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

Sheet ___ of ___
PROPERTY ID #: ___
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: LORNE COOK
ADDRESS: ___
APPLICATION DATE 8/06
PROPOSED FACILITY: Res PROPOSED DESIGN FLOW (.1949): 360gpd
DATE EVALUATED: 8/06
LOCATION OF SITE: Blackwelder Rd
PROPERTY SIZE: +/- 1 ac
PROPERTY RECORDED: Y
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) 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	Linear	0-31	RC mfsl/sk	fr: SSSP Smp	N/A	51"	PS	N/A	PS .3 gpd/ft²
		31-51	RCL mwsbk	fr: SSSP Smp					
		51-71	SL SAP M	fr: SSSP Smp					
				common w/Rock					
P 2 wet dewall	Linear	0-26	RC mfsbk/sbk	fr: SSSP Smp	N/A	58"	N/A	N/A	PS .3 gpd/ft²
		26-58	RCL mwsbk	fr: SSSP Smp					
				Y weathered Rock Inc					
3	Linear	0-24	RC mfsbk	fr: SSSP Smp	N/A	54"	PS	N/A	PS .3gpd/ft²
		24-54	RCL mwsbk	fr: SSSP Smp					
		54-64	SL SAP Mwsbk	fr: SSSP Smp					
				few w/Rock					
4	Linear	0-32	RC mfsbk	fr: SSSP Smp	N/A	70"	N/A	N/A	PS .3gpd/ft²
		32-70	RCL mwsbk	fr: SSSP Smp					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	1200ft²	900ft²
System Type(s)	CONVENTIONAL	25% RED.
Site LTAR	.3gpd/ft²	.3gpd/ft²

OTHER FACTORS (.1946): ___
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: Rollins Soil & Environmental Services
OTHER(S) PRESENT: ___

COMMENTS: ___

ROLLANS *SOIL & ENVIRONMENTAL SERVICES*

2120 Graham Road, Mount Ulla, NC 28125 *Phone/Fax (704) 278 – 0989*

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Attached is a proposed design for a Conventional Septic System with Gravity distribution for a 3 bedroom single family residence at 532 Blackwelder Road, Iredell County, North Carolina.

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August 17, 2006

Design By: Rollans Soil and Environmental Services

CONVENTIONAL GRAVITY
FOR WASTEWATER TREATMENT

Owner: A. Lorne Cook

Address: 548 Blackwelder Rd
Statesville. NC 28625
Phone: 704-663-4050
County: Iredell
Location: 548 Blackwelder Rd

Source of Wastewater Flow: 3 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 360 gpd
System Flow: NA

Design Specifications

Drainfield Size: 400
Loading Rate: 0.3
Depth of Gravel in Trench: 12"
Gravel Size: 3, 4, 5, 57, or 6 ASTM
Trench Depth: 36 in.
Trench Width: 36 in.
Septic Tank Size: 1000
Pump Tank Size: N/A

Estimated Supply Line Length: 12
Supply Line Diameter: 3 in. SCH 40 PVC
Supply Line Volume: 2.09
Dosing Volume: NA
Supply Manifold: DROP BOX
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.

548 BLACKWELDER ROAD

DESIGN FLOW:	360
SOIL APPLICATION RATE:	0.3
TOTAL AREA TRENCH BOTTOM:	1200
TOTAL LATERAL LENGTH:	400
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	12
TOTAL DYNAMIC HEAD:	NA
MANIFOLD SIZE:	NA
DOSING VOLUME:	NA
PUMP TANK DRAW DOWN*:	NA
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	N/A

548 BLACKWELDER ROAD

LAYOUT FOR 3 BEDROOM HOME

August 17, 2006

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	100	100
2	PINK			N/A	N/A	100	100
3	BLUE			N/A	N/A	100	100
4	***ORANGE***			***N/A***	***N/A***	***100***	***100***
5	***ORANGE***			***N/A***	***N/A***	***100***	***100***
6	***BLUE***			***N/A***	***N/A***	***100***	***100***
7	***PINK***			***N/A***	***N/A***	***100***	***100***
					Total	**700**	**700**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
****System***	***400***	***0.30***	***ACCEPT.***	***0.30***	***CONV.***	**GRAVITY**
Repair	300	0.30	*ACCEPT.*	0.30	25% RED.	**DISTRIBUTION** PRESSURE MANIFOLD

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 548 BLACKWELDER ROAD

Project Number

Lot No: N/A

No. of Bedrooms 3

Design Flow 360 $^{gal}/_{day}$

LTAR 0.3 $^{gal}/_{ft^2\ day}$

CONV..? (YES OR NO) YES

Supply Line Length 12 ft.

Supply Line Volume 2.088 gal.

Required Feet of Line 400 ft.
Amount of Line from Layout 400 ft.

Gallons per Minute NA $^{gal}/_{min}$

Required Septic Tank Capacity 1000 gal.
Minimum Standard Tank Size 1000

Lateral Line Volume 261.2 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