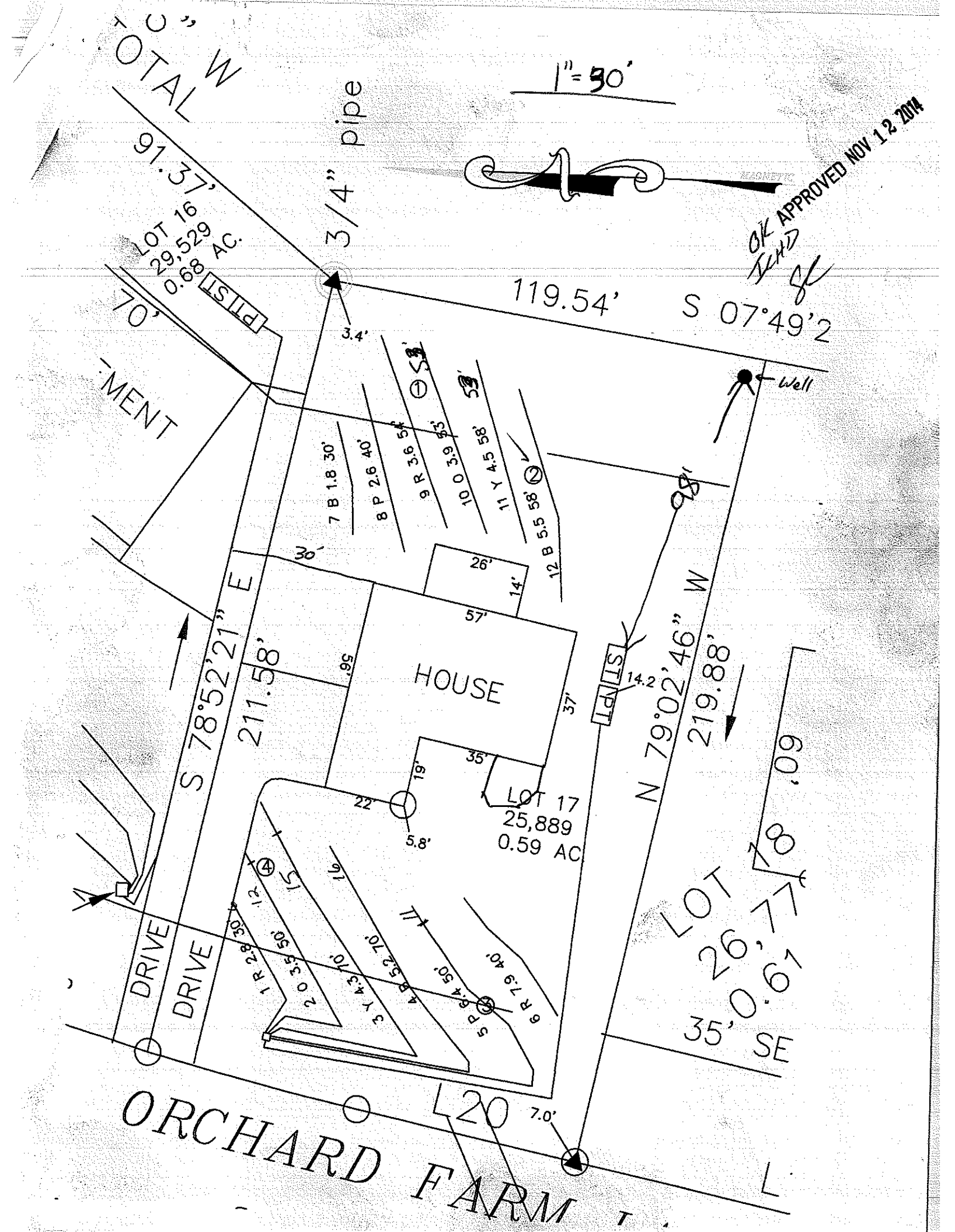

1" = 30'
APPROVED NOV 12 2014
OK
TOTAL
91.37'
3/4" pipe
LOT 16
29,529
0.68 AC.
PT ST
70'
MENT
119.54'
S 07°49'2
3.4'
Well
7 B 1.8 30'
8 P 2.6 40'
9 R 3.6 54'
10 O 3.9 53'
11 Y 4.5 58'
12 B 5.5 58'
98'
30'
26'
14'
57'
S 78°52'21" E
211.58'
.95'
HOUSE
37'
ST PT
14.2
N 79°02'46" W
219.88'
35'
19'
22'
5.8'
LOT 17
25,889
0.59 AC
.09'
78'
LOT
26.77
35'0.67
35' SE
DRIVE
DRIVE
1 R 2.8 20'
2 O 3.5 50'
3 Y 4.3 70'
4 B 5.2 70'
5 P 6.4 50'
6 R 7.9 40'
20
7.0'
ORCHARD FARM

LP PPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: LOUIS CARPENTER

Address: P.O. Box 690027
Charlotte, NC 28227

Phone: 704.545.4652
County: Iredell
Location: THE ORCHARDS Subdivision Lot #17

Source of Wastewater Flow: 4 Bedroom Single Family Residence
Estimated Daily Wastewater Production: 480 gpd
System Flow: 25.54615385

Design Specifications

Drainfield Size: 270
Loading Rate: 0.3 gpd/ft.^{2}
Depth of Gravel in Trench: NA (PPBPS)
Gravel Size: NA (PPBPS)
Trench Depth: ~~30 in.~~ 36"
Trench Width: 24 in.
Septic Tank Size: 1000
Pump Tank Size: 1000

Estimated Supply Line Length: 182
Supply Line Diameter: 2 in. SCH 40 PVC
Supply Line Volume: 31.67
Dosing Volume: 151.96
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: 2.31
Elevation Head: 16.40
Total Dynamic Head: 23.82

Threaded Union: In Tank
Gate Valves: 1 in Tank
1 per lateral (4)
Check Valves: In Tank
Anti-Siphon Hole: NA

THE ORCHARDS Subdivision Lot #17

LP PPBPS

DESIGN FLOW:	480
SOIL APPLICATION RATE:	0.3 gpd/ft.2
TOTAL AREA TRENCH BOTTOM:	[redacted] 540
TOTAL LATERAL LENGTH:	270
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	266.6666667
SUPPLY LINE LENGTH:	182
TOTAL DYNAMIC HEAD:	23.82
MANIFOLD SIZE:	N/A
DOSING VOLUME:	151.96
PUMP TANK DRAW DOWN*:	7.2
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.*

THE ORCHARDS LOT 17

Project #: 01-2054

LAYOUT FOR 4 BEDROOM HOME — November 5, 2014

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		7.0			100.00		
INSTR. 1			107.00				
HOUSE CNR				5.80	101.20		
1	*RED*			*2.80*	*104.20*	*30*	*30*
2	*ORANGE*			*3.50*	*103.50*	*53*	*50*
3	*YELLOW*			*4.30*	*102.70*	*80*	*70*
4	*BLUE*			*5.20*	*101.80*	*70*	*70*
5	*PINK*			*6.40*	*100.60*	*56*	*50*
P. TANK				14.20	92.80		
6	RED			7.90	99.10	40	40
TBM		3.4			100.00	329	270
INSTR. 1			103.40				
7	BLUE			1.80	101.60	30	30
8	PINK			2.60	100.80	46	46
9	RED			3.60	99.80	54	54
10	ORANGE			3.90	99.50	53	53
11	YELLOW			4.50	98.90	50	50
12	BLUE			5.50	97.90	58	58
					Total	291	291

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
** System*	*270*	*0.3*	*MOD.*	*0.30*	*PPBPS*	*LOW PRESSURE*
Repair	331	0.3	MOD.	0.30	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 -THE ORCHARDS LOT 17

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
1	RED	104.20	30	0.156	0.41	90	7
2	ORANGE	103.50	50	0.156	0.41	150	12
3	YELLOW	102.70	70	0.156	0.41	210	16
4	BLUE	101.80	70	0.156	0.41	210	16
5	PINK	100.60	50	0.156	0.41	150	12
	total	feet =	270	gal/min =	25.546154		63
			Des. Flow	480			
			Pump Run=	5.88			
			soil LTAR	0.3			
			LTAR +5%	0.315			
			LTAR with mod.	0.27			
			LTAR with mod.. + 5%	0.2835			

.156 equals 5/32 inch hole

CALCULATIONS

Location THE ORCHARDS

Project Number 01-2054

Lot No: Lot 17

No. of Bedrooms 4

Design Flow 480 $^{gal}/_{day}$

LTAR 0.3 gpd/ft2

PPBPS? (YES OR NO) YES

Supply Line Length 182 ft.

Supply Line Volume 31.668 gal.

Required Feet of Line 266.6667 ft.
Amount of Line from Layout 270 ft.

Gallons per Minute 25.54615 $^{gal}/_{min}$

Required Septic Tank Capacity 1000 gal.
Minimum Standard Tank Size 1000

Panel Volume 3.6 gal.
# of Panels 63
Dosing Volume 151.956 gal.

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

Tank Draw Down 7.2 *Generic Draw Down of 21 gal.per in.*

Pump Run Time 5.88 minutes

Elevation Head 16.4 ft.
Pressure Head 2 ft.
Friction Factor 1.27 ft./100 ft. *(From the interpolater.)*
Friction Head 2.31 ft.

Total Dynamic Head (+15%) 23.82 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 HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH, ENVIRONMENTAL HEALTH SECTION
ON-SITE WATER PROTECTION BRANCH

Sheet 1 of 1
PROPERTY ID #: 4649141866
COUNTY: Iredell

SOIL/SITE EVALUATION
***for* ON-SITE WASTEWATER SYSTEM**
(Complete all fields in full)

OWNER: Louis Carpenter
ADDRESS: PO Box 960027 Charlotte, NC 28227
PROPOSED FACILITY: 4 BR
PROPOSED DESIGN FLOW (.1949): 480 gpd
LOCATION OF SITE: Lot 17 - The Orchards - 128 Orchard Farm Lane
WATER SUPPLY: [X] Private [ ] Public [X] Well [ ] Spring [ ] Other
EVALUATION METHOD: [X] Auger Boring [ ] Pit [ ] Cut
APPLICATION DATE: [illegible]
DATE EVALUATED: 10/2014
PROPERTY SIZE: 1.59 AC
PROPERTY RECORDED:
TYPE OF WASTEWATER: [X] 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	4/9%	0-5	Br SL	← WFSbk FrSSSP		48"			PS .3-.325
		5-34	RC mmsbk/Abk	Fr SS SP					
		34-44	RC wmsbk	Fr SS SP					
		44-48	RC wmsbk	FrSSSP-few SAP					
2	4/6%	0-6	BCL wmsbk	Fr SS SP		48"			PS .3-.325
		6-33	RC wmsbk/Abk	Fr SS SP					
		33-48	RC mmsbk	Fr SS SP					
3	4/8%	0-5	BL Gr	Fr SS SP		48"			PS .3
		5-8	RBCl wfsbk	Fr SS SP					
		8-48	RC mmsbk	Fr SS SP					
4	4/8%	0-5	BRCl wmsbk	Fr SS SP		48"			PS .3
		5-48	RC mmsbk	Fr SS SP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	PPBPS	PPBPS
Site LTAR	0.3	0.3

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: S. Ashley Rollins
OTHER(S) PRESENT: Chad Wagner

COMMENTS:

Updated February 2014 APPROVED NOV 12 2014 SC Many SAP Incl. Near Boring #1 ICAD - .3-.325 SC