



GeoEnvironmental Services, Inc.

OSE Report for

Subdivisions Approval Letter

Location of property: North of Paddock Wood Road	Paddock Wood Subdivision; Lot D; Section 2; Part of Tax Map # 19-25; 55.147 Acres; Louisa County
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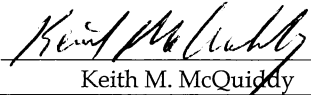
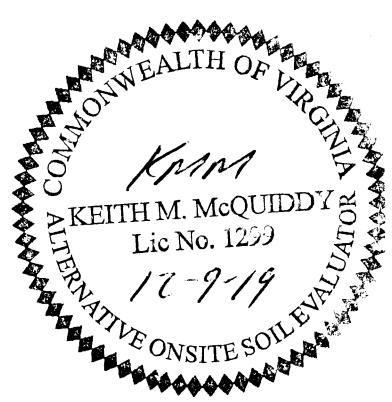
Applicant or Client and address: RLP Investments, LC & REW Land LLC PO Box 559 Amelia Courthouse, VA 23002	Prepared by OSE Keith M. McQuiddy GeoEnvironmental Services, Inc. P.O. Box 1555 Mechanicsville, VA 23116 804-730-8220
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Date of this report: 12/9/19 Revision Dates: n/a	OSE/PE Job Number: n/a Health Dept. ID No.: n/a
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Contents of this report:

<input checked="" type="checkbox"/> Health Department Application Form (p.2) <input checked="" type="checkbox"/> Abbreviated Design Form (p.3-4) <input checked="" type="checkbox"/> Soil Summary Report (p.5) <input checked="" type="checkbox"/> Soil Profile Descriptions Report (p.6) <input checked="" type="checkbox"/> Site Sketch Drawn to Scale (p.7)	<input checked="" type="checkbox"/> Survey Plat (p.8) <input checked="" type="checkbox"/> Private Well Addendum (p.9) <input checked="" type="checkbox"/> Owner/ Installation Contractor Notes (page 10- 11)
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Certification Statement:

<p>I hereby certify that the evaluations and/or designs contained herein were conducted in accordance with the Sewage Handling and Disposal Regulations (12 VAC5-610), the Private Well Regulations (12 VAC5-615), and other applicable policies of the Virginia Department of Health. Furthermore, I certify that my evaluation and/or design contained herein complies with all applicable laws, regulations, and policies implemented by the Virginia Department of Health.</p> <p>The work attached to this cover page has been conducted under an exemption to the practice of engineering, specifically the exemption in Code of Virginia Section 54.1-402.A.11.</p> <p>I recommend a Subdivision Approval be approved.</p> <p>AOSE  # 1940 001299 Keith M. McQuiddy</p>	 <p>*The OSE wished to be contacted if a Level II review is necessary.</p>
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Commonwealth of Virginia

Application for: - Sewage System -Water Supply

VDH Use Only
Health Department ID# _____
Date Received _____

Owner: RLP Investments, LC & REW Land LLC Phone (804) 561-2790
 Mailing Address: PO Box 559 Amelia Courthouse, VA 23002 Phone _____
 Agent: n/a Phone _____
 Mailing Address: n/a Phone _____
 Site Address: North of Paddock Wood Road Email _____
 Directions to Property: From the Louisa Health Department, travel east on Industrial Drive (SR 780); turn left on to W. Main Street (VA-208/VA 22W); continue to Louisa Road (VA-22W); take a slight left on to Columbia Road (SR 615); in 1.5 miles turn right on Paddock Wood Road (SR 686); the property is on the right in 1.8 miles.
 Subdivision: Paddock Wood Section: 2 Block: n/a Lot: D
 GPIN: n/a Tax Map#: part of 19-25 Dimension/Acreage Of property 55.147 ac.

Sewage System

Type of Approval: Applicants for new construction are advised to apply for a certification letter to determine if land is suitable for a sewage system and to apply for a construction permit (valid for 18 months) only when ready to build.

Certification Letter Construction Permit Voluntary Upgrade Repair Permit Minor Modification

Proposed Use:

Single Family Home (Number of Bedrooms 4) Multi-Family (Total Number of Bedrooms _____)
 Other (describe) _____

Basement? Yes No Walk-out Basement? Yes No Fixtures in Basement? Yes No

Conditional permit desired? Yes No If yes, which conditions do you want _____

Reduced water flow Limited Occupancy Intermittent or seasonal use Temporary use not to exceed 1 year

Do you wish to apply for a betterment loan eligibility letter? Yes No * A \$50 fee for determination of eligibility.

Water Supply

Will the water supply be Private or Public? Is the water supply Existing or Proposed?
 If proposed, is this a replacement well? Yes No If yes, will the old well be abandoned? Yes No

Will any buildings within 50' of the proposed well be termite treated? Yes No

Well type (e.g. domestic use, agricultural, irrigation, etc.) domestic use

All Applicants

Is this property indeed to serve as your (owners) principal place of residence? Yes No
 All applications must be accompanied by private sector evaluations and designs, unless a petition for VDH services is approved. A petition for Service for attached? Yes No

In order for VDH to process your application for a sewage system you must attached a plat of the property and a site sketch. For water supplies, a plat of the property is recommended and a site sketch is required. The site sketch should show your property lines, actual and/or proposed buildings and the desired location of your well and/or sewage system. When the site evaluation is conducted the property lines, building location and the proposed well and sewage sites must be clearly marked and the property sufficiently visible to see the topography.
 I give permission to the Virginia Department of Health to enter onto the property described during normal business hours for the purpose of processing this application and to perform quality assurance checks of evaluations and designs certified by a private sector Onsite Soil Evaluator or Professional Engineer as necessary until the sewage disposal system and/or private water supply has been constructed and approved.

 Signature of Owner/ Agent

 Date

ABBREVIATED DESIGN FORM
PRIMARY
TYPE I – CONVENTIONAL

DESIGN BASIS

- | | | |
|----|---|-------------|
| A. | a. Estimated Percolation Rate: | 50 min/inch |
| | b. Recommended trench bottom | 40-42 in |
| | c. Depth to seasonal high water table _____ or to limit of evaluation <u>X</u> | 60 in |
| | d. Minimum separation required | 18 in |
| | e. Separation distance in inches provided in design (Ac-Ab) | 18-20 in |
| | f. Minimum trench bottom due to slope $[(\% \text{ slope}-8)/2 + (12 \text{ or } 18)]$ | 18 in |
| | g. Is the slope greater than 10% | no |
| | h. If Ag is Yes, does greater than 24 inches to rock exist below Ab | n/a |
| | i. If yes to Ah, add 1 ft. to the minimum center to center spacing beginning at 20% slope and continue for each 10% slope increase above 20%. If no to Ah, add 1 ft. to the minimum center to center spacing beginning at 10% slope and continue for each 10% slope increase above 10%. (Report the value of the increase in center-to-center spacing above the minimum.) | n/a |
| B. | Trench bottom area required per bedroom
(From Table 5.4 based on Gravity <u>X</u> LPD _____): | 376 sq.ft. |
| C. | Number of bedrooms: | 4 |

TRENCH CALCULATIONS

- | | | | | |
|----|--|--------------------------------------|--------------------------|---------------|
| D. | Length of Trench | <u>85</u> ft. | Length of Available Area | <u>85</u> ft. |
| E. | Width of Trench | <u>3</u> ft. | | |
| F. | Number of Trenches | <u>6</u> | | |
| G. | Center-to-Center Spacing | <u>9</u> ft. | | |
| H. | Width Required | <u>48</u> ft. | Width of Available Area | <u>48</u> ft. |
| I. | Total Area Required (BxC) | <u>1376</u> sq.ft. | | |
| J. | Design Area (D x E x F) | <u>1530</u> sq.ft. | | |
| K. | Reserve Area Required? Yes <u>x</u> No _____ | | | |
| | a. Percent required | 100% | | |
| | b. Percent available | 100% - see separate design on page 4 | | |

ABBREVIATED DESIGN FORM
RESERVE
E-Z TREAT to PAD

DESIGN BASISInstall Pad Bottom: 40 - 42 in.Estimated Percolation Rate: 50 min/in.Design Flow: 600 gal./day

Active Pad area required
 (600 gal/day) / (0.67 gal/day/sq.ft): 896 sq.ft.
 calculated using Table 1 of *The Regulations for Alternative Onsite Sewage Systems*
 (TL-3 effluent quality)

Septic Tank Size: 1250 gal x **PERCOLATION AREA DESIGN**Total Pad Area Required 896 sq.ft.Design Area 85' x 15' = 1275 sq.ft.Length of Pad 85 ft.Width of Pad 15 ft.Pad Thickness 40 inches *Stone aggregate required**MINIMUM SEPARATION DISTANCES**To Bedrock or Impervious Strata n/a in.To Wetness Features n/a in.Other Restrictions:
limit of evaluation 60 in.

SOIL SUMMARY REPORT

SOIL INFORMATION SUMMARY

Position in Landscape: Satisfactory Unsatisfactory _____ Slope: 4-5 %

Description: Proposed drainfield occupies a cutover upland sideslope topographic position and has good surface drainage.

Depth to Rock or Impervious Strata: None Max. _____ Min. _____ Inches

Depth to Seasonal Water Table (Gray Mottling or Gray Matrix Color): None _____ Inches

Free Water Present: No Range: _____ Inches

Soil Percolation Rate 50 min/inch Estimated Field Test _____; Soil Texture Group III

Permeability Test Performed: No Yes _____

Recommended Trench Bottom 40-42 Inches

Reserve Drainfield Required: Yes* No _____ Percent Available Area 100%

System Type: Gravity Pump / Enhanced Flow _____ Other _____

Water Supply: Public _____; Class IIIA _____; Class IIIB _____; Class IIIC

NOTE: See the site sketch for the location of the homesite, drainfield, well, and driveway (when applicable).

The reserve drainfield area MUST BE PROTECTED during all development activities.

SOIL PROFILE DESCRIPTIONS REPORT *

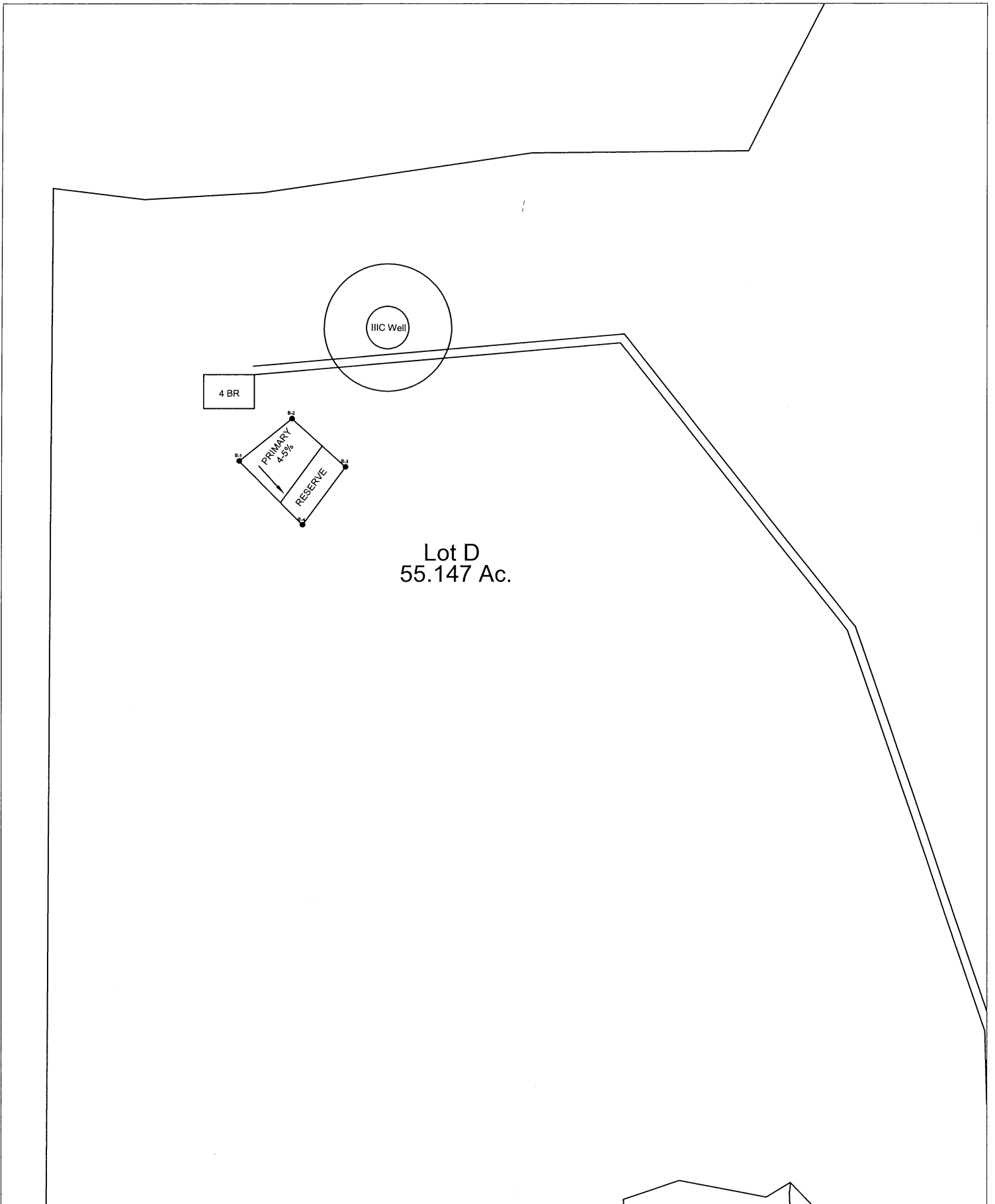
Site Evaluation: August 6, 2019

HORIZON	DEPTH INCHES	DESCRIPTION OF COLOR, MOIST CONSISTENCE, TEXTURE, STRUCTURE	TEXTURE GROUP
Boring# 1			
A	0-18	Mixed fill material	n/a
Bt1	18-28	Reddish yellow (5YR 6/8) mottled with common medium distinct yellowish brown (10YR 5/6), brownish yellow (10YR 6/6), yellowish red (5YR 5/6), and red (2.5YR 4/6); friable; clay loam	III
Bt2	28-36	Yellowish red (5YR 5/6) mottled with common medium distinct yellowish brown (10YR 5/6), reddish yellow (5YR 6/8), red (2.5YR 4/6), strong brown (7.5YR 5/6); friable; light clay loam with quartz	III
BC	36-48	Yellowish red (5YR 5/6) mottled with common medium distinct yellowish brown (10YR 5/6), red (2.5YR 4/6), and reddish yellow (5YR 6/8); friable; light clay loam to loam with quartz	III-IIB
C	48-60	Variegated yellowish red (5YR 5/6), yellowish brown (10YR 5/6), red (2.5YR 4/6), reddish yellow (5YR 6/8), and white (lithochromic); friable; loam	IIB
Boring# 2			
A	0-6	Brown (10YR 4/3); friable; sandy clay loam	IIB
Bt1	6-22	Red (2.5YR 4/6); friable; light clay loam	III
Bt2	22-38	Red (2.5YR 4/6) mottled with common medium distinct strong brown (7.5YR 5/6); friable; light clay loam with quartz	IIB
BC	38-60	Red (2.5YR 4/6) mottled with common medium distinct strong brown (7.5YR 5/6), yellowish brown (10YR 5/6), and white (lithochromic); friable; loam with mica and quartz	IIB
Boring# 3			
A	0-8	Brown (10YR 4/3); friable; sandy clay loam	IIB
Bt	8-22	Yellowish red (5YR 5/6); friable; light clay loam	III
BC	22-40	Yellowish red (5YR 5/6) mottled with common medium distinct strong brown (7.5YR 5/6), yellowish brown (10YR 5/6), and reddish yellow (5YR 6/8); friable; light clay loam to loam with mica flakes	III-IIB
C	40-60	Yellowish red (5YR 5/6) mottled with common medium distinct strong brown (7.5YR 5/6), yellowish brown (10YR 5/6), reddish yellow (5YR 6/8), and white (lithochromic); friable; loam with mica flakes	IIB
Boring# 4			
A	0-12	Brown (10YR 4/3) to brownish yellow (10YR 6/6); friable; sandy clay loam	IIB
Bt	12-36	Yellowish red (5YR 5/6) mottled with few medium distinct yellowish brown (10YR 5/6), strong brown (7.5YR 5/6), and reddish yellow (5YR 6/8); friable; clay loam to light clay loam	III
BC	36-44	Reddish yellow (10YR 6/6) mottled with common medium distinct yellowish brown (10YR 5/6), reddish yellow (5YR 6/8), and strong brown (7.5YR 5/6); friable; light clay loam to loam with quartz	III-IIB
C	48-60	Variegated yellowish red (5YR 5/6), yellowish brown (10YR 5/6), red (2.5YR 4/6), reddish yellow (5YR 6/8), and white (lithochromic); friable; loam	IIB

Remarks: The soils of this site have developed from the weathering products of granite gneiss and mica schist of the Piedmont Physiographic Province. These soils are deep and well drained. This site occupies an upland topographic position and has good surface drainage.

* The location of soil evaluation profile holes is shown on the site sketch, which accompanies this report. The site sketch includes the estimated or measured location of all known wells, sewage disposal systems, springs and structural features within 200 feet of the proposed drainfield and reserve drainfield sites.

SITE SKETCH



SCALE: 1"=150'

**Addendum to OSE/PE Certification Statement
For Private Well Construction Permit
Paddock Wood; Lot D; Section 2; Part of Tax Map # 19-25; 55.147 Acres**

Instructions: Please check one box in 1-3 below. Statement templates for item #2 and #3 are on the following pages.

The proposed well site shown herein,

1. Is located a minimum of 50 feet from all property lines.
2. Is located within 50 feet of the adjacent property line(s) but I have determined that the adjacent property is not used for an agricultural operation.
- i. Written affirmation from the adjacent property owner(s) that their property is not used for an agricultural operation.
- ii. Other confirmation that land use is not an agricultural operation, please describe: See recorded subdivision plat
3. Is located within 50 feet of adjacent property line where the property is used for an agricultural operation. For confirmation, I have attached the appropriate documentation pursuant to § 32.1-176.5:2 of the *Code of Virginia*. (check one below)
- i. Written permission from the adjacent property owner(s) for the well construction.
- ii. I certify that on other site on the property complies with the Board's Regulations for the construction of a private well.

NOTICE TO OWNERS AND SEPTIC SYSTEM INSTALLATION CONTRACTORS

GeoEnvironmental Services, Inc. (GESI) will be required to inspect the installation of the septic system and generate a completion statement for the health department. **There will be a fee charged to the installation contractor for this inspection.** Installation contractors may call GESI at 804-730-8220 prior to bidding the installation of the system to determine fees for this inspection. *A Completion Statement from GESI will not be released until our invoice for the inspection(s) is paid in full.*

GESI requires a minimum 48 hours notice be given prior to an inspection. It is recommended that as many of the components of the septic system as possible be installed, exposed, and operational during the inspection (including pumps) in order to limit the number of site visits. Failure to give an advanced notice of 48 hours to schedule an inspection may result in additional inspection fees for potential scheduling conflicts. Multiple site visits to inspect incomplete work or work that requires modifications will result in additional inspection fees.

Virginia law requires all septic systems be installed by a DPOR Licensed Onsite Sewage System (Septic) Installer. Owners that contract with an installer that is not properly licensed may be subject to action that relieves the OSE and the septic system design Company from any and all liability for the performance of the sewage disposal system. Failure of the installation contractor to prepare the soil absorption area or install the sewage disposal system in accordance with the plans and specifications of the design professional will result in action that relieves the OSE and the septic system design Company from any and all liability for the performance of the sewage disposal system.

ATTENTION

BE ADVISED:

Soil absorption areas (septic tank drainfield) are very sensitive and require protection from grading and compaction or encroachment by heavy equipment and any other construction activity not related to the septic system installation. Regardless of the depth of the proposed installation, the soil absorption area is an extremely sensitive environmental resource that requires protection. It is important that clearing, grading and construction work in the vicinity of the drainfield be carefully planned to protect the septic system being proposed. The drainfield must be protected from vehicular and construction traffic and cannot not be used for storage of construction materials.

We recommend that all drainfield areas be protected to prevent encroachment.

WE RECOMMEND ALL DRAINFIELD AREAS THAT REQUIRE SECONDARY TREATMENT OF SEPTIC TANK EFFLUENT (ALTERNATIVE OR ENGINEERED SEPTIC SYSTEMS) BE PROTECTED TO PREVENT ENCROACHMENT BY BARRICADE. Given the sensitive nature of the soil absorption area, GESI provides a service to place barricade tape around the septic tank drainfield being proposed to protect this area from the site development and associated construction activity. This service is offered on a per unit basis at \$75.00.