

THE CONSTRUCTION RESOURCE

# ENR

Engineering News-Record

JUNE 11, 2018 ■ enr.com

# DISASTER REPAIR REPEAT

As hurricane season returns, experts look to move beyond temporary remedies toward long-term resilience (P. 10)

**INSIDE:**  
**THE TOP 100  
PROJECT  
DELIVERY  
FIRMS**

A **bnp** PUBLICATION  
media



the way with a new unique affordability program that is catching the attention of other cities. “We treat our water beyond Safe Drinking Act requirements,” says Philadelphia Water Commissioner Debra McCarty. “But we can’t do that if people can’t pay.”

The new program is a customized Tiered Assistance Program (TAP) for residents whose income falls below 150% of the federal poverty level, while higher incomes with special hardships may still qualify. Hammered out by diverse groups of stakeholders that included the Public Advocate and City Council members, TAP provides a consistent water bill based on income rather than a grant, even if rates increase. Customers need not be delinquent to qualify but should allow water department vendors to install water-saving devices. Tenants may participate, but landlords can see their water bills. TAP cost \$2 million to implement in just one year. It is expected to amount to \$9.8 million

serving 20,000 to 30,000 customers by the close of fiscal 2019.

### The California WaterFix

California has long worried over its water. Add climate change, drought, floods and earthquakes, and the need for a reliable long-term supply is urgent. California WaterFix is intended to fix that. After more than a decade of analyses, reviews, public comments and continuing controversies, the plan recently cleared critical organizational and financial hurdles. Final permitting is now on the horizon for groundbreaking to begin by the end of the year.

The key program goals for the \$16.7-billion project are securing clean water for 27 million Californians and 3 million acres of farmland, improving the Sacramento-San Joaquin Delta’s ecosystem and upgrading the state’s aging water delivery system. The project includes three new intakes located on the Sacramento River in the northern

Delta and two tunnels to carry water under the central Delta to pumping facilities and existing aqueduct systems. Up to 150 ft below ground, the tunnels are expected to preserve the declining ecosystem above and protect the 1,100-mile levee system against earthquakes, floods and rising sea levels. They should also capture big storm waters.

Since about 30% of the water arriving in Southern California comes from Northern California via the Delta, the Metropolitan Water District of Southern California made the big decision in April to become the primary investor by authorizing \$10.8 billion to help finance and launch the entire project (initially it had voted to contribute \$4.3 billion) rather than opt for staged construction. Cost to households is expected to be \$4.80 per month.

In May, with financing in hand, agency stakeholders agreed on organizational structures to implement the California WaterFix. ♦

## Mid-Clay Wastewater Treatment Facility Expansion

**The Clay County Utility Authority in Orange Park, Fla., is constructing an expansion** to its Mid-Clay Wastewater Treatment Facility. This \$13-million expansion will increase the capacity of the plant from 650,000 gallons per day to 1,500,000 gallons per day. The state-of-the-art facility will be capable of treating the wastewater to advanced treatment levels, which will be suitable for public access reuse. It will employ the processes of screening, grit removal, biological treatment with nutrient removal, filtration and disinfection. The finished water (known as effluent) will be disposed of via irrigation of residential neighborhoods and/or application to onsite rapid infiltration basins (i.e., percolation ponds). The project has the potential to remove roughly 2,000 septic tanks from the Mid-Clay service area as future developments install both water and wastewater infrastructure.



Xypex admixture was used to waterproof a wastewater treatment facility in Florida.

The methods of effluent disposal are beneficial to the environment in that they result in recharge of the aquifer and do not involve discharge to surface waters. Senior Project Director Michael Tibble of Mittauer & Associates specified Xypex waterproofing admixture for both the chlorine contact chamber and the influent structure. Both structures are cast-in-place concrete and exposed to a

higher potential for chemical corrosion. Furthermore, the influent structure is an elevated structure where even small leaks will be readily apparent. It was deemed appropriate that these tanks receive the additional chemical protection and waterproofing qualities of the Xypex Crystalline admixture.

The project is scheduled for completion on Nov. 14. ♦



# The World Standard in Concrete Waterproofing by Crystallization

**NO  
EQUAL**



**Second Orinoco River Bridge**  
Ciudad Guayana, Venezuela

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Concrete  
(Untreated)



Xypex Crystallization  
(Initiated)



Xypex Crystallization  
(Mature)

XYPEX integral crystalline technology waterproofs concrete foundation structures as they're poured and cannot be damaged during installation or backfilling. Unlike membranes, Xypex is added to the concrete at the time of batching avoiding application errors. This sustainable technology also contributes to LEED credits. **When you select Xypex Crystalline Technology**, you've chosen the best... more than 40 years of independent testing, experience in over 90 countries, unmatched product and service standards ... *and still no equal.*

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