



# FITZROY INTAKE ROCKHAMPTON

MARCH - JULY 2025  
MCCONNELL DOWELL BMD JV  
ROCKHAMPTON, QLD  
\$0.70 M

DEMEX was engaged as a subcontractor to support delivery of the Fitzroy Intake and Pipeline Project, a major water infrastructure initiative spanning 116 kilometres through Central Queensland's Gladstone and Rockhampton regions.

DEMEX were engaged by MBJV, following major design issues from previous engineers and potential contractors on overcoming the demolition of the intake wall. DEMEX's in-house engineers worked openly and collaboratively during pre-tender negotiations and the project phase, employing innovative solutions to successfully address these challenges while ensuring project objectives were met.

## CHALLENGES

The project presented a range of challenges in design and execution, including engineering and constructing a coffer dam in the Fitzroy River. This required structural bracing of internal faces to address poor geotechnical conditions, managing hydrostatic water ingress pressures, and mitigating excavation vibrations.

River based works required the placement of geo-fabric base layers and scour rock mattresses underwater with zero visibility, with bulk earthworks completed to design levels under submerged conditions.

Environmental and safety risks included managing crocodile activity within the river system, ensuring strict compliance with environmental controls and monitoring requirements. Geotechnical solutions were developed for finger platforms to support 50T+ long-reach excavators, while ingress water was

monitored, treated, and discharged in accordance with environmental regulations.

## SOLUTIONS

DEMEX successfully overcame these challenges by employing highly skilled personnel experienced in marine and river-based work, whilst collaborating with internal and external geotechnical/structural engineers to develop practical coffer dam designs. Partnering with PR water engineers ensured effective water ingress treatment and discharge solutions were deployed, using GPS-enabled machinery for precise underwater profiling. "Croc-wise" training was conducted to mitigate risks of wildlife interaction, with rigorous risk assessments and daily toolbox meetings (DRAW/CRAW) ensuring environmental and operational safety.

## HIGHLIGHTS

Highlights of the project included successfully designing and constructing the coffer dam, solving a problem previously deemed unachievable by other contractors and engineers. Environmental compliance was achieved, with the project delivered with zero environmental breaches. Additionally, zero incidents or accidents occurred, and the work was completed ahead of schedule and under budget.

The client faced significant challenges, including uncertainty around demolishing the intake wall. DEMEX provided the expertise and innovative approach required to achieve what others considered impossible, delivering high-quality results that exceeded expectations.