



Project Profile - 901

by Louis Fraser

T&M Specialists first project

Contract No. 901 – Admiralty Integrated Station & SCL Enabling Works in 2014 – 2016

Brief description of the project

The project was split into three sections: Existing Station Works; Tunnels and Caverns; and the New Station Box. It included the underpinning of the Island line along a 60m section with the progressive installation of temporary and permanent columns that ultimately extended up to 23m to the rock below. This activity alone employed the latest technology in heavy-duty automated jacking systems monitored 24 hours per day by specialist teams.



Automated jacking systems for lifting Admiralty Station



Front view showing the underpinning excavation methods

The station box itself covered an area of 4200m² and had been excavated down approximately 40m on average. It had been excavated and constructed using top-down techniques to offer the best possible programme advantages.

T&M Specialists involvement

T&M Specialists were initially engaged within the Station Box and our involvement evolved as the project went on. When we first started there, it was just myself as a Senior Supervisor overseeing the Shotcrete & other related works. As the project progressed it ended up that T&M Specialists began to expand our disciplines and provide an additional 25 workers. T&M Specialists mainly looked after Ground Support, however as we had a strong team, we ended up being involved in other critical areas of excavation & structures.

Biggest challenges for T&M Specialists

There were many challenges involved with this project due to the nature of the works being carried out, however, something that was difficult for everyone to cope with was the heat. Because of the project being a large excavation rather than a tunnel, maintaining good ventilation was very difficult and dealing with 99% humidity in Hong Kong's summer months made things extremely uncomfortable.

Another challenge was logistics. Due to the project being situated within the CBD of Hong Kong, the footprint of the project was extremely limited which meant everything had to be brought in as and when required and then lifted into the Excavation using cranes. The cranes were extremely busy all of the time making it even more difficult to carry out simple tasks.

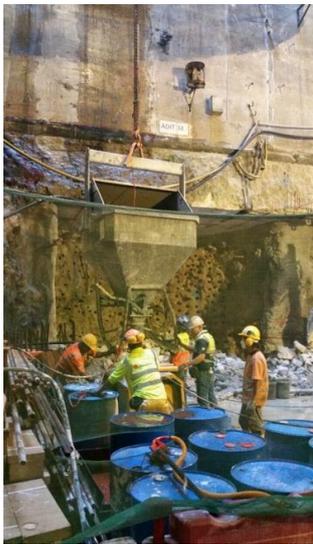


Mucking out skip being lifted into hole 8 by the crane, this was our main hole for access making it difficult to carry out other activities

Methods used for the sprayed concrete application

For this project, we used hand spray application because of the logistics of bringing the shotcrete in by skips using the cranes. This meant we had to set the pump up at the entry points for the cranes and then use multiple hoses to pump the shotcrete to the actual application locations.

In addition to this, the top-down method of excavation resulted in so many different ground levels making it virtually impossible to use any robotic application. The equipment we used during this project included Normet Centurions so that we could set up in some very tight areas and the machines didn't take up much space which would have affected other works. In the tunnels they used different Normet Equipment such as the Alpha 20 and Tornados as they didn't face the same conditions as the station box.



Receiving shotcrete by skip



Shotcrete application



Final applied shotcrete

Project Highlights

Definitely the focus on safety. The Construction Manager, Mick Jobling was extremely passionate about safety and this used to filter down from management to supervision and finally throughout the workforce.

This project also had great systems in place to help to communicate safety procedures to everyone on the project such as management meetings, supervisor meetings, toolbox meetings, safety briefings, and safety events. Events ranged from group lunches to site-wide staged events all with a focus on safety improvements which were set up very professionally by the excellent safety team onsite led by John Hannon who also did a thorough job providing signage & PPE. In addition to this, the management had great safety training on offer to improve everybody's skills and knowledge.



Site Bai San for safety



Barricaded walkways



Example of segregation

All this was very easy to see due to the efforts made by everyone to ensure that walkways were clear, barriers were in place, exclusion zones were maintained, which was critical due to the amount of work taking place in close proximity.

With this being T&M's first project, this was a great example to follow and meant so much to what this company was built around. Being on a project with such high safety expectations allows anyone involved with it to have a better understanding of safety.

Most enjoyable aspect of this project

The people, we had a great combination of really talented professionals from all over the world who were all there to work hard and get the job done, but also enjoy our time doing it. Many different characters who all contributed to a very happy working environment.

The stand out characters on the project who T&M worked closest with

There were many stand out characters on this project so it's difficult for me to mention names without upsetting others, however, a few I worked most closely with in the station box were Viv Jones who was the Project Director, Mick Jobling (GOD), Seb Fossey & Adrian Stearn steered the ship at different times, James Prigg, Mick McCarthy, Marcus Hannick, Nathan Grace, Mitch Canty & Edwin Mui were the main ones who gave T&M our orders, Tom Kent, Chris Connolly, Scott Heatlie, Derek Steel, Rai Rajendra, David Bidhya & Pemba Sherpa were the ones who T&M worked closest with during different stages of the project, John McCoppin was our mechanical wizard & John Hannon kept us safe. Oh, and then there was the scaffolding genius called John Daly (JEDI), and with his understudy Raj, there was nothing he couldn't get you safe access to on the project.



John Daly as Jedi

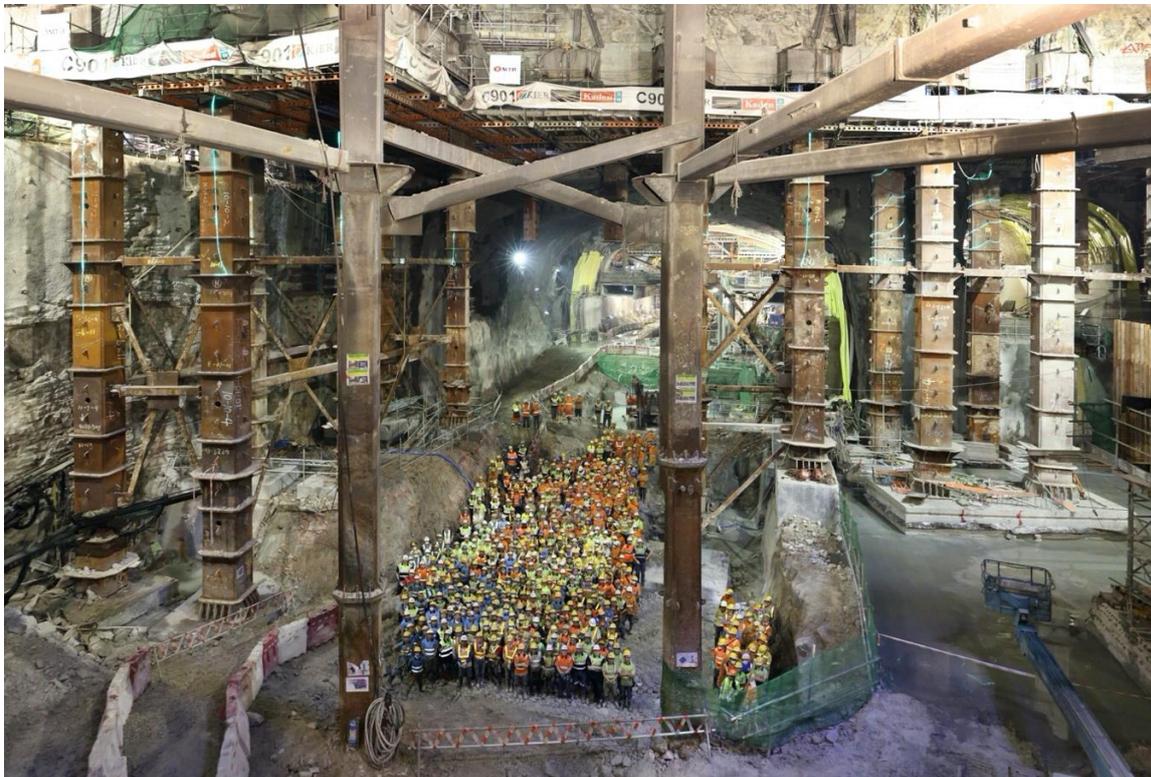


Pemba enjoying his birthday in afternoon meeting



Mick receiving a gift in morning meeting

There was also many stand out people involved within the work force but really too many to mention as you can see by the photo below!



ABOVE: Team photo of all people involved during the construction of project 901, can you spot yourself?