



**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: Michael and Laurie Smith
 Mailing address: 784 Gentry Rd City: Erwin State: NC Zip: 28339
 Phone: 910-818-4122 Email: mlsplumbing@hotmail.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: 784 Gentry Rd, Erwin, NC 28339
 Tax parcel identification number or subdivision lot, block number of property: _____
PIN 0587-62-2735.000, Genesis Farms SD, Lot 8 County: Harnett

System Information:
 Wastewater System Type: IIIbg (Pump to Accepted Status 25% reduction)
 Daily Design Flow: 360 gpd
 Saproliite 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 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: _____ Date: _____

AOWE EVALUATION

HAL OWEN ASSOCIATES
www.halowensoil.com

Issue date 7/4/2024

Expiration 7/4/2029

APPLICANT INFORMATION

Name	Michael and Laurie Smith		
Mailing Address	784 Gentry Rd, Erwin, NC 28339		
E-mail Address	mlsplumbing@hotmail.com	Telephone Number	910-818-4122

PROPERTY IDENTIFIERS

County	Harnett	PIN	0587-62-2735.000
Size (Acre)	4.30	County PID	
Site Address	784 Gentry Rd, Erwin, NC 28339		
S/D Name and Lot#	Genesis Farms, Lot 8		

PROJECT INFORMATION

Wastewater System	New	.0403 Eng Low Flow	No
Wastewater Strength	Domestic	Effluent Standard	DSE
Facility Type	Residential	Water Supply	Private Well
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

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



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>Illbg –Pump to Other non-conventional systems</u>		
Pump Required	<u>Yes</u>	<u>9.0</u> ft TDH at	<u>25.0</u> GPM
Trenches:	<u>Accepted (25% reduction) System</u>		
Design LTAR	<u>0.60</u> gal/day/ft ²	Saprolite System	<u>No</u>
Total Trench/ Bed Length	<u>150</u> feet	Fill System	<u>No</u>
Trench Spacing	<u>9</u> ft on center		
Usable soil depth to LC	<u>48</u> inches		
Maximum Trench Depth	<u>24</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>Illbg –Pump to Other non-conventional systems</u>		
Pump Required	<u>Yes</u>		
Trenches:	<u>Accepted (25% reduction) System</u>		
Design LTAR	<u>0.50</u> gal/day/ft ²	Saprolite System	<u>No</u>
Total Trench/ Bed Length	<u>180</u> feet	Fill System	<u>No</u>
Trench Spacing	<u>9</u> ft on center		
Usable soil depth to LC	<u>48</u> inches		
Maximum Trench Depth of	<u>24</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	W	98.65	90	91
2	Y	97.72	90	95
3	R	97.08	75	97
4	B	96.56	75	92
Septic Tank:		99.21		
Pump Tank:		99.21		
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

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 Specifications. 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

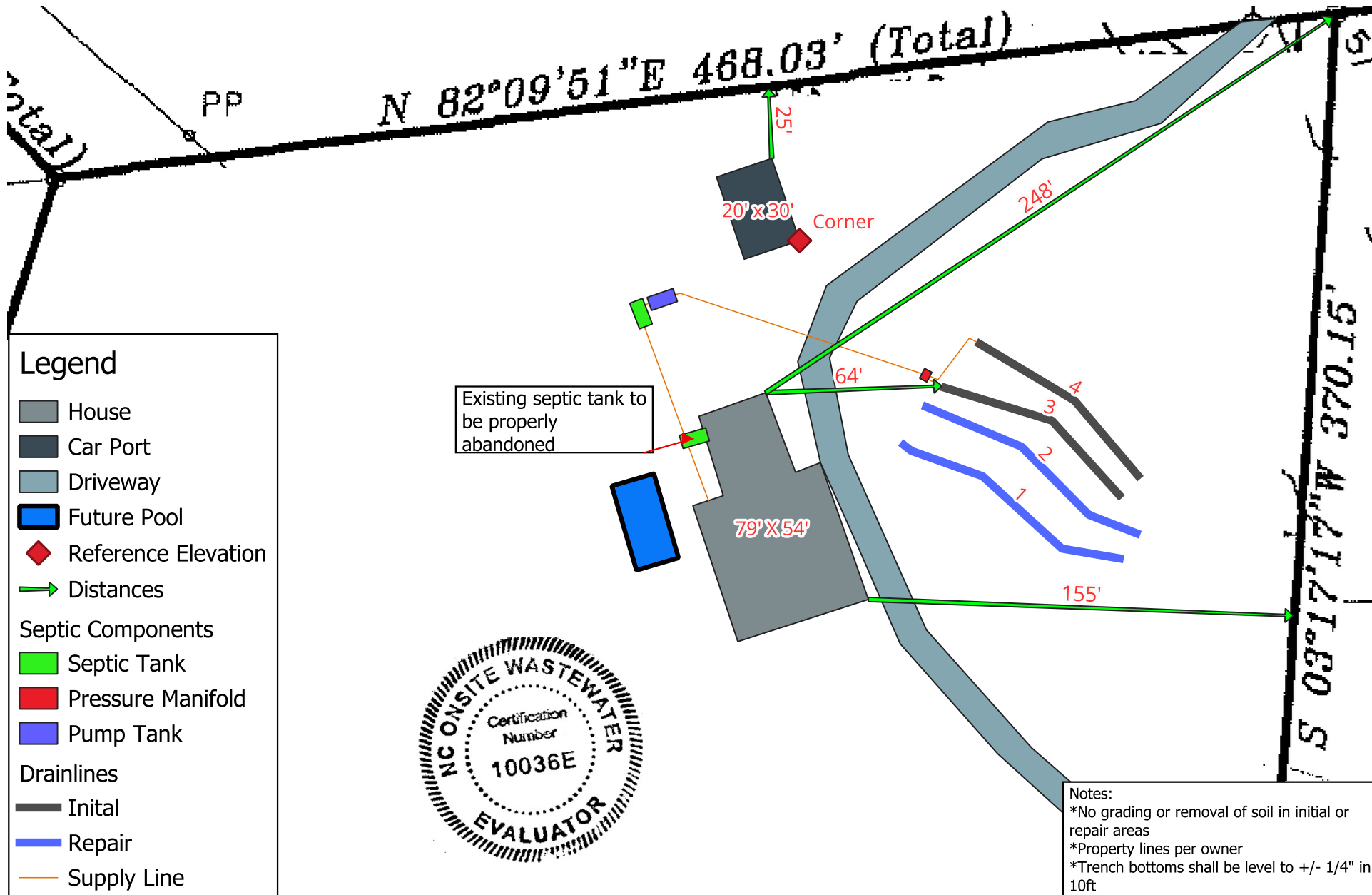
A pre-construction conference with the septic contractor is required prior to installation.

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.

The supply line from the septic tank to the drainfield will be conveyed under a driveway and shall be installed as required by .0601(h).



Hal Owen & Associates Inc.
 PO Box 400, Lillington, NC 27546
 www.halowensoil.com
 919-893-8743

0 50 100 ft

For reference only. Not a survey.

784 Gentry Rd
 Harnett Co., NC
 8 July 2024

Figure 2
 Septic Layout

INITIAL WASTEWATER SYSTEM

Pressure Manifold Design Criteria

DESIGN DAILY FLOW 360 gallons/day **SOIL LTAR:** 0.60 gpd/ft²
TANKS (min) Septic Tank: 1000 gallons Pump Tank: 1000 gallons
SUPPLY LINE Length: 90 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: 450 ft² Minimum Linear Length: 150 ft

MANIFOLD Length (ft): 2.5 Diameter: 4" sch 80 pvc Elevation: 98.08
 # Taps 2 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	R	97.08	75	3/4"sch 40	12.50	2.400	0.800
4	B	96.56	75	3/4"sch 40	12.50	2.400	0.800
Total Drainline:			150	Total Flow:	25.00		

Target LTAR*: 0.80

LTAR + 5%: 0.840

PUMP CALCULATIONS

Dose Volume: 73.46 gallons, with Pipe Volume at 75 % *65.3gal/100ft pipe
 Dose Pump Run Time (min): 2.94 Daily Pump Run Time (min): 14.40
 Drawdown (in.): 73 gallons ÷ 20.25 gal/ inch = 3.63 inches
 Pump Tank Elevation (ft): 99.21 Pump Elevation (ft): 94.21
 Friction Head: 2.03 *Hazen Williams Formula (use supply line length+70' for fittings in pump tank)
 Elevation Head: 5.0
 Design Head: 2.0 Total Dynamic Head (TDH): 9.03 ft

Pump to Deliver: 25.0 gpm @ 9.0 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.

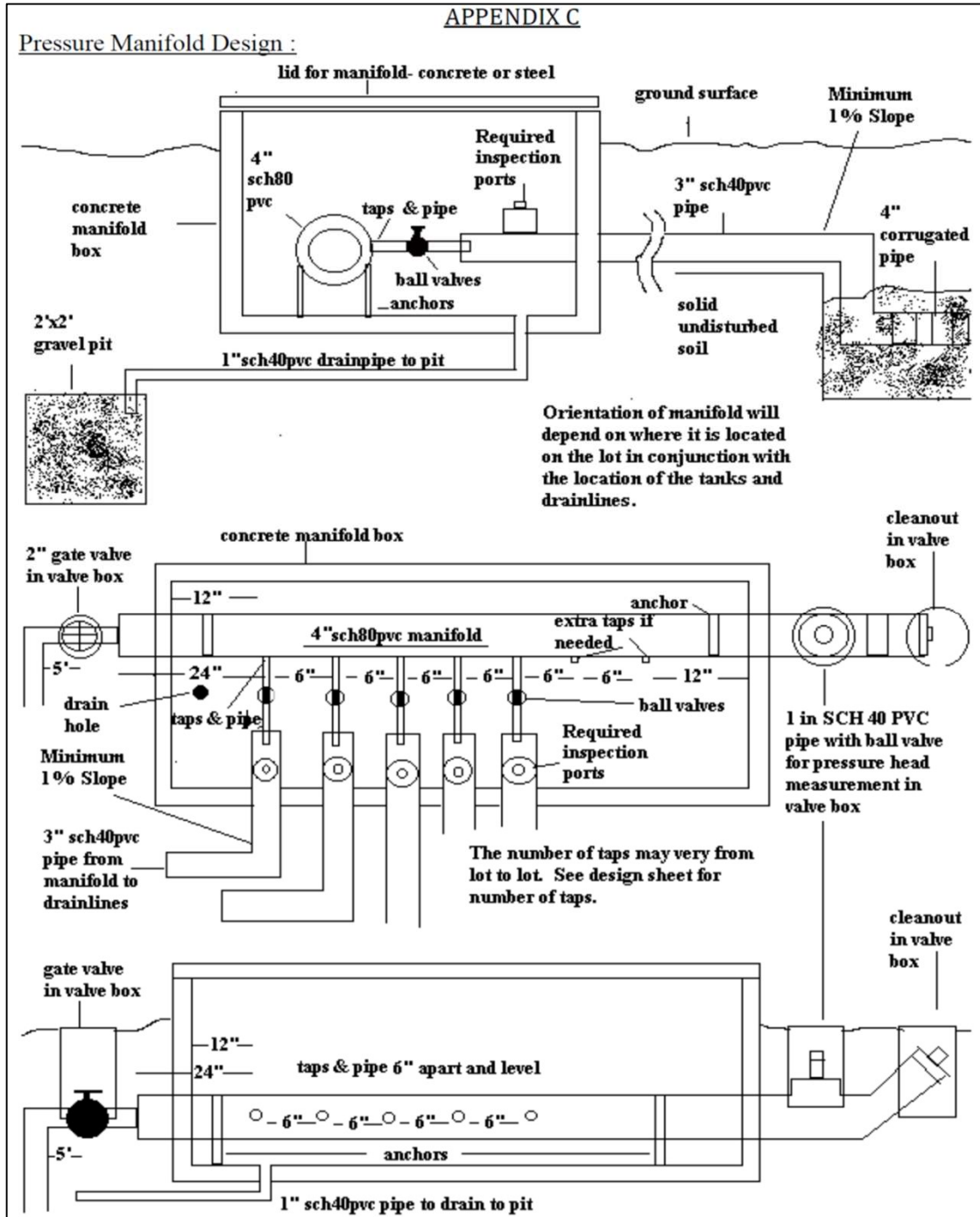
Possible Septic Tank: Brantley 1000 STB-499 Possible Septic Filter: _____
 Possible Pump Tank: Brantley 1000_PT-237 Vol(gal): 1000 GPI: 20.25
 Possible Pump: _____ pump height (in) = 14
 Possible Control Panel: _____

INITIAL WASTEWATER SYSTEM

Pressure Manifold Diagram

Tap #	1	2
Manifold	4" SCH 80 PVC	
tap size	3/4" sch 40	3/4" sch 40
flow (gpm)	12.50	12.50
length (ft)	75	75

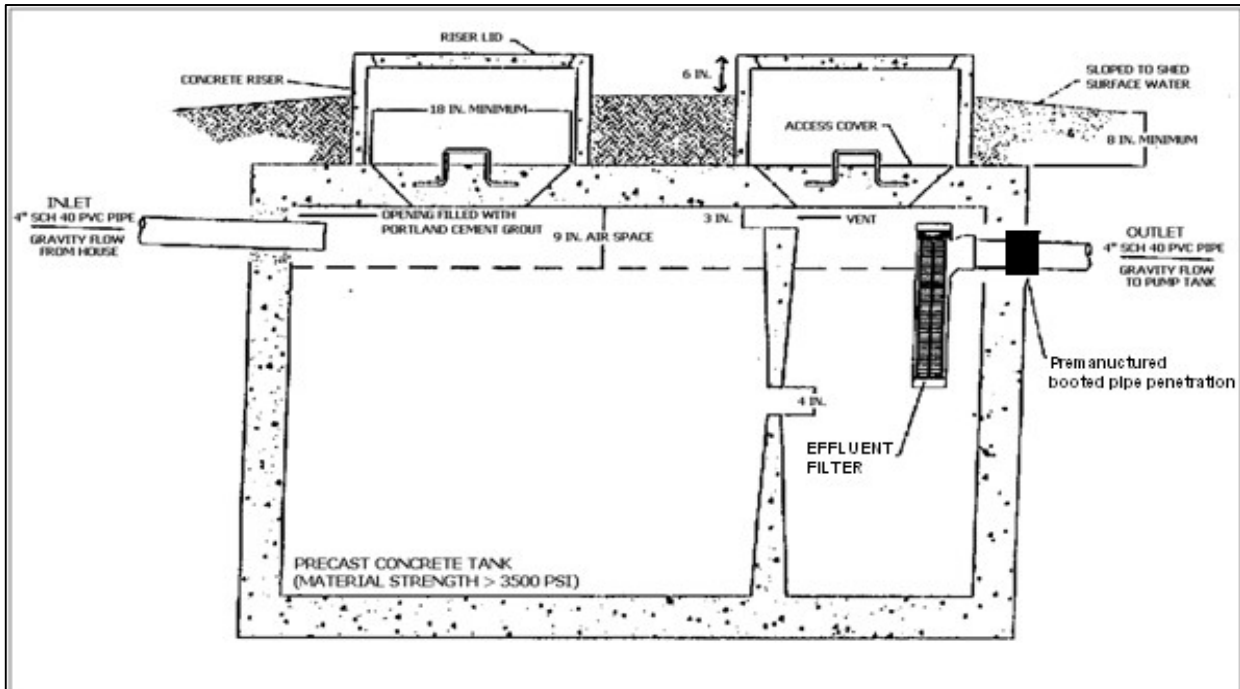
Typical



INITIAL WASTEWATER SYSTEM

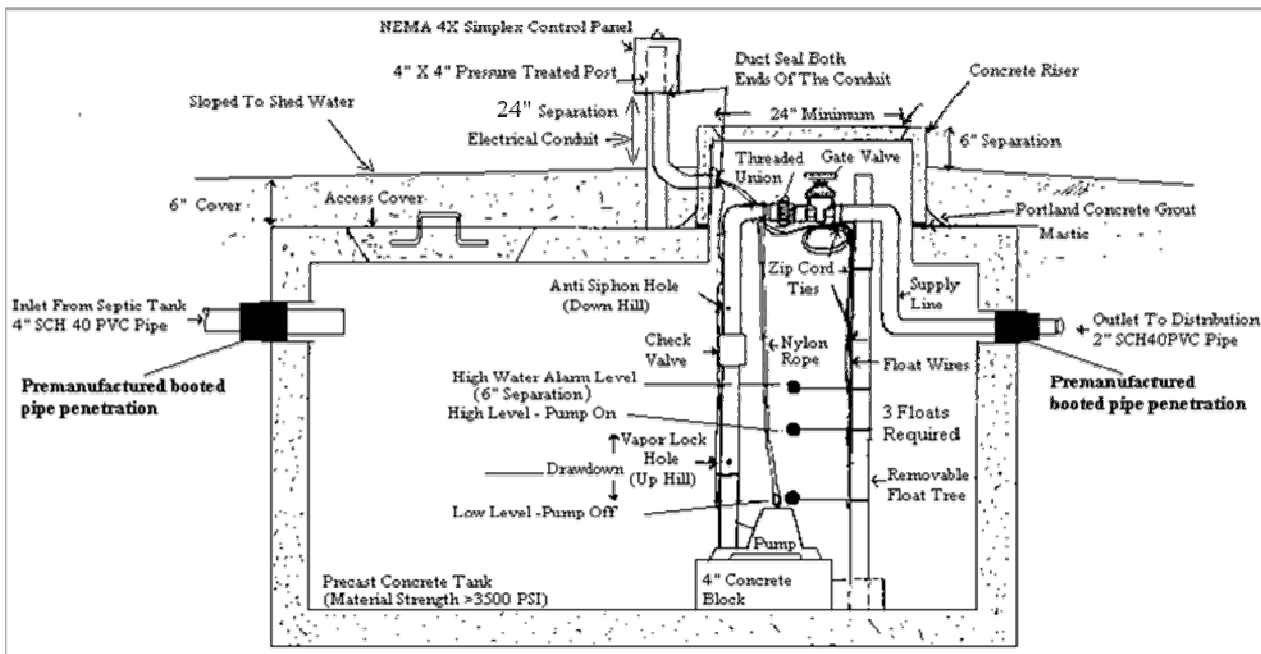
Typical Septic Tank

1000 GALLON SEPTIC TANK, minimum



Typical Pump Tank

1000 GALLON PUMP TANK, minimum



INITIAL WASTEWATER SYSTEM

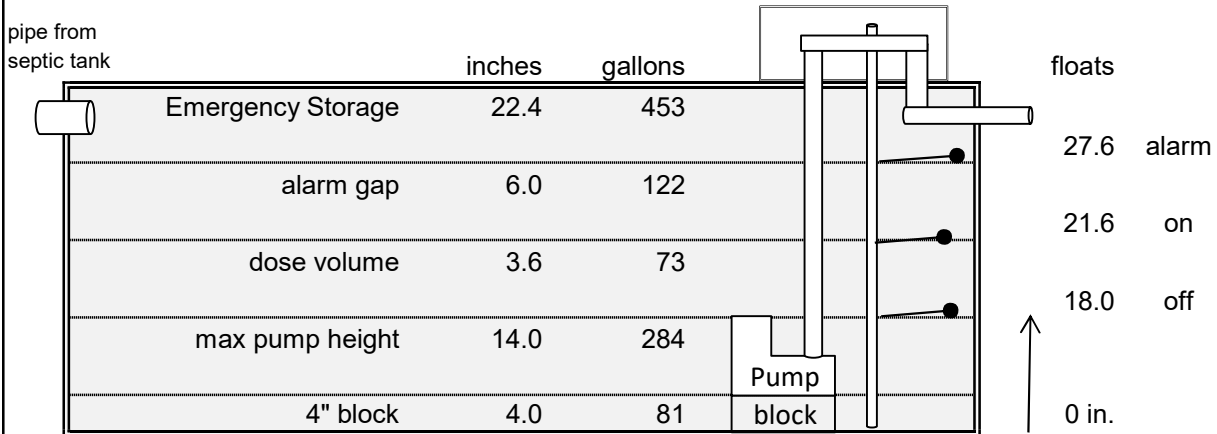
Pump Tank Calculations:

Possible pump tank: Brantley 1000_PT-237

Possible Pump:

tank GPI (gal/in): 20.25 calculated
 tank volume (gal): 1000 per manufacturer
 tank height (in): 50.0 per manufacturer

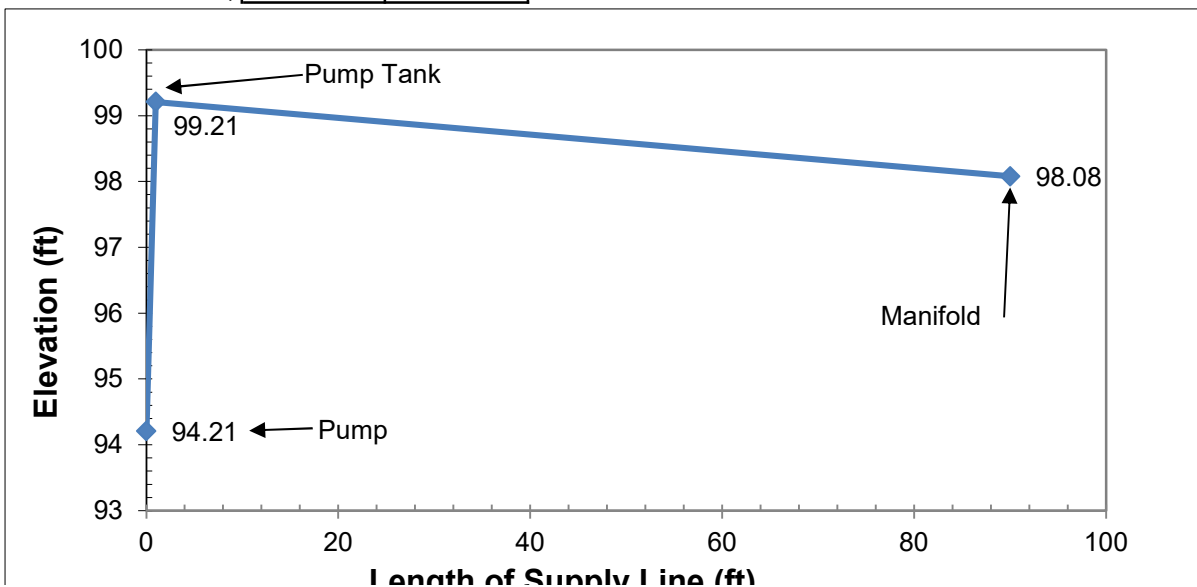
height: 14 in
 minimum emergency storage: 180 gal



Drawing N.T.S.

Supply Line Profile:

	Distance	Elevation
Pump	0	94.21
pump tank	1	99.21
Pressure manifold	90	98.08
4)		
5)		



REPAIR AREA

Pressure Manifold Design Criteria

DESIGN FLOW 360 gal/day

SOIL LTAR: 0.50 gpd/ft²

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: 540 ft² Minimum Linear Length: 180 ft

MANIFOLD # Taps 2 Tap Configuration: 6in. spacing, 1 side of manifold
 Length (ft): 2.5 Diameter: 4" sch 80 pvc Elevation: 99.65

TAP CHART

Tap #	Line Number	Line Color	Relative Elevation	Drainline Length(ft)	Tap Size/Schedule	Flow/tap (gpm)	LTAR (gpd/ft ²)
1	1	W	98.65	90	3/4"sch 40	12.50	0.667
2	2	Y	97.72	90	3/4"sch 40	12.50	0.667

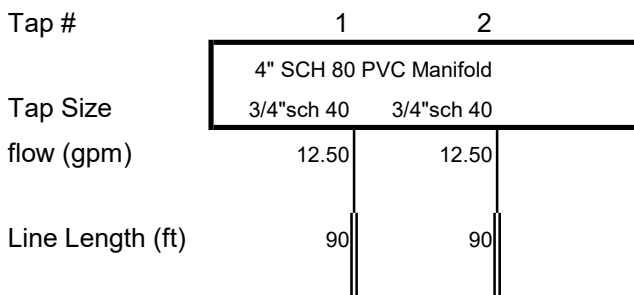
Total Drainline: 180 Total Flow: 25.00
 Target LTAR*: 0.67
 LTAR + 5%: 0.700

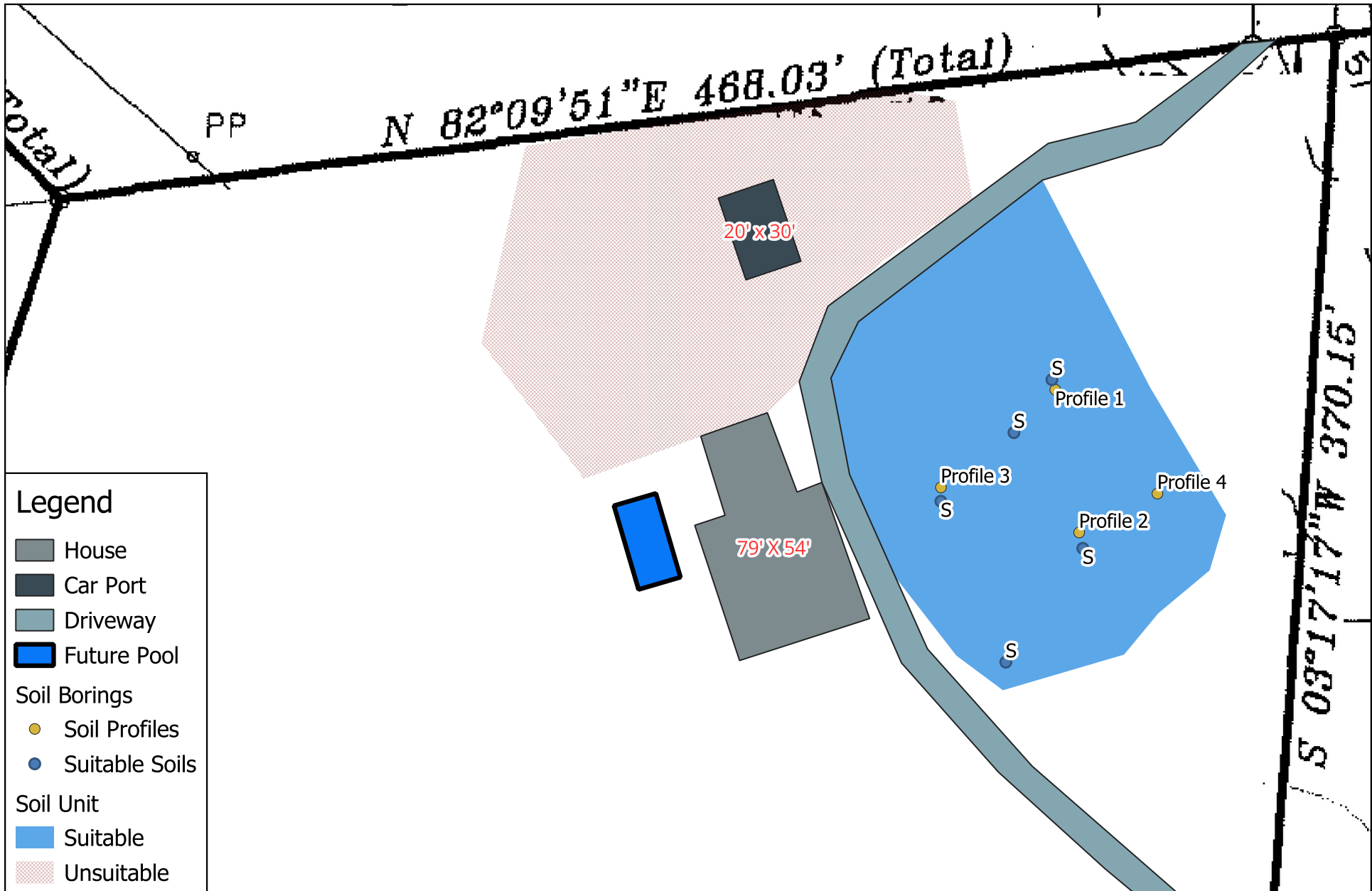
PUMP CALCULATIONS

Total Flow: 25.00 gpm Design Head (ft): 2.0
 Daily Pump Run Time: 14.40 min (Daily Flow/Total Flow)
 Dose Volume: 88.16 gallons with Pipe Volume at 75 % (65.3gal/100ft pipe)
 Dose Pump Run 3.53 minutes (Dose Volume/Total Flow)

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

MANIFOLD DIAGRAM:





Legend

- House
- Car Port
- Driveway
- Future Pool

Soil Borings

- Soil Profiles
- Suitable Soils

Soil Unit

- Suitable
- Unsuitable

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0 50 100 ft

For reference only. Not a survey.

784 Genry Rd
 Harnett Co., NC
 4 July 2024

Figure 1
 Soil Map for Septic Suitability

AOWE EVALUATION

HAL OWEN ASSOCIATES
www.halowensoil.com

Soil/Site Evaluation Form for On-Site Wastewater System

OWNER NAME: Michael and Laurie Smith
 PROPOSED FACILITY: Residential DESIGN DAILY FLOW: 360 WATER SUPPLY Private Well
 LOCATION OF SITE: 784 Gentry Rd, Erwin, NC 28339 PIN: 0587-62-2735.000
 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	450 ft ² trench bottom	540 ft ² trench bottom
SYSTEM TYPE	Accepted (25% reduction) System	Accepted (25% reduction) System
SITE LTAR	0.60 gpd/ft ²	0.50 gpd/ft ²
MAX TRENCH DEPTH	24 inches (measured on downhill side)	24 inches (measured on downhill side)
SITE CLASSIFICATION	<u>Suitable</u>	OTHER FACTORS _____

COMMENTS:

PROFILE 1

HORIZON DEPTH	COLOR	CONSISTENCE	TEXTURE	STRUCTURE	MINERALOGY	OTHER PROFILE FACTORS	
0-10	5YR 4/6	FR	SCL	GR	SEXP	LANDSCAPE POSITION	L
10-15	5YR 5/5	VFR	SL	GR	SEXP	SOIL WETNESS DEPTH	>48"
15-26	7.5YR 5/6	VFR	SL	GR	SEXP	SOIL WETNESS COLOR	
26-48	7.5YR 5/8	VFR	S	GR	SEXP	SOIL DEPTH	48"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	7
PROFILE CLASSIFICATION			Suitable	LTAR gpd/ft ²	0.6	SLOPE CORRECTION (IN)	2.5
COMMENT							

PROFILE 2

HORIZON DEPTH	COLOR	CONSISTENCE	TEXTURE	STRUCTURE	MINERALOGY	OTHER PROFILE FACTORS	
0-9	5YR 4/6	FR	SCL	GR	SEXP	LANDSCAPE POSITION	L
9-19	5YR 5/8	FR	SL	GR	SEXP	SOIL WETNESS DEPTH	>48"
19-38	7.5YR 5/6	VFR	LS	GR	SEXP	SOIL WETNESS COLOR	
38-48	7.5YR 4/6	VFR	S	GR	SEXP	SOIL DEPTH	48"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	7
PROFILE CLASSIFICATION			Suitable	LTAR gpd/ft ²	0.75	SLOPE CORRECTION (IN)	2.5
COMMENT							

AOWE EVALUATION

PROFILE 3

HORIZON DEPTH	COLOR	CONSISTENCE	TEXTURE	STRUCTURE	MINERALOGY	OTHER PROFILE FACTORS	
0-16	7.5YR 6/4	FR	SCL	GR	SEXP	LANDSCAPE POSITION	L
16-29	7.5YR 5/8	FI	SCL	SBK	SEXP	SOIL WETNESS DEPTH	>48"
29-48	10YR 5/8	FR	SL	GR	SEXP	SOIL WETNESS COLOR	
						SOIL DEPTH	48"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	7
PROFILE CLASSIFICATION			Suitable	LTAR gpd/ft ²	0.5	SLOPE CORRECTION (IN)	2.5
COMMENT							

PROFILE 4

HORIZON DEPTH	COLOR	CONSISTENCE	TEXTURE	STRUCTURE	MINERALOGY	OTHER PROFILE FACTORS	
0-11	5YR 5/8	FR	SCL	GR	SEXP	LANDSCAPE POSITION	L
11-26	7.5YR 5/8	FR	SL	GR	SEXP	SOIL WETNESS DEPTH	>48"
26-48	7.5YR 5/6	VFR	S	GR	SEXP	SOIL WETNESS COLOR	
						SOIL DEPTH	48"
						SAPROLITE CLASS	NA
						RESTRICTIVE HORIZON	NA
						SLOPE %	7
PROFILE CLASSIFICATION			Suitable	LTAR gpd/ft ²	0.8	SLOPE CORRECTION (IN)	2.5
COMMENT							

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	II	SL - Sandy Loam	0.8 – 0.6
D - Depression		L - Loam	
DW - Drainage Way			
FP - Flood Plain	III	SCL - Sandy Clay Loam	0.6 – 0.3
FS - Foot Slope		CL - Clay Loam	
H - Head Slope		SiL - Silt Loam	
L - Linear Slope		Si - Silt	
N - Nose Slope		SiCL - Silt Clay Loam	
R - Ridge	IV	SC - Sandy Clay	0.4 – 0.1
S - Shoulder Slope		C - Clay	
T - Terrace		SiC - Silty Clay	
TS - Toe Slope		O - Organic	

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	NP - Non Plastic
ABK - Angular Blocky		SP - Slightly Plastic
PL - Platy	MINERALOGY	MP - Moderately Plastic
PR - Prismatic	SEXP - Slightly Expansive	VP - Very Plastic
	EXP - Expansive	

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.

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 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 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.