



*Volume X  
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BY DESIGN

## ***Earth Day, 2000: Local, State & Federal Support Make Minnesota River Valley Protection a Reality***



Representatives from the United States Rural Development Association and the Minnesota Public Finance Authority (PFA) celebrated Earth Day 2000 in Saint Peter. Special grants from the two organizations totalling \$400,000 were received by City officials in a ceremony that marked the thirtieth anniversary of Earth Day, which was established to increase environmental awareness worldwide.

The funds will become part of Saint Peter's financing for a new regional wastewater treatment system, designed to better protect the Minnesota River Valley ecosystem. Construction of the wastewater treatment facility is scheduled to begin this fall and will be completed in 2003. Saint Peter's new treatment facility will replace the City's existing wastewater stabilization pond system, which is located in the Minnesota River flood plain.

Bolton & Menk, working in partnership with the City of Saint Peter, has designed the new treatment facility using technology which is new to the United States, but used extensively in Europe. The system effectively treats waste using a fraction of the site space required for ponds or other treatment systems, and makes it possible to enclose operations entirely. The appearance of the building itself is similar to a well-designed industrial structure.

City officials are most enthused about the environmental advantages of the new system. "In

making the choice to build this type of system," explains City Administrator Todd Prafke, "the Council has consciously committed to long-range environmental protection. Other, less environmentally friendly options were available but seemed less appropriate for our situation."



***Proposed Saint Peter Wastewater Treatment Facility***

Jon Peterson, Bolton & Menk's Project Engineer for the new treatment system, says Saint Peter has been able to plan to meet stringent limits placed on wastewater effluent to the Minnesota River in a cost-effective manner due to the technology utilized. "Nutrients such as phosphorous and nitrogen will be removed at levels not currently attainable with a pond system," says Peterson. "Saint Peter is doing their part to help with the restoration of the Minnesota River."

The firm handles numerous projects of this type every year, assisting cities as they navigate the challenging process presented by a project of this size. "An understanding of the process is a contribution we make to the project," Peterson emphasizes. "We have the advantage of seeing successful results time

***Congressman David Minge, State Representative Julie Storm, and Saint Peter Mayor Jerry Hawbaker accept a gift on behalf of the City of Saint Peter, Earth Day, 2000.***



*Photo courtesy of Saint Peter Herald*

**Earth Day**  
*continued on page 4*

**Bolton & Menk, Inc. recognizes the outstanding professional and personal achievements of these associates, together with their leadership ability and management of a variety of successful surveying, civil and environmental projects for public and private clients. CONGRATULATIONS!**

## **New Senior Associates**



**PETER BLETHEN, Mankato Office, Civil Division**

Peter is a registered land surveyor with twenty-two years of land surveying experience. He joined BMI in 1983 and holds a B.S. degree in Geography from the University of Colorado. He manages the Mankato Survey operations, currently operating eight crews, is coordinating a new GPS technology effort and is the Chairman of the BMI Survey Standards Committee. Peter's responsibilities include coordinating survey practices between the offices. Mr. Blethen is currently serving on the Board of Directors of the Minnesota Society of Professional Surveyors. He is also the appointed Nicollet County Surveyor.



**ANDREW KEHREN, Sleepy Eye Office, Civil Division**

Andy is a registered professional engineer with seventeen years of civil engineering experience. He is a graduate of North Dakota State University with a B.S. degree in Civil Engineering. Prior to joining the Mankato office in 1995, he worked for a consultant in the Rochester area. In 1998, Andy moved to the Sleepy Eye office and in 1999 became manager of the office. Along with his office manager duties, he works with several communities throughout South Central Minnesota.

## **New Associates**



**KEVIN BITTNER, Mankato Office, Civil Division**

Kevin is a registered professional engineer with fifteen years of civil engineering experience. He is a graduate of the University of North Dakota with a B.S. degree in Civil Engineering. Prior to joining BMI in 1998, he was employed by the Army Corps of Engineers, and was the Assistant City Engineer for Austin and the City Engineer for Waseca. Currently, he manages a design team and serves as City Engineer for Le Sueur, Le Center, Arlington and as project manager for projects for the City of Mankato.



**DENNIS HONSA, Burnsville Office, Civil Division**

Denny is a registered land surveyor with twenty-four years of surveying experience. He holds a Civil Technology degree from St. Paul Technical College. Prior to joining BMI in 1989, he worked for two surveying firms in the metro area. He manages the Burnsville Survey operations, currently operating four crews (six during the construction season) and is a member of the BMI Survey Standards Committee. Denny is actively involved with the Minnesota Society of Professional Surveyors as well as with several community organizations (Eagan Athletic Association and the local Cub Scouts).



**JON PETERSON, Mankato Office, Environmental Division**

Jon is a registered professional engineer with fifteen years of civil and environmental engineering experience. He holds a B.S. degree in Civil Engineering and a M.S. degree in Environmental Engineering, both from Iowa State University. In addition to his twelve years with BMI, he also worked for a consultant in the metro area for three years. Jon is a project manager working on special water and wastewater treatment projects in the Environmental Division.

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**Quality Engineering for  
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# Radium: New Federal Water Content Standards Prompt Pilot Project

 In the late eighties, state regulatory agencies started monitoring for radionuclides (radioactive) in drinking water sources. They observed that some municipal water sources in Minnesota, Iowa and Illinois had levels of radium that were higher than those accepted by the federal government. These levels are thought to be caused by leaching from radium-bearing rock strata into deep sandstone aquifers. Ground-water sources from which many South Central Minnesota communities obtain water containing varying levels of radium. The



*Technology utilized by Bolton & Menk may make compliance with new federal standards more affordable for cities.*

Environmental Protection Agency limits combined Ra-226 and Ra-228 radium contamination in municipal drinking water to 5 pCi/l, and gross alpha particle activity to 15 pCi/l.

Radium is part of a group of metals that includes magnesium, calcium, strontium and barium; it occurs naturally in ground water. Because it is transported in a manner similar to that of calcium and magnesium, techniques used to remove radium from water supplies are similar to those used to soften (remove calcium and magnesium from) hard water.

Three methods of radium removal exist; *reverse osmosis* and *lime softening* are currently approved in Minnesota. In North Mankato, Bolton & Menk is working with the Minnesota Department of Health and the City of North Mankato to gain approval

for a third method, *optimized iron/manganese filtration*, which is 90% effective and 50% less expensive than currently approved methods.

Dr. Herman Dharmarajah, BMI Project Manager for this pilot project, says optimized iron/manganese filtration has the potential to make a significant difference for cities working to meet new standards within the next few years. "Health officials are analyzing samples from the test filter on

a regular basis. It is our hope that the optimized iron/manganese filtration system will be approved for use under certain conditions, and that this will make it possible for cities to comply with the new standards quickly and cost-effectively. The standards go into effect in November of this year. Cities have a minimum of two years from that date to put treatment in place and we'd like to make it as easy a process as possible."



*Top scoring students at the state competition and their placements were (from lower left, clockwise): fifth place, Sam McVeety, Saint Paul Academy, Saint Paul; first place, Trent Novak, Blackduck Junior High; sixth place, Victor Qin, Dakota Meadow School, Mankato; third place, Silas Johnson, Olson Middle School, Bloomington; and fourth place, James Berglund, Mahtomedi Middle School. Not pictured is Sophie Rapoport, Twin Cities Jewish Middle School, who finished second.*

**MathCounts is a national, nonprofit program aimed at improving students' mathematical skills, increasing student interest in math, improving the quality of math education and providing recognition of academic achievement. To win the state competition, students have to compete in oral and written math competitions, individually and as teams. In Minnesota, the program is coordinated by volunteer members of the Minnesota Society of Professional Engineers.**

**This was the 17th annual MathCounts state competition; 101 students from 31 schools participated, 23 teams and 9 individuals.**

## MathCounts

**Bolton & Menk has been actively involved with MathCounts at both the local and state levels for many years.**



# Building Quality Communities

## *League of Minnesota Cities Conference*

*June 13-16, 2000  
Saint Cloud Civic Center  
Saint Cloud, Minnesota*

*Visit us at Booth #19!*

*www.bolton-menk.com*

### **Earth Day,** *continued from page 1*

and again, while clients will take on a project like this once or twice in a career." Peterson emphasizes that patience and persistence are critical to success. It is necessary to understand the funding system, obtain funds, develop a design, communicate with the public, select a site, construct the facility, and work with funders in a timely manner.

Saint Peter's \$35 million project has challenged City officials to be tenacious in seeking funds. "We've worked very hard," admits Prafke, "because we believe this plant has the capacity for growth and is a wise choice for Saint Peter."

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