

**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**

**General Information**

Date: 2/7/2020  
 Applicant: Shah Development LLC  
 Address: P.O. Box 1499, Christiansburg, VA 24068  
 Directions to the Property: I-81 S, Take Exit 94, Left on VA-99 S, Left on Old Rt 100, Right on SR 672, Left on SR 693, Left on SR 669, Left on Allison Dr, Property near end of Allison Drive  
 Subdivision: Lot Line Revision on the Properties of Shah Development LLC Lot: 4

**Soil Information Summary**

1. Position in landscape satisfactory Yes ☒ No ☐ Describe: Sideslope
2. Slope 15-Main; 16-Reserve %
3. Depth to rock/impervious strata: Max. >53" Min. 40" None
4. Depth to seasonal water table (gray mottling or gray color) No ☐ Yes ☒ 30" – Main  
28" – Reserve
5. Free water present No ☒ Yes ☐ range in inches
6. Soil percolation rate estimated Yes ☒ Texture group 3  
No ☐ Estimated rate 60 Min/inch
7. Percolation test performed Yes ☐ Number of percolation test holes  
No ☒ Depth of percolation test holes  
Average percolation rate

Name and title of evaluator: Bill Evans Soil Scientist

Signature: 

- X** Site Approved: Absorption trenches dispersing TL-3 effluent to be placed at 18" depth at site designated. Site provides a total of 1050 square feet of absorption area for the main drainfield and 600 square feet of absorption area for the reserve.

Site Disapproved:

Reason for rejection: (check all that apply)

- 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 to seasonal 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**

Dates of Evaluation: 10/12/2018 &  
10/29/2018

Pulaski County Health Department

Identification No.

x See application sketch

See construction permit

**Applicant:** Shah Development LLC **Subdivision:** Lot Line Revision on the Properties of Shah Development LLC **Lot:** 4

| Hole #      | Horizon | Depth | Description  | Texture Group |
|-------------|---------|-------|--|---------------|
| Pit 1       | A       | 0-8   | Dark Brown (10YR 3/3) loam   | 2             |
|             | BE      | 8-17  | Light Yellowish Brown (10YR 6/4) loam  | 2             |
|             | Bt1     | 17-30 | Yellowish Brown (10YR 5/8) loam  | 2             |
|             | 2Bt2    | 30-42 | Strong Brown (7.5YR 5/6) clay loam; common Light Olive Brown (2.5Y 5/6) lithochromic mottles; common Light Brownish Gray (10YR 6/2) redoximorphic depletions   | 3             |
|             | 2BC     | 42-52 | Yellowish Red (5YR 5/8) clay loam; common Light Olive Brown (2.5Y 5/6) lithochromic mottles; few Light Brownish Gray (10YR 6/2) redoximorphic depletions   | 3             |
| Pit 2       | A       | 0-5   | Brown (10YR 4/3) gravelly loam; 15% coarse fragments   | 2             |
|             | BA      | 5-12  | Yellowish Brown (10YR 5/4) loam  | 2             |
|             | Bt      | 12-32 | Strong Brown (7.5YR 5/6) clay loam   | 3             |
|             | BC      | 32-40 | Yellowish Red (5YR 5/6) cobbly clay loam; 20% coarse fragments common Light Olive Brown (2.5Y 5/6) lithochromic mottles; few Light Brownish Gray (10YR 6/2) redoximorphic depletions                             | 3             |
|             | C       | 40-56 | Yellowish Red (5YR 5/6) clay loam; common Light Olive Brown (2.5Y 5/6) lithochromic mottles; common Light Brownish Gray (10YR 6/2) redoximorphic depletions  | 3             |
| Pit 3       | Ap      | 0-5   | Brown (10YR 4/3) loam  | 2             |
|             | BA      | 5-22  | Yellowish Brown (10YR 5/4) loam  | 2             |
|             | Bt1     | 22-32 | Yellowish Brown (10YR 5/6) gravelly loam; 15% coarse fragments   | 2             |
|             | Bt2     | 32-53 | Yellowish Red (5YR 5/8) clay loam; common Pale Brown (10YR 6/3) lithochromic mottles; few Light Brownish Gray (10YR 6/2) redoximorphic depletions  | 3             |
| Pit 4 (Res) | Ap      | 0-5   | Brown (10YR 5/3) gravelly loam   | 2             |
|             | BA      | 5-22  | Yellowish Brown (10YR 5/4) sandy loam  | 2             |
|             | Bt1     | 22-28 | Yellowish Brown (10YR 5/6) loam  | 2             |
|             | Bt2     | 28-50 | Yellowish Redoximorphic depletions (5YR 5/8) clay loam; common Light Yellowish Brown (10YR 6/4) & Light Olive Brown (2.5Y 5/6) lithochromic mottles; few Light Brownish Gray (10YR 6/2) redoximorphic depletions | 3             |

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

| Main DF  |   | Reserve DF   |   |
|--|---|--|---|
| Type of system   | TL-3<br>Pretreatment<br>into<br>Conventional<br>Lines<br>60 | Reserve Area Required                                  | Yes   |
| EPR  |   | Type of Reserve  | TL-3 Pretreatment<br>into Conventional<br>Lines<br>60 |
| Slope %  | 15  | EPR  | 60  |
| # Bedrooms   | 4   | Slope %  | 16  |
| Gallons/Day  | 600   | Gallons/Day  | 300   |
| Width of Trench (ft.)                                  | 3   | Width of Trench (ft.)                                  | 3   |
| Design Loading Rate (gpd/ft <sup>2</sup> )             | 0.58  | Design Loading Rate (gpd/ft <sup>2</sup> )             | 0.5   |
| Total Square Ft. of Trench Bottom<br>Required per BR   | 234   | Total Square Ft. of Trench Bottom<br>Required          | 469   |
| Total Square Ft. of Trench Bottom<br>per BR in Design  | 262.5   | Total Square Ft. of Trench Bottom in<br>Design         | 600   |
| Total Square Ft. of Trench Bottom<br>Required          | 938   | # Lines of Reserve                                     | 5   |
| Total Square Ft. of Trench Bottom in<br>Design         | 1050  | Line Length (ft.)                                      | 40  |
| # Lines Installed                                      | 5   | Installed <24" from Rock or Other<br>Impervious Strata | No  |
| Length of Line Installed (ft.)                         | 70  | Centers (ft.)  | 9   |
| Installed <24" from Rock or Other<br>Impervious Strata | No  | Width Required (ft.)                                   | 45  |
| Centers (ft.)  | 9   | Width in Design (ft.)                                  | 45  |
| Width Required (ft.)                                   | 39  | Installation Depth (inches into natural soil)          | 16  |
| Installation Depth (inches into<br>natural soil)       | 18  | Amount of Backfill Required (inches)                   | 8   |
| Amount of Backfill Required (inches)                   | 6   | Type of Well Recommended                               | 3B  |
|  |   | Amount of Casing & Grout (ft.)                         | 50 (min.)   |

**\*The existing well located within the proposed drainfield must be properly abandoned by a licensed well driller prior to applying for the permit.**

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