



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

New Expansion Repair Relocation Relocation of Repair Area

Owner or Legal Representative Information:
 Name: Jose and Carmela Rubio
 Mailing address: 1041 Rosser Pittman Rd City: Broadway State: NC Zip: 27505
 Phone: 919-356-9933 Email: ricardo.8777@yahoo.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: 117 Knight Rd, Broadway, NC 27505
 Tax parcel identification number or subdivision lot, block number of property: _____
 PIN 9680-69-1479.000, Lot 4 County: Harnett

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

Facility Type:
 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

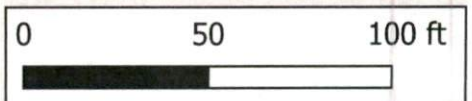
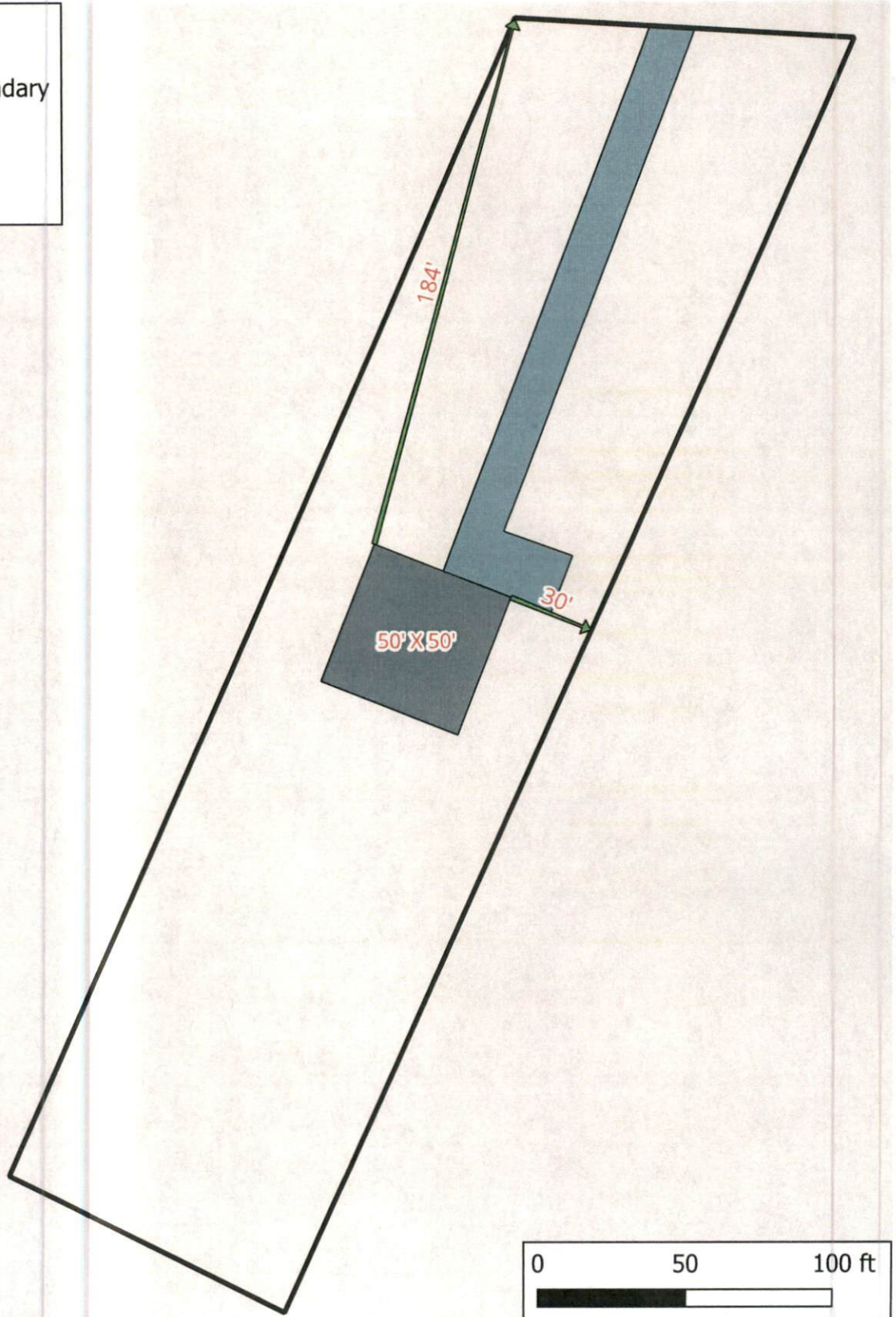
Attest: On this the 9 day of October, 2024 by signature below I hereby attest that the information required to be included with this NOI to Construct is accurate and complete to the best of my knowledge. Furthermore, I hereby attest that I have adhered to the laws and rules governing onsite wastewater systems in the state of North Carolina.
 This NOI shall expire on 9 day of October, 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: 11-20-24


Legend

-  Property Boundary
-  House
-  Driveway
-  Distances



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PO Box 400, Lillington, NC 27546
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919-893-8743

117 Knight Rd
Broadway, NC 27505
9 October 2024

 Site Plan
For reference only. Not a survey.

AOWE EVALUATIONHAL OWEN ASSOCIATES
www.halowensoil.com

HOA-AOWE-2409-14

Issue date 10/9/2024

Expiration 10/9/2029

APPLICANT INFORMATION

Name	Jose and Carmela Rubio		
Mailing Address	1041 Rosser Pittman Rd, Broadway, NC 27505		
E-mail Address	ricardo.8777@yahoo.com	Telephone Number	919-356-9933

PROPERTY IDENTIFIERS

County	Harnett	PIN	9680-69-1479.000
Size (Acre)	1.52	County PID	
Site Address	117 Knight Rd, Broadway, NC 27505		
S/D Name and Lot#	Lot 4		

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.





AOWE EVALUATION

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HOA-AOWE-2409-14

WASTEWATER SYSTEM DESIGN SPECIFICATIONS

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

Initial System

System Type	<u>IIIbg - Pump to Other non-conventional systems</u>		
Pump Required	<u>Yes</u>	<u>12.1</u> ft TDH at	<u>27.3</u> GPM
Trenches:	<u>Accepted (25% reduction) System</u>		
Design LTAR	<u>0.35</u> gal/day/ft ²	Saprolite System	<u>No</u>
Total Trench/ Bed Length	<u>260</u> feet	Fill System	<u>No</u>
Trench Spacing	<u>9</u> ft on center		
Usable soil depth to LC	<u>34</u> inches		
Maximum Trench Depth	<u>18</u> inches, measured on downhill side of trench		
Minimum Soil Cover	<u>6</u> inches		
Artificial Drainage Required	<u>No</u>		

Repair System

System Type:	<u>IIIbe - Pump to PPBPS system</u>		
Pump Required	<u>Yes</u>		
Trenches:	<u>PPBPS, horizontal</u>		
Design LTAR	<u>0.35</u> gal/day/ft ²	Saprolite System	<u>No</u>
Total Trench/ Bed Length	<u>171</u> feet	Fill System	<u>No</u>
Trench Spacing	<u>9</u> ft on center		
Usable soil depth to LC	<u>32</u> inches		
Maximum Trench Depth of	<u>16</u> inches, measured on downhill side of trench		
Minimum Soil Cover	<u>6</u> inches		

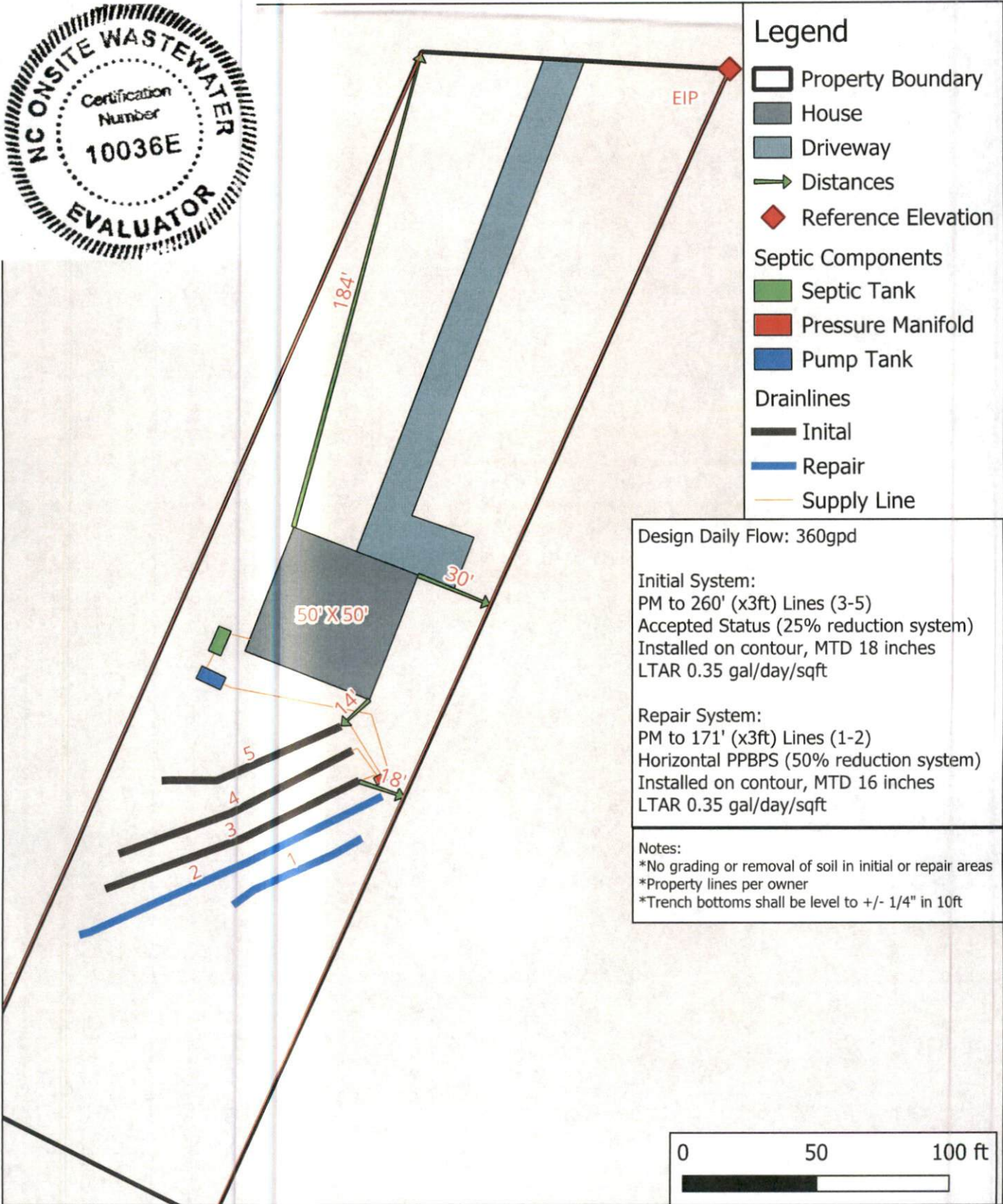
Potential Drainlines flagged at site on 9-ft centers.

Line #	Color	Relative Elevation (ft)	Drainline Length(ft)	Field Length(ft)
1	Y	102.03	50	
2	R	101.46	121	
3	B	101.20	100	
4	W	100.92	92	
5	Y	100.60	68	
Septic Tank:		98.88		
Pump Tank:		99.35		
Reference Elev:		100.00		

Initial Repair

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



Legend

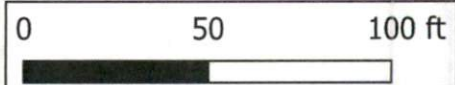
- Property Boundary
- House
- Driveway
- Distances
- Reference Elevation
- Septic Components**
- Septic Tank
- Pressure Manifold
- Pump Tank
- Drainlines**
- Initial
- Repair
- Supply Line

Design Daily Flow: 360gpd

Initial System:
 PM to 260' (x3ft) Lines (3-5)
 Accepted Status (25% reduction system)
 Installed on contour, MTD 18 inches
 LTAR 0.35 gal/day/sqft

Repair System:
 PM to 171' (x3ft) Lines (1-2)
 Horizontal PPBPS (50% reduction system)
 Installed on contour, MTD 16 inches
 LTAR 0.35 gal/day/sqft

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



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Septic Layout
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INITIAL WASTEWATER SYSTEM

Pressure Manifold Design Criteria

DESIGN DAILY FLOW 360 gallons/day **SOIL LTAR:** 0.35 gpd/ft²
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 18 inches, measured on low side of trench
 Trench width: 3 feet Effective Trench Width: 4 ft
 Absorption Area: 771 ft² Minimum Linear Length: 257 ft

MANIFOLD Length (ft): 3 Diameter: 4" sch 80 pvc Elevation: 102.2
 # 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)
3	B	101.2	100	3/4"sch 80	10.10	1.331	0.444
4	W	100.92	92	3/4"sch 80	10.10	1.447	0.482
5	Y	100.6	68	1/2"sch 40	7.11	1.378	0.459
Total Drainline:			260	Total Flow:	27.31		

Target LTAR*: 0.47

LTAR + 5%: 0.490

PUMP CALCULATIONS

Dose Volume: 127.34 gallons, with Pipe Volume at 75 % *65.3gal/100ft pipe
 Dose Pump Run Time (min): 4.66 Daily Pump Run Time (min): 13.18
 Drawdown (in.): 127 gallons ÷ 20.25 gal/ inch = 6.29 inches
 Pump Tank Elevation (ft): 99.35 Pump Elevation (ft): 94.35
 Friction Head: 2.24 *Hazen Williams Formula (use supply line length+70' for fittings in pump tank)
 Elevation Head: 7.9
 Design Head: 2.0 Total Dynamic Head (TDH): 12.09 ft

Pump to Deliver: 12.1 ft TDH @ 27.3 gpm

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-502 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: _____

INITIAL WASTEWATER SYSTEM

Pump Tank Calculations:

Possible pump tank: Brantley 1000_PT-237

Possible Pump:

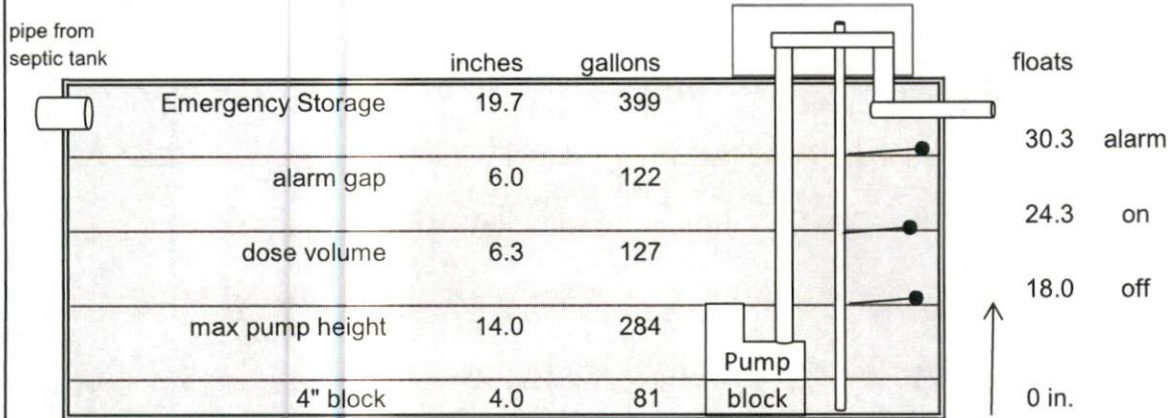
tank GPI (gal/in): 20.25 calculated

height: 14 in

tank volume (gal): 1000 per manufacturer

tank height (in): 50.0 per manufacturer

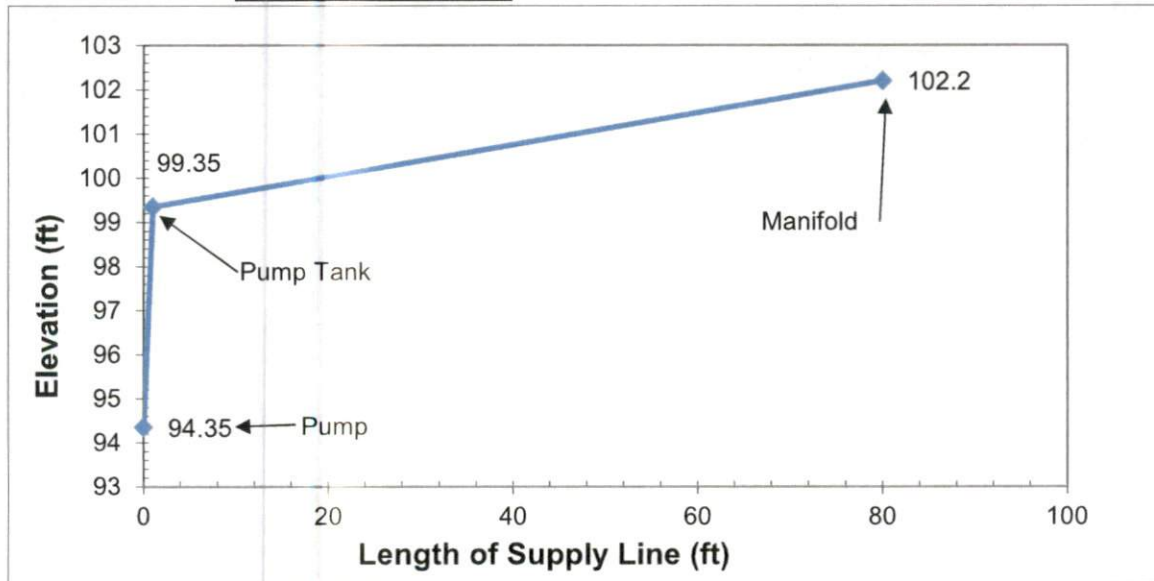
minimum emergency storage: 360 gal



Drawing N.T.S.

Supply Line Profile:

	Distance	Elevation
Pump	0	94.35
pump tank	1	99.35
Pressure manifold	80	102.2
4)		
5)		



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REPAIR WASTEWATER SYSTEM

DESIGN DAILY FLOW 360 gallons/day **SOIL LTAR:** 0.35 gpd/ft²
TANKS (minimum) Septic Tank 1000 gallons Pump Tank 1000 gallons
SUPPLY LINE Length (ft): 100 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 18 inches, measured on low side of trench
 Trench width: 3 feet Effective Trench Width: 6 ft
 Absorption Area: 514 ft² Minimum Linear Length: 171 ft
 ÷ 4.33 ft per panel : 40 panels

PRESSURE MANIFOLD

Taps 2 Tap Configuration: 6in. spacing, 1 side of manifold
 Length (ft): 2.5 Diameter: 4" sch 80 pvc Elevation: 103.03

TAP CHART

Tap #	Line #	Color	Elevation (ft)	Drainline Length(ft)	Number of Panels	Tap Size/ Schedule	Flow/tap (gpm)	LTAR (gpd/ft ²)
1	1	Y	102.03	50	12	1/2"sch 40	7.11	0.714
2	2	R	101.46	121	28	1"sch 80	16.80	0.697
			Totals:	171	40	Total Flow:	23.91	

Target LTAR*: 0.70
 LTAR + 5%: 0.735

Pump Calculations:

Number of Panels: 40
 Dose Volume: 144 gallons # of panels * 3.6 gallons/ panel
 Dose Pump Run Time: 6.02 minutes Dose volume/total flow
 Daily Pump Run Time: 15.06 minutes Daily Flow/total flow
 Drawdown (in.): 144 gallons ÷ 20.25 gal/ inch = 7.11 inches
 Pump Tank Elevation (ft): 99.35 Pump Elevation (ft): 94.35
 Friction Head: 1.99 *Hazen Williams Formula (use supply line length+70' for fittings in pump tank)
 Elevation Head: 8.68 Design Head: 2.0 Total Head: 12.67 feet
 Pump to Deliver: **23.91** gpm @ **12.67** 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-502 Septic Filter: _____
 Possible Pump Tank: Brantley 1000 PT-237 Vol(gal): 1000 GPI: 20.25
 Possible Pump: _____ pump height (in) = 14
 Possible Control Panel: _____

Legend

Property Boundary

House

Driveway

Soil Borings

Soil Profiles

Suitable Soils for Shallow Systems

Suitable Soils for Low Profile Chamber Systems

Unsuitable Soils

Suitable Soils for Drip Systems

Soil Unit

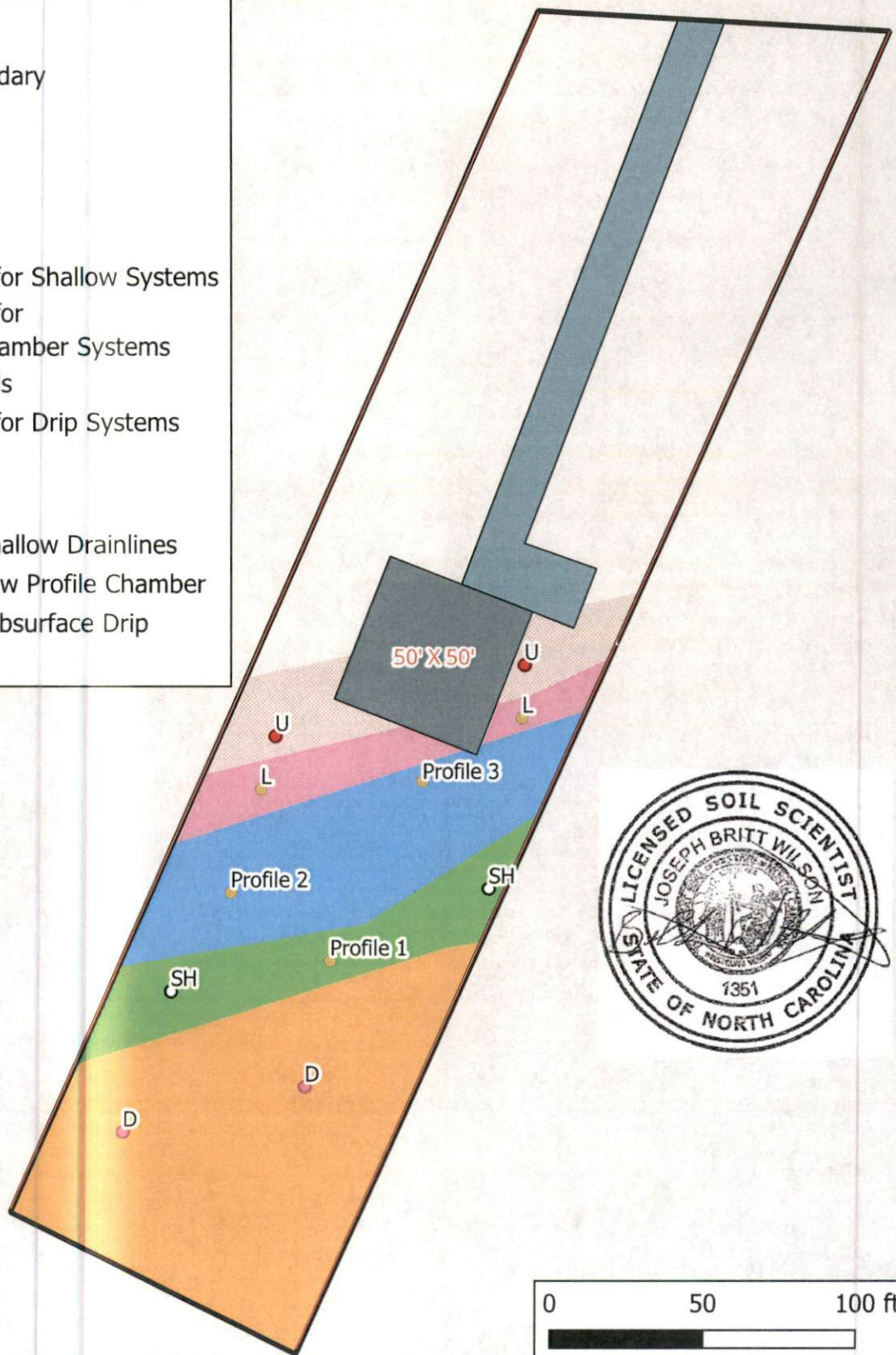
Suitable

Suitable for Shallow Drainlines

Suitable for Low Profile Chamber

Suitable for subsurface Drip

Unsuitable



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117 Knight Rd
 Broadway, NC
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Soil Map for Septic Suitability

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AOWE EVALUATION

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Soil/Site Evaluation Form for On-Site Wastewater System

OWNER NAME: Jose and Carmela Rubio
 PROPOSED FACILITY: Residential DESIGN DAILY FLOW: 360 WATER SUPPLY Public Water
 LOCATION OF SITE: 117 Knight Rd, Broadway, NC 27505 PIN: 9680-69-1479.000
 WASTEWATER TYPE: Domestic COUNTY: Harnett
 EVALUATION METHOD: AUGER BORING PIT CUT
 EVALUATED BY: Britt Wilson, LSS#1351 DATE EVALUATED: _____

	INITIAL SYSTEM	REPAIR SYSTEM
AVAILABLE SPACE	771 ft ² trench bottom	514 ft ² trench bottom
SYSTEM TYPE	Accepted (25% reduction) System	PPBPS, horizontal
SITE LTAR	0.35 gpd/ft ²	0.35 gpd/ft ²
MAX TRENCH DEPTH	18 inches (measured on downhill side)	16 inches (measured on downhill side)
SITE CLASSIFICATION	<u>Suitable</u>	OTHER FACTORS _____

COMMENTS:

PROFILE 1

HORIZON DEPTH	COLOR	CONSI TENCE	TEXTURE	STRUCTURE	MINERA LOGY	OTHER PROFILE FACTORS	
0-7	2.5Y 4/2	FR	SL	GR	SEXP	LANDSCAPE POSITION	L
7-21	10YR 6/6	FI	SCL	SBK	SEXP	SOIL WETNESS DEPTH	32"
21-32	10YR 7/4	FI	SCL	SBK	SEXP	SOIL WETNESS COLOR	10YR 7/2
32-48+	10YR 7/4	FI	SCL	ABK	SEXP	SOIL DEPTH	48"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	10
PROFILE CLASSIFICATION			Suitable	LTAR gpd/ft ²	0.35	SLOPE CORRECTION (IN)	3.6
COMMENT							

PROFILE 2

HORIZON DEPTH	COLOR	CONSI TENCE	TEXTURE	STRUCTURE	MINERA LOGY	OTHER PROFILE FACTORS	
0-11	2.5Y 4/2	FR	SL	GR	SEXP	LANDSCAPE POSITION	L
11-23	10YR 6/6	FI	SCL	SBK	SEXP	SOIL WETNESS DEPTH	34"
23-34	10YR 7/4	FI	SCL	SBK	SEXP	SOIL WETNESS COLOR	10YR 7/1
34-48+	10YR 7/4	FI	SCL	ABK	SEXP	SOIL DEPTH	48"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	10
PROFILE CLASSIFICATION			Suitable	LTAR gpd/ft ²	0.35	SLOPE CORRECTION (IN)	3.6
COMMENT							

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PROFILE 3

HORIZON DEPTH	COLOR	CONSISTENCE	TEXTURE	STRUCTURE	MINERALOGY	OTHER PROFILE FACTORS	
0-9	2.5Y 4/2	FR	SL	GR	SEXP	LANDSCAPE POSITION	L
9-27	10YR 6/6	FI	SCL	SBK	SEXP	SOIL WETNESS DEPTH	42"
27-42	10YR 7/4	FI	SCL	SBK	SEXP	SOIL WETNESS COLOR	10YR 7/1
42-48+	10YR 7/4	FI	SCL	ABK	SEXP	SOIL DEPTH	48"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	10
PROFILE CLASSIFICATION			Suitable	LTAR gpd/ft ²	0.35	SLOPE CORRECTION (IN)	3.6
COMMENT							

AOWE EVALUATION

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Soil/Site Evaluation Form for On-Site Wastewater System

LEGEND OF ABBREVIATIONS

LANDSCAPE POSITION CC - Concave Slope CV - Convex Slope DS - Debris Slump D - Depression DW - Drainage Way FP - Flood Plain FS - Foot Slope H - Head Slope L - Linear Slope N - Nose Slope R - Ridge S - Shoulder Slope T - Terrace TS - Toe Slope	TEXTURE GROUP I	TEXTURE CLASS S - Sand LS - Loamy Sand	LTAR (gal/day/sqft) 1.2-0.8
	II	SL - Sandy Loam L - Loam	0.8 – 0.6
	III	SCL - Sandy Clay Loam CL - Clay Loam SiL - Silt Loam Si - Silt SiCL - Silt Clay Loam	0.6 – 0.3
	IV	SC - Sandy Clay C - Clay SiC - Silty Clay O - Organic	0.4 – 0.1 none
STRUCTURE G - Single Grain M - Massive CR - Crumb GR - Granular SBK - Subangular Blocky ABK - Angular Blocky PL - Platy PR - Prismatic	MOIST CONSISTENCE VFR - Very Friable FR - Friable FI - Firm VFI - Very Firm EFI - Extremely Firm	WET CONSISTENCE NS - Non Stick SS - Slightly Sticky MS - Moderately Sticky VS - Very Sticky NP - Non Plastic SP - Slightly Plastic MP - Moderately Plastic VP - Very Plastic	
MOTTLES	f – few c – common m – many	1 - fine 2 - medium 3 - coarse	F - Faint D - Distinct 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.