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
E-mail: Rollansfortcj@aol.com

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

Attached is a proposed design for a PPBPS Septic System with low pressure distribution for a 4 bedroom single family residence on Lot 76 in Anniston Subdivision Iredell County, North Carolina.

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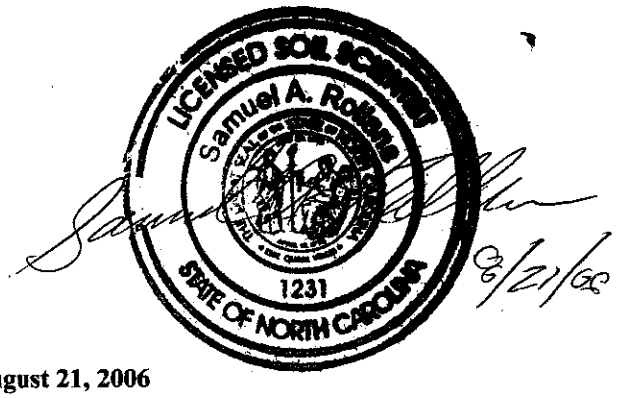
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August 21, 2006
Project No.01-1005
Design By: Rollans Soil & Environmental Services

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: Anniston LLC

Address: 17824 Statesville Rd STE 112
Conover, NC 28031

Phone:
County: Iredell
Location: Anniston Subdivision Lot 76

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 480 gpd
System Flow: 34.03

Design Specifications

Drainfield Size: 360
Loading Rate: 0.225 gpd/ft.^{2}
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: 1000

Estimated Supply Line Length: 271
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 47.15
Dosing Volume: 200.20
Supply Manifold: N/A
Supply Manifold Length: N/A
Supply Manifold Volume: N/A

Recommended Float Controls: SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel: SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.

Pressure Head: 2 ft.
Friction Head: 6.42
Elevation Head: 20.00
Total Dynamic Head: 32.69

Threaded Union: In Tank
Gate Valves: 1 in Tank
1 per lateral
Check Valves: In Tank
Anti-Siphon Hole: NA
Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services

Anniston Subdivision Lot 76
LP PPBPS

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.225 gpd/ft.2
TOTAL AREA TRENCH BOTTOM:	1080
TOTAL LATERAL LENGTH:	360
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	355.5555556
SUPPLY LINE LENGTH:	271
TOTAL DYNAMIC HEAD:	32.69
MANIFOLD SIZE:	N/A
DOSING VOLUME:	200.20
PUMP TANK DRAW DOWN*:	6.9
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000

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

Anniston Lot 76

Project #:01-1005

LAYOUT FOR 4 BEDROOM HOME

August 21, 2006

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		1.7			100.00		
INSTR. 1			101.70				
HOUSE CNR				9.00	92.70		
P. TANK				18.00	83.70		
1	***BLUE***			***3.00***	***98.70***	*37*	*35*
2	***PINK***			***4.00***	***97.70***	***80***	***80***
3	***RED***			***4.90***	***96.80***	*132*	***85***
4	***ORANGE***			***5.90***	***95.80***	*97*	***85***
5	***BLUE***			***6.80***	***94.90***	*79*	*75*
6	PINK			7.50	94.20	88	88
7	RED			8.40	93.30	95	95
8	ORANGE			9.30	92.40	117	117
9	BLUE			10.10	91.60	94	94
					Total	819	754

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
****System***	***360***	***0.225***	***MOD.***	***0.225***	***PPBPS***	***LOW PRESSURE***
Repair	394	0.225	MOD.	0.225	PPBPS	LOW PRESSURE

Notes:

** TBM located top of ground (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

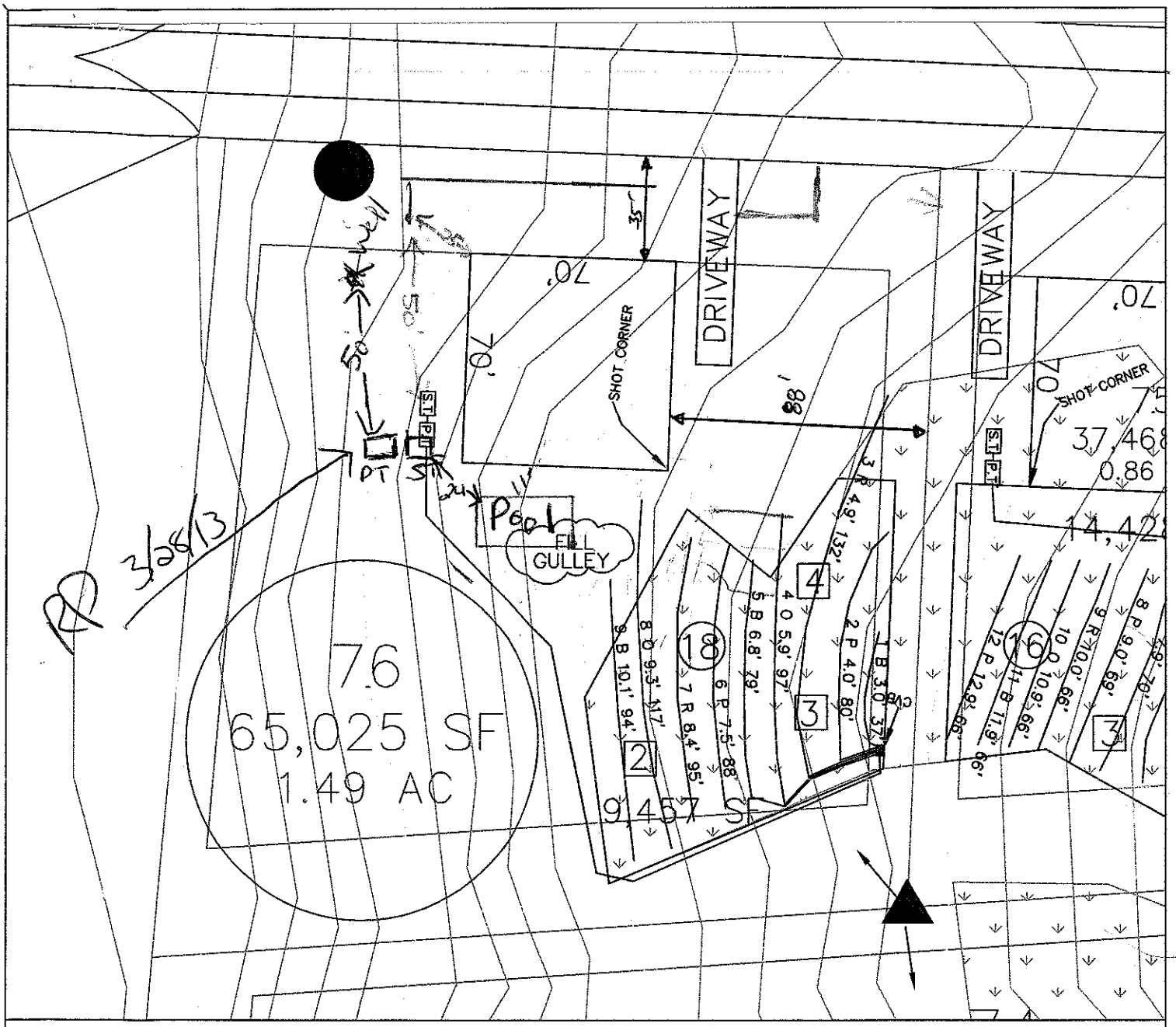
LP PPBPS TAPSHEET - Anniston Lot 76

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
1	***BLUE***	98.7	***35***	0.156	**0.41**	105	8
2	***PINK***	97.7	***80***	0.156	**0.41**	240	18
3	***RED***	96.8	***85***	0.156	**0.41**	255	20
4	***ORANGE***	95.8	***85***	0.156	**0.41**	255	20
5	***BLUE***	94.9	***75***	0.156	**0.41**	225	17
							83
	total	**feet =**	**360**	**gal/min =**	**34.03**		

Des. Flow	**480**
Pump Run=	**5.88**
soil LTAR	**0.225**
LTAR +5%	**0.23625**
LTAR with mod.	**0.45**
LTAR with mod.. + 5%	**0.4725**

.156 equals 5/32 inch hole



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.
- (25) RS&ES Pit Location.
- Well Location.
- [28] Health Dept. Pit Location.

GRAPHIC SCALE
1" = 50'

50 0 50 100

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

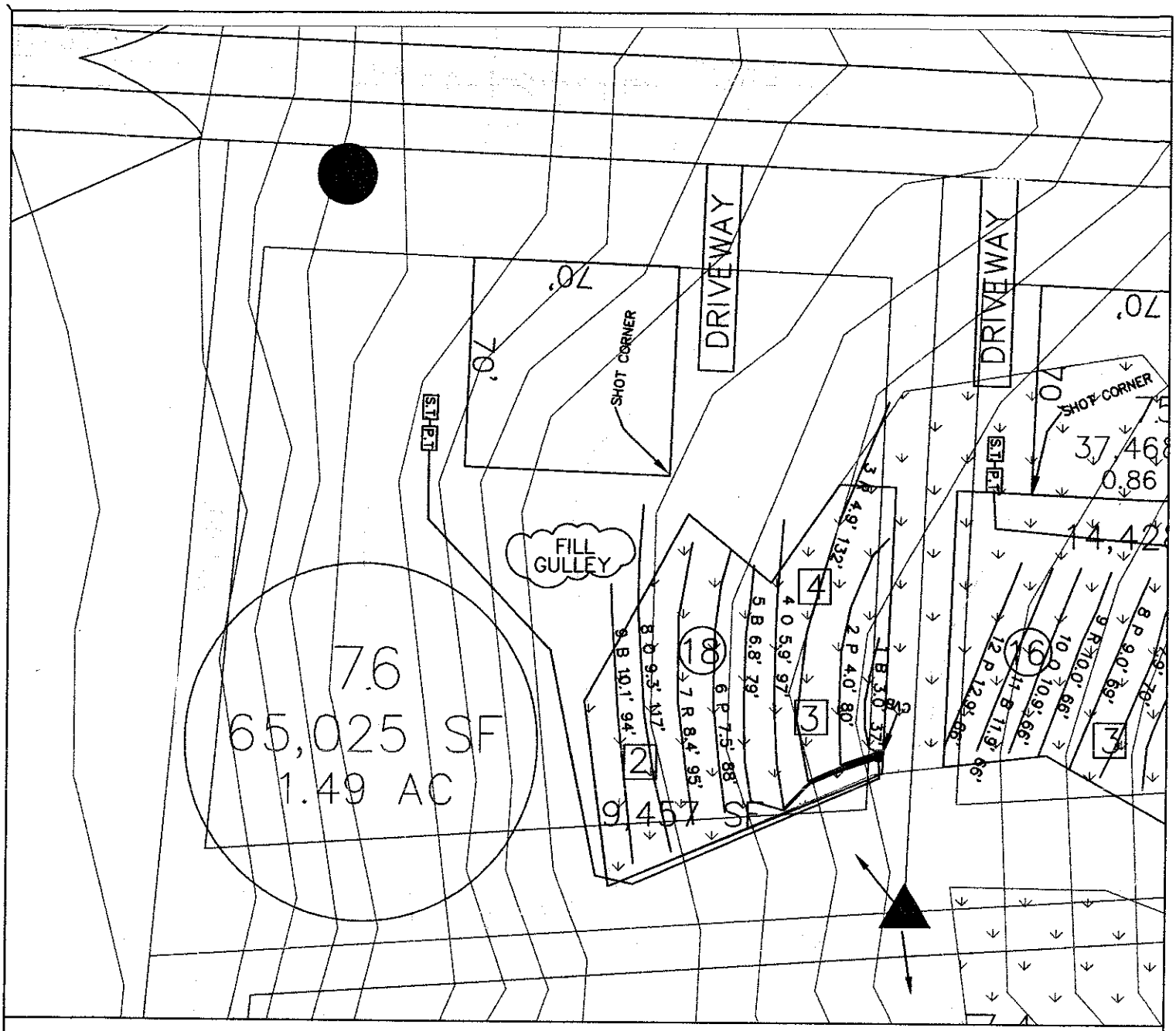
ROLLANS SOIL & ENVIRONMENTAL SERVICES
2120 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX: (704) 278 - 0989
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746 - 5046
EMAIL: ROLLANSFORTCJ@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: ANNISTON, LLC. / ANNISTON PHASE II

LOCATION/DATE: SHERRER CHAPEL ROAD, IREDELL COUNTY, NORTH CAROLINA, JULY 2006

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



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CALCULATIONS

Location Anniston Subdivision

Project Number

Lot No: Lot 76

No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.225	$^{gal}/_{ft^2\,day}$
PPBPS? (YES OR NO)	YES	
Supply Line Length	271	ft.
Supply Line Volume	47.154	gal.
Required Feet of Line	355.5556	ft.
Amount of Line from Layout	360	ft.
Gallons per Minute	34.03	$^{gal}/_{min}$
	Note: Flow/hole (.41gpm) x # of panels	
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Panel Volume	3.6	gal.
# of Panels	83	
Dosing Volume	200	gal.
	Note: Dosing Volume based on 67% of # of panels times 3.6 gal/panel	
Tank Draw Down	6.9	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	5.88	minutes
Elevation Head	20	ft.
Pressure Head	2	ft.
Friction Factor	2.37	ft./100 ft. *(From the interpolater.)*
Friction Head	6.42	ft.
Total Dynamic Head (+15%)	32.69	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