ROLLANS ***SOIL & ENVIRONMENTAL SERVICES***

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Attached is a proposed design for a PPBPS Septic System with low pressure distribution for a 4 bedroom single family residence on Lot #41 TWIN CREEKS Subdivision, Iredell County, North Carolina.

Contents: **Page**

Information for the Installer---------- 1

Design Information
Design Specifications---------- 2-3
Layout Specifications---------- 4

Site Plan/System Plan---------- 5

Calculations---------- 6

Profile Descriptions---------- 7

March 2, 2007
Project #: 01-1346
Design By: Rollans Soil & Environmental Services

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: S&L HOMES

Address: 110 CHARLESTON Dr. SUITE 108
Mooresville, NC 28117
Phone: 704-662-8467
County: Iredell
Location: TWIN CREEKS Subdivision Lot #41

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 480 gpd
System Flow: N/A

Design Specifications

Drainfield Size: 425
Loading Rate: 0.3 gpd/ft²
Depth of Gravel in Trench: NA (PPBPS)
Gravel Size: NA (PPBPS)
Trench Depth: 36 in.
Trench Width: 36 in.
Septic Tank Size: 1000
Pump Tank Size: N/A

Estimated Supply Line Length: 10
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 1.74
Dosing Volume: N/A
Supply Manifold: N/A
Supply Manifold Length: N/A
Supply Manifold Volume: N/A

Recommended Float Controls: N/A

Recommended Control Panel: N/A

Pressure Head: N/A
Friction Head: N/A
Elevation Head: N/A
Total Dynamic Head: N/A

Threaded Union: N/A
Gate Valves: N/A
N/A
Check Valves: N/A
Anti-Siphon Hole: N/A
Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services

TWIN CREEKS Subdivision Lot #41
LP PPBPS

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.3 gpd/ft²
TOTAL AREA TRENCH BOTTOM:	1275
TOTAL LATERAL LENGTH:	425
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	10
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	N/A

**Pump tank draw down based on a volume basis of 21 gallons per inch. Draw down may vary among pump tank manufacturers.*

TWIN CREEKS LOT 41

Project #: 01-1346

LAYOUT FOR 4 BEDROOM HOME

March 2, 2007

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM	N/A				N/A		
INSTR. 1			N/A				
HOUSE CNR				N/A	N/A		
P. TANK				N/A	N/A		
1	***BLUE***			***N/A***	***N/A***	***95***	***95***
2	***DARK PINK***			***N/A***	***N/A***	***100***	***100***
3	***PINK***			***N/A***	***N/A***	***70***	***70***
4	***ORANGE***			***N/A***	***N/A***	***80***	***80***
5	***BLUE***			***N/A***	***N/A***	***80***	***80***
6	DARK PINK			N/A	N/A	90	90
7	PINK			N/A	N/A	92	92
8	ORANGE			N/A	N/A	90	90
					Total	697	697

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR	TRENCH SYSTEM	DISTRIBUTION
****System***	***425***	***0.3***	***MOD.***	***0.30***	***PPBPS***	***LOW PRESSURE***
Repair	272	0.3	MOD.	0.30	PPBPS	LOW PRESSURE

Notes: ** TBM NOT REQUIRED

**TBM is assumed to be 100'

**All measures in feet

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

**BS, HI, and FS indicate rod readings

**Sediment basin must be filled in properly and tank hole must be tamped.

CALCULATIONS

Location TWIN CREEKS

Project Number 01-1346

Lot No: Lot 41

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
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	400	ft.
Amount of Line from Layout	425	ft.
Gallons per Minute	25.83	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Panel Volume N/A		gal.
# of Panels N/A		
Dosing Volume N/A		gal.

Note: Dosing Volume based on 33% of # of panels times 3.6 gal/panel

Tank Draw Down N/A	*Generic Draw Down of 21 gal.per in.*
Pump Run Time N/A	minutes
Elevation Head N/A	ft.
Pressure Head N/A	ft.
Friction Factor N/A	ft./100 ft. *(From the interpolater.)*
Friction Head N/A	ft.
Total Dynamic Head (+15%) N/A	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 ___ of ___
PROPERTY ID #:
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: S & L Homes
ADDRESS: 110 CHARLESTON DR SUITE 108 MOORESVILLE NC 28117
APPLICATION DATE 3/07
DATE EVALUATED: 3/07
PROPOSED FACILITY: RES
PROPOSED DESIGN FLOW (.1949): 480 GPD
PROPERTY SIZE: 1101 AC
LOCATION OF SITE: TWIN CREEKS LOT 41
PROPERTY RECORDED:
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
P 1	LSS 10-15%	0-8	BSkd GR	fri SSSPSmP					PS
		8-30	RC MPSBK	fri SSSPSmP					.3 gpd/ft²
		30-60	RCd MWSBK	fri SSSPSmP	—	60"	—	—	
				common SAP Rx					
P 2	LSS 10-15%	0-8	BSkd GR	fri SSSPSmP					PS
		8-33	RC MPSBK	fri SSSPSmP					.3 gpd/ft²
		33-62	RCd MWSBK	fri SSSPSmP	-	62"	—	-	
P 3	LSS 15-20%	0-5	BSkd GR	fri SSSPSmP					PS
		5-26	RC SBK	fri SSSPSmP					.3 gpd/ft²
		26-48	RCd WSBK	fri SSSPSmP	—	48"	PS	-	
		48-62	SLSAPM	fri SSSPSmP					
P 4	LSS 15-20%	0-5	BSkd GR	fri SSSPSmP					.3 gpd/ft²
		5-22	RC SBK	fri SSSPSmP					
		22-38	RCd WSBK	fri SSSPSmP					
		38-60	SLSAPM	fri SSSPSmP	-	38"	PS	-	

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	425 linear	272 linear
System Type(s)	25% Red.	PPBPS
Site LTAR	.3 gpd/ft²	.3 gpd/ft²

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

COMMENTS: