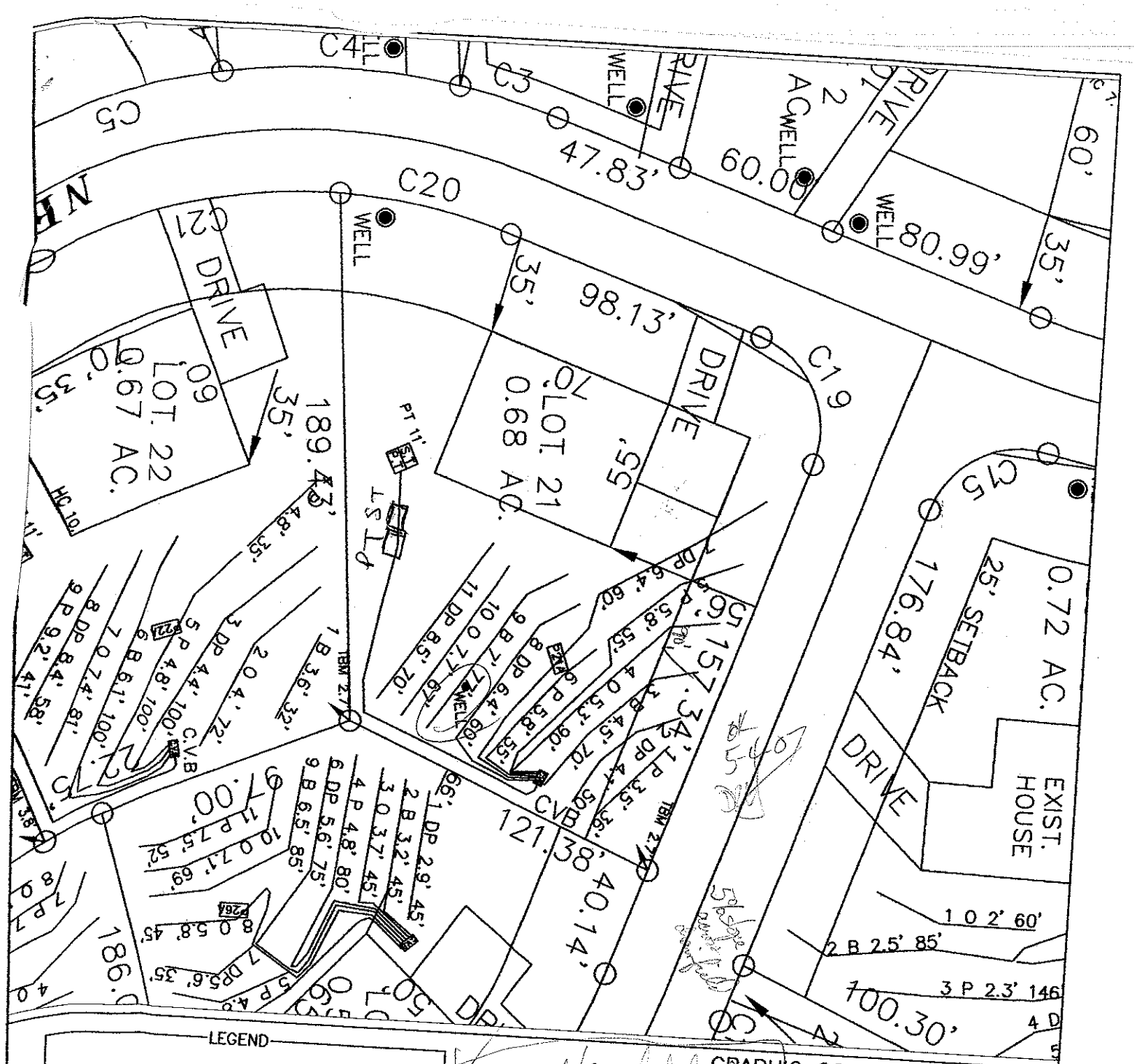


LEGEND

House Box.

System lines.

Repair lines.

House Corner Shot.

T.B.M.

Well must be property abandoned

GRAPHIC SCALE

1" = 50'

50 0 50 100

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PLEASE REFER TO ATTACHED SOIL REPORT FOR ADDITIONAL SITE SPECIFIC INFORMATION

ROLLANS SOIL & ENVIRONMENTAL SERVICES
2129 GRAHAM ROAD
MOUNT ULLA, NC 28125
PHONE/FAX: (704)278-9989
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704)796-5046
EMAIL: ROLLANSFORTC@AOL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: ORCHARDS OF LLO / HIGHLAND RIDGE

LOCATION/DATE: PERTH ROAD, IREDELL COUNTY, NORTH CAROLINA, FEBRUARY 2007

JOB # : 01-1329
FILE: C:\JOBS\01-1329
PROJECT MGR.: C.B.F.
FIELD WORK: C.B.F. & A.L.P.
DRAWN BY: C.B.F.

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: Orchard Farms LLC

Address: 227 Hideaway Lane
Mooresville, NC 28117

Phone: 704-201-6465

County: Iredell

Location: HIGHLAND RIDGE LOT #21

Source of Wastewater Flow: 4 Bedroom Single Family Residence

Estimated Gallons Per Day Flow: 480

System Flow: 30.75

Design Specifications

Drainfield Size: 320

Loading Rate (gpd/ft.^{2}): 0.25

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: 160

Supply Line Diameter: 2 in. SCH 40 PVC

Supply Line Volume: 27.84

Dosing Volume: 180.90

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: 2.85

Elevation Head: 8.70

Total Dynamic Head: 15.58

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

HIGHLAND RIDGE LOT #21
LP PPBPS

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.25
TOTAL AREA TRENCH BOTTOM:	960
TOTAL LATERAL LENGTH:	320
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	320
SUPPLY LINE LENGTH:	160
TOTAL DYNAMIC HEAD:	15.58
MANIFOLD SIZE:	N/A
DOSING VOLUME:	180.90
PUMP TANK DRAW DOWN*:	8.6
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.*

HIGHLAND RIDGE LOT #21

Project #: 01-1329

LAYOUT FOR 4 BEDROOM HOME

March 2, 2007

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		2.7			100.00		
INSTR. 1			102.70				
HOUSE CNR				6.80	95.90		
P. TANK				9.00	93.70		
1	PINK			3.50	99.20	36	35
2	DARK PINK			4.10	98.60	50	50
3	BLUE			4.50	98.20	70	70
4	***ORANGE***			***5.30***	***97.40***	***93***	***90***
5	***PINK***			***5.80***	***96.90***	***58***	***55***
6	***PINK***			***5.80***	***96.90***	***58***	***55***
7	***DARK PINK***			***6.40***	***96.30***	***71***	***60***
8	***DARK PINK***			***6.40***	***96.30***	***71***	***60***
9	BLUE			7.00	95.70	77	75
10	ORANGE			7.70	95.00	67	65
11	DARK PINK			8.50	94.20	70	70
					Total	**721**	**685**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR	TRENCH SYSTEM	DISTRIBUTION
**** System***	***320***	***0.25***	***MOD.***	***0.250***	***PPBPS***	***LOW PRESSURE***
Repair	365	0.25	MOD.	0.250	PPBPS	LOW PRESSURE

Notes:

** TBM located top of ground at EIP at corner 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

LP PPBPS TAPSHEET -Highland Ridge LOT 21

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
4	ORANGE	97.4	90	0.156	0.41	270	21
5	PINK	96.9	55	0.156	0.41	165	13
6	PINK	96.9	55	0.156	0.41		13
7	DARK PINK	96.3	60	0.156	0.41	165	14
8	DARK PINK	96.3	60	0.156	0.41	180	14
	total	feet =	320	gal/min =	30.75		75
			Des. Flow	480			
			Pump Run=	5.88			
			soil LTAR	0.25			
			LTAR +5%	0.2625			
			LTAR with mod.	0.5			
			LTAR with mod.. + 5%	0.525			

.156 equals 5/32 inch hole

CALCULATIONS

Location Highland Ridge

Project Number 01-1329

Lot No: Lot 21

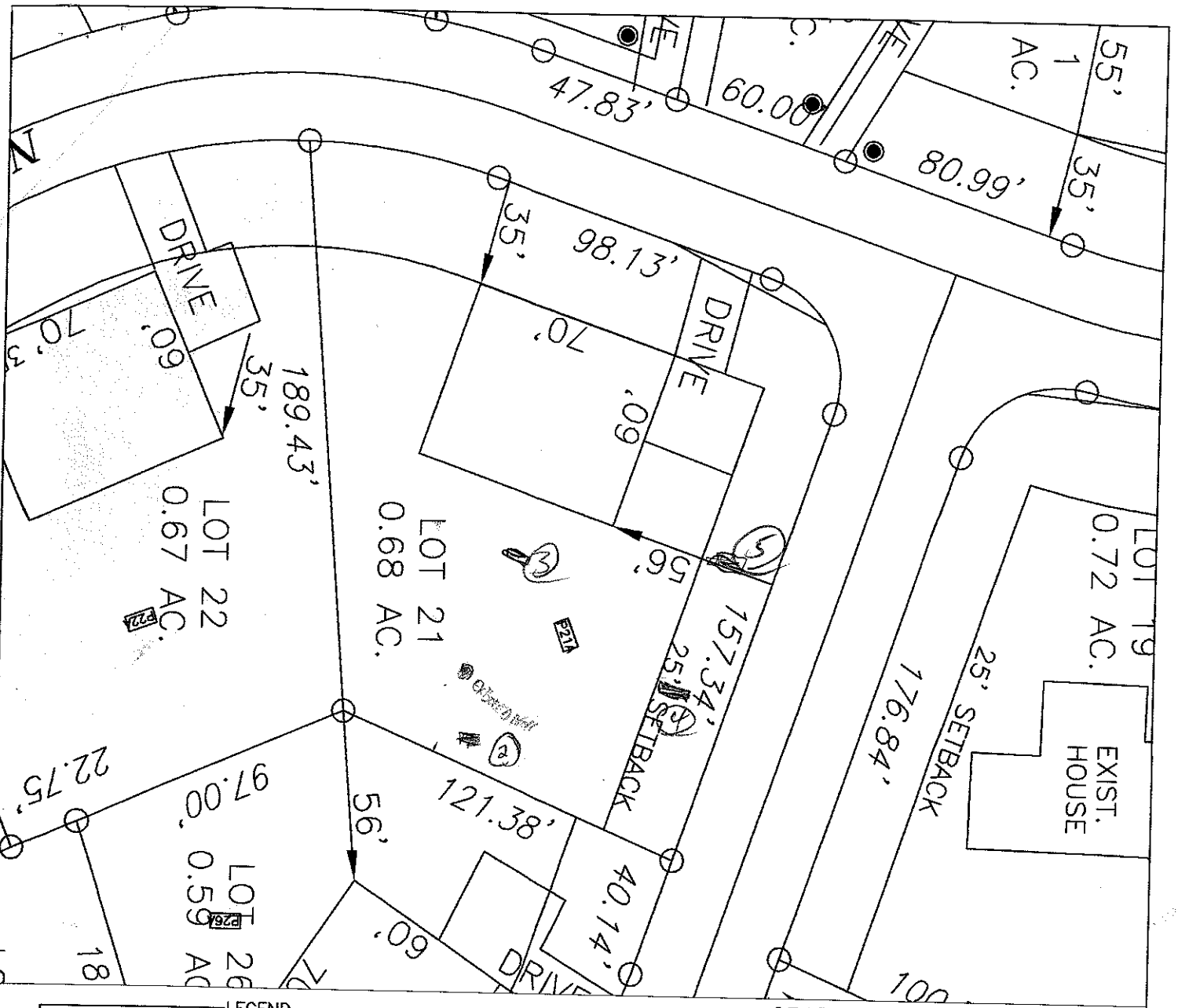
No. of Bedrooms	4
Design Flow	480 $^{gal}/_{day}$
LTAR	0.250 $^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES
Supply Line Length	160 ft.
Supply Line Volume	27.84 gal.
Required Feet of Line	320 ft.
Amount of Line from Layout	320 ft.
Gallons per Minute	30.75 $^{gal}/_{min}$
Required Septic Tank Capacity	1000 gal.
Minimum Standard Tank Size	1000
Panel Volume	3.6 gal.
# of Panels	75
Dosing Volume	180.90 gal.

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

Tank Draw Down	8.6 *Generic Draw Down of 21 gal.per in.*
Pump Run Time	5.88 minutes
Elevation Head	8.7 ft.
Pressure Head	2 ft.
Friction Factor	1.78 ft./100 ft. *(From the interpolater.)*
Friction Head	2.85 ft.
Total Dynamic Head (+15%)	15.58 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



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MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: 90 OF NC / HIGHLAND RIDGE

LOCATION/DATE: PERTH ROAD IREDELL COUNTY, NORTH CAROLINA FEBRUARY 2007

JOB # : 01-1329
FILE: C:\JOBS\01-1329
PROJECT MGR.: C.B.F.
FIELD WORK: C.B.F. & A.L.P.
DRAWN BY: C.B.F.

SOIL/SITE EVALUATION

(Continuation Sheet)

Sheet ___ of ___

DEPARTMENT OF ENVIRONMENT
AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL HEALTH

lot 21 Highland Ridge

PROPERTY ID #: ___
DATE OF EVALUATION: 1/07
COUNTY: Iredell

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
1 A	LSS 0-5%	0-26	RC MSBK	fri SSSP/SMP	-	56	-	-	PS .3
		26-56	RCL MPSBK	fri SSSP/SMP					
				common SAP					
2		0-22	mod thick sol mod 2	fr SSSP SMP					.3
		22-58	m-wk SBK cl	fr SSSP					
3		0-5	gr brn sl	fr SSSP					.3
		5-26	m wk SBK cl	fr SSSP SMP					
		26-50	(BC) wk fSBK cl + SAP	fr SSSP					
4		0-7	gr brn sl	fr SSSP					.25
		7-17	wk SBK c	fr SSSP few yel brn mott					
		17-44	wk mpSBK c	fi-fr SSSP/SMP common yel brn mott					
		44-53	wk SBK cl + SAP	fr SSSP					
5		0-5	gr brn sl	fr SSSP					.25-.225
		5-25	m wk SBK cl	fr SSSP SMP few yel brn mott					
		25-60	m wk SBK cl	fr SSSP common SAP					

COMMENTS: ___