BLDR-2024-58475

ICHD - ENVIRONMENTAL HEALTH DIVISION

Statesville Office (704) 878-5305 x3456 Mooresville Office (704) 660-3625

PERMIT # OSWP 2024-57930

PIN # 4762 -- 41 -- 1387

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

APPLICANT/OWNER: AWT

APPLICANT ADDRESS: 501 N Salem St, Suite 203, Apex NC 27502

SITE ADDRESS: 104 Kerr Walk Drive, Statesville, NC 28677

PHONE: 919-859-0669

ALT. PHONE:

SITE DIRECTIONS: Ostwalt Amity -> R Bethesda -> R Jordan Lake -> L Mountain Island -> lot on corner of Kerr Walk

SAP CONTROLLED: ☐ YES ☑ NO

SUBDIVISION: Northlake

SECTION: 3

LOT # 14 + Tract 5

LOT AREA: 0.61

DESIGN FLOW: 360 gpd

L.T.A.R.(Initial): 0.3

L.T.A.R (Repair): 0.1

Septic Tank 1000 (gal) STB Date

Pump Tank 1000 (gal) PT Date

Pump Make Model Serial #

Nitrification Fields 1 # Lines 4 Linear Ft: 204

Trench Width 24 *Max. Trench Depth(Initial) 36 *Max. Trench Depth(Repair) 6 Gravel Depth n/a

* Measured on the downhill side of the trench

Effluent Standard: ☑ DSE ☐ HSE ☐ TS-I ☐ TS-II ☐ RCW ☐ NSF/ANSI 40

☑ New System ☐ Repair ☐ Expansion System Type: I II ☑ III IV V VI

System Description: VPPBPS - IIIB

Repair System Description: Subsurface Drip - Vd

Maintenance Agreement Required: ☐ YES ☑ NO

☐ GRAVITY ☑ PRESSURE

Usable Depth to LC (Initial): 48

Usable Depth to LC (Repair): 18 *Limiting Condition*

☑ Residence No. Bedrooms 3

☐ Business No. Persons 6

☐ Other No. Employees

☑ Slab ☐ Crawl Space

☐ Basement w/plumbing ☐ Basement w/o plumbing

Water Supply

☐ Private

☑ Public

☐ Community

Comments / Conditions: Do not pave, grade, drive, park, or bury utilties in drainfield.

Do not exceed 36" maximum - soil evaluated only to 48", require 12" evaluated soil below trench bottom.

See attached easement modification: B3077; P 1859

Original easement: B3043, P2262

INITIAL SITE SKETCH

Improvement permit issued pursuant to:
G.S. 130A-335(a2), (a3) & (a4) using signed & sealed LLS/LG Evaluation attached, from:

Jeff Vaughn

LSS# 1227

Construction authorization issued pursuant to: G.S. 130A-335(a2) & (a5)

AOWE# 10003E

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.

LINES
TANKS SW 12/20/24
MANIFOLD
Pressure Head
Floats
Alarm MW 1/7/24
Electrical
PM

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: Online Signature Date:

Installed by: PATRIOT

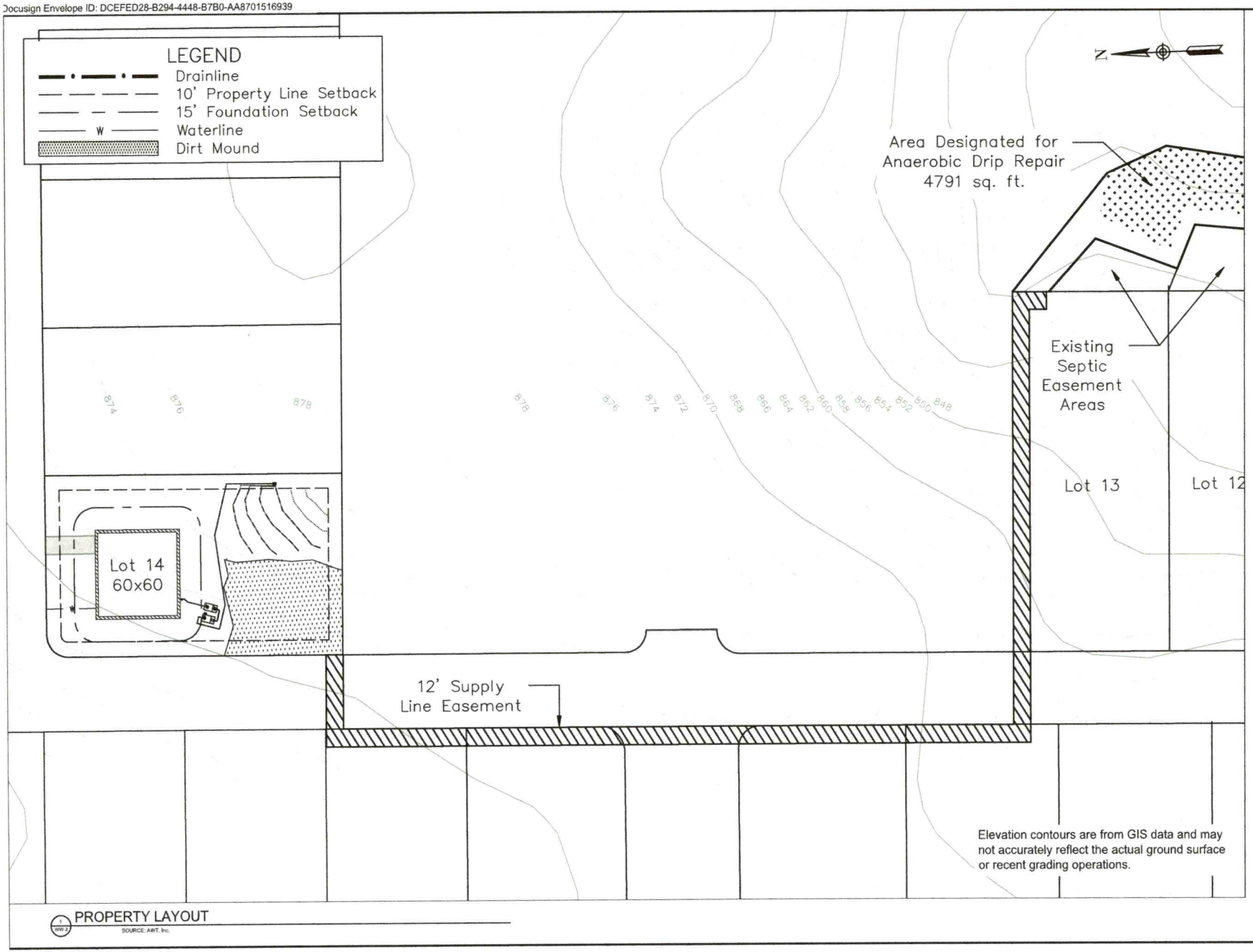
IMPROVEMENT PERMIT by: D. Wieberg Date: 8/15/24

OPERATION PERMIT by: Date: 1/7/25

AUTHORIZATION TO CONSTRUCT by: D. Wieberg Date: 8/15/24

Existing System Inspected by: Date:

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939



1 WW-2 PROPERTY LAYOUT
SOURCE: AWT, Inc.

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N Salem Street, Suite 293, Apex, NC 27502
agriwaste.com | 919.859.9669

Adams Homes AEC LLC
Northlake Lot 14

Project Location:
104 Kerr Walk Drive
Statesville, NC 28677
Iredell County
PIN: 4762411387

Project Owner:
Adams Homes AEC LLC
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
(704) 361-5437
mgourlay@adamshomes.com

For Review Only

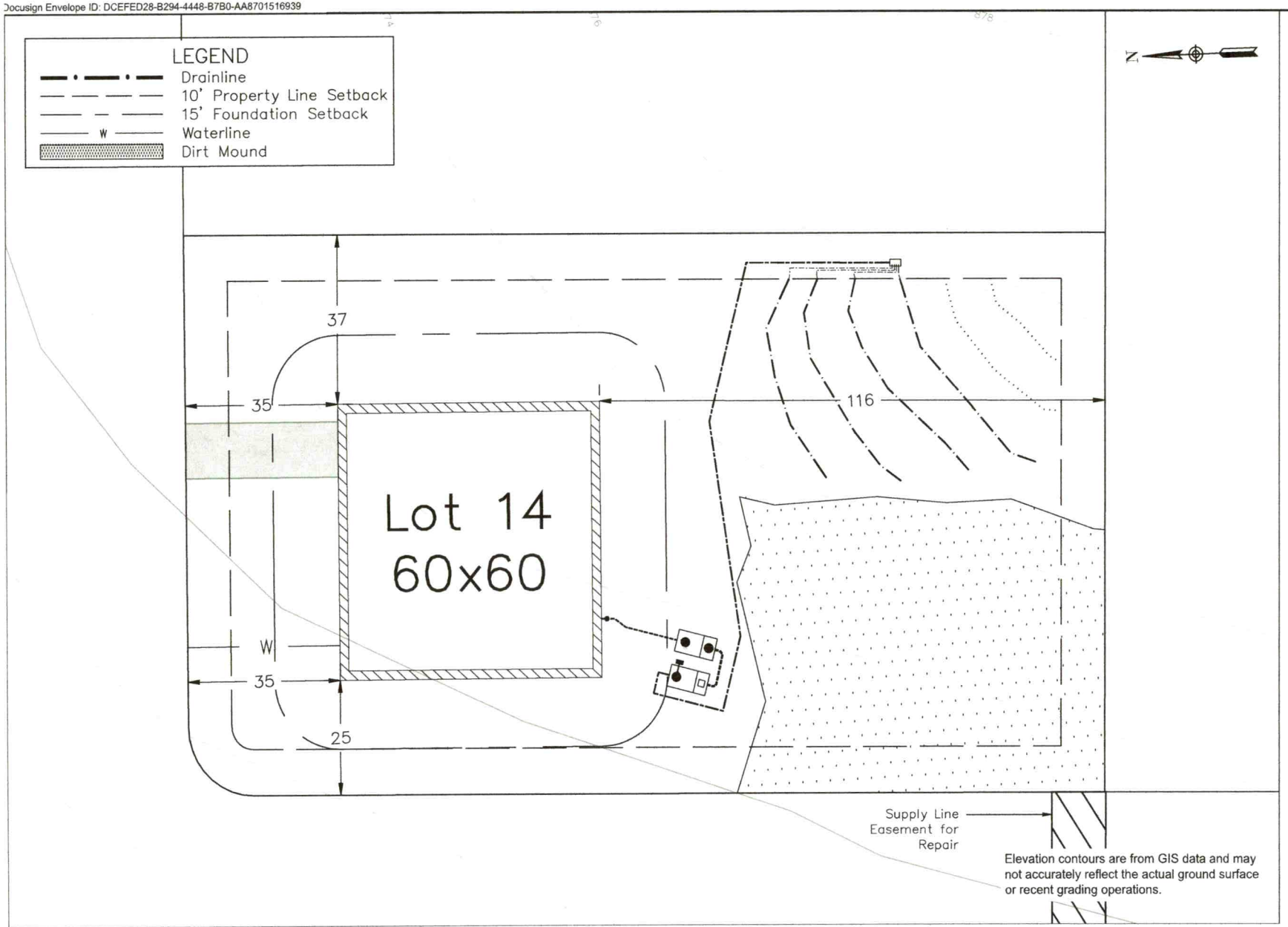
REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Property Layout

Drawn By:	Drawn On:
C. Barbee	11/13/2023
Revised By:	Revised On:
--	--
Released By:	Released On:
--	--

Drawing Number:
WW-2

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939



PROPERTY LAYOUT
SOURCE: AWT, Inc.

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N Salem Street, Suite 203, Apex, NC 27502
agriwaste.com | 919.859.0669

Adams Homes AEC LLC
Northlake Lot 14

Project Location:
104 Kerr Walk Drive
Statesville, NC 28677
Iredell County
PIN: 4762411387

Project Owner:
Adams Homes AEC LLC
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
(704) 361-5437
mgourley@adamshomes.com

For Review Only

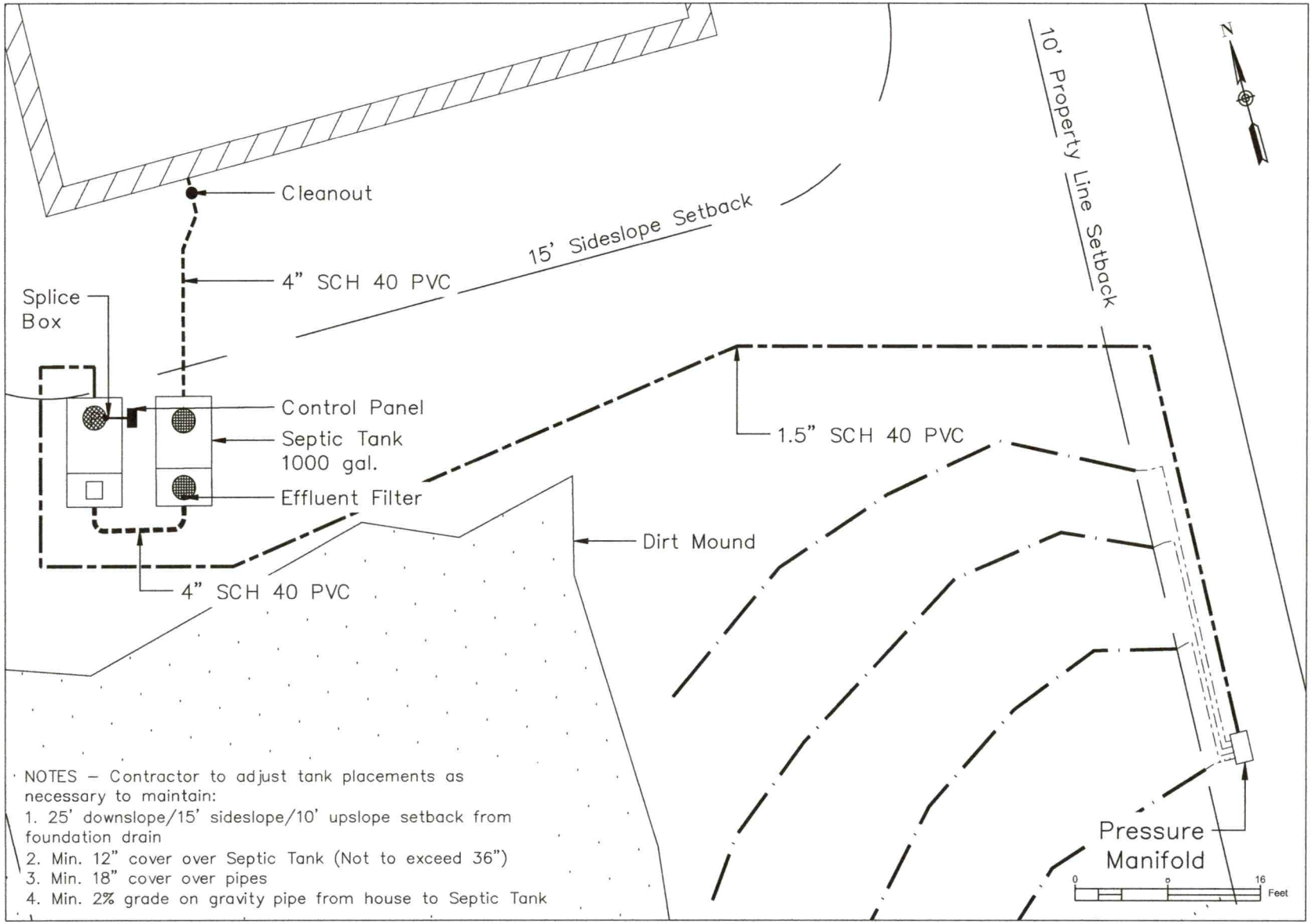
REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Property Layout

Drawn By:	Drawn On:
C. Barbee	11/13/2023
Revised By:	Revised On:
--	--
Released By:	Released On:
--	--

Drawing Number:
WW-2A

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939



NOTES – Contractor to adjust tank placements as necessary to maintain:

1. 25' downslope/15' sideslope/10' upslope setback from foundation drain
2. Min. 12" cover over Septic Tank (Not to exceed 36")
3. Min. 18" cover over pipes
4. Min. 2% grade on gravity pipe from house to Septic Tank

1 WW-3 N.T.S. SOURCE: AWT, Inc.

COMPONENT LAYOUT

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N Salem Street, Suite 203, Apex, NC 27502
agriwaste.com | 919.859.0669

Adams Homes AEC LLC
Northlake Lot 14

Project Location:
104 Kerr Walk Drive
Statesville, NC 28677
Iredell County
PIN: 4762411387

Project Owner:
Adams Homes AEC LLC
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
(704) 361-5437
mgourley@adamshomes.com

For Review Only

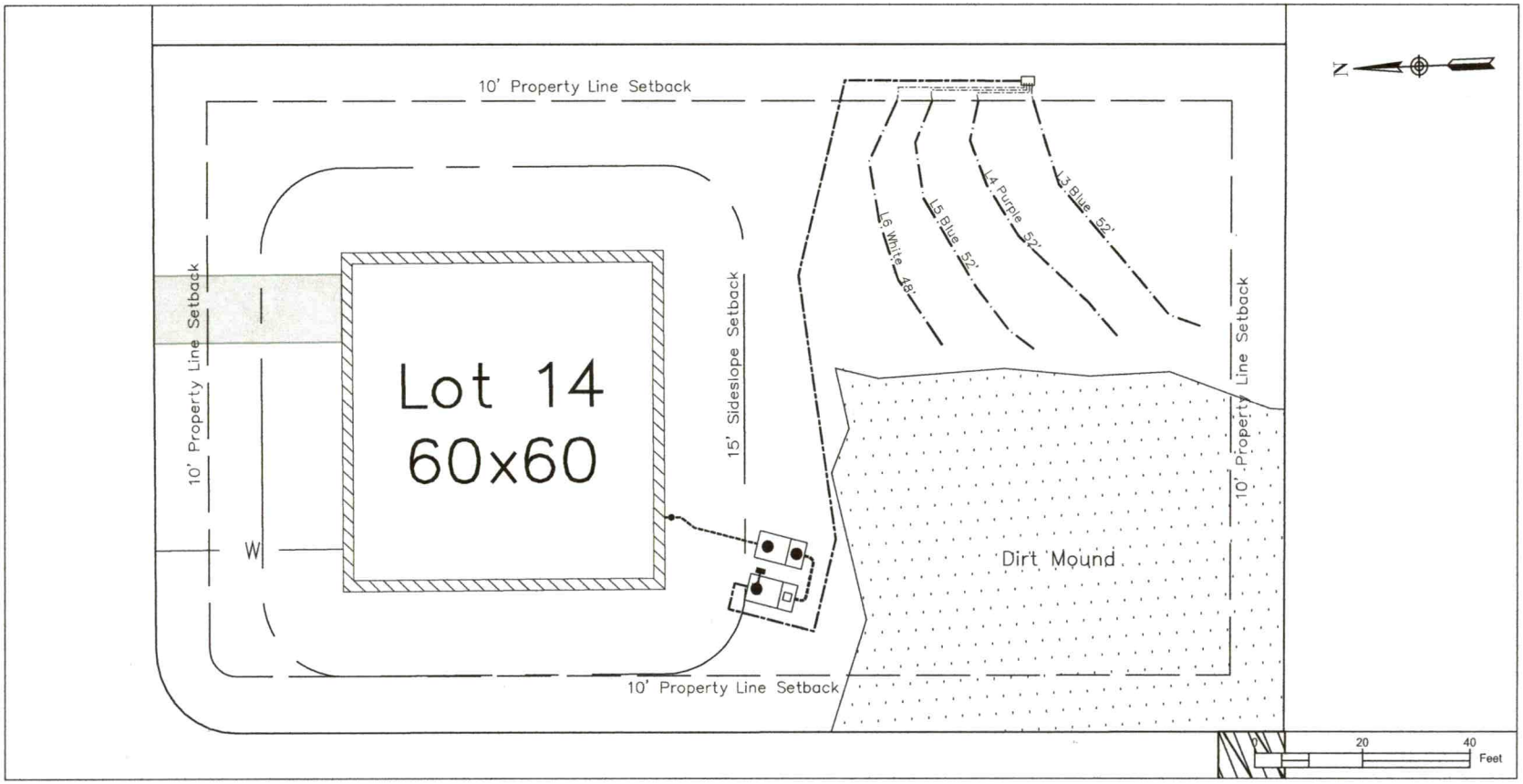
REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Component Layout

Drawn By:	Drawn On:
C. Barbee	11/13/2023
Revised By:	Revised On:
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Released By:	Released On:
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Drawing Number:
WW-3

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939



General Drainfield Notes:

1. Clear all trees less than 8" in diameter (measured at a height 3' from soil surface) from the drainfield.
2. Vegetation that will re-grow from a cut stump shall be stumped or pulled from the ground. Stumps shall not be pushed over.
3. Drainfield area shall be cleared of all leaves, pine straw, debris, etc. The accumulated material shall be removed from the drainfield.
4. In clayey soils, sides of trenches shall be raked and limed per manufacturer's instructions.
5. Supply lines shall be installed with a minimum of 18" cover.
6. The trenches shall be backfilled appropriately so that no low areas are present.
7. Apply lime over the drainfield area as needed. Seed fine fescue over the drainfield at the rate recommended by the seed manufacturer. Hand rake the seed into the soil surface. Straw the seeded area at the rate of 1.5-2 bales per 1000 sq. ft.

DRAINFIELD INFO. - **Primary**

Proposed Type of System/Distribution: ***Pump to Pressure Manifold using PPBPS, Horizontal***

Line No.	Flag Color	Line Length (ft)	Tap	Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
3	Blue	52	1/2in SCH 80	5.48	0.105	0.577
4	Purple	52	1/2in SCH 80	5.48	0.105	0.577
5	Blue	52	1/2in SCH 80	5.48	0.105	0.577
6	White	47.7	1/2in SCH 80	5.48	0.115	0.629
	Total	**204**	**Total**	**21.92**	**Avg.**	**0.59**

1 WW-4 Primary Drainfield

SOURCE: AWT, Inc.

AWT
Engineers and Soil Scientists
Agri-Waste Technology, Inc.
501 N Salem Street, Suite 203, Apex, NC 27502
agriwaste.com | 919.859.9669

Adams Homes AEC LLC
Northlake Lot 14

Project Location:
104 Kerr Walk Drive
Statesville, NC 28677
Iredell County
PIN: 4762411387

Project Owner:
Adams Homes AEC LLC
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
(704) 361-5437
mgourley@adamshomes.com

For Review Only

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Primary Drainfield

Drawn By:	Drawn On:
C. Barbee	11/13/2023
Revised By:	Revised On:
--	--
Released By:	Released On:
--	--

Drawing Number:
WW-4

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

Permit/File #: OSWP-2024-57930

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
MARK BENTON • Chief Deputy Secretary for Health
SUSAN KANSAGRA • Assistant Secretary for Public Health
Division of Public Health

Submittal Includes: ■ **(a2) Improvement Permit** ■ **(a2) Construction Authorization** ☐ **Fee $**_____

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

County: Iredell

PIN/Lot Identifier: 4762411387

Issued To: Adams Homes AEC LLC

Property Location: 104 Kerr Walk Drive, Statesville, NC 28677

Subdivision (if applicable) Northlake Lot #: 14 Block: _____ Section: _____

LSS Report Provided: Yes ■ No ☐

If yes, name and license number of LSS: Jeff Vaughan, 1227

New ■ Expansion ☐ System Relocation ☐ Change of Use ☐

Facility Type: Single Family Residence

Number of bedrooms: 3 Number of Occupants: 6 Other: _____

Design Wastewater Strength: ■ Domestic ☐ High Strength ☐ Industrial Process Wastewater

Proposed Design Daily Flow: 360 GPD Proposed LTAR (Initial): 0.3 Proposed LTAR (Repair): 0.1

Proposed Wastewater System Type*: Type IIIb, Pump to 50% Reduction (PPBPS, Vertical) (Initial) Pump Required: ■ Yes ☐ No ☐ May be required

Proposed Wastewater System Type*: Type Vd, Subsurface Anaerobic Drip (Repair) Pump Required: ■ Yes ☐ No ☐ May be required

**Please include system classification for proposed wastewater system types in accordance with Rule .1301 Table XXXII*

Effluent Standard: ■ DSE ☐ HSE ☐ NSF/ANSI 40 ☐ TS-I ☐ TS-II ☐ RCW

Saprolite System (Initial): ☐ Yes ■ No Saprolite System (Repair): ☐ Yes ■ No

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

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

Usable Depth to LC (Initial)ˣ: 48" Usable Depth to LC (Repair)ˣ: 18" ***ˣ Limiting Condition***

Max. Trench Depth (Initial)‡: 36" Max. Trench Depth (Repair)‡: 6" ***‡ Measured on the downhill side of the trench***

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

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

Drainfield location meets requirements of Rule .0508: Yes ■ No ☐ Drainfield location meets requirements of Rule .0601: 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:

Licensed Soil Scientist Print Name: Jeff Vaughan

Licensed Soil Scientist Signature: _____ Date: 03/22/2024

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

See attached site sketch

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

HEALTH AND HUMAN SERVICES
Division of Public Health

Permit/File #: OSWP-2024-57930

This Section for Local Health Department Use Only

Initial submittal received: 7/24/24 (*Date*) by DW (*Initials*)

G.S. 130A-335(a3) states the following:

When an applicant for an Improvement Permit submits to a local health department an Improvement Permit application, the permit fee charged by the local health department, the common form developed by the Department, and a soil evaluation pursuant to subsection (a2) of this section, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Improvement Permit includes all of the required components. If the local health department determines that the Improvement Permit is incomplete, the local health department shall notify the applicant of the components needed to complete the Improvement Permit. The applicant may submit additional information to the local health department to cure the deficiencies in the Improvement Permit. The local health department shall make a final determination as to whether the Improvement Permit is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The Department shall develop a common form for use as the Improvement Permit.

The review for completeness of this Improvement Permit was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit is determined to be:

[x] Incomplete (If box is checked, information in this section is required.)

The following items are missing:

Easement document for offsite area does not have all the required language per 15A NCAC 18E .0301(b) & (c).

Copies of this were sent to the LSS and the Applicant on 7/29/24 (*Date*)

State Authorized Agent: D. Wieberg Date: 7/29/24

☐ Complete

State Authorized Agent: _____ Date: _____

This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit 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 permit is subject to revocation if the site plan, plat, or the intended use changes.* 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 15A NCAC 18E and to the conditions of this permit.

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: _____

See attached site sketch

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

HEALTH AND HUMAN SERVICES
Division of Public Health

Permit/File #: OSWP-2024-57930

This Section for Local Health Department Use Only

Initial submittal received: 8/15/24 (*Date*) by DW (*Initials*)

G.S. 130A-335(a3) states the following:

When an applicant for an Improvement Permit submits to a local health department an Improvement Permit application, the permit fee charged by the local health department, the common form developed by the Department, and a soil evaluation pursuant to subsection (a2) of this section, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Improvement Permit includes all of the required components. If the local health department determines that the Improvement Permit is incomplete, the local health department shall notify the applicant of the components needed to complete the Improvement Permit. The applicant may submit additional information to the local health department to cure the deficiencies in the Improvement Permit. The local health department shall make a final determination as to whether the Improvement Permit is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The Department shall develop a common form for use as the Improvement Permit.

The review for completeness of this Improvement Permit was conducted in accordance with G.S. 130A-335(a3). This Improvement Permit is determined to be:

☐ 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 Applicant on _____ (*Date*)

State Authorized Agent: _____ Date: _____

☐ Complete

State Authorized Agent: D. Wieberg Date: 08/15/2024

This Improvement Permit is issued pursuant to G.S. 130A-335 (a2) and (a3) using the signed and sealed LSS/LG evaluation(s) attached here. The issuance of this permit 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 permit is subject to revocation if the site plan, plat, or the intended use changes.* 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 15A NCAC 18E and to the conditions of this permit.

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: 8/15/29

See attached site sketch

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

HEALTH AND HUMAN SERVICES
Division of Public Health

Permit/File #: _____

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

County: Iredell **Pre-Construction Conference Required:** Yes ■ No ☐

PIN/Lot Identifier: 4762411387

Issued To: Adams Homes AEC LLC

Property Location: 104 Kerr Walk Drive, Statesville, NC 28677

AOWE/PE Plans/Evaluations Provided: Yes ■ No ☐ If yes, name and license number of AOWE/PE: Jeff Vaughan, 10003E

Facility Type: Single Family Residence

Number of bedrooms: 3 Number of Occupants: 6 Other: _____

■ New ☐ Expansion ☐ Repair ☐ System Relocation ☐ Change of Use

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

Crawl Space? ☐ Yes ■ No Slab Foundation? ■ Yes ☐ No

Type of Wastewater System* Type IIIb, Pump to 50% Reduction (PPBPS, Vertical) (Initial) Type Vd, Subsurface Anaerobic Drip (Repair)

**Please include system classification for proposed wastewater system types in accordance with Rule .1301 Table XXXII*

Design Daily Flow: 360 GPD Wastewater Strength: ■ Domestic ☐ High Strength ☐ Industrial Process WW

Session Law 2014-120 Section 53, Engineering Design Utilizing Low-flow Fixtures and Low-flow Technologies? ☐ Yes ■ No
(if yes, please provide engineering documentation)

Effluent Standard: ■ DSE ☐ HSE ☐ NSF/ANSI 40 ☐ TS-I ☐ TS-II ☐ RCW

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

Installation Requirements/Conditions

Septic Tank Size: 1,000 gallons Total Trench/Bed Length: 204 feet Trench/Bed Spacing: 8 feet on center

Trench/Bed Width: 36 inches LTAR: 0.3 gpd/ft² Usable Depth to LC (Initial)ˣ: 48" ˣ***Limiting condition***

Soil Cover: _____ inches Slope Corrected Maximum Trench/Bed Depth‡: 36" inches ‡ ***Measured on the downhill side of the trench***

Pump Tank Size (if applicable): 1,000 gallons Requires more than 1 pump? ☐ Yes ■ No

Pump Requirements: 19.68 ft. TDH vs. 23.76 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 [.0204(g)]: ☐ Yes ■ No Declaration of Restrictive Covenants: ☐ Yes ■ No

Easement, Right-of-Way, or Encroachment Agreement Required [.0301(b)]: ■ Yes ☐ No

Management Entity Required: ☐ Yes ■ No Minimum O&M Requirements: _____

Permit conditions:

_____

_____

_____

_____

_____

The requirements of 15A NCAC 18E are incorporated by reference into this permit and shall be met. Systems shall be installed in accordance with the attached site sketch. *This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes.* 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 15A NCAC 18E, or 15A NCAC 18A .1900, as applicable, and to the conditions of this permit.

AOWE/PE Print Name: Jeff Vaughan

AOWE/PE Signature: _____ Date: 03/22/2024

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

See attached site sketch

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

HEALTH AND HUMAN SERVICES
Division of Public Health

Permit/File #: OSWP-2024-57930

This Section for Local Health Department Use Only

Initial submittal received: 7/24/24 *Date* by DW *Initials*

G.S. 130A-335(a5) states the following:

When an applicant for a Construction Authorization, or an Improvement Permit and Construction Authorization together, submits a Construction Authorization, or an Improvement Permit and Construction Authorization application together, the permit fee charged by the local health department, the common form developed by the Department, and any necessary signed and sealed plans or evaluations conducted by 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, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Construction Authorization or Improvement Permit and Construction Authorization includes all of the required components. If the local health department determines that the Construction Authorization or Improvement Permit and Construction Authorization is incomplete, the local health department shall notify the applicant of the components needed to complete the Construction Authorization or Improvement Permit and Construction Authorization. The applicant may submit additional information to the local health department to cure the deficiencies in the Construction Authorization or Improvement Permit and Construction Authorization. The local health department shall make a final determination as to whether the Construction Authorization or Improvement Permit and Construction Authorization is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The applicant may apply for the building permit for the project upon the decision of completeness of the Construction Authorization or Improvement Permit and Construction Authorization by the local health department or if the local health department fails to act within five business days. The Authorized On-Site Wastewater Evaluator or licensed engineer submitting the evaluation pursuant to this subsection may request that the local health department revoke or suspend the Construction Authorization or Improvement Permit and Construction Authorization for cause. Upon written request of the Authorized On-Site Wastewater Evaluator or licensed engineer, the local health department shall suspend or revoke the Construction Authorization or Improvement Permit and Construction Authorization pursuant to G.S. 130A-23. The Department shall develop a common form for use as the Construction Authorization.

The review for completeness of this Construction Authorization was conducted in accordance with G.S. 130A-335(a5). This Construction Authorization is determined to be:

[x] Incomplete (If box is checked, information in this section is required.)

The following items are missing: Easement document for offsite area does not have all the required language per 15A NCAC 18E .0301(b) & (c).

Copies of this were sent to the AOWE/PE and the Applicant on 7/29/24 *Date*

State Authorized Agent: D. Wieberg Date: 7/29/24

☐ Complete

State Authorized Agent: _____ Date of Issuance: _____

This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) 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. 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 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: _____

See attached site sketch

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

This Section for Local Health Department Use Only

Initial submittal received: 8/15/24 (*Date*) by DW (*Initials*)

G.S. 130A-335(a5) states the following:

When an applicant for a Construction Authorization, or an Improvement Permit and Construction Authorization together, submits a Construction Authorization, or an Improvement Permit and Construction Authorization application together, the permit fee charged by the local health department, the common form developed by the Department, and any necessary signed and sealed plans or evaluations conducted by 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, the local health department shall, within five business days of receiving the application, conduct a completeness review of the submittal. A determination of completeness means that the Construction Authorization or Improvement Permit and Construction Authorization includes all of the required components. If the local health department determines that the Construction Authorization or Improvement Permit and Construction Authorization is incomplete, the local health department shall notify the applicant of the components needed to complete the Construction Authorization or Improvement Permit and Construction Authorization. The applicant may submit additional information to the local health department to cure the deficiencies in the Construction Authorization or Improvement Permit and Construction Authorization. The local health department shall make a final determination as to whether the Construction Authorization or Improvement Permit and Construction Authorization is complete within five business days after the local health department receives the additional information from the applicant. If the local health department fails to act within any period set out in this subsection, the applicant may treat the failure to act as a determination of completeness. The applicant may apply for the building permit for the project upon the decision of completeness of the Construction Authorization or Improvement Permit and Construction Authorization by the local health department or if the local health department fails to act within five business days. The Authorized On-Site Wastewater Evaluator or licensed engineer submitting the evaluation pursuant to this subsection may request that the local health department revoke or suspend the Construction Authorization or Improvement Permit and Construction Authorization for cause. Upon written request of the Authorized On-Site Wastewater Evaluator or licensed engineer, the local health department shall suspend or revoke the Construction Authorization or Improvement Permit and Construction Authorization pursuant to G.S. 130A-23. The Department shall develop a common form for use as the Construction Authorization.

The review for completeness of this Construction Authorization was conducted in accordance with G.S. 130A-335(a5). This Construction Authorization is determined to be:

☐ 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 Applicant on _____ (*Date*)

State Authorized Agent: _____ Date: _____

☐ Complete

State Authorized Agent: D. Wieberg Date of Issuance: 8/15/24

This Construction Authorization is issued pursuant to G.S. 130A-335(a2) and (a5) 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. 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 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: 8/15/29

See attached site sketch

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NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

ROY COOPER • Governor
KODY H. KINSLEY • Secretary
MARK BENTON • Chief Deputy Secretary for Health
SUSAN KANSAGRA • Assistant Secretary for Public Health
Division of Public Health

Application for Services

This application, in conjunction with the common form established in G.S. 130A-335(a3) and (a5), is optional for local health departments to be used for applications submitted in accordance with G.S. 130A-335(a2), (a3), and (a5).
[hereinafter, G.S. 130A-335(a3) and (a5) permits referred to as (a2) Improvement Permit and (a2) Construction Authorization]

Applying for:
☒ (a2) Improvement Permit ☒ (a2) Construction Authorization ☐ (a2) Repair/Construction Authorization

If applying for a Construction Authorization, please indicate desired system type(s):
☐ Accepted ☐ Conventional ☐ Innovative ☒ Other Type IIIb, Pump to PPBPS Vertical (50% Reduction) ☒ Any

☒ New Construction ☐ Expansion ☐ System Relocation ☐ Change of Use ☐ Repair
☒ 5-Year Expiration Requested (site plan provided) ☐ Non-Expiring Permit Requested (plat provided, defined in G.S.130A-334(7a)
Requesting DHHS review? (systems >3000 GPD or IPWW) ☐ Yes ☒ No

Applicant: Adams Homes AEC LLC
Mailing Address: 3000 Gulf Breeze Parkway
City: Gulf Breeze
State: FL Zip: 32563
Phone #: 704-361-5437
Email: kferguson@adamshomes.com

Owner: Adams Homes AEC LLC
Mailing Address: 3000 Gulf Breeze Parkway
City: Gulf Breeze
State: FL Zip: 32563
Phone #: 704-361-5437
Email: kferguson@adamshomes.com

If the answer to any of the following questions is "yes", applicant must attach supporting documentation.

☐ Yes	☒ No	Does the site contain any jurisdictional wetlands?
☐ Yes	☒ No	Is any wastewater going to be generated on the site other than domestic sewage?
☐ Yes	☒ No	Is the site subject to approval by any other public agency?
☒ Yes	☐ No	Are there any easements or right of ways on this property?

I understand that the documentation and fees, as required in G.S. 130A-335(a2), (a3), (a5), and (a6), attached to this application are to be used to issue an Improvement Permit and/or Construction Authorization pursuant to G.S. 130A-335(a2),(a3), and (a5). I understand that authorized county and state officials are granted right of entry to the property indicated on this application to conduct necessary inspections to determine compliance with applicable laws and rules. ***I understand that if the information in the application for an Improvements Permit and/or Construction Authorization is falsified, changed, or the site is altered, then the Improvement Permit and Construction Authorization shall become invalid.***

Applicant Signature: DocuSigned by: Keith Ferguson FA934A5E005F419... Date: 7/18/2024

Owner's Signature: DocuSigned by: Keith Ferguson FA934A5E005F419... Date: 7/18/2024

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

AGRITEC-01 CGARKALNS

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 1/12/2024

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME: Connie Garkalns
Hartsfield & Nash Agency, Inc. 10405 Ligon Mill Rd., Ste H Wake Forest, NC 27587	PHONE (A/C, No, Ext): (919) 556-3698 FAX (A/C, No): (919) 556-8758 E-MAIL ADDRESS: Connie@hartsfield-nash.com

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A : Selective Insurance Company of the Southeast	39926
INSURER B : ACCIDENT FUND INSURANCE COMPANY OF AMERICA	10166
INSURER C : Evanston Insurance Company	35378
INSURER D :	
INSURER E :	
INSURER F :	

INSURED

Agri-Waste Technology Inc
501 N. Salem St Ste 203
Apex, NC 27502

COVERAGES **CERTIFICATE NUMBER:** **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	X COMMERCIAL GENERAL LIABILITY CLAIMS-MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: POLICY [X] PRO-JECT [ ] LOC OTHER:			S 2253659	1/18/2024	1/18/2025	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurrence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 2,000,000 $ 300,000 $ 10,000 $ 2,000,000 $ 4,000,000 $ 4,000,000
A	AUTOMOBILE LIABILITY X ANY AUTO OWNED AUTOS ONLY [ ] SCHEDULED AUTOS HIRED AUTOS ONLY [ ] NON-OWNED AUTOS ONLY			S 2253659	1/18/2024	1/18/2025	COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ 1,000,000 $ $ $
A	[ ] UMBRELLA LIAB [X] OCCUR [ ] EXCESS LIAB [ ] CLAIMS-MADE DED [ ] RETENTION $			S 2253659	1/18/2024	1/18/2025	EACH OCCURRENCE AGGREGATE	$ 2,000,000 $ 2,000,000
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N [N] If yes, describe under DESCRIPTION OF OPERATIONS below	N/A		100003072	1/18/2024	1/18/2025	X PER STATUTE [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	$ 1,000,000 $ 1,000,000 $ 1,000,000
C	Prof & Pollution			MKLV3ENV104078	8/22/2023	8/22/2024	Each Claim	5,000,000
A	Leased / Rented			S 2253659	1/18/2024	1/18/2025	Equipment	25,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

***This is ONLY For Informational Purposes
Contact Agency for Specific Holder info to be added
****

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Connie Garkalns

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Engineers and Soil Scientists

Agri-Waste Technology, Inc.
501 N Salem Street, Suite 203, Apex, NC 27502
agriwaste.com | 919.859.0669





Soil Suitability for Domestic Sewage Treatment and Disposal Systems
(Lot 14) 104 Kerr Walk Drive, Statesville, NC. 28677
(Iredell County PIN: 4762411387)

PREPARED FOR: Adams Homes AEC LLC – Client

PREPARED BY: Jeff Vaughan, Senior Agronomist & Soil Scientist
Trevor Hackney, Environmental Scientist

DATE: March 22, 2024

Soil suitability for domestic sewage treatment and disposal systems was evaluated on January 04, 2024, for the proposed property located at Lot 14 104 Kerr Walk Drive, Statesville, NC. 28677. Trevor Hackney and Nathan Estevez of Agri-Waste Technology, Inc. (AWT) conducted the soil evaluation. This evaluation was done to facilitate permitting for a septic system. This report and attached documents were prepared to meet the requirements for G.S. 130A-335(a2).

A drawing of the site plan, septic layout, and boring locations is included in Attachment 1. Profile descriptions for each boring are included in Attachment 2. Additional documentation about the property is included in Attachment 3.

This property is approximately 0.61 acres and is a wooded lot. The home is proposed near the front of the property and the septic system is proposed behind the home. The proposed primary septic system is a type IIIb, pump septic system utilizing pressure manifold distribution with a 50% reduction PPBPS (Vertical) drain-field product. The proposed repair septic system is a pump septic system utilizing subsurface anaerobic drip drainfield product. The space reserved for the repair area is on an easement located behind lot 13. The repair system supply line will cross Mountain Island Drive under the road at two locations and will need to be sleeved in those areas.

Soil Suitability for Domestic Sewage Treatment and Disposal Systems

The drawing in Attachment 1 details the property boundaries (as proposed by David B. Jordan & Associates, PLLC), soil boring locations, and layout of drain field trenches (Completed by AWT). Soil borings were examined to determine soil suitability for on-

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site sewage disposal systems in accordance with 15A 18E .1900 Rules for Wastewater Treatment and Disposal Systems. These borings were advanced with a hand auger.

A septic layout was performed to demonstrate available space (.0508). The layout in Attachment 1 indicates there is available space for a three-bedroom type IIIb, pump septic system utilizing pressure manifold distribution with a 50% reduction PPBPS (Vertical) drain-field product for the primary system and a subsurface anaerobic drip off-site easement area for the repair system.

The proposed LTAR (Long Term Acceptance Rate) by AWT is 0.3 GPD/ft^2. The soils on this property are group IV soils within the distribution and treatment zone as used to define the LTAR. Since usable slope corrected soil depths meet or exceed 48" AWT is recommending the use of the PPBPS (Vertical) drain field product. The maximum low side trench bottom should not exceed 36". With an LTAR of 0.3 GPD/ft^2, 200 linear feet of trench are necessary to support a three-bedroom home initial system. The attached drawing proves that 204 linear feet of trench can be installed for the primary septic system. The attached drawing proves that 4,791 sq.ft. of space is reserved in the off-site easement area for the subsurface anaerobic drip repair septic system. Any disturbances or grading done in the usable area or within the proposed setbacks will change the potential of using the area designated for a drain field.

We appreciate the opportunity to assist you in this matter. Please contact us with any questions, concerns, or comments.

Sincerely,

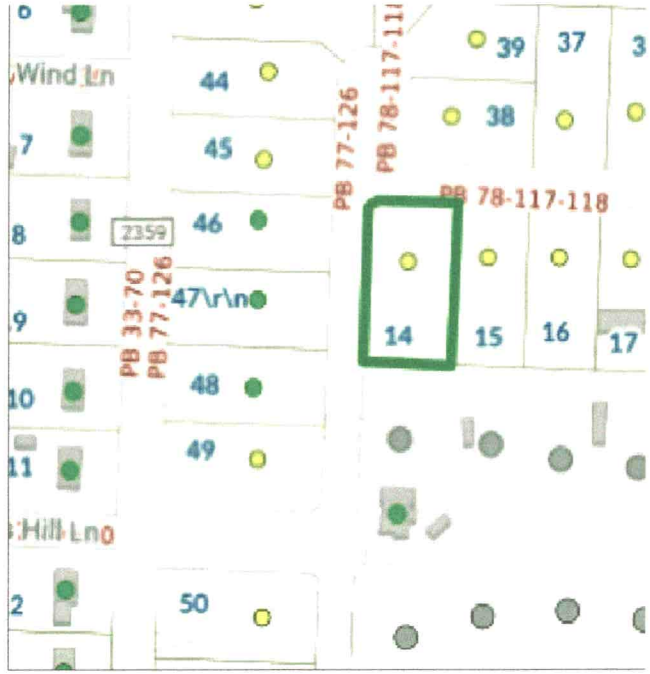
Jeff Vaughan, LSS/AOWE

104 Kerr Walk Drive
Statesville, NC 28677
Iredell County
PIN: 4762411387

Adams Homes AEC LLC
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
(704) 361-5437
mgourlay@adamshomes.com

Jeff Vaughan, L.S.S
(919) 367-6313
Agri-Waste Technology, Inc.
501 N. Salem Street, Suite 203
Apex, NC 27502
(919) 859-0669
(919) 233-1970 Fax

Single Family Residence
Three (3) Bedroom, 360 gpd
PPBPS Dispersal System
w/ Pressure Manifold Distribution

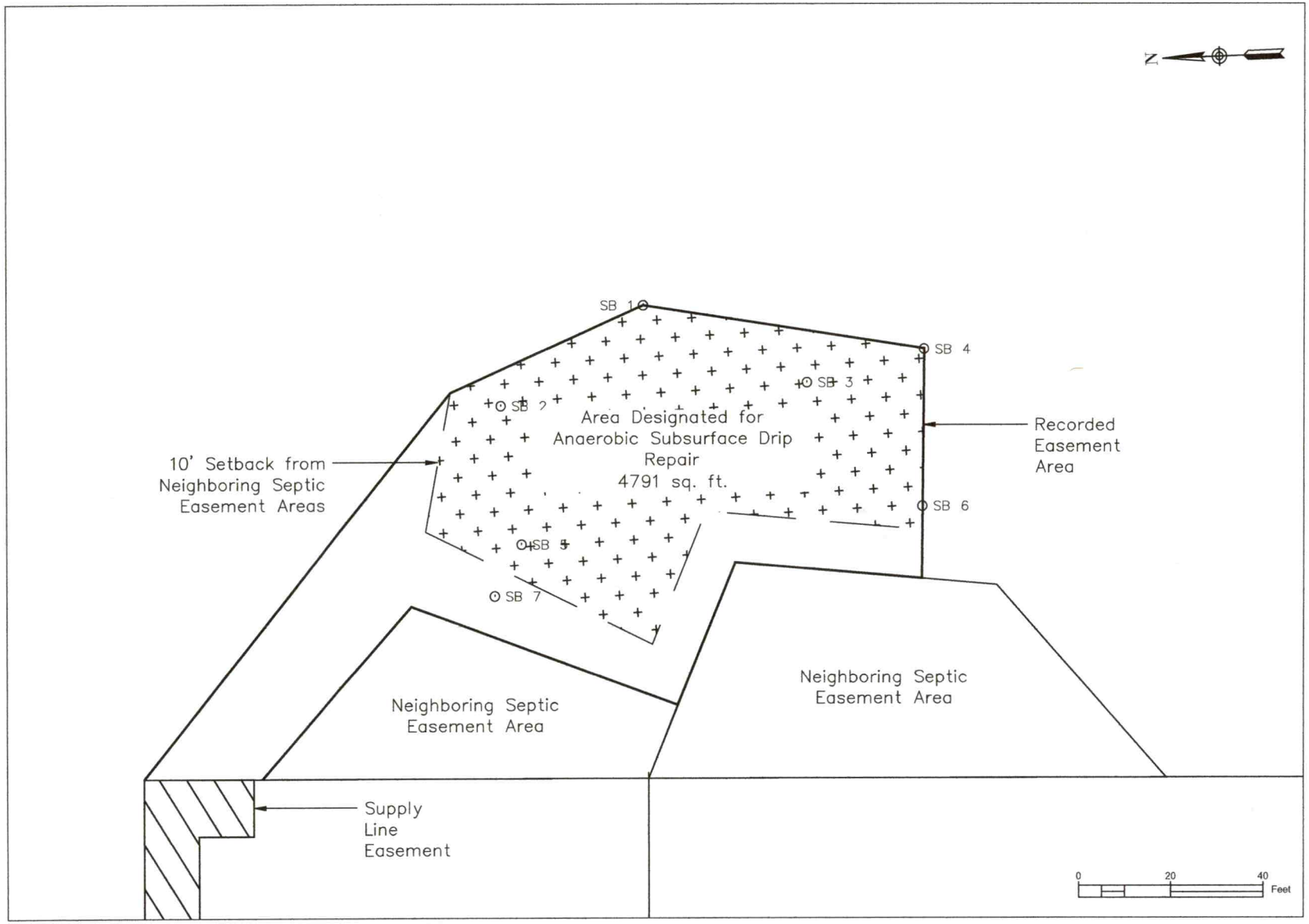


VICINITY MAP

Sheet Index

Sheet 1	Cover Sheet
Sheet 2	Property Layout
Sheet 2A	Property Layout
Sheet 3	Component Layo
Sheet 4	Primary Drainfiel
Sheet 5	Repair Drainfield
Sheet 6	Detail Sheet 1
Sheet 7	Detail Sheet 2
Sheet 8	Excavation Safet

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1 WW-5 Repair Drainfield

SOURCE: AWT, Inc.

AWT
Engineers and Soil Scientists

Agri-Waste Technology, Inc.
501 N Salem Street, Suite 203, Apex, NC 27502
agriwaste.com | 919.859.0689

Adams Homes AEC LLC
Northlake Lot 14

Project Location:
104 Kerr Walk Drive
Statesville, NC 28677
Iredell County
PIN: 4762411387

Project Owner:
Adams Homes AEC LLC
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
(704) 361-5437
mgourley@adamshomes.com

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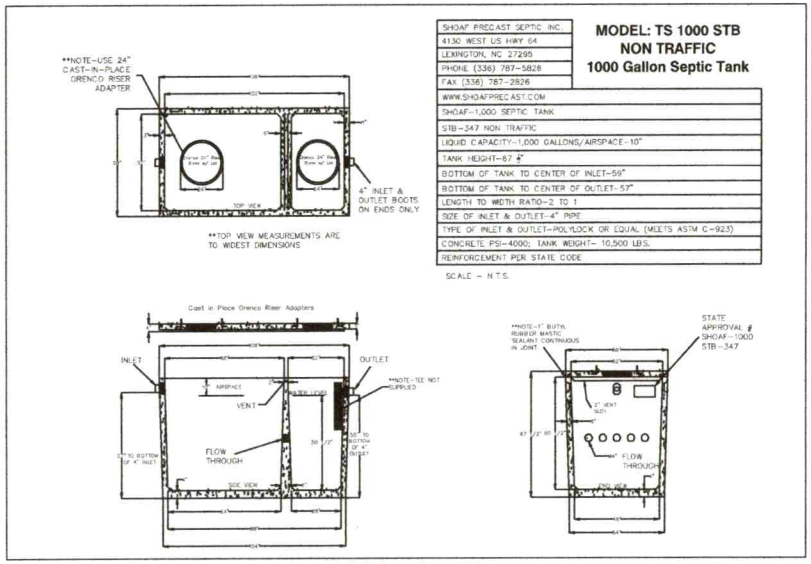
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SHEET TITLE
Repair Drainfield

Drawn By:	Drawn On:
C. Barbee	11/13/2023
Revised By:	Revised On:
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Released By:	Released On:
--	--

Drawing Number:
WW-5

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939



SHOAF PRECAST SEPTIC, INC.
4130 WEST US HWY 64
LEXINGTON, NC 27295
PHONE (336) 787-5826
FAX (336) 787-2826
WWW.SHOAFPRECAST.COM

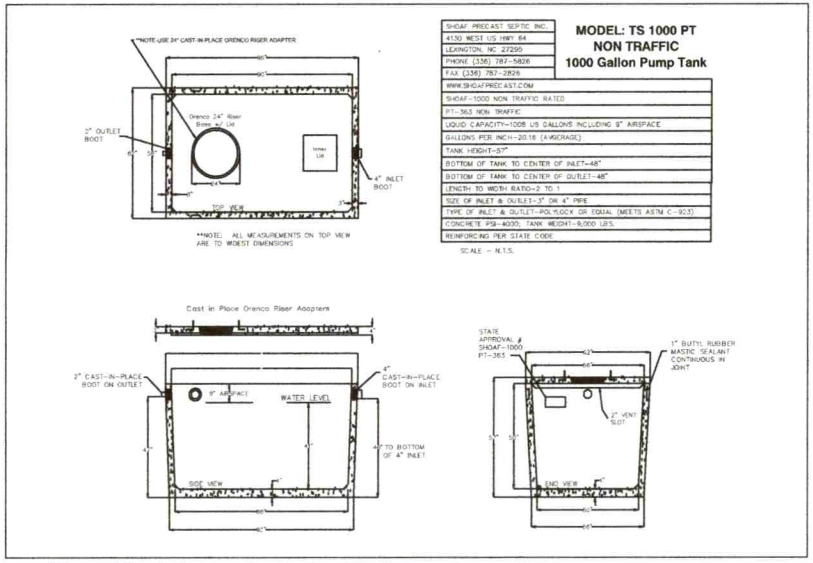
MODEL: TS 1000 STB
NON TRAFFIC
1000 Gallon Septic Tank

SHOAF-1,000 SEPTIC TANK
STB-347 NON TRAFFIC
LIQUID CAPACITY-1,000 GALLONS/AIRSPACE-10"
TANK HEIGHT-67 4"
BOTTOM OF TANK TO CENTER OF INLET-59"
BOTTOM OF TANK TO CENTER OF OUTLET-57"
LENGTH TO WIDTH RATIO-2 TO 1
SIZE OF INLET & OUTLET-4" PIPE
TYPE OF INLET & OUTLET-POLYLOCK OR EQUAL (MEETS ASTM C-923)
CONCRETE PSI-4000; TANK WEIGHT- 10,500 LBS.
REINFORCEMENT PER STATE CODE

SCALE - N.T.S.

1 WW-6 Septic Tank (or equivalent 1,000-gal tank)

SOURCE: Shoaf Precast Septic, Inc.



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4130 WEST US HWY 64
LEXINGTON, NC 27295
PHONE (336) 787-5826
FAX (336) 787-2826
WWW.SHOAFPRECAST.COM

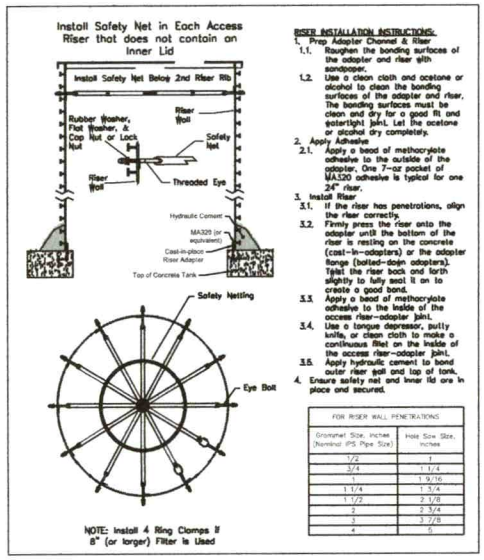
MODEL: TS 1000 PT
NON TRAFFIC
1000 Gallon Pump Tank

SHOAF-1000 NON TRAFFIC RATED
PT-363 NON TRAFFIC
LIQUID CAPACITY-1008 US GALLONS INCLUDING 9" AIRSPACE
GALLONS PER INCH-20.18 (AVGERAGE)
TANK HEIGHT-67"
BOTTOM OF TANK TO CENTER OF INLET-48"
BOTTOM OF TANK TO CENTER OF OUTLET-48"
LENGTH TO WIDTH RATIO-2 TO 1
SIZE OF INLET & OUTLET-3" OR 4" PIPE
TYPE OF INLET & OUTLET-POLYLOCK OR EQUAL (MEETS ASTM C-923)
CONCRETE PSI-4000; TANK WEIGHT-8,000 LBS.
REINFORCING PER STATE CODE

SCALE - N.T.S.

2 WW-6 Pump Tank (or equiv. tank with 1-day storage)

SOURCE: Shoaf Precast Septic, Inc.



3 WW-6 Riser Safety Nets

SOURCE: SIM-TECH, Inc.

NOTES

1. Installation to follow all NC DHHS and Iredell County applicable rules and regulations.
2. Iredell County to perform construction inspections and final system certification.
3. Septic Tank to have approved effluent filter.
4. Contractor to abide by all safety regulations during system installation.
5. Contractor shall backfill around all access areas such that storm water is shed away from potential entry points.
6. Invert elevations of all components to be verified in field by contractor to insure proper operation.
7. All system piping to be SCH40 PVC (except where noted).
8. All gravity elbows to be long radius or long sweeping type elbows.
9. Actual installation and placement of treatment system to be overseen by Contractor.
10. Tanks to be set on 6" minimum gravel base. Use #5 or #57 stone for base.
11. Contractor to seed and/or mulch disturbed areas to coincide with existing landscape. Area shall not be left with uncovered soil.
12. Mount Control Panel a minimum of 24" above grade.
13. Power to panel to be installed by licensed electrician per code. One 15-amp circuit and one 20-amp circuit with individual neutrals to be run from house to control panel.
14. All risers to have cast-in-place tank adapters and be single-piece riser. Risers to extend 6" above soil surface and be designed to prevent surface water inflow.
15. Backfill around tank(s) shall be gravel or tank hole shall be over-excavated a minimum of 2' in all directions to allow for mechanical tamping of backfill.
16. All penetrations to be sealed.
17. Spigot to be located on outside of building within 50' of tanks.
18. All pressure lines to maintain 18" min. cover.
19. Contractor to adjust tank placement to meet site constraints.

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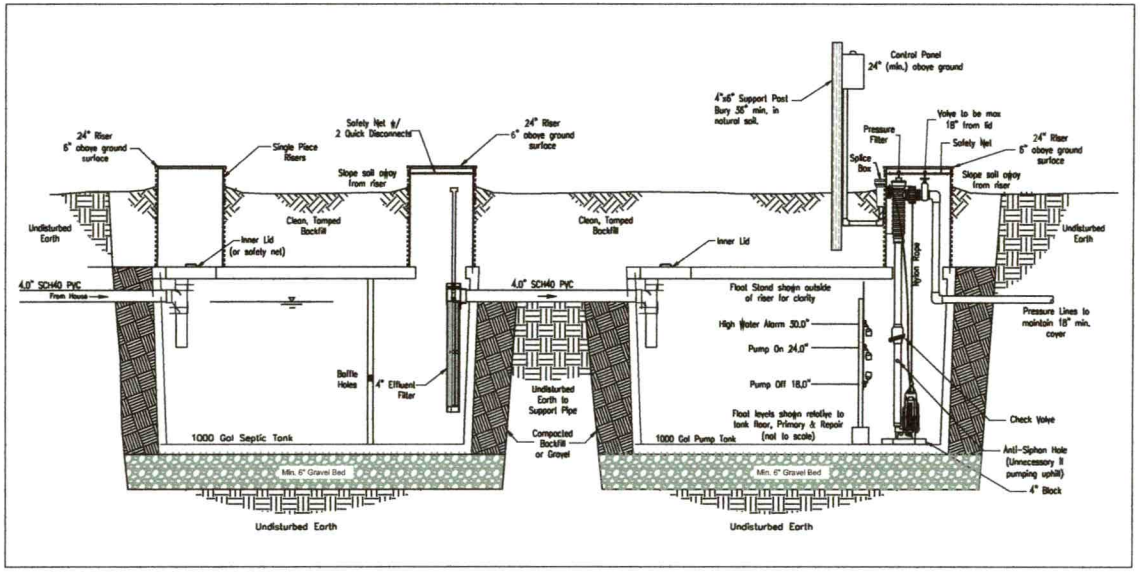
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SHEET TITLE
Detail Sheet 1

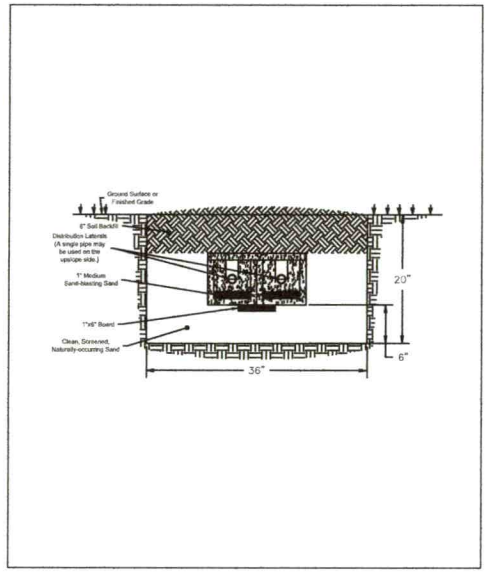
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C. Barbee	11/13/2023
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DRAWING NUMBER
WW-6

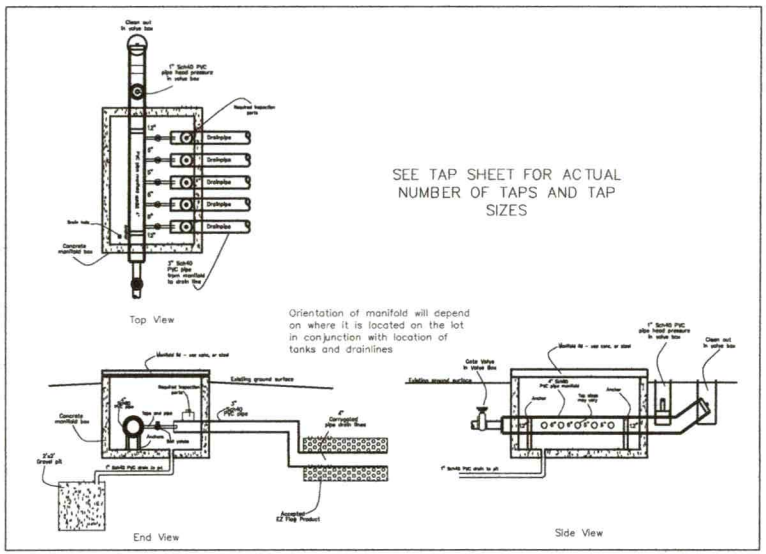
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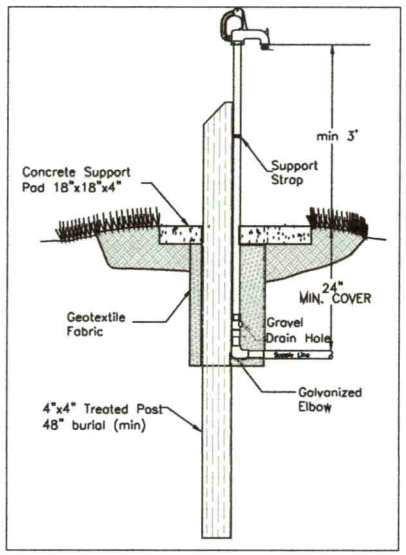
1 WW-7 **SYSTEM PROFILE VIEW**
N.T.S.



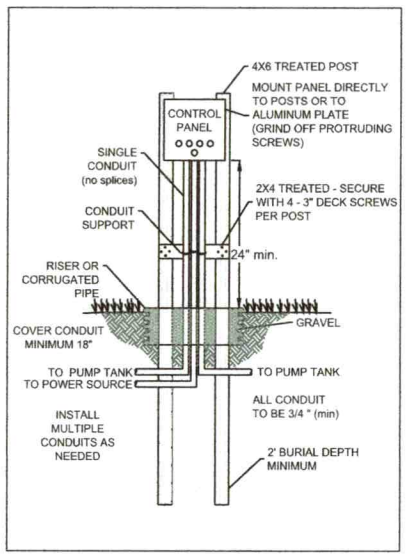
2 WW-7 **TRENCH X-SECTION (Typical)**
N.T.S. Source: AWT



4 WW-7 **PRESSURE MANIFOLD INSTALLATION (Typical) - For Illustration Only**
N.T.S. SOURCE: AWT



5 WW-7 **YARD HYDRANT (if required)**
N.T.S. SOURCE: AWT



6 WW-7 **CONTROL PANEL SUPPORT**
N.T.S. SOURCE: AWT

AWT
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Adams Homes AEC LLC
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Gulf Breeze, FL 32563
(704) 361-5437
mgaurio@adamshomes.com

For Review Only

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Detail Sheet 2

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C. Barbee	11/13/2023
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Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

Trenching and Excavation Safety

The employer must comply with the trenching and excavation requirements of 29 CFR 1926.651 and 1926.652 or comparable OSHA-approved state plan requirements.

Inspection of Excavations

OSHA standards require that a competent person inspect trenches daily and as conditions change before worker entry to ensure elimination of excavation hazards. A competent person is an individual who is capable of identifying existing and predictable hazards or working conditions that are hazardous, unsanitary, or dangerous to workers, soil types and protective systems required, and who is authorized to take prompt corrective measures to eliminate these hazards and conditions.

Access and Egress

OSHA standards require safe access and egress to all excavations, including ladders, steps, ramps, or other safe means of exit for employees working in trench excavations 4 feet (1.22 meters) or deeper. These devices must be located within 25 feet (7.6 meters) of all workers.

Recommendations

Heavy equipment and trucks should stay as far as possible from the edge of any trench.
Always use pads under stabilizers to minimize ground pressures that could lead to failures.

(b) Definitions

"Cemented soil" means a soil in which the particles are held together by a chemical agent, such as calcium carbonate, such that a hand-size sample cannot be crushed into powder or individual soil particles by finger pressure.
"Cohesive soil" means clay (fine grained soil), or soil with a high clay content, which has cohesive strength. Cohesive soil does not crumble, can be excavated with vertical sideslopes, and is plastic when moist. Cohesive soil is hard to break up when dry, and exhibits significant cohesion when submerged. Cohesive soils include clayey silt, sandy clay, silty clay, clay and organic clay.
"Dry soil" means soil that does not exhibit visible signs of moisture content.
"Fissured" means a soil material that has a tendency to break along definite planes of fracture with little resistance, or a material that exhibits open cracks, such as tension cracks, in an exposed surface.
"Granular soil" means gravel, sand, or silt (coarse grained soil) with little or no clay content. Granular soil has no cohesive strength. Some moist granular soils exhibit apparent cohesion. Granular soil cannot be molded when moist and crumbles easily when dry.
"Layered system" means two or more distinctly different soil or rock types arranged in layers. Micaceous seams or weakened planes in rock or shale are considered layered.
"Moist soil" means a condition in which a soil looks and feels damp. Moist cohesive soil can easily be shaped into a ball and rolled into small diameter threads before crumbling. Moist granular soil that contains some cohesive material will exhibit signs of cohesion between particles.
"Plastic" means a property of a soil which allows the soil to be deformed or molded without cracking, or appreciable volume change.
"Saturated soil" means a soil in which the voids are filled with water. Saturation does not require flow. Saturation, or near saturation, is necessary for the proper use of instruments such as a pocket penetrometer or sheer vane.

"Soil classification system" means, for the purpose of this subpart, a method of categorizing soil and rock deposits in a hierarchy of Stable Rock, Type A, Type B, and Type C, in decreasing order of stability. The categories are determined based on an analysis of the properties and performance characteristics of the deposits and the characteristics of the deposits and the environmental conditions of exposure.
"Stable rock" means natural solid mineral matter that can be excavated with vertical sides and remain intact while exposed.
"Submerged soil" means soil which is underwater or is free seeping.

"Type A" means cohesive soils with an unconfined, compressive strength of 1.5 ton per square foot (tsf) (144 kPa) or greater. Examples of cohesive soils are: clay, silty clay, sandy clay, clay loam and, in some cases, silty clay loam and sandy clay loam. Cemented soils such as caliche and hardpan are also considered Type A.
However, no soil is Type A if:
(i) The soil is fissured; or
(ii) The soil is subject to vibration from heavy traffic, pile driving, or similar effects; or
(iii) The soil has been previously disturbed; or
(iv) The soil is part of a sloped, layered system where the layers dip into the excavation on a slope of four horizontal to one vertical (4H:1V) or greater; or
(v) The material is subject to other factors that would require it to be classified as a less stable material.

"Type B" means:
(i) Cohesive soil with an unconfined compressive strength greater than 0.5 tsf (48 kPa) but less than 1.5 tsf (144 kPa); or
(ii) Granular cohesionless soils including; angular gravel (similar to crushed rock), silt, silt loam, sandy loam and, in some cases, silty clay loam and sandy clay loam.
(iii) Previously disturbed soils except those which would otherwise be classed as Type C soil.
(iv) Soil that meets the unconfined compressive strength or cementation requirements for Type A, but is fissured or subject to vibration; or
(v) Dry rock that is not stable; or
(vi) Material that is part of a sloped, layered system where the layers dip into the excavation on a slope less steep than four horizontal to one vertical (4H:1V), but only if the material would otherwise be classified as Type B.

"Type C" means:
(i) Cohesive soil with an unconfined compressive strength of 0.5 tsf (48 kPa) or less; or
(ii) Granular soils including gravel, sand, and loamy sand; or
(iii) Submerged soil or soil from which water is freely seeping; or
(iv) Submerged rock that is not stable, or
(v) Material in a sloped, layered system where the layers dip into the excavation or a slope of four horizontal to one vertical (4H:1V) or steeper.

"Unconfined compressive strength" means the load per unit area at which a soil will fail in compression. It can be determined by laboratory testing, or estimated in the field using a pocket penetrometer, by thumb penetration tests, and other methods.
"Wet soil" means soil that contains significantly more moisture than moist soil, but in such a range of values that cohesive material will slump or begin to flow when vibrated. Granular material that would exhibit cohesive properties when moist will lose those cohesive properties when wet.

(c) Requirements

(1) Classification of soil and rock deposits. Each soil and rock deposit shall be classified by a competent person as Stable Rock, Type A, Type B, or Type C in accordance with the definitions set forth in paragraph (b) of this appendix.
(2) Basis of classification. The classification of the deposits shall be made based on the results of at least one visual and at least one manual analysis. Such analyses shall be conducted by a competent person using tests described in paragraph (d) below, or in other recognized methods of soil classification and testing such as those adopted by the American Society for Testing Materials, or the U.S. Department of Agriculture textural classification system.
(3) Visual and manual analyses. The visual and manual analyses, such as those noted as being acceptable in paragraph (d) of this appendix, shall be designed and conducted to provide sufficient quantitative and qualitative information as may be necessary to identify properly the properties, factors, and conditions affecting the classification of the deposits.
(4) Layered systems. In a layered system, the system shall be classified in accordance with its weakest layer. However, each layer may be classified individually where a more stable layer lies under a less stable layer.
(5) Reclassification. If, after classifying a deposit, the properties, factors, or conditions affecting its classification change in any way, the changes shall be evaluated by a competent person. The deposit shall be reclassified as necessary to reflect the changed circumstances.

(d) Acceptable visual and manual tests

(1) Visual tests. Visual analysis is conducted to determine qualitative information regarding the excavation site in general, the soil adjacent to the excavation, the soil forming the sides of the open excavation, and the soil taken as samples from excavated material.

(i) Observe samples of soil that are excavated and soil in the sides of the excavation. Estimate the range of particle sizes and the relative amounts of the particle sizes. Soil that is primarily composed of fine-grained material material is cohesive material. Soil composed primarily of coarse-grained sand or gravel is granular material.
(ii) Observe soil as it is excavated. Soil that remains in clumps when excavated is cohesive. Soil that breaks up easily and does not stay in clumps is granular.
(iii) Observe the side of the opened excavation and the surface area adjacent to the excavation. Crack-like openings such as tension cracks could indicate fissured material. If chunks of soil spall off a vertical side, the soil could be fissured. Small spalls are evidence of moving ground and are indications of potentially hazardous situations.
(iv) Observe the area adjacent to the excavation and the excavation itself for evidence of existing utility and other underground structures, and to identify previously disturbed soil.
(v) Observe the opened side of the excavation to identify layered systems. Examine layered systems to identify if the layers slope toward the excavation. Estimate the degree of slope of the layers.
(vi) Observe the area adjacent to the excavation and the sides of the opened excavation for evidence of surface water, water seeping from the sides of the excavation, or the location of the level of the water table.
(vii) Observe the area adjacent to the excavation and the area within the excavation for sources of vibration that may affect the stability of the excavation face.

(2) Manual tests. Manual analysis of soil samples is conducted to determine quantitative as well as qualitative properties of soil and to provide more information in order to classify soil properly.

(i) Plasticity. Mold a moist or wet sample of soil into a ball and attempt to roll it into threads as thin as 1/8-inch in diameter. Cohesive material can be successfully rolled into threads without crumbling. For example, if at least a two inch (50 mm) length of 1/8-inch thread can be held on one end without tearing, the soil is cohesive.
(ii) Dry strength. If the soil is dry and crumbles on its own or with moderate pressure into individual grains or fine powder, it is granular (any combination of gravel, sand, or silt). If the soil is dry and falls into clumps which break up into smaller clumps, but the smaller clumps can only be broken up with difficulty, it may be clay in any combination with gravel, sand or silt. If the dry soil breaks into clumps which do not break up into small clumps and which can only be broken with difficulty, and there is no visual indication the soil is fissured, the soil may be considered unfissured.
(iii) Thumb penetration. The thumb penetration test can be used to estimate the unconfined compressive strength of cohesive soils. (This test is based on the thumb penetration test described in American Society for Testing and Materials (ASTM) Standard designation D2488 - "Standard Recommended Practice for Description of Soils (Visual - Manual Procedure).") Type A soils with an unconfined compressive strength of 1.5 tsf can be readily indented by the thumb, however, they can be penetrated by the thumb only with very great effort. Type C soils with an unconfined compressive strength of 0.5 tsf can be easily penetrated several inches by the thumb, and can be molded by light finger pressure. This test should be conducted on an undisturbed soil sample, such as a large clump of spoil, as soon as practicable after excavation to keep to a minimum the effects of exposure to drying influences. If the excavation is later exposed to wetting influences (rain, flooding), the classification of the soil must be changed accordingly.
(iv) Other strength tests. Estimates of unconfined compressive strength of soils can also be obtained by use of a pocket penetrometer or by using a hand-operated shearvane.
(v) Drying test. The basic purpose of the drying test is to differentiate between cohesive material with fissures, unfissured cohesive material, and granular material. The procedure for the drying test involves drying a sample of soil that is approximately one inch thick (2.54 cm) and six inches (15.24 cm) in diameter until it is thoroughly dry:
(A) If the sample develops cracks as it dries, significant fissures are indicated.
(B) Samples that dry without cracking are to be broken by hand. If considerable force is necessary to break a sample, the soil has significant cohesive material content. The soil can be classified as an unfissured cohesive material and the unconfined compressive strength should be determined.
(C) If a sample breaks easily by hand, it is either a fissured cohesive material or a granular material. To distinguish between the two, pulverize the dried clumps of the sample by hand or by stepping on them. If the clumps do not pulverize easily, the material is cohesive with fissures. If they pulverize easily into very small fragments, the material is granular.

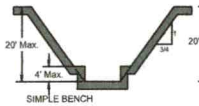
EXCAVATIONS IN TYPE A SOILS

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of ¾:1.

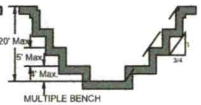




Exception: Simple slope excavations which are open 24 hours or less (short term) and which are 12 feet or less in depth shall have a maximum allowable slope of ½:1

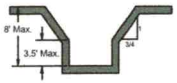


SIMPLE BENCH

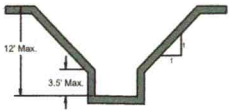


MULTIPLE BENCH

All benched excavations 20 feet or less in depth shall have a maximum allowable slope of ¾:1 and maxium bench dimensions as follows:

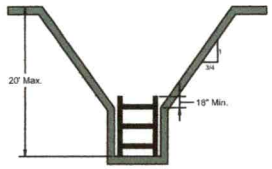


All excavations 8 feet or less in depth which have unsupported vertically sided lower portions shall have a maximum vertical side of 3½ feet.



All excavations more than 8 feet but not more than 12 feet in depth with unsupported vertically sided lower portions shall have a maximum allowable slope of 1:1 and a maximum vertical side of 3½ feet.

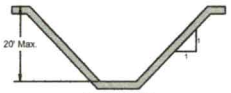
All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of ¾:1. The support or shield system must extend at least 18 inches above the top of the vertical side.



All other simple slope, compound slope, and vertically sided lower portion excavations shall be in accordance with the other options permitted under § 1926.652(b).

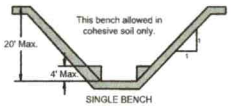
EXCAVATIONS IN TYPE B SOILS

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1.

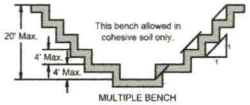


SIMPLE SLOPE

All benched excavations 20 feet or less in depth shall have a maximum allowable slope of 1:1 and maxium bench dimensions as follows:

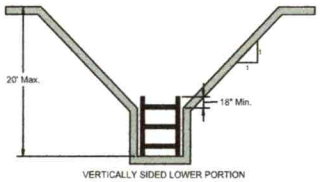


SINGLE BENCH



MULTIPLE BENCH

All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of 1:1. The support or shield system must extend at least 18 inches above the top of the vertical side.

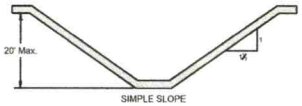


VERTICALLY SIDED LOWER PORTION

All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

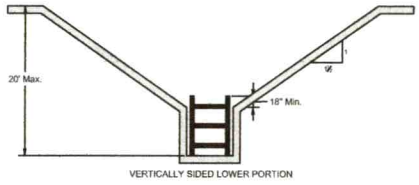
EXCAVATIONS IN TYPE C SOILS

All simple slope excavations 20 feet or less in depth shall have a maximum allowable slope of 1½:1.



SIMPLE SLOPE

All excavations 20 feet or less in depth which have vertically sided lower portions that are supported or shielded shall have a maximum allowable slope of 1½:1. The support or shield system must extend at least 18 inches above the top of the vertical side.



VERTICALLY SIDED LOWER PORTION

All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

EXCAVATIONS IN LAYERED SOILS

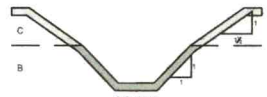
All excavations 20 feet or less in depth made in layered soils shall have a maximum allowable slope for each layer as set forth below.



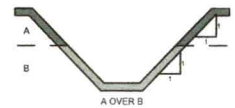
B OVER A



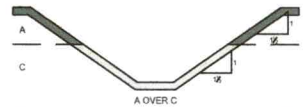
C OVER A



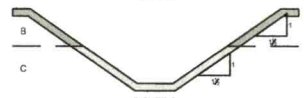
C OVER B



A OVER B



A OVER C



B OVER C

All other sloped excavations shall be in accordance with the other options permitted in § 1926.652(b).

AWT
Engineers and Soil Scientists

Agri-Waste Technology, Inc.
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agriwaste.com | 919.858.0669

Adams Homes AEC LLC
Northlake Lot 14

Project Location:
104 Kerr Walk Drive
Statesville, NC 28677
Iredell County
PIN: 4752411387

Project Owner:
Adams Homes AEC LLC
3000 Gulf Breeze Parkway
Gulf Breeze, FL 32563
(704) 361-5437
mgourlay@adamshomes.com

For Review Only

REV.	ISSUED DATE	DESCRIPTION

SHEET TITLE
Excavation Safety

Drawn By:	Drawn On:
C. Barbee	11/13/2023
Revised By:	Revised On:
--	--
Released By:	Released On:
--	--

Drawing Number:
WW-8

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

Septic System Design - Summary Page

Engineers and Soil Scientists
Agri-Waste Technology, Inc.

Project Manager:
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jvaughan@agriwaste.com
919-859-0669

Catherine Barbee
cbarbee@agriwaste.com
919-729-5722

Project: Nothlake Lot 14
Property: 104 Kerr Walk Drive
Statesville, NC 28677
Subdiv.:
Lot #: 14
Owner: Adams Homes AEC LLC
Address: 3000 Gulf Breeze Parkway
Gulf Breeze, FL
Phone: (704) 361-5437
Email: mgourlay@adamshomes.com
EHS:

Date: 1/30/2024
County: Iredell
Permit #:
Type of System: II a
PIN: 0

Soil Parameters

Soil Evaluation By:
-

Special Conditions/Notes:

LTAR: 0.30 gpd/ft^2

Design Parameters

Type of Establishment: Residence, 5 or fewer bedrooms
Unit: Bedroom
# of Units: 3

Septic Tank Specifications

Min. Tank Capacity: 900 gal
Actual Tank Volume: 1,000 gal
Tank Manufacturer: Shoaf
Tank Model: TS 1000 STB

	Exterior	Interior	
Length:	108.0	102.0	in.
Width:	58.0	52.0	in.
Depth:	67.5	60.5	in.

Primary Drainfield Specifications

Type of Distribution: Parallel Pressure Manifold
Trench Media: PPBPS, Horizontal
Trench Width: 3 ft
Trench Depth: in.
(or as specified on permit)

Trench Bottom Area: 1200 ft^2
Minimum Drain Line: 200 ft
Actual Drain Line: 204 ft
Number of Lines: 4
Minimum Line Spacing: 8 ft O.C.

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Wastewater Treatment System Design Calculations

Project: Nothlake Lot 14
Location: 104 Kerr Walk Drive
Statesville, NC 28677
County: Iredell

Septic Tank Sizing

Daily Flow Estimate:

Unit	# of Units	Flow/Unit	Flow/Day
Bedroom	3	120	360

Q= 360 gpd

Septic Tank Minimum Capacity: Per 15A NCAC 18E .0801

For individual residences with 3 or fewer bedrooms,

Minimum Liquid Capacity (V)= 900 gal

Septic Tank Specs:

Manufacturer:	Shoaf		
Model:	TS 1000 STB		
Volume:	1,000	gal	
Weight:	10,500	lbs	
	Exterior	Interior	
Length:	108.0	102.0	in.
Width:	58.0	52.0	in.
Depth:	67.5	60.5	in.
Shape of Risers:	Circular		
Diameter:	2.00	ft	

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

Pump Tank Storage & Float Settings

Project: Nothlake Lot 14
Location: 104 Kerr Walk Drive
Statesville, NC 28677
County: Iredell

Tank Manufacturer	Shoaf
Tank Model	TS 1000 PT

Interior Height (in.)	**50.0** in.	
Avg. Storage	**20.16** gal/in.	

Primary System

Elevations, measured from bottom towards top (0 = Interior Bottom of Tank):

Top of pump (including 4" block)	16.1 in.	(Pump height = 12 1/16")
Pump Off	18.0 in.	
Pump On	24.0 in.	(set for dose volume)
Alarm On	30.0 in.	(6 in. above On Float)
Emergency Storage Available		
Pump Tank	403 gal	
Days of Storage	1.12 days	

(determined from "interior top of tank" - "High Water Alarm")

Repair System

Elevations, measured from bottom towards top (0 = Interior Bottom of Tank):

Top of pump (including 4" block)	14.1 in.	(Pump height = 10 1/16")
Pump Off	16.0 in.	
Pump On	16.0 in.	(set for dose volume)
Alarm On	22.0 in.	(6 in. above On Float)
Emergency Storage Available		
Pump Tank	564 gal	
Days of Storage	1.57 days	

(determined from "interior top of tank" - "High Water Alarm")

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ELEVATIONS

Project: Nothlake Lot 14
Location: 104 Kerr Walk Drive
Statesville, NC 28677
County: Iredell

Benchmark IP SE corner Lot 1
BM Elev 990.65 ft

Septic Tank	1,000 gal		
Ground Surface		871.51	ft
Depth of Soil Cover	12 in.	1.00	ft
Overall Ht of Tank	67.5 in.	5.63	ft
Elev, Base of Tank		864.89	ft
Ht to 4" Inlet Invert	57 in.	4.75	ft
Elev, 4" Inlet Invert		869.64	ft
Ht to 4" Outlet Invert	55 in.	4.58	ft
Elev, 4" Outlet Invert		869.47	ft
Gravel Base	6 in.	0.50	ft
Elev, Bot of Excavation		864.39	ft
Pump Tank	1008 gal		
Ground Surface		871.09	ft
Depth of Soil Cover	12 in.	1.00	ft
Overall Ht of Tank	57 in.	4.75	ft
Elev, Base of Tank		865.34	ft
Ht to 4" Inlet Invert	46 in.	3.83	ft
Elev, 4" Inlet Invert		869.17	ft
Ht to 2" Outlet Invert	58 in.	4.83	ft
Elev, 2" Outlet Invert		870.17	ft
Gravel Base	6 in.	0.50	ft
Elev, Bot of Excavation		864.84	ft
ST Inlet Pipe			
Grade @ Stub-out		871.66	ft
Depth of Stub-out, top		1	ft
Elev, Stub-out Invert		870.31	ft
Elev @ ST Inlet Invert		869.64	ft
Length		18.52	ft
Slope		3.6	%
Pipe, ST to PT			
ID	4 in.	0.33	ft
OD	4.5 in.	0.38	ft
Elev, ST Outlet Invert		869.47	ft
Elev, PT Inlet Invert		869.17	ft
Length		10.83	ft
Slope		2.7	%
Cover over inlet pipe		1.52	ft
Pump Reqmt.			
Floor Thickness	4 in.	0.33	ft
Elev, Pump Tank Floor		865.67	ft
Pump Block Ht.	4 in.	0.33	ft
Elev, Pump Intake		866.01	ft
Grade @ Primary Manifold		876.13	ft
Not used		100.00	ft
Min. Cover	18 in.	1.50	ft
Max Elev, Primary		874.63	ft
Elev Diff, Primary		8.62	ft

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

Drainfield Design

Project	Nothlake Lot 14
Location	104 Kerr Walk Drive Statesville, NC 28677
County	Iredell

Drainfield Sizing

Primary

LTAR	0.3 gpd/ft^2		
Daily Design Flow	360 gpd	**Type of Drainfield Media**	PPBPS, Horizontal
Req. Drainfield Area	1,200 ft^2	**Required Drainline**	
Trench Width, Eff.	3 ft	**After 50% Reduction**	200 ft
Required Drainline	400 ft	**Minimum Line Spacing**	8 ft (O.C.)

Repair

LTAR	0.3 gpd/ft^2		
Daily Design Flow	360 gpd	**Type of Drainfield Media**	Chambers
Req. Drainfield Area	1,200 ft^2	**Required Drainline**	
Trench Width, Eff.	3 ft	**After 25% Reduction**	300 ft
Required Drainline	400 ft	**Minimum Line Spacing**	9 ft (O.C.)

Drainfield Layout

Line	Use	Flag Color	Elevation (ft)	Line Length (ft)	Used as Primary (ft)
1	Unused	Purple	876.1	25	
2	Unused	White	876.1	41	
3	Primary	Blue	876.1	58	52.0
4	Primary	Purple	875.9	56	52.0
5	Primary	Blue	875.7	53	52.0
6	Primary	White	875.5	48	47.7
			Total	281	204
			Count	6	4

Note: Line length totals are shown to the nearest foot.

For Chambers or Low-profile Chambers:

Effective trench lengths are shown. Add 1' for total installation length.

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

PRESSURE MANIFOLD DESIGN (Primary)

Site Information

Project: Nothlake Lot 14
Location: 104 Kerr Walk Drive
Statesville, NC 28677
County: Iredell

Design Information

Estimated Daily Flow	360	gal/day
L.T.A.R. (from Iredell Co.)	0.3	gal/day/ft^2
L.T.A.R. + 5%	0.315	gal/day/ft^2
Trench Width	3	ft.
Line Length Required	400	ft.
Length after 50% Reduction	200	ft
L.T.A.R. Reduced	0.600	gal/day/ft^2
L.T.A.R. Reduced + 5%	0.630	gal/day/ft^2

DRAINFIELD INFO. - **Primary**

Proposed Type of System/Distribution: ***Pump to Pressure Manifold using PPBPS, Horizontal***

Line No.	Flag Color	Line Length (ft)	Tap	Flow (gpm)	Flow/Foot (gpm/ft)	Line L.T.A.R.
3	Blue	52	1/2in SCH 80	5.48	0.105	0.577
4	Purple	52	1/2in SCH 80	5.48	0.105	0.577
5	Blue	52	1/2in SCH 80	5.48	0.105	0.577
6	White	47.7	1/2in SCH 80	5.48	0.115	0.629
	Total	**204**	**Total**	**21.92**	**Avg.**	**0.59**

Note: Line lengths are calculated in 4' increments to reflect use of Chambers product. 2' added for endcaps.

Total Run Time	16.42	min.	
Drainfield Capacity	169.2	gal	
% of Drainfield Cap	71.5%		(Max. 95.4% to not exceed 7.2 gal/panel)
Dose Volume	121.0	gal/dose	
Run Time/Dose	**5.5**	**minutes**	Time to deliver max. 3.6 gal/panel
Volume/depth	20.16	gal/in.	(Per tank manufacturer's specifications)
Estimated Drawdown	6.00	in.	

Manifold Box

Number of Taps	4	with	0	Split(s)	
Manifold Length	3.5	ft.	(approximate)		

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

PUMP DESIGN

System (initial/repair): **Primary**

Project: Nothlake Lot 14
Location: 104 Kerr Walk Drive
Statesville, NC 28677
County: Iredell

Friction Losses

Suction Head	0 ft		*(submersible 0)*
Elev. Difference (highest point from pump)	8.62 ft		
Design Pressure At Outlet	2 ft		

Supply Line - 1.5" Schedule 40 PVC

Pipe Diameter, Nominal	1.5 in.		
Pipe Diameter (ID)	1.59 in.	Flow	21.92 gpm
Pipe Length	155 ft	Velocity	3.54 ft/sec
Pipe Length for Fittings	15.5 ft		Meets requirement that 2 ft/s < v < 5 ft/s.
Equivalent Length	170.5 ft		
Estimated Friction Loss in Supply Line	5.33 ft		

Pressure Filter Friction Loss	0.23 ft	*(from manufacturer)*
Friction Loss - Taps/Special Fittings	3.5 ft	
TOTAL	**19.68 ft.**	

Flow for Anti-Siphon Hole

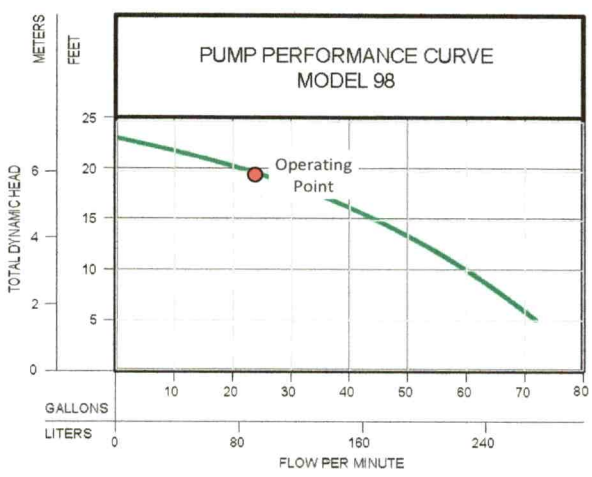
Hole Diameter	3/16 in.
Hole Flowrate	1.84 gpm

Pump Efficiency	0.7	*(assumed, typical)*
Motor Efficiency	0.9	*(assumed for electric pumps)*
Flow	**23.76 gpm**	

Required Horsepower 0.19 hp
TDH **19.68 ft**

Pump Selection

Manufacturer:	Zoeller
Model:	N98
Horsepower:	**0.5**



Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

COUNTY: Iredell Co.

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

CLIENT: Adams Homes AEC LLC APPLICATION DATE
ADDRESS: 104 Kerr Walk Drive, Statesville, NC 28677 DATE EVALUATED: 01/04/2024
PROPOSED FACILITY: Single Family Residence PROPOSED DESIGN FLOW (.1949): 360 GPD PROPERTY SIZE: 0.61 ac.
LOCATION OF SITE: 104 Kerr Walk Drive, Statesville, NC 28677 PROPERTY RECORDED:
WATER SUPPLY: ☐ Private ☒ Public ☐ Well ☐ Spring ☐ Other
EVALUATION METHOD: ☒ Auger Boring ☐ Pit ☐ Cut TYPE OF WASTEWATER: ☒ Sewage ☐ Industrial Process ☐ Mixed

PROFILE #	.1940 LANDSCAPE POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941)		OTHER PROFILE FACTORS				PROFILE CLASS & LTAR
			.1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	.1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	
SB 1	3%	0-14"	SCL; GR	SS; SP; FR	-	48"	-	-	0.3
		14-48"	C; SBK	SS; SP; FI					
				-					
SB 2	3%	0-14"	SCL; GR	SS; SP; FR	-	48"	-	-	0.3
		14-48"	C; SBK	SS; SP; FI					
SB 3	3%	0-20"	SCL; GR	SS; SP; FR	-	48"	-	-	0.3
		20-48"	C; SBK	SS; SP; FI					
SB 4	3%	0-20"	SCL; GR	SS; SP; FR	-	48"	-	-	0.3
		20-48"	C; SBK	SS; SP; FI					

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	Provisionally Suitable	Provisionally Suitable
System Type(s)	Pressure Manifold 50% Reduction (Horizontal PPBPS)	Anerobic Drip (pumped to off-site easement)
Site LTAR	0.3 GPD/Ft^2	0.1 GPD/Ft^2

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

EVALUATED BY: Jeff Vaughan
OTHER(S) PRESENT: Trevor Hackney

Docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

SOIL/SITE EVALUATION

PROPERTY ID #: 4762411387
DATE OF EVALUATION: 01/04/2024
COUNTY: Iredell Co.

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
SB 5	15%	0-8"	SCL; GR	SS; SP; FR	C2 Observed	22"	-	-	0.1
		8-22"	C; SBK	SS; SP; FI					
		22+"	C; ABK	S; P; FI					
SB 6	20%	0-12"	SCL; GR	SS; SP; FR	C2 Observed	24"	-	-	0.1
		12-24"	C; SBK	SS; SP; FI					
		24+"	C; ABK	SS; SP; FI					
SB 7	15%	0-14"	SCL; GR	SS; SP; FR	C2 Observed	26"	-	-	0.1
		14-26"	C; SBK	SS; SP; FI					
		26+"	C; ABK	S; P; FI					
SB 8	15%	0-6"	SCL; GR	SS; SP; FR	C2 Observed	18"	-	-	0.1
		6-18"	C; SBK	SS; SP; FI					
		18+"	C; ABK	S; P; FI					
SB 9	15%	0-8"	SCL; GR	SS; SP; FR	C2 Observed	21"	-	-	0.1
		8-21"	C; SBK	SS; SP; FI					
		21+"	C; ABK	S; P; FI					

COMMENTS:

docusign Envelope ID: DCEFED28-B294-4448-B7B0-AA8701516939

Residence for

Adams Homes AEC, LLC
Plan 2100 "A" SE (L) NR014

GENERAL NOTES

1. ALL WORK IS TO BE DONE IN STRICT ACCORDANCE WITH NORTH CAROLINA STATE RESIDENTIAL BUILDING CODE, 2018 EDITION (HEREINITH SHOWN AS N.C.S.R.B.C.).
2. DIMENSIONS SHOWN ON DRAWINGS GOVERN OVER SCALE.
3. STUD WALL DESIGN SHALL CONFORM TO ALL N.C.S.R.B.C. REQUIREMENTS.
4. CONTRACTOR SHALL USE TEMPERED SAFETY GLASS IN ALL LOCATIONS AS REQUIRED BY N.C.S.R.B.C., 2018 EDITION, SECTION R308.4
5. ANY HABITABLE ROOM SHALL MEET ALL LIGHT/VENTILATION AND EGRESS AS REQUIRED BY N.C.S.R.B.C., 2018 EDITION, SECTIONS R-303.1 AND R-310.1
6. ALL WALLS SHOWN ON FLOOR PLANS ARE 2x4 FRAME UNLESS NOTED OTHERWISE.
7. ALL ANGLED WALLS SHOWN ON FLOOR PLANS ARE 45° UNLESS NOTED OTHERWISE.
8. ALL WINDOWS SHALL HAVE A MINIMUM DPI RATING OF 25. BUILDER SHALL VERIFY WITH WINDOW MANUFACTURER THAT UNITS INSTALLED MEET THESE REQUIREMENTS AS PER N.C.S.R.B.C., 2018 EDITION, TABLE 301.2(6).
9. ENERGY EFFICIENCY REQUIREMENTS FOR THE SPECIFIC CLIMATE ZONE WHERE STRUCTURE IS BEING BUILT SHALL BE IN ACCORDANCE WITH CHAPTER 11 OF THE NORTH CAROLINA RESIDENTIAL BUILDING CODE, 2018 EDITION, AS SHOWN IN TABLES N1101.2 AND N1102.1.
10. TERMITE TREATMENT - BORATE APPLIED TO ALL FRAME MEMBERS WITHIN 24" AFF.

MATERIALS LEGEND

EARTH/COMPACT FILL	FINISH WOOD
CONCRETE	ROUGH WOOD
BRICK	BLOCKING
CONCRETE BLOCK/STONE	PLYWOOD
STEEL	BATT INSULATION
ALUMINUM	RIGID INSULATION

TOILET ACCESSORIES LEGEND

PROVIDE 2x4 BLOCKING IN THE WALL FOR THE FOLLOWING:

TB	TOWEL BAR
TP	TOILET PAPER HOLDER
TR	TOWEL RING
MC	MEDICINE CABINET
MR	MAGAZINE RACK

THE PURPOSE OF THESE DRAWINGS IS TO SHOW THE INTENT OF THE DESIGN AND CONSTRUCTION OF THIS HOME. ANY ERRORS AND/OR OMISSIONS FOUND IN THIS SET SHOULD IMMEDIATELY BE REPORTED TO ADAMS HOMES FOR CLARIFICATION OR CORRECTION. THE CONTRACTOR SHOULD VERIFY ALL CONDITIONS AND DIMENSIONS PRIOR TO CONSTRUCTION.

INDEX TO DRAWINGS

	COVER SHEET
1	FRONT AND LEFT SIDE ELEVATIONS
2	REAR AND RIGHT SIDE ELEVATIONS
3	FLOOR PLAN
4	ELECTRICAL PLAN
opt1	PLAN OPTIONS
opt2	REAR PORCH OPTIONS
D1	CONSTRUCTION DETAILS
S1	MONO SLAB FOUNDATION PLAN
S2	CEILING FRAMING PLAN
S3	ROOF FRAMING PLAN
SD1	STRUCTURAL DETAILS
SPEC	STRUCTURAL SPECIFICATIONS
S6	PLAN OPTIONS

RESIDENTIAL BUILDING CODE SUMMARY

1. PLANS ARE DESIGNED TO THE 2018 NORTH CAROLINA RESIDENTIAL BUILDING CODE.
2. HOUSE IS DESIGNED FOR 115 MPH, 3 SECOND GUST (84 MPH FASTEST WIND), EXPOSURE B.
3. ANCHOR BOLTS SHALL BE MIN. 1/2" DIAMETER WITH STANDARD WASHER AND NUT AND SHALL EXTEND 7" MIN. INTO MASONRY OR CONCRETE. BOLTS TO BE NO MORE THAN 6' O.C. AND WITHIN 12" OF CORNERS. ALTERNATE ANCHOR STRAPS CAN BE USED INSTEAD OF ANCHOR BOLTS SPACED AT THE EQUIVALENT SPACING AND INSTALLED PER MANUFACTURER'S SPECIFICATION'S EXCEPT AT GARAGE LIG FTG.
4. MEAN ROOF HEIGHT: 17'-8"
5. COMPONENT & CLADDING DESIGNED FOR THE FOLLOWING LOADS:

MEAN ROOF HGT:	UP TO 30'	30'-1"TO 35'	35'-1"TO 40'	40'-1"TO 45'
ZONE 1	16.5, -18.0	17.3, -18.9	18.0, -19.6	18.5, -20.2
ZONE 2	16.5, -21.0	17.3, -22.1	18.0, -22.9	18.5, -23.5
ZONE 3	16.5, -21.0	17.3, -22.1	18.0, -22.9	18.5, -23.5
ZONE 4	18.0, -19.5	18.9, -20.5	19.6, -21.3	20.2, -21.8
ZONE 5	18.0, -24.1	18.9, -25.3	19.6, -26.3	20.2, -27.0

6. MINIMUM VALUES FOR ENERGY COMPLIANCE: ZONE 4
7. MAXIMUM GLAZING U-FACTOR: 0.35
8. INSULATING VALUES: CEILING: R-30* / WALLS: R-15 / FLOOR: R-19 / SLABS: R-10. CODE REFERENCE: TABLE N1102.1 (*R-30 ONLY IF UNCOMPRESSED, R-38 REQUIRED IF COMPRESSED)
9. FLASHING SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R703.8 OF THE N.C.R.B.C.
10. FIREBLOCKING SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R602.8 OF THE N.C.R.B.C.
11. DRAFTSTOPPING SHALL BE INSTALLED IN ACCORDANCE WITH SECTION R302.12 OF THE N.C.R.B.C.

AREA CALCULATIONS

1ST FLOOR:	2100	GARAGE:	428
2ND FLOOR:	0	FRONT PORCH:	86
TOTAL:	2100	PATIO:	140
		BRICK:	0
		TOTAL:	654
WIDTH:	49'-0"	COV. PORCH OPT:	224
DEPTH:	54'-0"		

FOUNDATION VENTING CALCULATIONS

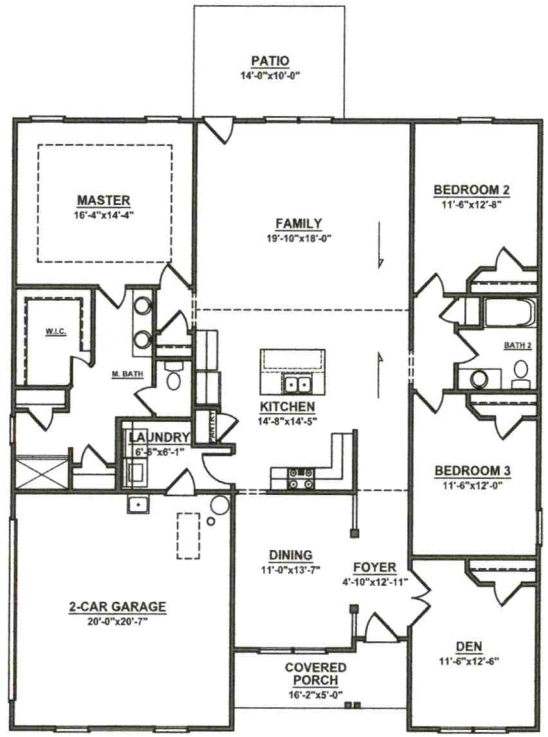
NOT NEEDED WITH SLAB FOUNDATION

ATTIC VENTILATION REQUIREMENTS

NATURAL ROOF VENTILATION	MECHANICAL ROOF VENTILATOR
2614 SQ. FT. / 150 = 17.43SQ. FT. VENT REQ'D	2614 SQ. FT. / 300 = 8.71 SQ. FT. VENT REQ'D

BUILDER TO PROVIDE APPROPRIATE VENTILATING AS REQUIRED PER CODE

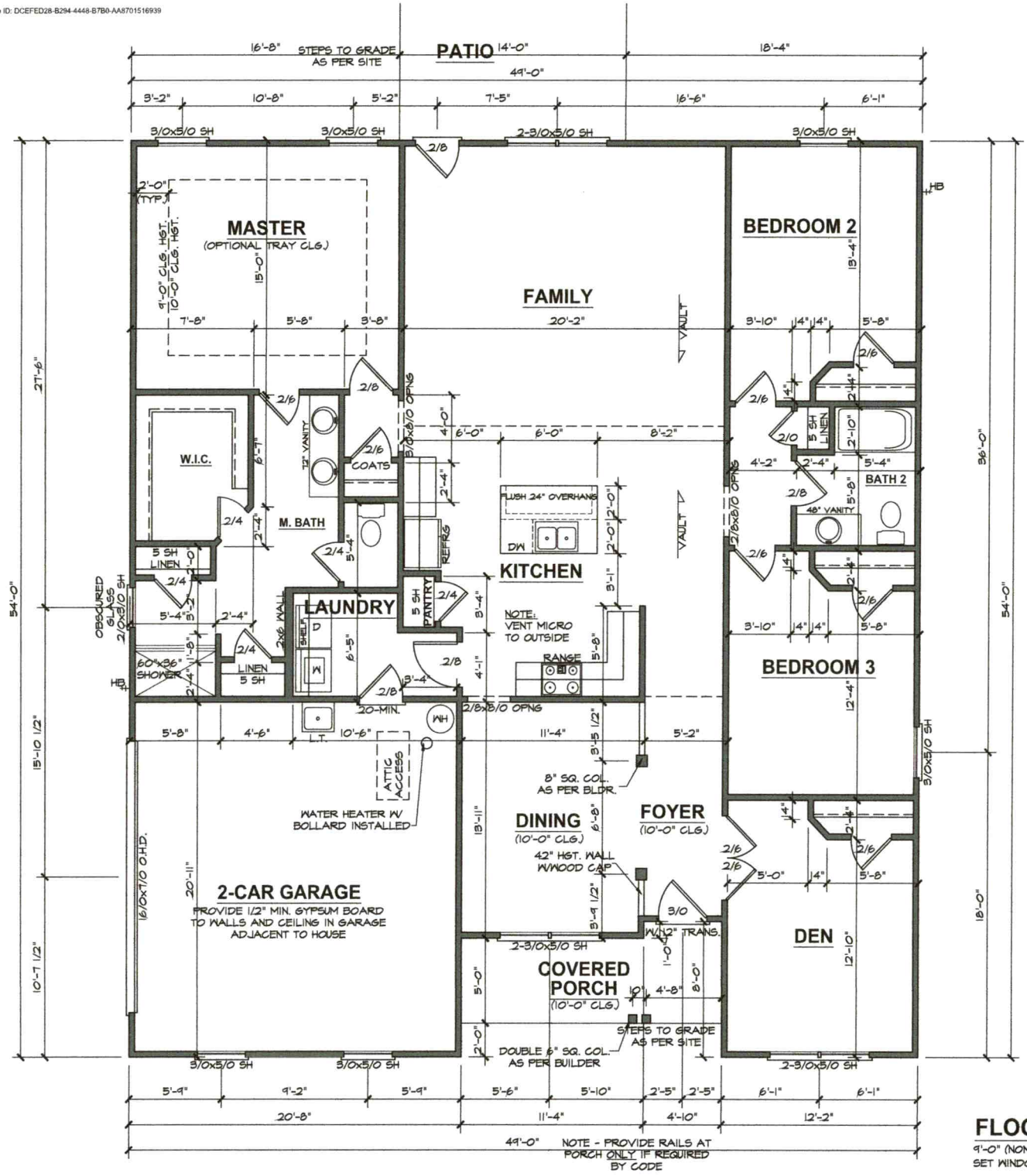




6818

ADAMS HOMES AEC, LLC

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NOTE: STONE VENEER NOT DIMENSIONED ON PLANS, SEE ELEVATIONS FOR LOCATIONS

FLOOR PLAN

9'-0" (NOM.) CLG. HST. U.N.O.
SET WINDOWS @ 7'-0" U.N.O.

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

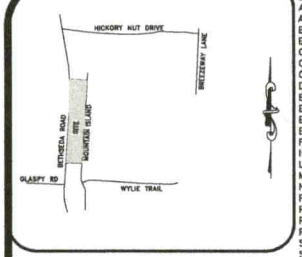
ADAMS HOMES AEC, LLC

2100 A SE L NR014

DATE DRAWN
6/19/2024
PROJECT
6818
REVISIONS

SHEET
3

DocuSign Envelope ID: DCE1 ED20-D284-4440-B1B0-AA01015 10B39



VICINITY MAP (NTS)

LEGEND
AC=AIR CONDITIONING UNIT
AG=ABOVE GROUND
BOC=BACK OF CURB
BG=BELOW GROUND
CATV=CABLE TV
CB=CATCH BASIN
CVRD=COVERED
DW=CONC DRIVEWAY
EB=ELECTRIC BOX
EM=ELECTRIC METER
EOP=EDGE OF PAVEMENT
EP=ELECTRIC PEDESTAL
FH=FIRE HYDRANT
ICV=IRRIGATION CONTROL VALVE
LP=LIGHT POLE
MTR=METER
N/F=NOW OR FORMERLY
PO=PORCH
PP=POWER POLE
RCP=REINFORCED CONC PIPE
R/W=RIGHT OF WAY
SCO=CLEANOUT
SW=SIDEWALK
TP=TELEPHONE PEDESTAL
TF=TRANSFORMER
WM=WATER METER
WV=WATER VALVE
EIP=EXISTING IRON PIPE
IRON PIPE SET
EIR=EXISTING IRON ROD

NORTH CAROLINA PROFESSIONAL SEAL L-4817 LAND SURVEYOR NICHOLAS M. FRENCH

THIS EXHIBIT MAP IS OF AN EXISTING PARCEL OR PARCELS OF LAND AND DOES NOT CREATE A NEW STREET OR CHANGE AN EXISTING STREET.

NICHOLAS M. FRENCH, PLS L-4817 DATE

THIS MAP IS ONLY INTENDED FOR THE PARTIES AND PURPOSES SHOWN. THIS MAP IS NOT FOR RECORDATION. NO TITLE REPORT PROVIDED.

THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS AND HAS NOT BEEN REVIEWED FOR COMPLIANCE WITH RECORDING REQUIREMENTS FOR PLATS.

PLAT NORTH PB 78, PG 117

SETBACKS PER PB 78 PG 117

FRONT	35'
SIDE	15'
REAR	35'
SIDE STREET	25'

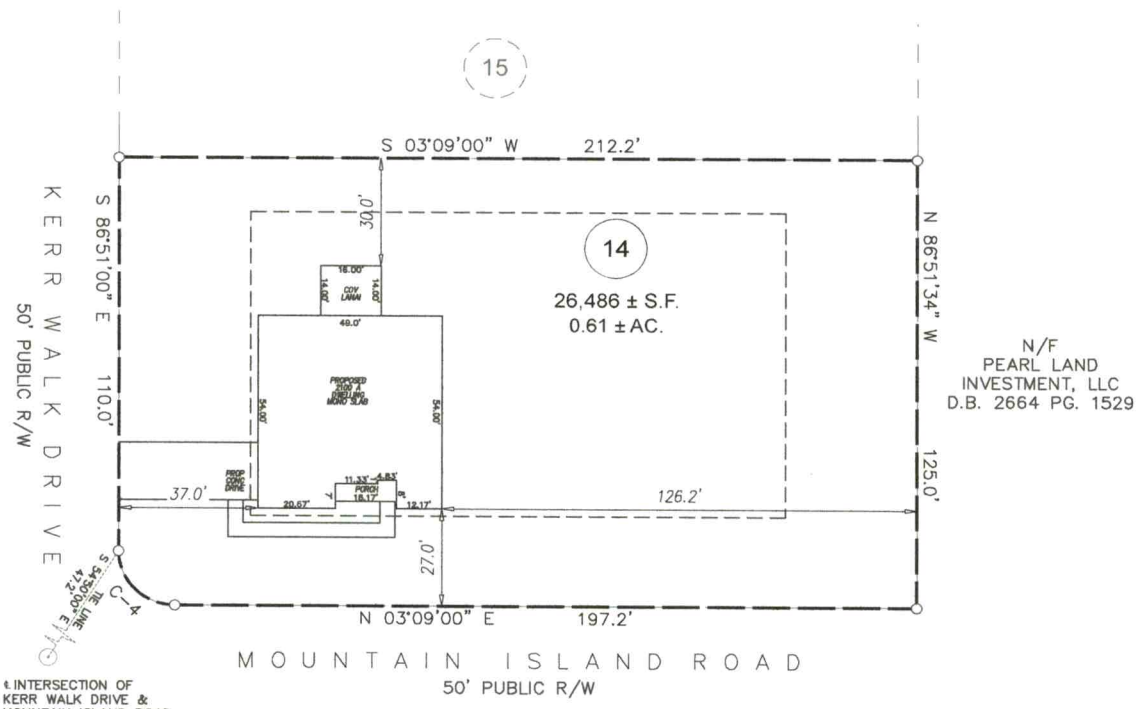
HOUSE HERE ON BASED ON FIRST FLOOR PLANS

IMPERVIOUS AREA

HOUSE	2,878 SQ.FT.
DRIVE TO R/W	592 SQ.FT.
WALK	179 SQ.FT.
TOTAL	3,649 SQ.FT.

GENERAL NOTES:

1. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED.
2. AREAS SHOWN HEREON WERE COMPUTED USING THE COORDINATE METHOD.
3. LINES NOT SURVEYED ARE SHOWN AS DASHED LINES FROM INFORMATION REFERENCED ON THE FACE OF THIS SURVEY.
4. PROPERTY MAY BE SUBJECT TO ANY/ALL EASEMENTS AND RESTRICTIONS OF RECORD. THIS SURVEY IS A CORRECT REPRESENTATION OF THE LAND PLATTED AND OR DEEDED AND HAS BEEN PREPARED WITHOUT THE BENEFIT OF A TITLE REPORT. A NORTH CAROLINA LICENSED ATTORNEY-AT-LAW SHOULD BE CONSULTED REGARDING CORRECT OWNERSHIP, WIDTH AND LOCATION OF EASEMENTS, AND OTHER TITLE QUESTIONS REVEALED BY TITLE EXAMINATION.
5. DRIVEWAY IMPERVIOUS CALCULATION SHOWN HEREON CALCULATED TO THE FRONT PROPERTY LINE/RIGHT-OF-WAY.
6. THIS PARCEL IS NOT LOCATED WITHIN A FLOOD HAZARD ZONE AS INDICATED ON CID NO. 370313 PANEL 4762, SUFFIX J IREDELL COUNTY WITH AN EFFECTIVE DATE OF 03/18/2008.



℄ INTERSECTION OF KERR WALK DRIVE & MOUNTAIN ISLAND ROAD

GRAPHIC SCALE
40 0 20
1 inch = 40 ft.

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH	CHORD BEARING
C-4	15.0'	23.6'	21.2'	N 48°09'01" E

PRELIMINARY PLOT PLAN

PROJECT:	NORTHLAKE PHASE 3
DRAWN BY:	VIH
SURVEYED BY:	N/A
SCALE:	1"=40'
FIELD WORK:	N/A
DWG DATE:	06-18-2024

FOR
ADAMS HOMES
104 KERR WALK DRIVE
LOT 14 NORTHLAKE SUBDIVISION PHASE 3
CHAMBERSBURG TWP., IREDELL CO., NC
P.B. 78, PG. 117

ECLS GLOBAL, INC
U.S. VETERAN-OWNED
19 N McKINLEY ST
COATS, NC 27521
910.897.3257 ECLSGLOBALINC.COM
910.897.2329 (FAX) CO#C-4175

Type: CONSOLIDATED REAL PROPERTY
Recorded: 8/5/2024 1:28:37 PM
Fee Amt: $26.00 Page 1 of 2
Revenue Tax: $0.00
Iredell County, NC
Renee L. Holland Register of Deeds

BK 3077 PG 1859 - 1860

This instrument was prepared by: C Smith, PO Box 2584, Cornelius, NC 28031

NORTH CAROLINA)
)
COUNTY OF IREDELL)

NITRIFICATION EASEMENT MODIFICATION

THIS NITRIFICATION EASEMENT MODIFICATION, made and entered into this 30 day of July, 2024, by and between **Arrow Development, LLC**, a North Carolina Limited Liability Company, hereinafter referred to as the "**Grantor**" and **Arrow Development, LLC**, a North Carolina Limited Liability Company, hereinafter referred to as the "**Grantee**";

WITNESSETH:

THAT WHEREAS, Grantor granted to Grantee those certain Nitrification Easements within Northlake Subdivision and recorded in with the Iredell County Register of Deeds in: Book 3036, Page 1809 (for lots 12 & 13); Book 3043, Page 2262 (for lots 14 & 36); and Book 3069, Page 2101 (for lots 22 – 35) (together referred to as "Nitrification Easements"); and

WHEREAS, Grantor as Grantee does hereby desire to amend those Nitrification Easements as set forth herein; and

NOW, THEREFORE, for good and valid consideration, the receipt and sufficiency of which are hereby acknowledged, Grantor and Grantee hereby amend the Nitrification Easements as follows:

1. Grantor and Grantee agree the easements shall remain free of structures, landscaping and any other activities that would interfere with the use of the easements conveyed.

2. Grantor and Grantee agree the Nitrification Easements shall be perpetual and not be able to be divided, removed or modified in any way as to reduce or restrict the easement areas for the specific lots listed in the Nitrification Easements.

3. Except as amended hereinabove, the remaining portions of the Nitrification Easements shall remain unchanged and in full effect.

Submitted electronically by "MSC Real Estate Recordings, LLC"
in compliance with North Carolina statutes governing recordable documents
and the terms of the submitter agreement with the Iredell County Register of Deeds.

TO HAVE AND TO HOLD said right and easement to it, the said Grantee, its successors in title, heirs and assigns, it being agreed that the right and easement hereby granted is appurtenant to and runs with the land as part of the Nitrification Easements.

IN WITNESS WHEREOF, the said Grantors and Grantees has hereunto set its hand and seal, the day and year first above written.

Arrow Development, LLC ("Grantor" and "Grantee")

BY: _____ (SEAL)
NAME: Michael Ryan
TITLE: Manager

North Carolina

County of Cabarrus

I certify that the following person(s) personally appeared before me this day, and; each acknowledging to me that he or she voluntarily signed the foregoing document for the purpose stated therein and in the capacity indicated above.
Michael Ryan, Manager

Witness my hand and official seal, this the 30 day of July, 2024.

(Official Seal)

Jaime Antunez
NOTARY PUBLIC
Cabarrus County, North Carolina
My Commission Expires 10/20/2025

_____
Official Signature of Notary

Jaime Antunez Notary Public
Notary's printed or type name

My commission expires: 10/20/2025