DTSS2 TODAY

Issue 13: June 2025

Tuas WRP
As of May 2025

PROJECT PROGRESS

As of June 2025, the Deep Tunnel Sewerage System Phase 2 (DTSS2) project is 77% complete.

Of the 5 tunnel contracts, 4 contracts have been substantially completed to date, with the last one on track to finish by 3Q of 2025. At the same time, all 32 roller gate shafts have also been successfully fit tested. Air Jumper (AJ) & Odour Control Facility (OCF) testing and commissioning are in progress, and are expected to be complete this year.

Meanwhile construction of the smaller Link Sewers, that join shallower existing sewers to the deep tunnels, is progressing steadily with 25km out of 45km of pipe jacking works being complete thus far.

Over at TWRP, the delivery and installation of mechanical, electrical, instrumentation and control automation equipment are progressing steadily. In particular, testing has commenced at the Biosolids Building and for Digesters 1 to 3; marking a significant milestone in the project's development.

Full steam ahead into the remaining half of 2025 as more milestones await!

77% Construction Progress

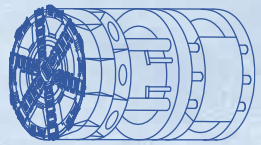
101 million Total Man-hours (Overall)

4,800 Workers Daily (Overall)

** as at 31 May 2025*

Domestic Used Water
650,000m³/d
Industrial Used Water
150,000m³/d

Link Sewer
Internal Diameter
0.3 to 3m



Tunnel
Internal Diameter
3 to 6m

Certified Substantially Completed

In 1H2025, the Certificate of Substantial Completion (CSC) have been issued to Contract T-09, **Leighton Contractors (Asia) Limited (Singapore Branch)** & Contract T-11 **Shanghai Tunnel Engineering Co (Singapore) Pte Ltd**.

Shaft O1
Completed Shaft
Penjuru Road

Shaft K2
Completed Shaft (@surface level)
Lower Delta Road/AYE

Shaft N
Completed Shaft
Clementi Road/AYE

Shaft L-LS1
Completed Shaft (@surface level)
Alexandra Road/Malan Road

Contract T-09 **Leighton Contractors (Asia) Limited (Singapore Branch)**
CSC Date: 24 Dec 2024

Contract T-11 **Shanghai Tunnel Engineering Co (Singapore) Pte Ltd**
CSC Date: 30 Apr 2025

Certified Substantially Completed

The Certificate of Substantial Completion (CSC) have been issued to the first of 12 link sewer contracts.

Completed manholes along Jurong Town Hall road

Completed manholes along old Toh Tuck road

Completed manholes along old Toh Tuck road

Contract LK2C2 Ed. Züblin AG, Singapore Branch

CSC Date: 12 Apr 2025

Final Roller Gate Fit Testing

Roller gates enable us to isolate a given tunnel section and keep it dry for man-entry, when required. By channeling the used water away from the isolated tunnel section to the link sewers, the overall system operation can remain undisrupted.

Fit testing was performed at the designated gate shafts to evaluate its compatibility and functionality.

On 29 May 2025, Deputy CE (Operations) Mr William Yeo and fellow PUB senior management witnessed the final Roller Gate Fit Testing at Shaft M (Portsdown Avenue)

Air Jumper (AJ)/ Odour Control Facility (OCF) Testing

Air management systems are installed at strategic locations along the DTSS2 tunnel to maintain a negative pressure system within the DTSS2 tunnel. The **Odour Control Facilities (OCFs)** collect air from the Tunnel and incoming Link Sewer and treat the air by passing it through activated carbon tanks before releasing it into the atmosphere. The **Air Jumpers (AJs)** convey incoming air dragged along by the Link Sewer flow to the Tunnel, where it is extracted and treated at the downstream OCFs.

System Operations / Functionality Testing of Air Management facilities witnessed by WRN team.

Tuas WRP

Contract 3D3

Domestic Liquids Module 2 - NEWater

Newest contract awarded in July 2025 for a 50 MGD NEWater production facility on the rooftop of Domestic Liquids Module 2.

Contract 5A

Plant Monitoring and Control System

Our satellite control room within Biosolids Building has been fit out. As this is the first one ready, it will serve as the central location for the testing of the plant-wide control system.

Contract 4A

Biosolids Building and Digesters

Currently at the testing phase, TWRP is using seawater, instead of NEWater, to fill the first digester for water testing. This approach speeds up the process significantly—cutting the time from 46 days to just around 7 days, before flushing with NEWater to ensure the system is clean and salt-free.

Contract 2B

Product Water Storage and Pumping Facilities

Up to 6-metre tall and weighing up to 20 tonnes each, the lime saturators and lime holding tanks for the NEWater storage facility were safely delivered and put in place. Integral to the NEWater production process, lime dosing plays a critical role in the pH correction and precipitation of residual hardness.

33.7 million
Man-hours worked

14/18
Contracts awarded

54%
Construction progress

“Committed to ensure a sustainable and secure water supply...”

Jalil Rahim
Senior Engineer
DTSS2 Department

Tell us about your role on Tuas WRP project.
I am Jalil, the project officer overseeing the implementation of TWRP’s NEWater storage tanks and the pumping station.

What can you tell us about the tanks themselves?
We have 4 large tanks that are 24m high and 38m in diameter and can hold approximately 17,700m^3 of treated NEWater each. This is the equivalent of 7 Olympic-sized swimming pools!

The remaining 2 tanks are smaller at 21m height and 32m diameter.

Is it difficult to build these tanks given its curved shape and size?
Building a storage tank of this size with 520 bolted wall panels each of 2.5m in length and 1.45m in width is like putting together a giant puzzle, but with precision engineering!

The construction process is split into 4 main stages:

1. Foundation and initial assembly
We start with the laying of a 1.5m thick solid concrete foundation to support the tank’s weight. Then we install setting rings and assemble the first three rings of wall panels. These panels are coated internally with epoxy for corrosion resistance and externally with UV-resistant polyester for durability.

2. Installing the roof, staircase, and work platform
Once these first three rings are in place, we secure an aluminum dome roof.

3. Jacking-up method
This is a fascinating part. We use hydraulic jacks to lift the assembled top section of the tank together with the assembled aluminum dome roof, creating space at the base to add more wall panels. This method improves safety and productivity by reducing the need to work at height.

4. Final assembly and testing
After the tank reaches its full height, we install the necessary piping, valves, and safety systems. Rigorous tests including hydrostatic and leak tests, ensure the tank is structurally sound and leak-proof.

What’s the broader significance of this project for Singapore’s water future?
The NEWater storage tanks ensures a continuous and reliable supply of NEWater which is vital for supporting our growing demand.

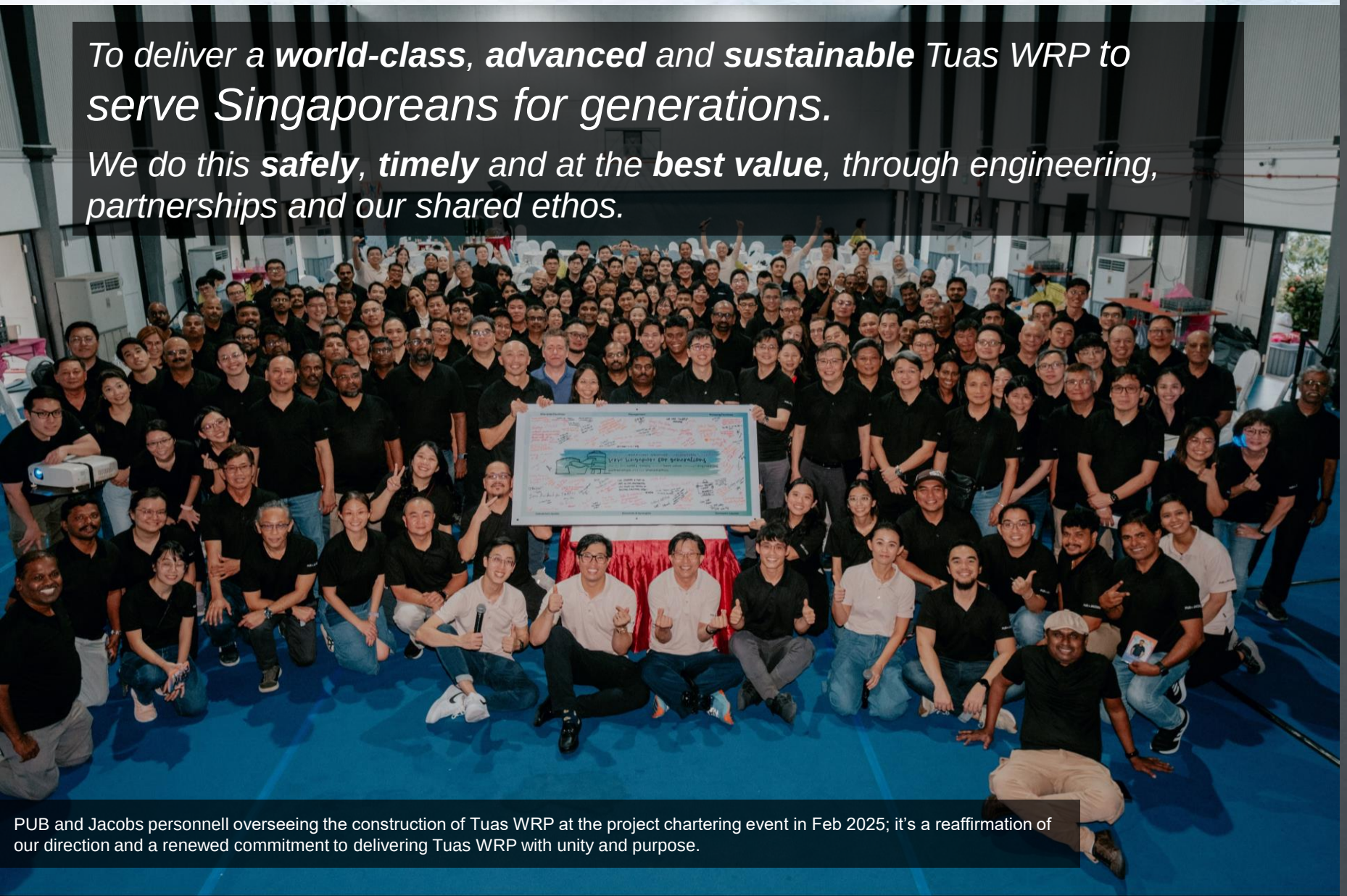
PUB remains committed to ensure a sustainable and secure water supply, strengthening our resilience in tackling future water challenges.

Tuas WRP Project Chartering

Our Mission:

*To deliver a **world-class**, **advanced** and **sustainable** Tuas WRP to serve Singaporeans for generations.*

*We do this **safely**, **timely** and at the **best value**, through engineering, partnerships and our shared ethos.*



PUB and Jacobs personnell overseeing the construction of Tuas WRP at the project chartering event in Feb 2025; it's a reaffirmation of our direction and a renewed commitment to delivering Tuas WRP with unity and purpose.

Our One Team Ethos

We

build a **SAFE** culture
operate with **INTEGRITY**
commit to **PROFESSIONALISM**
RESPECT one another
promote **GROWTH**

In 2024, we began a series of chartering sessions that brought together senior management representatives from PUB, our consultant—Jacobs, and all Tuas WRP contractors. The sessions laid the foundation for aligning our collective efforts, fostering open communication and establishing a shared understanding of project goals, timelines and expectations.

This collaborative effort has helped define clear leadership behaviours, roles and working guidelines. These have since evolved into our ***One Team ethos***—*a unified approach grounded* in shared purpose, mutual respect and a commitment to excellence.

Brought to you by:

PUB SINGAPORE'S NATIONAL WATER AGENCY

Consultants

binnies AECOM
A JOINT VENTURE DELIVERING THE DTSS2 PROJECT

Jacobs

FC fongCONSULT PRIVATE LIMITED

CKMT

SJ

Link Sewers

Aik Leong Plumbing Construction Pte Ltd

Ed. Züblin AG, Singapore Branch

Guan Joo Construction Pte Ltd

Eng Lee Engineering Pte Ltd

Samwoh Corporation Pte Ltd

Eng Lam Contractors Co (Pte) Ltd

Ohin Construction Co Pte Ltd

Megastone Holdings Pte Ltd

Tunnels

Ed. Züblin AG, Singapore Branch

Penta-Ocean and Koh Brothers Joint Venture

Leighton Contractor (Asia) Limited (Singapore Branch)

Nishimatsu Construction Co., Ltd.

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Roller Gates

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