEPHONE PEDESTAL
PP – POWER POLE
OHL – OVERHEAD LINE
LP – LIGHT POLE
WM – WATER METER
WV – WATER VALVE
CO – SEWER CLEAN-OUT
CC – CONCRETE
CB – CATCH BASIN
MH – MANHOLE
FH – FIRE HYDRANT
ENR – EXISTING NAIL AND RIBBON



IMPERVIOUS SURFACE TABLE

HOUSE	1,084 S.F.
DRIVEWAY/SIDEWALK	654 S.F.
MISC/UTILITIES	36 S.F.
TOTAL IMPERVIOUS AREA	1,774 S.F.
TOTAL LOT AREA	20,962 S.F.
PERCENTAGE OF IMPERVIOUS AREA	8.46 %

LINE TABLE

LINE	BEARING	DISTANCE
L-1	N 53°24'21" W	104.95'
L-2	N 53°19'56" W	40.71'
L-3	S 53°19'56" E	94.99'
L-4	S 67°22'47" E	135.78'

CMP
Professional Land Surveyors
C-1525
333 S. White Street
Post Office Box 1253
Wake Forest, N.C. 27588
(919)556-3148

(CAPTAIN59.DWG-KD REVISED KK)

I DECLARE THAT THIS SURVEY COMPLIES WITH THE NORTH CAROLINA STANDARDS OF PRACTICE FOR SURVEYING, (SECTION 1600) FOR CLASS A SURVEYS AND THAT THE CALCULATED RATIO OF PRECISION BEFORE ADJUSTMENTS IS 1:10,000+. FURTHERMORE, PROPERTY CORNERS SHOWN ARE PRIMARY CONTROL MONUMENTATION FOR THE RE-ESTABLISHMENT OF PROPERTY CORNERS IN THE ABSENCE OF GRID MONUMENTS AND OTHER SUBDIVISION PROPERTY CORNERS. THIS SURVEY IS NOT TO BE RECORDED WITHOUT THE WRITTEN AUTHORIZATION OF THE SURVEYOR.

2/16/2024

PROFESSIONAL LAND SURVEYOR L-3835

NORTH CAROLINA PROFESSIONAL SEAL L-3835 LAND SURVEYOR JASON L. PANCIERA

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

13 May 2024

Family Building Company II LLC
1016 Mockingbird Dr
Raleigh, NC 27615

Reference: AOWE Evaluation
31 Bourbon St, Harnett Co., NC
PIN 0613-74-7498

Dear Family Building Company,

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/LSS Evaluation is being submitted pursuant to and meets the requirements of G.S.130A-336.2. This evaluation includes a signed and sealed 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.

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.

Sincerely,

Hal Owen
Senior Licensed Soil Scientist
Authorized Onsite Wastewater Evaluator

Steven Boor
Soils Associate III

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TERMS AND CONDITIONS

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 and sealed 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 Wastewater Treatment and Disposal 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.

PROPOSED USE

A new single-family residence will be built at the site. The home will not have a basement. The proposed single-family residence will contain three bedrooms and have a design wastewater flow of 360 gallons per day. The maximum occupancy of the home is 6 people.

WATER SUPPLY

Water will be provided by public water supplies.

EXISTING SITE CONDITIONS

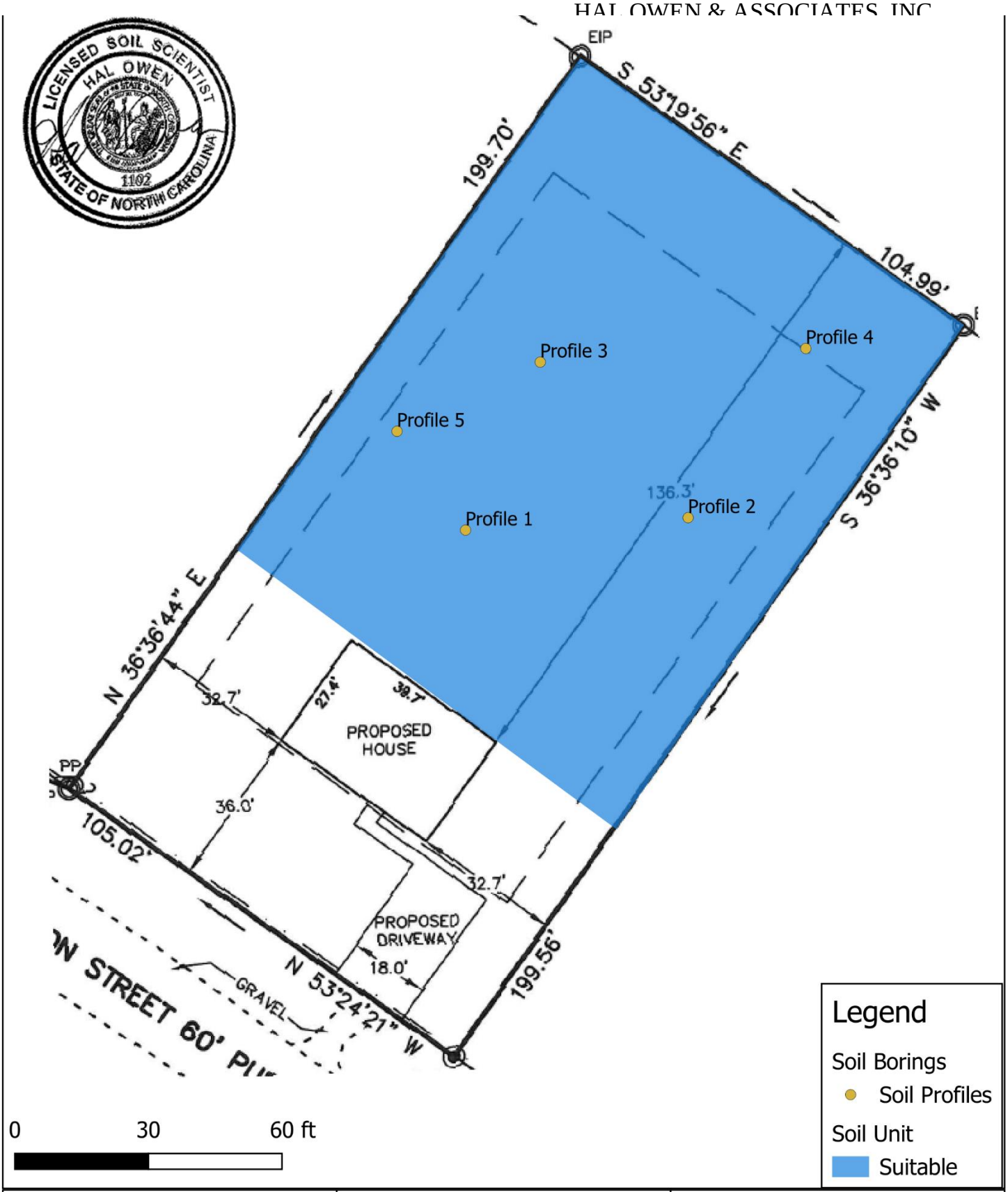
At the time of the investigation, the site had not been cleared, lot corners were staked, and the new building footprint was marked.

No existing wells, streams, or wetlands were observed within 50 feet of the proposed septic system and repair area.

SOIL AND SITE INVESTIGATION

The soils were evaluated under moist soil conditions through the advancing of auger borings. This evaluation included observations of topography and landscape position, soil morphology (texture, structure, clay mineralogy, organics), soil wetness, soil depth, and restrictive horizons. Descriptions of the soil borings located within the investigated portions of the site are provided in the attached Soil/Site Evaluation form.

Soils in the proposed system area were observed to rate as suitable for subsurface sewage waste disposal systems. (Figure 1). The subsoils were observed to be firm clay loams and extended to greater than 42 inches below ground surface. Evidence of a soil wetness condition was not observed within 42 inches below surface. These soils appear adequate to support long-term acceptance rates of 0.3 gal/day/ft^2 for accepted status drainlines.



Hal Owen & Associates Inc. PO Box 400, Lillington, NC 27546 www.halowensoil.com 919-893-8743	31 Bourbon St Harnett Co., NC 14 May 2024	Figure 1 Soil Map for Septic Suitability For reference only. Not a survey.

SOIL/SITE EVALUATION FORM FOR ON-SITE WASTEWATER SYSTEM

OWNER NAME: Family Building Company OWNER ADDRESS: 1016 Mockingbird Dr
PROPOSED FACILITY: Residential PROPOSED DESIGN FLOW: 360 PROPERTY SIZE: 1
LOCATION OF SITE: 31 Bourbon St, Fuquay-Varina, NC PIN: 0613-74-7498
WASTEWATER TYPE: Domestic COUNTY: Harnett
WATER SUPPLY: Public Water WATER SUPPLY SETBACK: 10
EVALUATION METHOD: AUGER BORING [X] PIT [ ] CUT [ ]
EVALUATED BY: Hal Owen, LSS 1102 and Steven Boor DATE EVALUATED: 5/3/24

	INITIAL SYSTEM	REPAIR SYSTEM
AVAILABLE SPACE	900 ft^2 trench bottom	900 ft^2 trench bottom
SYSTEM TYPE	Accepted (25% reduction) System	Accepted (25% reduction) System
SITE LTAR	0.30 gpd/ft^2	0.30 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	CONSISTENCE	TEXTURE	STRUCTURE	MINERALOGY	OTHER PROFILE FACTORS	
0-4	10YR 6/3	FR	CL	SBK	SEXP	LANDSCAPE POSITION	L
4-34	5YR 5/6	FI	C	ABK	SEXP	SOIL WETNESS DEPTH	>42"
34-42	5YR 6/8	FI	CL	wABK	SEXP	SOIL WETNESS COLOR	
						SOIL DEPTH	42"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	13
PROFILE CLASSIFICATION		Suitable	LTAR gpd/ft^2	0.3		SLOPE CORRECTION (IN)	4.7
COMMENT							

PROFILE 2

HORIZON DEPTH	COLOR	CONSISTENCE	TEXTURE	STRUCTURE	MINERALOGY	OTHER PROFILE FACTORS	
0-11	7.5YR 6/6	FI	CL	ABK	SEXP	LANDSCAPE POSITION	L
11-38	5YR 5/6	FI	C	ABK	SEXP	SOIL WETNESS DEPTH	>42"
38-42	5YR 6/8	FI	CL	wABK	SEXP	SOIL WETNESS COLOR	
						SOIL DEPTH	42"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	13
PROFILE CLASSIFICATION		Suitable	LTAR gpd/ft^2	0.3		SLOPE CORRECTION (IN)	4.7
COMMENT							

PROFILE 3

HORIZON DEPTH	COLOR	CONSIS TENCE	TEXTURE	STRUCTURE	MINERA LOGY	OTHER PROFILE FACTORS	
0-3	10YR 4/3	FR	L	GR	SEXP	LANDSCAPE POSITION	L
3-11	7.5YR 6/6	FR	CL	SBK	SEXP	SOIL WETNESS DEPTH	>42"
11-38	5YR 5/6	FI	C	ABK	SEXP	SOIL WETNESS COLOR	
38-42	5YR 5/8	FI	CL	wABK	SEXP	SOIL DEPTH	42"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	13
PROFILE CLASSIFICATION			Suitable	LTAR gpd/ft^2	0.3	SLOPE CORRECTION (IN)	4.7
COMMENT							

PROFILE 4

HORIZON DEPTH	COLOR	CONSIS TENCE	TEXTURE	STRUCTURE	MINERA LOGY	OTHER PROFILE FACTORS	
0-3	10YR 5/4	FR	L	GR	SEXP	LANDSCAPE POSITION	L
3-8	7.5YR 6/6	FR	CL	SBK	SEXP	SOIL WETNESS DEPTH	>42"
8-33	5YR 5/8	FI	C	ABK	SEXP	SOIL WETNESS COLOR	
33-42	5YR 6/8	FI	CL	wABK	SEXP	SOIL DEPTH	42"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	13
PROFILE CLASSIFICATION			Suitable	LTAR gpd/ft^2	0.3	SLOPE CORRECTION (IN)	4.7
COMMENT							

PROFILE 5

HORIZON DEPTH	COLOR	CONSIS TENCE	TEXTURE	STRUCTURE	MINERA LOGY	OTHER PROFILE FACTORS	
0-3	10YR 3/2	FR	L	GR	SEXP	LANDSCAPE POSITION	L
3-6	7.5YR 5/8	FR	CL	SBK	SEXP	SOIL WETNESS DEPTH	>42"
6-36	2.5YR 5/6	FI	C	ABK	SEXP	SOIL WETNESS COLOR	
36-42	2.5YR 5/8	FI	C	ABK	SEXP	SOIL DEPTH	42"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	13
PROFILE CLASSIFICATION			Suitable	LTAR gpd/ft^2	0.3	SLOPE CORRECTION (IN)	4.7
COMMENT							

LEGEND OF ABBREVIATIONS FOR SITE EVALUATION FORM

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

SEPTIC SYSTEM DESIGN

See section *Wastewater Treatment System Plans* and Figure 2 for a diagram of the septic system layout and design specifications.

A 1000 gallon (at minimum) septic tank and an approved septic effluent filter is required. A pump tank (1000 gallon at minimum) is required to lift effluent to the nitrification field. The pump tank may be eliminated if gravity distribution can be demonstrated.

The initial septic system is proposed as a pump driven system to 300 linear feet of Accepted Status drainlines utilizing a 25% reduction in total drainline length (Figure 2). A long-term acceptance rate (LTAR) of 0.30 gal/day/ft^2 was used to design the dispersal field. A pressure manifold will be used to deliver effluent in parallel distribution to four 75-ft long drainlines. The drainlines shall be installed on contour with maximum trench bottom depths at 24 inches below surface (as measured on low side).

The repair septic system is proposed as a pump driven system to 300 linear feet of Accepted Status drainlines utilizing a 25% reduction in total drainline length (Figure 2). A long-term acceptance rate (LTAR) of 0.30 gal/day/ft^2 was used to design the dispersal field. A pressure manifold will be used to deliver effluent in parallel distribution to four 75-ft long drainlines. The drainlines shall be installed on contour with maximum trench bottom depths at 24 inches below surface (as measured on low side).

SEPTIC AREA PREPARATION

It is important that you do not disturb the septic areas during site construction. A staked line or protective fence should be placed around the system areas prior to construction to eliminate any potential damage to the soil or the layout of the system. Septic areas should not be used for staging construction materials or subjected to vehicular traffic. Do not cut, grade, fill, install utilities, or otherwise alter the designated septic areas.

Care should be taken when clearing vegetation from the septic area. Work should only occur when the soil is at the appropriate moisture content to limit the impact to the soil structure in the soil treatment area. Do not scrape the ground inside the drainfield. **Any clearing or preparation of the septic areas shall be done without removal, disturbance, or compaction of the soil.**

PERMIT CONDITIONS

GENERAL 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 Treatment System Plans*.

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.

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

The nitrification 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.

SPECIAL CONDITIONS:

- To ensure a watertight joint, the inlet and outlet of all tanks shall be equipped with an approved pipe penetration boot.

WASTEWATER TREATMENT SYSTEM PLANS

PROJECT INFORMATION

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

PROPERTY INFORMATION

County	Harnett
Site Address	31 Bourbon St, Fuquay-Varina, NC
S/D Name and Lot#	Captains Landing, BLK 4, Lot 59
PIN	0613-74-7498
County PID	
Size (Acre)	1

APPLICANT INFORMATION

Name	Family Building Company
Mailing Address	1016 Mockingbird Dr
	Raleigh, NC 27615
Telephone Number	
E-mail Address	matt@familybuildingco.com

CONSULTANT INFORMATION

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	Jocelyn Proulx

Septic System Design Specifications

SEPTIC SYSTEM DESIGN

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 *See Detailed Design Parameters

System Type	IIIbg –Pump to Other non-conventional systems				
Pump Required	Yes	18.3	ft TDH at	28.4	GPM
Trenches:	Accepted (25% reduction) System				
Design LTAR	0.30	gal/day/ft^2	Saprolite System	No	
Total Trench/ Bed Length	300	feet	Fill System	No	
Trench Spacing	9	ft on center			
Usable soil depth to LC	48	inches	Soil Cover	6	inches
Maximum Trench Depth	24	inches, measured on downhill side of trench			
Artificial Drainage Required	No				

Repair System

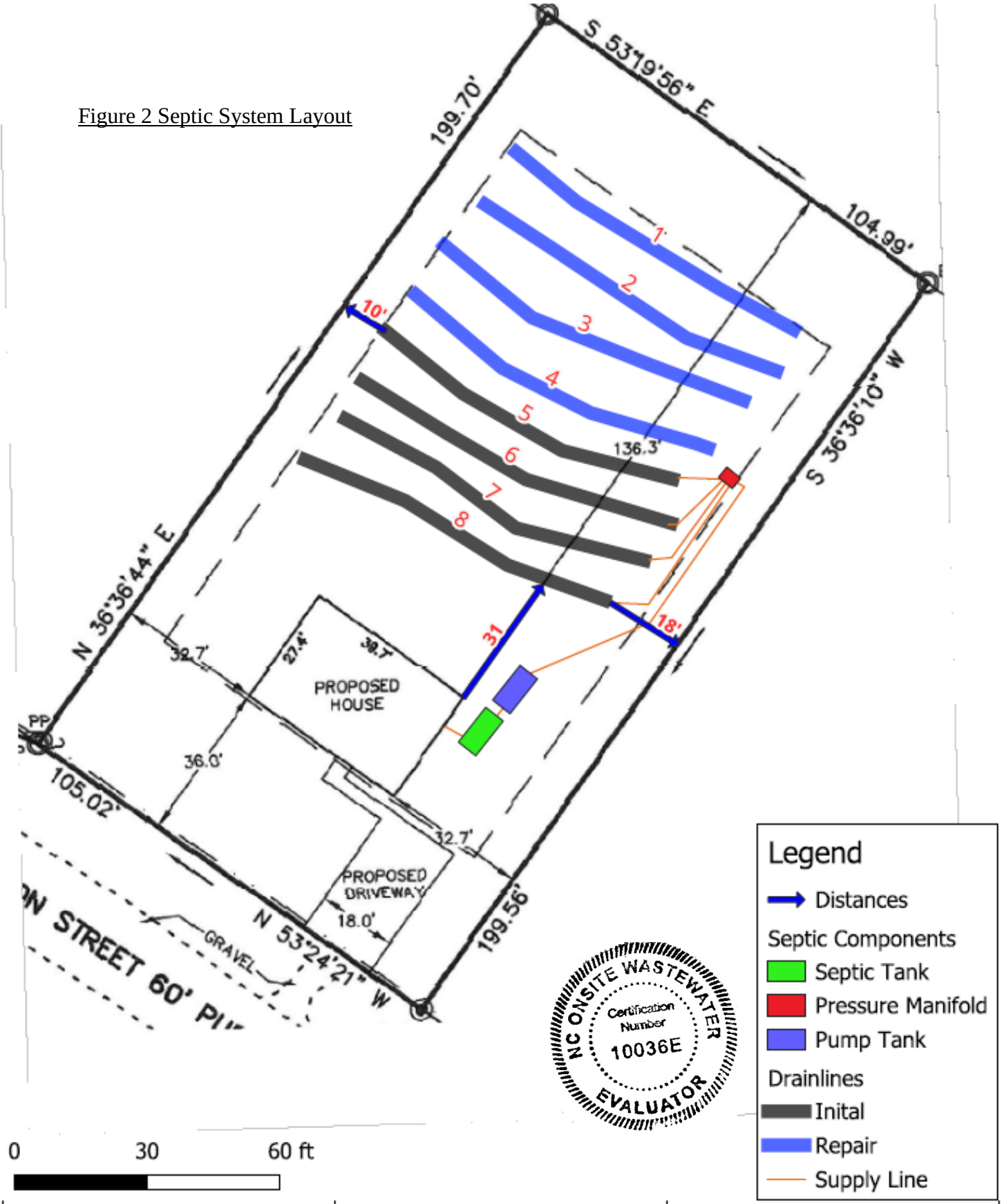
System Type:	IIIbg –Pump to Other non-conventional systems			
Trenches:	Accepted (25% reduction) System			
Design LTAR	0.30	gal/day/ft^2	Saprolite System	No
Total Trench/ Bed Length	300	feet	Fill System	No
Trench Spacing	9	ft on center		
Usable soil depth to LC	48	inches		
Maximum Trench Depth of	24	inches, measured on downhill side of trench		
Pump Required	Yes			

Potential Drainlines flagged at site on 9-ft centers.

Line #	Color	Relative Elevation (ft)	Drainline Length(ft)	Field Length(ft)
1	W	95.55	75	88
2	B	94.08	75	88
3	Y	92.62	75	88
4	R	91.20	75	88
5	W	90.15	75	88
6	B	88.51	75	88
7	Y	87.27	75	88
8	R	86.14	75	86
Septic Tank:		81.59		
Pump Tank:		82.09		
Reference Elev:		**100.00**		

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
*All parts of septic system must meet minimum setbacks

Figure 2 Septic System Layout



Hal Owen & Associates Inc. PO Box 400, Lillington, NC 27546 www.halowensoil.com 919-893-8743	31 Bourbon St Harnett Co., NC 15 May 2024	Figure 2 Septic Layout For reference only. Not a survey.

Initial System Specifcations

Pressure Manifold Design Criteria

DESIGN DAILY FLOW 360 gallons/day **SOIL LTAR:** 0.30 gpd/ft²

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

SUPPLY LINE Length: 68 ft Diameter: 2 " SCH 40 PVC

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

Supply Pipe Volume 12 gallons

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: 900 ft² Minimum Linear Length: 300 ft

MANIFOLD Length (ft): 3.5 Diameter: 4" sch 80 pvc Elevation: 91.15

Taps 4 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/ft²)
5	W	90.15	75	1/2"sch 40	7.11	1.200	0.400
6	B	88.51	75	1/2"sch 40	7.11	1.200	0.400
7	Y	87.27	75	1/2"sch 40	7.11	1.200	0.400
8	R	86.14	75	1/2"sch 40	7.11	1.200	0.400
	Total Drainline:		300	Total Flow:	28.44		

Target LTAR:* 0.40

LTAR + 5%: 0.420

PUMP CALCULATIONS

Dose Volume: 146.93 gallons, with Pipe Volume at 75 % *65.3gal/100ft pipe

Dose Pump Run Time (min): 5.17 Daily Pump Run Time (min): 12.66

Drawdown (in.): 147 gallons ÷ 20.25 gal/ inch = 7.26 inches

Pump Tank Elevation (ft): 82.09 Pump Elevation (ft): 77.09

Friction Head: 2.22 *Hazen Williams Formula (use supply line length+70' for fittings in pump tank)

Elevation Head: 14.1 Design Head: 2.0 Total Head: 18.28 ft

Pump to Deliver: **28.4** gpm @ **18.3** ft head

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:* Polylock PL-122

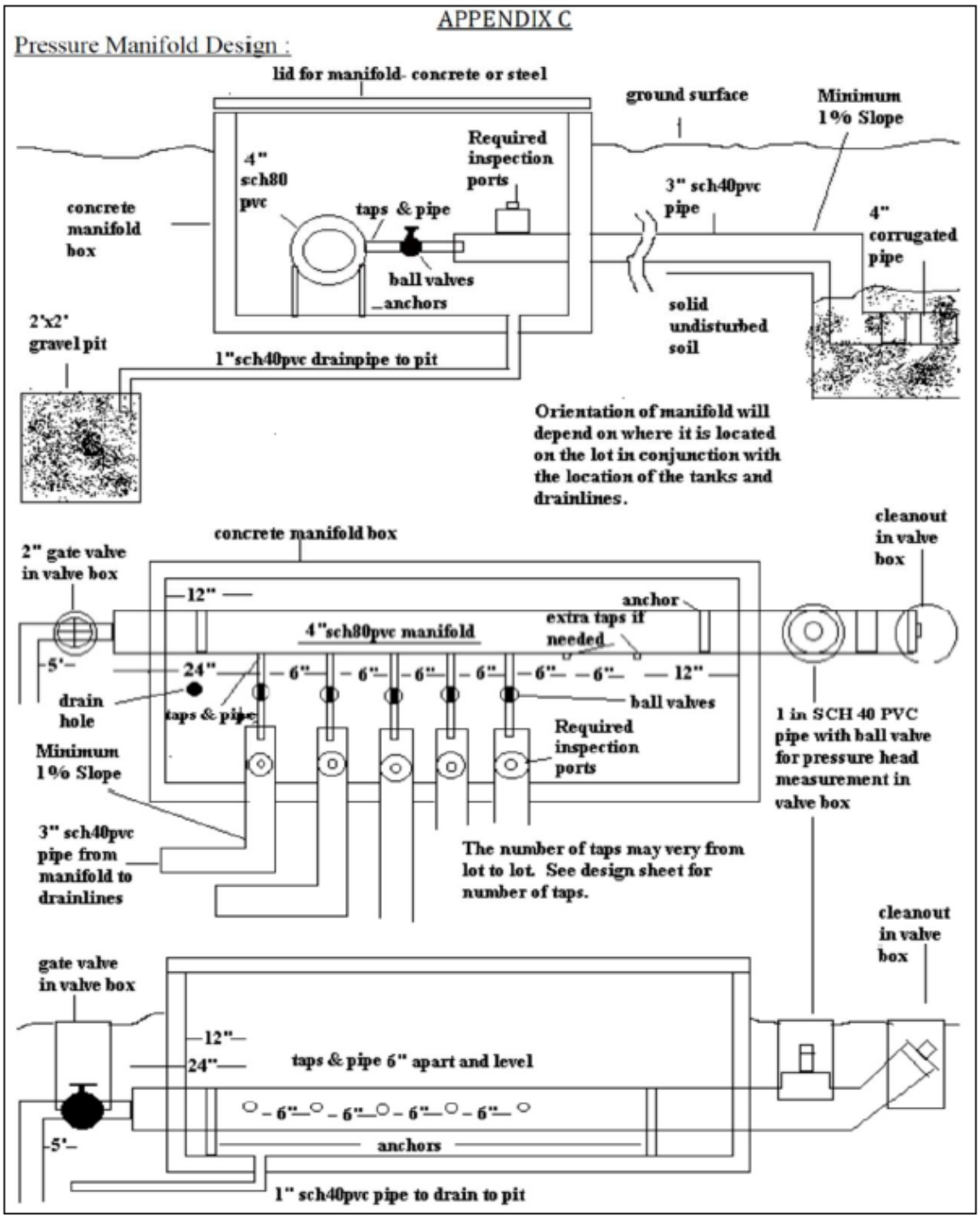
Possible Pump Tank: *Brantley 1000_PT-237* *Vol(gal):* 1000 *GPI:* 20.25

Possible Pump: Zoeller 150 Series *pump height (in) =* 12

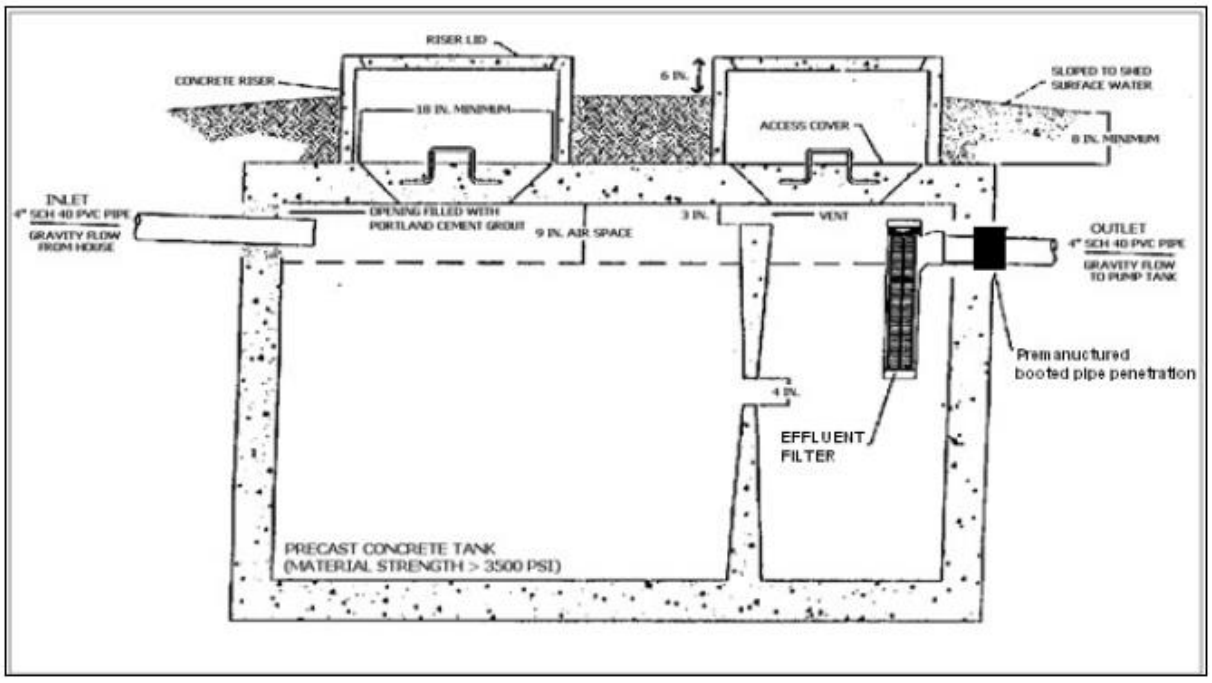
Possible Control Panel:

Pressure Manifold Diagram

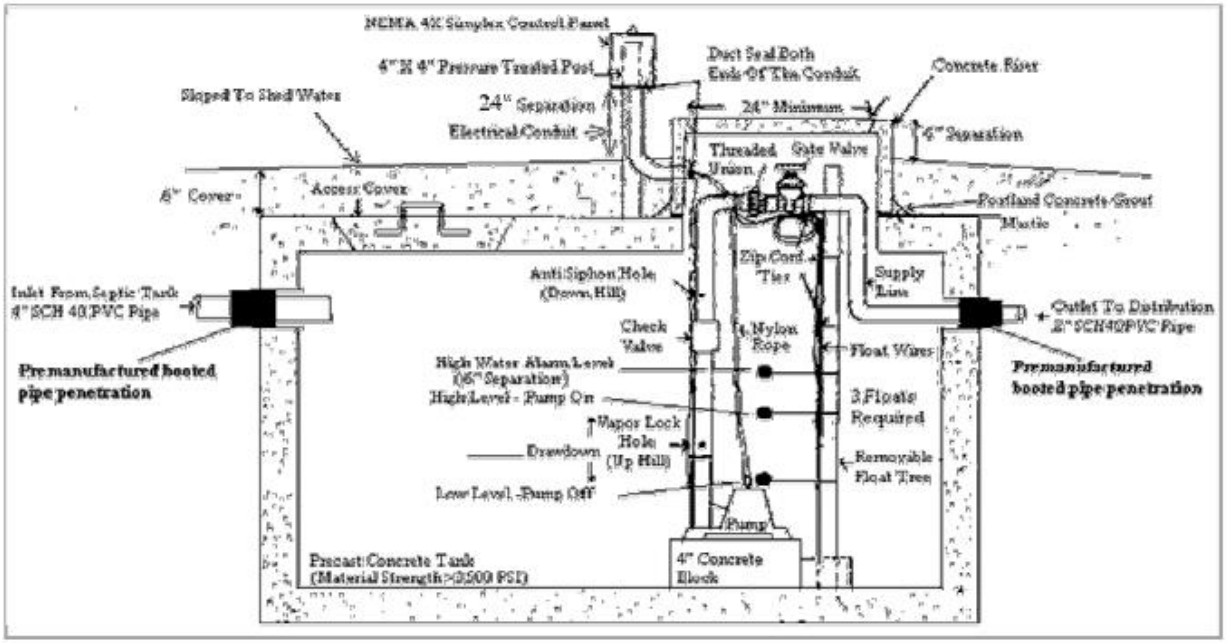
	1	2	3	4
	Manifold 4"SCH 80 PVC			
tap size	1/2"sch 40	1/2"sch 40	1/2"sch 40	1/2"sch 40
flow (gpm)	7.11	7.11	7.11	7.11
length (ft)	75	75	75	75



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



Typical Pump Tank **1000 GALLON PUMP TANK, minimum**



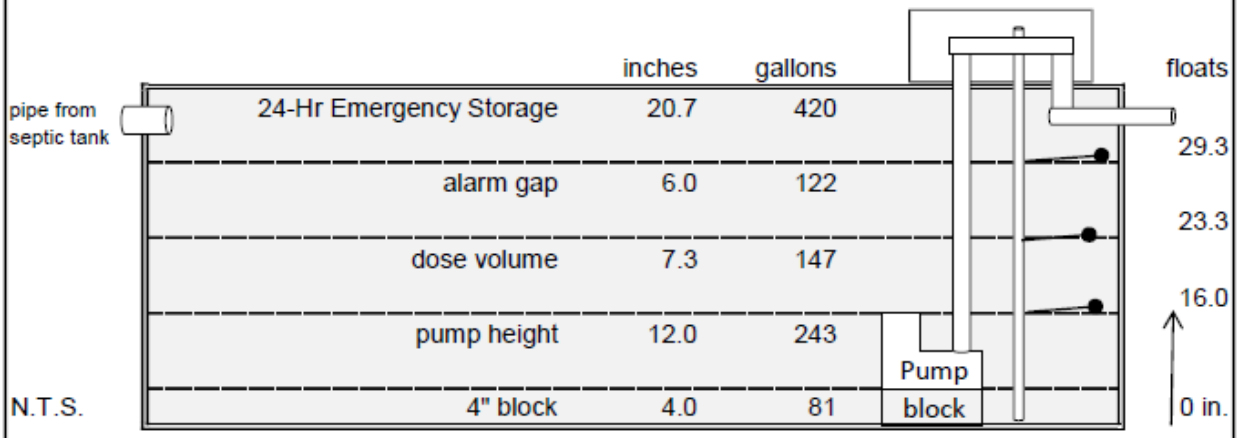
Pump Tank Calculations:

Possible pump tank: Brantley 1000_PT-237 — *Possible Pump:* Zoeller 150 Series

tank GPI (gal/in): 20.25 calculated — height: 12 in

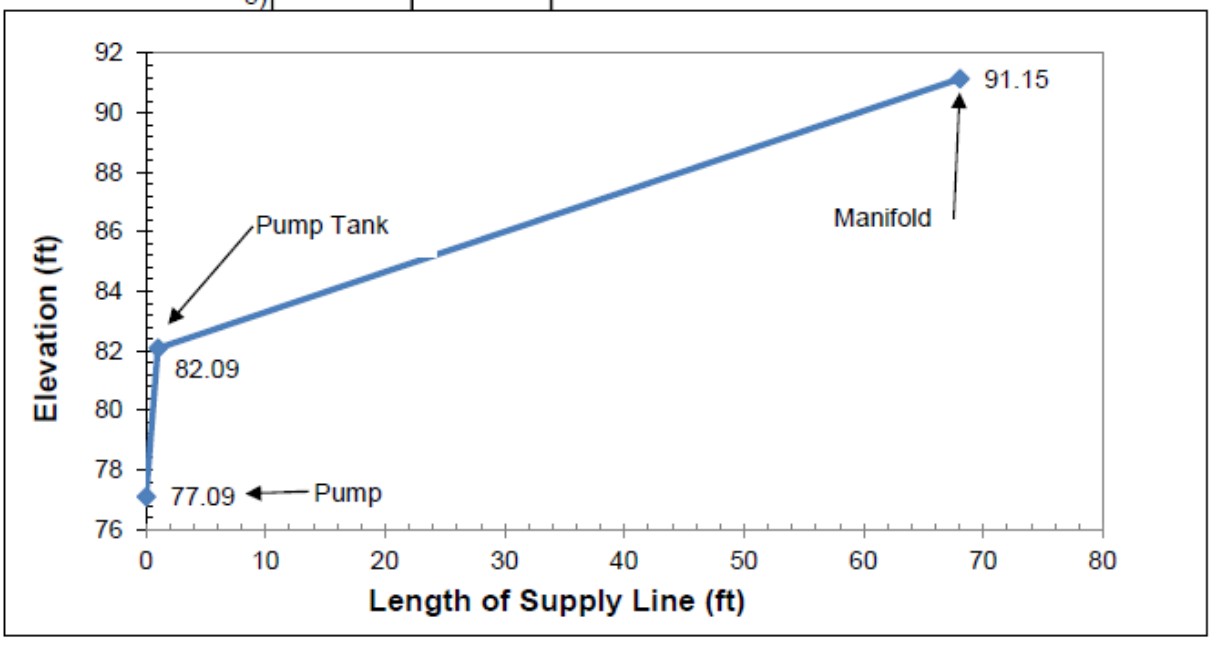
tank volume (gal): 1000 per manufacturer

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



Supply Line Profile:

	Distance	Elevation
Pump	0	77.09
pump tank	1	82.09
Pressure manifold	68	91.15
4)		
5)		



Repair System Specifications

DESIGN FLOW 360 gal/day **SOIL LTAR:** 0.30 gpd/ft^2

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

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: 900 ft^2 Minimum Linear Length: 300 ft

PRESSURE MANIFOLD DESIGN CRITERIA

MANIFOLD # Taps 4 Tap Configuration: 6in. spacing, 1 side of manifold
Length (ft): 3.5 Diameter: 4" sch 80 pvc Elevation: 96.55

TAP CHART

Tap #	Line Number	Color	Relative Elevation	Drainline Length(ft)	Tap Size/ Schedule	Flow/tap (gpm)	LTAR (gpd/ft^2)
1	1	W	95.55	75	1/2"sch 40	7.11	0.400
2	2	B	94.08	75	1/2"sch 40	7.11	0.400
3	3	Y	92.62	75	1/2"sch 40	7.11	0.400
4	4	R	91.2	75	1/2"sch 40	7.11	0.400

Total Drainline: 300 Total Flow: 28.44
Target LTAR*: 0.40
LTAR + 5%: 0.420

PUMP CALCULATIONS

Total Flow: 28.44 gpm Design Head (ft): 2.0
Daily Pump Run Time: 12.66 min (Daily Flow/Total Flow)
Dose Volume: 146.93 gallons with Pipe Volume at 75 % (65.3gal/100ft pipe)
Dose Pump Run 5.17 minutes (Dose Volume/Total Flow)

* Target LTAR: Convert LTAR for non-conventional drainline types by dividing by trench length factor

MANIFOLD DIAGRAM: