

Adams Soil Consulting, PLLC
1676 Mitchell Road
Angier, NC 27501
919-414-6761
alexadams@bcsoil.com

March 24, 2023
Project #1623

“The LSS/LG evaluation(s) attached to this application is to be used to issue an Improvement Permit in accordance with G.S. 130A-335(a2) and (a3).”

“The plans or evaluations attached to this application are to be used to issue a Construction Authorization in accordance with G.S. 130A-335 (a2), (a5), and (a6)”

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

RE: 60 Single Barrell Ct. NC (Harnett County) for Davidson Homes

To whom it may concern:

Adams Soil Consulting (ASC) conducted a preliminary soil evaluation on the above referenced parcel to determine the areas of soils which are suitable for subsurface wastewater disposal systems (conventional & LPP). The soil/site evaluation was performed using hand auger borings during moist soil conditions based on the criteria found in the State Subsurface Rules, 15ANCAC 18A .1900 “Laws and Rules for Sewage Treatment and Disposal Systems”. From this evaluation, ASC is providing the attached 3-bedroom septic design.

The suitable soils found on the subject property were relatively consistent in the initial and repair areas. The area designated for the initial/primary septic system (see attached septic plan) was found to contain soils with greater than 24 inches in depth before a restrictive horizon was encountered.

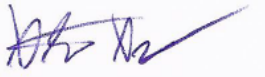
Please find the attached wastewater soil/site evaluation forms for specific soil properties found in the initial and repair areas as well as assigned soil long term acceptance rate (LTAR). Numerous soil borings were made throughout the property and representative soil profile descriptions for the primary septic field and repair area are provided. A location sketch for profile descriptions is also attached. The initial and primary septic fields were sized based on a flow rate of 360 gallons/day and utilizing Accepted Status. Any unauthorized site disturbance, filling, soil removal, or layout changes may result in the permit being revoked.

The septic installer contractor shall install the primary and repair (if needed) system on contour, see attached site plan for the primary system and repair locations. No underground utilities, water lines, or sprinkler systems shall be placed into the initial or repair septic areas. Installation must meet all state and Johnston County regulations for septic system installation. The trenches must be installed in the same location as the site plan. If the installation is in question at the time of installation call me (Alex Adams) at 919-414-6761.

This report discusses the location of provisionally suitable soils identified on the property and does not guarantee the future function of any waste water disposal system installed.

If you have any questions regarding the findings on the attached map or in this report, please feel free to contact me anytime.

Sincerely,



Alex Adams
NC Licensed Soil Scientist #1247
AOWE Certification: 10021E



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

PIN/Lot Identifier: _____

Issued To: _____

Property Location: _____

Subdivision: _____ Lot #: _____ Block: _____ Section: _____

LSS Report Provided: Yes No

If yes, name and license number of LSS: _____

New Repair Expansion System Relocation

Proposed Structure: _____

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

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

Proposed Design Daily Flow: _____ GPD Proposed LTAR (Initial): _____ Proposed LTAR (Repair): _____

Design Wastewater Strength: domestic high strength industrial process

Number of bedrooms: _____ Number of Occupants: _____ Other: _____

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

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

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

Drainfield location meets requirements of Rule .1945: Yes No

Drainfield location meets requirements of Rule .1950: Yes No

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

Permit conditions:

Licensed Soil Scientist Print Name: _____

Licensed Soil Scientist Signature: Alex Adams Date: _____

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

See attached site sketch

County: _____

This Section for Local Health Department Use Only

Initial submittal received: _____ by _____
Date Initials

Permit Number: _____

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

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

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

The following items are missing:

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

State Authorized Agent: _____ Date: _____

Denied (See attached report.)

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

State Authorized Agent: _____ Date: _____

Complete

State Authorized Agent: _____ Date of Issuance: _____

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

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

Improvement Permit Expiration Date: _____

See attached site sketch

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

PIN/Lot Identifier: _____

Issued To: _____

Property Location: _____

AOWE/PE Plans/Evaluations Provided: Yes No If yes, name and license number of AOWE/PE: _____

Facility Type: _____

New Expansion Repair System Relocation
Basement? Yes No Basement Fixtures? Yes No

Type of Wastewater System** _____ (Initial) _____ (Repair)

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

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

Installation Requirements/Conditions

Septic Tank Size: _____ gallons Total Trench/Bed Length: _____ feet Trench/Bed Spacing: _____ feet on center

Drainfield square footage: _____ Trench/Bed Width: _____ inches LTAR: _____ gpd/ft²

Soil Cover: _____ inches Slope Adjusted Maximum Trench/Bed Depth: _____ inches

Aggregate Depth: _____ inches above pipe _____ inches below pipe _____ inches total

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

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

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

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

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

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

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

Declaration of Restrictive Covenants: Yes No

****If applicable:**

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

Owner/Legal Representative Print Name: Celinda Howell

Owner/Legal Representative Signature: Celinda Howell

Date: 3/27/23

Pre-Construction Conference Required: Yes No

Conditions: _____

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

Alex Adams

AOWE/PE Print Name: _____

AOWE/PE Signature: Alex Adams

Date: _____

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

See attached site sketch

County: _____

This Section for Local Health Department Use Only

Initial submittal received: _____ by _____
Date Initials

Permit Number: _____

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

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

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

The following items are missing: _____

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

State Authorized Agent: _____ Date: _____

Denied (See attached report.)

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

State Authorized Agent: _____ Date: _____

Complete

State Authorized Agent: _____ Date of Issuance: _____

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

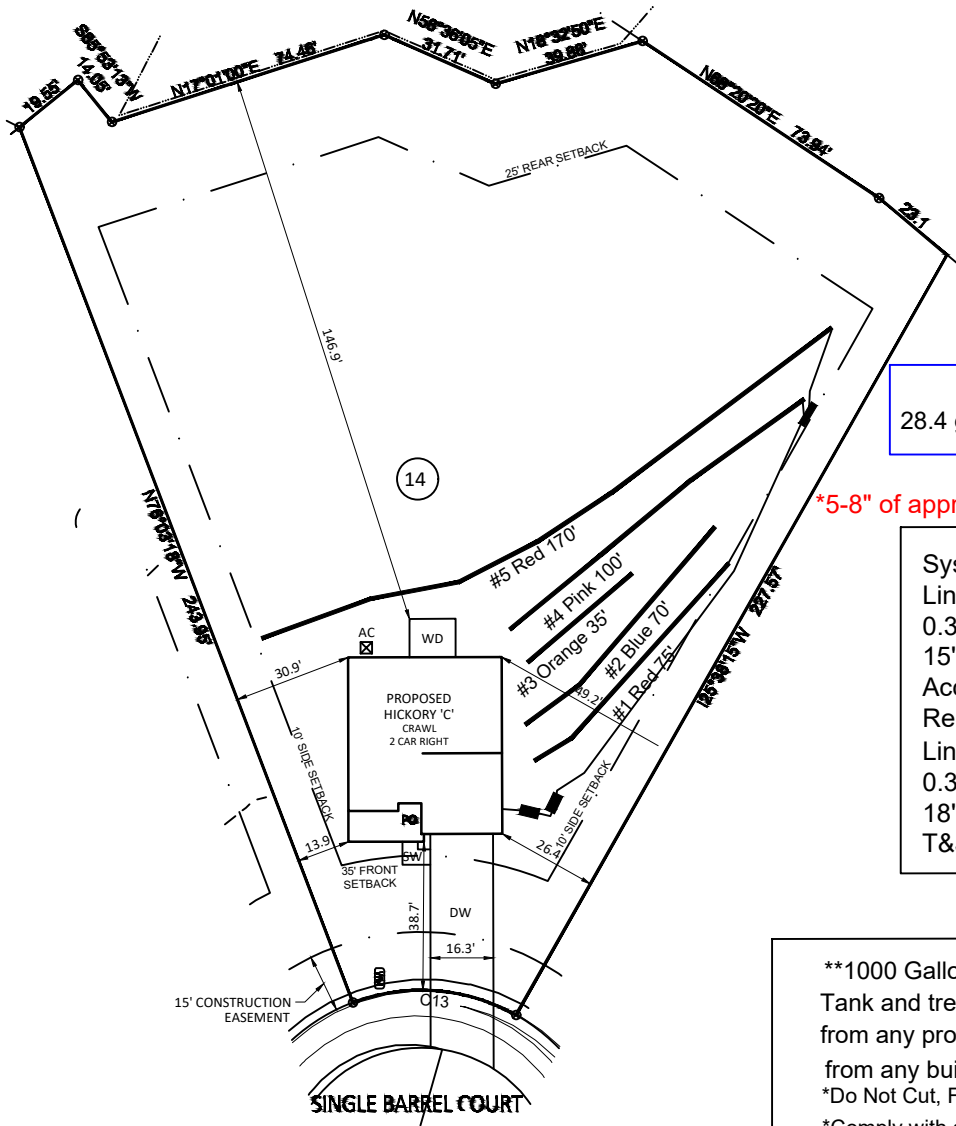
The Department, the Department's authorized agents, and the local health departments shall be discharged and released from any liabilities, duties, and responsibilities imposed by statute or in common law from any claim arising out of or attributed to plans, evaluations, preconstruction conference findings,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

Construction Authorization Expiration Date: _____

See attached site sketch

Wellers Knoll - Lot #14
 360 Gallon/Day - Septic Design
 60 Single Barrell Ct. - Lillington, NC
 Davidson Homes
 Harnett County PIN: 0529-89-2009

*Not a Survey
 Sketched from a plot plan supplied by owner



Pump to supply:
 28.4 gallons/minute at 9.3 feet of head

*5-8" of approved soil cover required over initial system

System: Pressure Manifold
 Lines: 4-5 (270')
 0.35 LTAR
 15" Max Trench Bottom
 Accepted Status System
 Repair: Pressure Manifold
 Lines: 5-8 (300')
 0.35 LTAR
 18" Max Trench Bottom
 T&J Panel Block - 50% reduction system

**1000 Gallon Septic and Pump Tank
 Tank and trenches to be located minimum of 10'
 from any property line and minimum of 5'
 from any building foundation.
 *Do Not Cut, Fill, or Alter Drainfield or Repair Area
 *Comply with all setbacks
 *Contact local health dept. and/or Alex Adams prior to
 or during installation with any questions or concerns.

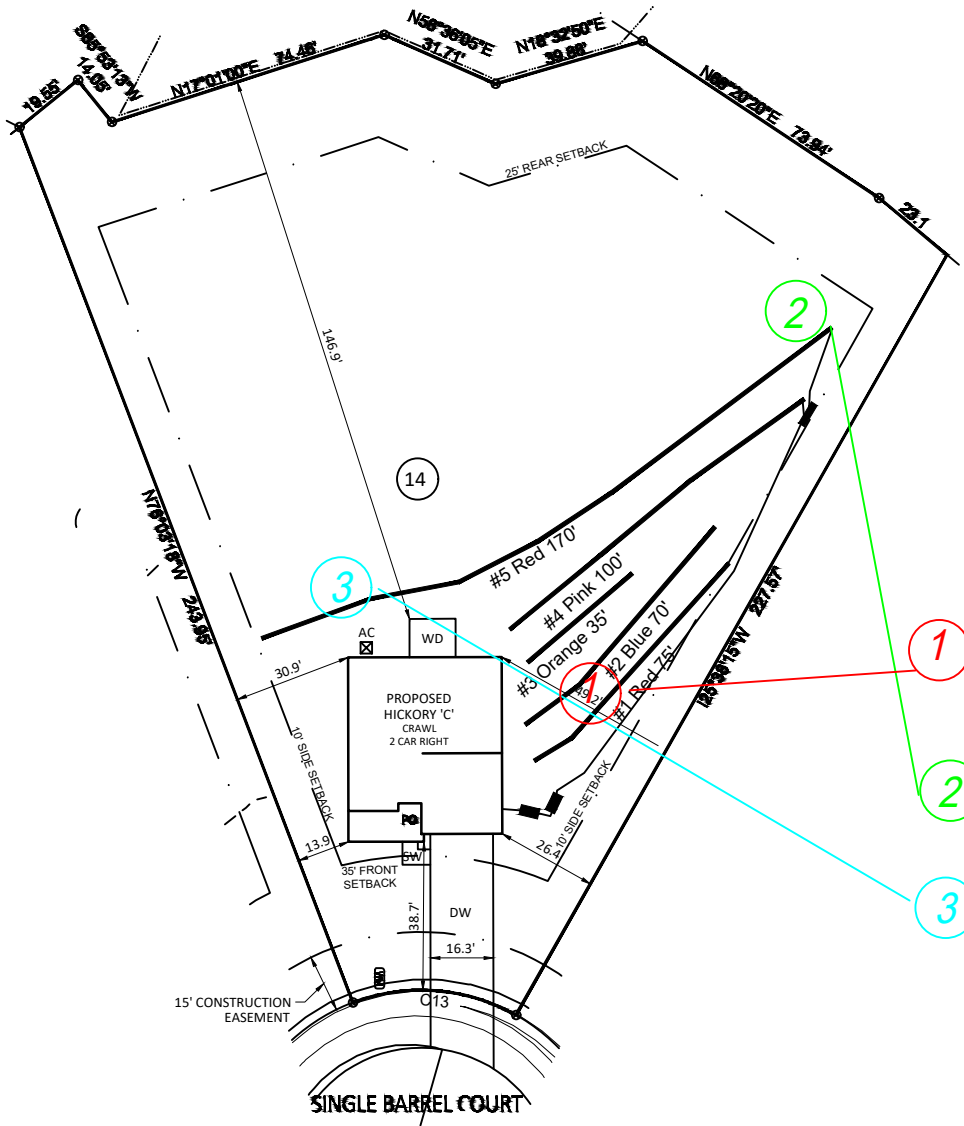
Adams
 Soil Consulting
 919-414-6761
 Job #1623

GRAPHIC SCALE
 1" = 50'



Wellers Knoll - Lot #14
 Soil Boring Location Map
 60 Single Barrell Ct. - Lillington, NC
 Davidson Homes
 Harnett County PIN: 0529-89-2009

*Not a Survey
 Sketched from a plot plan supplied by owner



- 1 Profile Description #1
See Soil/Site Evaluation Data Form
- 2 Profile Description #2
See Soil/Site Evaluation Data Form
- 3 Profile Description #3
See Soil/Site Evaluation Data Form

Adams
 Soil Consulting
 919-414-6761
 Job #1623

GRAPHIC SCALE
 1" = 50'



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

OWNER: Davidson Homes
 ADDRESS: 60 Single Barrell Ct.
 PROPOSED FACILITY: Single Family, 4-bedroom PROPOSED DESIGN FLOW (.1949): 360gpd
 LOCATION OF SITE: 60 Single Barrell Ct.
 WATER SUPPLY: Public Water
 EVALUATION METHOD: Auger Boring

APPLICATION DATE:
 DATE EVALUATED: 3-16-23
 PROPERTY SIZE: ~1.25 acres

TYPE OF WASTEWATER: Sewage

P R O F I L E #	.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	
1	Linear Slope/3%	0-20	GR/SL	FR/SEXP/NS	35"	N/A	N/A	N/A	PS/0.35-0.4
		20-38	SBK/SCL	FI/SEXP/SS					
2	Linear Slope/3%	0-14	GR/SL	FR/SEXP/NS	36"	N/A	N/A	N/A	PS/0.35-0.4
		14-36	SBK/CL	FI/SEXP/SS					
3	Linear Slope/3%	0-8	GR/SL	FR/SEXP/NS	28"	N/A	N/A	N/A	PS/0.35-0.4
		8-36	SBK/CL	FI/SEXP/SS					
4									

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM	OTHER FACTORS (.1946): _____ SITE CLASSIFICATION (.1948): PS EVALUATED BY: A. Adams OTHER(S) PRESENT:
Available Space (.1945)	>5,000 ft ²	>5,000 ft ²	
System Type(s)	Type III (b)	Type III (b)	
Site LTAR	0.35	0.35	

COMMENTS:

PRESSURE MANIFOLD DESIGN

Name: Davidson Homes

P.I.N. #:

D#:

Address: 60 Single Barrell Ct

Subdiv: Wellers Knoll

Lot#: 14

of BDR: 3 Daily Flow: 360 gal/day L.T.A.R.: 0.35 gal/day/sq.ft

Septic Tank: 1000 gals Pump Tank: 1000 gals Sq. Foot: 810 Stone Depth:

Number of Taps: 2 Length of Trenches: 270 ft(See Tap Chart for Details)

Depth of Trenches: 15 in Manifold Length: 30 in

Manifold Diameter: 4in sch 80pvc Tap Configuration: 6 in spacing side(s) of manifold

Supply Line: length: 100 ft Diameter: 2 in sch 40pvc

Friction Loss + Fitting Loss: 1.06 ft(supply line length + 70' for fittings in pump tank)

Design Head: 2 ft Elevation Head: 4.50 ft

Total Head: 7.56 ft Pump to Deliver: 15.58 gals/min at 7.56 ft head

Dosing Volume: 132 gals,

Drawdown: 132 gals divided by 20 gals/in = 6.6 inches

Simplex Control Panel required; elapsed time meter and cycle counter required; Floats to be determined by type of pump tank used. A septic tank filter, or equal is required.

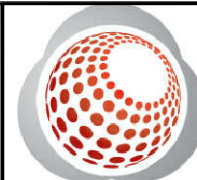
Possible pumps: Hydromatic: Goulds: Myers:
 Zoeller: Model 151 Other:

TAP CHART

Bench Mark	0	is = 100.00	set at EIP				Design Head:	2	
Pump tank elev.		4.5	95.50	Pump elev.	90.50		Manifold elev.	95.00	
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR
4	Pink	6.0	94.00	100	1/2in SCH 80	5.48	126.62	300	0.422
5	Red	6.4	93.60	170	3/4in SCH 80	10.1	233.38	510	0.458
		pl	feet =	270	gal/min =	15.58		LTAR =	0.35
% of Dose Vol.		75		Des. Flow	360			(ltar + 5%)	0.37
Dose Volume		132		Pump Run=	23.11			(ltar W/ INOV)	0.47
Dose Pump Time		8.45		Tank Gal/IN	20			(ltar + 5%)	0.49
Drawdown in Inches		6.6		Elev. Head	4.50				
Supply Line Length		100							
Comments:									

Hydraulic Profile

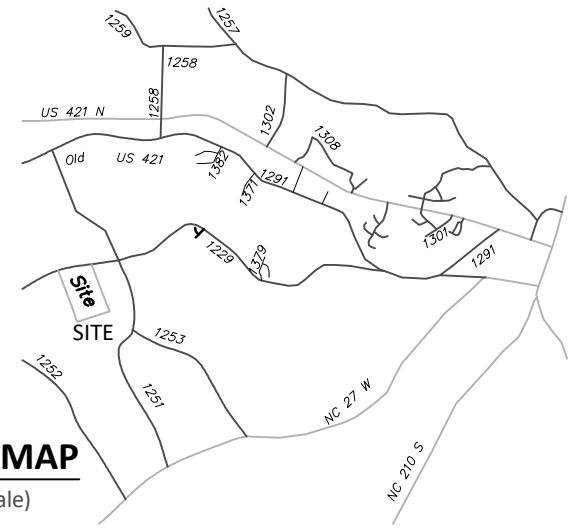
Manifold Elevation	95.00	100
Pump tank elev.	95.50	2
Pump elev.	90.50	0



Bateman Civil Survey Company

Engineers • Surveyors • Planners

2524 Reliance Avenue, Apex, NC 27539 Ph: 919.577.1080 Fax: 919.577.1081
www.batemancivilsurvey.com info@batemancivilsurvey.com
NCBELS Firm No. C-2378



VICINITY MAP

(Not to Scale)

LEGEND

- PO = PORCH
- SP = SCREENED PORCH/PATIO
- CP = COVERED PORCH/PATIO
- WD = WOOD DECK
- SW = SIDEWALK
- DW = CONC DRIVEWAY
- P = CONC PATIO
- ⊗ = COMPUTED POINT
- X = MAG NAIL FOUND
- = IRON PIPE FOUND
- = IRON PIPE SET
- ⦿ = DRILL HOLE FOUND
- WM = WATER METER
- CO = CLEAN OUT
- AC = AIR CONDITIONER
- ⊙ = SEWER MANHOLE
- EB = ELECTRIC BOX
- ⊙ = CABLE BOX
- = TELEPHONE PEDESTAL
- CB = CATCH BASIN
- IC = IRRIGATION CONTROLLER
- ⊙ = LIGHT POLE
- ⊙ = UTILITY POLE
- ⦿ = FIRE HYDRANT
- DI = DRAIN INLET
- WV = WATER VALVE
- ⊙ = STREET SIGN
- YI = YARD INLET
- G = GAS METER
- E = ELECTRIC METER

I, STEVEN P. CARSON, CERTIFY THAT THIS PLAT WAS DRAWN UNDER MY DIRECT SUPERVISION FROM A SURVEY MADE UNDER MY SUPERVISION (PLAT BOOK REFERENCED IN TITLE BLOCK); THAT THE BOUNDARIES NOT SURVEYED ARE CLEARLY INDICATED AS DRAWN FROM INFORMATION LISTED UNDER REFERENCES; THAT THE RATIO OF PRECISION AS CALCULATED IS 1:10,000+; AND THAT THIS MAP MEETS THE REQUIREMENTS OF THE STANDARD OF PRACTICE FOR LAND SURVEYING IN NORTH CAROLINA. L-4752 DATED:

PRELIMINARY

This map is of an existing parcel of land and is only intended for the parties and purposes shown. This map not for recordation. No title report provided.

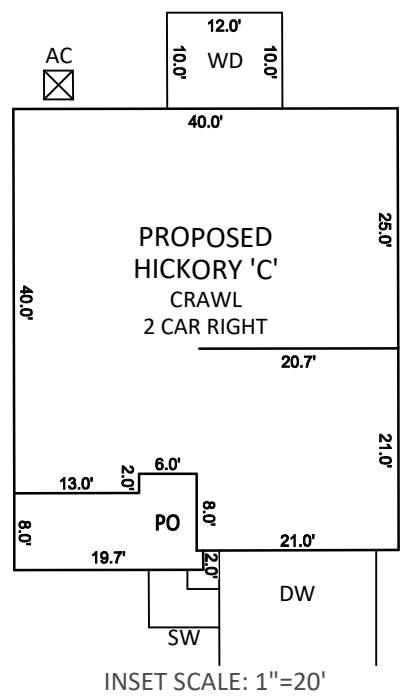
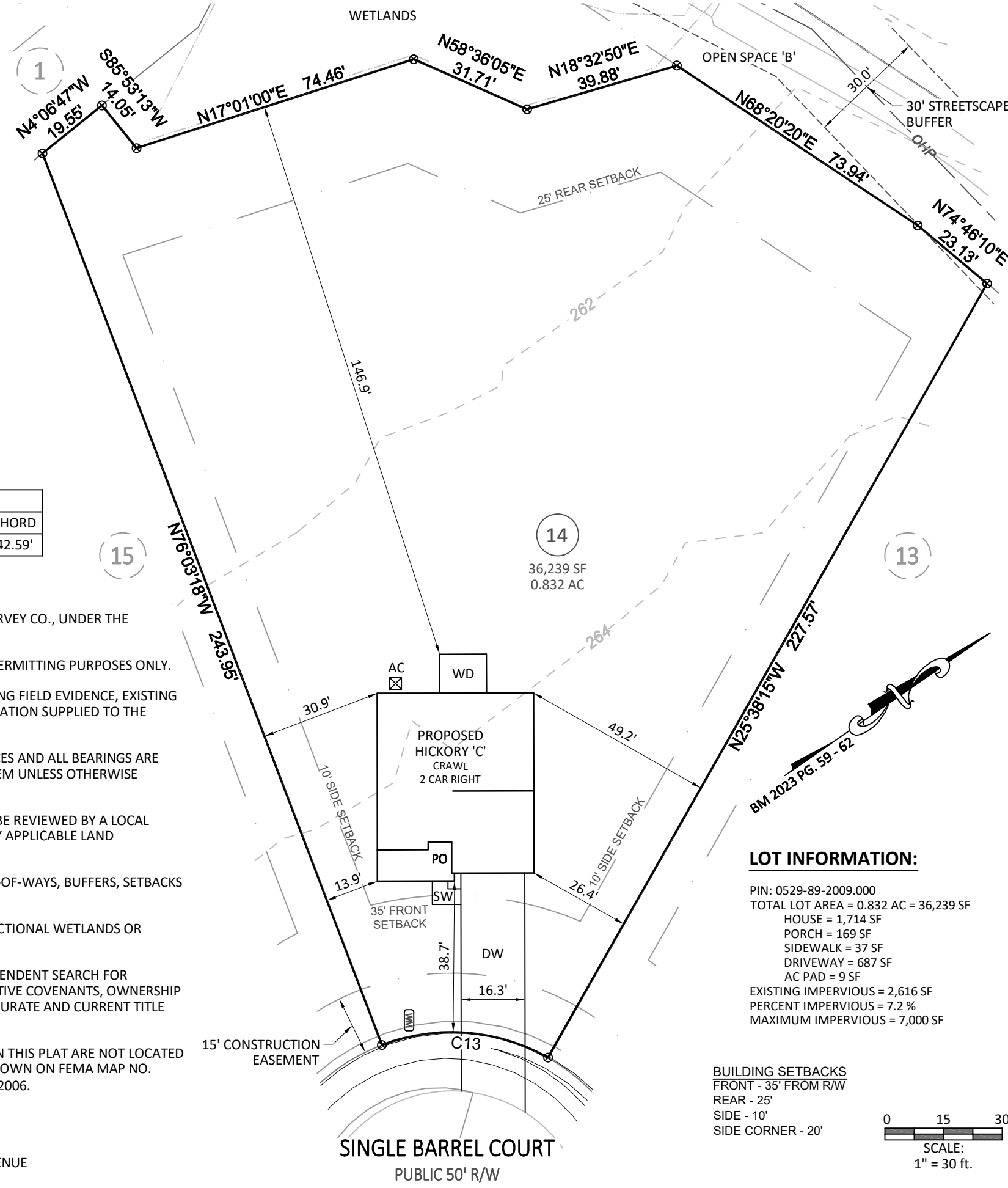
BUILDER TO VERIFY HOUSE LOCATION DIMENSIONS AND REVIEW TOTAL IMPERVIOUS NOTED ON THIS PLOT PLAN

PRELIMINARY PLOT PLAN FOR DAVIDSON HOMES

WELLERS KNOLL - LOT 14
60 SINGLE BARREL COURT, LILLINGTON, NC
LITTLE RIVER TOWNSHIP, HARNETT COUNTY

DATE: 2/17/23 DRAWN BY: MJA CHECKED BY: SPC

REFERENCE: BM 2023 PG. 59-62 BCS# 230051 SCALE: 1" = 30'



CURVE TABLE				
CURVE	RADIUS	LENGTH	CHORD DIRECTION	CHORD
C13	50.00'	44.00'	S39°09'13"W	42.59'

NOTES:

1. THIS SURVEY WAS PREPARED BY BATEMAN CIVIL SURVEY CO., UNDER THE SUPERVISION OF STEVEN P. CARSON, PLS.
2. THIS PLAN HAS BEEN PREPARED FOR LAYOUT AND PERMITTING PURPOSES ONLY.
3. PROPERTY LINES SHOWN WERE TAKEN FROM EXISTING FIELD EVIDENCE, EXISTING DEEDS AND PLATS OF PUBLIC RECORD, AND INFORMATION SUPPLIED TO THE SURVEYOR BY THE CLIENT
4. ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES AND ALL BEARINGS ARE NORTH CAROLINA STATE PLANE COORDINATE SYSTEM UNLESS OTHERWISE SHOWN.
5. THIS MAP IS NOT FOR RECORDATION AND SHOULD BE REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT REGULATIONS
6. THE BASIS OF NORTH AND ALL EASEMENTS, RIGHTS-OF-WAYS, BUFFERS, SETBACKS AND ADJOINERS, ETC. REFERENCED IN TITLE BLOCK
7. NO INVESTIGATION INTO THE EXISTENCE OF JURISDICTIONAL WETLANDS OR RIPARIAN BUFFERS PERFORMED BY THIS FIRM.
8. SURVEYOR HAS MADE NO INVESTIGATION OR INDEPENDENT SEARCH FOR EASEMENTS OF RECORD, ENCUMBRANCES, RESTRICTIVE COVENANTS, OWNERSHIP TITLE EVIDENCE OR ANY OTHER FACTS THAT AN ACCURATE AND CURRENT TITLE SEARCH MAY DISCLOSE.
9. FEMA FLOOD HAZARD STATEMENT: LOTS SHOWN ON THIS PLAT ARE NOT LOCATED WITHIN THE FEMA FLOOD HAZARD "ZONE AE" AS SHOWN ON FEMA MAP NO. 3720064000J & 3720054800J EFFECTIVE DATE 10/3/2006.
10. ZONING: RA-30
11. PROPERTY OWNER: DAVIDSON HOMES
1903 NORTH HARRISON AVENUE
CARY, NC 27513

LOT INFORMATION:

PIN: 0529-89-2009.000
TOTAL LOT AREA = 0.832 AC = 36,239 SF
HOUSE = 1,714 SF
PORCH = 169 SF
SIDEWALK = 37 SF
DRIVEWAY = 687 SF
AC PAD = 9 SF
EXISTING IMPERVIOUS = 2,616 SF
PERCENT IMPERVIOUS = 7.2 %
MAXIMUM IMPERVIOUS = 7,000 SF

BUILDING SETBACKS
FRONT - 35' FROM R/W
REAR - 25'
SIDE - 10'
SIDE CORNER - 20'

