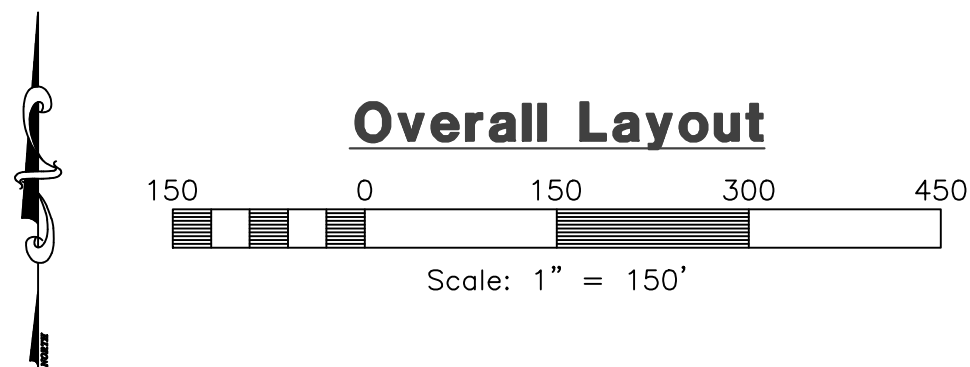


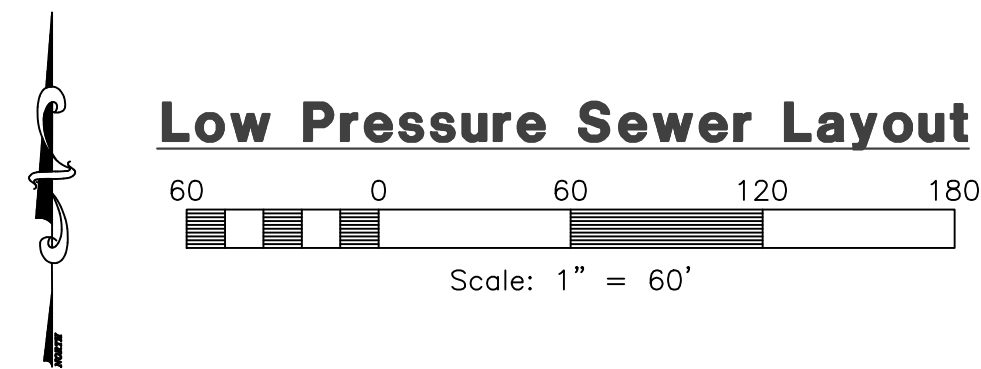
WEBER COUNTY, UTAH
JUNE 2025

-
- 150 0 150 300 450
- Scale: 1" = 150'





■ Reeve & Associates, Inc. - Solutions You Can Build On



REGISTERED PROFESSIONAL ENGINEER
375928
J. NATE REEVE
07/08/2025
STATE OF UTAH

2	
3	Total Sheets

Septic System Sizing

AN EXISTING LUWDS WAS INSTALLED TO SERVICE THE SAGE DEVELOPMENT OF 20 SINGLE FAMILY RESIDENCES. THE SYSTEM IS A PACKED BED MEDIA WITH DRIP IRRIGATION ABSORPTION AREA. THE CALCULATIONS BELOW ACCOUNT FOR 4 ADDITIONAL LOTS FROM THE ADJACENT LOWE, LEGACY SUBDIVISION WITH 1 LOT FROM THE SAGE DEVELOPMENT REMOVED DUE TO PURCHASE BY UDOT.

HYDRAULIC LOADING RATE = 0.45 GAL/DAY/SF
MAX ABSORPTION DEPTH 8-10 INCHES
LATERAL LENGTH = SEE LAYOUT
SPACING FROM DRIP LINE TO DRIP LINE = 2 FT

DAILY WASTEWATER FLOW 400 GPD/DWELLING
23 SINGLE FAMILY LOTS

9,200 GAL/DAY
9,200 S.F./0.45 = 20,444 S.F.
20,444 S.F. x .7 PACKED BED REDUCTION = 14,311 S.F.
14,311 S.F./2 F.T. LINE SPACING = 7,156 L.F. LINE LENGTH
7,156 L.F./2 F.T. EMITTER SPACING = 3,578 EMITTERS

INDIVIDUAL LOTS PROVIDE SEPTIC TANK STORAGE AT EACH LOT. MINIMUM OF 1000 GALLONS PER LOT REQUIRED PER UTAH RULE 317-4
PROVIDE EACH LOT WITH PRELOS 1000 WITH PUMP DISCHARGE

AN ADDITIONAL 933 L.F. OF DRIP LINE IS REQUIRED TO BE INSTALLED.

AX-MAX Hydraulic Sizing

DESIGN LOADING RATE 25 GAL/DAY/SF
DESIGN HYDRAULIC LOAD 9,200 GALLONS
HYDRAULIC LOAD AREA 368 SF

AN EXISTING AX-MAX 275-42 (275 SF) IS INSTALLED. AN ADDITIONAL 93 SF OF TREATMENT IS TO BE PROVIDED THROUGH THE INSTALLATION OF AN ADDITIONAL AX100 TEXTILE FILTER CONNECTED TO THE AX MAX SYSTEM. COORDINATE WITH JEX ENVIRONMENTAL FOR PIPING, CONNECTIONS, AND TO PROVIDE THE UNIT.

AIR VENTS / VACUUM RELIEF VALVES (OR APPROVED EQUIVALENT)

Standard Kinetic Air/Vacuum Relief Valve - Mushroom Top

Description

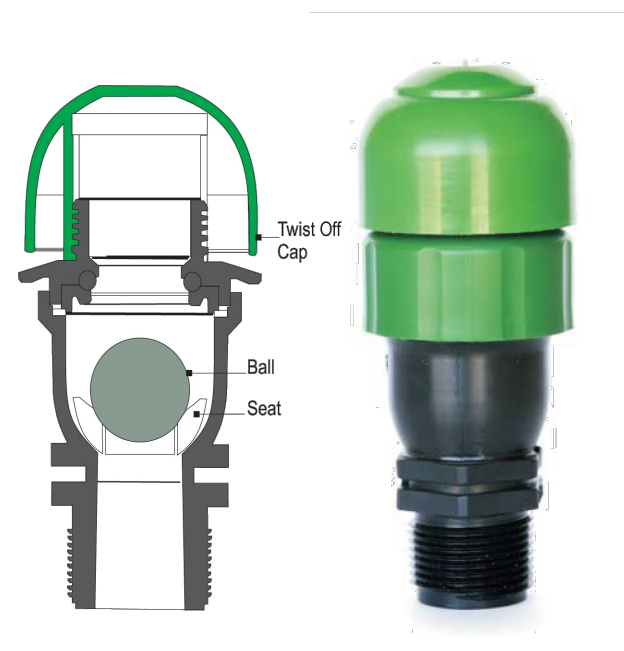
Air release occurs when air escape the system at startup and vacuum relief allows air to enter during shutdown. The air vent vacuum breakers are installed at the highest points in the drip field to keep soil from being sucked into the emitters due to back siphoning and back pressure. This is an absolute necessity with underground drip systems. They are also used for proper drainage of the supply and return manifolds. Use one on the high point of the supply manifold and one on the high point of the return manifold and any high points of the system.

Features

Geoflow's kinetic air vacuum breakers have a twist off cap that is easy to take apart for cleaning. The large clear passageway allows lots of air to flow in and out easily. The elbow cap design is ideal for directing wastewater spray, directing spray downward. With the ball removed, these airvents can easily be used as a flush port. These can be used in freezing climates to capture warmer air that can be found below ground, in a sump during vacuum.

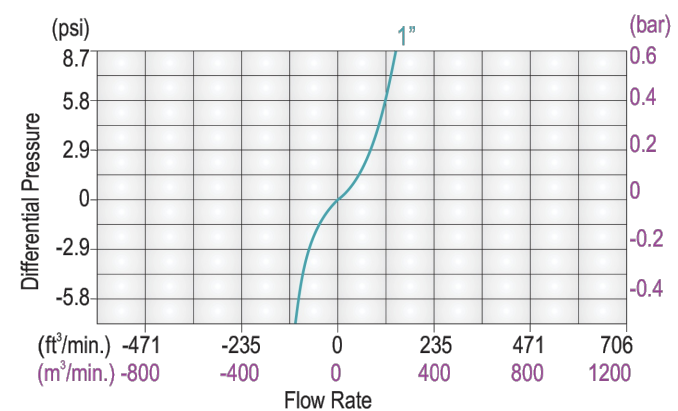
Specification

The Air Vacuum Breaker shall provide vacuum relief and non-continuous air relief. Both the body and the ball shall be made of molded plastic. The ball shall be removable for easy cleaning. The air vacuum breaker shall be part number APVBK100M as supplied by Geoflow, Inc.



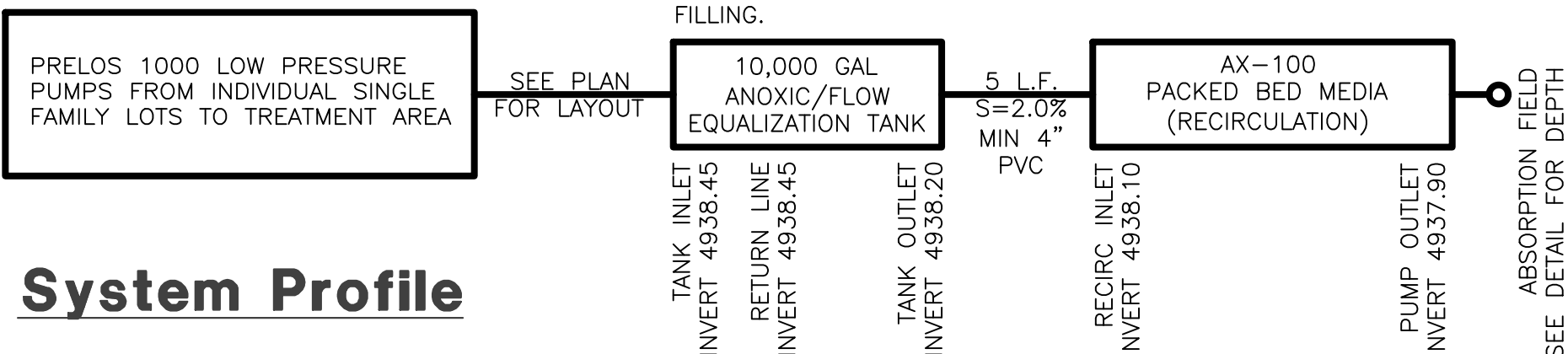
Part No.	APVBK100M
Inlet	1"
Max. Pressure	80 psi/185 ft.
Max. Temp	140° F
Height	5.5"
Weight	1.2 oz.

Air and Vacuum Flow Rate



ProductSheets/Airvents15A23

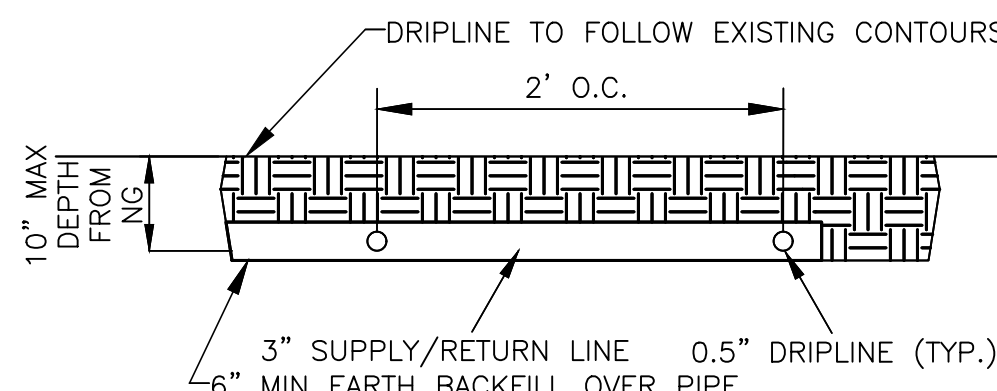
System Profile



TOP OF TANK TO BE 6"-36" BELOW FINAL GRADE. FINAL GRADE IS ~4939.85. WATER TIGHT TEST IS REQUIRED ON THE TANK PRIOR TO BACK FILLING.

Large Underground Wastewater System Notes

1. SYSTEM INSTALLATION TO COMPLY WITH WEBER-MORGAN HEALTH DEPARTMENT AND STATE ADMINISTRATIVE RULES.
2. INSTALL SEDIMENTATION AND EROSION CONTROL MEASURES. TEMPORARY DRAINAGE SWALES/BERMS MAY BE INSTALLED TO PROTECT THE SITE DURING RAINFALL EVENTS.
3. IT IS BEST TO MOUND SEVERAL INCHES OF SOIL OVER THE FINISH GRADE TO ALLOW FOR SETTLING. THIS ALSO ENSURES THAT RUNOFF WATER IS DIVERTED AWAY FROM THE SYSTEM.
4. AFTER THE SYSTEM IS COVERED, THE SITE SHOULD BE SEEDED OR SOODED TO PREVENT EROSION.
5. SYSTEMS SHALL BE MONITORED PERIODICALLY EVERY 6 MONTHS.
6. REPAIRS MUST BE MADE AS SOON AS POSSIBLE AFTER A MALFUNCTION IS DISCOVERED.
7. NO TREES, CONCRETE, STRUCTURES, LIVESTOCK, OR ACTIVITY OVER THE SYSTEM, NOR ANY REPLACEMENT AREAS.
8. SURFACE WATER TO BE DIRECTED AWAY FROM THE SYSTEM.
9. SITE SHALL BE CLEARED OF VEGETATION AND SCARIFIED WITH FURROWS RESULTING FROM SCARIFICATION BEING PERPENDICULAR TO SLOPE OF SITE.
10. CHECK FOR PROPER SOIL MOISTURE PRIOR TO CONSTRUCTION. SOIL IS TOO WET IF IT FORMS INTO A RIBBON.
11. CUT OFF ALL GRASS, BRUSH AND TREES JUST ABOVE GROUND SURFACE AND REMOVE, BUT DO NOT REMOVE LARGE TREE STUMPS. RAKE OFF DEAD VEGETATION IF OVER AN INCH THICK.
12. TILL THE AREA TO A DEPTH OF 6 INCHES. THE TILLED AREA SHOULD BE AT LEAST THE TOTAL LENGTH AND WIDTH OF THE SYSTEM.
13. TILL WITH A MOLDBOARD PLOW, CHISEL PLOW, OR CHISEL TEETH MOUNTED ON A BACKHOE BUCKET. NORMAL TEETH ON A BACKHOE ARE NOT SATISFACTORY AND SHOULD NOT BE USED. A ROTOTILLER SHOULD NOT BE USED.
14. AVOID TRAFFIC ON TILLED AREA, ESPECIALLY BENEATH THE ABSORPTION AREA.
15. IF COMPACTION OR RUTS OCCUR DURING CONSTRUCTION, RE-TILL THE COMPACTED OR RUTTED AREA.



Detail-Absorption Field

SCALE: NONE