

## City of Andover Water Treatment Plant Project Wins Honor Award



The American Consulting Engineers Council of Minnesota has awarded a 2004 Honor Award to the City of Andover and Bolton & Menk, Inc.

Andover's new water treatment facility is ahead of its time in lowering arsenic levels below a new 10 parts per billion federal standard scheduled to take effect in 2006.

In 1999, Bolton & Menk, Inc., was asked to complete a water study in Andover, which ultimately showed high levels of arsenic, and aesthetically unacceptable levels of iron and manganese. In October 2001, Bolton & Menk was chosen as the engineer to lead the design team for a new water treatment facility, with construction to begin in June 2002.

Prior to the facility's construction, the City of Andover received their water from a series of seven wells located within the city limits. The new plant construction was meant to consolidate the treatment and distribution of Andover's water at one source. It also needed to remove iron and manganese from the city's water supply and lower the amount of arsenic in the water to meet the upcoming 10 parts per billion federal standard. In addition, the design of the facility had to mesh with the planned development of the municipal campus, and meet the City's financial goals.

Bolton & Menk, in conjunction with team members from LHB Engineers & Architects, Kaeding & Associates, and Wentz & Associates, developed a water treatment facility that meets the technical, aesthetic and financial goals of the City. The plant is designed for arsenic, iron, and manganese removal utilizing aeration, filtration and chemical feed technology. The design incorporates functions for public education while meeting the security needs of the facility. The exterior architectural and landscaping elements blend with the overall campus plan.

Bolton & Menk was asked by the City of Andover to expedite the process of getting the plant online in order to meet demand. The project was completed within 24 months of its inception, one year less than normal for a project of this size.

Arsenic removal may be accomplished utilizing granular media filtration. In order to verify that this technology would work for the Andover facility, Bolton & Menk conducted on-site pilot testing of different media combinations. Based on this testing, Bolton & Menk developed a unique sand and anthrasand media technique for removing arsenic from Andover's water supply.

The design of this facility also provides for future expansion, compliance with new state and federal guidelines as they arise, or to meet expanded water demand on the system. The result is a water treatment facility that will be scrutinized by other municipalities as they add arsenic removal systems to meet the new EPA guidelines.