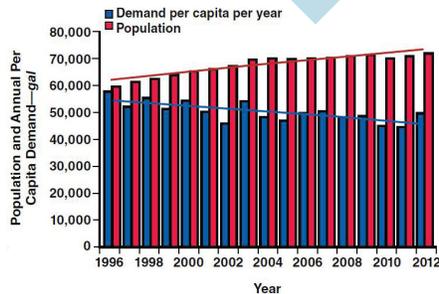


PUBLICATION

Aging Infrastructure & Declining Demand: A Dilemma for Water

Utilities for *Journal of American Water Works Association*

“Aging Infrastructure and Decreasing Demand: A dilemma for water utilities” an article authored by Naeem Qureshi, Project Principal was published in the January 2014 issue of *Journal American Water Works Association* and was reprinted in the spring issue of the *Breeze*, an AWWA Minnesota section publication. The article highlighted the need for infrastructure reconstruction as much of the infrastructure was constructed about 60 years ago and is now reaching the end of its useful life. The replacement costs for water supply infrastructure are staggering – about \$1.7 trillion over the next 20 years. On the other hand, nationally the water demands are decreasing at a rate of 0.44% annually resulting in lower revenue. The decrease in demands is more pronounced in Minnesota.



Most of the revenue for this infrastructure will be generated by higher water rates and charges. Public Works personnel have the challenges of conveying the needs in a succinct manner to the decision makers and the public. Communication and partnerships with local community leaders were highlighted as strategies that can lead to higher rates and revenues.



BULLETIN

Summer 2014

PLANT EVALUATION

Moorhead Public Utilities



Moorhead Water Treatment Plant was constructed in 1994 and has provided good service for the last 20 years. The MPS decided to evaluate the filters to determine the conditions of the media after these 20 years of service. The utility selected PCE to conduct a filter optimization study.

The filters were observed during the backwash to locate nonuniform distribution of the backwash, which results from partially clogged underdrains. The project also included measurement of freeboard and filter bed expansion, core sampling of the media, and floc analysis to determine the effectiveness of the backwash in cleaning the media. A filter probe was used to determine the top of the torpedo sand mounding, and analyze the bed fluidization during backwash. Samples of backwash water were taken every minute to determine the optimum duration of the backwash. A report with clear recommendations was written at the conclusion of the study.

GIVE BACK



PCE decided to continue the tradition of serving the community by heading over to the Emergency Food Shelf Network in New Hope. EFN collects, organizes, and distributes donated food and household items to Food Banks in the metro area. At the warehouse in New Hope, we saw collections of large blue bins full of donated food at various locations throughout the metro. We then sorted edibles from non-edibles and packaged them neatly into smaller boxes, so the donations could easily make their way onto the shelves of local Food Banks. We were joined by a high school basketball team and together our group packaged 5,379 pounds of food, which served 359 people. If you would like to learn more about EFN, visit <http://www.emergencyfoodshelf.org/> You can find various ways to contribute or volunteer your time and help our communities.

PRESENTATION **Well Rehabilitation** *for the Metro Area Operators School*



Naeem Qureshi presented a paper "Well Rehabilitation" on April 1, 2014 at the Metro District Operator School sponsored by MN Section American Water Works Association. The presentation discussed the type of wells including screened and rock wells and the various aquifers in the metropolitan area; provided a recommendation of frequency of rehabilitation based on well pumping drawdown and yields; and data on rehabilitation of 24 wells in Coon Rapids. The well inspection should include review of well yield, specific capacity, pump bowls, bearings, and motor. When the yields are declining, the well may need redevelopment. Camera inspection, gamma logging, and step discharge testing are normally needed to evaluate the condition of the well. Records of motor age, operating hours service records including repairs, temperature, and current draw need to be carefully reviewed. In some cases, acid treatment may be necessary. Blasting, surging, bailing and test pumping may be required to improve the well yield.

WORK FLOW CHARTING **Mendota Heights, MN**

The City of Mendota Heights retained PCE to perform Knowledge Management by Work Flow Diagramming. PCE offers an owner assisted service relating to knowledge management for the City/Utility. Knowledge Management is accomplished by generating flow charts that capture the present work activities of the City/Utility. Flow charts are developed with City staff and contain links to existing policies and procedures and pertinent files. These flow charts help highlight areas where activities could be added/modified/eliminated to gain efficiency of operations. They also highlight areas where efficiencies could be gained by developing a policy or procedure for the activity.

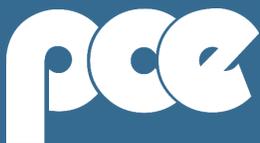


INFRASTRUCTURE PLANNER **Destination Medical Center - Rochester, MN**



The Destination Medical Center project is a \$5 Billion project to expand along with other amenities at the Mayo Clinic in Rochester. The intent is to create a preferred medical facilities to provide exceptional health care. It is expected that the population of the City of Rochester will increase by approximately 40,000 mostly because of the expansion of the medical facility.

Progressive Consulting Engineers, Inc. is part of the team selected by the Destination Medical Center Economic Development Agency for the Infrastructure Planner Services. PCE had earlier completed a \$175,000 Water System Master Plan including Water Distribution System modeling for Rochester. PCE will use the model to determine pressures and available fireflow for the expanded medical facility. Water quality improvements needed to serve the medical facility will also be considered.



Progressive Consulting Engineers, Inc.

6120 Earle Brown Drive, Suite 629

Minneapolis, MN 55430

(763) 560-9133 • www.pce.com

Contacts: Naeem Qureshi • Nuzhat Qureshi • Adam Kramer • Lance Newman • David Brown