

C Blue Ridge Mtn



Pulaski County Environmental Health  
143 Third Street, NW-Suite 4  
Pulaski, Virginia 24301  
(540) 994-5037 Fax (540) 994-5039

### Sewage Disposal System Operation Permit

Health Department ID Number: 11-177-1114  
Tax Map Number: P 75-1-19 - Ranger House  
Type of Property: Residential

**Blue Ridge Mountain Council**  
2131 Valley View Blvd., Roanoke, Virginia 24019  
is hereby granted permission to operate a  
**SEWAGE DISPOSAL SYSTEM**

Design Capacity: 450 gallons per day      3 bedroom home

System Location: Owens Road, Radford, Virginia 24141

Subdivision	Section	Lot
Claytor Lake Aquatics Base		

This permit is issued in accordance with the Provisions of Title 32.1, Chapter 6 of the Code of Virginia as Amended and Section 12 VAC 5-610-340 of *Sewage Handling and Disposal Regulations* of the Virginia Department of Health.

Effective Date: June 10, 2013

ENVIRONMENTAL HEALTH SPECIALIST Tina Thompson, EH Supervisor  
Tina Thompson

The issuance of an operation permit does not denote or imply any guarantee by the department that the sewage disposal system will function for any specified period of time. It shall be the responsibility of the owner or any subsequent owner to maintain, repair or replace any sewage disposal system that ceases to operate in accordance with the regulations.



**COMMONWEALTH OF VIRGINIA**  
**VIRGINIA DEPARTMENT OF HEALTH**

Pulaski County Environmental Health  
143 Third Street, NW-Suite 4  
Pulaski, Virginia 24301  
(540) 994-5037

June 10, 2013

Blue Ridge Mountain Council  
2131 Valley View Blvd.  
Roanoke, Virginia 24019

Subject: Sewage Disposal System Operation Permit 11-177-1114

Dear Blue Ridge Mountain Council:

Please find enclosed the Operations Permit for your sewage disposal system, I.D. No. 11-177-1114. We would advise that you keep the permit in a safe place for reference in the event that you have problems. Also, in the enclosed envelope are maintenance suggestions for helping you to take care of the system.

Please call me at (540) 994-5037 between 8:00 a.m. and 9:00 a.m. if I can be of further assistance to you.

Sincerely

A handwritten signature in cursive script that reads "Tina Thompson".

Tina Thompson  
Environmental Health Specialist Senior

/enc

**COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF HEALTH  
Pulaski County Environmental Health (540) 994-5037**

Sewage Disposal System Construction Permit 11-177-1114 Tax Map ID P 75-1-19 - Ranger House  
Subdivision: Claytor Lake Aquatics Base Section: Lot:

**TIPS FOR GOOD SEPTIC SYSTEM  
MAINTENANCE**

**DO'S**

- DO keep a copy of your septic system layout for future references.
- DO use water saving fixtures. Use sensible water conservation practices such as washing one or two loads per day rather than saving for a "wash day".
- DO have septic tanks, treatment units, distribution boxes and drainfield system evaluated regularly. Pump and clean all tanks and boxes every three to five years. Keep a record of pump-outs and all other maintenance performed. Your system may include an operation and maintenance manual. Follow the manufacturer's recommendations for optimal performance of your septic system.
- DO consult your local health department before installing structures, home additions, swimming pools, decks, etc.
- DO divert surface water, roof drains, and basement drains away from drainfield area.

**DON'TS**

- DO NOT use septic tank additives or cleaners, yeast, bacteria, etc. Septic tanks are designed to work naturally without additives.
- DO NOT plant maple, weeping willow, sycamore, cottonwood, locust, box elder, or bamboo trees in or near the drainfield.
- DO NOT use the drainfield area for growing a vegetable garden.
- DO NOT park, build, cut and fill, drive heavy equipment on, or otherwise abuse the drainfield and reserve area.
- DO NOT destroy old drainfields after a repair. They may become serviceable after 5 to 8 years.
- DO NOT discharge wastewater from hot tubs, swimming pools, or water softeners into a septic system.

**RECORD OF SERVICE**

Septic Tank Capacity: 1000 gallons

**DATE WORK DONE CONTRACTOR**

DATE	WORK DONE	CONTRACTOR

**DO NOT FLUSH**

- COFFEE GROUNDS
- CIGARETTE BUTTS
- CONDOMS
- DENTAL FLOSS
- DISPOSABLE DIAPERS
- FATS, GREASE, OILS
- HAZARDOUS CHEMICALS
- KITTY LITTER
- PAPER TOWELS
- PAINTS, VARNISHES
- SANITARY NAPKINS or TAMPONS



Office  
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**COMMONWEALTH OF VIRGINIA**  
**VIRGINIA DEPARTMENT OF HEALTH**  
Pulaski County Environmental Health  
143 Third Street, NW-Suite 4  
Pulaski, Virginia 24301  
(540) 994-5037

October 26, 2011

Blue Ridge Mountain Council  
2131 Valley View Blvd.  
Roanoke, Virginia 24019

Subject: OSE/PE Construction Permit 11-177-1114 Tax Map ID P 075  
Subdivision: **Claytor Lake Aquatics Base -Ranger House**

Dear Blue Ridge Mountain Council:

This letter, in conjunction with the enclosed approved plans constitutes your permit to install a sewage disposal system [and well]. The application for a permit was submitted pursuant to §32.1-163.5 of the Code of Virginia which requires the Health Department to accept private soil evaluations and designs from an Onsite Soil Evaluator (OSE) or a Professional Engineer working in consultation with an OSE for residential development. The permitted site was certified as being in compliance with the Board of Health's regulations (and local ordinances if the locality has authorized the local health department to accept private evaluations for compliance with local ordinances) by: David Shane Hall, , DPOR license # 0000122. This permit is issued in reliance upon that certification.

The Board of Health hereby recognizes that the soil and site conditions acknowledged by this correspondence, and documented by additional records on file at the local health department, are suitable for the installation of onsite sewage disposal systems. The attached plat (or plats) shows the approved areas for the sewage disposal systems. This letter is void if there is any substantial physical change in the soil or site conditions where a sewage disposal system is to be located.

If modifications or revisions are necessary at any time prior to or during construction of the system , please contact the Onsite Soil Evaluator (OSE) who performed the evaluation and design on which this permit is based. The OSE is authorized to make minor adjustments in the location or design of the system at the time of construction provided adequate documentation is provided to the Pulaski County Environmental Health. Your contractor should notify the OSE listed above for a final inspection of the system once installed.

This authorization is null and void if conditions are changed from those shown on the application or conditions are changed from those shown on the attached construction drawings, plans and specifications. No part of any installation shall be covered or used until inspected, corrections made if necessary, and approved and/or authorized by the Pulaski County Environmental Health

Once your septic system and well have been installed and inspected, the following information

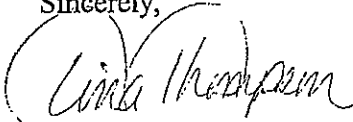
will be required before issuance of your final operation permit:

**SEPTIC SYSTEM DATA:** 1) *From the OSE:* Completion Statement, inspection report, and an As-Built Drawing of the system. 2) Installer Completion Statement

This authorization to construct a sewage disposal system expires: **April 26, 2013.**

If you should have any questions or this office can be of further assistance, please feel free to call the Pulaski County Environmental Health at (540) 994-5037.

Sincerely,

A handwritten signature in cursive script that reads "Tina Thompson". The signature is written in dark ink and is positioned to the right of the word "Sincerely,".

Tina Thompson  
Environmental Health Supervisor

*PC PE/OSE*

# Completion Statement

Commonwealth of Virginia  
State Department of Health

Health Department Identification Number 11-177-1114

Pulaski Co. Health Department

Name of Company/Corporation/Individual: Curtis Smithers Construction

Address: 686 Smithers NHW RD Allisburg, Va. 21347 Telephone: 540-980-6200

Owner's Name Boy Scouts of America - Blue Ridge Mtns. Council

Owner's Address 2135 Valley View Blvd., N.W., Roanoke, VA 24012

Location of Installation: Lot \_\_\_\_\_ Block \_\_\_\_\_

Section: \_\_\_\_\_ Subdivision: \_\_\_\_\_

Other: Aquatic Base Camp - Ranger house

\_\_\_\_\_ 11-177-1114

I hereby certify that the onsite sewage disposal system has been installed and completed in accordance with the construction permit issued (date) \_\_\_\_\_ and is in compliance with Part D of the Sewage Handling and Disposal Regulations and when appropriate the plans and specifications for the project.

5-24-18 Curtis U.S.

Date \_\_\_\_\_ Signature and Title \_\_\_\_\_

**SETEC**

SOIL AND ENVIRONMENTAL TECHNOLOGY, INC  
111 N. Franklin Street, Christiansburg, VA 24073  
Phone: (540) 381-0309 Fax: (540) 381-9430  
E-mail: setec@soilandenvironmentaltechnology.com

COMPLETION STATEMENT

JUN 10 2013

Health Dept ID #: 11-177-1114

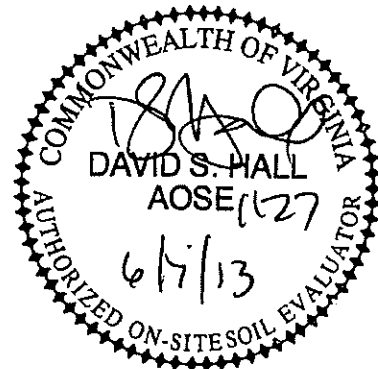
Owners: **Boy Scouts of America Blue Ridge Mtns. Council**

Location of Installation: **Aquatics Base Camp-Ranger House on Owens Road (parcel #: 075-001-0000-0019)**

This is to certify that the on-site sewage system was inspected and was found to be in substantial compliance with the permit and with PART D of the Sewage Handling and Disposal Regulations.

Signed: David Hall

Date: 6/7/13



11-177-1114

SEWAGE DISPOSAL SYSTEM CONSTRUCTION SPECIFICATIONS

GENERAL INFORMATION

New: X Repair: Expanded:

Applicant: Boy Scouts of America Blue Telephone: 529-5985

Ridge Mountains Council

Address: 2131 Valley View Blvd., N.W., Roanoke, VA 24012-2031

For a Type I Sewage Disposal System to be constructed on / at: Aquatics Base Camp-Ranger house located off of Owens Road just past the entrance to the Camp on the Right

Parcel # 075-001-0000-0019

Actual or estimated water use: 450 gallons/day (3 Bedroom)

DESIGN

NOTES

<b>Water Supply, (describe) Existing</b> To be installed: Class: N/A Cased: N/A Grouted: N/A	
<b>Building Sewer:</b> 4" ID PVC 40, or equivalent. Slope 1.25" per 10'(minimum)	OK
<b>Septic Tank: capacity—1000 gals. (minimum) w/inspection port</b> or manhole and effluent filter. Other: A manhole is going to be installed.	OK-C.T. Jamison
<b>Inlet-Outlet structure:</b> PVC 40, 4" tees, or equivalent.	OK
<b>Pump and/or Pump station:</b> No: X Yes:	N/A
<b>Gravity Main: 3"(min.), 1500 lb. crush strength or equivalent, minimum 6" fall per 100'.</b>	OK 4" Sch. 40
<b>Distribution Boxes:</b> Precast concrete only with a minimum of <u>6, 4</u> ports. Other:	OK 8,8
<b>Header Lines:</b> Material: 4" ID 1500 lb. crush strength plastic, or equivalent, from distribution box into absorption trench. Slope 2" minimum.	OK Sch. 40
<b>Percolation Lines:</b> Gravity: Infiltrator Quick 4's, or equivalent, slope 2" - 4" (min - max) per 100'.	OK
<b>Absorbtion Trenches:</b> Square ft. required: 900 Trench width: 3' Trench length: 100', 50' Number of trenches: 2, 2 Depth from ground surface to bottom of the ditch: 30" Centers: 11' Depth of aggregate: N/A	OK

Contact SETEC (381-0309) before installing the drainfield.

\*This drainfield is designed to use gravelless trenches and has been reduced by 25% or less as allowed by GMP #135; no further size reduction is allowed.

Install the drainfield during a dry period.

Inspected: 5/24/13

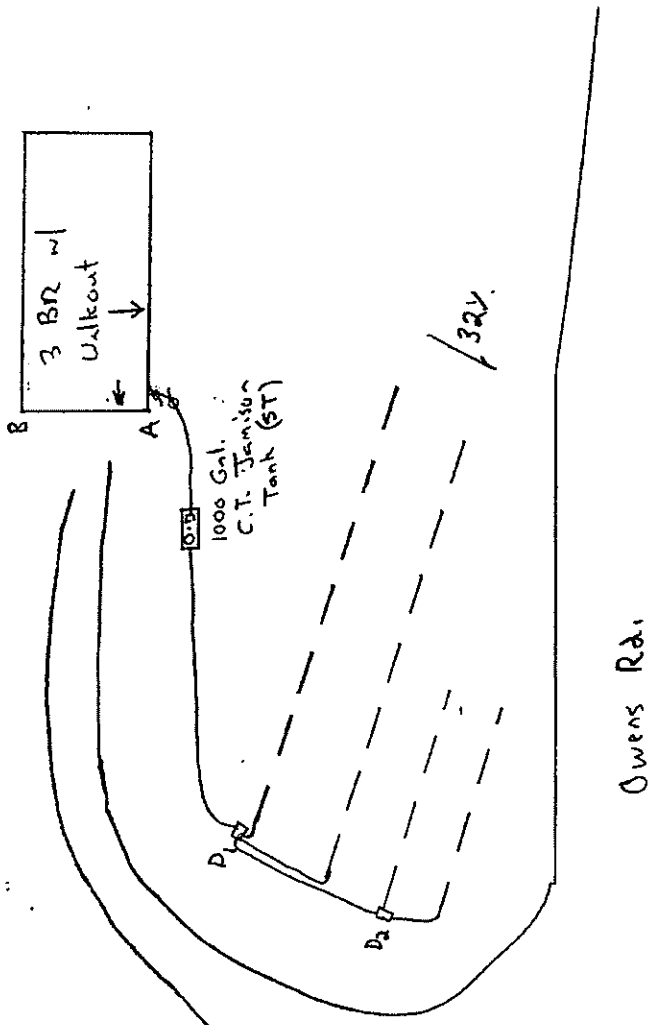
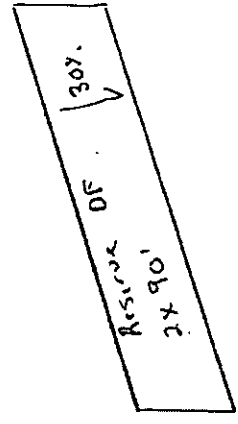
Inspected by: Bill Evans



As Built s/24/R

A ST = 23.5'	AD <sub>2</sub> = 113'
B ST = 41.5'	BD <sub>2</sub> = 129'
AD <sub>1</sub> = 94.5'	CD <sub>1</sub> = 70.5'
BD <sub>1</sub> = 104'	CD <sub>2</sub> = 39.5'

— Installed on Contour —  
 Infiltrator Quick 4's  
 2 Lines 100' long  
 2 Lines 50' long  
 3' Wide 11' Centers  
 30" Installation Depth



OK OK

ATTACHMENT A  
REQUEST FOR A WAIVER TO THE SURVEY REQUIREMENT  
(TO BE COMPLETED BY THE OWNER)

Owner's Name Blue Ridge Scout Res  
Owner's Address 2131 Valley View Blvd  
Owner's Telephone Number 540-589-5985 Greg Harmon  
Property Location Camp Clayton Health Department Identification Number 11-177-1114

1. Yes  No  Is a complete site sketch provided with your application showing the property dimensions, all proposed and/or existing structures, driveways, underground and overhead utilities on the property, adjacent sewage disposal systems, bodies of water, drainage ways, agricultural drain tiles, wells, cisterns, and springs for a minimum of 200 feet radius of the proposed building and/or drain field?
2. Yes  No  Have you clearly marked the property boundaries?
3. Yes  No  Have you clearly marked the proposed building or buildings?
4. Yes  No  Are there any permanent structures within 200 feet of the proposed drain field?
5. Yes  No  Does your parcel of land consist of a single lot?
6. Yes  No  Is your parcel of land directly influenced by the off site location of any sewage disposal system, well and/or body of water? Clayton Lake
7. Yes  No  Is your application for an onsite sewage disposal system construction permit to repair or replace a malfunctioning system serving a single family or duplex residential dwelling?
8. Yes  No  Is your application for an onsite sewage disposal system construction permit to expand an existing system serving a single family or duplex residential dwelling?
9. Yes  No  Is your proposed building and/or proposed drain field located within 200 feet of a property line?
10. Yes  No  Does a survey plat exist for your property? on file 807 acres with County
11. Yes  No  Does the survey plat requirement pose an undue hardship upon you?  
If yes, explain: 807 acres
12. Yes  No  Do you understand that a certification statement shall be signed by you verifying the sewage disposal system is located on your property as permitted prior to issuance of an operation permit?

In all cases, it shall be the landowner's responsibility to ensure that the system is properly located as permitted.

Owner's Signature [Signature] Date 10/15/11

\*\*\*\*\*  
VDH USE ONLY

Waiver: Granted Denied (circle one) Date 10/26/11

Health Department Identification Number 11-177-1114

Reason(s) for denial of waiver \_\_\_\_\_

Environmental Health Specialist Senior's Signature \_\_\_\_\_

Environmental Health Supervisor's Signature [Signature]

0225

see 20663382 office copy

# SETEC

SOIL AND ENVIRONMENTAL TECHNOLOGY, INC.  
111 N. Franklin Street, Christiansburg, VA 24073  
Phone: (540) 381-0309 Fax: (540) 381-9430  
E-mail: setec@soilandenvironmentaltechnology.com

80+ acres

OCT 14

V.A. HS  
P 75-1-19-7

## OSE Report for Permit

### Property Identification:

County: Pulaski  
ESA Aquatics Base Camp-Ranger House  
Parcel # 075-001-0000-0019

### Directions:

I-81 N to first Radford Exit, Left onto Little River Dam Road,  
Right onto Owens Road, the Ranger house is located on the  
Right just past the main entrance to the Aquatics Base Camp

### Applicant and Their Address:

Boy Scouts of America Blue Ridge Mountains Council  
2131 Valley View Blvd., N.W.  
Roanoke, VA 24012-2031

### Applicants Phone Number:

529-5985 (Greg Harmon)

### Date of this report:

9/14/11

### Contents of this report:

OSE Cover Page & Certification Statement (Page 1)  
Application for a Sewage Disposal and/or Water Supply  
Permit (Page 2)  
Sewage Disposal System Construction Specifications  
(Page 3)  
Construction Drawing at 1" = 40' (Page 4)

Soil Information Summary (Page 5)  
Soil Profile Descriptions (Page 6)  
Primary/Reserve Design Specifications (Page 7)

### Certification Statement:

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 VAC5-630) and all other applicable laws, regulations and policies implemented by the Virginia Department of Health. I further certify that I currently possess any professional license required by the laws and regulations of the Commonwealth that have been duly issued by the applicable agency charged with licensure to perform the work contained herein.

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

I recommend a construction permit be approved.

AOSE David Hall #122

Date 9/14/11



**Commonwealth of Virginia  
Application for a Sewage Disposal and/or Water Supply Permit**

Health Department ID 11-177-1114

Applicant: **Boy Scouts of America Blue Ridge Mountains Council** Address: **2131 Valley View Blvd., N.W. Roanoke, VA 24012-2031** Phone: \_\_\_\_\_  
 Agent: **Greg Harmon** Address: \_\_\_\_\_ Phone: **529-5985**

Directions to the Property: I-81 N to first Radford Exit, Left onto Little River Dam Road, Right onto Owens Road, the Ranger house is located on the Right just past the main entrance to the Aquatics Base Camp

Parcel # 075-001-0000-0019

**Sewage System**

<b>Type of Approval:</b>		Certification Letter		Construction Permit		<b>X</b>
For New Construction:	Repair	Modification	Expansion	Replacement		
<b>Proposed Use:</b>						
Single Family Home	<b>X</b>	Number of Bedrooms	<b>3</b>	Multi-Family Dwelling	Total Number of Bedrooms	
Other (describe)						
Will there be a basement:	Yes	<b>X</b>	No	If yes, will there be fixtures in the basement?	Yes	<b>X</b>
Are any conditions proposed on this construction permit?	Yes	No		<b>X</b>		
If yes, check or describe all proposed conditions that apply:	Reduced water flow		Limited occupancy	Intermittent or seasonal use		
	Temporary use not to exceed 1 year		Other (describe)			

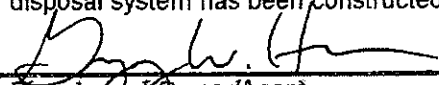
**Water Supply**

Will the water supply be	Public	Private	<b>X</b>	
Is the water supply	Existing	Proposed	<b>X</b>	
If proposed, is this a replacement well?	Yes	No	N/A	<b>X</b>
Will the old well be abandoned:	Yes	No	N/A	<b>X</b>
Will any buildings within 50' of the proposed well be termite treated?	Yes	No	<b>X</b>	

**All Applicants**

Is this an OSE/PE application?	Yes	<b>X</b>	No
If yes, is the OSE package attached?	Yes	<b>X</b>	No
Note: The well location must comply with §32.1-176.5:2			

The property lines and building location and proposed sewage disposal area are clearly marked and the property is sufficiently visible to see the topography. I give permission to the Department to enter onto the property described for the purpose of processing this application and to perform quality assurance checks as necessary until the sewage disposal system has been constructed and approved.

 Signature of Owner/Agent      10/15/11 Date

SEWAGE DISPOSAL SYSTEM CONSTRUCTION SPECIFICATIONS

GENERAL INFORMATION

New:  Repair: Expanded:

Applicant: **Boy Scouts of America Blue Ridge Mountains Council** Telephone: **529-5986**  
 Address: **2131 Valley View Blvd., N.W., Roanoke, VA 24012-2031**

For a Type I Sewage Disposal System to be constructed on / at: **Aquatics Base Camp-Ranger house located off of Owens Road just past the entrance to the Camp on the Right**

Parcel # 075-001-0000-0019

Actual or estimated water use: 450 gallons/day (3 Bedroom)

DESIGN

	NOTES
<b>Water Supply, (describe) Existing</b> To be installed: Class: N/A Cased: N/A Grouted: N/A <i>where ID water exists in well</i>	
<b>Building Sewer:</b> 4" ID PVC 40, or equivalent. Slope 1.25" per 10' (minimum) Other:	
<b>Septic Tank: capacity—1000 gals. (minimum) w/inspection port or manhole and effluent filter.</b> Other:	
<b>Inlet-Outlet structure:</b> PVC 40, 4" tees, or equivalent. Other:	
<b>Pump and/or Pump station:</b> No: <input checked="" type="checkbox"/> Yes:	
<b>Gravity Main: 3" (min.), 1500 lb. crush strength or equivalent, minimum 6" fall per 100'.</b> Other:	
<b>Distribution Boxes:</b> Precast concrete only with a minimum of <u>6, 4</u> ports. Other:	
<b>Header Lines:</b> Material: 4" ID 1500 lb. crush strength plastic, or equivalent, from distribution box into absorption trench. Slope 2" minimum.. Other:	
<b>Percolation Lines:</b> Gravity: Infiltrator Quick 4's, or equivalent, slope 2" - 4" (min - max) per 100'. Other:	
<b>Absorption Trenches:</b> Square ft. required: 900 Trench width: 3' Trench length: 100', 50' Number of trenches: 2, 2 Depth from ground surface to bottom of the ditch: 30" Centers: 11' Depth of aggregate: N/A	

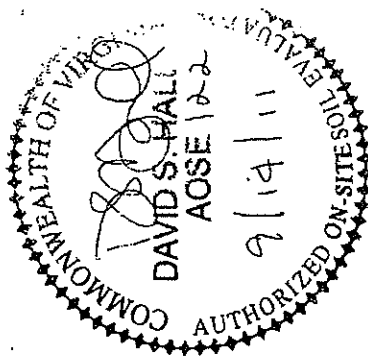
Contact SETEC (381-0309) before installing the drainfield.

\*This drainfield is designed to use gravelless trenches and has been reduced by 25% or less as allowed by GMP #135; no further size reduction is allowed.

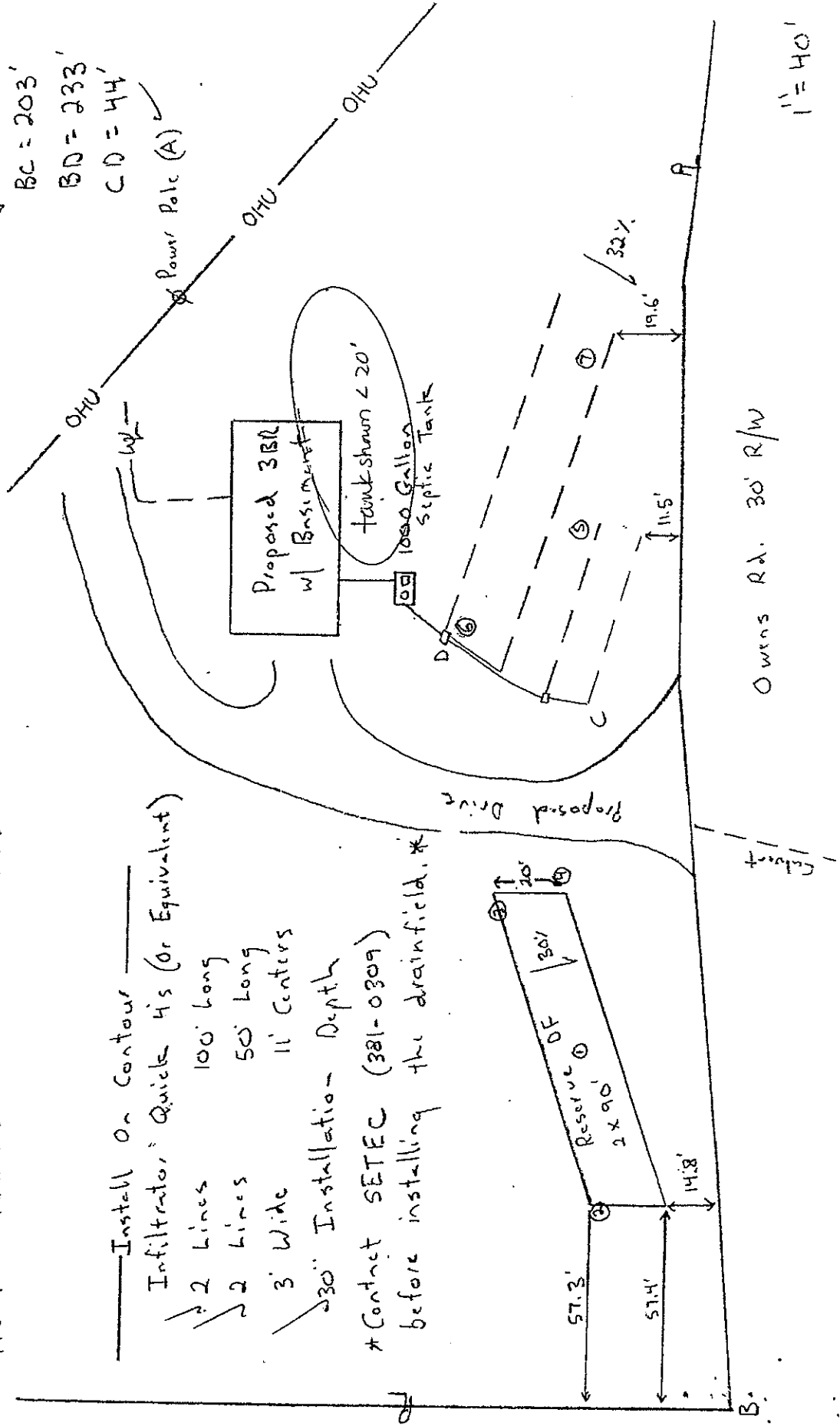
Install the drainfield during a dry period.

THIS SYSTEM IS DESIGNED TO USE GRAVELLESS TRENCHES AND HAS BEEN SIZED IN ACCORDANCE WITH VDIH CAMP #135  
NO FURTHER REDUCTION ALLOWED.

- Install on Contour
- Infiltrator: Quick 4's (or Equivalent)
  - 2 Lines 100' Long
  - 2 Lines 50' Long
  - 3' Wide 11' Centers
- 30" Installation Depth
- \*Contact SETEC (381-0309) before installing the drainfield.\*



AC = 161'  
AD = 121'  
BC = 203'  
BD = 233'  
CD = 44'





SOIL AND ENVIRONMENTAL TECHNOLOGY, INC  
 111 N. Franklin Street, Christiansburg, VA 24073  
 Phone: (540) 381-0309 Fax: (540) 381-9430  
 E-mail: setec@soilandenvironmentaltechnology.com

**General Information**

Date: 9/14/11 Pulaski County Health Department  
 Applicant: Boy Scouts of America Blue Ridge Telephone #: 529-5985  
 Mountains Council  
 Address: 2131 Valley View Blvd., N.W., Roanoke, VA 24012-2031  
 Location: Aquatics Base Camp (Ranger House)

**Soil Information Summary**

1. Position in landscape satisfactory Yes  No Describe: Sideslope
2. Slope 32 %
3. Depth to rock/impervious strata: Max. Min. None
4. Depth to seasonal water table (gray mottling or gray color) No  Yes
5. Free water present No  Yes range in inches
6. Soil percolation rate estimated Yes  No Texture group 3  
 Estimated rate 50 Min/inch
7. Percolation test performed Yes No  Number of percolation test holes  
 Depth of percolation test holes  
 Average percolation rate

Name and title of evaluator: Bill Evans Soil Scientist

Signature: *Bill Evans*

Site Approved: 30" Department Use depth at site designated on permit.

Site Disapproved:

*H Level I review 10/26/11*

**Reason for rejection:**

- 1 Position in landscape subject to flooding or periodic saturation.
- 2 Insufficient depth of suitable soil over hard rock.
- 3 Insufficient depth of suitable soil over water table.
- 4 Rates of absorption too slow.
- 5 Insufficient area of acceptable soil for required drainfield, and/or reserve area
- 6 Proposed system too close to well
- 7 Other Specify:

**PROFILE DESCRIPTION  
SOIL EVALUATION REPORT**

Date of Evaluation: 9/7/11

Pulaski County Health Department  
Identification No.

x See application sketch

See construction permit

**Applicant:** Boy Scouts of America Blue Ridge Mountains Council      **Location:** Aquatics Base Camp (Ranger House)

Hole #	Horizon	Depth	Description	Texture Group
1 Reserve	A	0-3	Dark Yellowish Brown (10YR 4/4) silt loam	3
	BA	3-22	Brown (7.5YR 5/4) silt loam; 10% shale fragments	3
	Bt	22-50	Yellowish Red (5YR 4/6) silty clay loam; strong medium subangular blocky structure; few Very Pale Brown (10YR 7/4) weathered shale mottles	3
	BC	50-60	Yellowish Red (5YR 4/6) silty clay loam; 10% shale fragments; few Very Pale Brown (10YR 7/4) weathered shale mottles	3
2 Reserve	A	0-3	Dark Yellowish Brown (10YR 4/4) silt loam	3
	BA	3-20	Yellowish Brown (10YR 5/8) silt loam; 10% shale fragments	3
	Bt	20-40	Reddish Brown (5YR 5/4) silt loam; 10% shale fragments; few Very Pale Brown (10YR 7/4) weathered shale mottles	3
	C	40-60	Reddish Brown (5YR 5/4) gravelly silt loam; 30% shale fragments; common Very Pale Brown (10YR 7/4) weathered shale mottles	3
3 Reserve	A	0-3	Dark Yellowish Brown (10YR 4/4) silt loam	3
	Bw	3-32	Yellowish Brown (10YR 5/8) silt loam; 10% shale fragments; few Very Pale Brown (10YR 7/4) weathered shale mottles	3
	C	32-60	Strong Brown (7.5YR 5/6) gravelly silt loam; 25% shale fragments; common Very Pale Brown (10YR 7/4) weathered shale mottles	3
4 Reserve	A	0-3	Dark Yellowish Brown (10YR 4/4) silt loam	3
	BA	3-24	Brown (7.5YR 5/4) silt loam	3
	Bt1	24-42	Strong Brown (7.5YR 5/6) silt loam; common Very Pale Brown (10YR 7/4) weathered shale mottles	3
	Bt2	42-56	Strong Brown (7.5YR 5/6) silty clay loam; common Very Pale Brown (10YR 7/4) weathered shale mottles	3
5 Main DF	A	0-5	Dark Yellowish Brown (10YR 4/4) loam	2
	BA	5-18	Yellowish Brown (10YR 5/8) silt loam	3
	Bt1	18-36	Yellowish Brown (10YR 5/6) gravelly silt loam; 25% shale fragments	3
	Bt2	36-50	Strong Brown (7.5YR 5/8) silty clay loam; common Very Pale Brown (10YR 7/4) weathered shale mottles	3
	Bt3	50-60	Yellowish Red (5YR 5/6) clay; common Very Pale Brown (10YR 7/4) weathered shale mottles	4
6 Main DF	A	0-4	Dark Yellowish Brown (10YR 4/4) silt loam	3
	Bw	4-22	Yellowish Brown (10YR 5/8) silt loam	3
	BC	22-40	Yellowish Brown (10YR 5/8) gravelly loam; 20% shale fragments	2
	C	40-55	Yellowish Brown (10YR 5/8) very gravelly loam; 40% shale fragments; common Very Pale Brown (10YR 7/4) weathered shale mottles	2
	AR	55		
7 Main DF	A	0-4	Dark Yellowish Brown (10YR 4/4) silt loam	3
	BA	4-18	Yellowish Brown (10YR 5/8) silt loam	3
	Bt1	18-36	Strong Brown (7.5YR 5/6) silt loam; few Very Pale Brown (10YR 7/4) weathered shale mottles	3
	Bt2	36-50	Strong Brown (7.5YR 5/8) silty clay loam; common Very Pale Brown (10YR 7/4) weathered shale mottles	3
	Bt3	50-55	Yellowish Red (5YR 5/6) clay; common Very Pale Brown (10YR 7/4) weathered shale mottles	4

30"  
50' note



Applicant: Boy Scouts of America Blue Ridge Mountains Council

Location: Aquatics Base Camp (Ranger House)

**DRAINFIELD RECOMMENDATIONS, DESIGN BASIS, & AREA CALCULATIONS AND WELL RECOMMENDATION & SPECIFICATIONS**

Main DF		Reserve DF	
Type of system	Gravity	Reserve Area Required	Yes
EPR	50	Type of Reserve	Gravity
Slope %	32	EPR	50
# Bedrooms	3	Slope %	30
Gallons/Day	450	Gallons/Day	225
Width of Trench (ft.)	3	Width of Trench (ft.)	3
Total Square Ft. of Trench Bottom Required per bedroom	400	Total Square Ft. of Trench Bottom Required	600
Total Square Ft. of Trench Bottom per bedroom in Design	300*	Total Square Ft. of Trench Bottom in Design	540*
Total Square Ft. of Trench Bottom Required	1200	# Lines of Reserve	2
Total Square Ft. of Trench Bottom in Design	900*	Line Length (ft.)	90
Absorption Area Reduction (%)	25 ✓	Installed <24" from Rock or Other Impervious Strata	No
# Lines Installed	2, 2 ✓	Centers (ft.)	11
Length of Line Installed (ft.)	100, 50 ✓	Width Required (ft.)	14
Installed <24" from Rock or Other Impervious Strata	No	Width in Design (ft.)	20
Centers (ft.)	32% 11 ✓	Installation Depth (inches into natural soil)	30 ✓
Width Required (ft.)	36	Amount of Backfill Recommended (inches)	N/A
Installation Depth (from the existing ground surface)	30 ✓ min. for slope	Type of Well Recommended	N/A
Amount of Backfill Required (inches)	N/A	Amount of Casing & Grout (ft.)	N/A

\*This drainfield is designed to use gravelless trenches and has been reduced by 25% or less as allowed by GMP #135; no further size reduction is allowed.