IREDELL COUNTY HEALTH DEPARTMENT

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625

PERMIT # 201235

SEPTIC IMPROVEMENT PERMIT / AUTHORIZATION TO CONSTRUCT / OPERATION PERMIT / EXISTING SYSTEM

PIN # 4639-26-7771

APPLICANT/OWNER: Frederick Building Group APPLICANT ADDRESS: 17005 Green Dolphin Lane Cornelius, NC 28031

SITE ADDRESS: 278 Tennessee Circle Mooresville, NC 28117 PHONE: 704-202-8035 ALT. PHONE 704 650-5372 Brad

SITE DIRECTIONS: Perth Rd → Fern Hill Rd (West) → Tennessee Circle → Lot on Right SAP CONTROLLED: ☐ YES ☒ NO

SUBDIVISION: CLT SECTION: 16 LOT # 77 LOT AREA: 0.72 acres DESIGN FLOW: 480 GPD L.T.A.R.: 0.30

Septic Tank	1000 (gal)	STB	160	Date	2-3-21	☒ New System ☐ Repair ☐ Expansion	System Type: I II III IV V VI	☒ Residence	No. Bedrooms 4
Pump Tank	1000 (gal)	PT	363	Date	11-29-21	System Description: PM-PPBPS (Horizontal) 50% Reduction		☐ Business	No. Persons 8
Pump Make	Zoeller Model		BNT51	Serial #		Repair System Description: Ex Gravel Bed + Horizontal PPBPS + TSII Pre-Treatment		☐ Other	No. Employees
# Nitrification Fields	1 # Lines		6	Linear Ft	270	Maintenance Agreement Required: ☐ YES ☒ NO		☐ Slab	☒ Crawl Space
Trench Width	36" Trench Bottom Depth(Low side)		18"	Gravel Depth	—	☐ GRAVITY ☒ PRESSURE		☐ Basement w/plumbing	☐ Basement w/o plumbing

Water Supply: ☒ Private Existing ☐ Public ☐ Community

Comments / Conditions: 50' Lake Buffer stakes must be marked by surveyor prior to installation and present at time of final inspection. Cover material to be used must be of soil groups 2 or 3 variety (loam, etc) with sample provided to department prior to delivery. Recommend having septic tank pumped every 3-5 years + larger filter on tank (Zable A300 or similar). Also recommend event counter be installed on control panel to track pumping events. Recommend setting floats to close system 180 gallons per pumping event. Existing well covered by Variance # JMB444 issued 8-19-2014

INITIAL SITE SKETCH

Red filter

This permit is issued pursuant to Section 11 . (C) of S.L. 2018-114 using the signed and sealed LSS Evaluation by:

Adrian L. Pruett

LSS # 1314

* Design date of 2/13/2020

AS BUILT SKETCH

STT - 9-Ft from house

Line - 11Ft below 50' Buffer

4/26/21 Moved last line to above buffer

Checked alarm, need to label circuit breakers

Permit can be suspended or revoked if any false information is supplied toward securing the permit / any unauthorized changes are made to the site / any unauthorized changes are made in the installation of the system. **CONTACT A LOCATOR SERVICE PRIOR TO ANY EXCAVATION**

☐ IMPROVEMENT PERMIT *with plat valid without expiration* ☒ IMPROVEMENT PERMIT *with site plan valid for 60 mos.* ☒ AUTHORIZATION TO CONSTRUCT *valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.*

Owner / Applicant Signature: Date: 3/10/20 Installed by: Leach's Grading & Septic

IMPROVEMENT PERMIT by: Tom Shuch Date: 3/6/2020 OPERATION PERMIT by: Tamara Dotson Date: 4/29/21

AUTHORIZATION TO CONSTRUCT by: Tom Shuch Date: 3/6/2020 Existing System Inspected by: Date:

FOR SEPTIC FINAL INSPECTION: CALL 704-664-3703 between 8am-9am the day the inspection is needed. Be sure to speak with an inpsector to confirm your inspection time.

LAKE NORMAN
1"=40'
NORTH
8" BRICK RETAINING WALL
760 CONTOUR
58.37'
763.04'
90.14'
61.20'
This was installed after
35' LAKE BUFFER
30' LAKE BUFFER
50' LAKE BUFFER
COUNTY PITS
264.00'
10 EX. BED 520 SQFT
2 BEDROOMS
EX. ST
ST
PT
PM
PATIO
22.99'
HC 768.98'
HOUSE
66' 7"
207.93'
17.60'
WELL
14.89'
98' 11.5"
15.76'
40.03'
65.79'
9.08'
APPROX. LOCATION OF NEIGHBORS SHED WITH WELL INSIDE
TENNESSEE CIRCLE

704 783-6677

FIELD LAYOUT SPECIFICATIONS
278 TENNESSEE CIR., CL&T LOT 77 SECTION 16

LAYOUT FOR 4 BEDROOM HOME — February 13, 2020

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH	
TBM					763.04			
INSTR. 1								
HOUSE					768.98			
TANK					767.88			
1	PINK				769.56	37	37	50% RED.
2	*YELLOW*				*769.10*	*40*	*40*	
3	*GREEN*				*768.25*	*53*	*50*	
4	*RED*				*767.18*	*70*	*50*	
5	*BLUE*				*766.75*	*45*	*40*	
6	*ORANGE*				*765.96*	*50*	*50*	
7	*PINK*				*765.50*	*40*	*40*	
7	PINK				765.50	38	38	25% RED.
8	YELLOW				764.82	28	28	50% RED.
8	YELLOW				764.82	71	71	25% RED.
8	YELLOW				764.82	8	8	0% RED.
9	RED				763.99	35	35	25% RED.
9	RED				763.99	28	28	0% RED.
10	EX. BED					520 SQFT	520 SQFT	
					Total	**543**	**515**	

	LINE LENGTH	SYSTEM TYPE	SOIL LTAR GPD/FT[1]	TRENCH SYSTEM	DISTRIBUTION		
** System*	*270*	*MOD.*	*0.300*	*HORIZONTAL PPBPS*	**PRESSURE MANIFOLD**		
Repair	520 SQFT	CONV.		EX. BED	PRESSURE MANIFOLD		240 GPD
LINE 11	65	MOD.	0.300	Horizontal PPBPS	PRESSURE MANIFOLD	50% REDUCTION	117 GPD
	144	MOD.	0.300	Horizontal PPBPS	PRESSURE MANIFOLD	25% REDUCTION	172.8 GPD
	36	MOD.	0.300	Horizontal PPBPS	PRESSURE MANIFOLD	0% REDUCTION	32.4 GPD
							562.2 TOTAL GPD

Notes: ** TBM located at right rear corner at Lake Norman.
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags

Comments: Initial System Trench Bottom Specified as 18 inches deep low side. A minimum of 2 inches of county approved material to be placed on the system. Two inches of soil cap may be available on site left from installation of system requiring none to be brought in.
Repair is described as an Existing Bed, Horizontal Panel Block hybrid with TS-II Pretreatment. The new Horizontal Panel lines have a specified trench bottom of 14 inches and will require a minimum of 6 inches of county approved cover to be brought in as cover upon repair installation.
Iredell County Environmental Health has CS&SC's permission to move or relocated distribution devices and tank locations.

CALCULATIONS

Location	278 TENNESSEE CIR	
Subdivision:	CL&T	
Section	16	
Lot Number	77	
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.3	$^{gpd/ft^2}$
PPBPS RED.? (YES OR NO)	YES	
Supply Line Length	16	ft.
Supply Line Volume	2.784	gal.
Required Feet of Line	266.6667	ft.
Amount of Line from Layout	270	ft.
Gallons per Minute	37.77	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Minimum Standard Tank Size	1000	
Panel Volume	7.2	
Number of Panels	63	
Dosing Volume	317.52	gal.

Note: Dosing Volume based on 70% of 7.2 gal. per panel maximum capacity or approximately 5.0 gal. per panel.

Tank Draw Down	15.1	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	8.41	minutes
Elevation Head	6.22	ft.
Pressure Head	2	ft.
Friction Factor	3.03	ft./100 ft. *(From the interpolater.)*
Friction Head	0.48	ft.
Total Dynamic Head (+20%)	10.45	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

Carolina Soil & Septic Consulting, PLLC

P.O. Box 1703, Mooresville, NC 28115

Phone: (704) 202-5791 Email: adrianpruett@yahoo.com

NC Licensed Soil Scientist, SC Professional Soil Classifier,
Certified Septic System Operator, Licensed Septic Installer,
Certified Septic Inspector

The LSS Evaluation is being submitted pursuant to and meets the requirements of SL 2018-114 Section 11.(c)

Attached is a proposed design for a HORIZONTAL PPBPS Septic System with PRESSURE MANIFOLD distribution for a 4 bedroom single family residence on 278 Tennessee Cir., Lot 77 of CL&T Section 16, Iredell County, North Carolina.

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February 13, 2020
Job Number: 20009
Design By: Adrian L. Pruett LSS

APPROVED MAR X 6 2020

LICENSED SOIL SCIENTIST
ADRIAN L. PRUETT
1314
STATE OF NORTH CAROLINA

INSTALLER INFORMATION:

- The permit should be read very carefully prior to submitting bid. The following are details that must be considered along with all other considerations.
- Tanks shall be approved by NC DHHS, and certification supplied by the manufacturer.
- All tanks shall be properly back filled and compacted to prevent slump at a later date.
- The installer is responsible for final grades and returning that grade to original, with exception of added structural features.
- The supply trench shall be compacted to eliminate any 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 has no more than 1/4"fall in 10 feet with no high or low areas within. If high or low areas do exist after trench excavation, high areas should be removed rather than filling in low areas. Do not over excavate trenches! Any fine grading should be completed by hand with a rake and shovel, leaving no loose material.
- All pipe openings in the tanks shall be properly grouted. This also applies to the joints around the riser.
- Earth dams, constructed of relatively impervious material, shall be installed at the beginning and end of each lateral to prevent unwanted lateral water movement.
- Elevations at pin flag locations should be checked by the installer prior to beginning trenches to insure accuracy.
- Pump tank riser should be 6" above grade, control panel should be 12" above grade.
- If septic tank risers are used they should be a minimum of 6" above finished grade or within 6" of final grade if buried.
- Backfill minimum of 4-6" of material (County Approved) over panels, rake trench walls, lime side walls, install trenches 36" wide.
- **System is specified as a Horizontal PPBPS with Pressure Manifold Distribution.**
- **Repair is specified as an Existing Bed System, Horizontal Panel Block hybrid with TS-II Pretreatment.**
- **A minimum of 2 inches of county approved material to be brought in and placed on top of initial system as cover, after installation there may be enough soil left to satisfy the required 6 inches of minimum cover.**
- **Horizontal Panels should be placed on 6 inches of sand followed by a 1"x6" board. Two SCH 40 PVC pipes shall be ran along each side and connecting the center chamber of each panel to the next, until the last panel of the line is reached. At the beginning of each line the 2 pipes will need to be wyed together to form a single pipe leading back to the Pressure Manifold. For additional information refer to the install information from the Design, Installation and and Maintenance of the T & J Panel Wastewater Treatment System.**

PRESSURE MANIFOLD SYSTEM
DESIGN SPECIFICATIONS

Owner:	Robert and Elizabeth Carroll
Address:	1750 Camben Rd., Apt 677 Charlotte, NC28203
Client:	Fred Gignac
Telephone Number:	704-202-8035
Location:	278 Tennessee Cir.
Drainfield Design Flow (gpd):	480
Loading/Soil Application Rate (gpd/ft.^{2}):	0.3
Depth of Gravel in Trench:	NA (PPBPS)
Gravel Size:	NA (PPBPS)
Total Lateral Length From Layout:	270
Total Lateral Length Required:	266.6666667
Trench Depth:	18 in. LOW SIDE
Trench Width:	36 in.
Trench Bottom Area:	810
Trench Spacing:	8
Repair Trench Depth:	14 in.
Repair Trench Spacing:	8 ft.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	16
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	2.78
Dosing Volume:	317.52
Pump Tank Draw Down:	15.1
Supply Manifold Size:	4 in. SCH 80 PVC
Supply Manifold Length:	4 ft. (minimum)
Supply Manifold Volume:	N/A
Recommended Dosing Controls:	Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel:	NEMA 4X Control Panel or Equivalent, County Approved Control Panel.
Pressure Head:	2 ft.
Friction Head:	3.03
Elevation Head:	6.22
Total Dynamic Head:	10.45
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 at Pressure Manifold
Check Valves:	In Tank
Anti-Siphon Hole:	**YES**
Additional Comments:	Soil suitability was performed by Adrian L. Pruett, LSS

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

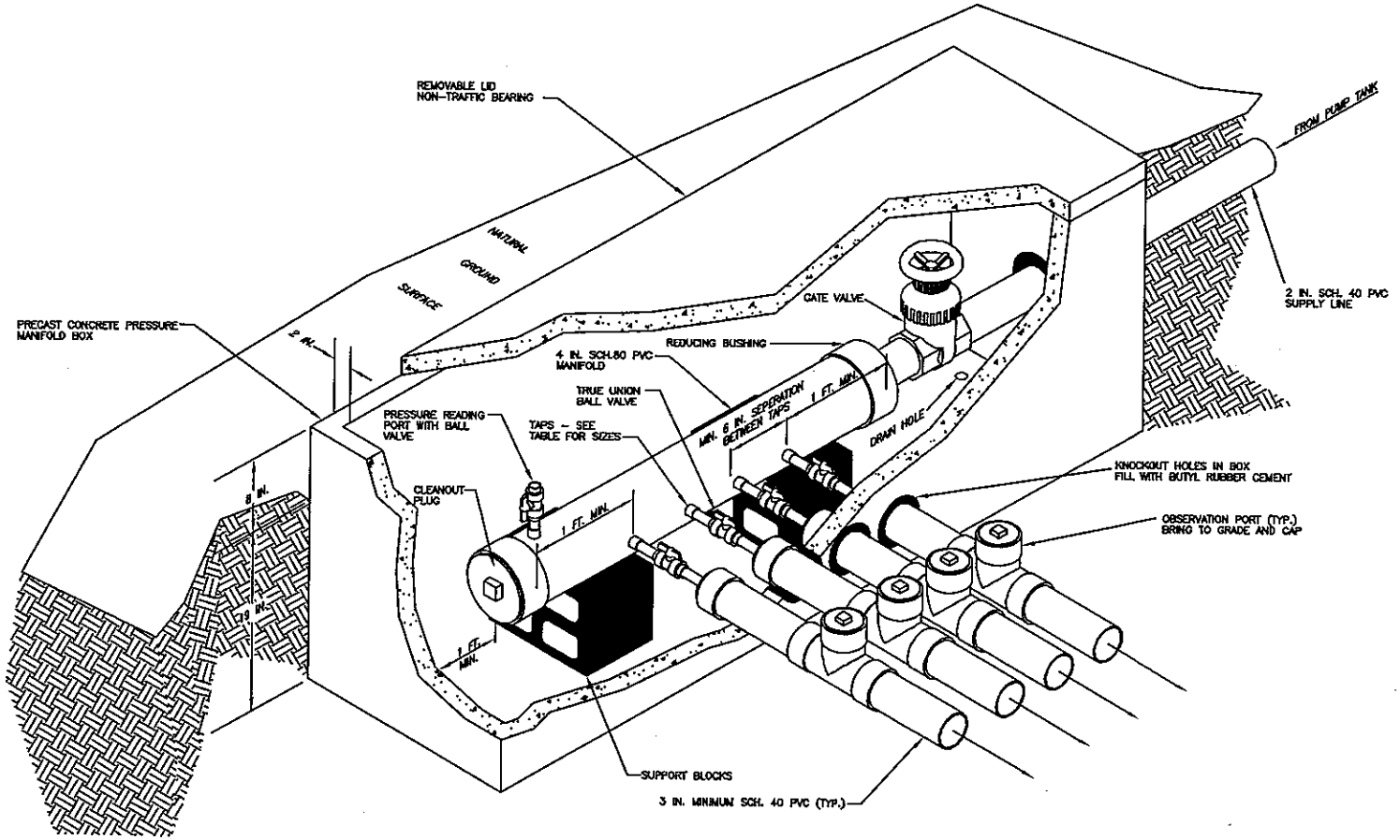
PRESSURE MANIFOLD TAPSHEET - 278 TENNESSEE CIR., CL&T LOT 77 SECTION 16

SYSTEM

Line #	Color	Elevation	Length	Pipe Size	Flow/Tap	Line GPD	Line Capacity	Line Trench Area	Flow/Line	Line LTAR	# of Panels
3	*YELLOW*	*769.10*	*40*	*SCH 80 1/2*	*5.48*	*46.07*	*33.23*	*80*	*1.15*	*0.58*	*9*
4	*GREEN*	*768.25*	*50*	*SCH 40 1/2*	*7.11*	*59.77*	*41.54*	*100*	*1.20*	*0.60*	*12*
5	*RED*	*767.18*	*50*	*SCH 40 1/2*	*7.11*	*59.77*	*41.54*	*100*	*1.20*	*0.60*	*12*
6	*BLUE*	*766.75*	*40*	*SCH 80 1/2*	*5.48*	*46.07*	*33.23*	*80*	*1.15*	*0.58*	*9*
7	*ORANGE*	*765.96*	*50*	*SCH 40 1/2*	*7.11*	*59.77*	*41.54*	*100*	*1.20*	*0.60*	*12*
8	*PINK*	*765.50*	*40*	*SCH 80 1/2*	*5.48*	*46.07*	*33.23*	*80*	*1.15*	*0.58*	*9*
											63
		total feet =	**270**	**gal/min =**	**37.77**						
			Des. Flow	**480**							
			Pump Run=	**8.41**							
			soil LTAR	**0.300**							

GPD=Gallons Per Dose

TYPICAL PRESSURE MANIFOLD DETAIL



The LSS Evaluation is being submitted pursuant to and meets the requirements of SL 2018-114 Section 11.(c)

PROPERTY ID #: 4639267771
COUNTY: Iredell

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

OWNER: Robert and Elizabeth Carroll APPLICATION DATE
ADDRESS: 1750 Camden Rd., Apt 677, Charlotte, NC 28203 DATE EVALUATED: 2/12/2020
PROPOSED FACILITY: SFD PROPOSED DESIGN FLOW (.1949): 480 gpd PROPERTY SIZE: 0.72 ac
LOCATION OF SITE: 278 Tennessee Cir., Mooresville, NC 28117 PROPERTY RECORDED: Yes
WATER SUPPLY: X Private ☐ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: X Auger Boring ☐ Pit ☐ Cut TYPE OF WASTEWATER: X Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	
B 1	LSS 8%	0-9	B SCL/L GR	FR SS SP SEXP	N/A -FEW/COM SAP -COM SAP -FEW R C VIENS, COM SAP -FEW YR L VEINS	37"	PS	N/A	PS 0.3 GPD/SQFT
		9-18	R C WFSBK	FI S SP SEXP					
		18-26	YR CL WFSBK	FR SS SP SEXP					
		26-37	YR L WFSBK	FR SS SP SEXP					
		37-48	VAR L SAP M	FR SS SP SEXP					
B 2	LSS 8%	0-6	B CL WFSBK	FR SS SP SEXP	N/A -FEW SAP -COM SAP -COM R C/CL	47"	PS	N/A	PS 0.3 GPD/SQFT
		6-22	R C MFSBK	FI S P SEXP					
		22-32	R C WFSBK	FI SS SP SEXP					
		32-47	YR CL WFSBK	FR SS SP SEXP					
		47-48	VAR SL SAP M	FR SS SP SEXP					
B 3	LSS 8%	0-6	B SCL GR	FR SS SP SEXP	N/A -FEW SAP -COM SAP	33"	PS	N/A	PS 0.3 GPD/SQFT
		6-22	R C MFSBK	FI S P SEXP					
		22-33	YR CL WFSBK	FR SS SP SEXP					
		33-48	VAR L SAP M	FR SS SP SEXP					
B 4	LSS 8%	0-23	B CL WFSBK	FR SS SP SEXP	-POSS. FILL, COM ORGANICS, FEW R C -COM B CL -COM SAP	23-48	N/A	N/A	NEED PIT
		23-30	R C WFSBK	FI S P SEXP					
		30-44	R C WFSBK	FI S P SEXP					
		44-48	R CL WFSBK	FR SS SP SEXP					

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

OTHER FACTORS (.1946): NONE
SITE CLASSIFICATION (.1948): PS

EVALUATED BY: ADRIAN L. PRUETT
OTHER(S) PRESENT: JACOB CONRAD

LICENSED SOIL SCIENTIST ADRIAN L. PRUETT 1314 STATE OF NORTH CAROLINA

COMMENTS:

SOIL/SITE EVALUATION

(Continuation Sheet-Complete all field in full)

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

PROPERTY ID #: 4639267771
DATE OF EVALUATION: 2/13/2020
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
B 5	LSS 8%	0-4	FILL		N/A	38"	PS	N/A	PS
		4-12	B CL WFSBK	FR SS SP SEXP					
		12-34	R C MFSBK	FI S P SEXP					0.3 GPD/SQFT
		34-38	YR CL WFSBK	FR SS SP SEXP	-COM SAP				
		38-48	VAR SL SAP M	FR SS SP SEXP					
B 6	LSS 8%	0-4	FILL		N/A	48"	N/A	N/A	PS
		4-19	B CL WFSBK	FR SS SP SEXP					
		19-32	R C MFSBK	FI S P SEXP					0.3 GPD/SQFT
		32-40	YR C WFSBK	FI S P SEXP	-COM SAP				
		40-48	YR CL WFSBK	FR SS SP SEXP	-COM SAP				
B 7	LSS 7%	0-4	FILL		N/A	37"	PS	N/A	PS
		4-12	B SCL GR	FR SS SP SEXP					
		12-29	R C MFSBK	FI S P SEXP					0.3 GPD/SQFT
		29-34	R CL WFSBK	FR SS SP SEXP	-COM SAP				
		34-37	YR L WFSBK	FR SS SP SEXP	-COM SAP				
		37-48	VAR L SAP M	FR SS SP SEXP					
B 8	LSS 7%	0-4	FILL		N/A	35"	PS	N/A	PS
		4-12	B CL WFSBK	FR SS SP SEXP					
		12-26	R C WFSBK	FI S P SEXP					0.3 GPD/SQFT
		26-32	YR CL WFSBK	FR SS SP SEXP	-COM SAP				
		32-35	YR L WFSBK	FR SS SP SEXP	-COM SAP				
		35-48	VAR SL SAP M	FR SS SP SEXP					
B 9	LSS/NS 8%	0-3	B SL GR	FR SS SP SEXP	N/A	44"	PS	N/A	PS
		3-30	R C MFSBK	FI S P SEXP	-FEW SAP				
		30-44	YR CL WFSBK	FR SS SP SEXP	-COM SAP				0.3 GPD/SQFT
		44-48	YR SL SAP M	FR SS SP SEXP	-COM SAP				

LICENSED SOIL SCIENTIST ADRIAN L. PRUETT SEAL OF THE STATE OF NORTH CAROLINA 1314 STATE OF NORTH CAROLINA

COMMENTS:

SOIL/SITE EVALUATION

(Continuation Sheet-Complete all field in full)

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

PROPERTY ID #: 4639267771
DATE OF EVALUATION: 2/13/2020
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
B 10	LSS 8%	0-3	B SCL GR	FR SS SP SEXP	N/A	30"	PS	N/A	PS
		3-19	R C MFSBK	FI S P SEXP	-COM SAP				
		19-30	YR CL WFSBK	FR SS SP SEXP					
		30-48	VAR SL SAP M	FR SS SP SEXP					0.3 GPD/SQFT
B 11	LSS 8%	0-8	B SCL GR	FR SS SP SEXP	N/A	36"	PS	N/A	PS
		8-28	R C MFSBK	FI S P SEXP	-COM SAP				
		28-36	YR CL/L WFSBK	FR SS SP SEXP					
		36-48	VAR SL/L SAP M	FR SS SP SEXP					0.3 GPD/SQFT

LICENSED SOIL SCIENTIST
ADRIAN L. PRUETT
SEAL OF THE STATE OF NORTH CAROLINA
1314
STATE OF NORTH CAROLINA

COMMENTS: _____

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

Sheet 1 of 1
PROPERTY ID #: 4639-26-7941
COUNTY: Iredell

102 x 25

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

★ 12/13/19

OWNER: Robert Carroll
ADDRESS: 17005 Green Dolphin Ln Cornelius NC
PROPOSED FACILITY: 4BR SFR
LOCATION OF SITE: 278 Tennessee Circle Mooresville, NC 28117

APPLICATION DATE 10/15/19
DATE EVALUATED: 12/20/19
PROPERTY SIZE: 0.72 acres
PROPERTY RECORDED: Yes

PROPOSED DESIGN FLOW (.1949): 4BR

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
1	Buffer Upper 6% (Repair Area)	0-6	SCL V.W.SBK	SI. Friable, SS Sp Sea					
		6-19	Clay m.SBK common mica	SI. Firm, Sticky, Sp Sea					
		19-35	Clay Loam common W.SBK Saprolite	SI. Friable SS, Sp. Sea	–	35"	–	–	0.30 PS
		35-60	MA Sandy Saprolite	Very Friable + well Drained					
2	H.T. Wtg (not ltd) Primary middle 8% (Primary)	0-7	SCL V.W.SBK	SI. Friable, SS Sp. Sea					
		7-19"	Clay m.SBK common mica	SI. Firm, Sticky, Sp. Sea	–	19"	–	–	0.225 PS
		19-60	MA Sandy Saprolite	Very Friable + well Drained					
3	Adjacent Existing 4% (Primary)	0-5	Loamy Fill	Loose w/ some Liver					
		5-43	Clay Loam some W.SBK Saprolite	Friable, SS Sp Sea	–	43	–	–	0.30
		43-66	MA Loamy Saprolite	Very Friable - Mod Well Drained					
4	Upland 5% (Repair)	0-5	SCL V.W.SBK	SI. Friable SS Sp Sea					
		5-27	Clay m.SBK common mica	SI. Firm Sticky, Sp Sea	–	35	–	–	0.30
		27-35	Clay Loam common W.SBK Saprolite	Friable SS, Sp Sea					
		35-61	MA Sandy Saprolite	moderately + Very Friable Drained					

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

OTHER FACTORS (.1946): _____
SITE CLASSIFICATION (.1948): _____

EVALUATED BY: Tom Shuck
OTHER(S) PRESENT: Heath Snow (Pit 2) Gary (Excavator)

CAROLINA SOIL & SEPTIC CONSULTING, PLLC

P.O. BOX 1703, Mooresville, NC 28115
(704) 202-5791 adrianpruett@yahoo.com
NC Licensed Soil Scientist, SC Professional Soil Classifier,
Certified Septic System Operator, Licensed Septic Installer,
Certified Septic Inspector

Date: 2/13/2020
Project Name: 20009

SESSION LAW 2018-114, SECTION 11.(c)/HOUSE BILL 374, SECTION 11.(c) AUTHORIZATION FORM

Carolina Soil & Septic Consulting has been contracted to evaluate soil, design and submit a septic system proposal to Iredell (county) on behalf of Robert and Elizabeth Carroll (owner/applicant) for the property located at 278 Tennessee Cir., Mooresville, 28117/4639267771 (address/PIN).

The Licensed Soil Scientist (LSS) Evaluation attached to this application is to be used to produce design and construction features for permitting in accordance with SL 2018-114 Section 11.(c).

By completing this form, signing and dating it you agree that the permit issued by Iredell (county) will fall under the above referenced law.

Owner/Owners Legal Representative: FRED GIGNAC
Mailing Address: 17005 GREEN DOLPHIN LN CORNELIUS, NC. 28031
Telephone Number: 704-202-8035
Email Address: gigfred@gmail.com

Signature of Owner/Owners Legal Rep.

2/13/20
Date

Limited Re-Layout $105.00

IREDELL COUNTY DEPARTMENT of ENVIRONMENTAL HEALTH

12/13/19

#201235

APPLICATION FORM

Application For:
( ) Septic Improvement Permit (✓) New Well Permit ( ) Authorization to Construct ( ) Well Repair Permit ( ) Existing System Inspection ( ) Well Abandonment ( ) Septic System Repair

THE ABOVE PERMIT DOCUMENTS WILL BECOME INVALID IF INFORMATION PROVIDED ON THIS APPLICATION IS FALSIFIED OR CHANGED, OR IF THE SITE IS ALTERED. THE IMPROVEMENT PERMIT IS VALID FOR EITHER 60 MONTHS OR WITHOUT EXPIRATION DEPENDING UPON DOCUMENTATION SUBMITTED. APPLICATION WITH SITE PLAN 60 MONTHS, APPLICATION WITH COMPLETE, SCALED PLAT WITHOUT EXPIRATION. SEE 15A NCAC 18A .1937() FOR DETAILS.

Page 2: *Site Plan Worksheet* form MUST accompany this application

The following optional attachments may also be submitted: (✓) Survey Plat, scaled no more than 1 inch = 60 feet
Place an (X) beside whichever is submitted if applicable ( ) Custom Site Plan, scaled no more than 1 inch = 60 feet

Applicant Information: (PRINT CLEARLY) FRED GIGNAC

Applicant Name: FREDERICK BUILDING GROUP Address: 17005 Green Dolphin LN Cornelius Zip: 28031
Applicant Email: gigfred@gmail.com Phone: 704-202-8035 Alt. Phone:
Owner Name: Robert Carroll Address: Zip:
Owner Email: Phone: 703-201-5459 Alt. Phone:

Property Information:

Street Address: 278 Tennessee Circle, Mooresville, NC 28117
Subdivision Name: NA Section/Phase: NA Lot Number: 77
Driving Directions: Perth (N) - Turn Left on Fern Hill, Turn Right on Tennessee Circle.

Site Development Information: *(check or complete ALL that apply*

(✓) New Single Family Residence
( ) New Multi-Family Residence
( ) Accessory Building
( ) Bedroom(s) Addition
( ) Repair to failing septic system ___ Tank ___ Drain lines Describe Problem:
Maximum Number of Bedrooms: 4
Maximum Number of Occupants:
( ) Swimming Pool
( ) Other Addition/Structure:
Non-Residential Site Development: Type of Business:
Square Footage of Building: 4293 Max. Number of Employees: Max. Number of Seats/Beds/Other:

CHECK FOUNDATION TYPE

(✓) Crawl Space Foundation
( ) Concrete Slab Foundation
( ) Basement with Plumbing
( ) Basement without Plumbing

Water Supply: ( ) Replacement Well – Reason:
( ) Multi-connection Well Number of Houses: Number of Persons:

( ) New Well (✓) Existing Well ( ) Community Well ( ) City Water ( ) Other Public Water

Desired Septic System Type: *(you may rank in order of preference)* Year existing system installed:
( ) No Preference ( ) Alternative ( ) Conventional ( ) Innovative ( ) Modified Conventional (✓) Other: REDRAW

Please answer the following to the best of your ability:

( ) Yes (✓) No Does the site contain any jurisdictional wetlands?
( ) Yes (✓) No Is any non-domestic sewage (i.e. industrial) to be generated?
( ) Yes (✓) No Is the site subject to approval by any other public agency?

I have read this application and certify that the information provided herein is true, complete, and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed.

Signature: _____ 10/15/19
Property owner or owner's legal representative signature (SIGNATURE REQUIRED) DATE

IREDELL COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

DOCUMENTATION TO AUTHORIZE AN OWNER'S LEGAL REPRESENTATIVE

(Check and sign only ONE of the options below)

NA 1. *** APPLICANT AND OWNER ARE THE SAME. *** *(Sign here)* _____

Applications for permits require the "signature of the owner or owner's legal representative" (15A NCAC 18A .1937). If the owner does not sign the application himself or herself, they can submit any one of the following documents to designate their legal representative: *Power of Attorney; Real Estate Contract; Estate executor; Bankruptcy trustee; Court ordered guardianship*
In the absence of the above documentation, the property owner may provide the local health department with documentation that designates a legal representative. A property owner may:
Complete this form to document his or her legal representative, or provide his or her own form that contains the information in this form. If there are multiple property owners, then all property owners must sign the form that designates a legal representative.
By signing a form that designates a legal representative for purposes of 15A NCAC 18A .1937, the property owner authorizes that representative to act on their behalf in matters pertaining to the application and permitting process, including signing or receiving any application, document or permit. The owner retains full responsibility to meet all permit conditions specified by the local health department.

* 2. I, ROBERT J. CARROLL ELIZABETH A. CARROLL, am the legal owner(s) of the property located at 278 TENNESSEE CIRCLE, Mooresville, NC. 28117, identified as

PIN (Parcel Identification Number) 4639267771, located in Iredell County, North Carolina.

I do hereby authorize **(print legal representative/company name)** FRED GIGNAC FREDERICK BUILDING GROUP, to act as an agent on my behalf in applying for/signing/obtaining any of the documents described below.

- Application for Improvement Permit (IP) / Authorization to Construct (AC)
- Improvement Permit (IP) / Authorization to Construct (AC)
- Application for soil-site evaluation (new/repair)
- Application/permit for private drinking water well/well abandonment
- Application for Compliance Inspection

I agree to abide by all decisions and/or conditions between the legal representative acting on my behalf and the Iredell County Department of Public Health, Environmental Health Division.

* Elizabeth A. Carroll
Signature of Owner(s)

11/5/19
Date

Mooresville - Environmental Health
ronda.hart@co.iredell.nc.us
Fax: 704-662-3239
610 E. Center Avenue, Mooresville, NC 28115

Statesville - Environmental Health
adrienne.shea@co.iredell.nc.us
Fax: 704-871-3483
349 N. Center Street, Statesville, NC 28677

SITE PLAN - 278 TENNESSEE CIRCLE

RECORDED OR
OR EASEMENTS

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ANNING OR

AL GROUND DISTANCES
ERE DETERMINED BY

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GEMENT AGENCY.

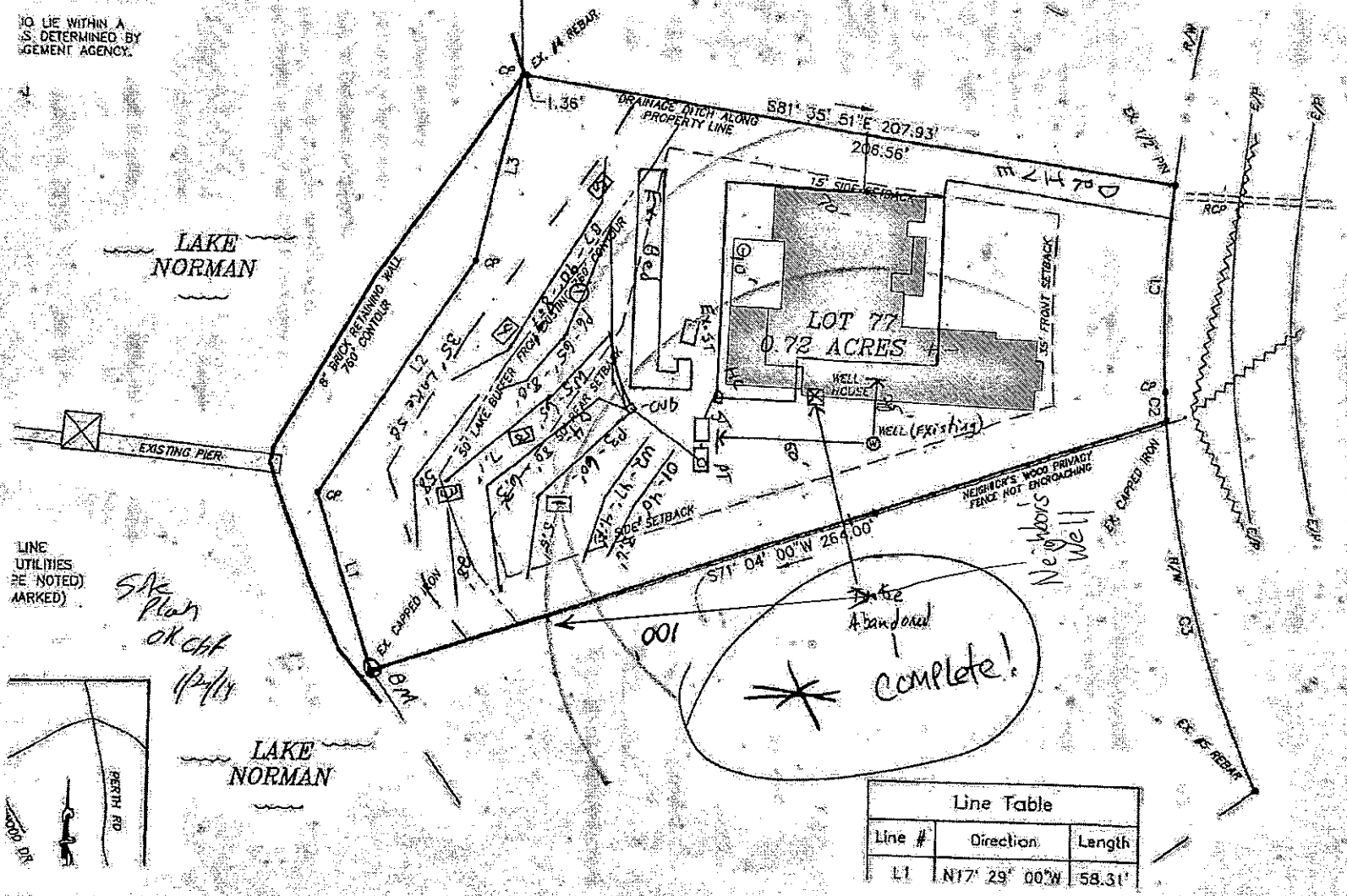
Scale 1"=50'

Curve Table

Curve #	Length	Radius	Chord Bearing	Chord
C1	65.79'	449.69'	S01° 55' 17"W	65.73'
C2	9.08'	327.99'	S03° 05' 27"E	9.08'
C3	120.57'	327.99'	S14° 25' 10"E	119.89'

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Site Plan OK ckt
1/21/14

Line Table

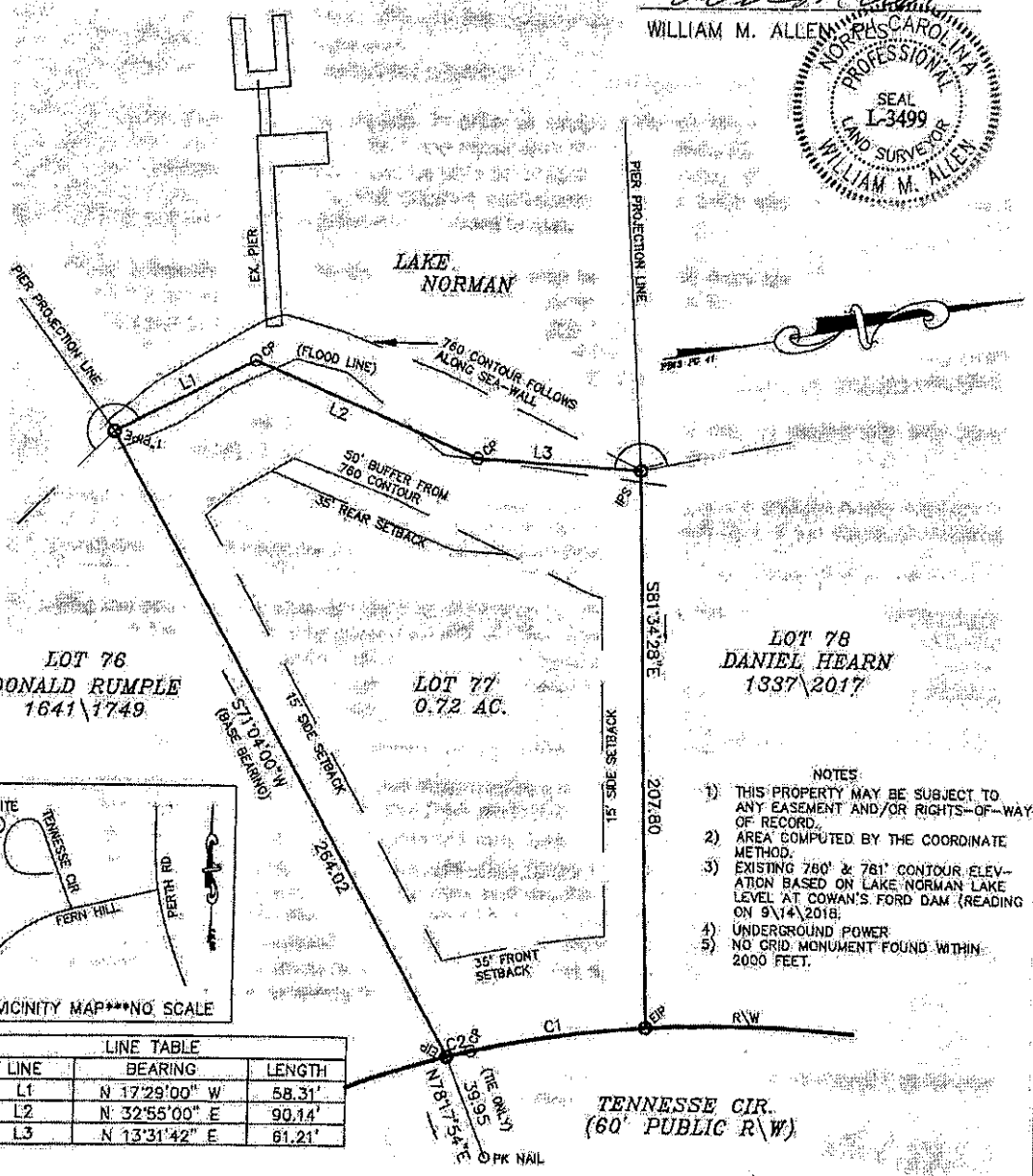
Line #	Direction	Length
L1	N17° 29' 00"W	58.31'

DAS DON ALLEN & ASSOCIATES, P.A.
"Since 1971"
Commercial * Residential * Mortgage Surveys * Multi-Family
Construction Staking * Subdivision Design * Topographical
131 Crosslake Park Drive – Suite 102 * Mooresville * NC * 28117
(704) 664-7029 (704) 664-8041 Fax

I, certify that this map was drawn under my supervision from an actual survey made under my supervision recorded in deed book 2547, page 2170, and/or plat book 13, page 41, that the ratio of precision is 1':10,000, that this map was prepared in accordance with the General Statutes of North Carolina Chapter 890. my hand and seal on the 8, day of OCT, A.D. 20 18.

WILLIAM M. ALLEN, PLS

NORTH CAROLINA PROFESSIONAL SEAL L-3499 LAND SURVEYOR WILLIAM M. ALLEN



NOTES
1) THIS PROPERTY MAY BE SUBJECT TO ANY EASEMENT AND/OR RIGHTS-OF-WAY OF RECORD.
2) AREA COMPUTED BY THE COORDINATE METHOD.
3) EXISTING 760' & 761' CONTOUR ELEVATION BASED ON LAKE NORMAN LAKE LEVEL AT COWAN'S FORD DAM (READING ON 9\14\2018.
4) UNDERGROUND POWER
5) NO GRID MONUMENT FOUND WITHIN 2000 FEET.

LINE TABLE		
LINE	BEARING	LENGTH
L1	N 17°29'00" W	58.31'
L2	N 32°55'00" E	90.14'
L3	N 13°31'42" E	61.21'

CURVE TABLE				
CURVE	RADIUS	LENGTH	BEARING	CHORD
C1	449.69'	65.69'	S 01°51'07" W	65.64'
C2	327.99'	9.10'	S 03°15'02" E	9.10'

LEGEND
P.P. = POWER POLE
□ = POWER TRANS.
E.I.P. = EXISTING IRON FOUND
I.P.S. = #4 REBAR SET
R/W = RIGHT-OF-WAY
CP = COMPUTED POINT

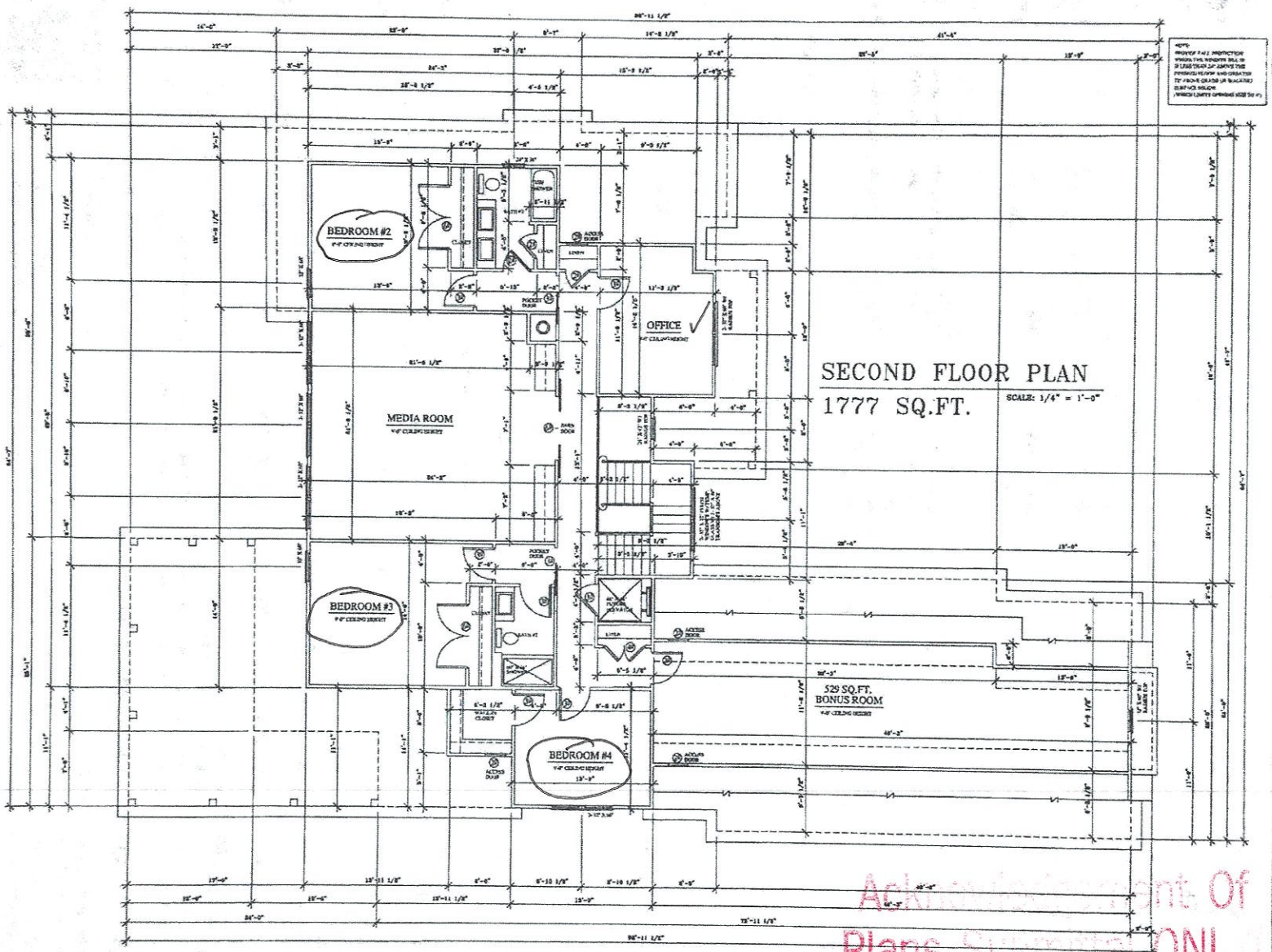
0' 25' 50' 100'
SCALE IN FEET

BOUNDARY SURVEY

OF
278 TENNESSE CIR.
LOT 77 CRESCENT LAND & TIMBER CORP. SECT.16
DAVIDSON TWSP., IREDELL CO., N.C.

SCALE 1" = 50'
ACQUIRED BY: ROBERT & ELIZABETH CARROLL

FIELD BOOK: 502-A
FILE: CLT 77 S16
DC FILE:
TAX MAP NO: 4639267771



SECOND FLOOR PLAN

1777 SQ.FT.

SCALE: 1/4" = 1'-0"

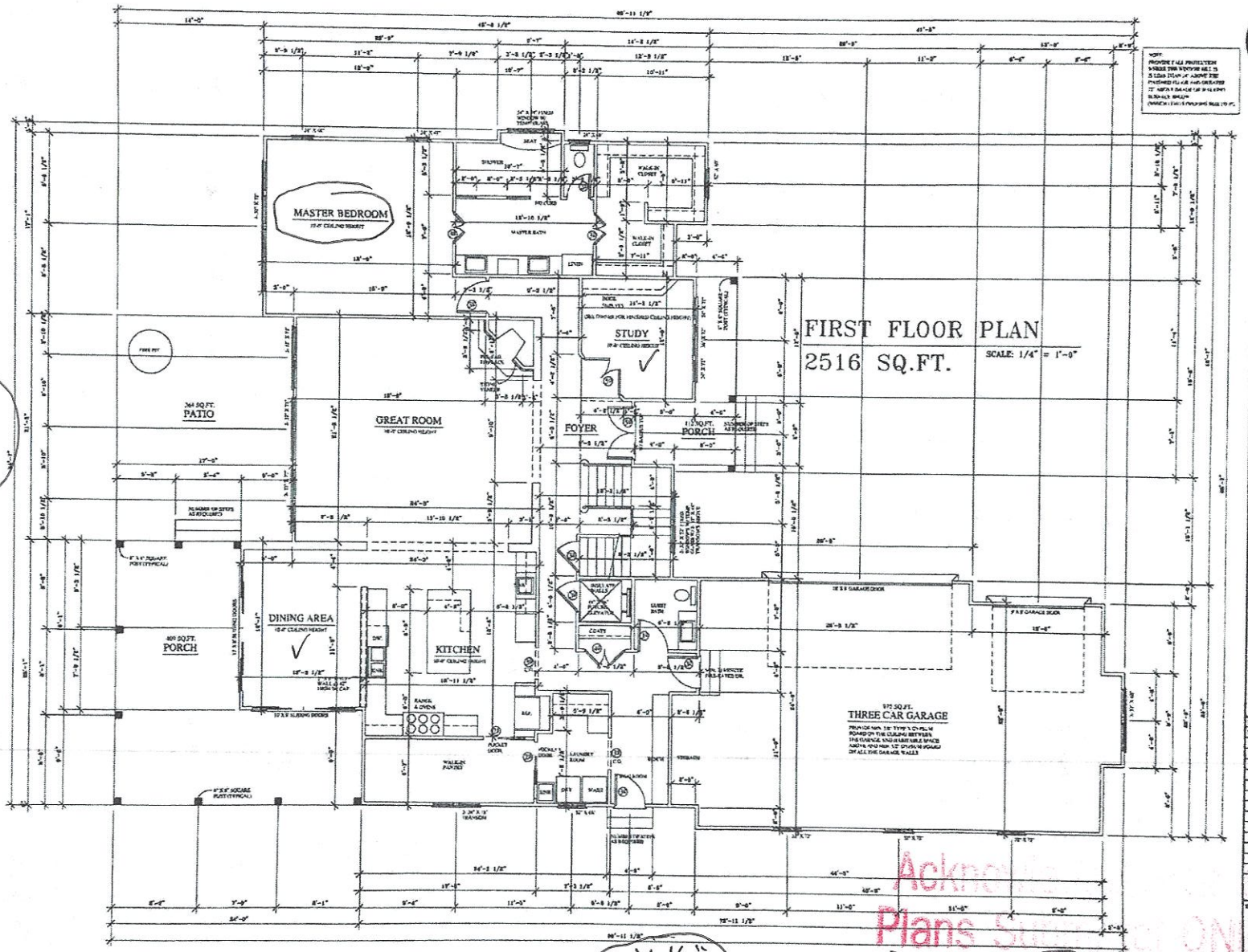
JEFFERY D. GRAY
RESIDENTIAL DRAFTING & DESIGN

CARROLL RESIDENCE

5

Acknowledgment Of
Plans Submittal ONLY
Date

Tom Shuck Date 12/6/19



FIRST FLOOR PLAN
2516 SQ.FT.
SCALE: 1/4" = 1'-0"

98'11 1/2"

JEFFERY D. GRAY
RESIDENTIAL DRAFTING & DESIGN

CARROLL RESIDENCE

4

Acknowledged
Plans Subject to ONR
Date
Tom Shuck Date 12/6/19

Site Plan - 278 Tennessee Circle

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OR EASEMENTS

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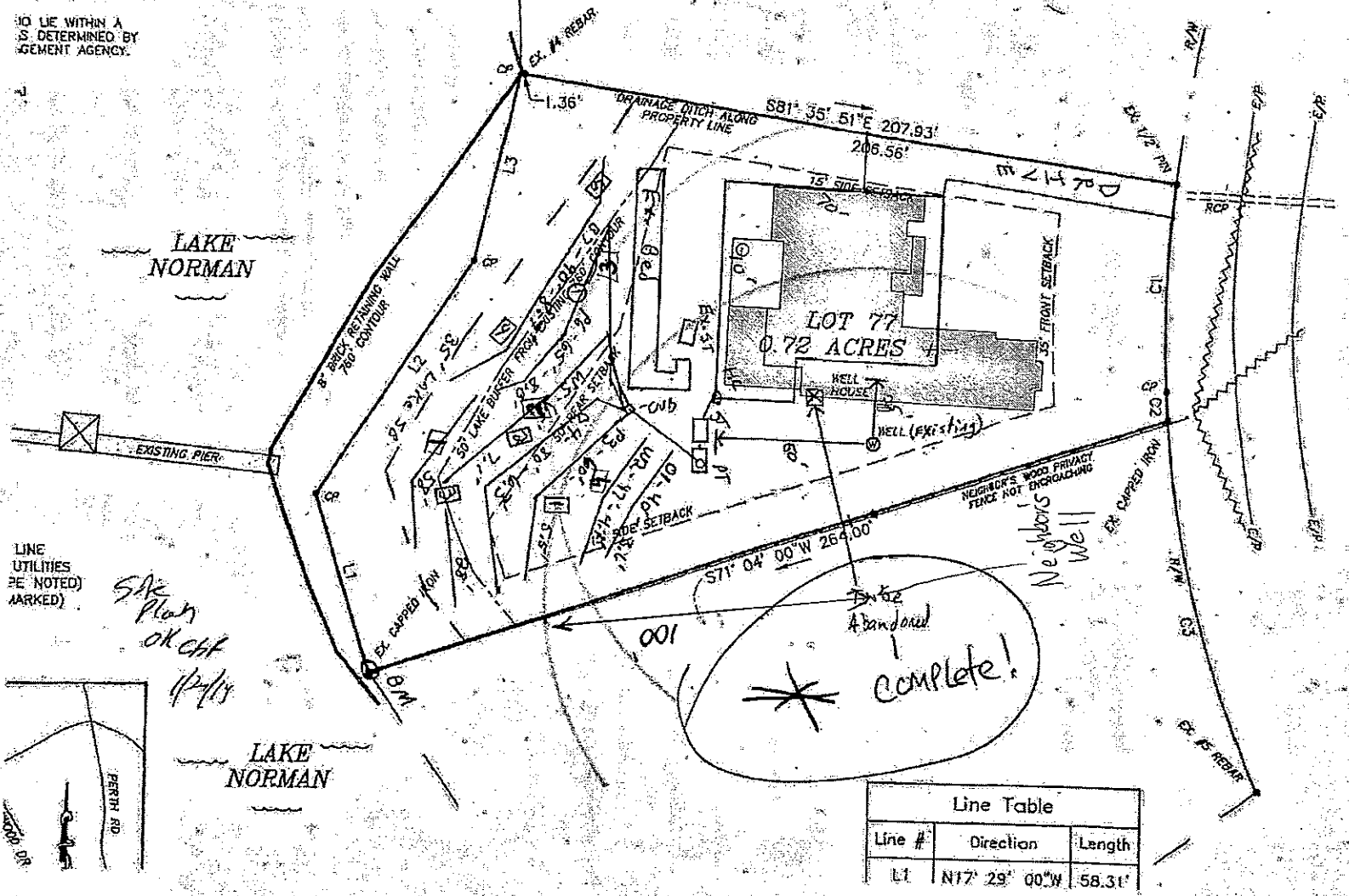
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Site Plan
OK CSH
1/25/19

Line Table		
Line #	Direction	Length
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North Carolina Department of Health and Human Services
Division of Public Health

Pat McCrory
Governor

Aldona Z. Wos, M.D.
Ambassador (Ret.)
Secretary DHHS

Penelope Slade-Sawyer
Division Director

Onsite Water Protection Branch
August 19, 2014

Willis Spivey
Spivey Construction
PO Box 4268
Mooresville, NC 28117

Re: Approval No. JMB444

Private Well Located Less than 12" Above Land Surface [Rule 15A NCAC 2C .0107(d)(5)]

Property location:
278 Tennessee Circle
Mooresville, NC 28117

Dear Mr. Spivey;

On August 8, 2014 the On-site Water Protection Branch received your request for a variance from the Well Construction standards, Title 15A North Carolina Administrative Code Subchapter 2C .0100. The request for a variance concerns an existing water supply well on the referenced property that is proposed to serve a new single family dwelling. The new plan for the property requires that the drive go across the existing well. There would be limited locations for a new well on the property.

Specifically, the variance request grants you permission to use an existing water supply well at a distance closer than the twenty five foot setback to a building perimeter, closer than twenty five feet to a sewer line and be constructed below land surface. Achieving the twenty five foot setback would be difficult given the challenges of the property and the well cannot be raised above land surface due to its location in the new drive way. There would be limited locations on the property for a new private drinking water well.

Based upon information provided by the Iredell County Health Department, and the property owner, it is my finding that based upon current conditions as the site exist today (as well as the current proposal for use of the structure) you meet the conditions necessary for approval of a variance as

specified by 15A NCAC .0118 (a) (1) and (2). On that basis and if the following conditions are met, the requested variance is approved:

1) No potential sources of groundwater contamination shall be stored near the well-head.
2) The well/wellhead shall meet all current 2C. 0100 standards, with the exception of being twelve inches above land surface, including but not limited to being **properly grouted**, properly sealed, having a thread-less sample tap etc.
3) The well shall be sampled for the same parameters as a newly constructed well.
4) The well shall be enclosed in a vault protected from any surface water run-off and the vault shall be equipped with minimum two inch screened pipe drained to daylight. The vault shall be constructed to withstand traffic.

The granting of this variance is for the well location only. It in no way relieves the owner or agent from other requirements of the North Carolina Well Construction Standards including, but not limited to the requirements in 15A NCAC 2C .0113(b) to repair or to abandon any well which acts as a source or channel for the migration of contamination. This approval does not imply sufficient water quality. Further, the approval does not relieve your responsibility to comply with any other applicable Federal, State, or local laws or regulations.

If you have any questions regarding this variance, please contact me at (828) 713-3335.

Sincerely,

John M. Brooks R.E.H.S, MS

IREDELL COUNTY

PO Box 788
349 North Center St.
Statesville, NC 28677

APPLICATION NUMBER
201235
Issue Date: 11/18/2019

Permit Type: ZONING-IREDELL COUNTY

Parcel Number	Street Address	Jurisdiction
4639267771.000	278 TENNESSEE CIRCLE	IREDELL COUNTY

Owner Information	Applicant Information	Contractor Information
Owner: MORGAN JAMES A+JAMES A JR	Applicant: SPIVEY CONSTRUCTION CO	Contractor: FREDERICK BUILDING GRO
Address: 419 BEVERLY RD	Address: PO BOX 4268	Address: 17005 GREEN DOLPHIN LANE
RIDGEWOOD, NJ 7450	133 RIVER PARK ROAD	CORNELIUS, NC 28031
Phone:	MOORESVILLE, NC 28117	Phone:
	Phone: 704-663-4189	License Type License Number

Project Description

NEW SINGLE FAMILY - IREDELL

Scope of Work

SFD
TRAKIT #302752

Permit Details:

Amount:
Amount:
Amount:
Amount:
Amount:
Amount:
Amount:

I hereby certify that all information in this application is correct and all work will comply with the state code and all other applicable state and local laws, ordinances and regulations. The respective department will be notified of any changes in the approved plans, a change of contractor, and/or specifications for the project permitted herein. This application becomes a permit only when validated and approved.

Signature of Owner/Contractor

Date: 11/18/2019

ANY PERMIT ISSUED EXPIRES SIX (6) MONTHS AFTER ISSUANCE IF NO INSPECTIONS HAVE BEEN MADE. ANY PERMIT ISSUED SHALL EXPIRE TWELVE (12) MONTHS AFTER LAST INSPECTION IF THE WORK IS DISCONTINUED.

Permit Number	192811	TOTAL FEES:	$