



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: RiverWILD Homes

Mailing address: 114 W Main St, City: Clayton State: NC Zip: 27520

Phone: 919-373-6048 Email: Kelley@staywild.com

Authorized Onsite Wastewater Evaluator Information:

Name: Heath Clapp Certification #: #10057E

Mailing address: 1225 Crescent Green, Ste 250 City: Cary State: NC Zip: 27518

Phone: 919-629-6404 Email: hclapp@agriwaste.com

Site Location Information:

Site address: 145 Longfield Court, Dunn, NC 28334

Tax parcel identification number or subdivision lot, block number of property: 1507-47-8128

Sawyer Ridge, Lot 7 County: Harnett

System Information:

Wastewater System Type: IIIb

Daily Design Flow: 480 GPD

Saprolite System: ☐ Yes ☒ No Subsurface Operator Required: ☐ Yes ☒ No

Water Supply Type: ☐ Private Well ☒ Public Water Supply ☐ Spring ☐ Other: _____

Facility Type:

☒ Residential 4 # Bedrooms 8 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

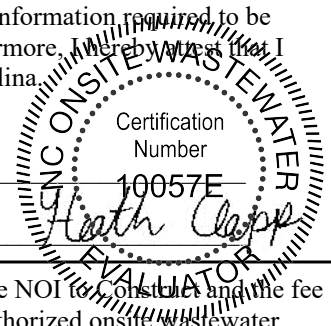
☒ Evaluation of Soil and Site Features by Licensed Soil Scientist

Attest: On this the 21 day of NOV, 2025 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 21 day of NOV, 2028.

Signature of Authorized Onsite Wastewater Evaluator: Heath Clapp

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 Acknowledgment:

Signature of Local Health Department Representative: _____ Date: _____



Agri-Waste Technology, Inc.
1225 Crescent Green, Suite 250, Cary NC 27518
agriwaste.com | 919.859.0669



**Soil Suitability for Domestic Sewage Treatment and Disposal Systems
145 Longfield Court, Dunn, NC 28334
(PIN: 1507-47-8128; Harnett County)**

PREPARED FOR: RiverWILD Homes

PREPARED BY: Heath Clapp, Senior Soil Scientist, AOWE

DATE: November 21, 2025

Soil suitability for a domestic sewage treatment and disposal system was evaluated on October 8, 2025, for the property located at 145 Longfield Court in Dunn, NC. A layout was performed on October 8, 2025. Heath Clapp and Trent Bostic of Agri-Waste Technology, Inc. (AWT) conducted the soil evaluation. This evaluation was done to facilitate permitting for a septic system. This report and attached documents were prepared to meet the requirements for an Authorized On-Site Wastewater Evaluator to meet G.S. 130A-336.2

A drawing of the site plan, septic layout, and boring locations is included in Attachment 1. Profile descriptions for each boring are included in Attachment 2. Additional documentation about the property is included in Attachment 3.

Site Conditions

The total property area is approximately 0.55 acres. The property was an open ag field at the time of the evaluation. The drawing in Attachment 1 details the property boundaries, house location, boring locations, and layout of drain field trenches (Completed by AWT).

Soil Suitability for Domestic Sewage Treatment and Disposal Systems

Multiple soil borings were assessed on the property. Soil borings were examined to determine soil suitability for on-site sewage disposal systems in accordance with 15A NCAC 18E: Wastewater Treatment and Dispersal Systems. These borings were advanced with a hand auger. All soil borings shown are suitable for a conventional style trench. The proposed LTAR (Long Term Acceptance Rate) by AWT is 0.3 GPD/ft². The soils on this property are group IV soils within the distribution and treatment zone as used to define the LTAR. The maximum trench bottom should not exceed 18-24".

Field Layout & System Design

A septic layout was performed to demonstrate available space (.0508) for a primary and repair system to be installed. The layout in Attachment 1 indicates there is available space for a four-bedroom primary system utilizing a 25% reduction product, and there is available space for a 4-bedroom repair system utilizing a 25% reduction product. With an LTAR of 0.3 GPD/ft², 800 linear feet of trench is necessary to support a four-bedroom home primary and repair system. The attached drawing proves that 800 linear feet of trench can be installed with the location of the future improvements on the property.

Any disturbances or grading done in the usable soils area may change the potential of using the area designated for a drain field and can result in a revoked permit.

We appreciate the opportunity to assist you in this matter. Please contact us with any questions, concerns, or comments.

Sincerely,

Heath Clapp, Senior Soil Scientist, AOWE

A handwritten signature in black ink that reads "Heath Clapp". The signature is written in a cursive, flowing style. The first name "Heath" is written in a larger, more prominent script, and the last name "Clapp" follows in a similar but slightly smaller script. The ink is dark and the background is a light, textured surface.



Evaluation Date	10/8/2025	Site Location	145 Longfield Court, Dunn, NC 28334	County	Harnett
PIN/Parcel	1507-47-8128	Property Size	0.55 acres	Property Recorded	Yes
Proposed Facility	SFR	Bedrooms	4	Wastewater Strength	Domestic
Water Supply	Municipal	Design Flow (.0400)	480	Evaluation Method	Auger

Profile #	.0502 Landscape Position Slope %	Horizon Depth (in)	Soil Morphology		Other Factors					.0509 Profile Class LTAR	.0502(d) Slope Correction
			.0503 Structure Texture	.0503 Consistence Mineralogy	.0504 Soil Wetness Color	.0505 Soil Depth (in)	.0506 Saprolite	.0507 Restrictive Horizon			
1	2%	A 0-10"	LS	NS, NP, VFr	10YR 4/2	36	S	S	0.3	0.8	
		Bt1 10-36"+	SC	S; P; Fi	7.5YR 5/8						
							System Type		Conventional		
2	2%	A 0-10"	LS	NS, NP, VFr	10YR 4/2	36	S	S	0.3	0.8	
		Bt1 10-36"+	SC	S, P, Fi	7.5YR 5/8						
							System Type		Conventional		
3	2%	A 0-10"	LS	NS, NP, VFr	10YR 4/2	36	S	S	0.3	0.8	
		Bt1 10-36"+	SC	S, P, Fi	7.5YR 5/8						
							System Type		Conventional		
4	2%	A 0-10"	LS	NS, NP, VFr	10YR 4/2	36	S	S	0.3	0.8	
		Bt1 10-36"+	SC	S; P; Fi	7.5YR 5/8						
							System Type		Conventional		



Agri-Waste Technology, Inc.
1225 Crescent Green, Suite 250, Cary NC 27518
agriwaste.com | 919.859.0669

SOIL & SITE EVALUATION for ON-SITE WASTEWATER SYSTEMS

LEGEND

Soil Group	Soil Texture	Conventional LTAR	Anaerobic Dip LTAR	Aerobic Drip LTAR (TS-II)	Mineralogy &		Structure
					Moist	Wet	
I	S (Sand)	0.8-1.2	0.4-0.6	0.8-1.5	Lo	NS	SG (Single grain)
	LS (Loamy Sand)				(Loose)	(Non Sticky)	M (Massive)
II	SL (Sandy Loam)	0.6-0.8	0.3-0.4	0.6-0.8	VFR (Very Friable)	SS (Slightly Sticky)	GR (Granular)
	L (Loam)				FR (Friable)	S (Sticky)	SBK (Subangular Blocky)
	SiL (Silt Loam)				FI (Firm)	VS (Very Sticky)	ABK (Angular Blocky)
	SCL (Sandy Clay Loam)				VFI (Very Firm)	NP (Non Plastic)	PR (Prismatic)
III	CL (Clay Loam)	0.3-0.6	0.15-0.3	0.2-0.6	EFI (Extremely Firm)	SP (Slightly Plastic)	
	SiCL (Silty Clay Loam)					P (Plastic)	PL (Platy)
IV	SC (Sandy Clay)	0.1-0.4	0.05-1.5	0.05-0.2		VP (Very Plastic)	
	SiC (Silty Clay)				SEXP (Slighty Expansive)		
	C (Clay)				EXP (Expansive)		



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

1/20/2025

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 Hartsfield & Nash Agency, Inc. 10405 Ligon Mill Rd., Ste H Wake Forest NC 27587	CONTACT NAME: Connie Garkalns PHONE (A/C, No, Ext): 984-235-4273 E-MAIL: connie@hartsfield-nash.com ADDRESS: connie@hartsfield-nash.com	FAX (A/C, No): 919-556-8758
INSURER(S) AFFORDING COVERAGE		NAIC #
INSURER A: Selective Insurance Company of		39926
INSURER B: Accident Fund		10166
INSURER C: Evanston Insurance Company		35378
INSURER D:		
INSURER E:		
INSURER F:		

COVERAGES

CERTIFICATE NUMBER: 1304989694

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 SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:		S 2253659	1/18/2025	1/18/2026	EACH OCCURRENCE \$ 2,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 2,000,000 GENERAL AGGREGATE \$ 4,000,000 PRODUCTS - COMP/OP AGG \$ 4,000,000 \$
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY		S 2253659	1/18/2025	1/18/2026	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED RETENTION \$		S 2253659	1/18/2025	1/18/2026	EACH OCCURRENCE \$ 2,000,000 AGGREGATE \$ 2,000,000 \$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N N/A	100003072	1/18/2025	1/18/2026	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
C	Prof & Pollution Liability Leased & Rented		MKL3ENV104794 S 2253659	8/22/2024 1/18/2025	8/22/2025 1/18/2026	Each Claim Equipment \$ 5,000,000 25,000

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

CERTIFICATE HOLDER**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

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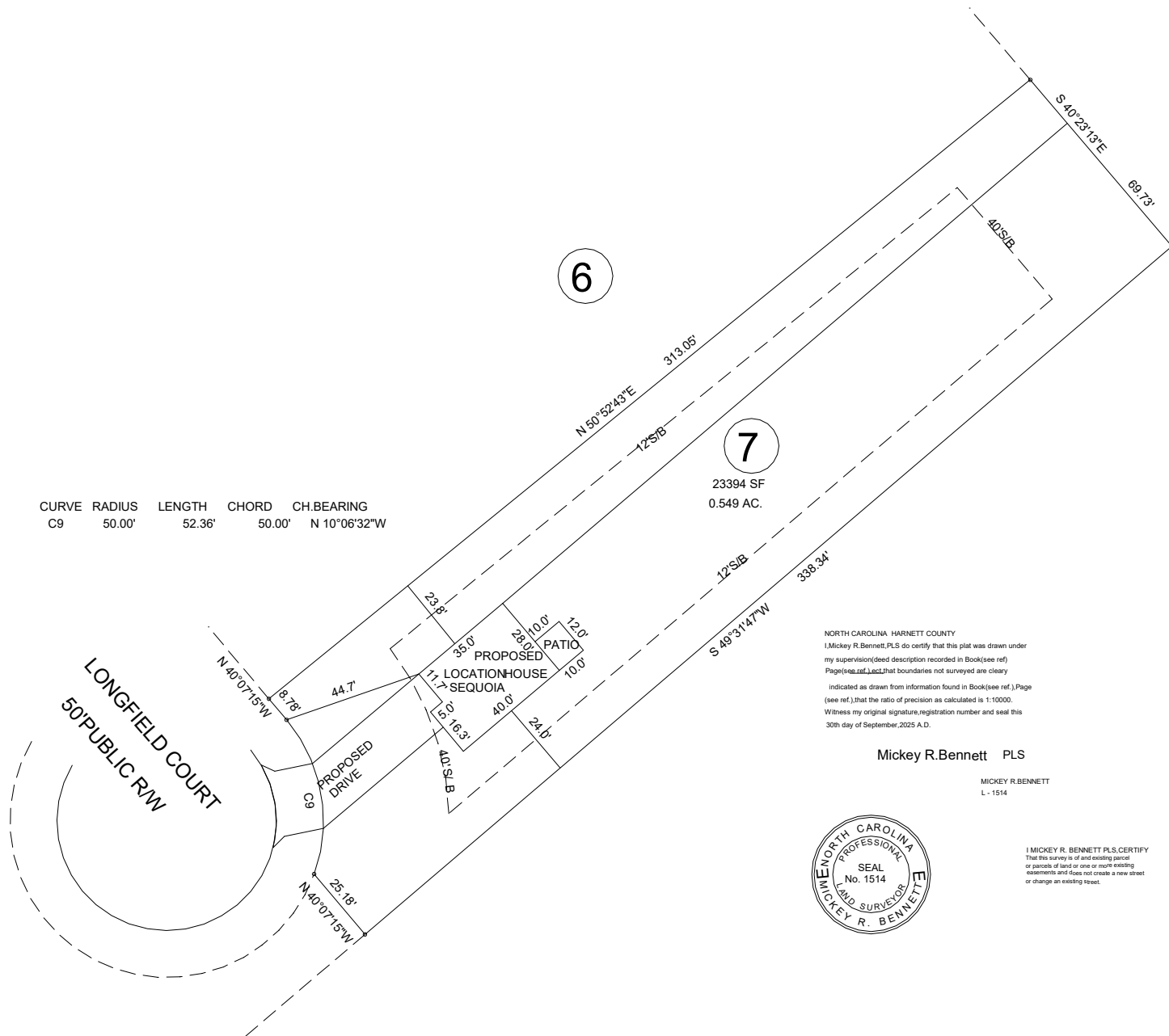
ACORD 25 (2016/03)

The ACORD name and logo are registered marks of ACORD

EFFECTIVE DATE 10/03/2006.



CURVE	RADIUS	LENGTH	CHORD	CH.BEARING
C9	50.00'	52.36'	50.00'	N 10°06'32"W



NORTH CAROLINA HARNETT COUNTY
I, Mickey R. Bennett, PLS do certify that this plat was drawn under
my supervision (deed description recorded in Book (see ref)
Page (see ref.), act that boundaries not surveyed are clearly
indicated as drawn from information found in Book (see ref.), Page
(see ref.), that the ratio of precision as calculated is 1:10000.
Witness my original signature, registration number and seal this
30th day of September, 2025 A.D.

Mickey R.Bennett PLS

MICKEY R.BENNETT
L - 1514

I MICKEY R. BENNETT PLS. CERTIFY
That this survey is of and existing parcel
or parcels of land or one or more existing
easements and does not create a new street
or change an existing street.



NO FIELD SURVEY WAS PERFORMED IN PREPARING THIS PLAT

EXISTING PARCEL (SEE NOTE)

145 LONGFIELD COURT ROAD, DUNN , NC 28334

PROPOSED PLOT PLAN
SAWYER RIDGE SUBDIVISION

LOT ---- 7

NORTH	DUKE TOWNSHIP	
	TOWN OF ERWIN	
	ZONED RD	PIN 1507-47-8128.000

HARNETT COUNTY
NORTH CAROLINA
PID
021507 0015 11

BENNETT SURVEYS F-1304

1662 CLARK RD. LILLINGTON N.C.27546

(910) 893-5252

SCALE : 1" = 50'

DRAWN BY:	MRB&RVB
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DATE	SEPTEMBER 30, 2025
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DRAWING NO.	25391
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MINIMUM BUILDING SETBACKS

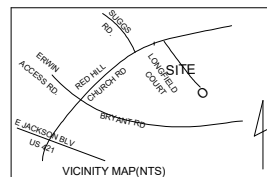
FRONT --- 40'

REAR --- 40'

SIDES ---- 12'

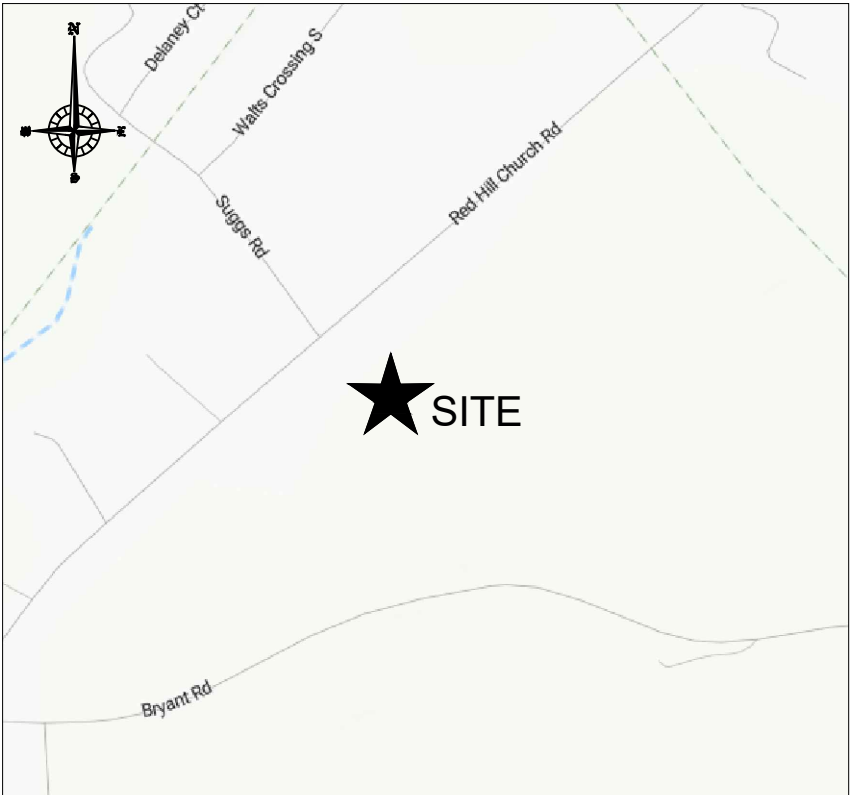
OWNERS:

LONG LAND DEVELOPMENT LLC
9404 NORTHFIELD COURT
RALEIGH, NC 27603-9209



SAWYER RIDGE - LOT 7

Project Location	145 Longfield Court, Dunn, NC 28334 Harnett County PIN: 1507-47-8128
Project Owner	RiverWILD Homes 114 W Main St Clayton, NC 27520 919-373-6048 kelley@staywild.com
Project Consultant	Heath Clapp, AOWE (919) 629-6404 hclapp@agriwaste.com
	Agri-Waste Technology, Inc. 1225 Crescent Green, Suite 250 Cary, NC 27518 (919) 859-0669 (919) 233-1970 Fax
System Overview	Single Family Residence Four (4) Bedrooms, 480GPD Pressure Manifold Accepted/Innovative Trench Product



VICINITY MAP

Sheet Index

Sheet 1	Cover Sheet
Sheet 2	Property Layout
Sheet 3	Primary Drainfield
Sheet 4	Repair Drainfield
Sheet 5	Detail Sheet
Sheet 6	Detail Sheet

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
1225 Crescent Green, Suite 250
Cary, North Carolina 27518
919-859-0669
www.agriwaste.com

RiverWILD Homes
Sawyer Ridge - Lot 7

Project Location:
145 Longfield Court,
Dunn, NC 28334
Harnett County
PIN: 1507-47-8128

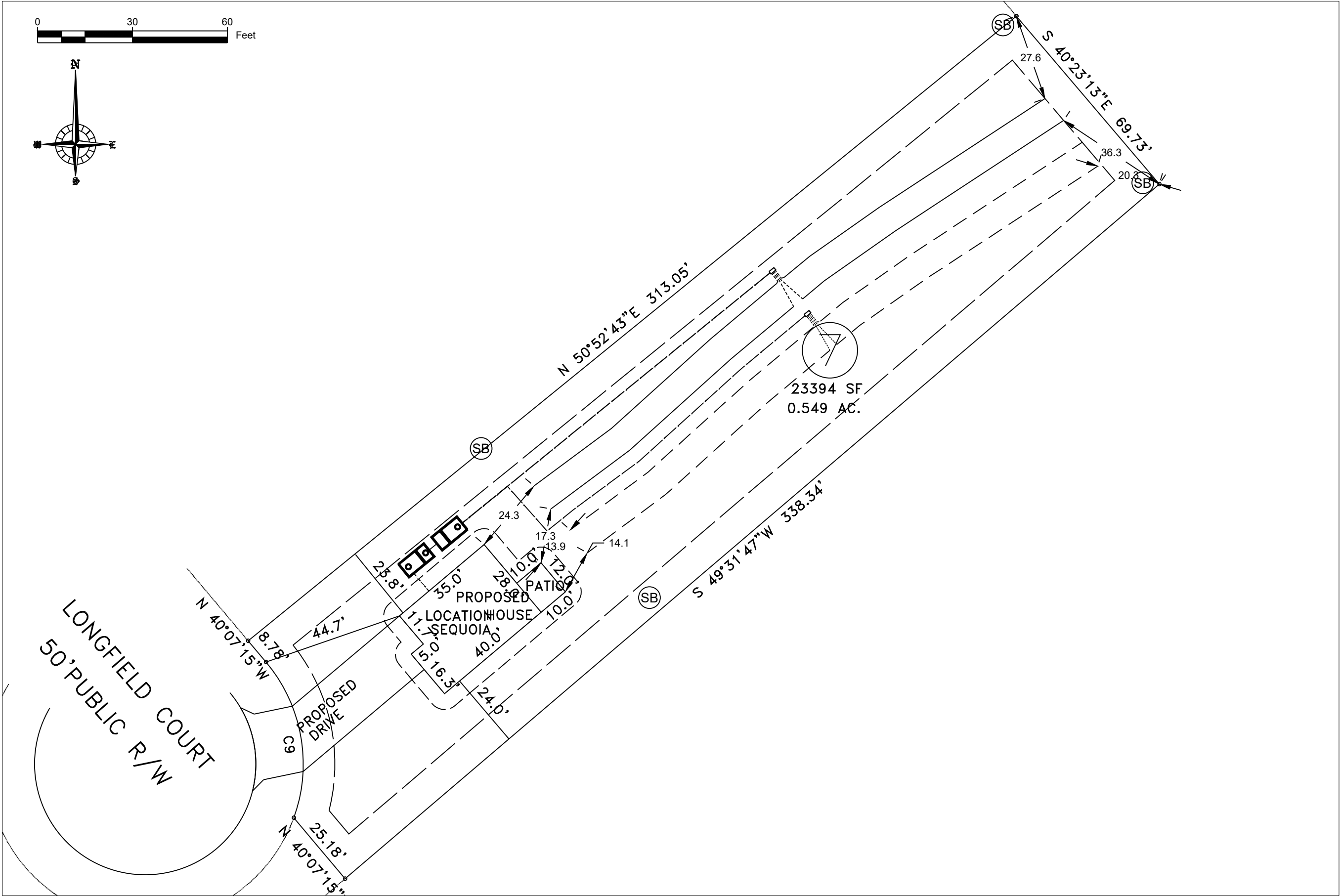
Project Owner:
RiverWILD Homes
114 W Main St
Clayton, NC 27520
919-373-6048
kelley@staywild.com

NC ONSITE WASTEWATER
EVALUATOR SEAL

Certification
Number
10057E
Heath Clapp
EVALUATOR

REV.	ISSUED DATE	DESCRIPTION
SHEET TITLE Cover Sheet		
DRAWN BY: H. Clapp	CREATED ON: 11/21/2025	
REVISED BY: ####	REVISED ON: ####	
RELEASED BY: ####	RELEASED ON: ####	
DRAWING NUMBER WW-1P		





1
WW-2

PROPERTY LAYOUT

SOURCE: AWT, Inc.



Engineers and Soil Scientists
Agri-Waste Technology, Inc.
1225 Crescent Green, Suite 250
Cary, North Carolina 27518
919-859-0669
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RiverWILD Homes
Sawyer Ridge - Lot 7

Project Location:
145 Longfield Court,
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PIN: 1507-47-8128

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114 W Main St
Clayton, NC 27520
919-373-6048
kelley@staywild.com

NC ONSITE WASTEWATER
EVALUATOR SEAL



REV.	ISSUED DATE	DESCRIPTION
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SHEET TITLE

Property Layout

DRAWN BY: H. Clapp	CREATED ON: 11/21/2025
REVISED BY: ####	REVISED ON: ####
RELEASED BY: ####	RELEASED ON: ####

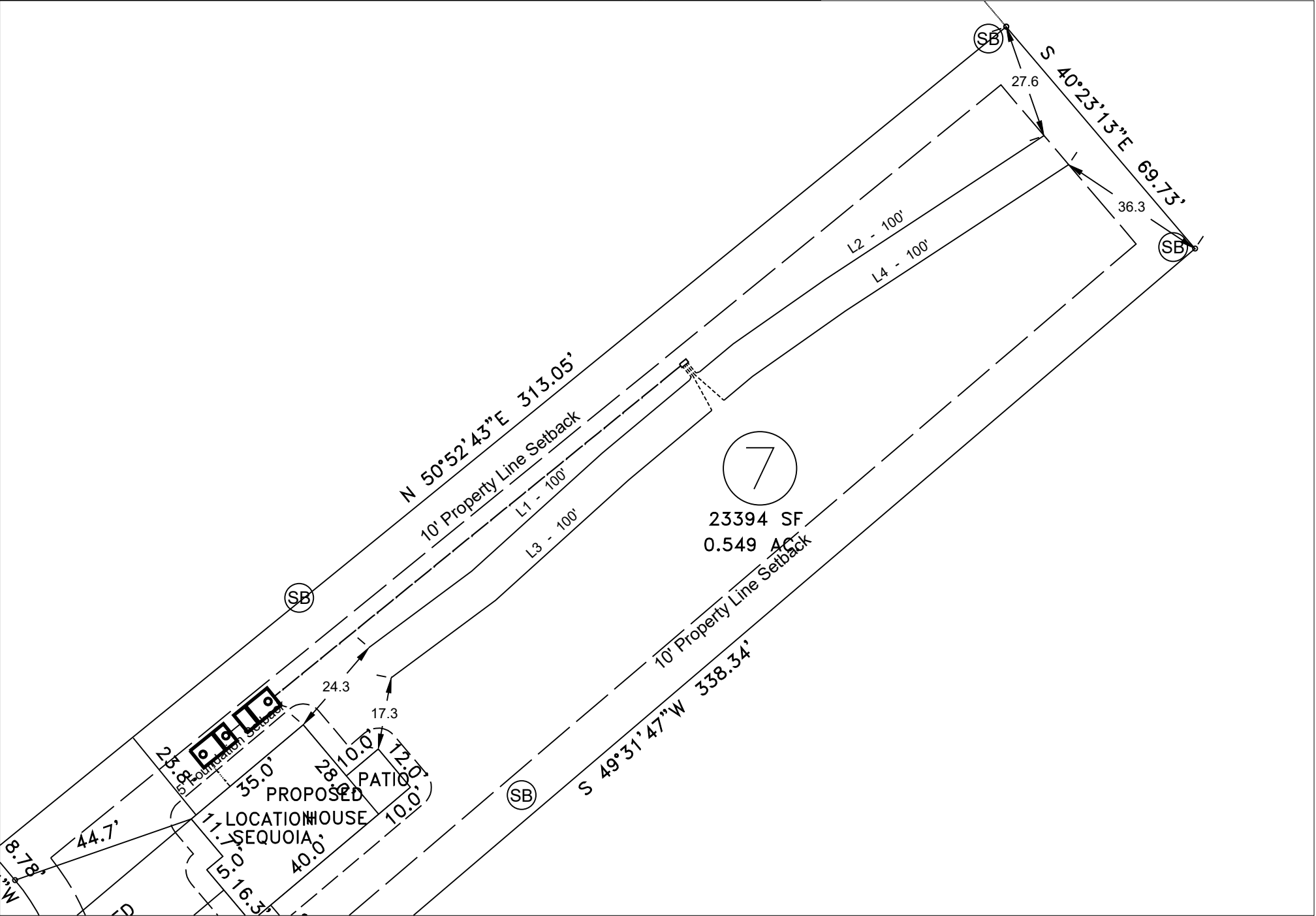
DRAWING NUMBER
WW-2

General Drainfield Notes:

1. Clear all trees less than 8" in diameter (measured at a height 3' from soil surface) from the drainfield.
2. Vegetation that will re-grow from a cut stump shall be stumped or pulled from the ground. Stumps shall not be pushed over.
3. Drainfield area shall be cleared of all leaves, pine straw, debris, etc. The accumulated material shall be removed from the drainfield.
4. In clayey soils, sides of trenches shall be raked and limed per manufacturer's instructions.
5. Supply lines shall be installed with a minimum of 18" cover.
6. The trenches shall be backfilled appropriately so that no low areas are present.
7. Apply lime over the drainfield area as needed. Seed fine fescue over the drainfield at the rate recommended by the seed manufacturer. Hand rake the seed into the soil surface. Straw the seeded area at the rate of 1.5–2 bales per 1000 sq. ft.

DRAINFIELD INFO. - Primary						
Proposed Type of System/Distribution: Pump to Pressure Manifold using EZflow						
Line No.	Flag Color	Line Length (ft)	Tap	Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
1	0	100	1/2in SCH 40	7.11	0.071	0.400
2	0	100	1/2in SCH 40	7.11	0.071	0.400
3	0	100	1/2in SCH 40	7.11	0.071	0.400
4	0	100	1/2in SCH 40	7.11	0.071	0.400
Total		400	Total	28.44	Avg.	0.40

Note:
Primary distribution is pressure manifold utilizing accepted trench product.

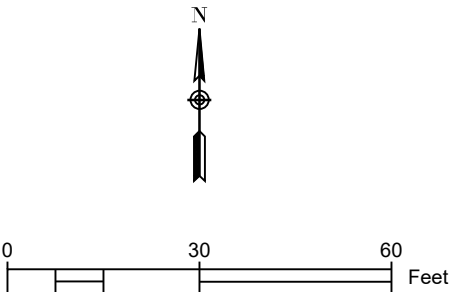


1 Primary Drainfield
SOURCE: Agri-Waste Technology, Inc.



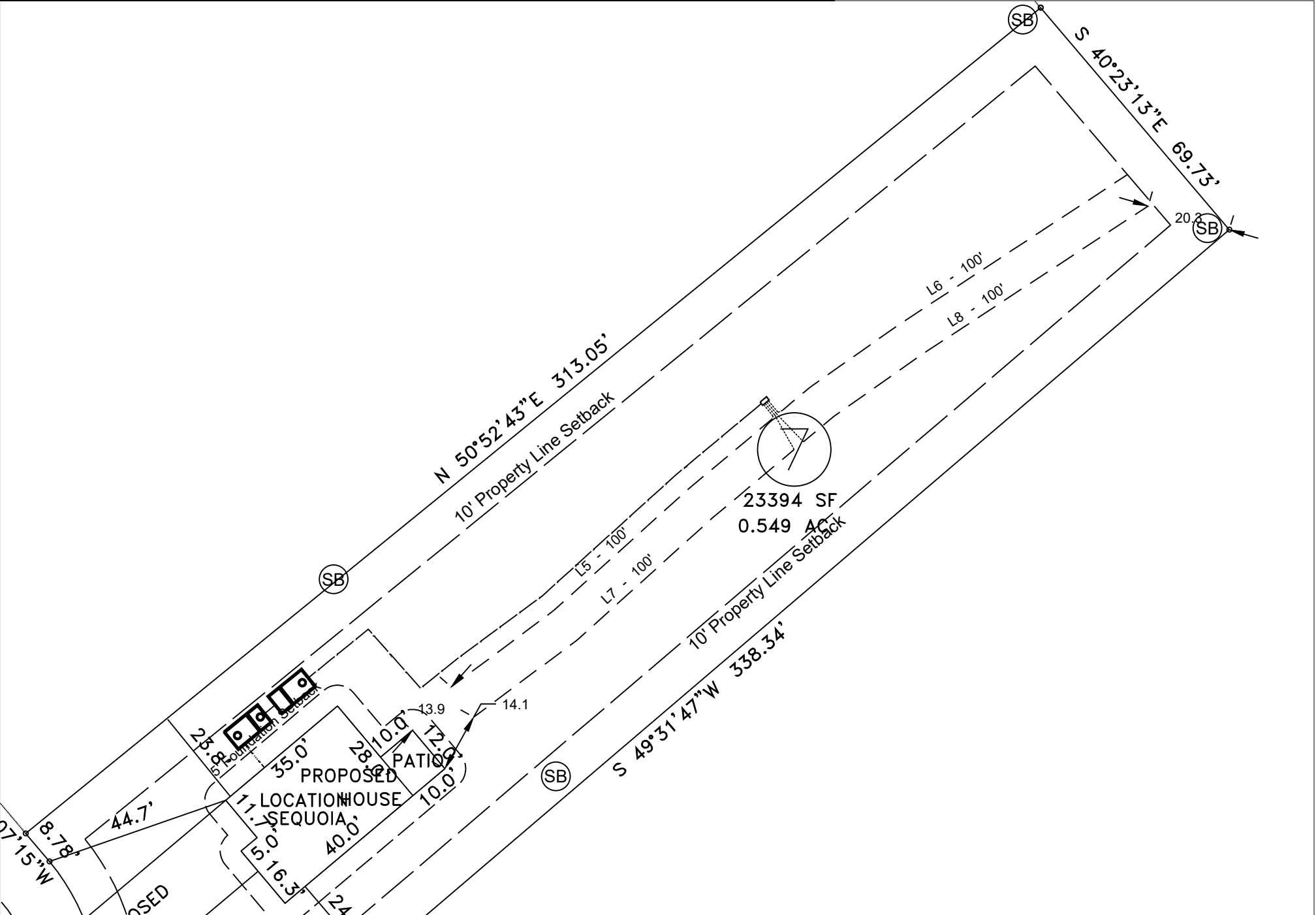
General Drainfield Notes:

- 1. Clear all trees less than 8" in diameter (measured at a height 3' from soil surface) from the drainfield.
- 2. Vegetation that will re-grow from a cut stump shall be stumped or pulled from the ground. Stumps shall not be pushed over.
- 3. Drainfield area shall be cleared of all leaves, pine straw, debris, etc. The accumulated material shall be removed from the the drainfield.
- 4. In clayey soils, sides of trenches shall be raked and limed per manufacturer's instructions.
- 5. Supply lines shall be installed with a minimum of 18" cover.
- 6. The trenches shall be backfilled appropriately so that no low areas are present.
- 7. Apply lime over the drainfield area as needed. Seed fine fescue over the drainfield at the rate recommended by the seed manufacturer. Hand rake the seed into the soil surface. Straw the seeded area at the rate of 1.5-2 bales per 1000 sq. ft.



DRAINFIELD INFO. - Primary						
Proposed Type of System/Distribution: Pump to Pressure Manifold using EZflow						
Line No.	Flag Color	Line Length (ft)	Tap	Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
1	0	100	1/2in SCH 40	7.11	0.071	0.400
2	0	100	1/2in SCH 40	7.11	0.071	0.400
3	0	100	1/2in SCH 40	7.11	0.071	0.400
4	0	100	1/2in SCH 40	7.11	0.071	0.400
Total		400	Total	28.44	Avg.	0.40

Note:
Repair distribution is pressure manifold utilizing an accepted trench product.



1 Repair Drainfield
SOURCE: Agri-Waste Technology, Inc.

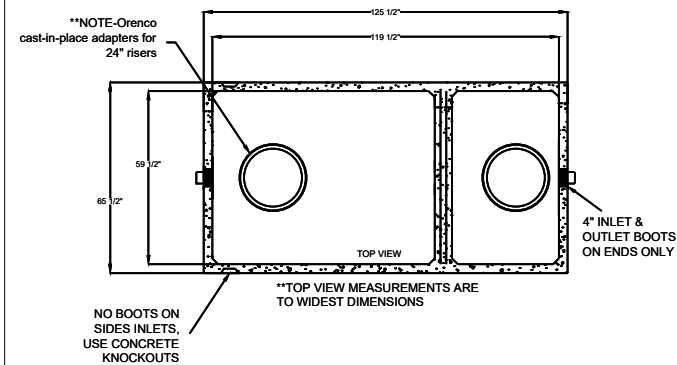


REV.	ISSUED DATE	DESCRIPTION
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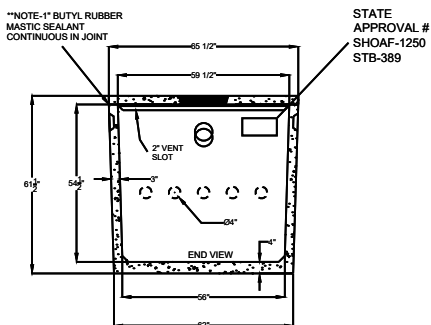
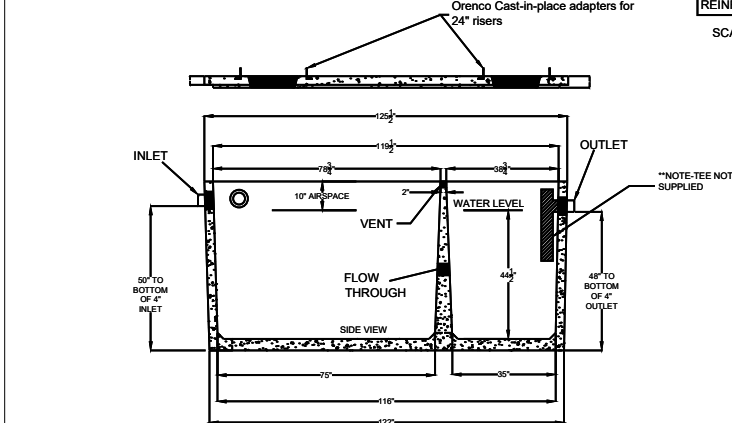
SHEET TITLE
Repair Drainfield

DRAWN BY: H. Clapp	CREATED ON: 11/21/2025
REVISED BY: ####	REVISED ON: ####
RELEASED BY: ####	RELEASED ON: ####

DRAWING NUMBER
WW-4P

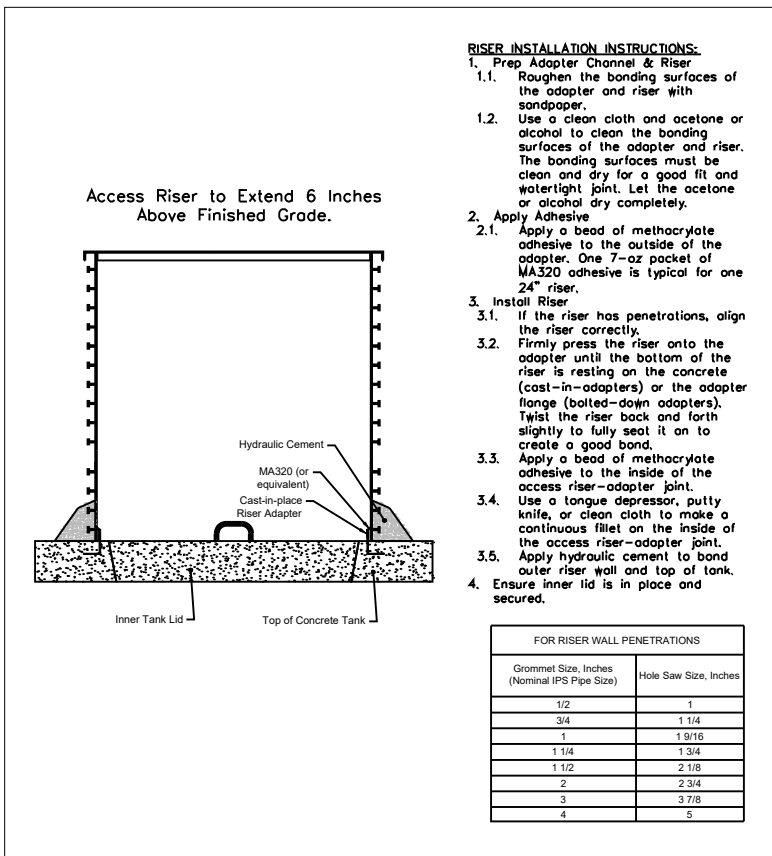


SHOAF PRECAST SEPTIC INC.	MODEL: TS 1250 STB
4130 WEST US HWY 64	NON TRAFFIC
LEXINGTON, NC 27295	1250 Gallon Septic Tank
PHONE (336) 787-5826	
FAX (336) 787-2826	
WWW.SHOAFPRECAST.COM	
SHOAF-1,250 SEPTIC TANK	
STB-389	
LIQUID CAPACITY-1,252 GALLONS/10\"/>	
TANK HEIGHT-61 1/2\"/>	
BOTTOM OF TANK TO CENTER OF INLET-52\"/>	
BOTTOM OF TANK TO CENTER OF OUTLET-50\"/>	
LENGTH TO WIDTH RATIO-2 TO 1	
SIZE OF INLET & OUTLET-3\"/>	
TYPE OF INLET & OUTLET-POLYLOCK OR EQUAL (MEETS ASTM C-923)	
CONCRETE PSI-4000; TANK WEIGHT- 11,000 LBS.	
REINFORCEMENT PER STATE CODE	
SCALE - N.T.S.	

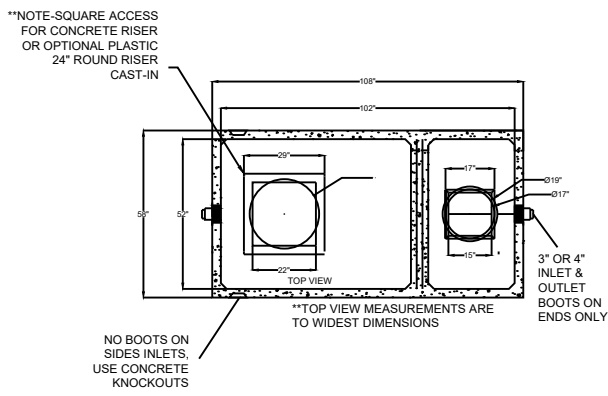


1 Septic Tank

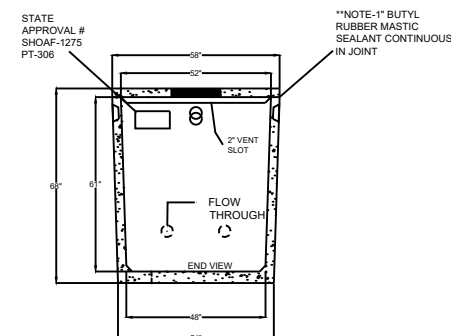
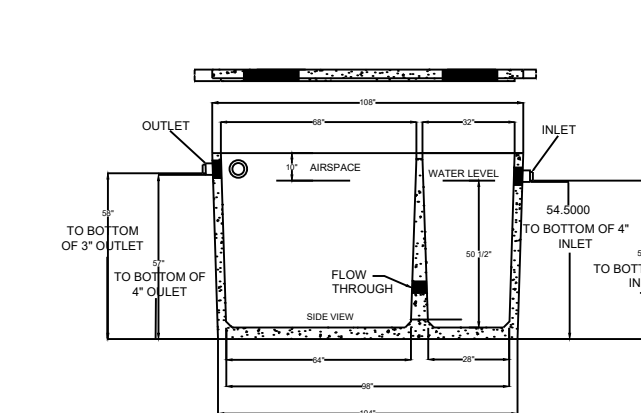
SOURCE: Shoaf Precast Septic, Inc.



3 Riser Installation



SHOAF PRECAST SEPTIC INC.	MODEL: TS 1275 PT
4130 WEST US HWY 64	NON TRAFFIC
LEXINGTON, NC 27295	1275 Gallon Pump Tank
PHONE (336) 787-5826	
FAX (336) 787-2826	
WWW.SHOAFPRECAST.COM	
SHOAF-1,275 PUMP TANK	
PT-306 NON TRAFFIC	
LIQUID CAPACITY-1,287 GALLONS INCLUDING 10\"/>	
GALLONS PER INCH-21.07 (AVERAGE)	
TANK HEIGHT-67 1/2\"/>	
BOTTOM OF TANK TO CENTER OF INLET-56 1/2\"/>	
BOTTOM OF TANK TO CENTER OF OUTLET-59\"/>	
LENGTH TO WIDTH RATIO-2 TO 1	
SIZE OF INLET & OUTLET-3\"/>	
TYPE OF INLET & OUTLET-POLYLOCK OR EQUAL (MEETS ASTM C-923)	
CONCRETE PSI-4000; TANK WEIGHT- 10,500 LBS.	
REINFORCEMENT PER STATE CODE	



2 Pump Tank (or equiv. tank with 1-day storage)

SOURCE: Shoaf Precast Septic, Inc.

NOTES

1. Installation to follow all NC DHHS and Harnett County applicable rules and regulations.
2. AWT to perform construction inspections and final system certification.
3. Septic Tank to have approved effluent filter.
4. Contractor to abide by all safety regulations during system installation.
5. Contractor shall backfill around all access areas such that storm water is shed away from potential entry points.
6. Invert elevations of all components to be verified in field by contractor to insure proper operation.
7. All system piping to be SCH40 PVC (except where noted).
8. All gravity elbows to be long radius or long sweeping type elbows.
9. Actual installation and placement of treatment system to be overseen by Contractor.
10. Tanks to be set on 6\"/>

11. Contractor to seed and/or mulch disturbed areas to coincide with existing landscape. Area shall not be left with uncovered soil.
12. Mount Control Panel a minimum of 24\"/>
13. Power to panel to be installed by licensed electrician per code. One 15-amp circuit and one 20-amp circuit with individual neutrals to be run from house to control panel.
14. All risers to have cast-in-place tank adapters and be single-piece riser. Risers to extend 6\"/>
15. Backfill around tank(s) shall be gravel or tank hole shall be over-excavated a minimum of 2' in all directions to allow for mechanical tamping of backfill.
16. All penetrations to be sealed.
17. All pressure lines to maintain 18\"/>
18. Contractor to adjust tank placement to meet site constraints.

RiverWILD Homes
Sawyer Ridge - Lot 7

Project Location:
145 Longfield Court,
Dunn, NC 28334
Harnett County
PIN: 1507-47-8128

Project Owner:
RiverWILD Homes
114 W Main St
Clayton, NC 27520
919-373-6048
kelley@staywild.com

NC ONSITE WASTEWATER
EVALUATOR SEAL



REV.	ISSUED DATE	DESCRIPTION
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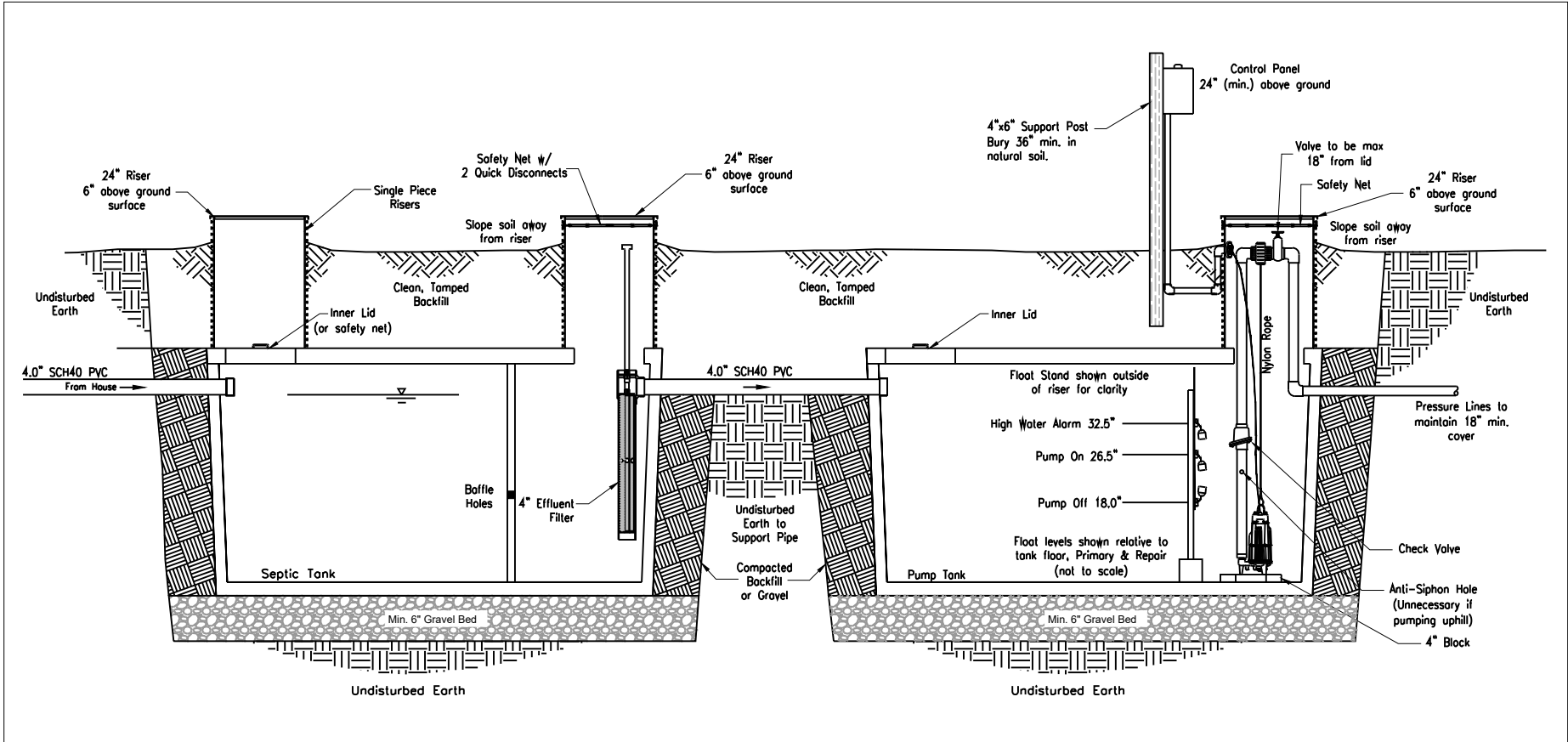
SHEET TITLE

Detail Sheet 1

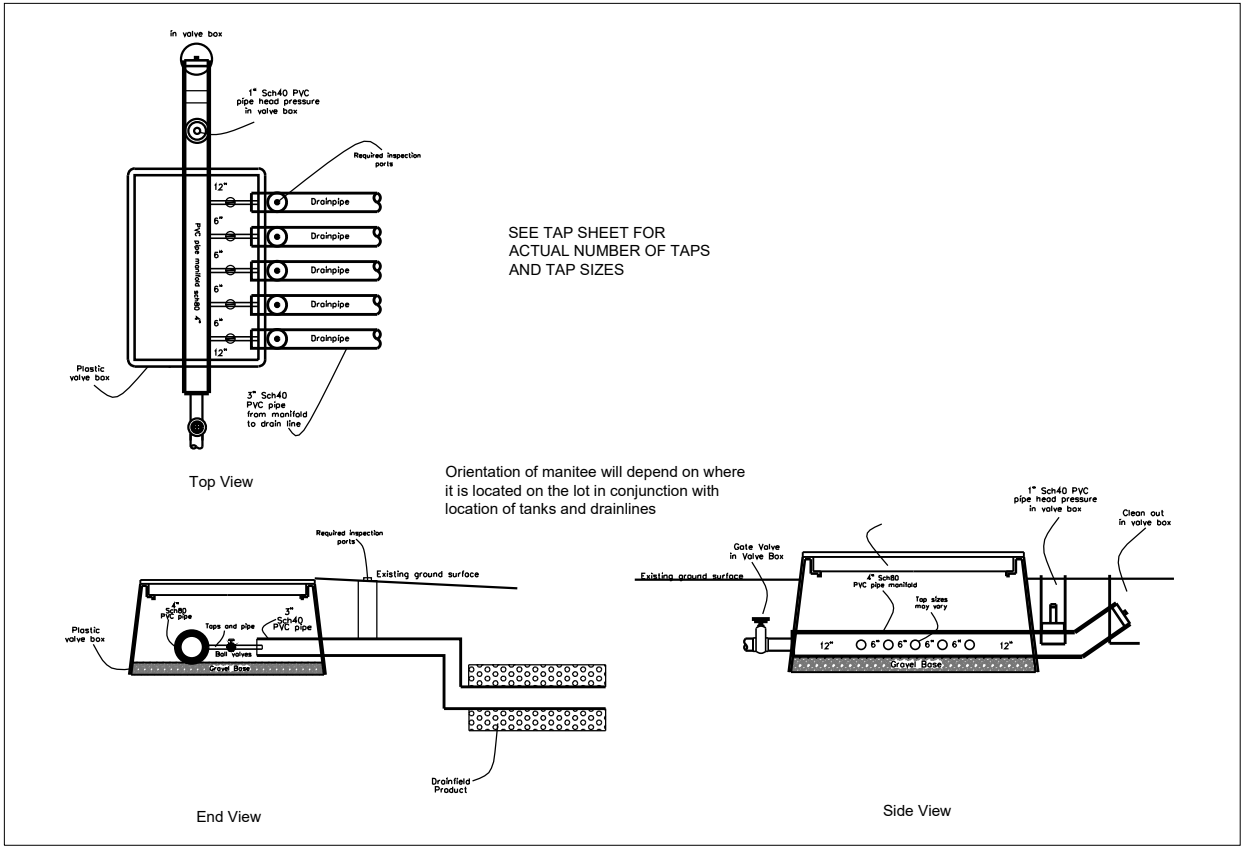
DRAWN BY: H. Clapp	CREATED ON: 11/21/2025
REVISED BY: ####	REVISED ON: ####
RELEASED BY: ####	RELEASED ON: ####

DRAWING NUMBER

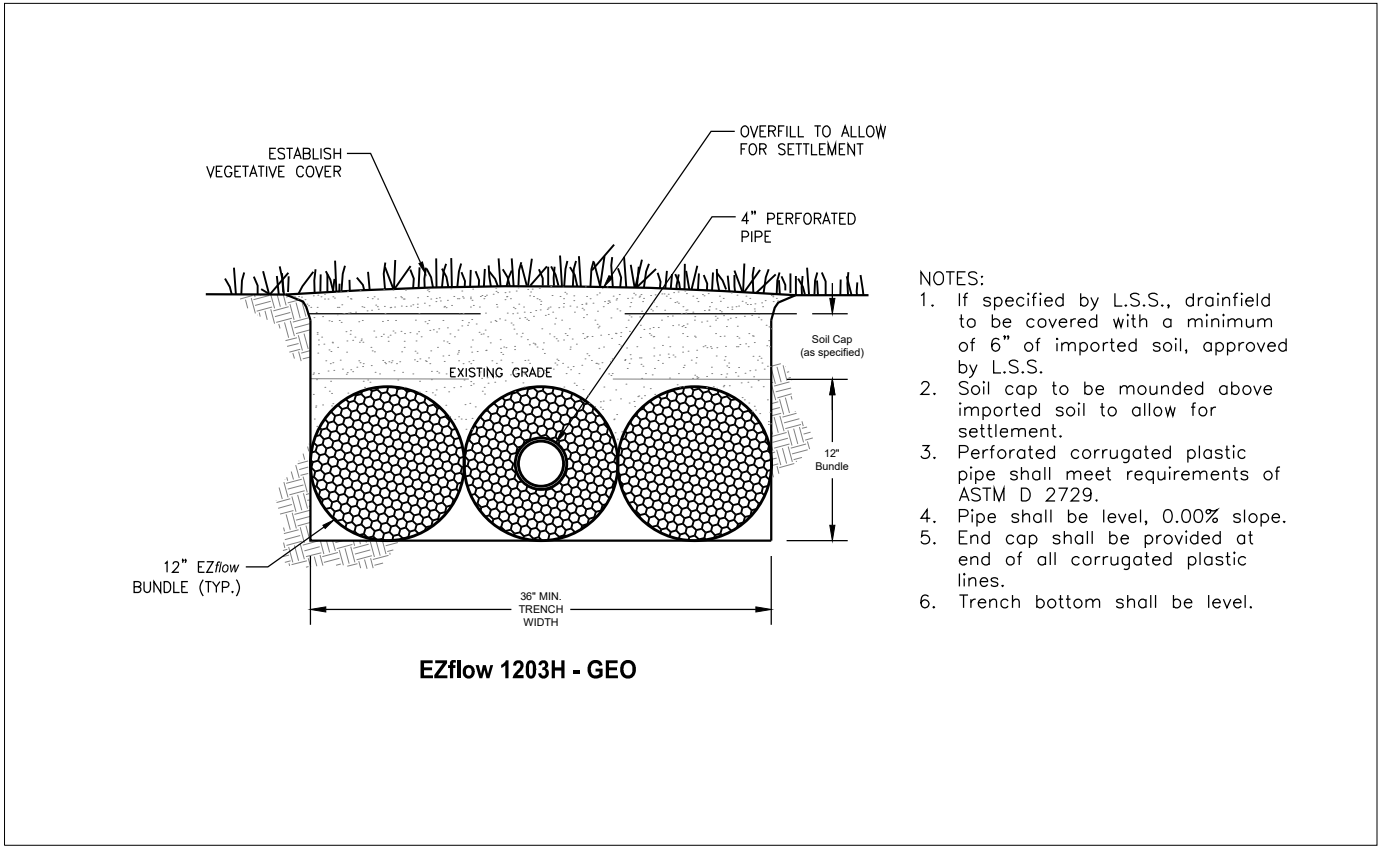
WW-5



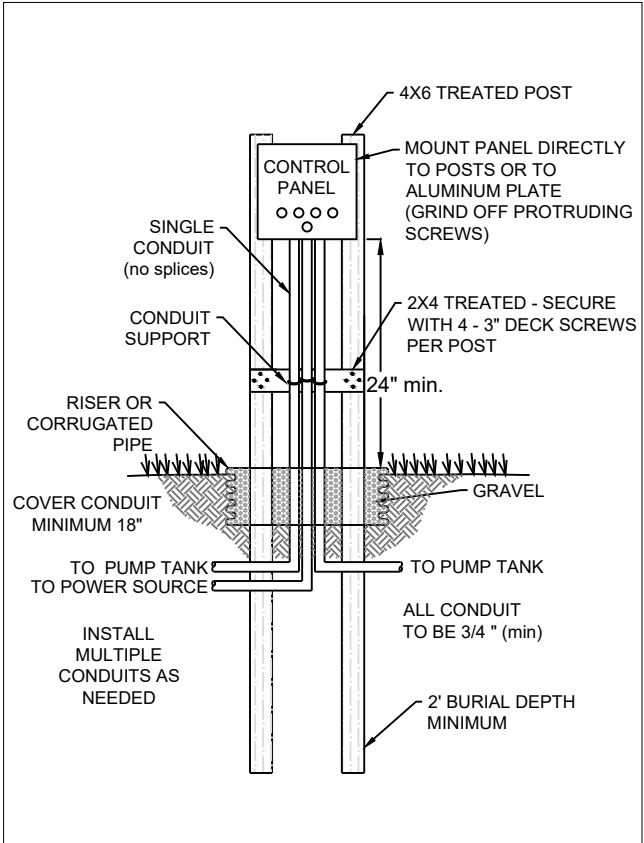
1 **SYSTEM PROFILE VIEW**
WW-6 N.T.S.



4 **PRESSURE MANIFOLD INSTALLATION (Manitee) - For Illustration Only**
WW-6 N.T.S. SOURCE: AWT



2 **TRENCH X-SECTION (Typical)**
WW-6 N.T.S. Source: AWT



6 **CONTROL PANEL SUPPORT**
WW-6 N.T.S. SOURCE: AWT



Engineers and Soil Scientists

Agri-Waste Technology, Inc.
1225 Crescent Green, Suite 250
Cary, North Carolina 27518
919-859-0669
www.agriwaste.com

RiverWILD Homes
Sawyer Ridge - Lot 7

Project Location:
145 Longfield Court,
Dunn, NC 28334
Harnett County
PIN: 1507-47-8128

Project Owner:
RiverWILD Homes
114 W Main St
Clayton, NC 27520
919-373-6048
kelley@staywild.com

NC ONSITE WASTEWATER
EVALUATOR SEAL



REV.	ISSUED DATE	DESCRIPTION
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SHEET TITLE

Detail Sheet 2

DRAWN BY: H. Clapp	CREATED ON: 11/21/2025
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REVISED BY: ####	REVISED ON: ####
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RELEASED BY: ####	RELEASED ON: ####
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DRAWING NUMBER

WW-6

Septic System Design - Summary Page



Agri-Waste Technology, Inc.
1225 Crescent Green, Suite 250, Cary NC 27518
agriwaste.com | 919.859.0669

Project Manager:

Heath Clapp, LSS
hclapp@agriwaste.com
919-629-6404

Designer:

Heath Clapp, LSS
hclapp@agriwaste.com

Project: Sawyer Ridge - Lot 7
Property: 145 Longfield Court,
Dunn, NC 28334

Subdiv.: Sawyer Ridge
Lot #: 7

Owner: RiverWILD Homes
Address: 114 W. Main Street,
Clayton, NC 27520

Phone: 919-373-6048

Email: kelley@staywild.com

EHS:

Date: 11/21/2025

County: Harnett

Permit #:

Type of System: III b

PIN: 1507-47-8128

Soil Parameters

Soil Evaluation By:

Special Conditions/Notes:

LTAR: 0.30 gpd/ft²

Design Parameters

Type of Establishment: Dwelling Units, no more than 2 persons per bedroom

Unit: Bedroom

of Units: 4

Septic Tank Specifications

Min. Tank Capacity:	960	gal			
Actual Tank Volume:	1,250	gal	Length:	125.5	119.5 in.
Tank Manufacturer:	Shoaf		Width:	65.5	59.5 in.
Tank Model:	TS 1250 STB		Depth:	61.5	54.5 in.

Primary Drainfield Specifications

Type of Distribution:	Parallel	Pressure Manifold	Trench Bottom Area:	1600	ft ²
Trench Media:	EZflow		Minimum Drain Line:	400	ft
Trench Width:	3	ft	Actual Drain Line:	400	ft
Trench Depth:	18-24	in.	Number of Lines:	4	
(or as specified on permit)			Minimum Line Spacing:	9	ft O.C.

Wastewater Treatment System Design Calculations

Project: Sawyer Ridge - Lot 7

Location: 145 Longfield Court,
Dunn, NC 28334

County: Harnett

Septic Tank Sizing

Daily Flow Estimate:

Unit	# of Units	Flow/Unit	Flow/Day
Bedroom	4	120	480
Q=			480

gpd

Septic Tank Minimum Capacity:

Per NCAC T15A:18A .1952(b)(2)(A):

For large residences, multiple dwelling units, or places of business or public assembly with $Q \leq 600$,

Minimum Liquid Capacity (V)= 960 gal

Septic Tank Specs:

Manufacturer: Shoaf

Model: TS 1250 STB

Volume: 1,250 gal

Weight: 11,000 lbs

	Exterior	Interior	
Length:	125.5	119.5	in.
Width:	65.5	59.5	in.
Depth:	61.5	54.5	in.

Shape of Risers: Circular

Diameter: 2.00 ft

Pump Tank Storage & Float Settings

Project: Sawyer Ridge - Lot 7

Location: 145 Longfield Court,
Dunn, NC 28334

County: Harnett

Tank Manufacturer

Shoaf

Tank Model

TS 1275 PT

Interior Height (in.)	60.5 in.
Avg. Storage	21.07 gal/in.

Primary System

Elevations, measured from bottom towards top (0 = Interior Bottom of Tank):

Top of pump (including 4" block)	16.1 in.	(Pump height = 12 1/16")
Pump Off	18.0 in.	
Pump On	26.5 in.	(set for dose volume)
Alarm On	32.5 in.	(6 in. above On Float)

Emergency Storage Available

Pump Tank 590 gal

Days of Storage 1.23 days

(determined from "interior top of tank" - "High Water Alarm")

Repair System

Elevations, measured from bottom towards top (0 = Interior Bottom of Tank):

Top of pump (including 4" block)	16.1 in.	(Pump height = 12 1/16")
Pump Off	18.0 in.	
Pump On	26.5 in.	(set for dose volume)
Alarm On	32.5 in.	(6 in. above On Float)

Emergency Storage Available

Pump Tank 590 gal

Days of Storage 1.23 days

(determined from "interior top of tank" - "High Water Alarm")

ELEVATIONS

Project: Sawyer Ridge - Lot 7

Location: 145 Longfield Court,
Dunn, NC 28334

County: Harnett

Benchmark 0
BM Elev 0 ft

Septic Tank 1,250 gal

Ground Surface		213.17 ft
Depth of Soil Cover	14 in.	1.17 ft
Overall Ht of Tank	61.5 in.	5.13 ft
Elev, Base of Tank		206.88 ft
Ht to 4" Inlet Invert	50 in.	4.17 ft
Elev, 4" Inlet Invert		211.05 ft
Ht to 4" Outlet Invert	48 in.	4.00 ft
Elev, 4" Outlet Invert		210.88 ft
Gravel Base	6 in.	0.50 ft
Elev, Bot of Excavation		206.38 ft

Pump Tank 1287 gal

Ground Surface		213.15 ft
Depth of Soil Cover	18 in.	1.50 ft
Overall Ht of Tank	67.5 in.	5.63 ft
Elev, Base of Tank		206.03 ft
Ht to 4" Inlet Invert	57 in.	4.75 ft
Elev, 4" Inlet Invert		210.78 ft
Ht to 2" Outlet Invert	54.5 in.	4.54 ft
Elev, 2" Outlet Invert		210.57 ft
Gravel Base	6 in.	0.50 ft
Elev, Bot of Excavation		205.53 ft

ST Inlet Pipe

Grade @ Stub-out		213.12 ft
Depth of Stub-out, top		1.5 ft
Elev, Stub-out Invert		211.27 ft
Elev @ ST Inlet Invert		211.05 ft
Length		7.5 ft
Slope		2.9 %

Pipe, ST to PT

ID	4 in.	0.33 ft
OD	4.5 in.	0.38 ft
Elev, ST Outlet Invert		210.88 ft
Elev, PT Inlet Invert		210.78 ft
Length		3 ft
Slope		3.4 %
Cover over inlet pipe		1.77 ft

Pump Reqmt.

Floor Thickness	4 in.	0.33 ft
Elev, Pump Tank Floor		206.36 ft
Pump Block Ht.	4 in.	0.33 ft
Elev, Pump Intake		206.69 ft

Grade @ Primary Manifold		213.29 ft
Grade @ Repair Manifold		213.00 ft
Min. Cover	18 in.	1.50 ft
Max Elev, Primary		211.79 ft
Max Elev, Repair		211.50 ft
Elev Diff, Primary		5.10 ft
Elev Diff, Repair		4.81 ft

Drainfield Design

Project Sawyer Ridge - Lot 7
Location 145 Longfield Court,
Dunn, NC 28334
County Harnett

Drainfield Sizing

Primary			
LTAR	0.3 gpd/ft ²		
Daily Design Flow	480 gpd	Type of Drainfield Media	EZflow
Req. Drainfield Area	1,600 ft ²	Required Drainline	
Trench Width, Eff.	3 ft	After 25% Reduction	400 ft
Required Drainline	533 ft	Minimum Line Spacing	9 ft (O.C.)

Repair			
LTAR	0.3 gpd/ft ²		
Daily Design Flow	480 gpd	Type of Drainfield Media	EZflow
Req. Drainfield Area	1,600 ft ²	Required Drainline	
Trench Width, Eff.	3 ft	After 25% Reduction	400 ft
Required Drainline	533 ft	Minimum Line Spacing	9 ft (O.C.)

Drainfield Layout

Line	Use	Flag Color	Elevation (ft)	Line Length (ft)	Used as Primary (ft)	Used as Repair (ft)
1	Layout Line			100	100.0	
2	Layout Line			100	100.0	
3	Layout Line			100	100.0	
4	Layout Line			100	100.0	
5	Layout Line			100		100.0
6	Layout Line			100		100.0
7	Layout Line			100		100.0
8	Layout Line			100		100.0
Total				800	400	400
Count				8	4	4

Note: Line length totals are shown to the nearest foot.

PRESSURE MANIFOLD DESIGN (Primary)

Site Information

Project: Sawyer Ridge - Lot 7
Location: 145 Longfield Court,
 Dunn, NC 28334
County: Harnett

Design Information

Estimated Daily Flow	480 gal/day
L.T.A.R. (from Harnett Co.)	0.3 gal/day/ft ²
L.T.A.R. + 5%	0.315 gal/day/ft ²
Trench Width	3 ft.
Line Length Required	533 ft.
Length after 25% Reduction	400 ft
L.T.A.R. Reduced	0.400 gal/day/ft ²
L.T.A.R. Reduced + 5%	0.420 gal/day/ft ²

DRAINFIELD INFO. - Primary						
Proposed Type of System/Distribution: Pump to Pressure Manifold using EZflow						
Line No.	Flag Color	Line Length (ft)	Tap	Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
1	0	100	1/2in SCH 40	7.11	0.071	0.400
2	0	100	1/2in SCH 40	7.11	0.071	0.400
3	0	100	1/2in SCH 40	7.11	0.071	0.400
4	0	100	1/2in SCH 40	7.11	0.071	0.400
Total		400	Total	28.44	Avg.	0.40
<i>Note: Line lengths are calculated in 5' increments to reflect use of EZflow product.</i>						
Total Run Time	16.88 min.					
Drainfield Capacity	261.2 gal					
% of Drainfield Cap	68.6% (Req. Range 66-75%)					
Dose Volume	179.2 gal/dose					
Run Time/Dose	6.3 minutes Range 5-7 minutes unless uphill, checked					
Volume/depth	21.07 gal/in. (Per tank manufacturer's specifications)					
Estimated Drawdown	8.50 in.					
Manifold Box						
Number of Taps	4	with	0	Split(s)		
Manifold Length	3.5	ft.	(approximate)			

PRESSURE MANIFOLD SYSTEM DESIGN (Repair)

Site Information

Project: Sawyer Ridge - Lot 7
Location: 145 Longfield Court,
 Dunn, NC 28334
County: Harnett

Design Information

Estimated Daily Flow	480 gal/day
L.T.A.R. (from Harnett Co.)	0.3 gal/day/ft ²
L.T.A.R. + 5%	0.315 gal/day/ft ²
Trench Width	3 ft.
Line Length Required	533 ft.
Length after 25% Reduction	400 ft
L.T.A.R. Reduced	0.400 gal/day/ft ²
L.T.A.R. Reduced + 5%	0.420 gal/day/ft ²

DRAINFIELD INFO. - Primary						
Proposed Type of System/Distribution: Pump to Pressure Manifold using EZflow						
Line No.	Flag Color	Line Length (ft)	Tap	Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
1	0	100	1/2in SCH 40	7.11	0.071	0.400
2	0	100	1/2in SCH 40	7.11	0.071	0.400
3	0	100	1/2in SCH 40	7.11	0.071	0.400
4	0	100	1/2in SCH 40	7.11	0.071	0.400
Total		400	Total	28.44	Avg.	0.40
<i>Note: Line lengths are calculated in 5' increments to reflect use of EZflow product.</i>						

Total Run Time	16.88 min.	
Drainfield Capacity	261.2 gal	
% of Drainfield Cap	68.6%	(Req. Range 66-75%)
Dose Volume	179.2 gal/dose	
Run Time/Dose	6.3 minutes	Range 5-7 minutes unless uphill, checked
Volume/depth	21.07 gal/in.	(Per tank manufacturer's specifications)
Estimated Drawdown	8.50 in.	

Manifold Box			
Number of Taps	4	with	0 Split(s)
Manifold Length	3.5	ft.	(approximate)

PUMP DESIGN

System (initial/repair): **Primary**

Project: Sawyer Ridge - Lot 7
Location: 145 Longfield Court,
Dunn, NC 28334
County: Harnett

Friction Losses

Suction Head	0 ft	(submersible 0)
Elev. Difference (highest point from pump)	5.10 ft	
Design Pressure At Outlet	2 ft	
Supply Line - 2" Schedule 40 PVC		
Pipe Diameter, Nominal	2 in.	
Pipe Diameter (ID)	2.047 in.	Flow 28.44 gpm
Pipe Length	125.5 ft	Velocity 2.77 ft/sec
Pipe Length for Fittings	12.55 ft	Meets requirement that 2 ft/s < v < 5 ft/s.
Equivalent Length	138.05 ft	
Estimated Friction Loss in Supply Line	2.04 ft	
Friction Loss - Taps/Special Fittings	3.5 ft	
TOTAL		12.64 ft.

Flow for Anti-Siphon Hole

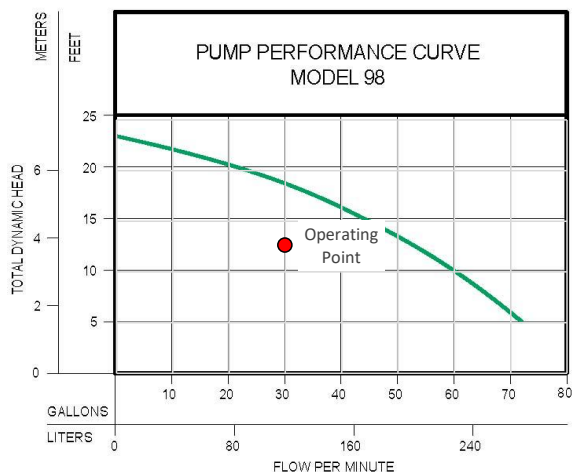
Hole Diameter 3/16 in.
Hole Flowrate 1.47 gpm

Pump Efficiency 0.7 (assumed, typical)
Motor Efficiency 0.9 (assumed for electric pumps)
Flow 29.91 gpm

Required Horsepower 0.15 hp
TDH 12.64 ft

Pump Selection

Manufacturer:	Zoeller
Model:	N98
Horsepower:	0.5



PUMP DESIGN

System (initial/repair): **Repair**

Project: Sawyer Ridge - Lot 7
Location: 145 Longfield Court,
Dunn, NC 28334
County: Harnett

Friction Losses

Suction Head	<input type="text" value="0"/>	ft	(submersible 0)
Elev. Difference (highest point from pump)		4.81	ft
Design Pressure At Outlet	<input type="text" value="2"/>	ft	
Supply Line - 2" Schedule 40 PVC			
Pipe Diameter, Nominal	<input type="text" value="2"/>	in.	
Pipe Diameter (ID)		2.047	in.
Pipe Length	<input type="text" value="144"/>	ft	
Pipe Length for Fittings		14.4	ft
Equivalent Length		158.4	ft
Estimated Friction Loss in Supply Line		2.34	ft
Flow		28.44	gpm
Velocity		2.77	ft/s
Meets requirement that 2 ft/s < v < 5 ft/s.			
Friction Loss - Taps/Special Fittings	<input type="text" value="3.5"/>	ft	
TOTAL		12.65	ft.

Flow for Anti-Siphon Hole

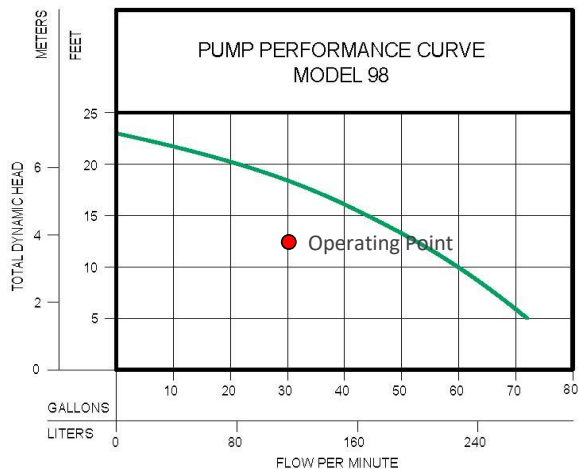
Hole Diameter in.
Hole Flowrate 1.47 gpm

Pump Efficiency (assumed, typical)
Motor Efficiency (assumed for electric pumps)
Flow 29.91 gpm

Required Horsepower 0.15 hp
TDH 12.65 ft.

Pump Selection

Manufacturer:	<input type="text" value="Zoeller"/>
Model:	<input type="text" value="N98"/>
Horsepower:	<input type="text" value="0.5"/>



Septic Tank Buoyancy Calculation

Project: Sawyer Ridge - Lot 7
Location: 145 Longfield Court,
 Dunn, NC 28334
County: Harnett

Tank Size (nominal) 1250 gal

Properties/Assumptions:

Min. liquid level to be maintained in tank at all times after initial installation.

Min. depth to water table	12.0 in.	from ground surface
Effluent Density	62.4 lb/ft ³	(Specific Weight of Water)
Concrete Density	142.6 lb/ft ³	
Soil App. Sp. Grav.	1.3	(typical value)
Soil Cover Over Tank	12 in.	(minimum)
Additional Cover	2 in.	for pipe grade
Unsubmerged wt of soil	81.1 lb/ft ³	
Submerged wt of soil	49.9 lb/ft ³	50% Porosity Assumed

Tank Dimensions (from supplier):

		<u>Exterior</u>		<u>Interior</u>	
		Top	Bottom	Top	Bottom
Tank	Length	125.5	122.0	119.5	116.0 in.
	Width	65.5	62.0	59.5	56.0 in.
	Height	58.5	(w/o lid)	54.5	in.
Lid	Length	125.5 in.			
	Width	65.5 in.			
	Height	3.0 in.			
Area of Riser Openings		6.28 ft ²			
Permanent Liquid Depth in Tank		0.0 in.		0.00 ft	
Tank Weight		11,000 lb		(per manufacturer)	

Buoyancy Force Calculation:

Buoyancy Force Specific Weight of Water x Displaced Volume

Displaced Volume	282.4 ft ³ *
Buoyancy Force	17,624 lb.

Weight Calculation:

Tank Weight	11000 lb		
Water Weight in Tank	0 lb	Volume	0.0 ft ³ *
Soil Weight Over Tank	4544 lb		
Soil Friction Force	4037 lb		
Total Weight	19,581 lb		

Factor of Safety = 1.11

Note: Total weight must be greater than buoyancy force so that tank will not float during high water table conditions.

* Volume calculated by the prismoidal formula.

Pump Tank Buoyancy Calculation

Project: Sawyer Ridge - Lot 7
Location: 145 Longfield Court,
 Dunn, NC 28334
County: Harnett

Tank Size (nominal) 1287 gal

Properties/Assumptions:

Min. liquid level to be maintained in tank at all times after initial installation.

Min. depth to water table	12 in.	from ground surface
Effluent Density	62.4 lb/ft ³	(Specific Weight of Water)
Concrete Density	142.6 lb/ft ³	
Soil App. Sp. Grav.	1.3	(typical value)
Soil Cover Over Tank	12 in.	(minimum)
Additional Cover	6 in.	for pipe grade
Unsubmerged wt of soil	81.1 lb/ft ³	
Submerged wt of soil	49.9 lb/ft ³	50% porosity assumed

Tank Dimensions (from supplier):

		<u>Exterior</u>		<u>Interior</u>	
		Top	Bottom	Top	Bottom
Tank	Length	108.0	104.0	102.0	98.0 in.
	Width	58.0	54.0	52.0	48.0 in.
	Height	64.5	(w/o lid)	60.5	in.
Lid	Length	108.0 in.			
	Width	58.0 in.			
	Height	3.0 in.			
Area of Riser Openings		3.14 ft ²			
Permanent Liquid Depth in Tank		0.0 in.		0.00 ft	
Tank Weight		10500 lb		(per manufacturer)	

Buoyancy Force Calculation:

Buoyancy Force Specific Weight of Water x Displaced Volume

Displaced Volume	234.1 ft ³ *
Buoyancy Force	14,606 lb

Weight Calculation:

Tank Weight	10500 lb		
Water Weight in Tank	0 lb	Volume	0.0 ft ³ *
Soil Weight Over Tank	4281 lb		
Soil Friction Force	4227 lb		
Total Weight	19,008 lb		

Factor of Safety = 1.30

*Note: Total weight must be greater than buoyancy force
 so that tank will not float during high water table conditions.*

** Volume calculated by the prismatic formula.*