INFORMATION FOR THE INSTALLER:

The permit should be read very carefully prior to bidding. The following are details that must be considered along with all other considerations.

- Tanks shall be approved by NC DENR, and certification supplied by the manufacturer.
- Tanks shall be water tested prior to installation.
- The installer shall be responsible to the owner for placement of the tanks and to insure that final grades are returned to the original natural grade, with exception of added structural features.
- The supply trench shall be compacted to eliminate cavities left during initial fill placement.
- Installation of the system shall be during dry conditions in order to protect the soil structure.
- All fittings shall be pressure rated fittings.
- All joints shall be cleaned with PVC pipe cleaner and a heavy bodied glue applied to weld all joints.
- Where required by the county health department, post installation inspections by the designer must be scheduled 5 week days in advance.
- Trenches shall be carefully excavated so the bottom is within 2" from the highest to . the lowest points of elevation within the trench. If the bottom elevation needs adjusting after it has been trenched, it will be done by removing high points rather than filling low points. It is extremely important to insure that trenches are not over excavated during initial trenching. All fine grading within the trench will be hand done with a shovel. No loose material will be left in the trench
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral.
- No heavy equipment shall be used on the field during or after installation. The use of a small loader (i.e. Bobcat) or a trencher (i.e. Ditch Witch 2300/2310) may be used for installation.
- Elevations at pinflag locations should be checked by the installer prior to beginning trenches.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as a gravity 25% reduction (Accepted) installation.
- Partial Repair is specified as a low pressure PPBPS (50% reduction) installation.
- **Lot Platted in 1963 is Exempt from Repair and Property line setback is 5' to septic**

GRAVITY ACCEPTED SYSTEM FOR WASTEWATER TREATMENT

Approved
5/31/16
MD

Applicant: Rollans Soil

Address: P.O. Box 832
Mooresville, NC 28115

Phone: 704.746.5046

County: Iredell

Location: Holiday Harbor Lot 72
PIN (4626510683)

Source of Wastewater Flow: 3 Bedroom Single Family Residence

Estimated Gallons Per Day Flow: 360

System Flow: N/A

Design Specifications

Drainfield Size: 300

Loading Rate (gpd/ft.^{2}): 0.3

Depth of Gravel in Trench: N/A

Gravel Size: N/A

Trench Depth: 30 in. Repair Trench Bottom 30 in.

Trench Width: 36 in.

Septic Tank Size: 1000

Estimated Supply Line Length: 20

Supply Line Diameter: 4 in. SCH 40 PVC

Supply Line Volume: 13.06

Dosing Volume: N/A

Supply Manifold: N/A

Supply Manifold Length: N/A

Supply Manifold Volume: N/A

Recommended Float Controls: N/A

Recommended Control Panel: N/A

Pressure Head: N/A

Friction Head: N/A

Elevation Head: N/A

Total Dynamic Head: N/A

Threaded Union: N/A

Gate Valves: N/A

Check Valves: N/A

Anti-Siphon Hole: N/A

Additional Comments: Soil suitability was performed by Rollans Soil & Environmental Services

Holiday Harbor Lot 72

ACCEPTED SYSTEM

DESIGN FLOW (gpd):	360
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	900
TOTAL LATERAL LENGTH:	300
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	300
SUPPLY LINE LENGTH:	20
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1000

Approved
5/31/16
MD

Approved MD 4
5/31/16

Layout Specifications - Holiday Harbor Lot 72

Project #: 01-3162

LAYOUT FOR 3 BEDROOM HOME

May 18, 2016

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1							
1	***PINK***					***84***	***84***
2	***RED***					***84***	***84***
3	***ORANGE***					***84***	***84***
4	***BLUE***					***48***	***48***
5	PINK					56	56
6	RED					54	54
7	ORANGE					38	38
8	BLUE					24	24
					Total	**472**	**472**

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION
* *System*	*300*	*0.300*	*ACCEPT.*	*0.300*	*25% RED*	*GRAVITY*
Repair	172	0.300	MOD.	0.300	PPBPS	LOW PRESSURE

Notes: **All measures in feet

**Nitrification lines are demonstrated on contour via colored pin flags

****Lot recorded in 1963 - REPAIR EXEMPT**

CALCULATIONS

Location 119 Lakeland Drive (Holiday Harbor Subd.)

Approved
5/31/16
MD

Project Number	01-3162	
Lot No:	72	
No. of Bedrooms	3	
Design Flow	360	$^{gal}/_{day}$
LTAR	0.300	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	NO	
Supply Line Length	20	ft.
Supply Line Volume	13.06	gal.
Required Feet of Line	300	ft.
Amount of Line from Layout	300	ft.
Gallons per Minute	N/A	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Septic Tank Size	1000	gal.
Panel Volume	N/A	gal.
# of Panels	N/A	
Dosing Volume	N/A	gal.

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

Tank Draw Down N/A

Pump Run Time

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.

DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH, ENVIRONMENTAL HEALTH SECTION
ON-SITE WATER PROTECTION BRANCH

Sheet 1 of 1
PROPERTY ID #: 46265 0683
COUNTY: Iredell

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

Approved MR 5/31/16

OWNER: Gary & Maureen Blanchard
ADDRESS: 37 Barbara St., Bethpage, NY 11714
APPLICATION DATE: 5/2016
PROPOSED FACILITY: 3BR Single Family PROPOSED DESIGN FLOW (.1949): 360
DATE EVALUATED: 4/2016
LOCATION OF SITE: 119 Lakeland Rd, Mooresville NC 28117
PROPERTY SIZE: 0,459
PROPERTY RECORDED: Yes 1963
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
B 1	4/5%	0-2	BL Gr	Fr SS SP					PS .3
		2-6	BRCL wmsbk	Fr SS SP					
		6-30	RBC wmsbk	Fr SS SP					
		30-48	RCL wfsbk	Fr SS SP	F to C SAP Few White Mineral				
B 2	4/5%	0-4	BL Gr	Fr SS SP					PS .3
		4-31	RC wmsbk	Fr SS P					
		31-48	RCL wfsbk	Fr SS SP	Few SAP Incl.				
B 3	4/15%	0-12	BL Gr	Fr SS SP					PS .3
		12-18	RBCL wmsbk	Fr SS SP					
		18-36	RC mmsbk	Fr SS SP					
		36-48	RVCL wfsbk	Fr SS SP	Few to C SAP				
B 4	4/12%	0-6	BL Gr	Fr SS SP					PS .3
		6-13	BRCL wfsbk	Fr SS SP					
		13-32	RC mmsbk	Fr SS SP					
		32-48	RCL wfsbk	Fr SS SP	F to C SAP				

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

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

COMMENTS: Lot Recorded in 1963 - Repair Exempt; 5' Setback to Property line

I, JIMMY N. FAIRES, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY SUPERVISION FROM AN ACTUAL SURVEY MADE UNDER MY SUPERVISION; DEED DESCRIPTION AND/OR MAP BOOK SEE, PAGE NOTE #2; THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION FOUND IN BOOK N/A, PAGE N/A; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000+; THAT THIS PLAT WAS PREPARED IN ACCORDANCE WITH THE STANDARDS OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA (21 NCAC 56.1600). WITNESS MY ORIGINAL SIGNATURE, REGISTRATION NUMBER AND SEAL THIS ____ DAY OF _____, 2016.

JIMMY N. FAIRES, PLS
LICENSE NUMBER: L-4311

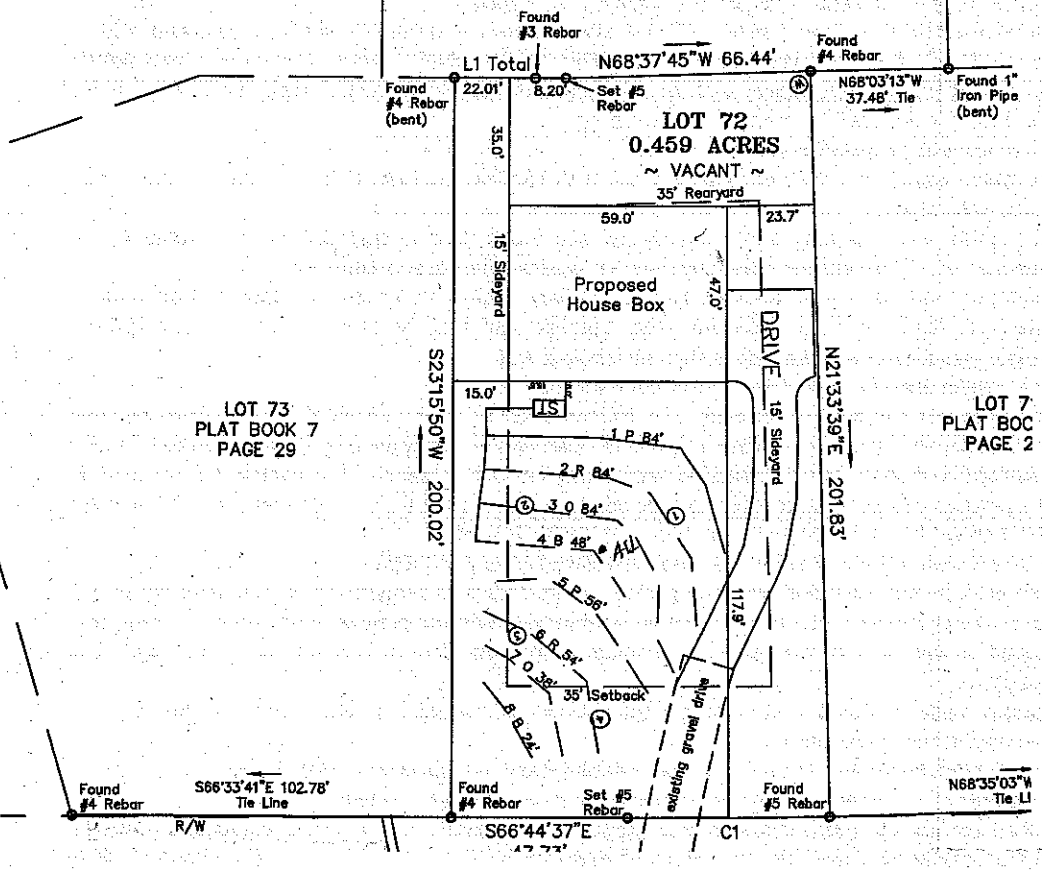
Plat Book 7 Page 29 Dated: 4/1/1963

Approved
5/31/16
MD

Lakeland Rd
Site

JOHN D. MCVANNAN
DEED BOOK 944
PAGE 2074

JAMES A. & KAREN M. KIRCHNER
DEED BOOK 1297
PAGE 1797



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

Sheet of
PROPERTY ID #: 4626510483
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: Gary Blanchard APPLICANT:
ADDRESS: APPLICATION DATE: DATE EVALUATED: 5/25/16
PROPOSED FACILITY: PROPOSED DESIGN FLOW (.1949): PROPERTY SIZE:
LOCATION OF SITE: 119 Lakeland Rd 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	OTHER PROFILE FACTORS .1943 SOIL DEPTH	OTHER PROFILE FACTORS .1956 SAPRO CLASS	OTHER PROFILE FACTORS .1944 RESTR HORIZ	PROFILE CLASS & LTAR
1	AH-1	0-12"	Brw SCL, GR, FR						PS .3
		12-36	R-R/Brw C/C, m-wSBK	SS, SP, SE, FR					
		36-48	R/C, wSBK	SS, SP, SE, FR					
			w/few yel/Brw SAP Inclus						
2									
3									
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: