

OSSF Design

Revised 5-19-2021

Design Sizing Calculations

Based upon the site evaluation results, the site has clay loam soil down to 4 feet deep. A conventional septic tank/gravity drain field is proposed, with the drain field to be built using leaching chambers.

Design Flow Rate

The house to be served by this OSSF has a conditioned space of 384 sq. ft. See the attached floor plan. Per [REDACTED] the minimum design flow rate for the structure is 100 gpd.

Septic Tank

This minimum size for a septic tank specified in Chapter 285.91, Table II, is 750 gallons, applicable to any OSSF with a design flow rate of 250 gpd or less. It is proposed to install a Norwesco 2-chamber lowprofile septic tank made of high-density polyethylene, as shown on the attached product drawing. The septic tank is to be installed in conformance with Norwesco installation instructions. The septic tank will be fitted with a Polylok PL-68 effluent filter. See the attached product drawing

Drain field

Class III soil – see attached Site Evaluation Report

- Design field loading rate ≤ 0.2 gpd/sq. ft., from Chapter 285.91, Table I.

- Required field area, $A = 100/0.2 = 500$ sq. ft.

Per Chapter 285.33(c)(2)(A)(ii), the required length of trench is set by the equation:

$$L = 0.75A/(W+2)$$

with W = chamber width, in feet.

It is proposed to use ARC 36 chambers, as shown on the attached product sheet, with a nominal trench width of 36 inches, so $W = 3$ feet. This yields:

$$L = 0.75 \times 500 / (3+2) = 75 \text{ feet}$$

It is proposed to install 3 trenches, each 25 feet long and 3 feet wide on descending contours. An overflow line will connect upper excavations to lower excavations. See the attached site plan and drain field profile drawings showing the proposed location and configuration of the trenches.



COVERED PORCH

24'

16'

DINING/LIVING AREA

BATH

KITCHEN

BEDROOM

██████████ CABIN

FLOOR PLAN

2/26/2021

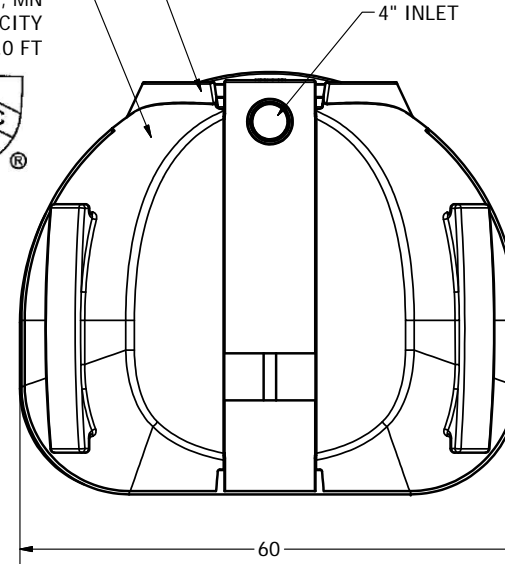
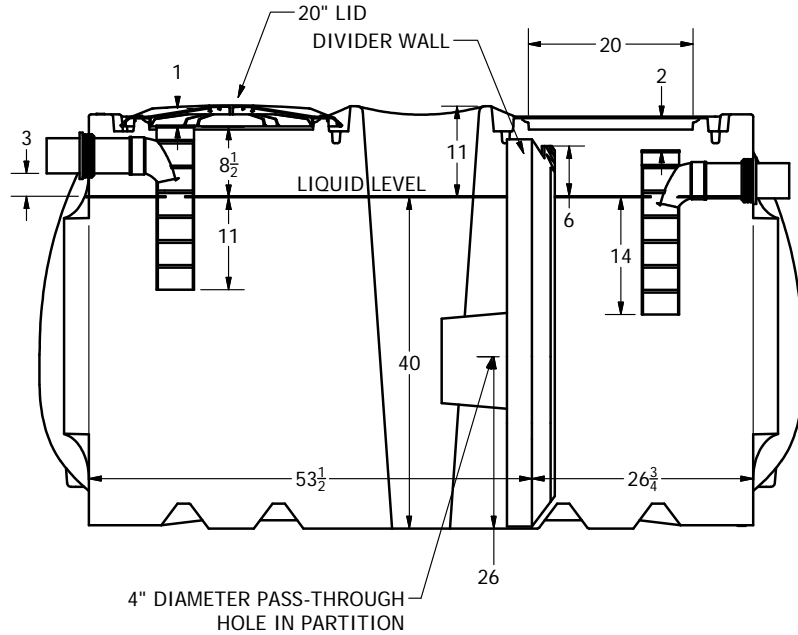
Scale: 1/4" = 1'

MATERIAL: HIGH-DENSITY POLYETHYLENE
 WALL THICKNESS: TANK WALL - .250"
 DIVIDER WALL - .19"

ZONE		REV	REVISION HISTORY	DATE	APPROVED
			DESCRIPTION		

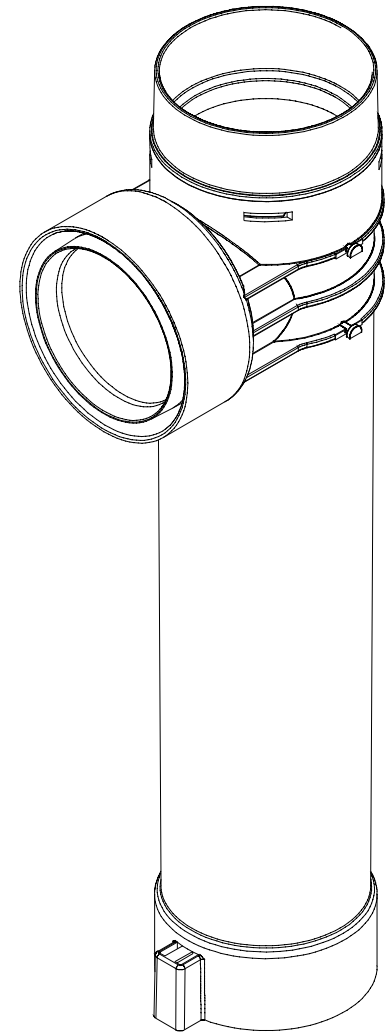
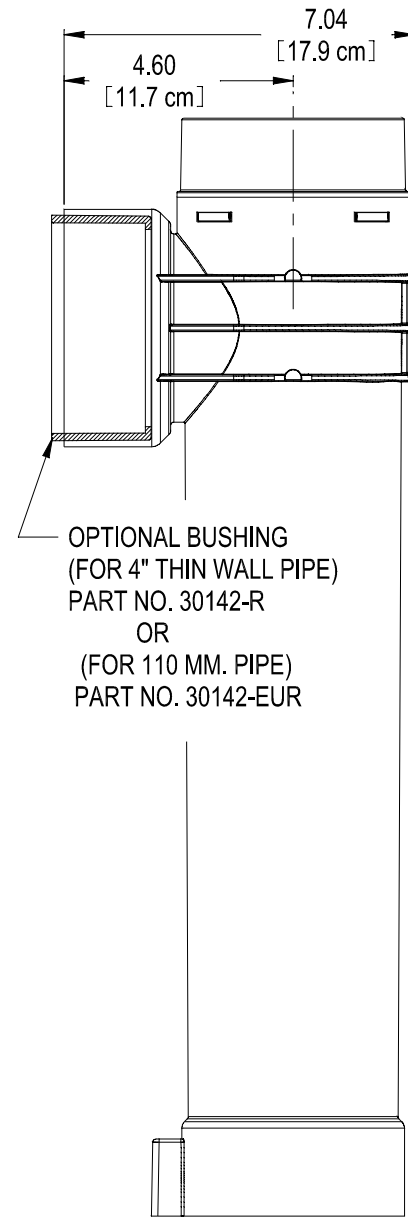
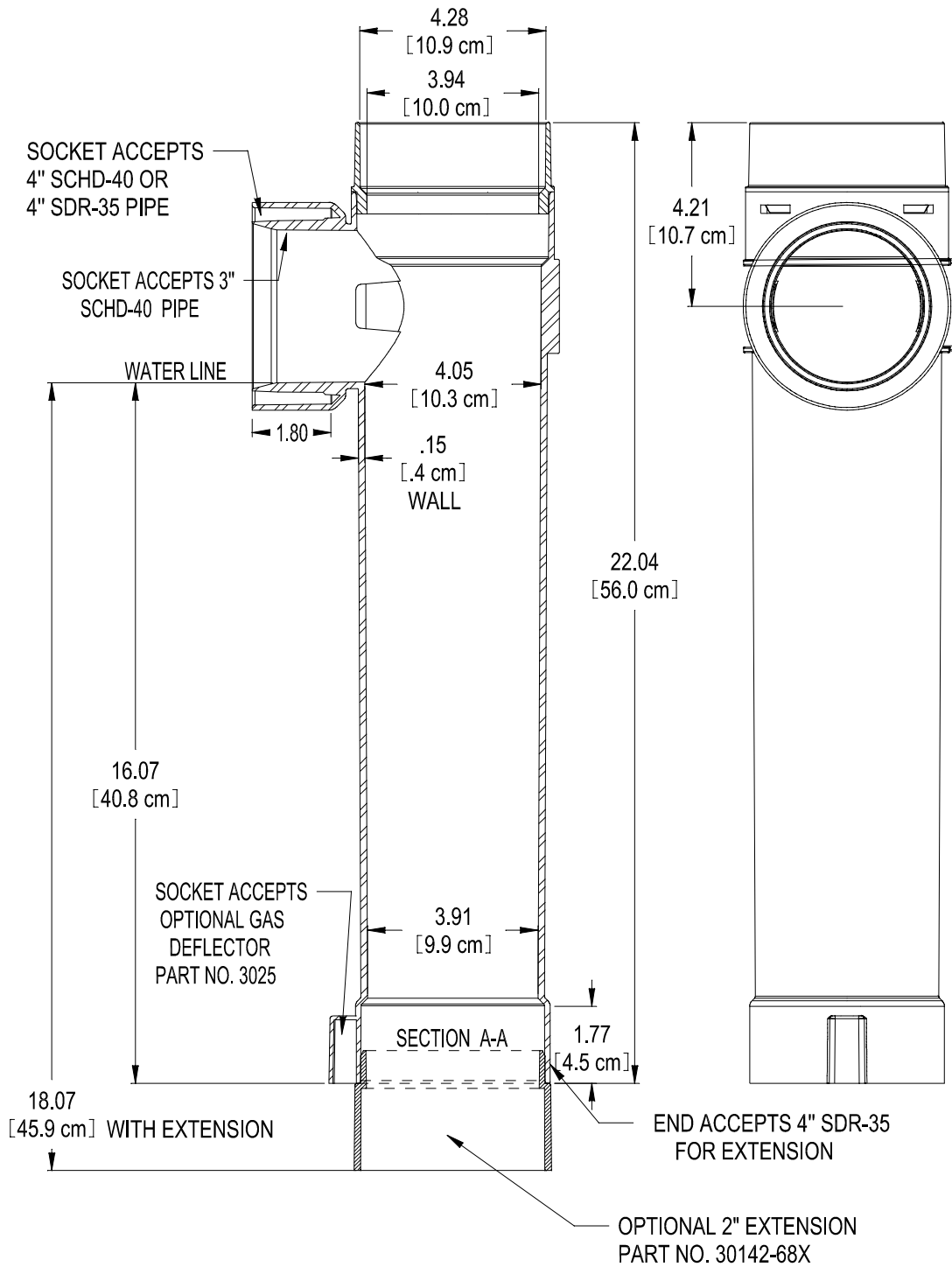
SERIAL NUMBER EMBOSSED HERE
 CAN BE REFERENCED TO THE
 DATE OF MANUFACTURE

NORWESCO, INC.
 ST. BONIFACIUS, MN
 750 GALLON CAPACITY
 MAX. EARTH COVER 3.0 FT

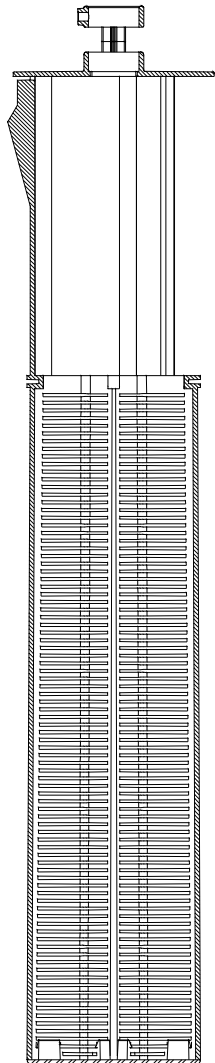
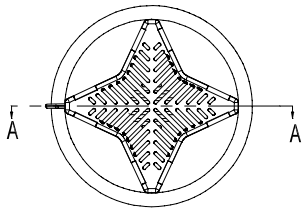


OPERATING VOLUME: PRIMARY COMPARTMENT: 499 GALLONS
 OPERATING VOLUME: SECONADARY COMPARTMENT: 255 GALLONS

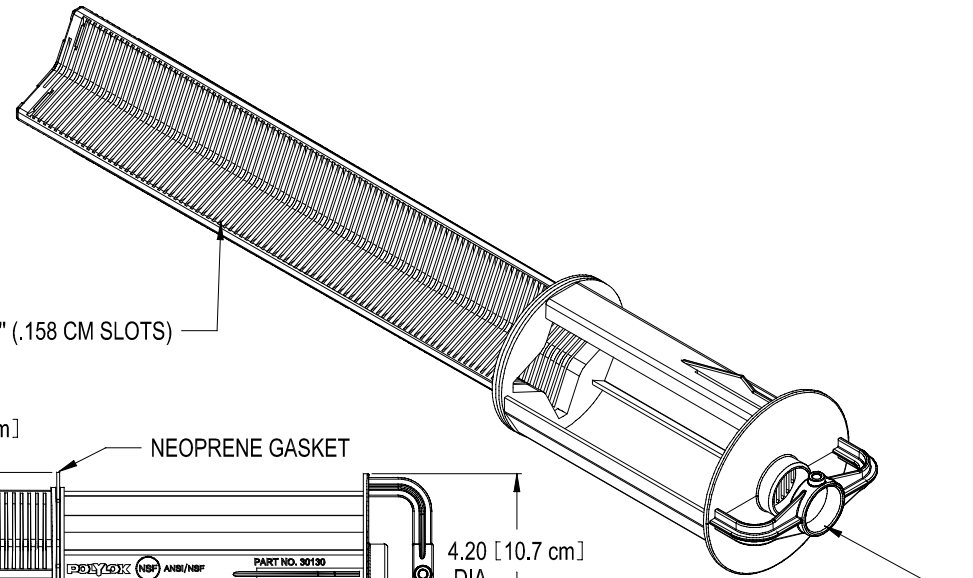
DRAWN Todd Bolzer	5/8/2012	 NORWESCO, INC., ST. BONIFACIUS, MN		
CHECKED				
QA		TITLE		
MFG		750 GALLON LOW PROFILE SEPTIC TANK IAPMO		
APPROVED				
		SIZE	DWG NO	REV
		B	750 Gallon IAPMO	
		SCALE: 1/16	SHEET 1 OF 1	



POLYLOK PL-68 HOUSING 3"& 4"
 PART NO. 30142-68-3
 MATERIAL - ABS
 COLOR - BLACK



SECTION A-A



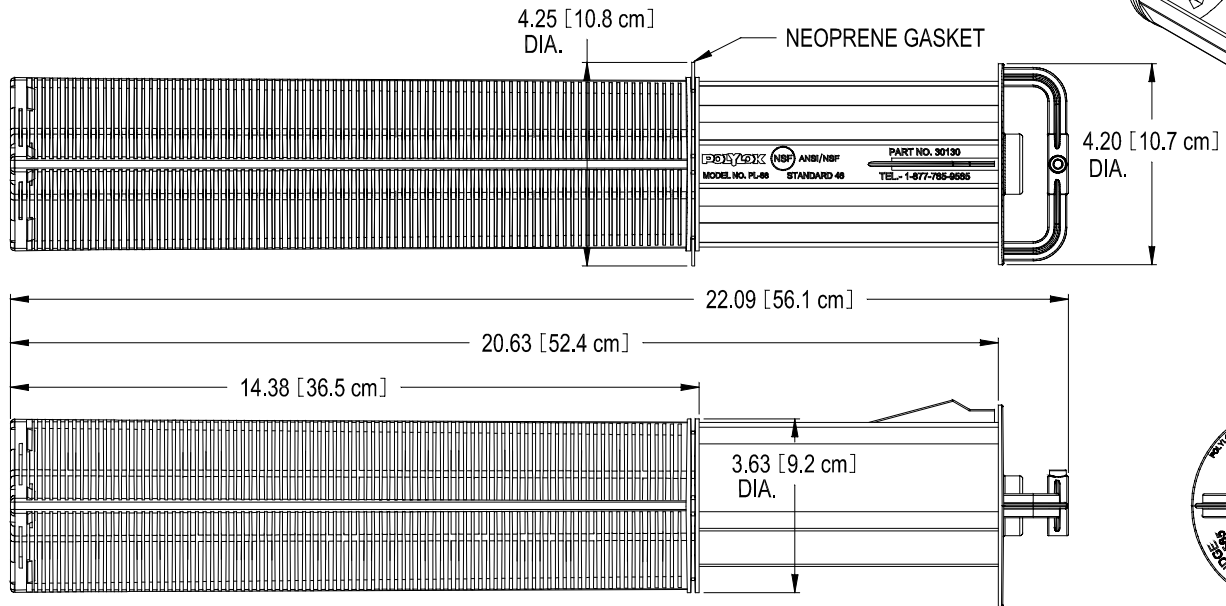
68 FT. (20.73 METERS OF 1/16" (.158 CM SLOTS))

4.25 [10.8 cm]
DIA.

NEOPRENE GASKET

4.20 [10.7 cm]
DIA.

ACCEPTS 3/4" PIPE FOR HANDLE

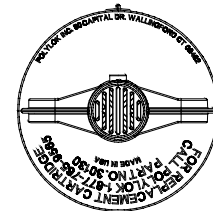


22.09 [56.1 cm]

20.63 [52.4 cm]

14.38 [36.5 cm]

3.63 [9.2 cm]
DIA.



PL-68 FILTER CARTRIDGE
 PART NO. - 30130
 MATERIAL - POLYPROPYLENE
 COLOR - RED
 TOTAL FILTER AREA - 1.1 SQ. FT.(1021 SQ. CM)

HAYS COUNTY ENVIRONMENTAL HEALTH DEPARTMENT OSSF SOIL EVALUATION FORM

Owner's Name _____

Physical Address _____

Legal Description _____

Name of Site Evaluator _____

Date Performed 3/2/21 Proposed Excavation Depth 2 FT

Requirements:

- At least two soil evaluations must be performed on the site, at opposite ends of the proposed disposal area. Locations of soil evaluations must be shown on the application site drawing or designer's site drawing.
- For subsurface disposal, soil evaluations must be performed to a depth of at least 2 ft. below the proposed excavation depth. For surface disposal, the surface horizon must be evaluated.
- Please describe each soil horizon and identify any restrictive features in the space provided below. Draw lines at the appropriate depths.

Soil Profile Hole Number <u>1</u>					
Depth (ft)	Textural Class	Gravel Analysis	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations
0	<u>III</u>	<u>NONE</u>	<u>NONE</u>	<u>NONE</u>	ROOTS TO ~32"
1					
2	<u>III</u>	<u>NONE</u>	<u>NONE</u>	<u>NONE</u>	NO WATER
3					
4					
5	<u>BOTTOM</u>				

Soil Profile Hole Number <u>2</u>					
Depth (ft)	Textural Class	Gravel Analysis	Drainage (Mottles/Water Table)	Restrictive Horizon	Observations
0	<u>III</u>	<u>NONE</u>	<u>NONE</u>	<u>NONE</u>	ROOTS TO ~32"
1					
2	<u>III</u>	<u>NONE</u>	<u>NONE</u>	<u>NONE</u>	NO WATER
3					
4					
5	<u>BOTTOM</u>				

Features of Site Area

- | | | |
|--|---|--|
| Presence of 100 year flood zone | Yes _____ | No <input checked="" type="checkbox"/> |
| Presence of adjacent ponds, streams, water impoundments | Yes _____ | No <input checked="" type="checkbox"/> |
| Existing or proposed water well in nearby area | Yes _____ | No <input checked="" type="checkbox"/> |
| Organized sewage available to lot or tract | Yes _____ | No <input checked="" type="checkbox"/> |
| Recharge features within 150 feet | Yes _____ | No <input checked="" type="checkbox"/> |
| This site is suitable for a standard On-Site Sewage Facility. | Yes <input checked="" type="checkbox"/> | No _____ |





ArcTM
Leachfield Chamber

SAVE TIME AND LABOR WITH THE ARC 36

Leaching chambers are rapidly becoming the product of choice for leachfield applications over conventional pipe and gravel systems. Their lightweight construction offers lower installed costs and less intrusive installations.

ENGINEERED FOR OPTIMAL PERFORMANCE

The Arc 36 septic leaching chamber is a sturdy, lightweight plastic unit that combines maximized infiltrative surface area and storage capacity with an improved structural design to handle most any conventional leachfield system challenge without sacrificing performance.

This unique combination allows for increased effluent dispersal performance and improved structural integrity as well as ease of installation and simplified contouring capabilities.

FEATURES & BENEFITS:

- Injection molded from High Density Polyethylene (HDPE) for lightweight and sturdy design
- 20-degree integral articulating joint that is ideal for either straight or contoured septic leachfield applications
- True corrugated chamber design eliminates flat surfaces and provides increased load bearing capability in the trench
- Designed to accommodate both gravity-fed and pressure-dosed systems
- “Lock and Drop” joint provides a more positive connection during installation and backfill
- A universal inlet/outlet end cap
- Inspection vent ports on every unit with easy-to-remove knockouts for maximum job site flexibility
- Convenient five-foot lengths are easy to handle
- Quickly installed by one person into three-foot wide trench or bed applications
- Increased plumbing option with Side Port Coupler component which snaps in place to allow side entry at any joint throughout the trench line
- Diamond plate texture increases slip resistance and enhances ease of installation

ADS Service: ADS representatives are committed to providing you with the answers to all your questions, including specifications, and installation and more.



Lock & Drop



Side Port Coupler



Diamond Plate Texture



THE MOST **ADVANCED** NAME IN WATER MANAGEMENT SOLUTIONSTM

ADS ARC™ 36 SEPTIC LEACHING CHAMBER SPECIFICATIONS

SCOPE

This specification describes the Arc chamber units for use in onsite wastewater disposal applications.

CHAMBER REQUIREMENTS

Arc chambers are manufactured from high-density polyethylene with an open bottom, solid top and louvered sidewalls. Sidewall louvers shall be designed to minimize soil intrusion.

Chamber shall meet the load rating of H-10 (16,000 lb per axle) with a minimum of 12 inches of cover when tested in accordance with IAPMO PS 63 and installed in accordance with manufacturers installation procedures.

CHAMBER CONNECTION

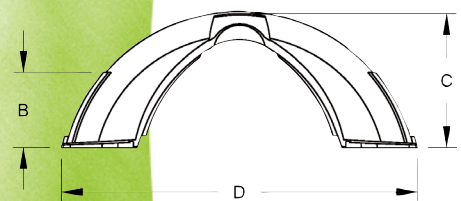
Each chamber shall interlock with an integral articulating joint. Articulating joints shall have a free range of horizontal rotation of 20 degrees, with a maximum of 10 degrees in either direction. Articulating joint shall be constructed by placing the dome with engaging knuckle of the incoming chamber over the post end of the previously-installed chamber, with final engagement occurring when the lower base flanges of the incoming chamber under lap the raised base flanges of the previously installed chamber.

MATERIAL PROPERTIES

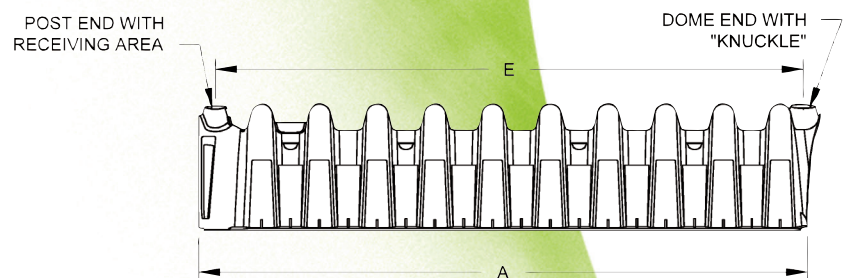
Each chamber shall be manufactured from high-density polyethylene as defined and described in IAPMO PS 63.

INSTALLATION

Installation shall be in accordance with ADS installation procedures and those issued by the local health department regulations.



ARC 36 NOMINAL DIMENSIONS	
Length (A)	63"
Repeat Length (E)	60"
Sidewall Height (B)	7.13"
Overall Height (C)	12"
Overall Width (D)	34"
Weight	15 lbs.
Total Open Bottom Area	11.94 sq.ft.
Capacity	8 cu ft (60.14 gal)
Pallet Quantity	70 chambers
Van (Box Trailer) Quantity	25 Pallets
Flatbed Quantity	22 Pallets

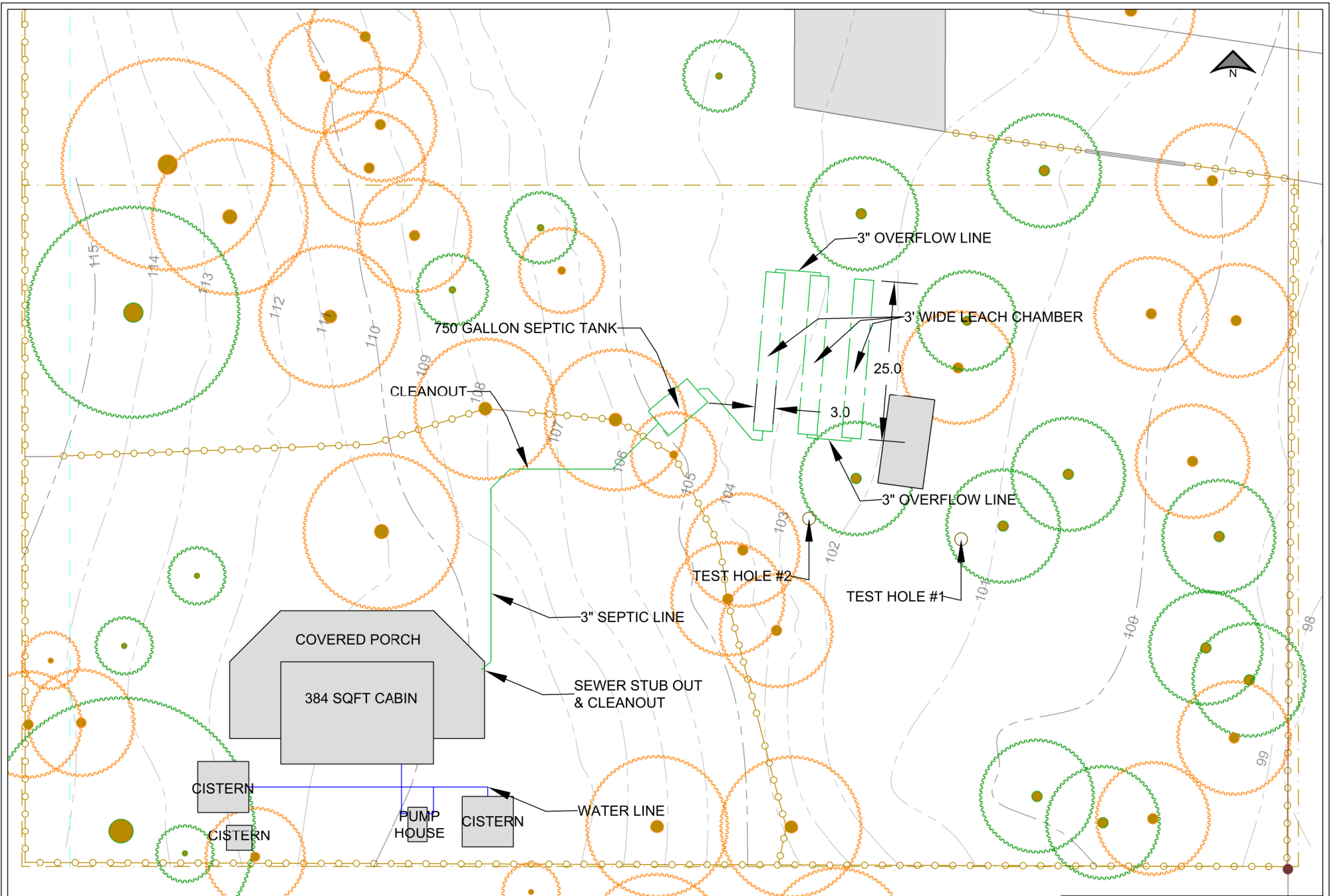


For more information on ADS Arc 36 and other ADS products, please contact our Customer Service Representatives at **1-800-821-6710**

ADS "Terms and Conditions of Sale" are available on the ADS website, www.ads-pipe.com
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THE MOST **ADVANCED** NAME IN WATER MANAGEMENT SOLUTIONS™

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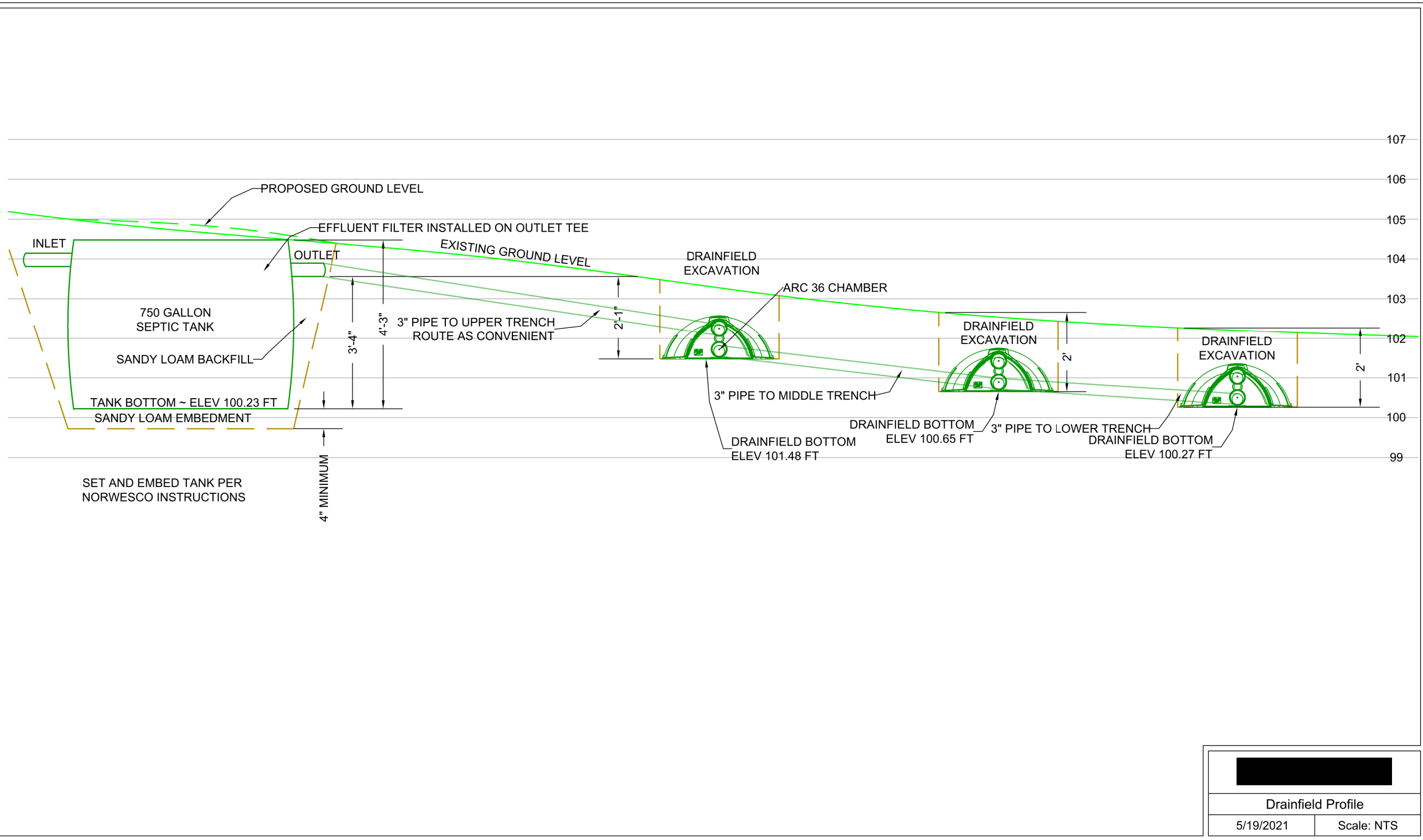



GENERAL LEGEND

- FENCE
- CONTOUR (INTERVAL: 1 FOOT)
- PROPERTY LINE

- EXISTING DECIDUOUS TREE*
 - EXISTING EVERGREEN TREE*
- *SOME TREES WITH TRUNK DIAMETERS LESS 10 INCHES NOT SHOWN

Site Plan	
5/19/2021	Scale: 1" = 20'



	
Drainfield Profile	
5/19/2021	Scale: NTS