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## **Case History: Drain Field Renovation with RetroFAST®**

Engineer: Dick Bartel, Point One Engineering

FAST® Distributor: Frank Hay, Pinnacle Environmental Technologies, Inc. British Columbia, Canada

Dick Bartel approached Frank Hay in mid August 2002 looking for alternatives for repairing a neighbor's biologically-failing conventional septic system. Bartel had originally looked into replacing the entire soil absorption system with a pressurized drip-tubing system. Total cost of materials and installation would have come to over \$8,000.

Hay visited the property in late August. The property utilized a 20-year-old septic tank and drain field. The system consisted of a 1000 gallon concrete septic tank with gravity flow to 3 laterals. Due to the slope of the yard, the third lateral sat lower than the other two, which forced it to work a bit harder over the years. At the end of the third lateral, a pond of sewage had formed in the yard. The homeowner could actually see residual paper products floating in the pond. After Hay's visit, he determined that this situation would be a perfect candidate for installation of RetroFAST®, the newest member of the FAST® family of wastewater treatment systems.

Hay met with Bartel and the homeowner again to discuss their options. He presented the new RetroFAST®, an innovative, cost-effective aerobic treatment system designed specifically for installation into existing tanks for renovation of biologically-failed dispersal systems. Hay explained that the RetroFAST's treatment process breaks down the solids that form the biological slime layer in the first place. Then the treated wastewater, containing dissolved oxygen, is sent into the field to promote the growth of aerobic bacteria, which feed on the clogging layer and eventually restore the soil's natural percolation. This option would cost less than \$3000\* installed.

Bartel and the homeowner agreed that by installing RetroFAST, they were getting a cost-effective, long-term solution as opposed to digging up the yard and installing an expensive alternative system that might clog again in a few years.

On a Wednesday morning in early September, Bartel and Hay arrived at the home to retrofit the failing septic system with RetroFAST. Installation of the treatment module into the existing tank was completed by 1 p.m. and the electrician arrived to hook up the blower soon after. The entire installation was completed in approx. 5 hours with no disruption to the drain field.

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On Sunday (only 4 days later), Bartel went back to check on the RetroFAST® unit and noticed that the sewage pond was already drying up. Bartel visited the site again three weeks later and found that the pond had completely dried up and the soil absorption system was perking perfectly.

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*\* Installation costs included in this case study are based solely on this actual installation. Installation costs for RetroFAST® may vary greatly due to specific site requirements, drain field modification, electrical wiring, labor costs, etc.*