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Attached is a proposed design for an Accepted (25% reduction) Septic System with Gravity distribution for a 3 bedroom single family residence on Lot #19 PINEVILLE ESTATES Subdivision, Iredell County, North Carolina.

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March 13, 2008
Project No. 01-1301
Design By: Rollans Soil and Environmental Services

Gravity 25% Reduction
FOR WASTEWATER TREATMENT

Owner:	D&D ENTERPRISES OF IREDELL LLC
Address:	PO BOX 5602 Statesville, NC 28687
Phone:	704-528-6192
County:	Iredell
Location:	THE PINEVILLE ESTATES SUBDIVISION Lot #19
Source of Wastewater Flow:	3 Bedroom Single Family Residence
Estimated Daily Wastewater Production:	360 gpd
System Flow:	NA

Design Specifications

Drainfield Size:	310
Loading Rate:	0.3
Depth of Gravel in Trench:	NA (25% reduction)
Gravel Size:	NA (25% reduction)
Trench Depth:	36 in.
Trench Width:	36 in.
Septic Tank Size:	1000
Pump Tank Size:	NA
Estimated Supply Line Length:	10
Supply Line Diameter:	3 in. SCH 40 PVC
Supply Line Volume:	1.74
Dosing Volume:	NA
Supply Manifold:	Drop Boxes
Supply Manifold Length:	NA
Supply Manifold Volume:	N/A
Recommended Float Controls:	NA
Recommended Control Panel:	NA
Pressure Head:	NA
Friction Head:	NA
Elevation Head:	NA
Total Dynamic Head:	NA
Threaded Union:	NA
Gate Valves:	NA NA
Check Valves:	NA
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Rollans Soil & Environmental Services.

THE PINEVILLE ESTATES SUBDIVISION Lot #19

DESIGN FLOW:	360
SOIL APPLICATION RATE:	0.3
TOTAL AREA TRENCH BOTTOM:	930
TOTAL LATERAL LENGTH:	310
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	300
SUPPLY LINE LENGTH:	10
TOTAL DYNAMIC HEAD:	NA
MANIFOLD SIZE:	NA
DOSING VOLUME:	NA
PUMP TANK DRAW DOWN*:	NA
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	NA

PINEVILLE ESTATES LOT 19

Project #: 01-1301

LAYOUT FOR 3 BEDROOM HOME — March 20, 2007

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		N/A			100.00		
TANK		N/A	N/A				
HOUSE		N/A	N/A				
INSTR. 1			N/A				
1	***BLUE***			***N/A***	***N/A***	***50***	***50***
2	***PINK***			***N/A***	***N/A***	***80***	***80***
3	***ORANGE***			***N/A***	***N/A***	***100***	***100***
4	***PINK***			***N/A***	***N/A***	***80***	***80***
5	RED			N/A	N/A	70	70
6	BLUE			N/A	N/A	85	85
7	ORANGE			N/A	N/A	85	85
					Total	**500**	**500**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
**** System***	***310***	***0.30***	***ACCEPT.***	***0.30***	***25% RED.***	**GRAVITY DISTRIBUTION**
Repair	240	0.30	*MOD.*	0.30	PPBPS	LOW PRESSURE

Notes:

** TBM NOT REQUIRED

**All measures in feet

**Nitrification lines are demonstrated on contour via colored pin flags

**BS, HI, and FS indicate rod readings

CALCULATIONS

Location PINEVILLE ESTATES

Project Number 01-1301

Lot No: Lot 19

No. of Bedrooms	3	
Design Flow	360	$^{gal}/_{day}$
LTAR	0.3	$^{gal}/_{ft^2\,day}$
25% RED.? (YES OR NO)	YES	
Supply Line Length	10	ft.
Supply Line Volume	1.74	gal.
Required Feet of Line	300	ft.
Amount of Line from Layout	310	ft.
Gallons per Minute	NA	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Lateral Line Volume	202.43	gal.
Dosing Volume	NA	gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down	NA	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	NA	minutes
Elevation Head	NA	ft.
Pressure Head	NA	ft.
Friction Factor	NA	ft./100 ft. *(From the interpolater.)*
Friction Head	NA	ft.
Total Dynamic Head (+15%)	NA	ft.

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet 1 of 1
PROPERTY ID #: REDRAW?
COUNTY: IREDELL

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: D & D ENTERPRISES OF IREDELL LLC
ADDRESS: PO BOX 5602 STATESVILLE, NC 28687
PROPOSED FACILITY: RES
PROPOSED DESIGN FLOW (.1949): 360
LOCATION OF SITE: PINEVILLE ESTATES LOT 19
WATER SUPPLY: ☑ Private ☐ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☐ Auger Boring ☑ Pit ☐ Cut
TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

APPLICATION DATE 3/07
DATE EVALUATED: 3/06
PROPERTY SIZE: ~ 31,000 ft²
PROPERTY RECORDED: 465

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
P 1	LSS 0-5%	0-10	BSCL GR	fri SSSP Sesq					
		10-28	RC MFSBK	fri SSSP Sesq	—				
	PIT COVERED UP	28-55	RCL WSBK	fri SSSP Sesq	—	55	—	—	.3 gpd/ft²
				Rock + W/Rock Inc.					
				+ Common SAP					
P 2	LSS 0-5%	0-12	BSCL GR	fri SSSP Sesq					
		12-28	RC MFSBK	fri SSSP Sesq					
		28-60	RCL WSBK	fri SSSP Sesq					
				few Rock + SAP Inc.	—	60	—	—	.3 gpd/ft²
P 3	Pit Covered up LSS 0-5%	0-12	BSCL GR	fri SSSP Sesq					
		12-30	RC MFSBK	fri SSSP Sesq					
		30-42	RCL WSBK	fri; SSSP Sesq —	many SAP				
		42-60	SCL SAP M	fri; SSSP Sesq	—	42	PS	—	.3 gpd/ft²
P 4	LSS 0-5%	0-10	BSCL GR	fri SSSP Sesq					
		10-36	RCL MFSBK	fri SSSP Sesq					
		36-52	RCL WSBK	fri SSSP Sesq					
				common W/Rock	—	52	—	—	.3 gpd/ft²
				+ Rock + SAP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	25% RED.	PPBPS
Site LTAR	.3 gpd/ft²	.3 gpd/ft²

OTHER FACTORS (.1946): N/A
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: ROLLANS SOIL & ENVIRONMENTAL
OTHER(S) PRESENT: N/A

COMMENTS:

DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

Sheet 1 of ___
PROPERTY ID #: _____
COUNTY: IREDELL

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: D & O Enterprises — APPLICATION DATE ____
ADDRESS: Po Box 5602 Statesville NC 28687 — DATE EVALUATED: 12/06
PROPOSED FACILITY: Res — PROPOSED DESIGN FLOW (.1949): 360 GPD — PROPERTY SIZE: ____
LOCATION OF SITE: Pineville Estates lot 19 — PROPERTY RECORDED: Y
WATER SUPPLY: X Private ☐ Public ☐ Well ☐ Spring ☐ Other ____
EVALUATION METHOD: ☒ Auger Boring ☒ Pit ☐ Cut — TYPE OF WASTEWATER: X 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
P 1	LSS 5-10%	0-19	RC SBK	fri SSSP SexP	—	62	—	—	PS .3
		19-62	RCL WSBK	fri SSSP SexP					
P 2		0-20	RC SBK	fri SSSP SexP	—	48	—	—	PS .3
		20-48	RCL WSBK	fri: SSSP SexP					
				common SAP					
P 3		0-10	BSCL Compacted		—	58	—	—	PS .3
		10-24	RC MSBK	fri SSSP SexP					
		24-58	RCL WSBK	fri SSSP SexP					
				SAP Inc.					
				few W/Rock Inc.					
P 4		0-22	RC SBK	fri SSSP SexP	—	48	—	—	PS .3
		22-48	RCL WSBK	fri SSSP SexP					
				common SAP					
		48-62	Hard SAP						

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	900 ft²	480 ft²
System Type(s)	25% Red	PBBPS
Site LTAR	.3	.3

OTHER FACTORS (.1946): ____
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: Rollins Soil & Env.
OTHER(S) PRESENT: ____

COMMENTS: