WATER RECLAMATION AND REUSE

Freese and Nichols is a national leader in this developing practice, assisting many clients in assessing appropriate reuse strategies for their particular circumstances and, where appropriate, implementing leading-edge solutions to provide a secure water supply.

Freese and Nichols can help you evaluate and develop reuse and other appropriate water supply sources that meet your quality, reliability and cost criteria. We can craft a customized combination of strategies, including potable or non-potable reuse, lake augmentation, conventional groundwater and surface water. We can help secure water rights, environmental permits and state financing. Our team can also provide construction services to verify that your final product is consistent with the agreed-upon design.

RAW WATER PRODUCTION FACILITY
COLORADO RIVER MUNICIPAL WATER DISTRICT

Freese and Nichols managed permitting, design, and provided construction and startup services for the first facility in North America to blend reclaimed water directly in a raw water transmission pipeline. It diverts up to 2.5 million gallons of wastewater effluent per day and treats it to near-bottled-water quality using membrane filtration, reverse osmosis and ultraviolet oxidation.

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WATER RECLAMATION AND REUSE
Freese and Nichols has:
- Designed, permitted and started up the first recognized direct potable reuse (DPR) facility in North America
- Extended operation of the second DPR project in North America through the addition of UV disinfection
- Assisted more than 20 clients with evaluation and/or implementation of water reuse as a supplemental source of water supply

Freese and Nichols helped design a cooling water supply system for a new coal-fired power plant. The system transfers Type II treated effluent from chlorine contact basins at a wastewater treatment plant to the new energy station. Our team designed a 15-MGD pump station at the treatment plant, 11 miles of pipeline and a terminal storage pond. The project was fast-tracked to accommodate the power plant’s deadlines.

COOLING WATER SUPPLY SYSTEM FOR ENERGY STATION
SANDY CREEK POWER PARTNERS

Freese and Nichols helped design a cooling water supply system for a new coal-fired power plant. The system transfers Type II treated effluent from chlorine contact basins at a wastewater treatment plant to the new energy station. Our team designed a 15-MGD pump station at the treatment plant, 11 miles of pipeline and a terminal storage pond. The project was fast-tracked to accommodate the power plant’s deadlines.

SERVICES AND CAPABILITIES

REUSE FEASIBILITY
- Source Comparison
- Cost Evaluation

NON-POTABLE REUSE
- Customer Identification
- Distribution Evaluation
- Storage Analysis
- Water Quality
- Maintenance
- Rate Studies

POTABLE REUSE
- Process Evaluation
- Disinfection Evaluation
- Pilot Testing
- Regulatory Coordination
- Public Information

FACILITIES DESIGN
- Diversion and Treatment
- Pump Stations
- Transmission and Distribution
- Storage

REGULATORY/PERMITTING
- Non-Potable Reuse Authorization
- Water Rights Permitting
- Potable Reuse Authorization
- Water Quality Sampling
- Water Quality Modeling
- Site/Route Permitting

Freese and Nichols, Inc. is a professional consulting firm serving clients across the Southwest and Southeast United States. With sustainability in mind, Freese and Nichols plans, designs and manages infrastructure projects. It is the first engineering/architecture firm to receive the Malcolm Baldrige National Quality Award.

www.freese.com