



Harris & Associates

WATER REUSE

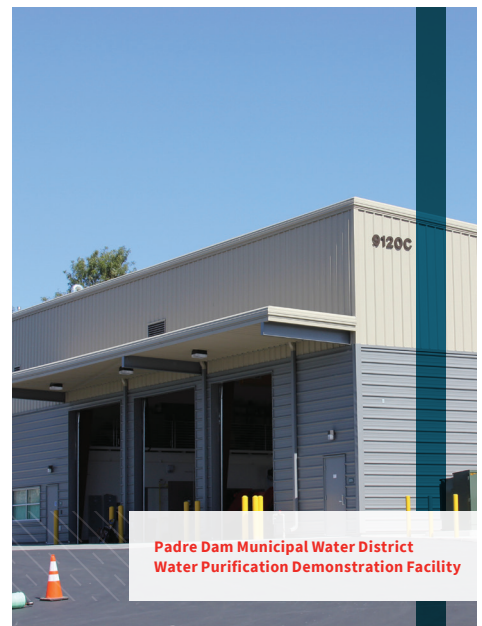
As ongoing development and extreme weather continue to drain local water supply, Harris & Associates helps agencies leverage water reuse to diversify their supply and deliver clean water for all.

With more than 40 years of experience working with municipal wastewater treatment, Harris understands the unique financial and logistical challenges facing today's agency leaders. Since 2012 alone, we have managed more than 20 water, wastewater, and recycled water projects with a constructed value exceeding \$500 million. Harris brings the experience of managing complex treatment projects while meeting permit discharge compliance during construction, working expertise in the intricacies of plant construction, and successfully managing start-up and testing procedures.

Master Planning and Regulatory Compliance

California aims to increase the use of recycled water over 2002 levels by at least 1 million-acre feet per year by 2020, and by at least 2 million acre feet per year by 2030. Our strategic consultants help agencies gain a clearer view of the big picture to plan projects for the greatest impact.

Harris also helps agencies comply with stringent regulations around water reuse, including Title 22 of California's Water Recycling Criteria and Regional Water Quality Control Board requirements regarding bacteriological treatment, discharge, and reuse of reclaimed water, and more.



Padre Dam Municipal Water District
Water Purification Demonstration Facility

In 1979, Harris received the first ever third-party construction management assignment through the former EPA Construction Grants Program for a wastewater treatment plant.

Smooth Project Delivery

Harris has a strong record of results with various delivery methods and construction management techniques, including design-build and CM-at-risk. Design-build especially requires expert management of contractual considerations. For example, because design-build contracts require speedy execution and prompt responses, we help owners carefully and completely delineate their specific program requirements very early in the development process.

Across all delivery methods, we coordinate water projects with ongoing plant operations, commissioning, direct operations support, startup, control, change orders, and claims avoidance. We focus on cost, schedule, and quality to deliver projects that meet or exceed client expectations.

The Right Treatment Technology

Clients rely on our team's technical expertise in civil, electrical, and mechanical inspection, treatment plants and processes, automation, and controls to realize their goals. We bring to your project extensive knowledge of current recycled and water treatment facility technologies, such as ultrafiltration membrane systems, reverse osmosis systems, and dissolved air flotation (DAF) pretreatment systems. Harris is currently providing professional consulting and construction management services for a dissolved air flotation project for the City of Bellingham's Water Treatment Plant Pretreatment project—keeping the existing plant fully functional for all 19 months of construction.



Bellingham Water Treatment Plant Dissolved Air Flotation Project **City of Bellingham, WA** **Bellingham, WA**

Harris was hired to manage the \$15 million system's construction process and provide professional consultation, including a constructability review study at the 95% design phase. Among the many challenges facing the Harris team: The existing plant must stay fully functional—providing drinking water to 80,000 people—with minimum disruption during the 19-month construction.



Carlsbad Water Recycling Facility (CWRF) **Phase III Expansion - Design/Build** **City of Carlsbad** **Carlsbad, CA**

By 2020, one in every four gallons of water used in Carlsbad will be recycled water, according to Public Works Director Pat Thomas. To achieve that ambitious goal, the city is expanding the Carlsbad Water Recycling Facility (CWRF), and administrators tapped Harris & Associates to provide critical construction management services for the \$8 million design-build (DB) project.

DRINKING WATER

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STORMWATER

WATER REUSE

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Harris partners with public agencies to enhance their communities.