



1 MGD Iron & Manganese Filtration, Canton, MA

LayneOx Filters Eliminate Dependence on Purchased Water



Water for the Town of Canton's population of over 20,000 is supplied through municipal wells. Until recently, the water from these wells was blended with water purchased from Massachusetts Water Resources Authority (MWRA). The Town contracted with an engineer to explore cost-saving options, who determined that the Town should utilize its own wells by treating the water to remove iron and manganese. This would eliminate the need to blend the local water supply with water purchased from other sources.

Working under the General Contractor, Layne performed a pilot test on the Town's wells to determine optimal treatment. The test demonstrated that the proposed system could achieve iron levels of 0.08 mg/L and manganese levels of 0.264 mg/L with a loading rate as high as 12 gpm/sq. ft. Loading rates are an important measure from a cost-saving perspective to determine the amount of building space required to house the filtration system. The high loading rate achieved in Canton's treatment plant is the result of LayneOx™ media, a highly efficient granular catalytic filter media with naturally high manganese dioxide content. The LayneOx™ process provides the ability to remove iron, manganese and other contaminants, all in one cost effective backwash process.

Layne fabricated a skid-mounted iron and manganese removal system capable of treating 750 GPM (1 MGD). The system is comprised of three 6-foot diameter vertical vessels that treat the water from two of Canton's wells. Each vessel contains a 48-inch bed of LayneOx with gravel. Each has automated backwash and integrated air scour. The treatment plants were designed and constructed at Layne's UL-certified fabrication facility in Bridgewater, New Jersey, which maintains an ASME "U" Code Stamp for construction of pressure vessels.

Completion Date:

- May 2010

Owner:

- Town of Canton

General Contractor:

- Waterline Industries Corp.

Engineer:

- Tate and Howard

Layne Contact:

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