

PROGRESSIVE CONSULTING ENGINEERS, INC.
Civil · Water Supply · Municipal

WATER BULLETIN

Water Distribution System Replacement—Hines, IL

HGA Architects and Engineers has retained Progressive Consulting Engineers, Inc. (PCE) to provide engineering services for the flow networking and reservoir design at the VA Medical Center in Hines, IL.

HGA is in the process of designing an entirely new water distribution system for the Hines VA Medical Center. Currently, the center purchases treated water in bulk from the Broadview Westchester Joint Water Agency to serve the Hines campus, as well as the neighboring Loyola University Medical Center, and John J. Madden Mental Health Center. Hines VA Medical Center currently owns and operates a 0.7 million gallon ground

storage reservoir, a booster pumping facility, and a 1.0 million gallon water tower. The new water distribution system will replace and relocate the existing water connection with Broadview Westchester, the existing buried reservoir, the existing booster pump facility, and all existing water mains. The existing water tower will remain in use. PCE will provide assistance to HGA on the project in the areas of:

- 1) Flow Networking (WaterCAD modeling)
- 2) Preliminary Reservoir Design
- 3) Construction Phasing Analysis

Opflow Publication

An article titled "Small City Tackles Radium in Well Water", authored by Naeem Qureshi from PCE and Greg Volkart, Director of Public Works for Goodview, was published in the January 2011 issue of the Opflow AWWA publication. The article discusses the construction of two new iron, manganese, and radium removal plants in Goodview, MN.



David Knaeble, P.E.

David Knaeble recently obtained his Professional Engineer License. Mr. Knaeble has been with Progressive Consulting Engineers, Inc. (PCE) for over two years and is presently working on utilities for the Central Corridor Light Rail Transit Project.



Nuzhat and Naeem Qureshi—MEDA Honorees of 2010

Progressive Consulting Engineers, Inc., is an engineering firm that provides a full range of services in the field of civil engineering. Organized in 1979, the company has gained a reputation for providing quality professional services in a cost effective and timely manner. The company has been a DBE certified firm since April 2003. Nuzhat and Naeem are committed to sustainable development by providing consulting services in the areas of: water supply and water treatment engineering, transportation engineering, and civil engineering.



Metropolitan Economic Development Association (MEDA) has assisted them in looking at various business opportunities and facilitated key strategic planning sessions that have added value to the company. Business has grown significantly since the company became a Pacesetter in 2004, and since graduating from that program in 2010.

More recently, MEDA has assisted the company as they look for opportunities for training in leadership, staff talent management and marketing.

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2011 Well & Booster Pump Rehabilitation—Coon Rapids, Minnesota

The City of Coon Rapids completed a 5-year, \$3,901,762 project in 2008 designed by PCE. The first rehabilitated wells are now more than eight years old so the City retained PCE to complete a well rehabilitation of Well Nos. 11, 14, 16 and 17. The project also includes work on Booster Pump No. 4 and No. 5, and recycle pump check valves at the West Water Treatment Plant.

The well rehabilitation will include:

- Checking pump motors, replacing upper and lower motor bearings;
- Pulling pumps, inspecting line shaft, bearings, packing, column, bowls and impellers.
- Replacing pumps and motors as needed.
- Gamma logging and videotaping the wells.
- Assess need for sand removal and redevelopment. Bailing, redevelopment, test pumping and disinfecting will be included as bid items in the specifications.
- Standardizing equipment between the well facilities as much as possible.
- The present check valving configuration for Booster Pumps No. 4 and No. 5 and the recycle pump will be reviewed. Option to replace these valves with hydraulic or electric check valves will be considered. The option of electric check valves will include making changes to the control system.

Water Distribution System Modeling—Coon Rapids, Minnesota

The coatings on the 500,000 gallon elevated tank near the east water treatment plant are failing. The tank has an overflow elevation of 1,068 compared to 1,031 for the other towers. As a result, the City is not able to fill the top 37' of the tank, which results in reduced storage capacity in the tower.

In addition, the tower is close to the east water treatment plant and, as a result, the hydraulic grade line results in a reduced effectiveness of the tower. The fluctuation of the water elevation in the tower is minimal.

The City of Coon Rapids retained PCE to update the water distribution

system model and determine if a new tower is needed and, if so, the size of a new tower.

The calibrated model will be used to evaluate the possibility of shutting down the east water plant during the winter to save cost. Pressures, fire flows, and stagnation will be considered in the evaluation.

If a tank is needed, in order to reduce pumping costs, the project will also include a cost benefit analysis of a larger capacity elevated tank.

Presentation to Institute of Engineers—Islamabad, Pakistan

Naeem Qureshi was invited by the Institute of Engineers in Islamabad to make a presentation on January 24, 2011. The presentation "Water Sustainability by Conservation" was well received by the audience, which included staff members from the U.S. Embassy in Islamabad. The presentation discussed means of overcoming drinking water shortages by conservation.

Mr. Qureshi was asked to make the same presentation to the Engineering Congress in Lahore, Pakistan on January 26, 2011. It was attended by over 200 engineers and students from the Engineering College. Mr. Qureshi is an alumni of the college.



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