

## Harnett County Department of Public Health Improvement Permit

A building permit cannot be issued with only an Improvement Permit

ISSUED TO: Davidson Homes, LLC PROPERTY LOCATION: 53 Royal Ella Ct. (Christian Light Rd. - SR  
 SUBDIVISION Prince Place LOT # 10

NEW  REPAIR  EXPANSION  Site Improvements required prior to Construction Authorization Issuance:

Type of Structure: 39.6x62(3bed/2.5ba)

Proposed Wastewater System Type: 25% Reduction Sys.

Projected Daily Flow: 360 GPD

Number of bedrooms: 3 Number of Occupants: 6 max

Basement  Yes  No

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

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

Permit valid for:  Five years  
 No expiration

Permit conditions: \_\_\_\_\_

Authorized State Agent: [Signature] Date: 11/24/2021 SEE ATTACHED SITE SKETCH

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. 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.

### Construction Authorization

(Required for Building Permit)

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

ISSUED TO: Davidson Homes, LLC PROPERTY LOCATION: 53 Royal Ella Ct. (Christian Light Rd. - S  
 SUBDIVISION Davidson Homes, LLC LOT # 10

Facility Type: 39.6x62(3bed/2.5ba)  New  Expansion  Repair

Basement?  Yes  No Basement Fixtures?  Yes  No

Type of Wastewater System\*\* 25% Reduction System (Initial) Wastewater Flow: 360 GPD  
 (See note below, if applicable )

Pump to 25% Reduction Sys. (Repair)

**Installation Requirements/Conditions**

Septic Tank Size 1000 gallons Number of trenches 3

Pump Tank Size \_\_\_\_\_ gallons Exact length of each trench 100 feet Trench Spacing: 9 Feet on Center

Trenches shall be installed on contour at a Soil Cover: 12 inches

Maximum Trench Depth of: 24 inches (Maximum soil cover shall not exceed 36" above the trench bottom)

(Trench bottoms shall be level to +/-1/4" in all directions)

Pump Requirements: \_\_\_\_\_ ft. TDH vs. \_\_\_\_\_ GPM Aggregate Depth: NA inches below pipe  
NA inches above pipe

Conditions: Proposal by Mitchell Eviro. ; Gravity to D-Box Equal Distribution NA inches total

**WATER LINES (INCLUDING IRRIGATION) MUST BE 10FT. FROM ANY PART OF SEPTIC SYSTEM OR REPAIR AREA.  
 NO UTILITIES ALLOWED IN INITIAL OR REPAIR DRAIN FIELD AREA.**

\*\*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 Signature: \_\_\_\_\_ Date: \_\_\_\_\_

This Construction Authorization is subject to revocation if the site plan, plat, or the intended use changes. The Construction Authorization shall not be transferred when there is 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. SEE ATTACHED SITE SKETCH

Authorized State Agent: [Signature] Date: 11/24/2021  
ANDREW CORNWELL Construction Authorization Expiration Date: 11/24/2026

Application # SFD2111-0016

## Harnett County Department of Public Health Site Sketch

Property Location: 53 Royal Ella Ct. (Christian Light Rd. - SR 1412)

Issued To: Davidson Homes, LLC

Subdivision Prince Place

Lot # 10

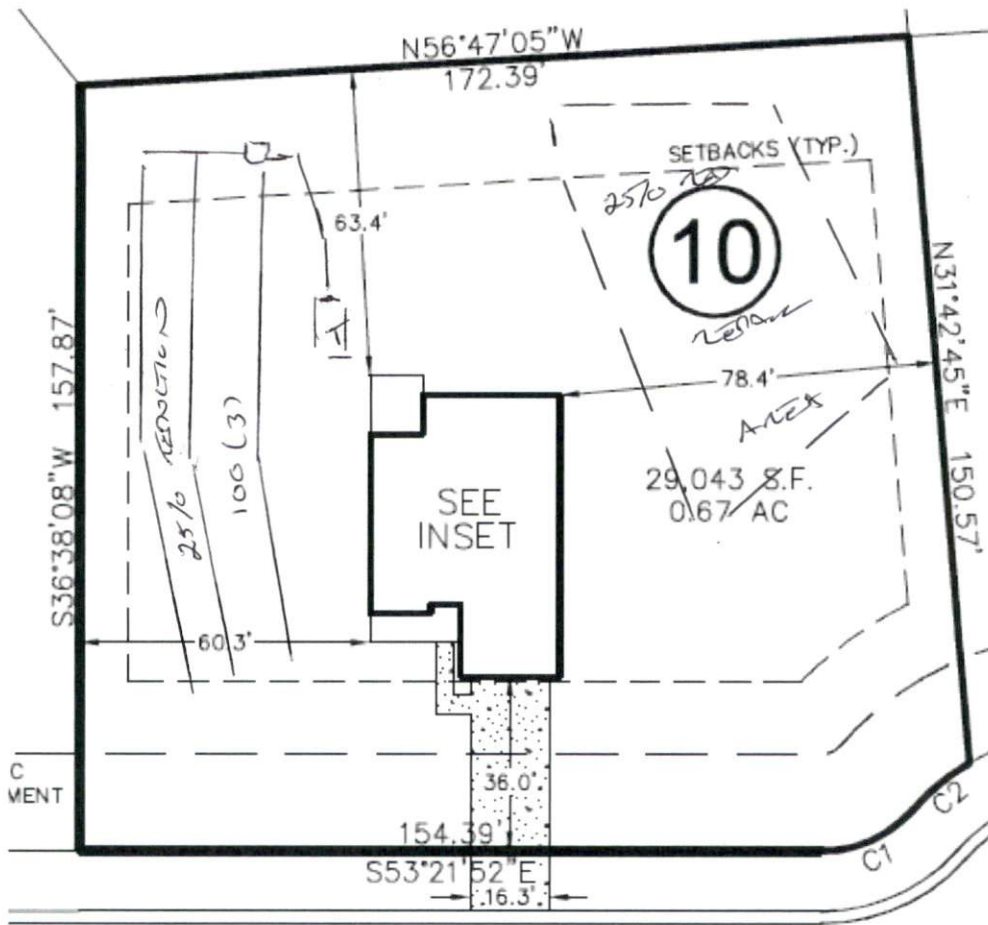
Authorized State Agent: \_\_\_\_\_

*Andrew Conlin*  
ANDREW CONLIN

Date: 11/24/2021

\* GRAVITY TO D-BOX EQUAL DISTRIBUTION

\* PROPOSAL BY MITCHELL ENVIRONMENTAL, PA



This drawing is for illustrative purposes only. System installation must meet all pertinent laws, rules, and regulations.

**Mitchell Environmental, P.A.**

**SEPTIC SYSTEM DESIGN**

**for**

**PRINCE PLACE SUBDIVISION- LOT 10**

**Fuquay-Varina, Harnett County, North Carolina**

**Submitted to:**

Harnett County Health Department  
307 Cornelius Harnett Blvd.  
Lillington, NC 27546

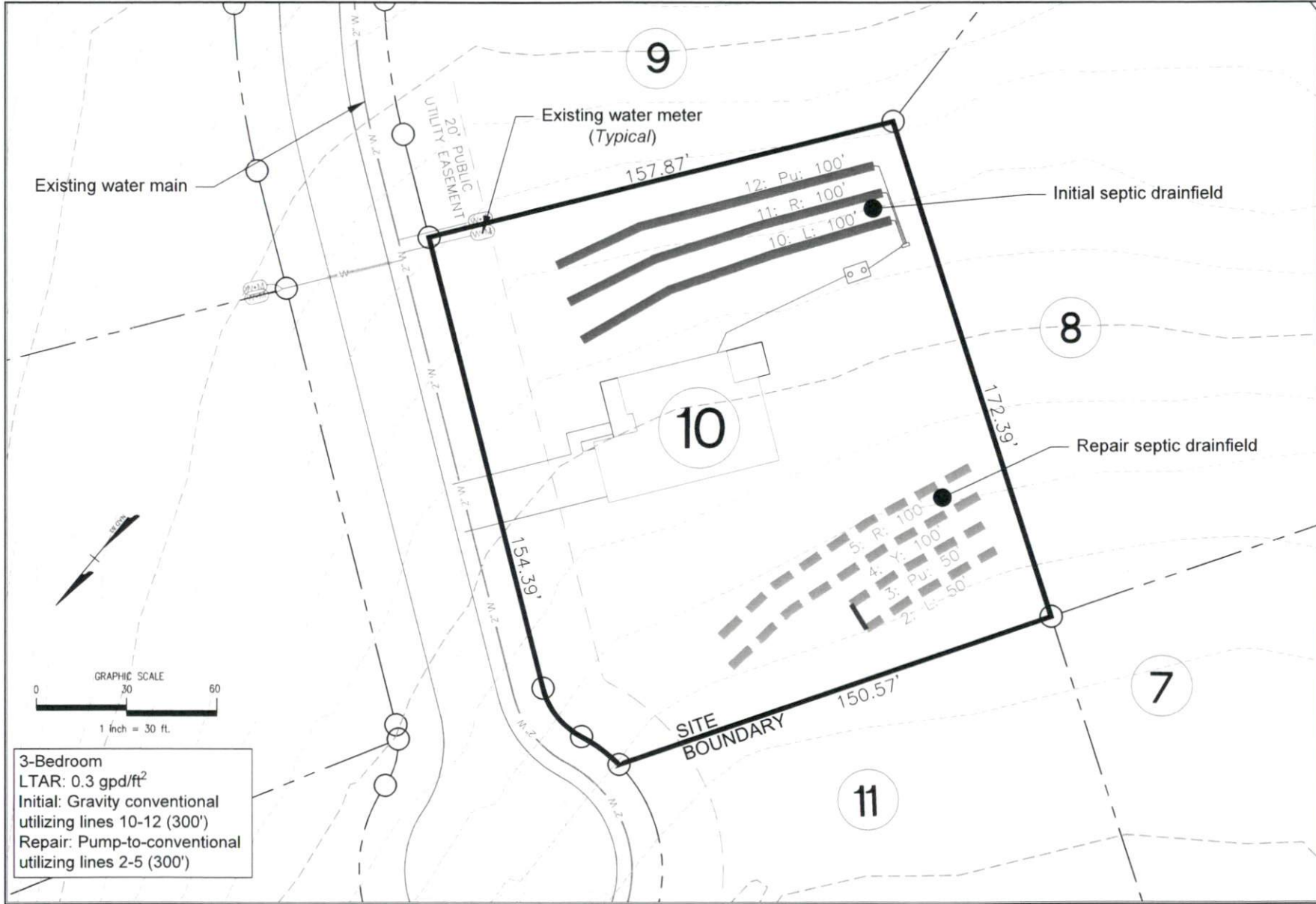
**Prepared for:**

Davidson Homes, LLC  
336 James Record Road  
Huntsville, Alabama 35824

**Prepared by:**

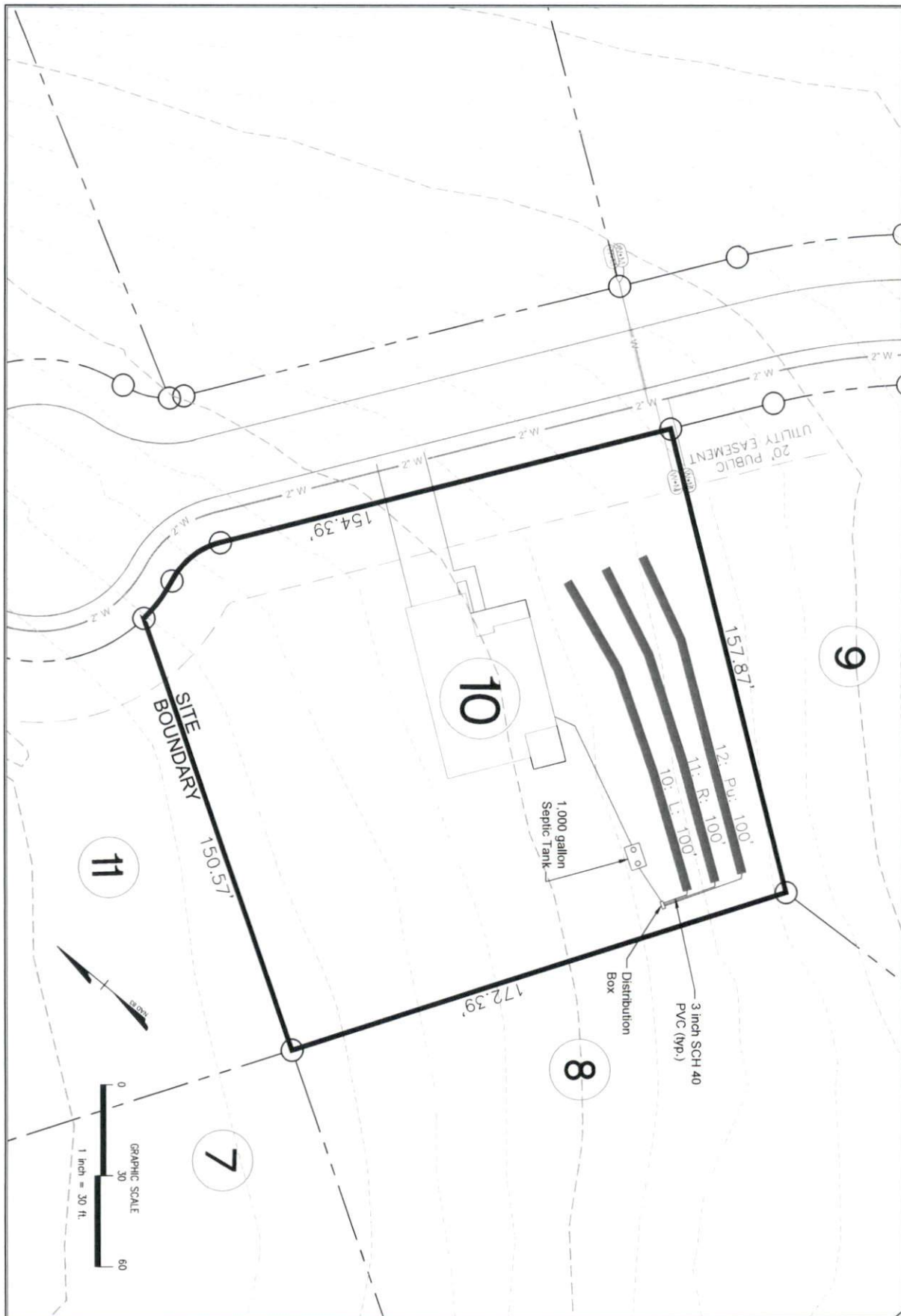
Scott Mitchell, PE, LSS  
Adam Aycocock, EI

**DATE: October 15, 2021**  
**PROJECT NO.: 4321**

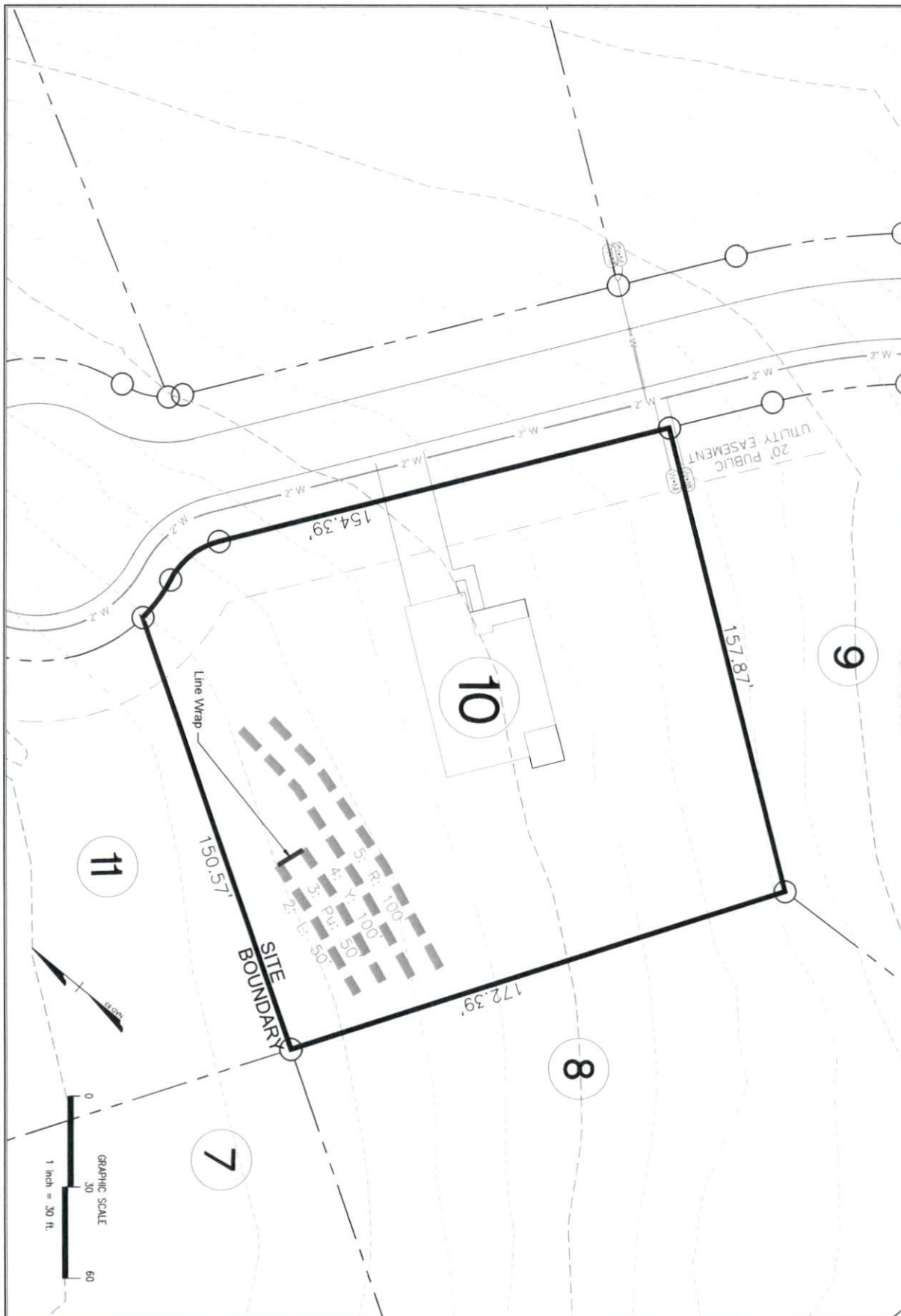


3-Bedroom  
 LTAR: 0.3 gpd/ft<sup>2</sup>  
 Initial: Gravity conventional  
 utilizing lines 10-12 (300')  
 Repair: Pump-to-conventional  
 utilizing lines 2-5 (300')

<b>MITCHELL ENVIRONMENTAL, PA</b> C-2911 1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526	PREPARED FOR: Division Homes 238 James Record Road Huxtable, AL 35824	REVISION NO. Original Submittal Revision 1 Revision 2 Revision 3 Master Set	DATE October 14, 2021 ----- ----- ----- -----	SHEET NUMBER <b>1 of 5</b>	
	DATE: October 14, 2021 ENGINEER AND SEAL SOCIETIST CONTACT: SCOTT MITCHELL, PE, LSS DRAIN BY: ADAM WOOD, D				Prince Place Lot 10 Overall Septic



 <p><b>MITCHELL ENVIRONMENTAL, PA</b> C-2911</p> <p>1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526</p>	PREPARED FOR: Davidson Homes 336 James Record Road Huntsville, AL 35824	REVISION NO. Original Submittal	DATE October 14, 2021	<b>SHEET NUMBER</b>  2 of 5  Prince Place Lot 10 Initial Nitrification Field
	DATE: October 14, 2021	Revision 1	-----	
	ENGINEER AND SOIL SCIENTIST CONTACT: SCOTT MITCHELL, PE, LSS	Revision 2	-----	
	DRAWN BY: ADAM AYCOCK, EI	Revision 3	-----	
		Master Set	-----	



**MITCHELL ENVIRONMENTAL, PA**  
C-2911

1501 LAKESTONE VILLAGE LANE  
SUITE 205  
FUQUAY VARINA, NC 27526

PREPARED FOR : Doldson Homes  
336 James Record Road  
Huntsville, AL 35824

DATE : October 14, 2021

ENGINEER AND SOIL SCIENTIST CONTACT:  
SCOTT MITCHELL, PE, LSS

DRAWN BY:  
ADAM AYCOCK, EI

REVISION NO.	DATE
Original Submittal	October 14, 2021
Revision 1	-----
Revision 2	-----
Revision 3	-----
Master Set	-----

**SHEET NUMBER**

**3 of 5**

Prince Place  
Lot 10  
Repair Nitrification Field

Repair System

**PRESSURE MANIFOLD DESIGN**

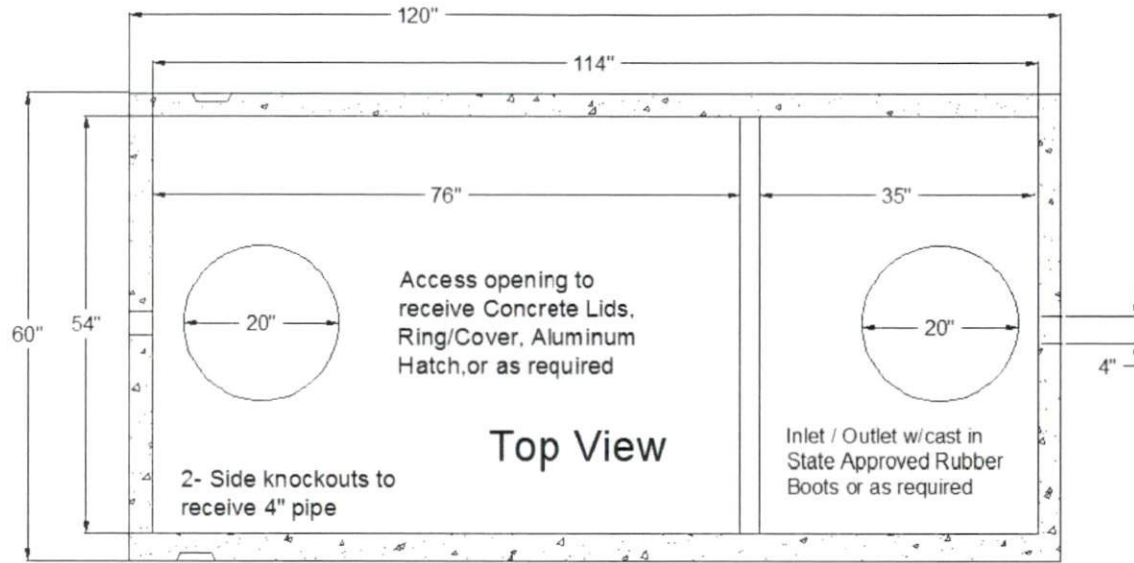
Name: Davidson Homes P.I.N. #: 0633-76-6783 D #: N/A  
 Address: Royal Ella Court Subdiv: Prince Place Lot#: 10  
 # of BDR: 3 Daily Flow: 360 gal/day L.T.A.R.: 0.300 gal/day/sq.ft  
 Septic Tank: 1000 gals (min.) Pump Tank: 1000 gals (min.) Sq. Foot: 900 Stone Depth: N/A  
 (EZ Flow)  
 Number of Taps: 3 Length of Trenches: 100 ft(See Tap Chart for Details)  
 Depth of Trenches: see Harnett County Permit Manifold Length: 36 in  
 Manifold Diameter: 4 in sch 80pvc (minimum) Tap Configuration: 6 in spacing 1 side(s) of manifold  
 Supply Line: length: 115 ft Diameter: 1.5 in sch 40pvc  
 Friction Loss + Fitting Loss: 5.15 ft(supply line length + 70' for fittings in pump tank)  
 Design Head: 2.0 ft Elevation Head: 9.41 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: 24 ft  
 Orifice / Vent Hole Flowrate: 2.03 gpm Head Loss at Orifice / Vent Hole: 1.52 ft  
 Total Head: 18.09 ft Pump to Deliver: 18.47 gals/min at 18.09 ft head  
 Dosing Volume: 128.70 gals.  
 Drawdown: 128.70 gals divided by 18 gals/in = 7.15 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: 137 Other:

**TAP CHART**

Bench Mark	3.37	is = 100.00	set at	Top EIR 10/11 rear corner			Design Head:	2.0			
Pump tank elev.	7.5		95.87	Pump elev.	90.87	Manifold elev.	100.28				
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR		
2 & 3	L & Pu	4.09	99.28	100	1/2in SCH 80	5.48	120.00	300	0.4000		
4	Yellow	4.77	98.60	100	1/2in SCH 80	5.48	120.00	300	0.4000		
5	Red	5.24	98.13	100	1/2in SCH 80	5.48	120.00	300	0.4000		
		<b>total</b>	<b>feet =</b>	<b>300</b>	<b>gal/min =</b>	<b>16.4</b>	<b>LTAR =</b>		<b>0.3000</b>		
% of Pipe Vol.		<b>66</b>	<b>Des. Flow</b>		<b>360.00</b>		<b>(tar + 5%)</b>		<b>0.3150</b>		
Dose Volume		<b>128.70</b>	<b>Pump Run=</b>		<b>21.90</b>		<b>(tar W/ INOV)</b>		<b>0.4000</b>		
Dose Pump Time		<b>7.83</b>	<b>Tank Gal/IN</b>		<b>18</b>		<b>(tar + 5%)</b>		<b>0.4200</b>		
Drawdown in Inches		<b>7.15</b>	<b>Elev. Head</b>		<b>9.41</b>						
Supply Line Length		<b>115</b>									

Comments:



## STB - 345 - Top Seam

Approval Date: 12 - 09 - 99

Liquid Capacity 1007 Gallons

Non Traffic Rated

Reinforcing Schedule: # 3 Grade 60 Rebar

4500 PSI Concrete w/ State Approved Structural Fiber

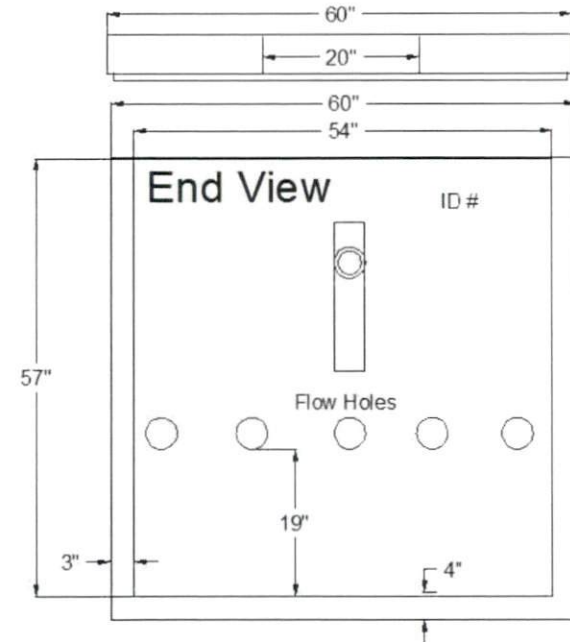
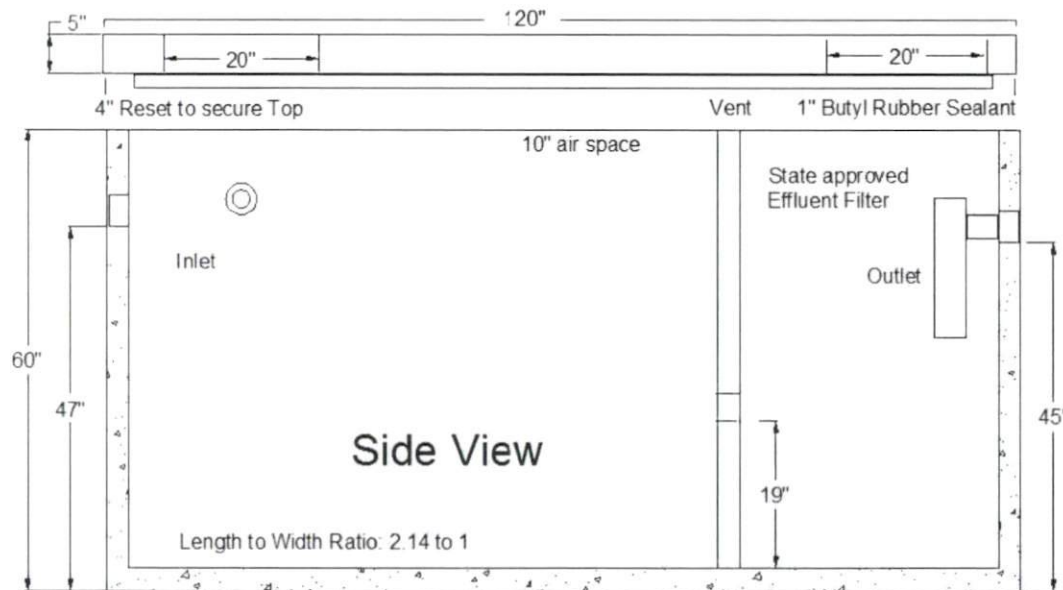
Est. Weight: 8,200 lbs.

Manufactured By:

**GARNERS**  
Septic Tanks, Inc.

Eddie Garner, President  
919-718-5181

121 Stanton Hill Road  
Carthage, NC 28327 Fax 919-775-2229  
Eddie@garnersseptic tanks.com





**PL-68 Filter and Tee**

PL-68 is much more than just an effluent filter. The housing can also be used as an inlet baffle (tee) or an outlet baffle. The housing is designed to accept Polylok's snap in gas deflector to deflect gas bubbles away from the tee and to keep the solids in the tank.

**Features:**

- Offers 68 linear feet of 1/16" filter slots, which significantly extends time between cleaning.
- Accepts 3/4" PVC handle.
- Locks in any 360° position when used with PL-68 Tee.
- PL-68 Housing can be used as an inlet or outlet tee.
- Gasket prevents bypass.

**PL-68 Installation:**

Ideal for residential waste flows up to 800 gallons per day (GPD). Easily installs in any new or existing 4" outlet tee.

1. Locate the outlet of the septic tank.
2. Remove the tank cover and pump tank if necessary.
3. Glue the filter housing to the outlet pipe, or use a Polylok Extend & Lok if not enough pipe exists.
4. Insert the PL-68 filter into tee.
5. Replace and secure the septic tank cover.

**PL-68 Maintenance:**

The PL-68 Effluent Filter will operate efficiently for several years under normal conditions before requiring cleaning. It is recommended that the filter be cleaned every time the tank is pumped, or at least every three years.

1. Do not use plumbing when filter is removed.
2. Pull PL-68 out of the tee.
3. Hose off filter over the septic tank. Make sure all solids fall back into septic tank.
4. Insert filter back into tee/housing.

**Related Products:**

PL-68 Filter Concrete Baffle  
 Extend & Lok™



Extend & Lok™  
 Easily installs  
 into existing tanks.



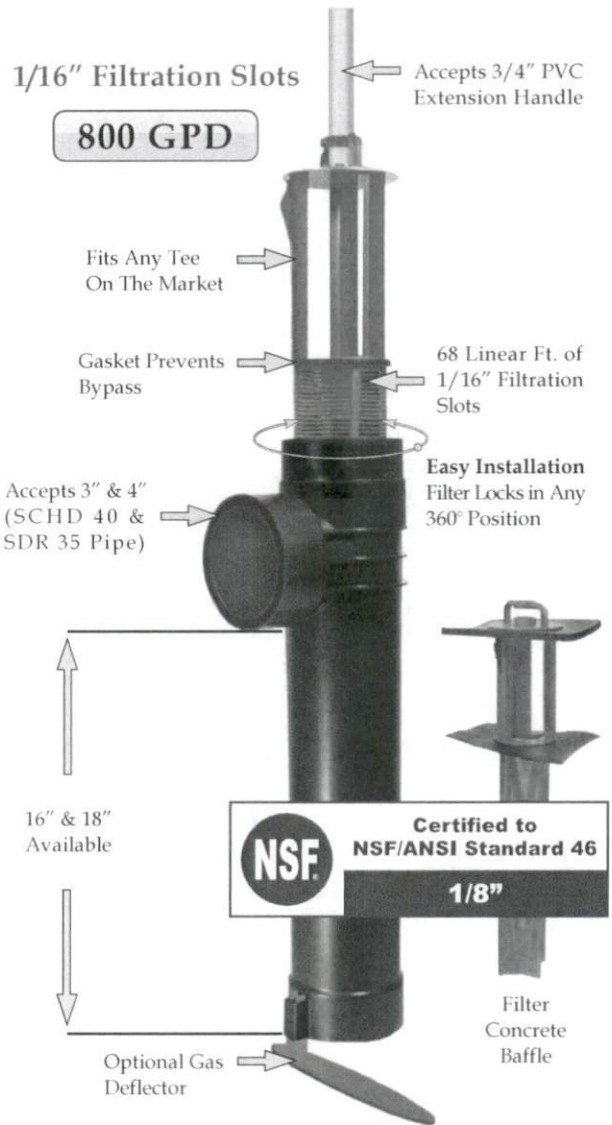
Spacer Bushing  
 4" SCHD 40  
 to SDR 35



Spacer Bushing  
 4" SCHD 40  
 to 110mm Pipe

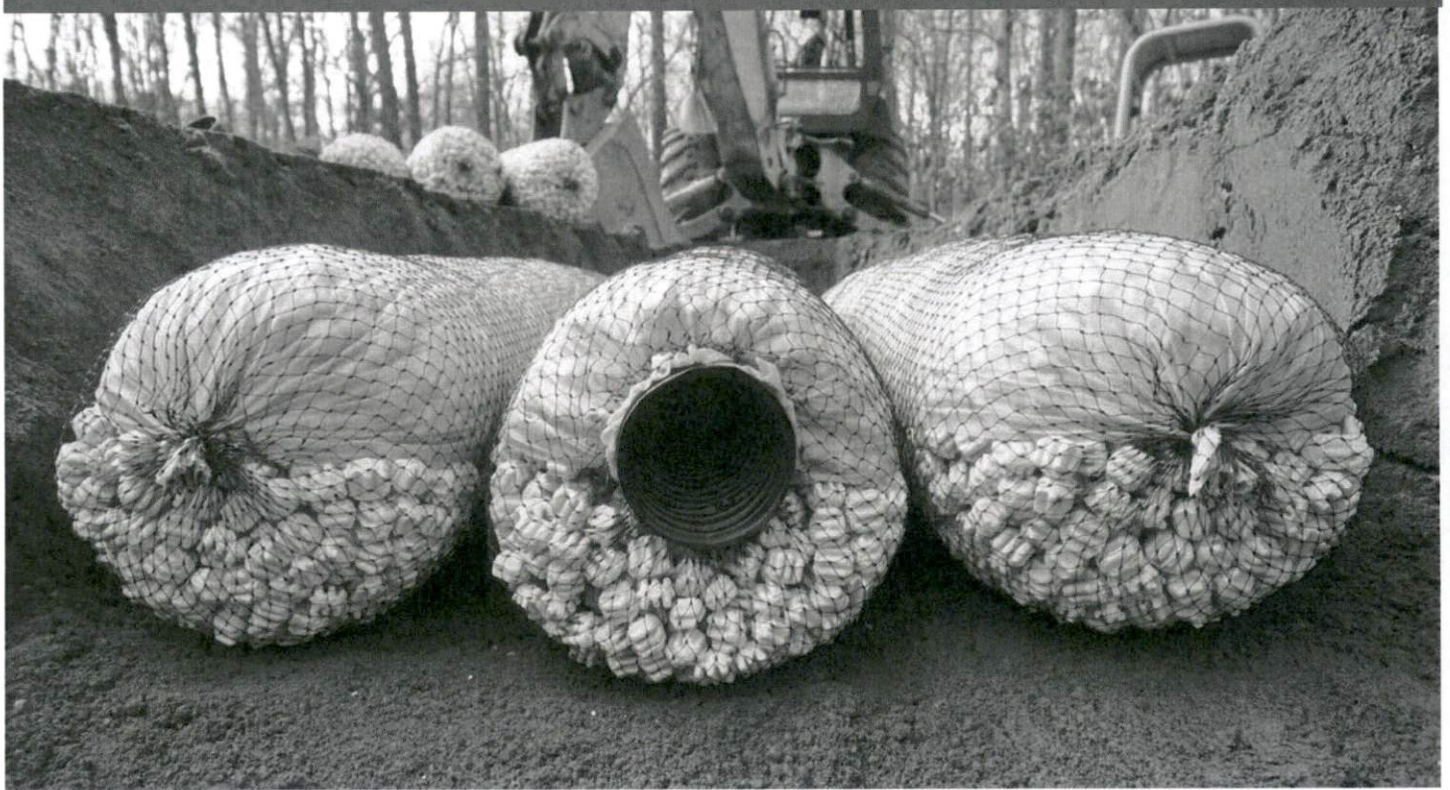


2" Extender





## GEOSYNTHETIC AGGREGATE TECHNOLOGY



EZflow by Infiltrator is an environmentally friendly replacement to traditional stone and pipe drainfields using an engineered geosynthetic aggregate modular design. The EZflow system is designed to improve infiltration performance by eliminating the fines associated with crushed stone, and reducing compaction and embedment associated with stone. Preassembled units include a 3" or 4" perforated pipe surrounded by aggregate and held in place with a durable high-strength netting. This product comes in easy-to-contour 5' and 10' lengths and in diameters of 7, 8, 9, 10, 12, 13, or 14 inches.

### Lightweight expanded polystyrene

construction offers structural integrity and resists compaction. Engineered flow-channels increase void space creating improved water flow and greater storage.

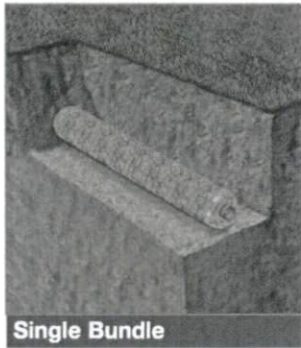


**INFILTRATOR**  
water technologies

### Compared with stone and pipe, benefits include:

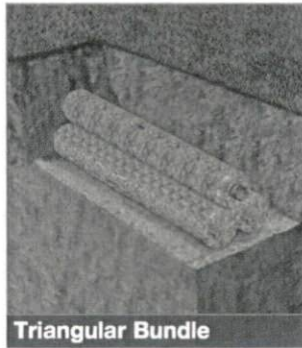
- Always clean and free of fines
- Bundles are quick to install, saving costs on heavy machinery and labor
- Modular construction allows configurations to match trench dimensions for most system shapes and sizes
- Engineered for optimal storage and absorption efficiencies
- Ability to contour along sloped sites and around trees or landscaping
- Lightweight system is perfect for repairs and tight job sites
- Easily hand-carried into position reducing time and labor
- 5' or 10' lengths with simple snap, internal couplers
- Easier cleanup at the job site with the elimination of stone
- Manufactured from recycled materials rather than a mined natural resource
- A wide variety of diameters and configurations to meet any installation professional's needs
- Approved in many jurisdictions with an increased efficiency rating, reducing drainfield size
- Backed by the leader in the onsite wastewater industry

**Bundle System Configurations:** Available in 7", 8", 9", 10", 12", 13" and 14" diameter bundles.



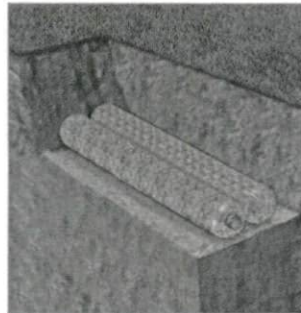
**Single Bundle**

0701P-GEO 1201P-GEO  
0801P-GEO 1401P-GEO  
1201P-GEO 1801P-GEO  
1001P-GEO



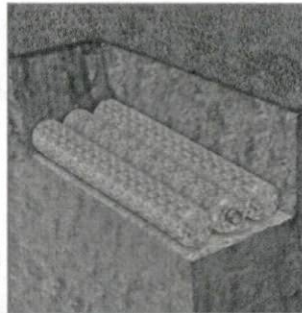
**Triangular Bundle**

1003T-GEO 1303T-GEO  
1203T-GEO 1403T-GEO

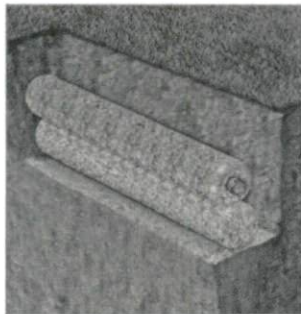


**Horizontal Bundles**

0705H-GEO 1303H-GEO  
0904H-GEO 1202H-GEO  
1002H-GEO 1203H-GEO

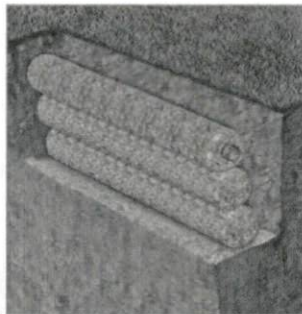


1206H-GEO 1402H-GEO  
1303H-GEO 1802H-GEO



**Vertical Bundles**

1002V-GEO 1006V-GEO 1203V-GEO 1206V-GEO  
1003V-GEO 1202V-GEO 1204V-GEO 1402V-GEO  
1004V-GEO



**Notes:**

1. Other systems include 10" and 12" bed systems. Bed size will dictate the number of bundles.
2. System dimensions are dependent upon bundle diameter and configuration.
3. LLP is for "Low Pressure Pipe" in which a pressurized distribution pipe is field installed within the corrugated pipe.
4. Internal pipe and couplings meet the requirements of ASTM F405.
5. Bundles are also available without geotextile between the netting and synthetic aggregate.

**INFILTRATOR WATER TECHNOLOGIES STANDARD LIMITED WARRANTY**

(a) The structural integrity of each EZflow by Infiltrator expanded polystyrene drainfield system and other accessories manufactured by EZflow by Infiltrator ("Units"), when installed and operated in a leachfield of an onsite septic system in accordance with Infiltrator's instructions, is warranted to the original purchaser ("Holder") against defective materials and workmanship for one year from the date that the septic permit is issued for the septic system containing the Units; provided, however, that if a septic permit is not required by applicable law, the warranty period will begin upon the date that installation of the septic system commences. To exercise its warranty rights, Holder must notify Infiltrator in writing at its Corporate Headquarters in Old Saybrook, Connecticut within fifteen (15) days of the alleged defect. Infiltrator will supply replacement Units for Units determined by EZflow by Infiltrator to be covered by this Limited Warranty. EZflow by Infiltrator's liability specifically excludes the cost of removal and/or installation of the Units.

(b) THE LIMITED WARRANTY AND REMEDIES IN SUBPARAGRAPH (a) ARE EXCLUSIVE. THERE ARE NO OTHER WARRANTIES WITH RESPECT TO THE UNITS, INCLUDING NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE

(c) This Limited Warranty shall be void if any part of the EZflow system is manufactured by anyone other than EZflow by Infiltrator. The Limited Warranty does not extend to incidental, consequential, special or indirect damages. Infiltrator shall not be liable for penalties or liquidated damages, including loss of production and profits, labor and materials, overhead costs, or other losses or expenses incurred by the Holder or any third party. Specifically excluded from Limited Warranty coverage are damage to the Units due to ordinary wear and tear, alteration, accident, misuse, abuse or neglect of the Units; the Units being subjected to vehicle traffic or other conditions which are not permitted by the installation instructions; failure to maintain the minimum ground covers set forth in the installation instructions; the placement of improper materials into the system containing the Units; failure of the Units or the septic system due to improper siting or improper sizing, excessive water usage, improper grease disposal, or improper operation; or any other event not caused by Infiltrator. This Limited Warranty shall be void if the Holder fails to comply with all of the terms set forth in this Limited Warranty. Further, in no event shall Infiltrator be responsible for any loss or damage to the Holder, the Units, or any third party resulting from installation or shipment, or from any product liability claims of Holder or any third party. For this Limited Warranty to apply, the Units must be installed in accordance with all site conditions required by state and local codes; all other applicable laws; and Infiltrator's installation instructions.

(d) No representative of Infiltrator has the authority to change or extend this Limited Warranty. No warranty applies to any party other than the original Holder.

The above represents the Standard Limited Warranty offered by Infiltrator. A limited number of states and counties have different warranty requirements. Any purchaser of Units should contact Infiltrator's Corporate Headquarters in Old Saybrook, Connecticut, prior to such purchase, to obtain a copy of the applicable warranty, and should carefully read that warranty prior to the purchase of Units.



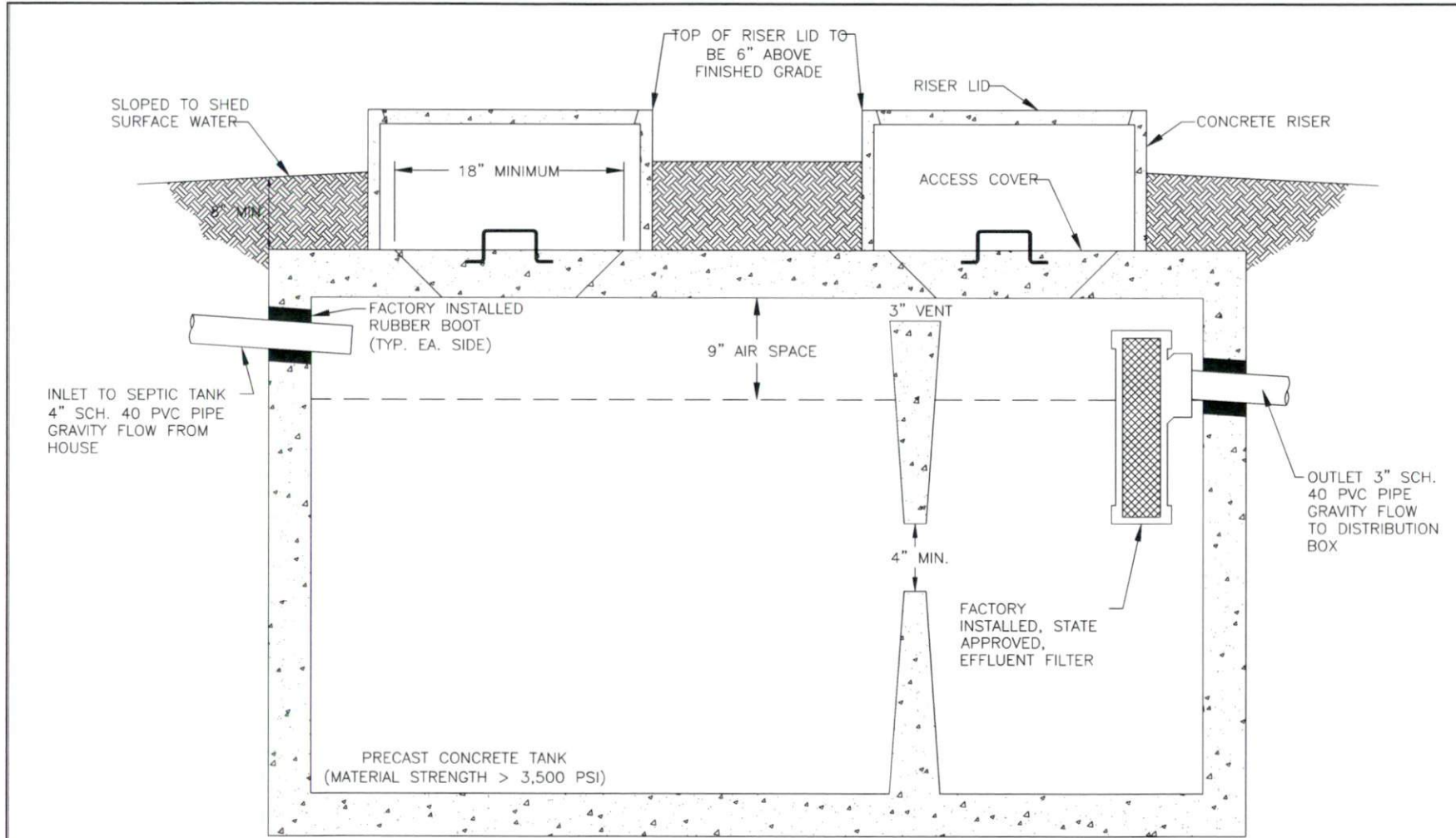
4 Business Park Road  
P.O. Box 768  
Old Saybrook, CT 06475  
860-577-7000 • Fax 860-577-7001  
**1-800-221-4436**  
[www.infiltratorwater.com](http://www.infiltratorwater.com)

U.S. Patents: 4,759,661; 5,017,041; 5,156,488; 5,336,017; 5,401,116; 5,401,459; 5,511,903; 5,716,163; 5,588,778; 5,839,844 Canadian Patents: 1,329,959; 2,004,564 Other patents pending. Infiltrator, Equalizer, Quick4, and SideWinder are registered trademarks of Infiltrator Water Technologies. Infiltrator is a registered trademark in France. Infiltrator Water Technologies is a registered trademark in Mexico. Contour, MicroLeaching, PolyTuff, ChamberSpacer, MultiPort, PosiLock, QuickCut, QuickPlay, SnapLock and StraightLock are trademarks of Infiltrator Water Technologies. PolyLok is a trademark of PolyLok, Inc. TUF-TITE is a registered trademark of TUF-TITE, INC. Ultra-Rib is a trademark of IPEX Inc.

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EZ01 0315AG

**Contact Infiltrator Water Technologies' Technical Services Department for assistance at 1-800-221-4436**



1,000 GALLON SEPTIC TANK

**SEPTIC TANK DETAIL**

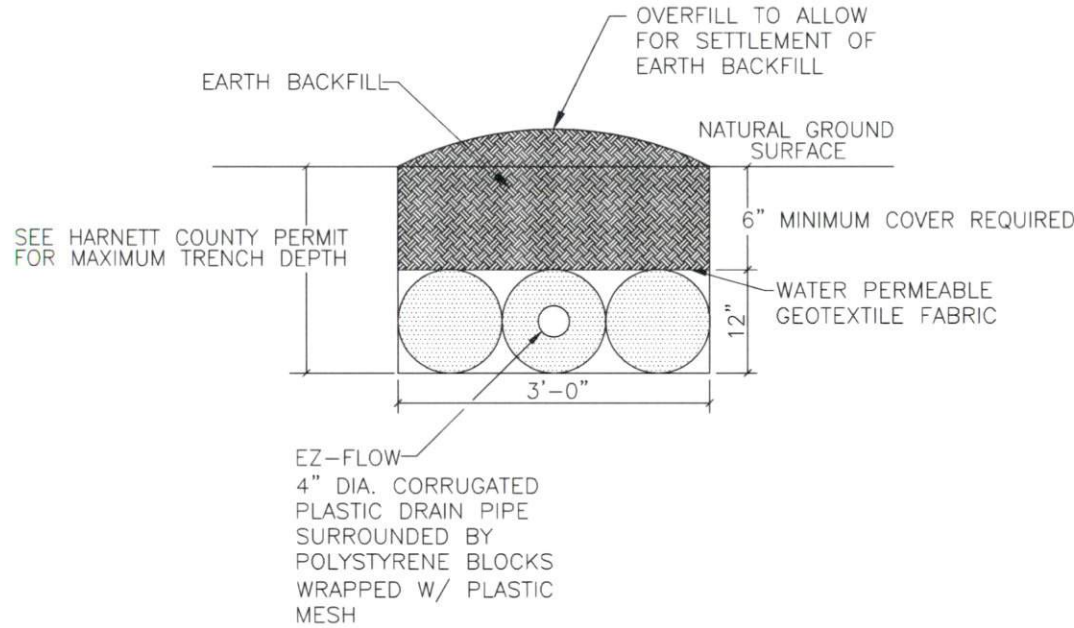
N.T.S.

<b>MITCHELL ENVIRONMENTAL, PA</b> C-2911		<b>SHEET NUMBER</b> <b>4 of 5</b>	
1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526		DATE October 10, 2021	Prinnee Place Lot 10 Septic Tank Detail
Prepared For: 330 James Record Road Mullville, AL 35824	Revision 1 Revision 2 Revision 3 Master Set	DATE October 14, 2021	
Engineer and Seal Scientist Contact: SCOTT MITCHELL, PE, LSS	DATE October 14, 2021	Revision 1 Revision 2 Revision 3 Master Set	
Drawn By: ADAM AYDOOK, D			



# NITRIFICATION TRENCH DETAIL FOR EZ-FLOW

N.T.S.



**NOTES:**

1. PERFORATED CORRUGATED PLASTIC PIPE SHALL MEET REQUIREMENTS OF ASTM D 2729.
2. PIPE SHALL BE LEVEL.
3. ENDCAP SHALL BE PROVIDED AT END OF ALL CORRUGATED PLASTIC PIPE LINES.
4. TRENCH BOTTOM SHALL BE LEVEL.
5. HAND RAKE TRENCH WALLS PRIOR TO PLACEMENT OF TRENCH MEDIA IF SOIL SMEARING IS PRESENT.

SHEET NUMBER

5 of 5

Prince Place  
Lot 10  
Trench Detail

DATE  
October 14, 2021

REVISION NO.  
Original Submittal

Revision 1

Revision 2

Revision 3

Master Set

PREPARED FOR :  
Davidson Homes  
139 Janice Record Road  
Huntsville, AL 35824

DATE :  
October 14, 2021  
ENGINEER AND SOIL SCIENTIST CONTACT:  
SCOTT MITCHELL, PE, LSS

DRAWN BY:  
ADAM AYCOCK, D

**MITCHELL ENVIRONMENTAL, PA**  
C-2911

1501 LAKESTONE VILLAGE LANE  
SUITE 205  
FUQUAY VARINA, NC 27526

