BLDR-2023-37709

# ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625

PERMIT # OSWP-2023-33661

## SEPTIC: IMPROVEMENT PERMIT / AUTHORIZATION TO CONSTRUCT / OPERATION PERMIT / EXISTING SYSTEM

PIN # 4724-33-6851

PPLICANT / OWNER: TRUNORTH HOMES LLC APPLICANT ADDRESS: 631-300 BRAWLEY SCHOOL ROAD PMB 217, MOORESVILLE, NC 28117

ITE ADDRESS: 1006 WESTMINSTER DR, STATESVILLE, NC 28677 PHONE: 7043632845 ALT. PHONE:

ITE DIRECTIONS: SAP CONTROLLED: YES ☐ NO ☑

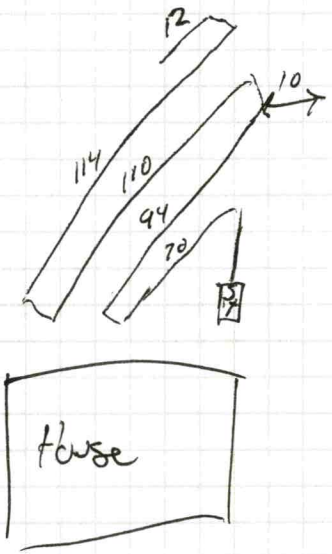
UBDIVISION: Robinson Forest SECTION: LOT #: 4 LOT AREA: 0.61 DESIGN FLOW: 480 L.T.A.R.: 0.3

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| eptic Tank: 1000 (gal) | STB: | Date: | ☑ New System ☐ Repair ☐ Expansion | System Type: | ☑ Residence | No. Bedrooms: 4 | Water Supply: New Well |
| ump Tank: (gal) | PT: | Date: | System Description: Gravity Chamber | | ☐ Business | No. Persons: 4 | |
| ump Make: | Model: | Serial #: | Repair System Description: PPBPS | | ☐ Other | No. Employees: | |
| Nitrification Fields: 1 | # Lines: 4 | Linear Ft.: 400 | Maintenance Agreement Required: ☐ YES ☑ NO | | ☑ Slab | ☐ Crawl Space | |
| rench Width: 36 | Trench Bottom Depth (Low side): 20 | | Gravel Depth: | ☑ GRAVITY ☐ PRESSURE | ☐ Basement w/ Plumbing | ☐ Basement w/o Plumbing | |

omments / Conditions: This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) ttached here. This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) using the signed and sealed plans or evaluations attached here.

INITIAL SITE SKETCH

AS BUILT SKETCH




rmit can be suspended or revoked if any false information is supplied toward securing the permit / any unauthorized changes are made to the site / any unauthorized changes are made in the installation of the system. CONTACT A LOCATOR SERVICE PRIOR TO ANY EXCAVATION

] IMPROVEMENT PERMIT with plat valid without expiration. ☑ IMPROVEMENT PERMIT with site plan valid for 60 mos. ☑ AUTHORIZATION TO CONSTRUCT valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.

wner / Applicant Signature: Date:

IPROVEMENT PERMIT by: Benjamin A Botkins Date: 9/8/2023

UTHORIZATION TO CONSTRUCT by: Benjamin A Botkins Date: 9/8/2023

Installed By: Russell Williams

OPERATION PERMIT by: Date: 12/6/23

Existing System Inspected By: Date:

FOR SEPTIC FINAL INSPECTION CALL: 704-664-3703 BETWEEN 8am-9am the day the inspection is needed.

NCDHHS

Permit #: OSWP-2023-33661

## *This Section for Local Health Department Use Only*

Initial submittal received: 8/28/2023 (*Date*) by BB (*Initials*)

G.S. 130A-335(a3) states the following:

*When an applicant for an Improvement Permit submits to a local health department an Improvement Permit application, the permit fee charged by the local health department, the common form developed by the Department, and a soil evaluation pursuant to subsection (a2) of this section, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Improvement Permit includes all of the required components. If the local health department determines that the Improvement Permit is incomplete, the local health department shall notify the applicant of the components needed to complete the Improvement Permit. The applicant may submit additional information to the local health department to cure the deficiencies in the Improvement Permit. The local health department shall make a final determination as to whether the Improvement Permit is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The Department shall develop a common form for use as the Improvement Permit.*

The review for completeness of this Improvement Permit was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing:

_____

_____

Copies of this were sent to the LSS and the Applicant on _____ (*Date*)

State Authorized Agent: _____ Date: _____

---

☑ Complete

State Authorized Agent: Benjamin A Botkins Date: 9/8/2023

**This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This permit is subject to revocation if the site plan, plat, or the intended use changes. The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit.**

**The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to evaluations, submittals, or actions from a licensed soil scientist or licensed geologist pursuant to GS 130A-335(a2).**

**Improvement Permit Expiration Date:** 9/8/2028

***See attached site sketch***

Permit #: OSWP-2023-33661

## *This Section for Local Health Department Use Only*

Initial submittal received: 8/28/2023 (*Date*) by BB (*Initials*)

G.S. 130A-335(a5) states the following:

*When an applicant for a Construction Authorization, or an Improvement Permit and Construction Authorization together, submits a Construction Authorization, or an Improvement Permit and Construction Authorization application together, the permit fee charged by the local health department, the common form developed by the Department, and any necessary signed and sealed plans or evaluations conducted by a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Construction Authorization or Improvement Permit and Construction Authorization includes all of the required components. If the local health department determines that the Construction Authorization or Improvement Permit and Construction Authorization is incomplete, the local health department shall notify the applicant of the components needed to complete the Construction Authorization or Improvement Permit and Construction Authorization. The applicant may submit additional information to the local health department to cure the deficiencies in the Construction Authorization or Improvement Permit and Construction Authorization. The local health department shall make a final determination as to whether the Construction Authorization or Improvement Permit and Construction Authorization is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The applicant may apply for the building permit for the project upon the decision of completeness of the Construction Authorization or Improvement Permit and Construction Authorization by the local health department or if the local health department fails to act within five business days. The Authorized On-Site Wastewater Evaluator or licensed engineer submitting the evaluation pursuant to this subsection may request that the local health department revoke or suspend the Construction Authorization or Improvement Permit and Construction Authorization for cause. Upon written request of the Authorized On-Site Wastewater Evaluator or licensed engineer, the local health department shall suspend or revoke the Construction Authorization or Improvement Permit and Construction Authorization pursuant to G.S. 130A-23. The Department shall develop a common form for use as the Construction Authorization.*

The review for completeness of this Construction Authorization was conducted in accordance with G.S. 130A-335(a5). This Construction Authorization is determined to be:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing: _____

_____

Copies of this were sent to the AOWE/PE and the Applicant on _____ (*Date*)

State Authorized Agent: _____ Date: _____

---

☑ Complete

State Authorized Agent: Benjamin A Botkins Date of Issuance: 9/8/2023

**This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) using the signed and sealed plans or evaluations attached here. This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be affected by a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit.**

**The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to plans, evaluations, preconstruction conference findings, submittals, or actions from a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator in GS 130A-335(a2), (a5), and (a7). The Department, the Department's authorized agents, and the local health departments shall be responsible and bear liability for their actions and evaluations and other obligations under State law or rule, including the issuance of the operations permit pursuant to GS 130A-337.**

**Construction Authorization Expiration Date:** 9/8/2028

***See attached site sketch***

Benjamin Botkins
Westminster submittals
Aug 30, 2023 at 8:24:23 AM
Garrison Davis

Garrison can you sign the below statement and return to me so I can place with the files, this statement is now required for all submittals.

I understand that the documentation and fees, as required in G.S. 130A-335(a2), (a3), (a5), and (a6), attached to this application are to be used to issue an Improvement Permit and/or Construction Authorization pursuant to G.S. 130A-335(a2),(a3), and (a5). I understand that authorized county and state officials are granted right of entry to the property indicated on this application to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that if the information in the application for an Improvements Permit and/or Construction Authorization is falsified, changed, or the site is altered, then the Improvement Permit and Construction Authorization shall become invalid.

Applicant Signature: GARRISON DAVIS Date: 8/30/23

Owner's Signature: GARRISON DAVIS Date: 8/30/23

Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, North Carolina 27502
919-859-0669
www.agriwaste.com

**Soil Suitability for Domestic Sewage Treatment and Disposal Systems**
**Westminster Dr, Statesville, NC 28677**
**(Iredell County PIN: 4724-33-6851)**
November 10, 2022

Soil suitability for domestic sewage treatment and disposal systems was evaluated on October 13, 2022, for the property located at Westminster Drive in Statesville, NC. Jeff Vaughan, Trevor Hackney, Nathan Estevez, and Trent Bostic of Agri-Waste Technology, Inc. (AWT) conducted the soil evaluation. This evaluation was done to facilitate permitting for a septic system for a 4-bedroom home. This report and attached documents were prepared *to this application is to be used to issue an Improvement Permit in accordance with G.S. 130A-335(a2) and (a3). The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2).*

A drawing of the site plan, septic layout, septic system design, and soil boring locations is included in Attachment 1. Profile descriptions for each soil boring are included in Attachment 2.

The total property area is approximately 0.61 acres. The house and septic area have been cleared. The proposed septic system for the property is a gravity dosed Chamber system for initial and a gravity dosed T&J Panel for repair.

Soil Suitability for Domestic Sewage Treatment and Disposal Systems
The drawing in Attachment 1 details the property boundaries, soil boring locations, and layout of drain field trenches. Four soil borings were advanced within the proposed septic system area on the property. Soil borings were examined to determine soil suitability for on-site sewage disposal systems in accordance with 15A 18A .1900 Rules for Sewage Treatment and Disposal Systems. These borings were advanced with hand auger borings. All soil borings were provisionally suitable for a conventional style trench. Soil borings are within the proposed drainfield area.

The layout shown in Attachment 1 indicates there is available space for a four-bedroom conventional system. The initial system can be installed with the use of the accepted (25% reduction) trench product based on the drainfield layout in the field.

The proposed LTAR (Long Term Acceptance Rate) by AWT is 0.3GPD/ft$^2$. The soils on this property are group IV soils within the distribution and treatment zone as used to define the LTAR. With an LTAR of 0.3GPD/ft$^2$, 400 linear feet of trench is necessary to

support a 4-bedroom home for the initial system with the use of the innovative (25% reduction) trench product. The maximum slope corrected trench depth is 20 inches. The attached drawings substantiate that the necessary linear footage of trench can be installed on the property for the initial and repair system

Any logging, disturbances, or grading done in the usable area or within the proposed setbacks will change the potential of using the area designated for a drainfield. Prior to moving forward with the development on the property, Iredell County Health Department should be contacted to complete the necessary Construction Oversight and to issue an OP (Operations Permit) for the property once the septic system has been installed.

Conclusions

An IP (Improvement Permit) and CA (Construction Authorization) for this property can be issued with the site plan that is in Attachment 1. A CA permit will be required to secure a building permit for the property. The county issues an Operation Permit after the system has been installed to meet the specifications of the Authorization to Construct. Additional septic layouts have been or will be performed as needed. It will be critical to not disturb any of the proposed septic area or there is a risk that the IP and CA will be revoked. The LSS/AOWE Evaluation and attached documents were prepared *to this application is to be used to issue an Improvement Permit in accordance with G.S. 130A-335(a2) and (a3). The LSS/AOWE evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5).*

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

Sincerely,

Jeff Vaughan, NC LSS

DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH, ENVIRONMENTAL HEALTH SECTION
ON-SITE WATER PROTECTION BRANCH


PROPERTY ID #: 4724-33-6851
COUNTY: Iredell

**SOIL/SITE EVALUATION**
***for* ON-SITE WASTEWATER SYSTEM**
(Complete all fields in full)

CLIENT: Ted Benbow APPLICATION DATE 11/10/2022
ADDRESS: 630 Signal Hill Dr, Statesville, NC 28625 DATES EVALUATED: 10/13/2022
PROPOSED FACILITY: Single Family Residence PROPOSED DESIGN FLOW (.1949): 480GPD PROPERTY SIZE: 0.61 ac
LOCATION OF SITE: Westminster Dr, Statesville, NC PROPERTY RECORDED: Yes
WATER SUPPLY: ☐ Private ☐ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☐ Auger Boring ☐ Pit ☐ Cut TYPE OF WASTEWATER: ☐ Sewage ☐ Industrial Process ☐ Mixed

| PROFILE # | .1940 LANDSCAPE POSITION/ SLOPE % | HORIZON DEPTH (IN.) | SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE | .1941 CONSISTENCE/ MINERALOGY | OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR | .1943 SOIL DEPTH | .1956 SAPRO CLASS | .1944 RESTR HORIZ | PROFILE CLASS & LTAR |
|---|---|---|---|---|---|---|---|---|---|
| 1, 2, 3, 4 | 8-10% | A 0-6" | L; Gr | NS; NP; VFr | 2.5YR 4/4 | 36" + | | | Provisionally Suitable |
| | | Bt1 6-13" | CL; Gr | NC; NP;Vfr | 2.5YR 3/6 | | | | 0.3GPD/ft2 |
| | | Bt1 13-36+" | C; SBK | SS; SP; Fi | 2.5YR 4/7 | | | | |

| DESCRIPTION | INITIAL SYSTEM | REPAIR SYSTEM |
|---|---|---|
| Available Space (.1945) | Provisionally Suitable | Provisionally Suitable |
| System Type(s) | T&J Panel | T&J Panel |
| Site LTAR | 0.3GPD/Ft$^2$ | 0.3GPD/Ft$^2$ |

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): Provisionally Suitable
EVALUATED BY: Jeff Vaughan, Trevor Hackney, Nathan Estevez Trent Bostic

COMMENTS

# LEGEND

***use the following standard abbreviations***

| LANDSCAPE POSITION | GROUP | SOIL TEXTURE | CONVENTIONAL .1955 LTAR* | LPP .1957 LTAR* | MINERALOGY/ CONSISTENCE | STRUCTURE |
|---|---|---|---|---|---|---|
| CC (Concave Slope) | I | S (Sand) | 1.2 - 0.8 | 0.6 - 0.4 | SEXP (Slightly Expansive) | G (Single Grain) |
| CV (Convex Slope) | | LS (Loamy Sand) | | | EXP (Expansive) | M (Massive) |
| D (Drainage Way) | | | | | | CR (Crumb) |
| DS (Debris Slump) | II | SL (Sandy Loam) | 0.8 - 0.6 | 0.4 - 0.3 | | GR (Granular) |
| FP (Flood Plain) | | L (Loam) | | | | SBK (Subangular Blocky) |
| FS (Foot Slope) | | | | | | ABK (Angular Blocky) |
| H (Head Slope) | III | Si (Silt) | 0.6 - 0.3 | 0.3 - 0.15 | | PL (Platy) |
| L (Linear Slope) | | SiCL (Silty Clay Loam) | | | | PR (Prismatic) |
| N (Nose Slope) | | CL (Clay Loam) | | | | |
| R (Ridge) | | SCL (Sandy Clay Loam) | | | **MOIST** | **WET** |
| S (Shoulder Slope) | | SiL (Silt Loam) | | | | |
| T (Terrace) | | | | | VFR (Very Friable) | NS (Non-sticky) |
| | IV | SC (Sandy Clay) | 0.4 - 0.1 | 0.2 - 0.05 | FR (Friable) | SS (Slightly Sticky) |
| | | SiC (Silty Clay) | | | FI (Firm) | S (Sticky) |
| | | C (Clay) | | | VFI (Very Firm v. Very Sticky) | VS (Very Sticky) |
| | | O (Organic) | None | None | EFI (Extremely Firm) | NP (Non-plastic) |
| | | | | | | SP (Slightly Plastic) |
| | | | | | | P (Plastic) |
| | | | | | | VP (Very Plastic) |

*Adjust LTAR due to depth, consistence, structure, soil wetness, landscape, position, wastewater flow and quality.

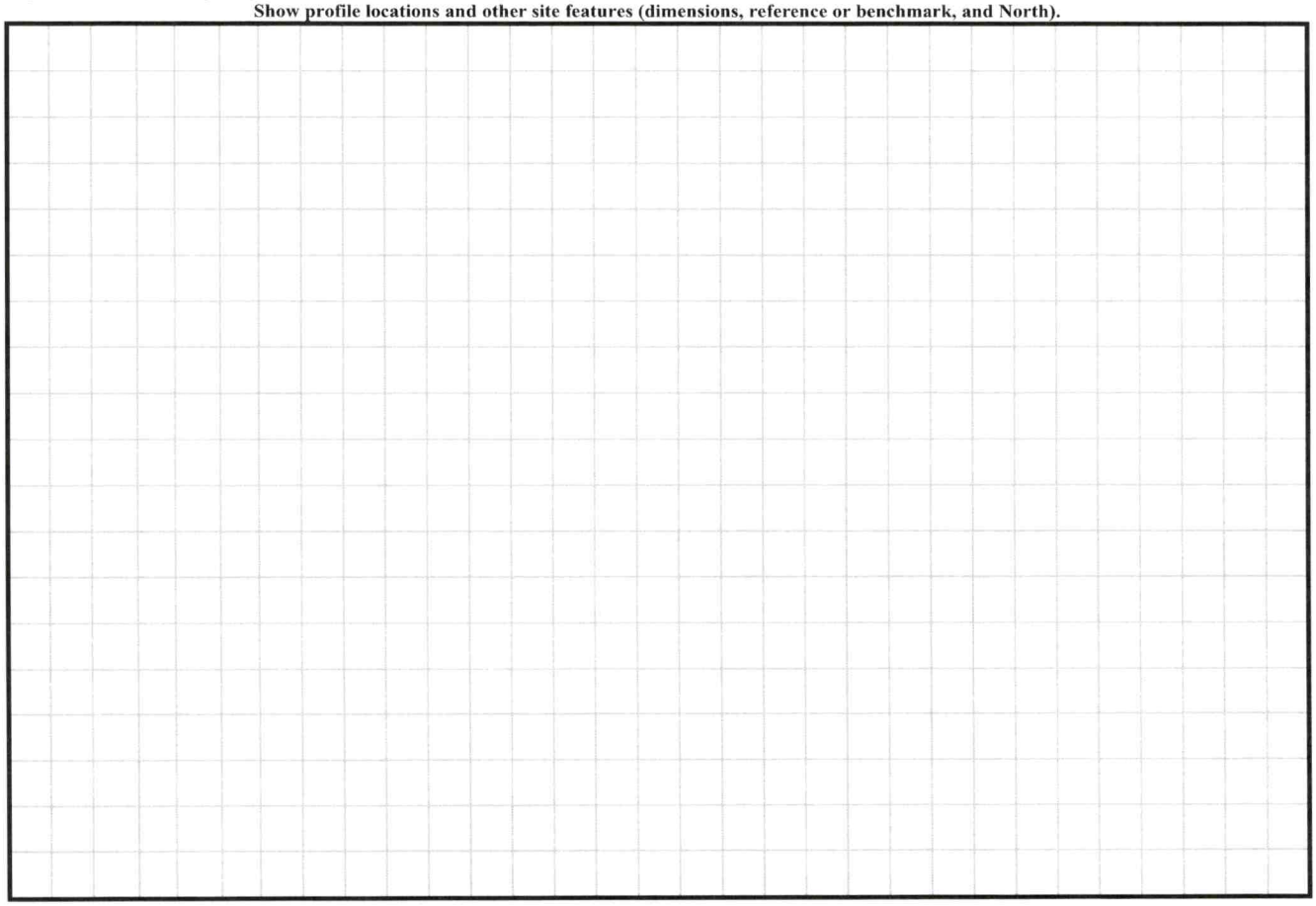
***NOTES***

| | |
|---|---|
| *HORIZON DEPTH* | In inches below natural soil surface |
| *DEPTH OF FILL* | In inches from land surface |
| *RESTRICTIVE HORIZON* | Thickness and depth from land surface |
| *SAPROLITE* | S(suitable) or U(unsuitable) |
| *SOIL WETNESS* | Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation |
| *CLASSIFICATION* | S (Suitable), PS (Provisionally Suitable), or U (Unsuitable) |

Evaluation of saprolite shall be by pits.

Long-term Acceptance Rate (LTAR): gal/day/ft$^2$

**Show profile locations and other site features (dimensions, reference or benchmark, and North).**



County: Iredell

**IMPROVEMENT PERMIT FOR G.S. 130A-335(a2)/SL2022-11**

PIN/Lot Identifier: 4724-33-6851

Issued To: Ted Benbow

Property Location: Westminster Dr, Statesville, NC 28677

Subdivision: Robinson Woods Lot #: 4 Block: _____ Section: _____

LSS Report Provided: Yes ☑ No ☐

If yes, name and license number of LSS: Jeff Vaughan, 1227

New ☑ Repair ☐ Expansion ☐ System Relocation ☐

Proposed Structure: Single Family Residence

Proposed Wastewater System Type: Gravity, Chambers (Initial) Gravity, T&J Panel (Repair)

Fill System: ☐ Yes ☑ No If yes, specify: ☐ New ☐ Existing (when adding more than 6 inches of fill to system area please provide a fill plan)

Proposed Design Daily Flow: 480 GPD Proposed LTAR (Initial): 0.3 Proposed LTAR (Repair): 0.3

Design Wastewater Strength: ☑ domestic ☐ high strength ☐ industrial process

Number of bedrooms: 4 Number of Occupants: 8 Other: _____

Pump Required: ☐ Yes ☑ No ☐ May be required based upon final location and elevations of facilities

Artificial Drainage Required: ☐ Yes ☑ No If yes, please specify details: _____

Type of Water Supply: ☑ Private well ☐ Public well ☐ Municipal Supply ☐ Spring ☐ Other: _____

Drainfield location meets requirements of Rule .1945: Yes ☑ No ☐

Drainfield location meets requirements of Rule .1950: Yes ☑ No ☐

Permit valid for: ☑ Five years [site plan submitted pursuant to GS 130A-334(13a)] ☐ No expiration [plat submitted pursuant to GS 130A-334(7a)]

Permit conditions:

Licensed Soil Scientist Print Name: Jeff Vaughan

Licensed Soil Scientist Signature: Jeff V/L Date: 11/10/2022

**The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2).**

***See attached site sketch***

County: Iredell

**CONSTRUCTION AUTHORIZATION FOR G.S. 130A-335(a2)/SL2022-11**

PIN/Lot Identifier: 4724-33-6732

Issued To: Ted Benbow

Property Location: Westminster Dr, Statesville, NC 28677

AOWE/PE Plans/Evaluations Provided: Yes ☑ No ☐ If yes, name and license number of AOWE/PE: Jeff Vaughan, 10003E

Facility Type: Single Family Residence

☑ New ☐ Expansion ☐ Repair System Relocation ☐

Basement? ☐ Yes ☑ No Basement Fixtures? ☐ Yes ☑ No

Type of Wastewater System** Gravity, Chambers (Initial) Gravity, T&J Panel (Repair)

Design Daily Flow: 480 GPD Wastewater Strength: ☑ domestic ☐ high strength ☐ industrial process

Session Law 2014-120 Section 53, Engineering Design Utilizing Low-flow Fixtures and Low-flow Technologies? ☐ Yes ☐ No

**Installation Requirements/Conditions**

Septic Tank Size: 1,200 gallons Total Trench/Bed Length: 400 feet Trench/Bed Spacing: 9 feet on center

Drainfield square footage: 1,200 Trench/Bed Width: 36 inches LTAR: 0.3 gpd/ft²

Soil Cover: 6 inches Slope Adjusted Maximum Trench/Bed Depth: 20 inches

Aggregate Depth: _____inches above pipe _____inches below pipe 12 inches total

Pump Tank Size (if applicable): _____ gallons Requires more than 1 pump? ☐ Yes ☑ No

Pump Requirements: _____ ft. TDH vs. _____ GPM Grease Trap Size (if applicable): _____ gallons

Distribution Method: ☑ Serial ☐ D-Box or Parallel ☐ Pressure Manifold(s) ☐ LPP ☐ Other: _____

Artificial Drainage Required: Yes ☐ No ☑ If yes, please specify details: _____

**Legal Agreements** *(If the answer is "Yes" to any type of legal agreements, please attach a copy of the agreement.)*

Multi-party Agreement Required [.1937(h)]: Yes ☐ No ☑

Easement, Right-of-Way, or Encroachment Agreement Required [.1938(j)]: ☐ Yes ☑ No

Declaration of Restrictive Covenants: ☐ Yes ☑ No

****If applicable:**
***I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.***

Owner/Legal Representative Print Name: _____

Owner/Legal Representative Signature: _____ Date: _____

**Pre-Construction Conference Required: Yes ☐ No ☑**

Conditions: _____

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by reference into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

AOWE/PE Print Name: Jeff Vaughan

AOWE/PE Signature: Jeff Vaughan Date: 11/10/2022

**This AOWE/PE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5).**

***See attached site sketch***

AGRITEC-01 CGARKALNS

# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 9/19/2022

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): (919) 556-3698 FAX (A/C, No): (919) 556-8758
E-MAIL ADDRESS: Connie@hartsfield-nash.com

| INSURER(S) AFFORDING COVERAGE | NAIC # |
|---|---|
| INSURER A : SELECTIVE INSURANCE COMPANY | 39926 |
| INSURER B : Accident Fund National Insurance Company | 12305 |
| INSURER C : Evanston Insurance Company | |
| INSURER D : | |
| INSURER E : | |
| INSURER F : | |

INSURED
Agri-Waste Technology Inc
501 N. Salem St Ste 203
Apex, NC 27502

**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 | |
|---|---|---|---|---|---|---|---|---|
| A | X COMMERCIAL GENERAL LIABILITY | | | | | | EACH OCCURRENCE | $ 2,000,000 |
| | CLAIMS-MADE X OCCUR | | | S 2253659 | 1/18/2022 | 1/18/2023 | DAMAGE TO RENTED PREMISES (Ea occurrence) | $ 300,000 |
| | | | | | | | MED EXP (Any one person) | $ 10,000 |
| | | | | | | | PERSONAL & ADV INJURY | $ 2,000,000 |
| | GEN'L AGGREGATE LIMIT APPLIES PER: | | | | | | GENERAL AGGREGATE | $ 4,000,000 |
| | POLICY X PRO-JECT LOC | | | | | | PRODUCTS - COMP/OP AGG | $ 4,000,000 |
| | OTHER: | | | | | | | $ - |
| A | AUTOMOBILE LIABILITY | | | | | | COMBINED SINGLE LIMIT (Ea accident) | $ 1,000,000 |
| | X ANY AUTO | | | S 2253659 | 1/18/2022 | 1/18/2023 | BODILY INJURY (Per person) | $ |
| | OWNED AUTOS ONLY / SCHEDULED AUTOS | | | | | | BODILY INJURY (Per accident) | $ - |
| | HIRED AUTOS ONLY / NON-OWNED AUTOS ONLY | | | | | | PROPERTY DAMAGE (Per accident) | $ |
| | | | | | | | | $ |
| A | X UMBRELLA LIAB X OCCUR | | | | | | EACH OCCURRENCE | $ 2,000,000 |
| | EXCESS LIAB CLAIMS-MADE | | | S 2253659 | 1/18/2022 | 1/18/2023 | AGGREGATE | $ 2,000,000 |
| | DED RETENTION $ | | | | | | | $ |
| B | WORKERS COMPENSATION AND EMPLOYERS' LIABILITY | | | | | | X PER STATUTE OTH-ER | |
| | ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y / N: N | N / A | | 100003072 | 1/18/2022 | 1/18/2023 | E.L. EACH ACCIDENT | $ 1,000,000 |
| | If yes, describe under DESCRIPTION OF OPERATIONS below | | | | | | E.L. DISEASE - EA EMPLOYEE | $ 1,000,000 |
| | | | | | | | E.L. DISEASE - POLICY LIMIT | $ 1,000,000 |
| C | Prof & Pollution | | | MKLV3ENV103400 | 8/22/2022 | 8/22/2023 | Each Claim | 5,000,000 |
| A | Leased / Rented | | | S 2253659 | 1/18/2022 | 1/18/2023 | Equipment | 25,000 |

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

**CERTIFICATE HOLDER**

***This is ONLY For Informational Purposes
Contact Agency for Specific Holder info to be added
****

**CANCELLATION**

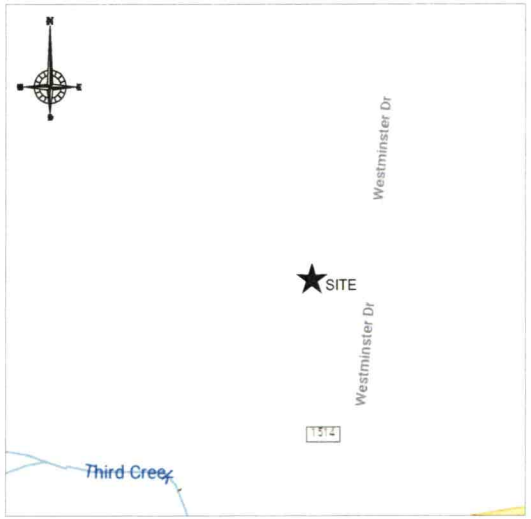
SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
Connie Garkalns


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# ROBINSON WOODS - LOT 5

| | |
|---|---|
| Project Location | Westminster Dr<br>Statesville, NC 28677<br>Iredell County<br>PIN: 4724-33-6970 |
| Project Owner | Ted Benbow<br>630 Signal Hill Dr<br>Statesville, NC 28625<br>704-878-9661<br>tedb@boundarydevelopment.com |
| Project Consultant | Jeff Vaughan, L.S.S<br>(919) 367-6313<br>Trent Bostic<br>(919) 367-6322<br>Agri-Waste Technology, Inc.<br>501 N. Salem Street, Suite 203<br>Apex, NC 27502<br>(919) 859-0669<br>(919) 233-1970 Fax |
| System Overview | Single Family Residence<br>Four (4) Bedroom, 480 gpd<br>Chambers Dispersal System w/<br>Serial Distribution |




VICINITY MAP

## Sheet Index


| | |
|---|---|
| Sheet 1 | Cover Sheet |
| Sheet 2 | Property Layout |
| Sheet 3 | Primary Layout |
| Sheet 4 | Repair Layout |
| Sheet 5 | Detail Sheet |
| Sheet 6 | Detail Sheet |
| Sheet 7 | Excavation Safety |



AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
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919-859-0669
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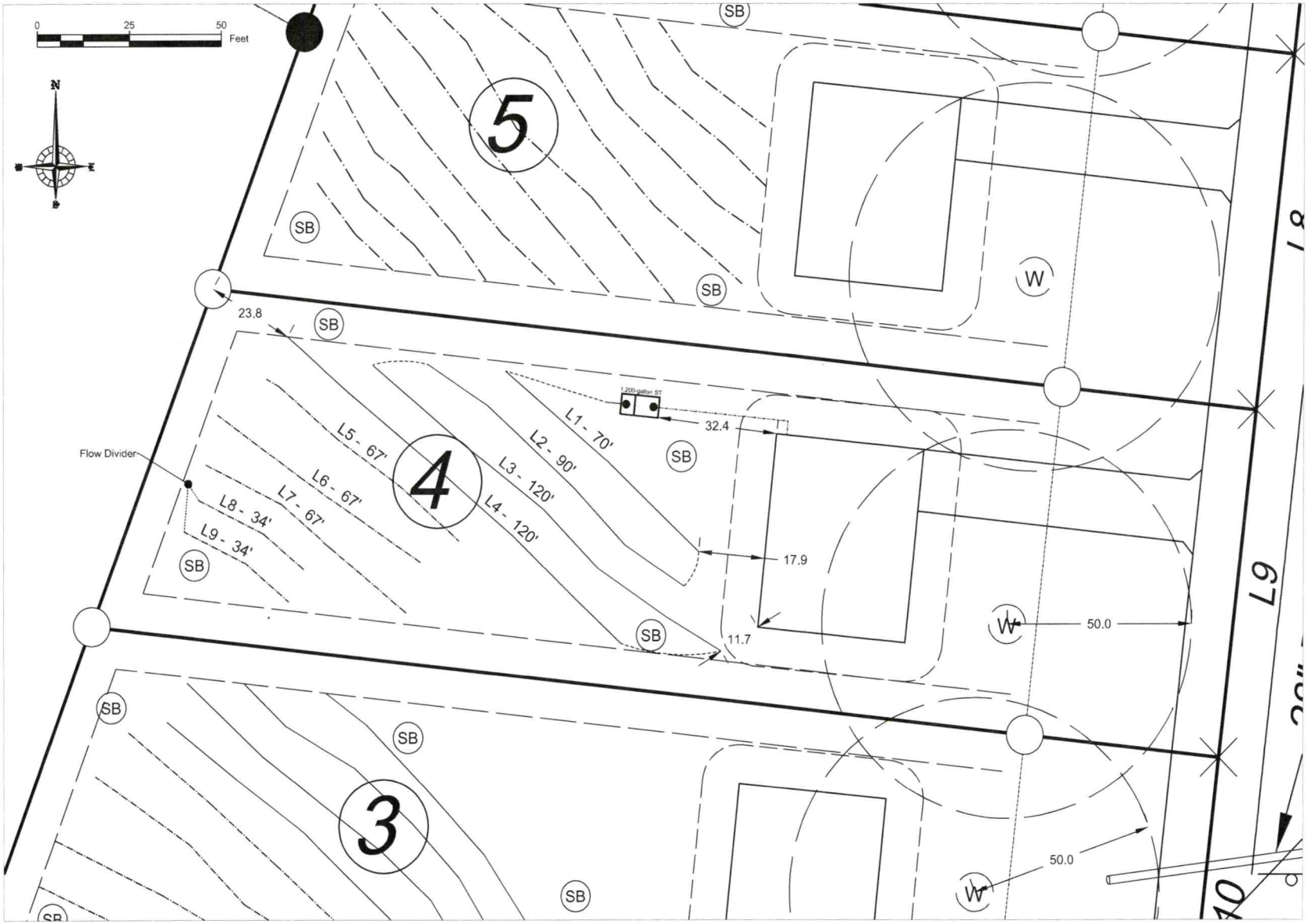
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SHEET TITLE
Cover Sheet

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| DRAWN BY: T. Bostic | CREATED ON: 11/8/2022 |
| REVISED BY: #### | REVISED ON: #### |
| RELEASED BY: #### | RELEASED ON: #### |

DRAWING NUMBER
WW-1


North Carolina 811
www.nc811.org




PROPERTY LAYOUT

1 WW-2 N.T.S. SOURCE: AWT, Inc.


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Robinson Woods - Lot 4

Project Location:
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Iredell County
PIN: 4724-33-6851

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SHEET TITLE

Property Layout

| DRAWN BY: | CREATED ON: |
|---|---|
| T. Bostic | 11/8/2022 |
| 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
8. 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.

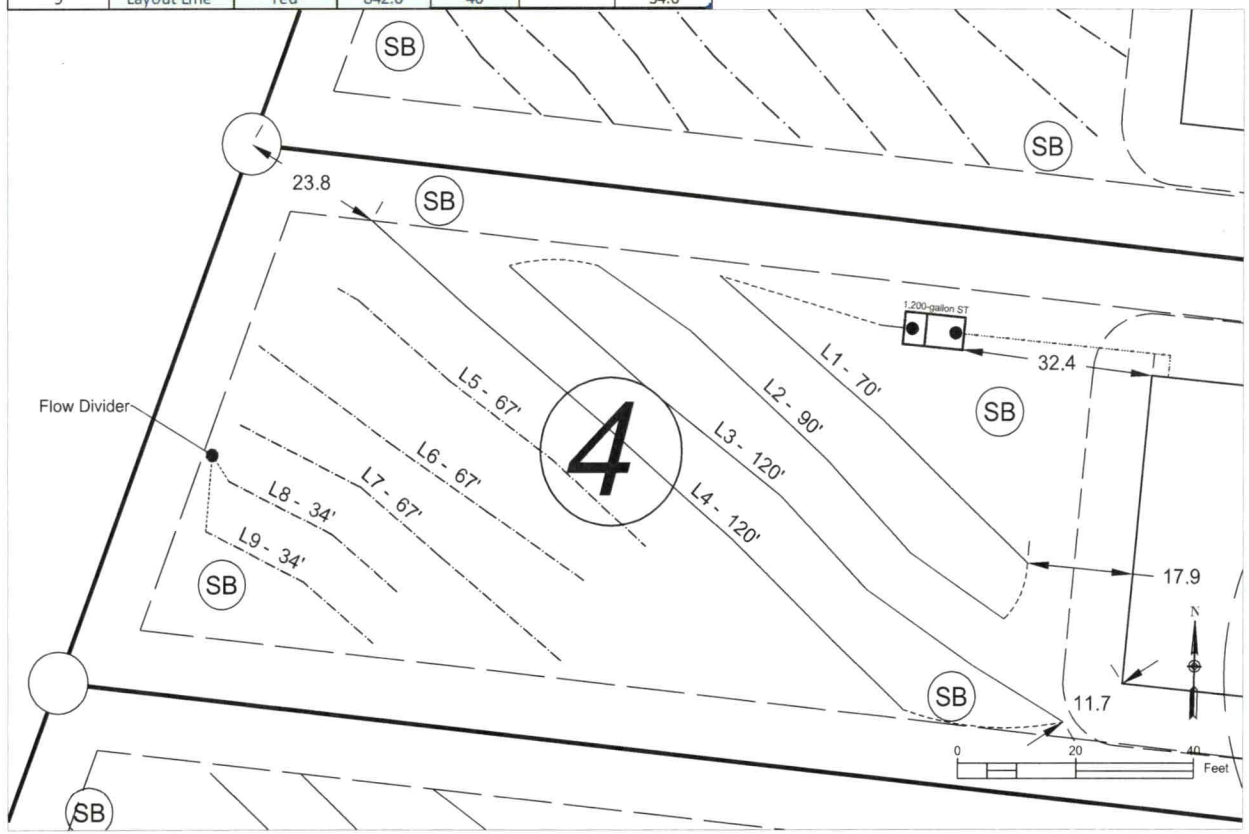
Installation Notes:

Contractor to adjust tank placements as necessary to maintain:

1. 25' downslope/15' sideslope/10' upslope setback from foundation drain
2. Min. 12" cover over Septic Tank (Not to exceed 36")
3. Min. 18" cover over pipes
4. Min. 2% grade on gravity pipe from house to Septic Tank

| Line | U | Flag Colo | Elevation (ft) | Line Length ( | Used as Primary ( | Used as Repair (f |
|---|---|---|---|---|---|---|
| 1 | Layout Line | purple | 849.0 | 100 | 70.0 | |
| 2 | Layout Line | red | 848.5 | 100 | 90.0 | |
| 3 | Layout Line | white | 847.0 | 130 | 120.0 | |
| 4 | Layout Line | yellow | 846.5 | 130 | 120.0 | |
| 5 | Layout Line | purple | 845.0 | 100 | | 67.0 |
| 6 | Layout Line | white | 844.5 | 90 | | 67.0 |
| 7 | Layout Line | yellow | 843.0 | 75 | | 67.0 |
| 8 | Layout Line | red | 842.5 | 50 | | 34.0 |
| 9 | Layout Line | red | 842.0 | 40 | | 34.0 |

Note:
Primary system is chambers w/ serial distribution.
Repair system is T&J Panel w/ D-Box.




System Layout

SOURCE: Agri-Waste Technology, Inc.


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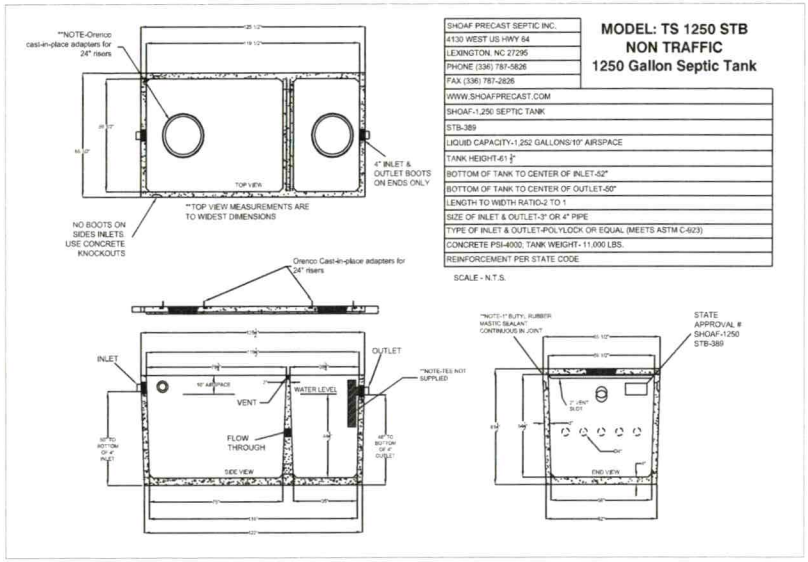
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DRAWING NUMBER
WW-3



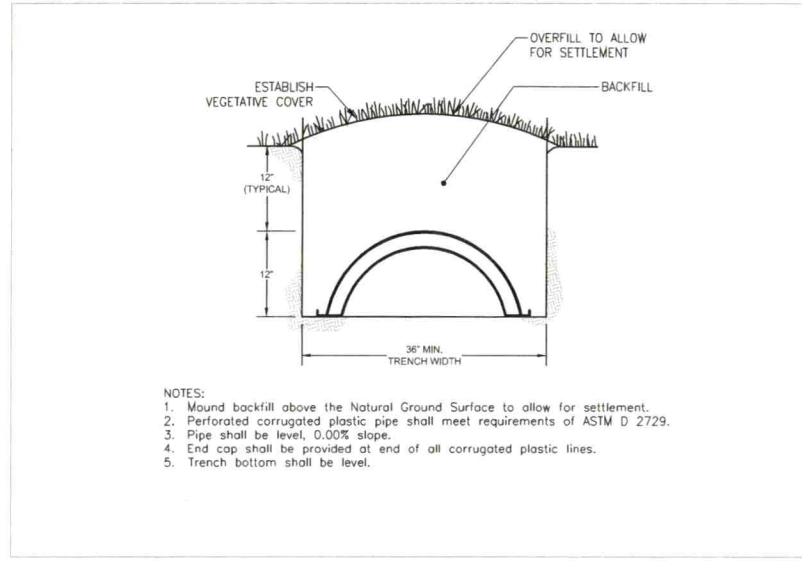

| | |
|---|---|
| SHOAF PRECAST SEPTIC INC. | **MODEL: TS 1250 STB NON TRAFFIC 1250 Gallon Septic Tank** |
| 4130 WEST US HWY 64 | |
| LEXINGTON, NC 27295 | |
| PHONE (336) 787-5826 | |
| FAX (336) 787-2826 | |
| WWW.SHOAFPRECAST.COM | |
| SHOAF-1,250 SEPTIC TANK | |
| STB-389 | |
| LIQUID CAPACITY-1,252 GALLONS/10" AIRSPACE | |
| TANK HEIGHT-61 ½" | |
| 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" OR 4" PIPE | |
| 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 WW-4

## Septic Tank (or equivalent tank)

SOURCE: Shoaf Precast Septic, Inc.

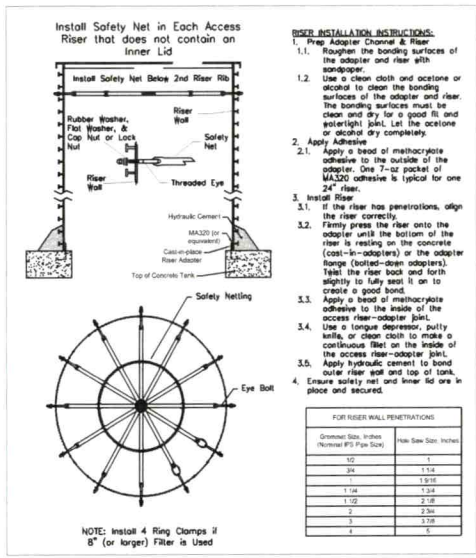



NOTES:
1. Mound backfill above the Natural Ground Surface to allow for settlement.
2. Perforated corrugated plastic pipe shall meet requirements of ASTM D 2729.
3. Pipe shall be level, 0.00% slope.
4. End cap shall be provided at end of all corrugated plastic lines.
5. Trench bottom shall be level.

2 WW-4

## Chambers - Trench Cross-Section (Typical)

INFILTRATOR Water Technologies, LLC




3 WW-4

## Riser Safety Nets

SOURCE: SIM-TECH, Inc.

NOTES

1. Installation to follow all NC DHHS and Iredell County applicable rules and regulations.
2. Iredell County 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" minimum gravel base. Use #5 or #57 stone for base.
11. Contractor to seed and/or mulch disturbed areas to coincide with existing landscape. Area shall not be left with uncovered soil.
12. All risers to have cast-in-place tank adapters and be single-piece riser. Risers to extend 6" above soil surface and be designed to prevent surface water inflow.
13. 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.
14. All penetrations to be sealed.
15. Spigot to be located on outside of building within 50' of tanks.
16. Contractor to adjust tank placement to meet site constraints.

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SHEET TITLE
Detail Sheet

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| DRAWN BY: T. Bostic | CREATED ON: 11/8/2022 |
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| RELEASED BY: #### | RELEASED ON: #### |

DRAWING NUMBER
WW-4

## Trenching and Excavation Safety

The employer must comply with the trenching and excavation requirements of 29 CFR 1926.651 and 1926.652 or comparable OSHA-approved state plan requirements.

### Inspection of Excavations

OSHA standards require that a competent person inspect trenches daily and as conditions change before worker entry to ensure elimination of excavation hazards. A competent person is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to workers, soil types and protective systems required, and who is authorized to take prompt corrective measures to eliminate these hazards and conditions.

### Access and Egress

OSHA standards require safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations 4 feet (1.22 meters) or deeper. These devices must be located within 25 feet (7.6 meters) of all workers

### Recommendations

Heavy equipment and trucks should stay as far as possible from the edge of any trench.
Always use pads under stabilizers to minimize ground pressures that could lead to failures.

## (b) Definitions

**"Cemented soil"** means a soil in which the particles are held together by a chemical agent, such as calcium carbonate, such that a hand-size sample cannot be crushed into powder or individual soil particles by finger pressure.
**"Cohesive soil"** means clay (fine grained soil), or soil with a high clay content, which has cohesive strength. Cohesive soil does not crumble, can be excavated with vertical sideslopes, and is plastic when moist. Cohesive soil is hard to break up when dry, and exhibits significant cohesion when submerged. Cohesive soils include clayey silt, sandy clay, silty clay, clay and organic clay.
**"Dry soil"** means soil that does not exhibit visible signs of moisture content.
**"Fissured"** means a soil material that has a tendency to break along definite planes of fracture with little resistance, or a material that exhibits open cracks, such as tension cracks, in an exposed surface.
**"Granular soil"** means gravel, sand, or silt (coarse grained soil) with little or no clay content. Granular soil has no cohesive strength. Some moist granular soils exhibit apparent cohesion. Granular soil cannot be molded when moist and crumbles easily when dry.
**"Layered system"** means two or more distinctly different soil or rock types arranged in layers. Micaceous seams or weakened planes in rock or shale are considered layered.
**"Moist soil"** means a condition in which a soil looks and feels damp. Moist cohesive soil can easily be shaped into a ball and rolled into small diameter threads before crumbling. Moist granular soil that contains some cohesive material will exhibit signs of cohesion between particles.
**"Plastic"** means a property of a soil which allows the soil to be deformed or molded without cracking, or appreciable volume change.
**"Saturated soil"** means a soil in which the voids are filled with water. Saturation does not require flow. Saturation, or near saturation, is necessary for the proper use of instruments such as a pocket penetrometer or sheer vane.

**"Soil classification system"** means, for the purpose of this subpart, a method of categorizing soil and rock deposits in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability. The categories are determined based on an analysis of the properties and performance characteristics of the deposits and the characteristics of the deposits and the environmental conditions of exposure.
**"Stable rock"** means natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.
**"Submerged soil"** means soil which is underwater or is free seeping.

**"Type A"** means cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A.

However, no soil is Type A if:

(i) The soil is fissured; or
(ii) The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or
(iii) The soil has been previously disturbed; or
(iv) The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or
(v) The material is subject to other factors that would require it to be classified as a less stable material.

**"Type B"** means:

(i) Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or
(ii) Granular cohesionless soils including: angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.
(iii) Previously disturbed soils except those which would otherwise be classed as Type C soil.
(iv) Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or
(v) Dry rock that is not stable; or
(vi) Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

**"Type C"** means:

(i) Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less; or
(ii) Granular soils including gravel, sand, and loamy sand; or
(iii) Submerged soil or soil from which water is freely seeping; or
(iv) Submerged rock that is not stable; or
(v) Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.

**"Unconfined compressive strength"** means the load per unit area at which a soil will fail in compression. It can be determined by laboratory testing, or estimated in the field using a pocket penetrometer, by thumb penetration tests, and other methods.
**"Wet soil"** means soil that contains significantly more moisture than moist soil, but in such a range of values that cohesive material will slump or begin to flow when vibrated. Granular material that would exhibit cohesive properties when moist will lose those cohesive properties when wet.

## (c) Requirements

(1) Classification of soil and rock deposits. Each soil and rock deposit shall be classified by a competent person as Stable Rock, Type A, Type B, or Type C in accordance with the definitions set forth in paragraph (b) of this appendix.
(2) Basis of classification. The classification of the deposits shall be made based on the results of at least one visual and at least one manual analysis. Such analyses shall be conducted by a competent person using tests described in paragraph (d) below, or in other recognized methods of soil classification and testing such as those adopted by the American Society for Testing Materials, or the U.S. Department of Agriculture textural classification system.
(3) Visual and manual analyses. The visual and manual analyses, such as those noted as being acceptable in paragraph (d) of this appendix, shall be designed and conducted to provide sufficient quantitative and qualitative information as may be necessary to identify properly the properties, factors, and conditions affecting the classification of the deposits.
(4) Layered systems. In a layered system, the system shall be classified in accordance with its weakest layer. However, each layer may be classified individually where a more stable layer lies under a less stable layer.
(5) Reclassification. If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the changes shall be evaluated by a competent person. The deposit shall be reclassified as necessary to reflect the changed circumstances.

## (d) Acceptable visual and manual tests

(1) Visual tests. Visual analysis is conducted to determine qualitative information regarding the excavation site in general, the soil adjacent to the excavation, the soil forming the sides of the open excavation, and the soil taken as samples from excavated material.

(i) Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the relative amounts of the particle sizes. Soil that is primarily composed of fine-grained material material is cohesive material. Soil composed primarily of coarse-grained sand or gravel is granular material.
(ii) Observe soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breaks up easily and does not stay in clumps is granular.
(iii) Observe the side of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tension cracks could indicate fissured material. If chunks of soil spall off a vertical side, the soil could be fissured. Small spalls are evidence of moving ground and are indications of potentially hazardous situations.
(iv) Observe the area adjacent to the excavation and the excavation itself for evidence of existing utility and other underground structures, and to identify previously disturbed soil.
(v) Observe the opened side of the excavation to identify layered systems. Examine layered systems to identify if the layers slope toward the excavation. Estimate the degree of slope of the layers.
(vi) Observe the area adjacent to the excavation and the sides of the opened excavation for evidence of surface water, water seeping from the sides of the excavation, or the location of the level of the water table.
(vii) Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the stability of the excavation face.

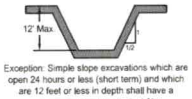
(2) Manual tests. Manual analysis of soil samples is conducted to determine quantitative as well as qualitative properties of soil and to provide more information in order to classify soil properly.

(i) Plasticity. Mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8-inch in diameter. Cohesive material can be successfully rolled into threads without crumbling. For example, if at least a two inch (50 mm) length of 1/8-inch thread can be held on one end without tearing, the soil is cohesive.
(ii) Dry strength. If the soil is dry and crumbles on its own or with moderate pressure into individual grains or fine powder, it is granular (any combination of gravel, sand, or silt). If the soil is dry and falls into clumps which break up into smaller clumps, but the smaller clumps can only be broken up with difficulty, it may be clay in any combination with gravel, sand or silt. If the dry soil breaks into clumps which do not break up into small clumps and which can only be broken with difficulty, and there is no visual indication the soil is fissured, the soil may be considered unfissured.
(iii) Thumb penetration. The thumb penetration test can be used to estimate the unconfined compressive strength of cohesive soils. (This test is based on the thumb penetration test described in American Society for Testing and Materials (ASTM) Standard designation D2488 - "Standard Recommended Practice for Description of Soils (Visual - Manual Procedure).") Type A soils with an unconfined compressive strength of 1.5 tsf can be readily indented by the thumb; however, they can be penetrated by the thumb only with very great effort. Type C soils with an unconfined compressive strength of 0.5 tsf can be easily penetrated several inches by the thumb, and can be molded by light finger pressure. This test should be conducted on an undisturbed soil sample, such as a large clump of spoil, as soon as practicable after excavation to keep to a minimum the effects of exposure to drying influences. If the excavation is later exposed to wetting influences (rain, flooding), the classification of the soil must be changed accordingly.
(iv) Other strength tests. Estimates of unconfined compressive strength of soils can also be obtained by use of a pocket penetrometer or by using a hand-operated shearvane.
(v) Drying test. The basic purpose of the drying test is to differentiate between cohesive material with fissures, unfissured cohesive material, and granular material. The procedure for the drying test involves drying a sample of soil that is approximately one inch thick (2.54 cm) and six inches (15.24 cm) in diameter until it is thoroughly dry:
  (A) If the sample develops cracks as it dries, significant fissures are indicated.
  (B) Samples that dry without cracking are to be broken by hand. If considerable force is necessary to break a sample, the soil has significant cohesive material content. The soil can be classified as an unfissured cohesive material and the unconfined compressive strength should be determined.
  (C) If a sample breaks easily by hand, it is either a fissured cohesive material or a granular material. To distinguish between the two, pulverize the dried clumps of the sample by hand or by stepping on them. If the clumps do not pulverize easily, the material is cohesive with fissures. If they pulverize easily into very small fragments, the material is granular.

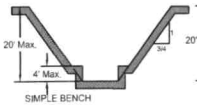
### EXCAVATIONS IN TYPE A SOILS

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of ¾:1.

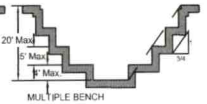



Exception: Simple slope excavations which are open 24 hours or less (short term) and which are 12 feet or less in depth shall have a maximum allowable slope of ½:1

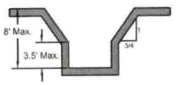



SIMPLE BENCH

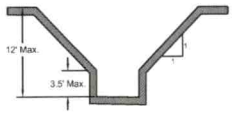



MULTIPLE BENCH

All benched excavations 20 feet or less in depth shall have a maximum allowable slope of ¾:1 and maxium bench dimensions as follows:

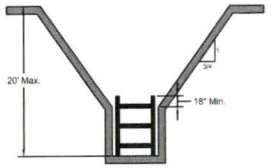



All excavations 8 feet or less in depth which have unsupported vertically sided lower portions shall have a maximum vertical side of 3½ feet.




All excavations more than 8 feet but not more than 12 feet in depth with unsupported vertically sided lower portions shall have a maximum allowable slope of 1:1 and a maximum vertical side of 3½ feet.

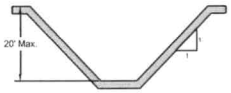
All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of ½:1. The support or shield system must extend at least 18 inches above the top of the vertical side.




All other simple slope, compound slope, and vertically sided lower portion excavations shall be in accordance with the other options permitted under § 1926.652(b).

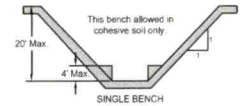
### EXCAVATIONS IN TYPE B SOILS

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.

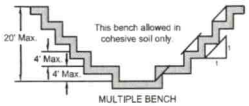



SIMPLE SLOPE

All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1 and maximum bench dimensions as follows:

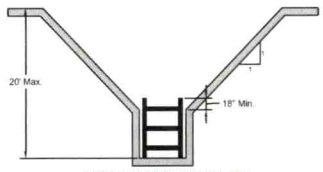



SINGLE BENCH




MULTIPLE BENCH

All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of 1:1. The support or shield system must extend at least 18 inches above the top of the vertical side.

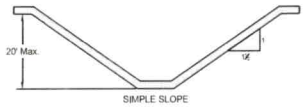



VERTICALLY SIDED LOWER PORTION

All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

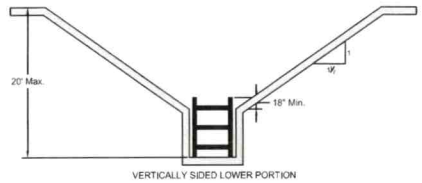
### EXCAVATIONS IN TYPE C SOILS

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1½:1.




SIMPLE SLOPE

All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of 1½:1. The support or shield system must extend at least 18 inches above the top of the vertical side.

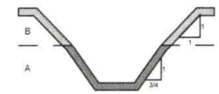



VERTICALLY SIDED LOWER PORTION

All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

### EXCAVATIONS IN LAYERED SOILS

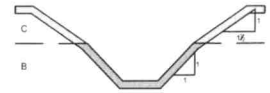
All excavations 20 feet or less in depth made in layered soils shall have a maximum allowable slope for each layer as set forth below.




B OVER A



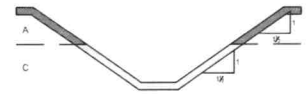

C OVER A



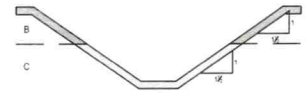

C OVER B




A OVER B




A OVER C




B OVER C

All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).


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Ted Benbow
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Project Owner:
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Statesville, NC 28625
704-876-9661
tedb@boundarydevelopment.com

For Review Only

| REV. | ISSUED DATE | DESCRIPTION |
|---|---|---|
| | | |

SHEET TITLE
Excavation Safety

| DRAWN BY: | CREATED ON: |
|---|---|
| T. Bostic | 11/8/2022 |
| REVISED BY: | REVISED ON: |
| #### | #### |
| RELEASED BY: | RELEASED ON: |
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DRAWING NUMBER
WW-5