ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 Mooresville Office (704) 660-3625 PERMIT # AP 310130

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

PIN # 4638 -19 -6294.

APPLICANT/OWNER: Northlake Developers LLC APPLICANT ADDRESS: 110 Nautical Point CT Mooresville NC 28117.

SITE ADDRESS: 1150 Fern Hill Road Mooresville NC 28117 PHONE: 980-829-4090 ALT. PHONE -

SITE DIRECTIONS: See address above. SAP CONTROLLED: [X] YES [ ] NO

SUBDIVISION: Lakewood Crossing SECTION: - LOT # 1 LOT AREA: 1.10 AC DESIGN FLOW: 480 L.T.A.R.: .30

Septic Tank	1000	(gal)	STB	0	Date		[X] New System	[ ] Repair	[ ] Expansion	System Type: I II (III) IV V VI	
Pump Tank		(gal)	PT		Date		System Description:	Gravity 25% Reduction			
Pump Make		Model			Serial #		Repair System Description:	Gravity PPBPS-50% Reduction			
# Nitrification Fields	1	# Lines	4		Linear Ft	400	Maintenance Agreement Required:	[ ] YES	[X] NO		
Trench Width	36in	Trench Bottom Depth(~~Low side~~)		36in *	Gravel Depth		[X] GRAVITY	[ ] PRESSURE			

[X] Residence No. Bedrooms 4
[ ] Business No. Persons 8
[ ] Other No. Employees
[ ] Slab [X] Crawl Space
[ ] Basement w/plumbing [ ] Basement w/o plumbing

Water Supply
[ ] Private
[X] Public
[ ] Community

Comments / Conditions: See LSS notes Regarding Change.

INITIAL SITE SKETCH

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

Soil + Forestry Services of the Carolinas PA

LSS # 1231 Dated 18th 2021

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.

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.* [X] **IMPROVEMENT PERMIT** *with site plan valid for 60 mos.* [X] **AUTHORIZATION TO CONSTRUCT** *valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.*

Owner / Applicant Signature: Date: 11/22/2021 Installed by: AJ Remodeling

IMPROVEMENT PERMIT by: Benjamin A Batts Date: 11/22/2021 OPERATION PERMIT by: Bryant White Date: 11/23/21

AUTHORIZATION TO CONSTRUCT by: Benjamin A Batts Date: 11/22/2021. Existing System Inspected by: Date:

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

Item	Date	Initials
Drain Lines Checked		
Tanks Checked		
Pressure Manifold or Valve Box Checked		
Pressure Head Set		
Electrical Checked		
Floats Set		
Alarm Checked		
Maintenance Contract Needed? Y / N		
Comments:		

Repairs Only	
	State Code
Failing System Code	
Type of Distribution	G or P
Type of Failure/Malfunction	
Primary Cause of Failure/Malfunction	
Age of System? _____	
Initial or Repair? _____	

ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 | Mooresville Office (704) 660-3625 | PERMIT # AP 310130

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

PIN # 4638196294

APPLICANT/OWNER: Northlake Developers LLC | APPLICANT ADDRESS: 110 Nautical Point Ct Mooresville, NC 28117

SITE ADDRESS: 1150 Fern Hill Rd. Mooresville, NC 28117 | PHONE: 9808294090 | ALT. PHONE

SITE DIRECTIONS: Hwy 150 W TR Perth Rd TL Fern Hill Rd on right just past Periwinkle | SAP CONTROLLED: [X] YES [ ] NO

SUBDIVISION: Lakewood Crossing | SECTION: | LOT # 1 | LOT AREA: 1.10 Acre | DESIGN FLOW: 480gpd | L.T.A.R.: .3

Septic Tank	1000 (gal)	STB	Date	[X] New System	[ ] Repair	[ ] Expansion	System Type: I II III IV V VI	[X] Residence	No. Bedrooms 4
Pump Tank	(gal)	PT	Date	System Description:	Gravity-25% Reduction			[ ] Business	No. Persons 8
Pump Make		Model	Serial #	Repair System Description:	PPBPS			[ ] Other	No. Employees
# Nitrification Fields	1	# Lines 4	Linear Ft 400'	Maintenance Agreement Required:	[ ] YES	[X] NO		[ ] Slab	[X] Crawl Space
Trench Width	36"	Trench Bottom Depth (Low side)	36"	Gravel Depth	[X] GRAVITY	[ ] PRESSURE		[ ] Basement w/plumbing	[ ] Basement w/o plumbing

Water Supply: [X] Private [ ] Public [ ] Community

Comments / Conditions: max

See attached Session Law by Soil & Forestry Services.

Keep Septic 100Ft from any well.

INITIAL SITE SKETCH

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

Samuel A. Rollans

LSS # 1231

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.

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.* [X] 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: 6/16/21 Installed by:

IMPROVEMENT PERMIT by: Marina Nelson Date: 6/14/21 OPERATION PERMIT by: Date:

AUTHORIZATION TO CONSTRUCT by: Patrick Bagwell III Date: 6/16/2021 Existing System Inspected by: Date:

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

Item	Date	Initials
Drain Lines Checked		
Tanks Checked		
Pressure Manifold or Valve Box Checked		
Pressure Head Set		
Electrical Checked		
Floats Set		
Alarm Checked		
Maintenance Contract Needed? Y / N		
Comments:		

Repairs Only	
	State Code
Failing System Code	
Type of Distribution	G or P
Type of Failure/Malfunction	
Primary Cause of Failure/Malfunction	
Age of System? _____	
Initial or Repair? _____	

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Project#: 21-0043
November 18th, 2021

NORTHLAKE DEVELOPERS, LLC
Attn: *Bruce Kososki*
Email: bruce@titan.ae

RE: Soil & Site Evaluation for a 4 Bedroom Residence at 1150 Fern Hill Road, Mooresville NC 28117, PIN # (4638196294), Iredell County.

Mr. Kososki:

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 survey map & 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 submittal to Iredell County Health Department.

Site Conditions

At the time of our evaluation land cover on the property was partially cleared on the front half of the property and wooded near the creek. Topography within the evaluated area was moderate slope near the house site and proposed drainfield area. Property corners were marked at the time of the evaluation. An Autocad File of the survey was used as a basemap for the *Site Plan*. The proposed septic layout was located via measuring tape/GPS and used to produce the attached *Site Plan*. The existing house, drainfield and well was located via GPS. ***A portion of the existing drainfield exceeded the max trench depth of 36 inches. Septic installer must grade down to establish a max trench depth of 36 inches in the area shown on the site plan.***

Methodology

We evaluated soil areas through the use of backhoe pits. Soil morphological conditions including color, texture, structure, etc. were reviewed in the field with eight pit locations on the property and located via GPS. All of the pits except P6 are located in or adjacent to the existing system & repair area. 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 pit. An on-ground layout of system and repair was performed using a laser level. Pin flag locations of the layout were also located by tape measure and GPS. Detailed system & repair information is summarized in the following paragraph for this Lot.

1150 Fern Hill Road (*See Attached Design*)
The septic layout for this lot (9' centers) yielded a total of 779 linear feet of line. The primary system was installed as 400 linear feet of Accepted (25% Reduction) drainfield with gravity distribution. Maximum Trench depth is specified at 36 inches. See design for removal of soil to maintain 36 inch trench depth. The repair system is proposed as 247 linear feet of Mod. Conventional (PPBPS) drainfield with gravity distribution. Maximum Trench depth is specified at 36 inches.

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 Bruce Kososki
Signature _____ 11/20/2021

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 1150 Fern Hill Road, Mooresville, NC 28117 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*

1150 Fern Hill Road (*See Attached Design*)
The septic layout for this lot (9' centers) yielded a total of 779 linear feet of line. The primary system was installed as 400 linear feet of Accepted (25% Reduction) drainfield with gravity distribution. Maximum Trench depth is specified at 36 inches. See design for removal of soil to maintain 36 inch trench depth. The repair system is proposed as 247 linear feet of Mod. Conventional (PPBPS) drainfield with gravity distribution. Maximum Trench depth is specified at 36 inches.

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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_____
Signature_____ _____

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 1150 Fern Hill Road, Mooresville, NC 28117 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,

LICENSED SOIL SCIENTIST
Samuel A. Rollans
1231
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 on Lakewood Crossing Lot , 1150 Fern Hill Road, Mooresville 28117, Iredell County, NC.

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---------- 7-8

Well Application---------- Submitted

Zoning Permit & Receipt---------- Submitted

Septic Application---------- Submitted

Green Sheet---------- Submitted

Agent Authorization Form---------- 16

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

November 18, 2021
Project #: 21-0043
Design By: Soil & Forestry Services of the Carolinas, PA

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 PPBPS system with gravity distribution.
- **See site plan to see area that must be graded down.**
- **Do not exceed max trench depth of 36 inches.**

GRAVITY ACCEPTED SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant:	Northlake Developers, LLC
Address:	110 Nautical Point Ct. Mooresville, NC 28117
Phone:	980.829.4080
County:	Iredell
Location:	Lakewood Crossing- Lot 1

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:	36 in.	Repair Trench Bottom 36 in.
Trench Width:	36 in.	
Septic Tank Size:	1000	

Estimated Supply Line Length:	51
Supply Line Diameter:	4 in. SCH 40 PVC
Supply Line Volume:	33.30
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

Lakewood Crossing- Lot 1

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:	51
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1000

Layout Specifications - 1150 Fern Hill Road

Project #: 21-0043

LAYOUT FOR 4 BEDROOM HOME ###############

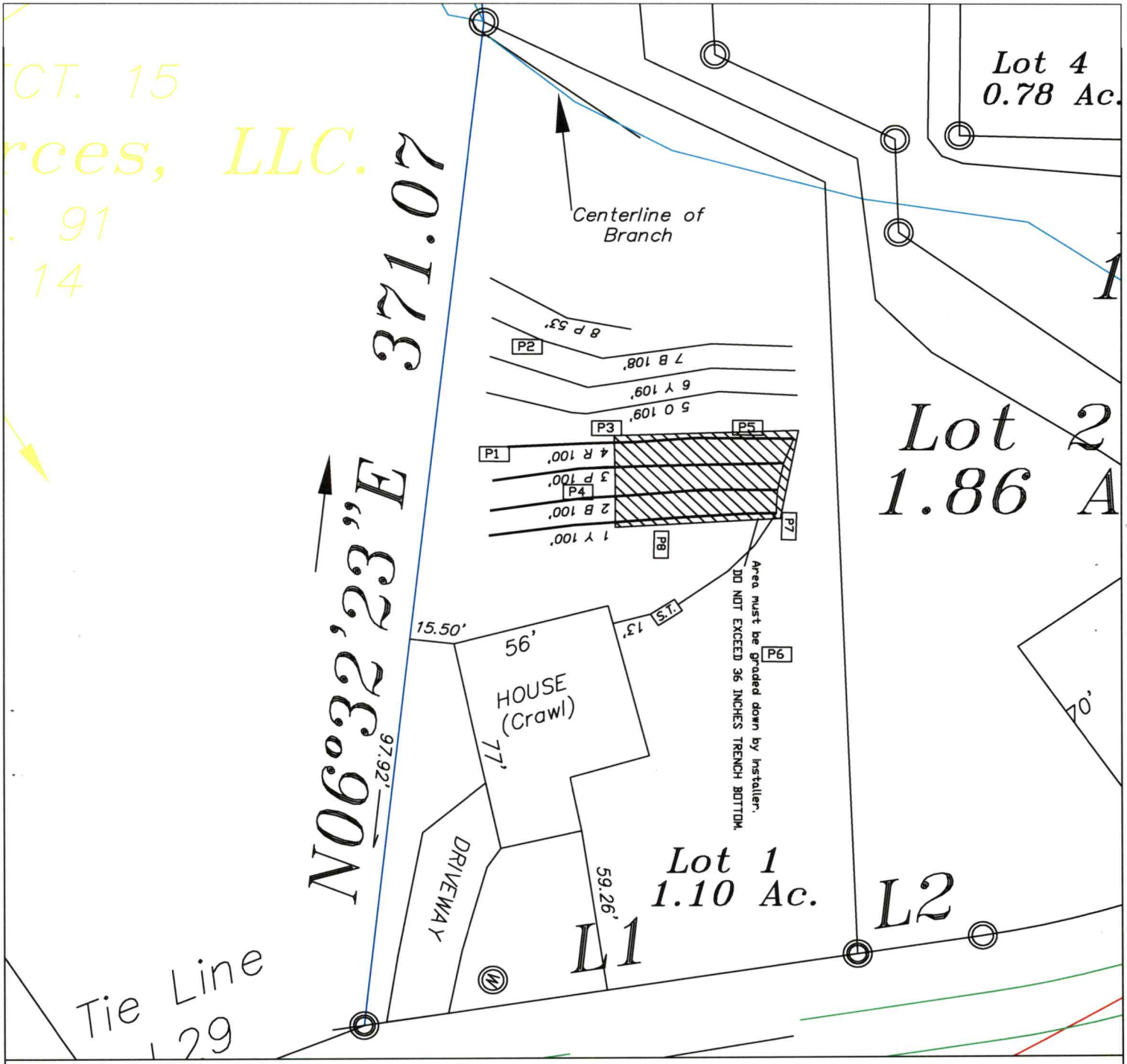
LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1							
1	***YELLOW***				***Installed***	***100***	***100***
2	***BLUE***				***Installed***	***100***	***100***
3	***PINK***				***Installed***	***100***	***100***
4	***RED***				***Installed***	***100***	***100***
5	ORANGE					109	109
6	YELLOW					109	109
7	BLUE					108	108
8	PINK					53	53
					Total	779	779

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION	MAX TRENCH DEPTH
**** System***	***400***	***0.300***	***ACCEPT.***	***0.300***	***25% RED***	***GRAVITY***	36"
Repair	379	0.325	MOD. CONV.	0.325	PPBPS	GRAVITY	36"

Notes: **All measures in feet

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

**Nitrification lines were located by GPS.



LEGEND

P2	Pit Locations		System lines.
	House Footprint		Repair lines.
		W	Well Location.

GRAPHIC SCALE
1" = 50'

50 0 50 100

PLEASE REFER TO ATTACHED SOIL REPORT FOR ADDITIONAL SITE SPECIFIC INFORMATION

SOIL & FORESTRY SERVICES OF THE CAROLINAS
P.O. BOX 832
MOORESVILLE, NC 28115
PHONE/FAX: (704) 746 - 5046
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746 - 5046
EMAIL: ASHLEYROLLANS@GMAIL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: BRUCE KOSOSKI / LAKEWOOD CROSSING LOT# 1

LOCATION/DATE: 1150 FERN HILL ROAD IREDELL COUNTY, NORTH CAROLINA MAY 2021

JOB # : 21-0043
FILE: C:\JOBS\21-0043
PROJECT MGR.: S.A.R.
FIELD WORK: S.A.R. & C.W.
DRAWN BY: S.A.R.

CALCULATIONS

Location 1150 Fern Hill Road
Mooresville, NC 28117
Project Number 21-0043

Lot No: 1

No. of Bedrooms 4

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

LTAR 0.300 $^{gal}/_{ft^2\ day}$

PPBPS? (YES OR NO) NO

Supply Line Length 51 ft.

Supply Line Volume 33.303 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 1000 gal.
Septic 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 NOV 18 2021

~~RECEIVED JUN 1~~ 2021

IREDELL COUNTY DEPARTMENT of ENVIRONMENTAL HEALTH

APPLICATION FORM Paid $500.00 Session Law

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 AP-310130

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: Northlake Developers LLC **Address:** 110 Nautical Point Ct. Mooresville NC **Zip:** 28117

Applicant Email: bruce@titan.ae **Phone:** 980.829.4090 **Alt. Phone:** _____

Owner Name: Same **Address:** _____ **Zip:** _____

Owner Email: _____ **Phone:** _____ **Alt. Phone:** _____

Property Information:

Street Address: 1150 Fern Hill Road Mooresville NC 28117

Subdivision Name: Lakewood Crossing **Section/Phase:** _____ **Lot Number:** 1

Driving Directions: see Address above

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

(X) 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
(X) 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: _____
(X) 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 (X) Other: Accepted

Please answer the following to the best of your ability:
( ) Yes (X) No Does the site contain any jurisdictional wetlands?
( ) Yes (X) No Is any non-domestic sewage (i.e. industrial) to be generated?
( ) Yes (X) 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: _____ 11/18/21
Property owner or owner's legal representative signature (SIGNATURE REQUIRED) ~~Date~~ DATE

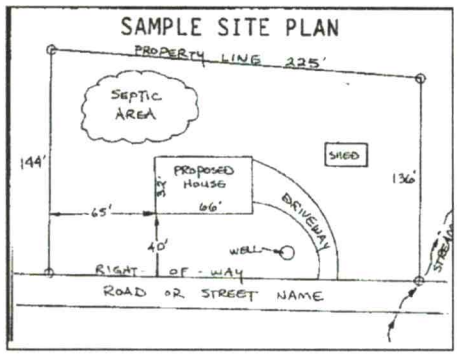
IREDELL COUNTY DEPARTMENT of ENVIRONMENTAL HEALTH

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: _____ 11/18/21
Property owner or owner's legal representative signature (SIGNATURE REQUIRED) **DATE**

Sheet 1 of 1
PROPERTY ID #: 4638196294
COUNTY: Iredell

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

OWNER: Northlake Developers LLC Bruce Kosaski
ADDRESS: 110 Nautical Point Ct, Mooresville NC 28117
PROPOSED FACILITY: 4BR
PROPOSED DESIGN FLOW (.1949): 480gpd
LOCATION OF SITE: 1150 Fernhill Road Mooresville NC 28117
APPLICATION DATE
DATE EVALUATED: 5/13/21
PROPERTY SIZE: 1.10ac
PROPERTY RECORDED: Yes

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
P 1	L/17%	0-12	BSCL wfsbk	Fr SS SP SExP		56	PS	—	PS .3-.325
		12-31	BRC wmsbk	" "					
		31-56	RBCL wfsbk	" "					
		56-61	VAR. L. MASS	" "					
P 2	L/20%	0-9	BSCL wfsbk	Fr SS SP SExP		40	PS	—	PS .325+
		9-18	BRC/SCL wmsbk	Mbl F SS SP					
		18-40	RBSCL Vwfsbk	" "	C,SAP				
		40-62	VAR L./SL MASS	Fr SS SP					
P 3	L/19%	0-12	RBCL wfsbk	Fr SS SP SExP		53	PS	—	PS .325+
		12-24	BRC wmsbk	" "					
		24-53	RBCL/SCL wfsbk	" "	C,SAP				
		53-74	VAR. FSL MASS	" "					
P 4	L/18%	0-32	RBCL wmsbk	Fr SS SP SExP	Few C,SAP	32	PS	—	PS .325
		32-73	VAR. FSL MASS	Fr SS SP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	Accepted	PPBPS
Site LTAR	0.3	0.325

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

LICENSED SOIL SCIENTIST Pamela A. Rollans

COMMENTS:

SOIL/SITE EVALUATION

(Continuation Sheet-Complete all field in full)

Sheet 2 of 2

PROPERTY ID #: 4638196294
DATE OF EVALUATION: 5/13/21
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
P5	L/19%	0-2	BCL wfsbk	Fr SS SP SEXP	f-c sap	26	PS	—	PS .35+
		2-12	BRC wmsbk	Fr SS SP					
		12-26	RBCL wfsbk	Fr SS SP					
		26-62	VAR. FSL MASS	Fr SS SP					
P6	L/70%	0-29	RBCL wfsbk	Fr SS SP SEXP	f-c sap	29	PS	—	PS .35+
		29-61	VAR. L/FSL MASS	Fr SS SP					
P7	Nov 15 ↓ L/15%	0-3	BSL sc	Fr SS SP SEXP		25	PS	—	PS 0.35+
		3-9	RBC wmsbk	" " " "					
		9-25	BRCL wfsbk	" " " "					
		25-77	Var SL mass	" " " "					
P8	L/	0-6	Fill			32	PS	—	PS 0.35+
		6-10	RBSCL wfsbk	Fr SS SP					
		10-21	BRC wmsbk	" "					
		21-38	RBCL/SCL wfsbk	" "	c.sap				
		38-84	VAR SL MASS	" "					

COMMENTS: _____

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, Bruce Kososki, am the legal owner(s) of the property located at 1150 Fern Hill Road Mooresville NC 28117, identified as PIN (Parcel Identification Number) 4638196294, located in Iredell County, North Carolina.

I do hereby authorize (**print legal representative/company name**) SFS / Ashley Rollins, 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.

Bruce Kososki 6/1/2021

Signature of Owner(s) Date 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
349 N. Center Street, Statesville, NC 28677

RECEIVED JUN 1 - 2021

IREDELL COUNTY DEPARTMENT of ENVIRONMENTAL HEALTH

APPLICATION FORM Paid $500.00 Session Law

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 AP-310130

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: Northlake Developers LLC **Address:** 110 Nautical Point Ct. Mooresville NC **Zip:** 28117

Applicant Email: bruce@titan.ae **Phone:** 980.829.4090 **Alt. Phone:** _____

Owner Name: Same **Address:** _____ **Zip:** _____

Owner Email: _____ **Phone:** _____ **Alt. Phone:** _____

Property Information:

Street Address: 1150 Fern Hill Road Mooresville NC 28117

Subdivision Name: Lakewood Crossing **Section/Phase:** _____ **Lot Number:** 1

Driving Directions: see Address above

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

CHECK FOUNDATION TYPE

(X) New Single Family Residence — Maximum Number of Bedrooms: 4 — (X) Crawl Space Foundation
( ) New Multi-Family Residence — Maximum Number of Occupants: 8 — ( ) Concrete Slab Foundation
( ) Accessory Building — ( ) Swimming Pool — ( ) Basement with Plumbing
( ) Bedroom(s) Addition — ( ) Other Addition/Structure: _____ — ( ) Basement without Plumbing
( ) Repair to failing septic system ___ Tank ___ Drain lines **Describe Problem:** _____

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:** _____

(X) 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 (X) Other: Accepted

Please answer the following to the best of your ability:
( ) Yes (X) No **Does the site contain any jurisdictional wetlands?**
( ) Yes (X) No **Is any non-domestic sewage (i.e. industrial) to be generated?**
( ) Yes (X) 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: _____ 5/20/21
Property owner or owner's legal representative signature (SIGNATURE REQUIRED) **DATE**

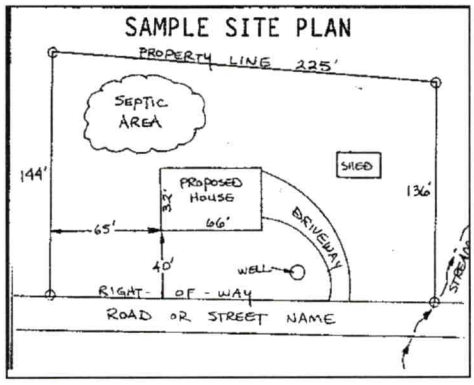
IREDELL COUNTY DEPARTMENT of ENVIRONMENTAL HEALTH

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: Lynn A Tallent

Property owner or owner's legal representative signature (SIGNATURE REQUIRED)

5/28/21

DATE

IREDELL COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH

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, Bruce Kososki / Northlake Developers LLC Managing Partner, am the legal owner(s) of the property located at 1150 Fern Hill Road, identified as PIN (Parcel Identification Number) 4638196294, located in Iredell County, North Carolina.

I do hereby authorize (**print legal representative/company name**) Blake Houston, 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.

_____ Signature of Owner(s)

6/16/2021 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

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 on Lakewood Crossing Lot , 1150 Fern Hill Road, Mooresville 28117, Iredell County, NC.

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---------- 7-8

Well Application---------- 9

Zoning Permit & Receipt---------- 10-12

Septic Application---------- 13-14

Green Sheet---------- 15

Agent Authorization Form---------- 16

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

May 28, 2021
Project #: 21-0043
Design By: Soil & Forestry Services of the Carolinas, PA

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 PPBPS system with gravity distribution.

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Project#: 21-0043
May 28th, 2021

NORTHLAKE DEVELOPERS, LLC
Attn: *Bruce Kososki*
Email: bruce@titan.ae

RE: Soil & Site Evaluation for a 4 Bedroom Residence at 1150 Fern Hill Road, Mooresville NC 28117, PIN # (4638196294), Iredell County.

Mr. Kososki:

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 survey map & 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 submittal to Iredell County Health Department.

Site Conditions

At the time of our evaluation land cover on the property was partially cleared on the front half of the property and wooded near the creek. Topography within the evaluated area was moderate slope near the house site and proposed drainfield area. Property corners were marked at the time of the evaluation. An Autocad File of the survey was used as a basemap for the *Site Plan*. The proposed septic layout was located via measuring tape/GPS and used to produce the attached *Site Plan*. The house envelope staked by the builder and located via GPS.

Methodology

We evaluated soil areas through the use of backhoe pits. Soil morphological conditions including color, texture, structure, etc. were reviewed in the field with six pit locations on the property and located via GPS. All of the pits except P6 are located in 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 pit. An on-ground layout of system and repair was performed using a laser level. Pin flag locations of the layout were also located by tape measure and GPS. Detailed system & repair information is summarized in the following paragraph for this Lot.

1150 Fern Hill Road (*See Attached Design*)
The septic layout for this lot (9' centers) yielded a total of 796 linear feet of line. The primary system is proposed as 400 linear feet of Accepted (25% Reduction) drainfield with gravity distribution. Maximum Trench depth is specified at 36 inches. The repair system is proposed as 247 linear feet of Mod. Conventional (PPBPS) drainfield with gravity distribution. Maximum Trench depth is specified at 36 inches.

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 Bruce Kososki

* Signature Bruce Kososki

6/1/2021

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 1150 Fern Hill Road, Mooresville, NC 28117 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,

LICENSED SOIL SCIENTIST
Samuel A. Rollans
1231
SOIL SCIENTIST

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

GRAVITY ACCEPTED SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant: Northlake Developers, LLC

Address: 110 Nautical Point Ct.
Mooresville, NC 28117
Phone: 980.829.4080
County: Iredell
Location: Lakewood Crossing- Lot 1

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: 36 in. Repair Trench Bottom 36 in.
Trench Width: 36 in.
Septic Tank Size: 1000

Estimated Supply Line Length: 38
Supply Line Diameter: 4 in. SCH 40 PVC
Supply Line Volume: 24.81
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

Lakewood Crossing- Lot 1

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:	38
TOTAL DYNAMIC HEAD:	N/A
MANIFOLD SIZE:	N/A
DOSING VOLUME:	N/A
PUMP TANK DRAW DOWN*:	N/A
SEPTIC TANK SIZE:	1000

Layout Specifications - 1150 Fern Hill Road

Project #: 21-0043

LAYOUT FOR 4 BEDROOM HOME

May 28, 2021

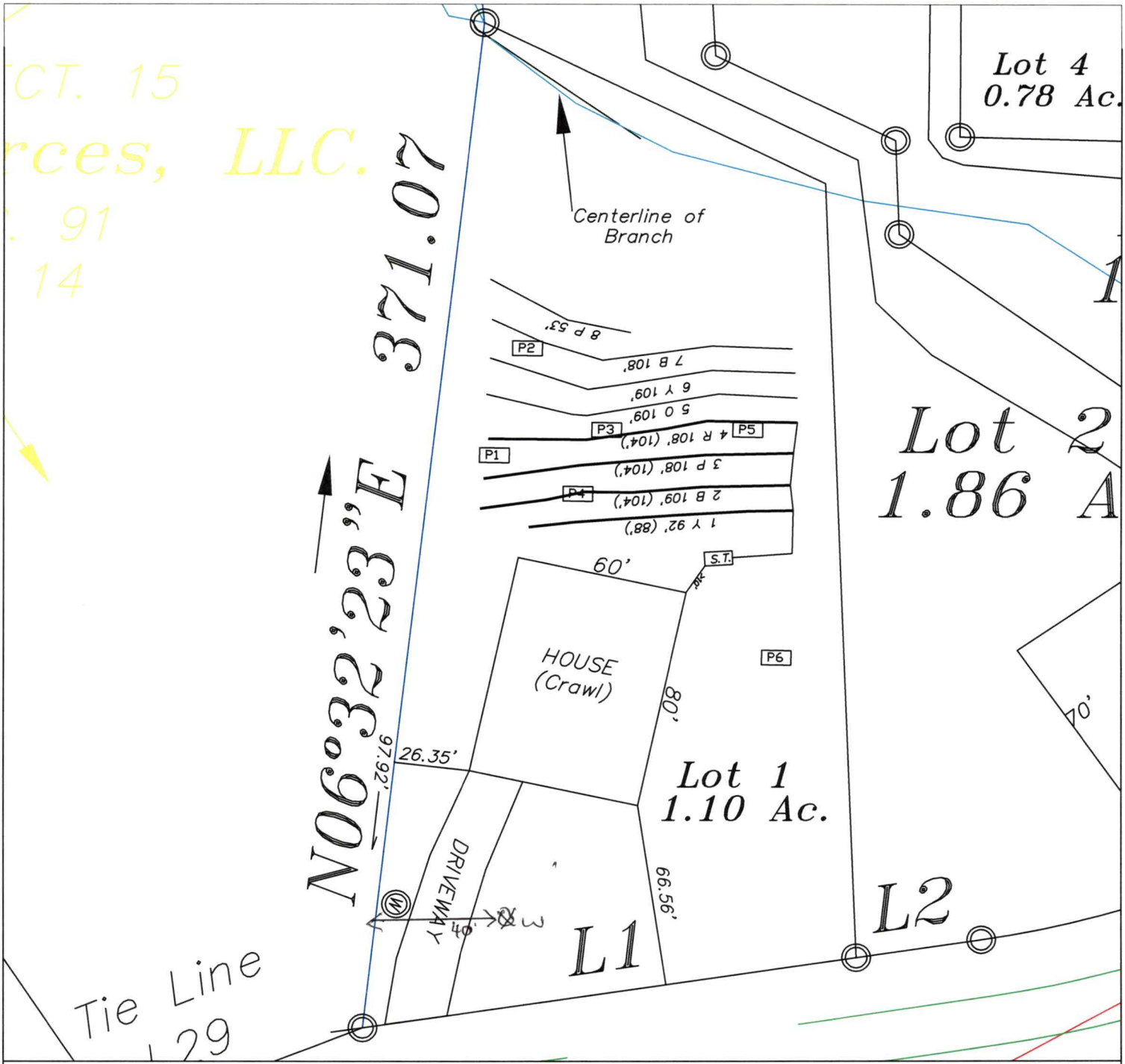
LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM							
INSTR. 1							
1	***YELLOW***					***92***	***88***
2	***BLUE***					***109***	***104***
3	***PINK***					***108***	***104***
4	***RED***					***108***	***104***
5	ORANGE					109	109
6	YELLOW					109	109
7	BLUE					108	108
8	PINK					53	53
					Total	796	779

	LINE LENGTH	LTAR GPD/FT2	SYSTEM TYPE	SOIL LTAR GPD/FT2	TRENCH SYSTEM	DISTRIBUTION	MAX TRENCH DEPTH
****System***	***400***	***0.300***	***ACCEPT.***	***0.300***	***25% RED***	***GRAVITY***	36"
Repair	379	0.325	MOD. CONV.	0.325	PPBPS	GRAVITY	36"

Notes: **All measures in feet

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

**Nitrification lines were located by GPS.



LEGEND

P2	Pit Locations		System lines.
	House Footprint		Repair lines.
		W	Well Location.

GRAPHIC SCALE
1" = 50'

50 0 50 100

PLEASE REFER TO ATTACHED SOIL REPORT FOR ADDITIONAL SITE SPECIFIC INFORMATION

SOIL & FORESTRY SERVICES OF THE CAROLINAS
P.O. BOX 832
MOORESVILLE, NC 28115
PHONE/FAX: (704) 746 - 5046
ASHLEY ROLLANS, NC LICENSED SOIL SCIENTIST
MOBILE: (704) 746 - 5046
EMAIL: ASHLEYROLLANS@GMAIL.COM

MAP TITLE: SITE PLAN & DRAINFIELD AREAS

PROJECT NAME: BRUCE KOSOSKI / LAKEWOOD CROSSING LOT# 1

LOCATION/DATE: 1150 FERN HILL ROAD IREDELL COUNTY, NORTH CAROLINA MAY 2021

JOB # :	21-0043
FILE:	C:\JOBS\21-0043
PROJECT MGR.:	S.A.R.
FIELD WORK:	S.A.R. & C.W.
DRAWN BY:	S.A.R.

CALCULATIONS

Location	1150 Fern Hill Road Mooresville, NC 28117	
Project Number	21-0043	
Lot No:	1	
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.300	$^{gal}/_{ft^2\ day}$
PPBPS? (YES OR NO)	NO	
Supply Line Length	38	ft.
Supply Line Volume	24.814	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	1000	gal.
Septic 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

POB

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

AP

PERMIT # 310130

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

PIN # 4638196294

APPLICANT/OWNER: David Winkle | APPLICANT ADDRESS: 199 Timberlake Dr Trotman, NC 28166

SITE ADDRESS: 1150 Fern Hill Rd Mooresville NC 28117 | PHONE: 847226-9473 | ALT. PHONE

SITE DIRECTIONS: Hwy 150 W TR Penth Rd TL Fern Hill Rd on right just past Periwinkle | SAP CONTROLLED: [X] YES [ ] NO

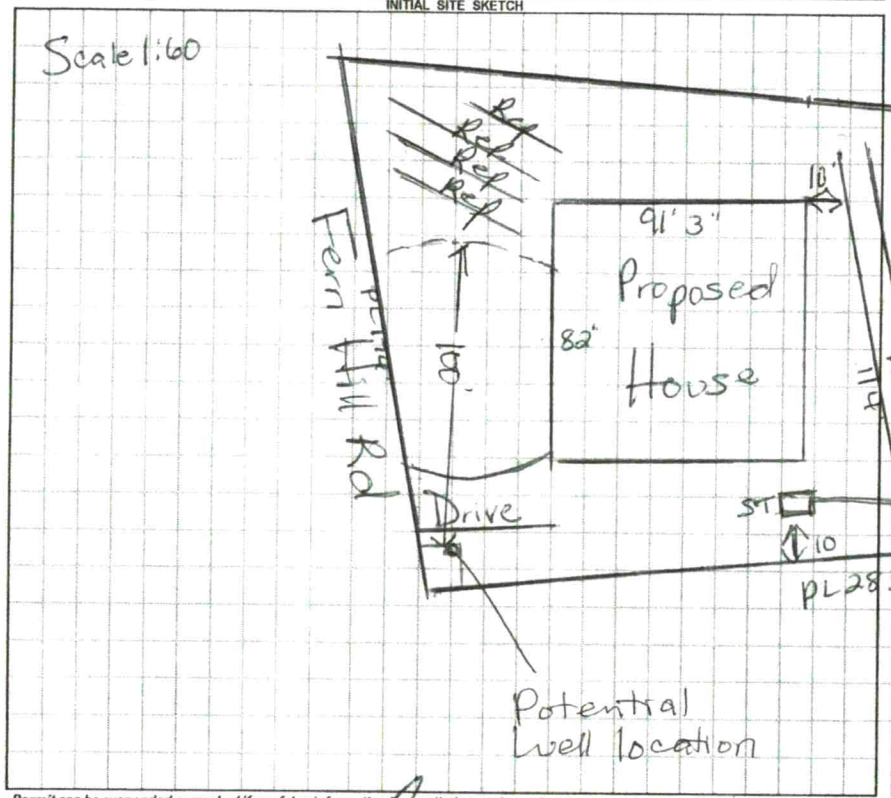
SUBDIVISION: Lakewood Crossing | SECTION: | LOT # 1 | LOT AREA: 1.10 Acre | DESIGN FLOW: 480gpd | L.T.A.R.: .35

Septic Tank	1000 (gal)	STB	Date	[X] New System [ ] Repair [ ] Expansion	System Type: I II III IV V VI	[X] Residence	No. Bedrooms	4	Water Supply
Pump Tank	(gal)	PT	Date	System Description:	Gravity – 25% Reduction	[ ] Business	No. Persons	8	[X] Private
Pump Make		Model	Serial #	Repair System Description:	Panel Block	[ ] Other	No. Employees		[ ] Public
# Nitrification Fields	1	# Lines	Linear Ft 342	Maintenance Agreement Required:	[ ] YES [X] NO	[ ] Slab	[X] Crawl Space		[ ] Community
Trench Width	36"	Trench Bottom Depth(~~Low side~~) max	36"	Gravel Depth	N/A [X] GRAVITY [ ] PRESSURE	[ ] Basement w/plumbing		[ ] Basement w/o plumbing	

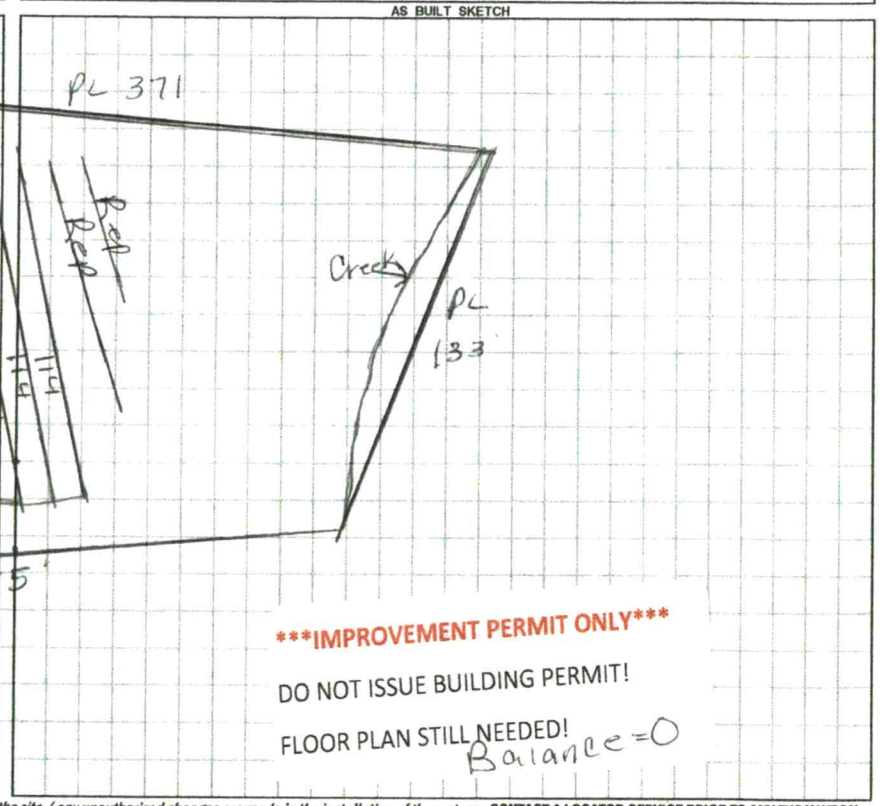
Comments / Conditions: Divert Storm/Surface water Away from Septic

★ Must Keep Septic 100ft from any well.

INITIAL SITE SKETCH



AS BUILT SKETCH



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.* [X] **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: [signature] Date: 9/23/20 Installed by:

IMPROVEMENT PERMIT by: Angela Dotson Date: 9/9/2020 OPERATION PERMIT by: Date:

AUTHORIZATION TO CONSTRUCT by: Date: 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.

DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

PROPERTY ID #: 4638196294
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: David Winkle
ADDRESS: 199 Timberlake Drive, Troutman, NC
PROPOSED FACILITY: House
LOCATION OF SITE: 150 Fern Hill Rd / Lakewood Crossing #4
WATER SUPPLY: ☒ Private ☐ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☐ Auger Boring ☒ Pit ☐ Cut
TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

APPLICATION DATE: 8/12/2020
DATE EVALUATED: 9/3/2020
PROPERTY SIZE: 1.1 AC
PROPERTY RECORDED: Y

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
1	7%	0-6	Brn CL	wSBK SS, SP, SEXP, FR					PS
		6-16	Rd CL	mw SBK SS, SP, SEXP, FR					.35
		16-48	R CL	w SBK SS, SP, SEXP, FR w/ Common Mica & SAP Inclus					
		48-60	LSA	Massive FR	—	.48"	PS	— —	
2	6%	0-11	Brn CL	w SBK SS, SP, SEXP, FR					PS
		11-62	Yel/Brn L/SL	SAP massive FR	—	11"	PS	— —	.4
3	6%	0-14	Rd/Brn CL	w SBK SS, SP, SEXP, FR					PS
		14-62	L/SL	SAP massive, FR	—	14"	PS	—	.4
4	6%	0-9	Brn SCL	w SBK SS, SP, SEXP, FR					PS
		9-26	Rd/Brn CL	w SBK SS, SP, SEXP, FR w/ SAP Inclus					
		26-60	L/SL	SAP massive, FR	—	26"	PS	—	.35

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	25% Red	PPBPS
Site LTAR	.35	.35

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948):
EVALUATED BY: Maria Dulski
OTHER(S) PRESENT: David Reane

COMMENTS:

LEGEND

use the following standard abbreviations

LANDSCAPE POSITION	GROUP	SOIL TEXTURE	CONVENTIONAL .1955 LTAR*	LPP .1957 LTAR*	MINERALOGY/ CONSISTENCE	STRUCTURE
CC (Concave Slope) CV (Convex Slope) D (Drainage Way) DS (Debris Slump) FP (Flood Plain) FS (Foot Slope) H (Head Slope) L (Linear Slope) N (Nose Slope) R (Ridge) S (Shoulder Slope) T (Terrace)	I	S (Sand) LS (Loamy Sand)	1.2 - 0.8	0.6 - 0.4	NEXP (Non-expansive) SEXP (Slightly Expansive) EXP (Expansive)	G (Single Grain) M (Massive) CR (Crumb) GR (Granular) SBK (Subangular Blocky) ABK (Angular Blocky) PL (Platy) PR (Prismatic)
	II	SL (Sandy Loam) L (Loam)	0.8 - 0.6	0.4 - 0.3		
	III	Si (Silt) SiCL (Silty Clay Loam) CL (Clay Loam) SCL (Sandy Clay Loam) SiL (Silt Loam)	0.6 - 0.3	0.3 - 0.15		
	IV	SC (Sandy Clay) SiC (Silty Clay) C (Clay)	0.4 - 0.1	0.2 - 0.05		
		O (Organic)	None	None		

MOIST	WET
VFR (Very Friable)	NS (Non-sticky)
FR (Friable)	SS (Slightly Sticky)
FI (Firm)	S (Sticky)
VFI (Very Firm v. Very Sticky)	VS (Very Sticky)
EFI (Extremely Firm)	NP (Non-plastic)
	SP (Slightly Plastic)
	P (Plastic)
	VP (Very Plastic)

*Adjust LTAR due to depth, consistence, structure, soil wetness, landscape, position, wastewater flow and quality.

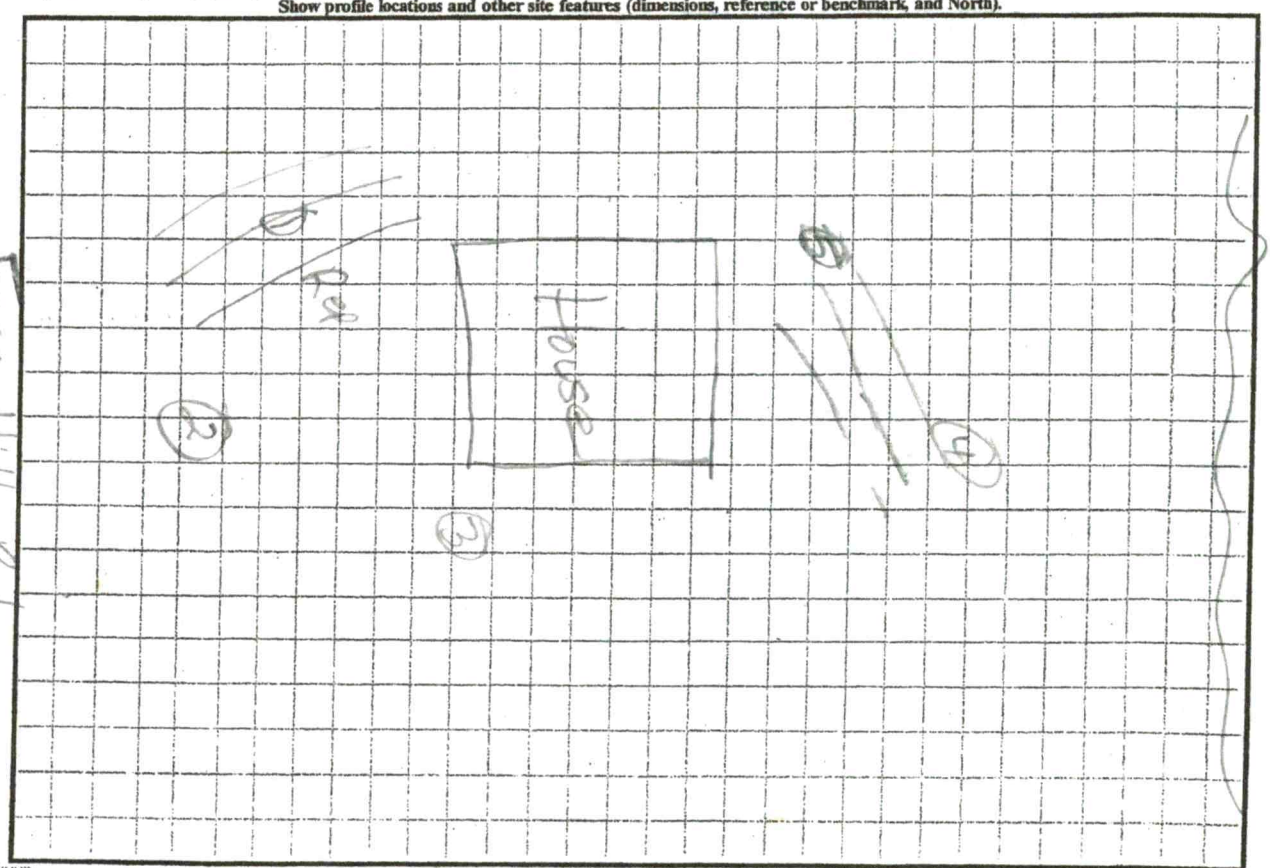
NOTES

HORIZON DEPTH	In inches below natural soil surface
DEPTH OF FILL	In inches from land surface
RESTRICTIVE HORIZON	Thickness and depth from land surface
SAPROLITE	S(suitable) or U(unsuitable)
SOIL WETNESS	Inches from land surface to free water or inches from land surface to soil colors with chroma 2 or less - record Munsell color chip designation
CLASSIFICATION	S (Suitable), PS (Provisionally Suitable), or U (Unsuitable)

Evaluation of saprolite shall be by pits.

Long-term Acceptance Rate (LTAR): gal/day/ft^2

Show profile locations and other site features (dimensions, reference or benchmark, and North).



ENR (######)
view (#####)

DIVISION OF ENVIRONMENTAL HEALTH
ON-SITE WASTEWATER SECTION

PROPERTY ID #: ____
COUNTY: Iredell

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

OWNER: David Winkle — APPLICATION DATE 8/12/2020
ADDRESS: 194 Timberlake Dr Troutman NC — DATE EVALUATED: 9/3/2020
PROPOSED FACILITY: House — PROPOSED DESIGN FLOW (.1949): 480gpd — PROPERTY SIZE: 1.1 Ac
LOCATION OF SITE: 1150 Fern Hill — PROPERTY RECORDED: Y
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	7%	0-15	Scl WSBK	SS, SP, SHP, FR					PS
		15-48	R CL WSBK	SS, SP, SHP, FR					
		w/few to many SAP Inclus							
5		48-60	L/SL SAP	massive, FR	—	48"	PS	—	.35
2									
3									
4									

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Type(s)	25% Red	PPBRS
Site LTAR	.35	.5

OTHER FACTORS (.1946): ____
SITE CLASSIFICATION (.1948): ____
EVALUATED BY: Maria Dotson
OTHER(S) PRESENT: David Beane

COMMENTS: ____

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, Bruce Kososki, am the legal owner(s) of the property located at 1150 Fern Hill Road Mooresville NC 28117, identified as PIN (Parcel Identification Number) 4638196294, located in Iredell County, North Carolina.

I do hereby authorize (**print legal representative/company name**) SFS / Ashley Rollins, 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.

Bruce Kososki 6/1/2021

Signature of Owner(s) Date

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
349 N. Center Street, Statesville, NC 28677