Davis CivilSolutions, PA

Post-Construction Conference Waiver Request

I, Gary D. Davis, PE, Engineer for the project identified below, do hereby request that the post-construction conference for the wastewater system for the referenced project be waived.

Big Hills at Horse Shoe, Lot 13
Project Name

Engineer Signature

Date 9/19/24

I, Bogdan Boychenko, Owner of the project identified above, approve of the request of the Engineer to waive the post-construction conference for the wastewater system referenced above.

Owner Signature

Date 09/05/24

Engineering/Planning • Site/Infrastructure
135-A Charlotte Highway • Asheville, North Carolina 28803 • 828.299.9449 PH
info@cvlsol.com EMAIL

PART 3: **Authorization to Operate (ATO)**

LHD USE ONLY: Initial submittal of this ATO received: ____________________ by ____________
Date *Initials*

The following items are included in this Authorization to Operate for an EOP:

		Yes	No
1.	Signed and sealed copy of the Engineer's report that includes the information in G.S. 130A-336.1(k)(1)	☑ Yes	☐ No
2.	Operation and management program and ORC contract, if applicable	☑ Yes	☐ No
3.	Letter documenting Owner's acceptance of the system from the PE	☑ Yes	☐ No
4.	Owner meets requirements control of the system per 15A NCAC 18E .0301(b)	☑ Yes	☐ No
5.	Easement, right of way, or encroachment agreement required per 15A NCAC 18E .0301(c)	☐ Yes	☑ No
6.	Multi-party agreements required, as applicable, per 15A NCAC 18E .0204(g)	☐ Yes	☑ No

If yes, agreements filed in ________________ County Register of Deeds in Deed Book ______ Page _____

Attestation by the Owner or the PE for Authorization to Operate

I, GARY D. DAVIS, P.E. hereby attest that all items indicated above have been provided
Print name of Owner or Professional Engineer
and the system meets applicable federal, State, and local laws, regulations, rules, and ordinances in accordance with G.S. 130A-336.1(e)(6).

_______________________________ 9/19/24
Signature of Owner or Professional Engineer *Date*

NORTH CAROLINA PROFESSIONAL SEAL 12296 ENGINEER GARY DEAN DAVIS

NOTES:
LIABILITY: The Department, the Department's authorized agents, or local health departments shall have no liability for wastewater systems designed, constructed, and installed pursuant to an Engineer Option Permit [G.S. 130A-336.1].

Davis CivilSolutions, PA

Septic System Project

BIG HILLS AT HORSE SHOE, LOT #13

Engineer Certification Form

By the signature below, I certify:

The referenced septic system project has been completed in substantial compliance with the approved engineering plans and specifications, including provisions stipulated in the Department of Health and Human Services, Division of Public Health's Authorization to Construct, and in accordance with 15A NCAC 18A.1938(h), and is ready to operate.

This is a: ___X___ Full certification (**Lot#13**)

________ Partial certification, covering ________

This certification is based upon inspections conducted (select one):

________ Daily

________ Continually

___X___ Periodically

By: ________ Myself

___X___ Staff under my responsible charge

Seal: NORTH CAROLINA PROFESSIONAL SEAL 12296 ENGINEER GARY DEAN DAVIS

Engineer Signature: ________ Engineer Name: Gary D. Davis

Project Name: Big Hills at Horse Shoe, Lot 13 Date: September 19, 2024

135-A Charlotte Highway • Asheville, North Carolina 28803 • 828.299.9449 PH
info@cvlsol.com EMAIL

Septic System Project

BIG HILLS AT HORSE SHOE, LOT #13

On-Site Wastewater Contractor Certification Form

By the signature below, I certify:

The referenced septic system project has been constructed in substantial compliance with the approved engineering plans and specifications, including provisions stipulated in the Department of Health and Human Services, Division of Public Health's Authorization to Construct, and in accordance with 15A NCAC 18A.1938(h), and is ready to operate.

This is a: __X__ Full certification (**Lot#13**)

______ Partial certification, covering ______

Seal:

Contractor Signature: ______ Contractor Name: Andrei Sargarovschi

Project Name: Big Hills at Horse Shoe, Lot 13 Date: 9.5.24

Davis CivilSolutions, PA

Septic System Project

BIG HILLS AT HORSE SHOE, LOT #13

Owner Acceptance of System From Engineer

The referenced septic system project has been completed in substantial compliance with the approved engineering plans and specifications, including provisions stipulated in the Department of Health and Human Services, Division of Public Health's Authorization to Construct, and in accordance with 15A NCAC 18A.1938(h). The system has been certified by the Engineer and the Contractor and is ready to operate.

By the signature below, I hereby accept the septic system as installed for the above referenced lot, from the Engineer and beginning at the date indicated below, shall own, operate, and maintain the installed system in accordance with the requirements of the Henderson County Department of Environmental Health.

IN WITNESS WHEREOF, the Owner has duly executed the foregoing as of the day and year first written.

Owner: Bogdan Boychenko

Date: 09/05/24

I, Melinda S. Keever, a Notary Public for Buncombe Co., NC do hereby certify that Bogdan Boychenko personally appeared before me this day and acknowledged the due execution of the foregoing instrument. Witness my hand and official seal, this the 5th day of September, 2024.

Signed: Melinda S. Keever
Notary Public

Printed Name: Melinda S. Keever

My Commission Expires: 10.27.2028

MELINDA S. KEEVER
NOTARY
PUBLIC
BUNCOMBE COUNTY, NC

Notary Seal

Septic System Project

BIG HILLS AT HORSE SHOE, LOT #13

Operation & Maintenance Plan
Septic System (Pumped System)

1. The septic system generally consists of a 1000-gallon septic tank, a 1000-gallon dosing tank consisting of one (1) pump, audible and visual alarm system, 2" diameter PVC Schedule 40 piping connecting to a distribution box which distributes the wastewater flow to the individual septic field lines, and 150 feet of vertical panel block drain line in the drain field.

2. Visually inspect the drain field semi-annually for leakage as evidenced by wet ground and/or odors in the areas of soft, wet soils.

3. Prevent erosion of the drain field surface by maintaining adequate vegetative cover and direct surface storm water runoff and roof drain discharge away from the drain field.

4. Remove high and excessive vegetation atop the drain field and maintain removal as part of the normal lawn maintenance program. Do not plant trees or shrubs over the septic drain field.

5. Restrict excessive water being discharged into the septic system. (Typical water use is about 50 gallons per day for each person in the family.)

6. Restrict materials (chemicals, sanitary napkins, applicators, and so on) other than domestic wastewater from being discharged into the septic system.

7. Restrict the use of garbage disposal.

8. Refrain from pouring grease or cooking oils down the sink drain.

9. The septic tank includes a T-shaped outlet which prevents sludge and scum from leaving the tank and traveling to the drain field area. If the bottom of the scum layer is within six (6) inches of the bottom of the outlet, or if the top of the sludge layer is within twelve (12) inches of the outlet, the tank needs to be pumped. Have septic tank pumped out every three (3) to five (5) years.

10. Have the effluent filter in the septic tank checked and cleaned by a professional every two (2) years.

11. The pump dosing tank consists of one (1) pump controlled by a float system which controls the pump operation. The lower float shuts off the pump, middle float activates the pump, and the upper float activates the alarm. Annually visually inspect the float cables to insure they hang straight; manually operate the pump on-off switches to confirm operating sequence; check for exposed wiring; and manually check alarms for correct activation.

12. Visually inspect the distribution box annually to confirm the box remains level, all outlets are open, and there is no build-up of sludge in the box. Sludge and scum should be removed annually if present.

13. Keep automobiles, heavy equipment, and structures off of the system.

14. Create and maintain a diagram indicating the location of the septic tank, dosing tanks, alarms and controls, distribution box, drain field, and repair area.

15. Maintain records of maintenance activities, including dates and types of activities.

16. The Owner should contract with a local construction company for on-call services in the event of a failure of any of he above items.

MOUNTAIN SOILS, INCORPORATED

71 LEDFORD DRIVE FRANKLIN, NC 28734
EMAIL: MOUNTAINSOILS@FRONTIER.COM
CELL: (828) 550-4040 OFFICE: (828) 371-2894

September 11, 2024

Mr. Seth Swift, REHS
Environmental Health Supervisor
Henderson County
1200 Spartanburg Highway; Suite 100
Hendersonville, NC 28792

Re: Horseshoe Lot 13 – 422 Ascension Vly – (Soil Scientist) Septic Installation, Engineered Option Permit (PIN 9529 59 9417)

Dear Mr. Swift,

This letter is intended to provide acknowledgement that the on-site subsurface wastewater treatment septic system at (Horseshoe Lot 13 – 422 Ascension Vly) meets:

General Statue 130A-336.1. Alternative process for wastewater system approvals. (b) Notice of Intent to Construct. (3) & (8).

General Statue 130A-336.1. Alternative process for wastewater system approvals. (e) Site Design, Construction, and Activities. (2).

General Statue 130A-336.1. Alternative process for wastewater system approvals. (k) Required Documentation. (1) (a).

15A NCAC 18A.1971 Engineered Option Permit (b) Site Evaluation; (c) Notice of Intent to Construct (1)

Department of Health and Human Services, Division of Public Health, Common Form for Engineered Option Permit, (3) & (17).

Part 3: Authorization to Operate (ATO) (1). (a).

And 18E.

Sincerely,

James A. Tipton, LSS
Project Manager
Mountain Soils, Inc.

LICENSED SOIL SCIENTIST
JAMES A. TIPTON
1335
STATE OF NORTH CAROLINA

MOUNTAIN SOILS, INCORPORATED

71 LEDFORD DRIVE FRANKLIN, NC 28734
EMAIL: MOUNTAINSOILS@FRONTIER.COM
OFFICE: (828) 524-5962 CELL: (828) 421-3149

Proposal is Designed for Engineered Option Permitting

BIG HILLS AT HORSESHOE **3/10/2024**
PHASE 1 – LOT 13
PIN# 9529599417
HENDERSON COUNTY, NC **REPORT EXPIRATION: 3/10/2029**

Onsite Wastewater Septic System Overview:

The following report has been prepared by Mountain Soils, Inc. (MSI) for Big Hills at Horseshoe, Phase 1 – Lot 13, for 360 gallons per day to serve a Three Bedroom House located in Henderson County, North Carolina. The following report prepared by MSI is intended to be permitted under the privatization rules. Please note that the report/application needs to be submitted by a Professional Engineer (PE).

Application Type:	NOI/ATO (360 Gal Per Day)					
Number of Bedrooms: Three Bedroom	Proposed Septic System	**GPD**	**Soil Group**	**Soil Texture**	**LTAR**	**Linear Feet Required Calculation (in Square and Linear Feet)**
Initial Septic System:	Vertical Prefabricated Permeable Block Panel System	360	III	Clay Loam	0.4	360 gpd / 0.4 gpd/ft^2 = 900 ft^2 900 ft^2 / 6 ft trench eq. = 150 linear ft (See calculations below)
Repair Septic System:	Aerobic Pretreatment w/ Drip Irrigation Disposal (TS-I)	360	III	Clay Loam	0.2	360 gpd / 0.2 gpd/ft^2 = 1800 ft^2 1800 ft^2 / 2 ft trench eq. = 900 linear ft (See calculations below)
Easement Required	NO					
Saprolite System:	NO					

MOUNTAIN SOILS, INCORPORATED

71 LEDFORD DRIVE FRANKLIN, NC 28734
EMAIL: MOUNTAINSOILS@FRONTIER.COM
OFFICE: (828) 524-5962 CELL: (828) 421-3149

Onsite Wastewater Septic System Configuration and Recommendations:

The following recommendations are proposed by MSI for Big Hills at Horseshoe, Phase 1 – Lot 13, for 360 gallons per day to serve a Three Bedroom House located in Henderson County, North Carolina. The septic area has been evaluated and determined to contain Group III soils (the most restrictive texture being Clay Loam). A long-term acceptance rate (LTAR) of 0.4 has been assigned to these soils for the initial area and an LTAR of 0.2 has been assigned for the repair area. *(See attached soil descriptions).*

MSI recommends utilizing a Vertical Prefabricated Permeable Block Panel System for the initial septic drainfield. The septic system will require 150 total linear feet of material to accommodate 360 gallons per day. This system should be installed at a 28" trench depth on the low side and the trench width is 24". Maintain 6' on centers.

MSI recommends installing a 1000-gallon septic tank and a 1000-gallon pump tank. The system will be pumped, utilizing a distribution box to convey flow evenly throughout the nitrification drain lines. **Rake and Lime the Trench Bottom and Side Walls.**

MSI recommends utilizing an Aerobic Pretreatment w/ Drip Irrigation Disposal (TS-I) type system for the repair. The repair system will require 900 linear feet of material to accommodate 360 gallons per day. The recommended trench depth on the low side is 6".

The proposed septic and repair system areas have been identified in the field. It is also recommended to delineate the system again prior to installation. The Septic System is to be Installed in Dry Conditions. ***Being an Engineered Options Permit (EOP), this report is valid for up to five years from the date of issuance and will expire thus after***. If there are any changes to the original site plan that may affect the proposed initial and or the repair areas, please notify MSI. ***If there are any changes to the original designed layout without prior consent from MSI or the Engineer, the permit could be voided.*** *(See attached site plan for details.)*

MOUNTAIN SOILS, INCORPORATED

71 LEDFORD DRIVE FRANKLIN, NC 28734
EMAIL: MOUNTAINSOILS@FRONTIER.COM
OFFICE: (828) 524-5962 CELL: (828) 421-3149

Onsite Wastewater Septic System Setbacks (Buffers) and Site Recommendations:

The following items are recommended by MSI to preserve the integrity of the proposed site and surrounding area.

1. MSI recommends diverting stormwater runoff away from all proposed septic areas.

2. MSI recommends installing the system level and on contour.

3. MSI recommends installing the system in dry conditions.

4. MSI recommends raking and liming the drain line trench bottoms and sidewalls.

5. The proposed MSI septic system designs/layouts are based on dodging large trees or other obstacles that may hinder the installation or operation of the septic system. Do not push excess fill over top of the initial and repair drainfield areas.

6. The proposed onsite wastewater system is based off theoretical calculations based on data obtained at the site. MSI does not guarantee actual system performance.

7. The proposed initial septic system and repair system must maintain a setback (Buffer), specified by North Carolina Department of Environment and Natural Resources (NCDENR), including: 5' minimum from the house and all foundations, 50' minimum from any surface water, 50' minimum from single family wells, 100' minimum from shared wells or any drinking water sources such as springs, 10' minimum from all property lines and water lines, 20' minimum from any other septic system (except repair) and 15' minimum from cut banks. All setbacks are to be measured on the ground surface.

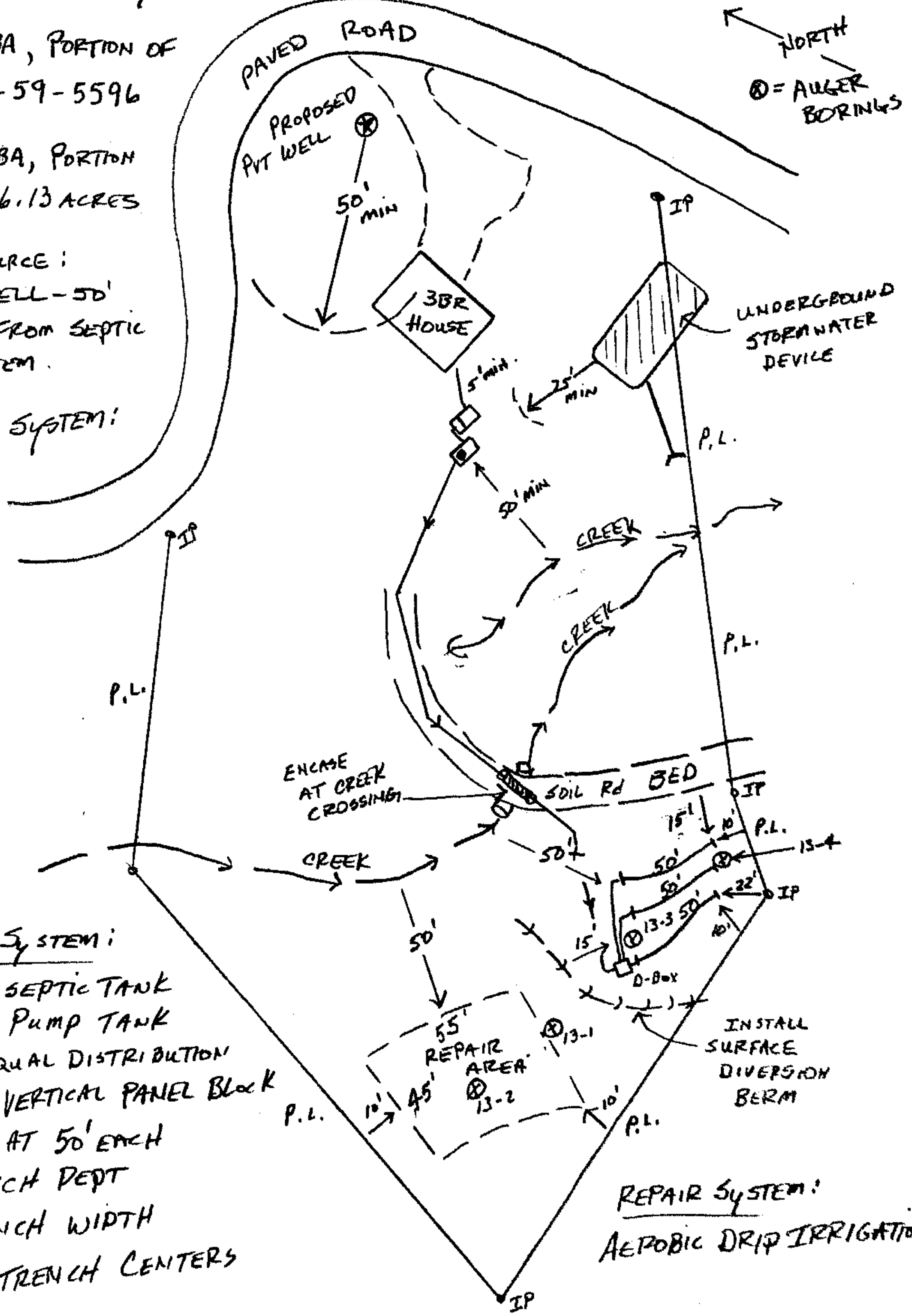
BIG HILLS AT HORSESHOE PHASE I LOT 13
HENDERSON COUNTY, NC

PIN# TBA, PORTION OF
9529-59-5596

ACRES: TBA, PORTION
OF 16.13 ACRES

WATER SOURCE:
PVT WELL - 50' MIN FROM SEPTIC SYSTEM.

SAPROLITE SYSTEM:
No!



INITIAL SYSTEM:

1000 GAL SEPTIC TANK
1000 GAL PUMP TANK
D-BOX, EQUAL DISTRIBUTION
150' OF VERTICAL PANEL BLOCK
3 LINES AT 50' EACH
28" TRENCH DEPT
2 FT TRENCH WIDTH
6 FT MIN. TRENCH CENTERS

REPAIR SYSTEM:

AEROBIC DRIP IRRIGATION

SOIL/SITE EVALUATION

(Continuation Sheet-Complete all field in full)

Sheet ___ of ___

DEPARTMENT OF HEALTH AND HUMAN SERVICES
DIVISION OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH SECTION
ON-SITE WATER PROTECTION BRANCH

Horse Shoe
Phase I
Lot 13

PROPERTY ID #:
DATE OF EVALUATION: 3/7/24
COUNTY: Henderson

PROFILE #	POSITION/ SLOPE %	HORIZON DEPTH (IN.)	SOIL MORPHOLOGY (.1941) .1941 STRUCTURE/ TEXTURE	.1941 CONSISTENCE/ MINERALOGY	OTHER PROFILE FACTORS Fannin .1942 SOIL WETNESS/ COLOR	.1943 SOIL DEPTH	.1956 SAPRO CLASS	.1944 RESTR HORIZ	PROFILE CLASS & LTAR
13-1	BA	0-4	1f sbk sl	ss/sp sexp	5yr 4/6	15"		Cr	III .4
	12% Bt	4-15	2m sbk cl	ss/sp sexp	2.5yr 5/6				
		Cr							
13-2	AB	0-5	1f sbk sl	ss sexp	7.5yr 4/4	23"		Cr	III .4
	15% Bt	5-23	2m sbk cl	ss/sp sexp	2.5yr 5/6				.2 DDP
		Cr							
13-3	cc AB	0-8	1f sbk sl	ss sexp	7.5yr 5/3	42		42	III .4
	15% Bt	8-35	2m sbk cl	ss/sp sexp	2.5yr 4/6				
	BC	35-42	1m sbk scl-sl	ss/sp sexp	2.5yr 4/6 m.t pm				
13-4	cc Ap	0-5	1fg sl	vfr	7.5yr 3/3	40"			III .4
	12% Bt1	5-12	2m sbk scl	ss/sp sexp	7.5yr 4/				
	Bt2	12-32	2m sbk cl	ss/sp sexp	2.5yr 4/6				
	BC	32-40	1m sbk sl	ss/ sexp	5yr 4/6 m.t pm				

COMMENTS: STEEP [illegible] ON SITE

Updated February 2014