

## Case Study

# Modular Design for Wastewater Treatment Plants



SEVEN SEAS WATER GROUP  
Water-as-a-Service®



## Project Details

**Location:** Fort Bend County, Texas

**Customer:** Master Planned Community

**Technology:** Activated sludge

**Capacity:** Wastewater treatment: 600,000 GPD

**Market:** Municipal

## Overview

A developer launched a new master-planned community in Fort Bend County, Texas, with wastewater demand expected to increase incrementally as construction progressed. While full build-out would ultimately require 600,000 gallons per day of treatment capacity, early development phases required significantly less.

Rather than constructing a full-scale plant upfront, Seven Seas Water Group designed a scalable, phased wastewater treatment solution that aligned infrastructure investment with the pace of development—allowing capacity to grow alongside the community.

## Challenges Faced

- **Capacity timing mismatch:** Building full treatment capacity upfront would have resulted in years of unused infrastructure.
- **Capital constraints:** A large initial investment would have limited funds available for other construction priorities.
- **Development uncertainty:** Construction timelines could shift, creating risk if infrastructure was oversized too early.
- **Permitting and planning needs:** The solution required a clear, pre-planned expansion pathway.

## Flexible Solutions

Seven Seas implemented a three-phase modular wastewater treatment program, delivered as leased systems to align cost, capacity, and timing.

## Water Handled by Water Professionals

Seven Seas' decentralized water and wastewater treatment solutions have an outstanding reputation for world-class equipment and thoughtful, durable construction. The company is continuing its tradition of excellence and our team is ready to bring lease-plant offerings and superior builds to communities across the United States.

In addition, Seven Seas has an array of financing models available, including the BOO and BOOT structures in its Water-as-a-Service® offering.



## Phase-Based Deployment

- Phase 1: Install a 200,000 GPD leased wastewater treatment plant to meet immediate needs.
- Phase 2: Add a second 200,000 GPD module when flows increase, bringing total capacity to 400,000 GPD.
- Phase 3: Add a third 200,000 GPD module at later build-out to reach the full 600,000 GPD requirement.

## Financial Impact

Each 200,000 GPD plant was delivered as a leased solution, reducing the initial capital burden and allowing the developer to preserve cash for core construction activities. Capacity increases were scheduled to coincide with demand, ensuring the customer paid for treatment capability as it was needed, not years in advance.

## Solution

Seven Seas' phased design provided a clear, pre-planned expansion pathway that supported permitting while maintaining flexibility as construction timelines evolved. The result was a treatment solution that was right-sized at every stage, with a straightforward strategy for scaling as the community grew.



*"With the phased design and lease program, we were able to reduce upfront capital outlay and redirect investment toward other priorities in the master-planned community."*

— Project Manager

