CALCULATIONS

Location ANNISTON PH4

Project Number 01-1005

Lot No: Lot 150

No. of Bedrooms 5

Design Flow 600 $^{gal}/_{day}$

LTAR 0.275 $^{gpd/ft^2}$

25% RED.? (YES OR NO) YES

Supply Line Length 12 ft.

Supply Line Volume 2.088 gal.

Required Feet of Line 545.4545 ft.
Amount of Line from Layout 555 ft.

Gallons per Minute N/A $^{gal}/_{min}$

Required Septic Tank Capacity 1500 gal.
Minimum Standard Tank Size 1500 gal.

Lateral Line Volume 362.415 gal.

Dosing Volume N/A gal.

Note: Dosing Volume based on70% of lateral line volume

Tank Draw Down N/A *Generic Draw Down of 31 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



LEGEND

- Areas contain soils with 24 inches or more of useable material and have potential for conventional, modified conventional and low-pressure pipe (lpp) septic systems.
- House Footprint (All 70' x 70')
- System lines.
- Repair lines.
- TBM.
- Well Location.
- Purposed Pit Location
- RS&ES Pit Location.
- Health Dept. Pit Location.

GRAPHIC SCALE

1" = 60'

60 0 60 120

FOR PRELIMINARY PLANNING PURPOSES ONLY. ALL LOTS WILL REQUIRE FINAL APPROVAL BY THE COUNTY HEALTH DEPARTMENT ON A LOT BY LOT BASIS. THIS MAP SHOULD BY USED AS A GENERAL GUIDE, SOME ADJUSTMENTS WILL BE NECESSARY IN THE FIELD DUE TO SOIL VARIABILITY AND COMPLEX TOPOGRAPHIC FEATURES.
THIS MAP ONLY REFLECTS EXISTING SOIL SUITABILITY FOR ON-SITE SEPTIC TANK SYSTEMS.

PLEASE REFER TO ATTACHED SOIL REPORT FOR ADDITIONAL SITE SPECIFIC INFORMATION

ROLLANS SOIL & ENVIRONMENTAL SERVICES
2120 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX: (704) 278 - 0989
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746 - 5046
EMAIL: ROLLANSFORTCJ@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: ANNISTON, LLC. / ANNISTON PHASE IV

LOCATION/DATE: SHEARER CHAPEL ROAD, IREDELL COUNTY, NORTH CAROLINA, FEBRUARY 2006

JOB # :	01-1005
FILE:	C:\JOBS\01-1005
PROJECT MGR.:	S.A.R.
FIELD WORK:	S.A.R.
DRAWN BY:	S.A.R.

SOIL/SITE EVALUATION

(Continuation Sheet)

Sheet ___ of ___

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

PROPERTY ID #: _____
DATE OF EVALUATION: _____
COUNTY: _____

Anniston Ph IV Lot 150

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZ ON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	SOIL MORPHOLOGY (.1941) .1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	OTHER PROFILE FACTORS .1943 SOIL DEPTH	OTHER PROFILE FACTORS .1956 SAPRO CLASS	OTHER PROFILE FACTORS .1944 RESTR HORIZ	PROFILE CLASS & LTAR
P 150 A	NS 15-20%	0-20	RCMFSBK	FFSSSpSexp	CSap	44	PS	—	PS
		20-44	RYCLWFSBK	FrSSSpSexp					
		44-60	VarslSapm	FrSSSpSexp					.3
		48"	LSAP						
P 150 B	NS 15-20%	0-48	RBCWMABK	FSSp	F[Mn]	48	—	—	PS
		2/21/08	Water in pit @ 45"						.225
P 150 C	NS 15-20%	0-23	RCMMABK	FSSpSexp	lithochr. FSap	48	—	—	PS
		23-48	RYCLVWSBK	FSSpSexp	lithochr. MSap				
									.25
P 150 D	NS 15-20%	0-52	BRCMMABK/SBK	FrSpSexp	F. lithochr. 35+" F[Mn]	52	—	—	PS
									.25-.225
P 150 E	NS 15-20%	0-33	RBCMASBK	FrSSSpSexp	CSap	54	—	—	PS
		33-54	RCLWSBK	FrSSSpSexp					
									.3
			Same						

COMMENTS: _____

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

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

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Niblock APPLICANT: ___
ADDRESS: ___ APPLICATION DATE: ___ DATE EVALUATED: 2/21/08
PROPOSED FACILITY: ___ PROPOSED DESIGN FLOW (.1949): ___ PROPERTY SIZE: ___
LOCATION OF SITE: ___ 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	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	150A	0-20	R C m-w SBK	SS, SP, SE, FR					PS, .3
		20-48	R-Y C L w/SBK	SS, SP, SE, FR					
		48-60	L SL SAP	FR, SS, SP, SE					
2	150P	0-45"	R/B C m-w ABK/SBK	F, SS, SP					PS, .25-.40, .275
3	150E	0-33	R B C m SBK	FR, SS, SP, SE					PS, .3
		33-54	R CL w/SBK	FR, SS, SP, SE					
4									

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)		
System Type(s)		
Site LTAR		

OTHER FACTORS (.1946): ___
SITE CLASSIFICATION (.1948): ___
EVALUATED BY: ___
OTHER(S) PRESENT: ___

ROLLANS *Soil & Environmental Services, Inc.*

470 North Broad St., Suite D, Mooresville, NC 28115 *Phone: (704) 658-1723* *Fax: (704) 658-1724*

Ashley Rollans, NC Licensed Soil Scientist
Mobile: (704) 746-5046
E-mail: Rollansfortcj@aol.com

Brady Freeman, Registered Sanitarian
Mobile: (704) 746-6497
E-mail: bfree209@yahoo.com

Attached is a proposed design for an Accepted (25% reduction) Septic System with gravity distribution for a 5 bedroom single family residence on Lot #150 ANNISTON Subdivision, Iredell County, North Carolina.

Contents: **Page**

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

Design Information
- Design Specifications---------- 2-3
- Layout Specifications---------- 4
- System Tapsheet---------- 5
- Pressure Manifold Diagram---------- 6

Site Plan/System Plan---------- 7

Calculations---------- 8

Profile Descriptions---------- 9

February 19, 2008
Project No. 01-1005
Design By: Rollans Soil and Environmental Services

FOR WASTEWATER TREATMENT

Owner: Ridgeline Development

Address: 17825 Statesville Rd. Suite 112
Cornelius, NC 28031
Phone: 704 362 5007
County: Iredell
Location: ANNISTON Lot # 150

Source of Wastewater Flow: 5 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 600 gpd
System Flow: N/A

Design Specifications

Drainfield Size: 555
Loading Rate: 0.275
Depth of Gravel in Trench: NA (25% reduction)
Gravel Size: NA (25% reduction)
Trench Depth: 36 in.
Trench Width: 36 in.
Septic Tank Size: 1500 gal.
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: N/A
Supply Manifold: DROP BOX
Supply Manifold Length: N/A
Supply Manifold Volume: N/A

Recommended Float Controls: N/A
N/A
Recommended Control Panel: N/A
N/A

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

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.

ANNISTON Lot # 150
PRESSURE MANIFOLD DESIGN

DESIGN FLOW:	600
SOIL APPLICATION RATE:	0.275
TOTAL AREA TRENCH BOTTOM:	1665
TOTAL LATERAL LENGTH:	555
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	545.4545455
SUPPLY LINE LENGTH:	12
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1500 gal.
PUMP TANK SIZE:	N/A

**Pump tank draw down based on a volume basis of 31 gallons per inch. Draw down may vary among pump tank manufacturers.*

ANNISTON LOT #150

Project #: 01-1005

LAYOUT FOR 5 BEDROOM HOME

February 19, 2008

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	***RED***			N/A	N/A	***64***	***60***
2	***ORANGE***			N/A	N/A	***68***	***65***
3	***BLUE***			N/A	N/A	***74***	***70***
4	***PINK***			N/A	N/A	***75***	***75***
5	***PINK***			N/A	N/A	***75***	***75***
6	***RED***			N/A	N/A	***81***	***80***
7	***RED***			N/A	N/A	***81***	***80***
8	ORANGE			N/A	N/A	123	123
9	***ORANGE***			N/A	N/A	***51***	***50***
10	BLUE			N/A	N/A	145	145
11	PINK			N/A	N/A	115	115
12	RED			N/A	N/A	100	100
13	ORANGE			N/A	N/A	100	100
14	BLUE			N/A	N/A	61	61
					Total	**1213**	**1199**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION
* ***System***	***555***	***0.275***	***ACCEPT.***	***0.275***	***25% RED.***	**GRAVITY DISTRIBUTION**
Repair	644	0.275	*MOD.*	0.275	PPBPS	LOW PRESSURE

25% Red will Fit

Notes:

** TBM located on angle point of lot (see site plan)
**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