

A pilot programme has prepared the way for the release of a new modular system for reservoir projects.



Driving innovation in service delivery

The need for swift action to help solve the water crisis has been a major driver behind the marked uptake of Corestruc's precast concrete systems by municipalities and water authorities.

"They continue to explore new and innovative ways of fast-tracking service delivery," Shaun Hadkinson, marketing manager, Corestruc, tells IMIESA.

"A case in point is a visionary municipality that agreed to be the first to test our new unique precast concrete wall system on a 10 Mℓ reservoir construction project. It is being used alongside Corestruc's tried and tested precast concrete roof system, which, alone, has shaved months off the construction time of these structures for other municipalities."

The project is now reaching completion and has served as an important trial phase ahead of the imminent commercial launch of the new modular precast concrete wall system. It is based on more than 11 years of experience in designing and constructing precast concrete systems for water infrastructure projects, including treatment works and large 50 Mℓ reservoirs. During the R&D phase, significant emphasis was placed on the design of the wall panels to ensure a water-tight structure.

Reducing commercial risks

Using the company's reservoir roof system, municipalities have also been able to

reduce risks associated with these builds. "By constructing the walls and roof of the structure in this manner, the critical path of the programme runs through the earthworks and foundations," says Hadkinson.

"The construction of the floor slabs overlaps the installation of the walls and roof on the works programme. We are able to construct the walls and roof in three months on-site. Meanwhile, the manufacture of the structure takes place at our factory during the earthworks and construction of the foundations."

Importantly, the system also supports increased participation by emerging contractors, which will construct the floor and other associated infrastructure.

Meanwhile, they will also benefit from municipalities' ability to accelerate these projects to bridge the growing backlog in water supply infrastructure, considering that the system is able to reduce reservoir project programmes on reservoirs by more than 50%.

The growing backlog of water infrastructure has again been placed under the spotlight by the draft National Water and Sanitation Master Plan, which will serve as South Africa's guide for investment planning to develop water resources and the means to deliver water and sanitation services beyond 2030.

"The document describes the low reliability and advanced age of this critical infrastructure," he says. "More than 50% of municipal water supply assets now require

urgent rehabilitation or replacement. This will avoid further negatively impacting water supply reliability, which is as low as 65% in the country. In 27 priority district municipalities, water reliability is only 42% and just over 30% in 10 of South Africa's water services authorities."

However, one of the biggest selling points of Corestruc's precast concrete systems for municipal infrastructure projects, including sports stadiums and recreational centres, remains the high durability of the structures that are manufactured at its state-of-the-art factory.

The modular reservoir wall technology will also be manufactured to the same exacting standards as the company's other systems, in a safe and controlled environment. This also ensures that higher levels of accuracy are achievable on-site than what is possible with conventional cast-in-place construction methods.

"Budget constraints remain a serious inhibitor to the effective maintenance of these assets. This has been exacerbated by the cutting of provincial authorities' and municipalities' budgets, which they need to provide basic services. These have already had a profound negative impact on smaller municipalities already struggling to leverage their income, and this will continue to stimulate new thinking around infrastructure delivery," Hadkinson concludes. 📌