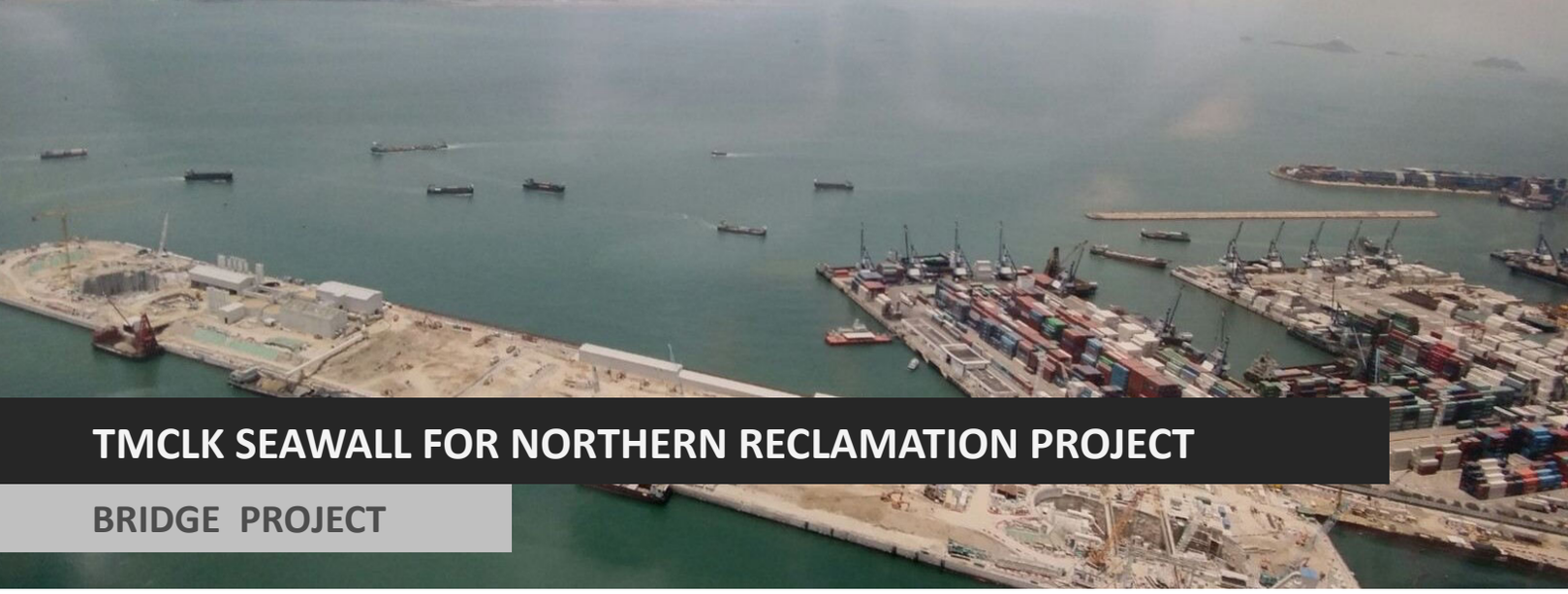


TMCLK SEAWALL FOR NORTHERN RECLAMATION PROJECT

BRIDGE PROJECT

Project Name	Tuen Mun — Chek Lap Kok Link TMCLK Seawall for Northern Reclamation, HZMB Bridge Project
Contractor	Dragages – Bouygues Joint Venture
Location	Hong Kong
Consultant	Ove Arup & Partners, Hong Kong Limited
Project Owner	Hong Kong Highways Department

INTRODUCTION

The proposed RMB¥15.73 billion HZMB Bridge project, being situated at the waters of Lingdingyang, Pearl River, is a mega-size sea crossing linking Hong Kong , Zhuhai City of Guangdong Province & Macao.

The project that started on design works since 2009, consist of:

- a 29.6 km dual 3-lane carriageway in the form of bridge-cum-tunnel structure comprising a tunnel of about 6.7 km
- two artificial islands for the tunnel landings west of the HKSAR boundary
- boundary crossing facilities and link roads within the three places, including TMCLK Subsea Tunnel

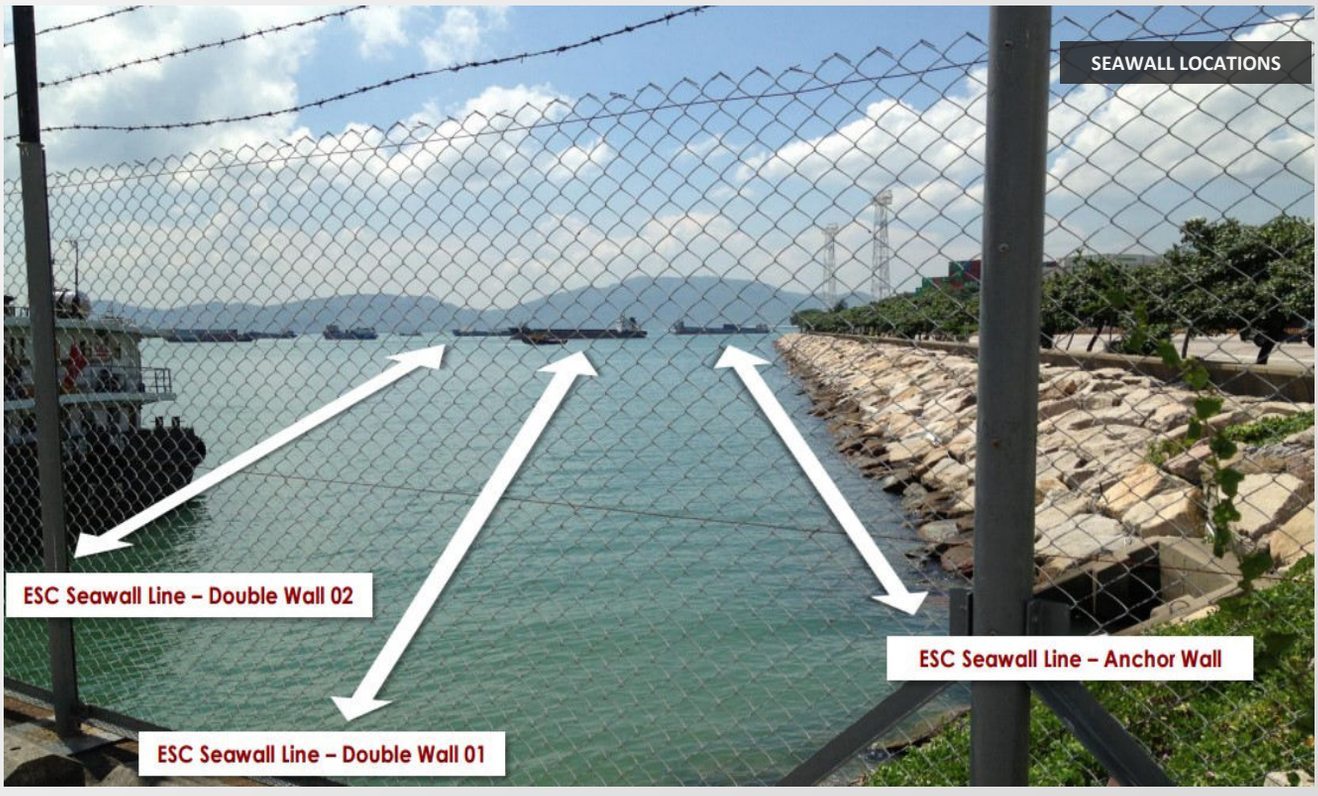
ESC SCOPE OF SUPPLY

Supply of H-Pile, sheet pile combined wall, upset threaded tieback and UB strut, for TMCLK Northern Landfall Subsea Tunnel TBM entrance area, to act as:

(a) Reclamation retaining wall, phase 1.

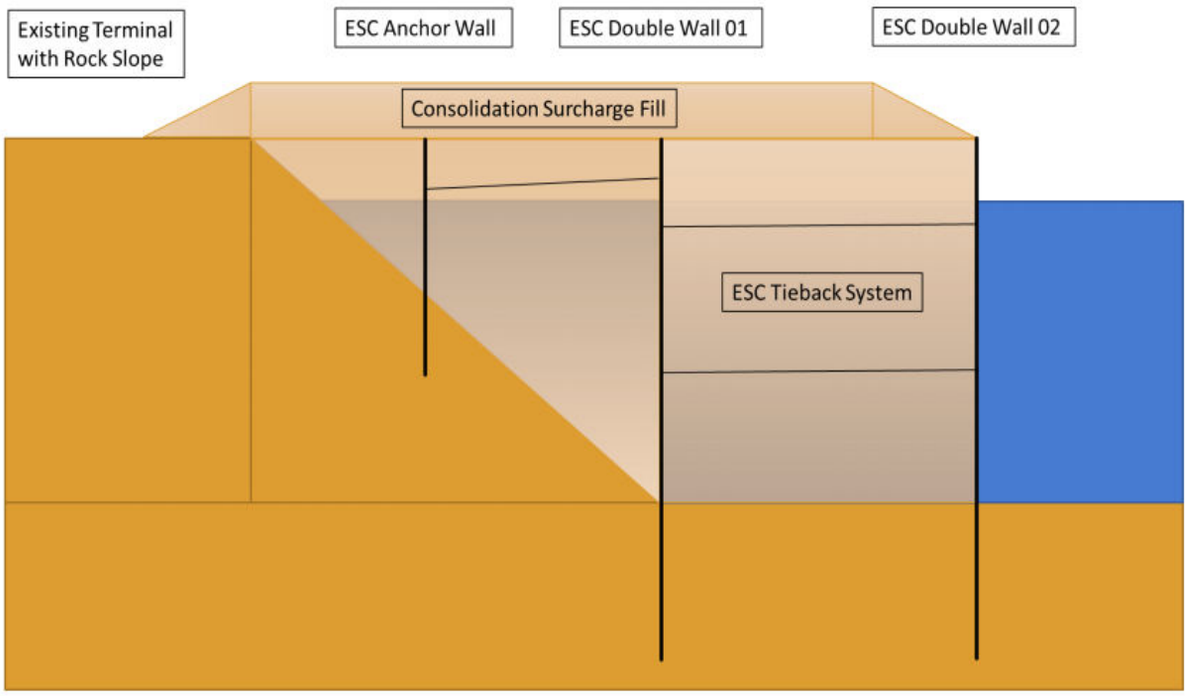
(b) Water cut off wall for box culvert construction, phase 2.

PROJECT LOCATION

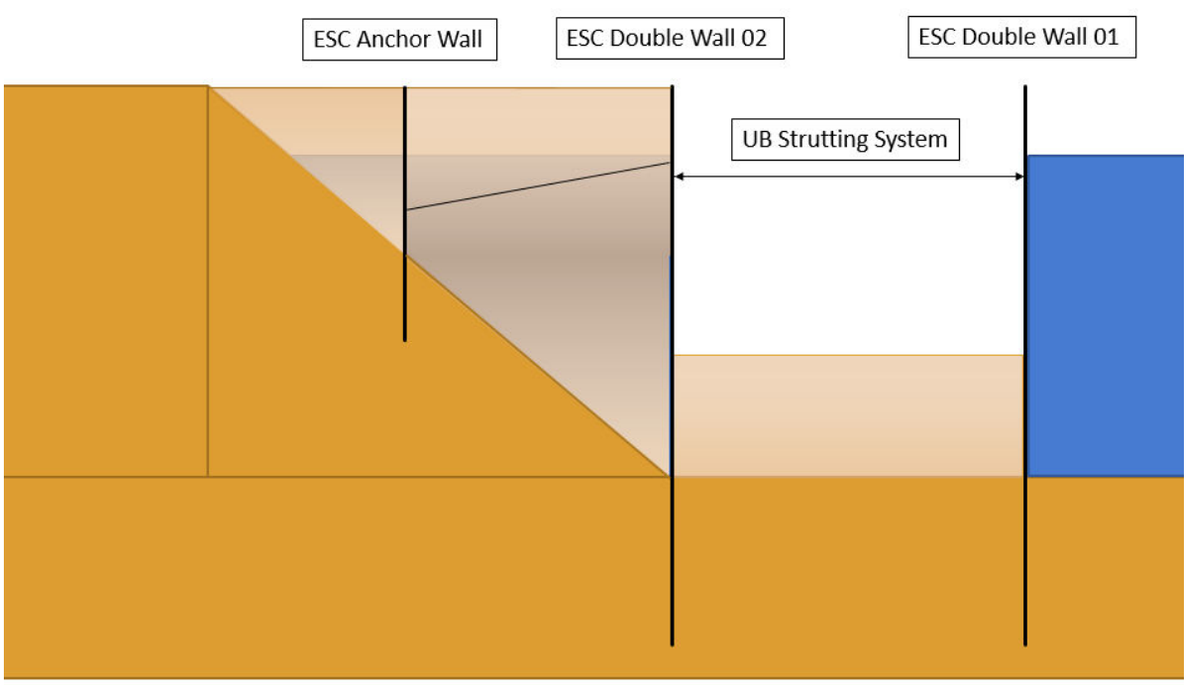


Email: escglobal@escpile.com
Website: www.escglobalgroup.com

PROJECT DETAILS



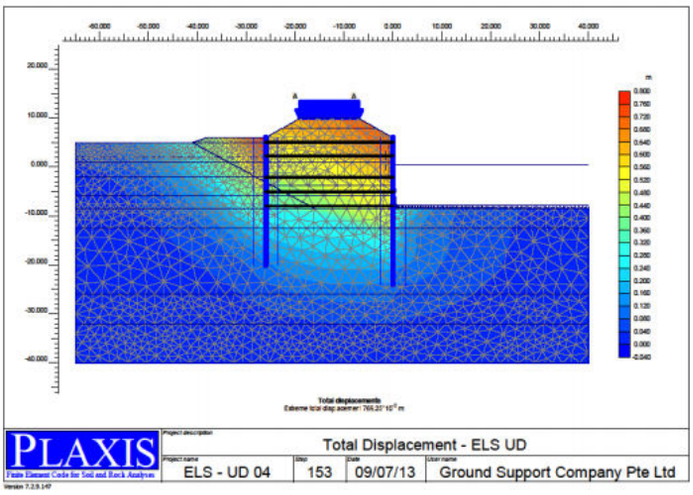
Phase 1— Reclamation works with Combination Wall and tieback system.

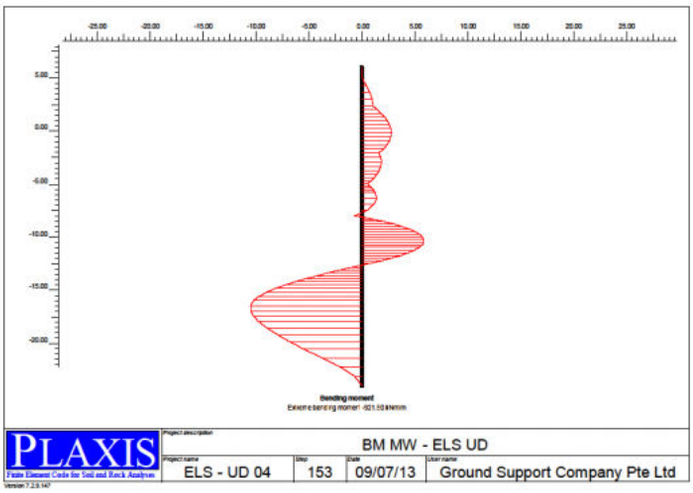


Phase 2—Excavation & Dewatering Works with Double Wall and Strutting System

PROJECT DETAILS

Plaxis. Geotechnical Design of System. ESC's professional engineering team completed the retaining wall design of the system using finite element analysis software.





COMBI WALL SYSTEM SPECIFICATION

ESC specially designed a retaining wall profile with equivalent or superior moment capacity as the original tender specification.

Double Wall - 01

Item	Series	Grade	Modulus cm^3/m	Inertia cm^4/m	Moment Capacity kNm/m
Tender Spec.	FSP IV	S275JR	2,270	38,600	**624**
ESC Spec.	ESC-H50/20B1/9.75	Q345B	1,861	**59,195**	**642**

Double Wall - 02

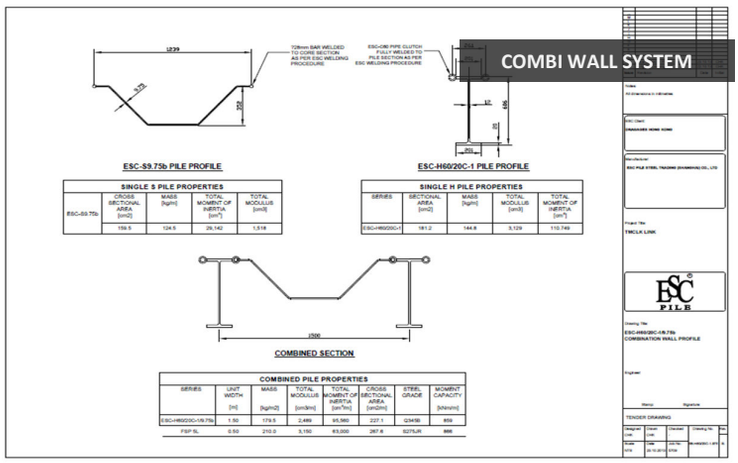
Item	Series	Grade	Modulus cm^3/m	Inertia cm^4/m	Moment Capacity kNm/m
Tender Spec.	FSP VL	S275JR	3,150	63,000	**866**
ESC Spec.	ESC-H60/20C1/9.75	Q345B	2,489	**95,560**	**859**

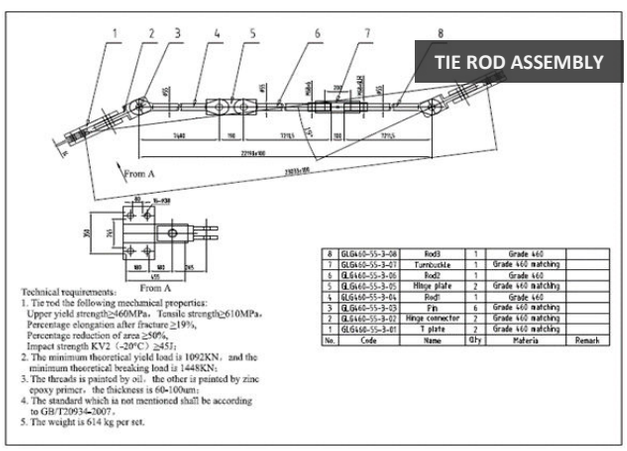
Anchor Wall

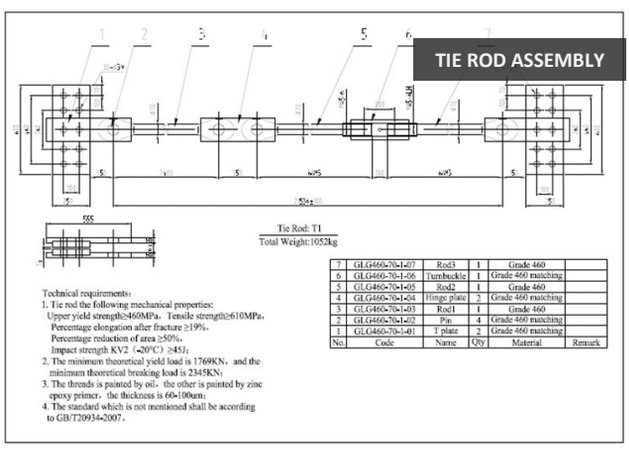
Item	Series	Grade	Modulus cm^3/m	Inertia cm^4/m	Moment Capacity kNm/m
Tender Spec.	FSP III	S275JR	1,340	16,800	**369**
ESC Spec.	ESC-H50/20B1/6.5	Q345B	1,099	**36,935**	**379**

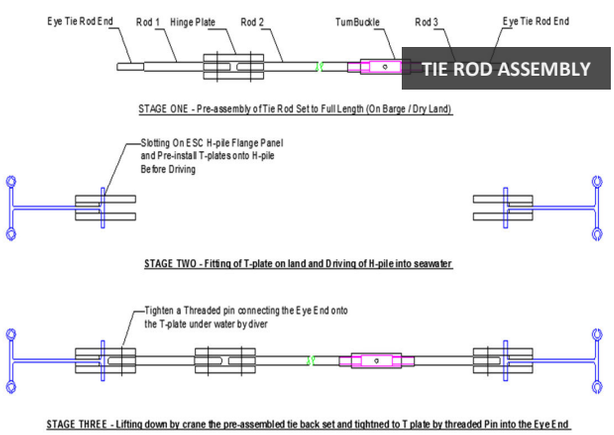
Email: escglobal@escpile.com
Website: www.escglobalgroup.com

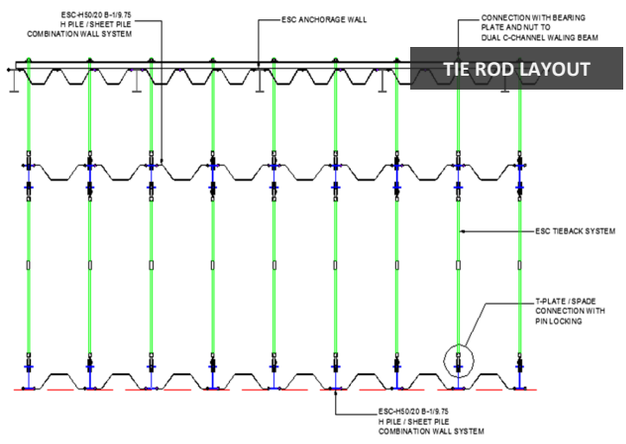
PROJECT DETAILS

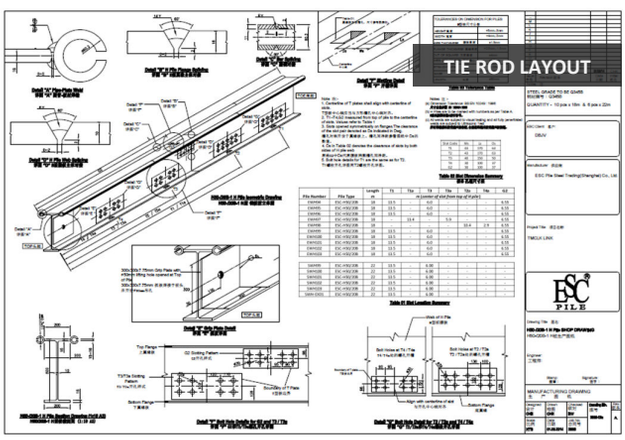


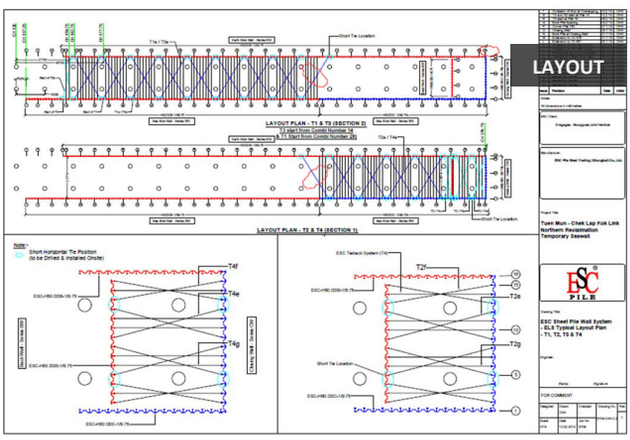






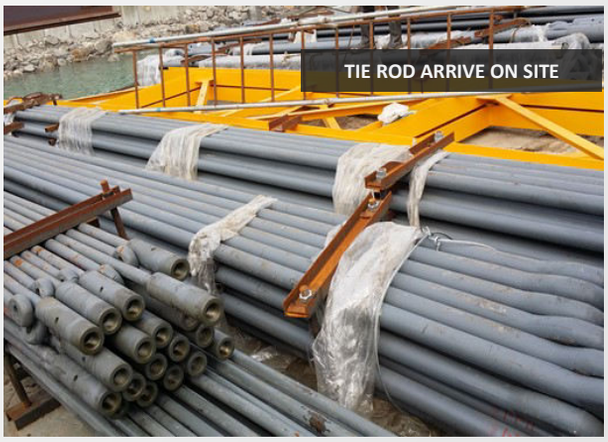






TIE ROD SYSTEM

TIE ROD ARRIVE ON SITE


TIE ROD ARRIVE ON SITE

TIE ROD T-PLATES TO KING H PILES

TIE ROD ARRIVE ON SITE

TIE ROD T-PLATES FITTED AND BOLTED TO KING H PILE

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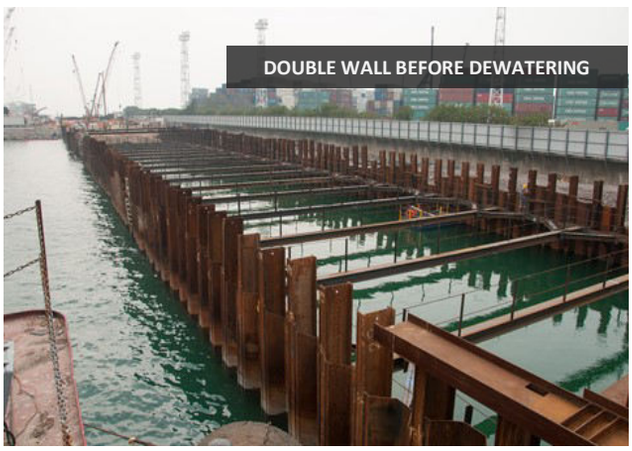
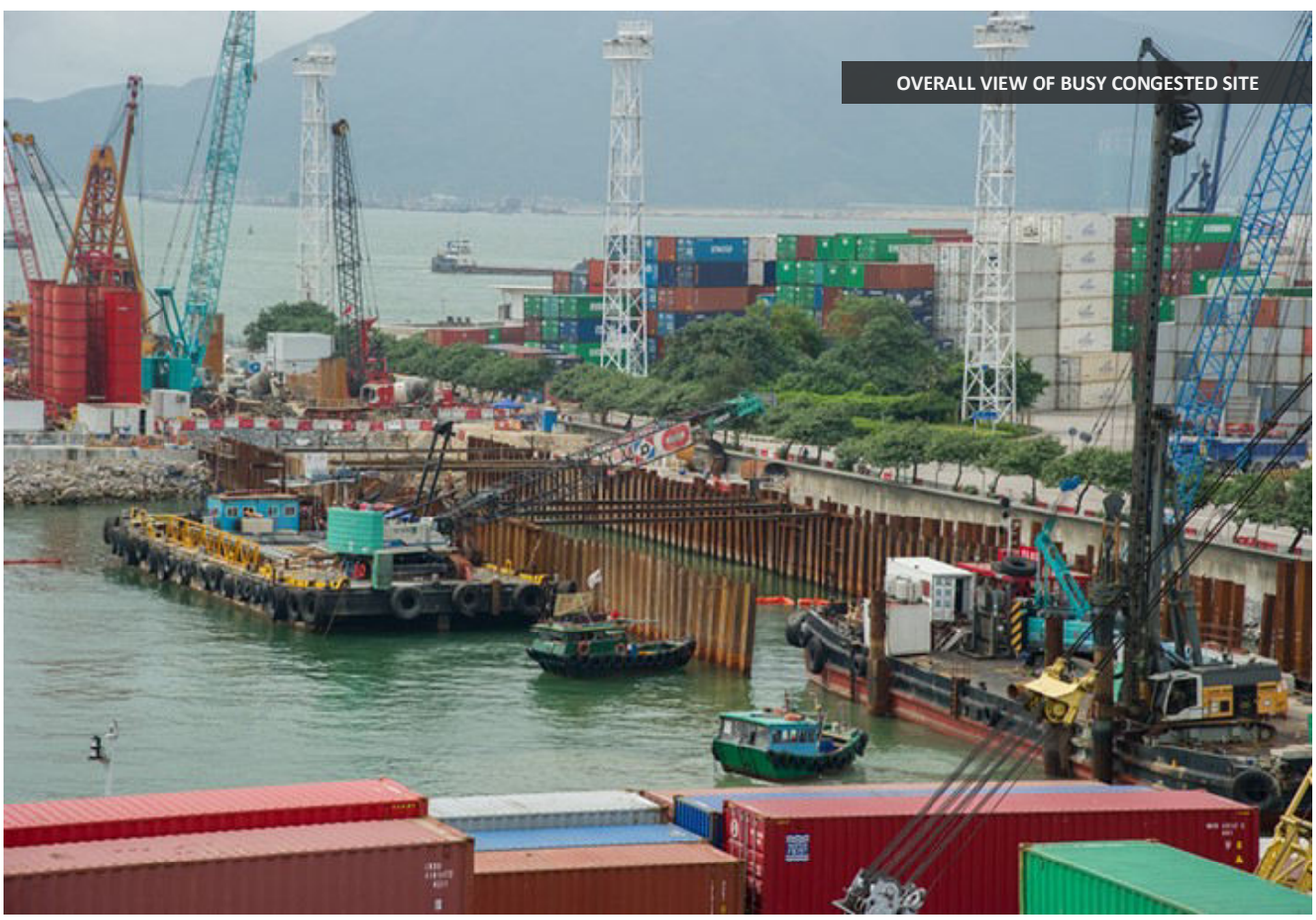
Website: www.escglobalgroup.com

INSTALLATION UNDERWAY

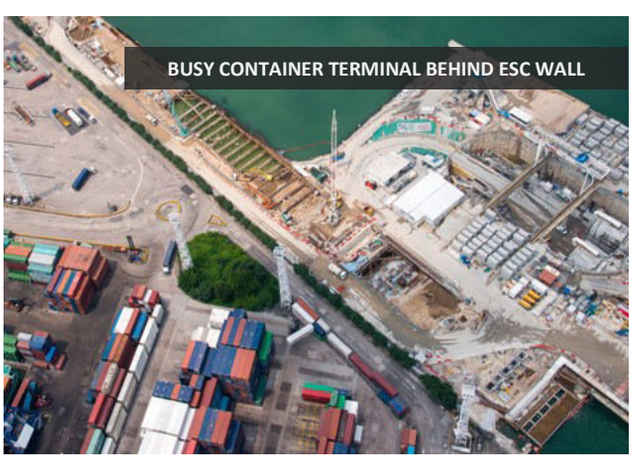


DOUBLE WALL BEFORE DEWATERING

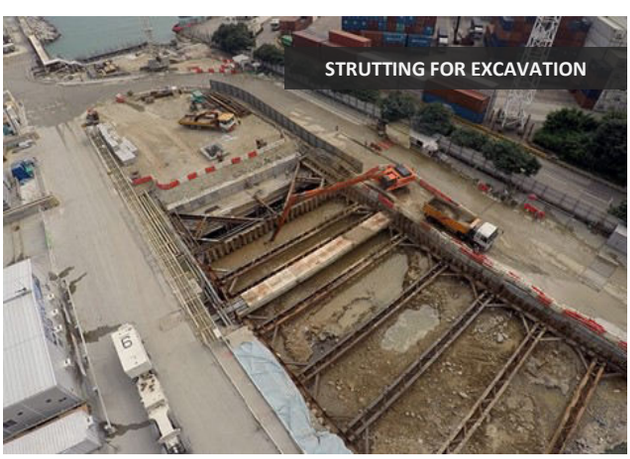
COFFERDAM BEFORE EXCAVATION FOR CULVERT



OVERALL VIEW OF BUSY CONGESTED SITE



BUSY CONTAINER TERMINAL BEHIND ESC WALL



STRUTTING FOR EXCAVATION