

MICHAEL ATHANAS & ASSOCIATES
LICENSED SOIL SCIENTIST
361 Ennis Rd.
Weddington, NC 28173
(704) 576-3887

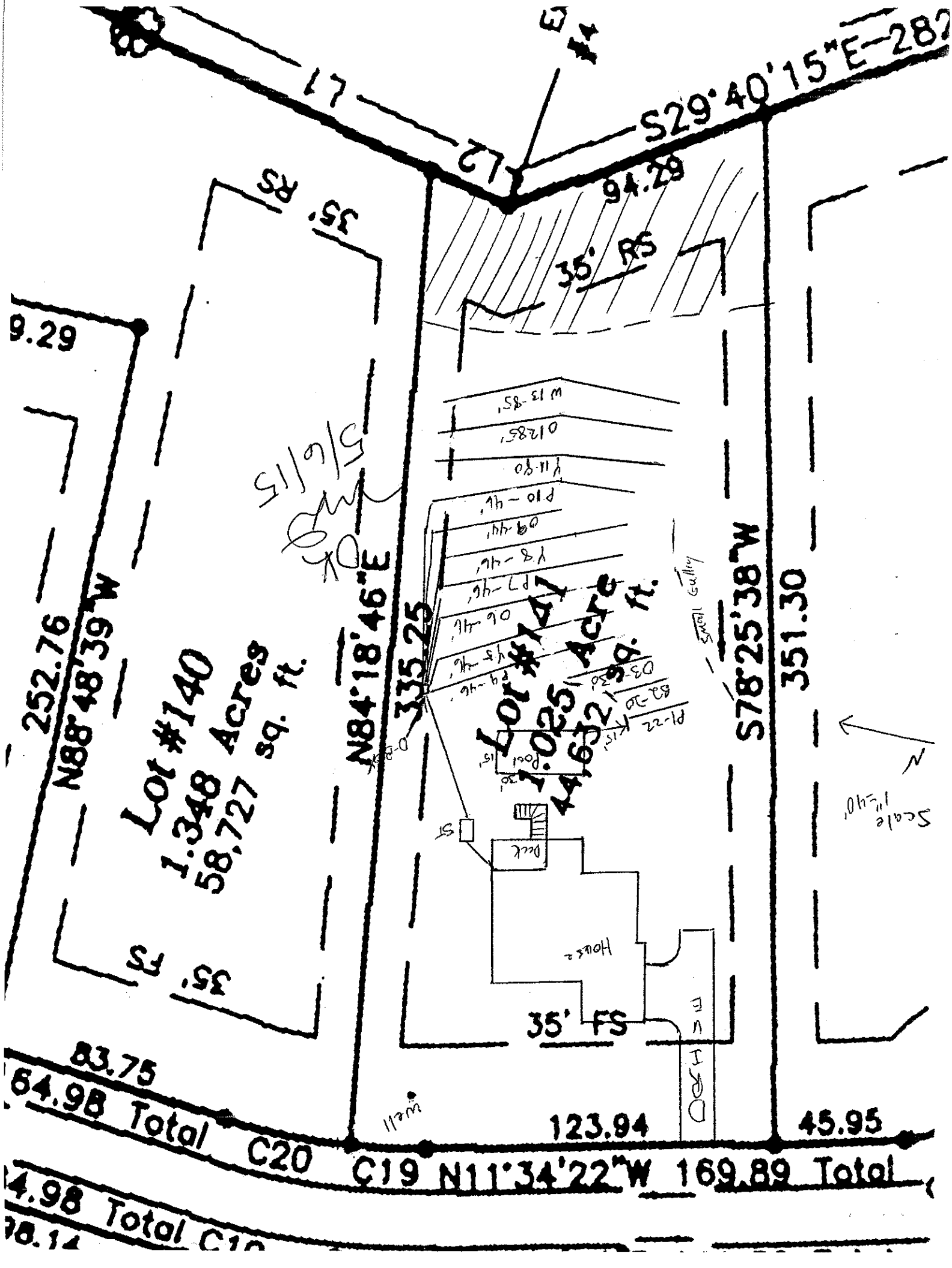
Reference: Data Sheet for Anniston Lot 141, 301 Walking Horse Trail
House Footprint: See attached
Building Setbacks: 35' front/rear, 15' side
Water Source: Private well
Number of Bedrooms: 4/480 GPD
Predetermined LTAR: 0.25 GPD/FT2 (ICHD)
Proposed System Type: PPBPS
Proposed Repair System Type: PPBPS
Distribution: Gravity-Distribution box
Septic/Pump Tank Size: 1000 gallons
Proposed Trench Bottom: 36"

Line	Design Length	Actual Length
Pink 1		22'
Blue 2		20'
Orange 3		30'
Pink 4	**46'**	**70'**
Yellow 5	**46'**	**75'**
Orange 6	**46'**	**75'**
Pink 7	**46'**	**75'**
Yellow 8	**46'**	**70'**
Orange 9	**44'**	**44'**
Pink 10	**46'**	**70'**
Yellow 11		80'
Orange 12		85'
White 13		85'

OK
MD
5/6/15

Initial System: 320' **Repair System:** 322'

Comments:
10 panels per line


L1
L2
S29°40'15"E 282
94.29
35' RS
35' RS
35' FS
35' FS
9.29
252.76
N88°48'39"W
Lot #140
1.348 Acres
58,727 sq. ft.
N84°18'46"E
335.25
Lot #141
1.025 Acre
44,632 sq. ft.
S78°25'38"W
351.30
Scale 1"=40'
N
Deck
House
Shed
Well
83.75
64.98 Total C20
C19 N11°34'22"W 169.89 Total
123.94
45.95



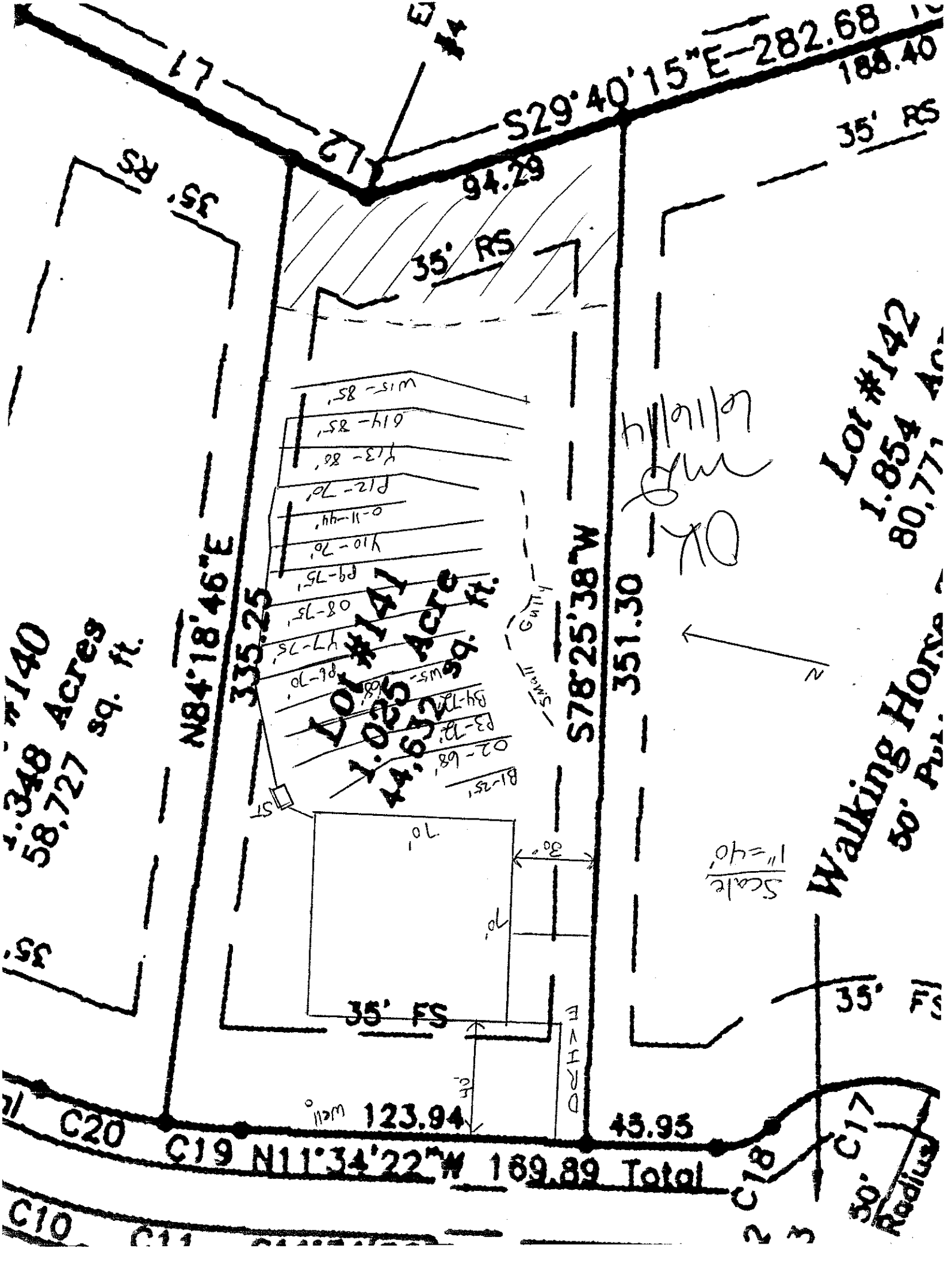
MICHAEL ATHANAS & ASSOCIATES
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561 Ennis Rd.
Weddington, NC 28173
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Reference: Data Sheet for Anniston SD, Lot 141
House Footprint: 70' x 70'
Building Setbacks: 35' front/rear, 15' side
Water Source: Private well
Number of Bedrooms: 5/600 GPD
Predetermined LTAR: 0.25 GPD/FT2 previously approved
Proposed System Type: 25% Reduction
Proposed Repair System Type: PPBPS
Distribution: Gravity-Drop boxes/end cap
Septic Tank Size: 1500 gallons
Proposed Trench Bottom: 24-36"

Line	Design Length	Actual Length
Blue 1		25'
Orange 2		68'
Pink 3		72'
Blue 4		72'
White 5		68'
Pink 6	**70'**	**75'**
Yellow 7	**75'**	**80'**
Orange 8	**75'**	**80'**
Pink 9	**75'**	**75'**
Yellow 10	**70'**	**72'**
Orange 11		44'
Pink 12	**70'**	**72'**
Yellow 13	**80'**	**81'**
Orange 14	**85'**	**85'**
White 15		85'

Initial System: 600' **Repair System:** 434'

Comments:


S29°40'15"E 282.68
94.29
35' RS
N84°18'46"E
335.25
S78°25'38"W
351.30
Lot #141
1.025 Acre
44,632 sq. ft.
Lot #142
1.854
80,77
Walking Horse
Lot #140
1.348 Acres
58,727 sq. ft.
35' FS
123.94
43.95
N11°34'22"W 169.89 Total
C20
C19
C18
C17
C10
Scale
1"=40'
30'
70'
DRIVE

ROLLANS *Soil & Environmental Services, Inc.*

470 N Broad Street, Suite D, Mooresville, NC 28115 Phone: (704) 658-1723 Fax: (704) 658-1724

Ashley Rollans, NC Licensed Soil Scientist
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Email: rollans.ashley@yahoo.com

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

Attached is a proposed design for a PPBPS Septic System with low pressure distribution for a 5 bedroom single family residence on Lot # 141 in Anniston Subdivision, Iredell County, North Carolina.

Contents: **Page**

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

Design Information
- Design Specifications---------- 2-3
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Site Plan/System Plan---------- 6-7

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April 3, 2008
Project #: 01-1005
Design By: Rollans Soil & Environmental Services

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: Niblock Development Corp.

Address: 300 McGill Ave. NW
Concord, NC 28027
Phone: 704 361 1201
County: Iredell
Location: ANNISTON LOT 141

Source of Wastewater Flow: 5 Bedroom Single Family Residence
Estimated Gallons Per Day Flow: 600
System Flow: 41.41

Design Specifications

Drainfield Size: 445
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: 1500
Pump Tank Size: 1500

Estimated Supply Line Length: 41
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 7.13
Dosing Volume: 154.37
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: 1.43
Elevation Head: 0.00
Total Dynamic Head: 3.94

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 LOT 141

LP PPBPS

DESIGN FLOW (gpd):	600
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.25
TOTAL AREA TRENCH BOTTOM:	1335
TOTAL LATERAL LENGTH:	445
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	41
TOTAL DYNAMIC HEAD:	3.94
MANIFOLD SIZE:	N/A
DOSING VOLUME:	154.37
PUMP TANK DRAW DOWN*:	5.3
SEPTIC TANK SIZE:	1500
PUMP TANK SIZE:	1500

**Pump tank draw down based on a volume basis of 29 gallons per inch. Draw down may vary among pump tank manufacturers.*

ANNISTON LOT 141

Project #: 01-1005

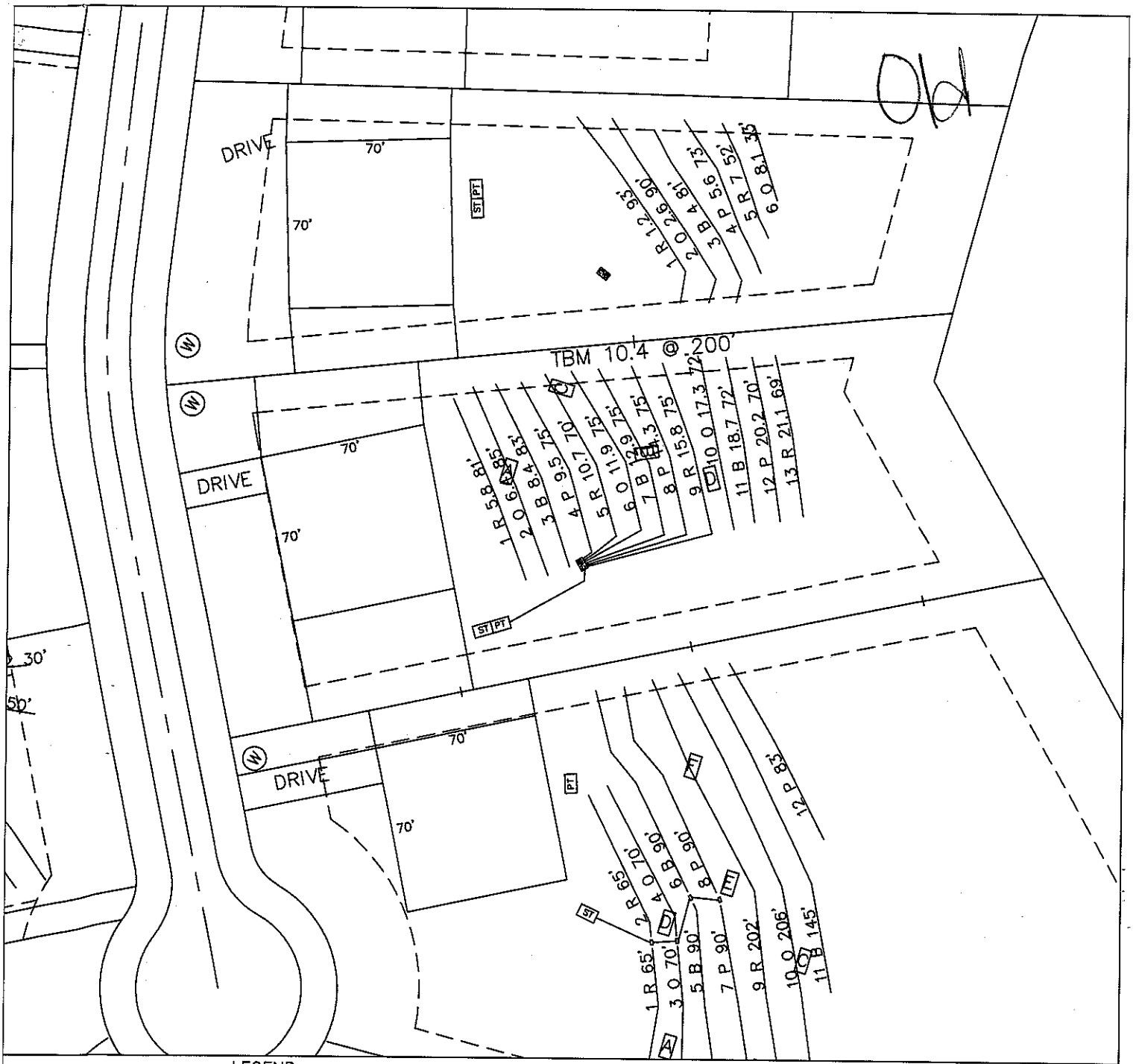
LAYOUT FOR 5 BEDROOM HOME

April 3, 2008

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		14.9			100.00		
INSTR. 1			114.90				
HOUSE CNR				3.50	111.40		
P. TANK				4.20	110.70		
1	RED			5.80	109.10	81	81
2	ORANGE			6.40	108.50	85	85
3	BLUE			8.40	106.50	83	83
4	***PINK***			***9.50***	***105.40***	***78***	***75***
5	***RED***			***10.70***	***104.20***	***74***	***70***
6	***ORANGE***			***11.90***	***103.00***	***75***	***75***
7	***BLUE***			***12.90***	***102.00***	***76***	***75***
8	***PINK***			***14.30***	***100.60***	***75***	***75***
9	***RED***			***15.80***	***99.10***	***75***	***75***
10	ORANGE			17.30	97.60	72	72
11	BLUE			18.70	96.20	72	72
12	PINK			20.20	94.70	70	70
13	RED			21.10	93.80	69	69
					Total	**985**	**977**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
**** System***	***445***	***0.250***	***MOD.***	***0.250***	***PPBPS***	***LOW PRESSURE***
Repair	532	0.250	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



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.
- A — RS&ES Pit Location.
- 25 — RS&ES Boring Location.
- 28 — Health Dept. Pit Location.

GRAPHIC SCALE

0 1" = 60'

60 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

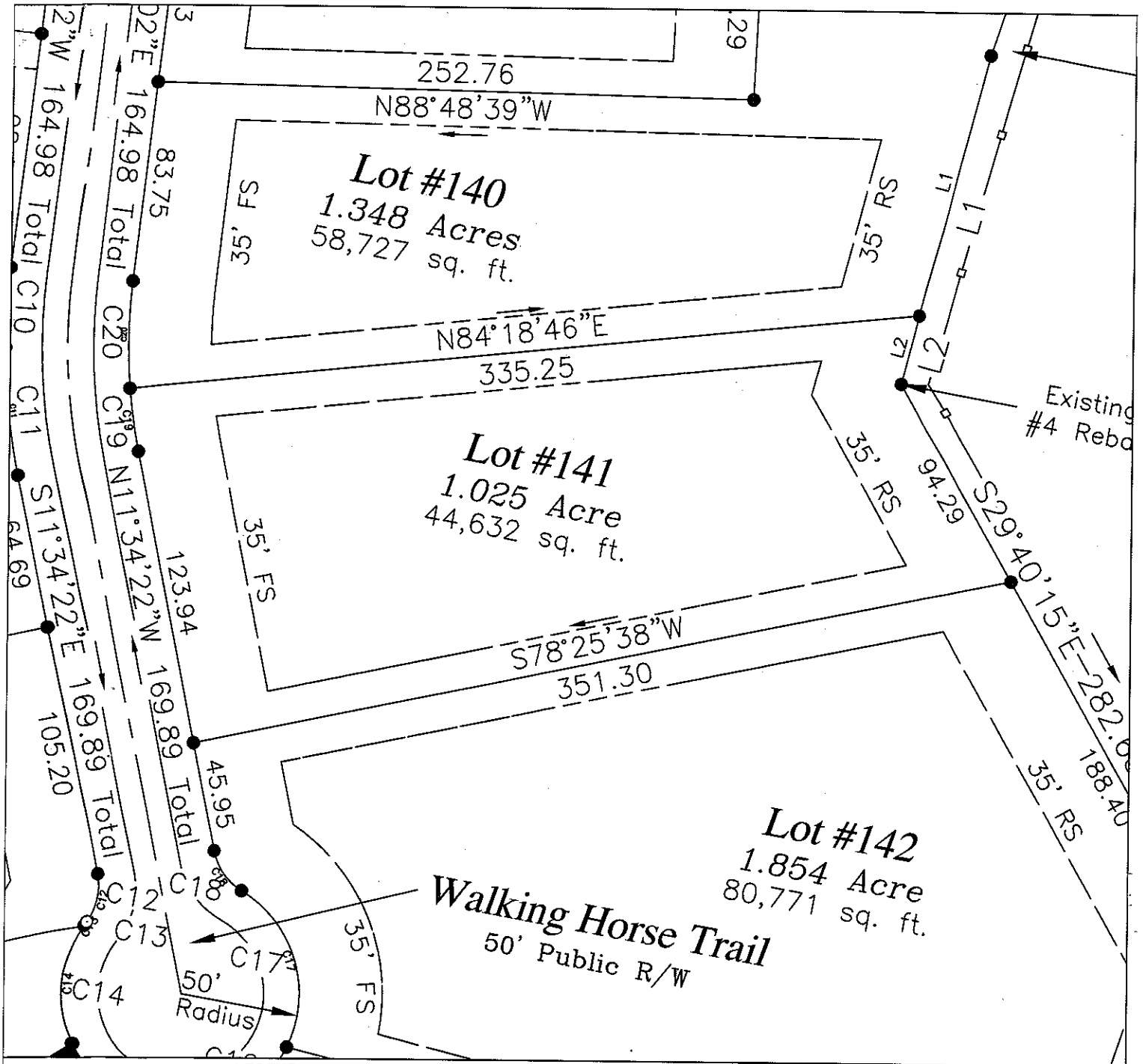
ROLLANS SOIL & ENVIRONMENTAL SERVICES
470 NORTH BROAD ST., SUITE D
MOORESVILLE, NC 28115
PHONE: 704.658.1723 FAX: 704.658.1724
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746 - 5046
EMAIL: ROLLANS@WINDSTREAM.NET

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

LOCATION/DATE: SHEARER CHAPEL ROAD IREDELL COUNTY, NORTH CAROLINA APRIL 2008

PROJECT NAME: NIBLOCK DEVEOPMENT CORP. / ANNISTON PHASE IV

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



LEGEND

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CALCULATIONS

Location ANNISTON PH IV

Project Number 01-1005

Lot No: Lot 141

No. of Bedrooms	5	
Design Flow	600	$^{gal}/_{day}$
LTAR	0.250	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	YES	
Supply Line Length	41	ft.
Supply Line Volume	7.134	gal.
Required Feet of Line	400	ft.
Amount of Line from Layout	445	ft.
Gallons per Minute	41.41	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
	1500	gal.
Panel Volume	3.6	gal.
# of Panels	64	
Dosing Volume	154.37	gal.

Note: Dosing Volume based on 67% of # of panels times 3.6 gal/panel

Tank Draw Down	5.3	*Generic Draw Down of 29 gal.per in.*
Pump Run Time	3.73	minutes
Elevation Head	0	ft.
Pressure Head	2	ft.
Friction Factor	3.48	ft./100 ft. *(From the interpolater.)*
Friction Head	1.43	ft.
Total Dynamic Head (+15%)	3.94	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 #: 4467407246
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Niblock Development Corp. APPLICATION DATE: ___
ADDRESS: 300 McGill Ave. NW Concord NC 28027 DATE EVALUATED: 3/18/08
PROPOSED FACILITY: 5BR PROPOSED DESIGN FLOW (.1949): 600gpd 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	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
P141 A 4	4/6-10%	0-24	RBC mnAlk/sbk	FrSSPSEXP	f [Mn]	52	UN	—	PS-52 0.25
		24-52	RCl wmAlk/sbk	FrSSSPSEXP	f sap				
		52-64	very cl mass	" " " "					
P141 B 2	4/6-10%	0-39	RBC mmAlk	FrSSP SEXP	-f[Mn]	64	—	—	PS 0.25
		39-64	RY cl vwAlk	FrSSSPSEXP	-f yes -msap				
P141 C 3	4/6-10%	0-18	Rc wmAlk/sbk	FrSSSPSEXP	fsap	40	PS	—	PS 0.25
		18-40	RY cl vwsAlk	" " " "	-msap				
		40-68	very l mass	" " " "	-C,C. incl.				
P141 D 4	4/6-10%	0-40	RBC mnAlk	FrSSPSEXP	-f Mn -fsap	76	—	—	PS 0.25
		40-70	RY cl vwsAlk	F SSP SEXP	-Csap				

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	PPBAS	PPBAS
Site LTAR	0.25	0.25

OTHER FACTORS (.1946): ___
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: RJS, ES
OTHER(S) PRESENT: ___

COMMENTS: ___