Tung Chung New Town Extension

3rd PLG Meeting
Date : 9 Dec 2019

DEVELOPMENT and CONSERVATION of LANTAU
發展及保育大嶼山

Civil Engineering and Development Department

Agenda

1. Confirmation of Last Meeting Minutes
2. Matters Arising from Last Meeting
3. Latest Progress of Reclamation Contract
4. Report of Environmental Monitoring and Audit
5. Eco-shoreline in Tung Chung East
6. Site visit to eco-shoreline trial

DEVELOPMENT and CONSERVATION of LANTAU
發展及保育大嶼山

1. Confirmation of Last Meeting Minutes

2. Matters Arising from Last Meeting

Matters Arising from Last Meeting

Para. 3.1(a):

Benchmark for the action and limit levels of ecological monitoring

- *To report after the review of the action and limit levels for ecological monitoring.*

Para. 5.1(b):

Non-project related exceedance cases for water quality monitoring

- *To provide a summary of project related / non-project related exceedance cases against time.*

[to be presented on Slides 23 and 24 on Environmental Monitoring and Audit]

DEVELOPMENT and CONSERVATION of LANTAU
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Benchmark for the action and limit levels of ecological monitoring

Seagrass

- No seagrass was recorded at all monitoring locations during the TCE baseline monitoring. However, one patch (~0.4m^2) of spoon seagrass *Halophila ovalis* was observed in only Tung Chung Bay (TCB3) in Sep 2019

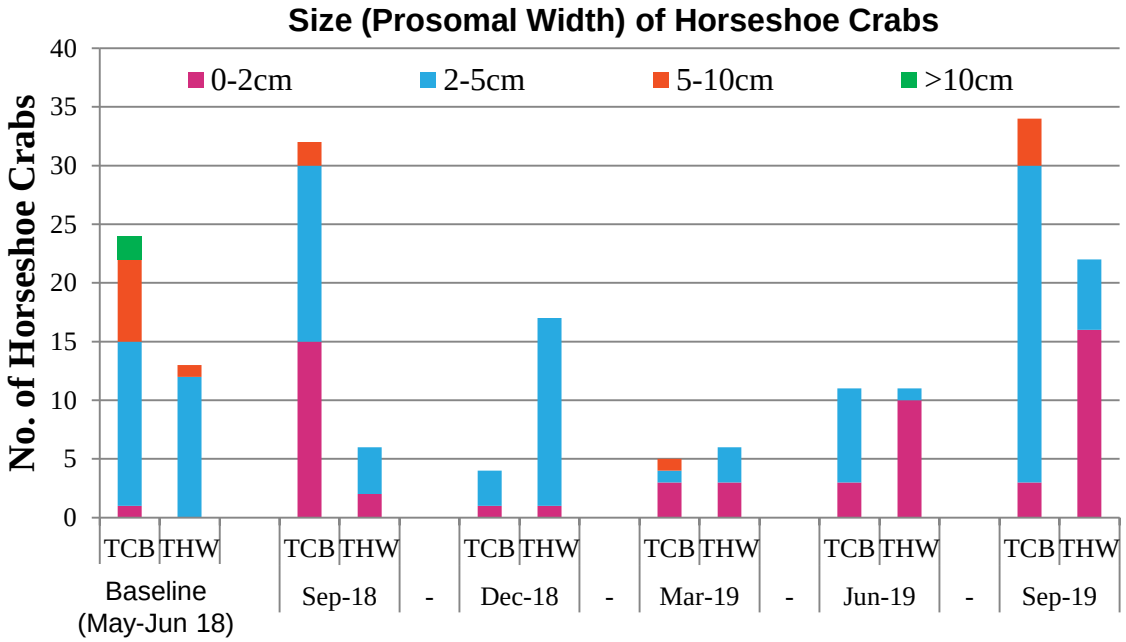
Seagrass patch observed in Tung Chung Bay

Spoon seagrass *Halophila ovalis*

Horseshoe Crab

- Numbers of horseshoe crabs varied over time and were generally higher in summer period (May – Sep)

- Small juvenile horseshoe crabs (prosomal width <2 cm) were recorded during all impact monitoring since Sep 2018

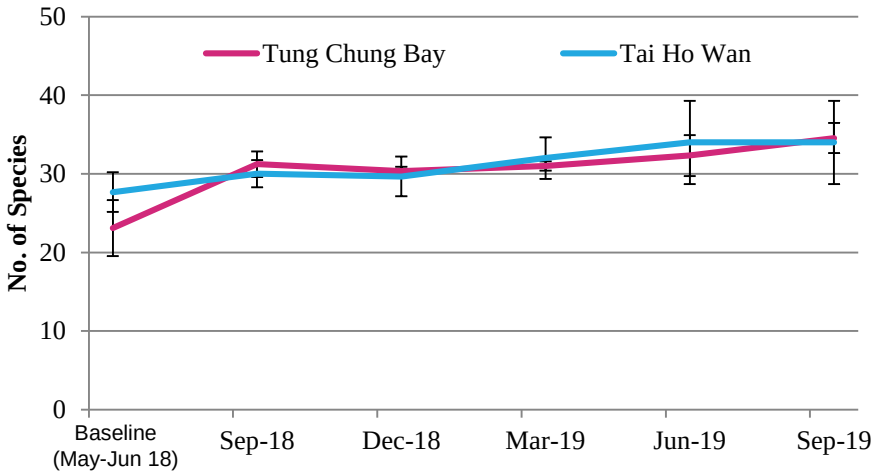


Horseshoe crabs *Tachypleus tridentatus*

Other Intertidal Assemblages

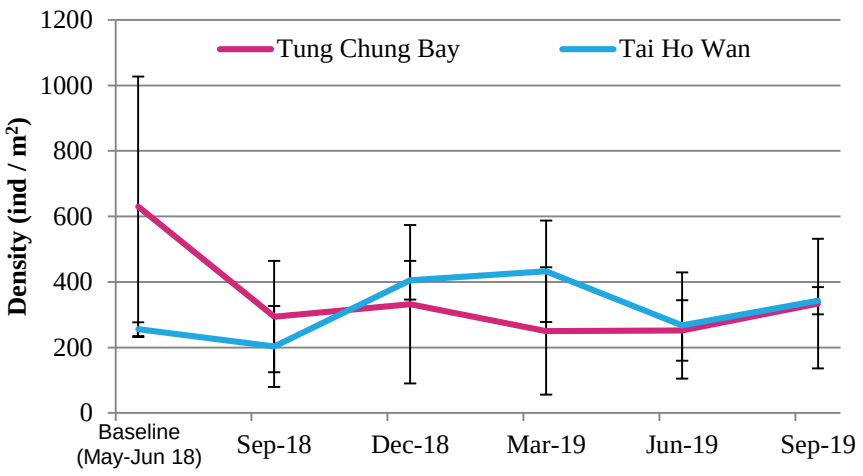
- No observable change of intertidal assemblages in terms of species number and density over time during the construction of the Project

Averaged Number of Intertidal Species



Remarks: Generally > 30 intertidal species were recorded during each of the impact monitoring surveys

Averaged Density of Ecological Assemblages

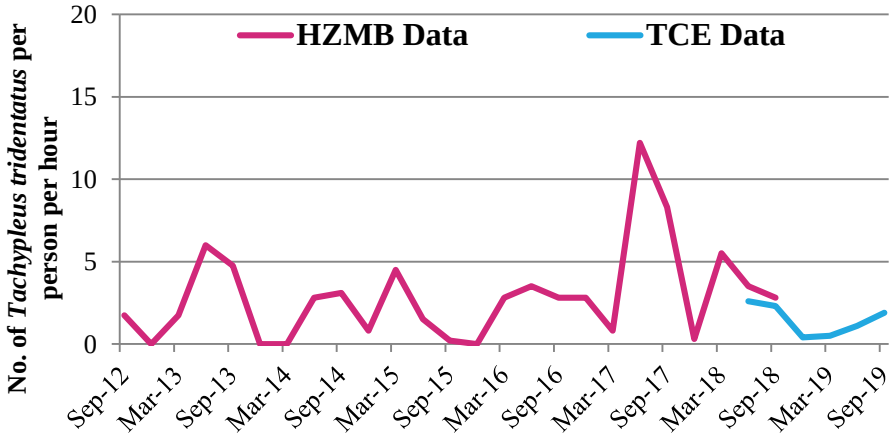


Remarks: The high density recorded at Tung Chung Bay in Jun-18 was contributed by the dominant gastropod species *Batillaria multiformis*

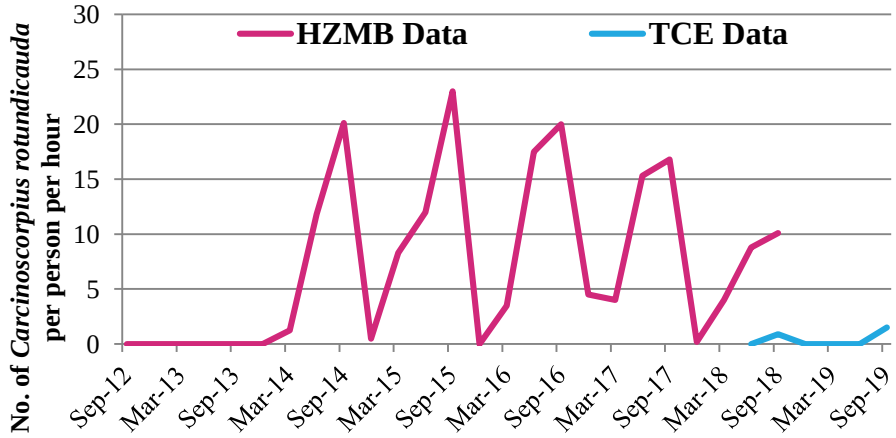
Review of Study at Tung Chung Bay (1)

- Available soft shore monitoring results at Tung Chung Bay from Sep 2012-Sep 2018 under HZMB EM&A were reviewed
- Two seagrass species, *Halophila ovalis* and *Zostera japonica,* were recorded occasionally under HZMB EM&A in Dec 16, Mar 17, Jun 17 & Jun 18 at Tung Chung Bay (TCB3)
- Numbers of horseshoe crabs per survey effort varied seasonally from the data obtained from HZMB EM&A and TCE EM&A

Numbers of Horseshoe Crabs *Tachypleus tridentatus* at Tung Chung Bay



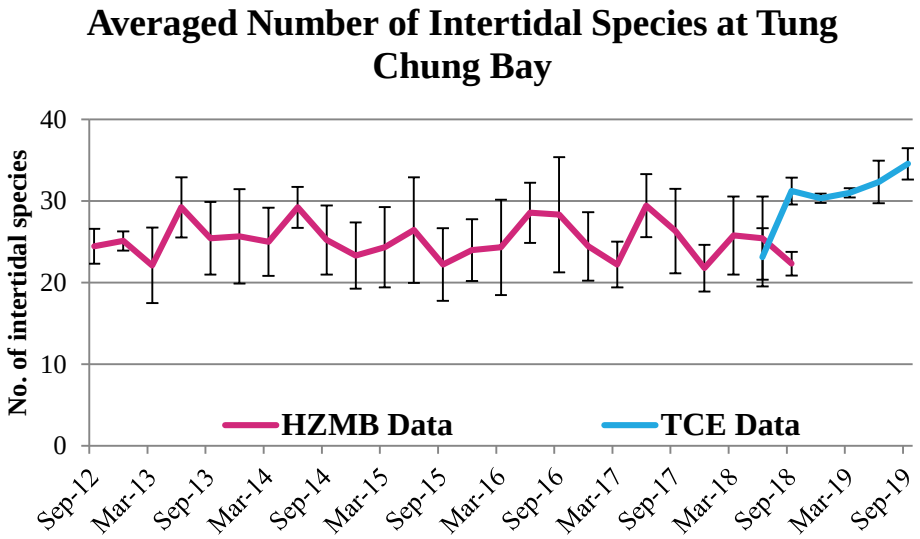
Numbers of Horseshoe Crabs *Carcinoscorpius rotundicauda* at Tung Chung Bay

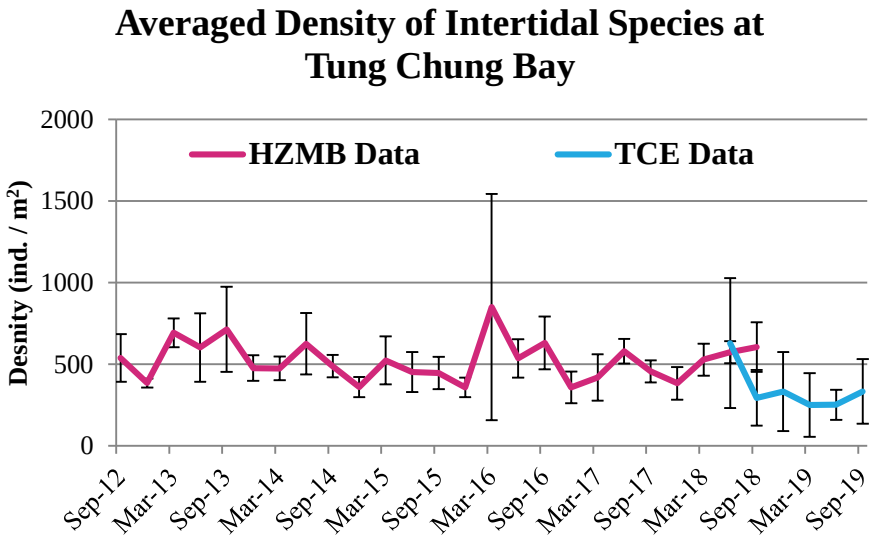


Remarks: Horseshoe crabs (both *Tachypleus tridentatus* and *Carcinoscorpius rotundicauda*) were not recorded in some of the winter months (i.e. Dec / Mar)

Review of Study at Tung Chung Bay (2)

- Numbers of intertidal assemblages varied seasonally in term of species number and density over the years



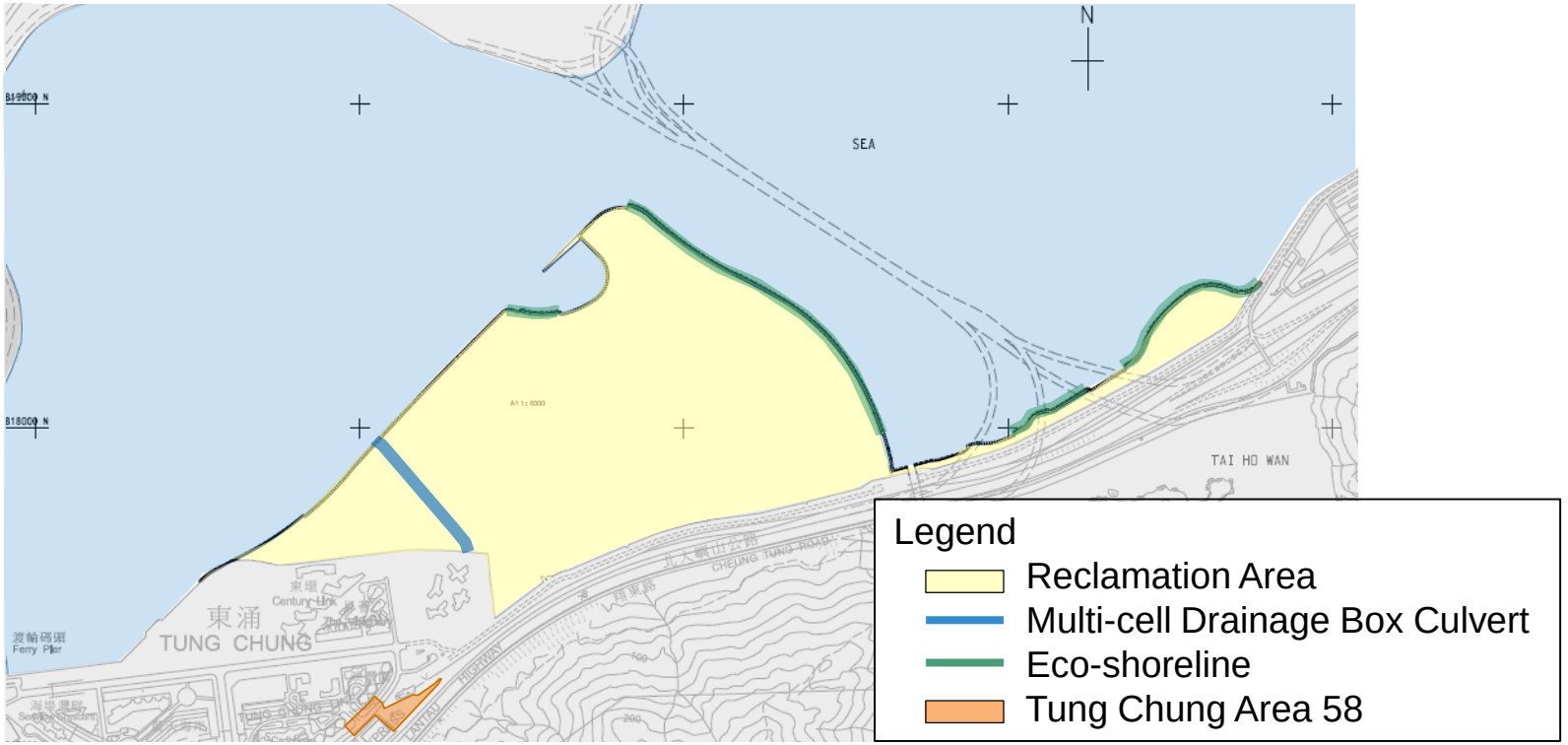


Remarks: The methodology used for the intertidal assemblage monitoring of HZMB and TCE was different and thus the monitoring results were not directly comparable. However, it is noticed that seasonal variation of the number and density of intertidal species was observed in both HZMB and TCE monitoring.

3. Latest Progress of Reclamation Contract

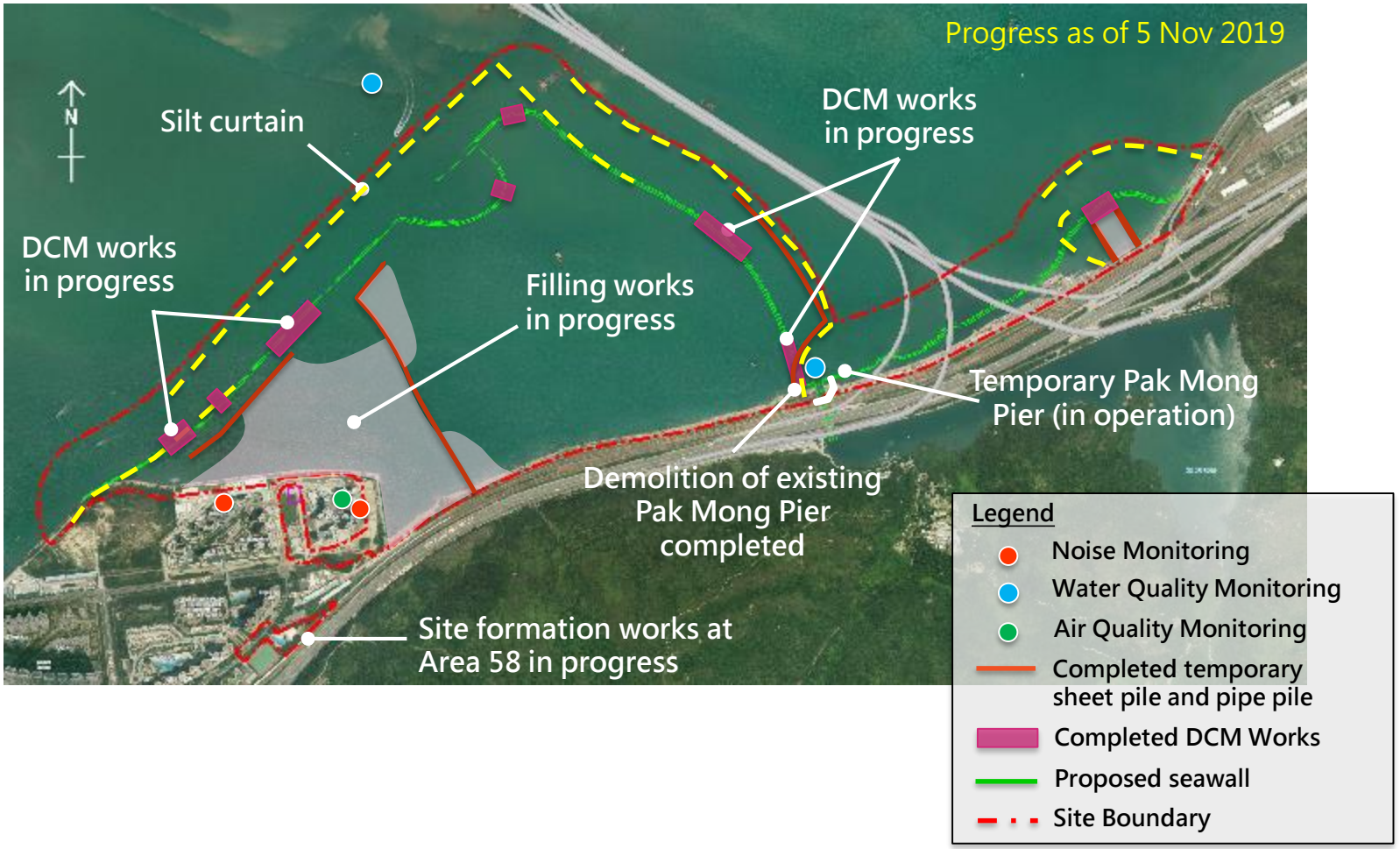
Contract No. NL/2017/03
Tung Chung New Town Extension - Reclamation and Advance Works

Contract NL/2017/03 Overview

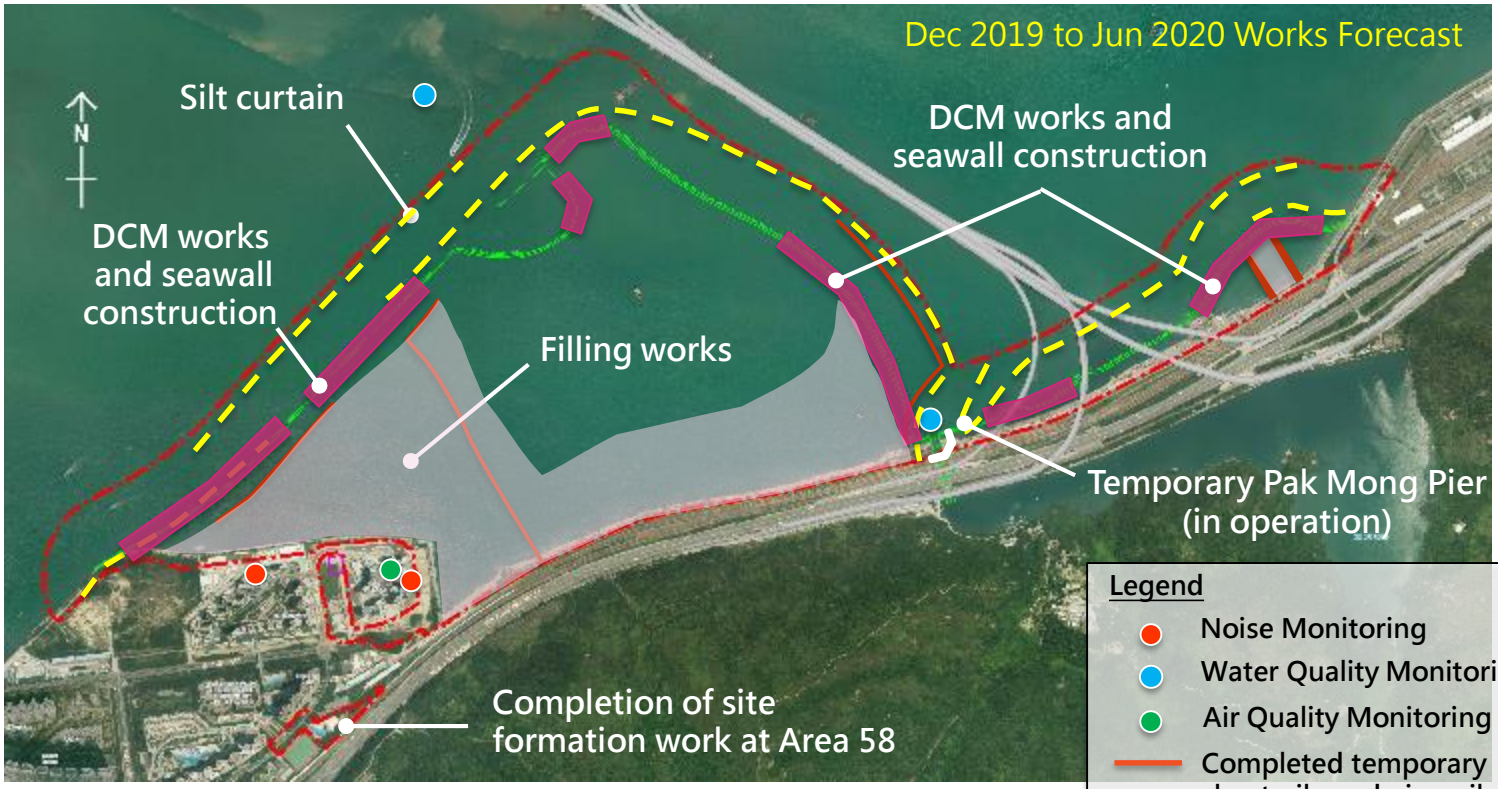


1. 130 hectares land reclamation by non-dredged method
2. Construction of 4.9 km seawalls partly with eco-shorelines
3. Construction of 470m extension of multi-cell drainage box culvert
4. Site formation for future development in Tung Chung Area 58

Current Project Progress



Next Six Months Works Forecast



Newsletter Issues


東涌新市鎮擴展－填海及前期工程
TUNG CHUNG NEW TOWN EXTENSION – RECLAMATION AND ADVANCE WORKS
第五期通訊
NEWSLETTER ISSUE NO. 5
2019•08
歡迎參閱第五期東涌新市鎮擴展－填海及前期工程通訊，本通訊簡介第東涌第58區的基建設施，並提供填海工程進度及相關資訊。
Welcome to our fifth issue of the newsletter for Tung Chung New Town Extension – Reclamation and Advance Works. This issue covers infrastructure works for Tung Chung Area 58 and the progress of the reclamation works and relevant information.
東涌第58區基建設施
Infrastructure works for Tung Chung Area 58
東涌新市鎮擴展－填海及前期工程除了填海造地外，亦於東涌第58區（文東路鄰近足球場）提供基建設施，包括建設雙線不分隔車路、行人路和鋪設地面公用設施。工程團隊需要為或有被截的地下設施管線網絡進行改建工程。為了盡量減低對公眾的影響，工程團隊與有關的持份者，例如政府部門、公共事業機構、巴士公司及離島區議員保持緊密溝通，先作合適的臨時交通管理計劃。在實施前，建議的計劃亦須先於交通管理諮詢小組審批。根據現時進度，東涌第58區的基建設施將於2019年12月如期竣工。
Tung Chung New Town Extension – Reclamation and Advance Works comprise not only reclamation works, but also infrastructure works for Tung Chung Area 58 (Man Tung Road near the football field), which include construction of a single two-lane carriageway with footpath and associated utility works. Our project team has to divert the existing complex networks of underground utilities. To minimize the impact to the public, we liaised with the relevant stakeholders, such as government departments, utility services providers, bus companies and members of the Islands District Council to formulate an appropriate temporary traffic management scheme. Before its implementation, the proposed scheme was submitted to the Traffic Management Liaison Group for vetting and approval. According to the current progress, infrastructure works for Tung Chung Area 58 will be completed in December 2019 as scheduled.
文東路(鄰足球場)的臨時交通管理
Temporary traffic management on Man Tung Road (near football field)
東涌第58區 - 進建中的基建設施
Tung Chung Area 58 - infrastructure works in progress


東涌新市鎮擴展－填海及前期工程
TUNG CHUNG NEW TOWN EXTENSION – RECLAMATION AND ADVANCE WORKS
第六期通訊
NEWSLETTER ISSUE NO. 6
2019•11
歡迎參閱第六期東涌新市鎮擴展－填海及前期工程通訊，本通訊簡介介紹泥頭車實時追蹤及監察系統，以及東涌東工程進展及相關資訊。
Welcome to our sixth issue of the newsletter for Tung Chung New Town Extension – Reclamation and Advance Works. This issue covers the real time tracking and monitoring system for dump trucks, progress of reclamation works and relevant information.
泥頭車實時追蹤及監察系統
Real Time Tracking and Monitoring System for Dump Trucks
東涌新市鎮擴展是首個工務工程項目採用泥頭車實時追蹤及監察系統，記錄其行駛路線，以防止非法傾倒活動。
Tung Chung New Town Extension is the first public works project to implement a real time tracking and monitoring system for dump trucks to deter illegal dumping activities by recording and monitoring the trucks' locations and traveling routes.
此外，本工程項目亦禁止泥頭車進入貝澳路，以保育大嶼山南部的生態敏感區域。若有泥頭車進入禁區，系統將會自動以電子方式向監督人員發出通知，以便作出跟進。
In addition, this project also prohibits the dump trucks from entering Tung Chung Road which is a route to access the ecologically sensitive south Lantau areas. In case of a dump truck entering the prohibited zone, a warning notification will be sent automatically via electronic means to site supervisory staff for investigation.
GPS
1
2
3
Dump trucks are installed with a registered Global Positioning System (GPS) which allows the GPS signal to be transmitted to the control centre.
Date, time and travel route are recorded which allow round-the-clock monitoring of the routing of dump trucks.
Tung Chung Road is designated as a prohibited zone under this Project. If a dump truck engaged on site enters the prohibited zone, an automatic E-mail notification will be generated immediately to site supervisory staff.

To take note of construction progress

4. Report of Environmental Monitoring and Audit

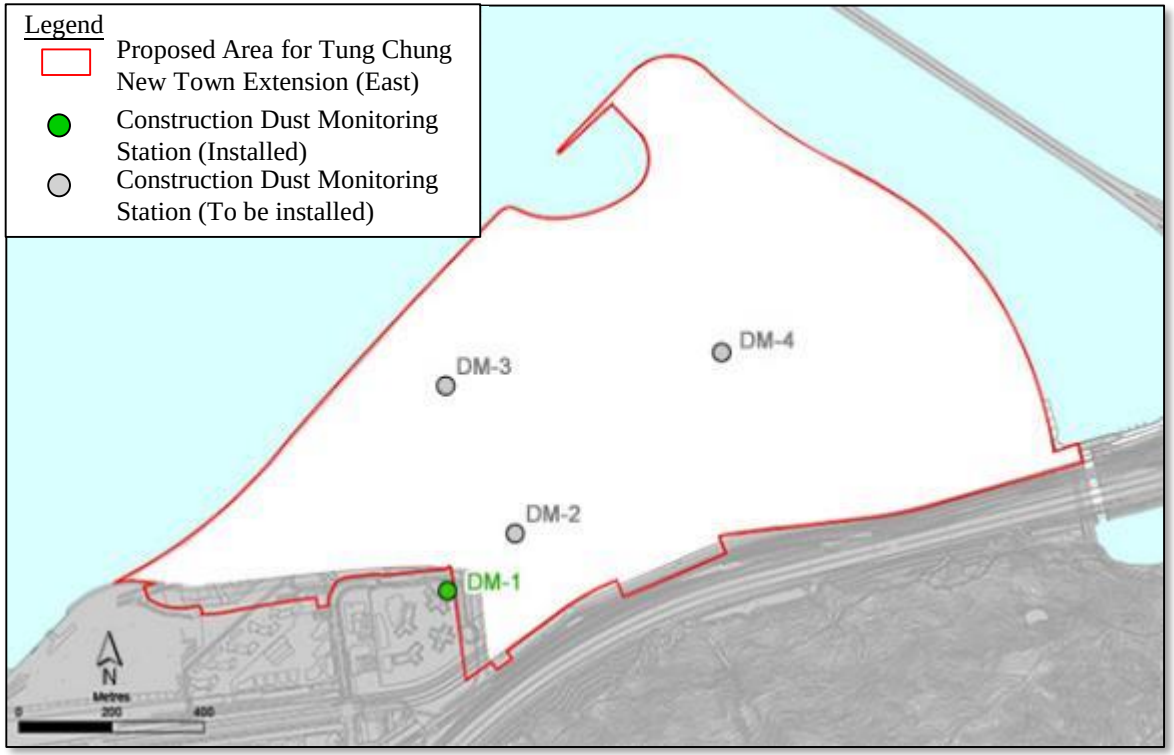
Dedicated Website under EP-519/2016

Website: http://env.tcnte.hk/index.html

EM&A Monitoring – Air Quality

Air Quality Monitoring

Frequency	Three times every six days
Monitoring Parameter	1-hour Total Suspended Particulate



Monitoring Results between Jul 2019 and Nov 2019

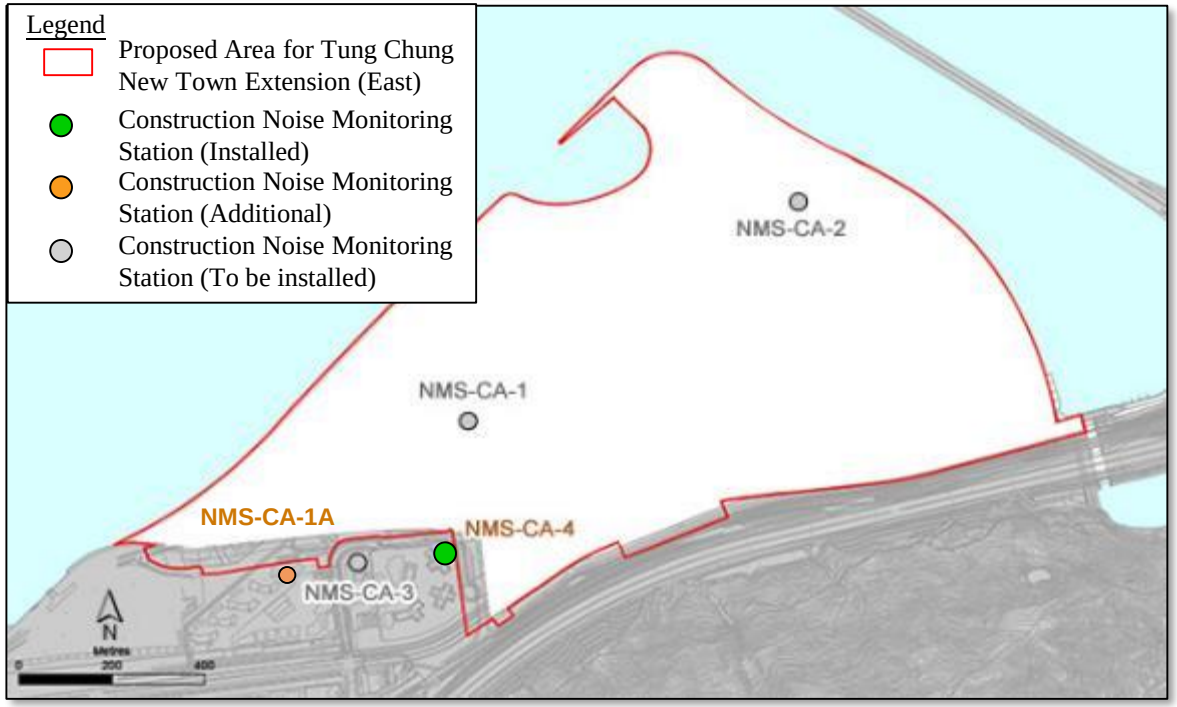
No project-related exceedance was recorded.

Dust monitoring near Ying Tung Estate (DM-1)

EM&A Monitoring – Noise

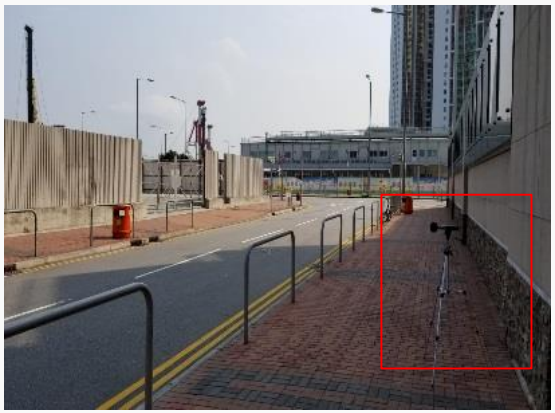
Noise Monitoring

Frequency	Once per week
Monitoring Parameter	$L_{eq\ (30mins)}$



Monitoring Results between Jul 2019 and Nov 2019

Results of noise monitoring indicated that noise levels were within acceptable level (75dBA)

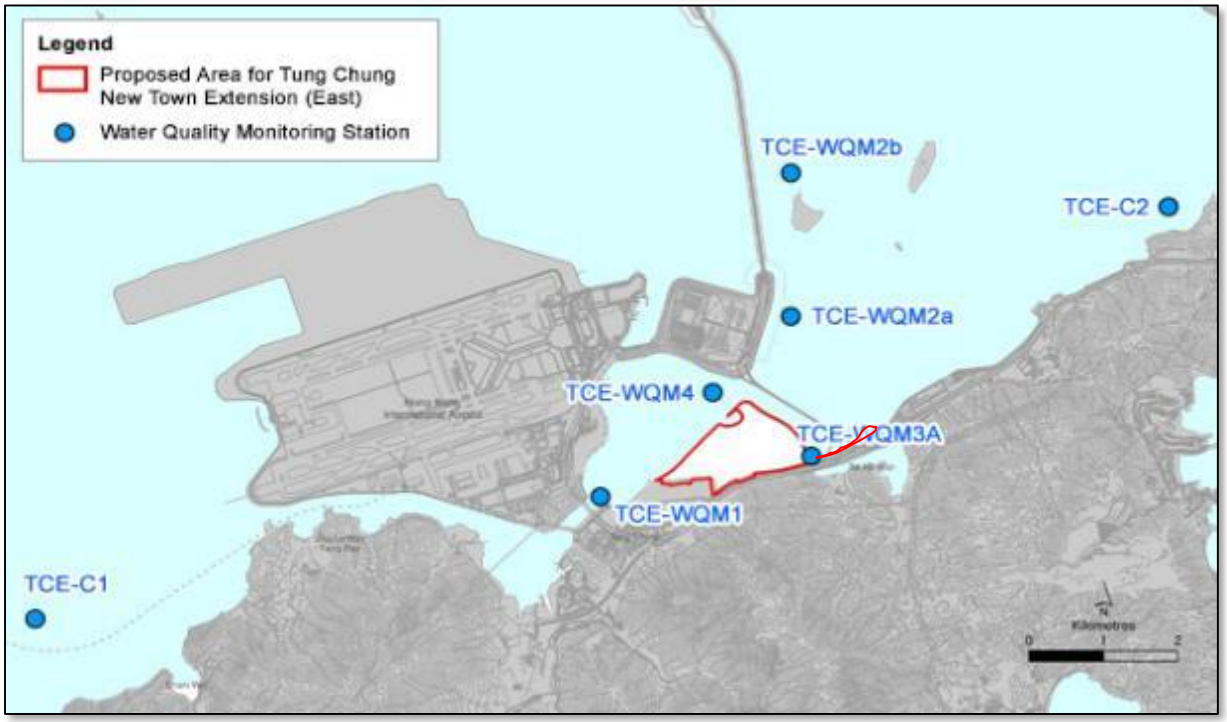


Noise monitoring near Century Link (NMS-CA-1A)

EM&A Monitoring – Water Quality

Water Quality Monitoring

Frequency	3 times per week, at mid-flood & mid-ebb tides
Monitoring Parameter	Dissolved Oxygen, pH Value, Salinity, Turbidity, Suspended Solids, Temperature



Monitoring Results between Jul 2019 and Nov 2019

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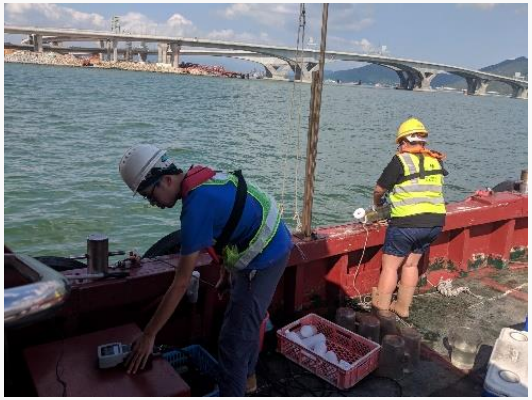
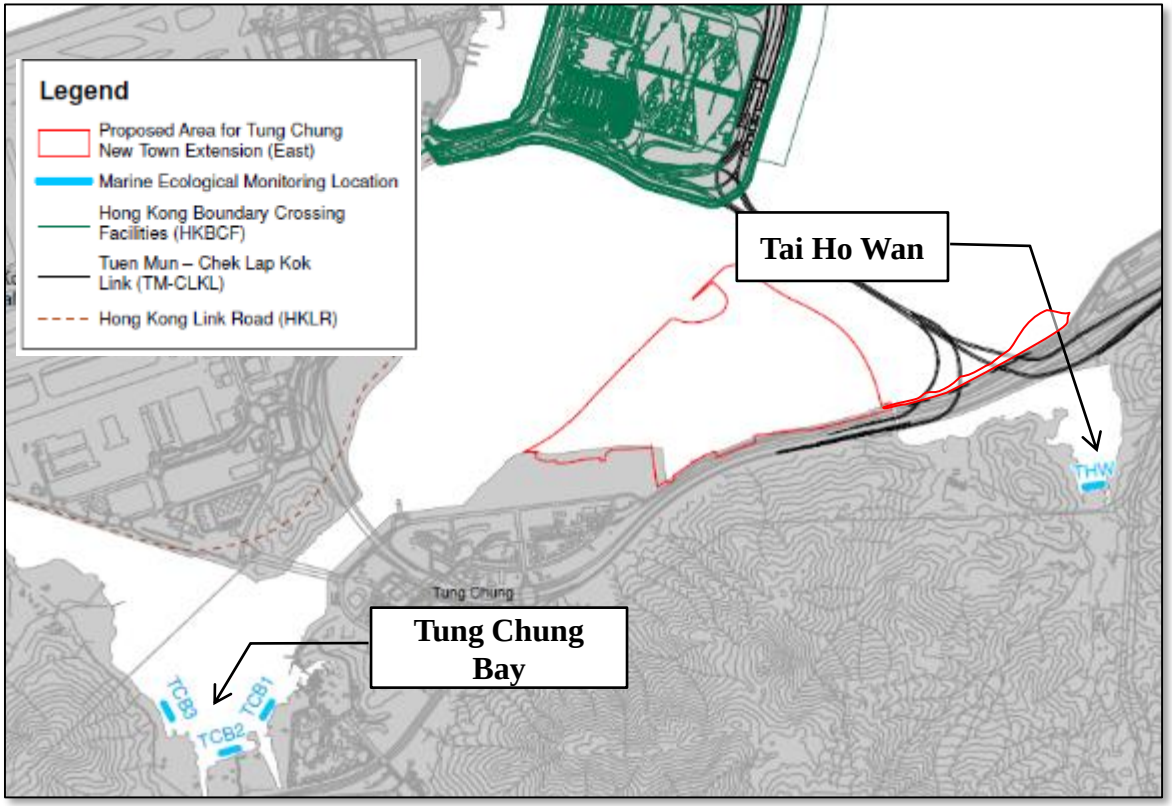


Water monitoring by ET (TCE-WQM4)

EM&A Monitoring – Ecology

Ecological Monitoring

Frequency	Quarterly
Monitoring Parameter	Horseshoe Crabs, Seagrass, Intertidal Soft Shore Communities



Monitoring Results between Jul 2019 and Nov 2019

Ecological monitoring was conducted in Sep 2019.

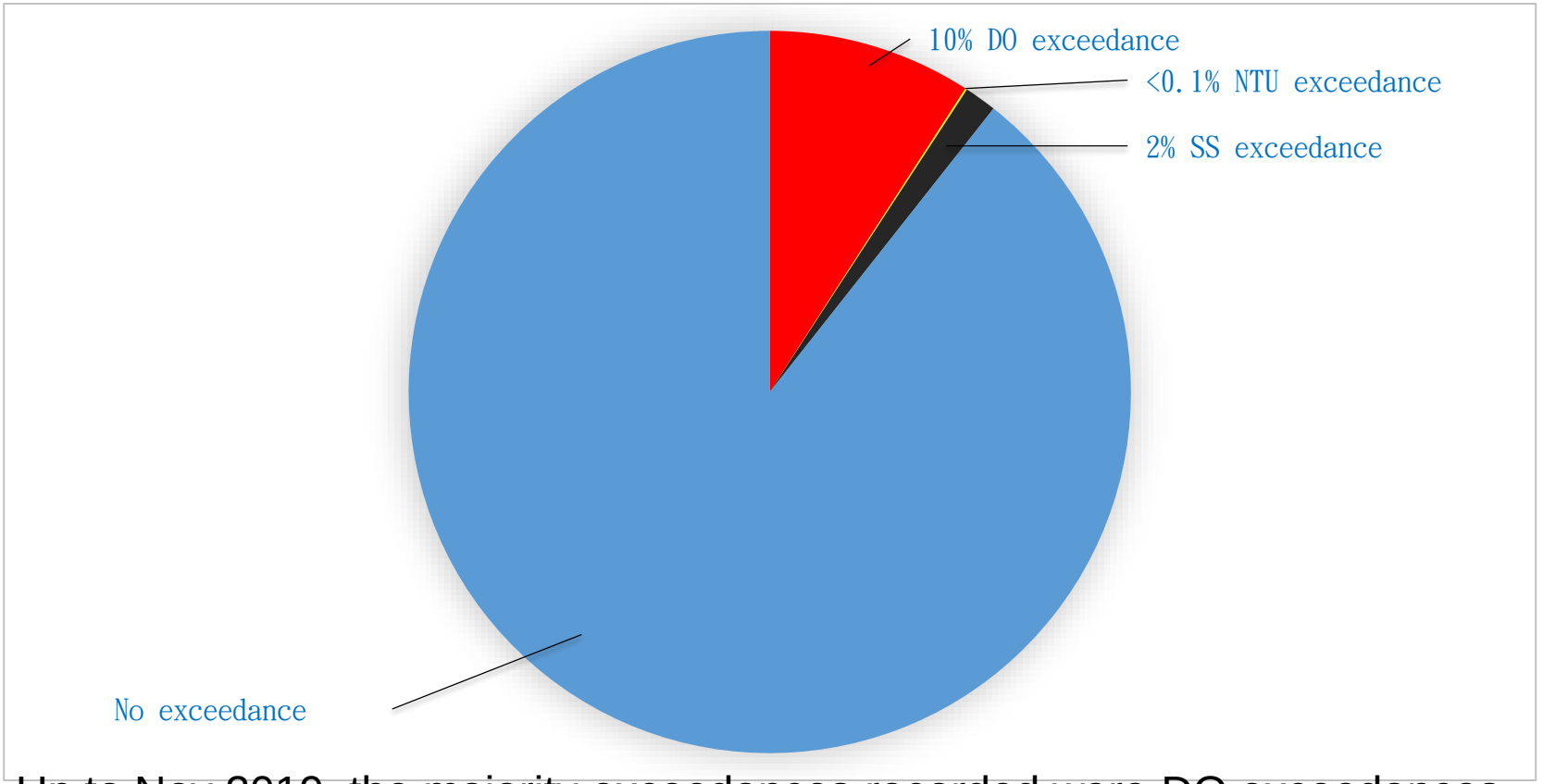
Horseshoe crabs were found in both Tung Chung Bay and Tai Ho Wan.

Juvenile *Tachypleus tridentatus* found at Tung Chung Bay

Complaint received

Date	Water	Air	Noise	Others (Light, Waste. Ecology)
Jul 18 – Dec 18	2	1	12	4
Jan 19 – Jun 19	4	4	12	2
Jul 19 – Nov 19	1	2	2	0
Categories	• Sea pollution • Red tide • Muddy plume	• Odour • Dust • Dark smoke	• Noise from DCM • Noise early at the morning	• Light disturbance • Waste from demolition of CEDD office

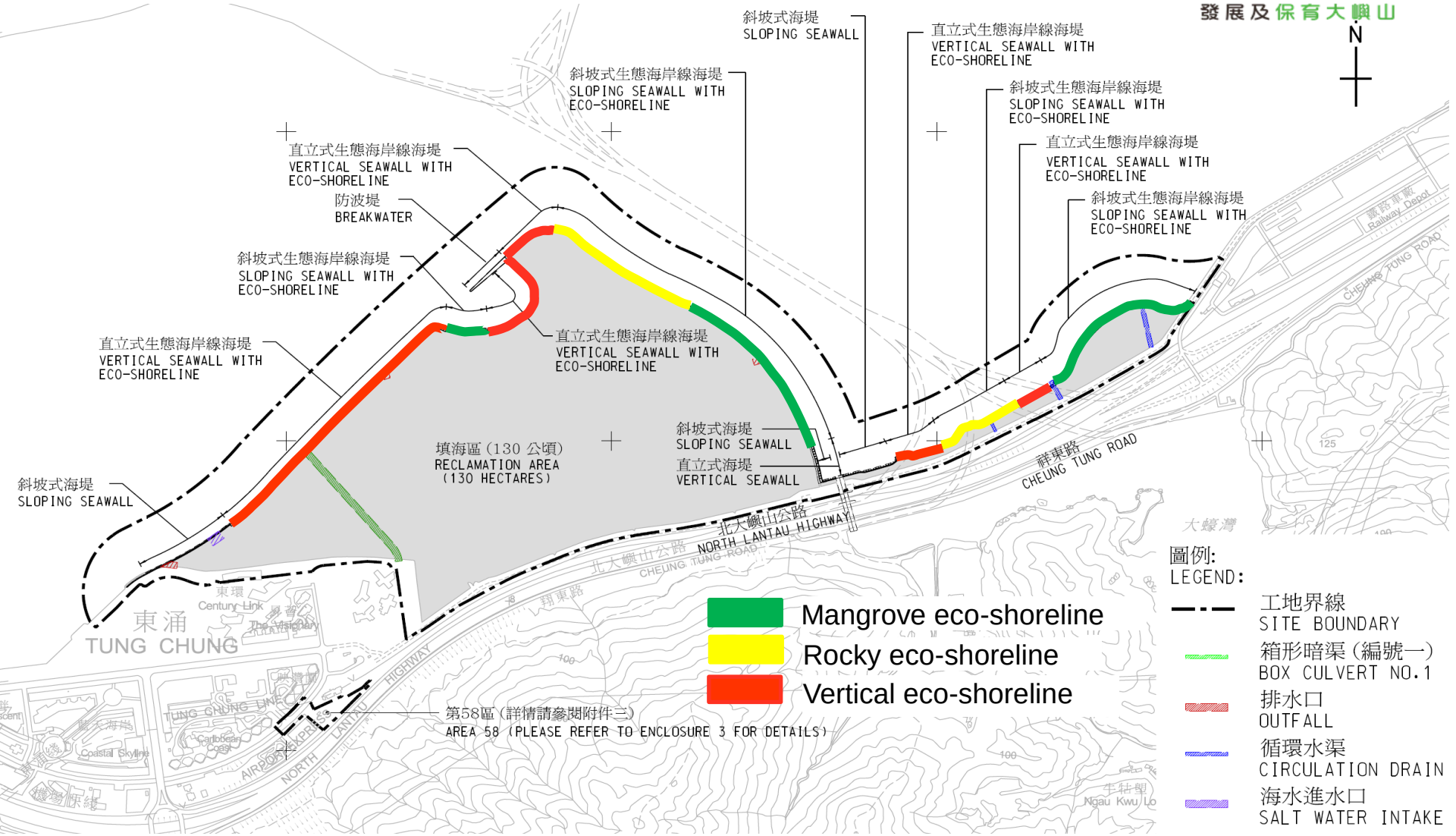
Exceedance Summary



Up to Nov 2019, the majority exceedances recorded were DO exceedances. Low levels of DO were recorded during 2018 summer period. Similar trend of lower levels of DO occurred again in 2019 summer period which suggested the changes could be due to seasonal fluctuation.

5. Eco-shoreline in Tung Chung East

Eco-Shoreline in Tung Chung East



Mangrove Eco-shoreline

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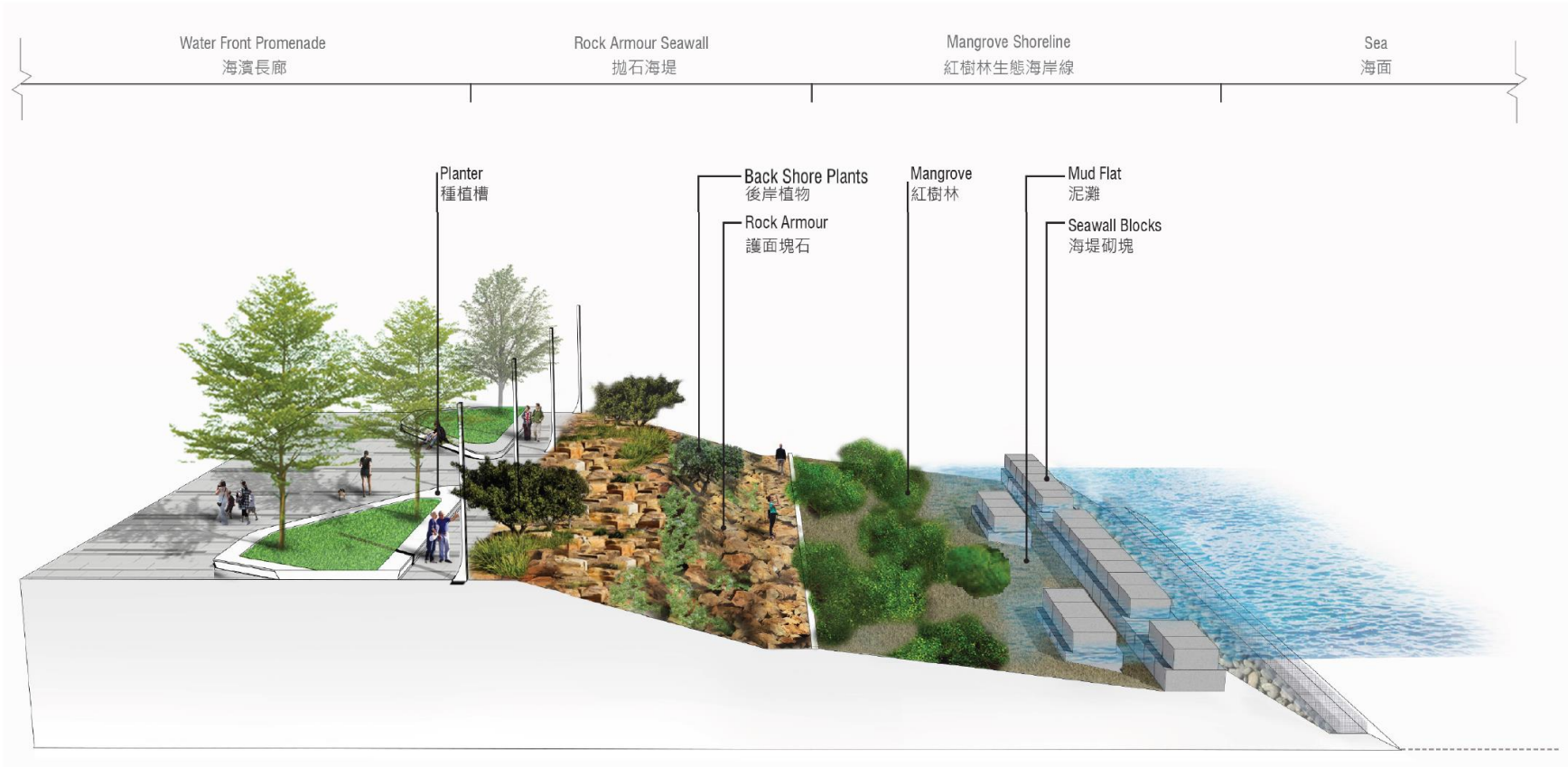

Rocky Eco-shoreline

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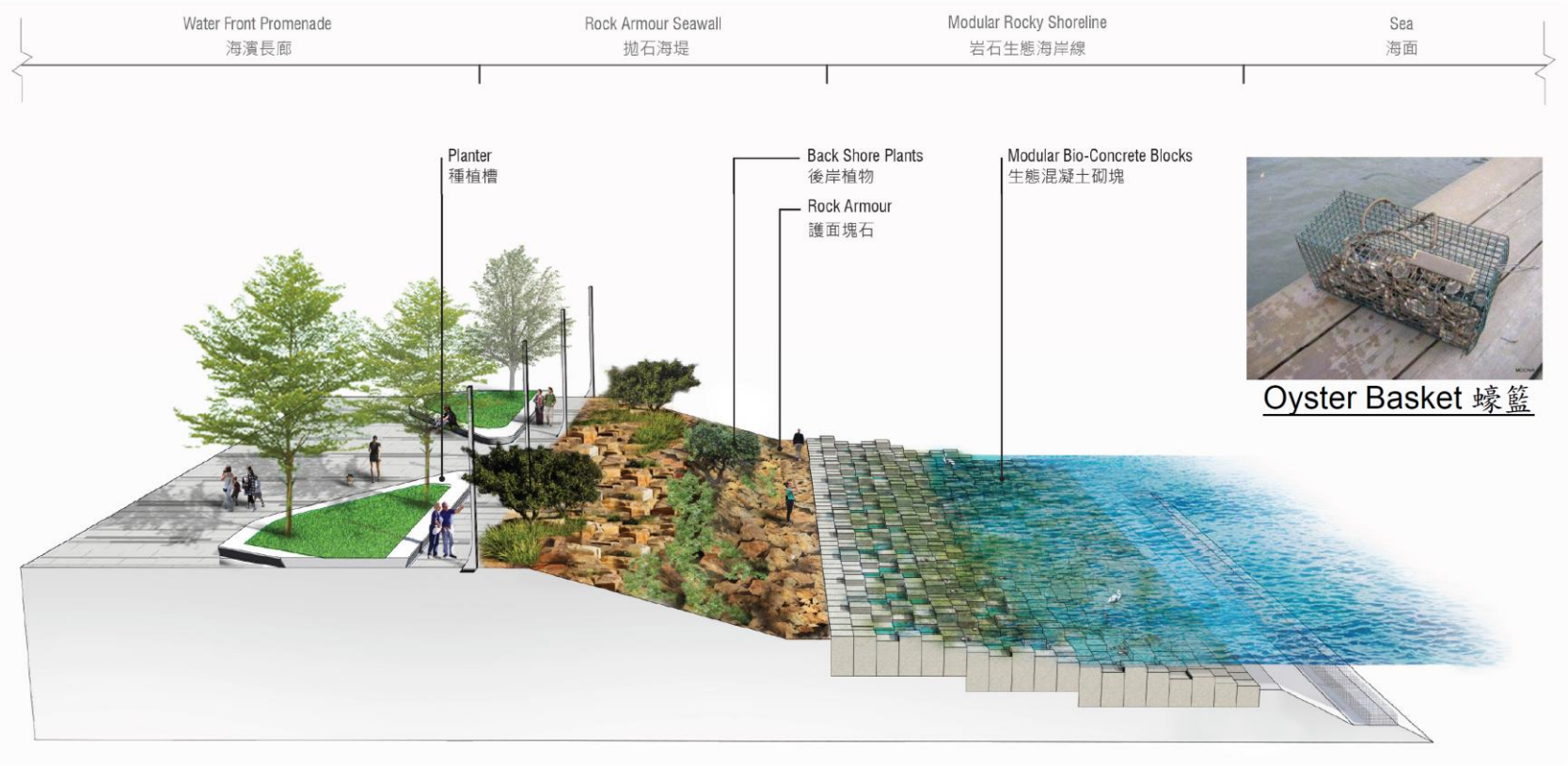
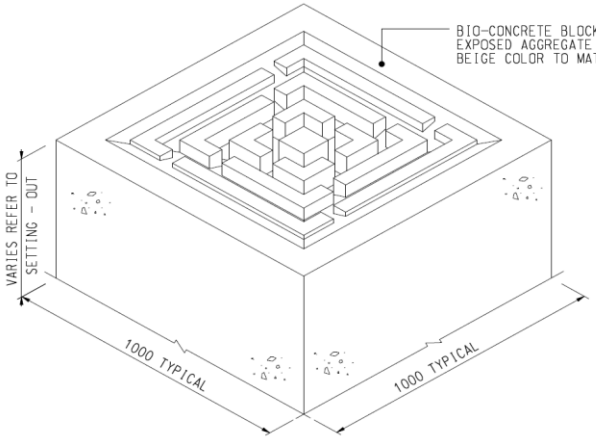
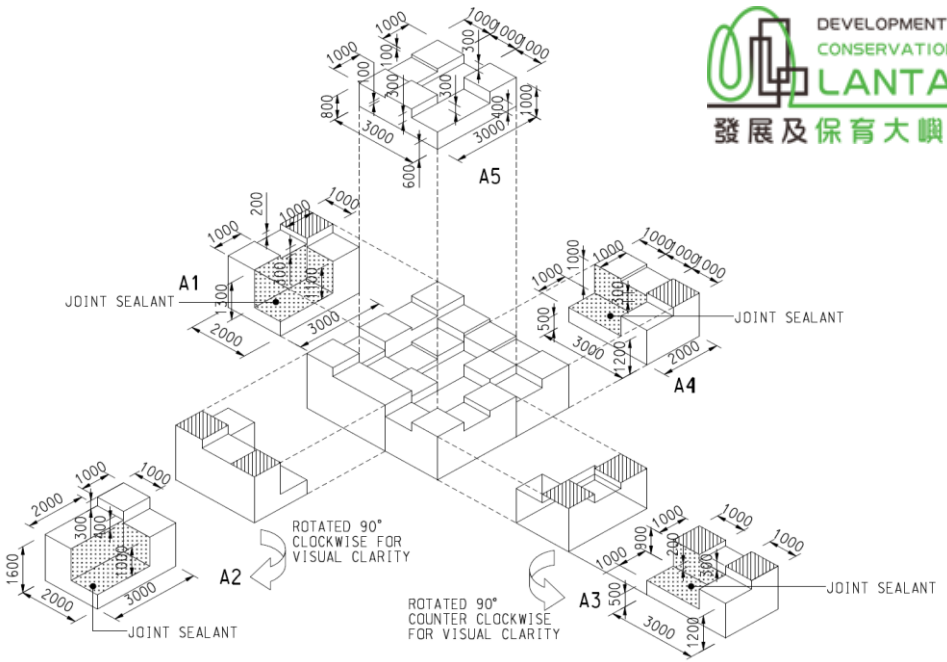
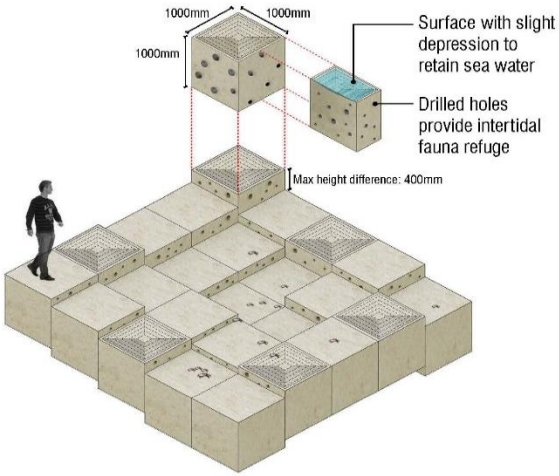


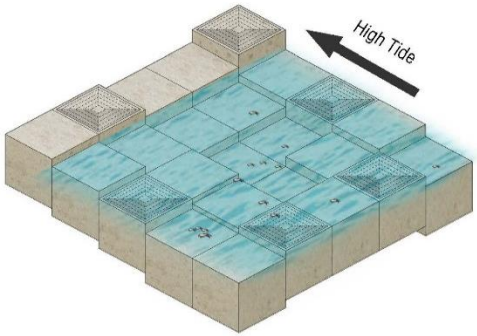
Rocky Eco-shoreline



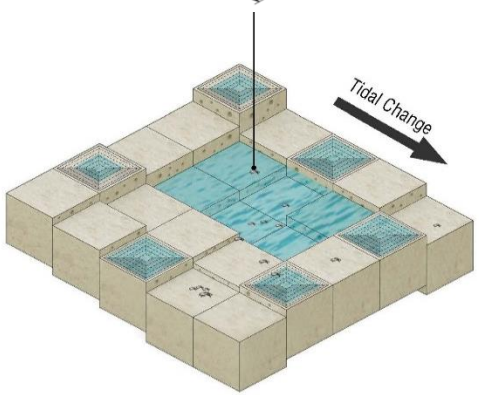




Scenario 1: Low Tide



Scenario 2: High Tide



Scenario 3: Tidal Changes
The formation of Po

Vertical Eco-shoreline

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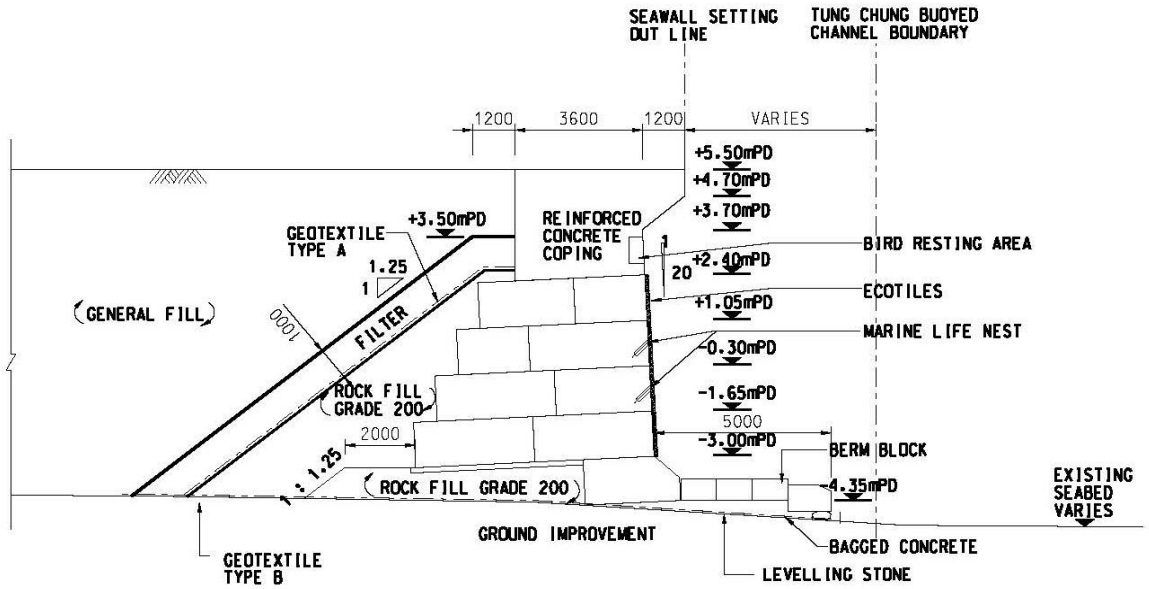
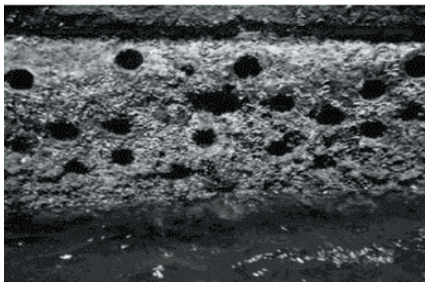
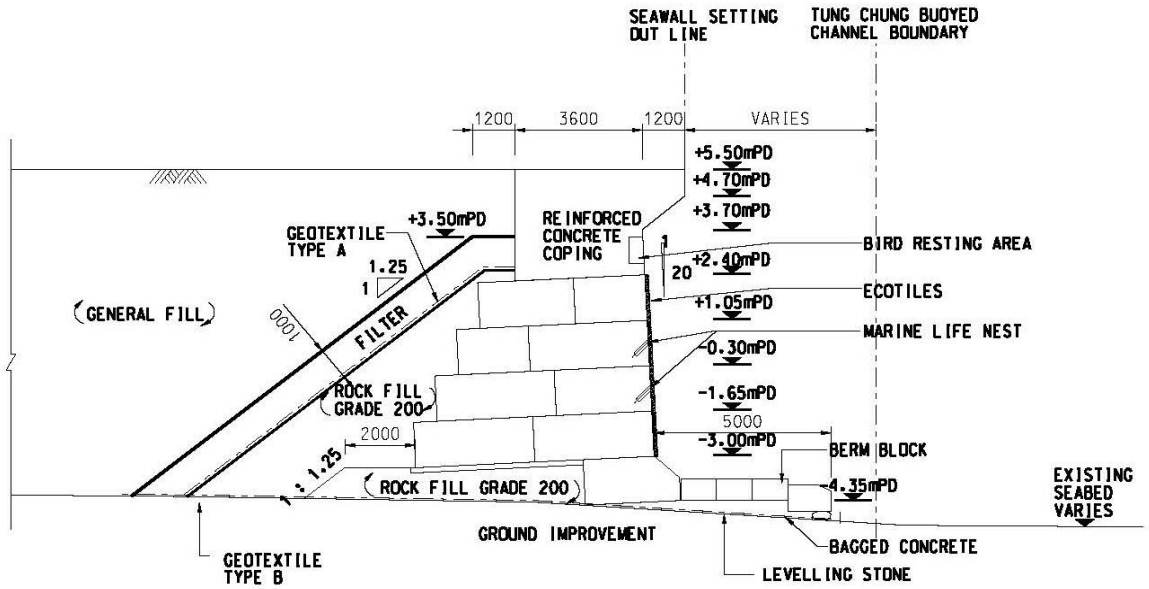


TYPICAL SECTION OF SEAWALL TYPE 2F



- Precast relief into seawall to provide micro-habitats
- Drilled holes and precast cavities provide refuge for larger sub-tidal, inter-tidal and terrestrial wildlife.

Vertical Eco-shoreline

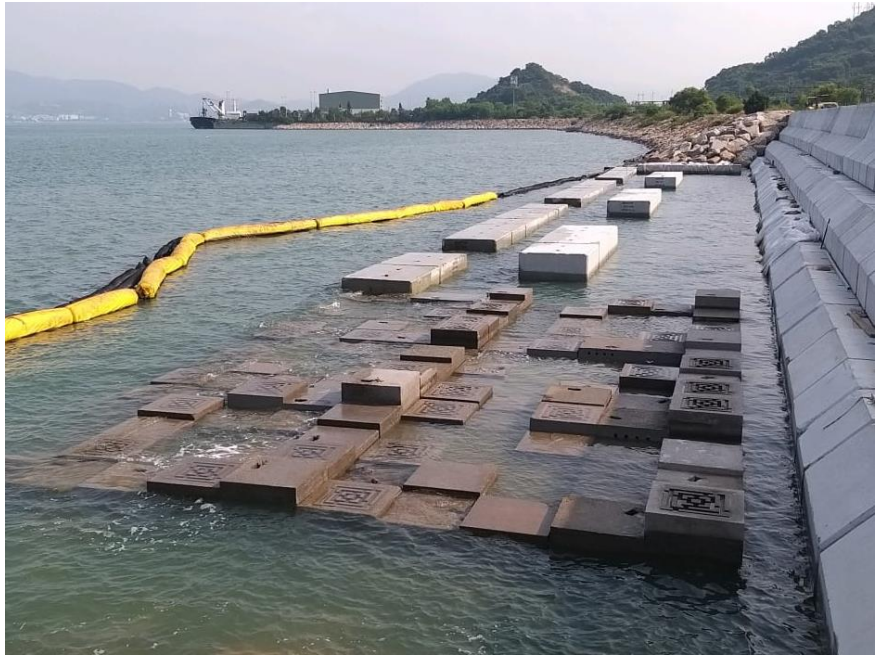


TYPICAL SECTION OF SEAWALL TYPE 2F

The Eco-pots shall be attached to the vertical eco-shoreline at 10m intervals with the top of the Eco-pot at +1.30mPD

Eco-shoreline trial at Siu Ho Wan

- Modification of existing seawall
- Installation of bio-blocks
- Installation of mudflat and planting of mangroves
- Ecological monitoring until 2020



Eco-shoreline Trial – Nursery

1. *Acanthus ilicfolius* 老鼠簕	2. *Aegiceras corniculatum* 桐花樹	3. *Avicennia marina* 白骨壤
		
4. *Bruguiera gymnorrhiza* 木欖	**5. *Lumnitzera racemose* 欖李**	**6. *Kandelia obovate* 水筆仔**
		

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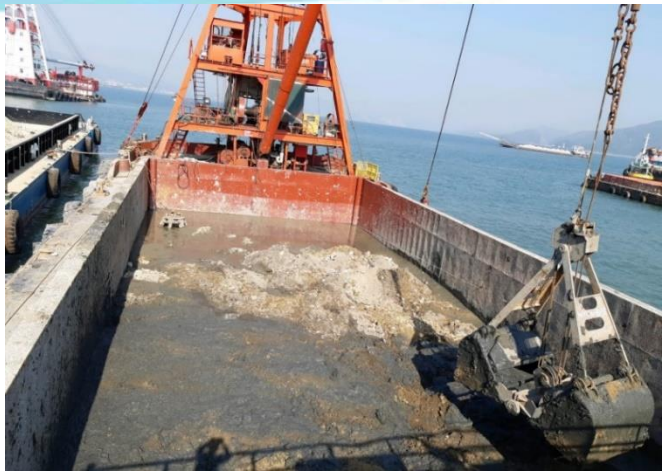
Eco-shoreline Trial (Re-use of Marine Sediment for Soil Mix)

Re-use of Marine sediment (from Tai O)

⇨



Mixing marine sediment with public fill

⇩

Soil-mix placed in mangrove eco-shoreline

⇦

Mangrove planted in eco-shoreline

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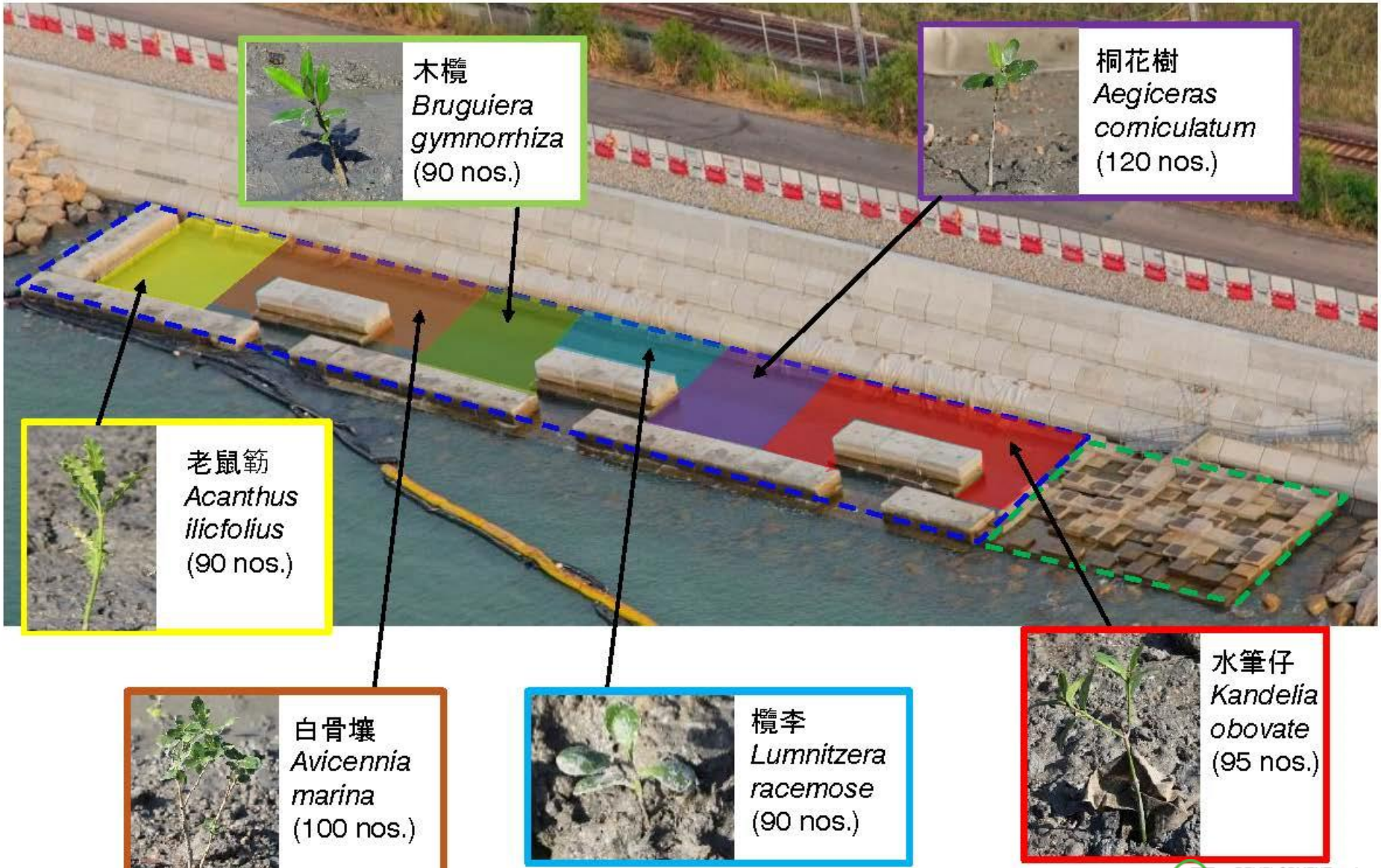
Eco-shoreline Trial



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Thank you