



SOIL TEST DATA AND PERCOLATION TEST RESULTS
PROJECT: Birchwood Estates Rod & Gun Club Rd. Forestburgh
DATE: 9-17-14
CREW: J.E.S.

TEST PIT LOG:

PROJECT: Birchwood Estates Rod & Gun Club Rd. (T) Forestburgh
DATE OF EXCAVATION: 9/24/14
CONTRACTOR: Paul Kaveleski
OBSERVED BY: Jim Sweikata

TEST PIT #1
0' - 4" Topsoil (dry)
4' - 66" Lt. brown silty, sandy, clayey loam w/rocks (dry) w/mottling throughout
Groundwater- n/a
Hardpan depth- n/a
Root depth- n/a
No ledgerrock encountered

TEST PIT #2
0' - 4" Topsoil (dry)
4' - 66" Lt. brown silty, sandy, clayey loam w/rocks (dry) w/mottling throughout
Groundwater- n/a
Hardpan depth- n/a
Root depth- n/a
No ledgerrock encountered

HOLE NUMBER	TEST NUMBER	CHARACTER OF SOIL	DEPTH OF HOLE	TIME OF START OF TEST	TIME OF END OF TEST	TOTAL DROP (inches)	TOTAL TIME (minutes)	EQUIV. MIN. FOR CENTER TO DROP 1"
1	1	0'-4" Topsoil	23"	9:45	10:15	1	30	30
	2	4'-23" Silty, sandy clayey loam w/traces of mottling (moist)		10:16	10:52	1	36	36
	3			10:53	11:31	1	38	38
2	1	0'-4" Topsoil	24"	10:21	10:29	1	8	8
	2	4'-22" Silty, sandy clayey loam		10:30	10:48	1	18	18
	3			10:49	11:10	1	21	21
	4	w/traces of mottling w/gravel @22"		11:11	11:33	1	22	22
		(moist)						
3	1	0'-4" Topsoil	18"	11:29	11:36	1	8	8
	2	4'-18" Silty, sandy clayey loam		11:37	11:55	1	18	18
	3			11:56	12:22	1	26	26
	4	w/traces of mottling (moist)		12:23	12:51	1	28	28

*For septic system design use NYSDOH design range of 31-45 mins./inch (0.50 GPD/SF) construct shallow absorption trench system (SATS) with min. 18"-24" imported soil fill.

Modified Septic System Design Computations

Note: Existing septic leachfield constructed in 2015 and never utilized consists of ten (10) - 42' long absorption trenches = 420 ft. total in 24' deep fill bed designed as a Shallow Absorption Trench System (SATS). Based on stabilized soils percolation test rates of 22, 28 and 38 mins./inch, a 31-45 mins./inch percolation range was used for a 420 gpd design flow, requiring the 420' of trench that currently exists.

Proposed Modification: Enlarge septic leachfield to serve the proposed 5-bedroom home with design flow of 110 gpd/hr, x 5 hr. = 550 gpd, a 130 gpd increase above existing system capacity.

1) Design Flow: 5 bedroom home x 110 gpd/bedroom = 550 gpd.

2) Size Expanded Leachfield: For 31-45 mins./inch design percolation range (0.5 gpd/s.f. absorption rate), 550 gpd = 0.5 gpd/s.f. x 1,100 s.f. absorption area required = 2' wide trench = 550 in. ft. of leachfield trench required vs. 420 in. ft. existing.

3) Size Septic Tank: Per NYSDOH Part 754 regulations, a 5 bedroom home requires a minimal 1,500 gallon capacity septic tank.

4) Dosing Pump Station: Since proposed leachfield elevation is at higher elevation than residence septic tank, install Simplex pump station to convey wastewater to distribution box. Pump station should discharge 75% of total leachfield pipe volume, so 588' of 4" diameter pipe = 588 x 0.0865 s.f./ft. = 50.8 c.f. x 75% = 38 c.f. x 7.48 gals./c.f. = 284 gals./dose. Install one (1) solids handling submersible sewage pump in a 5 ft. diameter precast well with capacity of 147 gals./ft.; then 284 gals./dose = 147 gals./ft. = 1.93' (23") drawdown required between pump "ON" and "OFF" levels.

5) Size Dosing Pumps: Compute Total Dynamic Head (T.D.H.)
a. Elevation head, pump in wetwell to leachfield distribution box inlet = 629' - 614' grade + 7' pump depth = 22 ft.
b. Friction loss, use 35 gpm pump rate in 2" diameter P.E. pipe, 2.45'/100' x 350' = 8.5'.
c. Valves & fittings loss, estimate 2.0'
T.D.H. = 32.5', say 35' T.D.H.

Size One (1) Submersible Pump For Minimum 35 Gals./Min. at 35' T.D.H.
Use one (1) "Goulds" Model 3885 Order W67H, 3/4 HP, 1 Phase, 230 Volt, 3500 RPM, 3/4" solids handling, 2" discharge with maximum capacity of 35 gpm at 45' T.D.H.

REV. DR. CK. DATE DESCRIPTION

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CONSTRUCTION & SEPTIC SYSTEM DETAILS

BIRCHWOOD ESTATES
3-LOT SUBDIVISION
(T) FORESTBURGH * SULLIVAN COUNTY * NEW YORK

DATE: JANUARY 7, 2022 SHEET NO. **3**
REVISION
SCALE
DRAWN OLB
CHECKED GLS
JOB NO. 14-026 OF 3 SHEETS