Royal HaskoningDHV
Enhancing Society Together

Nereda®
a product of Royal HaskoningDHV

Customer	BRK Ambiental - Saneatins
Location	Araguaína, Brazil
Startup	December 2023
RHDHV contact	Rafael Belisário rafael.belisario.da.silva@rhdhv.com.br
Configuration	Greenfield
Type	Municipal
ADWF	34,128 m^3/day
RWF	2,196 m^3/day
Effluent Requirements	BOD5 <23 mg/L monthly avg TSS <20 mg/L monthly avg TN <10 mg/L monthly avg
Pre-treatment	6 mm screening; grit and FOG removal
Post-treatment	Disinfection with chlorine
Sludge treatment	Dewatering centrifuge

Lontra WWTP (Araguaína)

Description

The city of Araguaína is one of the most populous cities in the state of Tocantins and plays a significant role in the region. The Lontra WWTP is constructed near Barra da Grota. The local government has invested approximately R$ 80 million in the new sewage and wastewater treatment system in the region, to address the general demands of the increased population and contribute to the inhabitants' well-being. The Nereda technology, by Royal HaskoningDHV, was selected as the biological treatment process for the upgrades of the wastewater treatment plant that serves a population of over 200,000 people.

The challenge

The former plant, located in the city, had been serving the municipality for decades and its ageing treatment system was unable to meet new regulations for carbon and nutrient removal, nor deliver capacity for the region's current and growing population.

The plant needed a considerable upgrade to meet the project requirements:

- Replacement of ageing infrastructure
- Relocation of the site outside the city
- Compliance with new, strict discharge limits
- Considerations for future expansion

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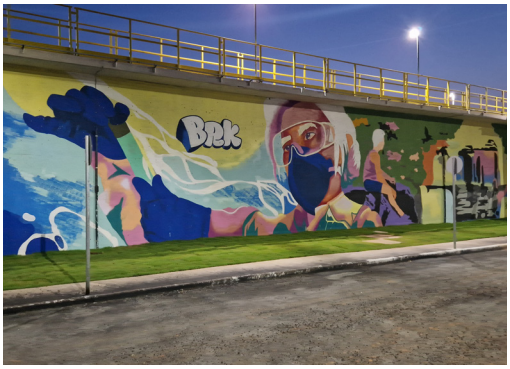
At a glance:



The solution

BRK chose Nereda for the new installation – Lontra Wastewater Treatment Plant – because of its compact footprint, high energy efficiency, low chemical consumption, and modular, adaptable structure. This meant BRK could keep operational costs low and easily extend the site when needed.

By selecting the Nereda technology, BRK was able to respond to the project requirements:

- Extensive carbon and nutrients removal, effluent TN < 10 mg/l, one of the strictest limits in Brazil
- Compact footprint and adaptable structure for a future extension
- Low operational costs in energy and chemicals
- Easy and simple to operate

Result

Araguaína's new installation has the capacity to treat wastewater for a population equivalent of 228,000. It meets total nitrogen removal standards of 10mg/l – one of the strictest limits in Brazil. And, although not yet applicable, the plant can meet total phosphorus removal limits of 1mg/l should those regulations come into force.

Lontra is BRK's fifth treatment plant to use Nereda technology as part of an ongoing, ten-year partnership. The modern installation sits on a greenfield site outside the city and is supported by a new sewage network. Its construction generated more than 1,100 jobs for the local economy.

The result is a progressive plant with high-quality construction and advanced technology that will ensure energy efficiency, compliance, and capacity – for now and the future. The plant will protect local water sources and wildlife ecosystems, significantly enhancing sanitation and wellbeing for Araguaína's inhabitants.

About Nereda

Nereda technology purifies wastewater using the unique features of aerobic granular biomass.

This game-changing technology was invented by Delft University of Technology in the Netherlands and scaled up through a public-private partnership with Dutch Water Authorities and Royal HaskoningDHV. It is now a proven and award-winning technology, which was designated as the top Breakthrough Technology of the preceding decade by Global Water Intelligence in 2020. The technology is widely applied across the globe to serve societies and industries with cost-effective and sustainable wastewater treatment for any flow range and treatment objective.

For more information on Nereda, visit: **nereda.royalhaskoningdhv.com**