

# Wastewater Treatment

*Environmentally compliant plants for virtually any size or treatment requirement*

Tighter restrictions on wastewater discharge and the growing demand for clean potable water have placed a greater emphasis on water treatment methods and plant capacities.

Layne Christensen constructs new facilities and also makes improvements to existing plants. This includes water and wastewater treatment plants, in addition to pump stations, lagoons and holding basins.

Serving both private and public sectors, our experienced workforce takes on projects large or small from regional offices providing responsive, long-term support even after the initial work is completed.

For fast-track projects, our in-house design team and construction staff works together to get your project underway as quickly as possible.

A proven leader in the industry, Layne utilizes the latest in equipment and technology along with a working knowledge of today's regulations to make sure your facility is constructed safely, on time, in compliance and within budget.

## **Wastewater Treatment Technologies**

Layne Christensen Company provides wastewater treatment and water reuse systems for both municipal and industrial wastewater applications. Layne has the know-how to provide the right system for your treatment and reuse needs, and can help identify the most effective treatment technology, whether it be conventional treatment, sequencing batch reactors, or membrane bioreactors. Layne can provide everything from full-scale in-ground systems to skid-mounted, scalable package treatment plants. Contact our highly trained professionals for your free site evaluation.

## **Conventional Wastewater Treatment**

As a total system provider, Layne Christensen can construct complete conventional treatment facilities to meet your requirements, including the installation of all equipment. With experience in both on-site industrial process water and municipal biological treatment plants, we can modify existing facilities or construct an entirely new plant.



*Sequencing Batch Reactor (SBR), Rising Sun, Indiana*

## **Sequencing Batch Reactors (SBR)**

SBRs from Layne Christensen provide complete biological wastewater treatment and nutrient removal in a single vessel, resulting in an exceptionally small footprint.

Since SBRs can handle widely varying loads and flow rates, they provide optimal energy efficiency, and through the flexibility of custom engineering, SBRs can be designed to meet site-specific needs.

Layne SBRs can be designed as package plants or can be retrofitted into any existing basin. Operating automatically, Layne SBRs include user-friendly, state-of-the-art controls.

## **Membrane Bioreactors (MBR)**

Layne Christensen offers a variety of MBR technologies for both Municipal and Industrial applications. Both pressurized and submerged membrane designs are available depending on the client's needs. Pressurized systems enable independent operation of the biological and membrane separation portions of the MBR process. Biological treatment processes can be designed, enhanced or modified with other treatment technologies to assure optimal system performance.

The membrane system can then be optimized independently from the treatment process to provide the best overall performance.

Submersible membranes for immersion into existing basins can be provided for flexibility in retrofits or new plants. This system provides low operating costs with stable operation. Submersible membranes eliminate the need for the final sedimentation tank. High and stable permeate fluxes are achieved with a high performance microfiltration membrane combined with reverse filtration using treated water.

Highly crystalline PVDF hollow fiber membranes provide exceptional chemical compatibility, durability, and strength. Maintenance is simplified by the compact design and the unique cylindrical geometry of the membrane module.

Whatever your wastewater treatment requirements, you can rely on Layne Christensen Company's experience and reputation to provide the optimal system for your needs.