BLDR 2023-40688

ICHD - ENVIRONMENTAL HEALTH DIVISION

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

PERMIT # OSWP-2023-40126

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

PIN # 4798-08-5432

APPLICANT / OWNER: CRAIG CARTER BUILDERS INC. APPLICANT ADDRESS: 459 YADKIN VALLEY RD 322 GRIFFITH RD, ADVANCE, NC 27006

SITE ADDRESS: 195 SOCIETY RD, STATESVILLE, NC 28625 PHONE: 3363453057 ALT. PHONE: 3363453057

SITE DIRECTIONS: I40 Mocksville Hwy exit -> N Mocksville Hwy -> L Society Church Rd -> lot on R past Vaughn Mill SAP CONTROLLED: YES ☐ NO ☑

SUBDIVISION: James Gaither SECTION: N/A LOT #: 5 LOT AREA: 5 DESIGN FLOW: 480 L.T.A.R.: 0.25

Septic Tank: 1000 (gal)	STB: 7160	Date: 4/23/24	☒ New System ☐ Repair ☐ Expansion	System Type: III	☑ Residence	No. Bedrooms: 4	Water Supply: Municipal Water
Pump Tank: 1000 (gal)	PT: 3603	Date: 3/29/24	System Description: Conventional Gravel		☐ Business	No. Persons: 8	
Pump Make: 1000	Model:	Serial #:	Repair System Description: Conventional Gravel		☐ Other	No. Employees:	
# Nitrification Fields: 1	# Lines: 4	Linear Ft.: 640	Maintenance Agreement Required: ☐ YES ☑ NO		☑ Slab	☐ Crawl Space	
Trench Width: 36	Trench Bottom Depth (Low side): 29		Gravel Depth: 12	☐ GRAVITY ☑ PRESSURE	☐ Basement w/ Plumbing	☐ Basement w/o Plumbing	

Comments / Conditions: May substitute 25% Reduction product - READ ALL PARTS OF SOIL REPORT FOR DESIGN

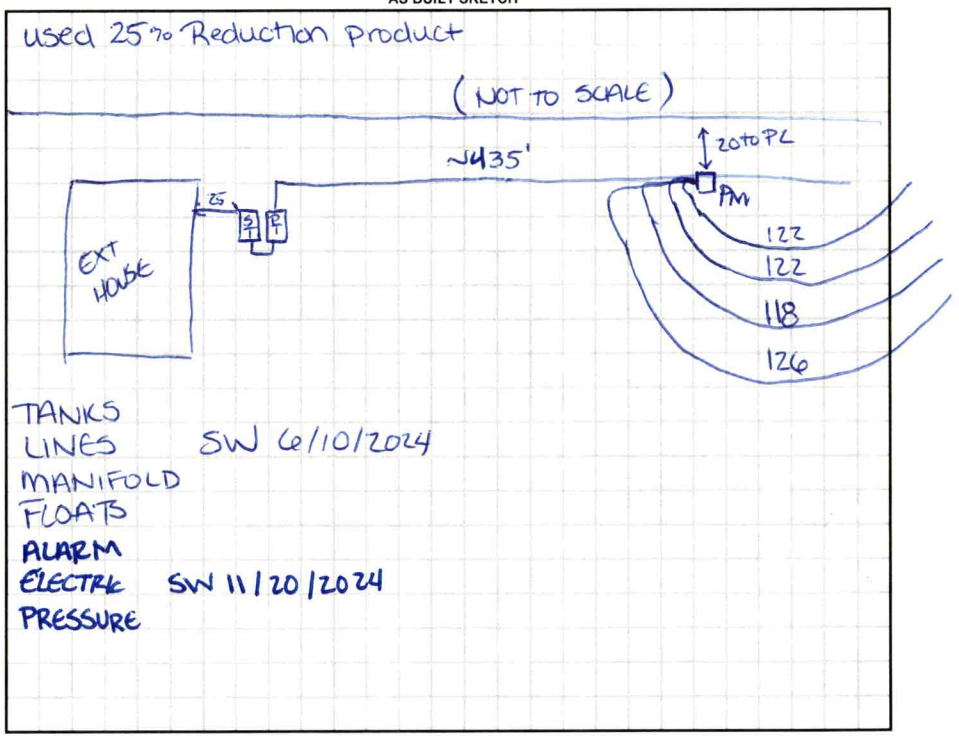
INITIAL SITE SKETCH

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

Alan Clapp

LSS# 1058 / 10017E ADWE

AS BUILT SKETCH



Permit can be suspended or revoked if any false information is supplied toward securing the permit / any unauthorized changes are made to the site / any unauthorized changes are made in the installation of the system. CONTACT A LOCATOR SERVICE PRIOR TO ANY EXCAVATION

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

Owner / Applicant Signature: Date:

IMPROVEMENT PERMIT by: D.meben Date: 11/1/23

AUTHORIZATION TO CONSTRUCT by: D.meben Date: 11/1/23

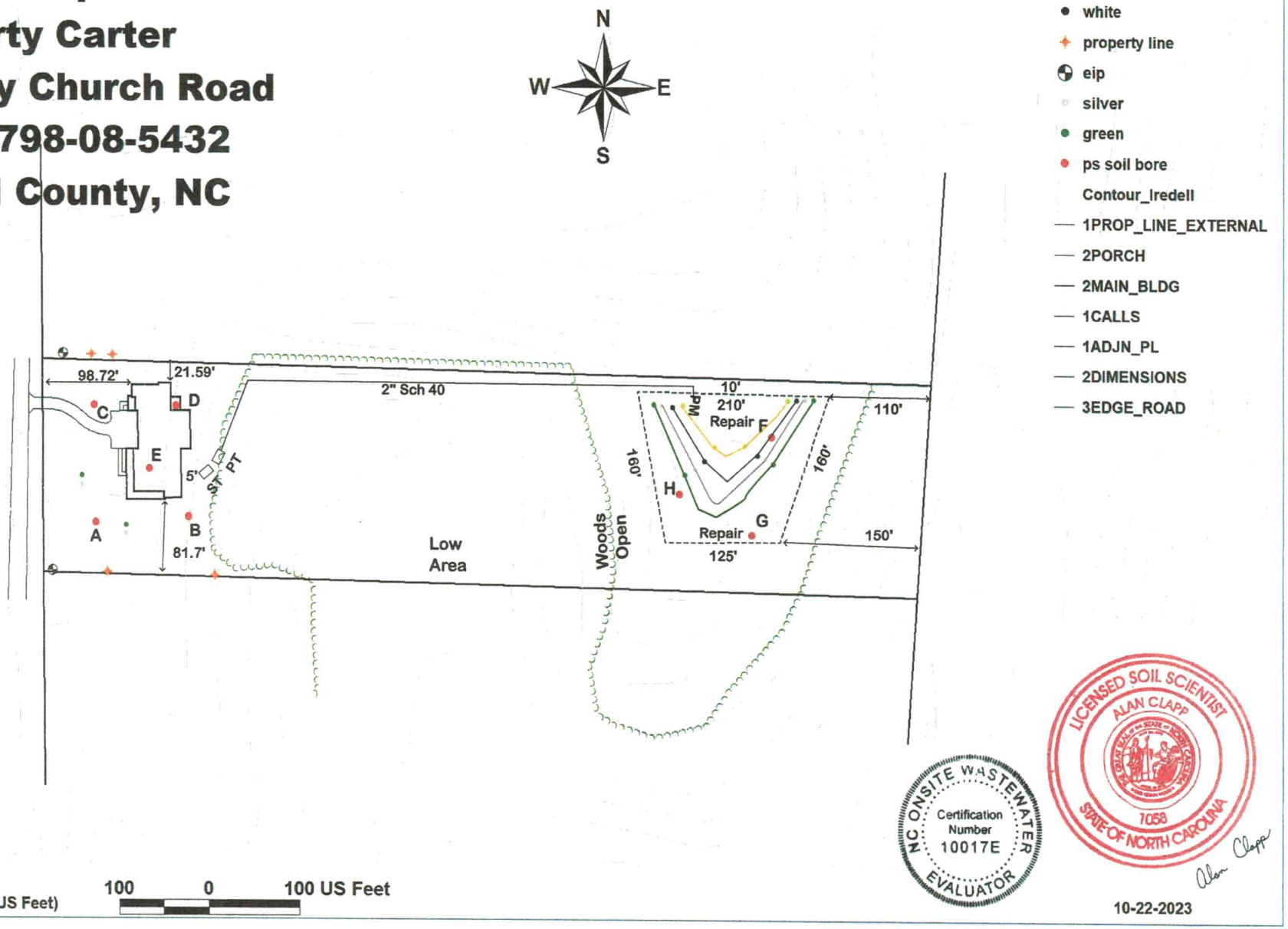
Installed By: Brian McDaniel

OPERATION PERMIT by: Sarah Williams Date: 11/20/2024

Existing System Inspected By: Date:

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

Soil Map for:
Marty Carter
0 Society Church Road
PIN: 4798-08-5432
Iredell County, NC



NC ONSITE WASTEWATER EVALUATOR
Certification Number 10017E

LICENSED SOIL SCIENTIST
ALAN CLAPP
1058
STATE OF NORTH CAROLINA

10-22-2023

Permit #: _____

NC DEPARTMENT OF HEALTH AND HUMAN SERVICES

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

Submittal Includes: [X] (a2) Improvement Permit [X] (a2) Construction Authorization [ ] Fee $_____

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

County: Iredell

PIN/Lot Identifier: Parcel: 4798-08-5432 – 5 Acres

Issued To: Marty Carter

Property Location: 1950 Society Church Road

Subdivision (if applicable) James Gaither Lot #: 5 Block: _____ Section: _____

LSS Report Provided: Yes [X] No [ ]

If yes, name and license number of LSS: Alan Clapp LSS 1058

New [X] Expansion [ ] System Relocation [ ] Change of Use [ ]

Proposed Structure: Residential single family dwelling

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

Design Wastewater Strength: [X] domestic [ ] high strength [ ] industrial process

Proposed Design Daily Flow: 480 GPD Proposed LTAR (Initial): .25 Proposed LTAR (Repair): .25

Proposed Wastewater System Type*: IIIb (Initial) Pump Required: [X] Yes [ ] No [ ] May be required

Proposed Wastewater System Type*: IIIbg (Repair) Pump Required: [X] Yes [ ] No [ ] May be required

**Please include system classification for proposed wastewater system types in accordance with 15A NCAC 18A .1961 Table V(a)*

Saprolite System (initial): [ ] Yes [X] No Saprolite System (repair): [ ] Yes [X] No

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

Usable Soil Depth (Initial): 41" Usable Soil Depth (Repair): 41"

Max. Trench Depth (Initial)‡: 29" Max. Trench Depth (Repair)‡: 29" ‡ ***Measured on the downhill side of the trench***

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

Type of Water Supply: [ ] Private well [ ] Public well [ ] Shared well [X] Municipal Supply [ ] Spring [ ] Other: _____

Drainfield location meets requirements of Rule .1945: Yes [X] No [ ] Drainfield location meets requirements of Rule .1950: Yes [X] No [ ]

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

Permit conditions: see attached

Licensed Soil Scientist Print Name: Alan Clapp

Licensed Soil Scientist Signature: Alan Clapp Date: 10/22/2023

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

See attached site sketch

Permit #: OSWP-2023-40126

This Section for Local Health Department Use Only

Initial submittal received: 10/31/23 *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: DWisberg Date: 11/1/23

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 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 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 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 evaluations, submittals, or actions from a licensed soil scientist or licensed geologist pursuant to GS 130A-335(a2).

Improvement Permit Expiration Date: 11/1/28

See attached site sketch

NCDHHS

Permit #: OSWP-2023-40126

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

County: Iredell

PIN/Lot Identifier: Parcel: 4798-08-5432 – 5 Acres

Issued To: Marty Carter

Property Location: 1950 Society Church Road

AOWE/PE Plans/Evaluations Provided: Yes [X] No [ ] If yes, name and license number of AOWE/PE: Alan Clapp 10017E

Facility Type: Residential Single Family Dwelling

[X] New [ ] Expansion [ ] Repair [ ] System Relocation [ ] Change of Use

Basement? [ ] Yes [X] No Basement Fixtures? [ ] Yes [ ] No

Type of Wastewater System* IIIb (Initial) IIIbg (Repair)

**Please include system classification for proposed wastewater system types in accordance with 15A NCAC 18A .1961 Table V(a)*

Design Daily Flow: 480 GPD Wastewater Strength: [X] domestic [ ] high strength [ ] industrial process

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

Installation Requirements/Conditions

Septic Tank Size: 1000 gallons Total Trench/Bed Length: 640 feet Trench/Bed Spacing: 9 feet on center

Trench/Bed Width: 3 inches LTAR: .25 gpd/ft²

Soil Cover: 6 inches Slope Corrected Maximum Trench/Bed Depth‡: 29 inches ‡ ***Measured on the downhill side of the trench***

Aggregate Depth: 2 inches above pipe 6 inches below pipe 12 inches total

Pump Tank Size (if applicable): 1000 gallons Requires more than 1 pump? [ ] Yes [X] No

Pump Requirements: _____ ft. TDH vs. 25 GPM Grease Trap Size (if applicable): _____ gallons

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

Artificial Drainage Required: Yes [ ] No [X] 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 [X] No

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

Declaration of Restrictive Covenants: [ ] Yes [X] No

Pre-Construction Conference Required: Yes [ ] No [X]

Conditions: Septic is laid out. Installer is to reestablish layout after any clearing.
Preconstruction recommended with installer and LHD prior to install
TDH based on final plumbing stub and pump location.

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

AOWE/PE Print Name: Alan Clapp Expiration Date: 10/22/2028

AOWE/PE Signature: Alan Clapp Date: 10/22/2023

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

See attached site sketch

Permit #: OSWP-2023-40126

This Section for Local Health Department Use Only

Initial submittal received: 10/31/23 (*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: DWisberg Date of Issuance: 11/1/23

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: 11/1/28

See attached site sketch

Site Conditions for Improvement Permit and Construction Authorization:

1. If 25% Accepted trench is substituted for conventional trench, Place washed, clean #5 stone over chamber louvers prior to backfilling the trench with soil. See detail.
2. Construct protective fencing around the soil area and septic layout to protect from grading, compaction, and construction traffic. Storage of materials, cuts and fill over septic area could result in revocation of the permit. Recommend forestry mulching to clear any wooded septic area versus tracked vehicles over the area.
3. No vertical cuts of 2' or more within 15' of designated septic area.
4. Contact NC 811 prior to any digging.
5. Divert all surface water around system and repair area including gutter and foundation drains. Install surface diversion swales as needed. Install system during dry soil conditions.
6. Install system in area noted at the trench depth specified. Final plumbing stub out elevation will determine if gravity or pump system is required. Reestablish septic layout after clearing and prior to construction.
7. Submit the attached common form, report, and map with signature and an application(if required) to the Health Department.

Alan Clapp
Licensed Soil Scientist
405 N. Churton Street
Hillsborough, NC 27278
Phone: 336-202-6808 **alanclapp63@gmail.com**
Soil/Site Evaluations-Septic Systems Layout and AOWE Design-Storm Water Assessment-Preliminary Evaluations

October 22, 2023

Marty Carter
martincarter1229@gmail.com

RE: 1950 Society Church Road Property
Lot 5 James Gaither S/D
Parcel: 4798-08-5432 – 5 Acres
Iredell County, NC

Mr. Carter:

On August 15, 2023, and October 22, 2023, the property referenced above in Iredell County was evaluated to facilitate Improvement Permit/Construction Authorization permitting for a septic system. This report and attached documents were prepared to meet the requirements for a Licensed Soil Scientist evaluation and AOWE design to meet **G.S. 130A-335 (a2)/SL 2023-90.** Public water is proposed to serve as the water supply for the dwelling. Any existing well setbacks must meet **15A NCAC 02C .0107** requirements and any more stringent local Iredell County well regulations.

Soil borings were made and examined to determine soil suitability for on-site sewage disposal systems in accordance with **15A 18A .1900 Rules for Sewage Treatment and Disposal Systems**. These borings were made using a hand auger. The property was traversed, and numerous borings were made in a transect-type sampling pattern to perform the soil/site evaluation. A septic layout is shown to demonstrate available space (.1945). The soil profile descriptions and locations along with the septic layout drawing will be located on a copy of the site plan. Under state regulations, sites for subsurface sewage disposal systems (septic tank systems) are evaluated for landscape position and topography, soil characteristics (structure, mineralogy, and texture), soil depth, soil wetness, restrictive horizons, and available space. The property is in the Piedmont region of NC and the geologic area of the Cat Square Terrane.

Typical Septic System used in Piedmont of NC:

The most common septic systems used in North Carolina are listed with the corresponding minimum usable soil depth required and any trench length reduction if allowed noted in parentheses: conventional (30"), shallow conventional systems (24" with soil cap), chamber systems (24" with soil cap and 25% drain field reduction), polystyrene systems (24" with soil cap and 25% drain field reduction), vertical panel block systems (requires at least 34" of usable soil and allows 50% drain field reduction),

horizontal panel block systems (requires 26" of usable soil depth and allows 50% drain field reduction), large diameter pipe (24"), low pressure pipe (24"), low profile chamber (20"), low pressure fill (18") and drip irrigation (18"). A pump can be used to deliver effluent to the usable soil area if gravity flow cannot be achieved. Also, a pump is required on any system with over 750' of drain field. The percent reduction means the amount of drain field trench length reduction for that product as compared to conventional trenches. Certain models of chamber systems and polystyrene bundle systems are considered accepted trench products. Accepted trench products may be substituted in lieu of conventional gravel trenches.

Septic System Setbacks (From *15A NCAC 18A .1950 Location of Sanitary Sewage Systems*):

The following setbacks must be taken into consideration in identifying a septic system area for flows less than 3000 gallons per day.

Private Water Supply Source: wells or springs:	100'
Private Water Supply Source with site-planning considerations:	50'
Public Water Supply Source:	100'
WS-1 Streams:	100'
SA Coastal waters:	100'
Other coastal waters:	50'
Other streams, canals, marshes, or surface waters:	50'
Class I and II reservoirs:	100'
Permanent Storm Water retention ponds:	50'
Building foundation:	5'
Basement:	15'
Property line:	10'
Embankments or vertical cuts > 2' deep:	15'
Any water line:	10'
Drains:	
Interceptor, Foundation, and storm	
Upslope:	10'
Side slope:	15'
Down slope:	25'
Groundwater lowering ditches:	25.'
Swimming pool:	15'
Any other nitrification field:	20'

SL 2023-90 Conditions and Site Features:

The information below is provided to facilitate the IP/CA issuance. The water supply is proposed to be well water. One additional feature I would recommend is to **construct protective fencing around the soil area and septic layout**. No grading, filling, storage, compaction, or disturbance should be allowed over the soil/septic area. No soil removal from septic area during clearing.

1950 Society Church Road

Soil Series: Fairview (Fine, kaolinitic, mesic Typic Kanhapludults)

Bedrooms: 4, single family dwelling not to exceed 8 people

Design Flow: 4-bedroom x 120 gpd/bedroom = 480 gpd, domestic strength wastewater

Tankage: (.1952 (b)(1):

For a 4-bedroom dwelling, the minimum septic tank size is 1000-gallon septic tank (STB) capacity with effluent filter. Use a 1000-gallon septic tank. Pump Tank shall be equal to septic tank or use .1952 (c)(1)(D) formula, use a minimum 1000-gallon pump tank (PT). Use a top seam pump tank.

Soil/Site Conditions:

Initial LTAR: .25 gpd/ft²
Trench Bottom Square Footage Required: 480 gpd/.25 gpd/ft² = 1920 ft²
Drainfield Requirement: 1920 ft²/ 3 ft trench = 640 ft.
System Requirement:

Conventional:	640'
Accepted Trench (Chamber or EZ Flow):	480'
PPBPS (T & J panel block):	320'

Usable Soil Depth - Initial: 41" (Based on borings F, G, H in the usable soil area and slope corrected)
Initial System Type: Pump to Conventional trench (IIIb)
Initial Trench Required: 640' x 3' Conventional Trench
Minimum Trench Depth: 18"
Maximum Trench Depth: 29"

Repair LTAR: .25 gpd/ft²
Trench Bottom Square Footage Required: 480 gpd/.25 gpd/ft² = 1920 ft²
Drainfield Requirement: 1920 ft²/ 3 ft trench = 640 ft.
System Requirement:

Conventional:	640'
Accepted Trench (Chamber or EZ Flow):	480'

PPBPS (T & J panel block): 320'

Usable Soil Depth - Repair: 41" (Based on borings F, G, H in the usable soil area and slope corrected)

Repair System Type: Pump system to 25% Accepted Trench (IIIbg)

Repair Trench Required: 480' x 3'

Minimum Trench Depth: 18"

Maximum Trench Depth: 29"

Septic Layout:

Line	Color	Length
1	Yellow	160'
2	White	215'
3	Silver	266'
4	Green	308'
Total:		**949'**

1. Initial system – 640' needed Conventional Trench
2. **Use Lines 1-4 for initial installation.**
3. Repair system – 480' needed 25% Accepted Trench reserve.
4. Line lengths measured with Bluebeam Measuring tool.
5. Meets .1945 Available Space requirements.
6. Lines at 9' on center at minimum.

System Distribution: Pressure manifold

Pressure Manifold Tap Requirements:

Line	Color	Layout Length	Length Used	Tap Dia.	Tap Sch.	Tap Flow[1] (gpm)	Flow/Foot
1	Yellow	160'	160'	½"	80	5.5	.034
2	White	215'	160'	½"	80	5.5	.034
3	Silver	266'	160'	½"	80	5.5	.034
4	Green	308'	160'	½"	80	5.5	.034
Total:		**949'**	**640'**			**22**	

1. Tap Flows @ 2' Pressure Head
2. The pump shall be sized to deliver 25 gpm @ TDH determined by pump elevation and location and allows for vent hole (2 gpm) flow loss in pump tank.

Manifold, Dosing Volume, Drawdown:

Manifold Size 3 or 4" **Force Main Size** 2" PVC

Dosing Volume = **640'** X .46 = **294** Gallons (based on dose of ⅔ to ¾ trench pipe volume)
Length of Drainfield

Drawdown tether = **294** Gallons / Gallons per Inch of Pump Tank used = _____*"

Total Dynamic Head = _____* + _____*' + 2' = _____'* TDH
Elevation Head + Friction Loss + Pressure Head

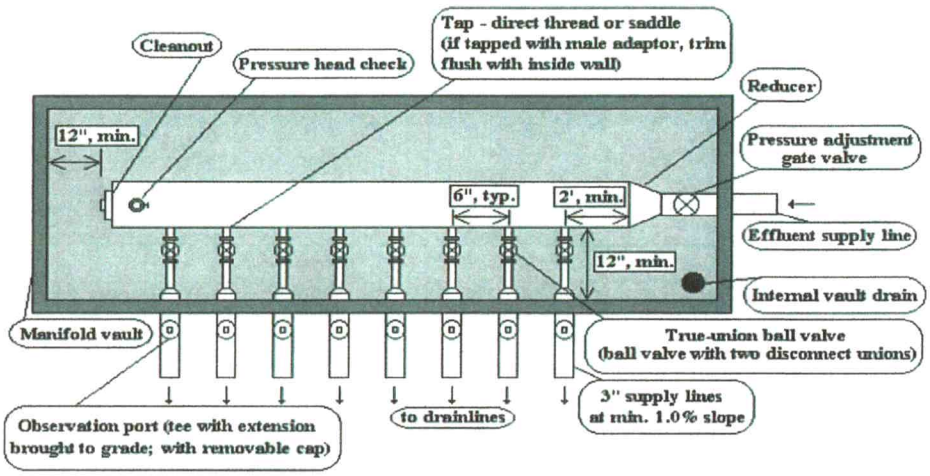
Pump Requirement **25** GPM @ _____* Head

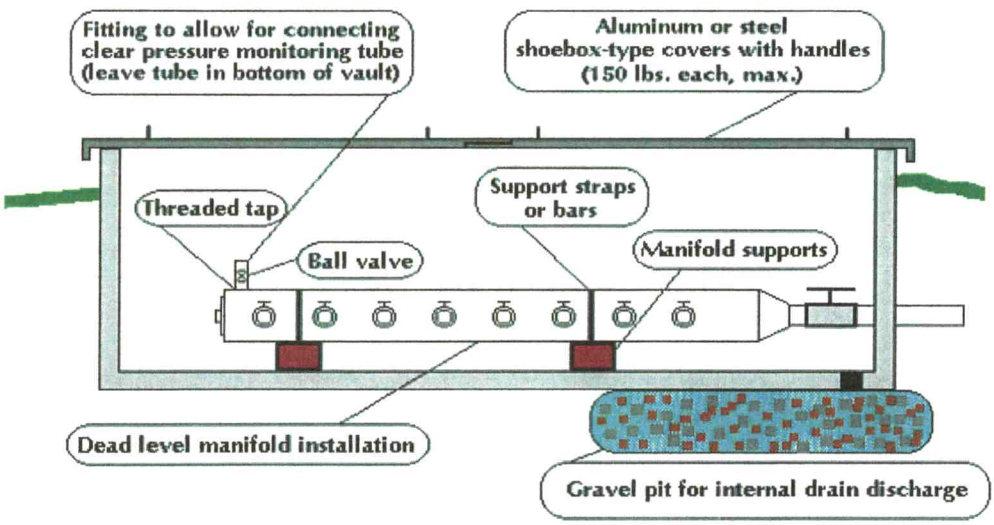
***To be determined at time of installation based on plumbing stub out elevation, pump tank placement and depth to "pump on/off" float**

Pump Supply Lines and Force Mains:

Meet .1950 (e) setbacks and .1952 design specifications. Any driveway crossing to meet .1950 (c).

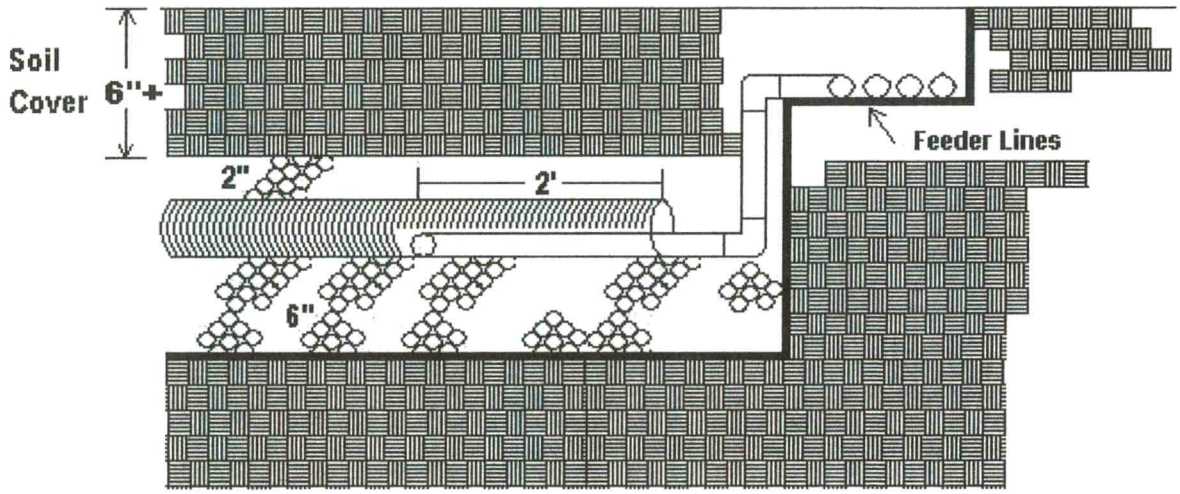
Profile View of Pressure Manifold for Sloping Site Installation (not to scale)





Project #: 723220

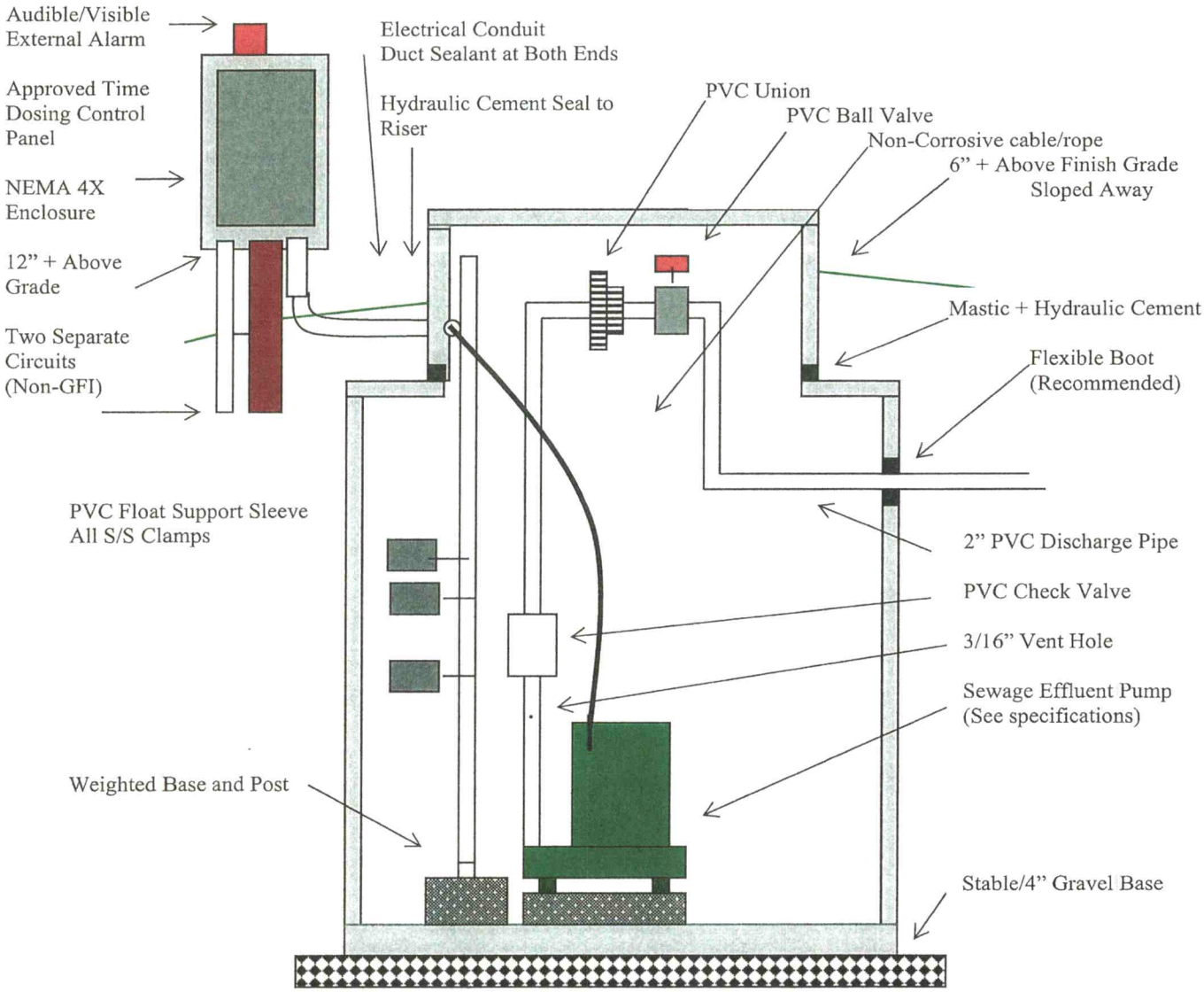
Typical Trench Cross Section When Pumping to a Manifold



Feeder lines should be elbowed down to gravel trench, accepted trench, or other trench product. Feeder line ditch should be higher than trench bottom to prevent backflow into feeder line trench (as shown).

Gravel over Chamber Louvers Detail:





TYPICAL PUMP TANK DETAIL SPECIFICATIONS

Not to Scale

- The Alarm shall be located adjacent to the pump tank and approved for outdoor locations (NEMA 4X or equal)
- The circuit serving the alarm shall be on a separate circuit from the pump.
- The control panel enclosure shall be mounted at least 3-5' above grade on a durable, sturdy, non-corrosive post such as a pressure treated 4X4.
- The floats shall be supported using non-corrosive materials separate from the discharge pipe. The float wire pivot points shall be secured with durable straps such as all stainless-steel clamps or equivalent. The floats should be strapped to a 2" removable PVC pipe sleeve located over a smaller diameter weighted standpipe. The floats shall be adjustable and replaceable without entering the tank or removing the pump. The pump off level shall be set to keep the pump submerged.
- Pipe penetrations shall be through approved flexible boots or sleeves. The riser and conduit shall be sealed to the tank with pliable mastic followed by a troweled coat of hydraulic cement.
- All piping shall be Schedule 40 minimum PVC. All fittings shall be PVC pressure fittings labeled NSF-PW. Valves and unions shall be located within 18" of the riser cover and should be Schedule 80 or equal.

The Control panel is required to be mounted adjacent to the pump tank. Recommend at a height to allow the Operator to work controls while standing. (e.g., center of panel to be 3 to 5 feet above finished grade) The alarm circuit shall be supplied ahead of the pump circuit overload device (on a separate circuit). The alarm shall be provided with a test button which activates both the light and horn. In the event of a high-water condition, activation of a "silence" switch will bypass the horn and leave the visual alarm on. Any recurrence of the high-water condition will automatically reactivate the horn and light. *Alarm panels that are mounted indoors may be used in addition to, but not instead of the exterior alarm panel.*

PUMP CONTROLS (FLOATS) Electrical control floats or similar devices designed for detecting effluent levels shall be supplied to activate and deactivate the pump. The pump-off elevation shall be set to keep the pump always submerged. A separate float to activate the high-water alarm shall be set to activate within 6 inches of the pump-on elevation. Underwriter's Laboratory or an equivalent third party electrical shall list the level sensing devices testing and listing agency.

The floats shall be supported utilizing durable, corrosion resistant material, and shall be adjustable, removable, and replaceable without requiring dewatering, entrance into the tank, or pump removal. An acceptable method would be to provide a PVC vertical weighted pipe with the float cables secured at the proper elevation using **"all stainless steel" clamps at the float pivot points**. *Care must be taken to ensure that the sharp edge of the clamp does not bear on the wire insulation. Plastic tie-wraps alone, or strapping floats to the discharge pipe are not acceptable.*

CONDUCTORS (WIRES) shall be conveyed to the disconnect enclosure through waterproof, gasproof, and corrosion-resistant conduits. Wire grips, duct seal, or other suitable material shall be used to seal around wire and wire conduit openings. There shall be no splices within the pump tank or tank access riser.

When necessary or specified, the tanks and control panels shall be protected from vehicular traffic by constructing guardrails or bollards.

Conclusions:

In North Carolina, two primary options for septic system permitting exist. In the traditional option, the local county health department can evaluate and permit any site. A new version of the traditional permit is now allowed by NC Session Law 2023-90. In this version, a NC Licensed Soil Scientist can evaluate a lot and submit soil information on each lot to the Health Department in lieu of the Health Department evaluation. A Licensed Soil Scientist that is also an AOWE can submit the design elements for a Construction Authorization. In the traditional permitting model, the county in the form of an Improvement Permit grants site approval. A Construction Authorization for a Wastewater System is issued once building floor plans are reviewed and the Improvement Permit is issued. The county issues an Operation Permit after the system has been installed to meet the specifications of the Authorization to Construct. Septic layouts and system design can be performed as needed. The private permitting option is the Engineer Option Permit (EOP). A NC Licensed Engineer, an NC Licensed Soil Scientist and a NC Registered Septic Installer can evaluate, design, and install a septic system without Health Department involvement other than record keeping.

The attached soil map and septic layout map is based on soil boring, property iron and flag locations collected using an EOS Arrow Gold GPS and iCMTGIS Pro app and then

overlain with the Iredell County topo shapefiles available from NC OneMap. PCGIS X software was then used to prepare the maps and site plan. The house site was marked with flags and located by GPS. CAD provided by Allied Surveying. A one inch to 100' version of the septic map will be provided. The map is scaled to print on 11" x 17" (Tabloid) paper in Landscape format. The GPS locations can be accurate to submeter, but county GIS shapefile layers should not be considered as accurate as survey located features, points, and property lines. Any property corners found were collected and are noted on the soils map.

Site Conditions for Improvement Permit and Construction Authorization:

1. If 25% Accepted trench is substituted for conventional trench, Place washed, clean #5 stone over chamber louvers prior to backfilling the trench with soil. See detail.
2. Construct protective fencing around the soil area and septic layout to protect from grading, compaction, and construction traffic. Storage of materials, cuts and fill over septic area could result in revocation of the permit. Recommend forestry mulching to clear any wooded septic area versus tracked vehicles over the area.
3. No vertical cuts of 2' or more within 15' of designated septic area.
4. Contact NC 811 prior to any digging.
5. Divert all surface water around system and repair area including gutter and foundation drains. Install surface diversion swales as needed. Install system during dry soil conditions.
6. Install system in area noted at the trench depth specified. Final plumbing stub out elevation will determine if gravity or pump system is required. Reestablish septic layout after clearing and prior to construction.
7. Submit the attached common form, report, and map with signature and an application(if required) to the Health Department.

NC Licensed Soil Scientist statement:

This LSS Evaluation is being submitted pursuant to and meets the requirements of GS. 130A-335 (a2).

NC Onsite Wastewater Evaluator statement (AOWE):

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

Please feel free to contact me if you have any further questions.

Alan Clapp

Alan Clapp

NC Licensed Soil Scientist #1058
NC Registered Environmental Health Specialist #1118
NC Subsurface Wastewater Operator #1009092
NC Authorized Onsite Wastewater Evaluator #10017E





GENERAL DRAINFIELD REQUIREMENTS AND BEST CONSTRUCTION PRACTICES

1. Any clearing or preparation of the nitrification field shall be done without removal, disturbance, or compaction of soil. The contractor shall establish and stake the contour lines of the drainfield area before the installation and before the preconstruction conference, when required. **Tree or sediment protective fencing shall be installed around septic area to eliminate construction traffic and soil compaction on septic area.**

2. Drainfield trenches shall be installed level and shall follow the ground contours. An engineer's level or laser shall be used in staking and constructing the lines. Trench depth shall not exceed the maximum specified by the Construction Authorization, unless otherwise specified, (i.e., ultra-shallow systems). Trench installation specifications from product manufacturers shall be followed.

3. No construction or backfilling shall be done when soil conditions are wet enough to cause a smearing or compaction of the soil in the drainfield or repair area.

Project #: 723220

4. The pipe between the septic tank and drainfield, or between the septic tank and pump tank shall be a minimum of 3" schedule 40 PVC or equivalent, with a minimum fall of 1/8" per foot. All joints from the septic tank to the drainfield shall be watertight. The pipe shall be on a firm, stable surface and secured. There shall be a 2' dam of undisturbed earth before a gravel trench begins. All other trench types per manufacturer. The pipe shall then be inserted at least 2' into the corrugated pipe. A cleanout to the ground surface shall be located at the end of the gravity pipe (the beginning of the drainfield) when the drainfield is over 50' from the tank.

5. The trench bottoms shall be smoothed and level with loose soil removed.

6. When necessary to change to a new contour, a step-down shall be constructed of a 2' **undisturbed** earth dam, which is raised to an elevation equal to the upstream gravel surface. However, precautions shall be taken to prevent raising the level of the effluent in the tank. Schedule 40 pipe (3" minimum) shall be used in crossing dams. Fittings will be needed to make the turns. The rigid pipe shall extend at least 2 feet into the level portion of the corrugated pipe. Area taken up by dams and step-downs shall not count as part of the footage required. *For accepted trench products and Panel Block products, use manufacturer's specifications.*

7. The soil cover over the drainfield shall be to a depth of at least 6". Boulders should be removed from the backfill material to prevent damage to the pipe. The finished grade shall be smoothed to prevent ponding of surface water over the drainfield. Surface water from upslope, including foundation and gutter drains, shall be effectively diverted away.

8. A vegetative cover of grass over the drainfield shall be established after final grading to prevent soil erosion. Divert all surface water and gutter drainage around system.

Installation and Testing Recommendations and Best Practices:

1. A pre-construction conference is recommended to be attended by the installer and health department prior to beginning construction of the system.
2. For Accepted trench products use manufacturer's specifications for installation. The Installer should be certified in writing by the manufacturer.
3. The septic tank, dosing tank, risers and pipe penetrations shall be demonstrated to be watertight by a 24-hour leak test (no measurable leakage in 24 hours). The test shall be run with riser's inlet/outlet pipes installed.
4. Care shall be taken during installation to prevent extraneous debris from entering tanks, supply lines or distribution network. Supply lines and manifold shall be flushed prior to system start-up.
5. For pump dosed systems, a pump delivery rate shall be measured, and the floats adjusted according to the measured delivery rate to achieve the design flow at design head. All other mechanical components, pump(s), pump cycling, filters, etc., as applicable must be demonstrated to be fully operable in accordance with their design.

6. Install water line, electrical lines and other buried utilities around septic and repair areas.
7. Keep repair areas free of parking and any future construction. Maintain grass cover over drainfield and repair areas.
8. Any proposed Septic Tank, Pump Tank and Pressure Manifold locations are at the discretion of the Health Department at the time of the preconstruction conference.
9. Call NC 811 to mark any utilities prior to digging.
10. Estimated Septic Tank pumping frequency:

Table I. Septic Tank Pumping Frequency in Years

Septic Tank Size Gallons / Liters	Household size - Number of Occupants									
	1	2	3	4	5	6	7	8	9	10
	Septic Tank Pumping Frequency in Years									
500 gallons * / 1890 liters	5.8	2.6	1.5	1.0	0.7	0.4	0.3	0.2	0.1	--
750 * / 2840	9.1	4.2	2.6	1.8	1.3	1.0	0.7	0.6	0.4	0.3
900 / 3400	11.0	5.2	3.3	2.3	1.7	1.3	1.0	0.8	0.7	0.5
1000 / 3800	12.4	5.9	3.7	2.6	2.0	1.5	1.2	1.0	0.8	0.7
1250 / 5000	15.6	7.5	4.8	3.4	2.6	2.0	1.7	1.4	1.2	1.0
1500 / 5500	18.9	9.1	5.9	4.2	3.3	2.6	2.1	1.8	1.5	1.3

NC DHHS Division of Public Health Onsite Water Protection:
Understanding and Protecting Septic Systems

Septic System Resources form NC State Agricultural Extension:
https://content.ces.ncsu.edu/septic-systems-and-their-maintenance
https://content.ces.ncsu.edu/septic-system-owners-guide

Accepted Trench Products: https://ehs.ncpublichealth.com/oswp/approvedproducts.htm

T and J Panel Resources: http://www.tjpanel.com/installation-manual.html

OSWP-2023-40126 Sheet 1 of

PROPERTY ID #: [redacted]

COUNTY: IREDELL

PIN: 4798-08-5432

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

OWNER: William G. Gibson

ADDRESS: 271 SOCIETY ROAD STATESVILLE NC 28625 -

APPLICATION DATE

DATE EVALUATED:

PROPOSED FACILITY: SFD

PROPOSED DESIGN FLOW (.1949): 480 gpd

PROPERTY SIZE: [redacted] Acres: 5

LOCATION OF SITE: [redacted] Lot #

PROPERTY RECORDED:

WATER SUPPLY: Private x Public Well Spring Other

EVALUATION METHOD: x Auger Boring Pit Cut

TYPE OF WASTEWATER: x Sewage Industrial Process Mixed

Boring/Pit/Cut #	A	B	C	D	E	F	G	H
Landscape position (.1940)	R	L	R	L	R	R	R	R
Slope % (.1940)	3	5	3	5	3	5	5	5
H1 depth (.1943)	0-10	0-6	0-11	0-7	0-10	0-2	0-8	0-7
H1 texture (.1941)	scl	scl	scl	scl	scl	l	scl	scl
H1 consistence (.1941)	fr	fr	fr	fr	fr	vfr	fr	fr
H1 structure (.1941)	gr	gr	gr	gr	gr	gr	gr	gr
H1 mineralogy (.1941)	sc	sc	sc	sc	sc	sc	sc	sc
H2 depth (.1943)	10-48	6-40	11-48	7-38	10-48	2-29	8-29	7-33
H2 texture (.1941)	c	c	c	c	c	c	c	c
H2 consistence (.1941)	fi	fi	fi	fi	fi	fi	fi	fi
H2 structure (.1941)	sbk	sbk	sbk	sbk	sbk	sbk	sbk	sbk
H2 mineralogy (.1941)	sc	sc	sc	sc	sc	sc	sc	sc
H3 depth (.1943)		40-48		38-48		29-48	29-43	33-48
H3 texture (.1941)		c		c		c	c	c
H3 consistence (.1941)		fi		fi		fi	fi	fi
H3 structure (.1941)		sbk		sbk		sbk	sbk	sbk
H3 mineralogy (.1941)		sc		sc		sc	sc	sc
H4 depth (.1943)							43	
H4 texture (.1941)							SAP	
H4 consistence (.1941)								
H4 structure (.1941)								
H4 mineralogy (.1941)								
Soil wetness (.1942)								
Saprolite (.1941/.1956)								
Notes:		x-2"		x-2"		x-2	x-2	x-2
Usable soil depth	48"	46"	48	46	48"	46"	41"	46"
Profile Class	PS	PS	PS	PS	PS	PS	PS	PS
LTAR (.1955)	.3	.3	.3	.3	.3	.25	.25	.25
Evaluation Date	8-15-23	8-15-23	8-15-23	8-15-23	8-15-23	10-22-23	10-22-23	10-22-23

DESCRIPTION	INITIAL SYSTEM	REPAIR SYSTEM
Available Space (.1945)	S	S
System Type(s)	IIIbg	IIIbg
Site LTAR	.25	.25

OTHER FACTORS (.1946):

SITE CLASSIFICATION (.1948): PS

EVALUATED BY: Alan Clapp, LSS, REHS

OTHER(S) PRESENT: Kip Ledbetter

COMMENTS: FAIRVIEW SERIES

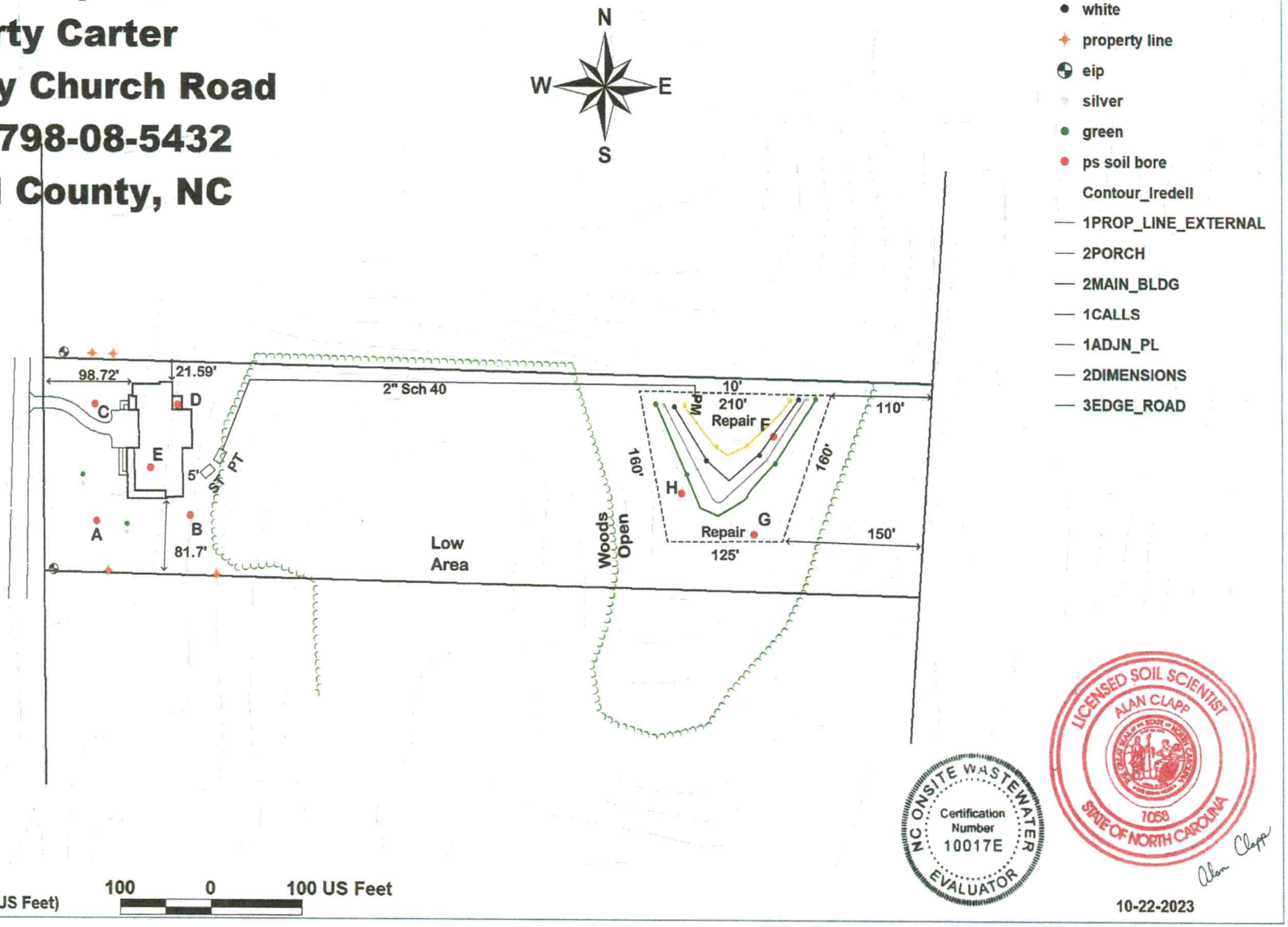
Updated February 2014

x - slope correction(")

* reclassified provisionally suitable using .1955 (m), .1956 (1) & .1970

Lot # 5 JAMES GAITHER S/D PB 31 PG 102

Soil Map for:
Marty Carter
0 Society Church Road
PIN: 4798-08-5432
Iredell County, NC



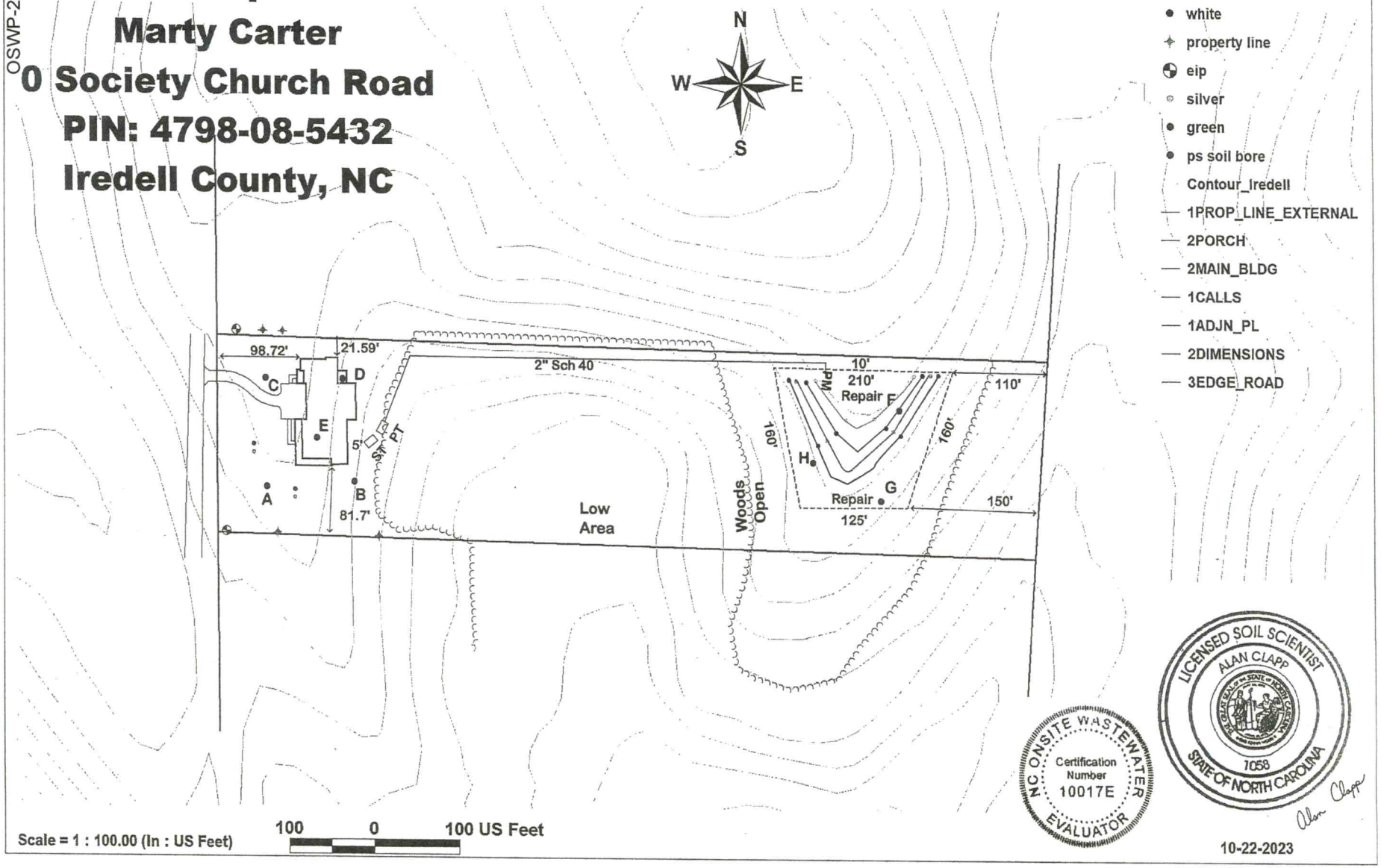
NC ONSITE WASTEWATER EVALUATOR
Certification Number
10017E

LICENSED SOIL SCIENTIST
ALAN CLAPP
1058
STATE OF NORTH CAROLINA

10-22-2023

OSWP-2023-40126

Soil Map for:
Marty Carter
0 Society Church Road
PIN: 4798-08-5432
Iredell County, NC



N.C. ONSITE WASTEWATER EVALUATOR
Certification Number
10017E

LICENSED SOIL SCIENTIST
ALAN CLAPP
7058
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10-22-2023