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Proposed Design for a 25% Reduction Septic System using Gravity distribution for a 4 bedroom single family residence on Lot 36 of Magic forest Subdivision, 107 Mystic Court, in Troutman, Iredell County, North Carolina.

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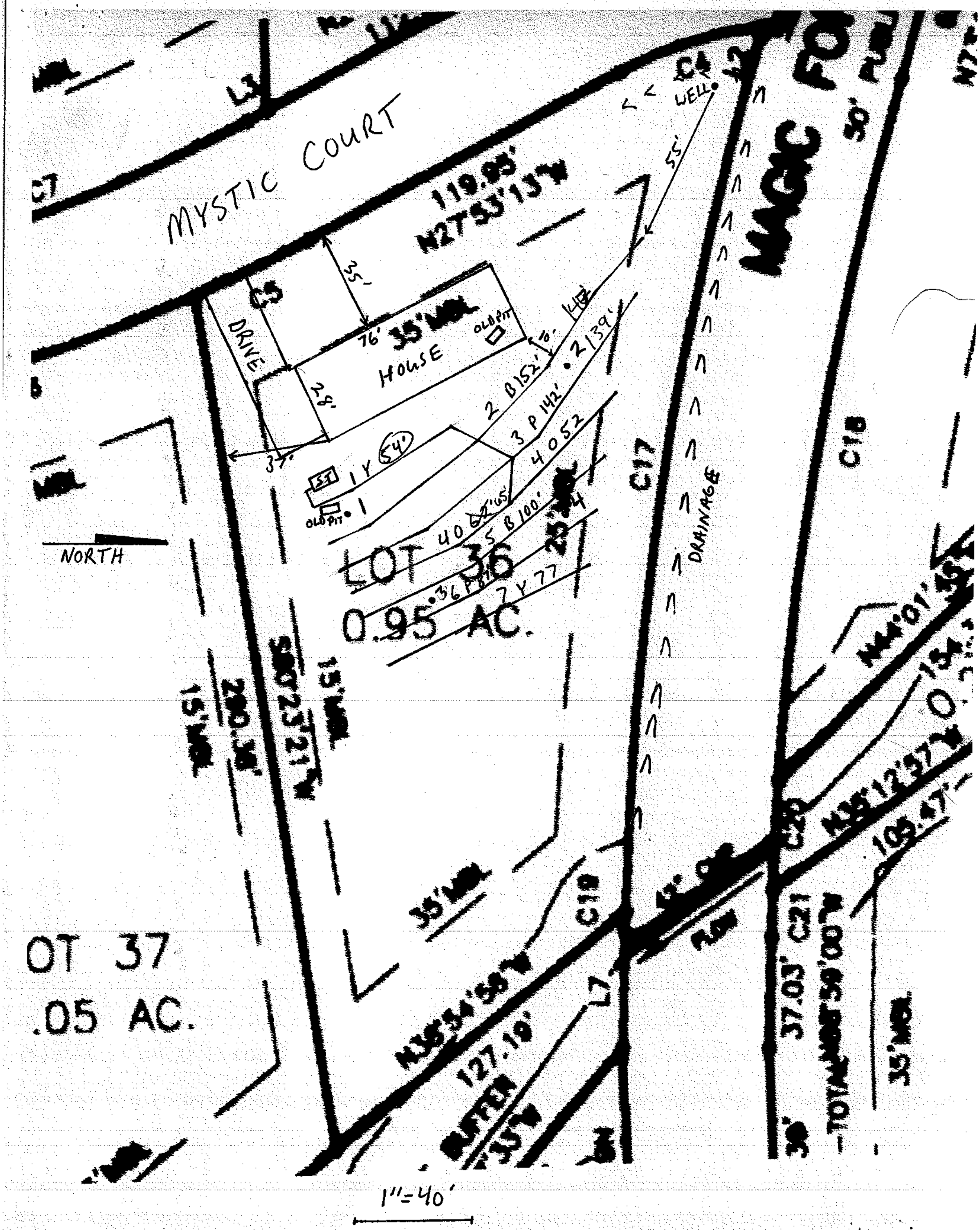
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October 11, 2016
Project #: 2016-062
Design By: CS & SC



INFORMATION FOR INSTALLER:

- The permit should be read very carefully prior to submitting bid. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by NC DHHS, and certification supplied by the manufacturer.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- The installer is responsible for final grades and returning that grade to original, with exception of added structural features.
- The supply trench shall be compacted to eliminate any cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom has no more than 1/4"fall in 10 feet with no high or low areas within. If high or low areas do exist after trench excavation, high areas should be removed rather than filling in low areas. Do not over excavate trenches! Any fine grading should be completed by hand with a rake and shovel, leaving no loose material.
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral to prevent unwanted lateral water movement.
- Elevations at pin flag locations should be checked by the installer prior to beginning trenches to insure accuracy.
- If septic tank risers are used they should be a minimum of 6" above finished grade or within 6" of final grade if buried.
- Design precludes use of foundation drains on the residence.
- System is specified as an Accepted 25% Reduction Gravity installation.
- Repair is specified as PPBPS Low Pressure installation.
- Trench width is specified as 36" wide, rake and lime all trench sidewalls
- **If grading for slab foundation is utilized do not grade/create greater than 2 ft of elevation difference within 15 ft of any component of the septic or repair. If back filling do not backfill over any initial or repair septic line.**


MYSTIC COURT
119.93'
N27°53'13"W
35'
WELL
55'
C5
DRIVE
35' MBL
76'
OLD PIT
HOUSE
10'
28'
2 B152'
2 139'
3 P 142'
37'
1 Y 54'
ST
4052
OLD PIT
1
40 65' 45'
5 B 100'
LOT 36
36 P 81'
7 Y 77
0.95 AC.
NORTH
C17
DRAINAGE
MAGIC
50'
C18
15' MBL
290.36'
S80°23'21"W
15' MBL
35' MBL
C19
L7
N35°54'58"W
127.19'
BUFFER
OT 37
.05 AC.
C20
C21
37.03'
N35°12'37"W
105.47'
N44°01'
35' MBL
L3
C7
1"=40'

OWNER INFORMATION

Owner:	Linda and Dallas Staten
Address:	Route 2 Box 103 Delbarton, WV 25670
Client:	Freedom Homes of Troutman, Paul
Phone:	704-528-7960
County:	Iredell
Location:	MAGIC FOREST SUBDIVISION LOT 36
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480
System Flow:	480

25% GRAVITY DESIGN INFORMATION

Drainfield Design Flow (gpd):	400
Loading/Soil Application Rate (gpd/ft.^{2}):	0.300
Depth of Gravel in Trench:	NA
Gravel Size:	NA
Total Lateral Length From Layout:	400
Total Lateral Length Required:	400
Trench Depth:	28 in. Lowside
Trench Width:	36 in.
TOTAL AREA TRENCH BOTTOM:	1200
Trench Spacing on Center:	9 ft.
Repair Trench Spacing:	8 ft.
Repair Trench Depth:	25 in. Lowside AT GRADE BRING IN 6" COVER
Septic Tank Size:	1000 gal.
Estimated Supply Line Length:	8
Supply Line Diameter:	3 in. SCH 40 PVC
Supply Line Volume:	2.88
Dosing Volume:	NA
Supply Manifold:	SERIAL DISTRIBUTION
Additional Comments:	Soil suitability was performed by Adrian L. Pruett LSS

MAGIC FOREST SUBDIVISION LOT 36
FIELD LAYOUT SPECIFICATIONS

LAYOUT FOR 4 BEDROOM RESIDENCE — October 11, 2016

LINE #	FLAG COLOR	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM			NA		
HOUSE CRN		NA	NA		
P. TANK		NA	NA		
1	*YELLOW*	*NA*	*NA*	*71*	*54*
2	*BLUE*	*NA*	*NA*	*152*	*152*
3	*PINK*	*NA*	*NA*	*142*	*142*
4	*ORANGE*	*NA*	*NA*	*52*	*52*
4	*ORANGE*	*NA*	*NA*	*62*	*62*
5	*BLUE*	*NA*	*NA*	*100*	*100*
6	*PINK*	*NA*	*NA*	*87*	*87*
7	*YELLOW*	*NA*	*NA*	*77*	*77*
			Total	**743**	**726**

	LINE LENGTH	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
System	*400*	*ACCEPT.*	*0.300*	*25% RED.*	*GRAVITY*
Repair	326	*MOD.*	0.275	PPBPS	LOW PRESSURE

Notes:
** TBM Is Not Required.
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags

Comments: **Smooth any rough topo at time of install.**
Maintain 25' minimum from drainage ditch at street.
House flagged in double red.
Tank flagged in orange.

Iredell County has CS&SC's permission to change septic tank location and distribution type

DOSING CALCULATIONS

Location MAGIC FOREST

Lot No: 36

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.300	$^{gal}/_{ft^2\ day}$
25% RED. Expansion? (YES OR NO)	NO	
Supply Line Length	8	ft.
Supply Line Volume	2.88	gal.
Required Feet of 25% RED. Line	400	ft.
Amount of Line from Layout	400	ft.
Gallons per Minute	NA	$^{gal}/_{min}$
Septic Tank Capacity	1000	gal.
Minimum Septic Tank Capacity	1000	gal.
Lateral Line Volume	261.2	gal.

DIVISION OF PUBLIC HEALTH, ENVIRONMENTAL HEALTH SECTION
ON-SITE WATER PROTECTION BRANCH

PROPERTY ID #: 46997575583
COUNTY: Lincoln

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

OWNER: Linda + Dallas Staten — APPLICATION DATE: 10/16/16
ADDRESS: Route 2 Box 103, Delbarton, WV 25670 — DATE EVALUATED: 10/11/16
PROPOSED FACILITY: SFR — PROPOSED DESIGN FLOW (.1949): 480 GPD — PROPERTY SIZE: .95 Acres
LOCATION OF SITE: 107 Mystic Court, Mooresville NC Magic Forest 36 — 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	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
B 1	LSS 12%	0-6	BCL, WFSBK	FR, SS, SP	/	48"	F-L SAP INCL 20"-36"	/	PS .3
		6-15	RC, WFSBK	" " "					
		15-33	RC, MFSBK	" " "					
		33-48	RCL MFSBK/ WFSBK	" " "					
							L-M SAP INCL 36"-48"		
B 2	LSS 22%	0-9	BCL, WFSBK	FR, SS, SP	/	48"	F SAP INCL 39"-48"	/	PS .3
		9-24	RC, WFSBK	" " "					
		24-39	RC, MFSBK	" " "					
		39-48	RC, WFSBK	" " "					
B 3	LSS/TS 16%	0-12	BCL, WFSBK	FR, SS, SP	SOME MOTTLING 40"-48"	48"	F-L SAP INCL 34"-43"	/	PS .275
		12-25	RC, WFSBK	" " "					
		25-36	RC, MFSBK	" " "					
		36-48	RC, WFSBK	" " "					
B 4	LSS/TS 16%	0-10	BCL, WFSBK	FR, SS, SP	SOME MOTTLING 42"-48"	48"	C SAP INCL 35"-48"	/	PS .275
		10-24	RC, WFSBK	" " "					
		24-36	RC, MFSBK	" " "					
		36-48	RC, WFSBK	" " "					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	Approved	Approved
Site LTAR	.3	.275

OTHER FACTORS (.1946): —
SITE CLASSIFICATION (.1948): I
EVALUATED BY: SC
OTHER(S) PRESENT: —

COMMENTS: