

DTSS2 TODAY

Issue 10: December 2023



COMPLETION OF DTSS2 TUNNELLING WORKS

Light at the End of the Tunnel

21 August 2023



PROJECT PROGRESS

More than half of the Deep Tunnel Sewerage System Phase 2 (DTSS2) project has been completed at 63.2 % as of November 2023.

We have completed all tunnelling works and marked this milestone with a “Light at the End of the Tunnel” event on 21 August 2023. Beyond tunnelling works, there continues to be major construction activities for the casting of the Corrosion Protection Lining (CPL), pipe jacking works for the link sewers, and primary cast-in installation at 18 roller gate shafts in progress as well as MEICA - Air Jumper (AJ) and Odour Control Facilities (OCF) installation in progress.

Tuas WRP continues to make significant strides, with the completion of all site-wide foundation works. The superstructures are rising steadily with the biosolids building, digesters and tanks. Factory Acceptance Tests (FATs) for MEICA equipment are being carried out worldwide, before being progressively delivered to site for installation.

Onwards to 2024 to many more milestones!

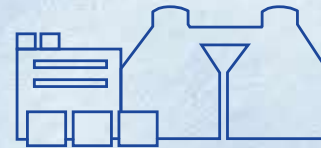
DTSS PHASE 2



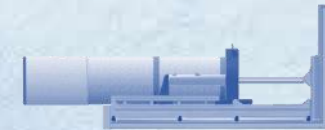
63.2% Construction Progress

72.9 million Total Man-hours (Overall)
5,823 Workers Daily (Overall)

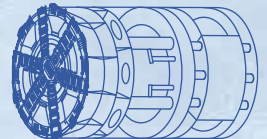
*as at 30 Nov 2023



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

COMPLETION OF DTSS2 TUNNELLING WORKS

Light at the End of the Tunnel

MONDAY, 21 AUGUST 2023



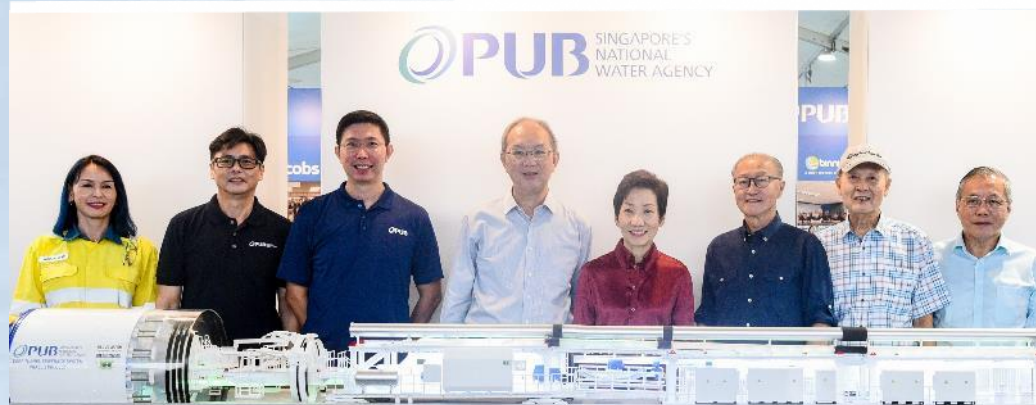
Find out more about it at:

- [The Straits Times \(1st\), 21 Aug 2023](#)
- [The Straits Times \(2nd\), 21 Aug 2023](#)
- [Channel News Asia, 21 Aug 2023](#)
- [CNA938 Interview, 21 Aug 2023](#)
- [8 World, 21 Aug 2023](#)
- [Sand Artist Performance by Lawrence Koh](#)
- [Lianhe Zaobao, 21 Aug 2023](#)
- [DTSS2 Tunnelling Journey Works Video](#)



Guest of Honour, Minister for Sustainability and the Environment, Ms Grace Fu

This completion of tunnelling works for DTSS Phase 2 marks a significant milestones for the project and brings us a step closer to the full completion of DTSS2 in 2026



From Left: Woo Lai Lynn (PUB), Hew Kit San (PUB), Goh Si Hou (PUB), Chiang Chie Foo (PUB), Grace Fu (Minister, MSE) & DTSS2 pioneers: Chiang Kok Meng, Yeo Seow Eng, Moh Wung Hee

From Left: Dr G (JV), Hew Kit San (PUB), Matt Warburton (Jacobs), Goh Si Hou (PUB), Chiang Chie Foo (PUB), Grace Fu (MSE), Sven Burger (Zublin), Toshio Araki (POKB), Ashley Mascarenhas (LCAL), Keng Ben Hoe (NCC), Khor Eng Leong (STEC), Woo Lai Lynn (PUB)

SM Teo's visit to DTSS Phase 2

Senior Minister Teo Chee Hean

Shaft-O1 (Contract T-09) | 28 September 2023

"The DTSS is a visionary, decades-long project to strengthen our used water and NEWater system, making it more cost-effective, energy-efficient, and sustainable. When fully operational in 2026, the DTSS will allow us to halve the aboveground space occupied by used water infrastructure, freeing up land nearly twice the size of the Singapore Botanic Gardens. Bold and innovative solutions like the DTSS will keep Singapore liveable and prosperous for many generations to come."
- SM Teo



[Click here to visit SM Teo's FB post: 20 years of work to serve us for 100 years](#)



"The tunnel's bright yellow colour comes from a layer of High Density Polyethylene which provides corrosion resistance. Built-in sensors allow remote monitoring of the tunnel's structural integrity." – SM Teo



"Group photos with board members, management, and engineers from PUB. Thank you for your dedication and hard work!" – SM Teo

CONVEYANCE



Tunnel



20/20
TBMs
Breakthroughs

44.8km **48.5km**
Length of CPL completed Length Tunnelled



91.6%
Construction Progress



10/50 **50/50**
Completed Permanent Shaft Active Shaft

Link Sewer

18.1km **63.7%**
Length Jacked Construction Progress



52.1 million
Man-Hours worked

Shaft N, Contract T-09
Permanent Shafts & Odour Control Facility
Clementi Road

as at 30 Nov 2023

Contract 2A

Influent Pumping Stations

66kV main substations have been successfully energised. Over to the north of TWRP, excavation works for both coarse screen shafts, as well as 1 out of 3 pumping shafts, are complete.

Contract 2B

Product Water Storage and Pumping Facilities

NEWater Tank construction has begun, with the first steel tank rising up from the ground.

Contract 1A

Site-wide Developments

Nearshore outfall and all other permanent works have been substantially completed on 14 Aug 2023. C1A continues to provide site-wide services to support the project.

Tuas WRP

Contract 4A

Biosolids Building and Digesters

Biosolids Building's superstructure is nearing completion and progress for the digesters continue.



18.6 million
Man-hours worked



12/16
Contracts awarded



33%
Construction progress

Completion of Sewer To Serve Tuas Port Area

Safe & Reliable Engineering Solutions



Ong Lee Ching (PUB) and Thomas Radoicovich (Jacobs) at TWRP's TPLS

The Tuas Port Local Sewer (TPLS) serves the immediate vicinity around Tuas WRP, including the Tuas mega-port. Spanning 1.2 km, the TPLS was meticulously laid using the trenchless method of pipe-jacking. However, the discovery of some micropile structures in the way necessitated a critical redesign of the TPLS, showcasing the team's adaptability in the face of challenges. The final design, which is engineered to avoid the extra costs of extensive reengineering, underscores the project's commitment to innovation and fiscal responsibility.

Brought to you by:



Consultants



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.



Shanghai Tunnel Engineering Co (Singapore) Pte Ltd

TIMS



Ryobi Geotechnique International Pte. Ltd

Roller Gates



SMITECH Engineering

Smitech Engineering Pte Ltd.

MEICA



MEMIONTEC Membrane Ionexchange Technology

Memiontec Pte Ltd

Tuas WRP



McConnell Dowell Southeast Asia Pte Ltd



Koh Brothers-China Harbour Joint Venture



CES_SDC Pte. Ltd.



Sinohydro Corporation Limited



China Harbour (Singapore) Engineering Company Pte. Ltd.



CHINA STATE CONSTRUCTION

China State Construction Engineering Corporation Ltd.



UES Holdings Pte. Ltd.



ABB Pte. Ltd.



Koh Brothers Building & Civil Engineering Contractor (Pte.) Ltd.



Sanli M&E Engineering Pte. Ltd.



CES_Salcon-SDC Joint Venture