ALPHA WATER & POWER
DESIGN BUILD DELIVER SUPPORT





Water Practice Capabilities Overview

Municipal and industrial water and wastewater treatment. Design. Build. Deliver. Support.

Alpha Water & Power (AWP) designs, builds, delivers, and supports integrated water and power infrastructure for municipal, industrial, and energy-intensive operators. The Water Practice provides the engineering, permitting, equipment supply, construction, and long-term operating support a water or wastewater system needs, from source well to finished water, under the same design-build-deliver-support model as our power work.

What We Deliver

- **Brackish and Reverse Osmosis Treatment.** Turnkey RO and BWRO plants from 50,000 GPD to 9 MGD for municipal and industrial supply.
- **Wastewater Treatment.** Packaged and site-built plants for municipalities, remote sites, and private facilities.
- **Plant Upgrades and Expansions.** Phased capacity additions, pretreatment and SCADA upgrades, and controls modernization for existing plants.
- **Industrial Pretreatment.** Softening, media filtration, iron removal, and chemical feed ahead of membranes or process loads.

How We Work

Engineering Design
Process design and treatment selection, as full design-build or in support of the engineer of record, matched to site water quality and growth.

Permitting and Procurement
TCEQ permitting and compliance, with complete treatment system supply through proprietary and OEM membrane, media, and controls relationships.

Installation and Support
Turnkey construction, startup, commissioning, and operator training, followed by annual service agreements that keep plants in compliance.

Reverse Osmosis and Brackish Water Treatment

Municipal and industrial RO plants engineered for membrane life, operating cost, and phased growth. AWP has delivered RO treatment for more than 20 Texas water systems, from containerized units at remote sites to the 9 MGD City of Fort Stockton plant and its current expansion.

- **Capacity range.** Containerized 50,000 GPD systems through 9 MGD municipal plants, expandable in phases as demand grows
- **Pretreatment.** Turbidex and Filox iron removal, softening, and chemical feed that extend membrane life and cut cleaning frequency
- **Concentrate management.** Concentrator RO and disposal strategies for inland brackish sites
- **Applications.** Municipal drinking water, remote site potable supply, industrial process water, plant upgrades and expansions

Wastewater and Site Infrastructure

AWP delivers wastewater treatment and the supporting site infrastructure as a single scope. Packaged plants for remote and private facilities, site-built plants for larger loads, and the wells, storage, pumping, and distribution that make a complete water system work.

- **Packaged plants.** Factory-built wastewater systems for remote sites, workforce housing, and private facilities, delivered turnkey
- **Site-built plants.** Design, engineering, construction, and commissioning of wastewater plants sized to the facility
- **Site civil and integration.** Site civil works, plumbing, electrical, controls, and final system integration under one scope
- **Wells and distribution.** Well drilling, testing, and permitting; storage tanks, booster pump stations, and distribution systems
- **Commercial structure.** AWP acts as equipment supplier, design-build contractor, or engineer of record support, at client election
- **Sequence.** Conceptual design and TCEQ permitting first, then equipment supply, construction, commissioning, and operator training around an approved process

Lifecycle Services

Engineering, procurement, and ongoing operations support delivered under a single point of accountability, from first water quality sample through years of plant operation.

Engineering
- Process design and treatment selection
- Pilot testing and water quality analysis
- TCEQ permitting and regulatory compliance
- Well development and distribution design
- Engineer of record support

Procurement
- Reverse osmosis and membrane systems
- Media filtration and pretreatment
- Chemical feed and booster pump stations
- SCADA, VFDs, and controls

Operations and Support
- Startup, commissioning, and operator training
- Annual Master Service Agreements
- Proprietary chemicals and replacement filters
- 24/7 troubleshooting support

Representative Projects

Selected from 26 projects and more than 20 MGD of treatment capacity delivered across Texas. Full references are available on request.

- **City of Fort Stockton.** 9 MGD municipal RO plant, with a phased expansion now under way toward an additional 9 MGD
- **Port O'Connor Improvement District.** 1.44 MGD turnkey RO plant with annual MSA
- **Jim Hogg County WCID No. 2.** 1 MGD fully turnkey RO plant, design through operator training
- **City of Seadrift.** 125,000 GPD RO plant and a 0.6 MGD expansion in progress
- **Sierra Blanca Detention Center.** Two-phase potable water facility with wells, storage, booster station, and containerized RO
- **Aries Lodge.** 50,000 GPD RO potable plant and packaged wastewater plant for a West Texas workforce camp
- **City of Bayside.** Brackish RO addition, pretreatment upgrade, and SCADA and VFD controls
- **Fort Hancock MUD.** Turbidex iron removal pretreatment that extends membrane life at an existing RO plant

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