ORGANICA SOLVES GROWING TOWN'S WASTEWATER NEEDS

Municipal Wastewater Treatment – Telki, Hungary

CHALLENGE

The community of Telki experienced rapid growth in the 1990's, causing the town's existing wastewater treatment plant to reach its maximum capacity. As a result, Telki found it necessary to replace their facility with a new treatment plant. In addition to capacity limitations, the growth of the community increased land value significantly. Further, siting of the new facility was a serious challenge with the only land available sitting amongst Central Europe's largest private hospital and other high-value properties.

With expensive estates, a golf course, a polo facility, and rolling vineyards as neighbours, expanding the conventional and outdated wastewater treatment plant was not an attractive option. Telki wanted to solve its wastewater treatment needs without needing to compromise visual appearance and risk the disappointment of locals.

Organica's solution preserves and enhances a quaint neighbourhood

SOLUTION

The Organica solution was chosen for its compact design (fitting on the same land as the original facility), garden-like appearance and odourless operation, perfect for upholding the community's high aesthetic standards and land values. Organica facilities' uniquely efficient operation over a range loading rates also makes the solution ideal for the town's future expansion expectations.

As a further benefit, Telki and Organica capitalized on a strong working relationship that had grown out of the successful wastewater project. Using land near Telki's new treatment facility, Organica constructed its world-class research and development facility to provide continuous improvement of its solutions and education on solving the growing problem of sanitation issues and water scarcity.

RESULT

Since beginning operation in 2004, the Organica facility has delivered reliable wastewater treatment, with effluent quality consistently below regulatory limits. The facility has also kept up with the town's growing needs, and now also serves the country's largest sports complex.

In addition, due to the pleasing visuals and odourless operation, the historically imposed buffer zone around the facility has been reduced from 250m to 50m, freeing up valuable land for further development.

"One of the very best decisions I've made as mayor was bringing Organica's solution to our community. The structure blends into the natural landscape, and the technology works flawlessly."

Mihaly Varga
Mayor of Telki, Hungary

Location
Telki, Hungary

Project Scope
Municipal WWTP, design-build

Operational since
2004

Footprint
345 m^2 (3 680 sq ft)

Hydraulic Capacity
800 m^3/day
(211 000 gallons/day)

Community Served
8 000 people

THE ORGANICA SOLUTION

Organica Water is a global provider of innovative solutions for the treatment and recycling of wastewater. The Organica solution is an Integrated Fixed-Film Activated Sludge (IFAS) system utilizing a fixed-bed biofilm that grows on root structures, all housed in a compact, odourless, botanical garden-like facility.

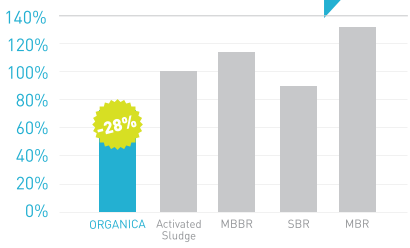
The resulting solution offers a significantly reduced physical footprint, zero "psychological" footprint, and lower operational and infrastructure costs when compared to other activated sludge-based wastewater treatment solutions.

Cost savings on CAPEX

» Reduced civil costs

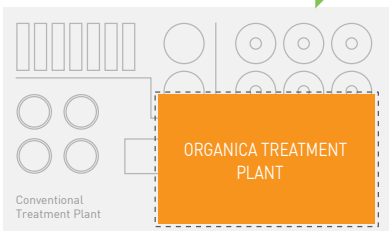
Cost savings on OPEX

» 30%+ lower energy consumption
» 30%+ less sludge production



Footprint Savings

» 50-75% smaller geographic footprint



PERFORMANCE SUMMARY OF THE TELKI FACILITY

Parameter	Influent (mg/L)		Effluent (mg/L)	
	Design	Actual	Limit	Actual
COD	700	855	75	42
BOD	385	433	25	7
NH_4-N	75	60	5	2
TN	65	84	25	9
TP	10	23	5	1
TSS	400	420	50	9

2006-2013 averages from monthly spot samples

RELIABLE AND RESILIENT

As a result of their unique ecological diversity, Organica facilities are not only able to meet the strictest effluent limits, but also are highly resilient to changes in influent conditions. This is especially important where industrial flows can unpredictably mix with municipal flows and threaten biological processes. The enhanced diversity of the Organica solution means the system can adapt to rapid spikes in influent much more effectively than other approaches. And because almost all of the biomass is fixed on root structures, oxygen transfer is much more efficient, resulting in significatly lower energy requirements. All of these benefits make the Organica solution ideal for nearly any application.