

# Project Profile

*Lincoln Akerman School  
Hampton Falls, New Hampshire  
AD26 Arsenic/Iron Treatment System*



## Background

AdEdge Technologies Inc. (AdEdge) was selected in 2006 by the Hampton Falls School District to design and fabricate a full-scale AD26 arsenic and iron treatment system for the Lincoln Akerman School (LAS) in Hampton Falls, New Hampshire. LAS has about 260 students in grades ranging from K through 8 and the system has an average daily flow of 2,000 gallons. The treatment system is rated for 30 gallons per minute (gpm). Incoming iron concentrations 1.5 milligrams per liter (mg/L), manganese is 0.30 mg/L, and arsenic 19 parts per billion (ppb). The AdEdge system was selected over the other options including manganese greensand. No pilot testing was deemed necessary for the AD26 system based on successful performance of the technology at AdEdge's USEPA full-scale demonstration site in Springfield, Ohio. AdEdge and its team including Lewis Engineers and Gilford Water and Well Company prepared the design documents and obtained all regulatory permits from New Hampshire Department of Environmental Services (NHDES) to install the treatment system to meet the performance objectives. The system was permitted, fabricated, installed and started up in less than two months. The system was installed and placed into full time operation in August 2006.



## Treatment System

The innovative AD26 oxidation/filtration treatment system consists of a completely integrated packaged and skid-mounted treatment system capable of treating up to 30 gpm design flow. The system consists of two 16-inch diameter vessels in parallel, control valves, pressure gauges, flow meters, and the AD26 oxidation/filtration media. The AD26 system includes a chlorine feed module prior to the treatment system to enhance the process for simultaneous removal of iron, arsenic and manganese. Raw water is pumped from the groundwater-supply well through the AD26 treatment unit, to pressure (hydropneumatic) tanks, and then subsequently to the distribution network. AdEdge has used AD26 media in many small community and non-community public water system applications and residential applications throughout the U.S. and Canada. The AD26 media is certified under NSF Standard 61.



## Performance

The modular treatment system is equipped with automatic controls, backwashing features, switches, gauges, flow meters, and sample ports for a complete functioning packaged unit. The arsenic, iron, and manganese is removed in a single process step. Since commissioning the system in early August, 2006 the system is treating approximately 4,000 gallons per day; weekly results indicate removal of iron and arsenic to below detection (<0.003 mg/L arsenic). NHDES has recognized the AD26 treatment technology as a viable iron/manganese removal system design for New Hampshire sites.

## For More Information Contact

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