

Mitchell Environmental, P.A.

SEPTIC SYSTEM DESIGN

for

HEMLOCK PRESERVE SUBDIVISION- LOT 18

Wake County, North Carolina

Submitted to:

Wake County
Department of Environmental Services
Wake County Office Building
336 Fayetteville Street, Suite 101
Raleigh, NC 27601

Prepared for:

Triple A Homes, Inc.
1308 Green Oaks Parkway
Holly Springs, NC 27540

Prepared by:

Adam Aycock, EI

DATE: December 20, 2018

PROJECT NO.: 5618

PRESSURE MANIFOLD DESIGN

Name: Triple A Homes P.I.N. #: _____ D #: N/A
 Address: _____ Subdiv: Hemlock Preserve Lot#: 18
 # of BDR: 5 Daily Flow: 600 gal/day L.T.A.R.: 0.300 gal/day/sq.ft
 Septic Tank: 1500 gals (min.) Pump Tank: 1500 gals (min.) Sq. Foot: 1500 Stone Dept: N/A
 Number of Taps: 6 Length of Trenches: Varies ft(See Tap Chart for Details) (EZ Flow or Chambers)
 Depth of Trenches: see Wake County permit Manifold Length: 54 in
 Manifold Diameter: 4in sch 80pvc (minimum) Tap Configuration: 6 in spacing 1 side(s) of manifold
 Supply Line: length: 35 ft Diameter: 2 in sch 40pvc
 Friction Loss + Fitting Loss: 4.41 ft(supply line length + 70' for fittings in pump tank)
 Design Head: 2.0 ft Elevation Head: 8.60 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: 22 ft
 Orifice / Vent Hole Flowrate: 1.94 gpm Head Loss at Orifice / Vent Hole: 1.40 ft
 Total Head: 16.40 ft Pump to Deliver: 45.69 gals/min at 16.40 ft head
 Dosing Volume: 218.73 gals.
 Drawdown: 218.73 gals divided by 25 gals/in = 8.75 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

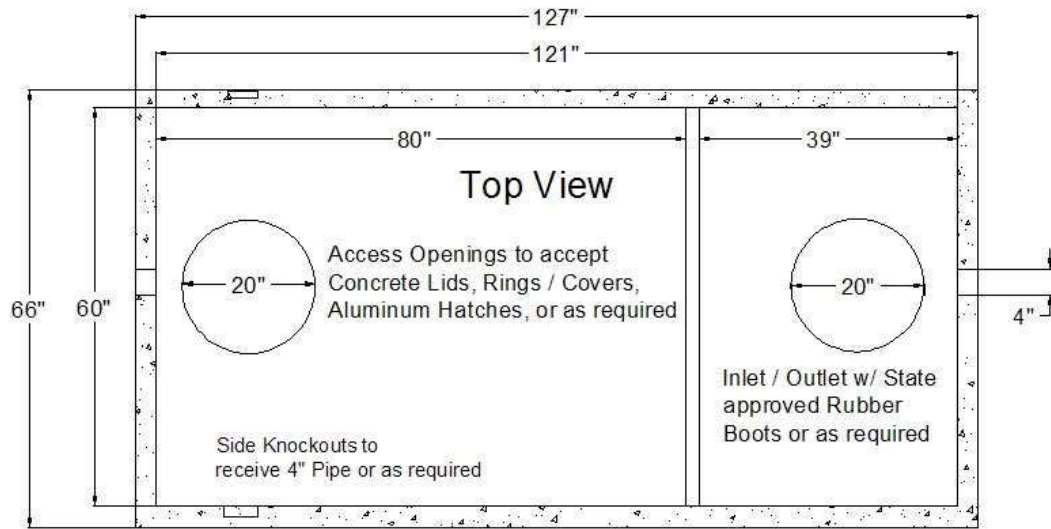
Bench Mark	7.11	is = 100.00	set at	EG @ 20/21 back corner			Design Head:	2.0		
Pump tank elev.		10.75	96.36	Pump elev.	91.36		Manifold elev.	99.96		
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE	LTAR
6	Green	8.15	98.96	90	1/2in SCH 40	7.11	97.51	270		0.3611
7	Orange	8.70	98.41	110	3/4in SCH 80	10.10	138.51	330		0.4197
8	Lime	9.76	97.35	110	3/4in SCH 80	10.10	138.51	330		0.4197
9	Blue	10.82	96.29	65	1/2in SCH 80	5.48	75.15	195		0.3854
10	nf	11.90	95.21	65	1/2in SCH 80	5.48	75.15	195		0.3854
11	nf	12.95	94.16	60	1/2in SCH 80	5.48	75.15	180		0.4175
		total	feet =	500	gal/min =	43.8	LTAR =		0.3000	
% of Pipe Vol.		67.3		Des. Flow	600.00			(ltar + 5%)	0.3150	
Dose Volume		218.73		Pump Run=	13.71			(ltar W/ INOV)	0.4000	
Dose Pump Time		5.00		Tank Gal/IN	25			(ltar + 5%)	0.4200	
Drawdown in Inches		8.75		Elev. Head	8.60					
Supply Line Length		35								
Comments:										

PRESSURE MANIFOLD DESIGN

Name: Triple A Homes P.I.N. #: _____ D #: N/A
 Address: _____ Subdiv: Hemlock Preserve Lot#: 18
 # of BDR: 5 Daily Flow: 600 gal/day L.T.A.R.: 0.300 gal/day/sq.ft
 Septic Tank: 1500 gals (min.) Pump Tank: 1500 gals (min.) Sq. Foot: 1515 Stone Dept: N/A
 (EZ Flow o. Chambers)
 Number of Taps: 5 Length of Trenches: Varies ft(See Tap Chart for Details)
 Depth of Trenches: see Wake County permit Manifold Length: 48 in
 Manifold Diameter: 4in sch 80pvc (minimum) Tap Configuration: 6 in spacing 1 side(s) of manifold
 Supply Line: length: 105 ft Diameter: 2 in sch 40pvc
 Friction Loss + Fitting Loss: 4.59 ft(supply line length + 70' for fittings in pump tank)
 Design Head: 2.0 ft Elevation Head: 12.08 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: 20.38 ft Pump to Deliver: 36.07 gals/min at 20.38 ft head
 Dosing Volume: 216.65 gals.
 Drawdown: 216.65 gals divided by 25 gals/in = 8.67 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	7.11	is = 100.00	set at	EG @ 20/21 back corner			Design Head:	2.0	
Pump tank elev.		10.75	96.36	Pump elev.	91.36		Manifold elev.	103.44	
line	color	rod read	Elevation	length	hole size	flow/tap	gal/day	trench area	LINE LTAR
1	Pi&Pu	4.67	102.44	85	1/2in SCH 80	5.48	96.93	255	0.3801
2	R&G	5.20	101.91	105	1/2in SCH 40	7.11	125.77	315	0.3993
3	B&Y	6.17	100.94	105	1/2in SCH 40	7.11	125.77	315	0.3993
4	Pi&W	6.59	100.52	105	1/2in SCH 40	7.11	125.77	315	0.3993
5	Pu&Pi	7.28	99.83	105	1/2in SCH 40	7.11	125.77	315	0.3993
		total	feet =	505	gal/min =	33.9		LTAR =	0.3000
% of Pipe Vol.	66			Des. Flow	600.00			(ltar + 5%)	0.3150
Dose Volume	216.65			Pump Run=	17.69			(ltar W/ INOV)	0.4000
Dose Pump Time	6.39			Tank Gal/IN	25			(ltar + 5%)	0.4200
Drawdown in Inches	8.67			Elev. Head	12.08				
Supply Line Length	105								
Comments:									



STB - 395 - Top Seam

Date: 02-08-02

Non Traffic Rated

Liquid Capacity **1500 Gallons**

Reinforcing Schedule: # 3 Grade 60 Rebar

4500 PSI Concrete w/ State Approved Structural Fiber

3.10 yds. Est. Weight 11,800

Manufactured By:

GARNERS
Septic Tanks, Inc.

Eddie Garner, President

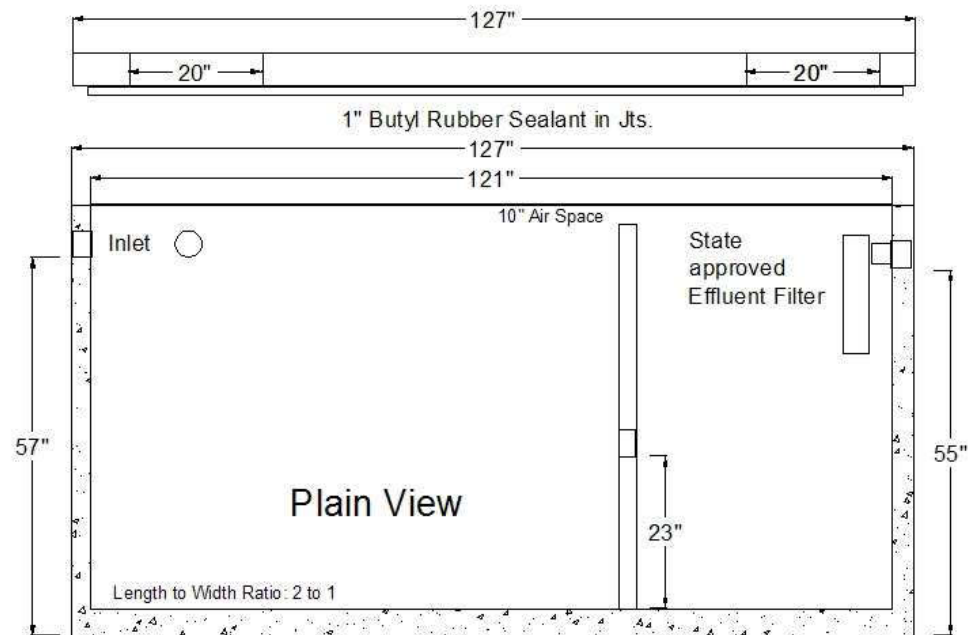
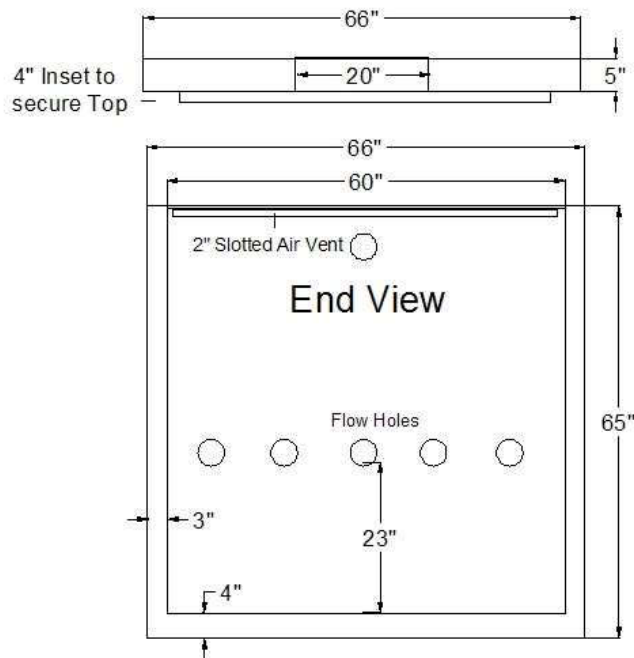
919-718-5181

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.

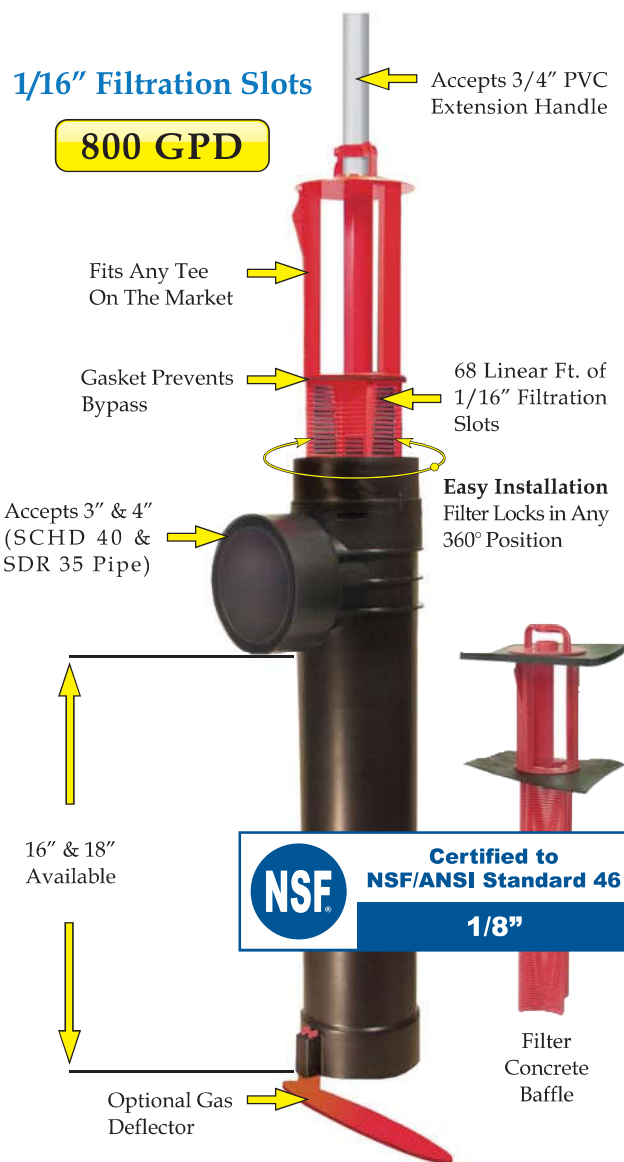
1. Do not use plumbing when filter is removed.
2. Pull PL-68 out of the tee.
3. Hose off filter over the septic tank. Make sure all solids fall back into septic tank.
4. Insert filter back into tee/housing.

Related Products:

PL-68 Filter Concrete Baffle
Extend & Lok™



Extend & Lok™
Easily installs
into existing tanks.



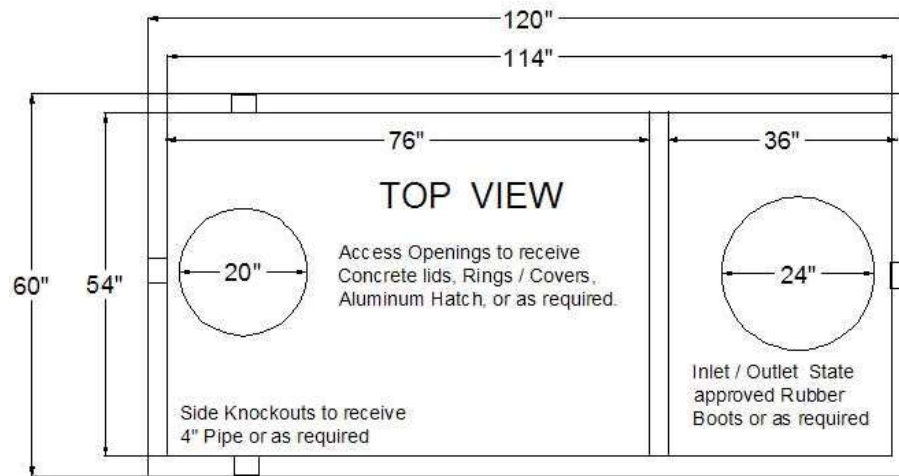
Spacer Bushing
4" SCHD 40
to SDR 35



Spacer Bushing
4" SCHD 40
to 110mm Pipe



2" Extender



PT - 312

Date: 03-02-00

Non Traffic Rated

Liquid Capacity 1,500 Gallons

Reinforcing Schedule: # 3 Grade 60 rebar

4500 PSI Concrete w/ State Approved Structural Fiber

2.85 yds. Est. Weight 11,400 lbs. 25 gals. per in.

Manufactured By:

GARNERS
Septic Tanks, Inc.

Eddie Garner, President

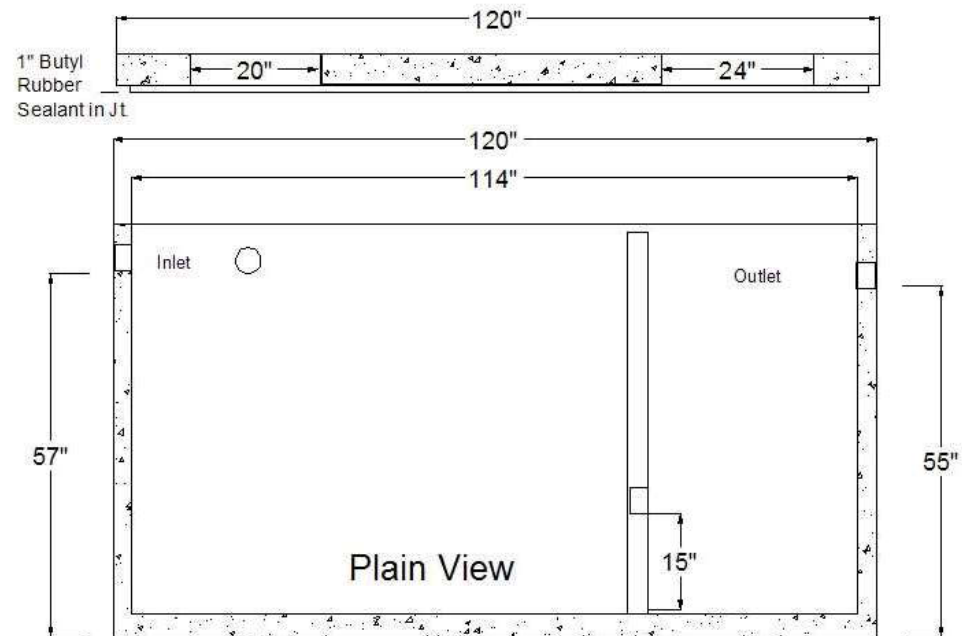
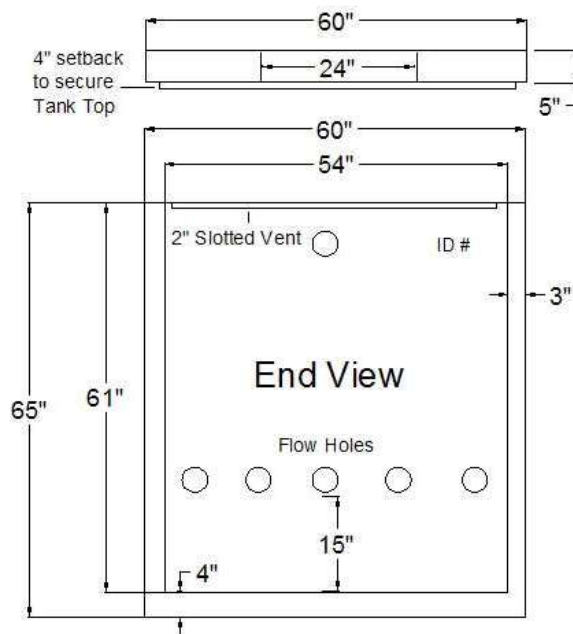
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Carthage, NC 28327

Fax 919-775-2229

Eddie@garnersseptic tanks.com



INSTALLER FRIENDLY SERIES® - IFS Single Phase Simplex (Demand/TD)

Single phase, simplex demand dose or timed dose, float controlled system for pump control and system monitoring.

The IFS simplex control panel is designed to control one 120, 208, 240 VAC single phase pump in water and sewage installations.

The IFS control panel features an easy-to-use touch pad with display on the inner door for programming and system monitoring.

The panel configuration can be easily converted in the field to either a timed dose or demand dose.

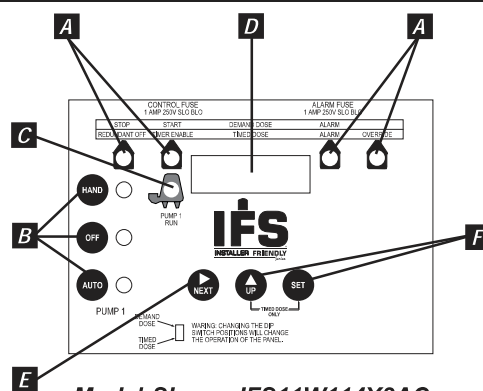
TOUCH PAD FEATURES

- A. **Float Indicators** illuminate when floats are activated. Alarm will activate if a float operates out of sequence.
- B. **HOA (Hand-Off-Automatic) Buttons** control pump mode with indication. Hand mode defaults to Automatic when stop level or redundant off level is reached.
- C. **Pump Run Indicator** illuminates when pump is called to run.
- D. **LED Display** shows system information including: mode, pump elapsed time (hh:mm), events (cycles), alarm counter, float error count, timed dose override counter (timed dose only), and ON/OFF times (timed dose only).
- E. **NEXT Push Button** toggles display.
- F. **UP and SET Push Buttons** set pump ON/OFF times (timed dose only).

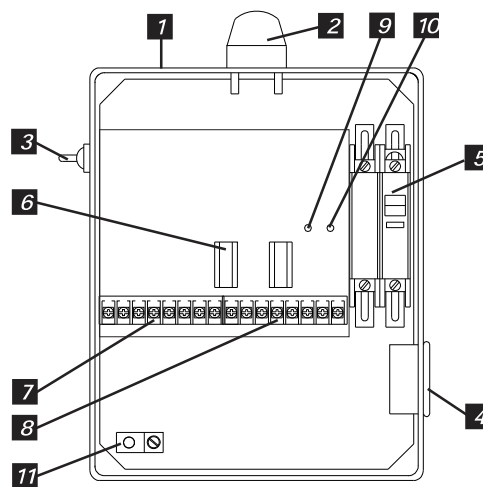
PANEL COMPONENTS

1. **Enclosure** base measures 10 X 8 X 4 inches (25.4 X 20.32 X 10.16 cm). NEMA 4X (ultraviolet stabilized thermoplastic with removable mounting feet for outdoor or indoor use). **Note:** Options, voltage, and amp range selected may change enclosure size and component layout.
2. **Red Alarm Beacon** provides 360° visual check of alarm condition.
3. **Exterior Alarm Test/Normal/Silence Switch** allows horn and light to be tested and horn to be silenced in an alarm condition. Alarm automatically resets once alarm condition is cleared.
4. **Alarm Horn** provides audio warning of alarm condition (83 to 85 decibel rating).
5. **Circuit Breaker** (optional) provides pump disconnect and branch circuit protection.
6. **Power Relay** controls pump by switching electrical lines. Definite purpose contactor used when pump full load amps are above 15.
7. **Float Connection Terminal Block**
8. **Incoming Control/Alarm Power & Pump Terminal Block**
9. **Control Power Indicator/Fuse** indicator light illuminates if control power is present in panel. Alarm will activate if control fuse is blown.
10. **Alarm Power Indicator/Fuse** indicator light illuminates if alarm power is present in panel.
11. **Ground Lug**

NOTE: Schematic/Wiring Diagram and Pump Specification Label are located inside the panel on enclosure cover



Model Shown IFS11W114X8AC
(Inner door view)



Model Shown IFS11W114X8AC
(Inside view)

Reg. Cdn Pat. & TM Off

FEATURES

- Entire control system (panel and switches) is UL Listed to meet and/or exceed industry safety standards
- Dual safety certification for the United States and Canada
- Standard package includes:
 - Demand Dose** - three 20' SJE MilliAmpMaster™ control switches
 - Timed Dose** - two 20' SJE MilliAmpMaster™ control switches
- Complete with step-by-step installation instructions
- Three-year limited warranty



SJE Rhombus

PO Box 1708, Detroit Lakes, MN 56502
1-888-DIAL-SJE • 1-218-847-1317
1-218-847-4617 Fax
email: sje@sjerhombus.com
www.sjerhombus.com

SEE BACKSIDE FOR COMPLETE LISTING OF AVAILABLE OPTIONS.

IFS

2

1

W

Note

Note

4

H

8AC, 10E, 10F

15A

MODEL IFS

MODEL TYPE

☐

X

1 = SPLX TIMED DOSE (includes option 8AC standard)

2 = SPLX DEMAND DOSE (includes option 8AC standard)

ALARM PACKAGE

☒

1 = alarm package (includes test/normal/silence switch, fuse, red light & horn)

ENCLOSURE RATING

☒

W = NEMA 4X

STARTING DEVICE

☐

☐

1 = 120/208/240 VAC

9 = 120 VAC

PUMP FULL LOAD AMPS

☐

☐

☐

0 = 0-7 FLA

1 = 7-15 FLA

2 = 15-20 FLA

PUMP DISCONNECTS

☐

X

0 = no pump disconnect

4 = circuit breaker

120 VAC (must select starting device option 9)

120/208/240 VAC (must select starting device option 1)

SWITCH APPLICATIONS

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☐

H = floats (Timed dose = low level and alarm / Demand dose = stop, start, and alarm) (select 17 option)

X = no float

timed dose

demand Dose

Note: Pump down applications only.

OPTIONS Listed below

Note: Starting device, pump full load amps, cord length, and float type to be selected by installer and their electrician upon selection of pump.

If additional features are required, call the factory for a quote on an Engineered Custom control panel.

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CODE DESCRIPTION

1J Duo alarm inputs

3A Alarm flasher

3B Manual reset alarm

4A Redundant off (select option 4D if floats are required)

Demand Dose

Timed Dose

4D Redundant off float

6A Auxiliary alarm contacts, form C

☒

8AC Display board includes: ETM counter, events (cycles) counter, alarm counter, and override counter (timed dose only). (Included as standard.)

☒

X

10E Lockable latch - NEMA 4X

☒

10F Lightning arrestor (must select pump circuit breaker, control and alarm power combined)

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☐

10K Anti-condensation heater

☐

11C NEMA 1 remote alarm panel (must select option 6A)

☐

X

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CODE DESCRIPTION

11D NEMA 4X remote alarm panel (must select option 6A)

☒

15A Control / Alarm circuit breaker

☐

16A 10' cord in lieu of 20' (per float)

☐

16B 15' cord in lieu of 20' (per float)

☐

16C 30' cord in lieu of 20' (per float)

☐

16D 40' cord in lieu of 20' (per float)

☐

17C Sensor Float® / internally weighted ▲ (per float)

☐

17D Sensor Float® / externally weighted ▲ (per float)

☐

17G MilliAmpMaster™ / pipe clamp ● (per float)

☐

17H MilliAmpMaster™ / externally weighted ● (per float)

☐

17J Sensor Float® / pipe clamp ▲ (per float)

☐

18A Timer override option with float (timed dose only)

● Mechanically-activated

▲ Mercury-activated

SAMPLE

MODEL

IFS

1

1

W

9

1

4

H

8AC 10E 17G

Model Type

Alarm Package

Enclosure Rating

Starting Device

Pump Full Load Amps

Pump Disconnects

Switch Application

Options: Display, Lockable Latch,

SJE MilliAmpMaster™/pipe clamp

quality . service
innovation . integrity

150 Series



Features

The "Dose-Mate" series of submersible pumps is designed for use in residential or light commercial dewatering applications and can be used to transfer groundwater or effluent. These durable cast iron pumps include a powder coated epoxy finish to prevent corrosion and are designed to provide great heat dissipation from the motor, ensuring a long service life. As with every Zoeller pump, each one is 100% pressure-tested, submerged and run to ensure quality and reliability for years of trouble-free performance!

- Ideal for use in septic systems, low pressure pipe (LPP), and enhanced flow STEP system applications.
- Automatic models include a float-operated, two-pole mechanical switch, a stainless steel float guard and switch arm, and a solid, buoyant polypropylene float which prevents water from filling the float and causing a malfunction.
- For nonautomatic pumps, variable level control systems and containers of various sizes are available for longer cycles.
- Includes a stainless steel handle for easy installation and removal.
- All models are hermetically sealed to be watertight, dust-tight, and completely submersible.

Reserve Powered Design: For unusual conditions, a reserve safety factor is engineered into the design of every pump.

Specifications

Motor Characteristics

Motor	1/3 - 1/2 HP
Voltage	115 or 230 V
Phase	1 Ph
Hertz	60 Hz
RPM	3450 RPM
Type	Permanent split capacitor
Insulation	Class B
Amps	3.2 - 10.5 Amps

Pump Characteristics

Operation	Automatic or nonautomatic
Discharge Size	1-1/2" NPT
Solids Handling	151: 1/2" (13 mm), 152/153: 3/4" (19 mm) spherical solids
Cord Length	20' (6 m) standard
Cord Type	UL Listed power cord
Max Head	44' (13.4 m)
Max Flow Rate	77 GPM (291 LPM)
Max Operating Temp	130 °F (54 °C)
Cooling	Oil filled
Motor Protection	Auto reset thermal overload

Materials Characteristics

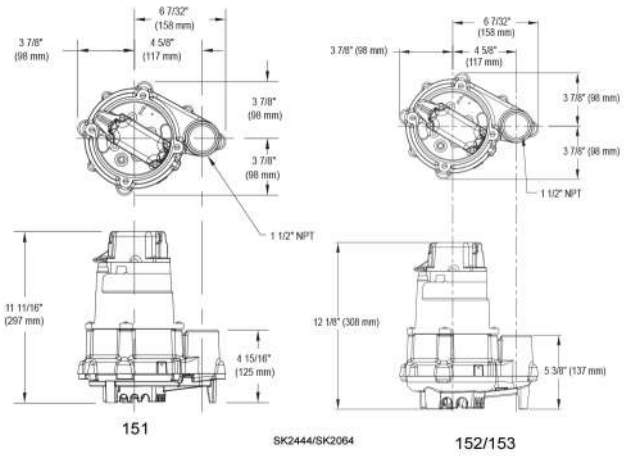
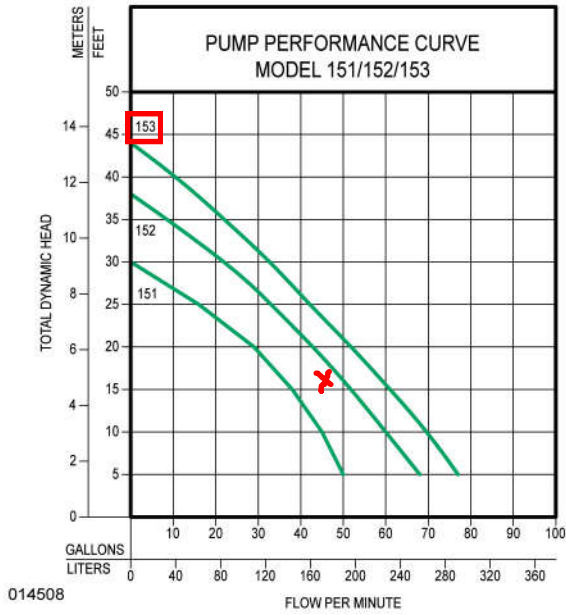
Cap	Cast iron
Motor Housing	Cast iron
Pump Housing	Cast iron
Base	Plastic or cast iron
Upper Bearing	Sleeve bearing
Lower Bearing	Ball bearing
Mechanical Seals	Carbon and ceramic
Impeller Type	Non-clogging vortex
Impeller	Engineered thermoplastic
Hardware	Stainless steel
Motor Shaft	AISI 1215 steel
Gasket	Neoprene



PUMP COMPANY

Zoeller Family of Water Solutions™

150 Series



Model

Model Number	Seal	Mode	Volts	Phase	Amps	HP	Hz	Lbs	Kg
N151	Single	Non	115	1	6.0	1/3	60	32	15
E151	Single	Non	230	1	3.2	1/3	60	32	15
BN151	Single	Auto	115	1	6.0	1/3	60	33	15
BE151	Single	Auto	230	1	3.2	1/3	60	33	15
N152	Single	Non	115	1	8.5	0.4	60	37	17
E152	Single	Non	230	1	4.3	0.4	60	37	17
BN152	Single	Auto	115	1	8.5	0.4	60	39	18
BE152	Single	Non	230	1	4.3	0.4	60	39	18
N153	Single	Non	115	1	10.5	1/2	60	37	17
BN153	Single	Auto	115	1	10.5	1/2	60	39	18
E153	Single	Non	230	1	5.3	1/2	60	37	17
BE153	Single	Non	230	1	5.3	1/2	60	39	18

BN and BE models include a 20' (6 m) piggyback variable level pump switch.
Additional cord lengths are available in 25' (8 m), 35' (11 m) and 50' (15 m).

Your Peace of Mind is Our Top Priority®
 3649 Cane Run Rd | Louisville, KY 40211 USA
 +1 502-778-2731 | 1-800-928-7867 | Fax: +1 502-774-3624
www.zoeller.com

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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

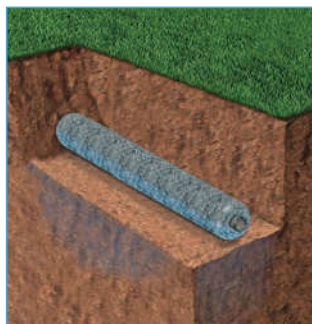
construction offers structural integrity and resists compaction. Engineered flow-channels increase void space creating improved water flow and greater storage.



Compared with stone and pipe, benefits include:

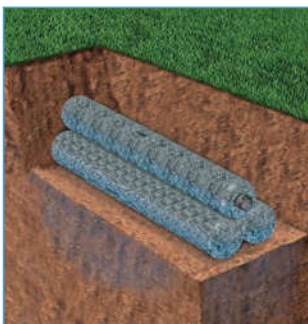
- Always clean and free of fines
- Bundles are quick to install, saving costs on heavy machinery and labor
- Modular construction allows configurations to match trench dimensions for most system shapes and sizes
- Engineered for optimal storage and absorption efficiencies
- Ability to contour along sloped 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.



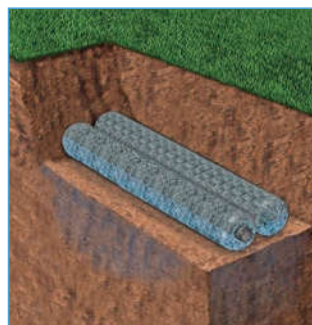
Single Bundle

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



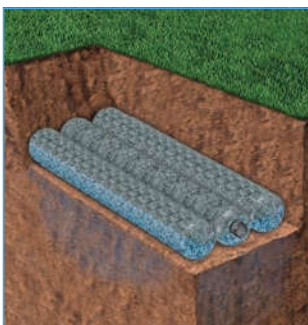
Triangular Bundle

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

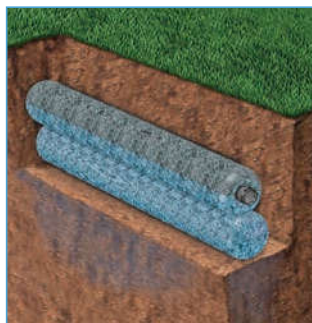


Horizontal Bundles

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

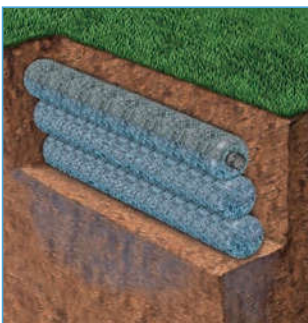


1206H-GEO 1402H-GEO
1303H-GEO 1802H-GEO



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.



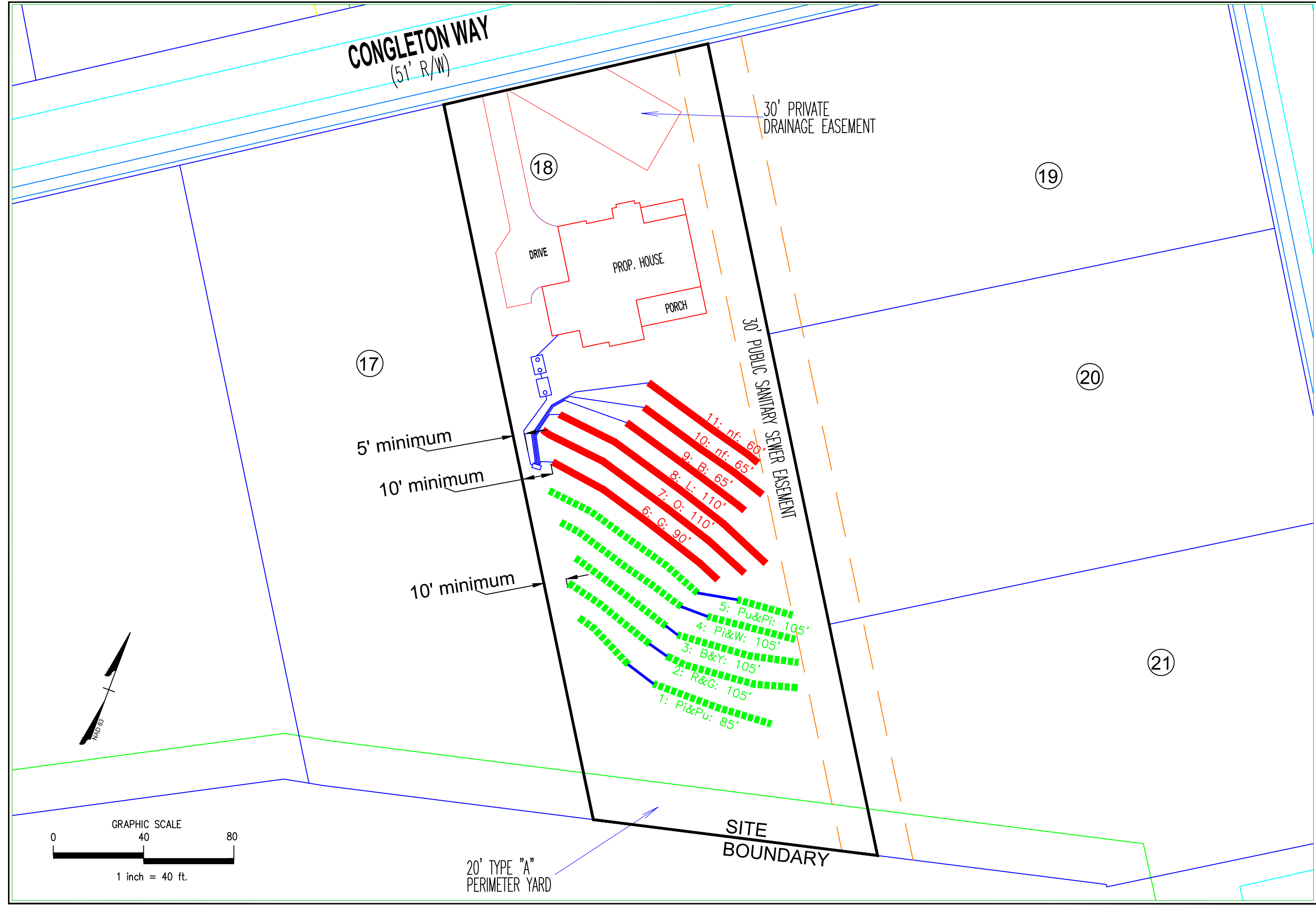
4 Business Park Road
P.O. Box 768
Old Saybrook, CT 06475
860-577-7000 • Fax 860-577-7001
1-800-221-4436
www.infiltratorwater.com

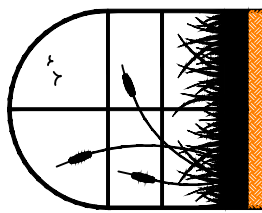
U.S. Patents: 4,759,661; 5,017,041; 5,156,488; 5,336,017; 5,401,116; 5,401,459; 5,511,903; 5,716,163; 5,588,778; 5,839,844 Canadian Patents: 1,329,959; 2,004,564 Other patents pending. Infiltrator, Equalizer, Quick4, and SideWinder are registered trademarks of Infiltrator Water Technologies. Infiltrator 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.

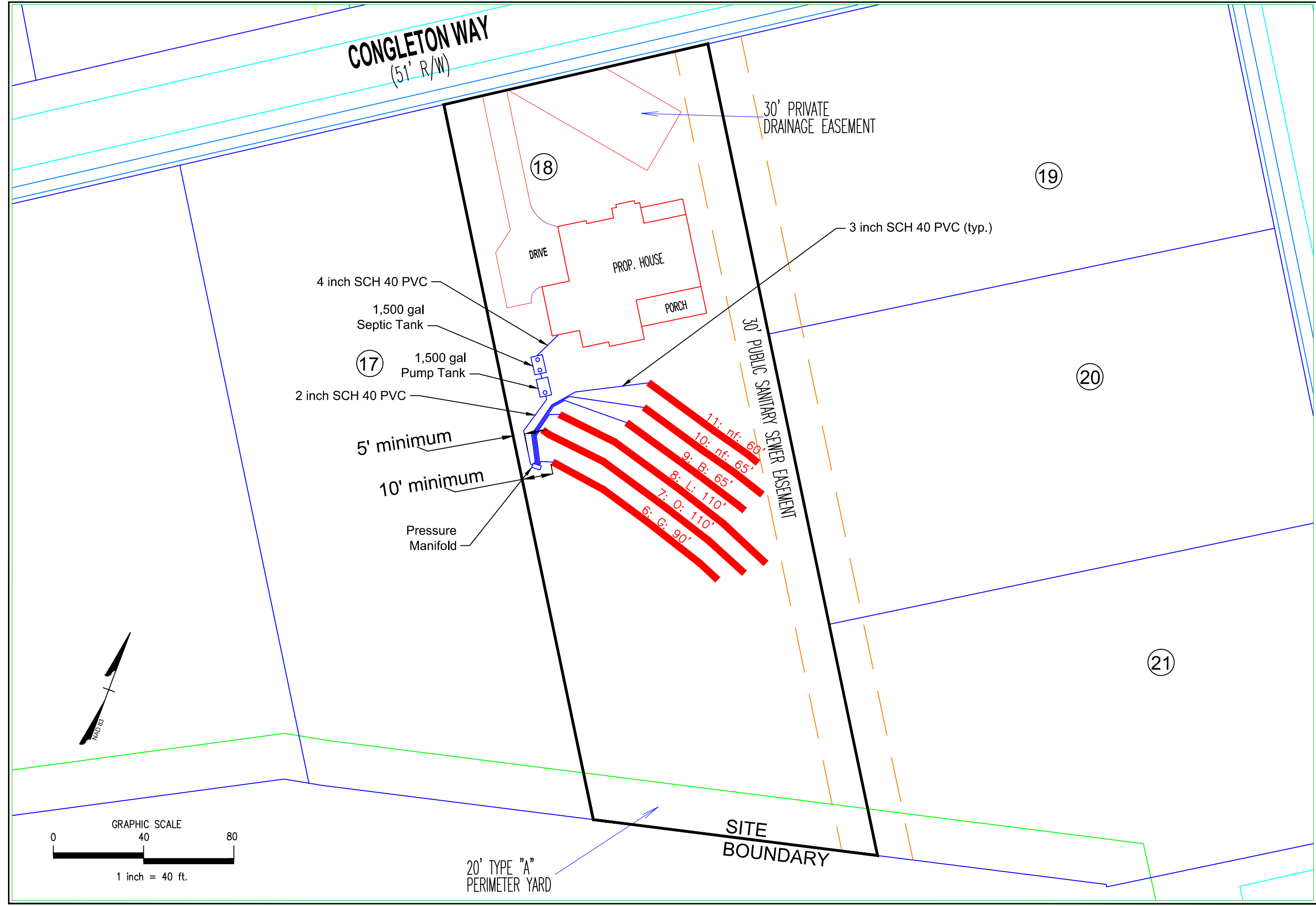
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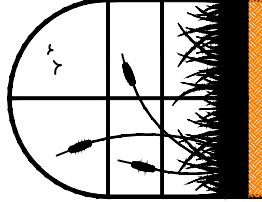
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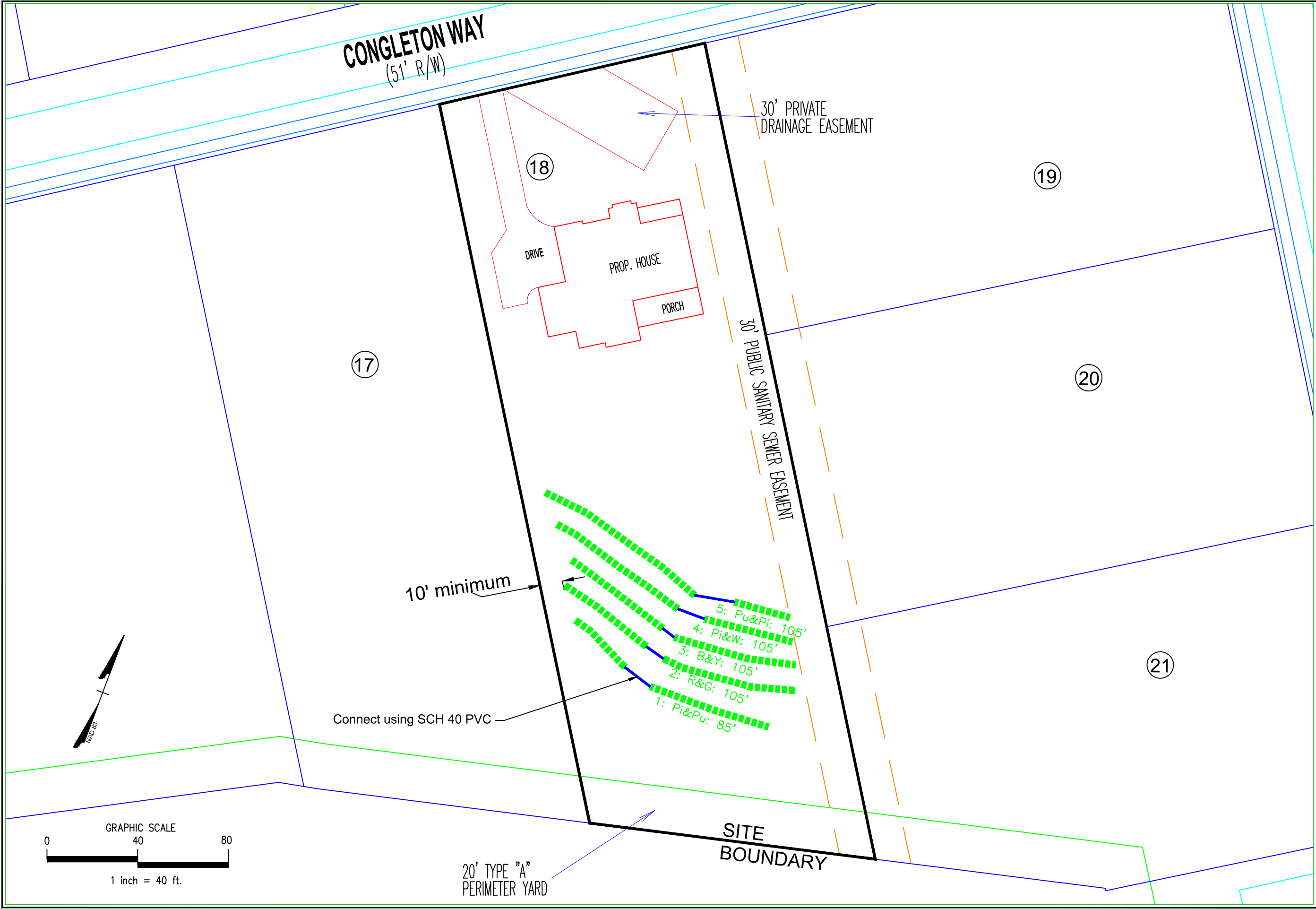
Contact Infiltrator Water Technologies' Technical Services Department for assistance at 1-800-221-4436

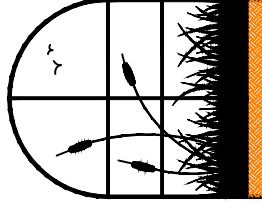


MITCHELL ENVIRONMENTAL, PA C-2917		PREPARED FOR : Triple A Homes, Inc. 1308 Green Oaks Parkway Holly Springs, NC 27540		REVISION NO. Original Submittal	DATE December 20, 2018
1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526		DATE : December 20, 2018		Revision 1	-----
		DESIGNER CONTACT: ADAM AYCOCK, EI		Revision 2	-----
		SURVEYOR CONTACT:		Revision 3	-----
				Master Set	-----
		SHEET NUMBER 1 of 7			
		Hemlock Preserve Lot 18 Overall Septic			



	MITCHELL ENVIRONMENTAL, PA C-2917		PREPARED FOR : Triple A Homes, Inc. 1308 Green Oaks Parkway Holly Springs, NC 27540		REVISION NO.	DATE
	1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526		DATE : December 20, 2018 DESIGNER CONTACT: ADAM AYCOCK, EI SURVEYOR CONTACT:		Original Submittal Revision 1 Revision 2 Revision 3 Master Set	December 20, 2018 ----- ----- ----- -----
					SHEET NUMBER 2 of 7	
					Hemlock Preserve Lot 18 Initial Nittrification Field	





MITCHELL ENVIRONMENTAL, PA
C-2911

1501 LAKESTONE VILLAGE LANE
SUITE 205
FUQUAY VARINA, NC 27526

PREPARED FOR : Triple A Homes, Inc.
1308 Green Oaks Parkway
Holly Springs, NC 27540

DATE : December 20, 2018

DESIGNER CONTACT:
ADAM AYCOCK, EI

SURVEYOR CONTACT:

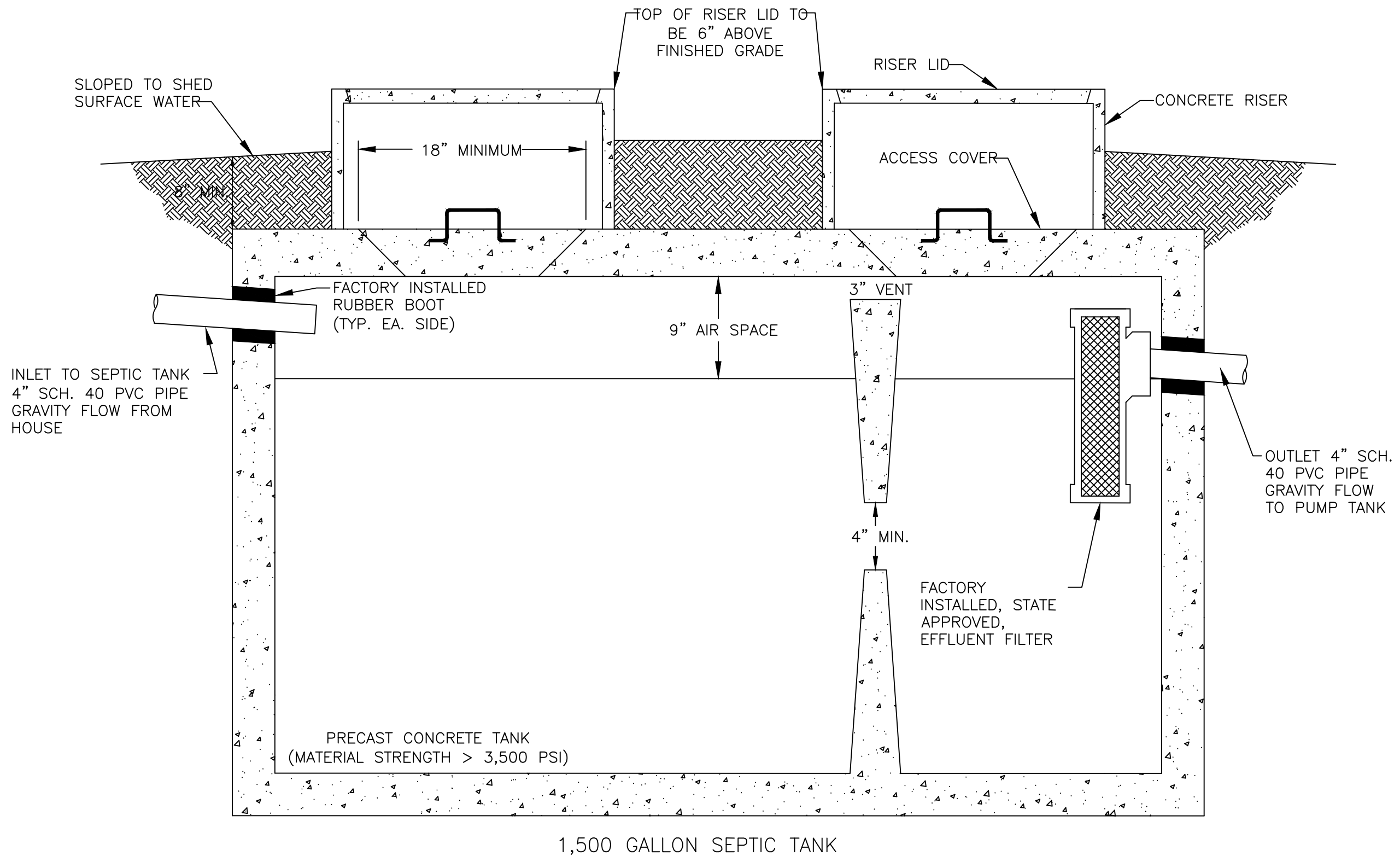
REVISION NO.	DATE
Original Submittal	December 20, 2018
Revision 1	----
Revision 2	----
Revision 3	----
Master Set	----

SHEET NUMBER

3 of 7

Hemlock Preserve
Lot 18

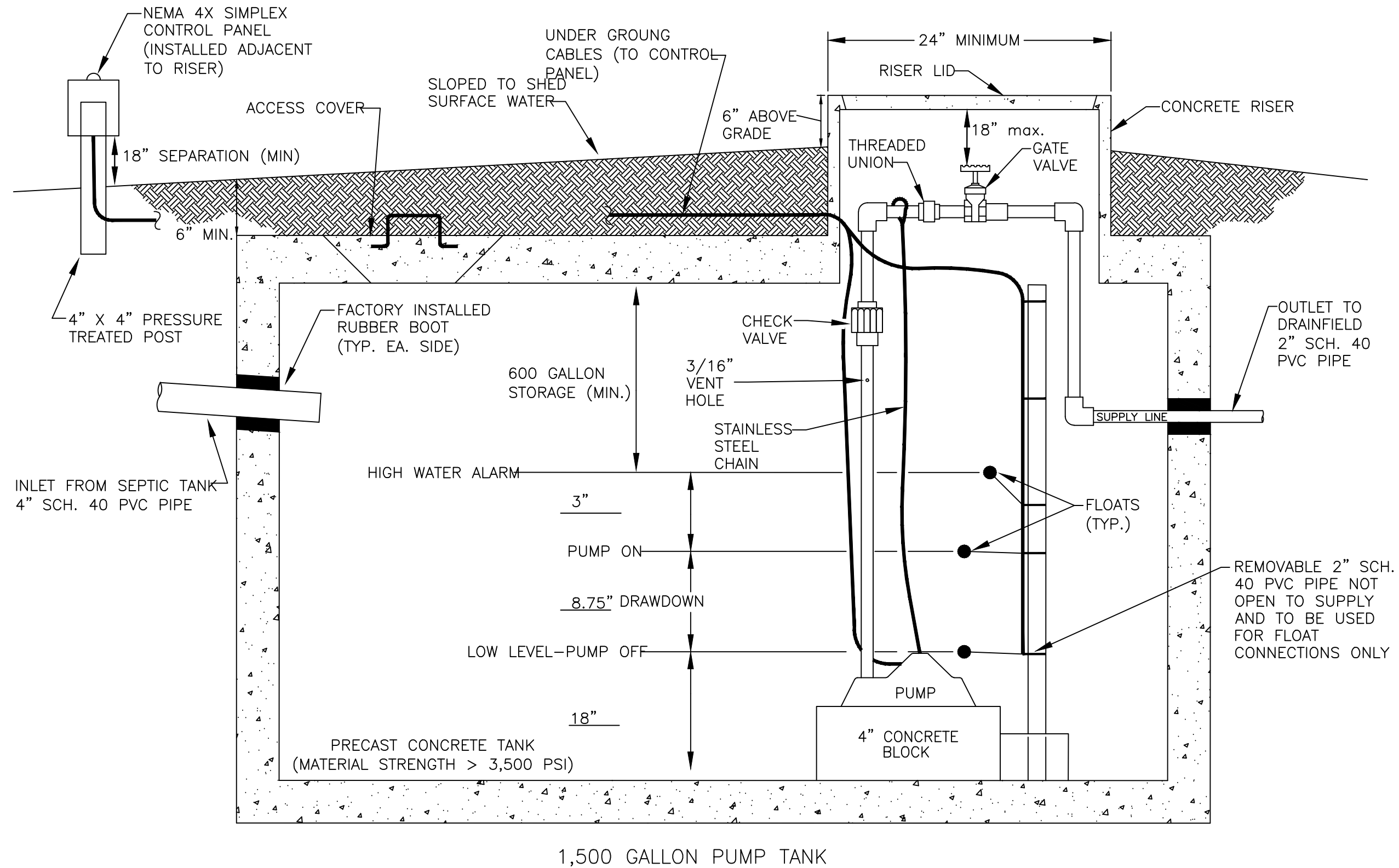
Repair Nitrification Field



SEPTIC TANK DETAIL N.T.S.

		MITCHELL ENVIRONMENTAL, PA C-2917 1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526		PREPARED FOR : Triple A Homes, Inc. 1308 Green Oaks Parkway Holly Springs, NC 27540	
		DATE : December 20, 2018			
		DESIGNER CONTACT: ADAM AYCOCK, EI			
		SURVEYOR CONTACT:			
REVISION NO.		DATE		SHEET NUMBER	
Original Submittal		December 20, 2018		4 of 7	
Revision 1		----			
Revision 2		----			
Revision 3		----			
Master Set		----			
				Hemlock Preserve Lot 18 Septic Tank Detail	

* DRAWDOWN SPECIFIED 25.0 GALLONS PER INCH



PUMP TANK DETAIL

N.T.S.

SHEET NUMBER

7 of 5

***Hemlock Preserve
Lot 18
Pump Tank Detail***

DATE
December 20, 2018

REVISION NO. _____
Original Submit

PREPARED FOR : Triple A Homes, Inc.
1308 Green Oaks Parkway
Holly Springs, NC 27540

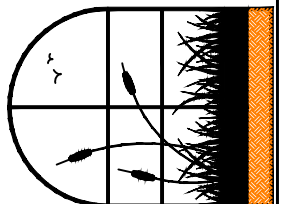
DATE : December 20, 2018

DESIGNER CONTACT:
ADAM AYCOCK, EI

SURVEYOR CONTACT:

MITCHELL ENVIRONMENTAL, PA
C-2911

1501 LAKESTONE VILLAGE LANE
SUITE 205
FUQUAY VARINA, NC 27526

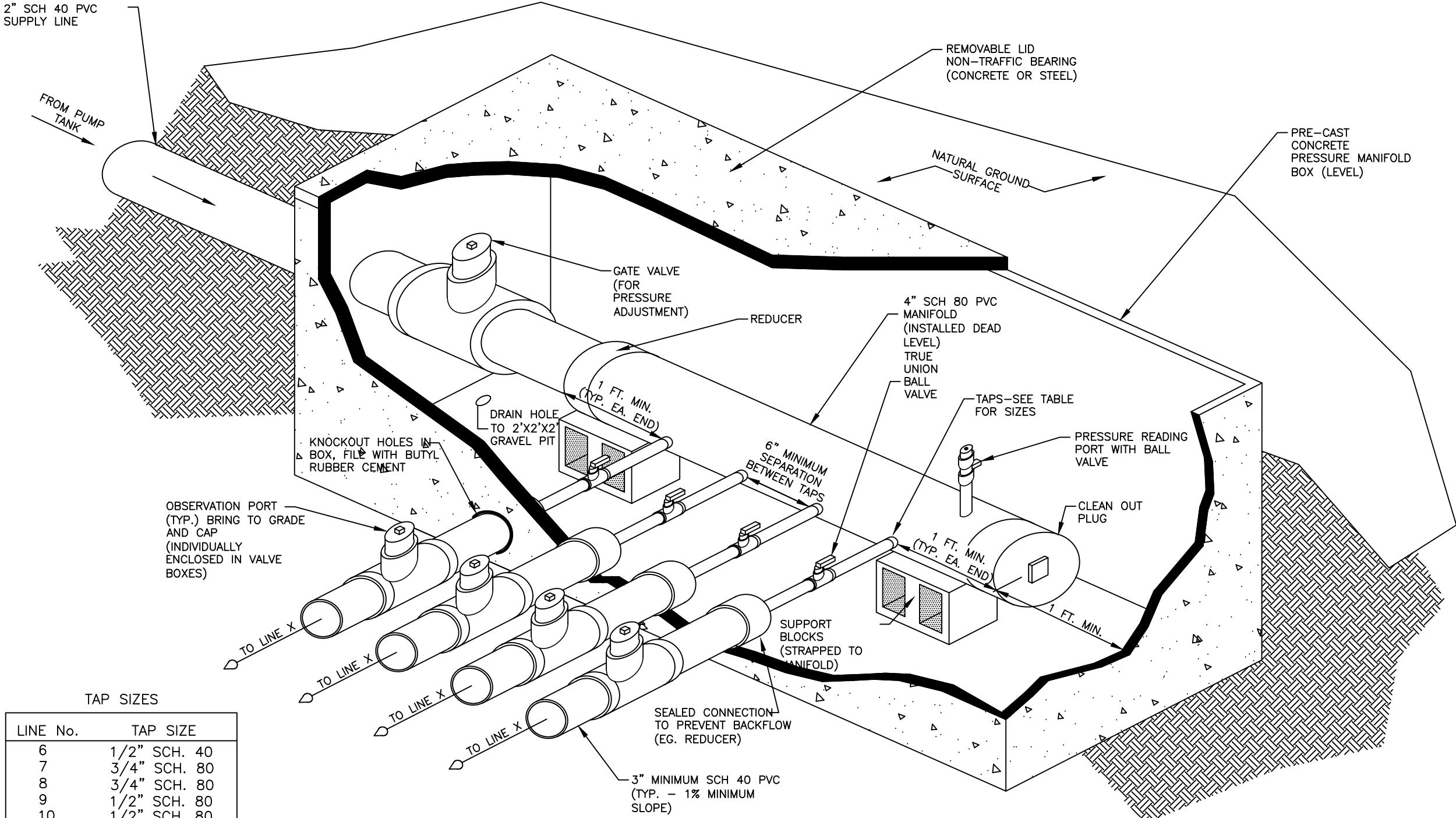


**PRESSURE MANIFOLD DETAIL
FOR HEMLOCK PRESERVE LOT 18 INITIAL SEPTIC SYSTEM**

N.T.S.

NOTE: MANIFOLD MAY NEED TO BE FLIPPED SO THAT
SUPPLY LINE ENTRANCE AND CLEANOUTS ARE
REVERSED. SEE SITE PLAN.

NOTE: THE NUMBER OF TAPS MAY VARY FROM LOT
TO LOT. SEE DESIGN SHEET FOR NUMBER OF TAPS.



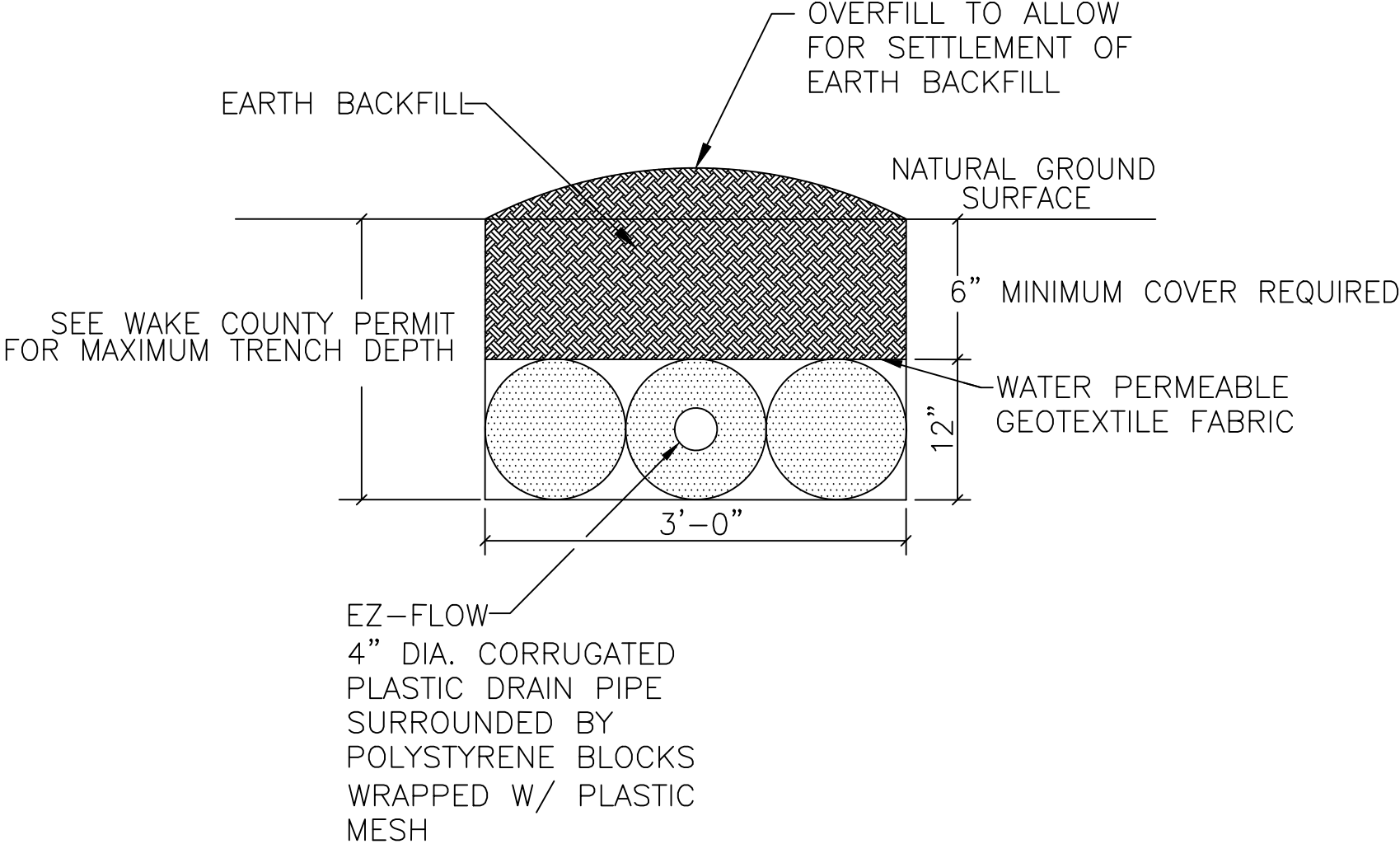
TAP SIZES

LINE No.	TAP SIZE
6	1/2" SCH. 40
7	3/4" SCH. 80
8	3/4" SCH. 80
9	1/2" SCH. 80
10	1/2" SCH. 80
11	1/2" SCH. 80

SHEET NUMBER	6 of 7				Hemlock Preserve Lot 18 Pressure Manifold Detail
	DATE	December 20, 2018	REVISION NO.	Original Submittal	
PREPARED FOR : Triple A Homes, Inc. 1308 Green Oaks Parkway Holly Springs, NC 27540	DATE	December 20, 2018	DESIGNER CONTACT:	ADAM AYCOCK, EI	
	SURVEYOR CONTACT:				
	MITCHELL ENVIRONMENTAL, PA C-2917				
	1501 LAKESTONE VILLAGE LANE SUITE 205 FUQUAY VARINA, NC 27526				

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.

SHEET NUMBER

7 of 7

Hemlock Preserve
Lot 18
Trench Detail

DATE

December 20, 2018

REVISION NO.

Original Submittal

Revision 1

Revision 2

Revision 3

Master Set

PREPARED FOR : Triple A Homes, Inc.
1308 Green Oaks Parkway
Holly Springs, NC 27540

DATE : December 20, 2018

DESIGNER CONTACT:

ADAM AYCOCK, EI

SURVEYOR CONTACT:

MITCHELL ENVIRONMENTAL, PA
C-2911

1501 LAKESTONE VILLAGE LANE
SUITE 205
FUQUAY VARINA, NC 27526

