



## WATER UTILITY INFRASTRUCTURE MANAGEMENT

January/February 2009

Page 42

### COMMENTARY

#### **The Role of Design-Build in Economic Recovery**

By Peter W. Tunnicliffe and Sarah L. Chittenden

The United States is facing the most daunting economic and environmental challenges in our nation's history. In recent weeks, Congress has been addressing these challenges by proposing an economic recovery plan that includes funding for water and wastewater infrastructure projects.

The need for this funding is critical. Scientists estimate that more than 7 million people become ill each year from contaminated water, according to the Natural Resources Defense Council. Across the country, overburdened and antiquated water infrastructure is failing, as witnessed by the alarming numbers of recent water main breaks. According to the Congressional Budget Office, more than 20 percent of drinking water is lost and 1.2 trillion gallons of storm water and wastewater overflow every year due to leaks and breaks in the 800,000 miles of water pipe and 600,000 miles of sewer lines in the United States.

We at the Water Design-Build Council (WDBC) are committed to addressing these challenges in a manner that has a long-lasting and sustainable impact, and that is timely and cost-effective. To this end, we are encouraging the use of the design-build project delivery mechanism for water and wastewater infrastructure as part of the recovery plan.

Design-build project delivery accelerates the speed of executing infrastructure projects. Over the last 15 years, design-build has proven to accelerate project schedules up to 30 percent, and most often results in lower project costs. Implementing design-build projects would also create thousands of needed jobs. According to the U.S. Department of Commerce, for every new job added for local water and sewer facilities, it is estimated that 3.68 jobs are created.

Historically, water infrastructure projects have employed the design-bid-build model, which entails two contracts – one with an engineering firm to design the project, and another with a construction company to build it as designed. Design-build entails only one contract – that between the owner and the design-builder, providing more scheduling flexibility and accountability. Design-build features three major distinguishing characteristics:

- **Rapid construction start and faster project completion.** Construction typically begins before design is complete, resulting in time, quality and cost efficiencies. With design-bid-build, the owner must review a fully completed design before seeking construction bids. A design-build project can have construction under way within three months (or less) from the time design is commenced.

- **The ability to select the design-builder based on overall “best value.”** Best value is where a contract is awarded on factors such as experience with similar projects, innovative ideas and willingness to work as a team, as well as pricing factors. In conventional design-bid-build project delivery, the designer and builder are typically selected solely on the basis of initial price, which does not incorporate changes and final adjustments.

- **Single-point accountability for both design and construction.** Because the designer and builder work together from the outset, constructability issues and design disputes are less likely to arise. Design-build delivery has fewer change orders, claims and disputes than conventional design-bid-build delivery.

While most federal agencies and states already have some existing legislation for design-build contracting, we urge Congress to incorporate the preference for design-build contracting into the economic recovery package so there is clear legislative authority to utilize funds to contract in that manner. Design-build benefits are indisputable. In fact, the federal transportation law SAFETEA-LU encourages the use of design-build for surface transportation projects. Design-build delivery provides:

- Sustainable, energy efficient water systems,
- Accelerated capital spending to speed the creation of engineering and construction jobs,
- Cost efficiency, and
- Faster infrastructure delivery.

The Water Design-Build Council stands ready to contribute our expertise, resources, innovation and enthusiasm to this most worthwhile task. We would be pleased to sit down with national, state and local leaders to discuss in more detail how design-build can positively affect water infrastructure, the economy and create thousands of needed jobs.

*Sarah Chittenden is executive director of the Water Design-Build Council (WDBC). She has worked with the Council since its inception in 2006, and with trade associations and the private sector on municipal water-related issues since 2001. Currently, Chittenden leads the WDBC’s effort to promote federal funding for water and wastewater infrastructure using design-build as a means to accelerate those projects.*

*Pete Tunncliffe, P.E., DEE, DBIA, is president of the Water Design-Build Council (WDBC) and Senior Vice President of Camp Dresser & McKee Inc. (CDM). Tunncliffe currently heads CDM’s design-build project development group. Prior to his current assignment, he created and led CDM’s design-build and construction subsidiary, growing it to one of the ENR Top 400 Contractors in the United States.*