

Harnett County Department of Public Health

PERMIT # SFD 2111-0017

Operation Permit

521412

New Installation Septic Tank Nitrification Line Repair Expansion

PROPERTY LOCATION: 75 ROYAL ELLA CT. (L. HUSTON CT. RD.)

Name: (owner) DAVIDSON HOMES LLC SUBDIVISION PRINCE PLACE LOT # 11

System Installer: FULL CIRCLE ENVIRONMENTAL

Basement with plumbing: Garage Number of Bedrooms 4

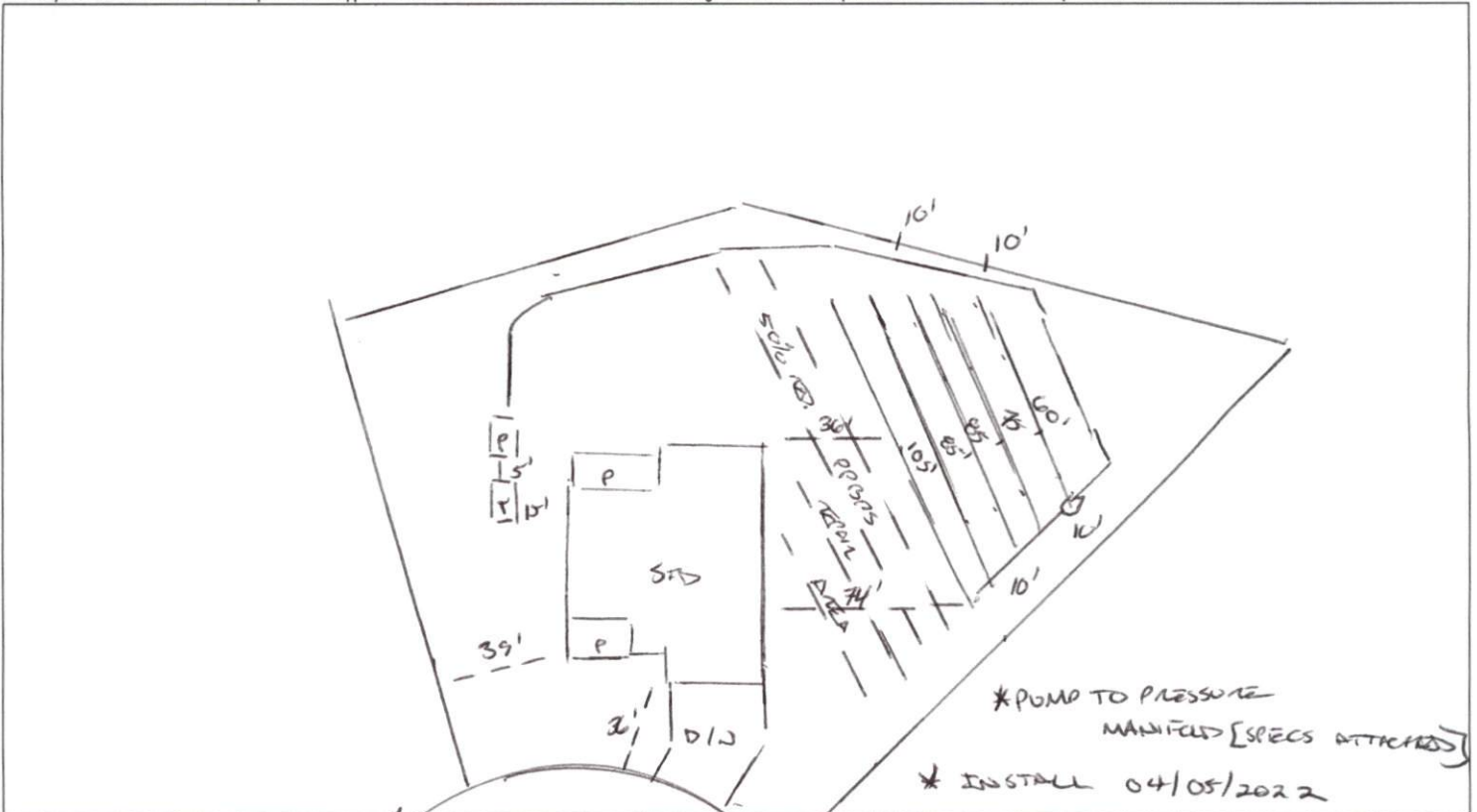
Type of Water Supply: Community Public Well Distance from well NA feet

System Type: 25% REDUCTION SYSTEM IIB Types V and VI Systems expire in 5 years.

(In accordance with Table V a)

Owner must contact Health Department 6 months prior to expiration for permit renewal.

This system has been installed in compliance with applicable North Carolina General Statutes, Rules for Sewage Treatment and Disposal, and all conditions of the Improvement Permit and Construction Authorization.



PERMIT CONDITIONS:

- I. Performance: System shall perform in accordance with Rule .1961.
- II. Monitoring: As required by Rule .1961.
- III. Maintenance: As required by Rule .1961. Other: _____

Subsurface system operator required? Yes No
 If yes, see attached sheet for additional operation conditions, maintenance and reporting.

IV. Operation: _____

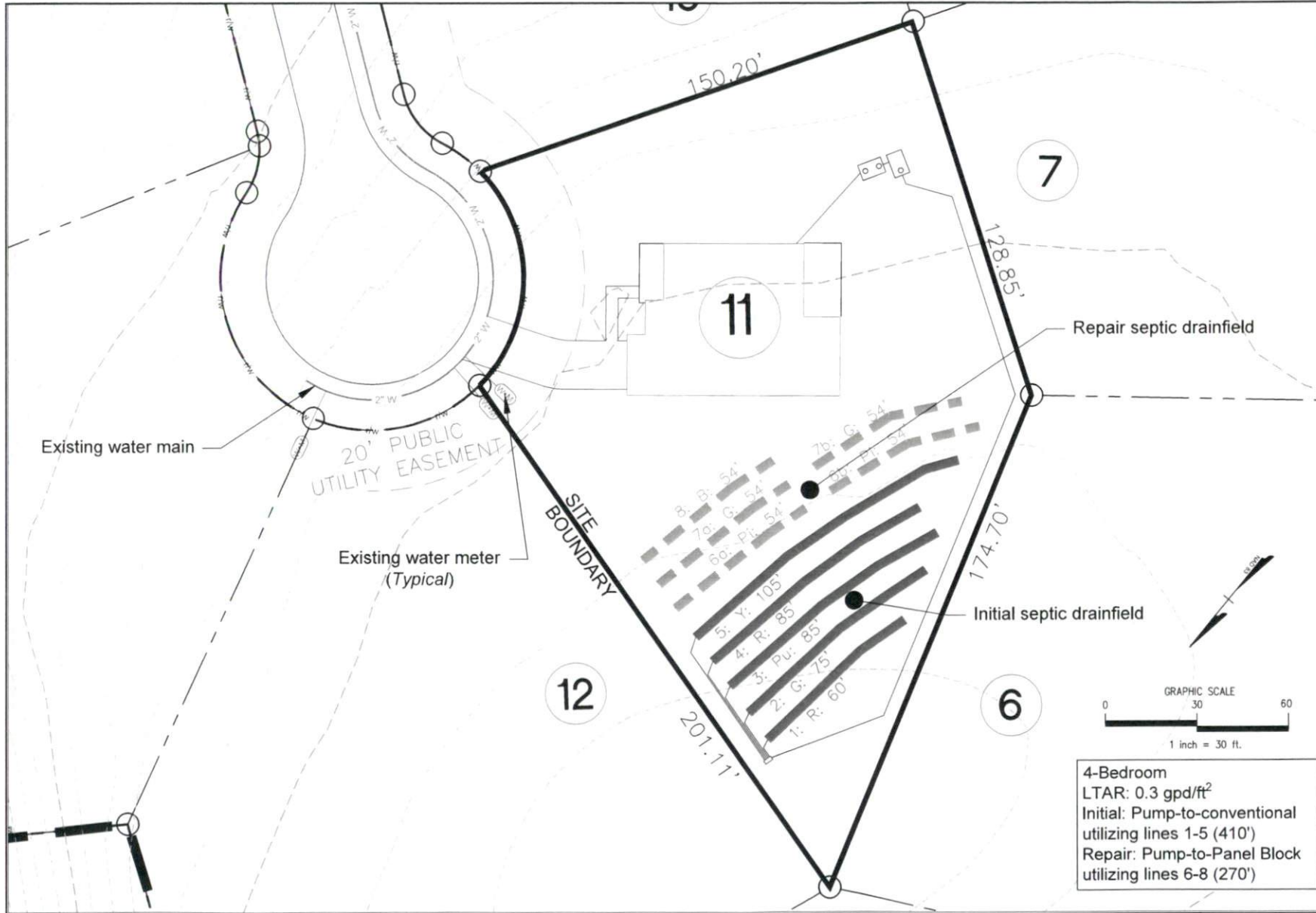
 V. Other: _____

D-Box Pump Alarm H2O Line PWR Line

Following are the specifications for the sewage disposal system on the above captioned property.

Type of system: Conventional Other EZ FLOW IIB Septic Tank: 1000 gallons Pump Tank: 1500 gallons
 Subsurface No. of exact length width of depth of
 Drainage Field ditches 5 of each ditch MULTI feet ditches 3 feet ditches 24 inches
 French Drain Required: _____ Linear feet

Authorized State Agent [Signature] Date 06/17/2022



Existing water main

20' PUBLIC UTILITY EASEMENT

Existing water meter (Typical)

SITE BOUNDARY

11

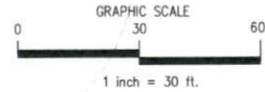
7

Repair septic drainfield

12

6

Initial septic drainfield



4-Bedroom
 LTAR: 0.3 gpd/ft²
 Initial: Pump-to-conventional
 utilizing lines 1-5 (410')
 Repair: Pump-to-Panel Block
 utilizing lines 6-8 (270')

MITCHELL ENVIRONMENTAL, PA C-2911 1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526		PREPARED FOR: Davidson Homes 230 James Record Road Huntsville, AL 35824	REVISION NO. Original Submittal Revision 1 Revision 2 Revision 3 Master Set	DATE October 19, 2021	SHEET NUMBER 1 of 7
DATE: October 19, 2021 ENGINEER AND SOIL SCIENTIST CONTACT: SCOTT MITCHELL, PE, LSS DRAWN BY: ADAM AYDOOK, D		Prince Place Lot 11 Overall Septic			



Initial System

PRESSURE MANIFOLD DESIGN

Name: Davidson Homes P.I.N. #: 0633-76-5823 D #: N/A
 Address: Royal Ella Court Subdiv: Prince Place Lot#: 11
 # of BDR: 4 Daily Flow: 480 gal/day L.T.A.R.: 0.300 gal/day/sq.ft
 Septic Tank: 1000 gals (min.) Pump Tank: 1200 gals (min.) Sq. Foot: 1230 Stone Depth: N/A
(EZ Flow)
 Number of Taps: 5 Length of Trenches: Varies ft(See Tap Chart for Details)
 Depth of Trenches: see Harnett County Permit Manifold Length: 48 in
 Manifold Diameter: 4 in sch 80pvc (minimum) Tap Configuration: 6 in spacing 1 side(s) of manifold
 Supply Line: length: 240 ft Diameter: 2 in sch 40pvc
 Friction Loss + Fitting Loss: 9.50 ft(supply line length + 70' for fittings in pump tank)
 Design Head: 2.0 ft Elevation Head: 7.78 ft
 Vent Hole Size: 3/16 in Orifice Coefficient of Discharge: 0.60
 Orifice Coefficient of Contraction: 0.62 Orifice Coefficient of Velocity: 0.97
 Maximum Head Supplied by Selected Pump(s) at Total Design Flowrate: 27 ft
 Orifice / Vent Hole Flowrate: 2.15 gpm Head Loss at Orifice / Vent Hole: 1.71 ft
 Total Head: 20.99 ft Pump to Deliver: 39.06 gals/min at 20.99 ft head
 Dosing Volume: 175.89 gals.
 Drawdown: 175.89 gals divided by 19 gals/in = 9.26 inches
 SJE Rhombus Installer Friendly Series simplex control panel, or equivalent, required
 A septic tank filter, or equal is required.
 Possible pumps: Hydromatic: Goulds: Myers:
 Zoeller: 153 Other:

TAP CHART

line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR
1	Red	3.22	100.88	60	1/2in SCH 80	5.48	71.27	180	0.3959
2	Green	3.44	100.66	75	1/2in SCH 40	7.11	92.46	225	0.4109
3	Purple	3.58	100.52	85	1/2in SCH 40	7.11	92.46	255	0.3626
4	Red	3.76	100.34	85	1/2in SCH 40	7.11	92.46	255	0.3626
5	Yellow	3.89	100.21	105	3/4in SCH 80	10.10	131.35	315	0.4170
		total	feet =	410	gal/min =	36.9	LTAR =		0.3000
% of Pipe Vol.		66	Des. Flow		480.00	(ltar + 5%)		0.3150	
Dose Volume		175.89	Pump Run=		13.00	(ltar W/ INOV)		0.4000	
Dose Pump Time		4.77	Tank Gal/IN		19	(ltar + 5%)		0.4200	
Drawdown in Inches		9.26	Elev. Head		7.78				
Supply Line Length		240							
Comments:									

Repair System

PRESSURE MANIFOLD DESIGN

Name: Davidson Homes P.I.N. #: 0633-76-5823 D #: N/A
 Address: Royal Ella Court Subdiv: Prince Place Lot#: 11
 # of BDR: 4 Daily Flow: 480 gal/day L.T.A.R.: 0.300 gal/day/sq.ft
 Septic Tank: 1000 gals (min.) Pump Tank: 1200 gals (min.) Sq. Foot: 810 Stone Depth: N/A
 Number of Taps: 5 Length of Trenches: 54 ft(See Tap Chart for Details) (Panel Block)
 Depth of Trenches: see Harnett County Permit Manifold Length: 48 in
 Manifold Diameter: 4 in sch 80pvc (minimum) Tap Configuration: 6 in spacing 1 side(s) of manifold
 Supply Line: length: 140 ft Diameter: 2 in sch 40pvc
 Friction Loss + Fitting Loss: 3.71 ft(supply line length + 70' for fittings in pump tank)
 Design Head: 2.0 ft Elevation Head: 7.44 ft
 Vent Hole Size: 3/16 in Orifice Coefficient of Discharge: 0.60
 Orifice Coefficient of Contraction: 0.62 Orifice Coefficient of Velocity: 0.97
 Maximum Head Supplied by Selected Pump(s) at Total Design Flowrate: 31 ft
 Orifice / Vent Hole Flowrate: 2.31 gpm Head Loss at Orifice / Vent Hole: 1.97 ft
 Total Head: 15.12 ft Pump to Deliver: 29.71 gals/min at 15.12 ft head
 Dosing Volume: 115.83 gals.
 Drawdown: 115.83 gals divided by 19 gals/in = 6.10 inches

SJE Rhombus Installer Friendly Series simplex control panel, or equivalent, required
 A septic tank filter, or equal is required.
 Possible pumps: Hydromatic: Goulds: Myers:
 Zoeller: 153 Other:

TAP CHART

Bench Mark	4.1	is = 100.00	set at	Top EIR 6/7 rear corner	Design Head:	2.0			
Pump tank elev.	5.5	98.60	Pump elev.	93.60	Manifold elev.	101.04			
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR
6a	Pink	4.06	100.04	54	1/2in SCH 80	5.48	96.00	162	0.5926
6b	Pink	4.06	100.04	54	1/2in SCH 80	5.48	96.00	162	0.5926
7a	Green	4.15	99.95	54	1/2in SCH 80	5.48	96.00	162	0.5926
7b	Green	4.15	99.95	54	1/2in SCH 80	5.48	96.00	162	0.5926
8	Blue	4.59	99.51	54	1/2in SCH 80	5.48	96.00	162	0.5926
		total	feet =	270	gal/min =	27.4	LTAR =		0.3000
% of Pipe Vol.		66	Des. Flow		480.00	(Itar + 5%)		0.3150	
Dose Volume		115.83	Pump Run=		17.52	(Itar W/ INOV)		0.6000	
Dose Pump Time		4.23	Tank Gal/IN		19	(Itar + 5%)		0.6300	
Drawdown in Inches		6.10	Elev. Head		7.44				
Supply Line Length		140							
Comments:									