

DTSS2 TODAY

Issue 2: October 2019



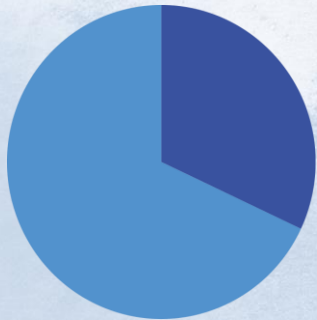
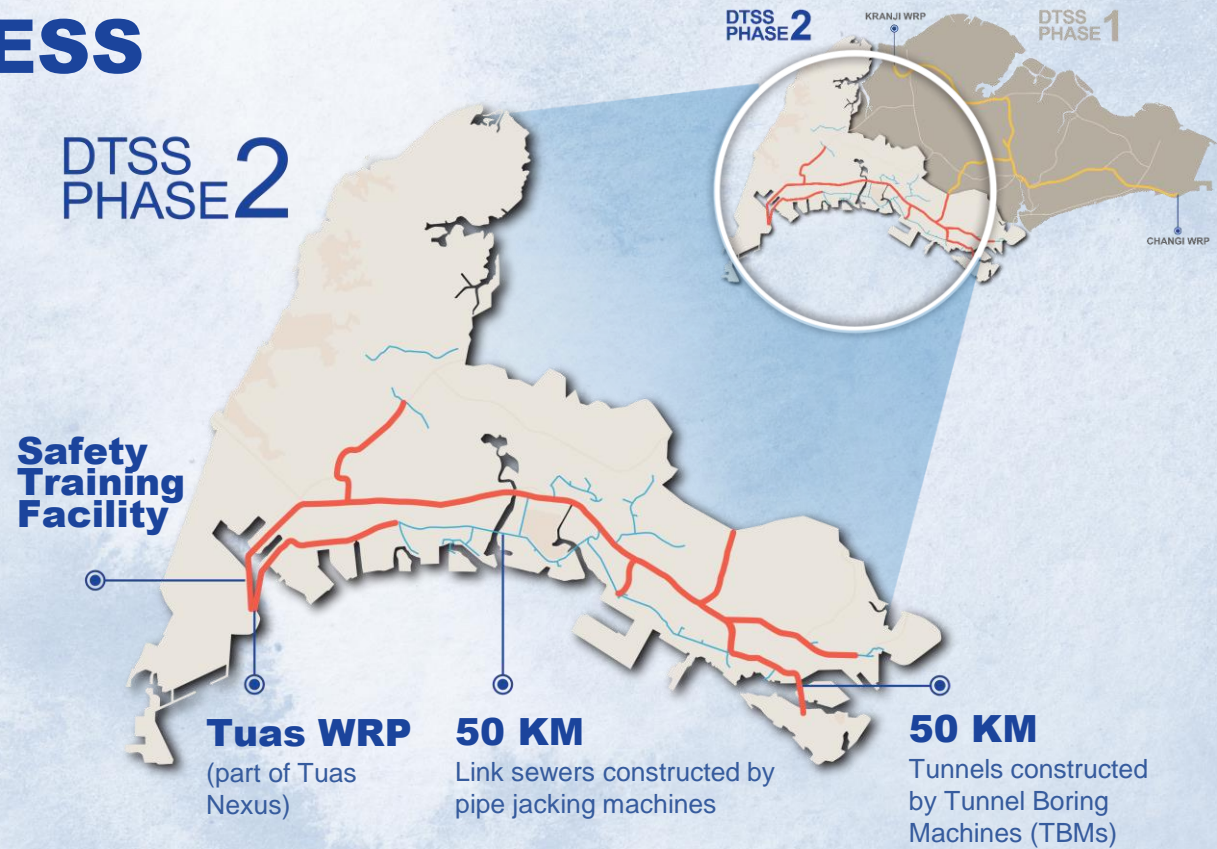
Photo: TBM Tuas being assembled at Shaft Z

PROJECT PROGRESS

The Deep Tunnel Sewerage System Phase 2 (DTSS2) project is making steady progress, with two tunnel boring machines (TBMs Bahar and Tuas) already in operation. By the end of 2019, eight more TBMs will be tunnelling across Western Singapore.

The project also welcomed more link sewer contractors on board, with 10 out of 13 contracts awarded. The link sewer works are expected to be in full swing by mid-2020.

The Tuas Water Reclamation Plant's (TWRP) Contract 2A (Influent Pumping Stations) commenced in mid-July this year and construction of the five shafts - which convey used water from the deep sewerage tunnels to the plant - is expected to be underway by end-2019.



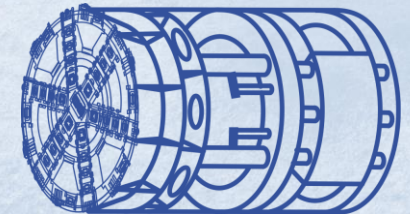
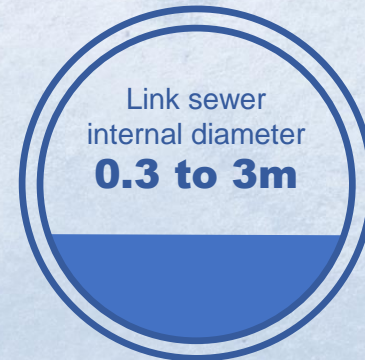
37.02%
Overall Progress



10.63 million
Total Manhours (Overall)



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



Tunnel internal diameter:
3 to 6m

PASSION FOR SAFETY

“OUR GOAL IS TO HAVE ZERO INCIDENT... LIKE TWO WHEELS ON A CHARIOT, BOTH PRODUCTIVITY AND SAFETY ARE EQUALLY IMPORTANT.”

Sambath Natarajan Mohan,
WSH Coordinator +

TWRP C1A, McConnell Dowell S.E.A Pte Ltd

TWRP has set-up PUB's first Safety Training Facility to heighten worker's awareness of high-risk activities. The training is mandatory for all personnel working at the TWRP project site.

We sat down with Mohan, 48, who is one of the WSH coordinators professionally trained to provide classroom-based training and lead participation in the simulators at the Safety Training Facility.

What three words would you use to describe the Safety Training Facility programme?

Interesting, Exciting and Informative.

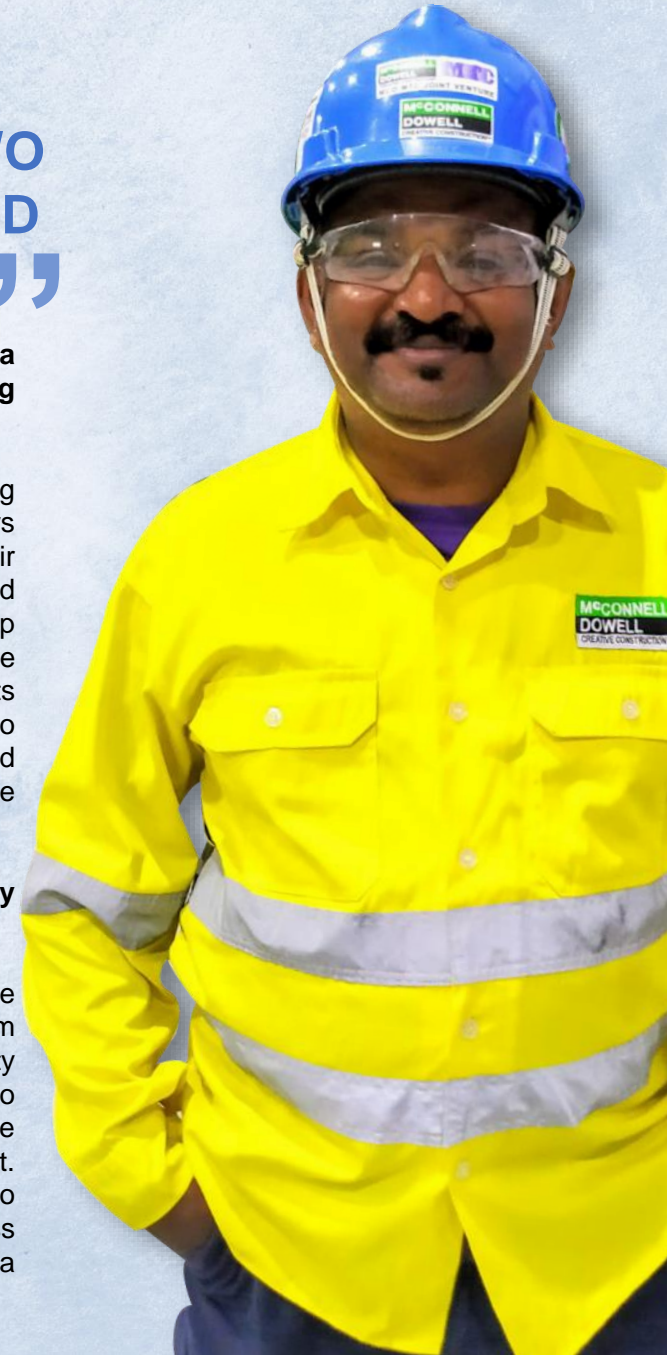
Interesting because trainees can experience all the high-risk activities on their own. Exciting because some of the activities involve active participation like being 'hit' by a simulated excavator. Informative because the information is presented in an interactive manner which helps trainees to remember the control measures on the high-risk activities.

Tell us about a time when you overcame a challenge related to the safety training programme in TWRP.

Trainees tend to lose attention or focus during training due to tiredness. Before training, I always advise them to stay awake and switch off their mobile phones to prevent any distraction. I would also give them a break during training to freshen up and use videos to make the training session more interesting. I also share true stories on unsafe acts that happened on site so that trainees can relate to them. For example, welders use cutting disc to grind instead of grinding disc and they also might not use the key to open the disc.

How would you describe your priority on safety for this project?

Our Goal is to have ZERO incident; therefore, we always emphasise to work safely. All project team members and workers must understand the safety requirements and follow them on site. I also emphasise that both productivity and safety are equally important - it is like two wheels on a chariot. Both wheels must work in tandem for the chariot to move and reach its destination. Similarly, progress and safety must be pushed together to have a successful delivery of the project.



RAISING SAFETY STANDARDS



In recognition of their commitment to safety, Leighton Contractor (Asia) Limited (Singapore Branch) - the contractor for DTSS2 Contract T09 - was presented with the Project Safety Recognition Award at PUB's Health and Safety Day in July.

More awards followed in the same month as Leighton and Ed. Zublin AG (Contract T-07) were awarded the Safety and Health Award Recognition for Projects (SHARP), organised by the Workplace Safety and Health (WSH) Council. The award acknowledges both contractors' efforts in maintaining high safety standards across the DTSS2 work sites.



CONVEYANCE



8.8 million
Manhours worked

13

**Link Sewer
Contracts**



10/13

Contracts Awarded



9.50%

Construction
Progress

TBM Types

18 slurry & 1 earth
pressure balanced

5 Design &
Build
Contractors

**Tunnel
Contracts**



7/50

Shafts Excavated

Depths

From 35 to 55 m



23.69%

Construction
Progress



8/19

TBMs
Delivered

2

TBMs
In Operation

TUAS WRP

Contract 2A

Influent Pumping Stations

Koh Brothers Building & Civil Engineering Pte Ltd and China Harbour (Singapore) Engineering Company Joint Venture (JV), were awarded a S\$668-million contract to construct the Influent Pumping Stations at TWRP. A total of five deep shafts will be constructed to house 26 large capacity pumps. The largest pump has a capacity of 195,000 cubic metres a day, able to fill 78 Olympic-sized swimming pools.

Contract 1A

Site Development Works

McConnell Dowell is currently working on the grounds, preparing the site setup that includes overall site earthworks, setting up of the site office and temporary utilities.



1.07
million
Manhours worked

Brought to you by:



Consultants



Link Sewers



Tunnels



Tuas WRP



Aik Leong Plumbing
Construction Pte Ltd



Sweet Hong Limited



Ed. Züblin AG,
Singapore Branch



Ed. Züblin AG,
Singapore Branch



Penta-Ocean and Koh Brothers
Joint Venture



CREATIVE CONSTRUCTION™
McConnell Dowell South
East Asia Pte Ltd



Koh Brothers-China
Harbour Joint Venture



Guan Joo
Construction Pte Ltd



Eng Lee
Engineering Pte Ltd



SAMWOH
Samwoh
Corporation Pte Ltd



Leighton
Contractor (Asia)
Limited (Singapore
Branch)



Nishimatsu Construction
Co., Ltd.



Eng Lam Contractors
Co (Pte) Ltd



Shanghai Tunnel
Engineering Co
(Singapore)
Pte Ltd