BLDK-2023-16809

ICHD - ENVIRONMENTAL HEALTH DIVISION

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

PERMIT # OSWP-2023-16814

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

PIN # 4730-45-3757 ✓

APPLICANT / OWNER: NORTHLAKE DEVELOPERS LLC APPLICANT ADDRESS: 110 Nautical Point Court, Mooresville, NC 28117

SITE ADDRESS: 174 TWIN CREEKS DR, TROUTMAN, NC 28166 ✓ PHONE: 9808294090 ALT. PHONE:

SITE DIRECTIONS: Perth to State Park to Twin Creeks SAP CONTROLLED: YES ☐ NO ☐

SUBDIVISION: Twin Creek Estates ✓ SECTION: 2 LOT #: 56 ✓ LOT AREA: 1.03 DESIGN FLOW: 480 L.T.A.R.: .225

Septic Tank: (gal) 1000	STB: Infiltrator	Date:	☑ New System ☐ Repair ☐ Expansion	System Type: IV	☑ Residence	No. Bedrooms: 4	Water Supply: Municipal Water
Pump Tank: (gal) 1000	PT: Infiltrater	Date:	System Description: HPPBPS -50% Reduction		☐ Business	No. Persons: 8	
Pump Make:	Model:	Serial #:	Repair System Description: HPPBPS -50% Reduction		☐ Other	No. Employees:	
# Nitrification Fields: 1	# Lines: 6	Linear Ft.: 358	Maintenance Agreement Required: ☑ YES ☐ NO		☐ Slab	☑ Crawl Space	
Trench Width: 36in	Trench Bottom Depth (Low side): 20in		Gravel Depth:	☐ GRAVITY ☑ PRESSURE	☐ Basement w/ Plumbing	☐ Basement w/o Plumbing	

Comments / Conditions: * County approved cover Required *

INITIAL SITE SKETCH

This permit is issued pursuant to G.S. 130A-335(a2), (a3) & (a4) using the signed and sealed LSS/LG Evaluation attached here, from:

Soil + Forestry Services of the Carolinas, PA

LSS# 1231

AS BUILT SKETCH

Tanks - STI 9/22/23

Lines - MW 9/24/23 as shown

Floats, PH, electrical, alarm, MC 11/1/23

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:

IMPROVEMENT PERMIT by: Benjamin A. Boutin Date: 3-1-2023

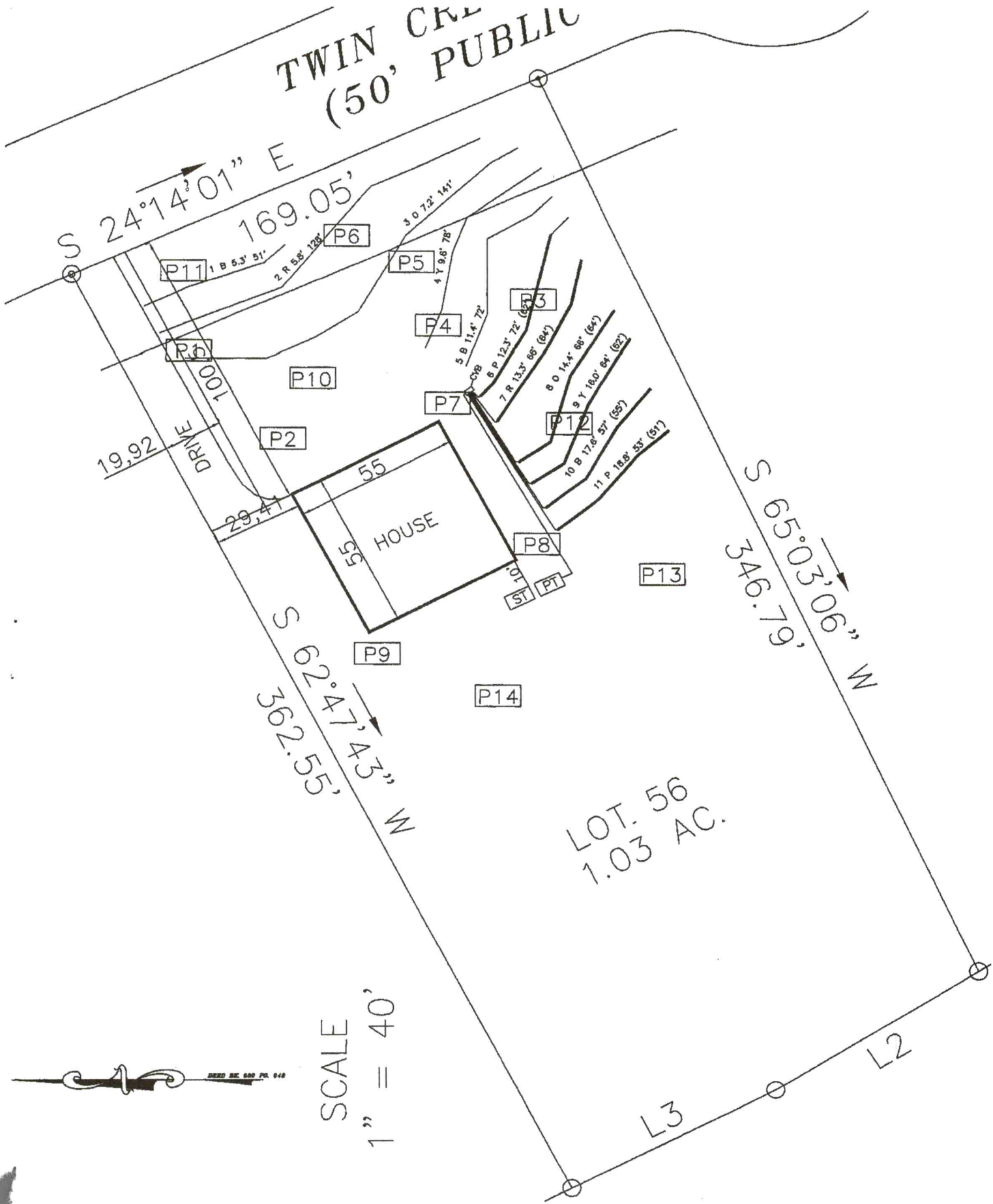
AUTHORIZATION TO CONSTRUCT by: Benjamin A. Boutin Date: 3-1-2023

Installed By: Chris Hedrick

OPERATION PERMIT by: Date: 11/1/23

Existing System Inspected By: Date:

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


TWIN CR
(50' PUBLIC
S 24°14'01" E
169.05'
P11
1 B 5.3' 51'
2 R 5.5' 128'
P6
3 O 7.2' 141'
P5
4 Y 9.8' 76'
P4
P3
5 B 11.4' 72'
6 P 12.3' 72' (68')
7 R 13.3' 66' (64')
8 O 14.4' 66' (64')
9 Y 16.0' 64' (62')
10 B 17.6' 57' (55')
11 P 18.8' 53' (51')
CYB
P12
P7
P10
P2
P1
100'
DRIVE
19,92
55
29,41
55
HOUSE
P8
10'
S1
P1
P13
S 65°03'06" W
346.79'
S 62°47'43" W
362.55'
P9
P14
LOT. 56
1.03 AC.
L3
L2
SCALE
1" = 40'

Chris Hedrick

Inspection & Maintenance Agreement

STATE OF NORTH CAROLINA, COUNTY of Iredell. This agreement is made and entered into this date of 10/31/2023 by and between Northlake Developer LLC (the Owner) and Chris Hedrick (the Contractor).

Witnesseth

WHEREAS, the owner owns or controls the property upon which a ground absorption sewage treatment system is installed, such system being designed a Type 4 system under the Rules for Sanitary Sewage Collection, Treatment and Disposal found at 15A N.C. Adm. Code 18A 1900 et seq.; and

WHEREAS, 15A N.C. Adm. Code 18A 1961 requires that a condition of the Operation Permit for said system be that a properly executed contract between the system owner and a management entity shall be in effect for as long as the system is in use; and

WHEREAS, the contractor is a management entity of a type authorized by 15A N.C. Adm. Code 18A. 1961 to manage a Type 4 system.

NOW THEREFORE, in consideration of the premises and of the mutual covenants and promises contained in this Agreement, it is hereby agreed by and between the Owner and the Contractor as stipulated below:

1. The Contractor's obligations. The Contractor shall perform the following services on the Owner's system located at 174 Twin Creeks Dr- Troutman 28166

   a. The Contractor shall inspect the system at least the frequency required in Table V(b) of 15A N.C. Adm. Code 18A 1961(b) for a Type 4 system.

   b. The Contractor shall perform the following routine maintenance procedures in accordance with conditions of the Operation Permit:

   c. The Contractor shall report results of inspections to the local department at the frequency specified in Table V(b) of 15A N.C. Adm. Code 18A 1961 for a Type 4 system.

   d. If an inspection indicates the need for system repairs, the Contractor shall notify the health department within 24 hours of the then inspection.

   e. The Contractor shall notify the Owner of needed repairs, which are outside the scope of routine maintenance described in sub-paragraph (b) above. The Contractor shall perform necessary repairs to the system at the request of the Owner and shall be entitled to payment thereof at the Contractor's normal charge for services and materials.

   f. The Contractor shall employ or shall contract with a certified operator(s) if required by Table V(b) of 15A N.C. Adm. Code 18A 1961(b) for a Type 4 system.

   g. The Contractor shall respond to a request for a non-scheduled service or maintenance call within 72 hours after receipt of such request.

2. The Owner's obligations.

   a. The Owner shall pay to the Contractor the sum of $ 350 per year for periodic inspections, routine maintenance procedures and periodic reports. The annual fee may be amended upon 60 days advance notice to the Owner but may not increase more than 2 percent per year. The Owner shall pay to the Contractor the normal and customary fees for any work performed on the system as a result of nonscheduled service or maintenance calls. All fees are due and payable within 30 days of billing. Payments due to the Contractor and unpaid by the Owner after 30 days shall accrue interest from the due date until paid at a rate of 2 percent per month.

   b. Within 7 days of receipt of notice of needed repairs pursuant to paragraph 1.e. above, the Owner shall request the Contractor to complete needed repairs or shall provide to the Contractor evidence that the repairs were satisfactorily completed.

   c. The Owner shall provide the Contractor with such access to the system as is reasonably necessary for the Contractor to comply with the terms of this Agreement.

BHH

3. Term. This Agreement shall remain in effect until terminated.

a. Automatic Termination. This agreement shall automatically terminate if the Operation Permit for the system is revoked and all appeals of the revocation are exhausted or time for taking an appeal has passed.

b. Termination by Mutual Consent. The Parties may mutually agree to terminate this Agreement by giving written notice of termination by mutual consent to the local Health Department within 30 days in advance of the date of termination.

c. Termination by the Owner. The Owner may terminate this Agreement by giving notice to the Contractor and to the local Health Department 30 days in advance of the date of termination.

d. Termination by the Contractor. The Contractor may terminate this Agreement for cause by giving notice of intent to terminate this Agreement to the Owner and the local Health Department 30 days in advance of the date of termination. Cause shall be defined as:

1. Failure to remit payment for any bill for services performed under and in accordance with this Agreement if said bill is not paid within 30 days of receipt by the Owner. If the said bill is paid after notice of termination in this Agreement, the Agreement shall continue in effect; or

2. Failure of the Owner to provide to the Contractor authorization to complete needed repairs or satisfactory evidence that needed repairs were completed within 2 days of receipt of notice of needed repairs pursuant to paragraph 1.e. above. If said authorization to complete needed repairs or evidence of completion of said repairs is provided after notice of termination is given but prior to the due date of termination of this Agreement, this agreement shall continue in effect;

3. Failure of the Owner to allow the Contractor such access to the system as is reasonably necessary in order for the Contractor to comply with the terms of this Agreement.

4. The Contractor may not terminate this Agreement without cause, but may assign its rights and duties under this Agreement as provided in paragraph 4 below.

4. Assignment.

a. Assignment by the Owner. The Owner shall notify the Contractor of the name and address of any purchaser of the property on which the system is located. The Owner shall also notify any purchaser of the property on which the system is located of the existence of this Agreement and shall assign all rights and duties under this Agreement to said purchaser.

b. Assignment by the Contractor. The Contractor may assign it's rights and duties under this Agreement to another management entity, which is qualified pursuant to 15A N.C. Adm. Code 18A. 1961 to manage a Type 4 system upon 30 days written notice to the Owner and the local Health Department.

5. Use of Subcontractors. The Contractor may subcontract with such manufacturers, suppliers and contractors as it deems desirable to perform any of the Contractor's duties under this Agreement. The Contractor shall at all times remain responsible for the performance of and payment for all work performed by the subcontractors.

6. Representatives. The parties represent to each other that each has the power, authority and legal right to enter into and perform it's obligations as set forth in this Agreement.

7. Regulatory Amendments. References in the Agreement to sections of the administrative code shall include such rules as the may be amended in the future.

8. No Implied Waiver. The waiver by either party of the default or a breach by the party of any provision of this Agreement shall not operate or be construed to operate as a waiver of any subsequent default or breach. The failure at any time of either party to enforce any provision of this Agreement (a) shall not be construed to be a waiver of such provisions, or of any other provisions; and (b) shall not in any way affect the validity of this Agreement, or the right of either party thereafter to enforce each and every provision of this Agreement.

BMc

9. Notice. Every notice required under this agreement shall be in writing and shall be deemed sufficiently given if delivered in person or sent by a certified or registered mail, return receipt requested, postage prepaid to the party to be notified and addressed as follows:

To the Owner: Northlake Developers
110 Nautical Point Ct
Mooresville NC 28117

To the Contractor: Chris Hedrick
1846 Hickory Springs Ln
Lincolnton, NC 28092

To the local Health Department: Iredell County Health Department
610 East Center Avenue
Mooresville, NC 28115

The date of any notice shall be date of personal delivery or the date shown on the return receipt as the date of delivery or attempt delivery, as the case may be. Changes in the respective addresses to which notice may be directed may be made from time to time by either party by notice of the other party.

10. Placement of Agreement. This Agreement and any questions concerning its validity, construction or performance shall be governed by the laws of the State of North Carolina notwithstanding the place of execution, or the order in which the signatures of the parties are affixed.

11. Entire Agreement and Amendment. This Agreement supersedes all prior negotiations, agreements and understandings between the parties with respect to the subject matter hereof and constitutes the entire Agreement between the parties with respect to the subject matter hereof. To be effective, any amendment or modification to this Agreement must be in writing and must be signed by the parties.

12. Severability. In the event that any provision of this Agreement shall, for any reason, be determined to be invalid, illegal or unenforceable in any respect, the parties shall negotiate in good faith and agree to such amendments, modifications or supplements of or to this Agreement or such other appropriate actions as shall, to the maximum practicable in light of such determination, implement and give effect to the intentions of the parties reflected in this Agreement, and the other provisions of this Agreement shall, as so amended, modified, supplemented or otherwise affected by such actions, remain in full force and effect.

IN TESTIMONY WHEREOF, the parties hereto have executed this Agreement in duplicate originals, one of which is retained by each of the parties, the day and year first above written.

X Bruce Kososki, Northlake Developers
(Owner) (Date) 11/1/23

X
(Contractor) 10/31/2023 (Date)

BLDR-2023-16809

ICHD - ENVIRONMENTAL HEALTH DIVISION

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

PERMIT # OSWP-2023-16814

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

PIN # 4730-45-3757

APPLICANT / OWNER: NORTHLAKE DEVELOPERS LLC | APPLICANT ADDRESS: 110 Nautical Point Court, Mooresville, NC 28117

SITE ADDRESS: 174 TWIN CREEKS DR, TROUTMAN, NC 28166 | PHONE: 9808294090 | ALT. PHONE:

SITE DIRECTIONS: Perth to State Park to Twin Creeks | SAP CONTROLLED: YES ☐ NO ☐

SUBDIVISION: Twin Creek Estates | SECTION: 2 | LOT #: 56 | LOT AREA: 1.03 | DESIGN FLOW: 480 | L.T.A.R.: .225

Septic Tank: (gal) 1000	STB: Infiltrator	Date:	☑ New System ☐ Repair ☐ Expansion	System Type: IV	☑ Residence	No. Bedrooms: 4	Water Supply: Municipal Water
Pump Tank: (gal) 1000	PT: Infiltrater	Date:	System Description: HPPBPS -50% Reduction		☐ Business	No. Persons: 8	
Pump Make:	Model:	Serial #:	Repair System Description: HPPBPS -50% Reduction		☐ Other	No. Employees:	
# Nitrification Fields: 1	# Lines: 6	Linear Ft.: 358	Maintenance Agreement Required: ☑ YES ☐ NO		☐ Slab	☑ Crawl Space	
Trench Width: 36in	Trench Bottom Depth (Low side): 20in		Gravel Depth:	☐ GRAVITY ☑ PRESSURE	☐ Basement w/ Plumbing	☐ Basement w/o Plumbing	

Comments / Conditions: * County approved cover Required *

INITIAL SITE SKETCH

This permit is issued pursuant to G.S. 130A-335(a2), (a3) & (a4) using the signed and sealed LSS/LG Evaluation attached here, from:

Soil + Forestry Services of the Carolinas, PA

LSS# 1231

AS BUILT SKETCH

Tanks - STI 9/22/23

Lines - MW 9/29/23

as shown

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

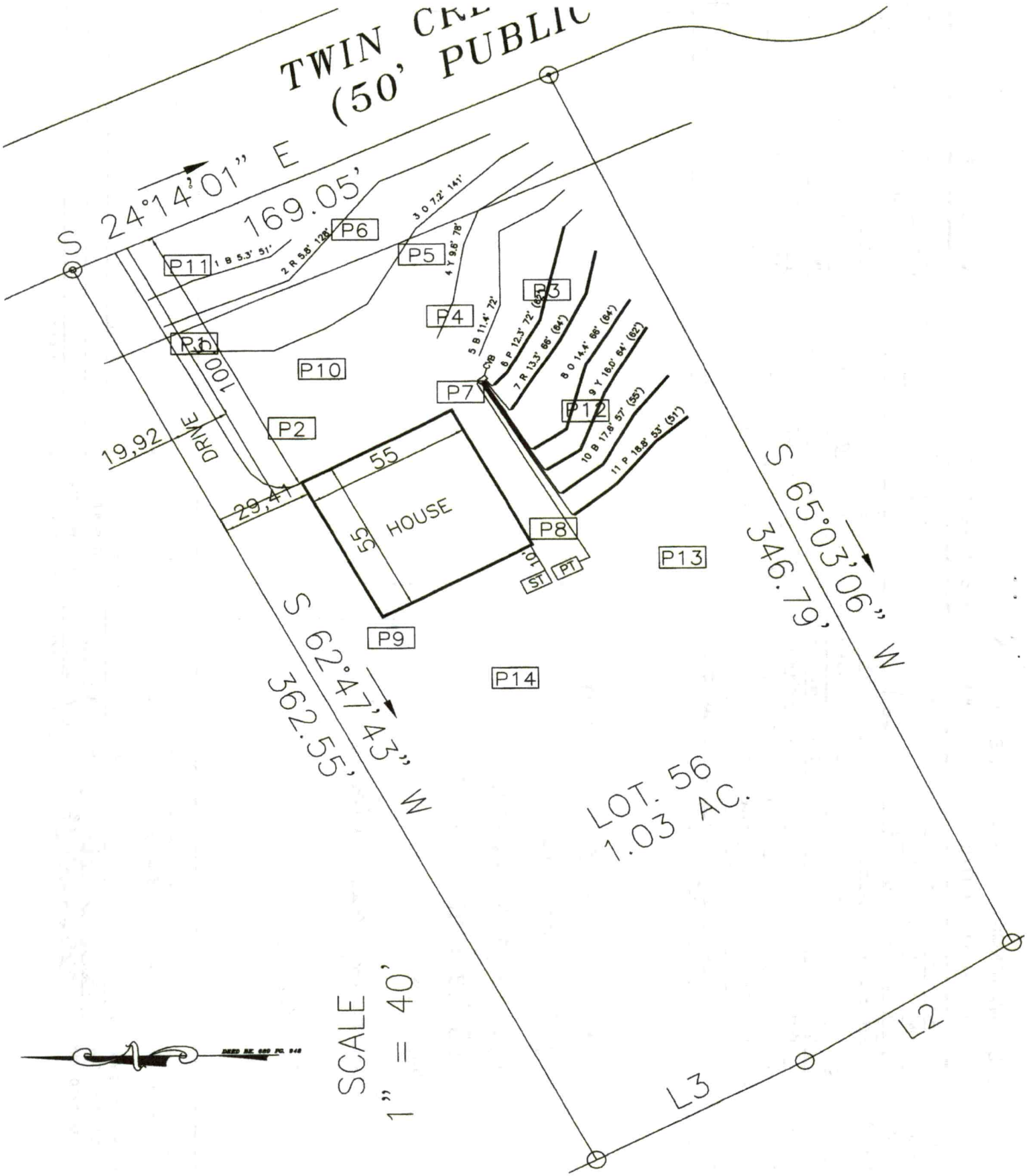
☐ IMPROVEMENT PERMIT with plat valid without expiration. ☑ IMPROVEMENT PERMIT with site plan valid for 60 mos. ☑ AUTHORIZATION TO CONSTRUCT valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.

Owner / Applicant Signature: _____ Date: _____ Installed By: Chris Hedrick

IMPROVEMENT PERMIT by: Benjamin R. Batts Date: 3-1-2023 OPERATION PERMIT by: _____ Date: _____

AUTHORIZATION TO CONSTRUCT by: Benjamin R. Batts Date: 3-1-2023 Existing System Inspected By: _____ Date: _____

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


TWIN CR
(50' PUBLIC
S 24°14'01" E
169.05'
P11
P6
P5
P4
P3
P10
P7
P12
P2
P1
P8
P13
P9
P14
P1
ST
PT
DRIVE
100'
19.92
29.41
55
55
HOUSE
S 65°03'06" W
346.79'
S 62°47'43" W
362.55'
LOT. 56
1.03 AC.
L2
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1" = 40'

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Septic Tank: (gal) 1000	STB:	Date:	☑ New System ☐ Repair ☐ Expansion	System Type: IV	☑ Residence	No. Bedrooms: 4	Water Supply: Municipal Water
Pump Tank: (gal) 1000	PT:	Date:	System Description: HPPBPS -50% Reduction		☐ Business	No. Persons: 8	
Pump Make:	Model:	Serial #:	Repair System Description: HPPBPS -50% Reduction		☐ Other	No. Employees:	
# Nitrification Fields: 1	# Lines: 6	Linear Ft.: 358	Maintenance Agreement Required: ☑ YES ☐ NO		☐ Slab	☑ Crawl Space	
Trench Width: 36in	Trench Bottom Depth (Low side): 20in		Gravel Depth:	☐ GRAVITY ☑ PRESSURE	☐ Basement w/ Plumbing	☐ Basement w/o Plumbing	

Comments / Conditions: * County approved cover Required *

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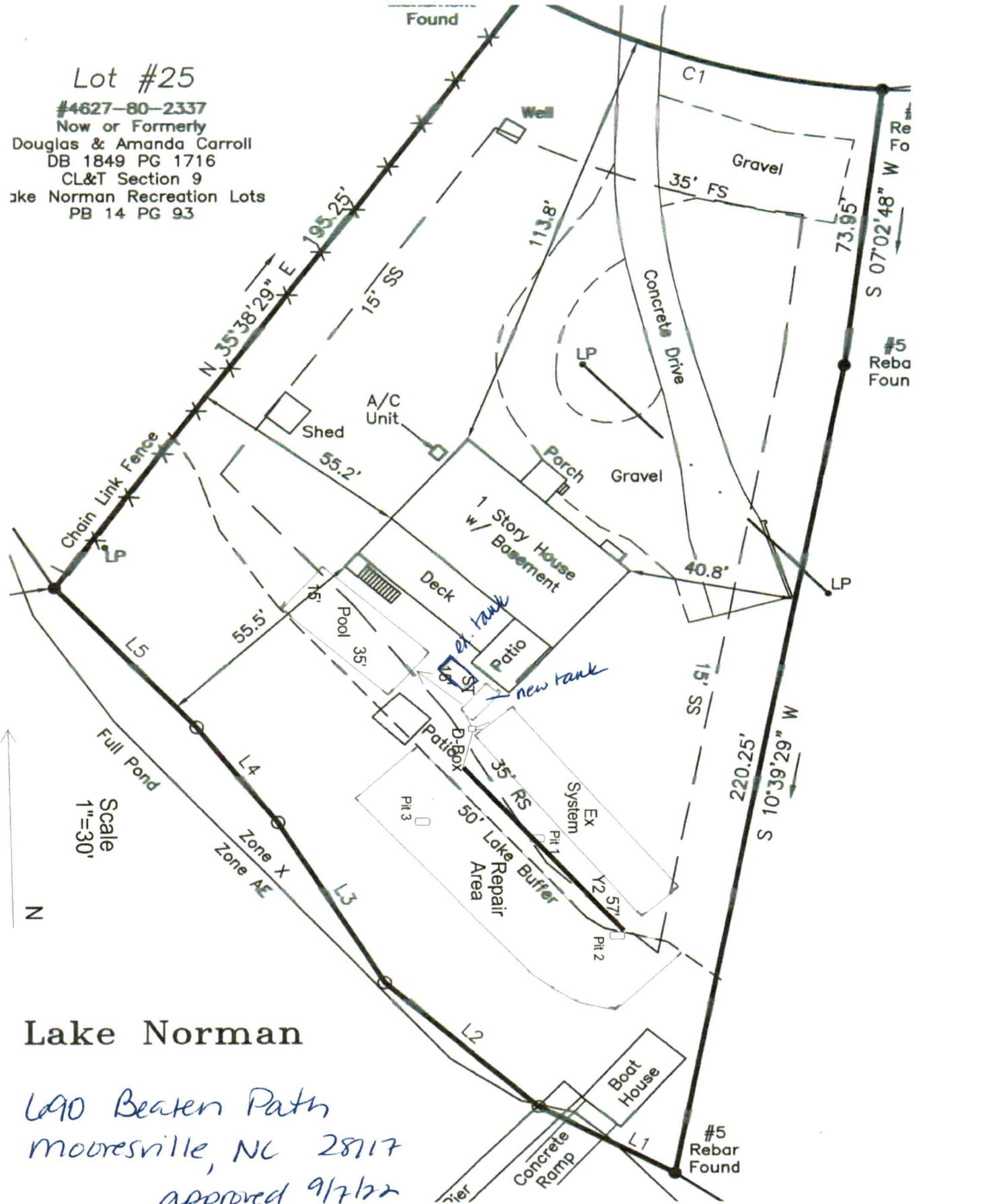
☐ IMPROVEMENT PERMIT with plat valid without expiration. ☑ IMPROVEMENT PERMIT with site plan valid for 60 mos. ☑ AUTHORIZATION TO CONSTRUCT valid for period equal to IMPROVEMENT PERMIT--not to exceed 60 mo.

Owner / Applicant Signature: _____ Date: _____ Installed By: _____

IMPROVEMENT PERMIT by: Benjamin A Batts Date: 3-1-2023 OPERATION PERMIT by: _____ Date: _____

AUTHORIZATION TO CONSTRUCT by: Benjamin A Batts Date: 3-1-2023 Existing System Inspected By: _____ Date: _____

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


Lot #25
#4627-80-2337
Now or Formerly
Douglas & Amanda Carroll
DB 1849 PG 1716
CL&T Section 9
ake Norman Recreation Lots
PB 14 PG 93
Found
Well
C1
Gravel
35' FS
73.95'
S 07°02'48" W
#5 Reba Foun
113.8'
15' SS
Concrete Drive
LP
N 35°38'29" E
195.25'
A/C Unit
Shed
55.2'
Porch
Gravel
1 Story House w/ Basement
Chain Link Fence
LP
Deck
40.8'
LP
15'
55.5'
Pool
35'
ex. tank
Patio
L5
new tank
SS
15'
Full Pond
L4
Patio
D-Box
35' RS
Ex System
Pit 1
50' Lake Buffer
Repair Area
Pit 3
Y2
57'
Pit 2
220.25'
S 10°39'29" W
Zone X
Zone AE
L3
N
Scale 1"=30'
L2
Boat House
Concrete Ramp
L1
#5 Rebar Found
Lake Norman
L90 Beaten Path
Mooresville, NC 28117
approved 9/7/22

County: Iredell.

This Section for Local Health Department Use Only

Initial submittal received: 2-20/2023 (Date) by BB. (Initials)

Permit Number: OSWP-2023-16814.

G.S. 130A-335(a4) states the following: *'If a local health department fails to act on an application for an improvement permit submitted pursuant to subsection (a3) of the section within 10 business days of receipt of a complete application, the local health department shall issue the improvement permit.'*

In accordance with G.S. 130A-335(a3) the improvement permit application is:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing:

_____

_____

Copies of this were sent to the LSS and the Owner on _____ (Date)

State Authorized Agent: _____ Date: _____

☐ Denied (See attached report.)

Copies of this were sent to the LSS and the Owner on _____ (Date)

State Authorized Agent: _____ Date: _____

☒ Complete

State Authorized Agent: Benjamin A. Bates Date of Issuance: 3-1-2023

This Improvement Permit is issued pursuant to G.S. 130A-335 (a2), (a3), and (a4) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit by the Health Department in no way guarantees the issuance of other permits. The permit holder is responsible for checking with appropriate governing bodies in meeting their requirements. This site is subject to revocation if the site plan, plat, or the intended use changes, or if information submitted in the application was falsified, inaccurate or misleading. The Improvement Permit shall not be affected by a change in ownership of the site. This permit is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to conditions of this permit. The location and identification of all property lines, easements, water lines, and other appropriate utilities shall be the responsibility of the owner.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to evaluations, submittals, or actions from a licensed soil scientist or licensed geologist pursuant to GS 130A-335(a2).

Improvement Permit Expiration Date: 3-1-2028.

See attached site sketch

County: Iredell.

This Section for Local Health Department Use Only

Initial submittal received: 2-20-2023 (*Date*) by BB. (*Initials*)

Permit Number: OSWP-2023-16814

G.S. 130A-335(a6) states the following: *'If a local health department fails to act on an application for a construction authorization submitted pursuant to subsection (a5) of the section within 10 business days of receipt of a complete application, the local health department shall issue the construction authorization.'*

In accordance with G.S. 130A-335(a5) the construction authorization application is:

☐ Incomplete (If box is checked, information in this section is required.)

The following items are missing: _____

_____

Copies of this were sent to the AOWE/PE and the Owner on _____ (*Date*)

State Authorized Agent: _____ Date: _____

☐ Denied (See attached report.)

Copies of this were sent to the AOWE/PE and the Owner on _____ (*Date*)

State Authorized Agent: _____ Date: _____

☑ Complete

State Authorized Agent: Benjamin A Batten Date of Issuance: 3-1-2023

This Construction Authorization is issued pursuant to G.S. 130A-335(a2), (a5), and (a6) using the signed and sealed plans or evaluations attached here. This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes, or if information submitted in the application was falsified, inaccurate or misleading. The Construction Authorization shall not be affected by a change in ownership of the site. This Construction Authorization is subject to compliance with the provisions of the Laws and Rules for Sewage Treatment and Disposal and to the conditions of this permit. The location and identification of all property lines, easements, water lines, and other appropriate utilities shall be the responsibility of the owner. Final landscaping shall be constructed to divert water and establish vegetative cover.

The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to plans, evaluations, preconstruction conference findings, submittals, or actions from a person licensed pursuant to Chapter 89C of the General Statutes as a licensed engineer or a person certified pursuant to Article 5 of Chapter 90A of the General Statutes as an Authorized On-Site Wastewater Evaluator in GS 130A-335(a2), (a5), and (a7). The Department, the Department's authorized agents, and the local health departments shall be responsible and bear liability for their actions and evaluations and other obligations under State law or rule, including the issuance of the operations permit pursuant to GS 130A-337.

Construction Authorization Expiration Date: 3-1-2028

See attached site sketch

County: Iredell

IMPROVEMENT PERMIT FOR G.S. 130A-335(a2)/SL2022-11

PIN/Lot Identifier: 4730453757

Issued To: Northlake Developers, LLC

Property Location: 174 Twin Creeks Drive, Troutman NC 28166

Subdivision: TWIN CREEKS Lot #: 56 Block: _____ Section: _____

LSS Report Provided: Yes ☒ No ☐

If yes, name and license number of LSS: Samuel Ashley Rollans #1731

New ☒ Repair ☐ Expansion ☐ System Relocation ☐

Proposed Structure: 4 BR Residence

Proposed Wastewater System Type: HPPBPS (Initial) HPPBPS (Repair)

Fill System: ☐ Yes ☒ No If yes, specify: ☐ New ☐ Existing (when adding more than 6 inches of fill to system area please provide a fill plan)

Proposed Design Daily Flow: 480 GPD Proposed LTAR (Initial): 0.225 Proposed LTAR (Repair): 0.225

Design Wastewater Strength: ☒ domestic ☐ high strength ☐ industrial process

Number of bedrooms: 4 Number of Occupants: 8 Other: _____

Pump Required: ☑ Yes ☐ No ☐ May be required based upon final location and elevations of facilities

Artificial Drainage Required: ☐ Yes ☒ No If yes, please specify details: _____

Type of Water Supply: ☐ Private well ☐ Public well ☑ Municipal Supply ☐ Spring ☐ Other: _____

Drainfield location meets requirements of Rule .1945: Yes ☒ No ☐

Drainfield location meets requirements of Rule .1950: Yes ☒ No ☐

Permit valid for: ☒ Five years [site plan submitted pursuant to GS 130A-334(13a)] ☐ No expiration [plat submitted pursuant to GS 130A-334(7a)]

Permit conditions:

See Design

Licensed Soil Scientist Print Name: Samuel Ashley Rollans

Licensed Soil Scientist Signature: Samuel A Rollans Date: 2/17/23

The LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2).

See attached site sketch

County: Iredell

CONSTRUCTION AUTHORIZATION FOR G.S. 130A-335(a2)/SL2022-11

PIN/Lot Identifier: 4730453757

Issued To: Northlake Developers, LLC

Property Location: 174 Twin Creeks Drive, Troutman NC 28166

AOWE/PE Plans/Evaluations Provided: Yes ☑ No ☐ If yes, name and license number of AOWE/PE: Samuel A Rollans 10027E

Facility Type: 4BR Residence

☑ New ☐ Expansion ☐ Repair ☐ System Relocation

Basement? ☐ Yes ☐ No Basement Fixtures? ☐ Yes ☐ No

Type of Wastewater System** +1PPBPS (Initial) HPPBPS (Repair)

Design Daily Flow: 480 GPD Wastewater Strength: ☐ domestic ☐ high strength ☐ industrial process

Session Law 2014-120 Section 53, Engineering Design Utilizing Low-flow Fixtures and Low-flow Technologies? ☐ Yes ☑ No

Installation Requirements/Conditions

Septic Tank Size: 1000 gallons Total Trench/Bed Length: 358 feet Trench/Bed Spacing: 9 feet on center

Drainfield square footage: 1074 Trench/Bed Width: 36 inches LTAR: 0.225 gpd/ft²

Soil Cover: 6 min inches Slope Adjusted Maximum Trench/Bed Depth: 20 inches LOW SIDE

Aggregate Depth: _____inches above pipe _____inches below pipe _____inches total

Pump Tank Size (if applicable): 1000 gallons Requires more than 1 pump? ☐ Yes ☑ No

Pump Requirements: 19.81 ft. TDH vs. 33.97 GPM Grease Trap Size (if applicable): _____ gallons

Distribution Method: ☐ Serial ☐ D-Box or Parallel ☐ Pressure Manifold(s) ☑ LPP ☐ Other: _____

Artificial Drainage Required: Yes ☐ No ☑ If yes, please specify details: _____

Legal Agreements *(If the answer is "Yes" to any type of legal agreements, please attach a copy of the agreement.)*

Multi-party Agreement Required [.1937(h)]: ☐ Yes ☑ No

Easement, Right-of-Way, or Encroachment Agreement Required [.1938(j)]: ☐ Yes ☑ No

Declaration of Restrictive Covenants: ☐ Yes ☑ No

****If applicable:**

I understand the system type specified is different from the type specified on the application. I accept the specifications of this permit.

Owner/Legal Representative Print Name: _____

Owner/Legal Representative Signature: _____ Date: _____

Pre-Construction Conference Required: Yes ☐ No ☑

Conditions: See Design

The construction and installation requirements of Rules .1950, .1952, .1954, .1955, .1956, .1957, .1958, and .1959 are incorporated by reference into this permit and shall be met. Systems shall be installed in accordance with the attached system layout.

AOWE/PE Print Name: Samuel Ashley Rollans

AOWE/PE Signature: Samuel A Rollans Date: 1/17/23

This AOWE/PE submittal is pursuant to and meets the requirements of G.S. 130A-335(a2) and (a5).

See attached site sketch

NC ONSITE WASTEWATER Certification Number 10027E EVALUATOR

SOIL & FORESTRY SERVICES
OF THE CAROLINAS, PA

www.soilandforestryservices.com

Attached is a proposed design for an HPPBPS Septic System w/Low pressure distribution for a 4 bedroom single family residence on 174 Twin Creeks Drive, (PIN# 4730453757), Troutman NC, 28166.

Contents: **Page**

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

Design Information
- Design Specifications---------- 2-3
- Layout Specifications---------- 4
- System Tapsheet---------- 5

Site Plan/System Plan---------- 6

Calculations---------- 7

Profile Descriptions---------- 8-9

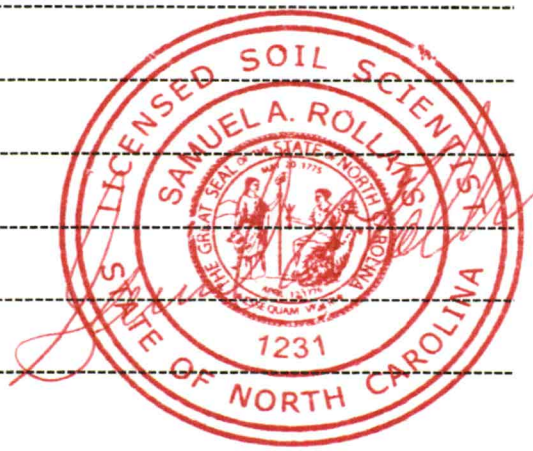
Septic Application---------- ONLINE

Agent Authorization---------- ONLINE

Green Sheet---------- ONLINE

Improvements Permit Form---------- 10

Construction Authorization Form---------- 11



February 9, 2023
Project #: 22-0177
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 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 excavation
- Pumptank riser should be 6" above grade, control panel should be 12" above grade.
- Septic tank riser shall be a minimum of 6" above finished grade.
- System is specified as an At-grade HPPBPS installation with low pressure distribution.
- Repair is specified as an At-grade HPPBPS installation with low pressure distribution.
- Backfill 4 - 6" of material (County Approved) over panels, rake trench walls, lime side-walls, install trenches 36" wide and have no more than 1/4" fall in 10 feet.
- **Divert surface water from Twin Creeks Drive away from system.**

LP HPPBPS SYSTEM
FOR WASTEWATER TREATMENT

Owner/Applicant:	Northlake Developers, LLC
Current Address:	110 Nautical Point Ct. Mooresville, NC 28117
Phone:	980.829.4080
County:	Iredell
Location:	174 Twin Creeks Troutman, NC 28166
Source of Wastewater Flow:	4 Bedroom Single Family Residence
Estimated Gallons Per Day Flow:	480 gpd
System Flow:	33.87 gpm

Design Specifications

Drainfield Size:	358
Loading Rate (gpd/ft.^{2}):	0.225
Depth of Gravel in Trench:	NA (HPPBPS)
Gravel Size:	NA (HPPBPS)
Trench Depth (LOW SIDE):	20 in., Repair 20 in. Trench Depth
Trench Width:	36 in.
Septic Tank Size:	1000
Pump Tank Size:	1000
Estimated Supply Line Length:	77
Supply Line Diameter:	2 in. SCH 40 PVC
Supply Line Volume:	13.40
Dosing Volume:	298.80
Supply Manifold:	N/A
Supply Manifold Length:	N/A
Supply Manifold Volume:	N/A
Recommended Float Controls:	SJE Sensor Float Control Switches as Required for Control Panel or County Approved Equivalents
Recommended Control Panel:	SJE-Rhombus Model 112 (NEMA 4x) Control Panel or County Approved Control Panel.
Pressure Head:	2 ft.
Friction Head:	1.82
Elevation Head:	13.40
Total Dynamic Head:	19.81
Threaded Union:	In Tank
Gate Valves:	1 in Tank 1 per lateral
Check Valves:	In Tank
Anti-Siphon Hole:	NA
Additional Comments:	Soil suitability was performed by Soil & Forestry Services of the Carolinas, PA

174 Twin Creeks

LP HPPBPS

DESIGN FLOW (gpd):	480
SOIL APPLICATION RATE (gpd/ft.^{2}):	0.225
TOTAL AREA TRENCH BOTTOM:	1074
TOTAL LATERAL LENGTH:	358
NUMBER OF FIELDS:	1
LATERAL LENGTH REQUIRED PER FIELD:	355.5555556
SUPPLY LINE LENGTH:	77
TOTAL DYNAMIC HEAD:	19.81
MANIFOLD SIZE:	N/A
DOSING VOLUME:	298.80
PUMP TANK DRAW DOWN*:	14.2
SEPTIC TANK SIZE:	1000
PUMP TANK SIZE:	1000

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

174 Twin Creeks Drive

Project #: 22-0177

LAYOUT FOR 4 BEDROOM HOME

February 9, 2023

LINE #	FLAG COLOR	BS	HI	FS	ELEVATION	FLAGGED LINE LENGTH	DESIGN LINE LENGTH
TBM		2.6	102.6		100.00		
INSTR. 1							
HOUSE CNR	(LEFT REAR)			18.80	83.80		
P. TANK				20.00	82.60		
1	BLUE			5.30	97.30	51	51
2	RED			5.80	96.80	128	128
3	ORANGE			7.20	95.40	141	141
4	YELLOW			9.60	93.00	78	78
5	BLUE			11.40	91.20	72	72
6	***PINK***			***12.30***	***90.30***	***72***	***62***
7	***RED***			***13.30***	***89.30***	***66***	***64***
8	***ORANGE***			***14.40***	***88.20***	***66***	***64***
9	***PINK***			***16.00***	***86.60***	***64***	***62***
10	***RED***			***17.60***	***85.00***	***57***	***55***
11	***ORANGE***			***18.80***	***83.80***	***53***	***51***
					Total	**848**	**828**

	LINE LENGTH	LTAR GPD/FT^2	SYSTEM TYPE	SOIL LTAR GPD/FT^2	TRENCH SYSTEM	DISTRIBUTION	TRENCH DEPTH (LOW SIDE)
**** System***	***358***	***0.225***	***MOD.***	***0.225***	***HPPBPS***	**LOW PRESSURE**	***20"***
Repair	470	0.225	MOD.	***0.225***	***HPPBPS***	LOW PRESSURE	***20"***

Notes:

****All septic lines, elevations and pits located via GPS & TAPE MEASURE**
**All measures in feet
**Nitrification lines are demonstrated on contour via colored pin flags

LP HPPBPS TAPSHEET -174 Twin Creeks Drive

SYSTEM

Line #	Color	Elevation	Length	Hole Size	Flow/hole	Trench Area	Number of Panels
6	*PINK*	*90.30*	*62*	*0.156*	*0.41*	*186*	*14*
7	*RED*	*89.30*	*64*	*0.156*	*0.41*	*192*	*15*
8	*ORANGE*	*88.20*	*64*	*0.156*	*0.41*	*192*	*15*
9	*PINK*	*86.60*	*62*	*0.156*	*0.41*	*186*	*14*
10	*RED*	*85.00*	*55*	*0.156*	*0.41*	*165*	*13*
11	*ORANGE*	*83.80*	*51*	*0.156*	*0.41*	*153*	*12*
	total	feet =	358	gal/min =	33.87		83
			Des. Flow	480			
			Pump Run=	8.78			
			soil LTAR	0.225			
			LTAR +5%	0.23625			
			LTAR with mod.	0.45			
			LTAR with mod.. + 5%	0.4725			

.156 equals 5/32 inch hole

CALCULATIONS

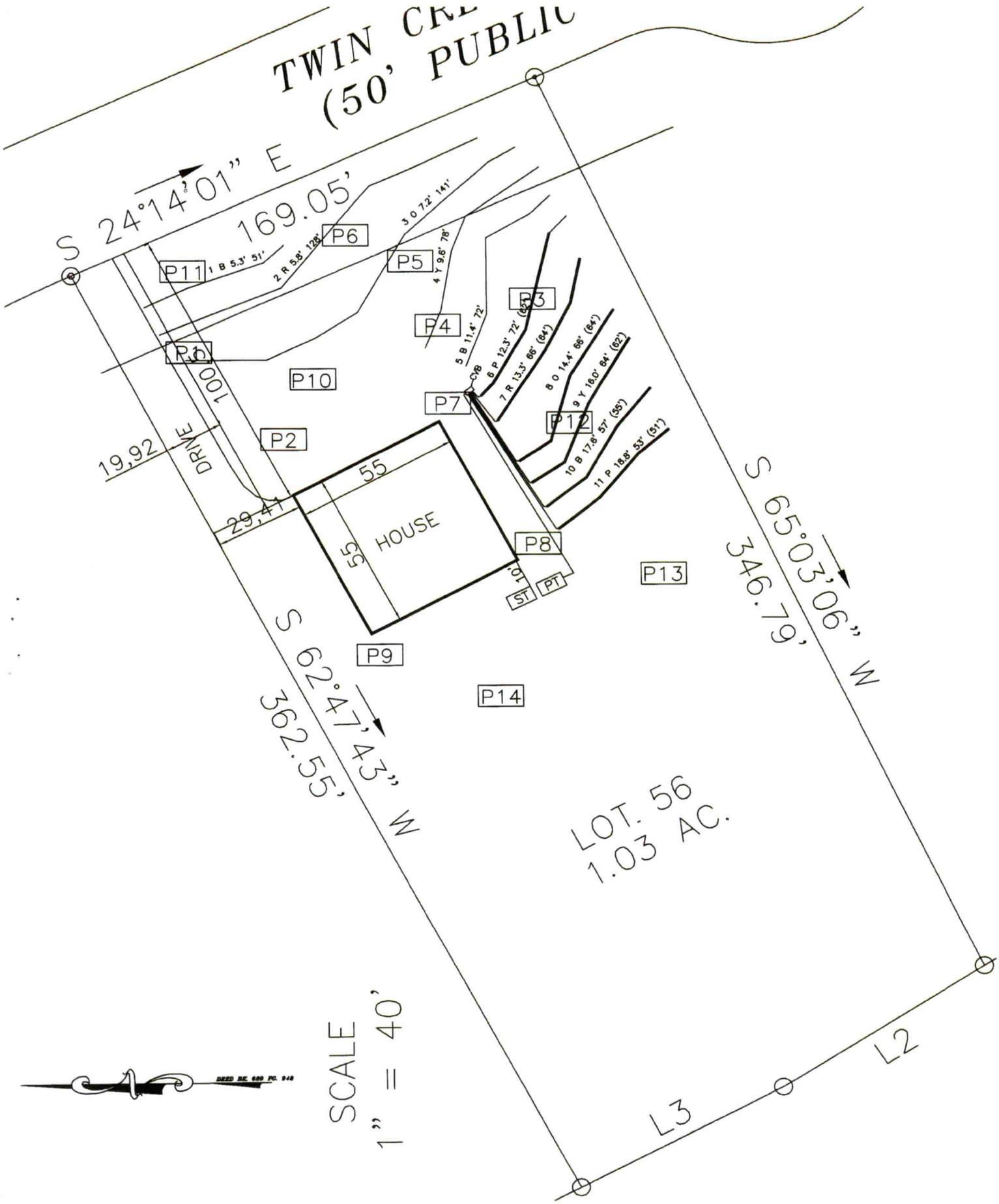
Location	174 Twin Creeks Drive Troutman, NC 28166	
Project Number	22-0177	
Lot No:	56	
No. of Bedrooms	4	
Design Flow	480	$^{gal}/_{day}$
LTAR	0.225	$^{gal}/_{ft^2\,day}$
PPBPS? (YES OR NO)	YES	
Supply Line Length	77	ft.
Supply Line Volume	13.398	gal.
Required Feet of Line	355.5556	ft.
Amount of Line from Layout	358	ft.
Gallons per Minute	33.87	$^{gal}/_{min}$
Required Septic Tank Capacity	1000	gal.
Pump Tank Capacity	1000	gal.
Panel Volume	3.6	gal.
# of Panels	83	
Dosing Volume	298.80	gal.

Note: Dosing Volume based on 100% of # of panels times 3.6 gal/panel

FRICTION FACTOR INTERPOLATER
2" SCH 40 PVC

GPM	*f*
20	0.84
	-0.88
25	1.27
	-1.28
30	1.78
	-1.76
35	2.37
	-2.25
40	3.03
43.07	3.48
45	3.77
48.14	4.28
50	4.58
57.11	5.89
60	6.42

Tank Draw Down	14.2	*Generic Draw Down of 21 gal.per in.*
Pump Run Time	8.78	minutes
Elevation Head	13.4	ft.
Pressure Head	2	ft.
Friction Factor	2.37	ft./100 ft. *(From the interpolater.)*
Friction Head	1.82	ft.
Total Dynamic Head (+15%)	19.81	ft.


TWIN CR
(50' PUBLIC
S 24°14'01" E
169.05'
P11
1 B 5.3' 51'
2 R 5.8' 128'
P6
3 O 7.2' 141'
P5
4 Y 9.6' 78'
P4
P3
5 B 11.4' 72'
CVB
6 P 12.3' 72' (62')
7 R 13.3' 66' (64')
8 O 14.4' 66' (64')
9 Y 16.0' 64' (62')
P12
10 B 17.8' 57' (55')
11 P 18.8' 53' (51')
P1
P10
P7
100'
DRIVE
19.92
P2
55
29.41
HOUSE
55
P8
10'
ST
PT
P13
S 65°03'06" W
346.79'
P9
S 62°47'43" W
362.55'
P14
LOT. 56
1.03 AC.
L2
L3
SCALE
1" = 40'
DEED B.K. 680 PG. 948

PROPERTY ID #: 4730453757
COUNTY: Iredell

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

OWNER: Northlake Development, LLC
ADDRESS: 110 Nautical Point Court, Mooresville, NC 28117
PROPOSED FACILITY: 4 Bedroom Residence
LOCATION OF SITE: 174 Twin Creeks Dr Statesville NC 28625

APPLICATION DATE:
DATE EVALUATED: 12/27/2022
PROPERTY SIZE: 1.03
PROPERTY RECORDED: YES

WATER SUPPLY: ☐ Private ☐ Well ☐ Spring ☑ Other — Public Water

EVALUATION METHOD: ☐ Auger Boring ☑ Pit ☐ Cut

TYPE OF WASTEWATER: ☑ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPR CLASS	.1944 RESTR HORIZ	
1	L/6%	0-28	BRCWMSBK/ABK	FRSP	few sap/white litho colors c sap	61			0.275-0.3
		28-38	RBCWMSBK	FRSSSP					
		38-61	RBCLWFSBK	FRSSSP					
2	L/8%	0-7	RBCLWFSBK	FRSSP	few tp c fe depl chr2@13" few to c fe depl few sap	58			UN
		7-29	BRCWMSBK/ABK	FRSSP					
		29-58	RBCWMSBK	FSSP					
3	L/7%	0-5	RBCLWFSBK	FRSSSP	few fe depl 36" + c fe depl chr2@44"	60			0.25
		5-40	BRCWFSBK/ABK	FRSSSP					
		40-60	RBCWMSBK/ABK	FRSP					
4	L/8%	0-9	BCLWFSBK	FRSSSP	few to c fe depl@32" chr2@42"	59			0.25
		9-59	RBCWMSBK/ABK	FRSSP					
5	L/6%	0-9	RBSCLWFSBK	FRSSSP	fe depl@28" c fe depl chr2@44"	54			0.25
		9-36	BRCWMSBK/ABK	FRSSP					
		36-54	RBCWMSBK	FSP					
6	L/6%	0-4	BCLWFSBK	FRSSSP	c to many fe depl chr2@35"	57			0.225-0.25
		4-27	RBCWMSBK	FRSSP					
		27-57	RBCWFSBK/ABK	FRSP					
7	L/8%	0-4	RBCLWFSBK	FRSSSP	fe depl @ 30" chr2@44" c fe depl	52		N/A	0.25
		4-34	BRCWMSBK/ABK	FRSSSP					
		34-52	RBCWMSBK	FRSSP					
8	L/6%	0-4	RBCLWFSBK	FRSSSP	c fe depl chr2@40"	60		N/A	0.225-0.25
		4-60	RBCWMSBK/ABK	FRSP					
9	L/6%	0-7	YLBCLWFSBK	FRSSSP	few tp c fe depl chr2@23" c fe depl	62		N/A	0.275-0.3
		7-37	YBCWFSBK	FRSP					
		37-62	GC VWMSBK	FSP					
10	L/7%	0-4	RBCLWFSBK	FRSSSP	c fe depl chr2@43"	61		N/A	0.1 DRIP
		4-44	BRCWMSBK/ABK	FRSSP					
		44-61	RBCWMSBK/ABK	FSP					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	PS	PS
System Types(s)	HPPBPS	HPPBPS
Site LTAR	0.225	0.225

OTHER FACTORS (.1946):
SITE CLASSIFICATION (.1948): PS
EVALUATED BY: Ashley Rollans
OTHER(S) PRESENT: Chad Wagner & Mason Freeman

COMMENTS: DIVERT WATER ALONG ROAD SIDE AWAY FROM PROPOSED SEPTIC FIELD

PROPERTY ID #: 4730453757
COUNTY: Iredell

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

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPR CLASS	.1944 RESTR HORIZ	
11	L/5%	0-4 4-38 38-59	BCLWFSBK BRCWMABK/SBK RBCLWFSBK	FRSSSP FRSSP FRSSSP	FEW SAP/LITHO Yellow @38" few sap/litho colors	59		N/A	0.275-0.3
12	L/8%	0-7 7-40 40-64	RBCLWFSBK BRCWFSBK/ABK RBCWMSBK	FRSSSP FRSSSP FSSP	FEW FE DEPL	64		N/A	0.275-0.3
13	L/13%	0-5 5-42	BCLWFSBK YBCWMSBK	FRSSSP FRSSP	FE DEPL@21" ChR2@38"	42		N/A	0.1 DRIP
14	L/13%	0-8 8-36 36-53	RBSCLWFSBK RBSCWMSBK BGCWMSBK	FRSSSP FRSSP FSP	FEW FE DEPL ChR2@26"	53		N/A	0.1 DRIP
15									
16									
17									
18									
19									
20									
21									
22									
23									

LICENSED SOIL SCIENTIST
SAMUEL A. ROLLAND
1231
STATE OF NORTH CAROLINA

COMMENTS:

174 Twin Creeks Drive (*See Attached Design*)
The septic layout for this lot (9' centers) yielded a total of 848 linear feet of line. The primary system is proposed as 358 linear feet of Mod. Conv. (HPPBPS 50% Reduction) drainfield with low pressure distribution. Trench depth (Low Side) is specified at 20 inches. The repair system is proposed as 358 linear feet of HPPBPS (50% Reduction) drainfield with low pressure distribution. Trench depth (Low Side) is specified at 20 inches. There is 470 linear feet of line available for repair.

Session Law Requirements

All information needed to issue the IP must be submitted with the application. 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/LG evaluation(s) attached to this application is to be used to issue an Improvement Permit in accordance with G.S. 130A-335(a2) and (a3)."

Owner Northlake Developers/ Date

Print Name Bruce Kosogki

Signature _____ 2/17/23

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 G.S. 130A-335(a2)."

Disclaimer
This report reflects the findings of S&FS, PA. *This LSS evaluation is being submitted pursuant to and meets the requirements of G.S. 130A-335(a2)."* Any site modifications that impact the proposed septic areas at 174 Twin Creeks Drive, Troutman, NC 28166 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
STATE OF NORTH CAROLINA

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