ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625 PERMIT # AP-310635

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

PIN # 4625-29-5368

APPLICANT/OWNER: Steve & Renee Brooks APPLICANT ADDRESS: 2055 Herron Ave, Walnut Creek, CA 94596

SITE ADDRESS: 120 Tranquil Cove Rd, Mooresville NC 28117 PHONE: 925-407-6737 ALT. PHONE N/A

SITE DIRECTIONS: BSR T/R Bay Harbour Rd T/R Shipyard Pointe Rd T/L Dedar Bluff Ln T/L Tranquil Cove R SAP CONTROLLED: ☐ YES ■ NO

SUBDIVISION: The Harbour SECTION: 6 LOT # 44 LOT AREA: .71 ac DESIGN FLOW: 480 L.T.A.R.: 0.3

Septic Tank	1500 (gal)	STB 9164	Date 6/18/22	■ New System ☐ Repair ☐ Expansion System Type: I II III IV V VI		■ Residence	No. Bedrooms	4	Water Supply
Settling Tank	1500 (gal)	☒ST 9164	Date 6/11/22	System Description:	25% Reduction - Grinder Pump	☐ Business	No. Persons	8	☐ Private
Pump Make		Model	Serial #	Repair System Description:	LPHPPBPS	☐ Other	No. Employees		☐ Public
# Nitrification Fields	1	# Lines 4	Linear Ft 400'	Maintenance Agreement Required:	☐ YES ■ NO	☐ Slab	☐ Crawl Space		■ Community
Trench Width	36"	Trench Bottom Depth(Low side)	30"	Gravel Depth	N/A ■ GRAVITY ☐ PRESSURE	■ Basement w/plumbing		☐ Basement w/o plumbing	

Comments / Conditions: Per plan By Soil & Forestry Services of the Carolina, PA

lowest line checked except last 3 chambers
tank needs filter

INITIAL SITE SKETCH

This permit is issued pursuant to Section 11.(c) of SL 2018-114 using the signed and sealed

LSS Evaluation attached here.

See plan by: Soil & Forestry Services of the Carolina, PA

AS BUILT SKETCH

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

INSTALLED AS SHOWN

Authorization to Construct
FOR SEPTIC FINAL INSPECTION
CALL 704-664-3703

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.*

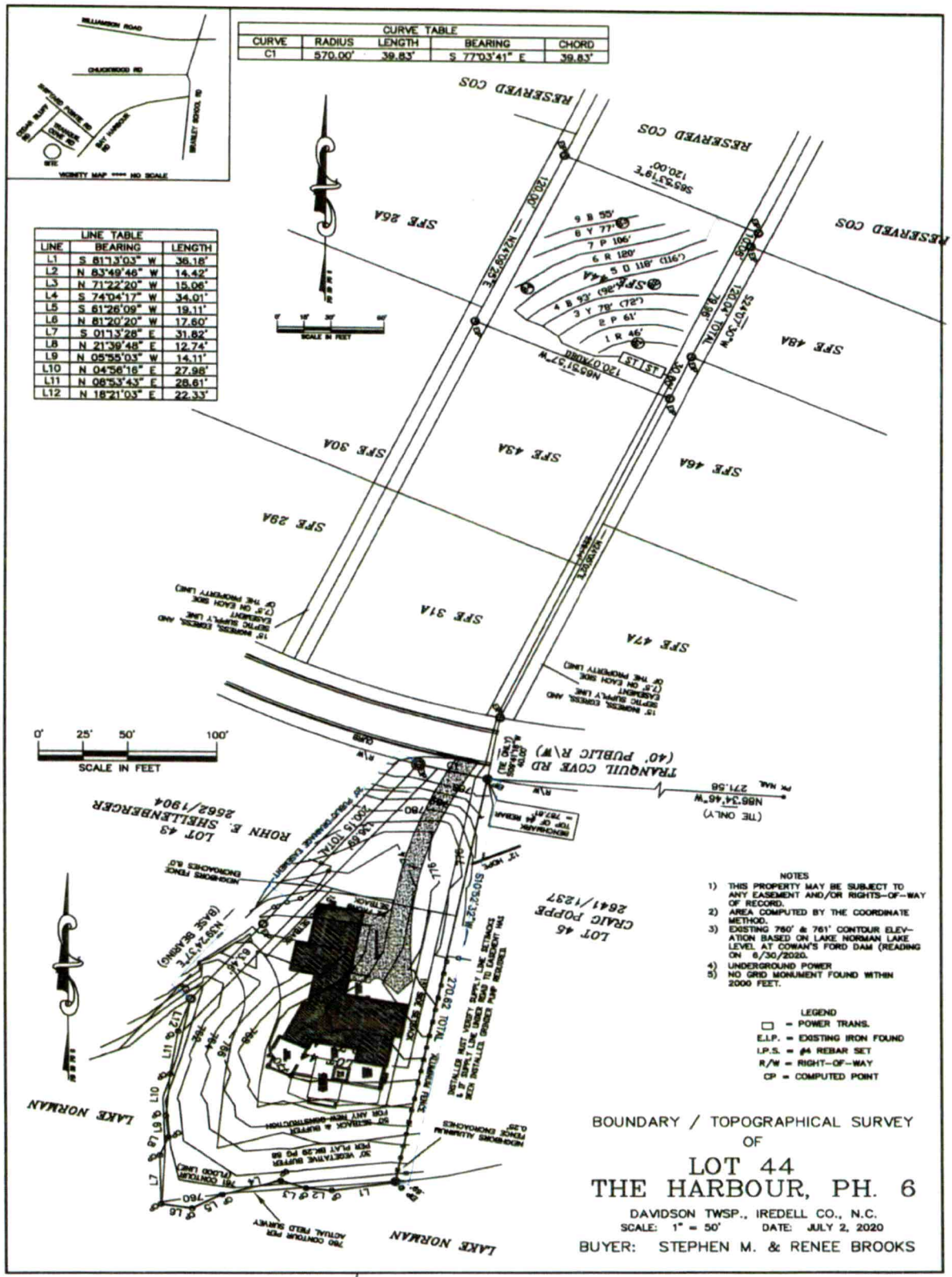
Owner / Applicant Signature: Date: 7/11/22 Installed by: GREENWAY WASTEWATER

IMPROVEMENT PERMIT by: Date: 7/5/22 OPERATION PERMIT by: Brent C. White Date: 8-26-2022

AUTHORIZATION TO CONSTRUCT by: Date: 7/5/22 Existing System Inspected by: Date:

FOR SEPTIC FINAL INSPECTION: CALL 704-664-3703 between 8am-9am the day the inspection is needed

RESERVED COS
RESERVED COS
SFE 25A
484
EIP
EIP
EIP
EIP
EIP
EIP
10.08'
S24°07'30"W
120.04' TOTAL
79.96'
30.00'
S65°52'19"E
120.00'
N65°51'57"W
120.07 DBO
120.00'
N24°09'25"E
ST
ST
SFE 44A
9 B 55'
8 Y 77'
7 P 106'
6 R 120' 72' 118' (116') M
5 □
4 B 63' (92') 94'
3 Y 78' (72') 74'
2 P 61'
1 R 46'
PB 29 PG 6
0'
15'
30'
60'
SCALE IN FEET


VICINITY MAP ***** NO SCALE
CURVE TABLE
CURVE | RADIUS | LENGTH | BEARING | CHORD
C1 | 570.00' | 39.83' | S 77°03'41" E | 39.83'
LINE TABLE
LINE | BEARING | LENGTH
L1 | S 81°13'03" W | 36.18'
L2 | N 83°49'46" W | 14.42'
L3 | N 71°22'20" W | 15.06'
L4 | S 74°04'17" W | 34.01'
L5 | S 61°26'09" W | 19.11'
L6 | N 81°20'20" W | 17.60'
L7 | S 01°13'26" E | 31.82'
L8 | N 21°39'48" E | 12.74'
L9 | N 05°55'03" W | 14.11'
L10 | N 04°56'16" E | 27.98'
L11 | N 08°53'43" E | 28.61'
L12 | N 18°21'03" E | 22.33'
RESERVED COS
SFE 26A
SFE 48A
SFE 30A
SFE 43A
SFE 46A
SFE 29A
SFE 31A
SFE 47A
TRANQUIL COVE RD
(40' PUBLIC R\W)
LOT 43
ROHN E. SHELLENBERGER
2662/1904
LOT 45
CRAIG POPPE
2641/1237
LAKE NORMAN
0' 25' 50' 100'
SCALE IN FEET
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 6/30/2020.
4) UNDERGROUND POWER
5) NO GRID MONUMENT FOUND WITHIN 2000 FEET.
LEGEND
□ = POWER TRANS.
E.I.P. = EXISTING IRON FOUND
I.P.S. = #4 REBAR SET
R/W = RIGHT-OF-WAY
CP = COMPUTED POINT
BOUNDARY / TOPOGRAPHICAL SURVEY
OF
LOT 44
THE HARBOUR, PH. 6
DAVIDSON TWSP., IREDELL CO., N.C.
SCALE: 1" = 50' DATE: JULY 2, 2020
BUYER: STEPHEN M. & RENEE BROOKS

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Project#: 20-0081
May 20th, 2022

STEVE & RENEE BROOKS
Attn: *Steve & Renee Brooks*
Email: sbgator90@icloud.com

RE: Soil & Site Evaluation for a 4 Bedroom Residence at 120 Tranquil Cove Road, 0.71 ac, PIN#: 4625295368, Mooresville, NC 28117, The Harbour Lot #44/44A Iredell County, NC.

Steve & Renee:

At your request Soil & Forestry Services of the Carolinas (S&FS) has performed soil/site evaluations on parcel noted above. The Lot size is noted on the attached soil evaluation form. The purpose of our work was to identify soil areas with potential to support subsurface wastewater disposal systems and provide design details for Session Law submittals to Iredell County Health Department.

Site Conditions

At the time of our evaluation land cover on the property was mostly mixed pine/hardwood. Topography within the evaluated area was moderate slope near the house site with moderate percentage of slope in the proposed drainfield area (SFE 44A – Septic Field Easement). Property lines and corners were marked at the time of the evaluation by Don Allen & Associates. The Surveyor provided an Autocad File of the survey as a basemap. The proposed septic layout was located via Trimble Submeter GPS/measuring tape and used to produce the attached *Site Plan*. The new house envelope/plan was provided by KDH Residential Designs, LLC. The existing house is under construction on the original septic permit but the house was expanded and impacted the original tank locations. A grinder pump will be required and installed under NC Plumbing Code to eject the wastewater up to tanks at the offsite easement (44A).

Methodology

We evaluated soil areas through the use of hand augers. Soil morphological conditions including color, texture, structure, etc. were reviewed in the field with four auger locations on the property flagged and located via GPS. Four of the soil borings were reference for the proposed septic layout. Soil suitability was determined by referencing 15A NCAC 18A.1900 "Laws and Rules for Sewage Treatment and Disposal Systems". *Soil & Site Evaluation Forms* were utilized to record the soil morphological data for each boring. An on-ground layout of system and repair was performed on Lot 44A (SFE) using a laser level. Pin flag locations of the layout were also located by GPS and measuring tape. All property corners

on the easement were marked by survey at the time of the evaluation. Detailed system & repair information is summarized in the following paragraph for this Lot.

120 Tranquil Cove Road (*See Attached Design*)
The septic layout for this lot (9' centers) yielded a total of 754 linear feet of line. The primary system is proposed as 400' of Accepted (25% Reduction) drainfield with gravity distribution. Trench depth (Low Side) is specified at 30 inches. The repair system is proposed as 267' of PPBPS drainfield with gravity distribution. Trench depth (Low Side) is specified at 30 inches. There is 345 linear feet of repair available. **The supply line (stubbout at lot and easement) was not visibly present in the field and will need to be located by the septic installer.**

Session Law Requirements

An LSS Evaluation may be submitted in conjunction with a complete application to the LHD. The application shall include all information described in 15A NCAC 18A .1937(d) and be accompanied by a signed and dated statement from the applicant (owner or owner's legal representative) that reads as follows:

"The 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).".

Owner Date

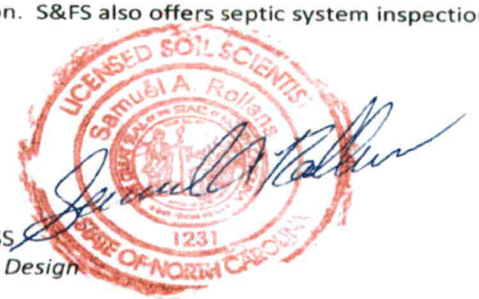
Print Name Stephen Brooks
Signature _____ June 21, 2022

The LSS Evaluation shall include a statement bearing the LSS seal and signature that reads as follows:

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

Disclaimer
This report reflects the findings of S&FS, PA. *This LSS Evaluation is being submitted pursuant to and meets the requirements of SL 2018-114 Section 11.(c).* Any site modifications that impact the proposed septic areas at 120 Tranquil Cove Road may nullify this design. System design requirements and site requirements shall be adhered to for installation and Operations Permits to be issued by the local Health Department. If you have questions regarding these requirements a Pre-Construction meeting should be scheduled to discuss. Please contact S&FS if you have any questions regarding this report or the attached information. S&FS also offers septic system inspection, wetland delineation and forestry services.

Sincerely,



S. Ashley Rollans, LSS
Attachment: *Septic Design*

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Attached is a proposed design for an Accepted Septic System with gravity dist. for a 4 bedroom single family residence at 120 Tranquil Cove Rd Mooresville 28117, Iredell County, NC. PIN#: 4625295368
Drainfield is located at septic field easement 44A.

Contents: **Page**

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

Design Information
Design Specifications---------- 2-3
Layout Specifications---------- 4

Site Plan/System Plan---------- 5

Calculations---------- 6

Profile Descriptions---------- SUBMITTED

Zoning Permit & Receipt---------- SUBMITTED

Application---------- 7-8

Green Sheet---------- 9

Agent Authorization Form---------- 10

6/17/2021
Project #: 20-0081
Design By: Soil & Forestry Services of the Carolinas, PA

GRAVITY ACCEPTED SYSTEM FOR WASTEWATER TREATMENT

Owner/Applicant:	Steve & Renee Brooks
Address:	2055 Herron Ave Walnut Creek, CA 94596
Phone:	925.407.6736
County:	Iredell
Location:	120 Tranquil Cove Rd- Lot 44 Mooresville, NC 28117
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480
System Flow:	N/A

Design Specifications

Drainfield Size:	400	
Loading Rate (gpd/ft.^{2}):	0.3	
Depth of Gravel in Trench:	N/A	
Gravel Size:	N/A	
Max.Trench Depth (Low Side):	30 in.	Repair Trench Bottom 30 in.
Trench Width:	36 in.	
Septic Tank Size:	1500	
Estimated Supply Line Length:	40	
Supply Line Diameter:	4 in. SCH 40 PVC	
Supply Line Volume:	26.12	
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 Soil & Forestry Services of the Carolinas, PA	

120 Tranquil Cove Rd- Lot 44

ACCEPTED SYSTEM

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	1200
TOTAL LATERAL LENGTH:	400
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	40
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1500
SETTLING TANK REQUIRED	1000

Layout Specifications - 120 Tranquil Cove Rd

Project #: 20-0081

LAYOUT FOR 4 BEDROOM HOME

6/17/2021

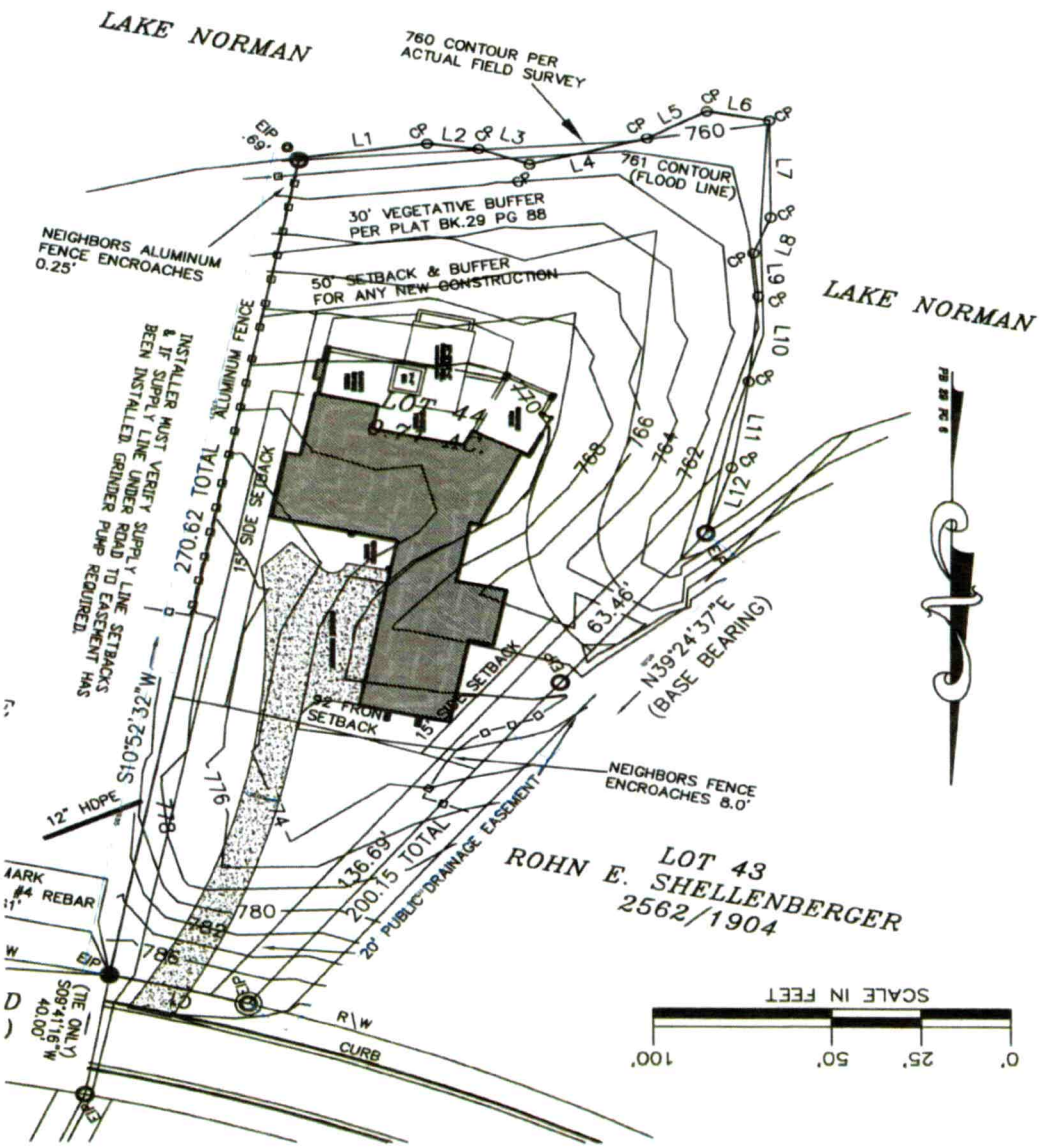
LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1							
1	RED					46	46
2	PINK					61	61
3	***YELLOW***					***78***	***72***
4	***BLUE***					***93***	***92***
5	***ORANGE***					***118***	***116***
6	***RED***					***120***	***120***
7	PINK					106	106
8	YELLOW					77	77
9	BLUE					55	55
					Total	754	745

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION	Low Side MAX TRENCH DEPTH
** System*	***400***	***0.300***	***ACCEPT.***	***0.300***	***25% RED***	***GRAVITY***	30"
Repair	345	0.300	MOD. CONV.	0.300		GRAVITY	30"

Notes: **All measures in feet

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

**Nitrification lines were located by GPS and tape measure.


LAKE NORMAN
760 CONTOUR PER ACTUAL FIELD SURVEY
EIP .69'
L1
L2
L3
L4
L5
L6
760
761 CONTOUR (FLOOD LINE)
L7
L8
L9
L10
L11
L12
30' VEGETATIVE BUFFER PER PLAT BK.29 PG 88
NEIGHBORS ALUMINUM FENCE ENCROACHES 0.25'
50' SETBACK & BUFFER FOR ANY NEW CONSTRUCTION
LAKE NORMAN
INSTALLER MUST VERIFY SUPPLY LINE SETBACKS & IF SUPPLY LINE UNDER ROAD TO EASEMENT HAS BEEN INSTALLED GRINDER PUMP REQUIRED
270.62 TOTAL
ALUMINUM FENCE
15' SIDE SETBACK
LOT 44
0.71 AC.
770
768
766
764
762
63.46'
N39°24'37"E (BASE BEARING)
15' SIDE SETBACK
92' FRONT SETBACK
S10°52'32"W
NEIGHBORS FENCE ENCROACHES 8.0'
12" HDPE
776
778
774
136.69'
200.15 TOTAL
20' PUBLIC DRAINAGE EASEMENT
LOT 43
ROHN E. SHELLENBERGER
2562/1904
#4 REBAR
780
785
EIP
(TIE ONLY)
S09°41'16"W
40.00'
R\W
CURB
SCALE IN FEET
0'
25'
50'
100'

CALCULATIONS

Location	120 Tranquil Cove Rd Mooresville, NC 28117	
Project Number	20-0081	
Lot No:	44	
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.300	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	NO	
Supply Line Length	40	ft.
Supply Line Volume	26.12	gal.
Required Feet of Line	400	ft.
Amount of Line from Layout	400	ft.
Gallons per Minute	N/A	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Septic Tank Size	1500	gal.
Settling Tank Size	1000	gal.
Panel Volume	N/A	gal.
# of Panels	N/A	
Dosing Volume	N/A	gal.
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.

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

ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625 PERMIT # AP-310635

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

PIN # 4625-29-5368

APPLICANT/OWNER: Steve & Renee Brooks | APPLICANT ADDRESS: 2055 Herron Ave, Walnut Creek, CA 94596

SITE ADDRESS: 120 Tranquil Cove Rd, Mooresville NC 28117 | PHONE: 925-407-6737 | ALT. PHONE N/A

SITE DIRECTIONS: BSR T/R Bay Harbour Rd T/R Shipyard Pointe Rd T/L Dedar Bluff Ln T/L Tranquil Cove R | SAP CONTROLLED: ☐ YES ■ NO

SUBDIVISION: The Harbour | SECTION: 6 | LOT # 44 | LOT AREA: .71 ac | DESIGN FLOW: 480 | L.T.A.R.: 0.3

Septic Tank	1500 (gal)	STB 964	Date 6/18/22	■ New System ☐ Repair ☐ Expansion	System Type: I II III IV V VI	■ Residence	No. Bedrooms	4	Water Supply
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Comments / Conditions: Per plan By Soil & Forestry Services of the Carolina, PA

lowest line checked except last 3 chambers
tank needs filter

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AS BUILT SKETCH

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See plan by: Soil & Forestry Services of the Carolina, PA

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

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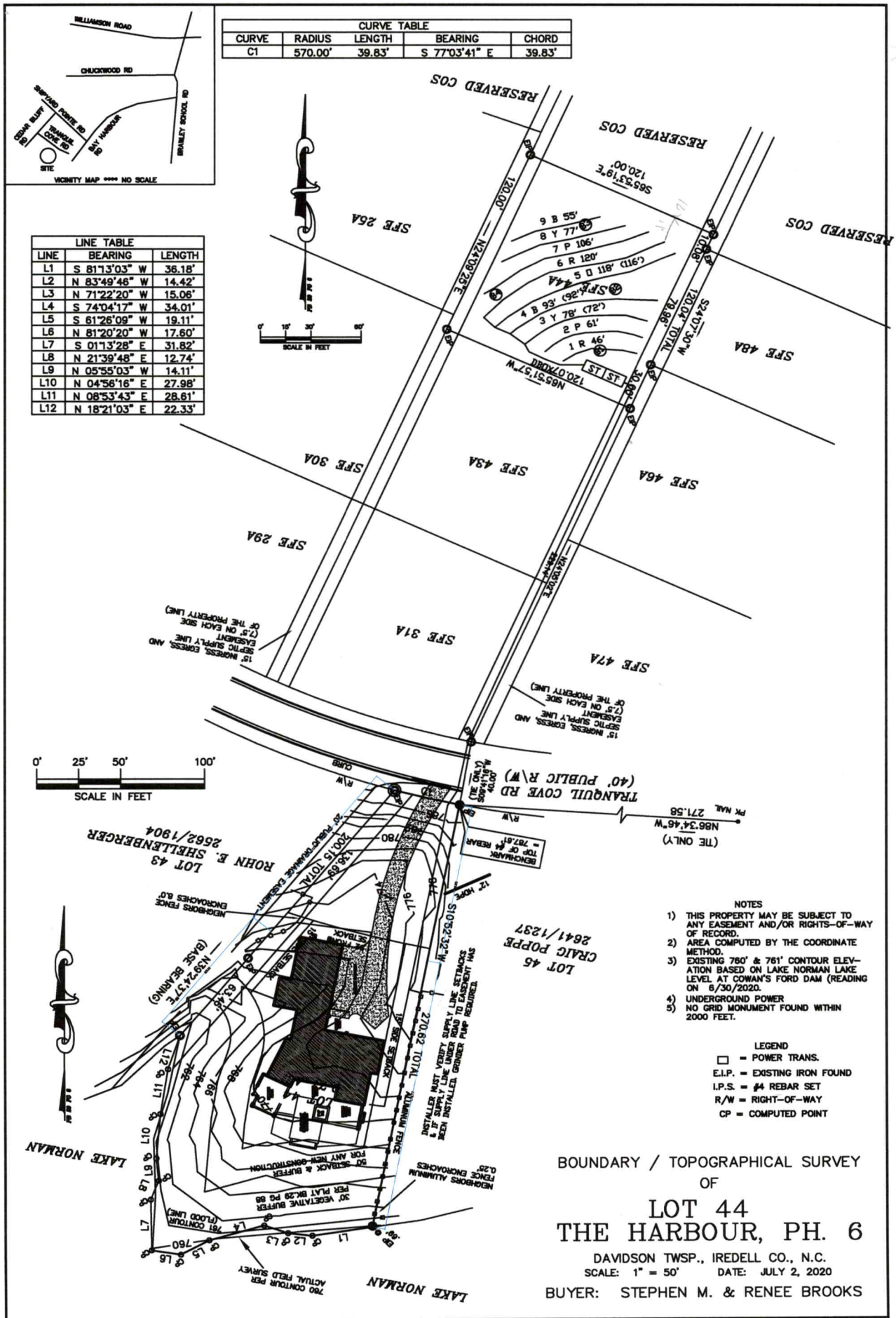
Owner / Applicant Signature: _____ Date: 7/11/22 Installed by: _____

IMPROVEMENT PERMIT by: _____ Date: 7/5/22 OPERATION PERMIT by: _____ Date: _____

AUTHORIZATION TO CONSTRUCT by: _____ Date: 7/5/22 Existing System Inspected by: _____ Date: _____

FOR SEPTIC FINAL INSPECTION: CALL 704-664-3703 between 8am-9am the day the inspection is needed.

0'
15'
30'
60'
SCALE IN FEET
PB 29 PG 6
SFE 25A
RESERVED COS
RESERVED COS
484
SFE 44A
N24°09'25"E
120.00'
S24°07'30"W
120.04' TOTAL
79.96'
10.08'
S65°53'19"E
120.00'
N65°51'57"W
120.07
DBDX
30.00'
ST
ST
EIP
EIP
EIP
EIP
EIP
1 R 46'
2 P 61'
3 Y 78' (72')
4 B 93' (92')
5 □ 118' (116')
6 R 120'
7 P 106'
8 Y 77'
9 B 55'
B1
B2
B3
B4
11'
21'



BOUNDARY / TOPOGRAPHICAL SURVEY
OF

LOT 44
THE HARBOUR, PH. 6

DAVIDSON TWSP., IREDELL CO., N.C.
SCALE: 1" = 50' DATE: JULY 2, 2020
BUYER: STEPHEN M. & RENEE BROOKS

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Project#: 20-0081
May 20th, 2022

STEVE & RENEE BROOKS
Attn: *Steve & Renee Brooks*
Email: sbgator90@icloud.com

RE: Soil & Site Evaluation for a 4 Bedroom Residence at 120 Tranquil Cove Road, 0.71 ac, PIN#: 4625295368, Mooresville, NC 28117, The Harbour Lot #44/44A Iredell County, NC.

Steve & Renee:

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on the easement were marked by survey at the time of the evaluation. Detailed system & repair information is summarized in the following paragraph for this Lot.

120 Tranquil Cove Road (*See Attached Design*)
The septic layout for this lot (9' centers) yielded a total of 754 linear feet of line. The primary system is proposed as 400' of Accepted (25% Reduction) drainfield with gravity distribution. Trench depth (Low Side) is specified at 30 inches. The repair system is proposed as 267' of PPBPS drainfield with gravity distribution. Trench depth (Low Side) is specified at 30 inches. There is 345 linear feet of repair available. **The supply line (stubbout at lot and easement) was not visibly present in the field and will need to be located by the septic installer.**

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"The 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).".

Owner Date

Print Name Stephen Brooks
Signature _____ June 21, 2022

The LSS Evaluation shall include a statement bearing the LSS seal and signature that reads as follows:

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

Disclaimer
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Sincerely,

LICENSED SOIL SCIENTIST
Samuel A. Rollans
1231
STATE OF NORTH CAROLINA

S. Ashley Rollans, LSS
Attachment: *Septic Design*

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Attached is a proposed design for an Accepted Septic System with gravity dist. for a 4 bedroom single family residence at 120 Tranquil Cove Rd Mooresville 28117, Iredell County, NC. PIN#: 4625295368
Drainfield is located at septic field easement 44A.

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LICENSED SOIL SCIENTIST
Samuel A. Rollins
1231
STATE OF NORTH CAROLINA

6/17/2021
Project #: 20-0081
Design By: Soil & Forestry Services of the Carolinas, PA

GRAVITY ACCEPTED SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant:	Steve & Renee Brooks
Address:	2055 Herron Ave Walnut Creek, CA 94596
Phone:	925.407.6736
County:	Iredell
Location:	120 Tranquil Cove Rd- Lot 44 Mooresville, NC 28117
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480
System Flow:	N/A

Design Specifications

Drainfield Size:	400	
Loading Rate (gpd/ft.^{2}):	0.3	
Depth of Gravel in Trench:	N/A	
Gravel Size:	N/A	
Max.Trench Depth (Low Side):	30 in.	Repair Trench Bottom 30 in.
Trench Width:	36 in.	
Septic Tank Size:	1500	

Estimated Supply Line Length:	40
Supply Line Diameter:	4 in. SCH 40 PVC
Supply Line Volume:	26.12
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 Soil & Forestry Services of the Carolinas, PA

120 Tranquil Cove Rd- Lot 44

ACCEPTED SYSTEM

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.3
TOTAL AREA TRENCH BOTTOM:	1200
TOTAL LATERAL LENGTH:	400
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	400
SUPPLY LINE LENGTH:	40
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1500
SETTLING TANK REQUIRED	1000

Layout Specifications - 120 Tranquil Cove Rd

Project #: 20-0081

LAYOUT FOR 4 BEDROOM HOME 6/17/2021

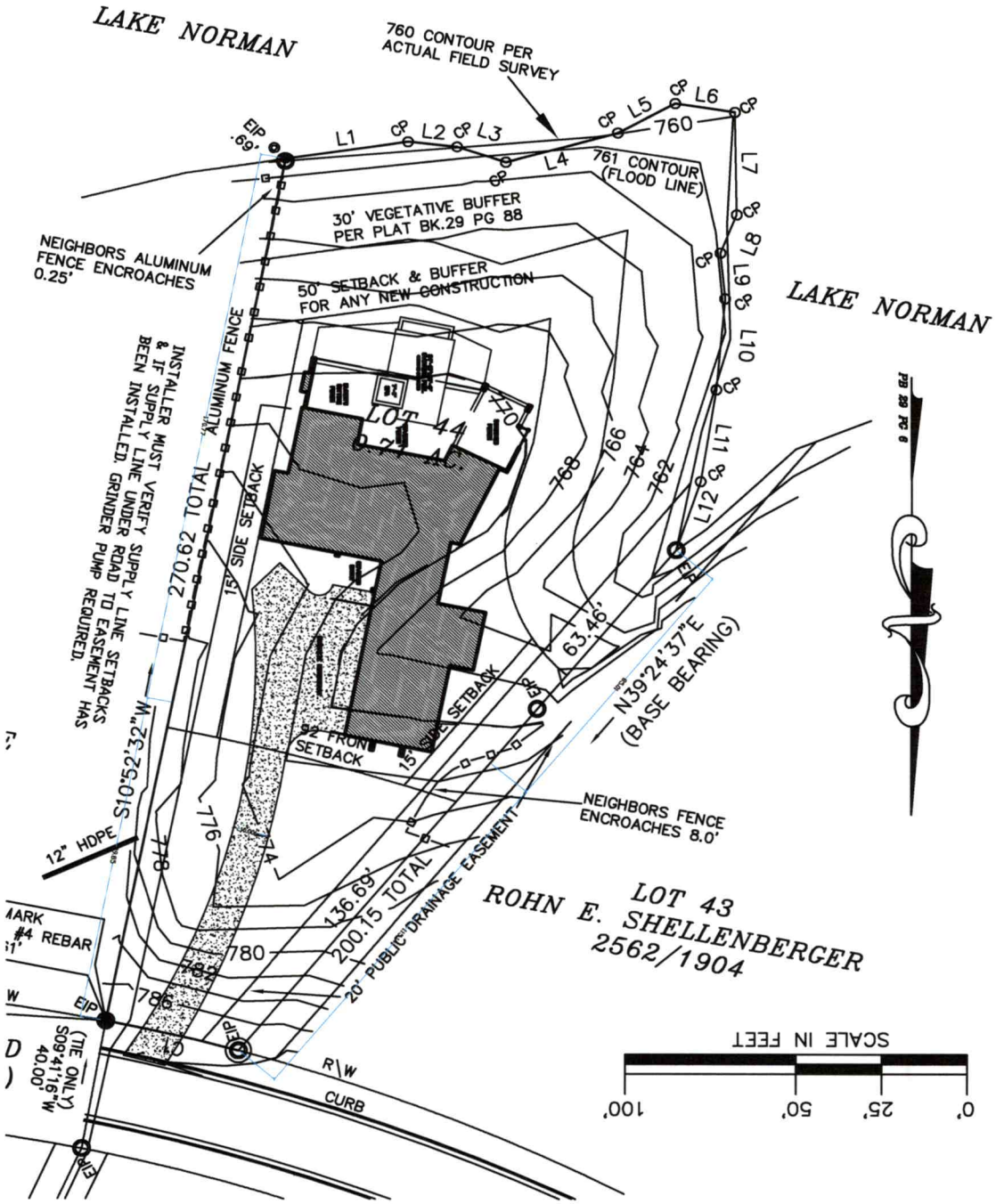
LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1							
1	RED					46	46
2	PINK					61	61
3	***YELLOW***					***78***	***72***
4	***BLUE***					***93***	***92***
5	***ORANGE***					***118***	***116***
6	***RED***					***120***	***120***
7	PINK					106	106
8	YELLOW					77	77
9	BLUE					55	55
					Total	754	745

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION	Low Side MAX TRENCH DEPTH
**** System***	***400***	***0.300***	***ACCEPT.***	***0.300***	***25% RED***	***GRAVITY***	30"
Repair	345	0.300	MOD. CONV.	0.300		GRAVITY	30"

Notes: **All measures in feet

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

**Nitrification lines were located by GPS and tape measure.


LAKE NORMAN
760 CONTOUR PER ACTUAL FIELD SURVEY
EIP .69'
L1
L2
L3
L4
L5
L6
L7
L8
L9
L10
L11
L12
760
761 CONTOUR (FLOOD LINE)
30' VEGETATIVE BUFFER PER PLAT BK.29 PG 88
NEIGHBORS ALUMINUM FENCE ENCROACHES 0.25'
50' SETBACK & BUFFER FOR ANY NEW CONSTRUCTION
LAKE NORMAN
INSTALLER MUST VERIFY SUPPLY LINE UNDER ROAD TO EASEMENT HAS BEEN INSTALLED. GRINDER PUMP REQUIRED.
ALUMINUM FENCE
270.62 TOTAL
15' SIDE SETBACK
LOT 44
0.74 AC.
768
766
764
762
63.46'
N39°24'37"E
(BASE BEARING)
15' SIDE SETBACK
92' FRONT SETBACK
S10°52'32"W
NEIGHBORS FENCE ENCROACHES 8.0'
12" HDPE
776
778
774
136.69'
200.15 TOTAL
20' PUBLIC DRAINAGE EASEMENT
LOT 43
ROHN E. SHELLENBERGER
2562/1904
MARK
#4 REBAR
780
782
786
EIP
(TIE ONLY)
S09°41'16"W
40.00'
R\W
CURB
SCALE IN FEET
0'
25'
50'
100'

CALCULATIONS

Location	120 Tranquil Cove Rd Mooresville, NC 28117	
Project Number	20-0081	
Lot No:	44	
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.300	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	NO	
Supply Line Length	40	ft.
Supply Line Volume	26.12	gal.
Required Feet of Line	400	ft.
Amount of Line from Layout	400	ft.
Gallons per Minute	N/A	$^{gal}/_{min}$
Required Septic Tank Capacity	1500	gal.
Septic Tank Size	1500	gal.
Settling Tank Size	1000	gal.
Panel Volume	N/A	gal.
# of Panels	N/A	
Dosing Volume	N/A	gal.
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.

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

RECEIVED JUN 2 1 2022

IREDELL COUNTY DEPARTMENT of ENVIRONMENTAL HEALTH

APPLICATION FORM

Revised

Application For: ( ) New Well Permit ( ) Well Repair Permit ( ) Well Abandonment
(X) Septic Improvement Permit ( ) Authorization to Construct ( ) Existing System Inspection ( ) 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(f) 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 (X) Custom Site Plan, scaled no more than 1 inch = 60 feet

Applicant Information: (PRINT CLEARLY)

Applicant Name: Steve & Renee Brooks **Address:** 2055 Herron Ave, Walnut Creek, CA **Zip:** 94596
Applicant Email: ~~[illegible]~~ sbgator90@icloud.com **Phone:** 925-407-6736 **Alt. Phone:**
Owner Name: ~~Carlos Pereira~~ Same **Address:** ~~P.O. Box 931 Clemmons NC~~ **Zip:** ~~27012~~
Owner Email: **Phone:** ~~704 677 0944~~ **Alt. Phone:**

Property Information:

Street Address: 120 Tranquil Cove Rd, Mooresville NC 28117
Subdivision Name: The Harbour **Section/Phase:** **Lot Number:** 44
Driving Directions: Brawley School Rd, Right onto Bay Harbour Rd, Right onto Shipyard Pointe Rd, Left onto Cedar Bluff Ln, Left onto Tranquil Cove Rd

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: 8
(✓) Swimming Pool
( ) Other Addition/Structure:

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

Non-Residential Site Development: Type of Business:
Square Footage of Building: Max. Number of Employees: Max. Number of Seats/Beds/Other:

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: Accepted 25% Redu

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: [signature] [redacted] 6/17/22
Property owner or owner's legal representative signature (SIGNATURE REQUIRED) DATE



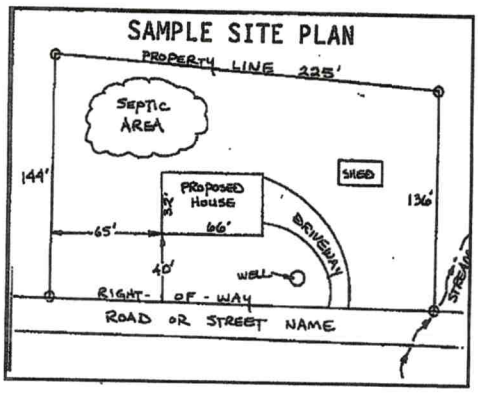
IREDELL COUNTY DEPARTMENT of ENVIRONMENTAL HEALTH

SITE PLAN WORKSHEET

SEE THE "SAMPLE SITE PLAN" BELOW. *INCOMPLETE SITE PLANS WILL BE RETURNED TO YOU FOR COMPLETION AND MAY RESULT IN A DELAY IN THE ISSUANCE OF YOUR SEPTIC SYSTEM OR WELL PERMIT!!!*

Place an (X) beside each item as you complete the site plan:

- X **Property Line measurements are clearly identified**
- X **All proposed structures are indicated**
- X **Front and side setbacks from property line**
- X **Preferred driveway location**
- X **Preferred well location**
- X **Preferred septic system location**
- X **North arrow, or other sufficient indicator of direction**



Circle N/A on the following if appropriate:

Location of septic systems and wells within 100' of your property N/A
Location of easements and rights of ways on your property N/A
Location of any designated wetlands on the property N/A

USE THIS SPACE TO DRAW YOUR SITE PLAN

Show: proposed house or business footprint, wells, water lines, patios, pools and decks, and any other item that will occupy space on the site

See Attached

Signature: Steven A Kollen
Property owner or owner's legal representative signature (SIGNATURE REQUIRED)

[redacted] 6/17/22
DATE

Public Health
Protect. Promote. Protect.
Iredell County Health Department

IREDELL COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

Public Health
Protect. Promote. Protect.
Iredell County Health Department

DOCUMENTATION TO AUTHORIZE AN OWNER'S LEGAL REPRESENTATIVE

(Check and sign only ONE of the options below)

☐ **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, Stephen Brooks, am the legal owner(s) of the property located at 120 Tranquil Cove Rd, Mooresville NC 28117, identified as PIN (Parcel Identification Number)_____, located in Iredell County, North Carolina.

I do hereby authorize (**print legal representative/company name**) David Brooks, _____, 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.

Stephen Brooks
Signature of Owner(s)

07/08/22
Date

Mooresville - Environmental Health

Fax: 704-662-3239
610 E. Center Avenue, Mooresville, NC 28115

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

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 DHHS, 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.
- Repair is specified as a gravity 50% reduction (Mod.Conv.) w/gravity installation.
- Rake trench walls, lime sidewalls, install trenches 36" wide and have no more than 1/4" fall in 10 feet.
- **Supply line location/installation could not be verified in the field.**
- **Contact TCW with questions reguarding the supply line location.**
- **TCW/HOA must approve tanks in easement. Grinder pump required.**

DocuSign Envelope ID: 96F5D71E-A4C7-4BA7-A3C9-1FF2F6259E06

IREDELL COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

DOCUMENTATION TO AUTHORIZE AN OWNER'S LEGAL REPRESENTATIVE

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.

*I, Stephen Brooks, am the legal owner(s) of the property located at 120 Tranquil Cove, identified as PIN (Parcel Identification Number) 4625-29-5368.000, located in Iredell County, North Carolina.

I do hereby authorize (print legal representative/company name) Samuel Ashley Rollans Rollans Soil Environmental Services, 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.

*DocuSigned by: Stephen Brooks 6/21/22
Signature of Owner(s) Date

DocuSigned by: [redacted]
Signature of Witness Date

Please return this signed form to the appropriate office:

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
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