

# Food & Beverage Industry Experience



## **Wastewater Treatment Plant Upgrades**

Poultry processor – Southeastern United States

Performed over 40 projects at six meat processing/cook facilities. Projects have included design-build, upgrade, and optimization of new and existing wastewater treatment plants to optimize treatment and performance. Provided detailed design, construction-phase services, operations, and training. Initiatives included a corporate sustainability program, compliance audits, Phase I/II investigations, land application spray field evaluation, irrigation pond sludge removal, air quality and water quality permitting, regulatory plan development, upgrade of air pollution control devices, environmental management system consulting, and regulatory negotiations.

## **Membrane Bioreactor (MBR) Technology Evaluation & Pilot Study**

Snack chip manufacturer – Northeastern United States

Evaluated MBR treatment of wastewater, and conducted a 32-week pilot study based on the results. Study was conducted to assess the effectiveness of the MBR technology to treat used process water and prepare the water for direct discharge. Evaluated nanofiltration (NF) membranes and ultra-violet (UV) disinfection technologies to treat water to meet drinking water quality standards for reuse.

## **MBR & Process Water Reuse Program**

Snack chip manufacturer – Southeastern United States

Completed conceptual design and basis of design (BOD) for MBR and process water treatment system using results from pilot studies. System included primary screening and clarification, MBR biological treatment, nanofiltration, UV disinfection, chemical storage and delivery, solids handling, and a dewatering facility. BOD included mass balance, process and instrumentation diagrams (P&IDs). Also developed civil, structural, mechanical process and piping systems, SCADA, and electrical equipment and instrumentation specifications.

## **SOLUTIONS & SERVICES**

- Technology evaluations
- Pilot studies
- Sustainability audits
- Conceptual designs
- Design-build
- Construction
- Operations & maintenance

## **TECHNOLOGY SOLUTIONS**

- Pretreatment/evaluation
- DAFs/clarifiers
- Aerobic treatment systems
- Anaerobic treatment systems
- Solids handling
- Membrane technologies

## **CONTACT**

For more information contact your O'Brien & Gere representative or:  
Paul S. Greene  
[GreenePS@obg.com](mailto:GreenePS@obg.com)  
(518) 758-2179  
[www.obg.com/f&b](http://www.obg.com/f&b)



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## **Design-build of a Primary Clarifier**

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Snack chip manufacturer – Northeastern United States

Design-build of a primary clarifier that included technology evaluation/selection, bench-scale testing, concept/final design, construction, start-up, installation, and commissioning. Completed during winter conditions with minimal plant shutdowns, and resulted in improved operations and reduced odors and chemical usage.

## **Evaluation, Optimization, & Upgrade of Land Application System**

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Canned soup manufacturer – Southeastern United States

Evaluated hydraulic capacity, soils condition, and controls of a 2 MGD land application system, followed by modifications to optimize system performance. Completed soils evaluations, groundwater modeling, non-discharge permit application, and detailed design. Also provided bid- and construction-phase services for a new 40-acre parcel, and prepared an operations manual.

## **Wastewater Treatment Plant Operations**

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Beverage manufacturer – Northeastern United States

Provided operations services for pretreatment of high strength wastewater. Included equalization, primary treatment, biological treatment with activated sludge, secondary clarification, sludge digestion, and sludge dewatering. Chemicals, analytical testing, and maintenance oversight were included in the operations program.

## **Wastewater Treatment Systems**

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Multiple industrial bakeries – Nationwide

Designed upgrades to wastewater treatment systems for several bakeries in multiple locations throughout the United States. The upgrades included the addition of pH control systems and modifications to air flotation systems.

## **Wastewater Treatment Facility Upgrade**

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Sauce manufacturer – Northeastern United States

Turnkey design-build of upgrades to existing, oversized wastewater treatment facility. Developed a Facility Engineering Report, identified hydraulic/organic loading capacities, evaluated/identified operating parameters, provided design, evaluated operations, and provided engineering support during construction.

## **Dissolved Air Floatation (DAF) Evaluation**

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Sauce manufacturer – Northeastern United States

Evaluated types of dissolved air floatation devices and pilot operational data to remove solids upstream of an existing aeration lagoon. Developed layout and new infrastructure design to upgrade the system.

## **Water & Energy Conservation Program**

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Beverage and bottling company – Northeastern United States and Nationwide

As part of overall energy and environmental management initiative, investigated methods to potentially reduce water and energy usage at over 60 production facilities. Short- and long-term recommendations for water conservation/reuse.