STATE OF MAINE
DEPARTMENT OF HUMAN SERVICES
DIVISION OF HEALTH ENGINEERING
11 STATE HOUSE STATION
AUGUSTA, MAINE
04333-0011

JOHN ELIAS BALDACCI
GOVERNOR

April 10, 2003

Aeration Systems
Attn.: Matthew Engleman
155 Gray Road
Falmouth, ME 04105

Subject: Product Registration, Septic Sentry

Mr. Engleman:

Thank you for your letter dated March 6, 2003 regarding your company's product. This information was submitted pursuant to Section 1802 of the Maine State Plumbing Code, Subsurface Wastewater Disposal Rules (Rules), for code registration, for use in Maine.

Product Description

The Septic Sentry consists of a slotted plastic pipe within which is located a floating reed switch, and which is installed within a disposal area. The reed switch activates an alarm system when effluent levels reach a predetermined level, thereby alerting the owner(s) of a ponding condition in the disposal area. The Septic Sentry is designed for use with conventional onsite sewage disposal area.

Claim

According to the information you provided, the Septic Sentry can be used to monitor ponding conditions in disposal areas and to monitor distribution equality in large systems.

Determination

On the basis of the foregoing, the Division has determined that the Septic Sentry is acceptable for use in the State of Maine on a General Use basis, provided that it is installed, operated, and maintained in conformance with the manufacturer's directions.

Because installation and owner maintenance has a significant effect on the working order of onsite sewage disposal systems, including their components, the Division makes no representation or guarantee as to the efficiency and/or operation of Septic Sentry . Further, registration of this product for use in the State of Maine does not represent Division preference or recommendation for this product over similar products.

If you have any questions please feel free to contact me at (207) 287-5695.

Sincerely,

James A. Jacobsen

James A. Jacobsen, Environmental Specialist IV
Wastewater and Plumbing Control Program
Division of Health Engineering
e-mail: james.jacobsen@state.me.us

/jaj

xc: Product File

AERATION SYSTEMS
Wastewater Technology

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website: www.septicaeration.com

March 6, 2003

James Jacobsen
Department of Human Services
Division of Health Engineering
State House Station 10
Augusta, Maine 04333

RE: Product submission for state approval

Dear Jim:

It has been a busy three years for Aeration Systems since we first wrote to you in May of 2000 to secure approval for our wastewater treatment system the OxyPro. Besides undertaking numerous projects involving the installations of OxyPro systems handling flows from 200 to 20,000 gallons per day, we have also been busy developing new products to further enhance the operation of more conventional subsurface wastewater disposal systems. We had the pleasure to unveil two of those new products at the MASE meeting this past month and at the Granite State Designers and Installers expo in New Hampshire this week and were very well received at both events. As such, I am writing to offer both new products for review by the state and inclusion on the department's approved products list if acceptable.

The OxyBoost™ is a modified eight-hole plastic distribution box designed to be installed in place of a conventional distribution box in any subsurface wastewater disposal area receiving pressurized wastewater via a pump station. The OxyBoost™ utilizes a specialized venturi to produce a negative pressure differential across the venturi whenever water is pumped to the subsurface wastewater disposal area. This pressure differential results in air being drawn into and entrained within the wastewater stream as it moves through the venturi into the distribution box and out to the disposal area components. The air is drawn through an intake assembly that includes a check valve and debris shield. The intake assembly is installed below grade inside an insulated fiber-reinforced valve box that has an access cover set flush with finished grade. The OxyBoost™ fulfills two separate functions not achieved by standard distribution boxes. Firstly, it injects additional oxygen into the wastewater helping to fortify the aerobic conditions found in the fill and soil at the base of a properly functioning disposal area. Field measurements of an installed OxyBoost™ indicate that wastewater pumped to a standard distribution box typically has a dissolved oxygen concentration of less than 0.2 mg/L, whereas wastewater passing through the OxyBoost™ instantly reaches saturation with a dissolved oxygen concentration of 8.5 mg/L. This

should help to delay the onset of hydraulic failure resulting from "slime" forming anaerobic bacteria which thrive when the oxygen demand exerted by the wastewater exceeds the amount of oxygen available in a disposal area. Secondly, the venturi portion of the OxyBoost™ slows the rate at which wastewater enters the distribution when the effluent pump is activated. An OxyBoost™ can slow the water entering a disposal area from a pump station by as much as 50%. This helps to reduce scouring effects in plastic chamber systems and prevents hydraulic overload of the distribution box and proximal components of the disposal area.

The Septic Sentry™ (pat. pending) is a device designed to aid septic system users in identifying hydraulic problems in a subsurface wastewater disposal area BEFORE the system actively fails by allowing water to pond on top of the ground or back up into the home. The Septic Sentry™ is comprised of a sensor and an alarm box. The entire unit is powered by a small 9VDC plug-in wall transformer to eliminate potential safety hazards. The sensor portion of the Septic Sentry™ is comprised of a miniature pellet float switch that is orientated vertically in a length of slotted PVC pipe. The slotted pipe serves to protect the float from contacting scum, soil, or other material which might interfere with its operation. The float is set to magnetically activate a sealed reed switch imbedded in the float stem when the float reaches a predetermined point. The entire sensor can be installed in a subsurface wastewater disposal area regardless of the type of system. As the system ages and the depth of ponding reaches the predetermined "critical" level the sensor is activated and alerts the alarm box via a buried low-voltage cable. The alarm box alerts the user with a flashing red light and an audible alert which can be silenced. Typically the critical level is selected to be approximately 1 inch below the bottom of the distribution piping in the subsurface wastewater disposal area. This alert level allows ample time for the user to have the system inspected, reduce water usage, or take other corrective action before the system fully malfunctions and presents a public nuisance.

Thanks for your time in reviewing these two products. We are very excited to fully introduce them into the market as we believe they represent a step forward in improving the function of conventional septic systems. I have include our sales literature on both products and look forward to answering any questions you might have. Should you wish, I can also arrange for you to view either product.

Sincerely,

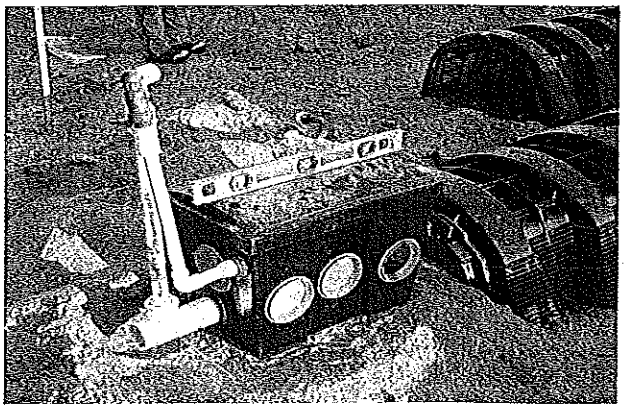
Matthew Engelman
Aeration Systems LLC

Aeration Systems Presents . . .

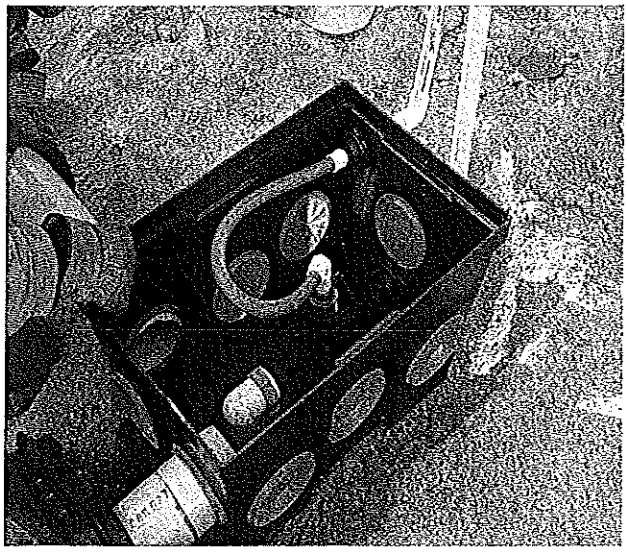
OxyBoost™

The Passive Air Injection System for Pumped Wastewater

Septic system disposal fields generally fail due to lack of oxygen in the disposal field. Bacteria that live under these anaerobic conditions proliferate creating a clogging zone along the sides and base of the disposal field. OxyBoost delays the onset of anaerobic conditions, and the accompanying clogging in a disposal field by boosting the oxygen content in the wastewater. OxyBoost is intended to be installed in systems served by effluent pumps. The entire unit installs below grade.



The Process



The OxyBoost consists of an eight-hole plastic distribution box enclosing a venturi and air line. The OxyBoost is connected to the pump/line from the existing or proposed effluent pump. When the effluent pump turns on, wastewater is pumped through the OxyBoost where air is drawn into the wastewater via the venturi. The air is supplied via an intake assembly installed in a small irrigation valve box (not shown). The top of the green cover of this valve box is the only visible portion of the OxyBoost when the installation is complete. The oxygenated wastewater then flows to the disposal field through the attached distribution pipes. There are no moving parts or electricity supplied to the OxyBoost system.

Cost

$295.00 plus tax and shipping

AERATION SYSTEMS
Wastewater Technology

155 Gray Road, Falmouth, ME 04105 • 207-797-7351 • www.septicaeration.com

Aeration Systems Presents . . .

SEPTIC SENTRY™

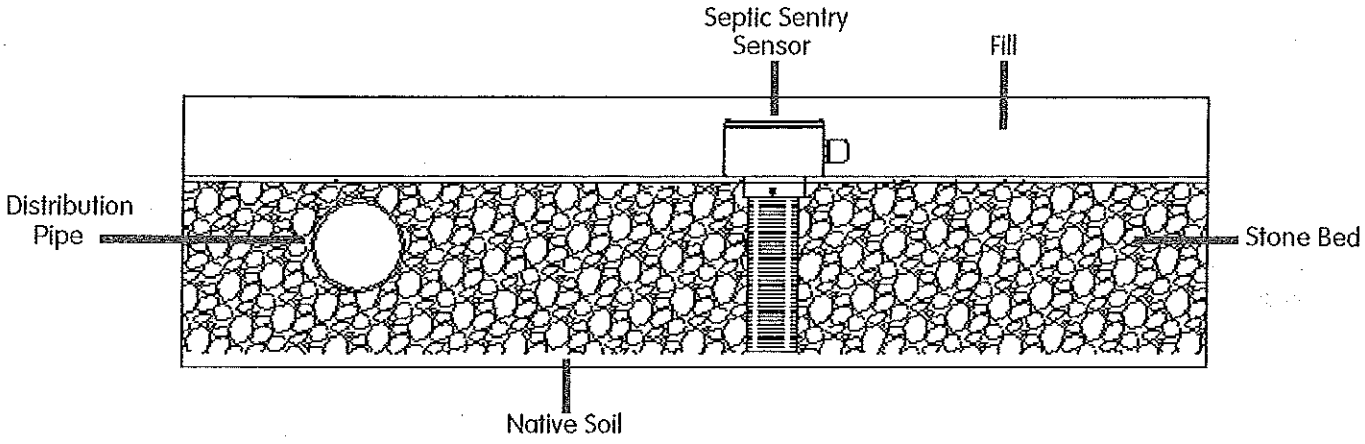
Pat. Pend.

The advanced leach field monitoring system

Aeration Systems developed the Septic Sentry for monitoring large disposal areas. The Septic Sentry provides an early warning before a malfunction can occur.

As traditional wastewater disposal areas age, the infiltration rate of the soil decreases causing effluent to pond in the disposal field. This ponding progresses over time until eventually the disposal field "fails." Often there is no warning that a disposal area is about to fail. This can present a major health and image problem for restaurants, hotels, day care centers, summer camps, and other similar facilities.

The Septic Sentry is comprised of one or more water level sensors that can be installed in stone bed, plastic chamber, in-drain, or fabric covered pipe style disposal areas. These sensors send a signal to the Sentry control panel if effluent begins to rise past a pre-determined "alert level." Multiple level sensors are also available to track water levels throughout the life of a disposal area.



In addition to serving as an "early warning system" the Septic Sentry is uniquely suited to monitor for unequal distribution in large systems. It can also be adapted to automate distribution systems which utilize zoned or multiple disposal areas.

Commercial septic systems represent a massive investment.
Protect your system with the Septic Sentry.

Typical cost is $95 for single-zone, single level monitoring.

Please call for specific pricing.

AERATION SYSTEMS Wastewater Technology
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