

WATER DESIGN-BUILD COUNCIL

Facilitating productive and collaborative relationships
between service providers and owners

AGUA NUEVA WATER-RECLAMATION FACILITY (ANWRF) | Pima County, AZ



CHALLENGE

Creating beauty and restoring the environment is an additional benefit for this exceptional project. Constructed in 2014, the contract for the Agua Nueva Water Reclamation Facility (ANWRF), formerly the Pima County Water Reclamation Facility, consisted of the design, construction and acceptance testing, together with the operation and maintenance (including all capital maintenance). This facility is part of Pima County's new Water-Reclamation Campus. Additional capital improvements included an influent pipeline from the facility to the county's plant interconnect, an effluent pipeline from the facility to the county's existing Santa Cruz River outfall, a primary sludge line from the facility to the county's existing sludge transfer pipeline, and a bypass sludge line from the facility to the plant interconnect. The capacity of the new facility is 32 million gallons per day (mgd), based on annual average daily flow, with an ultimate capacity of 48 mgd.

APPROACH

The County chose to use DBO project delivery to secure substantial benefits for its customers, including timely, efficient and cost-effective scheduling, optimal risk allocation, competitive design selection, clear assignment of performance responsibility to a single contracting entity and long-term O&M efficiencies. This provided cost savings beyond any that could have been expected with a traditional DBB project delivery. Pima County awarded the contract to CH2M, who devised an innovative treatment process that uses Dissolved Air Flotation as primary clarification as well as 5-stage Bardenpho wastewater treatment enhanced with step-feed capabilities, followed by deep-tank secondary clarification.



www.waterdesignbuild.com

ghanifin@waterdesignbuild.org

(410) 798-0842 | PO Box 1924, Edgewater, MD 21037

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This highly effective odor control solution, consisting of two separate system (a centralized odor control bio filter system and a dual-bed carbon absorption system), offers both low lifecycle cost and exceptional performance. In addition, because of the unique design configuration, the design of the site layout allows room to expand to accommodate future population growth of Pima County.

RESULTS

CH2M has a contract to operate the facility for 20 years; however, since the ANWRF project began operation in 2014, there have been several notable accomplishments. First to note is its excellent overall safety performance, with only a single recordable incident in over 825,000 hours of operation. Next is that the final contract amount for the designing and construction the facility was only \$164 million—almost one-third (32%) lower than the initial budget cap of \$240 million.

AUTHOR

Greg Fischer, DBIA
Vice President
1501 W. Fountainhead Pkwy, Suite 401
Tempe, AZ 85282
(480) 377-6230
gregory.fischer@ch2m.com



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Ihanifin@waterdesignbuild.org

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