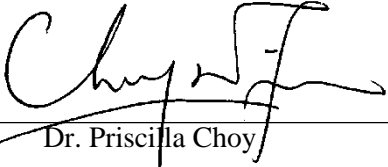


# **Civil Engineering and Development Department**

**Service Contract No. NDO 04/2019  
Environmental Team for Environmental  
Monitoring and Audit Works in  
Construction Phase for the First Phase  
Development of Kwu Tung North and  
Fanling North New Development Areas**

**Monthly Environmental Monitoring and  
Audit Report for December 2022**

**(Version 1.0)**

Certified By	 Dr. Priscilla Choy (Environmental Team Leader)
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**REMARKS:**

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

WELLAB accepts no responsibility for changes made to this report by third parties.

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**Agreement No. CE 33/2019 (EP)**

**Independent Environmental Checker for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas – Investigation**

**Monthly Environmental Monitoring and Audit Report No. 38 (December 2022)**

17 January 2023

**BY EMAIL**

Dear Sir,

We refer to email of 16 January 2023 attaching the Monthly Environmental Monitoring and Audit Report No. 38 prepared by the Environmental Team (ET) of the captioned.

We would like to inform you that we have no adverse comment on the captioned submission. Therefore, we write to verify the captioned submission in accordance with the Condition 3.4 of the Environmental Permit no. EP-466/2013/A, EP-467/2013/A, EP-468/2013/A, EP-469/2013, EP-470/2013A, EP-473/2013/A, EP-475/2013/A and EP-546/2017.

Should you have any queries, please contact the undersigned or our Ms. Liz Lo at 2828 5751.

Yours faithfully,  
For and on behalf of the  
Mott MacDonald Hong Kong Limited



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**EXECUTIVE SUMMARY****Introduction**

1. This is the 38<sup>th</sup> monthly Environmental Monitoring and Audit (EM&A) Report for the First Phase Development of Kwu Tung North (KTN) and Fanling North (FLN) New Development Areas (NDAs), comprising the Advance Works and First Stage Works (hereinafter called the “the Project”). This report is prepared by Wellab Limited under “Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of KTN and FLN NDAs” (hereinafter called the “Service Contract”). This report documents the findings of EM&A works conducted in December 2022.
2. During the reporting month, the following Works Contracts under relevant Environmental Permit(s) were undertaken for the Project:

**Table I Works Contracts under relevant Environmental Permit(s) in the Reporting Month**

Works Contracts	Environmental Permit No.	Designated Project (DP)	Commencement date of construction
<b>Contract No. ND/2019/01 –</b> Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Works	EP-466/2013/A	Castle Peak Road Diversion	12 August 2020
	EP-467/2013/A	Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement	12 August 2020
	EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5	1 June 2020
	EP-470/2013/A	Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works	23 March 2020
<b>Contract No. ND/2019/02 –</b> Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development Area and Shek Wu Hui	EP-469/2013	Sewage Pumping Stations in Kwu Tung North New Development Area	28 October 2020
<b>Contract No. ND/2019/03 –</b> Kwu Tung North and Fanling North New Development Areas, Phase 1: Development of Long Valley Nature Park	EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5	3 July 2020
	EP-473/2013/A	Fanling Bypass Eastern Section (New Road)	6 October 2020
<b>Contract No. ND/2019/04 –</b> Fanling North New Development Area,	EP-473/2013/A	Fanling Bypass Eastern Section (New Road)	23 February 2021

<b>Works Contracts</b>	<b>Environmental Permit No.</b>	<b>Designated Project (DP)</b>	<b>Commencement date of construction</b>
Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)	EP-546/2017	Fanling North Temporary Sewage Pumping Station	16 February 2021
<b>Contract No. ND/2019/05</b> – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)	EP-473/2013/A	Fanling Bypass Eastern Section (New Road)	1 August 2020
<b>Contract No. ND/2019/06</b> – Fanling North New Development Area, Phase 1: Re-provisioning of North District Temporary Wholesale Market for Agricultural Products	EP-475/2013/A	Reprovision of temporary Wholesale Market in Fanling North New Development Area	29 October 2019
<b>Contract No. ND/2019/07</b> – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works	Works area not under relevant Environmental Permit for Phase 1 of the Project.		1 March 2021

**Environmental Monitoring and Audit Progress**

3. A summary of the EM&A activities in this reporting month is listed in **Table II** below:



**Table II Summary Table for EM&A Activities in the Reporting Month**

EM&A Activities	Monitoring Station (s)	Works Contracts						
		ND/2019/01	ND/2019/02	ND/2019/03	ND/2019/04	ND/2019/05	ND/2019/06	ND/2019/07
1-hr Total Suspended Particulates (TSP) Monitoring	FLN-DMS1	N/A	N/A	1, 7, 13, 19, 23 and 29 Dec 22	1, 7, 13, 19, 23 and 29 Dec 22	N/A	N/A	N/A
	FLN-DMS3			N/A	N/A	1, 7, 13, 19, 23 and 29 Dec 22		
	FLN-DMS5			6, 12, 16, 22 and 28 Dec 22	6, 12, 16, 22 and 28 Dec 22	N/A		
	KTN-DMS4(B)			6, 12, 16, 22 and 28 Dec 22	N/A			
24-hr TSP Monitoring	FLN-DMS1	N/A	N/A	6, 12, 16, 22 and 28 Dec 22	6, 12, 16, 22 and 28 Dec 22	N/A	N/A	N/A
	FLN-DMS3			N/A	N/A	6, 12, 16, 22 and 28 Dec 22		
	FLN-DMS5A			6, 12, 16, 22 and 28 Dec 22	6, 12, 16, 22 and 28 Dec 22	N/A		
	KTN-DMS4(B)			6, 12, 16, 22 and 28 Dec 22	N/A			
Noise Monitoring	CP-FLN-NMS1	N/A			1, 7, 13, 19 and 29 Dec 22			N/A
	CP-FLN-NMS2	N/A				1, 7, 13, 19 and 29 Dec 22	N/A	
	CP-KTN-NMS2	6, 12, 22 and 28 Dec 22	N/A	N/A				
	CP-KTN-NMS3							
	CP-KTN-NMS5							
	CP-KTN-NMS6	N/A	6, 12, 22 and 28 Dec 22					
Ecological Survey	Monitoring of Measures to Minimise Disturbance to Water Birds on Ng Tung River, Sheung Yue River, and Long Valley	N/A*	N/A*	5, 8, 12, 15, 22, 23, 29 and 30 December 22	8, 15, 22 and 29 December 22	N/A*	N/A*	N/A*

EM&A Activities	Monitoring Station (s)	Works Contracts						
		ND/2019/01	ND/2019/02	ND/2019/03	ND/2019/04	ND/2019/05	ND/2019/06	ND/2019/07
	Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream and Siu Hang San Tsuen Stream	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution	9 and 16 December 22	9 and 16 December 22	16 December 22	16 December 22	16 December 22	N/A*	N/A*
24-hr RSP (Ambient Arsenic) Monitoring for Land Contamination		2, 8, 14, 20, 23 and 29 Dec 22	N/A	2, 8, 14, 20, 23 and 29 Dec 22	N/A	N/A	N/A	N/A
Water Quality Monitoring		N/A	2, 5, 7, 9, 12, 14, 16, 19, 21, 23, 28 and 30 Dec 22	N/A	2, 5, 7, 9, 12, 14, 16, 19, 21, 23, 28 and 30 Dec 22	N/A	N/A	N/A
Landfill Gas Monitoring		22 Dec 22	N/A	N/A	N/A	N/A	N/A	N/A
Built Heritage Monitoring		N/A	N/A	N/A	Daily assessment subject to construction works conducted within assessment area	Daily assessment subject to construction works conducted within assessment area	N/A	N/A
Environmental Site Inspection		9, 14, 20 and 29 Dec 22	7, 13, 21 and 28 Dec 22	2, 9, 13, 23 and 30 Dec 22	1, 7, 15, 21 and 29 Dec 22	5, 15, 19 and 28 Dec 22	1, 7, 15, 21 and 29 Dec 22	2, 9, 16, 23 and 30 Dec 22

## Remarks:

N/A – No relevant monitoring is required according to the updated EM&amp;A Manual

N/A\* – No relevant monitoring is required according to the Baseline Ecological Monitoring Plan (Table 3.1)

[1] Since the distance between monitoring station CP-KTN-NMS2 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03

[2] Since the distance between monitoring station CP-KTN-NMS3 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03

[3] Since the distance between monitoring station CP-KTN-NMS1 and site boundary of ND/2019/02 under EP-469/2013 exceeds 300m, the monitoring station is not applicable to ND/2019/02

[4] Since the distance between monitoring station FLN-DMS1 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/05

[5] Since the distance between monitoring station FLN-DMS3 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/03 and ND/2019/04

[6] Since the distance between monitoring station FLN-DMS5 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/05

[7] Since the distance between monitoring station CP-FLN-NMS2 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03 and ND/2019/04

[8] Since the distance between monitoring station CP-FLN-NMS1 and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03

**Breaches of Action and Limit Levels**

4. Summary of the environmental exceedances of the reporting month is tabulated in **Table III**.

**Table III Summary Table for Events Recorded in the Reporting Month**

Environmental Monitoring	Parameter	No. of non-project related Exceedances		Total No. of non-project related Exceedances	No. of Exceedance related to the Construction Works of the Contract		Total No. of Exceedance related to the Construction Works of the Contract
		Action Level	Limit Level		Action Level	Limit Level	
Air Quality	1-hr TSP	0	0	0	0	0	0
	24-hr TSP	0	0	0	0	0	0
	24-hr RSP (Ambient Arsenic)	0	0	0	0	0	0
Noise	L <sub>eq</sub> (30min)	0	0	0	0	0	0
Water Quality <sup>[1]</sup>	DO	0	0	0	0	0	0
	Turbidity	0	0	0	0	0	0
	SS	0	0	0	0	0	0
	Arsenic	0	0	0	0	0	0
Landfill Gas	O <sub>2</sub>	0	0	0	0	0	0
	CH <sub>4</sub>						
	CO <sub>2</sub>						
Cultural heritage	Built Heritage Monitoring	0	0	0	0	0	0

**Air Quality**

5. All construction air quality monitoring was conducted as scheduled in the reporting month No Action/Limit Level exceedance was recorded.

**Construction Noise**

6. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

**Water Quality**

7. All additional water quality monitoring was conducted as scheduled in the reporting month. No Action /Limit Level Exceedance was recorded. No construction of channel for alternation of natural streams was carried out in the reporting month. Therefore, no water quality monitoring was

conducted according to the Updated EM&A Manual and Baseline Water Quality Monitoring Report (KTN & FLN NDA). Relevant details are given in Section 5.

#### **Land Contamination**

8. All ambient arsenic monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

#### **Landfill Gas Monitoring**

9. Monitoring of landfill gas in the reporting month was carried out by the Contractor under ND/2019/01 at excavation location Portion 6b. No Limit Level exceedance was recorded.

#### **Built Heritage Monitoring**

10. Built heritage monitoring was carried out in the reporting month by the Contractor under ND/2019/05 for surveyed cultural heritage. No Limit Level exceedance was recorded.

#### **Ecological Monitoring**

11. All ecological monitoring was conducted as scheduled in the reporting month. The monitoring result is shown in **Appendix L** and will be compared with the Action/Limit level after the issuance of Final Baseline Ecological Report.

#### **Complaint Log**

12. One environmental complaint was received in the reporting month. The complaint regarding fly-tipping of C&D wastes is for ND/2019/05. The investigation of the air quality complaint for ND/2019/04 last month was completed in December and will be reported in this report.

#### **Notification of Summons and Successful Prosecutions**

13. No notification of summons or successful prosecutions was received in the reporting month.

#### **Reporting Changes**

14. This report has been prepared in compliance with the reporting requirements for the subsequent monthly EM&A Report as required by the “Updated Environmental Monitoring and Audit Manual for Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas” (Updated EM&A Manual).

#### **Future Key Issues**

15. The major site activities for the coming three months are shown in **Table IV**.

**Table IV Summary Table for Site Activities in the coming Three Months**

<b>Contract No.</b>	<b>Site Activities (January to March 2023)</b>
<b>ND/2019/01</b>	<ul style="list-style-type: none"> <li>(a) Site Clearance, tree felling, removal of existing structures, site formation and G.I works in Portion 1a</li> <li>(b) Sheet piling, excavation, backfilling, drainage works, construction of hoarding/fencing, road works and noise barrier in Portion 1b</li> <li>(c) Site clearance, site formation and construction of hoarding in Portion 1c</li> <li>(d) Temporary storage of material and site formation in Portion 1e</li> <li>(e) Site clearance, tree felling, site formation work and construction of subway in Portion 2</li> <li>(f) Excavation, backfilling and drainage works in Portion 3</li> <li>(g) Drainage works, watermain, excavation, backfilling, road works, sheet piling and pipe jacking in Portion 5</li> <li>(h) Drainage works, backfilling, road works and watermain work in Portion 6a</li> <li>(i) Operation of HAC treatment facility in Portion 6b</li> <li>(j) Site formation, sheet piling, excavation and drainage works in Portion 7</li> <li>(k) Construction of retaining wall, maintenance access construction, RC construction of flushing water service reservoir and fresh water reservoir, pipe pile wall of WSD's maintenance access and backfilling works in Portion 8a</li> <li>(l) ELS for jacking pit at LWSC's car park and trenchless work, excavation and watermain construction in Portion 8b</li> <li>(m) Sheet piling, excavation, drainage works and construction of retaining wall, soil nail and watermain construction in Portion 9b</li> <li>(n) Stockpile of soil in Portion 9c</li> <li>(o) Excavation, drainage works, road construction and utilities works in Portion 10a</li> <li>(p) Sheet piling, excavation and drainage works in Portion 10b</li> <li>(q) Site clearance in Portion 13</li> </ul>
<b>ND/2019/02</b>	<ul style="list-style-type: none"> <li>(a) Pipe Jacking</li> <li>(b) Backfilling</li> <li>(c) Concreting</li> <li>(d) Bedding &amp; Pipe Laying</li> <li>(e) ELS</li> <li>(f) Sheet Pile Installation</li> <li>(g) Cut and Fill of Slope</li> </ul>
<b>ND/2019/03</b>	<ul style="list-style-type: none"> <li>(a) Portion 1 &amp; Portion 1A <ul style="list-style-type: none"> <li>- Road work at Yin Kong Road</li> <li>- Construction of Pai Lau</li> </ul> </li> <li>(b) Portion 2 to Portion 20C <ul style="list-style-type: none"> <li>- Erection of Permanent Boundary Structure</li> <li>- Construction of Type 1 Storage House</li> <li>- Construction of Type 2 Storage House</li> <li>- Construction of Tea House</li> <li>- Construction of Composting Facility</li> <li>- Construction works of Bird Hide</li> <li>- Construction works of Outdoor Classroom</li> <li>- Wetland Creation &amp; Restoration works</li> <li>- Construction of Compacted Earth Path/ Walkway</li> <li>- Construction of Wetland Boardwalk</li> </ul> </li> </ul>

Contract No.	Site Activities (January to March 2023)
ND/2019/04	<ul style="list-style-type: none"> <li>(a) Tree Felling</li> <li>(b) Pile Cap</li> <li>(c) Bored Piling</li> <li>(d) Excavation</li> <li>(e) Sheet Piling</li> <li>(f) Drainage Works</li> <li>(g) Grouting</li> <li>(h) Road works</li> <li>(i) ELS</li> </ul>
ND/2019/05	<ul style="list-style-type: none"> <li>(a) <u>North Team Works</u> <ul style="list-style-type: none"> <li>- Bored piling at B2 (Portion II)</li> <li>- ELS works and Pile cap construction at B1-01M, B2-02, B2-03, C1-01a, C2-03b, C2-04b, C3-01b, D2-01</li> <li>- Pier construction at B1-02b, C1-01ab, C1-02ab, C2-03b, C2-04b, C3-01b &amp; E2-01.</li> <li>- Slope works, road works and drainage works at Jockey Club Road (3SW-C/F63) and Tong Hang Junction.</li> </ul> </li> <li>(b) <u>Viaduct Works</u> <ul style="list-style-type: none"> <li>- Segment fabrication for bridge C2 &amp; C3 &amp; D1 &amp; E1.</li> <li>- Segments erection for bridges C3, D1 and E1.</li> <li>- T-span in-situ construction by form traveler at E2-02 and E3-03.</li> <li>- 3rd set FT design and fabrication. To be used in Feb-2023.</li> <li>- 4th set FT design and fabrication. To be used in May-2023.</li> <li>- Complete construction of pile cap D2-01 and installation of cast-in rotation bridge components.</li> </ul> </li> <li>(b) <u>South Team Works</u> <ul style="list-style-type: none"> <li>- Segment fabrication for bridge C2 &amp; C3 &amp; D1 &amp; E1.</li> <li>- Segments erection for bridges D1 and E1.</li> <li>- 2nd set FT delivery remaining components. To be used in October-2022.</li> <li>- 3rd set FT design and fabrication. To be used in Feb-2023.</li> <li>- 4th set FT design and fabrication. To be used in May-2023.</li> <li>- Complete construction of pile caps E2-01 and D2-01 and installation of cast-in rotation bridge components.</li> <li>- Bridge rotation system delivery to site.</li> </ul> </li> </ul>
ND/2019/06	The construction phase has been completed and handed over to AFCD since 4 April 2022.
ND/2019/07	<ul style="list-style-type: none"> <li>(a) Road works at Portion 1, 4 and 5</li> <li>(b) C&amp;D waste disposal at Portion 1, 2, 4 and 5</li> <li>(c) Construction of box culvert at Portion 2</li> <li>(d) Filling works at Portion 2 and 4</li> <li>(e) Construction of site haul road at Portion 4</li> <li>(f) Drainage works, Sewerage works at Portion 1, 3, 4 and 5</li> <li>(g) Mini piling works at Portion 4</li> <li>(h) Construction of noise barrier at Portion 4 and 5</li> <li>(i) Waterworks at Portion 1</li> </ul>

## 1 INTRODUCTION

- 1.1 Wellab Limited was commissioned by Civil Engineering and Development Department (CEDD) as the Environmental Team to undertake the Environmental Monitoring and Audit (EM&A) services for the Works Contracts involved in the implementation of the First Phase Development of Kwu Tung North (KTN) and Fanling North (FLN) New Development Areas (NDAs) Project to ensure that the environmental performance of the Works Contracts complies with the requirements specified in the Environmental Permits (EPs), Updated EM&A Manual, Environmental Impact Assessment (EIA) Report of the KTN FLN NDAs project and other relevant statutory requirements.

### Purpose of the report

- 1.2 This is the 38<sup>th</sup> EM&A Report which summarises the key findings of the EM&A programme in December 2022.

### Structure of the report

- 1.3 The structure of the report is as follows:

- Section 1: **Introduction** - purpose and structure of the report.
- Section 2: **Project Information** - summarises background and scope of the Project, site description, project organisation and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licences during the reporting month.
- Section 3: **Air Quality Monitoring** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.
- Section 4: **Noise Monitoring** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.
- Section 5: **Water Quality Monitoring** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels and Event / Action Plans.
- Section 6: **Land Contamination (Ambient Arsenic Monitoring)** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.
- Section 7: **Landfill Gas Monitoring** - summarises the monitoring requirement, monitoring parameters and frequency, monitoring locations, Action and Limit Levels, monitoring results and observation, and Event / Action Plans.
- Section 8: **Built Heritage Monitoring** – summarises the monitoring requirement, monitoring parameters and frequency, monitoring locations, Action and Limit Levels, monitoring results and observation.
- Section 9: **Ecological Monitoring** – summarises the details of monitoring of measures to minimise disturbance to waterbirds in Ng Tung River, Sheung Yue River, Shek Sheung River and Long Valley, monitoring of measures to

minimise impacts on ecological sensitive habitats from disturbance and pollution during the reporting month.

- Section 10: **Environmental Site Inspection** - summarises the audit findings of the weekly site inspections undertaken within the reporting month.
- Section 11: **Environmental Non-conformance** - summarises any monitoring exceedance, environmental complaints, environmental summons and successful prosecutions within the reporting month.
- Section 12: **Future Key Issues** - summarises the impact forecast, proposed mitigation measures and monitoring schedule for the upcoming months.
- Section 13: **Conclusions and Recommendations**



## 2 PROJECT INFORMATION

### Background

- 2.1 The Kwu Tung North (KTN) and Fanling North (FLN) New Development Areas (NDAs) are one of the important sources of land and housing supply in the medium and long term. The development of the KTN and FLN NDAs will be implemented in phase for full completion by 2031. The Phase 1 of the NDAs development, comprising the Advance Works and First Stage Works, is targeted to be implemented from the second half of 2019 progressively. The Advance and First Stage Works would include site formation, engineering infrastructure works (including roads, drainage, sewerage, waterworks, landscaping works, pumping stations, and fresh water and flushing water service reservoirs), soil remediation, reprovisioning of North District Temporary Wholesale Market, development of a nature park at Long Valley and implementation of environmental mitigation measures.
- 2.2 The scope of works under the Advance and First Stage Works comprises the following:
- a) The Advance Works (PWP item No. 7747CL-2) consist of:
    - i) site formation of land (including soil remediation) in KTN and FLN NDAs for housing, community facilities and engineering infrastructure;
    - ii) construction of roads including the eastern section of Fanling Bypass (FLBP(E)) connecting the FLN NDA to Fanling Highway and other roads with footpaths and cycle tracks, and associated junction/ road improvements;
    - iii) engineering infrastructure works including drainage. Sewerage (including two sewage pumping stations), waterworks (including a fresh water service reservoir and a flushing water service reservoir in the KTN NDA), landscape works and slopeworks;
    - iv) part expansion and upgrading of Shek Wu Hui Sewage Treatment Works (SWHSTW);
    - v) reprovisioning works; and
    - vi) implementation of environmental mitigation measures and environmental monitoring and audit (EM&A) programme for the works mentioned in (i) to (v) above.
  - b) The First Stage Works (PWP item No. 7759CL) consist of:
    - i) development of a nature park at Long Valley including provision of a visitor centre and a footbridge spanning across Sheung Yue River for connection between these two facilities;
    - ii) reprovisioning of two egret sites in the FLN NDA and enhancement works to an existing egret site in the KTN NDA;
    - iii) site formation of land for a village resite area and a district police station in the KTN NDA;
    - iv) engineering infrastructure works including roads, drainage, sewerage, waterbirds, and landscape works; and
    - v) implementation of environmental mitigation measures and environmental monitoring and audit (EM&A) programme for the works mentioned in (i) to (iv) above.

- 2.3 The Project which covers KTN and FLN NDAs is a designated project (DP) under Schedule 3 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). In October 2013, the EIA Report (AEIAR-175/2013) for the Project was approved by the Director of Environmental Protection pursuant to the EIA Ordinance. The relevant EPs under the Project and the respective Work Contracts are summarised in **Tables 2.1a** and **2.1b**.

**Table 2.1a Summary of EPs under the Project and the Respective Work Contracts**

EP No.	Designated Project	C1	C2	C3	C5 A	C5 B	C6	C7
EP-466/2013/A	Castle Peak Road Diversion	✓						
EP-467/2013/A	Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement	✓						
EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5	✓		✓				
EP-469/2013	Sewage Pumping Stations in Kwu Tung North New Development Area		✓					
EP-470/2013/A	Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works	✓						
EP-473/2013/A	Fanling Bypass Eastern Section			✓	✓	✓		
EP-475/2013/A	Reprovision of temporary Wholesale Market in Fanling North New Development Area						✓	
EP-546/2017	Fanling North Temporary Sewage Pumping Station				✓			

Notes: C1: ND/2019/01 C2: ND/2019/02 C3: ND/2019/03 C5A: ND/2019/04

C5B: ND/2019/05 C6: ND/2019/06 C7: ND/2019/07

**Table 2.1b Summary of Scope of Works under concerned EP**

Environmental Permit (EP) No.	Work Contract(s)	Scope of Works under concerned EP(s)	Site Layout Plan under concerned EP(s)
EP-466/2013/A(Part)	C1	Realign Castle Peak Road and join with the Pak Shek Au Interchange at the western end	Figure 12
EP-467/2013/A(Part)	C1	Construction of new primary distributor road (P1) within Kwu Tung North New Development Area	Figure 13
EP-468/2013/A(Part)	C1	Construction of new primary distributor roads (D1, D3, D4 and part of D5) within Kwu Tung North New Development Area	Figure 14
	C3	Development of a nature park at Long Valley and ecological mitigation and enhancement works for the nature park (Condition 2.9)	Figure 15
EP-469/2013(Part)	C2	Construction of one sewage pumping station in Kwu Tung North with installed capacity of more than 2,000 m3 per day	Figure 16

Environmental Permit (EP) No.	Work Contract(s)	Scope of Works under concerned EP(s)	Site Layout Plan under concerned EP(s)
EP-470/2013/A(Part)	C1	Construction of service reservoir and watermain for the reuse of treated sewage effluent for reuse in Kwu Tung North Development Areas	Figure 17
EP-473/2013/A(Part)	C3	Establishment of alternative egretry sites and enhance the existing egretry site at Ho Sheung Heung and/or its vicinity (Condition 2.7)	Figure 18
EP-473/2013/A(Part)	C5A	Construction of new district distributor inside FLN NDA, which provides a linkage between the Man Kam To Road and the proposed Fanling Bypass Eastern Section	Figure 19
EP-473/2013/A(Part)	C5B		Figure 20
EP-475/2013/A	C6	The re-provisioned wholesale market will have approximately 1,000 market stalls within a site area of around 1.3 ha	Figure 21
EP-546/2017	C5A	Construct and operate a temporary sewage pumping station in Fanling North with installed capacity (average dry weather flow) of about 3,600m <sup>3</sup> /day	Figure 22

Remark: The EP(s) not related to the Project of the First Phase of the Kwu Tung North (KTN) and Fanling North (FLN) New Development Area (NDA) Development Areas are not included in the Table.

- 2.4 The site boundary of the Project and all Works Contracts are shown in **Drawing No. 1**.
- 2.5 The required submissions and submission status under Environmental Permits are shown in **Appendix U**.
- 2.6 The site layout plans under concerned Environmental Permits are shown in Figures 12 - 22.

### Project Organization

- 2.7 Different parties with different levels of involvement in the Project organisation include:
- Project Proponent – Civil Engineering and Development Department (CEDD)
  - *Supervisor / Supervisor's Representative* – AECOM Asia Co. Ltd.
  - Environmental Team (ET) – Wellab Limited
  - Independent Environmental Checker (IEC) – Mott MacDonald Hong Kong Ltd (MottMac)
- 2.8 The names and contact numbers of key personnel are summarised in **Table 2.2**.

**Table 2.2 Key Contacts of the Project**

<b>Party</b>	<b>Role</b>	<b>Contact Person</b>	<b>Phone No.</b>	<b>Fax No.</b>
Civil Engineering and Development Department, HKSAR (CEDD)	Project Proponent	Mr. Raymond Cheng	3619 3919	3547 1658
<i>Supervisor / Supervisor's Representative</i> (AECOM Asia Co. Ltd.)	Chief Resident Engineer	Mr. Alan Lee	6398 5982	2680 9515
	Senior Resident Engineer	Mr. King-man Chan	9651 2635	2680 9515
Environmental Team (Wellab Limited)	Environmental Team Leader	Dr. Priscilla Choy	2898 7388	2898 7076
Independent Environmental Checker (MottMac)	Independent Environmental Checker	Mr. Thomas Chan	2828 5967	2827 1823
<b><u>Contract No. ND/2019/01</u></b> Contractor (Build King – Richwell Engineering Joint Venture)	Site Agent	Mr. Ivan Leung	9640 8340	--
	Environmental Officer	Mr. Edward Tam	9287 8270	
<b><u>Contract No. ND/2019/02</u></b> Contractor (Chun Wo – Kwan Lee Joint Venture.)	Site Agent	Mr. Andy Chan	3485 9780	--
	Environmental Officer	Mr. Wesley So	9144 1643	
<b><u>Contract No. ND/2019/03</u></b> Contractor (Sang Hing Kuly Joint Venture)	Site Agent	Mr. Tang Wing Kai	9300 7037	--
	Environmental Officer	Mr. Ken Cheung	9803 5297	
<b><u>Contract No. ND/2019/04</u></b> Contractor (Daewoo – Chun Wo – Kwan Lee Joint Venture)	Site Agent	Mr. Eric Wu	9786 8630	--
	Environmental Manager	Mr. Jimmy Cheng	9609 5916	
	Environmental Officer	Mr. Sam Lam	6178 3179	
<b><u>Contract No. ND/2019/05</u></b> Contractor (CRCC – Paul Y. Joint Venture)	Site Agent	Mr. Darwin Lo	9467 5891	--
	Environmental Manager	Mr. Pan Fong	9436 9435	
	Environmental Officer	Ms. Louise Poon	5272 5709	
<b><u>Contract No. ND/2019/06</u></b> Contractor (New Concepts Engineering Development Ltd.)	Project Manager	Mr. Joe Cheng	9861 0060	--
	Environmental Officer	Mr. Alex Choy	6360 3236	
<b><u>Contract No. ND/2019/07</u></b> Contractor (China Road and Bridge Corporation)	Site Agent	Mr. Daniel Wong	5335 9572	--
	Environmental Officer	Mr. K. M. Lui	5113 8223	
	Environmental Supervisor	Mr. Attlee Chau	6386 9018	

**Summary of Construction Works Undertaken During Reporting Month**

2.9 The major site activities undertaken in the reporting month are shown in **Table 2.3**.

**Table 2.3 Summary Table for Major Site Activities in the Reporting Month**

<b>Contract No.</b>	<b>Site Activities (December 2022)</b>
<b>ND/2019/01</b>	<ul style="list-style-type: none"> <li>(a) Site clearance, removal of existing structures, site formation and G.I works at Portion 1a</li> <li>(b) Sheet piling, excavation, backfilling and drainage works at Portion 1b</li> <li>(c) Site clearance, site formation and hoarding erection at Portion 1c</li> <li>(d) Temporary storage of material at Portion 1e</li> <li>(e) Site clearance, site formation and construction of subway at Portion 2</li> <li>(f) Site clearance, excavation, sheet piling and drainage works at Portion 3</li> <li>(g) Drainage works, watermain, excavation, backfilling and sheet piling at Portion 5</li> <li>(h) Drainage works and backfilling at Portion 6a</li> <li>(i) Operation of HAC soil treatment facility at Portion 6b</li> <li>(j) Sheet piling, excavation and drainage works at Portion 7</li> <li>(k) Construction of retaining wall, maintenance access construction, RC construction of flushing water service reservoir and fresh water service reservoir and backfilling works at Portion 8a</li> <li>(l) ELS for jacking pit at LWSC's car park, excavation for jacking pit, trenchless work and watermain construction at Portion 8b</li> <li>(m) Sheet piling, excavation, drainage works, construction of retaining wall and watermain construction at Portion 9b</li> <li>(n) Stockpile of soil at Portion 9c</li> <li>(o) Sheet piling, excavation, drainage works, road works and utilities works at Portion 10b</li> </ul>
<b>ND/2019/02</b>	<ul style="list-style-type: none"> <li>(a) Pipe Jacking</li> <li>(b) Backfilling</li> <li>(c) Concreting</li> <li>(d) Bedding and pipe laying</li> <li>(e) ELS</li> <li>(f) Sheet Pile Installation</li> <li>(g) Cut and Fill of Slope</li> </ul>
<b>ND/2019/03</b>	<ul style="list-style-type: none"> <li>(c) Portion 1 &amp; Portion 1A <ul style="list-style-type: none"> <li>- Road work at Yin Kong Road</li> <li>- Construction of Pai Lau</li> </ul> </li> <li>(d) Portion 2 to Portion 20C <ul style="list-style-type: none"> <li>- Erection of Permanent Boundary Structure</li> <li>- Construction of Type 1 Storage House</li> <li>- Construction of Type 2 Storage House</li> <li>- Construction of Tea House</li> <li>- Construction of Composting Facility</li> <li>- Construction works of Bird Hide</li> <li>- Construction works of Outdoor Classroom</li> <li>- Wetland Creation &amp; Restoration works</li> <li>- Construction of Compacted Earth Path/ Walkway</li> <li>- Construction of Wetland Boardwalk</li> </ul> </li> </ul>

Contract No.	Site Activities (December 2022)
ND/2019/04	<ul style="list-style-type: none"> <li>(j) Tree Felling</li> <li>(k) Pile Cap</li> <li>(l) Bored Piling</li> <li>(m) Excavation</li> <li>(n) Sheet Piling</li> <li>(o) Drainage Works</li> <li>(p) Grouting</li> <li>(q) Road works</li> <li>(a) ELS</li> </ul>
ND/2019/05	<ul style="list-style-type: none"> <li>(a) The segment erection using launching gantry is critical to completion of section 4.</li> <li>(b) The pier D2-01 and E2-01 construction with bridge rotation system is critical to completion of section 5.</li> <li>(c) The in-situ T-span construction by form traveler at E2-02 and E3-03 is also critical to section 5 completion.</li> </ul>
ND/2019/06	The construction phase was completed and handed over to AFCD since 4 April 2022.
ND/2019/07	<ul style="list-style-type: none"> <li>(a) Road works at Portion 1, 4 and 5</li> <li>(b) C&amp;D waste disposal at Portion 1, 2, 4 and 5</li> <li>(c) Construction of box culvert at Portion 2</li> <li>(d) Filling works at Portion 2 and 4</li> <li>(e) Construction of site haul road at Portion 4</li> <li>(f) Drainage works and sewerage works at Portion 1, 3, 4 and 5</li> <li>(g) Mini piling works at Portion 4</li> <li>(h) Construction of noise barrier at Portion 4 and 5</li> <li>(i) Waterworks at Portion 1</li> </ul>

### Construction Programme

2.10 Copies of Contractors' construction programmes are provided in **Appendix A**.

### Status of Environmental Licences, Notifications and Permits

2.11 A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project is presented in **Table 2.4**.

**Table 2.4 Status of Environmental Licences, Notifications and Permits**

Contract No.	Permit / Licence No.	Valid Period		Status
		From	To	
Environmental Permit (EP)				
ND/2019/01	EP-466/2013/A	21/11/2013	N/A	Valid
	EP-467/2013/A	27/01/2017	N/A	Valid
	EP-468/2013/A	27/01/2017	N/A	Valid
	EP-470/2013/A	21/11/2013	N/A	Valid
ND/2019/02	EP-469/2013	21/11/2013	N/A	Valid
ND/2019/03	EP-468/2013/A	27/01/2017	N/A	Valid
	EP-473/2013/A	27/01/2017	N/A	Valid
ND/2019/04	EP/473/2013/A	27/01/2017	N/A	Valid
	EP/546/2017	16/11/2017	N/A	Valid
ND/2019/05	EP-473/2013/A	27/01/2017	N/A	Valid
ND/2019/06	EP-475/2013/A	13/01/2017	N/A	Valid
Construction Noise Permit (CNP)				
ND/2019/01	GW-RN0619-22	17/07/2022	16/01/2023	Valid
	GW-RN1227-22	26/12/2022	28/02/2023	Valid
	GW-RN1059-22	09/11/2022	08/03/2023	Valid
	GW-RN0867-22	25/09/2022	24/03/2023	Valid
	GW-RN0866-22	08/10/2022	07/04/2023	Valid
	GW-RN1051-22	11/11/2022	10/05/2023	Cancelled and Superseded by GW-RN1196-22 in reporting month
	GW-RN1196-22	19/12/2022	18/05/2023	Valid
ND/2019/02	GW-RN0970-22	14/10/2022	13/01/2023	Valid
	GW-RN0660-22	01/08/2022	31/01/2023	Valid
	GW-RN1063-22	08/11/2022	07/02/2023	Valid
	GW-RN1110-22	15/11/2022	14/02/2023	Valid
	GW-RN1199-22	15/12/2022	14/03/2023	Valid
	GW-RN1130-22	22/11/2022	10/05/2023	Valid
ND/2019/03	GW-RN0878-22	20/09/2022	28/02/2023	Valid
ND/2019/04	GW-RN1198-22	13/12/2022	27/01/2023	Valid
	GW-RN1057-22	08/11/2022	07/02/2023	Cancelled and Superseded by GW-RN1193-22 in reporting month
	GW-RN1091-22	11/11/2022	10/02/2023	Valid
	GW-RN1083-22	18/11/2022	17/02/2023	Valid
	GW-RN1085-22	01/12/2022	28/02/2023	Valid
	GW-RN1193-22	19/12/2022	18/03/2023	Valid
	ND/2019/05	GW-RN0976-22	01/11/2022	31/12/2022
GW-RN0931-22		11/10/2022	10/01/2023	Valid
GW-RN1048-22		14/11/2022	11/01/2023	Valid
GW-RN1220-22		28/12/2022	17/02/2023	Valid
GW-RN1158-22		01/12/2022	28/02/2023	Valid
GW-RN1195-22		19/12/2022	18/03/2023	Valid
GW-RN0886-22		30/09/2022	29/03/2023	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation				
ND/2019/01	451792	11/12/2019	N/A	Valid
ND/2019/02	454012	05/03/2020	N/A	Valid

Contract No.	Permit / Licence No.	Valid Period		Status
		From	To	
ND/2019/03	452216	24/12/2019	N/A	Valid
	452332	31/12/2019	N/A	Valid
	452333	31/12/2019	N/A	Valid
ND/2019/04	461184	23/10/2020	N/A	Valid
ND/2019/05	454323	13/03/2020	N/A	Valid
ND/2019/06	449369	24/09/2019	N/A	Valid
ND/2019/07	459393	28/08/2020	N/A	Valid
<b>Billing Account for Disposal of Construction Waste</b>				
ND/2019/01	7036265	17/01/2020	N/A	Valid
ND/2019/02	7036898	01/04/2020	N/A	Valid
ND/2019/03	7036378	22/01/2020	N/A	Valid
ND/2019/04	7038391	22/09/2020	N/A	Valid
ND/2019/05	7036901	01/04/2020	N/A	Valid
ND/2019/06	7035473	17/10/2019	N/A	Valid
ND/2019/07	7038309	14/09/2020	N/A	Valid
<b>Registration of Chemical Waste Producer</b>				
ND/2019/01	5213-545-B2578-01	10/01/2020	N/A	Valid
ND/2019/02	5213-548-C4439-01	06/05/2020	N/A	Valid
ND/2019/03	5213-623-S4231-01	14/04/2020	N/A	Valid
ND/2019/04	5211-624-D2709-01	26/11/2020	N/A	Valid
ND/2019/05	5213-625-C4464-01	20/05/2020	N/A	Valid
ND/2019/06	5213-625-N2716-01	02/10/2019	N/A	Valid
ND/2019/07	5213-625-C4498-01	21/09/2020	N/A	Valid
<b>Effluent Discharge License under Water Pollution Control Ordinance</b>				
ND/2019/01	WT00036071-2020	22/06/2020	30/06/2025	Valid
	WT00036073-2020	22/06/2020	30/06/2025	Valid
	WT00036067-2020	22/06/2020	30/06/2025	Valid
	WT00036075-2020	22/06/2020	30/06/2025	Valid
	WT00036076-2020	22/06/2020	30/06/2025	Valid
	WT00037191-2020	21/04/2022	28/02/2026	Valid
	WT00037204-2020	02/02/2021	28/02/2025	Valid
	WT00037412-2021	15/04/2021	30/04/2026	Valid
	WT00037564-2021	19/04/2021	30/04/2026	Valid
	WT00037886-2021	28/06/2021	30/06/2026	Valid
ND/2019/02	WT00036584-2020	21/10/2020	31/10/2025	Valid
	WT00036952-2020	17/12/2020	31/12/2025	Valid
ND/2019/03	WT00035847-2020	12/08/2020	31/08/2025	Valid
	WT00036414-2020	25/02/2021	28/02/2026	Valid
	WT00037771-2021	08/07/2021	31/07/2026	Valid
	WT00035984-2020	25/02/2021	28/02/2026	Valid
ND/2019/04	WT00037539-2021	16/04/2021	30/04/2026	Valid
ND/2019/05	WT00036996-2020	22/12/2020	31/12/2025	Valid
ND/2019/06	WT00035415-2019	20/03/2020	31/03/2025	Valid
ND/2019/07	WT00037526-2021	21/04/2022	31/05/2026	Valid



### 3 AIR QUALITY MONITORING

#### Monitoring Requirements

- 3.1 In accordance with the Updated EM&A Manual, impact 1-hour TSP and 24-hr TSP monitoring shall be conducted to monitor the air quality for the Works Contracts. **Appendix B** shows the established Action/Limit Level for the air quality monitoring works.
- 3.2 Impact 1-hour TSP monitoring was conducted for at least three times every 6 days, while the impact 24-hour TSP monitoring was conducted for at least once every 6 days at the designated air quality monitoring stations.

#### Monitoring Location

- 3.3 Impact air quality monitoring was conducted at the monitoring stations under the Works Contracts, as shown in **Figure 1 and Figure 2** according to Table 1.1 of Updated EM&A Manual and Baseline Air Quality Monitoring Report (KTN & FLN NDA).

#### Alternative Monitoring Station for KTN-DMS4

- 3.4 As KTN-DMS4 - Temporary structure near Fanling Highway (near Pak Shek Au) is no longer as existing ASR, air quality monitoring station should be relocated to the alternative dust monitoring location according to the updated EM&A Manual, Section 2.6.2. According to Figure 3.1 of Approved EIA report and site visits conducted in June 2022, ASR at near KTN-E70 – Temporary Structure near Fanling Highway near Pak Shek Au is considered as the most representative alternative station **KTN-DMS4(B)** for air quality monitoring for KTN-DMS4 (i.e. KTNE162).
- 3.5 The alternative monitoring location **KTN-DMS4(B)** is agreed by EPD on 17 August 2022. The 1-hr and 24-hrs TSP monitoring commenced starting from **24 August 2022**. **Table 3.1** describes the location of the air quality monitoring stations.

**Table 3.1 Location for Air Quality Monitoring Locations**

EP No.	Contract No.	Monitoring Station	Location
EP-473/2013/A	ND/2019/03	FLN-DMS1 <sup>[2]</sup>	Scattered Village Houses North of Proposed Potential Ecopark
	ND/2019/04		
	ND/2019/05	FLN-DMS3 <sup>[3]</sup>	House near Tong Hang
	ND/2019/03	FLN-DMS5 <sup>[4]</sup>	Noble Hill
	ND/2019/04	FLN-DMS5A	Good View New Village
EP-466/2013/A EP-467/2013/A EP-468/2013/A	ND/2019/01	KTN-DMS4(B) <sup>[5]</sup>	Temporary Structure near Fanling Highway (near Pak Shek Au)
EP-468/2013/A	ND/2019/03		

Remarks:

[1]: Noting that construction phase air quality monitoring at the other proposed monitoring stations (e.g. planned), where access is permitted, will be conducted during construction phase of relevant works contract(s).

[2]: Since the distance between monitoring station and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/05.

[3]: Since the distance between monitoring station and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/03 and ND/2019/04.

[4]: Since the distance between monitoring station and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m, the monitoring station is not applicable to ND/2019/05

[5] KTN-DMS4(B) commenced starting from 24 August 2022 as an alternative monitoring station of KTN-DMS4.

### Monitoring Equipment

- 3.6 As the power supply for High Volume Sampler (HVS) for TSP monitoring at FLN-DMS 5A, KTN-DMS 4 and KTN-DMS 4(B) were rejected, direct reading dust meter was used to measure both 1-hour and 24-hour TSP levels:-
- The proposal for alternative monitoring equipment (i.e. direct reading dust meter) for TSP monitoring was approved by EPD according to the approved Baseline Air Quality Monitoring Report (KTN & FLN NDA); and
  - Same measurement methodology (i.e. direct reading dust meter) was adopted as baseline monitoring for a reliable comparison.
- 3.7 The proposed use of portable direct reading dust meters was also submitted to IEC and agreement was obtained from the IEC in accordance with Section 2.4.5 of the Updated EM&A Manual.
- 3.8 HVS for 24-hour TSP monitoring will be adopted once secured supply of electricity become available at FLN-DMS 5A and KTN-DMS 4(B).
- 3.9 **Table 3.2** summarises the equipment used in the impact air monitoring programme. Copies of calibration certificates are attached in **Appendix C**.

**Table 3.2 Air Quality Monitoring Equipment**

Monitoring Station	Equipment	Manufacturer	Model and Make	Quantity
FLN-DMS5 FLN-DMS5A KTN-DMS4 KTN-DMS4(B)	Dust Monitor (1-hour and 24-hour TSP)	Met One Instruments	AEROCET-831	6
FLN-DMS1 FLN-DMS3	Dust Monitor (1-hour TSP)			
	HVS Sampler (TSP) (24-hour TSP)	Tisch	TISCH Model: TE-5170	2

- 3.10 Meteorological information extracted from “Hong Kong Observatory - Ta Kwu Ling Weather Station” was proposed as the alternative method to obtain representative wind data. For Ta Kwu Ling Weather Station, it is located nearby the Project site and situated at approximately 15m above mean sea level. The station’s wind data monitoring equipment is set above the existing ground 10 meters in compliance with the general setting up requirements. Furthermore, this station also provides other meteorological information, such as humidity, rainfall, air pressure and temperature etc.
- 3.11 The general weather conditions (i.e. sunny, cloudy or rainy) were recorded by the field staffs during the monitoring days.

### Monitoring Parameters, Frequency and Duration

- 3.12 **Table 3.3** summarises the monitoring parameters and frequencies of impact dust monitoring

during the Works Contracts activities. The air quality monitoring schedule for the reporting month is shown in **Appendix D**.

**Table 3.3 Impact Dust Monitoring Parameters, Frequency and Duration**

Parameters	Frequency
1-hour TSP	Three times/ 6 days
24-hour TSP	Once / 6 days

### **Monitoring Methodology and QA/QC Procedure**

#### **1-hour and 24-hour TSP Air Quality Monitoring**

##### ***Instrumentation***

- 3.13 Direct reading dust meter was deployed for the air quality monitoring as shown in **Table 3.2**.
- 3.14 The measuring procedures of the dust meters were in accordance with the Manufacturer's Instruction Manual as follows:

##### **(AEROCET-831)**

- Place the 1-hour dust meter at least 1.3 meters above ground.
- Press and hold the Power key momentarily to power on the unit and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 second to display the Sample Screen minutes.
- Press the START / STOP key to run the internal vacuum pump for 1 minute and be ready to use.
- Use the select dial to select the PM range and press the START / STOP key to start a measurement.
- Finally, push the START/STOP key to stop the measurement after 1 hour sampling.
- Information such as sampling date, time, value and site condition were recorded during the monitoring period.
- All data were recorded in the data logger for further data processing.

##### ***Maintenance/Calibration***

- 3.15 The following maintenance/calibration was required for the direct dust meters:
- Check and calibrate the meters by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

#### **24-hour TSP Air Quality Monitoring**

##### ***Instrumentation***

##### **(TISCH Model: TE-5170)**

- 3.16 High volume Samplers (HVS) completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. Each sampler was composed of a motor, a filter holder, a flow

controller and a sampling inlet and its performance specification complies with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

### ***HVS Installation***

3.17 The following guidelines were adopted during the installation of HVS:

- A horizontal platform with appropriate support was provided to secure the samplers against gusty wind.
- No two samplers were placed less than 2 meters apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
- No furnaces or incineration flues were nearby.
- Airflow around the sampler was unrestricted.
- The samplers were more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.
- Permission and access to the monitoring stations have been obtained to set up the samplers.
- A secured supply of electricity was provided to operate the samplers.

### ***Filters Preparation***

3.18 Wellab Limited (HOKLAS Registration No. HOKLAS083) is a HOKLAS accredited laboratory and responsible for the preparation of 24-hour conditioned and pre-weighed filter papers for the monitoring team.

3.19 All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25°C and not variable by more than  $\pm 3^\circ\text{C}$ ; the relative humidity (RH) was  $< 50\%$  and not variable by more than  $\pm 5\%$ . A convenient working RH was 40%.

### ***Operating/Analytical Procedures***

3.20 Operating/analytical procedures for the air quality monitoring were highlighted as follows:

- Prior to the commencement of dust sampling, the flow rate of the HVS was properly set (between 1.1 m<sup>3</sup>/min. and 1.4 m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50;
- The power supply was checked to ensure the sampler worked properly;
- On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air quality monitoring station;
- The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a

supporting screen;

- The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. The filter holding frame was then tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges;
- The shelter lid was closed and secured with the aluminum strip;
- The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number);
- After sampling, the filter was removed and kept in a clean and tightly sealed plastic bag. The filter paper was then returned to the HOKLAS accredited laboratory (Wellab Ltd.) for reconditioning in the humidity-controlled chamber followed by accurate weighting by an electronic balance with a readout down to 0.1mg. The elapsed time was also recorded; and
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature should be between 25°C and 30°C and did not vary by more than  $\pm 3^\circ\text{C}$ ; the RH should be  $< 50\%$  and did not vary by more than  $\pm 5\%$ . A convenient working RH is 40%. Weighing results were returned for further analysis of TSP concentrations collected by each filter.

### ***Maintenance/Calibration***

3.21 The following maintenance/calibration was required for the HVS:

- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working conditions; and
- All HVS were calibrated (five point calibration) using Calibration Kit prior to the commencement of baseline monitoring and thereafter at bi-monthly intervals.

### **Results and Observations**

3.22 The monitoring results for 1-hour TSP and 24-hour TSP are summarised in **Tables 3.4** and **3.5** respectively. Detailed monitoring results and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix E**.

**Table 3.4 Summary Table of 1-hour TSP Monitoring Results during the Reporting Month**

Monitoring Station	Concentration ( $\mu\text{g}/\text{m}^3$ )		Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
	Average	Range		
FLN-DMS1	99.4	51.9 – 179.9	303	500
FLN-DMS3	85.5	34.8 – 161.4	301	500
FLN-DMS5	73.6	23.2 – 148.8	279	500
KTN-DMS4(B)	58.1	40.3 – 82.6	297	500

**Table 3.5 Summary Table of 24-hour TSP Monitoring Results during the Reporting Month**

Monitoring Station	Concentration ( $\mu\text{g}/\text{m}^3$ )		Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
	Average	Range		
FLN-DMS1	66.8	19.7 – 122.0	150	260
FLN-DMS3	65.0	23.0 – 101.3	165	260
FLN-DMS5A	114.9	59.3 – 144.6	153	260
KTN-DMS4(B)	85.6	41.3 – 159.0	192	260

- 3.23 All 1-hour and 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedances were recorded.
- 3.24 According to our field observations, the major dust sources identified at the designated air quality monitoring stations in the reporting month are shown in **Table 3.6**:

**Table 3.6 Observation at Dust Monitoring Stations**

Monitoring Station	Major Dust Sources
FLN DMS1	Mobile crane, Excavator, piling, road traffic
FLN-DMS3	Excavator, piling, mobile crane, road traffic
FLN-DMS5	Road traffic
KTN-DMS4(B)	Excavator, piling, mobile crane, dump truck, road traffic

**Event and Action Plan**

- 3.25 Should any non-compliance of the criteria occur, actions in accordance with the Event/Action Plan in **Appendix N** shall be carried out.

## 4 NOISE MONITORING

### Monitoring Requirements

- 4.1 In accordance with the Updated EM&A Manual, construction noise monitoring shall be conducted in terms of the A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ) to monitor the construction noise arising from the construction activities. The regular monitoring frequency for each monitoring station was on a weekly basis and one set of measurements between 0700 and 1900 hours on normal weekdays was conducted. **Appendix B** shows the established Action and Limit Levels for the environmental monitoring works.

### Monitoring Location

- 4.2 Impact noise monitoring was conducted at the monitoring stations, as shown in **Figures 3** and **4** according to Table 1.1 of the Updated EM&A Manual. **Table 4.1** describes the locations of the noise monitoring stations.

**Table 4.1 Location of Noise Monitoring Stations**

Contract No.	Monitoring Station(s)	Location(s)
ND/2019/06	CP-FLN-NMS1 <sup>[2]</sup>	Belair Monte
ND/2019/04		
ND/2019/05	CP-FLN-NMS2 <sup>[3]</sup>	Scattered Village Houses in Tong Hang
ND/2019/01	CP-KTN-NMS2 <sup>[4]</sup>	Residential Buildings at Ma Tso Lung
	CP-KTN-NMS3 <sup>[5]</sup>	Fung Kong Garden
ND/2019/01	CP-KTN-NMS5	N/A
ND/2019/02	CP-KTN-NMS6	Ho Sheung Heung, Hau Ku Shek Ancestral Hall, Hung Shing Temple & Pai Fung Temple and Sin Wai Nunnery

Remarks:

[1]: Noting that construction phase noise monitoring at the other proposed monitoring stations (e.g. planned), where access is permitted, will be conducted during construction phase of relevant works contract(s).

[2]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[3]: Since the distance between monitoring station and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03 and ND/2019/04.

[4],[5]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

### Monitoring Equipment

- 4.3 Integrating Sound Level Meters were used for impact noise monitoring. The meters were Type 1 sound level meter capable of giving a continuous readout of the noise level readings including equivalent continuous sound pressure level ( $L_{eq}$ ) and percentile sound pressure level ( $L_x$ ) that complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1) specifications. **Table 4.2** summarises the noise monitoring equipment used. Copies of calibration certificates are attached in **Appendix C**.

**Table 4.2 Noise Monitoring Equipment**

Equipment	Manufacturer	Model	Quantity
Sound Level Meter	BSWA	BSWA 308	3
Acoustical Calibrator	Brüel & Kjær	4231	1
	SVANTEK	SV30A	2

**Monitoring Parameters, Frequency and Duration**

- 4.4 **Table 4.3** summarises the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule is shown in **Appendix D**.

**Table 4.3 Noise Monitoring Parameters, Duration and Frequency**

Contract No.	Monitoring Stations	Parameters <sup>[2]</sup>	Duration	Frequency	Measurement
ND/2019/06	CP-FLN-NMS1 <sup>[3]</sup>	$L_{10}(30 \text{ min.}) \text{ dB(A)}$ $L_{90}(30 \text{ min.}) \text{ dB(A)}$ $L_{eq}(30 \text{ min.}) \text{ dB(A)}$ (as six consecutive $L_{eq, 5 \text{ min}}$ readings)	0700-1900 hours on normal weekdays	Once per week	Façade
ND/2019/04					
ND/2019/05	CP-FLN-NMS2 <sup>[4]</sup>				
ND/2019/01	CP-KTN NMS2 <sup>[5]</sup>				Free-field <sup>[1]</sup>
	CP-KTN NMS3 <sup>[6]</sup>				
ND/2019/01	CP-KTN NMS5				Façade
ND/2019/02	CP-KTN-NMS6				

**Remarks:**

[1]: Correction of +3dB (A) for free-field measurement.

[2]: A-weighted equivalent continuous sound pressure level ( $L_{eq}$ ). It is the constant noise level which, under a given situation and time period, contains the same acoustic energy as the actual time-varying noise level.

$L_{10}$  is the level exceeded for 10% of the time. For 10% of the time, the sound or noise has a sound pressure level above  $L_{10}$ .

$L_{90}$  is the level exceeded for 90% of the time. For 90% of the time, the noise level is above this level.

[3]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[4]: Since the distance between monitoring station and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03 and ND/2019/04.

[5],[6]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.



### Monitoring Methodology and QA/QC Procedures

- The microphone head of the sound level meter was positioned at 1m from the exterior of the noise sensitive I and lowered sufficiently so that the building's external wall acted as a reflecting surface;
- The battery condition was checked to ensure the correct functioning of the meter;
- Parameters such as frequency weighting, time weighting and measurement time were set as follows:
  - frequency weighting : A
  - time weighting : Fast
  - time measurement :  $L_{eq}(30 \text{ min.}) \text{ dB(A)}$   
(as six consecutive  $L_{eq, 5\text{min}}$  readings) during non-restricted hours (i.e. 0700-1900 hours on normal weekdays)
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment;
- During the monitoring period, the values of  $L_{eq}$ ,  $L_{90}$  and  $L_{10}$  were recorded. In addition, site conditions and noise sources were also recorded on a standard record sheet;
- Noise measurement was paused temporarily during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible and observation records during measurement period should be provided; and
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s. The wind speed should be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

### Maintenance and Calibration

- 4.5 The microphone heads of the sound level meters and calibrators were cleaned with a soft cloth at quarterly intervals.
- 4.6 The sound level meters and calibrators were checked and calibrated at yearly intervals.
- 4.7 Immediately prior to and following each noise measurement, the accuracy of the sound level meter should be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements would be accepted as valid only if the calibration levels before and after the noise measurement agreed to within 1.0 dB.

### Results and Observations

- 4.8 The noise monitoring results are summarised in **Table 4.4**. Detailed monitoring results and graphical presentations of noise monitoring are shown in **Appendix F**. The weather information for the reporting month is summarised in **Appendix M**.

**Table 4.4 Summary Table of Noise Monitoring Results during the Reporting Month**

Contract No.	Monitoring Station	Noise Level Leq (30 min), dB(A)	Baseline Level, dB(A)	Limit Level, dB(A)
ND/2019/06	CP-FLN-NMS1 <sup>[1]</sup>	62.2 – 68.9	69.9	75
ND/2019/04				
ND/2019/05	CP-FLN-NMS2 <sup>[2]</sup>	58.2 – 65.0	59.6	
ND/2019/01	CP-KTN-NMS2 <sup>[3]</sup>	49.7 – 62.3	58.6	
	CP-KTN-NMS3 <sup>[4]</sup>	50.4 – 58.2	51.6	
ND/2019/01	CP-KTN-NMS5	54.9 – 63.4	57.2	
ND/2019/02	CP-KTN-NMS6	57.4 – 60.0	55.1	

Remarks:

[1]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[2]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[3],[4]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

- 4.9 All noise monitoring was conducted as scheduled in the reporting month. No Action/Limit level exceedance was recorded. The summary of exceedance record in reporting month is shown in **Appendix O**.
- 4.10 According to our field observations, the major noise sources identified at the designated noise monitoring stations in the reporting month are as follows:

**Table 4.5 Observation at Noise Monitoring Stations**

Contract No.	Monitoring Station	Location	Major Noise Source
ND/2019/06	CP-FLN-NMS1 <sup>[1]</sup>	Belair Monte (Existing)	Excavator, dump truck, mobile crane, piling, road traffic
ND/2019/04			
ND/2019/05	CP-FLN-NMS2 <sup>[2]</sup>	Scattered Village House in Tong Hang (Existing)	Excavator, piling, dump truck, road traffic
ND/2019/01	CP-KTN-NMS2 <sup>[3]</sup>	Residential Buildings at Ma Tso Lung (Existing)	Dump truck, excavator, road traffic
ND/2019/01	CP-KTN-NMS3 <sup>[4]</sup>	Fung Kong Garden (Existing)	Road traffic
ND/2019/01	CP-KTN-NMS5	N/A	Road traffic
ND/2019/02	CP-KTN-NMS6	Ho Sheung Heung, Hau Ku Shek Ancestral Hall, Hung Shing Temple & Pai Fung Temple and Sin Wai Nunnery (Existing)	Road traffic

Remarks:

[1]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[2]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m, the monitoring station is not applicable to ND/2019/03.

[3],[4]: Since the distance between monitoring station and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03.

**Event and Action Plan**

- 4.11 Should any non-compliance of the criteria occur, actions in accordance with the Event/Action Plan in **Appendix N** shall be carried out.

## 5 WATER QUALITY MONITORING

### Monitoring Requirements

- 5.1 In accordance with the Updated EM&A Manual, impact water quality monitoring shall be carried out three days per week at all the designated monitoring stations during the construction period. The measurement periods are during the construction of channel specified in Table 4.1 of the Updated EM&A Manual. The interval between two sets of monitoring shall not be less than 36 hours.
- 5.2 Replicate in-situ measurements of Dissolved Oxygen (DO), temperature, turbidity, pH, Suspended Solids (SS) and samples for Suspended Solids (SS), ammonia nitrogen, unionized ammonia, nitrate nitrogen and orthophosphate from each independent sampling event were collected to ensure a robust statistically interpretable database.
- 5.3 **Appendix B** shows the established Action and Limit Levels for the water quality monitoring work according to the Updated EM&A Manual and Baseline Water Quality Monitoring Report (KTN & FLN NDA).

### Monitoring Parameters, Frequency

- 5.4 **Table 5.1** summarises the monitoring parameters, monitoring periods and frequencies of the water quality monitoring.

**Table 5.1 Water Quality Monitoring Parameters and Frequency**

Parameters, unit	Depth	Frequency
<ul style="list-style-type: none"> <li>Temperature(°C)</li> <li>pH(pH unit)</li> <li>turbidity (NTU)</li> <li>water depth (m)</li> <li>salinity (ppt)</li> <li>DO (mg/L and % of saturation)</li> <li>SS (mg/L)</li> <li>Ammonia Nitrogen (NH<sub>3</sub>-N) (mg NH<sub>3</sub>-N/L)</li> <li>Unionized Ammonia (UIA) (mg/L)</li> <li>Nitrate-nitrogen (NO<sub>3</sub>-N) (mg NO<sub>3</sub><sup>-</sup>-N/L)</li> <li>Ortho-phosphate (PO<sub>4</sub>) (mg PO<sub>4</sub><sup>3-</sup>-P/L)</li> </ul>	<ul style="list-style-type: none"> <li>3 water depths: 1m below water surface, mid-depth and 1m above river bed.</li> <li>If the water depth was less than 3m, mid-depth sampling only.</li> <li>If water depth was less than 6m, mid-depth may be omitted.</li> </ul>	3 days per week during construction of channel

### Results and Observations

- 5.5 According to Section 5.6.1.2 of the approved EIA Report, the potential water quality impact during construction is due to the alternation of natural streams (i.e. channelization of Ma Tso Lung Stream and Siu Hang San Tsuen Stream) as these two streams are the ecologically important streams.

- 5.6 No construction of channel was carried out at Ma Tso Lung Stream and Siu Hang San Tsuen Stream during the reporting month. Therefore, no water quality monitoring was conducted.

### **Additional Water Quality Monitoring**

#### **Monitoring Requirements**

- 5.7 Additional Water Quality Monitoring shall be carried out at River Beas, River Indus and near Siu Hang San Tsuen Stream three days per week at all designated monitoring stations during the construction period. The measurement period are during the construction site drainage along River Beas, construction of footbridge across River Beas and during construction of bridge across River Indus.
- 5.8 Replicate in-situ measurement and samples from each independent sampling event were collected to ensure a robust statistically interpretable database. DO, temperature, turbidity and pH were measured in-situ whereas SS and arsenic were determined by an accredited laboratory. Other relevant data, including monitoring location / position, time, water depth, weather conditions and any special phenomena or work underway at the construction site were recorded.
- 5.9 For all the monitoring stations, sampling were taken at 3 water depths, namely 1m below the water surface, mid depth and 1m above the river bed. For stations that were less than 3m in depth, only the mid depth sample was taken. Should the water depth was less than 6m, in which case the mid-depth station may have been omitted. The interval between two sampling surveys was not less than 36 hours.
- 5.10 **Appendix B** shows the established Action and Limit Levels for the environmental monitoring works.

#### **Monitoring Locations**

- 5.11 Additional impact water quality monitoring was conducted at 6 monitoring stations (SYR-CS1, SYR-IS1, NTR-CS1, NTR-IS1, SHST-IS2, MWR-IS3) which are summarised in **Table 5.2**. The location of monitoring stations is shown in **Figures 5 and 6**.

**Table 5.2 Additional Water Quality Monitoring Stations**

Station	Description	Locations	Measurement Periods
River Beas			
SYR-CS1	Control Station	Upstream of river	During the construction site drainage along River Beas and construction of the footbridge across River Beas
SYR-IS1	Impact Station	Downstream of river	
River Indus and near Siu Hang San Tsuen Stream			
NTR-CS1	Control Station	Upstream of river	During construction of the bridge across River Indus
NTR-IS1	Impact Station	Downstream of river	
SHST-IS2	Impact Station	Water sensitive receiver at near Siu Hang San Tsuen Stream	
MWR-IS3	Impact Station	Water sensitive receiver at near Ma Wat River	

**Monitoring Equipment**Instrumentation

- 5.12 Multi-parameter meters (Model YSI EXO) were used to measure DO, turbidity, salinity, pH and temperature.

Dissolved Oxygen (DO) and Temperature Measuring Equipment

- 5.13 The instrument for measuring dissolved oxygen and temperature should be portable and weatherproof complete with cable, sensor, and use DC power source. The equipment was capable of measuring:
- A dissolved oxygen level in the range of 0-20mg/L and 0-200% saturation; and
  - The temperature within 0-45 degree Celsius.
- 5.14 The equipment had a membrane electrode with automatic temperature compensation complete with a cable.
- 5.15 Sufficient stocks of spare electrodes and cables were available for replacement where necessary.
- 5.16 Salinity compensation was built-in in the DO equipment. *In-situ* salinity was measured to calibrate the DO equipment prior to each DO measurement.

Turbidity

- 5.17 Turbidity was measured *in situ* by using the nephelometric method. The instrument was portable and weatherproof using a DC power sources complete with cable, sensor and comprehensive operation manuals. The equipment was capable of measuring turbidity between 0-1000 NTU. The probe cable was not less than 25m in length. The meter was calibrated in order to establish the relationship between NTU units and the levels of Suspended Solids.

### Salinity

- 5.18 A portable salinometer capable of recording salinity within the range of 0-40 parts per thousand (ppt) was used for salinity measurement.

### Water Depth Detector

- 5.19 A portable, battery-operated and hand held echo sounder was used for the determination of water depth at each designated monitoring station.

### pH

- 5.20 The instrument consisted of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It was readable to 0.1pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 were used for calibration of the instrument before and after use.

### Water Sampling for Laboratory Analysis

- 5.21 A water sampler, consisting of a transparent Polyvinyl Chloride (PVC) of a capacity of not less than two litres which can be effectively sealed with cups at both ends was used. The water sampler had a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler was at the selected water depth. In addition, a sampling cup attached to a fixed or extendable rod was also used for sampling at the monitoring stations with swallow water.

### Sample Container and Storage

- 5.22 Following collection, water samples for laboratory analysis were stored in high density polyethylene bottles with appropriate preservatives added, packed in the ice (cooled to 4°C without being frozen). The samples were delivered to WELLAB Limited (HOKLAS Registration No. HOKLAS083) and analysed as soon as possible after collection of the water samples. Sufficient volume of samples was collected to achieve the detection limit.

### Calibration of In Situ Instruments

- 5.23 The pH meter, DO meter and turbidimeter were checked and calibrated before use. DO meter and turbidimeter were certified by WELLAB Limited before use and subsequently re-calibrated at quarterly basis throughout all stage of water quality monitoring programme. Response of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter was carried out before measurement at each monitoring station.
- 5.24 For on-site calibration of field equipment (Multi-parameter Water Quality System), the standard BS 1427:2009 “Guide to on-site test methods for analysis of waters” was observed.

### Back-up Equipment

- 5.25 Sufficient stocks of spare parts were maintained for replacements when necessary. Backup monitoring equipment was also be made available so that monitoring could proceed uninterrupted even when some equipment was under maintenance, calibration, etc.

5.26 **Table 5.3** summarises the equipment used in the water quality monitoring programme. Copies of the calibration certificates of the multi-parameter water quality systems are shown in **Appendix C**.

**Table 5.3 Water Quality Monitoring Equipment**

Equipment	Model and Make	Qty.
Water sampler and sampling cup	A 2-Litre transparent PVC cylinder with latex cups at both ends and sampling cup for monitoring stations with swallow water	1
Sonar Water Depth Detector	Garmin Striker plus 4	1
Multi-parameter Water Quality System	YSI EXO 1	3

#### Monitoring Parameters and Frequency

5.27 **Table 5.4** summarises the monitoring parameters and frequencies of the additional water quality monitoring. The water quality monitoring schedule for the reporting month is shown in **Appendix D**.

**Table 5.4 Additional Water Quality Monitoring Parameters and Frequency**

Monitoring Station(s)		Parameters, unit	Depth	Frequency
River Beas	SYR-CS1 SYR-IS1	<ul style="list-style-type: none"> <li>Temperature (°C)</li> <li>pH (pH unit)</li> <li>Turbidity (NTU)</li> <li>Water depth (m)</li> <li>Salinity (ppt)</li> <li>Dissolved Oxygen (DO) (mg/L and % of saturation)</li> <li>Suspended Solids (SS) (mg/L)</li> <li>Arsenic (As) (µg/L)</li> </ul>	<ul style="list-style-type: none"> <li>3 water depths: 1m below water surface, mid-depth and 1m above river bed.</li> <li>If the water depth was less than 3m, mid-depth sampling only.</li> <li>If water depth was less than 6m, mid-depth might be omitted.</li> </ul>	3 days per week
River Indus and near Siu Hang San Tsuen Stream	NTR-CS1 NTR-IS1 SHST-IS2 MWR-IS3	<ul style="list-style-type: none"> <li>Temperature (°C)</li> <li>pH (pH unit)</li> <li>Turbidity (NTU)</li> <li>Water depth (m)</li> <li>Salinity (ppt)</li> <li>Dissolved Oxygen (DO) (mg/L and % of saturation)</li> <li>Suspended Solids (SS) (mg/L)</li> </ul>		

5.28 Monitoring location and position, time, sampling depth, weather conditions and any special phenomena or work underway nearby was also recorded.



## Monitoring Methodology

### Instrumentation

- 5.29 Multi-parameter meters (Model YSI EXO) were used to measure DO, turbidity, salinity, pH and temperature.

### Operating/Analytical Procedures

- 5.30 At each measurement, two consecutive measurements of DO concentration, DO saturation, salinity, turbidity, pH and temperature were taken. The probes were retrieved out of the water after the first measurement and then re-deployed for the second measurement. Where the difference in the value between the first and second readings of each set was more than 25% of the value of the first reading, the reading was discarded and further readings were taken.

### Laboratory Analytical Methods

- 5.31 Duplicate samples from each independent sampling event were required for all parameters. Analysis of suspended solids and arsenic were carried out by WELLAB Ltd. and comprehensive quality assurance and control procedures were in place in order to ensure the quality and consistency in results. The analysis methods and limits of reporting are provided in **Table 5.5**.

**Table 5.5 Method for Laboratory Analysis for Water Samples**

Determinant	Proposed Method	Limit of Reporting
Total Suspend Solids (SS)	APHA 17ed 2540 D	2.5 mg/L
Arsenic (As)	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

## QA/QC Requirements

### Decontamination Procedures

- 5.32 Water sampling equipment used during the course of the monitoring process was decontaminated by manual washing and rinsed with distilled water after each sampling event. All of the disposal equipment was discarded after the sampling.

### Sampling Management and Supervision

- 5.33 All sampling bottles were labelled with the sample I.D. (including sampling station), laboratory number and sampling date. Water samples were dispatched to the testing laboratory for analysis as soon as possible. All the collected samples were stored in a cool box to keep the temperature less than 4°C but without frozen. All water samples were handled under chain of custody protocols and relinquished to the laboratory representatives at locations specified by the laboratory.

Quality Control Measures for Sample Testing

- 5.34 The samples testing and following QC programmes were performed by WELLAB Ltd. for every batch of 20 samples:
- One method blank; and
  - One set of QC sample.

**Results and Observations**

- 5.35 All additional water quality monitoring was conducted as scheduled in the reporting month. The water quality monitoring schedule for this reporting month is shown in **Appendix D**.
- 5.36 The monitoring results and graphical presentation of additional water quality monitoring are shown in **Appendix G**.
- 5.37 No Action/Limit Level exceedance was recorded in the reporting month. The summary of exceedance record in the reporting month is shown in **Appendix O**.

**Event and Action Plan**

- 5.38 Should any non-compliance of the criteria occur, actions in accordance with the Event/Action Plan in **Appendix N** shall be carried out.

**6 LAND CONTAMINATION (AMBIENT ARSENIC MONITORING)****Monitoring Requirements**

- 6.1 According to Section 7.5 of the updated EM&A Manual, an ambient arsenic monitoring is required to be conducted in KTN during the clean-up processes of arsenic containing soil and the construction phase.
- 6.2 The Respirable Suspended Particulate (RSP, or PM10) was measured by High Volume Sampler (HVS) equipped with PM10 selector following the "Reference Method for the Determination of Particulate Matter as PM10 in the Atmosphere" Part 50 Chapter 1 Appendix J, Title 40 of the Code of Federal Regulations of the USEPA.
- 6.3 The Dust-laden air was drawn through PM10 HVS fitted with a conditioned pre-weighting filter paper, at a controlled rate. After sampling for 24-hour (details on measurement period are provided in Section 9.5.5), the filter paper with retained PM10 particulates was collected and returned to the laboratory for drying in a desiccators followed by accurate weighting. 24-hour average RSP levels were calculated from the ratio of the mass of PM10 particulates retained on the filter paper to the total volume of air sampled.
- 6.4 The weighted filter paper was prepared for arsenic testing through a "Hot Acid Extraction Procedure". The extracted material was tested for arsenic by using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS). The extraction and testing was referenced to the following methods:
- Compendium Method 10-3.1 Selection, Preparation and Extraction of Filter Material, Center for Environmental Research Information, Office of Research and Development, USEPA, June 1999; and
  - Compendium Method 10-3.5 determination of Metals in Ambient Particulate Matter using Inductively Coupled Plasma/Mass Spectrometry (ICP/MS), Center for Environmental Research Information, Office of Research and Development, USEPA, June 1999.

**Monitoring Location**

- 6.5 Ambient arsenic monitoring was conducted at the monitoring station(s) under the Work Contract(s), as shown in **Figure 5**. **Table 6.1** describes the location of the ambient arsenic monitoring station.

**Table 6.1 Location of Ambient Arsenic Monitoring station**

Remark:

EP. No	Contract No.	Monitoring Stations	Location
EP-466/2013/A EP-467/2013/A EP-468/2013/A	ND/2019/01	KTN-DMS-4A <sup>[1]</sup>	Temporary Structure at Pak Shek Au
EP-468/2013/A	ND/2019/03		

[1]: Monitoring at the original location of KTN-DMS-4 (originally proposed in the approved EM&A Manual) was denied as there was no electricity supply. An alternative location (KTN-DMS-4A) was proposed.

**Monitoring Equipment**

- 6.6 **Table 6.2** summarises the equipment used in the ambient arsenic monitoring. Copies of calibration certificates are attached in **Appendix C**.

**Table 6.2 Ambient Arsenic Monitoring Equipment**

Monitoring Stations	Equipment	Model and Make	Quantity
KTN-DMS-4A	Calibrator	TISCH Model: TE-5025A	1
	HVS Sampler (RSP)	TISCH Model: TE-6070X	1

**Monitoring Parameters, Frequency and Duration**

- 6.7 **Table 6.3** summarises the monitoring parameters and frequencies of ambient arsenic during the clean-up processes of arsenic-containing soil and construction. The ambient arsenic monitoring schedule for the reporting month is shown in **Appendix D**.

**Table 6.3 Impact Ambient Arsenic Monitoring Parameters, Frequency and Duration**

Parameters	Frequency
24-hr RSP (Ambient Arsenic)	Once/ 6 days

**Monitoring Methodology and QA/QC Procedure****24-hour RSP Monitoring**Instrumentation

- 6.8 High volume samplers (HVS) (GMW PM10 (TE6070X)) complete with appropriate sampling inlets was employed for 24-hour RSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).
- 6.9 The following guidelines were adopted during the installation of HVS:
- a horizontal platform with appropriate support to secure the samplers against gusty wind was provided;
  - no two samplers was placed less than 2 meters apart;
  - the distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler;
  - a minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samplers;
  - a minimum of 2 meters separation from any supporting structure, measured horizontally was required;
  - no furnace or incinerator flue was nearby;
  - airflow around the sampler was unrestricted;
  - the sampler was more than 20 meters from the dripline;
  - any wire fence and gate, to protect the sampler, were not cause any obstruction during monitoring;
  - permission was obtained to set up the samplers and to obtain access to the monitoring stations; and
  - a secured supply of electricity was needed to operate the samplers.

### Operating/analytical procedures for the operation of HVS

- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m<sup>3</sup>/min. and 1.4 m<sup>3</sup>/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centered with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. The filter holding frame was then tightened to the filter holder with swing bolts. The applied pressure was sufficient to avoid air leakage at the edges.
- The shelter lid was closed and secured with the aluminum strip.
- The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- After sampling, the filter was removed and sent to the Wellab Ltd. for weighing. The elapsed time was also recorded.
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours. The conditioning environment temperature was between 25°C and 30°C and did not vary by more than  $\pm 3^{\circ}\text{C}$ ; the relative humidity (RH) was  $< 50\%$  and did not vary by more than  $\pm 5\%$ . A convenient working RH was 40%. Weighing results were further analysis of RSP concentrations collected by each filter.

### **Maintenance/Calibration**

6.10 The following maintenance/calibration was required for the HVS:

- The high volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply were in good working condition.
- High volume samplers were calibrated at bi-monthly intervals using TE-5025A Calibration Kit throughout all stages of the ambient arsenic monitoring.

### **Laboratory Measurement / Analysis**

- 6.11 Quartz filters of size 8" x 10" were labelled before sampling. A HOKLAS accredited laboratory, Wellab Ltd., was responsible for the preparation of 24-hour conditioned and pre-weighed filter papers for the monitoring team. The balance for weighting filter paper was regularly calibrated against a traceable standard.
- 6.12 All filters, which were prepared by Wellab Ltd., were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than  $\pm 3^{\circ}\text{C}$ ; the relative humidity (RH) was  $< 50\%$  and not variable by more than  $\pm 5\%$ . A convenient working RH was 40%.
- 6.13 Wellab Ltd. (HOKLAS Registration No. HOKLAS083), was responsible for the extraction and testing procedure for Arsenic and comprehensive quality assurance and quality control programmes were conducted.

**Results and Observations**

- 6.14 The ambient arsenic monitoring results are summarised in **Table 6.4**. Detailed monitoring results and test report are shown in **Appendix E**.

**Table 6.4 Summary Table of 24-hour RSP Monitoring Results (Ambient Arsenic) during the Reporting Month**

Monitoring Date	Monitoring Station	Concentration (ng/m <sup>3</sup> )	Action Level (ng/m <sup>3</sup> )	Limit Level, (ng/m <sup>3</sup> )
02/12/2022	KTN-DMS4(A)	3.04	9.36	11.7
08/12/2022		4.79		
14/12/2022		1.08		
20/12/2022		4.24		
23/12/2022		6.16		
29/12/2022		6.20		

- 6.15 All ambient arsenic monitoring was conducted as scheduled in the reporting month. During the reporting month, around 3,079.37m<sup>3</sup> of arsenic soil transported to soil treatment plant and 210.53m<sup>3</sup> treated. No Action/Limit Level exceedances were recorded.

**Event and Action Plan**

- 6.16 Should any non-compliance of the criteria occur, actions in accordance with the Event/Action Plan in **Appendix N** shall be carried out.

## 7 LANDFILL GAS MONITORING

### Monitoring Requirement

- 7.1 In accordance with the updated EM&A Manual, monitoring of landfill gas (LFG) is required for the construction works within the Ma Tso Lung Landfill (MTLL, close to KTN NDA) during the construction phase. This section presents the results of landfill gas measurements performed by the Contractor. **Appendix B** shows the Limit Levels for the monitoring works.
- 7.2 The MTLL is situated in the vicinity of the KTN NDA. A portion of the development falls within the MTLL and its 250m Consultation Zone.

### Monitoring Parameters and Frequency

- 7.3 Monitoring parameters for Landfill gas monitoring include Methane, Carbon dioxide and Oxygen.
- 7.4 According to the mitigation measures of the updated EM&A Manual, measurements of the following frequencies should be carried out according to the monitoring requirements and procedures specified in Paragraphs 8.23 to 8.28 of EPD's Guidance Note, "LANDFILL GAS HAZARD ASSESSMENT GUIDANCE NOTE".
- 7.5 The frequency of monitoring of LFG was made reference to the updated EM&A Manual - Monitoring of any LFG which may be migrated to the site should be undertaken during construction of the infrastructure and the development within the Consultation Zone and within MTLL when the works involve confined spaces. Routine gas monitoring should be undertaken during groundwork construction and in all excavations. Monthly gas monitoring should also be conducted for set up on site such as offices, stores etc.

### Monitoring Locations

- 7.6 Monitoring of oxygen, methane and carbon dioxide was performed for the construction of infrastructure and the development within the Consultation Zone and within MTLL when the works involved confined spaces. In this reporting month, the area required to be monitored for landfill gas are shown below and **Figure 6** shows the landfill gas monitoring locations.

- Excavation Locations: Portion 6b
- Manholes and Chambers: N/A
- Relocation of monitoring wells: N/A
- Any other Confined Spaces: Containers in Portion 6b

### Monitoring Equipment

- 7.7 **Table 7.1** summarises the equipment employed by the Contractor for the landfill gas monitoring.

**Table 7.1 Landfill Gas Monitoring Equipment**

Equipment	Model and Make	Quantity
Portable gas detector	Rasi 700 BIO (Serial No. 330055)	1

### Results and Observations

- 7.8 In the reporting month, landfill gas monitoring was carried out by the Contractor on 1 occasion

at 6 monitoring stations. No Limit Level exceedance for landfill gas monitoring was recorded in the reporting month. The monitoring results are provided in **Appendix J**. Copies of calibration certificates are attached in **Appendix C**.

#### **Event and Action Plan**

- 7.9 Should any non-compliance of the criteria occur, actions in accordance with the Event/Action Plan in **Appendix N** would be carried out.



## 8 BUILT HERITAGE MONITORING

### Monitoring Requirement

- 8.1 In accordance with the updated EM&A Manual, baseline condition survey and baseline vibration impact assessment shall be conducted for identified built heritage prior to the commencement of construction works. Baseline condition survey and baseline vibration impact assessment shall be conducted by a qualified building surveyor or qualified structural engineer to define the vibration limit (a vibration limit at 7.5mm/s and 15mm/s could be adopted for graded historical buildings and historical buildings respectively) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction phase to ensure the construction performance meets the vibration standard stated in the EIA report.
- 8.2 According to the condition survey report from cultural heritage condition survey for Fanling Bypass Eastern Section under EP-473/2013/A, a vibration monitoring plan was proposed for the surveyed cultural heritage based on the Buildings Department's Practice Note (PNAP) APP-137. This section presents the results of built heritage monitoring performed by the Contractor according to the proposed monitoring plan in baseline condition survey report. **Appendix B** shows the Limit Levels for the monitoring works.

### Monitoring Location

- 8.3 In the reporting month, construction vibration monitoring was conducted for built heritage features at FL02 and FL27 when pile driving operation was conducted within assessment area of the construction works. The location of the construction vibration monitoring stations was summarised in **Table 8.1** and shown in **Appendix K**.

**Table 8.1 Location of Construction Vibration Monitoring**

EP. No	Contract No.	Monitoring Station (s)	Nature of Cultural Heritage	Location (s)
EP-473/2013/A	ND/2019/05	FL02	Grave	Northwest side of Shung Him Tong Tsuen, at the hillside behind On Lok Garden
		FL27	Monument	Opposite to Shung Him Tong Public Toilet, at the bottom of slope feature

### Monitoring Parameters and Frequency

- 8.4 **Table 8.2** summarises the vibration monitoring plan for surveyed cultural heritage under the Works Contracts. Vibration monitoring was conducted for surveyed built heritage when pile driving operation was conducted within the assessment area of construction works.

**Table 8.2 Vibration Monitoring Plan**

EP. No	Contract No.	Monitoring Stations	Distance with Construction Works	Monitoring Plan
EP-473/2013/A	ND/2019/05	FL02 and FL27	Within 50m	Daily assessment is required
			Within 75m	Bi-daily assessment is required
			Within 100m	Weekly assessment is required

Remark:

[1] Baseline condition survey was conducted for built heritage features at HFL08, FL05, FL07, FL08, FL10, FL11, FL17, FL19, FL31 and FL33 under ND/2019/04, also HFL05, FL02, FL04, FL24, FL27 and FL36 under ND/2019/05 for EP-473/2013/A. As HFL05, HFL08, FL04, FL05, FL07, FL08, FL10, FL11, FL17, FL19, FL24, FL31, FL33 and FL36 were not within the assessment area of the related construction work, no construction vibration monitoring was conducted for the built heritage in the reporting month.

- 8.5 The construction vibration monitoring was conducted throughout each event of the pile driving operation on a daily basis. The effect of ground-borne vibration from piling works on the surveyed built heritage was assessed by the maximum peak particle velocity (ppv), which was obtained from the maximum value of measurement of all pile driving operation events.

### Monitoring Equipment

- 8.6 Copies of calibration certificates of the monitoring equipment employed by the Contractor of the construction vibration monitoring are attached in **Appendix C**.

### Results and Observations

- 8.7 In the reporting month, construction vibration monitoring was carried out by the Contractor for the built heritage features at FL02 and FL27 on a daily basis when pile driving operation was conducted within 50m of the construction work. No Limit Level exceedance for construction vibration monitoring was recorded in the reporting month. The monitoring results are provided in **Appendix K**.

### Event and Action Plan

- 8.8 **Table 8.3** summarises the vibration limits for construction vibration monitoring for surveyed cultural heritage.

**Table 8.3 Vibration Limits for Construction Vibration Monitoring**

Type of Building	Guide Values of Maximum ppv* (mm/Sec)	
	Transient Vibration	Continuous Vibration
Vibration-sensitive / dilapidated buildings#	7.5	3.0
Declared monuments/ Historical structures	3.0	

Remarks:

\* peak particle velocity

# as cultural heritages are sensitive receivers, vibration monitoring should be classified as vibration-sensitive

- 8.9 If any exceedance of limits is found or damage to either structural or non-structural elements of the historic buildings is identified, the construction works should be stopped immediately and structural engineer's advices should be sought for any remedial work.

## 9 ECOLOGICAL MONITORING

### **Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River, Sheung Yue River, Shek Sheung River and Long Valley**

#### Monitoring Requirements and Protocol

- 9.1 As required under Section 12.3.2.5 of the Updated EM&A Manual, where development under the NDAs project is undertaken within 200m (the maximum distance at which it is predicted there may be some disturbance, and hence a reduction in numbers of large waterbirds) of Sheung Yue River and Long Valley, weekly transect at both high and low tides should be followed (It is considered high tide when the tidal levels are above 1.5m and low tide when the tidal levels are below 1.5m at Tsim Bei Tsui Station).
- 9.2 The purpose of the survey is to identify and enumerate all bird species utilizing the river channels and Long Valley Nature Park (LVNP) and identify any sources of actual or potential disturbance to birds due to construction activities throughout the construction period according to the methodology specified in Table 12.1 in the Updated EM&A Manual.
- 9.3 Monitoring in Long Valley followed the methodology adopted by the regular HKBWS bird monitoring programme in order to obtain comparable results and a complete coverage of the area in the shortest possible time.

#### Monitoring Frequency

- 9.4 High tide and low tide avifauna monitoring was required to be carried out on a weekly basis. Additional night-time avifauna monitoring in Long Valley was required to be carried out twice monthly from September to April.

Date of avifauna monitoring: 5, 8, 12, 15, 22, 23, 29 and 30 December 2022

Date of night-time monitoring: 5 and 23 December 2022

#### Monitoring Location

- 9.5 The avifauna monitoring was carried out at Ng Tung River, Sheung Yue River and Long Valley in the reporting month according to the construction programme. The transect routes in the reporting month were as follows:

- T1. Ng Tung River
- T2. Ng Tung River
- T3. Sheung Yue River
- T5. Long Valley

- 9.6 As the sensitive receivers (large waterbirds) were easily visible, the transect route only needed to follow one bank of the rivers. The location of Transects T1, T2, T3 and T5 is shown in **Figure 9** for reference.

### Monitoring Parameters

- 9.7 The monitoring parameters and survey methodology for each transect are described below:
- Abundance of birds
  - Types of habitat of which birds in use
  - Notable bird behaviours such as roosting, feeding, nesting and presence of juveniles
  - Birds heard through birdcalls that could not be located were marked as “heard”, while birds flying over the survey area were marked as “flight”. Species of conservation significance were specified.
- 9.8 Other information at the time of survey such as weather condition, tidal condition, tide level and noticeable natural or anthropogenic activities were documented.
- 9.9 For Avifauna survey, Ornithological nomenclature would make reference to The Avifauna of Hong Kong (Carey *et al.* 2001), The Birds of Hong Kong and South China (Viney *et al.* 2005), and the most recent updated list from other sources (e.g. Hong Kong Bird Watching Society).

### Monitoring Results

- 9.10 In total, 83 species of birds were recorded during the bird surveys within assessment area. Among the recorded birds, there were 33 species of waterbirds. The detailed list of waterbirds and all recorded birds are shown in **Appendices L1k and L1l** respectively.
- 9.11 Among the four transects, transect T5 had a higher species diversity and abundance due to its diverse habitat types within Long Valley. Species such as *Ardeola bacchus* and *Egretta garzetta* were commonly found roosting and foraging at wetland habitats such as agricultural lands and shallow water habitats.
- 9.12 Along transect T5 in Long Valley, species with conservation interest such as *Himantopus himantopus*, which is a passage migrant, was commonly observed in wet agricultural land.
- 9.13 Construction works were observed in T5 in the reporting month.
- 9.14 Transect T3 was conducted along Sheung Yue River. Bird species such as *Ardeola bacchus* and *Egretta garzetta* were commonly observed feeding and roosting on the river bank and river bed. Construction works were observed beside Sheung Yue River.
- 9.15 Transects T1 and T2 are located at Ng Tung River. *Ardeola bacchus* and *Egretta garzetta* were commonly found feeding and roosting along the Ng Tung River. Fishing activities were observed at both T1 and T2. Potential anthropogenic sources of disturbance observed along T1 and T2 including the usage of remote control boats.
- 9.16 Avifauna monitoring in construction phase was conducted during the reporting month and the detailed results are attached in **Appendix L1**.

### **Monitoring of Measures to Minimise Impacts to Ma Tso Lung Stream and Siu Hang San Tsuen Stream, and Long Valley**

#### Monitoring Requirements and Protocol

- 9.17 As required under Section 12.3.2.14 of the Updated EM&A Manual, aquatic faunal monitoring should be carried out during the construction phase.
- 9.18 Larger organisms such as fish should be monitored by direct counting, while kick-netting and

sweep-netting should be used for invertebrate sampling. There should be three replicates for invertebrate sampling at each sampling point. For kick-netting, the net should be placed with the opening facing the water current, and the substrate should be disturbed by kicking to dislodge organisms from the stream bed. Sweep-netting should be conducted when kick-netting is not feasible, such as in area with no water current. Small organisms that could not be identified with naked eye should be brought to the laboratory for identification under the dissecting microscope.

#### Monitoring Frequency

- 9.19 Quantitative aquatic fauna replicate surveys of stream fauna was required to be carried out on a monthly basis only during wet season. Three replicates for invertebrates sampling and direct counting of fish fauna should be performed respectively.

#### Monitoring Location

- 9.20 During wet season, the monitoring locations required to be carried out in Ma Tso Lung Stream are as follow:

- |         |         |         |         |         |
|---------|---------|---------|---------|---------|
| • MS_01 | • MS_02 | • MS_03 | • MS_04 | • MS_05 |
| • MS_06 | • MS_07 | • MS_08 | • MS_09 | • MS_10 |
| • MS_11 | • MS_12 | • MS_13 | • MS_14 | • MS_15 |

- 9.21 The location of monitoring stations is shown in **Figure 10** for reference.

#### Monitoring Parameters

- 9.22 The monitoring parameters and survey methodology for each monitoring station are described below:
- Species composition
  - Abundance
  - Distribution for invertebrates and fish fauna
  - Species of conservation significance would be specified

- 9.23 Other information at the time of survey such as weather conditions and noticeable natural or anthropogenic activities were recorded.

#### Monitoring Status

- 9.24 According to the Updated EM&A Manual, quantitative aquatic fauna replicate surveys of stream fauna is required to be carried out on monthly basis during wet season. During the reporting Month, no aquatic fauna replicate surveys was carried out.

### **Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution**

#### Monitoring Requirements and Protocol

- 9.25 As required under Section 12.3.2.17 of the Updated EM&A Manual, monitoring of measures to minimise impacts should be carried out during the construction phase.
- 9.26 The purpose of survey is to monitor the effectiveness of measures to minimise impacts on ecologically sensitive habitats from disturbance and pollution by standard faunal transect

surveys.

#### *Mammal survey*

- 9.27 Mammal survey should be performed during both day and night times, in areas along the transect routes which may potentially be utilized by terrestrial mammals. Field signs such as droppings, footprints, diggings and burrows left by larger terrestrial mammals should be observed. Mammals directly observed should be recorded, and identification should be made as accurate as possible from the field signs observed.
- 9.28 Bat survey should be conducted along the transect routes shortly after sunset, with the use of a bat detector to record the echolocation calls. The relative abundance of the species encountered should be estimated with reference to the baseline monitoring results, i.e. using a scale from one (species recorded within transect routes) to three (dominant species within transect routes), for comparison between baseline results and the current monitoring results. Nomenclature of mammal should be based on Shek (2006).

#### *Herpetofauna survey (Amphibians and Reptiles)*

- 9.29 Amphibian surveys should be conducted whenever possible on evenings following or during periods of rainfall, focusing on areas suitable for amphibians (e.g. forest, shrublands, grasslands, streams, ponds, marshes, etc.). Calling amphibians should be recorded, supplemented by visual observation of eggs, tadpoles, adult frogs, and toads.
- 9.30 Active searching of appropriate microhabitats such as stones, pond bunds, crevices and leaf debris should be performed mainly. Observation of exposed, basking and foraging reptiles should also be conducted. Nomenclature of amphibian and reptile should be based on Chan et al. (2005) and Karsen et al. (1998), respectively.

#### *Insect survey (Butterfly and Dragonfly)*

- 9.31 Butterflies and dragonflies observed along the transects should be identified and counted. Preferable habitats of the insects such as watercourses, fishponds, and vegetated areas should be observed with special attention. Nomenclature and protection status of the species should be based on Lo et al. (2005) for butterflies and Tam et al. (2011) for dragonflies.

#### Monitoring Frequency

- 9.32 Monitoring surveys of ecological sensitive receivers such as mammals, insects (butterflies and dragonflies), and herpetofauna was undertaken on a monthly bases.

Date of monitoring surveys of ecological sensitive receivers: 9, 16 December 2022

#### Monitoring Location

- 9.33 The transect routes in the reporting month according to the construction works are as follows:
- T1. Ma Tso Lung riparian zone and associated wetland habitats;
  - T1. Green belt areas E1-8, D1-8 and G1-3 in KTN NDA;
  - T1. AGR one C2-4 and C2-2 in KTN NDA;
  - T1. Area north of Ng Tung River;
  - T3. Area west of Siu Hang San Tsuen Stream;
  - T4. South side of Fanling Highway and Castle Peak Road in the vicinity of Pak Shek Au;
  - T5. Area west and east of the southern limit of the FLN NDA work area; and
  - T6. Areas in the western part of KTN.

9.34 The location of Transects is shown in **Figure 11** for reference.

#### Monitoring Parameters

9.35 The monitoring parameters and survey methodology for each transect are described below:-

- Species composition
- Abundance
- Distribution for fauna observed
- Species of conservation significance would be specified

#### Monitoring Results

##### *Mammal*

- 9.36 During the survey, a total of 4 mammal species were recorded from transects T1, T3, T4 and T6. No mammal species were recorded from transect T5. 2 species of conservation importance was recorded, namely bats *Cynopterus sphinx*, and *Pipistrellus abramus*.
- 9.37 Domestic dogs, *Canis lupus familiaris*, were commonly found at T1, T4 and T6, where associated with human settlements.
- 9.38 Echolocation calls of bats were recorded with a bat detector. The bat detector would list out possible bat species having similar echolocation calls in pattern and frequency. The structure of the echolocation calls from the recordings was later analysed to identify species as far as possible (the lack of literature on echolocation call structure makes the field identification of some bat species in Hong Kong difficult, and some species could only be identified to genus level, or remain unidentified from the recordings).
- 9.39 Identification of bat species encountered in the surveys was made with consideration of the possible bat species suggested by the bat detector, the distribution of suggested bat species in Hong Kong, previous records of bat species in the EIA Report and Baseline Monitoring Report, and the structure of echolocation calls of the recordings (including call structure, frequency, duration, inter pulse interval etc., with reference to relevant literatures).
- 9.40 *Pipistrellus abramus* was recorded with FM/QCF call structure and frequency around 45 kHz to 68 kHz (Ma et al., 2010, p.319). The above characteristics were further compared with data from relevant literatures to confirm the identities. References were also made to Tong (2016).
- 9.41 Bat species, *Cynopterus sphinx* was observed roosting in the tent-shaped shelter under fronds of Chinese Fan-palm during the monitoring at T1. *Pipistrellus abramus* was recorded in flight at nighttime at T1, T3 and T6.

##### *Herpetofauna (Amphibians and Reptiles)*

- 9.42 Along the transects, a total of 4 herpetofauna species was observed. No species of conservation importance was recorded. Species including toads, frogs and geckos were recorded near wetland habitats and watercourse. Transects T1 and T5 had the highest species diversity among all transects.

##### *Insects (Butterfly and Dragonfly)*

- 9.43 During the insect survey, a total of 27 butterfly species and 2 odonata species were recorded from transects. 5 species of butterflies recorded were of particular conservation interest, namely *Catochrysops strabo*, *Charaxes marma*, *Hypolimnas misippus*, *Jamides alecto*, and *Jamides celeno*. Transect T1 had higher butterfly species diversity than other transects.

- 9.44 Odonata were recorded this month at all transects. No species recorded were of conservation importance. Transect T1 had the highest odonate species diversity among all transects.
- 9.45 Ecological sensitive receivers such as mammals, insects (butterflies and dragonflies), and herpetofauna monitoring during construction phase was conducted in the reporting month and the results are attached in **Appendices L2 to L5**.
- 9.46 For the monitoring conducted on 16 December 2022 at Transect T5, a section of the transect route was found located within a private property and hence not accessible. Another section of transect T5 was found blocked by a new accumulation of fallen trees. The inaccessible part are shown in **Photo 1** and **Photo 2** below. The adjusted accessible transect route is shown in **Figure 11**.



Photo 1. Inaccessible part of transect T5 located within a private property.



Photo 2. Inaccessible part of transect T5 blocked by fallen trees.



## Results and Observation

### Details of the Influencing Factors

#### *Major Activities*

- 9.47 During the survey of Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley, anthropogenic activities including soil turning with excavator and other construction activities were observed in Long Valley. Construction works were observed beside Sheung Yue River.
- 9.48 The anthropogenic activities affected only a small area of the habitat in Long Valley during monitoring and would only pose minor disturbances to the birds..
- 9.49 During the survey of Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River, anthropogenic activities including construction works beside T2, recreational usage of remote control boats and helicopters at both T1 and T2, and recreational fishing by fishing rod at both T1 and T2 were observed.
- 9.50 During the survey of Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution, construction activities NOT under this Project were observed at T5.

#### *Weather Conditions*

- 9.51 According to the observation during survey, temperature and the rain flow records in the reporting month (Reference: <http://www.weather.gov.hk/wxinfo/pastwx/metob202212.htm>), weather conditions might pose influence towards the monitoring results.
- 9.52 The detailed ecological monitoring results are attached in **Appendix L**.

## References

- Ma, J., Jones, G., Zhu, G. J., & Metzner, W. (2010). Echolocation behaviours of the Japanese pipistrelle bat *Pipistrellus abramus* during foraging flight. *Acta Theriologica*, 55(4), 315-332.
- Tong, C. F. (2016). Distribution and preference of landscape features and foraging sites of insectivorous bats in Hong Kong urban parks. (Master dissertation)

**10 ENVIRONMENTAL SITE INSPECTION****Site Audits**

- 10.1 Site audits were carried out by ET on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures on the Contract site. Summary of the site audits are presented in **Table 10.1** and **Appendix P**.

**Table 10.1 Summary of Site Audits**

Environmental Site Inspection	Works Contracts						
	ND/2019/01	ND/2019/02	ND/2019/03	ND/2019/04	ND/2019/05	ND/2019/06	ND/2019/07
Weekly site audit with representative of the <i>Supervisor's</i> Representative and the Contractor	9, 14, 20 and 29 Dec 22	7, 13, 21 and 28 Dec 22	2, 9, 13, 23 and 30 Dec 22	1, 7, 15, 21 and 29 Dec 22	5, 15, 19 and 28 Dec 22	1, 7, 15, 21 and 29 Dec 22	2, 9, 16, 23 and 30 Dec 22
Joint Site Audit with representative of the <i>Supervisor's</i> Representative, the Contractor and IEC	20 Dec 22	13 Dec 22	13 Dec 22	7 Dec 22	15 Dec 22	N/A	9 Dec 22

- 10.2 During site inspections in the reporting month, no non-conformance was identified. The observations and recommendations made during the audit sessions are summarised in **Table 10.2**.
- 10.3 All construction activities with significant environmental impact undertaken by Contract No. ND/2019/06 was substantially completed in March 2022 and the majority of outstanding works were also completed in April 2022 with defect rectification works remained. The outstanding installation works were the short-duration works which would be completed within 2 months during the 1-year defect correction period. ET would record the environmental deficiency, if any, for NDTWM (EP-475/2013/A) during the 1-year defect correction period under Contract ND/2019/04 site inspection and would email weekly those inspection records to the Project Team of Contract ND/2019/06 for information.

**Table 10.2 Observations and Recommendations during Site Audits**

Parameters	Date	Observations and Recommendations	Follow-up
Contract No.: ND/2019/01			
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Contract No.: ND/2019/02			
Water Quality	30/11/2022	To enhance and properly maintain existing water mitigation measures at site boundaries.	Item remarked as 221207-R01. Follow-up action is needed to be review.
	07/12/2022		Improvement/Rectification was observed during follow-up audit session on 13 December 2022.
	28/12/2022	Sufficient mitigation measures should be deployed on the excavated section next to the Sheung Yue River.	Follow-up action is needed to be reported in the following month.
	28/12/2022	Broken silt-curtain should be replaced.	Follow-up action is needed to be reported in the following month.
Waste / Chemical Management	13/12/2022	Contractor was reminded to clear the stockpile of materials regularly.	Improvement/Rectification was observed during follow-up audit session on 21 December 2022.
Landscape and Visual	13/12/2022	To remove construction material leaning onto retained trees and set up tree protection zone.	Item remarked as 221221-R01. Follow-up action is needed to be review.
	21/12/2022		Item remarked as 221228-R01. Follow-up action is needed to be review.
	28/12/2022		Follow-up action is needed to be reported in the following month.
Contract No.: ND/2019/03			
Air Quality	25/11/2022	Dusty debris were observed at the site exit of Yin Kong. Contractor was reminded to clear the dusty debris immediately.	Item remarked as 221202-O01. Follow-up action is needed to be review.
	02/12/2022		Item remarked as 221209-O01. Follow-up action is needed to be review.
	09/12/2022		Item remarked as 221213-O01. Follow-up action is needed to be review.
	13/12/2022	Dusty debris were observed at the site exit of Yin Kong. Contractor was reminded to clear the dusty debris immediately, and enhance water and dust mitigation measures around the boundary of Yin Kong Road works area.	Item remarked as 221223-O01. Follow-up action is needed to be review.
	23/12/2022		Item remarked as 221230-O01. Follow-up action is needed to be review.
	30/12/2022		Follow-up action is needed to be reported in the following month.

Parameters	Date	Observations and Recommendations	Follow-up
	25/11/2022	To clear the wheel-washing bay regularly. Vehicles leaving the site should be washed with high pressure water jets.	Item remarked as 221202-R02. Follow-up action is needed to be review.
	02/12/2022		Improvement/Rectification was observed during follow-up audit session on 9 December 2022.
<i>Water Quality</i>	25/11/2022	Contractor was reminded to enhance water mitigation measures around the boundary of works area to avoid muddy runoff from leaking onto Yin Kong Road.	Item remarked as 221202-R01. Follow-up action is needed to be review.
	02/12/2022		Item remarked as 221209-R01. Follow-up action is needed to be review.
	09/12/2022		Item remarked as 221213-O01. Follow-up action is needed to be review.
	13/12/2022	Dusty debris were observed at the site exit of Yin Kong. Contractor was reminded to clear the dusty debris immediately, and enhance water and dust mitigation measures around the boundary of Yin Kong Road works area.	Item remarked as 221223-O01. Follow-up action is needed to be review.
	23/12/2022		Item remarked as 221230-O01. Follow-up action is needed to be review.
	30/12/2022		Follow-up action is needed to be reported in the following month.
	25/11/2022	To clear the wheel-washing bay regularly. Vehicles leaving the site should be washed with high pressure water jets.	Item remarked as 221202-R02. Follow-up action is needed to be review.
	02/12/2022		Improvement/Rectification was observed during follow-up audit session on 9 December 2022.
<i>Waste / Chemical Management</i>	23/12/2022	Provide drip tray for chemical/fuel containers.	Item remarked as 221230-R01. Follow-up action is needed to be review.
	30/12/2022		Follow-up action is needed to be reported in the following month.
Contract No.: ND/2019/04			
<i>Water Quality</i>	24/11/2022	Covering of stockpile is required to minimize the muddy runoff during rainstorm.	Item remarked as 221201-R01. Follow-up action is needed to be review.
	01/12/2022		Item remarked as 221207-R01. Follow-up action is needed to be review.
	07/12/2022		Item remarked as 221215-R01. Follow-up action is needed to be review.
	15/12/2022		Item remarked as 221221-R01. Follow-up action is needed to be review.

Parameters	Date	Observations and Recommendations	Follow-up
	21/12/2022		Item remarked as 221229-R01. Follow-up action is needed to be review.
	29/12/2022		Follow-up action is needed to be reported in the following month.
	24/11/2022	Silt curtain was observed damaged near Bridge F. Should maintain the silt curtain properly and check regularly.	Improvement/Rectification was observed during follow-up audit session on 1 December 2022.
	15/12/2022	Discharge of muddy water was observed. Enhance the water mitigation measure to avoid muddy water discharged.	Improvement/Rectification was observed during follow-up audit session on 21 December 2022.
	24/11/2022	Discharge of dusty debris was observed. Water mitigation measure should enhance by adding more sand bags or geotextiles.	Improvement/Rectification was observed during follow-up audit session on 1 December 2022.
<b>Contract No.: ND/2019/05</b>			
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<b>Contract No.: ND/2019/06</b>			
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<b>Contract No.: ND/2019/07</b>			
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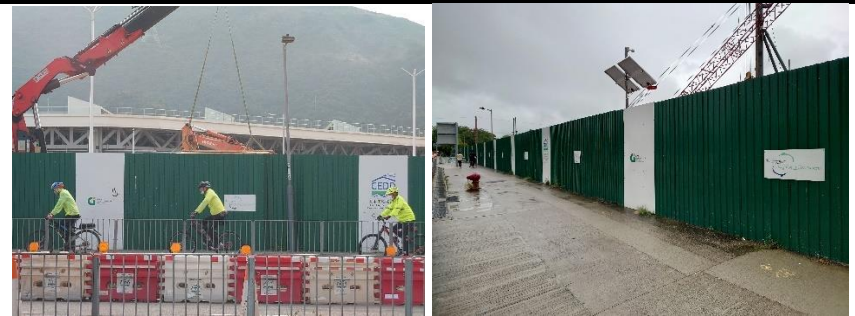
### Implementation Status of Environmental Mitigation Measures

- 10.4 According to the EIA Report, EPs and the Updated EM&A Manual, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An updated summary of the Environmental Mitigation Implementation Schedule is provided in **Appendix Q**. The photographic records of measures as stipulated in EPs to mitigate environmental impacts in the reporting month are presented in **Table 10.3**.

**Table 10.3 Photographic Records and Implementation Status of Measures**

EP No.	Condition	Photographic Record	Implementation Status
EP- 466/2013/ A	2.9	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	^ <sub>[1]</sub>
EP- 467/2013/ A	2.9	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	^ <sub>[1]</sub>
EP- 468/2013/ A	2.11	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	^ <sub>[1]</sub>
EP- 469/2013	2.7	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	^ <sub>[1]</sub>



<u>EP-473/2013/A</u>	2.13	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	^ <sub>[1]</sub>
<u>EP-475/2013/A</u>	2.7	 <p>To minimise adverse impacts on habitats of ecological importance in the vicinity of the Project, 2m high solid dull green site barrier fences shall be erected around all active works areas.</p>	^ <sub>[1]</sub>
Implementation status:		^ Mitigation measure was fully implemented * Observation/reminder was made during site audit but improved/rectified by the contractor # Observation/reminder was made during site audit but not yet improved/ rectified by the contractor X Non-compliance of mitigation measure • Non-compliance but rectified by the contractor N/A Not Applicable at this stage as no such site activities were conducted in the reporting period	



Remark:

[1]: Barrier fences might be subjected to change according to the phasing plan designed at detailed design stage

### Implementation Status of Water Quality Mitigation Measures

10.5 The water quality mitigation measures detailed in the EIA Report and the Updated EM&A Manual are recommended to be implemented during the construction phase. Water quality mitigation measures implemented by the contractors were closely monitored to prevent water pollution, especially during rainy season. An updated summary of the Environmental Mitigation Implementation Schedule is provided in **Appendix Q**. Specific water quality mitigation measures for major construction works in the reporting month are presented in **Table 10.4**.

**Table 10.4 Specific Water Quality Mitigation Measures for Major Construction Works in the Reporting Month**

Works Contracts	Photographic Records	
ND/2019/01	 <p>Hard paved exposed slope surface</p>	 <p>Hydroseeding for slope area</p>
ND/2019/02	 <p>Hard paved exposed haul road</p>	 <p>Hard paved exposed slope surface</p>
ND/2019/03	 <p>Hard paved exposed haul road</p>	 <p>Regular clearance of water for wheel washing facility</p>
ND/2019/04	 <p>Hard paved exposed slope surface</p>	 <p>Deployment of silt curtain around works area in Ng Tung River</p>



ND/2019/05		
	Covering dusty stockpile	Provision of sand bags around works area
ND/2019/07		
	Covering exposed slope surface with tarpaulin	De-silting waste water before discharge
<b>Water quality mitigation measures for site(s) in operation phase, remaining defect works</b>		
ND/2019/06		
	Hard paved exposed haul road	Hard paved exposed haul road

### Solid and Liquid Waste Management Status








- 10.6 Waste generated from Contract Nos. ND/2019/01, ND/2019/02, ND/2019/03, ND/2019/04, ND/2019/05 and ND/2019/07 included inert construction and demolition (C&D) materials and non-inert C&D wastes in the reporting month. The site of ND/2019/06 was handed over to AFCD for operation since 4 April 2022.
- 10.7 The amount of wastes generated by the construction works of the Contract Nos. ND/2019/01, ND/2019/02, ND/2019/03, ND/2019/04, ND/2019/05 and ND/2019/07 during the reporting month are shown in **Appendix R**. The site of ND/2019/06 was handed over to AFCD for operation since 4 April 2022.
- 10.8 The Contractors are advised to minimise the wastes generated through recycling or reusing. All mitigation measures stipulated in the Updated EM&A Manual and waste management plans shall be fully implemented. The status of implementation of waste management and reduction measures are summited in **Appendix Q**.

**Ecological Mitigation Measures – Creation of Long Valley Nature Park (LVNP)**

- 10.9 Based on the findings of the EIA Report, the area of Long Valley has been assessed as of high to very high ecological value and is the largest contiguous area of freshwater wetland habitats in Hong Kong. To safeguard the ecological value of Long Valley, about 37 hectares of land in Long Valley has been proposed to develop into Long Valley Nature Park (LVNP) for conserving and enhancing the ecologically important environment as well as for compensation of the wetland loss due to the NDA development.
- 10.10 LVNP is developed according to the approved Habitat Creation and Management Plan (HCMP) submitted under EP-468/2013/A. HCMP provides a framework and specifications for development and management of LVNP and guides the development to maintain and enhance the 37 hectares of low-lying wetland habitats.
- 10.11 Regarding the design, the zoning of land use in LVNP is intended to maintain the existing mosaic pattern of wet and dry agriculture, while controlling the activities that could potentially disturb target habitats and species. LVNP will be divided into three broad zones of land use as below:
- Biodiversity Zone of about 21 hectares largely designated for biodiversity conservation through cultivation of specified crops and habitat management.
  - Agricultural Zone of about 11 hectares designated for commercially focuses crop production and eco-friendly agricultural practice for farming.
  - Visitor Zone of about 5 hectares designed to accommodate visitors as well as storage and other facilities and for educational purposes.
- 10.12 The construction of LVNP started in late 2019 and was expected to be completed in 2023. During the construction period, the progress of construction and wetland enhancement works has been under observation by different stakeholders including AFCD and green groups. Close communication between AFCD and CEDD were conducted to exchange views on conservation, restoration and management of habitats as well as on the planning and design of the park. In addition, advices from green groups, Hong Kong Bird Watching Society (HKBWS) and The Conservancy Association (CA), have been taken on habitat management of Long Valley and potential effects on habitat and wildlife of each individual work conducted in Long Valley. The last meeting was held on 18 November 2022 to share the progress of LVNP with different stakeholders, including CEDD, AFCD, CA, HKBWS, Contractor, ET, IEC and farmers.
- 10.13 Proposals on wetland creation and restoration, dry agricultural land creation, pond creation, water treatment wetland and design of irrigation channel were submitted by the Contractor to achieve the objectives stated in HCMP and accepted by the Engineer with consent from AFCD before implementation. The Contractor would consult the stakeholders for recommendations and suggestions on mitigation measures to minimise the environmental impacts arising from construction works. The progress of works would be arranged to minimise impacts to avifauna and maintain the habitat for avifauna. The photographic records of site activities in LVNP are presented in **Table 10.5**.



**Table 10.5 Photographic Records of Site Activities in LVNP**

	
Continuing agricultural practice in existing farmland to maintain habitats in Long Valley	
	
Open water Habitat	Open water Habitat
Creation of wetland with designated habitat for biodiversity conservation	
	
Planting of paddy rice to provide foraging ground for Yellow-breasted Bunting	
	
Enhancement of irrigation channel to provide reliable water source for farmland in Long Valley	





Provision of bird island (hidden area)



Restoring of water flea pond to provide food source to water birds



Construction of storage sheds for farmers



A *Falco tinnunculus* was recorded



Wet agricultural land



Provision of noise barrier for noisy works in Long Valley

## **11 ENVIRONMENTAL NON-CONFORMANCE**

### **Summary of Exceedances**

- 11.1 No Action/Limit Level exceedance for air quality, construction noise, water quality, ambient arsenic, landfill gas monitoring and build heritage monitoring was recorded in the reporting month. The summary of exceedance recorded in the reporting month is shown in Appendix O.
- 11.2 Ecological monitoring was carried out in the reporting month. The results will be compared with Action and Limit Levels after issuance of the Final Baseline Ecological Report.
- 11.3 Should the monitoring results of the environmental monitoring parameters at any designated monitoring stations indicate that Action / Limit Levels are exceeded, the actions in accordance with the Event/Action Plan in **Appendix N** would be carried out.

### **Summary of Environmental Non-Compliance**

- 11.4 No environmental non-compliance was recorded in the reporting month.

### **Summary of Environmental Complaint**

- 11.5 One environmental complaint was received in the reporting month. The complaint is for ND/2019/05. The Cumulative Complaint Log since the commencement of the Project is presented in **Appendix S**.

### **Summary of Environmental Summon and Successful Prosecution**

- 11.6 There was no successful environmental prosecution or notification of summons received since the Project commencement. The Cumulative Log for environmental summon and successful prosecution since the commencement of the Project is presented in **Appendix T**.

## 12 FUTURE KEY ISSUES

### Key Issues in the Coming Three Months

12.1 The major site activities, potential environmental impacts and recommended mitigation measures for the coming three months are shown in **Table 12.1**.

**Table 12.1 Summary Table for Site Activities, Potential Environmental Impacts and Recommended Mitigation Measures in the Coming Months**

Contract No.	Major Site Activities (January to March 2023)	Location/ Working Period	Potential Environmental Impact	Recommended Mitigation Measures
ND/2019/01	(a) Site clearance / tree felling	Portions 1a, 1c, 2, 13	- Construction Dust impact - Noise Impact (Construction Phase) - Water Quality Impact (Construction Phase) - Waste Management (Construction Waste)	<b>Air</b> - Watering on exposed earth and haul road. - Cover the stockpiles or dusty materials. - Deploy water bowsers to water the haul road. - Deploy mist-cannon on site - Provide shelter with top and 3-sides for cement production activities. - Cover the Arsenic-containing soil. - Store the bulk cement in enclosed silo tank for soil treatment. - Close the mechanical cover of the vehicles used for transporting dusty materials. - Establish vehicle wheel washing facilities at vehicle exit points. - Speed control of site vehicles. <b>Noise</b> - Regular inspect of construction plants in good condition.
	(b) GI works	Portions 1a		
	(c) Excavation	Portions 1b, 3, 5, 6a, 7, 8b, 9b, 10a, 10b		
	(d) Construction of retaining wall	Portions 8a, 9b		
	(e) Construction of hoarding	Portion 1b, 1c		
	(f) Construction of noise barrier	Portion 1b		
	(g) Site Formation	Portions 1a, 1c, 1e, 2, 7		
	(h) Removal of existing structure	Portions 1a		
	(i) Construction of subway	Portions 2		
	(j) Operation of HAC treatment facility	Portions 6b		

	(k) Drainage works	Portions 1b, 3, 5, 6a, 7, 8b, 9b, 10a, 10b		<ul style="list-style-type: none"> <li>- Provide temporary noise screens if necessary.</li> <li>- Use of Quiet plants (QPME) and working methods if possible.</li> <li>- Sequencing operation of construction plants where practicable.</li> <li>- Shut down the machines and plant if not in use.</li> <li>- Only well-maintained plant to be operated on-site</li> <li>- Mobile plant to be sited as far away from NSRs as possible practicable.</li> <li>- Conduct noise monitoring regularly.</li> <li>- Erect silent-up noise barrier at portion 6b.</li> </ul> <p><b>Water</b></p> <ul style="list-style-type: none"> <li>- Set up wastewater treatment system (AquaSed) on site</li> <li>- Erect soil bund / temporary drain to divert /collect surface runoff.</li> <li>- Maintain the drainage and wastewater treatment facilities.</li> </ul> <p><b>Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>- Sort out demolition debris and excavated materials from demolition works to recover reusable / recyclable portions</li> <li>- Provide recycling bins on site, encourage reuse and recycle as much as possible.</li> <li>- Provide drip trays for chemical containers.</li> <li>- Chemical spill kit available on site.</li> <li>- Chemical waste cabinet available on site.</li> </ul>
	(l) Road Construction	Portion 1b, 5, 6a, 10a		
	(m) Trenchless	Portion 5, 8b		
	(n) Construction of reservoir	Portions 8a		
	(o) Soil nail	Portion 9b		
	(p) Sheet piling / Pipe Pile / ELS	Portion 5, 7, 8b, 9b, 10a, 10b		

				<ul style="list-style-type: none"> <li>- Chemical wastes to be stored in appropriate containers and collected by a licensed chemical waste collector.</li> <li>- Delivery of yard waste to tree shredding facility for upcycling.</li> </ul>
<b>ND/2019/02</b>	(a) Pipe Jacking	Portions 1, 2 & 3	Air, Noise, Waste	<ul style="list-style-type: none"> <li>- Dusty works should be spray water. Idle stockpile or slop should be covered by Tarpaulin sheet properly.</li> <li>- Wheel washing should be carried out at every exit.</li> <li>- Plants should be well maintained to prevent dark smoke and oil leakage. Idle plant should be turned off.</li> <li>- Drip tray should be provided for all chemical and stationary plants.</li> <li>- No construction works shall be carried out in restricted hours (7:00 pm to 7:00 am) unless CNP is obtained.</li> <li>- Erect noise screen along site boundary.</li> <li>- Waste should be sorted and dispose according to the Waste Management Plan</li> <li>- No direct discharge of wastewater into storm drains is allowed. Wastewater must be de-silted before discharged in accordance with the water discharge license.</li> <li>- Dull green barrier and ecological measures should be implemented according to the Ecological protection plan.</li> </ul>
	(b) Backfilling	Portion 3, 7 & 9	Air, Noise, Waste	
	(c) Concreting	Portions 3, 4, 5, 7, 9 & 10	Air, Noise, Water, Waste, Ecology	
	(d) Bedding & Pipe Laying	Portion 2, 3, 4	Air, Noise, Water, Waste, Ecology	
	(e) ELS	Portions 2, 3, 4 & 10	Air, Noise, Water, Waste, Ecology	
	(f) Sheet Pile Installation	Portions 4	Air, Noise, Water, Waste	
	(g) Cut and Fill of Slope	Portion 8	Air, Noise, Water, Waste	
<b>ND/2019/03</b>	(a) Excavation & ELS	Portion 1, 1A, 2, 3, 4, 4A, 4B, 5, 5A	<ul style="list-style-type: none"> <li>- Waste</li> <li>- Air pollution</li> <li>- Noise pollution</li> </ul>	<ul style="list-style-type: none"> <li>- Dusty works should be sprayed with water or stockpile should be covered by Tarpaulin properly.</li> </ul>
	(b) Site Clearance	Sections 7, 8 and 9	<ul style="list-style-type: none"> <li>- Waste</li> </ul>	



			<ul style="list-style-type: none"> <li>- Air pollution</li> <li>- Noise pollution</li> </ul>	<ul style="list-style-type: none"> <li>- Plants should have maintenance to prevent dark smoke and oil leakage. Idle plant should be turned off.</li> </ul>
	(c) Tree Felling	Sections 6, 7, 8 and 9	<ul style="list-style-type: none"> <li>- Waste</li> <li>- Air pollution</li> <li>- Noise pollution</li> </ul>	<ul style="list-style-type: none"> <li>- Drip tray should be provided for all chemical and stationary plants.</li> <li>- No construction works shall be carried out in restricted hours (7:00 pm to 7:00 am) unless CNP is granted.</li> <li>- Waste should be sorted and disposed according to Waste Management Plan.</li> <li>- No direct discharge of wastewater into storm water drains is allowed. Wastewater must be desilted before discharging according to water discharge license.</li> </ul>
<b>ND/2019/04</b>	(a) Sheet piling	Bridge A1, A3, Portion H and F	- Air, Noise, Waste	<ul style="list-style-type: none"> <li>- Dusty works should be sprayed with water or stockpile should be covered by tarpaulin properly.</li> </ul>
	(b) Bored piling	Bridge A2, A3	- Air, Noise, Water, Waste	<ul style="list-style-type: none"> <li>- Plants should have maintenance to prevent dark smoke and oil leakage. Idle plant should be turned off.</li> </ul>
	(c) Pile cap	Bridge A1 and A2	- Air, Noise, Water, Waste	<ul style="list-style-type: none"> <li>- Drip tray should be provided for all chemical and stationary plants.</li> </ul>
	(d) Excavation & ELS	Portion H, K Bridge A1, A2, A3, F	- Air, Noise, Waste	<ul style="list-style-type: none"> <li>- No construction works shall be carried out in restricted hours (7:00 pm to 7:00 am) unless CNP is granted.</li> </ul>
	(e) Road works	Portion Q, R, S, U and V	- Air, Noise, Waste	<ul style="list-style-type: none"> <li>- Waste should be sorted and disposed according to Waste Management Plan.</li> </ul>
	(f) Tree felling	Felling: Portion C, P and S	- Air, Noise, Waste	<ul style="list-style-type: none"> <li>- No direct discharge of wastewater into storm water drains is allowed. Wastewater must be desilted before discharging according to water discharge license.</li> </ul>

<b>ND/2019/05</b>	(a) Pre-drilling	B2-03 P3, P5, P6 E3 04b, E3 05M and E4-01	<ul style="list-style-type: none"> <li>- Construction Dust Impact</li> <li>- Noise Impact</li> <li>- Water Quality Impact (Construction Phase)</li> <li>- Waste Management (Construction Waste)</li> <li>- Landscape and Visual</li> <li>- Cultural Heritage</li> </ul>	<ul style="list-style-type: none"> <li>- Regular watering on exposed worksites and haul road.</li> <li>- Stockpiling area should be provided with covers and water spraying system.</li> <li>- Only well maintained plant to be operated on site.</li> <li>- plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs.</li> <li>- mobile plant to be sited as far away from NSRs as possible practicable.</li> <li>- All open stockpiles of construction materials of more than 50m<sup>3</sup> to be covered with tarpaulin.</li> <li>- Manholes to be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system.</li> <li>- All vehicles and plant to be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads.</li> <li>- Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal.</li> <li>- Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions.</li> </ul>
	(b) Bored piling (Rotary type / RCD)	B1, B2 & C1(Portion II) and D201..		
	(c) Piling	E3-04b, E3-05M and E4-01		
	(d) Erection of steel bridge	HKY FB (East)		
	(e) ELS & Pile Cap Construction	B1-01m, B1-02ab, C1-01b, C1-02b, C1-03ab, C2-01, C2-02, C2-03a, C2-04a, C3-01a, C3-02, D1-02 and E2-01, E2-03		
	(f) Base slab Construction	NB109		
	(g) Duct Works and backfilling	Portion 13, Portion 17 and 18, TWSR (West), TWSR (East)		
	(h) Pier/Pier head Construction	B1-02ab, C1-01ab, C1-02ab, C1-03ab, C1-04ab, C2-01, C2-02, D1-02, E1-04 & E2-01, E3-02, E2-03, D2-02, D2-03		

	(i) Road Construction	Venton Area		<ul style="list-style-type: none"> <li>- Provide training to workers on appropriate waste management procedures, including waste reduction, reuse and recycling.</li> <li>- To adopt other good site practice, such as arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site and regular cleaning and maintenance programme for drainage.</li> <li>- Chemical wastes to be stored in appropriate containers and collected by a licensed chemical waste Contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</li> <li>- Conducting Construction Vibration Monitoring</li> <li>- Tree Protection &amp; Preservation Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004.</li> <li>- Tree Transplantation Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final</li> </ul>
	(j) Segment Fabrication	bridge C2 & C3 & D1 & E1		
	(k) Segments Erection	bridges D1 and E1		
	(l) SOP & Segment construction (precast & in-situ cast in syte)	C4-04, E3-03, E2-02		

				receptor site and not held in a temporary nursery as far as possible. - Erect 2m high dull green site boundary fence.
<b>ND/2019/06</b>	N/A	N/A	N/A	N/A
<b>ND/2019/07</b>	(a) Road works	Portion 1, 4, 5	- Construction Dust Impact - Noise Impact - Water Quality Impact (Construction Phase) - Waste Management (Construction Waste) - Landscape and Visual	- Regular watering on exposed worksites and haul road. - Stockpiling area should be provided with covers and water spraying system. - Only well-maintained plant to be operated on-site. - plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs. - mobile plant to be sited as far away from NSRs as possible practicable. - All open stockpiles of construction materials of more than 50m <sup>3</sup> to be covered with tarpaulin.
	(b) C&D waste disposal	Portion 1, 2, 4, 5		
	(c) Construction of box culvert	Portions 2		
	(d) Filling works	Portions 1, 2, 4		
	(e) Construction of site haul road	Portions 4		
	(f) Drainage Works	Portion 1, 3, 4, 5		
	(g) Sewerage works	Portion 1, 3, 4, 5		

	(h) Construction of Noise Barrier	Portion 5		<ul style="list-style-type: none"> <li>- Manholes to be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system.</li> <li>- All vehicles and plant to be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads.</li> <li>- Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal.</li> <li>- Sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions.</li> <li>- Provide training to workers on appropriate waste management procedures, including waste reduction, reuse and recycling.</li> <li>- To adopt other good site practice, such as arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site and regular cleaning and maintenance programme for drainage.</li> <li>- Chemical wastes to be stored in appropriate containers and collected by a licensed chemical waste Contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or</li> </ul>
	(i) Waterworks	Portion 1		

				<p>another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p> <ul style="list-style-type: none"> <li>- Tree Protection &amp; Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004.</li> <li>- Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible.</li> <li>- Erect 2m high dull green site boundary fence.</li> <li>- Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.</li> </ul>
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12.2 The major site activities in coming three months are shown in **Table IV**.

#### **Monitoring Schedule for the Next Month**

12.3 The tentative environmental monitoring schedule for the next month is shown in **Appendix D**.

#### **Construction Programme for the Next Month**

12.4 A tentative construction programme is provided in **Appendix A**.

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### 13 CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

13.1 This monthly EM&A Report presents the EM&A work undertaken in December 2022 in accordance with the Updated EM&A Manual.

13.2 No Action/Limit Level exceedance for air quality, construction noise, water quality, ambient arsenic, landfill gas monitoring and build heritage monitoring was recorded in the reporting month.

Contract No. ND/2019/01

13.3 Environmental site inspections were conducted on 9, 14, 20 and 29 Dec 22 by ET in the reporting month.

Contract No. ND/2019/02

13.4 Environmental site inspections were conducted on 7, 13, 21 and 28 Dec 22 by ET in the reporting month.

Contract No. ND/2019/03

13.5 Environmental site inspections were conducted on 2, 9, 13, 23 and 30 Dec 22 by ET in the reporting month.

Contract No. ND/2019/04

13.6 Environmental site inspections were conducted on 1, 7, 15, 21 and 29 Dec 22 by ET in the reporting month.

Contract No. ND/2019/05

13.7 Environmental site inspections were conducted on 5, 15, 19 and 28 Dec 22 by ET in the reporting month.

Contract No. ND/2019/06

13.8 Environmental site inspections were conducted on 1, 7, 15, 21 and 29 Dec 22 by ET in the reporting month.

Contract No. ND/2019/07

13.9 Environmental site inspections were conducted on 2, 9, 16, 23 and 30 Dec 22 by ET in the reporting month.

13.10 One environmental complaint was received in the reporting month. No notification of summons or successful prosecutions was received in the reporting month.

13.11 The ET would keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

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## Recommendations

13.12 According to the environmental audits performed in the reporting month, the following recommendations were made:

### *Air Quality Impact*

- To regular water haul roads;
- To provide vehicle washing facilities with high pressure water jet at every discernible or designated vehicle exit point;
- To maintain the impervious material to entirely cover the stockpile of dusty materials; and
- To ensure all regulated machines displayed with valid Non-road Mobile Machinery (NRMM) labels.

### *Construction Noise Impact*

- To ensure compressor operated with doors closed.

### *Water Impact*

- To review and implement temporary drainage system;
- To prevent any surface runoff discharge into Sheung Yuen River, Ma Wat River or public road;
- To provide sandbags or construct berm to prevent any outflow of muddy water from site area;
- To ensure all vehicle clear of earth and mud before leaving the site areas;
- To ensure the drainage facilities would not be clogged with waste or sediment to avoid overflow;
- To regularly check the condition of desilting materials for proper function;
- To regularly maintain and ensure water treatment facilities proper operation and function;
- To divert all the water generated from the construction site to de-silting facilities with sufficient handling capacity before discharge; and
- To avoid or regularly clear the stagnant water in drip trays;

### *Waste/Chemical Management*

- To dispose of general refuse properly;
- To clear and avoid oil stains at site areas;
- To provide proper storage areas for chemical; and
- To maintain drip trays for chemical storage well.

### *Landfill Gas Hazard*

- “No Smoking” and “No Naked Flame” notices in Chinese and English should be posted prominently around the construction site.



*Land Contamination*

- Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or contaminated run-off during rainy season. Watering should be avoided on stockpiles of soil to minimise runoff.

*Ecology*

- Properly erect and maintain 2m high solid barriers for protecting Siu Hang San Tsuen Stream.

*Permit/ Licences*

- To display valid Permit or Licences at the site entrances.

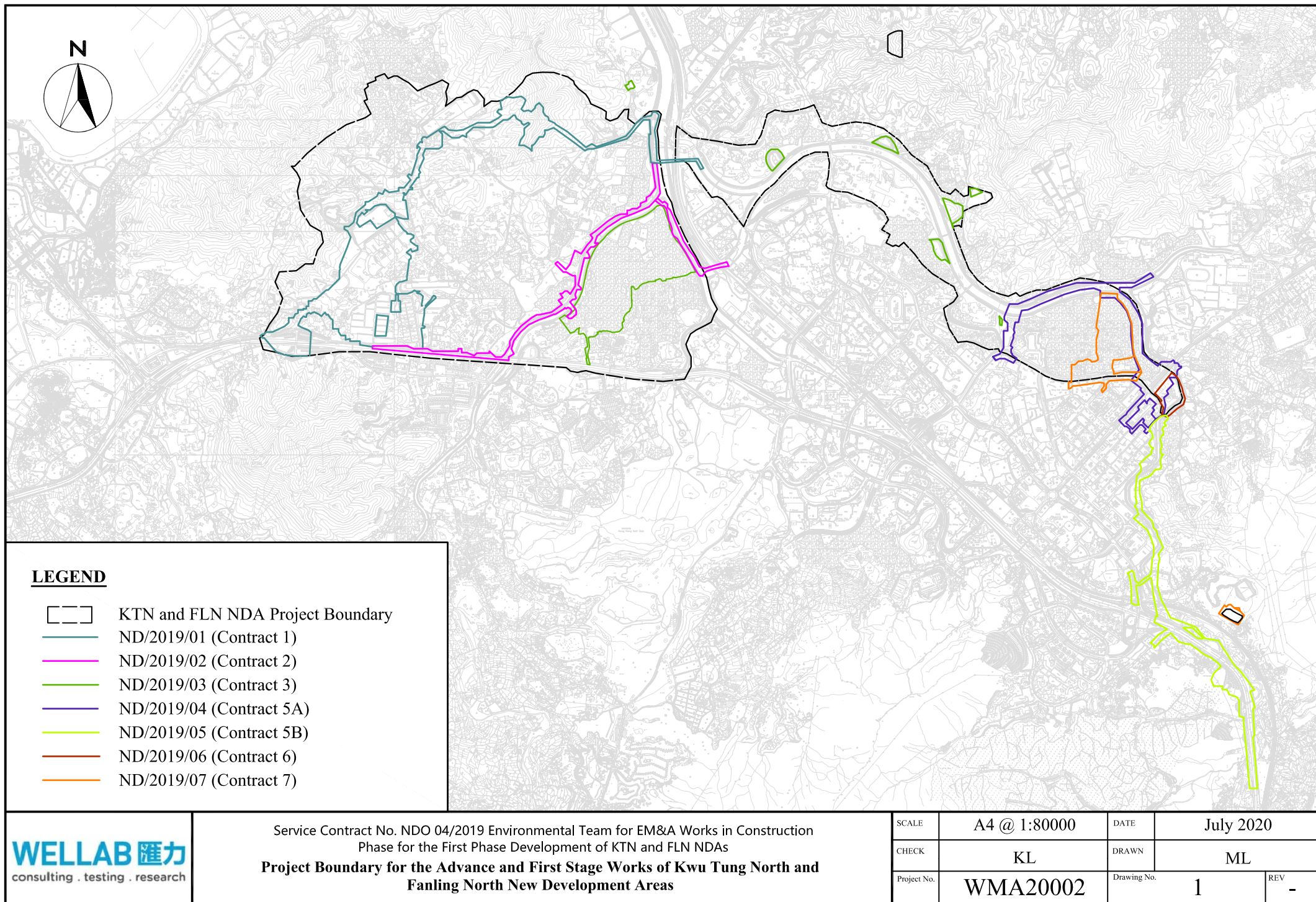
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**DRAWING(S)**

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# **LEGEND**

- KTN and FLN NDA Project Boundary
- ND/2019/01 (Contract 1)
- ND/2019/02 (Contract 2)
- ND/2019/03 (Contract 3)
- ND/2019/04 (Contract 5A)
- ND/2019/05 (Contract 5B)
- ND/2019/06 (Contract 6)
- ND/2019/07 (Contract 7)

SCALE	A4 @ 1:80000	DATE	July 2020	
CHECK	KL	DRAWN	ML	
Project No.	WMA20002	Drawing No.	1	REV -

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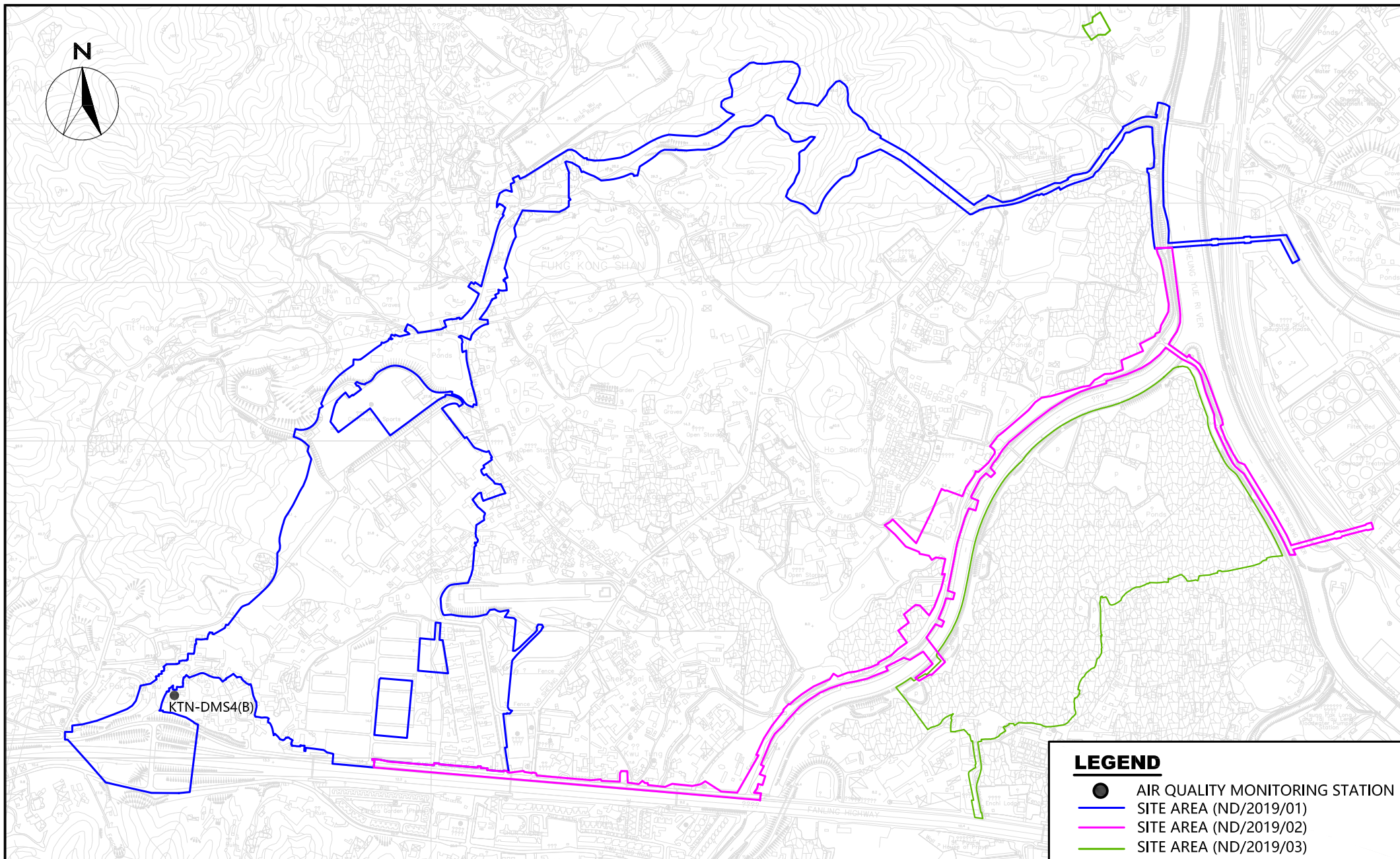
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**FIGURE(S)**

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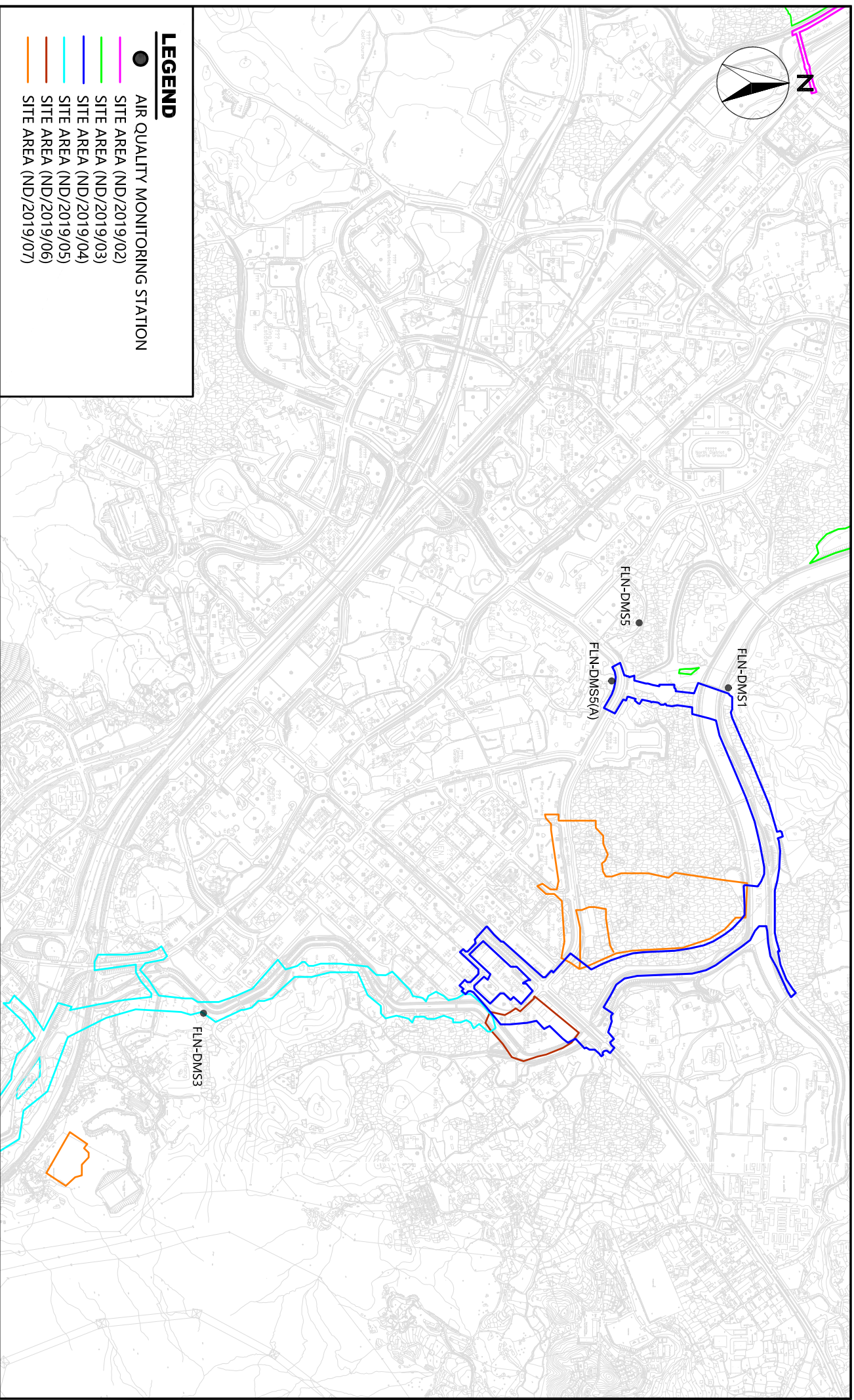




# LEGEND

- AIR QUALITY MONITORING STATION
- SITE AREA (ND/2019/01)
- SITE AREA (ND/2019/02)
- SITE AREA (ND/2019/03)



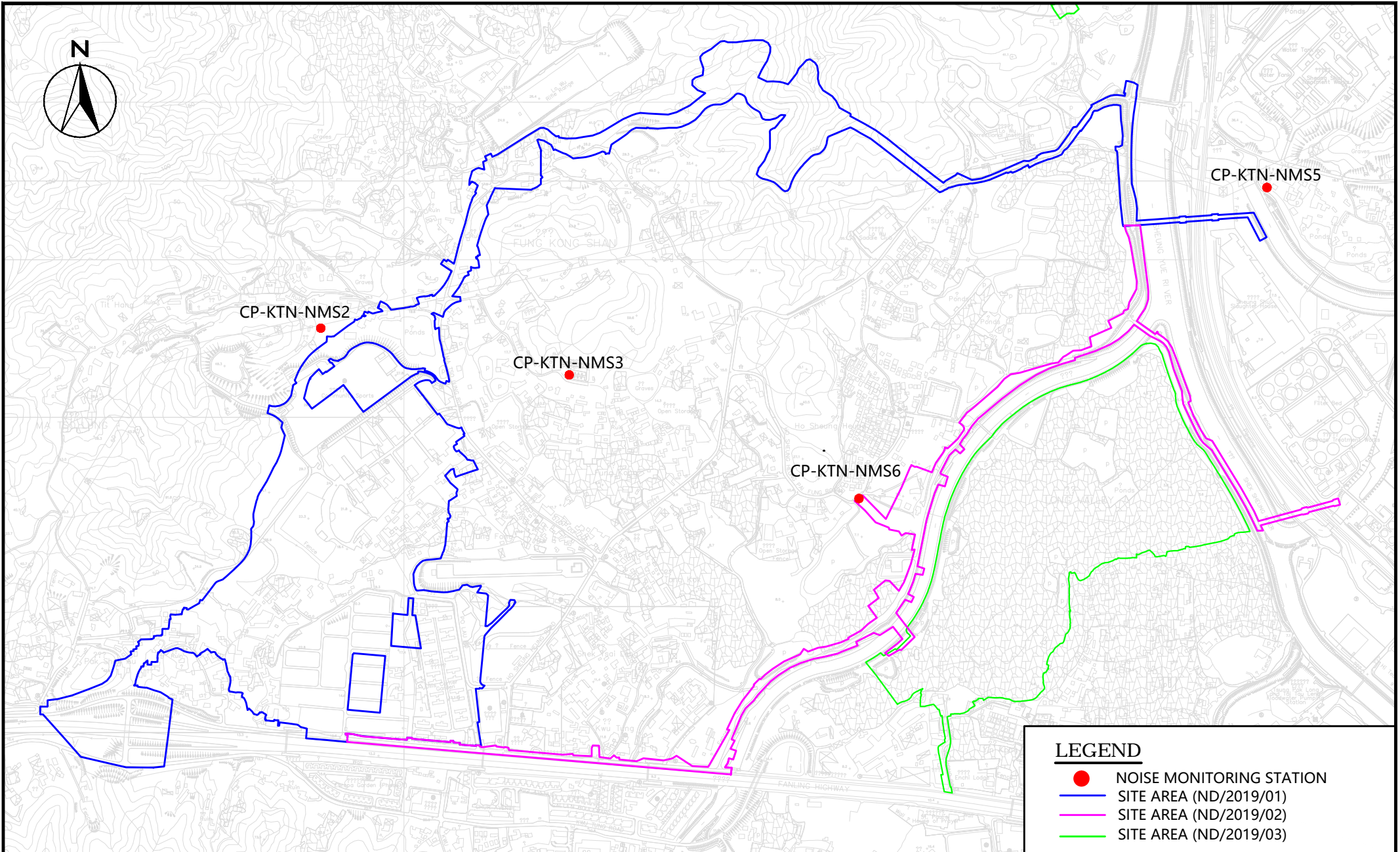


## LEGEND

- AIR QUALITY MONITORING STATION
- SITE AREA (ND/2019/02)
- SITE AREA (ND/2019/03)
- SITE AREA (ND/2019/04)
- SITE AREA (ND/2019/05)
- SITE AREA (ND/2019/06)
- SITE AREA (ND/2019/07)

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CHECK	IT	DATE	DEC 2021
PROJECT No.	WMA20002	FIGURE NO.	2
		REV	—

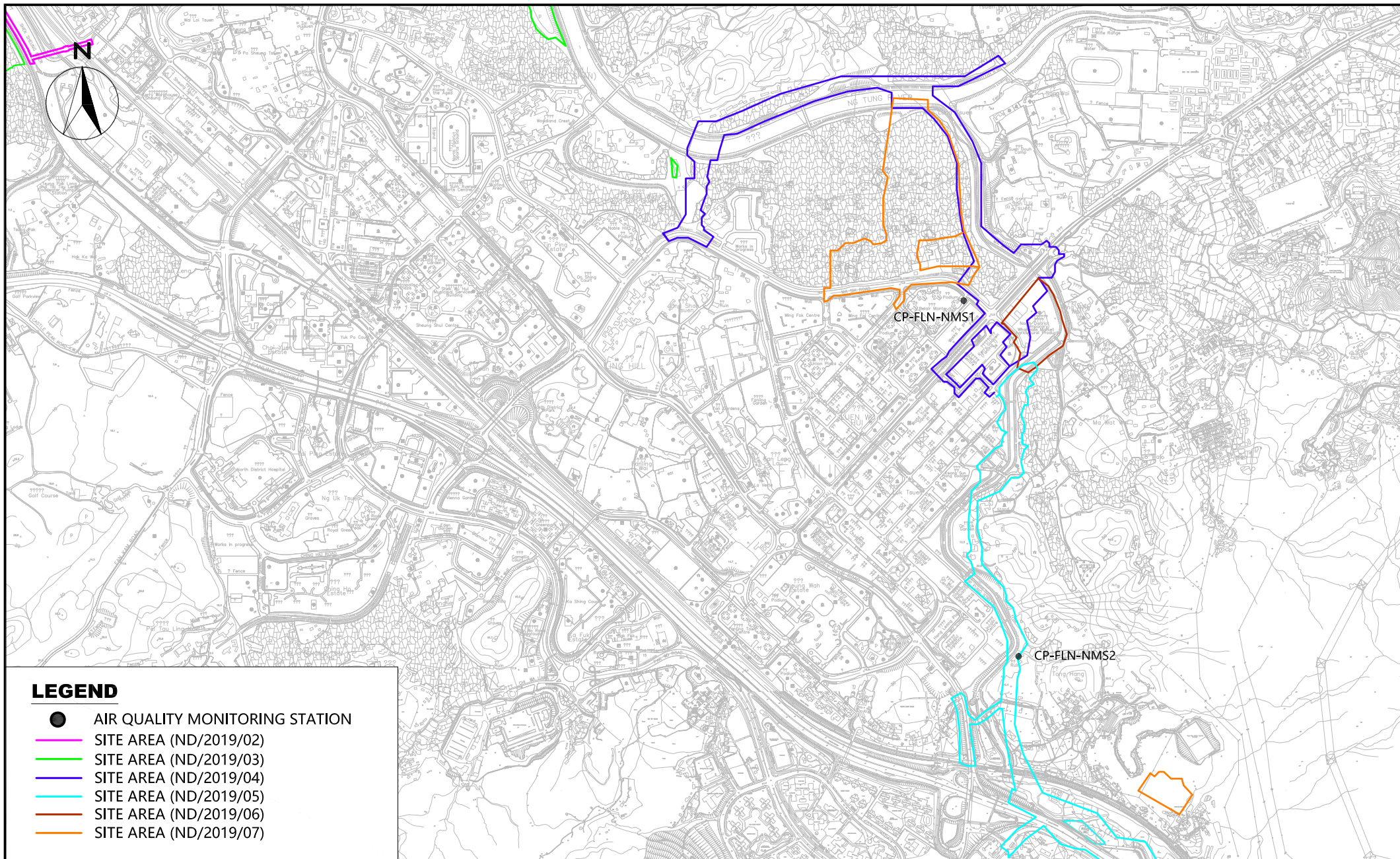




#### LEGEND

- NOISE MONITORING STATION
- SITE AREA (ND/2019/01)
- SITE AREA (ND/2019/02)
- SITE AREA (ND/2019/03)

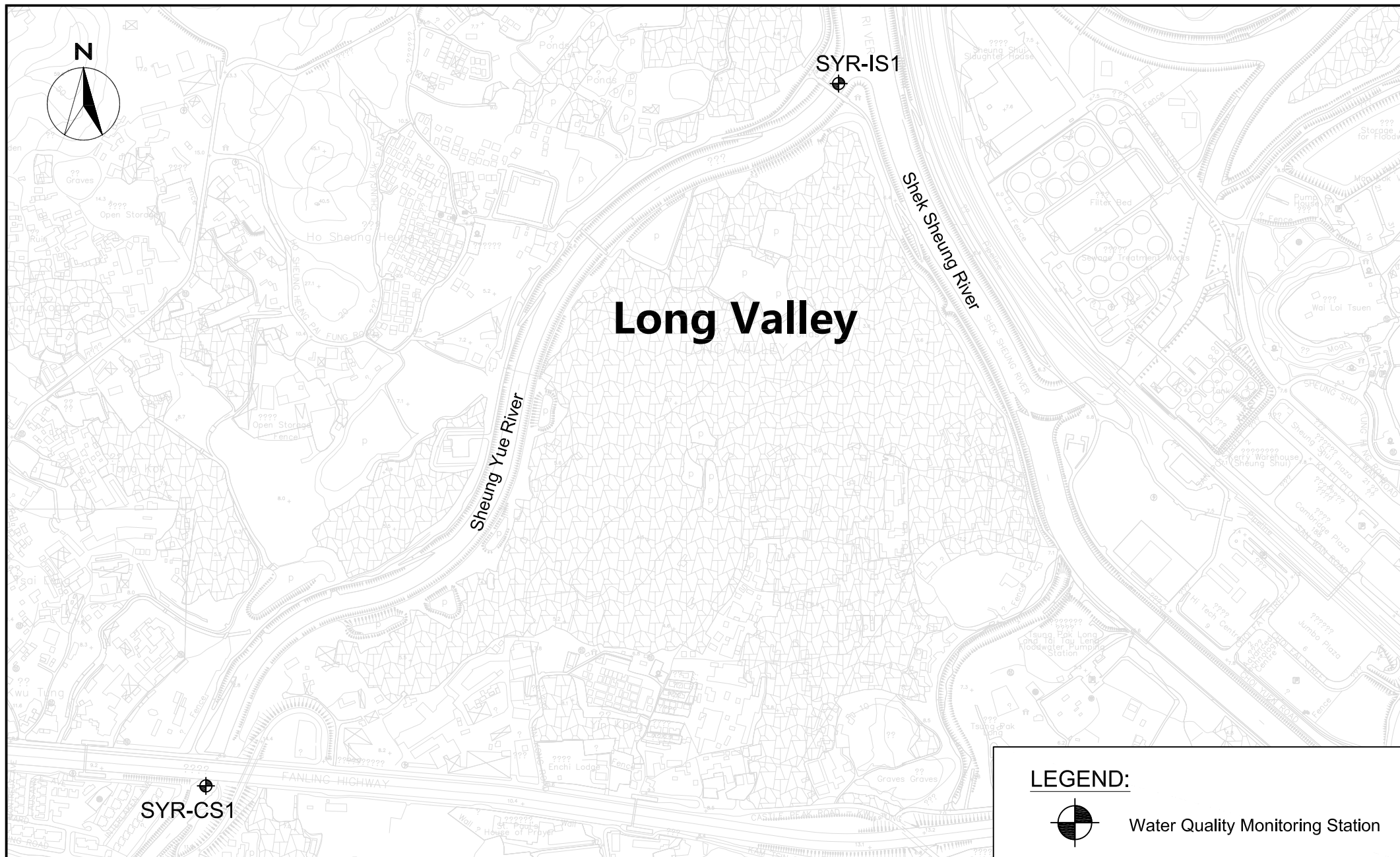




## LEGEND

- AIR QUALITY MONITORING STATION
- SITE AREA (ND/2019/02)
- SITE AREA (ND/2019/03)
- SITE AREA (ND/2019/04)
- SITE AREA (ND/2019/05)
- SITE AREA (ND/2019/06)
- SITE AREA (ND/2019/07)





# LEGEND:



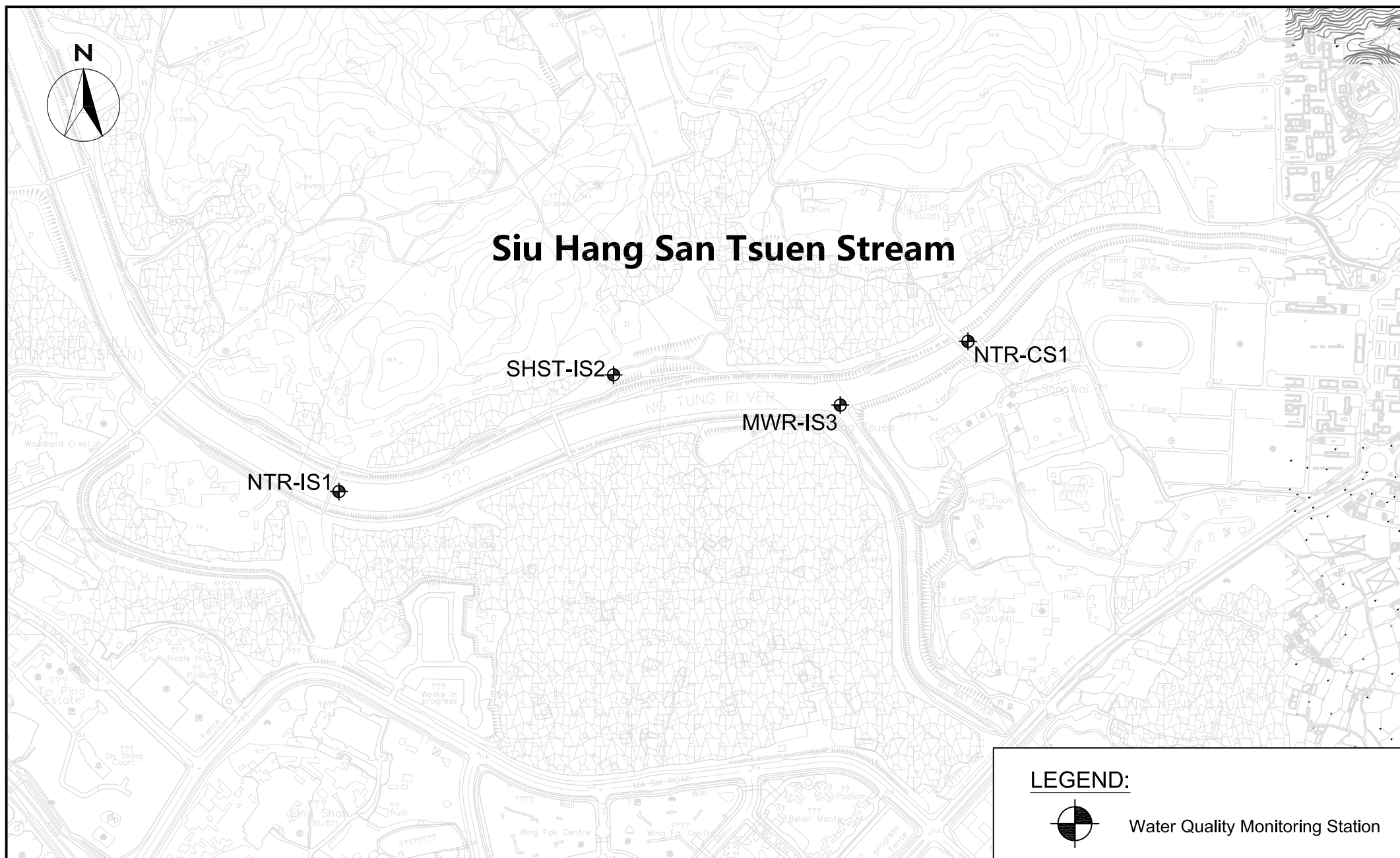
Water Quality Monitoring Station

**WELLAB 匯力**  
consulting . testing . research

Service Contract No. NDO 04/2019 Environmental Team for EM&A Works in Construction  
Phase for the First Phase Development of KTN and FLN NDAs

**Location of Additional Water Quality Monitoring Stations at River Beas**

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CHECK	KL	DRAWN	NL	
PROJECT No.	WMA20002	FIGURE NO.	5	REV —



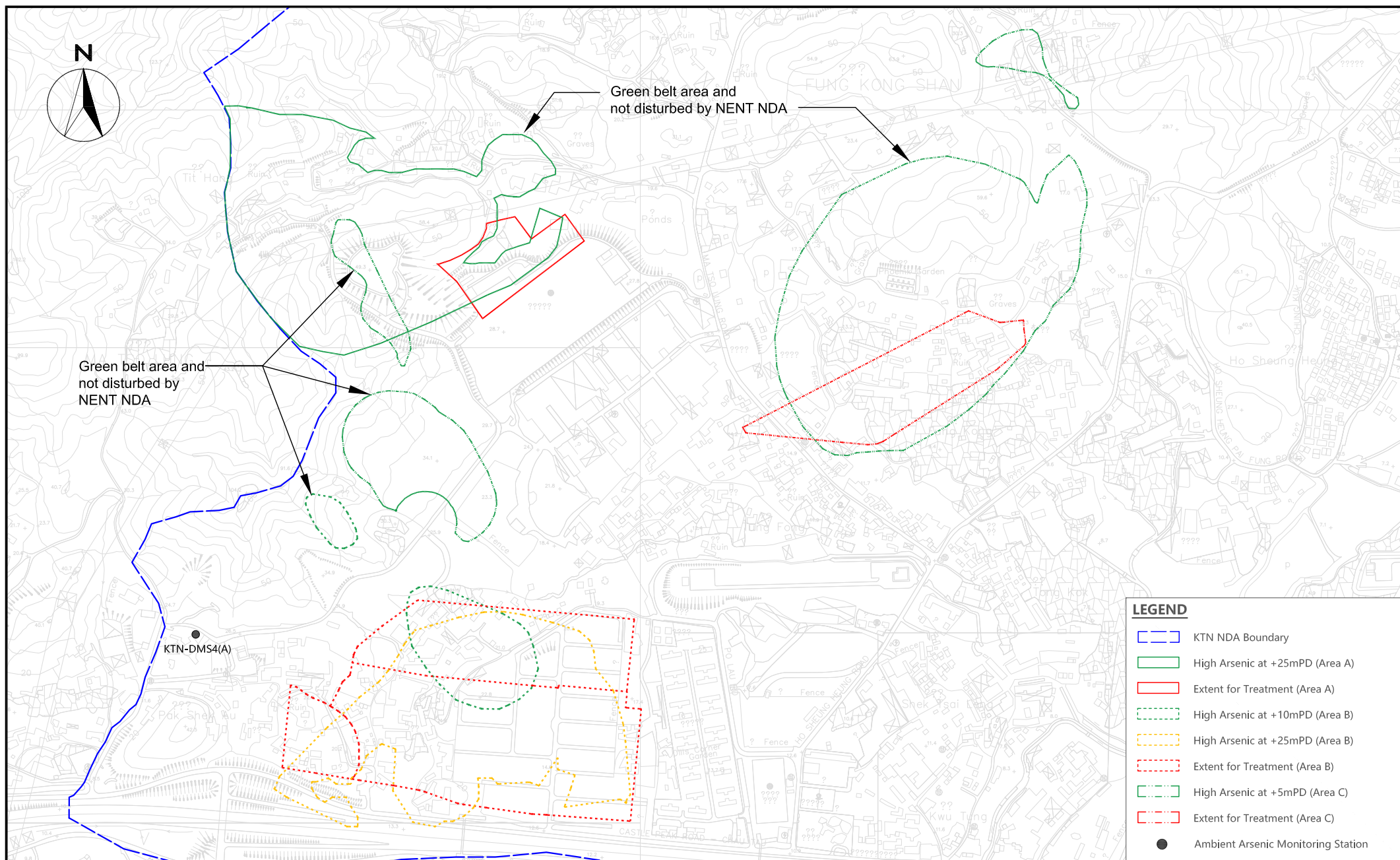
# LEGEND:



Water Quality Monitoring Station

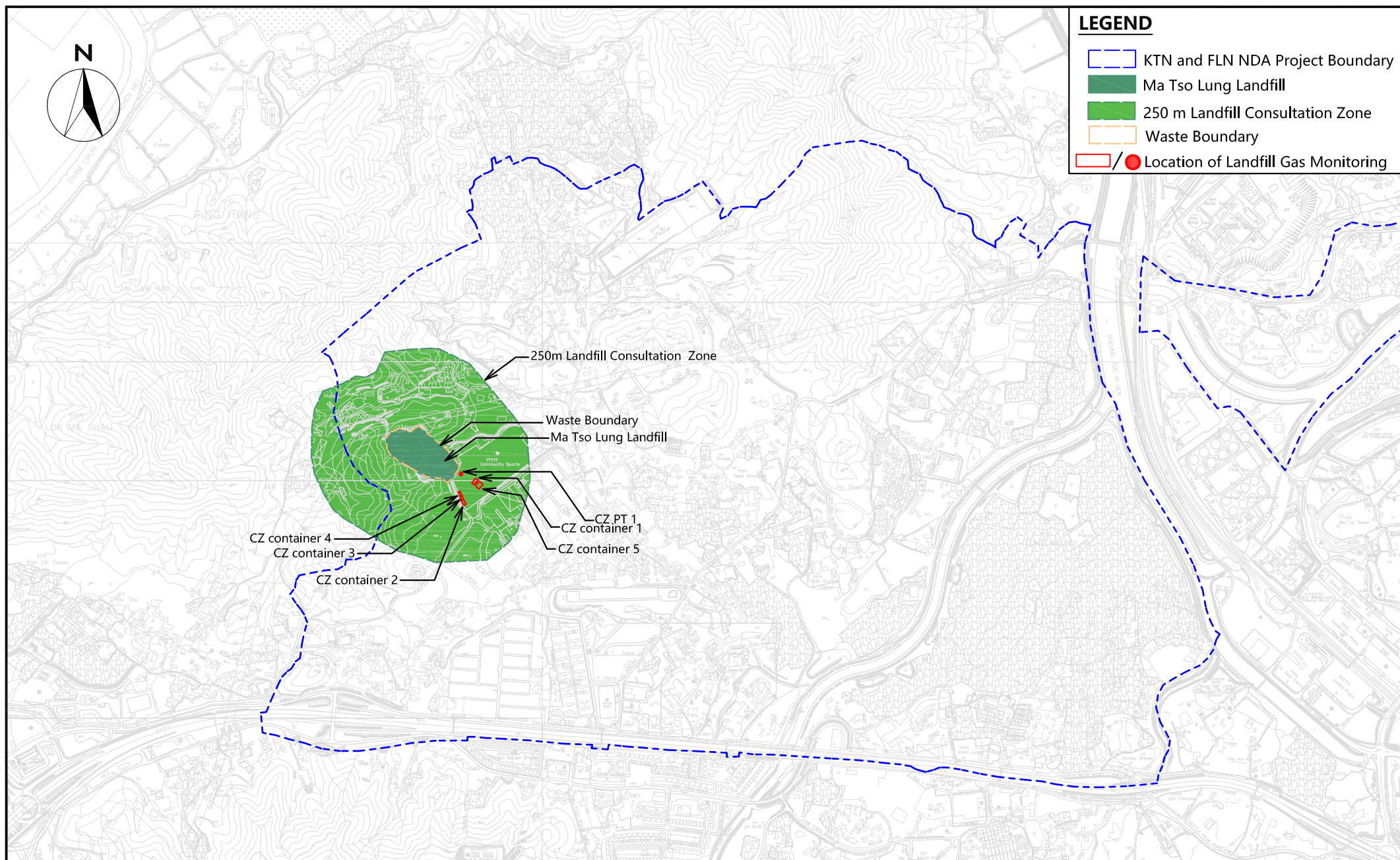
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PROJECT No.	WMA20002	FIGURE NO.	6
		REV	—



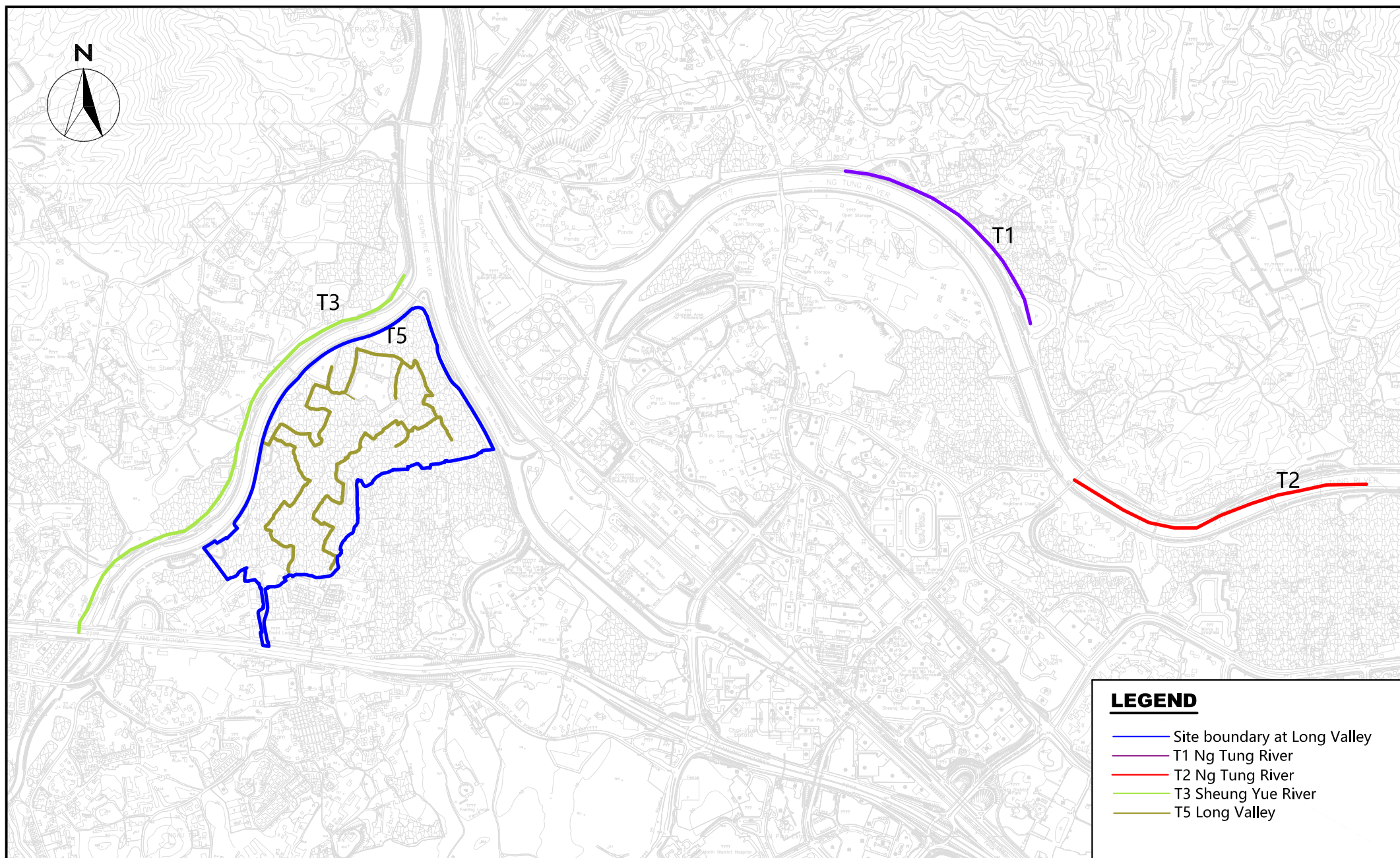


- LEGEND**
- KTN NDA Boundary
  - High Arsenic at +25mPD (Area A)
  - Extent for Treatment (Area A)
  - High Arsenic at +10mPD (Area B)
  - High Arsenic at +25mPD (Area B)
  - Extent for Treatment (Area B)
  - High Arsenic at +5mPD (Area C)
  - Extent for Treatment (Area C)
  - Ambient Arsenic Monitoring Station













# LEGEND

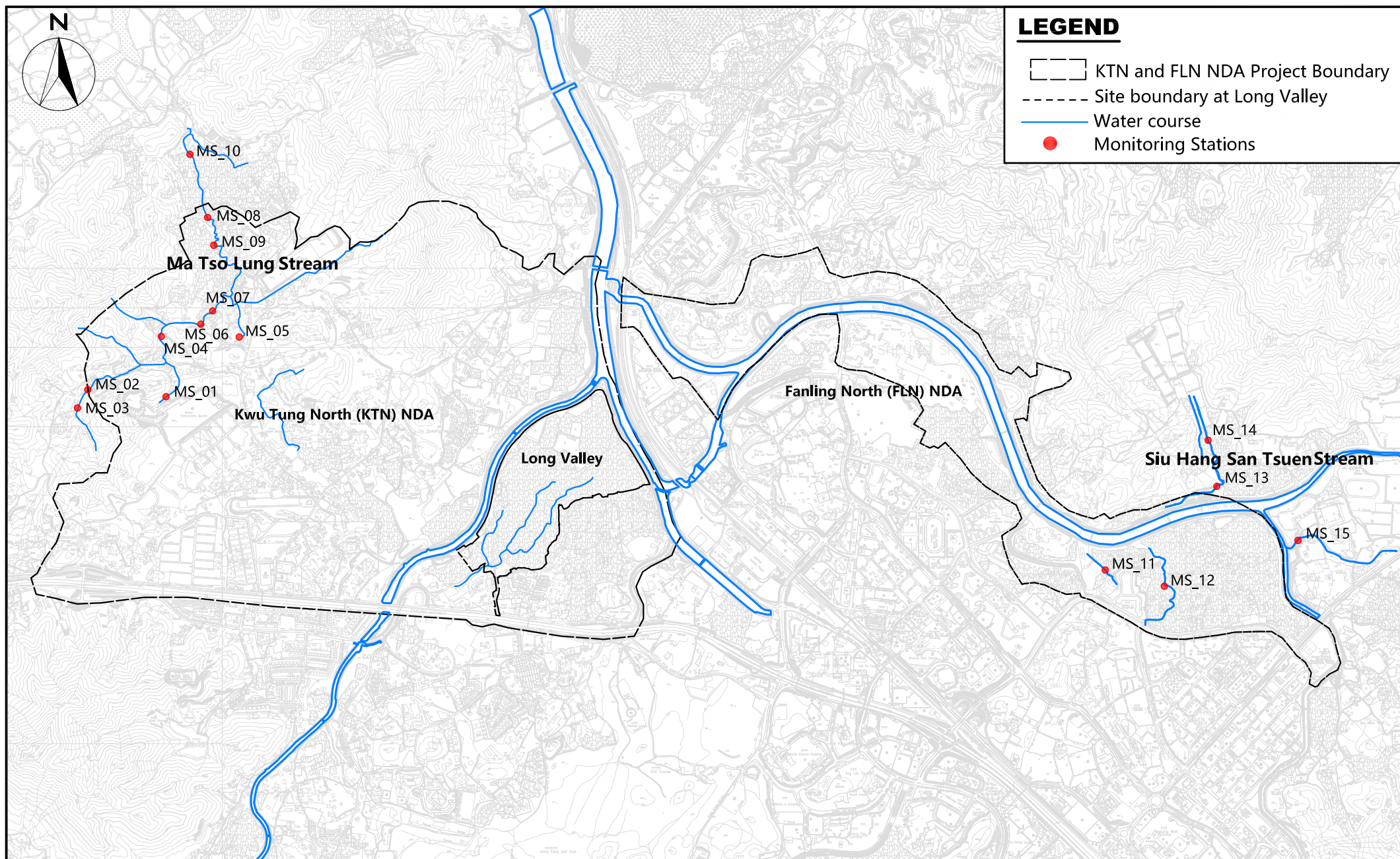
- Site boundary at Long Valley
- T1 Ng Tung River
- T2 Ng Tung River
- T3 Sheung Yue River
- T5 Long Valley



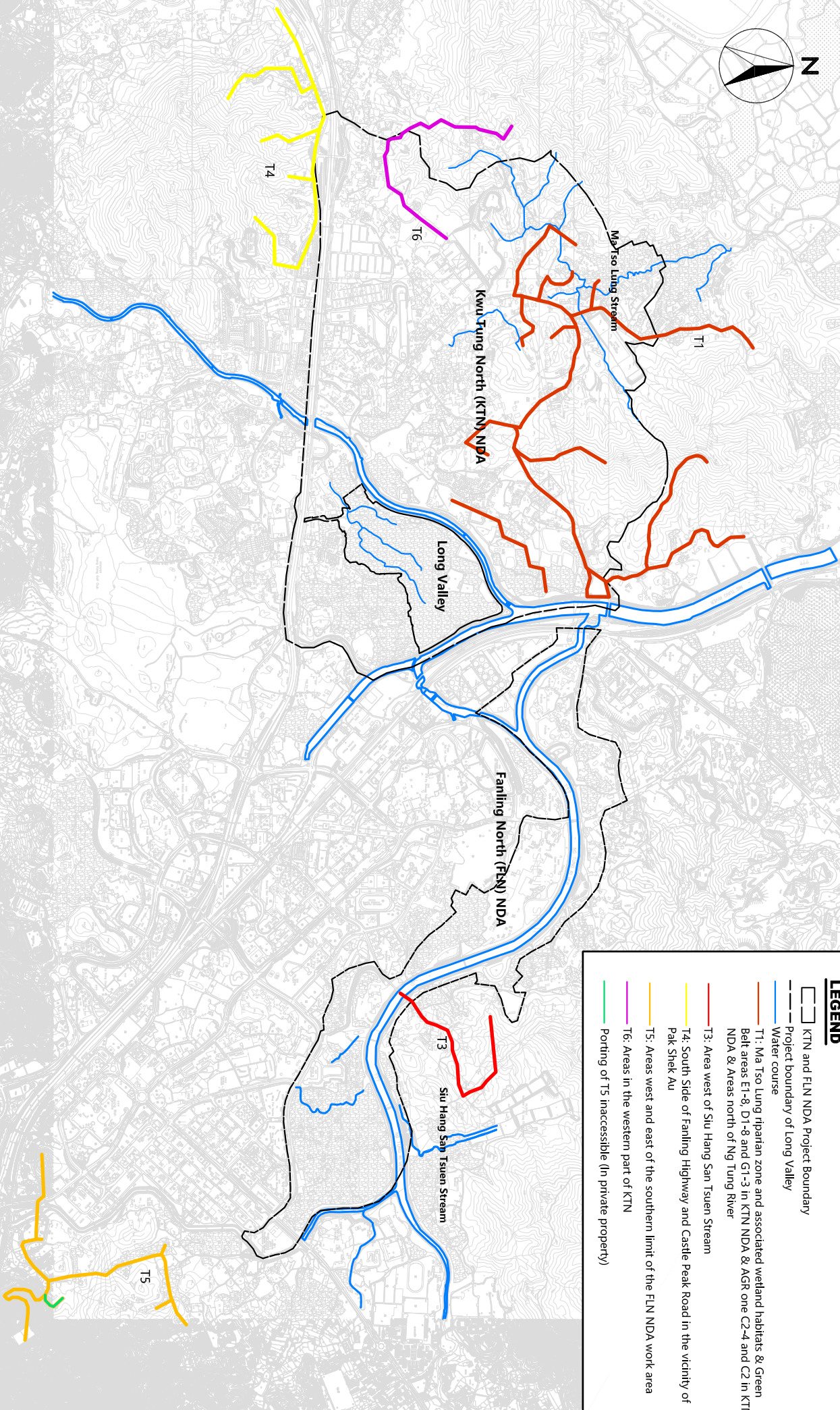


## LEGEND

-  KTN and FLN NDA Project Boundary
-  Site boundary at Long Valley
-  Water course
-  Monitoring Stations







#### LEGEND

- KTN and FLN NDA Project Boundary
- Project boundary of Long Valley
- Water course
- T1: Ma Tso Lung riparian zone and associated wetland habitats & Green Belt areas EI-8, D1-8 and G1-3 in KTN NDA & AGR one C2-4 and C2 in KTN NDA & Areas north of Ng Tung River
- T3: Area west of Siu Hang San Tsuen Stream
- T4: South Side of Fanling Highway and Castle Peak Road in the vicinity of Pak Shek Au
- T5: Areas west and east of the southern limit of the FLN NDA work area
- T6: Areas in the western part of KTN
- Porting of T5 inaccessible (in private property)

Service Contract No. NDO 04/2019 Environmental Team for EM&A Works in Construction  
Phase for the First Phase Development of KTN and FLN NDAs  
**Location of Transect Route of Ecological Sensitive Habitats  
(Non-Aquatic Fauna) Transects (T1, T3-T6)**

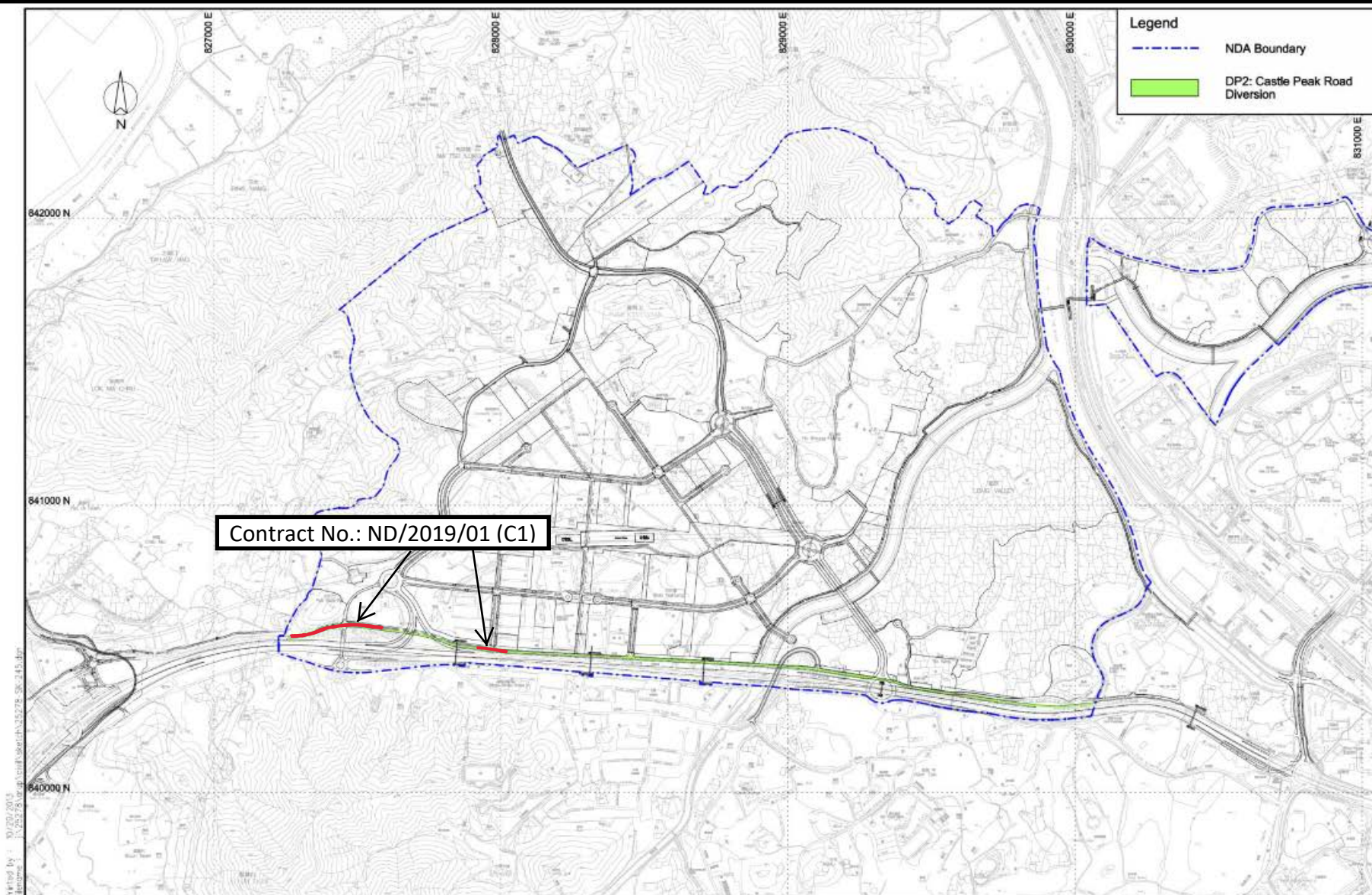
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CHECK	KL	DRAWN	ML
PROJECT No.	WMA20002	FIGURE No.	11
		REV	—

**Figure 12**

**Site Layout Plan of Contract ND/2019/01**

**under EP-466-2013-A**





**Project Title: Castle Peak Road Diversion**

**Figure 1: Location Plan for Castle Peak Road Diversion Project**

(Extracted from Drawing No. SK/245 of North East New Territories New Development Area Planning and Engineering Study)

**Environmental Permit No:  
EP-466/2013/A**

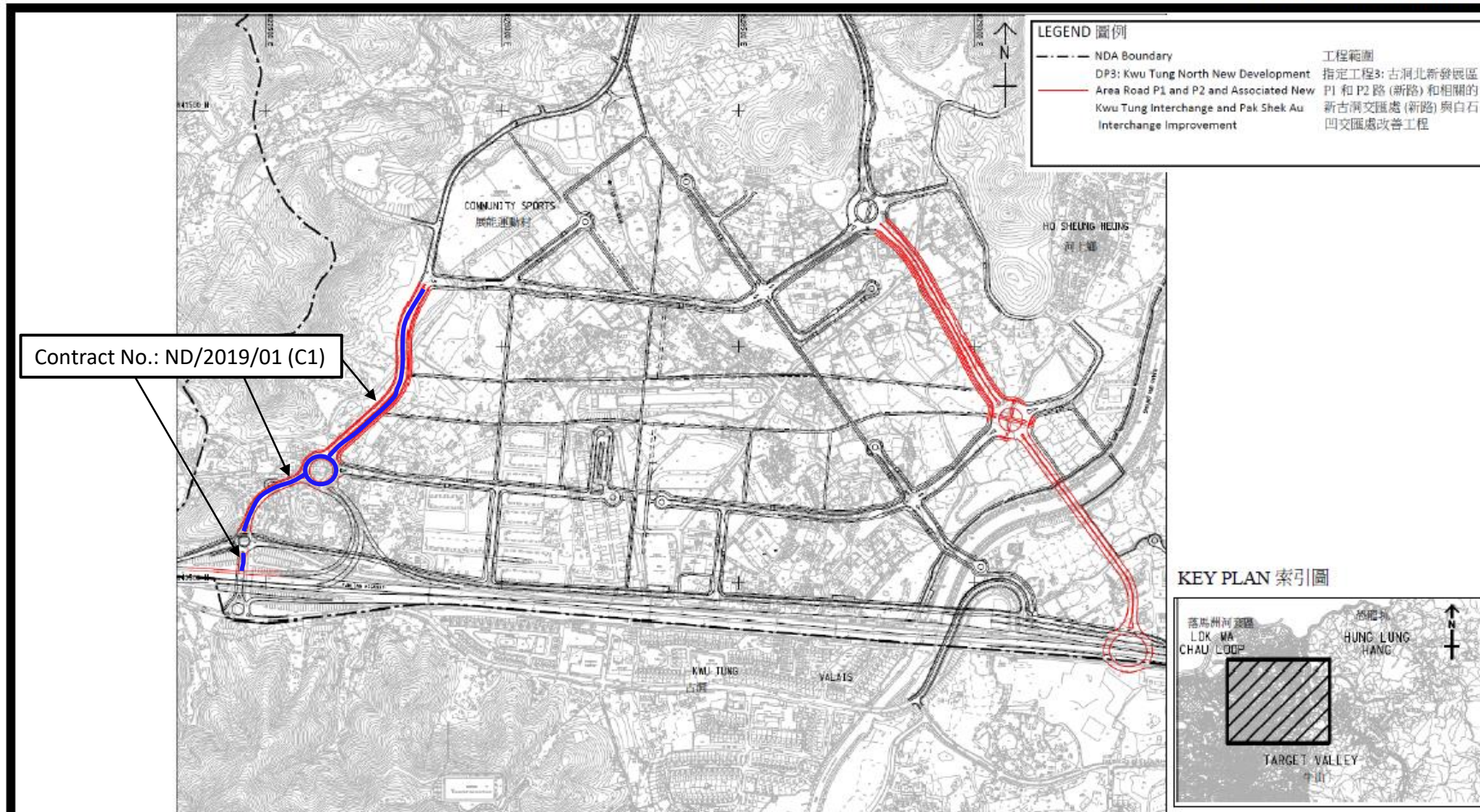


**Figure 13**

**Site Layout Plan of Contract ND/2019/01**

**under EP-467-2013-A**





**Project Title:** Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement  
**工程名稱:** 古洞北新發展區P1和P2路 (新路) 和相關的新古洞交匯處 (新路) 與白石凹交匯處改善工程

**Environmental Permit No:**  
**EP-467/2013/A**  
**環境許可證編號:**  
**EP-467/2013/A**



**Figure 1: Location Plan for Interchange Improvement (Indicative)**  
 (This figure was prepared based on Figure 1.2 of VEP application (No.: VEP-523/2016))

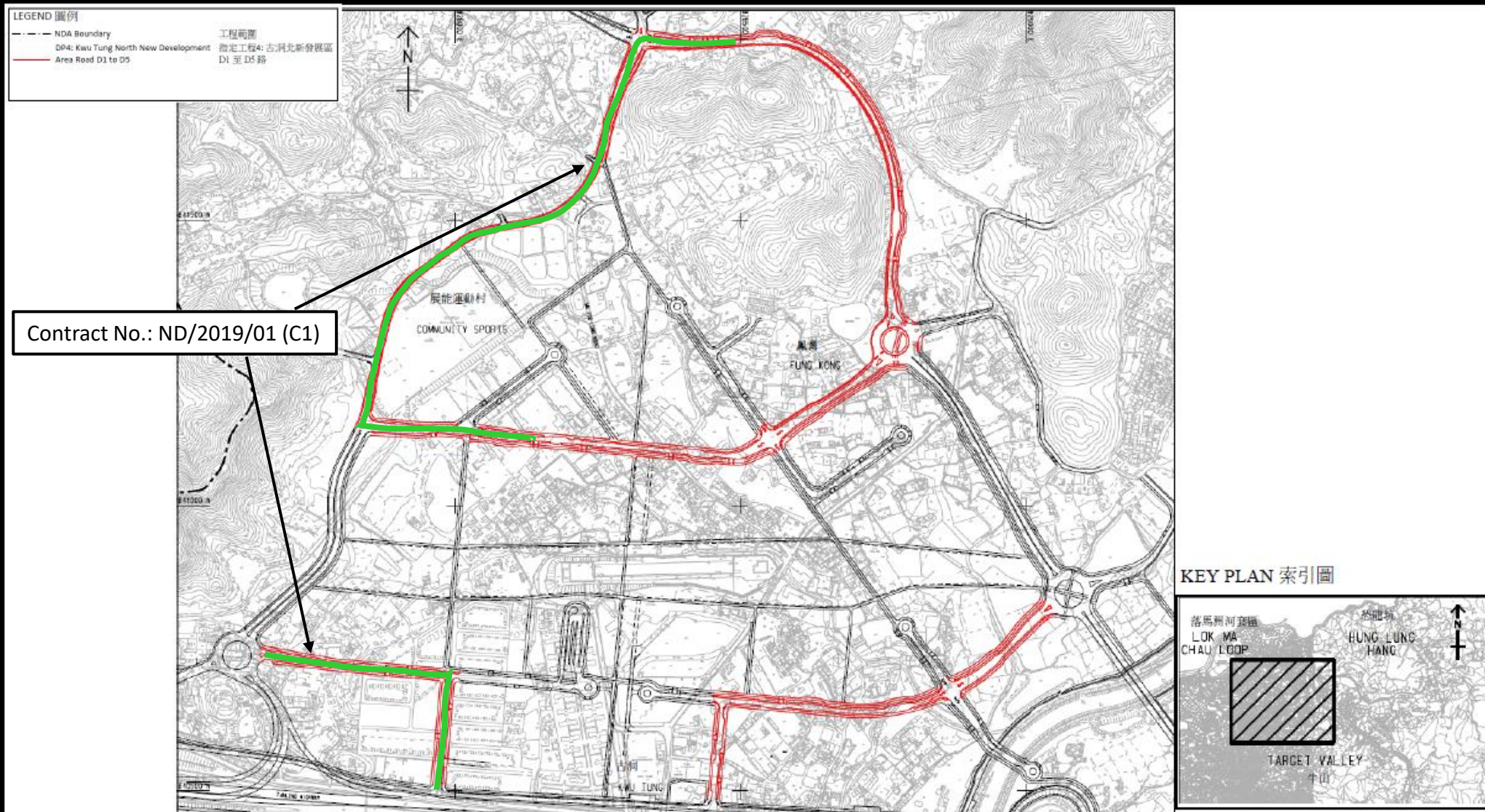
**圖1: 交匯處改善工程位置 (示意圖)**  
 (本圖是根據申請更改環境許可證(編號: VEP-523/2016)圖1.2編制)

**Figure 14**

**Site Layout Plan of Contract ND/2019/01**

**under EP-468-2013-A**





**Project Title:** Kwu Tung North New Development Area Road D1 to D5  
**工程名稱:** 古洞北新發展區D1至D5路

**Environmental Permit No:**  
 EP-468/2013/A  
**環境許可證編號:**  
 EP-468/2013/A



**Figure 1: Location Plan for The Project (Indicative)**

(This figure was prepared based on Figure 1.4 of VEP application (No.: VEP-524/2016))

**圖1：工程項目位置 (示意圖)**

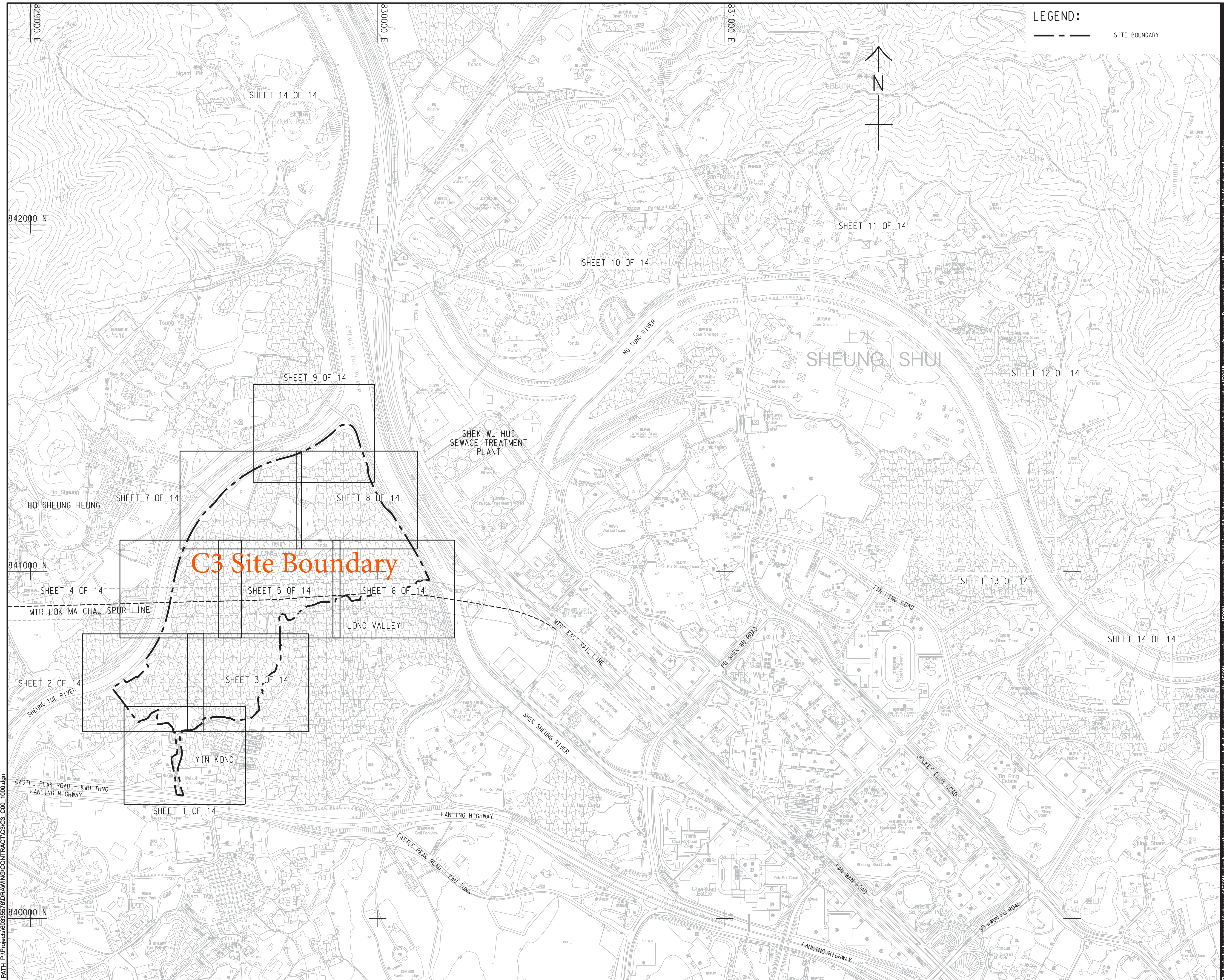
(本圖是根據申請更改環境許可證(編號: VEP-524/2016)圖1.4編制)

**Figure 15**

**Site Layout Plan of Contract ND/2019/03**

**under EP-468-2013-A**






Title of Designated Project  
Kwu Tung North New  
Development Area Road  
D1 to D5



土木工程拓展署  
Civil Engineering and  
Development Department

AECOM Asia Company Ltd.  
www.aecom.com

ISSUE/REVISION			
-	JUN-19	TENDER DRAWING	 CYCH
IR/	DATE	DESCRIPTION	CHK.

<b>SCALE</b> 比例	<b>DIMENSION UNIT</b> 尺寸單位
A1 1 : 5000	METRES

## KEY PLAN OF GENERAL LAYOUT

60335576/C3/C00/1000

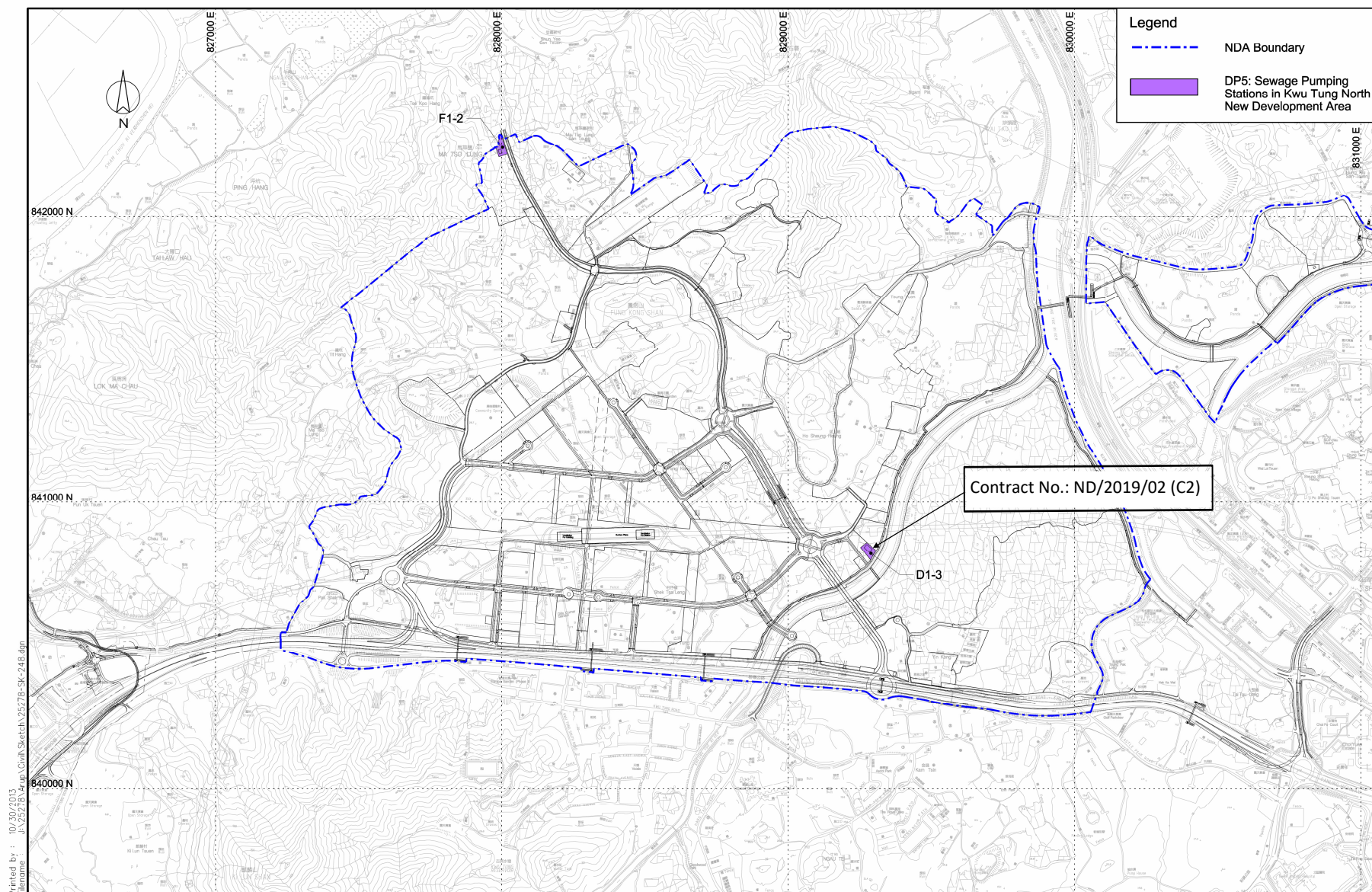


**Figure 16**

**Site Layout Plan of Contract ND/2019/02**

**under EP-469-2013**





**Project Title: Sewage Pumping Stations in Kwu Tung North New Development Area**

**Figure 1: Location Plan for the Proposed Pumping Stations**

(Extracted from Drawing No. SK/248 of North East New Territories New Development Area Planning and Engineering Study)

**Environmental Permit No:  
EP-469/2013**

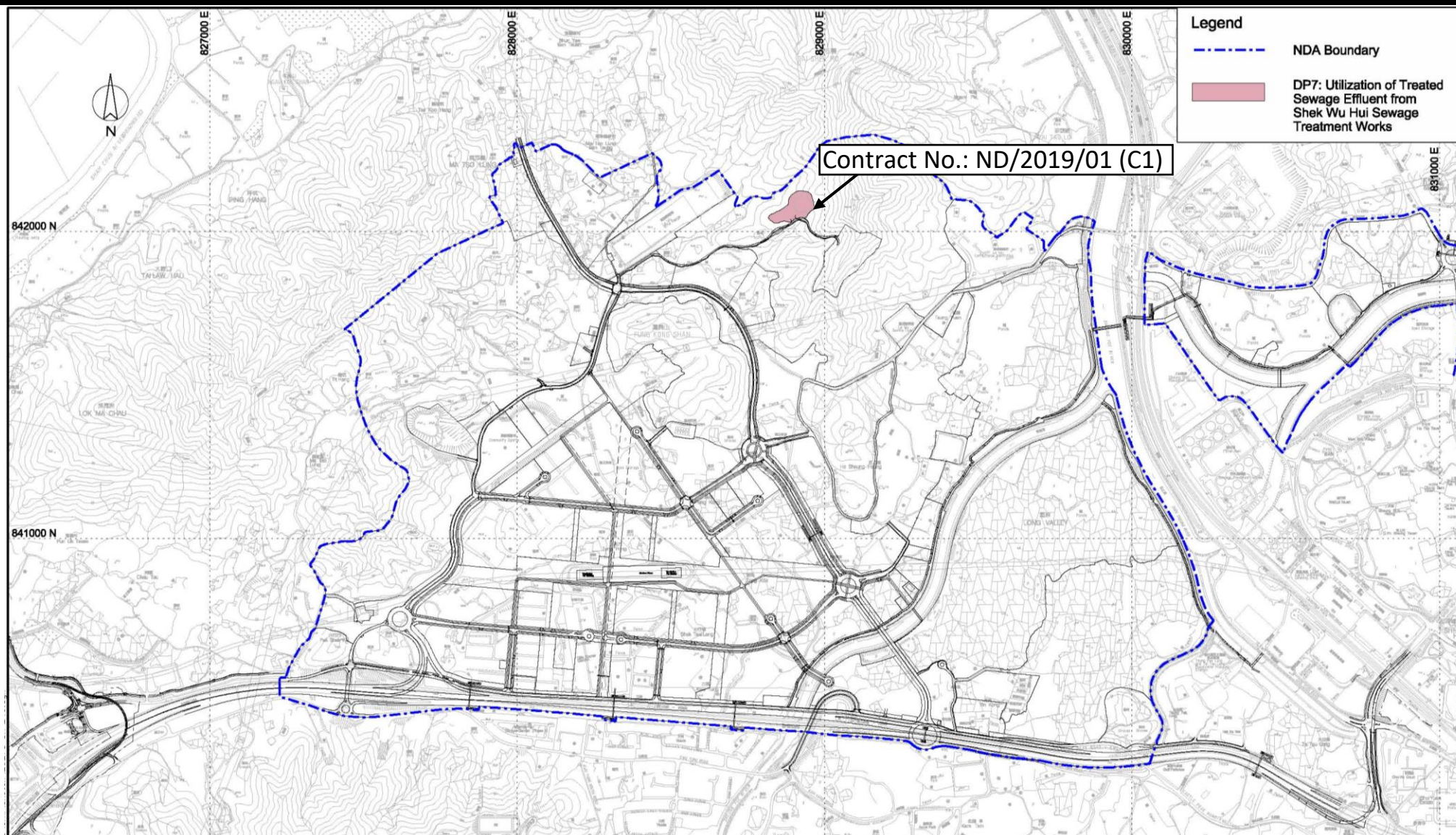


**Figure 17**

**Site Layout Plan of Contract ND/2019/01**

**under EP-470-2013-A**





**Project Title: Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works**

**Figure 1: Location Plan for the Project**

(Extracted from Drawing No. SK/249 of North East New Territories New Development Area Planning and Engineering Study)

**Environmental Permit No:  
EP-470/2013/A**

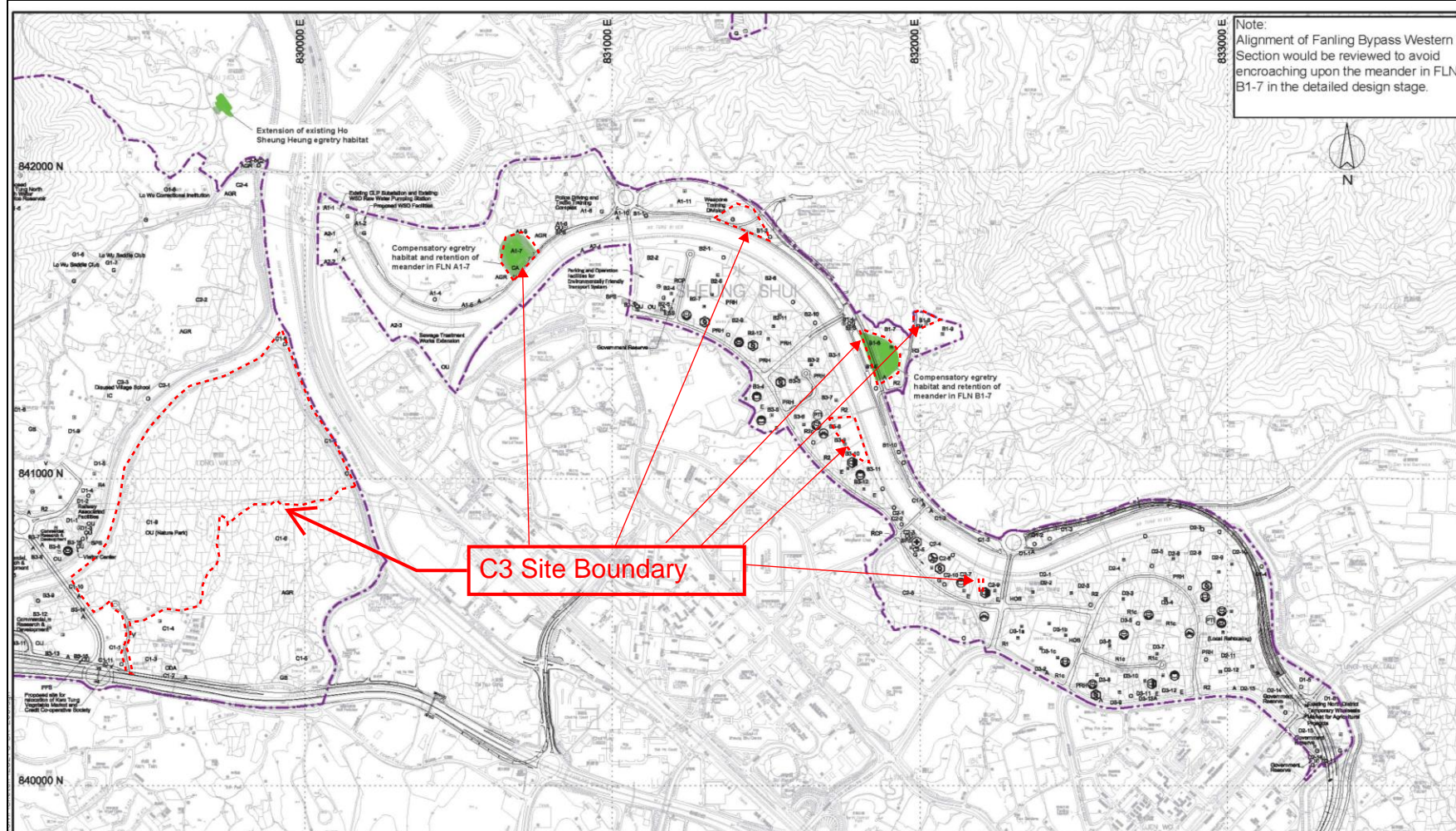


**Figure 18**

**Site Layout Plan of Contract ND/2019/03**

**under EP-473-2013-A**





**Project Title:** Fanling Bypass Eastern Section

**工程名稱:** 粉嶺繞道東段

**Figure 2:** Location of Alternative Egretty Sites and Retained Meanders

**圖 2:** 替代鷺鳥林選址和保留河曲的位置

(Extracted from Drawing No. SK/254 of North East New Territories New Development Area Planning and Engineering Study)

(摘錄自新界東北新發展區規劃及工程研究 圖: SK/254)

**Environmental Permit No:**

**EP-473/2013/A**

**環境許可證編號: EP-473/2013/A**

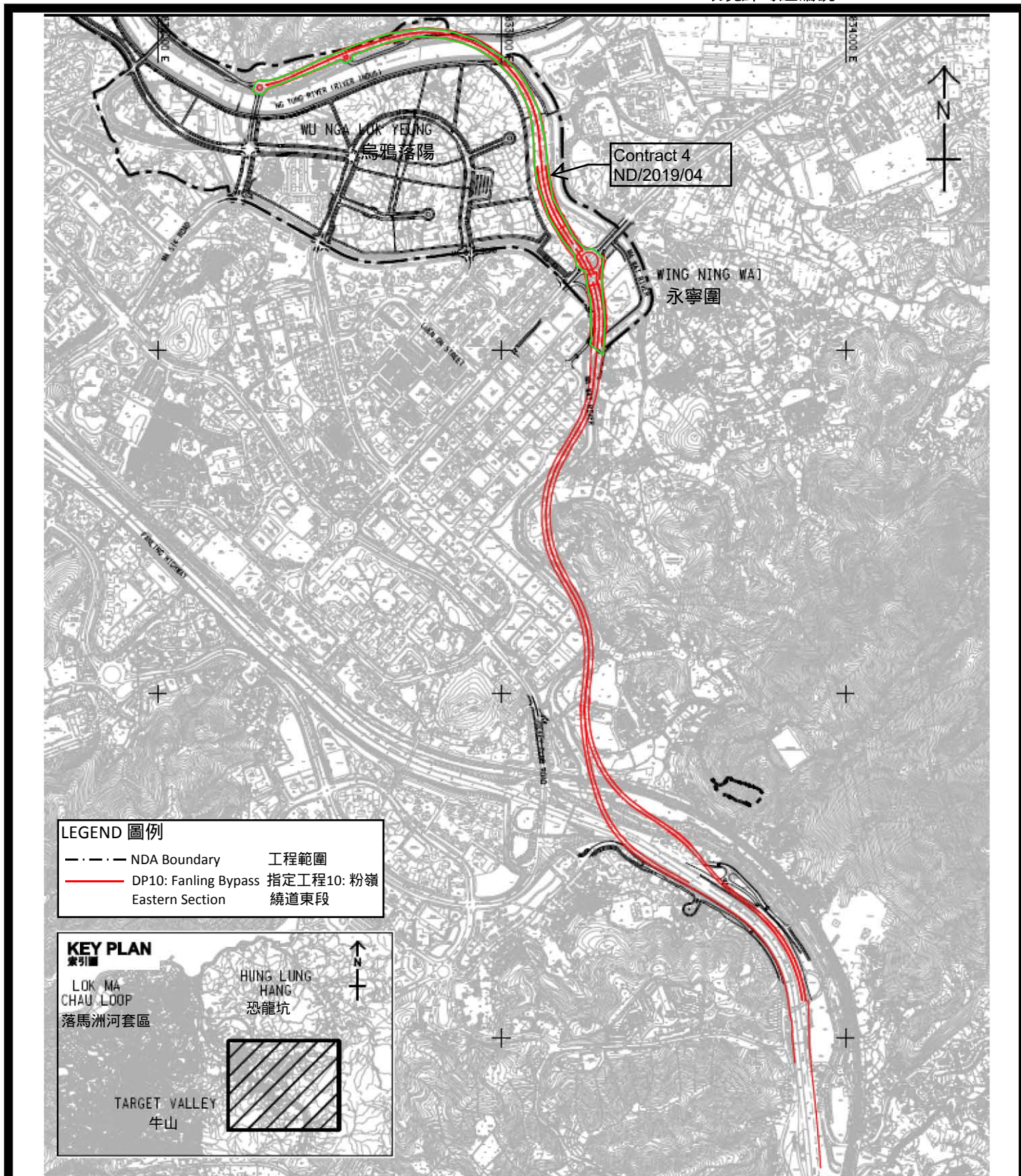


**Figure 19**

**Site Layout Plan of Contract ND/2019/04**

**under EP-473-2013-A**





**Project Title: Fanling Bypass Eastern Section**

**工程名稱: 粉嶺繞道東段**

**Figure 1: Location Plan for the Project (Indicative)**

**圖 1: 工程項目位置 (示意圖)**

This figure was prepared based on Figure 1.1 of VEP application (No.: VEP-526/2016)  
本圖是根據申請更改環境許可證(編號: VEP-526/2016)圖1.1編制

**Environmental Permit No:**

**EP-473/2013/A**

**環境許可證編號:**

**EP-473/2013/A**

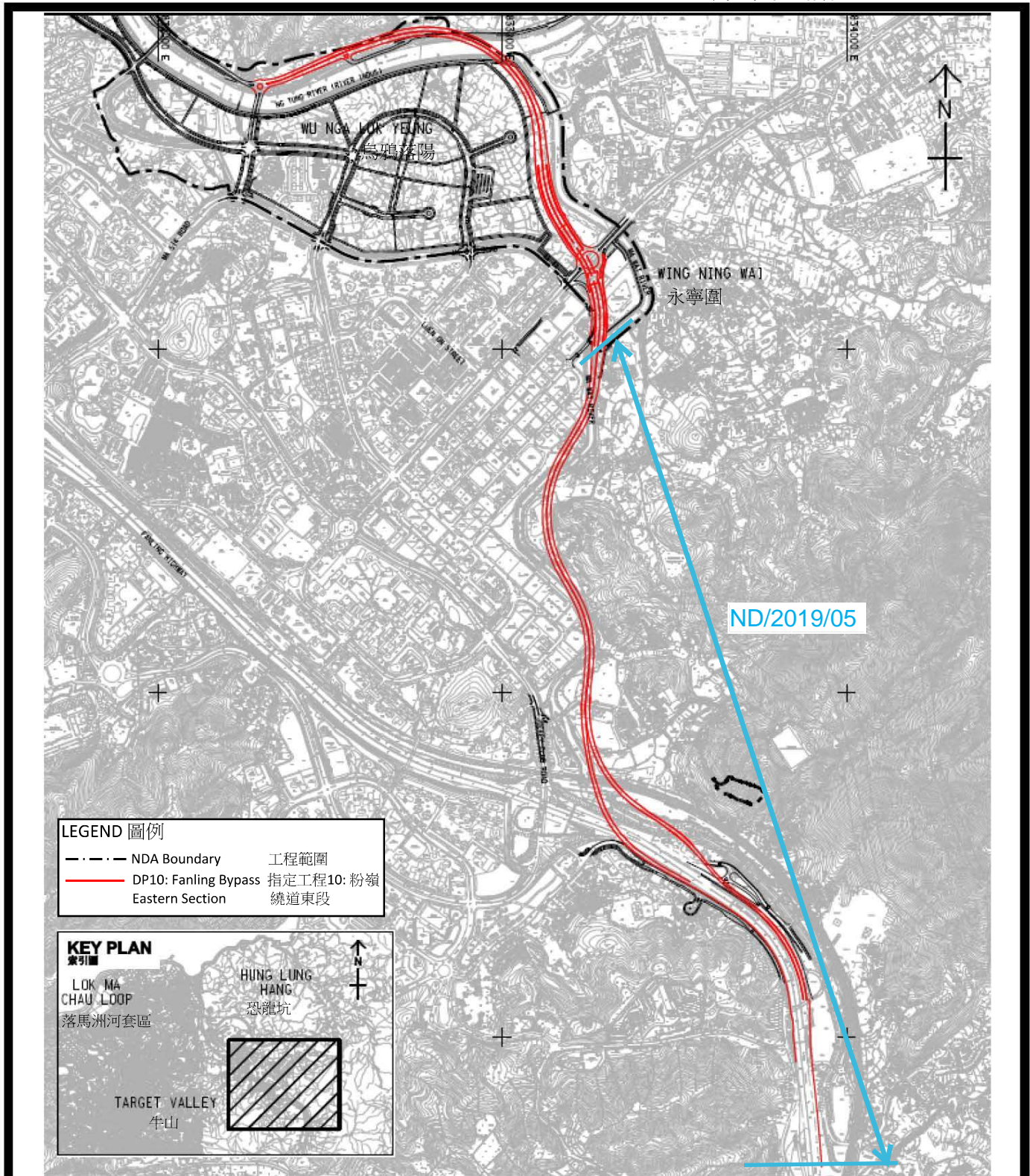


**Figure 20**

**Site Layout Plan of Contract ND/2019/05**

**under EP-473-2013-A**





**Project Title: Fanling Bypass Eastern Section**

工程名稱： 粉嶺繞道東段

**Figure 1: Location Plan for the Project (Indicative)**

圖 1： 工程項目位置 (示意圖)

This figure was prepared based on Figure 1.1 of VEP application (No.: VEP-526/2016)  
本圖是根據申請更改環境許可證(編號: VEP-526/2016)圖1.1編制

**Environmental Permit No:**

EP-473/2013/A

**環境許可證編號:**

EP-473/2013/A

EP-473/2013/A

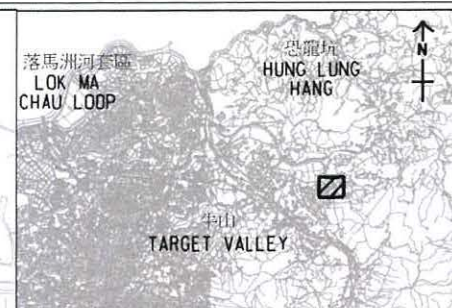
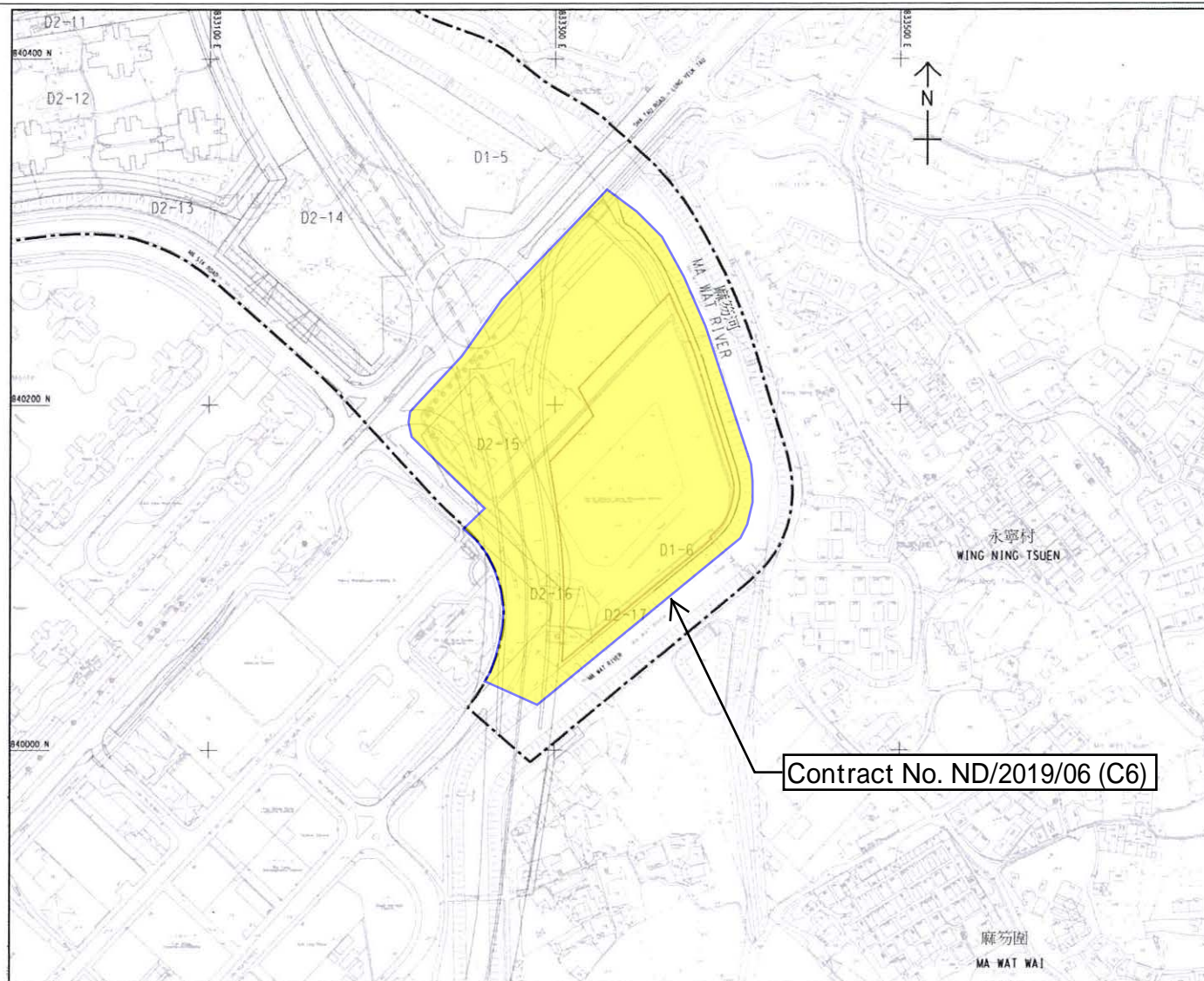


**Figure 21**

**Site Layout Plan of Contract ND/2019/06**

**under EP-475-2013-A**





圖例:

LEGEND:

- 新發展區項目邊界  
NDA PROJECT BOUNDARY
- 最新位置邊界  
LATEST SITE BOUNDARY

Contract No. ND/2019/06 (C6)



**Project Title: NENT - Reprovision of temporary Wholesale Market in Fanling North New Development Area**  
**工程名稱：粉嶺北新發展區重置臨時批發市場**

**Environmental Permit No.: EP-475/2013/A**  
**環境許可證編號：EP-475/2013/A**

**Figure 1: Project Location Plan (Indicative)**

**圖 1：工程項目位置圖（示意圖）**

(This figure was prepared based on Figure 1.1 of VEP application (No.: VEP-516/2016))  
 (本圖是根據申請更改環境許可證(編號 VEP-516/2016) 圖 1.1 編制)

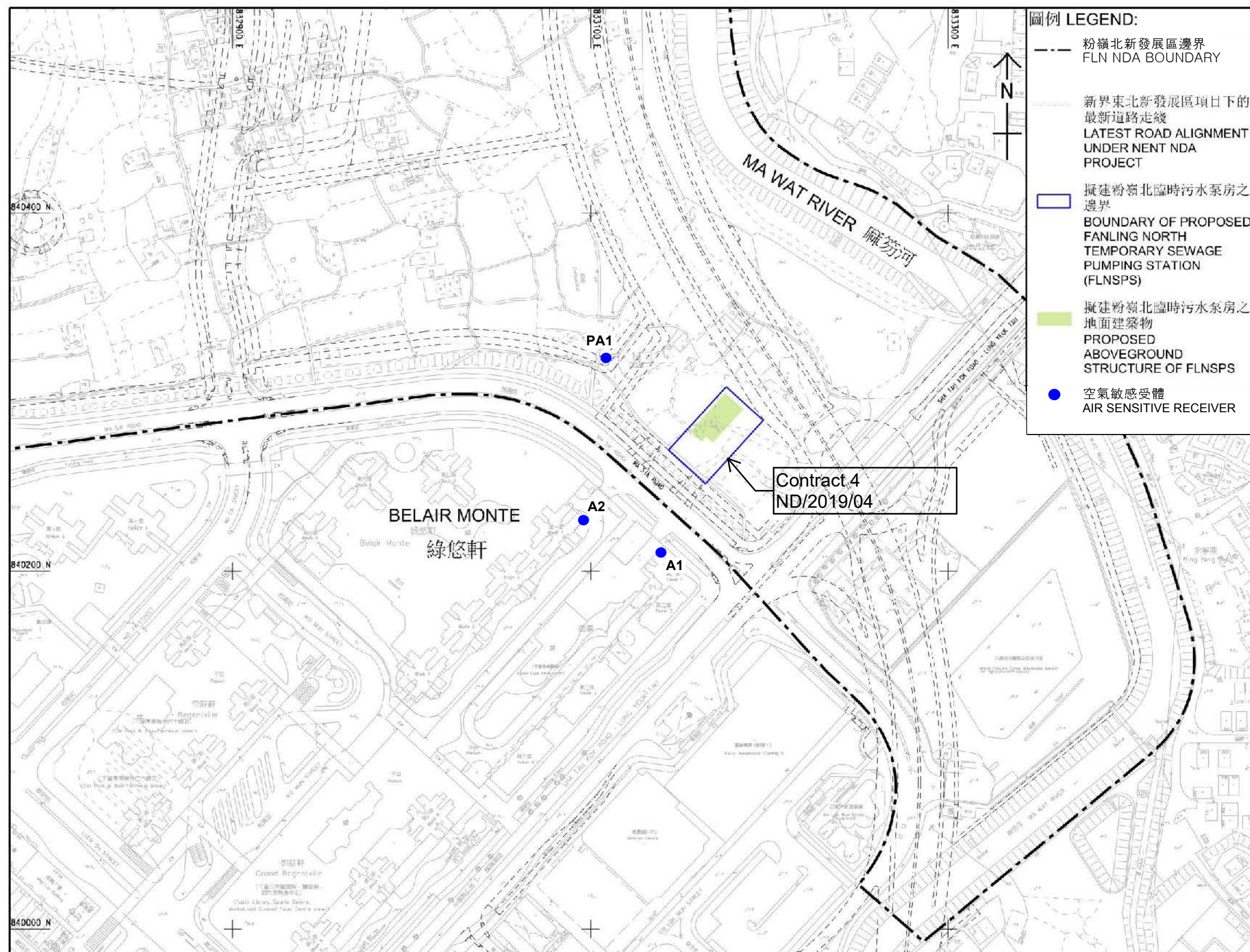


**Figure 22**

**Site Layout Plan of Contract ND/2019/04**

**under EP-546-2017**





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**APPENDIX A**  
**CONSTRUCTION PROGRAMME**

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## **Construction Programme of ND/2019/01**




Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023					
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26				
Revised Programme (2022-09-25) Rev.0																																
2.0 - Site Access Dates																																
AD-1240	Poriton 13	0	25-Dec-22*		-353	CD(7d)																										
AD-1000	Poriton 1a	0	25-Dec-22*		-537	CD(7d)																										
AD-1020	Portion 1c	0	25-Dec-22*		-353	CD(7d)																										
3.0 - Site Completion Dates																																
3.1 Sectional Work Completion (Original Contract Completion Date)																																
SC0-1000	Section 1 - all works Area H except landscape works and District Cooling System related works	0		25-Dec-22*	-79	CD(7d)																										
SC0-1130	Section 9 - all works in Area F	0		25-Dec-22*	-109	CD(7d)																										
6.0 - Prelimiaries and General Requirements																																
6.1 - Preliminaries																																
PRE-1040	Erection of Interim Contractor's Site Accommodation in Additional Land near Portion 1f	0	08-Jan-20 A	21-Jan-20 A		WD(6d)																										
PRE-1030	Provision of Waste Water Treatment Facilities / Wheel Washing System	0	01-Feb-20 A	10-Feb-20 A		CD(7d)																										
6.2 - General Submissions																																
GS-1290	Preparation and Submission of Fully Corodinated BIM	1222	21-Aug-20 A	29-Apr-26*	-83	CD(7d)																										
GS-1270	Submission of BIM Leader and BIM Corodinator	0	08-Jul-20 A	27-Jul-20 A		CD(7d)																										
GS-1040	Submission of Draft Construction Health and Safety Plan	0	28-Nov-19 A	06-Dec-19 A		CD(7d)																										
GS-1060	Submission of Draft Environmental Management Plan	0	28-Nov-19 A	06-Dec-19 A		CD(7d)																										
GS-1180	Submission of Emergency Unit	0	06-Dec-19 A	17-Dec-19 A		CD(7d)																										
GS-1070	Submission of Environmental Management Plan	0	28-Nov-19 A	31-Dec-19 A		CD(7d)																										
GS-1230	Submission of Major Method Statements	42	06-Dec-19 A	04-Feb-23	560	CD(7d)																										
GS-1000	Submission of Organization Chart	0	06-Dec-19 A	11-Dec-19 A		CD(7d)																										
GS-1170	Submission of Site Hoarding Plan	0	06-Dec-19 A	27-Dec-19 A		CD(7d)																										
GS-1160	Submission of Subcontractor Management Plan	0	28-Nov-19 A	06-Dec-19 A		CD(7d)																										
6.3 - Subletting Packages																																
SP-1270	Building Information Modelling (BIM)	0	06-Jun-20 A	07-Jul-20 A		CD(7d)																										
SP-1260	Condition Survey	0	22-Feb-20 A	17-Apr-20 A		CD(7d)																										
SP-1280	Construction Video Film Production	0	23-Apr-20 A	29-May-20 A		CD(7d)																										
SP-1150	Construction works for Temporary Noise Barrier (same as SP-1230)	0	10-Jun-20 A	26-Aug-20 A		CD(7d)																										
SP-1290	Demolition of Small Building in Portion 6A	0	04-Jun-20 A	17-Jul-20 A		CD(7d)																										
SP-1180	E&M works and Lift Installation for Pak Shek Au Pedestrian Subway	36	01-Aug-22 A	29-Jan-23	560	CD(7d)																										
SP-1160	E&M works for MBR Plant and Associated Works (including Sewage Transfer Station)	0	02-Apr-20 A	03-Jun-20 A		CD(7d)																										
SP-1170	E&M works for Water Service Reservoirs (Service Reservoir Specialist)	0	28-Sep-20 A	15-Dec-20 A		CD(7d)																										
SP-1070	Ground Investigation and Laboratory Testing	0	20-Jan-20 A	24-Mar-20 A		CD(7d)																										
SP-1030	Independent Checking Engineer Services	0	14-Feb-20 A	17-Apr-20 A		CD(7d)																										
SP-1250	Interim Community Liaison Centre	0	22-Feb-20 A	24-Mar-20 A		CD(7d)																										
SP-1230	Panel Installation for Permanent Noise Barriers (same as SP-1150)	0	13-Jun-20 A	26-Aug-20 A		CD(7d)																										
SP-1090	Piling Works	0	10-Jul-20 A	25-Aug-20 A		CD(7d)																										






Build King – Richwell Engineering  
Joint Venture

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023				February 2023				March 2023			
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26
	S1K1-2108.01	Underground Fresh & Flushing watermain (under carriageway)	0	03-Nov-21 A	15-Nov-21 A		WD(6d)																					
	S1K1-2110	Underground utilities (under footpath)	12	05-Nov-21 A	10-Jan-23	-88	WD(6d)																					
Smart Road Lightings System Installation																												
	S1K1-3030	Installation of smart road lighting system	73	27-Dec-22	25-Mar-23	-164	WD(6d)																					
	S1K1-3040	Testing and Commissioning (T&C) for smart road lighting system	30	26-Mar-23	24-Apr-23	-200	CD(7d)																					
Remaining Road works in Area H																												
	S1P10a-2014	Noise barrier NB35 panels (Deleted)	60	27-Dec-22	10-Mar-23	-128	WD(6d)																					
	S1P10a-2010	Road D1 Cycle Track - Road Formation	14	27-Dec-22*	12-Jan-23	-130	WD(6d)																					
	S1P10a-2011	Road L1 Cycle Track - Road Formation	24	13-Jan-23	13-Feb-23	-130	WD(6d)																					
Section 2A																												
Portion 5 in Area C1 (Soil Treatment & Interface with HD's Contractors)																												
Preparation work/Tree Survey/Site Clearance/GI																												
	S2AP5-1010	Tree survey and prepare tree felling and transplant report	0	08-Apr-20 A	04-Jun-20 A		WD(6d)																					
Soil Treatment																												
	S2AP5-2020	Remaining works (Site formation, proofrolling, chain Link fence, open channel)	0	11-Apr-22 A	06-Jun-22 A		WD(6d)																					
	S2AP5-2010	Remove soil (original assumed 13140m3) (Arsenic soil below contract required level)	0	16-Apr-21 A	16-Apr-21 A		WD(6d)																					
Interface with HD's Contractor to carry out GI																												
	S2AP5-3040	HD's Contractor to carry out GI in Area C1 Zone B1 (Stage 3)	0	15-Dec-21 A	15-Jan-22 A		CD(7d)																					
	S2AP5-3050	HD's Contractor to carry out GI in Area C1 Zone C (Stage 3)	0	25-Nov-21 A	15-Jan-22 A		CD(7d)																					
	S2AP5-3060	HD's Contractor to carry out GI in Area C1 Zone D (Stage 3)	0	25-Oct-21 A	15-Jan-22 A		CD(7d)																					
Section 2B																												
Portion 9a in Area C2 (Soil Treatment & Interface with HD's Contractors)																												
Preparation work/Tree Survey/Site Clearance/GI																												
	S2BP9a-1030	Environmental ground investigation and laboratory test (1 / 1 EGI completed)	0	09-Jun-20 A	16-Jun-20 A		WD(6d)																					
	S2BP9a-1020	Site clearance	0	15-Mar-22 A	12-May-22 A		WD(6d)																					
Interface with HD's Contractor to carry out GI																												
	S2BP9a-3020	HD's Contractor to carry out GI in Area C2 (Stage 3)	0	25-Aug-22 A	03-Sep-22 A		CD(7d)																					
Section 3																												
Portion 1a in Area E (Soil Treatment & Interface with HKHS's Contractors)																												
Preparation work/Tree Survey/Site Clearance/GI																												
	S3P1a-1050	Arsenic Treatment Plan	18	18-Jan-23	10-Feb-23	554	WD(6d)																					
	S3P1a-1025	Ground investigation (0 / 4 GI completed) (all GI by Housing Contractor)	0	01-Nov-21 A	01-Nov-21 A		WD(6d)																					
	S3P1a-1040	Prepare Arsenic Assessment Report	18	27-Dec-22	17-Jan-23	554	WD(6d)																					
	S3P1a-1070	Set up Containment Area, Removal and Disposal of Asbestos and Clean up Works	0	26-Jan-22 A	24-Feb-22 A		WD(6d)																					
	S3P1a-1080	Site Formation and Construct Chain Link fence	0	18-Feb-22 A	31-Mar-22 A		WD(6d)																					
Soil Treatment																												
	S3P1a-2020	Backfilling to the formation levels	48	25-Mar-23	25-May-23	776	WD(6d)																					
	S3P1a-2000	Construct & maintain Temporary drainage	84	11-Feb-23	25-May-23	776	WD(6d)																					
	S3P1a-2010	Remove soil (original assumed 17334m3) (1 / 13 EGI completed, interim soil to be excava	36	11-Feb-23	24-Mar-23	554	WD(6d)																					
Portion 7 in Area E (Soil Treatment & Interface with HKHS's Contractors)																												
Preparation work/Tree Survey/Site Clearance/GI																												
	S3P7-1030	Environmental ground investigation and lab test (3 EGI) (another 1 EGI in other portion req	0	21-May-20 A	13-Jun-20 A		WD(6d)																					
	S3P7-1010	Tree survey and prepare tree felling and transplant report	0	06-Apr-20 A	18-May-20 A		WD(6d)																					
Section 4A																												
Portion 1b in Area D1 (Soil Treatment & Interface with HD's Contractors)																												
Preparation work/Tree Survey/Site Clearance/GI																												
	S4AP1b-1050	Arsenic Treatment Plan	30	02-May-22 A	03-Feb-23	-46	WD(6d)																					

 <p><b>Build King – Richwell Engineering Joint Venture</b></p>	<p>Planned Work</p> <p>Critical Work</p> <p>Actual Work</p> <p>Milestone</p> <p>Milestone Critical</p> <p>Summary LOE</p> <p>Summary LOE Critical</p>	<p><b>ND/2019/01 - 3 Month Rolling Programme (2022 - 12)</b></p>		<p>Project ID: ND201901-RP-2</p> <p>Layout: ND201901-3MRP with logo</p> <p>Page 3 of 22</p>	<p>THE 3-MONTH ROLLING PROGRAMME</p> <table border="1"> <tr> <th>Date</th> <th>Revision</th> <th>Checked</th> <th>Approved</th> </tr> <tr> <td>30-Dec-22</td> <td>Rev.0</td> <td>SC</td> <td>BY</td> </tr> </table>				Date	Revision	Checked	Approved	30-Dec-22	Rev.0	SC	BY
	Date	Revision	Checked	Approved												
	30-Dec-22	Rev.0	SC	BY												
<p>25-Dec-22</p>	<p>30-Dec-2022</p>															

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023				
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26			
	S4AP1b-1040	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	-46	WD(6d)																								
	S8P1b-3146	Set up Containment Area ,Removal and Disposal of Asbestos and Clean up Works	0	26-Mar-22 A	10-May-22 A		WD(6d)																								
Soil Treatment																															
	S4AP1b-2020	Backfilling to the formation levels	60	04-Jul-22 A	10-Mar-23	-76	WD(6d)																								
	S4AP1b-2000	Construct & maintain Temporary drainage	180	27-Dec-22	07-Aug-23	-76	WD(6d)																								
	S4AP1b-2030	New Feature KS57 - Construct Slope	72	03-Feb-23	03-May-23	-76	WD(6d)																								
	S4AP1b-2040	New Feature KS57 - Construct Slope Drainage	48	24-Mar-23	24-May-23	-76	WD(6d)																								
Interface with HD's Contractor to carry out GI																															
	S4AP1b-3010	HD's Contractor to carry out GI in Area D1 (Stage 1)	0	14-Mar-22 A	23-Apr-22 A		CD(7d)																								
	S4AP1b-3020	HD's Contractor to carry out GI in Area D1 (Stage 1A/2/2A)	0	06-May-22 A	04-Jun-22 A		CD(7d)																								
	S4AP1b-3030	HD's Contractor to carry out GI in Area D1 Zone B (Stage 3)	0	25-Aug-22 A	03-Sep-22 A		CD(7d)																								
	S4AP1b-3040	HD's Contractor to carry out GI in Area D1 Zone C (Stage 3)	0	05-Sep-22 A	10-Sep-22 A		CD(7d)																								
Section 4B																															
Portion 1c in Area D2 (Soil Treatment & Interface with HD's Contractors)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S4BP1c-1050	Arsenic Treatment Plan	30	02-May-22 A	03-Feb-23	62	WD(6d)																								
	S4BP1c-1030	Environmental ground investigation and laboratory test (2 / 2 EGI completed)	0	14-Mar-22 A	25-Mar-22 A		WD(6d)																								
	S4BP1c-1040	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	62	WD(6d)																								
	S4BP1c-1020	Site Clearance & Tree Felling	0	26-Mar-22 A	29-Apr-22 A		WD(6d)																								
Soil Treatment																															
	S4BP1c-2020	Backfilling to the formation levels	48	04-Mar-23	04-May-23	62	WD(6d)																								
	S4BP1c-2000	Construct & maintain Temporary drainage	151	04-Feb-23	08-Aug-23	62	WD(6d)																								
	S4BP1c-2010	Remove soil (original assumed 2868m3) (0 / 2 EGI completed, interim soil to be excavated)	24	04-Feb-23*	03-Mar-23	62	WD(6d)																								
Interface with HD's Contractor to carry out GI																															
	S4BP1c-3010	HD's Contractor to carry out GI in Area D2 (Stage 1A/2/2A)	0	09-Mar-22 A	28-Mar-22 A		CD(7d)																								
	S4BP1c-3020	HD's Contractor to carry out GI in Area D2 (Stage 3)	0	25-Aug-22 A	03-Sep-22 A		CD(7d)																								
Section 4C																															
	S4C-1004	Delay to the Removal of Existing CLP Cables and Facilities in Portion 1b and 1c of the Site	0		25-Dec-22	-269	CD(7d)								◆ Delay to the Removal of Existing CLP Cables and Facilities in Portion 1b and 1c of the Site (EWN 074)																
Portion 1b in Area D3 (Soil Treatment & Interface with ArchSD's Contractors)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S4CP1b-1012	Approval & Acceptance of Tree Felling Application	0	22-Feb-22 A	11-Mar-22 A		CD(7d)																								
	S4CP1b-1050	Arsenic Treatment Plan	30	02-May-22 A	03-Feb-23	-76	WD(6d)																								
	S4CP1b-1025	Ground investigation (1 / 1 GI completed)	0	28-Apr-22 A	03-May-22 A		WD(6d)																								
	S4CP1b-1040	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	-76	WD(6d)																								
Soil Treatment																															
	S4CP1b-2020	Backfilling to the formation levels	54	27-Dec-22	03-Mar-23	-76	WD(6d)																								
	S4CP1b-2000	Construct & maintain Temporary drainage	108	27-Dec-22	11-May-23	-76	WD(6d)																								
	S4CP1b-2030	New Feature KS36 - Construct Slope	42	11-Feb-23	31-Mar-23	-76	WD(6d)																								
	S4CP1b-2050	Rectangular Channel 1.8m Width	92	19-Sep-22 A	21-Apr-23	-76	WD(6d)																								
	S4CP1b-2060	Rectangular Channel 2.5 m Width	36	18-Mar-23	04-May-23	-76	WD(6d)																								
	S4CP1b-1098	Removal of Existing CLP Cables and Facilities in Portion 1c of the Site (EWN 074)	0		25-Dec-22*	-269	CD(7d)								◆ Removal of Existing CLP Cables and Facilities in Portion 1c of the Site (EWN 074)																
	S4CP1b-2010	Remove soil (original assumed 3994m3) (0 / 4 EGI completed, interim soil to be excavated)	0	25-Aug-22 A	03-Sep-22 A		WD(6d)																								
Interface with ArchSD's Wet Market Contractor to carry out GI																															
	S4CP1b-3010	ArchSD's Wet Market Contractor to carry out GI in Area D3	24	15-Aug-22 A	27-Jan-23	8	WD(6d)																								
Section 5																															
Portion 4 in Area I (Soil Treatment & Complete Temp. Noise Barriers along Castle Peak Road)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S5P4-1050	Arsenic Treatment Plan	0	30-Apr-20 A	18-May-20 A		WD(6d)																								
	S5P4-1030	Environmental ground investigation and laboratory test (1 / 1 EGI completed)	0	14-Apr-20 A	29-Apr-20 A		WD(6d)																								



**Build King – Richwell Engineering**  
Joint Venture

Planned Work

Critical Work

Actual Work

Milestone

Milestone Critical

Summary LOE

Summary LOE Critical

ND/2019/01 - 3 Month Rolling Programme (2022 - 12)


25-Dec-2230-Dec-2022

Project ID: ND201901-RP-2  
Lauyout: ND201901-3MRP  
with logo  
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THE 3-MONTH ROLLING PROGRAMME

Date	Revision	Checked	Approved
30-Dec-22	Rev.0	SC	BY

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023				March 2023			
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26	
Section 5A	S5P4-1040	Prepare Arsenic Assessment Report	0	30-Apr-20 A	18-May-20 A		WD(6d)																						
	S5P4-1020	Site clearance	0	05-Mar-20 A	13-Apr-20 A		WD(6d)																						
	S5P4-1010	Tree survey and prepare tree felling and transplant report (including Approval)	0	17-Apr-20 A	11-May-20 A		WD(6d)																						
	Soil Treatment																												
	S5P4-2020	Backfilling to the formation levels	0	03-Dec-20 A	14-Dec-20 A		WD(6d)																						
	S5P4-2010	Remove soil (original assumed 5354m3) (1 / 1 EGI completed, soil to be excavated / treat	0	18-May-20 A	18-May-20 A		WD(6d)																						
	KD9 - Complete the temp. noise barriers along Castle Peak Road in Area T1, T2, T3, H, H1, I, J,K																												
	S5P4-3005	Construction of Slope Drainage in Portion 4 (48m) along Castle Peak Road	0	24-Sep-20 A	08-Oct-20 A		WD(6d)																						
	S5P4-3020	Erection of Temporary Noise Barrier Frame in Portion 4 (48m)	0	15-Dec-20 A	31-Dec-20 A		WD(6d)																						
	Portion 14 in Area I (Soil Treatment & Complete Temp. Noise Barriers along Castle Peak Road)																												
Preparation work/Tree Survey/Site Clearance/GI																													
S5P14-1008	Break and remove existing concrete paving	0	01-Feb-21 A	27-Feb-21 A		WD(6d)																							
Soil Treatment																													
S5P14-2020	Backfilling to the formation levels	0	08-Mar-21 A	31-Mar-21 A		WD(6d)																							
S5P14-2010	Remove soil (EGI was carried out by other Contract, interim soil to be excavated and treat	0	06-Mar-21 A	06-Mar-21 A		WD(6d)																							
Section 6A																													
Portion 1e in Area G1 (Soil Treatment & Forming Hammerhead)																													
Preparation work/Tree Survey/Site Clearance/GI																													
S6AP1e-1050	Arsenic Treatment Plan	30	02-May-22 A	03-Feb-23	-25	WD(6d)																							
S6AP1e-1030	Environmental ground investigation and laboratory test(1 / 1 EGI comleted)	0	20-May-20 A	23-May-20 A		WD(6d)																							
S6AP1e-1025	Ground investigation (0/ 1 GI completed)	0	20-Sep-21 A	23-Sep-21 A		WD(6d)																							
S6AP1e-1040	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	-25	WD(6d)																							
S6AP1e-1070	Set up Containment Area, Removal and Disposal of Asbestos and Clean up Works	0	22-Feb-22 A	25-Mar-22 A		WD(6d)																							
S6AP1e-1020	Site Clearance & Tree Felling	0	25-Jun-22 A	08-Jul-22 A		WD(6d)																							
Soil Treatment																													
S6AP1e-2000	Construct & maintain Temporary drainage	106	04-Feb-23	14-Jun-23	-25	WD(6d)																							
S6AP1e-2010	Remove soil (original assumed 14575m3) (1 / 2 EGI completed, interim soil to be excavate	46	04-Feb-23*	29-Mar-23	-25	WD(6d)																							
Portion 15 in Area G1 (Soil Treatment)																													
Preparation work/Tree Survey/Site Clearance/GI																													
S6AP15-1030	Environmental ground investigation and lab test (1 / 1 EGI completed)	0	13-Sep-21 A	17-Sep-21 A		WD(6d)																							
Section 6B																													
Portion 1e in Area G2 (Soil Treatment)																													
Preparation work/Tree Survey/Site Clearance/GI																													
S6BP1e-1050	Arsenic Treatment Plan	36	11-Feb-23	24-Mar-23	530	WD(6d)																							
S6BP1e-1040	Prepare Arsenic Assessment Report	36	27-Dec-22	10-Feb-23	530	WD(6d)																							
S6BP1e-1070	Set up Containment Area, Removal and Disposal of Asbestos and Clean up Works	0	22-Feb-22 A	25-Mar-22 A		WD(6d)																							
S6BP1e-1020	Site Clearance & Tree Felling	0	25-Jun-22 A	08-Jul-22 A		WD(6d)																							
Section 7 (Subject to excision)																													
Portion 14 in Area K (Complete TSPS with Associated Sewerage)																													
Preparation work/Tree Survey/Site Clearance/GI																													
S7P14-1008	Break and remove existing concrete paving	0	01-Feb-21 A	27-Feb-21 A		WD(6d)																							
S7P14-1010	Site clearance	0	01-Mar-21 A	06-Mar-21 A		WD(6d)																							
KD2 - Complete Temporary Sewage Pumping Station and associated rising mains and sewers, and connect																													
Design and Civil Construction																													
S7P14-2020	Construction of TSPS	0	31-Mar-21 A	25-Sep-21 A		WD(6d)																							
E&M Works																													
S7P14-3040	E&M Instalation for TSPS	0	27-Sep-21 A	20-Oct-21 A		WD(6d)																							



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Planned Work

Critical Work

Actual Work

Milestone

Milestone Critical

Summary LOE


Summary LOE Critical

25-Dec-22

30-Dec-2022



Activity ID		Activity Name		Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023				
									30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26			
Sewerage Works																																	
S7P14-4020		Construction of sewage manhole and gravity sewer for connection of sewage from MWSC		0	28-Dec-21 A	15-Jan-22 A		WD(6d)																									
S7P14-4010		Laying of sewage rising mains from TSPS and connect to existing tank of MBR plant		0	15-Mar-21 A	20-Oct-21 A		WD(6d)																									
KD2 - Portion 11b in Area K (Laying sewer rising mains and connect to existing MBR)																																	
Sewerage Works																																	
S7P11b-1015		Construct & maintain Temporary drainage		18	27-Dec-22	17-Jan-23	38	WD(6d)																									
S7P11b-1060		Construction of MBR & Remedial Works		18	08-Apr-21 A	17-Jan-23	38	WD(6d)																									
S7P11b-1102		Existing MBR Plant - Membrane Replacement Works		30	20-Jan-23	27-Feb-23	-19	WD(6d)																									
S7P11b-1090		Existing MBR Plant - Submission and Approval of Method Statement for Replacement of M		20	12-Aug-22 A	19-Jan-23	-19	WD(6d)																									
S7P11b-1100		Existing MBR Plant - Tentative Access date		0	20-Jan-23*		-23	CD(7d)	Existing MBR Plant - Tentative Access date																								
S7P11b-1104		Final Combined Test at Existing MBR Plant & New MBR Plant		30	28-Feb-23	29-Mar-23	-23	CD(7d)																									
S7P11b-1020		Laying of sewage rising mains from TSPS and connect to existing tank of MBR plant		0	02-Mar-21 A	25-Aug-21 A		WD(6d)																									
S7P11b-1050		Supply, Factory Acceptance Test (FAT) & Delivery of E&M equipment for MBR		0	29-Apr-21 A	21-Sep-21 A		WD(6d)																									
Portion 4 in Area K (Complete Temp. Noise Barriers along Castle Peak Road)																																	
Preparation work																																	
S7P4-1010		Site clearance		0	05-Mar-20 A	13-Apr-20 A		WD(6d)																									
Sewerage Works																																	
S7P4-2010		Laying of sewage rising mains from TSPS and connect to existing tank of MBR plant		0	01-Feb-21 A	12-Apr-21 A		WD(6d)																									
KD9 - Complete the temporary noise barriers along Castle Peak Road in Area I, J, K																																	
S7P4-3010		Erection of Frame for Temporary noise barrier in Area K, Portion 4 (115m, 1 gang)		0	15-Dec-20 A	31-Dec-20 A		WD(6d)																									
S7P11b-3010		Erection of temporary noise barrier in Area K, Portion 11b (115m, 1 gang) (Deleted)		104	27-Dec-22	06-May-23	-48	WD(6d)																									
Section 8																																	
S8-1018		Excavation Permit (XP) for New Cycle Path (EWN No. 021) (CNE No. 022)		0		25-Dec-22	-772	CD(7d)	Excavation Permit (XP) for New Cycle Path (EWN No. 021) (CNE No. 022)																								
S8-1020		Increased Difficulty for the Construction of Pak Shek Au Pedestrian Subway Cum Cycle Tr		0		25-Dec-22	-192	CD(7d)	In creased Difficulty for the Construction of Pak Shek Au Pedestrian Subway Cum Cycle Track at Portion 2 (EWN 068)																								
S8-1016		Opening of Cycle Track at Portion 2 and 10a (EWN No. 017)		0		25-Dec-22	-772	CD(7d)	Opening of Cycle Track at Portion 2 and 10a (EWN No. 017)																								
S8-1014		Part of Portion 2 Occupied by YL/2015/01 (EWN No. 016) (CNE No. 022)		0		25-Dec-22	-772	CD(7d)	Part of Portion 2 Occupied by YL/2015/01 (EWN No. 016) (CNE No. 022)																								
S8-1012		Suspension of Works at Part of Portion 2 (EWN No. 019)		0		25-Dec-22	-772	CD(7d)	Suspension of Works at Part of Portion 2 (EWN No. 019)																								
Portion 2 in Area A (Soil Treatment & Construction of Pak Shek Au Junction)																																	
Preparation work																																	
S8P2-1016		Remaining Ground investigation (1 / 1 GI completed)		0	25-Aug-22 A	07-Sep-22 A		WD(6d)																									
S8P2-1018		Remaining Site clearance		36	27-Dec-22	10-Feb-23	-369	WD(6d)																									
S8P2-1010		Site clearance / Tree Felling (Stage 1)		0	21-Sep-20 A	16-Oct-20 A		WD(6d)																									
S8P2-0020		Traffic diversion to temp road		0	16-Jun-22 A	22-Jun-22 A		WD(6d)																									
S8P2-0010		Tree survey and prepare tree felling and transplant report		0	19-Jun-20 A	21-Jul-20 A		WD(6d)																									
Soil Treatment																																	
S8P2-2020		Backfilling to the formation levels		48	31-Jan-23	27-Mar-23	-167	WD(6d)																									
S8P2-2010		Remove soil (original assumed 6898m3) (0/1 EGI completed, interim soil to be excavated.		26	27-Dec-22*	30-Jan-23	-628	WD(6d)																									
Civil Work																																	
Construction of Pak Shek Au Junction																																	
S8P2-4100		Cutslope with soil nail construction at existing slope KS34		180	11-Feb-23	18-Sep-23	-366	WD(6d)																									
S8P2-4110		Expose existing UU & ELS for Drainage & Water Main		49	30-Jun-22 A	25-Feb-23	-382	WD(6d)																									
S8P2-4130		Road & Drain Construction Stage 1 - Construction of drainage, Watermain		240	27-Feb-23	15-Dec-23	-382	WD(6d)																									
Portion 1a in Area A (Soil Treatment, Slope, Retaining Wall, Noise Barrier, Drainage & Roadwork)																																	
Preparation work																																	
S8P1a-1004		Approval & Acceptance of Tree Felling Application		24	10-Sep-22 A	17-Jan-23	-510	CD(7d)																									
S8P1a-1050		Archaeological Survey		15	27-Dec-22	13-Jan-23	-307	WD(6d)																									
S8P1a-1040		Arsenic Treatment Plan		30	02-May-22 A	03-Feb-23	-367	WD(6d)																									
S8P1a-0100		Delay in the Access to and Use of Portions 1a & 12 of the Site (CNE 034)		0		25-Dec-22	-537	CD(7d)	Delay in the Access to and Use of Portions 1a & 12 of the Site (CNE 034)																								
S8P1a-1020		Environmental ground investigation and laboratory test (3 / 4 EGI)		20	27-Dec-22	19-Jan-23	-362	WD(6d)																									



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Joint Venture

Planned Work

Critical Work

Actual Work

Milestone

Milestone Critical

Summary LOE

Summary LOE Critical

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Activity ID		Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023				
								30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26			
	S8P1a-1015	Ground investigation (2 / 3 GI completed)	42	04-Feb-23	24-Mar-23	-414	WD(6d)																									
	S8P1a-1070	Notificatioan and Approval of Asbestos Abatement Programme	0	29-Jun-22 A	15-Aug-22 A		CD(7d)																									
	S8P1a-0106	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Dec-22	193	CD(7d)																									
	S8P1a-0102	Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)	0		25-Dec-22	-141	CD(7d)																									
	S8P1a-0104	Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)	0		25-Dec-22	-141	CD(7d)																									
	S8P1a-1030	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	-367	WD(6d)																									
	S8P1a-1080	Set up Containment Area, Removal and Disposal of Asbestos and Clean up Works	26	09-Aug-22 A	30-Jan-23	-389	WD(6d)																									
	S8P1a-1010	Site clearance	48	30-Dec-22	28-Feb-23	-414	WD(6d)																									
	S8P1a-1002	Tree survey and prepare tree felling and transplant report	0	26-Jul-21 A	09-Sep-22 A		WD(6d)																									
	S8P1a-1025	Verification of Ground Condition & Design Review by Project Manager	60	25-Mar-23	23-May-23	-508	CD(7d)																									
Soil Treatment																																
	S8P1a-2020	Backfilling to the formation levels	35	28-Mar-23	12-May-23	-281	WD(6d)																									
	S8P1a-2010	Remove soil (original assumed 10988m3) (0 / 6 EGI completed, interim soil to be excavate	33	04-Feb-23*	14-Mar-23	-292	WD(6d)																									
Portion 3 in Area A (Soil Treatment, Drainage & Roadwork)																																
Preparation work																																
	S8P3-1060	Environmental ground investigation and laboratory test (1 / 1 EGI completed)	0	11-Nov-20 A	16-Nov-20 A		WD(6d)																									
	S8P3-0104	Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWMs) (CNE 060)	0		25-Dec-22	90	CD(7d)																									
	S8P3-0106	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Dec-22	305	CD(7d)																									
	S8P3-0102	Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)	0		25-Dec-22	90	CD(7d)																									
	S8P3-0103	Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)	0		25-Dec-22	90	CD(7d)																									
	S8P3-1040	Site clearance	0	14-Mar-22 A	16-May-22 A		WD(6d)																									
Soil Treatment																																
	S8P3-2020	Backfilling to the formation levels	48	27-Dec-22	24-Feb-23	18	WD(6d)																									
	S8P3-2010	Remove soil (original assumed 1597m3) (1 / 1 EGI completed, interim soil to be excavate	0	06-Aug-22 A	22-Sep-22 A		WD(6d)																									
Civil Work																																
	S8P3-3000	Construct & maintain Temporary drainage	438	27-Dec-22	21-Jun-24	-73	WD(6d)																									
	S8P3-3005	Slopeworks (KS53 cut slope)	94	22-Feb-23	17-Jun-23	-73	WD(6d)																									
	S8P3-3010.00	Underground Drainage work (SMH1007 to 1008)	45	06-Aug-22 A	21-Feb-23	-73	WD(6d)																									
Portion 5 in Area A (Soil Treatment, Bored Pile Wall, Drainage & Roadwork)																																
Preparation work/Tree Survey/Site Clearance/GI																																
	S8P5-0102	Design Layout and Profile for the Water Supply Pipework (EWN 034)	0		25-Dec-22	-153	CD(7d)																									
	S8P5-1015	Ground investigation (1 / 1 GI completed) outside CSD location	0	07-Sep-20 A	09-Sep-20 A		WD(6d)																									
	S8P5-1020	Ground investigation (3 / 3 GI completed) within CSD loaction	0	20-Jul-20 A	04-Aug-20 A		WD(6d)																									
	S8P5-0108	Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWMs) (CNE 060)	0		25-Dec-22	-86	CD(7d)																									
	S8P5-0110	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Dec-22	338	CD(7d)																									
	S8P5-0104	Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)	0		25-Dec-22	-153	CD(7d)																									
	S8P5-0106	Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)	0		25-Dec-22	-153	CD(7d)																									
	S8P5-0000	The footing detai l for Roadside Directional Sign ADS30 at Portion 5 (EWN 043)	0		25-Dec-22	1474	CD(7d)																									
	S8P5-1006	Tree survey and prepare tree felling and transplant report	0	08-Apr-20 A	04-Jun-20 A		WD(6d)																									
Construction according to CSD for Alternative on Bored Pile Wall																																
	S8P5-2005	Construct & maintain Temporary drainage	480	27-Dec-22	10-Aug-24	714	WD(6d)																									
	S8P5-2020	R.C. Mass Wall construction Bay 1 - Base slab	0	21-Dec-20 A	02-Jan-21 A		WD(6d)																									
	S8P5-2026	R.C. Mass Wall construction Bay 2 - Base slab	0	04-Jan-21 A	13-Jan-21 A		WD(6d)																									
	S8P5-2032	R.C. Mass Wall construction Bay 3 - Base slab	0	22-Feb-21 A	03-Mar-21 A		WD(6d)																									
	S8P5-2034	R.C. Mass Wall construction Bay 3 - Stem wall	0	26-Mar-21 A	17-Apr-21 A		WD(6d)																									
	S8P5-2044	R.C. Mass Wall construction Bay 4 - Base slab	0	16-Feb-21 A	25-Feb-21 A		WD(6d)																									
	S8P5-2046	R.C. Mass Wall construction Bay 4 - Stem wall	0	10-Mar-21 A	25-Mar-21 A		WD(6d)																									
	S8P5-2040	R.C. Mass Wall construction Bay 5 - Stem wall	0	04-May-21 A	18-May-21 A		WD(6d)																									
	S8P5-2050	R.C. Mass Wall construction Bay 6 - Base slab	0	26-Feb-21 A	09-Mar-21 A		WD(6d)																									
	S8P5-2052	R.C. Mass Wall construction Bay 6 - Stem wall	0	02-Apr-21 A	24-Apr-21 A		WD(6d)																									
	S8P5-2056	R.C. Mass Wall construction Bay 7 - Base slab	0	23-Feb-21 A	04-Mar-21 A		WD(6d)																									



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Joint Venture

Milestone

Milestone Critical

Summary LOE

Summary LOE Critical

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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023				
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26			
	S8P5-2058	R.C. Mass Wall construction Bay 7 - Stem wall	0	15-Mar-21 A	01-Apr-21 A		WD(6d)																								
	S8P5-2062	R.C. Mass Wall construction Bay 8 - Base slab	0	05-Mar-21 A	15-Mar-21 A		WD(6d)																								
	S8P5-2068	R.C. Mass Wall construction Bay 9 - Base slab	0	24-Feb-21 A	06-Mar-21 A		WD(6d)																								
	S8P5-2010	Slope cutting and temporary soil nail installation Row A + Row B (164 Nos Soil nails)	0	14-Dec-20 A	05-Jan-21 A		WD(6d)																								
Civil Work																															
	S8P5-4014.0	Condition Survey for Drainage works across DJ watermain PMI 162 - (4 Trial Pits & Prepa	0	04-Jun-22 A	27-Sep-22 A		WD(6d)																								
	S8P5-4002	Divert Local Road	210	19-Apr-22 A	11-Sep-23	-129	WD(6d)																								
	S8P5-4014	Drainage works across DJ watermain (SMH1006a and pipe laying to 1006) (CNE 060, EC	90	27-Dec-22	19-Apr-23	-72	WD(6d)																								
	S8P5-4012.02	Laying gas main by others (South bound Carriageway)	30	27-Dec-22*	03-Feb-23	-88	WD(6d)																								
	S8P5-4000	Road P1 (SMH1003 - 1005) - Underground Drainage work	0	18-Jan-21 A	29-Jun-21 A		WD(6d)																								
	S8P5-4004.02	Underground Fresh & Flushing watermain (South bound Carriageway)	96	30-Jul-22 A	26-Apr-23	-127	WD(6d)																								
	S8P5-4004.01	Underground Fresh watermain (North bound Carriageway) CH 690 to CH 770	110	10-Feb-23	26-Jun-23	-127	WD(6d)																								
	S8P5-4004	Underground Fresh watermain (North bound Carriageway) CH 770 to CH 900	0	20-Sep-21 A	08-Dec-21 A		WD(6d)																								
Portion 6a & 6b in Area A (Soil Treatment, Bored Pile Wall, Drainage & Roadwork)																															
	S8P6a-0002	Details of DCS pipe at D4-1 & D5 Road (EWN 030)	0		25-Dec-22	-511	CD(7d)																								
	S8P6a-0003	Entrustment of Works for Installation of District Cooling System (DCS) pipelines along Roa	0		25-Dec-22	-511	CD(7d)																								
Preparation work/Tree Survey/Site Clearance/GI																															
	S8P6a-1010	Site Clearance & Tree Felling	18	15-Feb-20 A	17-Jan-23	13	WD(6d)																								
	S8P6a-1002	Tree Survey and prepare tree felling and transplant report	0	25-Apr-20 A	23-May-20 A		WD(6d)																								
Construction according to CSD for Alternative on Bored Pile Wall																															
	S8P6a-2004	Construct & maintain Temporary drainage	489	27-Dec-22	21-Aug-24	-143	WD(6d)																								
	S8P6a-2034	R.C. Mass Wall construction Bay 10 - Base slab	0	19-Feb-21 A	02-Mar-21 A		WD(6d)																								
	S8P6a-2028	R.C. Mass Wall construction Bay 11 - Base slab	0	17-Feb-21 A	20-Feb-21 A		WD(6d)																								
	S8P6a-2020	R.C. Mass Wall construction Bay 12a - Base slab	0	20-Feb-21 A	27-Feb-21 A		WD(6d)																								
	S8P6a-2040	R.C. Mass Wall construction Bay 12b - Base slab	0	04-Nov-21 A	11-Nov-21 A		WD(6d)																								
	S8P6a-2044	R.C. Mass Wall construction Bay 12b - Concrete fill	0	06-Dec-21 A	21-Dec-21 A		WD(6d)																								
Soil Treatment																															
	S8P6a-3040	Remove soil (original assumed 40834m3) (3 / 6 EGI completed, interim soil to be excavate	0	23-Sep-20 A	19-Dec-20 A		WD(6d)																								
Civil Work																															
	S8P6a-4054	Confirmation of Details for DCS pipes at D4-1 Road (EWN 030)	0		25-Dec-22*	-511	CD(7d)																								
	S8P6a-4017	Construction of Concrete Barrier Footing KB01 Stage 1 (Bay 1 & 2)	0	15-Sep-21 A	30-Sep-21 A		WD(6d)																								
	S8P6a-4018.01	Construction of Concrete Barrier Footing KB01 Stage 3 (Bay 4 to 12) (9 / 9 bays complete	0	15-Jan-22 A	19-Apr-22 A		WD(6d)																								
	S8P6a-4018	Construction of Concrete Barrier Stem Wall KB01 Stage 1 (Bay 1 & 2)	0	15-Dec-21 A	13-Jan-22 A		WD(6d)																								
	S8P6a-4014.02	Construction of Concrete Barrier Stem Wall KB01 Stage 2 (Bay 3)	0	10-Jan-22 A	26-Jan-22 A		WD(6d)																								
	S8P6a-4018.02	Construction of Concrete Barrier Stem Wall KB01 Stage 3 (Bay 4 to 12) (9 / 9 bays compl	0	21-Feb-22 A	30-Jul-22 A		WD(6d)																								
	S8P6a-4014	Excavation & Footing Construction for Concrete Barrier KB01 Stage 2 (Bay 3)	0	08-Dec-21 A	23-Dec-21 A		WD(6d)																								
	S8P6a-4016	Excavation for Concrete Barrier KB01 Stage 1 (Bay 1 & 2)	0	27-Aug-21 A	14-Sep-21 A		WD(6d)																								
	S8P6a-4010.06	Road D4 (between SMH1002A and KT1001) - Underground Drainage work	40	02-Jul-22 A	15-Feb-23	-129	WD(6d)																								
	S8P6a-4010.02	Road D4 (SMH5001B1 - 5001A & pipe laying to 5001B) - Underground Drainage work	0	15-Dec-21 A	18-Feb-22 A		WD(6d)																								
	S8P6a-4010	Road D4 (SMH5001C2 - 5001B) - Underground Drainage work	0	08-Sep-20 A	30-Apr-21 A		WD(6d)																								
	S8P6a-4010.08	Road D4 (SMHKT1001A and pipe laying to KT1001) - Underground Drainage work	48	16-Feb-23	17-Apr-23	-129	WD(6d)																								
	S8P6a-4010.12	Road D4 - Laying DCS Pipes (CH 220 to CH 400)	172	27-Dec-22*	28-Jul-23	-96	WD(6d)																								
	S8P6a-4020.00	Road D4 Underground Watermain (CH 100 to CH 400)	108	04-Jul-22 A	11-May-23	-143	WD(6d)																								
Portion 9b & 9d in Area A (Soil Treatment, Slope, Retaining Wall, Drainage & Roadwork)																															
	S8P9b-3128	Additional Sewerage Pipes clash with the Proposed Watermain (CH 220 to CH 400)	0		25-Dec-22	-122	CD(7d)																								
	S8P9b-3112	Conflict between Drainage Works and Existing Twin DN2200 Dongjiang Water Mains (CNE	0		25-Dec-22	-355	CD(7d)																								
	S8P9b-3114	Conflict between Drainage Works and Water Mains in Road W1 (CNE 052)	0		25-Dec-22	25	CD(7d)																								
	S8P9b-3142	Delay to the Diversion of Existing Fresh Watermain (CH 220 to CH 400)	0		25-Dec-22	-146	CD(7d)																								
	S8P9b-3140	Delay to the Diversion/Modification of Existing HKT Pillar Boxes Ma Tso Lung Rd (EWN 07	0		25-Dec-22	-146	CD(7d)																								
	S8P9b-3144	Delay to the Relocation of Existing Fire Hydrant in Ma Tso Lung Road at Portion 9b of the	0		25-Dec-22	-146	CD(7d)																								
	S8P9b-3138	Delayed to the Removal and or Diversion of Existing CLP Cable and Facilities in Portion 9l	0		25-Dec-22	-355	CD(7d)																								



Build King – Richwell Engineering  
Joint Venture

Planned Work

Critical Work

Actual Work

Milestone

Milestone Critical

Summary LOE

Summary LOE Critical

ND/2019/01 - 3 Month Rolling Programme (2022 - 12)

25-Dec-2230-Dec-2022

Project ID: ND201901-RP-2  
Lauyout: ND201901-3MRP  
with logo  
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THE 3-MONTH ROLLING PROGRAMME


Date	Revision	Checked	Approved
30-Dec-22	Rev.0	SC	BY

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022				January 2023				February 2023			March 2023				
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19
	S8P9b-0004	Design Layout and Profile for the Water Supply Pipework (EWN 034)	0		25-Dec-22	-355	CD(7d)																				
	S8P9b-0003	Details of DCS pipe at D4-1 & D5 Road (EWN 030)	0		25-Dec-22	-511	CD(7d)																				
	S8P9b-3126	In creased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWMs) (CNE 060)	0		25-Dec-22	-355	CD(7d)																				
	S8P9b-3116	Level Different between Road A3 and Road D4-1 (CNE 055)	0		25-Aug-22 A		CD(7d)																				
	S8P9b-3130	Part of Portion 9b of the Site (near eastern end of Road D5) occupied by the Local Villager	0		25-Dec-22	7	CD(7d)																				
	S8P9b-3132	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Dec-22	40	CD(7d)																				
	S8P9b-3122	Requesting for Additional Concrete Vehicular Access by the Local Villager adjacent 9b of t	0		25-Dec-22	115	CD(7d)																				
	S8P9b-3146	Revised Sewerage System along Road D4 and D5 at Portion 9b of the Site (CNE 083)	0		25-Dec-22	-223	CD(7d)																				
	S8P9b-3120	Strong Objection from the Local Villager for the Construction of L-Shape Retaining Wall Kl	0		25-Dec-22	-68	CD(7d)																				
	S8P9b-3124	Suspension of Precast Concrete Manhole Supply due to the Severe Outbreak of COVID-1	0		25-Dec-22	7	CD(7d)																				
Preparation work/Tree Survey/Site Clearance/GI																											
S8P9b-1040	Arsenic Treatment Plan (Stage 2)	36	27-Dec-22	10-Feb-23	-199	WD(6d)																					
S8P9b-0010	Liasion with HKPF and submit proposal of protective measures for works near Lo Wu Frin	0	10-Feb-20 A	04-Mar-20 A		CD(7d)																					
S8P9b-1017	Remaining Ground investigation KS 19 (0 / 1 GI completed)	0	15-Aug-22 A	16-Aug-22 A		WD(6d)																					
S8P9b-1016	Remaining Ground investigation Rd D4 (0 / 1 GI completed)	0	08-Aug-22 A	12-Aug-22 A		WD(6d)																					
S8P9b-0006	Removal of Existing CLP Facilities (EWN No. 018)	0		25-Dec-22	-194	CD(7d)																					
S8P9b-1010	Site clearance & Tree Felling	40	25-Jun-22 A	15-Feb-23	-203	WD(6d)																					
S8P9b-1025	Verification of Ground Condition & Design Review by Project Manager	60	25-Dec-22	22-Feb-23	-206	CD(7d)																					
Soil Treatment																											
S8P9b-2010	Remove soil (original assumed 15758m3) (0 / 8 EGI completed, interim soil to be excavate	40	16-Feb-23*	03-Apr-23	-203	WD(6d)																					
Civil Work																											
S8P9b-5000	Confirmation of Details for DCS pipes at D4-1 & D5 Road (EWN 030)	0		25-Dec-22*	-511	CD(7d)																					
S8P9b-3000	Construct & maintain Temporary drainage	663	27-Dec-22	24-Mar-25	531	WD(6d)																					
S8P9b-3040.06	Construction of retaining wall KW02 (0 / 2 footing completed & 0 / 2 stem wal l completed)	69	01-Sep-22 A	27-Mar-23	-58	WD(6d)																					
S8P9b-3057.04	Construction of Underground Drainage Manhole SMH KT5001A to M3.20	0	26-Jan-22 A	25-Apr-22 A		WD(6d)																					
S8P9b-3060.01	Construction of Underground Sewerage Manhole FMH 7.01 to 7.05	0	22-Nov-21 A	18-Feb-22 A		WD(6d)																					
S8P9b-3056	Construndtion of Underground Drainage Manhole SMH KT5003 to SMH KT5003C	0	02-Jul-21 A	16-Aug-21 A		WD(6d)																					
S8P9b-3100	Ma Tso Lung Road - Construct Pipe Culvert PC1 - Stage 1	50	27-Dec-22*	27-Feb-23	-243	WD(6d)																					
S8P9b-3057.06	Road D4 (CH 400 - CH 650) - Underground Watermains	150	18-Jul-22 A	03-Jul-23	-102	WD(6d)																					
S8P9b-3057.08	Road D4 (CH 525 to CH 625) - Laying DCS Pipes	132	27-Dec-22*	09-Jun-23	-71	WD(6d)																					
S8P9b-3008	Road D4 (CH 780 to CH 994) - Construction of Underground Sewerage Manhole FMH 7.1	144	16-Jan-23	14-Jul-23	-203	WD(6d)																					
S8P9b-3262	Road D4 Across DJ Watermain - Construct Jacking Pit & Recieving Pit	100	11-Jan-23	16-May-23	-291	WD(6d)																					
S8P9b-3260	Road D4 Across DJ Watermain - Implement TTA and Road Diversion	12	27-Dec-22*	10-Jan-23	-291	WD(6d)																					
S8P9b-3038	Road D5 - Construction of No Fines Backfill	0	25-Jul-22 A	30-Jul-22 A		WD(6d)																					
S8P9b-3058	Road D5 - Construction of Underground Drainage Manhole SMH KT7104 to SMH KT7105	0	24-Sep-21 A	29-Oct-21 A		WD(6d)																					
S8P9b-3030	Road W1 (CH130 to CH310) - Laying Watermains	100	27-Dec-22*	02-May-23	19	WD(6d)																					
S8P9b-3001.00	Slopeworks for new feature KS19 - Cut Remaing Slope (Stage 2)	24	06-Feb-23	04-Mar-23	-152	WD(6d)																					
S8P9b-3001	Slopeworks for new feature KS19 - Cut Slope (Stage 1)	14	27-Dec-22*	12-Jan-23	-201	WD(6d)																					
S8P9b-3001.02	Slopeworks for new feature KS19 - U channel & Berm construction	88	13-Jan-23	04-May-23	-151	WD(6d)																					
S8P9b-3028	Slopeworks for new feature KS25 - Cut Slope	42	27-Dec-22*	17-Feb-23	-35	WD(6d)																					
Portion 8a in Area A (Soil Treatment, Reservoirs, Slope, Drainage & Roadwork)																											
S8P8a-1106	Design Change on Road W1 (EWN 025)	0		25-Dec-22	-345	CD(7d)																					
S8P8a-3090	Insufficient Width of Road W1 for Accommodation of All Underground Utilities (CNE 056)	0		25-Dec-22	-345	CD(7d)																					
Preparation work/Tree Survey/Site Clearance/GI																											
S8P8a-1050	Prepare Arsenic Assessment Report Flushing Water Service Reservoir	0	09-Oct-20 A	02-Nov-20 A		WD(6d)																					
S8P8a-1035	Remaining Ground investigation (0 / 1 GI completed) to Fresh Water Service Reservoir	12	27-Dec-22	10-Jan-23	-227	WD(6d)																					
S8P8a-1020	Site clearance & Tree Felling for Fresh Water Service Reservoir	0	15-Oct-20 A	15-Dec-20 A		WD(6d)																					
S8P8a-1046	Verification of Ground Condition & Design Review by Project Manager (to Fresh Water Se	60	25-Dec-22	22-Feb-23	-322	CD(7d)																					
Forming Site Access and Site Fomation																											
Stage 1 General Excavation near Flushing Water Servie Reservoir (Excavation Volume 52834 m3)																											
S8P8a-1105	Construct & maintain Temporary drainage	40	27-Dec-22	15-Feb-23	-322	WD(6d)																					

Activity ID			Activity Name			Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023																			
											30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26																		
		S8P8a-1150	Form haul road to Fresh Water Service Reservoir			0	03-Sep-20 A	10-Dec-20 A		WD(6d)																																								
		S8P8a-1110	Form site access to Flushing Water Service Reservoir			0	06-Jan-20 A	08-Apr-20 A		WD(6d)																																								
		S8P8a-1140	General excavation for area surrounding Flushing Water Service Reservoir			0	25-Aug-20 A	31-Dec-20 A		WD(6d)																																								
		S8P8a-1120	General excavation for New Feature KS45 and adjacent road			0	25-Aug-20 A	17-Oct-20 A		WD(6d)																																								
		S8P8a-1130	General excavation for New Feature KS46 and adjacent road			0	25-Aug-20 A	31-Dec-20 A		WD(6d)																																								
		S8P8a-1160	General excavation for remaining of Road W1			40	11-Jun-20 A	15-Feb-23	-322	WD(6d)																																								
		Stage 2 General Excavation near Fresh Water Servie Resevior (Excavation Volume 299396 m3)																																																
		S8P8a-1208	Construct & maintain Temporary drainage			13	27-Dec-22	11-Jan-23	-295	WD(6d)																																								
		S8P8a-1240	General excavation for area surrounding Fresh Water Service Reservoir			0	01-Dec-20 A	11-Mar-22 A		WD(6d)																																								
		S8P8a-1220	General excavation for New Feature KS47 and adjacent road			13	01-Dec-20 A	11-Jan-23	-295	WD(6d)																																								
		S8P8a-1230	General excavation for New Feature KS49 and adjacent road			13	11-Jan-21 A	11-Jan-23	-295	WD(6d)																																								
		S8P8a-1250	General excavation for remaining of Road W2			13	14-Dec-20 A	11-Jan-23	-295	WD(6d)																																								
		S8P8a-1210	Rockfilling for New Feature KS30 and adjacent road			150	03-Mar-23	02-Sep-23	-268	WD(6d)																																								
		Soil Treatment																																																
		S8P8a-2020	Backfilling to the formation levels			0	17-Apr-21 A	30-Apr-21 A		WD(6d)																																								
		S8P8a-2010	Remove soil (original assumed 29745m3) (6 / 9 EGI completed,soil to be excavated / treat			0	16-Apr-21 A	16-Apr-21 A		WD(6d)																																								
		KD8 - complete all works for fresh water and flushing water services reservoirs, pipe laying & road																																																
		S8K8-6002	Strong Objection on the Construction of Fresh and Flushing Reservoirs (EWN 031 ) Mainte			0		25-Dec-22	-345	CD(7d)											Strong Objection on the Construction of Fresh and Flushing Reservoirs (EWN 031 ) Maintenance Access beside KS47																													
		Construction of Kwu Tung North Flushing Water Service Reservoir (KTN FLWSR)																																																
		Civil Works																																																
		S8K8-1040	Backfilling (6559m3)			108	13-Mar-23	25-Jul-23	-57	WD(6d)																																								
		S8K8-1005	Construct & maintain Temporary drainage			169	27-Dec-22	25-Jul-23	-57	WD(6d)																																								
		S8K8-1030.00	Construction of Base Slab bay 1 (GL 8 - 12 & GL F - G)			0	21-Dec-20 A	07-Jan-21 A		WD(6d)																																								
		S8K8-1030.01	Construction of Base Slab bay 2 (GL 8 - 12 & GL A - B)			0	23-Dec-20 A	12-Jan-21 A		WD(6d)																																								
		S8K8-1030.02	Construction of Base Slab bay 3 (GL 3 - 8 & GL F - G)			0	18-Jan-21 A	01-Feb-21 A		WD(6d)																																								
		S8K8-1030.03	Construction of Base Slab bay 4 (GL 3 - 8 & GL A - B)			0	21-Jan-21 A	08-Feb-21 A		WD(6d)																																								
		S8K8-1030.05	Construction of Base Slab bay 6.1 (GL 2 - 8 & GL C - E) & 6.2 (GL 8 - 12 & GL C - E)			0	31-Mar-21 A	15-Apr-21 A		WD(6d)																																								
		S8K8-1030.10	Construction of Base Slab bay 6a (GL 8 - 14 & GL E - F) & (GL 8 - 14 & GL B - C)			0	02-Mar-21 A	22-Mar-21 A		WD(6d)																																								
		S8K8-1030.06	Construction of Base Slab bay 7 (GL 12 - 15 & GL A - G)			0	06-Dec-21 A	31-Dec-21 A		WD(6d)																																								
		S8K8-1030.07	Construction of Base Slab bay 8 (GL 2 - 3 & GL E - F & B - C) (GL 12 - 14 & GL E - F & B			0	03-Jan-22 A	22-Jan-22 A		WD(6d)																																								
		S8K8-1030.11	Construction of Base Slab bay 9 & 9a (GL 2 - 8 & GL E - F) & (GL 8 - 14 & GL B - C)			0	02-Mar-21 A	22-Mar-21 A		WD(6d)																																								
		S8K8-1030.29	Construction of Columns Stage 1 (40 / 44 Nos completed)			0	16-Apr-21 A	07-Jul-21 A		WD(6d)																																								
		S8K8-1030.30	Construction of Columns Stage 2 (8 / 8 Nos completed)			0	04-Feb-22 A	19-Feb-22 A		WD(6d)																																								
		S8K8-1030.057	Construction of Inlet Chamber			16	12-Aug-22 A	14-Jan-23	-57	WD(6d)																																								
		S8K8-1030.056	Construction of Outlet Chamber (after DI pipe supply recommenced)			37	26-Jan-23	09-Mar-23	-57	WD(6d)																																								
		S8K8-1030.09	Construction of Pad Footing bay 4a (GL 3 - 13 & GL C)			0	22-Feb-21 A	09-Mar-21 A		WD(6d)																																								
		S8K8-1030.058	Construction of Penthouse			18	20-Feb-23	11-Mar-23	-57	WD(6d)																																								
		S8K8-1030.21	Construction of Retaining wall at GL 1, GL 1 - 2 at GL G, GL 1 - 2 at GL D & GL 1 - 2 at G			0	17-Mar-21 A	23-Apr-21 A		WD(6d)																																								
		S8K8-1030.25	Construction of Retaining wall at GL 15			0	10-Jan-22 A	28-Jan-22 A		WD(6d)																																								
		S8K8-1030.27	Construction of Retaining wall GL 12 - 15 at GL A			0	14-Feb-22 A	08-Mar-22 A		WD(6d)																																								
		S8K8-1030.28	Construction of Retaining wall GL 12 - 15 at GL D			0	14-Feb-22 A	15-Mar-22 A		WD(6d)																																								
		S8K8-1030.26	Construction of Retaining wall GL 12 - 15 at GL G			0	01-Mar-22 A	25-Mar-22 A		WD(6d)																																								
		S8K8-1030.24	Construction of Retaining wall GL 2 - 12 at GL A			0	06-Jul-21 A	10-Aug-21 A		WD(6d)																																								
		S8K8-1030.23	Construction of Retaining wall GL 2 - 12 at GL D			0	30-Apr-21 A	17-May-21 A		WD(6d)																																								
		S8K8-1030.22	Construction of Retaining wall GL 2 - 12 at GL G			0	17-May-21 A	05-Jul-21 A		WD(6d)																																								
		S8K8-1030.40	Construction of Roof Slab bay 1 (GL 4 - 7 & GL D - G)			0	23-Jul-21 A	18-Aug-21 A		WD(6d)																																								
S8K8-1030.41	Construction of Roof Slab bay 1a (GL 4 - 7 & GL A - D)			0	09-Aug-21 A	31-Aug-21 A		WD(6d)																																										
S8K8-1030.42	Construction of Roof Slab bay 2 & 3a (GL 7 - 11 & GL D - G)			0	06-Sep-21 A	21-Sep-21 A		WD(6d)																																										
S8K8-1030.43	Construction of Roof Slab bay 2a & 3a (GL 7 - 11 & GL A - D)			0	13-Sep-21 A	30-Sep-21 A		WD(6d)																																										
S8K8-1030.45	Construction of Roof Slab bay 4 (GL 1 - 4 & GL D - G)			0	30-Nov-21 A	13-Dec-21 A		WD(6d)																																										
S8K8-1030.44	Construction of Roof Slab bay 4a (GL 1 - 4 & GL A - D)			0	15-Nov-21 A	29-Nov-21 A		WD(6d)																																										
S8K8-1030.46	Construction of Roof Slab bay 5 (GL 12 - 15 & GL D - G)			0	30-May-22 A	09-Jun-22 A		WD(6d)																																										
<div><div><div><div><div></div><div>Build King</div></div><div>RW</div></div><div>Build King – Richwell Engineering Joint Venture</div></div></div>			<div><div><div></div><div></div><div></div></div><div><div>Milestone</div><div>Milestone Critical</div><div>Summary LOE</div><div>Summary LOE Critical</div></div></div>										ND/2019/01 - 3 Month Rolling Programme (2022 - 12)										<div><div>25-Dec-22</div><div>30-Dec-2022</div></div>										Project ID: ND201901-RP-2 Lauyout: ND201901-3MRP with logo Page 10 of 22										THE 3-MONTH ROLLING PROGRAMME							
																																											Date		Revision		Checked		Approved	
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Activity ID		Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023											
								30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26										
		S8K8-1030.47	Construction of Roof Slab bay 5a (GL 12 - 15 & GL A - D)	0	13-May-22 A	31-May-22 A		WD(6d)																															
		S8K8-1020	Excavation in rock (1070m3)	0	12-Oct-20 A	31-Dec-20 A		WD(6d)																															
		S8K8-1010	General excavation (24709m3)	0	25-Aug-20 A	30-Oct-20 A		WD(6d)																															
	E&M Works																																						
		S8K8-2010	Design and Approval for E&M works for KTN FLWSR	24	01-Feb-21 A	17-Jan-23	-18	CD(7d)																															
		S8K8-2030	Procurement of E&M equipment for KTN FLWSR	70	15-Aug-22 A	04-Mar-23	-64	CD(7d)																															
		S8K8-2020	Submission and Approval of E&M plants & materials for KTN FLWSR	48	01-Feb-21 A	10-Feb-23	-42	CD(7d)																															
		S8K8-2040	Supply, Factory Acceptance Test (FAT) & Delivery of E&M equipment for KTN FLWSR	150	30-Dec-22	06-Jul-23	-52	WD(6d)																															
	Construction of Kwu Tung North Freshwater Service Reservoir (KTN FWSR)																																						
		S8K8-6044	Potential Delay on Supply of Steel Moulds for Construction of Fresh Water Service Reserv	0		25-Dec-22	-134	CD(7d)																	⬮ Potential Delay on Supply of Steel Moulds for Construction of Fresh Water Service Reservoir(FWSR) (EWN 053)														
		S8K8-6034	Revised Construction Drawings of Fresh Water Service Reservoir (CNE 067, 067a)	0		25-Dec-22	-115	CD(7d)																	⬮ Revised Construction Drawings of Fresh Water Service Reservoir (CNE 067, 067a)														
	Civil Works																																						
		S8K8-1000.70	Baffle Wall - GL 10 / J-P	12	25-Mar-23	12-Apr-23	-148	WD(6d)																															
		S8K8-1000.80	Baffle Wall - GL 4 / D-J	12	27-Dec-22	10-Jan-23	-124	WD(6d)																															
		S8K8-1000.74	Baffle Wall - GL 4 / J-P	12	28-Jan-23	10-Feb-23	-124	WD(6d)																															
		S8K8-1000.78	Baffle Wall - GL 7 / A-F	12	11-Jan-23	27-Jan-23	-124	WD(6d)																															
		S8K8-1000.72	Baffle Wall - GL 7 / M-S	12	11-Mar-23	24-Mar-23	-148	WD(6d)																															
		S8K8-1000.00	Base Slab - bay 1	0	17-Jan-22 A	27-Jan-22 A		WD(6d)																															
		S8K8-1000.08	Base Slab - bay 6	18	18-Jan-23	10-Feb-23	-133	WD(6d)																															
		S8K8-1000.10	Base Slab - bay 7	18	27-Dec-22	17-Jan-23	-136	WD(6d)																															
		S8K8-1000.12	Base Slab - bay 8	18	18-Jan-23	10-Feb-23	-136	WD(6d)																															
		S8K8-1000.14	Base Slab - bay 9	18	11-Feb-23	03-Mar-23	-136	WD(6d)																															
		S8K8-1000.60	Columns (20 of 152 nos complete)	148	28-Jun-22 A	29-Jun-23	-112	WD(6d)																															
		S8K8-3000	Construct & maintain Temporary drainage	374	27-Dec-22	03-Apr-24	-148	WD(6d)																															
		S8K8-1042	Construction of Outlet Chamber	24	08-Feb-22 A	27-Jan-23	-124	WD(6d)																															
		S8K8-3026	Construction of Sub soil drainage (Stage 2)	48	27-Dec-22	24-Feb-23	-148	WD(6d)																															
		S8K8-1044	Construction of Temporary Access Rd to Receiving Pit adjacent to FWSR Grid Line 1	0	25-Jul-22 A	25-Aug-22 A		WD(6d)																															
		S8K8-1000.42	Cover Slab - No. 15 Stage 1	0	16-Jun-22 A	28-Jun-22 A		WD(6d)																															
		S8K8-1000.52	Cover Slab - No. 15 Stage 2	12	25-Mar-23	12-Apr-23	-148	WD(6d)																															
		S8K8-1000.44	Cover Slab - No. 16	12	27-Dec-22	10-Jan-23	-112	WD(6d)																															
		S8K8-1000.48	Cover Slab - No. 17 Stage 1	12	25-Feb-23	10-Mar-23	-148	WD(6d)																															
		S8K8-1000.50	Cover Slab - No. 17 Stage 2	12	11-Mar-23	24-Mar-23	-148	WD(6d)																															
		S8K8-3004	Erection of Tower Crane	0	10-Jan-22 A	15-Jan-22 A		WD(6d)																															
		S8K8-3010	General excavation (59542m3)	0	16-Nov-20 A	30-Nov-20 A		WD(6d)																															
		S8K8-1000.34	Pad Footing - GL 10 & 11 / L-Q	14	14-Feb-23	01-Mar-23	-128	WD(6d)																															
		S8K8-1000.28	Pad Footing - GL 3-5 / L-Q	14	27-Dec-22	12-Jan-23	-128	WD(6d)																															
		S8K8-1000.30	Pad Footing - GL 6 & 7 / L-Q	14	09-Jan-23	27-Jan-23	-128	WD(6d)																															
		S8K8-1000.32	Pad Footing - GL 8 & 9 / L-Q	14	28-Jan-23	13-Feb-23	-128	WD(6d)																															
		S8K8-1046	Remianing Excavation for Construction of FWSR adjacnet to Cut Slope KS47	0	26-Aug-22 A	12-Sep-22 A		WD(6d)																															
		S8K8-1002.40	Roof - bay 1	22	27-Dec-22	25-Jan-23	-96	WD(6d)																															
	S8K8-1002.44	Roof - bay 2	22	01-Mar-23	25-Mar-23	-125	WD(6d)																																
	S8K8-3048	Up Hill Recieving Pit - Excavation and tie back installation	52	28-Feb-23	04-May-23	-374	WD(6d)																																
	S8K8-3046	Up Hill Recieving Pit - Pipe Pile along Access Road (194 nos.)	50	27-Dec-22	27-Feb-23	-374	WD(6d)																																
	S8K8-1002.00	Wall - No. 1	0	10-May-22 A	24-May-22 A		WD(6d)																																
	S8K8-1002.18	Wall - No. 10	15	11-Feb-23	28-Feb-23	-133	WD(6d)																																
	S8K8-1002.20	Wall - No. 11	15	04-Mar-23	21-Mar-23	-136	WD(6d)																																
	S8K8-1002.22	Wall - No. 12	15	22-Mar-23	12-Apr-23	-136	WD(6d)																																
	S8K8-1002.28	Wall - No. 1T	15	11-Feb-23	28-Feb-23	-125	WD(6d)																																
	S8K8-1002.02	Wall - No. 2	0	20-May-22 A	07-Jun-22 A		WD(6d)																																
	S8K8-1002.26	Wall - No. 2T	13	25-Aug-22 A	11-Jan-23	-102	WD(6d)																																
	S8K8-1002.04	Wall - No. 3	0	02-Jul-22 A	13-Jul-22 A		WD(6d)																																
	S8K8-1002.06	Wall - No. 5	0	08-Jul-22 A	31-Aug-22 A		WD(6d)																																



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Joint Venture

Planned Work

Critical Work

Actual Work

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◆ Milestone

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◆ Milestone Critical

Summary LOE

Summary LOE Critical

ND/2019/01 - 3 Month Rolling Programme (2022 - 12)

25-Dec-2230-Dec-2022


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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023				
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26			
	S8K8-1002.08	Wall - No. 6	15	22-Mar-23	12-Apr-23	-136	WD(6d)																								
	S8K8-1002.10	Wall - No. 7	15	18-Jan-23	07-Feb-23	-130	WD(6d)																								
	S8K8-1002.12	Wall - No. 8	15	11-Feb-23	28-Feb-23	-133	WD(6d)																								
	S8K8-1002.14	Wall - No. 9	15	04-Mar-23	21-Mar-23	-136	WD(6d)																								
	E&M Works																														
	S8K8-4010	Design and Approval for E&M works for KTN FWSR	30	20-Dec-21 A	23-Jan-23	-141	CD(7d)																								
	S8K8-4030	Procurement of E&M equipment for KTN FWSR	53	15-Aug-22 A	16-Apr-23	-171	CD(7d)																								
	S8K8-4020	Submission and Approval of E&M plants & materials for KTN FWSR	60	15-Mar-22 A	22-Feb-23	-171	CD(7d)																								
	Remaining Civil Work in Portion 8a Area A																														
	S8P8a-3048	Backfill to level of utilities laying	263	27-Dec-22	15-Nov-23	-322	WD(6d)																								
	S8P8a-2558	Construct & maintain Temporary drainage	163	27-Dec-22	18-Jul-23	-222	WD(6d)																								
	S8P8a-2598	Construct & maintain Temporary drainage	191	27-Dec-22	19-Aug-23	-275	WD(6d)																								
	S8P8a-2628	Construct & maintain Temporary drainage	29	27-Dec-22	02-Feb-23	-275	WD(6d)																								
	S8P8a-2658	Construct & maintain Temporary drainage	143	27-Dec-22	23-Jun-23	-268	WD(6d)																								
	S8P8a-3046	Construct & maintain Temporary drainage	674	27-Dec-22	07-Apr-25	-322	WD(6d)																								
	S8P8a-2562	Construction of retaining wall KW06 bay 1 - bay 7 (bays 0/7 completed)	140	27-Jan-23	18-Jul-23	-222	WD(6d)																								
	S8P8a-2632	Construction of retaining wall KW05 bay 1 - bay 6 (Base Slab 6/6 bays completed, Stern	29	16-Jul-22 A	02-Feb-23	-275	WD(6d)																								
	S8P8a-2602	Construction of retaining wall KW05 bay 7 - bay 16 (bays 0/10 completed)	158	08-Feb-23	19-Aug-23	-275	WD(6d)																								
	S8P8a-2662	Construction of retaining wall KW11 bay 1 - bay 11 (Base Slab 3/11 bays completed, Stern	143	16-Jun-22 A	23-Jun-23	-268	WD(6d)																								
	S8P8a-2600	Excavation for retaining wall KW05 bay 7 - bay 16 (bays 0/10 completed)	120	27-Dec-22	25-May-23	-275	WD(6d)																								
	S8P8a-2560	Excavation for retaining wall KW06 bay 1 - bay 7 (bays 0/7 completed)	100	27-Dec-22	02-May-23	-222	WD(6d)																								
	S8P8a-2540	Excavation for retaining wall KW06 bay 19 - bay 21 (1050m3)	0	07-Jan-21 A	22-Jan-21 A		WD(6d)																								
	S8P8a-2660	Excavation for retaining wall KW11 bay 1 - bay 11 (bays 5/11 completed)	48	31-Mar-22 A	24-Feb-23	-268	WD(6d)																								
	S8P8a-2080	Slopeworks for KS27 - General Excavation	0	26-Oct-20 A	02-Nov-20 A		WD(6d)																								
	S8P8a-2090	Slopeworks for KS27 - Slope cutting and soil nail installation Row C + Row D (18 Nos Soil	0	02-Jan-21 A	07-Jan-21 A		WD(6d)																								
	S8P8a-2155	Slopeworks for KS46 - Mobilization and Test soil nail	0	14-Sep-20 A	04-Oct-20 A		WD(6d)																								
	S8P8a-2200	Slopeworks for KS46 - Slope cutting and soil nail installation Row A + Row B (83 Nos Soil	0	28-Dec-20 A	30-Dec-20 A		WD(6d)																								
	S8P8a-2192	Slopeworks for KS46 - Slope cutting and soil nail installation Row C + Row D (70 Nos Soil	0	07-Dec-20 A	11-Dec-20 A		WD(6d)																								
	S8P8a-2190	Slopeworks for KS46 - Slope cutting and soil nail installation Row E + Row F (43 Nos Soil	0	25-Nov-20 A	30-Nov-20 A		WD(6d)																								
	S8P8a-2170	Slopeworks for KS46 - Slope cutting and soil nail installation Row H + Row I (24 Nos Soil r	0	13-Oct-20 A	23-Oct-20 A		WD(6d)																								
	S8P8a-2160	Slopeworks for KS46 - Slope cutting and soil nail installation Row J + Row K (13 Nos Soil i	0	05-Oct-20 A	12-Oct-20 A		WD(6d)																								
	S8P8a-2320	Slopeworks for KS47 - Slope cutting and soil nail installation Row D + Row E (162 Nos So	0	19-Jul-21 A	13-Aug-21 A		WD(6d)																								
	S8P8a-2300	Slopeworks for KS47 - Slope cutting and soil nail installation Row H + Row I (103 Nos Soil	0	14-May-21 A	05-Jun-21 A		WD(6d)																								
	S8P8a-2280	Slopeworks for KS47 - Slope cutting and soil nail installation Row L + Row M (75 Nos Soil	0	25-Mar-21 A	09-Apr-21 A		WD(6d)																								
	S8P8a-2260	Slopeworks for KS47 - Slope cutting and soil nail installation Row P + Row Q (61 Nos Soil	0	27-Feb-21 A	03-Mar-21 A		WD(6d)																								
	S8P8a-2240	Slopeworks for KS47 - Slope cutting and soil nail installation RowT + Row U (46 Nos Soil r	0	21-Jan-21 A	25-Jan-21 A		WD(6d)																								
	S8P8a-2400	Slopeworks for KS49 - Slope cutting and soil nail installation Row A + Row B (34 Nos Soil	0	02-Jan-21 A	06-Jan-21 A		WD(6d)																								
	S8P8a-2370	Slopeworks for KS49 - Slope cutting and soil nail installation Row G + Row H (42 Nos Soil	0	19-Jul-21 A	24-Jul-21 A		WD(6d)																								
	S8P8a-3050	Underground utilities & Draingae work (605m drain and 23 M/H, 2 gang)	400	16-Feb-23	24-Jun-24	-322	WD(6d)																								
	Portion 8b in Area A (Soil Treatment & Install Watermains by Trenchless / Open Trench Method)																														
	S8P8b-1002	Assumed resumption date of fresh and flushing reservoirs construction due to CNE No. 00	0		25-Dec-22	-709	CD(7d)																								
	S8P8b-1008	Change of Road Layout of Ho Sheung Heung Road after the Works by DSD Contract DC/	0		25-Dec-22	-691	CD(7d)																								
	S8P8b-1006	Disruptipon of Precast Concrete Pipe (Jacking Pipe) Supply due to the Severe Outbreak c	0		25-Dec-22	-292	CD(7d)																								
	S8P8b-1004	Suspension of EGI works and withdrawal of TTA on Ho Sheung Heung Rd (CNE No.24)	0		25-Dec-22	-709	CD(7d)																								
	S8P8b-1003	Works affected by the New Constructed 1650mm dia. Drain Pipe along Ho Sheung Heung	0		25-Dec-22	-691	CD(7d)																								
	Preparation work																														
	S8P8b-1020	Environmental ground investigation and laboratory test along Sheung Yue River (2 /2 EGI)	0	25-Aug-21 A	31-Aug-21 A		WD(6d)																								
	S8P8b-1010	Site clearance & Tree Felling	66	27-Dec-22	17-Mar-23	-577	WD(6d)																								
	Construction of Watermains																														
	Construction of watermains by trenchless method																														
	S8P8b-4000	Construct & maintain Temporary drainage	867	27-Dec-22	29-Nov-25	-549	WD(6d)																								



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Planned Work

Critical Work

Actual Work

Milestone

Milestone Critical

Summary LOE

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Activity ID			Activity Name		Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023						
										30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26					
<div></div>		S8P8b-4010.00	Construction of receiving pit at Portion 8b near Sheung Yue River (Review Temp Design)			0	13-Apr-22 A	16-May-22 A		WD(6d)																										
		S8P8b-4012.08	Sheung Yue River - DN1200 Pipe Jacking (Length 145m approx.) outside MTR Zone			34	26-Jul-22 A	08-Feb-23	-219	WD(6d)																										
		S8P8b-4014.00	Sheung Yue River - DN1200 Pipe Jacking (Length 65m approx.) MTR Zone & Recieving F			36	09-Feb-23	22-Mar-23	-219	WD(6d)																										
		S8P8b-4012.06	Sheung Yue River - Gantry Construction at Jacking Pit			0	11-May-22 A	28-May-22 A		WD(6d)																										
		S8P8b-4014.02	Sheung Yue River - Lift TBM, grouting, etc & Preparation for DN600 pipe installation			36	23-Mar-23	09-May-23	-219	WD(6d)																										
		S8P8b-4010.02	Sheung Yue River - Preparation, Submission and Approval for ADMS Monitoring System			0	10-Jan-22 A	17-Feb-22 A		WD(6d)																										
		S8P8b-4010.04	Sheung Yue River - Preparation, Submission and Approval for ADMS Monitoring Tower			0	10-Jan-22 A	18-Feb-22 A		WD(6d)																										
		S8P8b-4010.06	Sheung Yue River - Preparation, Submission and Approval for Drilling and Inclined Groutir			0	10-Jan-22 A	15-Feb-22 A		WD(6d)																										
		S8P8b-4012.04	Sheung Yue River - Procurement of DN1200 Jacking pipes			0	04-May-22 A	02-Sep-22 A		WD(6d)																										
		S8P8b-4012.07	Sheung Yue River - Set up for Pipe Jacking works			0	13-Jul-22 A	25-Jul-22 A		WD(6d)																										
		S8P8b-4068	Up Hill Pipe Jacking Pit - ELS, Toe Grouting & Excavation			50	18-Jun-22 A	27-Feb-23	-240	WD(6d)																										
		S8P8b-4066	Up Hill Pipe Jacking Pit - Pipe Pile Construction (140 nos.)			0	11-Apr-22 A	17-Jun-22 A		WD(6d)																										
	Construction of watermains by open trench method																																			
			S8P8b-5000	Consultation with Cyclist Association for works along DSD maintenance Road			0	04-Apr-22 A	29-Sep-22 A		WD(6d)																									
			S8P8b-5006	Government Land - Laying Flushing water main (125m Approx)			100	27-Dec-22	02-May-23	-290	WD(6d)																									
			S8P8b-7060	Ho Sheung Heung Road Fresh water main - 3 No. Trial Pits (CH680 to CH620)			12	27-Dec-22	10-Jan-23	-562	WD(6d)																									
			S8P8b-7000	Ho Sheung Heung Road Fresh water main - Applying Additional Land From AECOM and			58	05-Sep-22 A	22-Feb-23	-693	CD(7d)																									
			S8P8b-7030	Ho Sheung Heung Road Fresh water main - Combine Chamber Construction (CH800 to C			54	22-Mar-23	30-May-23	-577	WD(6d)																									
			S8P8b-7070	Ho Sheung Heung Road Fresh water main - Excavation, Laying Pipes and Backfilling (Cf			36	11-Jan-23	24-Feb-23	-562	WD(6d)																									
			S8P8b-7050	Ho Sheung Heung Road Fresh water main - Excavation, Laying Pipes and Backfilling (Cf			60	15-Mar-23	30-May-23	-577	WD(6d)																									
			S8P8b-7040	Ho Sheung Heung Road Fresh water main - Excavation, Laying Pipes and Backfilling (Cf			36	23-Feb-23	06-Apr-23	-536	WD(6d)																									
			S8P8b-7020	Ho Sheung Heung Road Fresh water main - Excavation, Laying Pipes and Backfilling (Cf			54	18-Mar-23	25-May-23	-577	WD(6d)																									
			S8P8b-7090	Ho Sheung Heung Road Fresh water main - Implement TTA (CH600 to CH560)			6	25-Feb-23	03-Mar-23	-551	WD(6d)																									
			S8P8b-7010	Ho Sheung Heung Road Fresh water main - Prepare TTA Drawings from (CH600 to CH40			100	27-Dec-22	05-Apr-23	-616	CD(7d)																									
			S8P8b-5016	Trial Trench (10 locations)			150	10-Mar-23	09-Sep-23	-199	WD(6d)																									
		S8P8b-5014	TTA - Roads Work Advise			59	30-Jul-22 A	09-Mar-23	-562	WD(6d)																										
Section 9																																				
Portion 12 in Area F (Soil Treatment & Interface with EMSD's Contractors)																																				
Preparation work/Tree Survey/Site Clearance/GI																																				
		S9P12-1050	Arsenic Treatment Plan			30	02-May-22 A	03-Feb-23	-261	WD(6d)																										
		S9P12-1025	Ground investigation (1 / 1 GI completed)			0	10-Mar-22 A	14-Mar-22 A		WD(6d)																										
		S9P12-1040	Prepare Arsenic Assessment Report			30	02-May-22 A	03-Feb-23	-261	WD(6d)																										
		S9P12-1020	Site Clearance & Tree Felling			0	19-Jul-22 A	10-Aug-22 A		WD(6d)																										
Soil Treatment																																				
		S9P12-2000	Construct & maintain Temporary drainage			170	27-Dec-22	26-Jul-23	-285	WD(6d)																										
		S9P12-2004	Excavate to Formation Level			54	17-Aug-22 A	03-Mar-23	-285	WD(6d)																										
		S9P12-2010	Remove soil (original assumed 10432m3) (0 / 2 EGI completed, interim soil to be excavate			82	04-Mar-23	14-Jun-23	-285	WD(6d)																										
Section 10A																																				
Portion 1e in Area J (Soil Treatment)																																				
Preparation work/Tree Survey/Site Clearance/GI																																				
		S10AP1e-1030	Environmental ground investigation and lab test (1 EGI) (another 1 EGI in other portion req			0	02-Jun-21 A	07-Jun-21 A		WD(6d)																										
		S10AP1e-1070	Set up Containment Area, Removal and Disposal of Asbestos and Clean up Works			0	22-Feb-22 A	25-Mar-22 A		WD(6d)																										
		S10AP1e-1020	Site Clearance & Tree Felling			0	25-Jun-22 A	08-Jul-22 A		WD(6d)																										
Soil Treatment																																				
		S10AP1e-2020	Backfilling to the formation levels			0	02-Aug-22 A	17-Aug-22 A		WD(6d)																										
		S10AP1e-2010	Remove soil (original assumed 5187m3) (1 / 2 EGI completed, interim soil to be excavate			0	15-Jul-22 A	01-Aug-22 A		WD(6d)																										
Portion 4 in Area J (Soil Treatment & Temp. Noise Barriers along Castle Peak Road)																																				
		S10AP4-1000	Planned completion of KD9 - Portion 4			0		25-Dec-22	116	CD(7d)											◆ Planned completion of KD9 - Portion 4															
Preparation work/Tree Survey/Site Clearance/GI																																				
		S10AP4-0030	Environmental ground investigation and lab test (3 EGI) (another 2 EGI in other portion req			0	14-Apr-20 A	29-Apr-20 A		WD(6d)																										



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Actual Work

Milestone

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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023				
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26			
	S10AP4-0020	Site Clearance	0	05-Mar-20 A	09-Apr-20 A		WD(6d)																								
	S10AP4-0010	Tree survey and prepare tree felling and transplant report	0	17-Apr-20 A	11-May-20 A		WD(6d)																								
Soil Treatment																															
	S10AP4-1020	Backfilling to the formation levels	0	17-Apr-21 A	20-Apr-21 A		WD(6d)																								
	S10AP4-1010	Remove soil (original assumed 18142m3) (4 / 6 EGI completed, interim soil to be excavate	0	15-Mar-21 A	16-Apr-21 A		WD(6d)																								
KD9 - Complete the temporary noise barriers along Castle Peak Road in Area T1, T2, T3, H, H1, I, J																															
	S10AP4-2005	Construction of Temporary Noise barrier Frame in Area J (103m)	0	15-Dec-20 A	31-Dec-20 A		WD(6d)																								
Section 11																															
Portion 6b in Area B (Soil Treatment & Operation of HAC Soil Treatment Plant)																															
	S11P6b-1002	Unstable Supply of Cement for HAC Soil Treatment (EWN 036, 038)	0		25-Dec-22	635	CD(7d)																								
Preparation work/Tree Survey/Site Clearance/GI																															
	S11P6b-1050	Arsenic Treatment Plan	0	05-May-20 A	22-Sep-20 A		WD(6d)																								
	S11P6b-1030	Environmental ground investigation and lab test (2 EGI) (another 1 EGI in other portion rep	0	07-Apr-20 A	04-May-20 A		WD(6d)																								
	S11P6b-1020	Site clearance	0	20-Feb-20 A	26-Feb-20 A		WD(6d)																								
KD4 - Setting up and T&C of the High Arsenic-containing Soil Treatment Plant																															
	S11P6b-2005	Construct & maintain Temporary drainage	848	27-Dec-22	07-Nov-25	48	WD(6d)																								
Operation and Dismantling of the Soil Treatment Plant																															
	S11P6b-3010	Provide treatment to high arsenic-containing soil	702	03-Dec-20 A	15-May-25*	-76	WD(6d)																								
Soil Treatment																															
	S11P6b-4010	Remove soil (original assumed 5556m3) (2 / 3 EGI completed, interim soil to be excavate	0	15-Jul-20 A	10-Aug-20 A		WD(6d)																								
Section 12A																															
Portion 10b in Area L1 (Soil Treatment, Drainage & Roadwork)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S12P10b-1050	Arsenic Treatment Plan	30	02-May-22 A	03-Feb-23	317	WD(6d)																								
	S12P10b-1030	Environmental ground investigation and laboratory test (2 of 2 EGI completed)	0	19-May-20 A	29-May-20 A		WD(6d)																								
	S12P10b-1040	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	317	WD(6d)																								
Soil Treatment																															
	S12P10b-2020	Backfilling to the formation levels	48	04-Mar-23	04-May-23	317	WD(6d)																								
	S12P10b-2010	Remove soil (original assumed 440m3) (2 / 2 EGI completed, interim soil to be excavated.	24	04-Feb-23	03-Mar-23	317	WD(6d)																								
Civil Work																															
	S12P10b-3000	Construct & maintain Temporary drainage	319	27-Dec-22	23-Jan-24	184	WD(6d)																								
	S12P10b-3010	Underground utilities & Drainage work (158m drain and 5 M/H)	241	13-Oct-21 A	19-Oct-23	178	WD(6d)																								
Section 13																															
	S13-1012	Suspension of Works at Part of Portion 2 (CNE No. 016) (EWN No. 019)	0		25-Dec-22	-46	CD(7d)																								
Portion 2 in Area N (Soil Treatment, Slope, Drainage & Pak Shek Au Junction)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S13P2-1016	Approval & Acceptance of Tree Felling Application (STPRP for Portion 2-Slope)	0	26-Nov-21 A	15-Dec-21 A		CD(7d)																								
	S13P2-1040	Environmental ground investigation and laboratory test (3 EGI)	0	16-Oct-20 A	16-Nov-20 A		WD(6d)																								
	S13P2-1014	Tree survey and prepare tree felling and transplant report (STPRP for Portion 2-Slope)	0	14-Oct-21 A	25-Nov-21 A		WD(6d)																								
Soil Treatment																															
	S13P2-2020	Backfilling to the formation levels	80	07-Feb-23	16-May-23	-40	WD(6d)																								
	S13P2-2010	Remove soil (original assumed 10854m3) (0 / 3 EGI completed, interim soil to be excavate	32	24-Aug-22 A	06-Feb-23	-40	WD(6d)																								
Civil Works																															
	S13P2- 3170	Revised Slope KS38 - Approval & Acceptance of tree felling and d transplant report	18	16-Apr-21 A	11-Jan-23	532	CD(7d)																								
	S13P2- 3140	Revised Slope KS38 - Prepare Initial Tree Survey report	0	14-Nov-20 A	14-Jan-21 A		WD(6d)																								
	S13P2- 3160	Revised Slope KS38 - Tree survey and prepare tree felling and transplant report	0	01-Mar-21 A	15-Apr-21 A		WD(6d)																								
	S13P2- 4034	West Quadrant - Construction of Dwarf Wall DW02	40	15-Mar-23	05-May-23	-76	WD(6d)																								
	S13P2- 4020	West Quadrant - Construction of road drainage (Roundabout)	78	24-Aug-22 A	31-Mar-23	-76	WD(6d)																								



Build King – Richwell Engineering  
Joint Venture

Planned Work

Critical Work

Actual Work

Milestone

Milestone Critical

Summary LOE

Summary LOE Critical

ND/2019/01 - 3 Month Rolling Programme (2022 - 12)

25-Dec-2230-Dec-2022


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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023				February 2023				March 2023			
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26
Portion 1a in Area N (Soil Treatment, Drainage & Roadwork)																												
Preparation work/Tree Survey/Site Clearance/GI																												
S13P1a-1002	Approval & Acceptance of Tree Felling Application	24	09-Sep-22 A	17-Jan-23	455	CD(7d)																						
S13P1a-1040	Arsenic Treatment Plan	36	11-Feb-23	24-Mar-23	329	WD(6d)																						
S13P1a-0100	Delay in the Access to and Use of Portions 1a & 12 of the Site (CNE 034)	0		25-Dec-22	-537	CD(7d)											◆ Delay in the Access to and Use of Portions 1a & 12 of the Site (CNE 034)											
S13P1a-1020	EGI, GI investigation and laboratory test (2 / 2 EGI completed, 1/1 GI completed)	0	02-Jul-22 A	29-Jul-22 A		WD(6d)																						
S13P1a-0102	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Dec-22	698	CD(7d)											◆ Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)											
S13P1a-1030	Prepare Arsenic Assessment Report	36	27-Dec-22	10-Feb-23	329	WD(6d)																						
S13P1a-1010	Site clearance	17	19-Jul-22 A	09-Feb-23	366	WD(6d)																						
S13P1a-1000	Tree survey and prepare tree felling and transplant report	0	04-Aug-21 A	08-Sep-22 A		WD(6d)																						
S13P1a-1050	Underground Utilities Diversion by Others	36	11-Feb-23	24-Mar-23	329	WD(6d)																						
Soil Treatment																												
S13P1a-2010	Remove soil (original assumed 14182m3) (0 / 4 EGI completed, interim soil to be excavated)	46	25-Mar-23	23-May-23	329	WD(6d)																						
Civil Work																												
S13P1a-3000	Construct & maintain Temporary drainage	442	25-Mar-23	20-Sep-24	329	WD(6d)																						
S13P1a-3010	Underground utilities & Drainage work (293m drain and 9 M/H)	314	25-Mar-23	18-Apr-24	329	WD(6d)																						
Portion 7 in Area N (Soil Treatment, Drainage & Roadwork)																												
S13P7-0000	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Dec-22	947	CD(7d)											◆ Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)											
Preparation work/Tree Survey/Site Clearance/GI																												
S13P7-1040	Arsenic Treatment Plan	6	09-Nov-20 A	03-Jan-23	460	WD(6d)																						
S13P7-1030	Prepare Arsenic Assessment Report	6	16-Jul-20 A	03-Jan-23	460	WD(6d)																						
Soil Treatment																												
S13P7-2010	Remove soil (original assumed 316m3) (3 / 3 EGI completed, interim soil to be excavated)	0	05-Feb-21 A	11-Feb-21 A		WD(6d)																						
Civil Work																												
Underground Utilities																												
S13P7-3000	Construct & maintain Temporary drainage	401	27-Dec-22	07-May-24	472	WD(6d)																						
S13P7-3011	Underground drainage (309m drain and 8 M/H)	91	18-Jun-21 A	27-Apr-23	460	WD(6d)																						
S13P7-3014	Underground road lighting ducts	200	20-Mar-23	20-Nov-23	460	WD(6d)																						
Portion 1b in Area N (Soil Treatment, Drainage & Roadwork)																												
Preparation work/Tree Survey/Site Clearance/GI																												
S13P1b-1040	Arsenic Treatment Plan	36	11-Feb-23	24-Mar-23	824	WD(6d)																						
S13P1b-1020	Environmental ground investigation and laboratory test(1 EGI in other portion represent ttr	0	04-Apr-22 A	09-Apr-22 A		WD(6d)																						
S13P1b-1015	Ground investigation (1 / 1 GI completed)	0	04-Apr-22 A	09-Apr-22 A		WD(6d)																						
S13P1b-1030	Prepare Arsenic Assessment Report	36	27-Dec-22	10-Feb-23	824	WD(6d)																						
Soil Treatment																												
S13P1b-2020	Backfilling to the formation levels	0	03-Jun-22 A	09-Jun-22 A		WD(6d)																						
S13P1b-2010	Remove soil (original assumed 561m3) (0 / 1 EGI completed, interim soil to be excavated)	0	25-May-22 A	30-May-22 A		WD(6d)																						
Civil Work																												
S13P1b-3000	Construct & maintain Temporary drainage	180	27-Dec-22	07-Aug-23	693	WD(6d)																						
S13P1b-3012	Construction of Sewerage	18	28-Jan-23*	17-Feb-23	687	WD(6d)																						
S13P1b-3010	Construction of Underground Drainage (1 / 2 M/H complete)	35	10-Jun-22 A	09-Feb-23	687	WD(6d)																						
S13P1b-3014	Laying of Watermain	60	18-Feb-23*	04-May-23	687	WD(6d)																						
Portion 6a & 5 in Area N (Soil Treatment, Noise Barrier, Drainage & Roadwork)																												
Preparation work/Tree Survey/Site Clearance/GI																												
S13P6a-1003	Design Layout and Profile for the Water Supply Pipework (EWN 034)	0		25-Dec-22	519	CD(7d)											◆ Design Layout and Profile for the Water Supply Pipework (EWN 034)											
S13P6a-1004	Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWMs) (CNE 060)	0		25-Dec-22	519	CD(7d)											◆ Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWMs) (CNE 060)											
S13P6a-1005	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Dec-22	557	CD(7d)											◆ Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)											
S13P6a-1025	Pre-drilling for Noise Barriers	0	17-Jun-20 A	08-Jul-20 A		WD(6d)																						
S13P6a-1026	Trial pit for Dongjiang watermain	0	18-Jun-20 A	29-Jun-20 A		WD(6d)																						



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Joint Venture**

Planned Work  
 Critical Work  
 Actual Work  
 Milestone  
 Milestone Critical  
 Summary LOE  
 Summary LOE Critical

## ND/2019/01 - 3 Month Rolling Programme (2022 - 12)

25-Dec-22
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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023				March 2023			
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26	
Soil Treatment																													
S13P6a-2020	Backfilling to the formation levels	60	04-Feb-23	19-Apr-23	597	WD(6d)																							
S13P6a-2010	Remove soil (original assumed 566m3) (1 / 1 EGI completed, interim soil to be excavated.	30	27-Dec-22*	03-Feb-23	596	WD(6d)																							
Civil Work																													
S13P6a-3000	Construct & maintain Temporary drainage	439	27-Dec-22	22-Jun-24	434	WD(6d)																							
S13P6a-3005	Cost Savings Design (CSD) Proposal for Alternative on Noise Barrier (NB08) Foundation	0	22-Apr-20 A	19-Jun-20 A		WD(6d)																							
S13P6a-3012	Drainage works across DJ watermain (CNE 060, EC-1086)	160	27-Dec-22	14-Jul-23	416	WD(6d)																							
S13P6a-3030	Noise barrier NB08 pile cap and NB75 footing (209m, 0.89m/day)	240	06-Feb-23	24-Nov-23	416	WD(6d)																							
S13P6a-3020	Underground utilities & Drainage work (210m drain and 5 M/H)	265	04-Jan-23	24-Nov-23	416	WD(6d)																							
Portion 1c in Area N (Soil Treatment, Drainage & Roadwork)																													
Preparation work/Tree Survey/Site Clearance/GI																													
S13P1c-1040	Arsenic Treatment Plan	30	02-May-22 A	03-Feb-23	866	WD(6d)																							
S13P1c-0104	Delay to the Removal of Existing CLP Cables and Facilities in Portion 1b and 1c of the Site	0		25-Dec-22	-269	CD(7d)	◆ Delay to the Removal of Existing CLP Cables and Facilities in Portion 1b and 1c of the Site (EWN 074)																						
S13P1c-1015	Ground investigation (2 / 2 GI completed)	0	04-Apr-22 A	09-Apr-22 A		WD(6d)																							
S13P1c-0102	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Dec-22	705	CD(7d)	◆ Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)																						
S13P1c-1030	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	866	WD(6d)																							
S13P1c-1025	Site investigation for Noise Barriers	30	27-Dec-22	03-Feb-23	866	WD(6d)																							
Soil Treatment																													
S13P1c-2020	Backfilling to the formation levels	22	13-Jun-22 A	25-Jan-23	549	WD(6d)																							
Civil Work																													
S13P1c-3000	Construct & maintain Temporary drainage	344	27-Dec-22	24-Feb-24	529	WD(6d)																							
S13P1c-3010	Construct Underground Drainage	80	10-Jun-22 A	03-Apr-23	505	WD(6d)																							
S13P1c-3011	Noise barrier NB85 footing (113m, 0.89m/day)	140	06-Feb-23	27-Jul-23	540	WD(6d)																							
S13P1c-3010.02	Removal of Existing CLP Cables and Facilities in Portion 1c of the Site (EWN 074)	0		25-Dec-22*	-269	CD(7d)	◆ Removal of Existing CLP Cables and Facilities in Portion 1c of the Site (EWN 074)																						
Portion 9a in Area N (Soil Treatment, Noise Barrier, Drainage & Roadwork)																													
S13P9a-0100	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0		25-Dec-22	811	CD(7d)	◆ Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)																						
Preparation work/Tree Survey/Site Clearance/GI																													
S13P9a-1040	Arsenic Treatment Plan	30	02-May-22 A	03-Feb-23	-60	WD(6d)																							
S13P9a-1030	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	-60	WD(6d)																							
S13P9a-1025	Site investigation for Noise Barriers	30	27-Dec-22	03-Feb-23	1164	WD(6d)																							
Soil Treatment																													
S13P9a-2020	Backfilling to the formation levels	48	28-Jan-23	24-Mar-23	-102	WD(6d)																							
S13P9a-2010	Remove soil (original assumed 561m3) (0 / 1 EGI completed, interim soil to be excavated.	24	27-Dec-22	27-Jan-23	-102	WD(6d)																							
Civil Work																													
S13P9a-3000	Construct & maintain Temporary drainage	278	27-Dec-22	02-Dec-23	595	WD(6d)																							
S13P9a-3010	Construct Underground Drainage	81	16-Aug-22 A	04-Apr-23	-102	WD(6d)																							
S13P9a-3020	Noise barrier NB85 footing (113m, 0.89m/day)	140	18-Mar-23	06-Sep-23	589	WD(6d)																							
Section 14																													
Portion 10a in Area H1 (Soil Treatment, UU Diversion & Construction Access to MWSC)																													
KD5 - Provision of construction access in Area H1 and between Area H1 and Multi-Welfare Services Com																													
Soil Treatment																													
S14K5-1020	Backfilling to the formation levels	0	21-Oct-20 A	21-Oct-20 A		WD(6d)																							
S14K5-1010	Remove soil (original assumed 2143m3) (1 / 1 EGI completed, interim soil to be excavated	0	09-Oct-20 A	21-Oct-20 A		WD(6d)																							
Civil Work																													
S14K5-2008	Construct Footpath	0	19-Dec-20 A	24-Dec-20 A		WD(6d)																							
S14K5-2006	Construct Temporary access A1 to MWSC site	0	24-Dec-20 A	31-Dec-20 A		WD(6d)																							
S14K5-2004	Construction of Access and u channel in Area H1 (110m)	0	19-Dec-20 A	24-Dec-20 A		WD(6d)																							
S14K5-2007	Divert temporary watermain for MWSC site and Area P from Area P	0	25-Feb-21 A	27-Feb-21 A		WD(6d)																							
S14K5-2002	Formation works for Access and u channel in Area H1 (110m)	0	15-Dec-20 A	21-Dec-20 A		WD(6d)																							

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							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26
Portion 10a in Area H2 (Soil Treatment, UU Diversion & Construction Access to MWSC)																												
KD6 - Provision of construction access in Area H2 and between Area H2 and Multi-Welfare Services Com																												
Soil Treatment																												
S14K6-1020	Backfilling to the formation levels	0	21-Oct-20 A	21-Oct-20 A		WD(6d)																						
S14K6-1010	Remove soil (original assumed 2827m3) (2 / 2 EGI completed, interim soil to be excavate	0	07-Oct-20 A	21-Oct-20 A		WD(6d)																						
Civil Work																												
S14K6-2004	Construct Temporary access A2 to MWSC site	0	18-Jan-21 A	20-Jan-21 A		WD(6d)																						
S14K6-2000	Formation works for Access and u channel in Area H2 (KD6)	0	22-Oct-20 A	02-Nov-20 A		WD(6d)																						
Portion 7 in Area P (Soil Treatment & KD3 - Tree Felling, General Site Clearance)																												
KD3 - Tree felling, general site clearance (including the berm removal / levelling and general site																												
Preparation work																												
S14P7P-1021	Additional site clearance due to increase in total nos. of trees to be felled at Portions 7 & 1	0	07-Oct-20 A	02-Nov-20 A		WD(6d)																						
S14P7P-1023	Berm removal and General Site levelling	0	03-Nov-20 A	27-Nov-20 A		WD(6d)																						
S14P7P-1032	Construct Access, Footpath and u channel for Alternative Po Lau Road (after Tree felling)	0	21-Dec-20 A	14-Jan-21 A		WD(6d)																						
S14P7P-1020	General site clearance (tree felling and remaining clearance)	0	07-Oct-20 A	02-Nov-20 A		WD(6d)																						
S14P7P-1028	Site formation for Construction of Alternative Po Lau Road	0	10-Jul-20 A	17-Jul-20 A		WD(6d)																						
S14P7P-1030	Site formation for Construction of Alternative Po Lau Road (after Tree felling)	0	21-Dec-20 A	14-Jan-21 A		WD(6d)																						
Soil Treatment																												
S14P7P-2000	Construct & maintain Temporary drainage	210	27-Dec-22	11-Sep-23	638	WD(6d)	<div></div>																					
S14P7P-2010	Remove soil (original assumed 17368m3) (2 / 2 EGI completed, interim soil to be excavate	70	27-Dec-22*	22-Mar-23	638	WD(6d)	<div></div>																					
Portion 7 in Area S3 (Soil Treatment & Operation of HAC Soil Treatment Plant)																												
Preparation work/Tree Survey/Site Clearance/GI																												
S14P7S3-1030	Environmental ground investigation and lab test (3 EGI) (another 1 EGI in other portion req	0	09-May-20 A	28-May-20 A		WD(6d)																						
S14P7S3-1018	Tree Felling and General site clearance	0	07-Oct-20 A	02-Nov-20 A		WD(6d)																						
KD4 - Setting up and T&C of the High Arsenic-containing Soil Treatment Plant																												
S14P7S3-2010	Set up, testing and commissioning high arsenic-containing soil treatment plant (KD4) (CSI	4	06-Oct-20 A	30-Dec-22	-76	WD(6d)	<div></div>																					
Operation and Dismantling of the Soil Treatment Plant																												
S14P7S3-3010	Stock Pile of Treated Soil	585	20-Nov-20 A	19-Dec-24	-76	WD(6d)	<div></div>																					
Portion 16 in Area Q (Soil Treatment & Construction of CLC)																												
KD7 - Complete the construction works of Community Liaison Centre in Area Q																												
S14P16-3020	Approval of design for construction of CLC	0	03-Dec-20 A	20-Jan-21 A		CD(7d)																						
S14P16-3040	Erection of MiC Modules	0	29-Mar-21 A	08-May-21 A		WD(6d)																						
S14P16-3030	Offsite fabrication and delivery of MiC Modules	0	25-Feb-21 A	06-May-21 A		WD(6d)																						
S14P16-1010	Site Clearance	0	16-Feb-21 A	03-Mar-21 A		WD(6d)																						
S14P16-1020	Site Formation for CLC construction	0	04-Mar-21 A	06-Mar-21 A		WD(6d)																						
Portion 7 in Area T1, T2, T3 (Soil Treatment & Temp. Noise Barrier along Castle Peak Road)																												
Preparation work/Tree Survey/Site Clearance/GI																												
S14P7T-1022	Approval & Acceptance of Tree felling Application (Area T1)	30	11-Mar-23	09-Apr-23	-30	CD(7d)																						
S14P7T-1012	Ground investigation (0 / 1 GI completed) (Area T1)	30	11-Mar-23	19-Apr-23	0	WD(6d)																						
S14P7T-1001	Late Possession of Site of Part of Portions 7 and 10a (in Area H, H1, T1, T2 & T3) (CNE N	0		25-Dec-22	46	CD(7d)	◆ Late Possession of Site of Part of Portions 7 and 10a (in Area H, H1, T1, T2 & T3) (CNE No. 001)																					
S14P7T-1020	Site clearance (Area T1)	30	11-Mar-23	19-Apr-23	0	WD(6d)																						
S14P7T-1008	Tree Felling and General site clearance (Area T2 & T3)	0	07-Oct-20 A	02-Nov-20 A		WD(6d)																						
S14P7T-1010	Tree survey and prepare tree felling and transplant report (Area T1)	30	04-Feb-23	10-Mar-23	-26	WD(6d)																						
Project Manager's Site Accommodation																												
S14P7T-1120	Backfill of clean soil	0	16-Nov-20 A	16-Dec-20 A		WD(6d)																						
S14P7T-1110	Excavated soil to stockpile area	0	02-Nov-20 A	14-Nov-20 A		WD(6d)																						
S14P7T-1122	Foundation & Base slab Construction for Project Manager's Site Accommodation	0	21-Dec-20 A	27-Jan-21 A		WD(6d)																						
Soil Treatment																												




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Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023				
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26			
	S14P7T-2040	Backfilling to the formation levels	0	15-Apr-21 A	15-Apr-21 A		WD(6d)																								
	S14P7T-2030	Soil Treatme (original assumed 20043m3) (3 EGI completed, interim soil to be excavated /	0	14-Nov-20 A	14-Nov-20 A		WD(6d)																								
KD9 - Complete the temporary noise barriers along Castle Peak Road in Area T1, T2, T3, H, H1, I, J																															
	S14P7T-3010	Construct temporary noise barrier along Castle Peak Road in Area T1 (50m)	168	28-Jan-23*	21-Aug-23	-102	WD(6d)																								
	S14P7T-3000	Construct temporary noise barrier along Castle Peak Road in Area T2 and T3 (100m)	24	26-Apr-21 A	27-Jan-23	-102	WD(6d)																								
Portion 1b in Area S2 (Soil Treatment)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S14P1b-1050	Arsenic Treatment Plan	30	02-May-22 A	03-Feb-23	596	WD(6d)																								
	S14P1b-1030	Environmental ground investigation and laboratory test(1 / 1 EGI completed)	0	21-Mar-22 A	25-Mar-22 A		WD(6d)																								
	S14P1b-1040	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	596	WD(6d)																								
Portion 1c & 9a in Area S2 (Soil Treatment)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S14P1c-1002	Delay to the Removal of Existing CLP Cables and Facilities in Portion 1b and 1c of the Site	0		25-Dec-22	702	CD(7d)																								
	S14P1c-1030	Environmental ground investigation and laboratory test(5 / 5 completed)	0	09-Jun-20 A	16-Jun-20 A		WD(6d)																								
	S14P1c-1000	Potential Late Access to and Use of the Site (Portions 1c & 9a) (EWN 49)	0		25-Dec-22	584	CD(7d)																								
	S14P1c-1040	Prepare Arsenic Assessment Report	36	25-Jan-23	07-Mar-23	475	WD(6d)																								
	S14P1c-1032	Remianing Environmental ground investigation and laboratory test (2 / 2 completed)	0	24-Aug-22 A	31-Aug-22 A		WD(6d)																								
	S14P1c-1020	Site Clearance & Tree Felling	0	15-Mar-22 A	12-May-22 A		WD(6d)																								
	S14P1c-1001	Temporary Stockpile for High Arsenic-Containing (HAC) Soil from HKHS & HD Sites at Poi	0		25-Dec-22	584	CD(7d)																								
	S14P1c-1012	Tree survey and prepare tree felling and transplant report Portion 1c (No Tree Report)	30	25-Dec-22*	23-Jan-23	584	CD(7d)																								
	S14P1c-1010	Tree survey and prepare tree felling and transplant report Portion 9a (No Tree Report)	0	25-May-22 A	08-Jun-22 A		WD(6d)																								
Soil Treatment																															
	S14P1c-2008	Breaking & Removal of Existing Concrete paving	70	27-Dec-22*	22-Mar-23	498	WD(6d)																								
Portion 6a in Area S2 (Soil Treatment)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S14P6a-1050	Arsenic Treatment Plan	36	11-Feb-23	24-Mar-23	530	WD(6d)																								
	S14P6a-1030	Environmental ground investigation and laboratory test(1 / 1 EGI in other portion represer	0	15-Jun-20 A	27-Jul-20 A		WD(6d)																								
	S14P6a-1040	Prepare Arsenic Assessment Report	36	27-Dec-22	10-Feb-23	530	WD(6d)																								
	S14P6a-1010	Tree survey and prepare tree felling and transplant report	0	14-Apr-20 A	08-Jun-20 A		WD(6d)																								
Portion 6b in Area S2 (Soil Treatment)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S14P6b-1050	Arsenic Treatment Plan	30	02-May-22 A	03-Feb-23	572	WD(6d)																								
	S14P6b-1030	Environmental ground investigation and laboratory test(3 EGI in other portion represent th	0	15-Jun-20 A	27-Jul-20 A		WD(6d)																								
	S14P6b-1040	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	572	WD(6d)																								
	S14P6b-1017	Tree felling	30	27-Dec-22	03-Feb-23	572	WD(6d)																								
	S14P6b-1010	Tree survey and prepare tree felling and transplant report	0	14-Apr-20 A	03-Jun-20 A		WD(6d)																								
Portion 1f in Area R (Soil Treatment & Construction of Interim CLC)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S14P1f-1050	Arsenic Treatment Plan	36	11-Feb-23	24-Mar-23	590	WD(6d)																								
	S14P1f-1040	Prepare Arsenic Assessment Report	36	27-Dec-22	10-Feb-23	590	WD(6d)																								
Interim Community Liaison Centre (CLC)																															
	S14P1f-2020	Construction of interim CLC	0	14-Apr-20 A	18-May-20 A		WD(6d)																								
	S14P1f-2040	Dismantling of interim CLC	12	27-Dec-22	10-Jan-23	590	WD(6d)																								
	S14P1f-2010	Submissions and approval for proposed interim CLC	0	09-Mar-20 A	18-Mar-20 A		CD(7d)																								
Portion 9c in Area S1 (Soil Treatment)																															
Preparation work/Tree Survey/Site Clearance/GI																															
	S14P9c-1030	Environmental ground investigation and laboratory test(3 / 3 EGI completed)	0	02-Jul-20 A	21-Jul-20 A		WD(6d)																								
	S14P9c-1014	Tree felling	15	19-Jul-21 A	13-Jan-23	611	WD(6d)																								
	S14P9c-1010	Tree survey and prepare tree felling and transplant report	0	13-Jul-20 A	03-Sep-20 A		WD(6d)																								

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26						
Portion 13 in Area S4 (Soil Treatment)																																		
Preparation work/Tree Survey/Site Clearance/GI																																		
S14P13-1012	Approval & Acceptance of Tree felling Application	30	11-Mar-23	19-Apr-23	-86	WD(6d)																												
S14P13-1000	Potential Late Access to and Use of the Site (Portions 13) (EWN 50)	0		25-Dec-22	1474	CD(7d)	◆ Potential Late Access to and Use of the Site (Portions 13) (EWN 50)																											
S14P13-1010	Tree survey and prepare tree felling and transplant report	60	27-Dec-22	10-Mar-23	-86	WD(6d)																												
Cycle Track from Area H to Area N																																		
S14CT-0100	Suspension of Precast Concrete Manhole Supply due to the Severe Outbreak of COVID-1	0		25-Dec-22	-116	CD(7d)	◆ Suspension of Precast Concrete Manhole Supply due to the Severe Outbreak of COVID-19 in Mainland China (EWN 06)																											
Underground Utilities underneath Cycle Track																																		
S14CT-1000	Construct & maintain Temporary drainage	353	27-Dec-22	06-Mar-24	543	WD(6d)																												
S14CT-1040	Construct Underground Drainage in Portion 9a	49	28-Jun-22 A	25-Feb-23	-76	WD(6d)																												
S14CT-1030	Construct Underground Sewerage in Portion 5	72	02-Jul-22 A	24-Mar-23	-97	WD(6d)																												
S14CT-1042	Construct Underground Sewerage in Portion 9a	48	27-Jan-23	23-Mar-23	-76	WD(6d)																												
S14CT-1028	Laying Underground Watermain in Portion 5	50	25-Mar-23	29-May-23	-97	WD(6d)																												
S14CT-1010	Underground Utilities in Portion 7 near Area E	120	27-Dec-22*	25-May-23	616	WD(6d)																												
Portion 1b (Soil Treatment & Civil Works)																																		
Preparation work/Tree Survey/Site Clearance/GI																																		
S14P1b-1102	Approval & Acceptance of Tree felling Application	0	22-Feb-22 A	11-Mar-22 A		CD(7d)																												
S14P1b-1112	Arsenic Treatment Plan	30	02-May-22 A	03-Feb-23	592	WD(6d)																												
S14P1b-1002	Delay to the Removal of Existing CLP Cables and Facilities in Portion 1b and 1c of the Site	0		25-Dec-22	-269	CD(7d)	◆ Delay to the Removal of Existing CLP Cables and Facilities in Portion 1b and 1c of the Site (EWN 074)																											
S14P1b-1108	Environmental ground investigation and laboratory test (1 / 2 EGI) MTRC Zone	0	04-Jul-22 A	08-Jul-22 A		WD(6d)																												
S14P1b-1110	Prepare Arsenic Assessment Report	30	02-May-22 A	03-Feb-23	592	WD(6d)																												
Soil Treatment																																		
S14P1b-1204	Backfilling to the formation levels	100	09-Feb-23	12-Jun-23	746	WD(6d)																												
S14P1b-1200	Construct & maintain Temporary drainage	174	27-Dec-22	31-Jul-23	722	WD(6d)																												
S14P1b-1202	Remove soil (original assumed 4992m3) (0 / 4 EGI completed, interim soil to be excavated)	34	27-Dec-22	08-Feb-23	592	WD(6d)																												
Civil Works																																		
S14P1b-1260	Construct Access, Footpath and u channel for Alternative Po Lau Road	0	17-Feb-21 A	23-Feb-21 A		WD(6d)																												
S14P1b-1302	Divert Nullah for Underground Drainage Works	10	21-Sep-22 A	07-Jan-23	722	WD(6d)																												
S14P1b-1310	Remaining Underground Drainage (38m Approx) Stage 2	148	09-Jan-23	12-Jul-23	722	WD(6d)																												
S14P1b-1305	Removal of Existing CLP Cables and Facilities in Portion 1c of the Site (EWN 074)	0		25-Dec-22*	-269	CD(7d)	◆ Removal of Existing CLP Cables and Facilities in Portion 1c of the Site (EWN 074)																											
S14P1b-1250	Site formation for Construction of Alternative Po Lau Road	0	01-Feb-21 A	16-Feb-21 A		WD(6d)																												
S14P1b-1300	Underground Drainage (100m Approx) Stage 1	0	25-Jan-22 A	20-Sep-22 A		WD(6d)																												
S14P1b-1304	Underground Sewerage Works	136	09-Jan-23	27-Jun-23	734	WD(6d)																												
Portion 3 (Soil Treatment & Civil Works)																																		
Preparation work/Tree Survey/Site Clearance/GI																																		
S14P3-1108	Environmental ground investigation and laboratory test (2 / 2 EGI)	0	14-Nov-20 A	30-Nov-20 A		WD(6d)																												
S14P3-1106	Ground investigation (1 / 1 GI completed)	0	15-Dec-20 A	22-Dec-20 A		WD(6d)																												
Soil Treatment																																		
S14P3-1204	Backfilling to the formation levels	20	15-Nov-21 A	19-Jan-23	786	WD(6d)																												
S14P3-1200	Construct & maintain Temporary drainage	20	27-Dec-22	19-Jan-23	786	WD(6d)																												
Civil Works																																		
S14P3-1300	Underground Drainage (Deleted in latest drawing R10/130/0262 Rev K)	1	27-Dec-22	27-Dec-22	805	WD(6d)	I																											
S14P3-1302	Underground Fresh & Flushing watermain (around 100m)	60	20-Jan-23	03-Apr-23	786	WD(6d)																												
Portion 5 (Soil Treatment & Civil Works)																																		
Preparation work/Tree Survey/Site Clearance/GI																																		
S14P5-1110	Arsenic Treatment Plan	30	27-Dec-22	03-Feb-23	562	WD(6d)																												
S14P5-1106	Environmental ground investigation and laboratory test (2 / 2 EGI)	0	15-May-20 A	18-May-20 A		WD(6d)																												
S14P5-1108	Prepare Arsenic Assessment Report	30	27-Dec-22	03-Feb-23	562	WD(6d)																												
S14P5-1100	Tree survey and prepare tree felling and transplant report	0	08-Apr-20 A	04-Jun-20 A		WD(6d)																												



## ND/2019/01 - 3 Month Rolling Programme (2022 - 12)

Project ID: ND201901-RP-2  
 Layout: ND201901-3MRP  
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THE 3-MONTH ROLLING PROGRAMME			
Date	Revision	Checked	Approved
30-Dec-22	Rev.0	SC	BY

Planned Work  
 Critical Work  
 Actual Work  
 Milestone  
 Milestone Critical  
 Summary LOE  
 Summary LOE Critical

25-Dec-22
30-Dec-2022



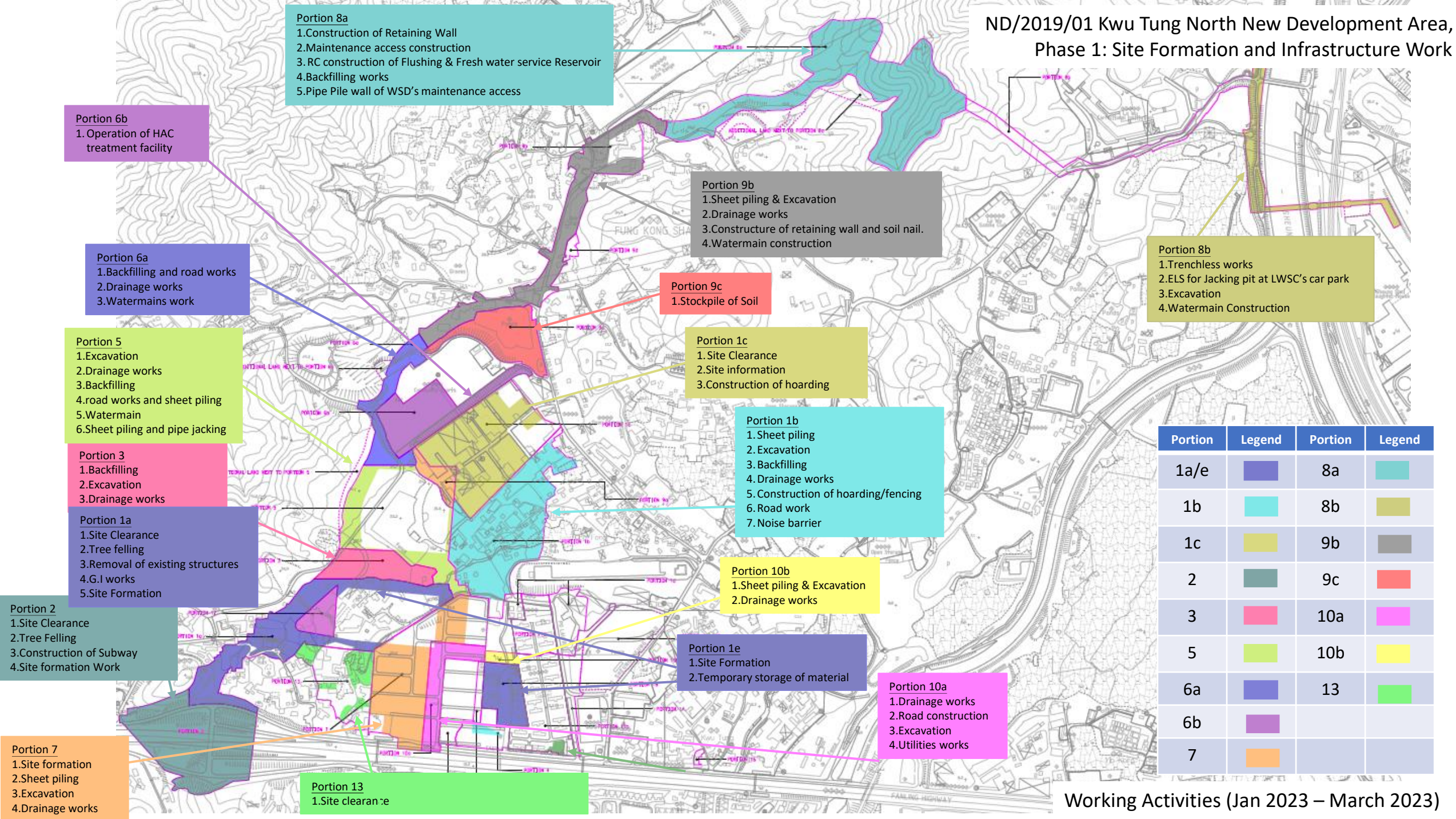
Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023				
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26			
Portion 1e (Soil Treatment)																															
Preparation work/Tree Survey/Site Clearance/GI																															
S14P1e-2060	Arsenic Treatment Plan	30	27-Dec-22	03-Feb-23	562	WD(6d)	<div></div>																								
S14P1e-2040	Environmental ground investigation and laboratory test (1 / 1 EGI completed)	0	13-Sep-21 A	15-Sep-21 A		WD(6d)																									
S14P1e-2030	Ground investigation (1 / 1 GI completed)	0	20-Sep-21 A	23-Sep-21 A		WD(6d)																									
S14P1e-2050	Prepare Arsenic Assessment Report	30	27-Dec-22	03-Feb-23	562	WD(6d)	<div></div>																								
S6AP1e-3050	Set up Containment Area, Removal and Disposal of Asbestos and Clean up Works	0	22-Feb-22 A	25-Mar-22 A		WD(6d)																									
S14P1e-2020	Site clearance & Tree felling	0	25-Jun-22 A	08-Jul-22 A		WD(6d)																									
Soil Treatment																															
S14P1e-2080	Backfilling to the formation levels	90	16-Mar-23	07-Jul-23	742	WD(6d)	<div></div>																								
S14P1e-3000	Construct & maintain Temporary drainage	124	04-Feb-23	07-Jul-23	742	WD(6d)	<div></div>																								
S14P1e-2070	Remove soil (original assumed 860m3) (0 / 1 EGI completed, interim soil to be excavated.	34	04-Feb-23	15-Mar-23	562	WD(6d)	<div></div>																								
Section 15																															
S15-1000	Presevation and protection of tree	1204	06-Dec-19 A	11-Apr-26	-95	CD(7d)	<div></div>																								
Section 18 (Subject to excision)																															
S18-1040	Watermain laying work in Portion 5	214	20-Sep-21 A	15-Sep-23	-102	WD(6d)	<div></div>																								
S18-1050	Watermain laying work in Portion 6a & 6b	251	27-Dec-22	01-Nov-23	-143	WD(6d)	<div></div>																								
S18-1075	Watermain laying work in Portion 8a	350	16-Feb-23	23-Apr-24	-298	WD(6d)	<div></div>																								
Section 20 (Subject to excision)																															
S20-1024	Delay Diversion/Modification of Existing CLP Cables & Facilities within the Vicinity of Pak Shek Au at 1a & 2 (EWN 078)	0		25-Dec-22	-309	CD(7d)	<div>◆ Delay Diversion/Modification of Existing CLP Cables &amp; Facilities within the Vicinity of Pak Shek Au at 1a &amp; 2 (EWN 078)</div>																								
S20-1018	Excavation Permit (XP) for New Cycle Path (EWN No. 021) (CNE No. 022)	0		25-Dec-22	-192	CD(7d)	<div>◆ Excavation Permit (XP) for New Cycle Path (EWN No. 021) (CNE No. 022)</div>																								
S20-1022	Increased Difficulty for the Construction of Pak Shek Au Pedestrian Subway Cum Cycle Tr	0		25-Dec-22	-192	CD(7d)	<div>◆ Increased Difficulty for the Construction of Pak Shek Au Pedestrian Subway Cum Cycle Track at Portion 2 (EWN 068)</div>																								
S20-1016	Opening Cycle Track at Portion 2 (EWN No. 017)	0		25-Dec-22	-192	CD(7d)	<div>◆ Opening Cycle Track at Portion 2 (EWN No. 017)</div>																								
S20-1012	Part of Portion 2 Occupied by YL/2015/01 (EWN No. 016)	0		25-Dec-22	-192	CD(7d)	<div>◆ Part of Portion 2 Occupied by YL/2015/01 (EWN No. 016)</div>																								
S20-1020	Suspension of Works at Part of Portion 2 (EWN No. 019)	0		25-Dec-22	-192	CD(7d)	<div>◆ Suspension of Works at Part of Portion 2 (EWN No. 019)</div>																								
Construction of Pedestrian Subway cum Cycle Track Stage 2 (South of Castle Peak Road)																															
Civil and Structural Works																															
S20S2-7450	Bay No. 10 - ELS, Excavation, Blinding & Waterproofing	60	27-Dec-22	10-Mar-23	-364	WD(6d)	<div></div>																								
S20S2-7460	Bay No. 10 - RC Structure	30	11-Mar-23	19-Apr-23	-364	WD(6d)	<div></div>																								
S20S2-7470	Bay No. 12 - Excavation, Blinding & Waterproofing	10	23-Mar-23	03-Apr-23	-354	WD(6d)	<div></div>																								
S20S2-7430	Bay No. 13 - Excavation, Blinding & Waterproofing	0	22-Aug-22 A	31-Aug-22 A		WD(6d)																									
S20S2-7440	Bay No. 13 - RC Structure	30	01-Sep-22 A	03-Feb-23	-364	WD(6d)	<div></div>																								
S20S2-7730	Bay No. 7 - Excavation, Blinding & Waterproofing	10	11-Feb-23	22-Feb-23	-366	WD(6d)	<div></div>																								
S20S2-7740	Bay No. 7 - RC Structure	30	23-Feb-23	29-Mar-23	-366	WD(6d)	<div></div>																								
S20S2-7750	Bay No. 8 - Excavation, Blinding & Waterproofing	10	07-Mar-23	17-Mar-23	-356	WD(6d)	<div></div>																								
S20S2-7320	ELS, Excavation & UU suspension works for subway	154	28-Apr-22 A	07-Jul-23	-288	WD(6d)	<div></div>																								
E&M, Lift Installation and Finishing Work for Pedestrian Subway																															
S20ELF-1010	Design and Approval for Lift and E&M works	90	30-Jan-23	29-Apr-23	560	CD(7d)	<div></div>																								
Section 21 (Subject to excision)																															
S21-1013	Late Possession of Site of Portions 1d & 11a (CNE No. 009)	0		27-Dec-22	490	CD(7d)	<div>◆ Late Possession of Site of Portions 1d &amp; 11a (CNE No. 009)</div>																								
Portion 1b in Area M (Soil Treatment)																															
Preparation work																															
S21P1b-1012	Approval & Acceptance of Tree felling Application	30	04-Feb-23	10-Mar-23	395	WD(6d)	<div></div>																								
S21P1b-1020	Site Clearance & Tree Felling	60	11-Mar-23	25-May-23	395	WD(6d)	<div></div>																								
S21P1b-1010	Tree survey and prepare tree felling and transplant report	30	27-Dec-22	03-Feb-23	395	WD(6d)	<div></div>																								
Portion 1d in Area M (Soil Treatment & Demolition of Existing CLC)																															
Preparation work																															
S21P1d-1012	Approval & Acceptance of Tree felling Application	30	04-Feb-23	10-Mar-23	395	WD(6d)	<div></div>																								
S21P1d-0010	Demolition of existing Community Liaison Centre (CLC)	0	27-May-20 A	05-Jun-20 A		WD(6d)																									

Activity ID		Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023					March 2023				
								30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26			
	S21P1d-1020	Site Clearance & Tree Felling	60	11-Mar-23	25-May-23	395	WD(6d)																									
	S21P1d-1010	Tree survey and prepare tree felling and transplant report	30	27-Dec-22	03-Feb-23	395	WD(6d)																									
	Portion 11a in Area M (Soil Treatment)																															
	Preparation work																															
	S21P11a-1012	Approval & Acceptance of Tree felling Application	30	04-Feb-23	10-Mar-23	390	WD(6d)																									
	S21P11a-1020	Site Clearance & Tree Felling	60	11-Mar-23	25-May-23	390	WD(6d)																									
	S21P11a-1010	Tree survey and prepare tree felling and transplant report	30	27-Dec-22	03-Feb-23	390	WD(6d)																									
	8.0 - PMI / CE																															
	PC-1008	Additional Tree Survey at the Vested Land of MTRCL around future Kwu Tung Station (PI	0	03-Aug-20 A	31-Aug-20 A		WD(6d)																									
	PC-1012	Change to the Area of Area M (PMI 160, CE 168)	0	22-Dec-21 A	27-Dec-22	395	WD(6d)																									
PC-1010	Omission of Works and Changes of Demolition Method to Demolish 6 Blocks if Buildings ir	0	14-Oct-20 A	26-Nov-20 A		WD(6d)																										
PC-1009	Provision of Soil & Water testing at Wa Shan Site under SALRS (PMI 028, CE 025)	0	25-Sep-20 A	25-Sep-20 A		WD(6d)																										
PC-1013	Quotation for Additional Drainage & Sewerage Works at Portion 10a (PMI 202)	0	25-Jul-22 A	27-Dec-22	-80	WD(6d)																										
PC-1002	Remove the existing un-wanted vegetation in Area 1.3 within Portion 7 (PMI 001, CE 001)	0	15-Feb-20 A	18-Feb-20 A		WD(6d)																										
PC-1003	Remove the existing un-wanted vegetation in Area 2 within Portion 10a (PMI 001, CE 001)	0	03-Feb-20 A	12-Feb-20 A		WD(6d)																										
PC-1004	Remove the existing un-wanted vegetation in Area 3 within Portion 4 (PMI 001, CE 001)	0	05-Feb-20 A	12-Feb-20 A		WD(6d)																										
PC-1006	Site clearance and ground investigation for SALRS at Wa Shan Site (PMI 008, CE 002)	0	09-Jul-20 A	16-Aug-20 A		WD(6d)																										
9.0 - Major EWN / CNE																																
EC-1111	Additional Requirements for the Construction of Traffic Signal System at the Junction of R	0	30-Jul-22 A	25-Dec-22	-195	CD(7d)																										
EC-1089	Additional Sewerage Pipes clash with the Proposed Watermains along Road D4 and D5 (	0	27-Apr-22 A	25-Dec-22	-122	CD(7d)																										
EC-1087	Change of Road Layout of Ho Sheung Heung Road after the Works by DSD Contract DC/	0	20-Apr-22 A	25-Dec-22	-691	CD(7d)																										
EC-1067	Conflict between Drainage Works and Existing Twin DN2200 Dongjiang Water Mains (CNI	0	29-Nov-21 A	25-Dec-22	-355	CD(7d)																										
EC-1068	Conflict between Drainage Works and Water Mains in Road W1 (CNE 052)	0	02-Dec-21 A	25-Dec-22	25	CD(7d)																										
EC-1107	Delay Diversion/Modification of Existing CLP Cables & Facilities within the Vicinity of Pak �	0	08-Apr-22 A	25-Dec-22	-309	CD(7d)																										
EC-1078	Delay in Fabrication & Supply of Structural Steel Members for NB 35 due to the Severe Ot	0	01-Mar-22 A	25-Dec-22	-152	CD(7d)																										
EC-1079	Delay in Supply of Precast Concrete Pipe due to the Severe Outbreak of Omicron (EWN 0	0	16-Feb-22 A	25-Dec-22	1474	CD(7d)																										
EC-1046	Delay in the Access to and Use of Portions 1a & 12 of the Site (CNE 034)	0	06-Jul-21 A	25-Dec-22	-537	CD(7d)																										
EC-1101	Delay to the Diversion of Existing Fresh Watermains along/near Ma Tso Lung Road at Poi	0	19-Jul-22 A	25-Dec-22	-146	CD(7d)																										
EC-1100	Delay to the Diversion/Modificaton of Existing HKT Pillar Boxes & Associated ducts in Ma `	0	15-Jul-22 A	25-Dec-22	-146	CD(7d)																										
EC-1102	Delay to the Relocation of Existing Fire Hydrant in Ma Tso Lung Road at Portion 9b of the	0	19-Jul-22 A	25-Dec-22	-146	CD(7d)																										
EC-1098	Delay to the Removal of Existing CLP Cables and Facilities in Portion 1b and 1c of the Site	0	31-Mar-22 A	25-Dec-22	-269	CD(7d)																										
EC-1099	Delayed to the Removal and or Diversion of Existing CLP Cable and Facilities in Portion 9l	0	31-Mar-22 A	25-Dec-22	-355	CD(7d)																										
EC-1039	Design Change on Road W1 (EWN 025)	0	22-Mar-21 A	25-Dec-22	-345	CD(7d)																										
EC-1088	Design Changes to the Permanent Street Lighting Works (CNE 074)	0	04-Mar-22 A	25-Dec-22	1474	CD(7d)																										
EC-1050	Design Layout and Profile for the Water Supply Pipework (EWN 034)	0	17-Sep-21 A	25-Dec-22	-355	CD(7d)																										
EC-1042	Details of DCS pipe at D4-1 & D5 Road (EWN 030)	0	21-May-21 A	25-Dec-22	-511	CD(7d)																										
EC-1077	Disruption of Precast Concrete Pipe (Jacking Pipe) Supply due to the Severe Outbreak of	0	25-Feb-22 A	25-Dec-22	-292	CD(7d)																										
EC-1093	DN200 Fresh Watermain to Existing Watermain for MWSC Site between Po Lau Road anc	0	25-May-22 A	25-Dec-22	-95	CD(7d)																										
EC-1097	Early Open Road D1-1 and Road L-1 for General Public Use and Access (EWN 071)	0	19-May-22 A	25-Dec-22	-95	CD(7d)																										
EC-1049	Entrustment of Works for Installation of District Cooling System (DCS) pipelines along Roa	0	18-Aug-21 A	25-Dec-22	-511	CD(7d)																										
EC-1030	Excavation Permit (XP) for New Cycle Path (EWN No. 021) (CNE No. 022)	0	19-Oct-20 A	25-Dec-22	-772	CD(7d)																										
EC-1064	Extra Time on Production and Delivery of Road Lighting Products (EWN 51)	0	13-Dec-21 A	25-Dec-22	-195	CD(7d)																										
EC-1026	Handling of Unlawful Occupied Property Affected by the Works (CNE No. 014)	0	21-Aug-20 A	25-Dec-22	1474	CD(7d)																										
EC-1027	Handling of Unlawful Occupied Property Affected by the Works within the Site (CNE No. 0	0	31-Aug-20 A	25-Dec-22	1474	CD(7d)																										
EC-1056	Inclement Weather on 8th October 2021 (CNE 036)	0	08-Oct-21 A	25-Dec-22	1474	CD(7d)																										
EC-1092	Increased Difficulty for the Construction of Pak Shek Au Pedestrian Subway Cum Cycle Tr	0	25-May-22 A	25-Dec-22	-192	CD(7d)																										
EC-1086	Increased Risk for Damages to Existing Donjiang Raw Water Mains (DJRWMs) (CNE 060)	0	31-Mar-22 A	25-Dec-22	-355	CD(7d)																										
EC-1070	Insufficient Width of Road W1 for Accommodation of All Underground Utilities (CNE 056)	0	04-Jan-22 A	25-Dec-22	-345	CD(7d)																										
EC-1096	Later Supply and Installation of Traffic Signal and Ducting at the Junction of Road D1 and	0	09-Jun-22 A	25-Dec-22	-195	CD(7d)																										
EC-1069	Level Different between Road A3 and Road D4-1 (CNE 055)	0	08-Dec-21 A	25-Aug-22 A		CD(7d)																										
EC-1091	Obstruction for the Construction of Proposed Footpath and Cycle Track along Road L1 in .	0	19-May-22 A	25-Dec-22	-110	CD(7d)																										
EC-1018	Opening of Cycle Track at Portion 2 and 10a (EWN No. 017) (CNE No. 022)	0	04-Aug-20 A	25-Dec-22	-772	CD(7d)					</																					

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	Calendar	November 2022					December 2022					January 2023					February 2023				March 2023			
							30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26	
EC-1014	Part of Portion 2 Occupied by YL/2015/01 (EWN No. 016) (CNE No. 022)	0	23-Dec-19 A	25-Dec-22	-772	CD(7d)																							
EC-1090	Part of Portion 9b of the Site (near eastern end of Road D5) occupied by the Local Villager	0	03-May-22 A	25-Dec-22	7	CD(7d)																							
EC-1080	Possible Suspension of Concrete Supply due to the Severe Outbreak of COVID-19 (EWN	0	02-Mar-22 A	25-Dec-22	1474	CD(7d)																							
EC-1094	Potential Changes of the Scope of Noise Barriers (AECOM EWN PM-003)	0	23-May-22 A	25-Dec-22	-195	CD(7d)																							
EC-1054	Potential Delay on Production and Supply of D.I. Pipes and Fittings (EWN 041) (CNE 047)	0	11-Oct-21 A	25-Dec-22	-153	CD(7d)																							
EC-1055	Potential Delay on Production and Supply of M.S. Pipes and Fittings (EWN 042) (CNE 047)	0	16-Oct-21 A	25-Dec-22	-153	CD(7d)																							
EC-1053	Potential Delay on Production and Supply of Precast Concrete Pipes (EWN 040) (CNE 04	0	06-Oct-21 A	25-Dec-22	-95	CD(7d)																							
EC-1076	Potential Delay on Supply of Steel Moulds for Construction of Fresh Water Service Reserv	0	18-Feb-22 A	25-Dec-22	-134	CD(7d)																							
EC-1063	Potential Late Access to and Use of the Site (Portions 13) (EWN 50) (CNE 057)	0	13-Dec-21 A	25-Dec-22	1474	CD(7d)																							
EC-1062	Potential Late Access to and Use of the Site (Portions 1c & 9a) (EWN 49) (CNE 058)	0	13-Dec-21 A	25-Dec-22	-122	CD(7d)																							
EC-1110	Provision of Fill Materials for Contract Nos. ND/2019/05 and ND/2019/07 (CNE 084)	0	17-Aug-22 A	25-Dec-22	1474	CD(7d)																							
EC-1085	Requesting for Additional Concrete Vehicular Access by the Local Villager adjacent 9b of t	0	25-Apr-22 A	25-Dec-22	115	CD(7d)																							
EC-1071	Revised Construction Drawings of Fresh Water Service Reservoir (CNE 067, 067a)	0	14-Dec-21 A	25-Dec-22	-115	CD(7d)																							
EC-1109	Revised Sewerage System along Road D4 and D5 at Portion 9b of the Site (CNE 083)	0	02-Aug-22 A	25-Dec-22	-223	CD(7d)																							
EC-1066	Shortage of Aggregate Supply before Chinese New Year 2022 (CNE 048) (EWN 001.6, 00	0	29-Nov-21 A	25-Dec-22	1474	CD(7d)																							
EC-1052	Shortage of Cement Supply due to "Energy Consumption Dual Control Policy" (EWN 039)	0	06-Oct-21 A	25-Dec-22	1474	CD(7d)																							
EC-1084	Strong Objection from the Local Villager for the Construction of L-Shape Retaining Wall K1	0	11-Apr-22 A	25-Aug-22 A		CD(7d)																							
EC-1043	Strong Objection on the Construction of Fresh and Flushing Reservoir at Portions 8a and 1	0	09-Jun-21 A	25-Dec-22	-345	CD(7d)																							
EC-1006	Strong Objection on the Construction of Service Reservoirs at Portions 8a & 8b (CNE No. 1	0	18-Mar-20 A	25-Dec-22	-709	CD(7d)																							
EC-1061	Suspension of Concretes Supply due to Cement Shortage (EWN 045) (CNE 046)	0	02-Nov-21 A	25-Dec-22	1474	CD(7d)																							
EC-1036	Suspension of EGI works and withdrawal of TTA on Ho Sheung Heung Rd (CNE No.24)	0	08-Jan-21 A	25-Dec-22	-709	CD(7d)																							
EC-1081	Suspension of Precast Concrete Manhole Supply due to the Severe Outbreak of COVID-1	0	14-Mar-22 A	25-Dec-22	-116	CD(7d)																							
EC-1028	Suspension of Works at Part of Portion 2 (CNE No. 016) (EWN No. 019)	0	31-Aug-20 A	25-Dec-22	-772	CD(7d)																							
EC-1065	Temporary Stockpile for High Arsenic-Containing (HAC) Soil from HKHS & HD Sites at Poi	0	04-Jan-22 A	25-Dec-22	584	CD(7d)																							
EC-1059	The footing detail for Roadside Directional Sign ADS30 at Portion 5 (EWN 043)	0	22-Oct-21 A	25-Dec-22	1474	CD(7d)																							
EC-1058	Tropical Cyclone Warning Signal No.8 on 13th October 2021 (CNE 040)	0	13-Oct-21 A	25-Dec-22	1474	CD(7d)																							
EC-1057	Tropical Cyclone Warning Signal No.8 on 9th October 2021 (CNE 039)	0	09-Oct-21 A	25-Dec-22	1474	CD(7d)																							
EC-1072	Unavailability of Vehicular Access and Movement towards Receiving Pit (CNE 068)	0	29-Dec-21 A	25-Dec-22	-221	CD(7d)																							
EC-1051	Unstable Supply of Cement for HAC Soil Treatment (EWN 036, 038) (CNE 049)	0	27-Sep-21 A	25-Dec-22	635	CD(7d)																							
EC-1075	Works affected by the Sever Outbreak of Omicron (CNE 073) (EWN 058)	0	25-Feb-22 A	25-Dec-22	1474	CD(7d)																							
EC-1074	Works affected by the New Constructed 1650mm dia. Drain Pipe along Ho Sheung Heung	0	21-Feb-22 A	25-Dec-22	-691	CD(7d)																							



# ND/2019/01 Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work



Portion	Legend	Portion	Legend
1a/e		8a	
1b		8b	
1c		9b	
2		9c	
3		10a	
5		10b	
6a		13	
6b			
7			

Working Activities (Jan 2023 – March 2023)



## **Construction Programme of ND/2019/02**

ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North New Development Area and Shek Wu Hui

Activity ID	Activity Name	Planned Duration	Start	Finish	2022 Dec	2023 Jan	2023 Feb	2023 Mar	2023 Apr
ND-2019-02 KTNDA Phase 1:Roads and Drains between Kwu Tung North New Developme		1912	10-Apr-20 A	04-Jul-25					
Contract Data		0	01-Jan-23	01-Jan-23					
Completion Obligation		0	01-Jan-23	01-Jan-23					
Programme Data		1912	10-Apr-20 A	04-Jul-25					
Access Dates		0	16-Feb-23	16-Feb-23					
Preliminaries		1739	30-Sep-20 A	04-Jul-25					
Works in Section 2		1422	10-Apr-20 A	24-Dec-24					
Portion 2 - Road & Drains		1327	03-Aug-20 A	24-Dec-24					
Pre-construction works		1327	03-Aug-20 A	24-Dec-24					
P2-1070	Tree Protection and Preservation	1327	03-Aug-20 A	24-Dec-24					
ELS		63	01-Feb-23	14-Apr-23					
Receiving shaft at FMH_KT1.32A		39	01-Mar-23	14-Apr-23					
P2-7190	Set up TTA at Castle Peak Road Carriageway (westbound)	1	01-Mar-23*	01-Mar-23					
P2-7200	ELS for inspection shaft at FMH_KT1.32A	38	02-Mar-23	14-Apr-23					
Combined shaft for SMH_KT6005A & FMH_KT1.33A		40	01-Feb-23	18-Mar-23					
P2-4000	Set up TTA at Castle Peak Road Footpath	1	01-Feb-23*	01-Feb-23					
P2-4005	ELS of combined pit for SMH_KT6005A & FMH_KT1.33A	38	02-Feb-23	17-Mar-23					
P2-4010	Install decking at KT1.33A & release TTA	1	18-Mar-23	18-Mar-23					
Portion 3 - Road & Drains		1327	03-Aug-20 A	24-Dec-24					
Pre-construction works		1327	03-Aug-20 A	24-Dec-24					
P3-1060	Tree Protection and Preservation	1327	03-Aug-20 A	24-Dec-24					
Sewer Pipeline Installation (KT1.33A to KT1.41A)		66	13-Jan-23	03-Apr-23					
KT1.39A - KT1.40A (99m) (Pipe Jacking by CE-074)		66	13-Jan-23	03-Apr-23					
P3-6030	Set up Pipe Jacking Equipment (2nd pipe)	15	13-Jan-23*	02-Feb-23					
P3-6040	Pipe Jacking of 800 Concrete Pipe (1.39A to 1.40A) (99m ~3m/d)	26	03-Feb-23	04-Mar-23					
P3-6050	TBM reach the sheet pile at receiving pit	1	06-Mar-23	06-Mar-23					
P3-6060	Pre- treatment grouting, setup the exit ring, cutting sheet pile	7	07-Mar-23	14-Mar-23					
P3-6070	TBM break through, setup guide rail, lifting out the TBM, jacking the remaining pipe to designated location, air test	5	15-Mar-23	20-Mar-23					
P3-6080	Demolish & removal of the slurry pipe, power cable inside the jacking pipe,	12	21-Mar-23	03-Apr-23					
KT1.36A - KT1.33A (23m) (Open Cut by CE-068)		50	01-Feb-23	30-Mar-23					
P3-5030	Sheet Pile Installation of combined shaft (KT1.33A & KT6005A)	6	01-Feb-23*	07-Feb-23					
P3-5040	Soft Excavation to 1st strut level	3	08-Feb-23	10-Feb-23					
P3-5040.1	Installation of strut S1	5	11-Feb-23	16-Feb-23					
P3-5050	Soft Excavation to 2nd strut level	4	17-Feb-23	21-Feb-23					

ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023			
					Dec	Jan	Feb	Mar	Apr
P3-5050.1	Installation of strut S2	5	22-Feb-23	27-Feb-23					
P3-5060	Soft Excavation to 3rd strut level	5	28-Feb-23	04-Mar-23					
P3-5060.1	Installation of strut S3	6	06-Mar-23	11-Mar-23					
P3-5070	Soft Excavation to F.L ; (approx. 8.5m depth)	6	13-Mar-23	18-Mar-23					
P3-6130	Sheet pile installation of Trench for 800 dia. and 2100 dia. pipe installation	10	20-Mar-23	30-Mar-23					
Portion 4 - Road & Drains		1327	03-Aug-20 A	24-Dec-24					
Pre-construction works		1327	03-Aug-20 A	24-Dec-24					
P4-1050	Tree Protection and Preservation	1327	03-Aug-20 A	24-Dec-24					
Rising Main Installation by Open Cut (CHB 50 to 493 & CHB515 to 943.445)		199	27-Sep-22 A	25-May-23					
Rising Main CHB255 to CHB370 (120M)		141	27-Sep-22 A	17-Mar-23					
P4-3222	Bedding and Pipe Laying (Twins DN700)	15	27-Sep-22 A	20-Jan-23					
P4-3224	Backfilling of drain to at grade level	45	21-Jan-23	17-Mar-23					
Rising Main CHB150 to CHB255 (105M)		129	25-Oct-22 A	29-Mar-23					
P4-6050	Soft Excavation to F.L.	50	25-Oct-22 A	14-Jan-23					
P4-6060	Bedding and Pipe Laying (Twins DN700)	20	04-Jan-23	30-Jan-23					
P4-6070	Backfilling of drain to at grade level	40	11-Jan-23	01-Mar-23					
P4-6320	Sheet Pile Extraction	30	23-Feb-23	29-Mar-23					
Rising Main CHB570 to CHB670 (100M)		81	04-Nov-22 A	11-Feb-23					
P4-5665	Construction of Switch Chamber linking the rising mains	45	04-Nov-22 A	01-Feb-23					
P4-5670	Backfilling of drain to at grade level	45	16-Dec-22 A	11-Feb-23					
Rising Main CHB50 to CHB150 (100M)		63	10-Dec-22 A	27-Feb-23					
P4-6140	Bedding and Pipe Laying (Twins DN700)	20	10-Dec-22 A	16-Jan-23					
P4-6150	Backfilling of drain to at grade level	45	03-Jan-23	27-Feb-23					
Rising Main CHB370 to CHB493 (123M)		87	13-Feb-23	25-May-23					
P4-5520	Sheet Pile Installation for open trench	49	13-Feb-23	10-Apr-23					
P4-5530	Soft Excavation to 1st strut level	57	14-Mar-23	19-May-23					
P4-5540	Installation of strut S1	58	18-Mar-23	25-May-23					
NS 250 PE Pipe Installation (From KT6.03A to KT6.01)		59	18-Mar-23	26-May-23					
Sewer Pipeline FMH_KT6.02A to FMH_KT6.01		49	18-Mar-23	15-May-23					
P4-6160	Sheet Pile Installation for open trench	49	18-Mar-23	15-May-23					
Sewer Pipeline FMH_KT6.03A to FMH_KT6.02A		49	30-Mar-23	26-May-23					
P4-6240	Sheet Pile Installation for open trench	49	30-Mar-23	26-May-23					

ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023				
					Dec	Jan	Feb	Mar	Apr	
Sewage Rising Main Installation by Pipe Jacking CHB493 to CHB514 (21M)		87	16-Dec-22 A	01-Apr-23						
P4-5407	Haul Road Modification	29	16-Dec-22 A	20-Jan-23						
P4-5410	Site Setup, Set up TTA & Plant Mobilization	14	21-Jan-23	09-Feb-23						
P4-5420	Instrumentation Installation and Monitoring Works	6	10-Feb-23	16-Feb-23						
P4-5430	ELS for Launching Pit (3 layers of strut)	38	17-Feb-23	01-Apr-23						
Portion 5 - Sewage Rising Main		1422	10-Apr-20 A	24-Dec-24						
Preparation Works		1422	10-Apr-20 A	24-Dec-24						
P5-5020	Relocation work of existing Board Band Cable and Street Light	97	02-Dec-22 A	30-Mar-23						
P5-5030	Tree Protection and Preservation	1422	10-Apr-20 A	24-Dec-24						
Sewage Rising Main Installation by Open Cut (CHA1047 to CHA 1532)		128	10-Dec-22 A	15-May-23						
CHA1200 - CHA1300 (100m)		70	10-Dec-22 A	07-Mar-23						
P5-2060	Bedding & Pipe Laying (Twins DN700)	20	10-Dec-22 A	11-Jan-23						
P5-2070	Backfilling to at grade level	45	11-Jan-23*	07-Mar-23						
CHA1047 / TBM Shaft - CHA1127 (80m)		58	08-Mar-23	15-May-23						
P5-2300	Sheet Pile Installation for open trench	30	08-Mar-23	11-Apr-23						
P5-2310	Soft Excavation to 1st strut level	48	20-Mar-23	15-May-23						
Sewage Rising Main Installation across Sheung Yue River by Pipejacking		54	03-Mar-23	05-May-23						
P5-3000	Site Setup, Set up TTA & Plant Mobilization	54	03-Mar-23*	05-May-23						
Portion 7 - Kwu Tung North Sewage Pumping station		1327	03-Aug-20 A	24-Dec-24						
Sewage Pumping Station		1327	03-Aug-20 A	24-Dec-24						
Site Preparation		1327	03-Aug-20 A	24-Dec-24						
P7-1040	Tree Protection and Preservation	1327	03-Aug-20 A	24-Dec-24						
Station Structure		110	24-Nov-22 A	06-Apr-23						
Basement to G/F Wall & G/F Slab		110	24-Nov-22 A	06-Apr-23						
-2.05mPD (1st Pour)		40	24-Nov-22 A	11-Jan-23						
P7-BF2120	Rebar fixing of basement Slab	16	24-Nov-22 A	06-Jan-23						
P7-BF2130	Formwork and Base Slab Shutters	5	13-Dec-22 A	10-Jan-23						
P7-BF2140	Base Slab & Wall Kickers Concreting (-2.05mPD) (460M3)	1	11-Jan-23	11-Jan-23						
-6.21mPD		32	24-Dec-22 A	04-Feb-23						
P7-BF1000	Low Level Pile Head treatment and Capping Plate Installation	6	24-Dec-22 A	06-Jan-23						
P7-BF1050	Rebar fixing of basement Slab (1.5m thk)	14	07-Jan-23	26-Jan-23						
P7-BF1060	Base Slab Shutters	7	27-Jan-23	03-Feb-23						
P7-BF1070	Base Slab Concreting (1st Bay, -6.21mPD) (340M3)	1	04-Feb-23	04-Feb-23						
-2.05mPD (2nd Pour)		42	06-Feb-23	25-Mar-23						



ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023			
					Dec	Jan	Feb	Mar	Apr
P7-BF1080	Dismantling base slab formwork and soil backfill to -4.15mPD with testing	10	06-Feb-23	16-Feb-23					
P7-BF1090	Dismantle of strut S5 & S4	14	17-Feb-23	04-Mar-23					
P7-BF1170	Rebar fixing of basement Slab	12	06-Mar-23	18-Mar-23					
P7-BF1180	Base Slab Shutters	5	20-Mar-23	24-Mar-23					
P7-BF1190	Base Slab & Wall Kickers Concreting (-2.05mPD to -0.5mPD) (M3)	1	25-Mar-23	25-Mar-23					
+1.55mPD (2nd Pour)		10	27-Mar-23	06-Apr-23					
P7-BF2000	Dismantling base slab formwork and soil backfill to -0.5mPD with testing	10	27-Mar-23	06-Apr-23					
Works in Section 3		1327	03-Aug-20 A	24-Dec-24					
Portion 8 - Roads & Drains		1327	03-Aug-20 A	24-Dec-24					
Pre-construction works		1327	03-Aug-20 A	24-Dec-24					
P8-1055	Tree Protection and Preservation	1327	03-Aug-20 A	24-Dec-24					
Sewer Pipeline Installation		115	23-Nov-22 A	11-Apr-23					
KT1.40A - KT1.43.7 (50m)		69	23-Nov-22 A	16-Feb-23					
P8-5205	Construction of Manhole KT1.43.7	19	23-Nov-22 A	20-Jan-23					
P8-5210	Backfilling of drain to at grade level with dismantling strut	20	15-Dec-22 A	06-Feb-23					
P8-5220	Extraction of sheet pile and reinstatement	40	28-Dec-22 A	16-Feb-23					
KT1.43.7 - KT1.41A (50m)		94	17-Dec-22 A	11-Apr-23					
P8-9100	Soft Excavation to 1st strut level	22	17-Dec-22 A	13-Jan-23					
P8-9110	Installation of strut S1	23	21-Dec-22 A	18-Jan-23					
P8-9120	Soft Excavation to 2nd strut level	23	13-Jan-23	11-Feb-23					
P8-9130	Installation of strut S2	23	28-Jan-23	23-Feb-23					
P8-9140	Soft Excavation to F.L.	24	07-Feb-23	06-Mar-23					
P8-9150	Bedding & Pipe Laying (800 Concrete Pipe)	15	01-Mar-23	17-Mar-23					
P8-9155	Construction of Manhole KT1.41A	21	18-Mar-23	11-Apr-23					
Drainage Outfall constuction by Open Cut		89	03-Jan-23	19-Apr-23					
Outfall 5100A		89	03-Jan-23	19-Apr-23					
P8-OF3521	Sheet Pile Installation at Outfall	10	03-Jan-23	13-Jan-23					
P8-OF3531	Excavation to 1st strut level	3	14-Jan-23	17-Jan-23					
P8-OF3541	Installation 1st level strut and testing	5	18-Jan-23	26-Jan-23					
P8-OF3551	Excavation to 2nd strut level	4	27-Jan-23	31-Jan-23					
P8-OF3561	Installation 2nd level strut and testing	5	04-Feb-23	09-Feb-23					

ND/2019/02 - Kwu Tung North New Development Area Phase 1: Roads & Drains between Kwu Tong North  
New Development Area and Shek Wu Hui

Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023			
					Dec	Jan	Feb	Mar	Apr
P8-OF3571	Excavation to Formation Level	2	10-Feb-23	11-Feb-23					
P8-OF3581	Backfilling and Blinding works to outfall	1	13-Feb-23	13-Feb-23					
P8-OF3591	Allow 7 days for concrete strength development	7	14-Feb-23	21-Feb-23					
P8-OF3601	Dismantle Strut	1	22-Feb-23	22-Feb-23					
P8-OF3611	Outfall Baseslab (Incl concreting)	3	23-Feb-23	25-Feb-23					
P8-OF3621	Dismantle Base slab Formwork	2	27-Feb-23	28-Feb-23					
P8-OF3631	Outfall Wall (Incl concreting)	5	01-Mar-23	06-Mar-23					
P8-OF3641	Dismantle 1st pour Wall Formwork	3	07-Mar-23	09-Mar-23					
P8-OF3651	Outfall Wall 2nd pour (Incl concreting)	4	10-Mar-23	14-Mar-23					
P8-OF3661	Dismantle 2nd pour Wall Formwork	3	15-Mar-23	17-Mar-23					
P8-OF3671	Partillay Reintatement (Rockfill)	2	18-Mar-23	20-Mar-23					
P8-OF3681	Dismantle 1st Layer of Strut	2	21-Mar-23	22-Mar-23					
P8-OF3691	Remove Riverside sheet pile	2	23-Mar-23	24-Mar-23					
P8-OF3701	Casting of outfall (River Side)	2	25-Mar-23	27-Mar-23					
P8-OF3731	Sheet Pile Installation from Outfall 5100A to SMH_KTCP5100A	20	28-Mar-23	19-Apr-23					
Outfall 5101		18	15-Mar-23	04-Apr-23					
P8-OF3301	Sheet Pile Installation at Outfall	10	15-Mar-23*	25-Mar-23					
P8-OF3311	Excavation to 1st strut level	3	27-Mar-23	29-Mar-23					
P8-OF3321	Installation 1st level strut and testing	5	30-Mar-23	04-Apr-23					
Outfall 5103		32	22-Feb-23	30-Mar-23					
P8-OF1640	Sheet Pile Installation at Outfall	10	22-Feb-23	04-Mar-23					
P8-OF1650	Excavation to 1st strut level	3	06-Mar-23	08-Mar-23					
P8-OF1660	Installation 1st level strut and testing	5	09-Mar-23	14-Mar-23					
P8-OF1670	Excavation to 2nd strut level	4	15-Mar-23	18-Mar-23					
P8-OF1680	Installation 2nd level strut and testing	5	23-Mar-23	28-Mar-23					
P8-OF1690	Excavation to Formation Level	2	29-Mar-23	30-Mar-23					
Sewer Installation at SMH_KT5103 to OF 5103 (50m) (Open Cut)		40	22-Feb-23	08-Apr-23					
P8-3210	Sheet Pile Installation	15	22-Feb-23*	10-Mar-23					

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Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023			
					Dec	Jan	Feb	Mar	Apr
P8-3220	Soft Excavation to 1st strut level	12	27-Feb-23	11-Mar-23					
P8-3225	Installation of strut S1	15	06-Mar-23	22-Mar-23					
P8-3230	Soft Excavation to 2nd strut level	12	10-Mar-23	23-Mar-23					
P8-3235	Installation of strut S2	15	15-Mar-23	31-Mar-23					
P8-3240	Soft Excavation to F.L ; (approx. 6.5m depth)	10	22-Mar-23	01-Apr-23					
P8-3250	Bedding & Pipe Laying (Level -1.64mPD to -0.027mPD)	20	17-Mar-23	08-Apr-23					
NS 250 PE Pipe Installation (From KT1.47A to KT6.03A)		82	28-Feb-23	03-Jun-23					
P8-6900	Sheet Pile Installation for open trench	49	28-Feb-23	25-Apr-23					
P8-7000	Soft Excavation to 1st strut level	57	29-Mar-23	03-Jun-23					
Portion 9 - Footbridge		87	16-Dec-22 A	01-Apr-23					
Footbridge Construction		87	16-Dec-22 A	01-Apr-23					
South River Embankment		39	16-Dec-22 A	04-Feb-23					
Superstructure		39	16-Dec-22 A	04-Feb-23					
P9-1680	Rebar Fixing for Bridge Deck (1st Pour)	14	16-Dec-22 A	03-Jan-23					
P9-1690	Concreting of Bridge Deck (1st Pour)	1	04-Jan-23	04-Jan-23					
P9-1770	Formwork of Bridge Deck (2nd Pour)	16	05-Jan-23	26-Jan-23					
P9-1780	Rebar Fixing for Bridge Deck (2nd Pour)	7	27-Jan-23	03-Feb-23					
P9-1790	Concreting of Bridge Deck (2nd Pour)	1	04-Feb-23	04-Feb-23					
North River Embankment		21	24-Dec-22 A	19-Jan-23					
Superstructure		21	24-Dec-22 A	19-Jan-23					
P9-1800	Formwork of Bridge Deck (2nd Pour)	16	24-Dec-22 A	10-Jan-23					
P9-1810	Rebar Fixing for Bridge Deck (2nd Pour)	7	11-Jan-23	18-Jan-23					
P9-1820	Concreting of Bridge Deck (2nd Pour)	1	19-Jan-23	19-Jan-23					
Middle Bridge Deck		48	06-Feb-23	01-Apr-23					
P9-1590	Erection of middle truss for Middle Deck construction	16	06-Feb-23	23-Feb-23					
P9-1710	Soffit Formwork Erection	9	24-Feb-23	06-Mar-23					
P9-1720	Rebar Fixing for Middle Deck	16	07-Mar-23	24-Mar-23					
P9-1730	Internal Formwork Erection for Middle Deck	7	25-Mar-23	01-Apr-23					
Remaining Footbridge Works		30	24-Feb-23	30-Mar-23					
Southern Footway Ramp / Staircase		30	24-Feb-23	30-Mar-23					
P9-SR1000	Excavate to formation level +5.2mPD	4	24-Feb-23	28-Feb-23					

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Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023			
					Dec	Jan	Feb	Mar	Apr
P9-SR1010	RC Works for Lower Portion of ramp foundation	8	01-Mar-23	09-Mar-23					
P9-SR1020	Formwork dismantle and backfill to finishing ground level	5	10-Mar-23	15-Mar-23					
P9-SR1030	RC Works for Upper portion of ramp wall, staircase and parapet and Lower ground level U Channel	7	16-Mar-23	23-Mar-23					
P9-SR1040	Placing drainage materials and Compacted Fill to the void of ramp	6	24-Mar-23	30-Mar-23					
Works in Section 4		1605	03-Aug-20 A	24-Dec-24					
Portion 10 - Visitor Centre		1605	03-Aug-20 A	24-Dec-24					
Pre-construction works		1327	03-Aug-20 A	24-Dec-24					
P10-1040	Tree Protection and Preservation	1327	03-Aug-20 A	24-Dec-24					
Visitor Centre		190	17-Dec-22 A	24-Jun-23					
Substructure		23	05-Jan-23	03-Feb-23					
High Level Pile Cap & Column		23	05-Jan-23	03-Feb-23					
C20 to C22		12	14-Jan-23	31-Jan-23					
P10-2120.366	Erect Working Platform from Pile Cap Level to 1/F	4	14-Jan-23	18-Jan-23					
P10-2120.376	Columns Rebar Fixing from Pile Cap Level to 1/F	4	19-Jan-23	26-Jan-23					
P10-2120.386	Columns formwork from Pile Cap Level to 1/F	3	27-Jan-23	30-Jan-23					
P10-2120.396	Concreting of Columns to 1/F	1	31-Jan-23	31-Jan-23					
C19		20	05-Jan-23	31-Jan-23					
P10-2120.1302	Rebar fixing of Pile Cap and Columns	4	05-Jan-23*	09-Jan-23					
P10-2120.1304	Pile Cap Formwork erection	3	10-Jan-23	12-Jan-23					
P10-2120.1305	High Level Pile Cap Concreting	1	13-Jan-23	13-Jan-23					
P10-2120.1306	Erect Working Platform from Pile Cap Level to 1/F	4	14-Jan-23	18-Jan-23					
P10-2120.1316	Columns Rebar Fixing from Pile Cap Level to 1/F	4	19-Jan-23	26-Jan-23					
P10-2120.1326	Columns formwork from Pile Cap Level to 1/F	3	27-Jan-23	30-Jan-23					
P10-2120.1336	Concreting of Columns to 1/F	1	31-Jan-23	31-Jan-23					
C3, C6		12	13-Jan-23	30-Jan-23					
P10-2120.406	Erect Working Platform from Pile Cap Level to 1/F	4	13-Jan-23*	17-Jan-23					
P10-2120.416	Columns Rebar Fixing from Pile Cap Level to 1/F	4	18-Jan-23	21-Jan-23					
P10-2120.426	Columns formwork from Pile Cap Level to 1/F	3	26-Jan-23	28-Jan-23					
P10-2120.436	Concreting of Columns to 1/F	1	30-Jan-23	30-Jan-23					
C10, C14 & C18		20	09-Jan-23	03-Feb-23					
P10-2120.1386	Rebar fixing of Pile Cap, Column starter and Strap Beam	4	09-Jan-23*	12-Jan-23					




























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Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023			
					Dec	Jan	Feb	Mar	Apr
P10-2120.1396	Pile Cap Formwork erection	3	13-Jan-23	16-Jan-23					
P10-2120.1406	High Level Pile Cap, Strap Beam & column kickers Concreting	1	17-Jan-23	17-Jan-23					
P10-2120.1446	Erect Working Platform from Pile Cap Level to 1/F	4	18-Jan-23	21-Jan-23					
P10-2120.1456	Columns Rebar Fixing from Pile Cap Level to 1/F	4	26-Jan-23	30-Jan-23					
P10-2120.1466	Columns formwork from Pile Cap Level to 1/F	3	31-Jan-23	02-Feb-23					
P10-2120.1476	Concreting of Columns to 1/F	1	03-Feb-23	03-Feb-23					
Superstructure		82	21-Dec-22 A	31-Mar-23					
Ground Floor to Roof Floor		82	21-Dec-22 A	31-Mar-23					
B/F to G/F Wall and G/F Slab		26	01-Mar-23	30-Mar-23					
Bay 4 (On Grade Slab) (Toilet)		6	06-Mar-23	11-Mar-23					
P10-2110.112	Dismantle falseworks from G/F to 1/F	6	06-Mar-23	11-Mar-23					
Bay 5 (On Grade Slab) (Tx Room)		26	01-Mar-23	30-Mar-23					
P10-2110.203	Dismantle falseworks from G/F to 1/F	6	01-Mar-23	07-Mar-23					
P10-2110.223	Laying Underground Drainage and testing	20	08-Mar-23	30-Mar-23					
G/F to 1/F Wall and 1/F Slab		47	21-Dec-22 A	18-Feb-23					
Bay 1		32	30-Dec-22 A	09-Feb-23					
P10-2620	Erection of falsework and working platform for G/F to 1/F wall	3	30-Dec-22 A	12-Jan-23					
P10-2630	Erection of One Side Formwork for G/F to 1/F Wall	3	13-Jan-23	16-Jan-23					
P10-2640	Rebar Fixing for G/F to 1/F Wall	3	17-Jan-23	19-Jan-23					
P10-2650	Erection of remaining side formwork for G/F to 1/F Wall	3	20-Jan-23	26-Jan-23					
P10-2660	Erection of falsework and working platform for 1/F Slab	3	27-Jan-23	30-Jan-23					
P10-2670	Erection of Formwork for 1/F Slab	3	31-Jan-23	02-Feb-23					
P10-2680	Rebar Fixing for 1/F Slab	3	03-Feb-23	06-Feb-23					
P10-2690	1/F Slab Shutters	2	07-Feb-23	08-Feb-23					
P10-2700	1/F Slab & G/F to 1/F wall Concreting	1	09-Feb-23	09-Feb-23					
Bay 2		43	21-Dec-22 A	14-Feb-23					
P10-2710	Erection of falsework and working platform for G/F to 1/F wall	15	21-Dec-22 A	10-Jan-23					
P10-2720	Erection of One Side Formwork for G/F to 1/F Wall	17	22-Dec-22 A	12-Jan-23					
P10-2730	Rebar Fixing for G/F to 1/F Wall	4	13-Jan-23	17-Jan-23					
P10-2740	Erection of remaining side formwork for G/F to 1/F Wall	5	18-Jan-23	26-Jan-23					

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Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023			
					Dec	Jan	Feb	Mar	Apr
P10-2750	Erection of falsework and working platform for 1/F Slab	4	27-Jan-23	31-Jan-23					
P10-2760	Erection of Formwork for 1/F Slab	4	01-Feb-23	04-Feb-23					
P10-2770	Rebar Fixing for 1/F Slab	4	06-Feb-23	09-Feb-23					
P10-2780	1/F Slab Shutters	3	10-Feb-23	13-Feb-23					
P10-2790	1/F Slab & G/F to 1/F wall Concreting	1	14-Feb-23	14-Feb-23					
Bay 3		19	28-Jan-23	18-Feb-23					
P10-2800	Erection of falsework and working platform for G/F to 1/F wall	3	28-Jan-23	31-Jan-23					
P10-2810	Erection of One Side Formwork for G/F to 1/F Wall	2	01-Feb-23	02-Feb-23					
P10-2820	Rebar Fixing for G/F to 1/F Wall	2	03-Feb-23	04-Feb-23					
P10-2830	Erection of remaining side formwork for G/F to 1/F Wall	2	06-Feb-23	07-Feb-23					
P10-2840	Erection of falsework and working platform for 1/F Slab	2	08-Feb-23	09-Feb-23					
P10-2850	Erection of Formwork for 1/F Slab	2	10-Feb-23	11-Feb-23					
P10-2860	Rebar Fixing for 1/F Slab	3	13-Feb-23	15-Feb-23					
P10-2870	1/F Slab Shutters	2	16-Feb-23	17-Feb-23					
P10-2880	1/F Slab & G/F to 1/F wall Concreting	1	18-Feb-23	18-Feb-23					
1/F to +12.850mPD wall and +12.850mPD slab		25	10-Feb-23	10-Mar-23					
Bay 1		19	10-Feb-23	03-Mar-23					
P10-3250	Erection of props for dwarf wall	3	10-Feb-23	13-Feb-23					
P10-3260	Erection of One Side Formwork for dwarf wall	2	14-Feb-23	15-Feb-23					
P10-3270	Rebar Fixing for dwarf wall	2	16-Feb-23	17-Feb-23					
P10-3280	Erection of remaining side formwork for dwarf wall	2	18-Feb-23	20-Feb-23					
P10-3290	Concreting of drawf wall	1	21-Feb-23	21-Feb-23					
P10-3300	Dismantling formwork of drawf wall	3	22-Feb-23	24-Feb-23					
P10-3310	Erection of formwork for double slab	2	25-Feb-23	27-Feb-23					
P10-3320	Double slab Rebar fixing	2	28-Feb-23	01-Mar-23					
P10-3330	Double Slab Shutters	1	02-Mar-23	02-Mar-23					
P10-3340	Double Slab Concreting	1	03-Mar-23	03-Mar-23					
Bay 2		21	15-Feb-23	10-Mar-23					

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Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023			
					Dec	Jan	Feb	Mar	Apr
P10-3350	Erection of props for dwarf wall	3	15-Feb-23	17-Feb-23					
P10-3360	Erection of One Side Formwork for dwarf wall	2	18-Feb-23	20-Feb-23					
P10-3370	Rebar Fixing for dwarf wall	2	21-Feb-23	22-Feb-23					
P10-3380	Erection of remaining side formwork for dwarf wall	2	23-Feb-23	24-Feb-23					
P10-3390	Concreting of drawf wall	1	25-Feb-23	25-Feb-23					
P10-3400	Dismantling formwork of drawf wall	3	27-Feb-23	01-Mar-23					
P10-3410	Erection of formwork for double slab	3	02-Mar-23	04-Mar-23					
P10-3420	Double slab Rebar fixing	3	06-Mar-23	08-Mar-23					
P10-3430	Double Slab Shutters	1	09-Mar-23	09-Mar-23					
P10-3440	Double Slab Concreting	1	10-Mar-23	10-Mar-23					
1/F to R/F Wall and R/F Slab		24	04-Mar-23	31-Mar-23					
Bay 1		23	04-Mar-23	30-Mar-23					
P10-3810	Erection of falsework and working platform from Double Slab to R/F wall	3	04-Mar-23	07-Mar-23					
P10-3820	Erection of One Side Formwork from Double Slab to R/F wall	3	08-Mar-23	10-Mar-23					
P10-3830	Rebar Fixing from Double Slab to R/F wall	3	11-Mar-23	14-Mar-23					
P10-3840	Erection of remaining side formwork from Double Slab to R/F wall	3	15-Mar-23	17-Mar-23					
P10-3850	Erection of falsework and working platform for R/F Slab	4	18-Mar-23	22-Mar-23					
P10-3860	Erection of Formwork for R/F Slab	2	23-Mar-23	24-Mar-23					
P10-3870	Rebar Fixing for R/F Slab	2	25-Mar-23	27-Mar-23					
P10-3880	R/F Slab Shutters	2	28-Mar-23	29-Mar-23					
P10-3890	R/F Slab & Double Slab to R/F wall Concreting	1	30-Mar-23	30-Mar-23					
Bay 2		18	11-Mar-23	31-Mar-23					
P10-3900	Erection of falsework and working platform from Double Slab to R/F wall	3	11-Mar-23	14-Mar-23					
P10-3910	Erection of One Side Formwork from Double Slab to R/F wall	3	15-Mar-23	17-Mar-23					
P10-3920	Rebar Fixing from Double Slab to R/F wall	3	18-Mar-23	21-Mar-23					
P10-3930	Erection of remaining side formwork from Double Slab to R/F wall	3	22-Mar-23	24-Mar-23					
P10-3940	Erection of falsework and working platform for R/F Slab	3	25-Mar-23	28-Mar-23					
P10-3950	Erection of Formwork for R/F Slab	3	29-Mar-23	31-Mar-23					

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Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023				
					Dec	Jan	Feb	Mar	Apr	
ABWF / E&M Works		100	17-Dec-22 A	18-Apr-23						
Basement Floor		62	04-Feb-23	17-Apr-23						
Rainwater Harvesting Tank / Irrigation Pump Room		62	04-Feb-23	17-Apr-23						
P10-BFRH-1000	Access Date of B/F Rainwater and Irrigation Room Fitting Out	0	04-Feb-23							
ABWF		55	04-Feb-23	08-Apr-23						
P10-BFRH-1010	Setting Out	2	04-Feb-23	06-Feb-23						
P10-BFRH-1020	Water Tanks Props and formwork removal	12	07-Feb-23	20-Feb-23						
P10-BFRH-1030	Water Tanks water testing before waterproofing and touch up works	6	21-Feb-23	27-Feb-23						
P10-BFRH-1040	Erect Scaffolding for wall and ceiling finishes	2	28-Feb-23	01-Mar-23						
P10-BFRH-1050	Ceiling Finishes (Touch up, Skim Coat and 1st coat Painting)	12	02-Mar-23	15-Mar-23						
P10-BFRH-1060	Wall Finishes (Wall waterproofing, plastering, Skim Coat and 1st Coat Painting)	21	16-Mar-23	08-Apr-23						
BS Works		40	02-Mar-23	17-Apr-23						
MVAC		24	02-Mar-23	29-Mar-23						
P10-BFRH-1110	Setting out for all equipment / MOS inspection	3	02-Mar-23	04-Mar-23						
P10-BFRH-1120	Air Duct installation	21	06-Mar-23	29-Mar-23						
PD		40	02-Mar-23	17-Apr-23						
P10-BFRH-1130	setting out for all equipment / MOS inspection	10	02-Mar-23	13-Mar-23						
P10-BFRH-1140	Installation of inertia block, FRP water tank, pressure pipe	30	14-Mar-23	17-Apr-23						
EL		37	02-Mar-23	13-Apr-23						
P10-BFRH-1160	Setting out for all equipment / MOS inspection	2	02-Mar-23	03-Mar-23						
P10-BFRH-1170	Installation of cable containments	15	04-Mar-23	21-Mar-23						
P10-BFRH-1180	Cable wiring	20	22-Mar-23	13-Apr-23						
Sprinkler & FS Pump Room		62	04-Feb-23	17-Apr-23						
P10-BFFS-1000	Access Date of B/F Sprinkler and FS Pump Room Fitting Out	0	04-Feb-23							
ABWF		48	04-Feb-23	31-Mar-23						
P10-BFFS-1100	Water Tanks Props and formwork removal	2	04-Feb-23	06-Feb-23						
P10-BFFS-1110	Setting Out	12	07-Feb-23	20-Feb-23						
P10-BFFS-1120	Water Tanks water testing before waterproofing and touch up works	6	21-Feb-23	27-Feb-23						
P10-BFFS-1130	Erect Scaffolding for wall and ceiling finishes	2	28-Feb-23	01-Mar-23						
P10-BFFS-1140	Ceiling Finishes (Touch up, Skim Coat and 1st coat Painting)	12	02-Mar-23	15-Mar-23						
P10-BFFS-1150	Wall Finishes (Wall waterproofing, plastering, Skim Coat and 1st Coat Painting)	14	16-Mar-23	31-Mar-23						
BS Works		40	02-Mar-23	17-Apr-23						










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Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023			
					Dec	Jan	Feb	Mar	Apr
	MVAC	3	02-Mar-23	04-Mar-23					
P10-BFFS-1010	Setting out for all equipment / MOS inspection	3	02-Mar-23	04-Mar-23					
PD		40	02-Mar-23	17-Apr-23					
P10-BFFS-1030	Setting out for all equipment / MOS inspection	10	02-Mar-23	13-Mar-23					
P10-BFFS-1040	Installation of inertia block, FRP water tank, pressure	30	14-Mar-23	17-Apr-23					
EL		35	02-Mar-23	11-Apr-23					
P10-BFFS-1060	Setting out for all equipment / MOS inspection	10	02-Mar-23	13-Mar-23					
P10-BFFS-1070	Installation of cable containment	5	14-Mar-23	18-Mar-23					
P10-BFFS-1080	Cable wiring	20	20-Mar-23	11-Apr-23					
FS		15	25-Mar-23	11-Apr-23					
P10-BFFS-1190	FS 1st Fixing	15	25-Mar-23	11-Apr-23					
Ground Floor		100	17-Dec-22 A	18-Apr-23					
Generator Room		25	21-Mar-23	18-Apr-23					
P10-GFGS1000	Access Date of G/F Generator Room Fitting Out	0	21-Mar-23						
ABWF		16	21-Mar-23	07-Apr-23					
P10-GFGS1010	Setting Out	2	21-Mar-23	22-Mar-23					
P10-GFGS1020	Erect Scaffolding for wall and ceiling finishes	2	23-Mar-23	24-Mar-23					
P10-GFGS1030	Ceiling Finishes (Touch up, Skim Coat and 1st coat Painting)	12	25-Mar-23	07-Apr-23					
BS Works		21	25-Mar-23	18-Apr-23					
MVAC		21	25-Mar-23	18-Apr-23					
P10-GFGS1110	Setting out for all equipment / MOS inspection	3	25-Mar-23	28-Mar-23					
P10-GFGS1120	Air Duct installation	18	29-Mar-23	18-Apr-23					
EL		10	25-Mar-23	05-Apr-23					
P10-GFGS1130	Setting out for all equipment / MOS inspection	10	25-Mar-23	05-Apr-23					
Tx Room / Switch Room		84	17-Dec-22 A	30-Mar-23					
P10-Tx0800	Target Period for design freeze of Tx Room Layout for passing through open area	30	17-Dec-22 A	26-Jan-23					
P10-Tx0900	Target Period of ordering G/F Tx Room materials and pipeworks	30	27-Jan-23	02-Mar-23					
ABWF		5	25-Mar-23	30-Mar-23					
P10-Tx1000	Access Date of G/F Tx Room / Switch Room Fitting Out	0	25-Mar-23						
P10-Tx1100	Setting Out	2	25-Mar-23	27-Mar-23					
P10-Tx1105	Access Date of Tx Room Double Slab Builders works	0	28-Mar-23						
P10-Tx1107	Formwork dismantling and touch up works	3	28-Mar-23	30-Mar-23					

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Activity ID	Activity Name	Planned Duration	Start	Finish	2022	2023			
					Dec	Jan	Feb	Mar	Apr
P10-Tx1110	Erect Scaffolding for wall and ceiling finishes of Tx Rm	1	28-Mar-23	28-Mar-23					
FS Control Room		14	25-Mar-23	10-Apr-23					
P10-GFFS1020	Access Date of G/F FS control Room Fitting Out	0	25-Mar-23						
ABWF		12	25-Mar-23	07-Apr-23					
P10-GFFS1050	Setting Out	2	25-Mar-23	27-Mar-23					
P10-GFFS1060	Erect Scaffolding for wall and ceiling finishes	2	28-Mar-23	29-Mar-23					
P10-GFFS1070	Ceiling Finishes (Touch up, Skim Coat and 1st coat Painting)	8	30-Mar-23	07-Apr-23					
BS Works		10	30-Mar-23	10-Apr-23					
MVAC		3	30-Mar-23	01-Apr-23					
P10-GFFS1150	Setting out for all equipment / MOS inspection	3	30-Mar-23	01-Apr-23					
EL		10	30-Mar-23	10-Apr-23					
P10-GFFS1170	Setting out for all equipment / MOS inspection	10	30-Mar-23	10-Apr-23					
BOH		32	27-Feb-23	04-Apr-23					
Material Recovery		29	27-Feb-23	31-Mar-23					
ABWF		29	27-Feb-23	31-Mar-23					
P10-GF-MR1000	Setting Out	2	27-Feb-23	28-Feb-23					
P10-GF-MR1010	Erect Scaffolding for wall and ceiling finishes	2	01-Mar-23	02-Mar-23					
P10-GF-MR1020	Ceiling Finishes (Touch up, Skim Coat and 1st coat Painting)	12	18-Mar-23	31-Mar-23					
Security Control Room		32	27-Feb-23	04-Apr-23					
P10-GFSC1190	Access Date of G/F security control Room Fitting Out	0	27-Feb-23						
ABWF		22	27-Feb-23	23-Mar-23					
P10-GFSC1030	Setting Out	2	27-Feb-23	28-Feb-23					
P10-GFSC1040	Erect Scaffolding for wall and ceiling finishes	2	01-Mar-23	02-Mar-23					
P10-GFSC1050	Ceiling Finishes (Touch up, Skim Coat and 1st coat Painting)	9	03-Mar-23	13-Mar-23					
P10-GFSC1060	Wall plastering	9	14-Mar-23	23-Mar-23					
BS Works		10	24-Mar-23	04-Apr-23					
MVAC		3	24-Mar-23	27-Mar-23					
P10-GFSC1130	Setting out for all equipment / MOS inspection	3	24-Mar-23	27-Mar-23					
EL		10	24-Mar-23	04-Apr-23					
P10-GFSC1150	Setting out for all equipment / MOS inspection	10	24-Mar-23	04-Apr-23					
Main Distribution Frame Room		28	03-Mar-23	04-Apr-23					
ABWF		28	03-Mar-23	04-Apr-23					
P10-GF-MDF1000	Setting Out	2	03-Mar-23	04-Mar-23					
P10-GF-MDF1010	Erect Scaffolding for wall and ceiling finishes	2	06-Mar-23	07-Mar-23					

 Primary Baseline  Actual Work  Remaining Work  Critical Remaining Work  Baseline Milestone	 Critical ...  Non-Crit...	Data Date: 31-Dec-22 Project Start: 03-Feb-20 Project End: 30-Dec-26 Baseline: Monthly Markup Programme (Feb 2021) (Accepted on 15 April 2021) Page : 14 of 14	<div>Three Months Rolling Programme (Dec 2022 to Mar 2023)</div>	Date	Revision	Checked	Approved
				06-Jan-23	Rev 0 (Three Months Rolling Progr...	TW	







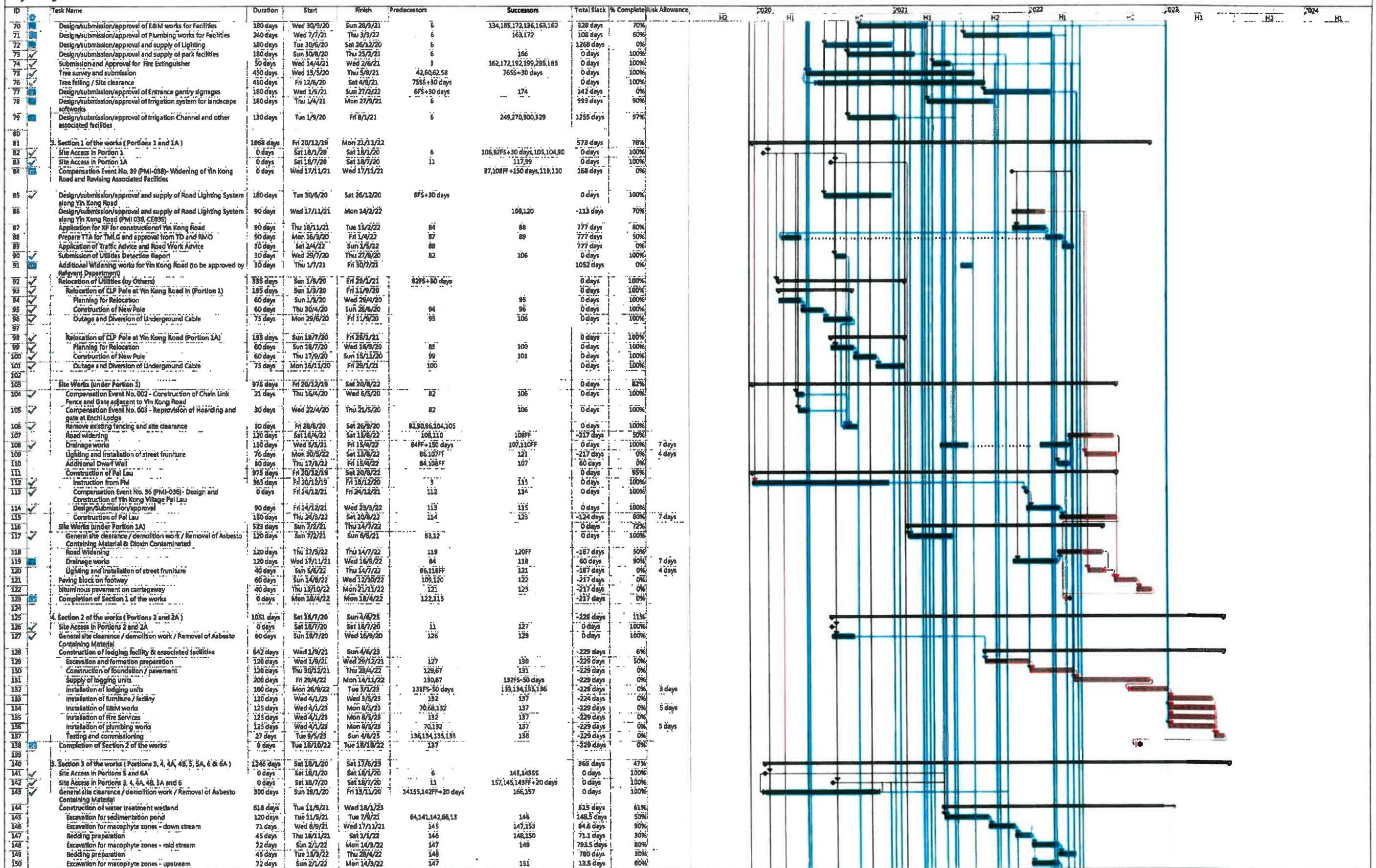
## **Construction Programme of ND/2019/03**

ID	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack	% Complete	Risk Allowance
1	Contract Key Dates	0 days	Tue 10/12/19	Tue 10/12/19			1651 days	0%	
2	1.1 Contract Date	0 days	Tue 10/12/19	Tue 10/12/19			1651 days	0%	
3	1.2 Starting Date	1 day	Thu 19/12/19	Thu 19/12/19		59,61,62,63,42,5,57,45,47,44,43,3 days,6FS+30 days,7FS+60 days,8FS+121 days,11FS+212 days,14FS+304 days,19,17FS+396 days,55,56,22FS+851 days,23FS+1034 days,24FS+1003 days,26FS+273 days,27FS+394 days,28FS+528 days,29FS+592 days,30FS+572	-580 days	0%	
4	1.3 Site Access Dates	0 days	Thu 19/12/19	Thu 19/12/19			1642 days	0%	
5	Portions 25, 26, 27	0 days	Thu 19/12/19	Thu 19/12/19	3		1641 days	0%	
6	Portions 1, 5, 6A, 7, 8A, 9A, 9C, 9E, 9F, 9G, 10A, 10B, 11A, 11B, 12A, 12C, 12D, 13A, 13B, 15C, 16, 17, 19A, 19B, 19C, 20A, 20B	0 days	Sat 18/1/20	Sat 18/1/20	3FS+30 days	70,71,73,82,141,237,258,280,310,3 days,77FS+30 days,78,79	422 days	0%	
7	Portions 23, 24	0 days	Mon 17/2/20	Mon 17/2/20	3FS+60 days	954	1581 days	0%	
8	Portions 15A, 18, 19, 20, 20C, 22	0 days	Sat 18/4/20	Sat 18/4/20	3FS+121 days	9,10	1495 days	0%	
9	Delay of Site Access Dates: Portion 15A, 18, 19, 20 (Structure has not been handed over)	19 days	Sun 19/4/20	Thu 7/5/20	8	214,281,311	1501 days	0%	
10	Delay of Site Access Dates: Portion 22 (Structure has not been handed over)	25 days	Sun 19/4/20	Wed 13/5/20	8	855	1495 days	0%	
11	Portions 1A, 2, 2A, 3, 4, 4A, 4B, 5A, 6, 8, 7A, 7B	0 days	Sat 18/7/20	Sat 18/7/20	3FS+212 days	83,126,142,238,282,39,12,13	208.5 days	0%	
12	Delay of Site Access for Area with Structure & Tudigong in Portion 1A	203 days	Sun 19/7/20	Sat 6/2/21	11	117	1226 days	0%	
13	Delay of Site Access Dates: 4B, 5A	296 days	Sun 19/7/20	Mon 10/5/21	11	145	208.5 days	0%	
14	Portions 8B, 9, 9B, 9D, 10, 11, 12, 12B, 13, 14	0 days	Sun 18/10/20	Sun 18/10/20	3FS+304 days	228,259,312,15,16	1170 days	0%	
15	Delay of Site Access Date: Portion 9D	151 days	Mon 19/10/20	Thu 18/3/21	14	239,242	1186 days	0%	
16	Delay of Site Access for Area with Structure in Portion 8B, 9B	167 days	Mon 19/10/20	Sat 3/4/21	14	239,246	1170 days	0%	
17	Portions 15, 16A, 16B, 17A, 17B, 21	0 days	Mon 18/1/21	Mon 18/1/21	3FS+396 days	339,260,283,3,13,18	-580 days	0%	
18	Delay of Site Access for Area with Structure in Portion 16B	79 days	Tue 19/1/21	Wed 7/4/21	17	267	1166 days	0%	
19	Works Area WA1	0 days	Thu 19/12/19	Thu 19/12/19	3		1641 days	0%	
20									
21	1.4 Completion of the works	0 days	Thu 19/12/19	Thu 19/12/19	3		1641 days	0%	
22	Section 1	0 days	Mon 18/4/22	Mon 18/4/22	3FS+851 days		790 days	0%	
23	Section 2	0 days	Tue 18/10/22	Tue 18/10/22	3FS+1034 days		607 days	0%	
24	Section 3	0 days	Sat 17/9/22	Sat 17/9/22	3FS+1003 days		638 days	0%	
25	Section 3A	0 days	Sun 17/9/23	Sun 17/9/23	3FS+1368 days		273 days	0%	
26	Section 4	0 days	Wed 21/10/20	Wed 21/10/20	3FS+273 days		0 days	100%	
27	Section 5	0 days	Sat 16/1/21	Sat 16/1/21	3FS+394 days		0 days	100%	
28	Section 6	0 days	Sun 30/5/21	Sun 30/5/21	3FS+528 days		1113 days	0%	
29	Section 7	0 days	Mon 2/8/21	Mon 2/8/21	3FS+592 days		1049 days	0%	
30	Section 8	0 days	Tue 13/7/21	Tue 13/7/21	3FS+572 days		1069 days	0%	
31	Section 9	0 days	Sat 6/11/21	Sat 6/11/21	3FS+688 days		953 days	0%	
32	Section 10	0 days	Thu 30/6/22	Thu 30/6/22	3FS+924 days		717 days	0%	
33	Section 11	0 days	Sun 18/12/22	Sun 18/12/22	3FS+1093 days		546 days	0%	
34	Section 11A	0 days	Mon 18/12/23	Mon 18/12/23	3FS+1460 days		181 days	0%	
35	Section 12	0 days	Fri 18/12/20	Fri 18/12/20	3FS+365 days		1276 days	0%	
36									
37	2. Preliminary works	605 days	Fri 20/12/19	Thu 9/8/22			636 days	87%	
38	Set up Project Manager's Accommodation in WA1 (1st part)	14 days	Wed 17/6/20	Tue 30/6/20			0 days	100%	
39	Set up Project Manager's Accommodation in Portion 3 (2nd part)	14 days	Mon 8/3/21	Sun 21/3/21	11		0 days	100%	
40	Prepare, submit & Approve ICE	30 days	Mon 3/2/20	Tue 3/3/20	9	179	0 days	100%	
41	Prepare, submit & Approve Traffic Consultant	30 days	Wed 1/1/20	Thu 30/1/20	3		0 days	100%	
42	Prepare, submit & Approve Landscape Team Leader	100 days	Mon 3/2/20	Tue 12/3/20	3	75	0 days	100%	
43	Prepare, submit & Approve Agricultural Specialist	30 days	Fri 20/12/19	Sat 18/1/20	3		0 days	100%	
44	Prepare, submit & Approve Constructed / Treatment Wetland Specialist	30 days	Fri 28/2/20	Sat 28/3/20	3	64	0 days	100%	
45	Prepare, submit & Approve Ecological Team Leader	30 days	Fri 20/12/19	Sat 18/1/20	3	47	0 days	100%	
46	Habitat Survey	112 days	Sun 19/1/20	Sat 6/6/20			0 days	100%	
47	Submission/approval of Habitat Surveys Method Statement and Programme	40 days	Sun 19/1/20	Thu 27/2/20	3,4,5	48	0 days	100%	
48	Habitat Surveys	30 days	Fri 28/2/20	Sat 28/3/20	47	49	0 days	100%	
49	Submission of Habitat Record	14 days	Sun 29/3/20	Sat 11/4/20	48	50	0 days	100%	
50	Approval of Habitat Survey Record	28 days	Sun 12/4/20	Sat 9/5/20	49	53,51	0 days	100%	
51	Prepare and Submit Wetland Restoration Proposal	50 days	Sun 10/5/20	Sun 28/6/20	50	52	0 days	100%	
52	Approval of Wetland Restoration Proposal	180 days	Mon 29/6/20	Fri 26/12/20	51	242,263,286,316	0 days	100%	
53	Prepare and Submit Wetland Creation Proposal	50 days	Mon 10/5/20	Sun 28/6/20	50	54	0 days	100%	
54	Approval of Wetland Creation Proposal	180 days	Mon 29/6/20	Fri 26/12/20	53	242,263,286,316	0 days	100%	
55	Prepare and Submit Ecological Protection Plan	14 days	Fri 20/12/19	Thu 2/1/20	3		0 days	100%	
56	Prepare, Submit and Approval of Maintenance Proposal for Stage 1 Maintenance Works	204 days	Fri 20/12/19	Fri 10/7/21	3		0 days	100%	
57	Prepare, submit & Approve G.I. Contractor	90 days	Wed 15/7/20	Mon 13/10/20	3		0 days	100%	
58	Prepare and submit Smart Card System	30 days	Fri 20/12/19	Sat 18/1/20	3	75	0 days	100%	
59	Prepare, submit Draft Safety Plan	14 days	Fri 20/12/19	Thu 2/1/20	3	60	0 days	100%	
60	Review & Approve Safety Plan	35 days	Fri 3/1/20	Thu 6/2/20	59	75	0 days	100%	
61	Prepare, Submit Draft Environmental Management Plan	21 days	Fri 20/12/19	Thu 9/1/20	3	62	0 days	100%	
62	Review & Approve Environmental Management Plan	45 days	Fri 10/1/20	Sun 23/2/20	3,61	75	0 days	100%	
63	Prepare, submit & Approve Site Management Plan for Trip Ticket System	45 days	Fri 20/12/19	Sun 2/2/20	3		0 days	100%	
64	Submission and Approval of Construction Method for water treatment wetland	90 days	Tue 15/9/20	Sun 13/12/20	44	145	0 days	100%	
65	Submission of Proposal for Source of Water for Water Treatment Wetland	120 days	Fri 20/12/19	Fri 17/4/20	3	66	0 days	100%	
66	Approval of Source of Water for Water Treatment Wetland	90 days	Sat 18/4/20	Thu 16/7/20	65	145	0 days	100%	
67	Design/submission/approval of Lodging Facilities	300 days	Tue 30/6/20	Sun 25/4/21	6	131,685,130	19 days	80%	
68	Design / Submission / approval of Sewerage System of Lodging Facilities	150 days	Wed 16/9/20	Fri 12/2/21	67,55	134	0 days	100%	
69	Design/submission/approval of aluminium roofing system, timber for wall/floor/soffit for Birdhide	180 days	Tue 30/3/21	Sat 25/9/21	6	160	0 days	100%	



## Kwu Tung North and Fanling North New Development Areas, Phase 1 : Development of Long Valley Nature Park

## Project Programme of the Works



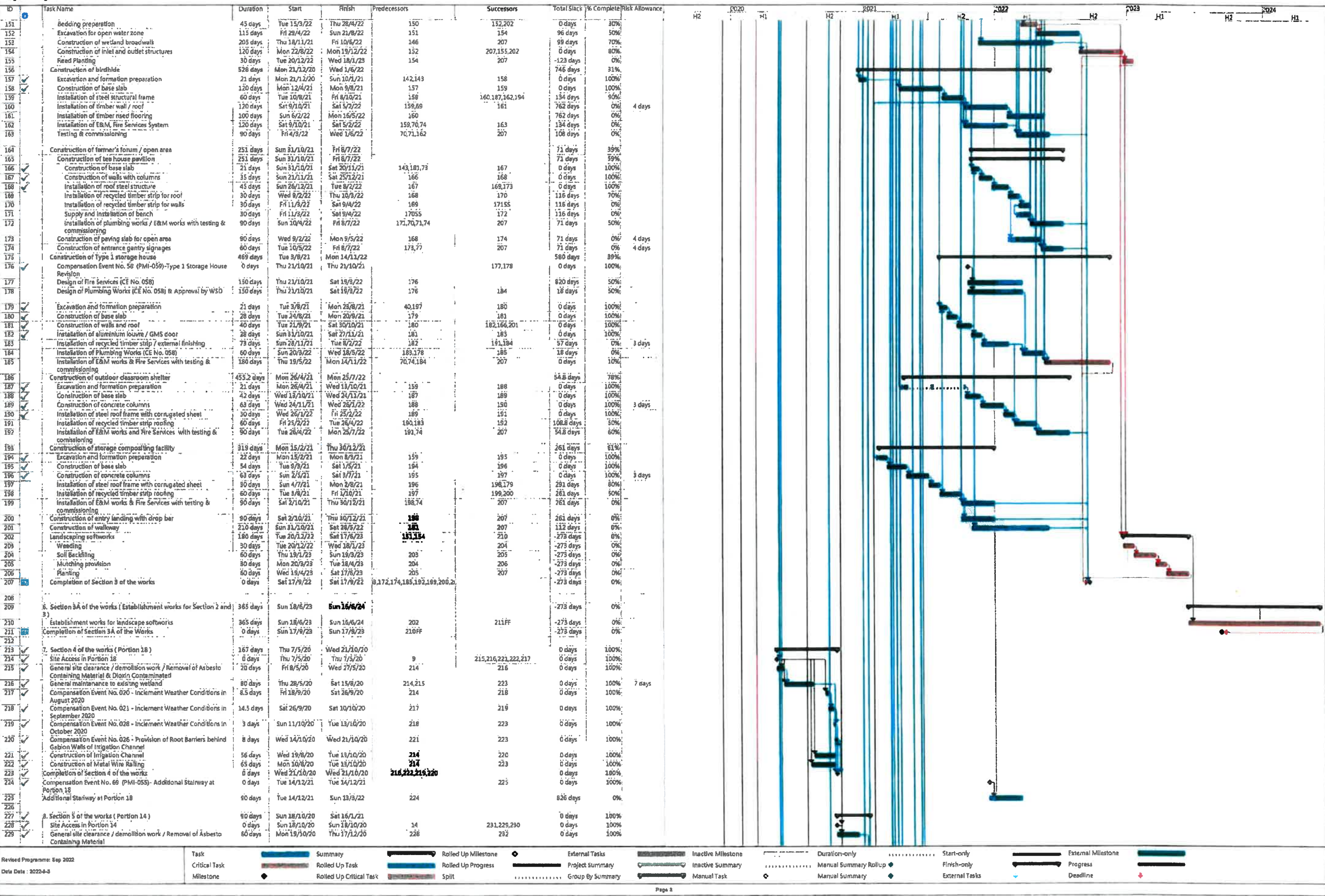
Revised Programme: Sep 2022

Data Date : 2022-9-3





Kwu Tung North and Fanling North New Development Areas, Phase 1 : Development of Long Valley Nature Park  
Project Programme of the Works





Revised Programme: Sep 2022  
 Data Date : 2022-0-3

Task	Summary	Rollup Milestone	External Tasks	Inactive Milestone	Duration-only	Start-only	External Milestone
Critical Task	Rollup Task	Rollup Progress	Project Summary	Inactive Summary	Manual Summary Rollup	Finish-only	Progress
Milestone	Rollup Critical Task	Split	Group By Summary	Manual Task	Manual Summary	External Tasks	Deadline



Review Programs: Sep 2022	Task		Summary		Rolled Up Milestone		External Tasks		Inactive Milestone		Duration-only		Start-only		External Milestone	
Date Due: 2022-9-3	Critical Task		Rolled Up Task		Rolled Up Progress		Project Summary		Inactive Summary		Manual Summary Rollup		Finish-only		Progress	
	Milestone		Rolled Up Critical Task		Split		Group By Summary		Manual Task		Manual Summary		External Tasks		Deadline	

Page 6

Revised Programme: Sep 2022

Data Date : 2022-8-3

Task		Summary		Rolled Up Milestone		External Tasks		Inactive Milestone		Duration-only		Start-only		External Milestone	
Critical Task		Rolled Up Task		Rolled Up Progress		Project Summary		Inactive Summary		Manual Summary Rollup		Finish-only		Progress	
Milestone		Rolled Up Critical Task		Split		Group By Summary		Manual Task		Manual Summary		External Tasks		Deadline	

Page 8





## Legend

- |              |                                                                             |  |                                      |
|--------------|-----------------------------------------------------------------------------|--|--------------------------------------|
| <b>W/W/S</b> | Intensive Wet Agricultural Land<br>- Watercress/Water Spinach               |  | Mitigation Plantation                |
| <b>WC/CA</b> | Less Intensive Wet Agricultural Land<br>- Water Chestnut/ Chinese Arrowhead |  | Village Area/ Urban/Residential Area |
| <b>L/W/L</b> | Less Intensive Wet Agricultural Land<br>- Lotus/Water Lily                  |  | Water Treatment Wetland              |
| <b>PA</b>    | Intensive Wet Agricultural Land<br>- Paddy Field                            |  | Irrigation Channel                   |
|              | Marsh - Open Water                                                          |  | Flow direction                       |
|              | Marsh                                                                       |  |                                      |
|              | Marsh - Reedbed                                                             |  |                                      |
|              | Pond                                                                        |  |                                      |
|              | Water Flea Pond                                                             |  |                                      |
|              | Mitigation Wetland                                                          |  |                                      |
|              | Dry Agricultural Land                                                       |  |                                      |
|              | Plantation                                                                  |  |                                      |
- (\*) Habitat planted with low density of wet crops (<20% coverage) that concentrate at the centre

Figure 3. LVNP proposed layout plan









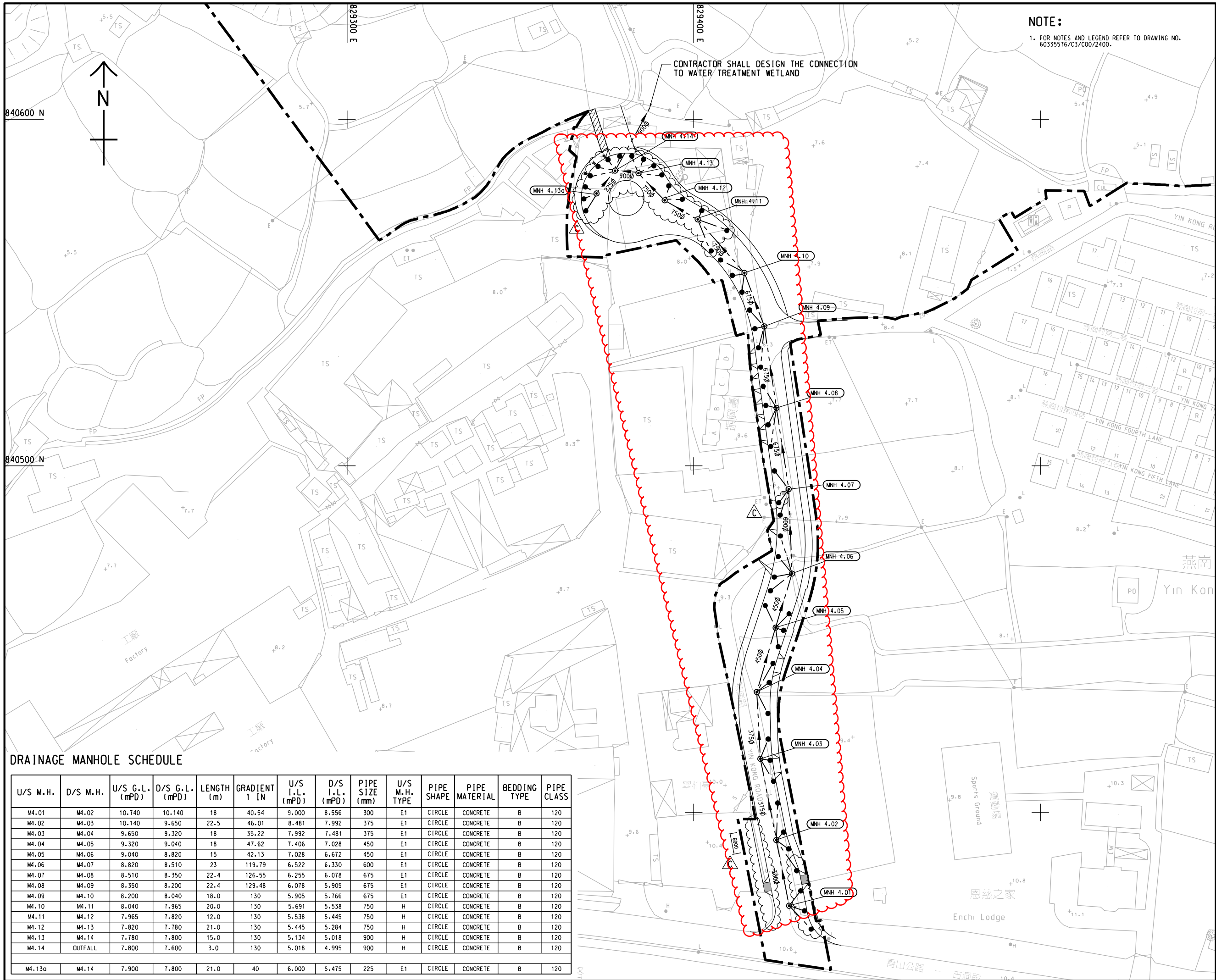














C	21/05/21	LAYOUT AMENDED	HLH	DT	WT
B	7/12/20	ROAD ALIGNMENT AMENDED	KLC	DT	WT
A	15/07/20	RUN IN ADDED AND MANHOLE RE-ARRANGED	KLC	DF	PY
REV.	DATE	DESCRIPTION	DRAWN	PRE.	APP.
CLIENT					
		土木工程拓展署 Civil Engineering and Development Department			
CONSULTANT					
					
PROJECT					
DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1					
CONTRACT TITLE					
KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1: DEVELOPMENT OF LONG VALLEY NATURE PARK					
REMARK :					
1. SUPERSEDE DRG NO. 60335576/C3/C00/2410					
TITLE					
YIN KONG ROAD - ROAD DRAINAGE LAYOUT					
PROJECT NO. 60335576			CONTRACT NO. ND/2019/03		
SCALE 1:500 (A1)			DATE 4-JUN-20		
DRAWN KLC		PREPARED DF		APPROVED PY	
SKETCH NO. ND/2019/03/R10/130/0052					REV. C

## **Construction Programme of ND/2019/04**

Activity ID	Activity Name	Rem Dur	Start	Finish	BL1 Start	BL1 Finish	Activity % Complete	Total Float	2022						2023				
									Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
2022-07_3 Month Rolling Programme																			
Project Contractual Dates																			
Access Date of Each Portion																			
CD-1020	Access date of Portion O (Upon PM Instruction for need of TTA)	0	08-Aug-22		08-Apr-22		0%	-30											
CD-1160	Contract Access date of Portion Y (900 days)	0	31-Jan-23*		31-Jan-23		0%	0											
Preliminary Works																			
Subletting of Major Subcontract Package																			
SU-1090	Subletting for Noise Barrier Works	124	09-Aug-22	07-Jan-23	25-May-22	21-Oct-22	0%	438											
SU-1100	Subletting for Bridge Segment	1	16-Apr-21 A	08-Aug-22	16-Apr-21	15-Oct-21	99.33%	158											
SU-1140	Subletting for pre-stressing works	0	08-Mar-21 A	09-Aug-22	09-Apr-22	24-May-22	99%	158											
SU-1170	Subletting for Staging (falsework)	1	08-Mar-21 A	08-Aug-22	08-Mar-21	07-Sep-21	99.33%	-9											
SU-1180	Subletting for Traveler	1	08-Mar-21 A	08-Aug-22	08-Mar-21	07-Sep-21	99.33%	20											
Submission																			
Preparation for relevant works																			
SUB-1090	Prepare, submit & accept work submission for design for RC and MiC works	12	08-Mar-21 A	20-Aug-22	08-Mar-21	16-Jun-21	85%	33											
SUB-1100	Prepare, submit & accept work submission for watermain diversion Works	12	08-Mar-21 A	20-Aug-22	08-Mar-21	16-Jun-21	85%	44											
SUB-1110	Prepare, submit & accept work submission for Noise Barrier Works	80	07-Jan-23	19-Apr-23	22-Oct-22	22-Nov-22	0%	438											
SUB-1120	Prepare, submit & accept work submission for erect NB steel post and panel	80	07-Jan-23	19-Apr-23	22-Oct-22	22-Nov-22	0%	438											
SUB-1410	Electrical and Mechanical Works for Lift Installation	64	08-Jun-22 A	24-Oct-22	08-Apr-22	18-Jul-22	20%	476											
SUB-1420	Road lighting system	80	08-Aug-22	11-Nov-22	19-Jul-22	22-Oct-22	0%	642											
SUB-1430	Electrical System for Public toilet and pumping station	66	08-Jun-22 A	26-Oct-22	26-Apr-22	12-Aug-22	26.67%	270											
SUB-1440	Building Services System	66	08-Jun-22 A	26-Oct-22	26-Apr-22	12-Aug-22	26.67%	69											
SUB-1450	Bio-treatment Plant for Public Toilet	90	08-Aug-22	23-Nov-22	13-Aug-22	29-Nov-22	0%	154											
SUB-1460	Pump systems and associated E&M Plants	90	08-Aug-22	23-Nov-22	13-Aug-22	29-Nov-22	0%	154											
SUB-1470	Traffic Control and Surveillance System (TCSS)	90	08-Aug-22	23-Nov-22	30-Nov-22	21-Mar-23	0%	610											
SUB-1480	Traffic Detector System	90	08-Aug-22	23-Nov-22	30-Nov-22	21-Mar-23	0%	610											
SUB-1510	Crash cushion system.	90	08-Aug-22	23-Nov-22	24-Oct-22	11-Feb-23	0%	509											
SUB-1520	Access facilities	90	08-Aug-22	23-Nov-22	24-Oct-22	08-Nov-22	0%	45											
SUB-1550	TRET test for Concrete	15	15-May-21 A	24-Aug-22	31-May-21	06-Jul-21	50%	-41											
Construction Works																			
CW-0000	Tree survey in different portion (S8)	428	10-Oct-20 A	15-Jan-24	10-Oct-20	17-Apr-23	42.4%	442											
CW-1000	Tree felling and protection at different portions (S8)	667	03-Dec-20 A	05-Nov-24	03-Dec-20	02-Mar-24	30.52%	203											
Civil Works around Interchange																			
Stage 1																			
Current implication																			
New piping scheme																			
EVNT-1030a	Piping installation according to new piping scheme (RM, sewerage, stormwater below temporary road of TTA 2)-Part 2	20	11-May-22 A	30-Aug-22	09-Apr-22	13-Jun-22	60%	-14											
TTA no.1 (old scheme)																			

Remaining Level of Effort

Actual Level of Effort

Project Baseline Bar

Primary Baseline

Actual Work

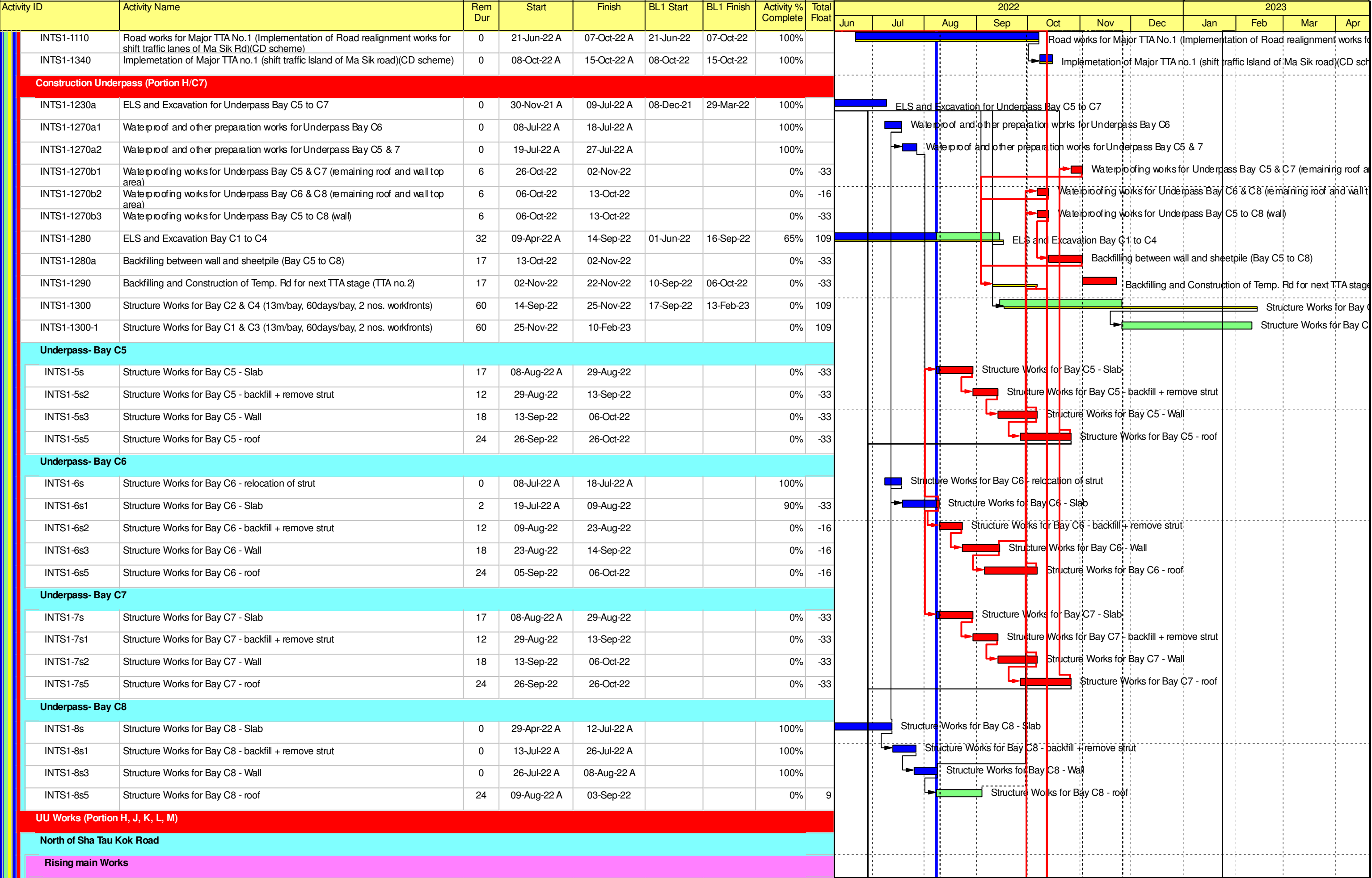
Remaining Work

ND/2019/04- 3 Month Rolling Programme  
Data date - 08-Aug-22

2022-07\_3 Month Rolling Programme  
ND201904-3MRP (Show 6 months)  
1 OF 16

Date	Revision	Checked	Approved
08-Jan-22			

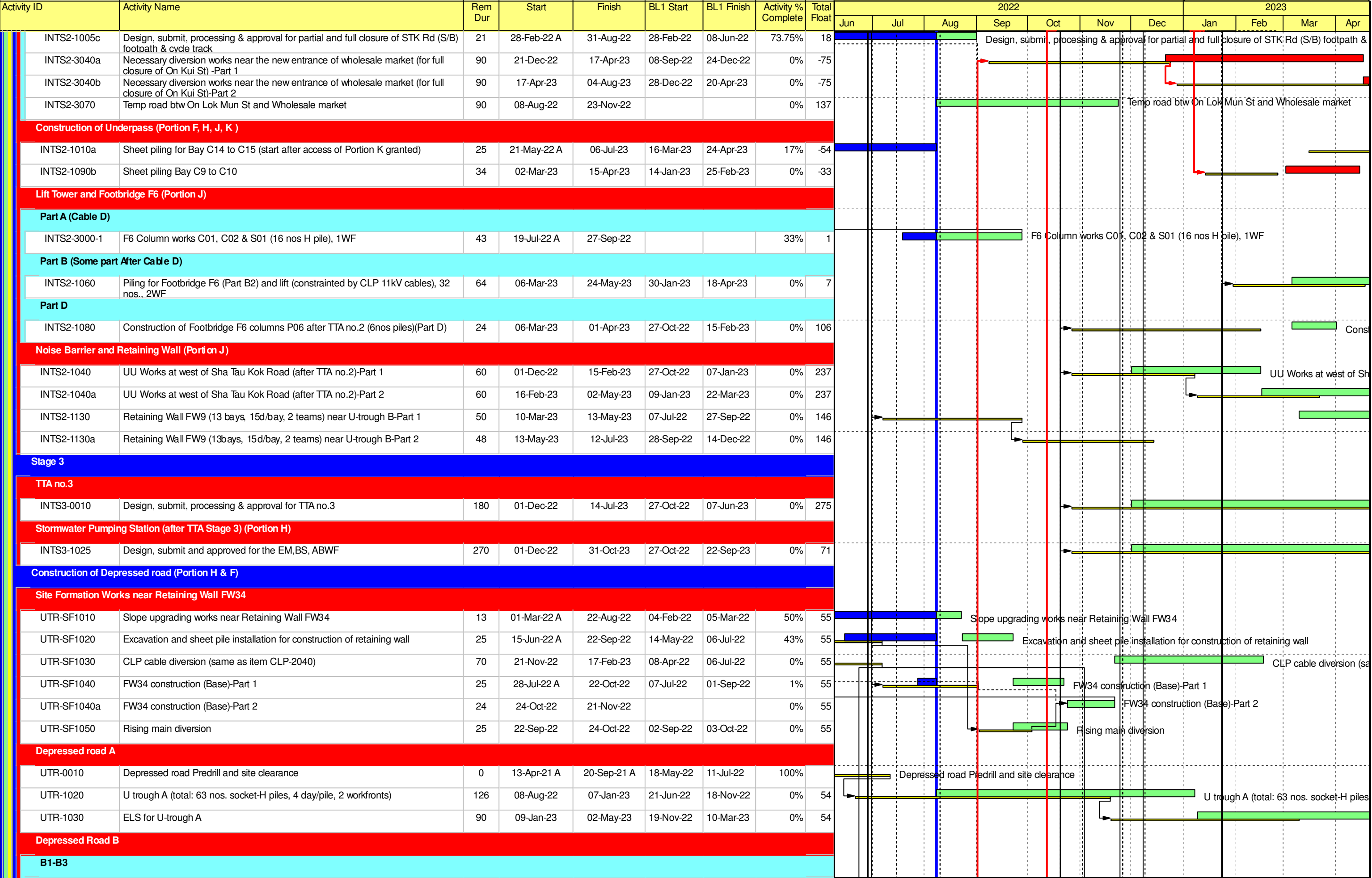














Activity ID		Activity Name	Rem Dur	Start	Finish	BL1 Start	BL1 Finish	Activity % Complete	Total Float	2022												2023			
										Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr					
	OLMSP-1230	Construction of Service Block	90	14-Nov-22	04-Mar-23	17-Aug-22	02-Dec-22	0%	-36																
	OLMSP-1240	Construction of Ancillary Block	90	19-Dec-22	13-Apr-23	17-Aug-22	02-Dec-22	0%	-66																
Reprovision of Public Toilet and Refuse Collection Point (S6)																									
	PTRCP-1000	Prefabrication of Mic Unit	30	19-Dec-22	28-Jan-23	08-Apr-22	12-Jul-22	0%	43																
	PTRCP-1010	Delivery of Mic Units	30	30-Jan-23	04-Mar-23	13-Jul-22	16-Aug-22	0%	43																
	PTRCP-1020	Minor TTA after TTA Stage 2 and Portion P retaining wall	30	06-Mar-23	13-Apr-23	17-Aug-22	02-Dec-22	0%	43																
	PTRCP-2000	Retaining Wall FW10 (80m, 8 bays)	60	18-Nov-22	02-Feb-23	16-Sep-22	26-Nov-22	0%	0																
	PTRCP-2000a	Footing of NB34 (60m, 6 bays)	60	03-Feb-23	18-Apr-23	28-Nov-22	11-Feb-23	0%	0																
Works in Portion A and Portion B (KD5)																									
Portion A																									
	OTH-A-1010	Works at north part (Stage 2)	61	27-May-22 A	20-Oct-22	27-May-22	18-Aug-22	12.86%	4																
	OTH-A-1020	Works at north part (Stage 3)	70	21-Oct-22	13-Jan-23	19-Aug-22	11-Nov-22	0%	4																
	OTH-A-2000	Works at south part (Stage 1)	70	14-Jan-23	13-Apr-23	12-Nov-22	08-Feb-23	0%	4																
	OTH-A-5000	Noise barrier 91- Footing (Stage 1)	56	14-Jan-23	23-Mar-23	12-Nov-22	19-Jan-23	0%	490																
	OTH-A-5010	Noise barrier 91 - Footing (Stage 2)	56	24-Mar-23	03-Jun-23	20-Jan-23	29-Mar-23	0%	490																
Portion B																									
South Part of L3 Road																									
Southbound																									
CL200 to CL250 including footpath & slope																									
	OTH-B-2000	ELS and drainage works	118	04-Feb-22 A	28-Dec-22	28-Feb-22	20-Jun-22	0%	-26																
	OTH-B-2010	Backfilling for watermain	25	29-Dec-22	31-Jan-23	01-Sep-22	30-Sep-22	0%	-26																
	OTH-B-2020	Watermain	56	01-Feb-23	11-Apr-23	03-Oct-22	07-Dec-22	0%	-26																
	OTH-B-2030	Backfilling for UUs	25	12-Apr-23	11-May-23	08-Dec-22	09-Jan-23	0%	-26																
	OTH-B-2040	UUs	24	12-May-23	09-Jun-23	10-Jan-23	09-Feb-23	0%	-26																
From Ma Sik rd to CL200 (Road Section)																									
	OTH-B-4010	Footing of NB51	0	04-Apr-22 A	16-Jul-22 A	05-May-22	07-Jun-22	100%																	
	OTH-B-4020	Backfilling for NB52	23	20-Apr-22 A	02-Sep-22	08-Apr-22	07-Jun-22	50%	91																
	OTH-B-4030	Footing of NB52	45	03-Sep-22	28-Oct-22	08-Jun-22	30-Jul-22	0%	91																
	OTH-B-4040	Backfilling for drainage works	25	29-Oct-22	26-Nov-22	01-Aug-22	29-Aug-22	0%	91																
	OTH-B-4050	Drainage works	38	28-Nov-22	13-Jan-23	30-Aug-22	15-Oct-22	0%	91																
	OTH-B-4060	Backfilling to formation	48	14-Jan-23	14-Mar-23	17-Oct-22	10-Dec-22	0%	365																
From Ma Sik rd to CL200 (Footpath Section & slope)																									
	OTH-B-3000	Backfilling for watermain	25	01-Feb-23	01-Mar-23	03-Oct-22	01-Nov-22	0%	223																
	OTH-B-3010	Watermain	56	02-Mar-23	11-May-23	02-Nov-22	09-Jan-23	0%	223																
	OTH-B-3020	Backfilling for UUs	25	12-May-23	10-Jun-23	10-Jan-23	10-Feb-23	0%	223																
Works within Portions Q, R, S,T, U, V, X and Y (S4)																									
Portion T																									
	OTH-1060a	Road and UU works at Portion T (additional)-Stage 1 (Pending XP)	0	08-Jul-22 A	30-Jul-22 A	08-Apr-22	27-Apr-22	100%																	

Remaining Level of Effort

Actual Level of Effort

Project Baseline Bar

Primary Baseline

Actual Work

Remaining Work

ND/2019/04- 3 Month Rolling Programme

Data date - 08-Aug-22

2022-07\_3 Month Rolling Programme

ND201904-3MRP (Show 6 months)

7 OF 16

Date	Revision	Checked	Approved
08-Jan-22			



Activity ID	Activity Name	Rem Dur	Start	Finish	BL1 Start	BL1 Finish	Activity % Complete	Total Float	2022						2023					
									Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
OTH-1060b	Road and UU works at Portion T (additional)-Stage 2 (Pending XP)	19	01-Aug-22 A	29-Aug-22	28-Apr-22	24-May-22	10%	311												
OTH-1060c	Road and UU works at Portion T (additional)-Stage 3 (Pending XP)	14	29-Aug-22	15-Sep-22	25-May-22	10-Jun-22	0%	311												
OTH-1060d	Road and UU works at Portion T (additional)-Stage 4 (Pending XP)	14	15-Sep-22	03-Oct-22	11-Jun-22	27-Jun-22	0%	311												
Portion R																				
OTH-1035a	XP application for Portion R (outside site boundary)	54	08-Mar-22 A	12-Oct-22			70%	106												
Stage 1 (Area 1)																				
OTH-1041-1a	Relocate fire hydrant	0	06-May-22 A	30-Jul-22 A	08-Apr-22	06-Jun-22	100%													
OTH-1041-1b	Relocate gully	0	07-Apr-22 A	30-Jul-22 A	07-Jun-22	22-Jun-22	100%													
OTH-1041-1c	Construct road kerb and street furniture	40	01-Aug-22 A	23-Sep-22	23-Jun-22	09-Aug-22	0%	222												
OTH-1041-1d	Construct carriageway pavement	15	24-Sep-22	13-Oct-22	10-Aug-22	26-Aug-22	0%	222												
OTH-1041-1e	Cycle track and bollard	20	14-Oct-22	05-Nov-22	27-Aug-22	20-Sep-22	0%	222												
OTH-1041-1f	Road marking	1	07-Nov-22	07-Nov-22	21-Sep-22	21-Sep-22	0%	222												
Stage 2 (Area 1)																				
OTH-1042-1b	Relocate gully	0	07-Apr-22 A	30-Jul-22 A	08-Apr-22	05-May-22	100%													
OTH-1042-1c	Relocate traffic signal post	26	08-Aug-22	06-Sep-22	06-May-22	07-Jun-22	0%	226												
OTH-1042-1d	Construct road kerb and planter	16	07-Sep-22	26-Sep-22	08-Jun-22	25-Jun-22	0%	226												
OTH-1042-1e	Construct carriageway pavement	15	27-Sep-22	15-Oct-22	27-Jun-22	14-Jul-22	0%	226												
OTH-1042-1f	Road marking	1	17-Oct-22	17-Oct-22	15-Jul-22	15-Jul-22	0%	226												
OTH-1042-1g	Enabling traffic signal system	14	18-Oct-22	02-Nov-22	16-Jul-22	01-Aug-22	0%	226												
Stage 3 (Area 1)																				
OTH-1043-1a	Relocate traffic signal post	14	08-Aug-22	23-Aug-22	08-Apr-22	27-Apr-22	0%	102												
OTH-1043-1b	Construt road kerb and pedestrain crossing	16	24-Aug-22	10-Sep-22	28-Apr-22	18-May-22	0%	102												
OTH-1043-1c	Construct street furniture	12	13-Sep-22	26-Sep-22	19-May-22	01-Jun-22	0%	102												
OTH-1043-1d	Construct carriageway pavement	15	27-Sep-22	15-Oct-22	02-Jun-22	20-Jun-22	0%	102												
OTH-1043-1e	Road marking	1	17-Oct-22	17-Oct-22	21-Jun-22	21-Jun-22	0%	102												
OTH-1043-1f	Enabling traffic signal system	14	18-Oct-22	02-Nov-22	22-Jun-22	08-Jul-22	0%	102												
Stage 4 (Area 3)																				
OTH-1044-1a	Demolish planter	12	08-Aug-22	22-Aug-22	12-May-22	25-May-22	0%	202												
OTH-1044-1a10	Cycle parking	0	16-May-22 A	08-Aug-22			99%	202												
OTH-1044-1b	Relocate gully	12	22-Aug-22	05-Sep-22	26-May-22	09-Jun-22	0%	202												
OTH-1044-1c	Relocate traffic signal post	14	05-Sep-22	22-Sep-22	10-Jun-22	25-Jun-22	0%	202												
OTH-1044-1d	Construct pedestrain crossing and road kerb	16	22-Sep-22	13-Oct-22	27-Jun-22	15-Jul-22	0%	202												
OTH-1044-1e	Construct street furniture	12	13-Oct-22	27-Oct-22	16-Jul-22	29-Jul-22	0%	202												
OTH-1044-1f	Construct carriageway pavement	15	27-Oct-22	14-Nov-22	30-Jul-22	16-Aug-22	0%	202												
OTH-1044-1g	Road marking	1	14-Nov-22	15-Nov-22	17-Aug-22	17-Aug-22	0%	202												
OTH-1044-1h	Enabling traffic signal system	14	15-Nov-22	01-Dec-22	18-Aug-22	02-Sep-22	0%	202												
Stage 5 (Area 2, after Stage 3)																				
OTH-1045-1	Install temporary lighting system	10	03-Nov-22	14-Nov-22	09-Jul-22	20-Jul-22	0%	102												

Activity ID		Activity Name	Rem Dur	Start	Finish	BL1 Start	BL1 Finish	Activity % Complete	Total Float	2022						2023																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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	OTH-1045-1a	Install temporary traffic signal system	10	03-Nov-22	14-Nov-22	09-Jul-22	20-Jul-22	0%	102																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</

Activity ID	Activity Name	Rem Dur	Start	Finish	BL1 Start	BL1 Finish	Activity % Complete	Total Float	2022							2023			
									Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
OTH-1070-1e	Relocate traffic signal post	20	28-Jan-23	20-Feb-23	10-Nov-22	02-Dec-22	0%	-51											
OTH-1070-1f	Set back existing traffic island	40	21-Feb-23	12-Apr-23	03-Dec-22	21-Jan-23	0%	-51											
OTH-1070-1g	Street furniture	30	13-Apr-23	18-May-23	26-Jan-23	01-Mar-23	0%	-51											
Area 3																			
OTH-1070-3a	Construct retaining wall and top slab (Part 1)	90	03-Nov-22	22-Feb-23	24-Jun-22	11-Oct-22	0%	-21											
OTH-1070-3b	Construct retaining wall and top slab (Part 2)	90	23-Feb-23	14-Jun-23	12-Oct-22	31-Jan-23	0%	-21											
OTH-1070-3c	Set back road kerb and relocate gully	30	15-Jun-23	21-Jul-23	01-Feb-23	07-Mar-23	0%	-21											
Portion S																			
OTH-1045	XP and TTA application for Portion S	0	08-Apr-22 A	08-Jul-22 A	08-Apr-22	18-May-22	100%												
Area 1																			
OTH-1050-1a	Site formation, retaining wall, extension of subway, stairway, relocate fire hydrant (Part 1)	85	08-Aug-22	17-Nov-22	19-May-22	27-Aug-22	0%	-56											
OTH-1050-1b	Site formation, retaining wall, extension of subway, stairway, relocate fire hydrant (Part 2)	85	18-Nov-22	03-Mar-23	29-Aug-22	08-Dec-22	0%	-56											
OTH-1050-1c	Site formation, retaining wall, extension of subway, stairway, relocate fire hydrant (Part 3)	85	04-Mar-23	17-Jun-23	09-Dec-22	24-Mar-23	0%	-56											
Area 2																			
OTH-1050-2a	Site formation, retaining wall, relocate fire hydrant, relocate public lighting (Part 1)	80	08-Aug-22	11-Nov-22	19-May-22	22-Aug-22	0%	-56											
OTH-1050-2b	Site formation, retaining wall, relocate fire hydrant, relocate public lighting (Part 2)	80	12-Nov-22	20-Feb-23	23-Aug-22	26-Nov-22	0%	-56											
OTH-1050-2c	Relocate traffic signal post	20	21-Feb-23	15-Mar-23	28-Nov-22	20-Dec-22	0%	-56											
OTH-1050-2d	Set back road kerb and relocate gully	50	16-Mar-23	18-May-23	21-Dec-22	23-Feb-23	0%	-56											
Area 3																			
OTH-1050-3a	Demolish existing central divider (Part 1)	60	08-Aug-22	19-Oct-22	19-May-22	29-Jul-22	0%	24											
OTH-1050-3b	Demolish existing central divider (Part 2)	60	20-Oct-22	30-Dec-22	30-Jul-22	11-Oct-22	0%	24											
OTH-1050-3c	Construct new central divider (Part 1)	60	31-Dec-22	15-Mar-23	12-Oct-22	20-Dec-22	0%	24											
OTH-1050-3d	Construct new central divider (Part 2)	60	16-Mar-23	31-May-23	21-Dec-22	07-Mar-23	0%	24											
Portion X																			
OTH-1085	XP and TTA application for Portion X	35	09-Jun-22 A	17-Sep-22	19-May-22	25-Aug-22	57.83%	-8											
OTH-2030	Site formation, retaining wall, modify subway, relocate public lighting (Part 1)	70	19-Sep-22	10-Dec-22	26-Aug-22	18-Nov-22	0%	-8											
OTH-2030a	Site formation, retaining wall, modify subway, relocate public lighting (Part 2)	70	12-Dec-22	09-Mar-23	19-Nov-22	15-Feb-23	0%	-8											
Portion V,Y																			
OTH-1075	XP and TTA application for Portion VY	46	27-Apr-22 A	30-Sep-22	19-May-22	30-Jan-23	77.99%	107											
Area 1																			
OTH-1080-1a	Relocate fire hydrant, set back kerb and relocate gully	30	31-Jan-23	06-Mar-23	31-Jan-23	06-Mar-23	0%	11											
Junction improvement works at Portion J (S4)																			
OTH-2020	Relocation of Traffic System- Siu Wan Road Junctional works (tree felling and site clearance)	30	01-Dec-22	07-Jan-23	06-May-22	11-Oct-22	0%	152											
OTH-2020a	Relocation of Traffic System- Siu Wan Road Junctional works (road realignment)	40	09-Jan-23	27-Feb-23			0%	152											
CLP 132kV and 11kV Cable Works at Bridge and interchange area																			
Cable B (Green) Fanling to Louhu Circuit 132KV- by CLP (Bridge A2,A3 and interchange )																			
CLP-2000	Diversion of CLP 320m cable B1 (Bridge A at portion C,G)	0	08-Dec-21 A	08-Jul-22 A	08-Dec-21	12-Feb-22	100%												
CLP-2010	Diversion of CLP 130m cable B2 (Bridge A at portion C,G)	0	14-Feb-22 A	08-Jul-22 A	14-Feb-22	25-Mar-22	100%												





**ND/2019/04- 3 Month Rolling Programme**  
**Data date - 08-Aug-22**

Activity ID	Activity Name	Rem Dur	Start	Finish	BL1 Start	BL1 Finish	Activity % Complete	Total Float	2022						2023					
									Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	
BWFW-8050	Form a site access to riverbed at pier F-02	7	06-May-23	15-May-23	30-Dec-22	07-Jan-23	0%	-11												
BWFW-8060	Set up a row of cofferdam in river to enclose pier F-02 area	26	15-May-23	15-Jun-23	09-Jan-23	10-Feb-23	0%	-11												
North side																				
BWFW-8000	Shift the cofferdam toward the current slope toe, reinstall geotextile and silt curtain inside and outside the cofferdam	6	29-Mar-23	06-Apr-23	25-Nov-22	01-Dec-22	0%	-11												
BWFW-8010	Excavate the slope to riverbed level	12	06-Apr-23	24-Apr-23	02-Dec-22	15-Dec-22	0%	-11												
BWFW-8020	Apply a layer of concrete screeding to the exposed surface	2	24-Apr-23	26-Apr-23	16-Dec-22	17-Dec-22	0%	-11												
BWFW-8030	Remove the cofferdam	7	26-Apr-23	05-May-23	19-Dec-22	28-Dec-22	0%	-11												
Bridge Works (A1,A2,A3,G,F4)																				
Site Clearance & Additional GI and Predrilling Works																				
BWGIPW-0010	C7 access completed after unchartered tree (INTS1-5020)(A3-03R, 04,05,06M)	0		27-Sep-22		02-Jun-22	0%	69												
BWGIPW-1015	Site clearance & additional GI and Pre-drilling works: Bridge A3 (part-3)	12	08-Aug-22	20-Aug-22			0%	30												
BWGIPW-1040	Site clearance & additional GI and Pre-drilling works: Bridge G	41	25-Oct-21 A	30-Jan-23	05-Jan-22	10-Mar-22	22%	9												
BWGIPW-1050	Site clearance & additional GI and Pre-drilling works: Footbridge F4 (after Road of C7 redirect and A3-02)	27	06-Aug-21 A	19-Nov-22	22-Jul-22	22-Sep-22	50%	316												
Construction of Bridge Foundation																				
Construction of Bridge A1 Foundation (Team 1) (~20m depth)																				
BWBF-1230	Pier A1-03a/b (3no. pile, 20d/pile, 1no. workfronts)	0	02-Nov-21 A	21-Dec-21 A	07-May-22	19-Jul-22	100%													
BWBF-1260	Pier A1-04a/b (3no. pile, 20d/pile, 1no. workfronts)(CLP 11kV constraints)	0	18-Nov-21 A	08-Feb-22 A	20-Jul-22	28-Sep-22	100%													
Construction of Bridge A2 Foundation (Team 1) (~20m depth)																				
BWBF-1070a	ELS for Pier A2-02 (SP and backfill for A2-03I BP)	0	25-Apr-22 A	08-Aug-22	29-Apr-22	02-Jun-22	99%	-61												
BWBF-1100a	Pier A2-01a/b (1no. pile, 20d/pile, 1no. workfront)	0	28-Jun-22 A	22-Jul-22 A	11-Aug-22	02-Sep-22	100%													
BWBF-1145	Pier A2-03I (2nos. pile, 20d/pile, 1no. workfront)	40	08-Aug-22	24-Sep-22	24-Jun-22	10-Aug-22	0%	-61												
BWBF-1145b	ELS for Pier A2-03I* (SP and backfill for A2-03I BP)	0	19-May-22 A	06-Aug-22 A	29-Apr-22	02-Jun-22	100%													
BWBF-1250	Pier A2-04M (4nos. pile, 20d/pile, 1no. workfront)	36	25-Jan-22 A	19-Sep-22	01-Apr-22	12-Jul-22	55%	6												
Construction of Bridge A3 Foundation (Team 2) (~30m depth)																				
BWBF-1030	Pier A3-03r (2no. pile, 20d/pile before new 132kV cable laying at this location)	0	11-Feb-22 A	01-Apr-22 A	19-Nov-22	07-Jan-23	100%													
BWBF-1340	Pier A3-01I (1no. pile, 20d/pile, 1no. workfront)	0	07-May-22 A	08-Aug-22	26-Apr-22	20-May-22	99%	-61												
BWBF-1340a	ELS for Pier A3-01r	30	08-Aug-22	10-Sep-22	21-May-22	25-Jun-22	0%	12												
BWBF-1340b	Pier A3-01r (2nos. pile, 20d/pile, 1no. workfront)*	40	20-Sep-22	07-Nov-22	09-Jul-22	24-Aug-22	0%	6												
BWBF-1350a	Pier A3-02 in nullah (6nos. pile, 20d/pile, 1no. workfront)- Stage 2*	0	18-Jun-22 A	08-Aug-22	14-May-22	26-Jul-22	100%	52												
BWBF-1350a1	Demolition of piling platform at A3-02	30	08-Aug-22	10-Sep-22	26-Jul-22	30-Aug-22	0%	316												
BWBF-1350c	ELSW for rising main diversion works (locally, for operation of A3-03I bored pile works)	0	27-May-22 A	06-Aug-22 A	27-May-22	06-Aug-22	100%													
BWBF-1350d	Rising main diversion works (locally, for operation of A3-03I bored pile works)	59	08-Aug-22 A	19-Oct-22	08-Aug-22	19-Oct-22	1%	13												
BWBF-1380	Pier A3-03I (2nos. bored piles, 20d/pile, 1no. workfront)*	40	19-Oct-22	05-Dec-22	20-Oct-22	05-Dec-22	0%	13												
Construction of Bridge G Foundation (Team 3) (~20m depth)																				
BWBF-1110	ELS for Abt G-06 and G-05	30	06-Dec-22	12-Jan-23	06-Dec-22	12-Jan-23	0%	20												
BWBF-1120	Abt G-06 (6nos. pile, 15d/pile, 1 no. workfront)	90	30-Jan-23	20-May-23	13-Jan-23	06-May-23	0%	9												
BWBF-1180	ELS for G-02 to G-04	30	01-Nov-22*	05-Dec-22	01-Nov-22	05-Dec-22	0%	9												
BWBF-1210	Pier G-04 (2nos. pile, 15d/pile, 1 no. workfront)	30	30-Jan-23	06-Mar-23	06-Dec-22	12-Jan-23	0%	44												

Remaining Level of Effort

Actual Level of Effort

Project Baseline Bar

Primary Baseline

Actual Work

Remaining Work

ND/2019/04- 3 Month Rolling Programme

Data date - 08-Aug-22

2022-07\_3 Month Rolling Programme

ND201904-3MRP (Show 6 months)

13 OF 16

Date

08-Jan-22

Revision

Checked

Approved





Activity ID	Activity Name	Rem Dur	Start	Finish	BL1 Start	BL1 Finish	Activity % Complete	Total Float	2022							2023																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
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BWBC-1040	Pile cap for Abt A1-05 (1 no. pile cap, 30d/cap, 1no. workfront)	30	24-Oct-22	26-Nov-22	06-Jan-23	13-Feb-23	0%	155																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										







**AECOM**

**PROJECT**

**DEVELOPMENT OF  
KWU TUNG NORTH AND  
FANLING NORTH  
NEW DEVELOPMENT  
AREAS, PHASE 1**

**CONTRACT TITLE:**

**FANLING NORTH NEW  
DEVELOPMENT AREA, PHASE 1:  
FANLING BYPASS  
EASTERN SECTION  
(SHEK WU SAN TSUEN NORTH  
TO LUNG YEUK TAU)**

**CLIENT**

**CEDD** 土木工程拓展署  
Civil Engineering and  
Development Department

**CONSULTANT**

**AECOM Asia Company Ltd.**  
www.aecom.com

**SUB-CONSULTANTS**

2018/06/24

**ISSUE/REVISION**

NO.	DATE	DESCRIPTION	BY	CHK.
1	NOV-18	TENDER DRAWING	RP/CM	

**STATUS**

SCALE	DIMENSION UNIT
A1 : 7000	METRES

**KEY PLAN**

**PROJECT NO.** 60335578 **CONTRACT NO.** ND/2019/04

**SHEET TITLE** KEY PLAN AND LOCATION PLAN

**SHEET NUMBER** 60335578/C5A/C00/1000

## **Construction Programme of ND/2019/05**

Activity ID		Activity Name				Rem Dur	Early Start	Early Finish	Total Float	November 2022					December 2022					January 2023				February 2023				March 2023							
											30	06	13	20	27	04	11	18	25	01	08	15	22	29	05	12	19	26	05	12	19	26			
Detail Programme Revision 15																																			
1.0 - Contract Data Part 1																																			
1.3 - Completion Date																																			
1.3.2 - Section of the Works																																			
Section 3A																																			
S3A-1		Complete Section 3A of the Works				0		10-Nov-22 A																											
S3A-2		Section 3A Plan Completion - (Portion XVII and XVIII)				0		10-Nov-22 A																											
S3A-3		Section 3A- TERMINAL FLOAT				0	10-Nov-22 A	10-Nov-22 A																											
Section 3B																																			
S3B-2		Section 3B Plan Completion - (Portion XV, XIX and XX)				0		14-Jan-23	621																										
S3B-3		Section 3B - TERMINAL FLOAT				78	15-Jan-23	02-Apr-23	621																										
Section 6																																			
S6-2		Section 6 Plan Completion - (Tree Preservation and Protection)				0		22-Mar-23	449																										
S6-3		Section 6 - TERMINAL FLOAT				78	23-Mar-23	08-Jun-23	449																										
2.0 - Preliminary Works																																			
2.3 - Contractor's Design (PS 1,109)																																			
2.3.3 - (c) Lift Installation E&M																																			
CDc-120		Lift Install E&M - Design Approval				0	31-Aug-22 A	28-Nov-22 A																											
2.3.4 - (d) Lighting System																																			
CDd-135		Road Lighting System - Manufacturing and Delivery				90	31-Mar-23	28-Jun-23	281																										
2.3.5 - (e) BBI Public Toilet Electrical System																																			
CDe-130		Public Toilet Electrical System - Design Approval				0	01-May-22 A	14-Nov-22 A																											
2.3.6 - (f) BBI Public Toilet BS System																																			
CDf-110		Public Toilet BS and MVAC System - Prep/Submit Design				51	01-Mar-22 A	20-Jan-23	176																										
CDf-130		Public Toilet BS and MVAC System - Design Approval				82	01-May-22 A	20-Feb-23	175																										
2.3.7 - (g) BBI Public Toilet Bio-treatment Plant																																			
CDg-110		Public Toilet Bio-treatment Plant - Prep/Submit Design				51	01-Mar-22 A	20-Jan-23	190																										
CDg-130		Public Toilet Bio-treatment Plant - Design Approval				82	28-May-22 A	20-Feb-23	189																										
2.3.8 - (h) Traffic Control and Surveillance System (TCSS)																																			
CDh-110		TCSS - Prep/Submit Design				150	02-Mar-23	29-Jul-23	99																										
2.3.9 - (i) Traffic Detector System																																			
CDi-110		Traffic Detector System - Prep/Submit Design				150	02-Mar-23	29-Jul-23	94																										
2.3.10 - (j) Crash Cushion System																																			
CDj-100		Crash Cushion System - Procurement				72	31-Jan-23	12-Apr-23	24																										
4.0 - Bridge Construction																																			
4.2 - Form Traveller																																			
E2-7406		Form Traveller No. 3 - Fabrication and Delivery				60	01-Aug-22 A	15-Feb-23	22																										
4.3 - Segment Fabrication																																			
4.3.1 - Shop Drawings																																			
- Bridge B2																																			
AD-500		Bridge B2 Segment Fabrication Shop Drawings Preparation				42	01-Dec-22	11-Jan-23	263																										
AD-502		Bridge B2 Segment Fabrication Shop Drawings PM Review				36	12-Jan-23	16-Feb-23	415																										
- Bridge E4																																			
AD-590		Bridge E4 Segment Fabrication Shop Drawings Preparation				42	12-Jan-23	22-Feb-23	263																										
AD-592		Bridge E4 Segment Fabrication Shop Drawings PM Review				36	23-Feb-23	30-Mar-23	263																										
4.3.2 - Off-Site Fabrication																																			
- C2-03 T-span																																			
OSF-0540		Seg Fab - C2-03L SOP and C2-03L-C2-02 S01 (2 nos) M1				12	13-Jan-23	09-Feb-23	76																										
OSF-0543		Seg Fab - C2-03L-C2-02 S02 to S10 (9 nos) M1				45	10-Feb-23	03-Apr-23	76																										

Actual Work

Non-critical

Critical

Milestone

Contract ND/2019/05 - FBES (Shung Him Tong to Kau Lung Hang)  
Three-Month Rolling Programme

Project ID : DPr15  
Layout : 3MRP  
Date : 03-Jan-23 / Page 1 of 13

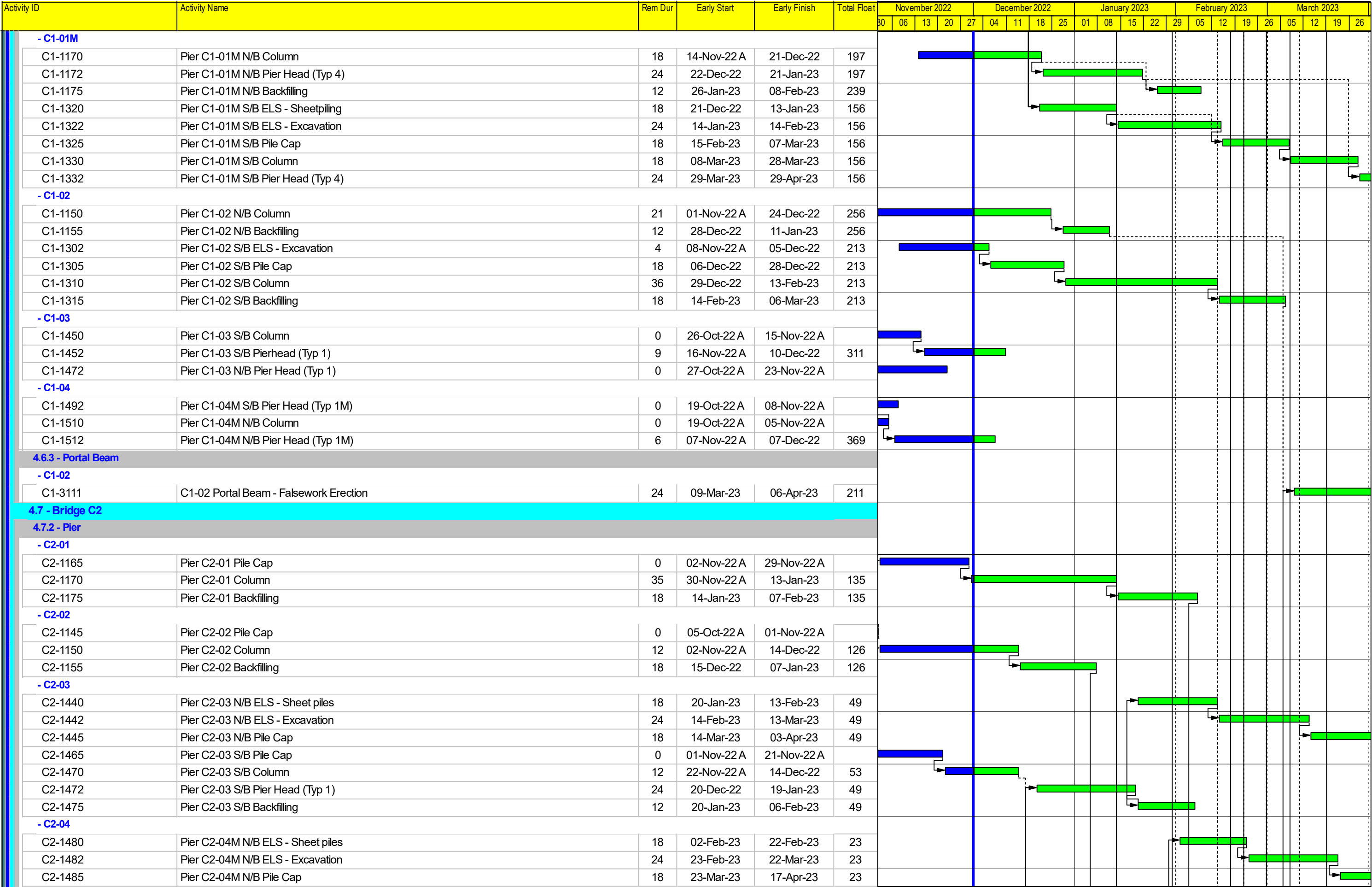
3MRP

Date	Revision	Check...	Approved
01-Dec-22	Draft		

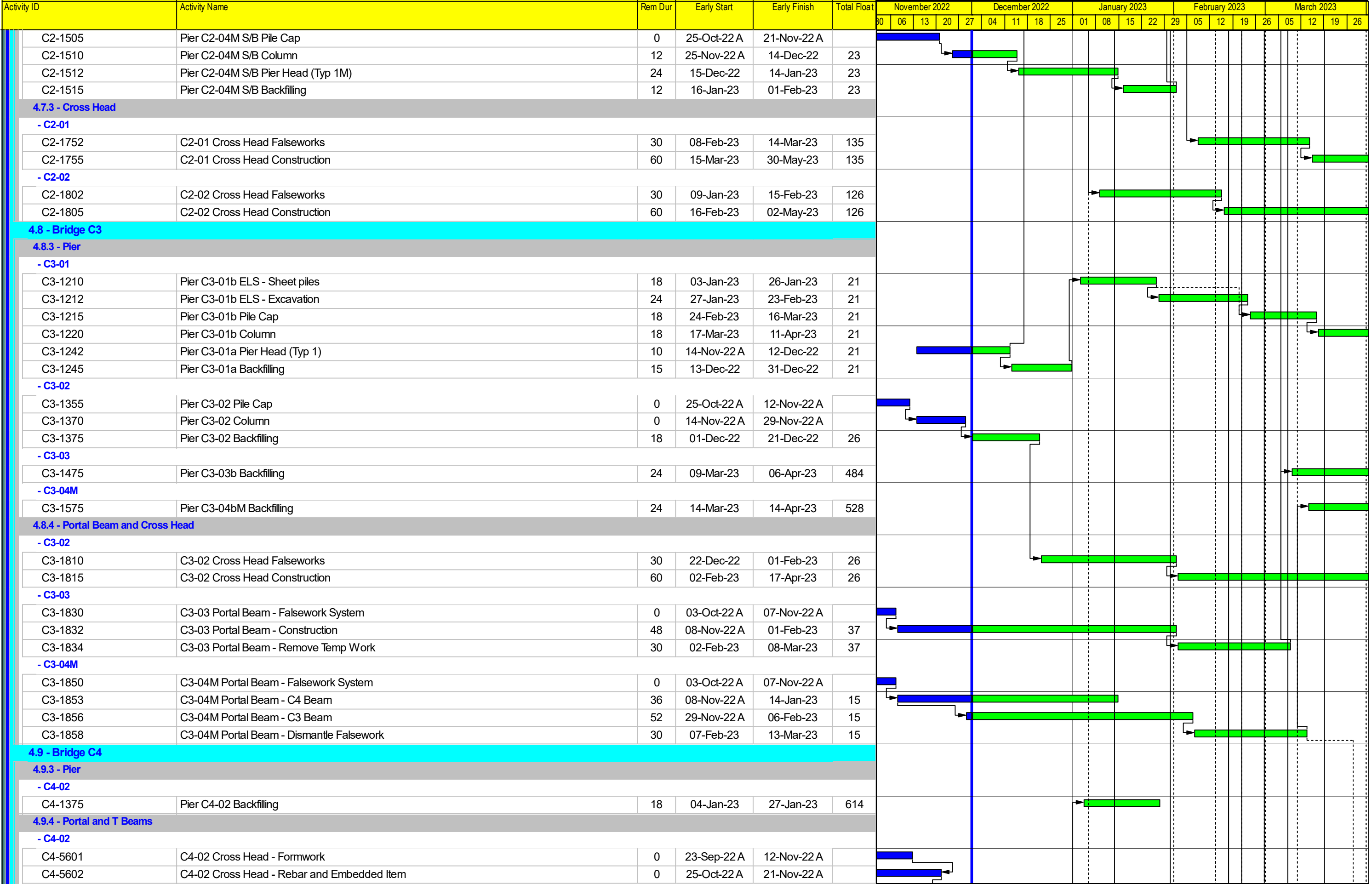


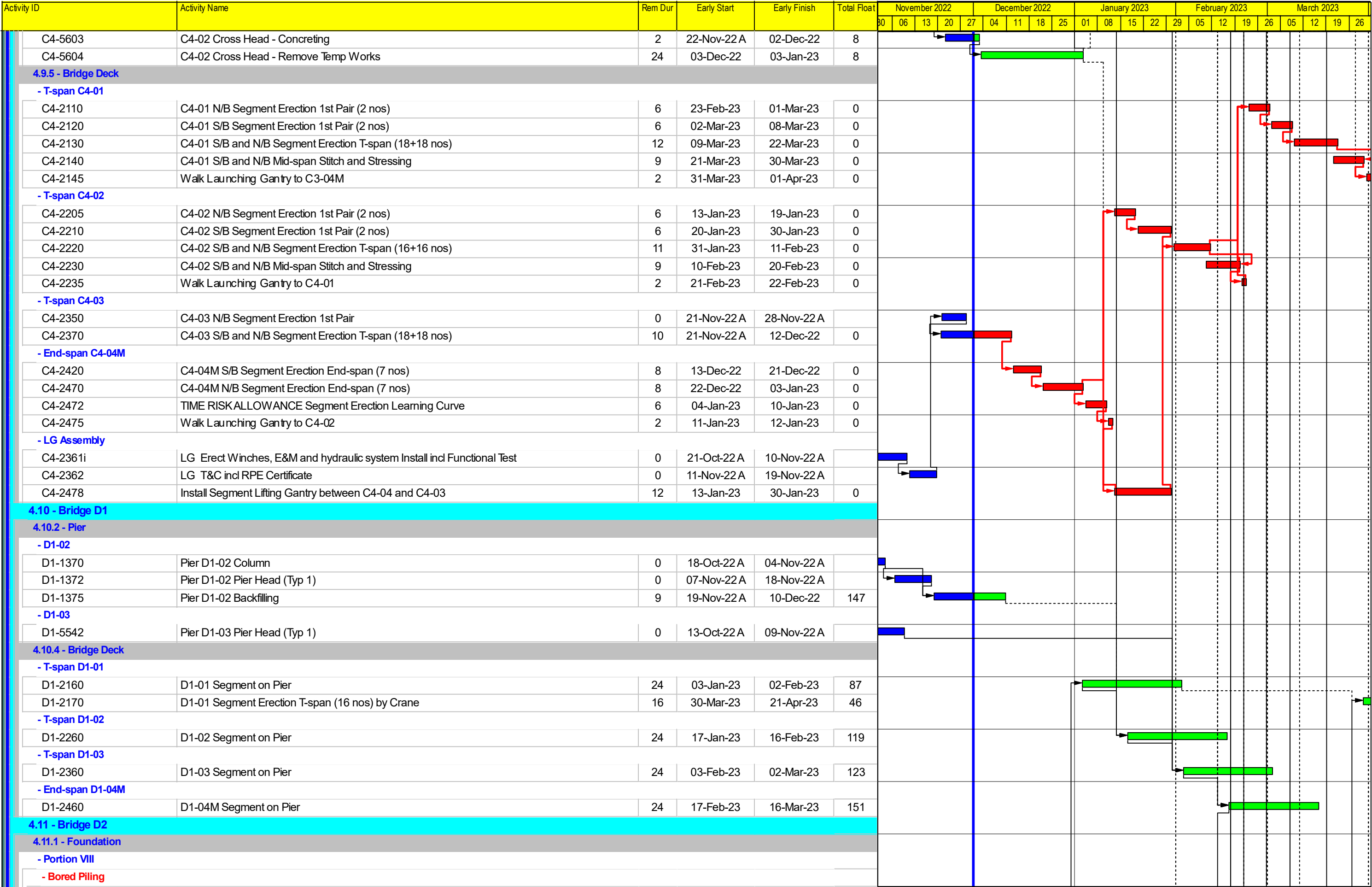


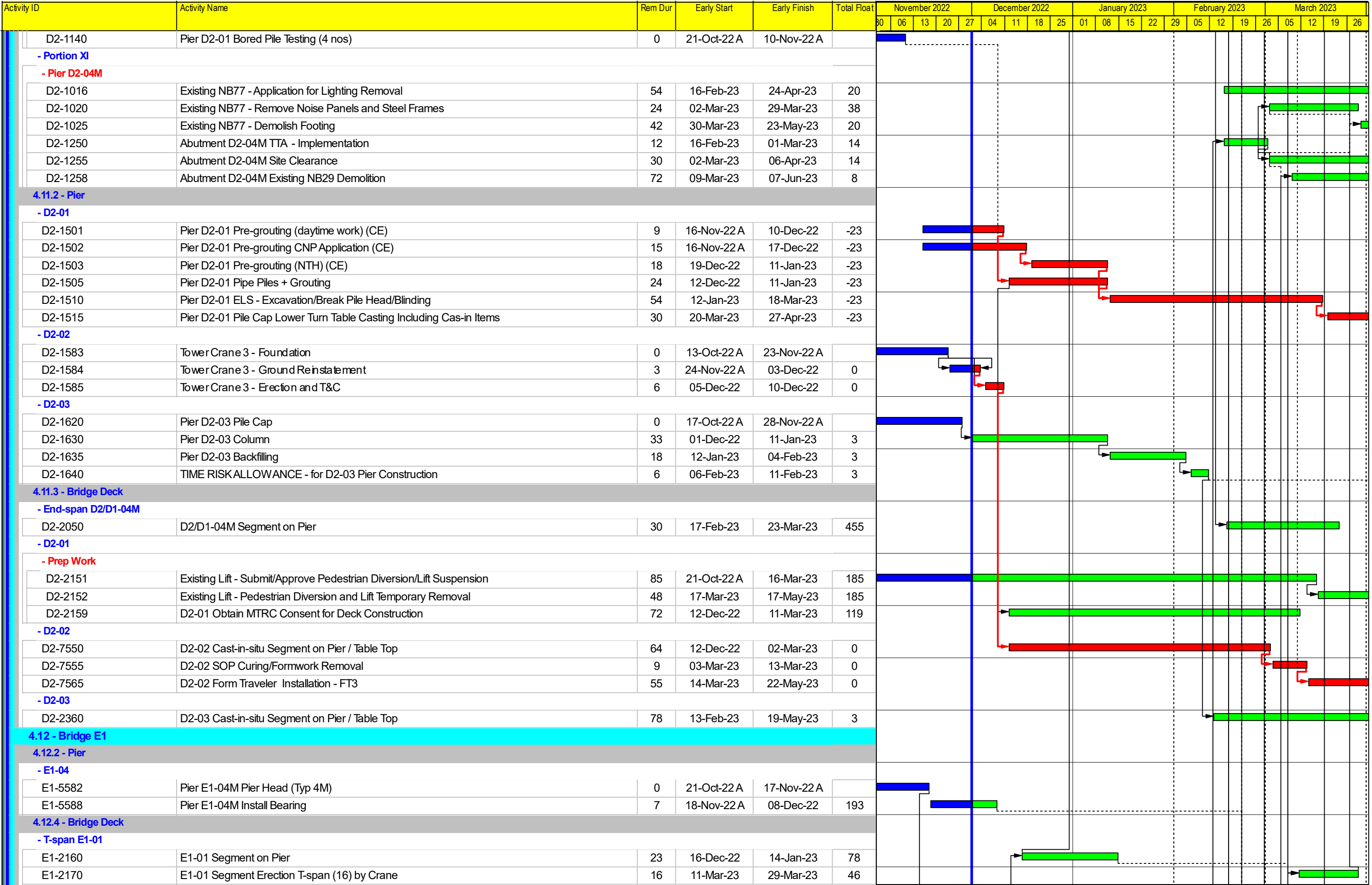




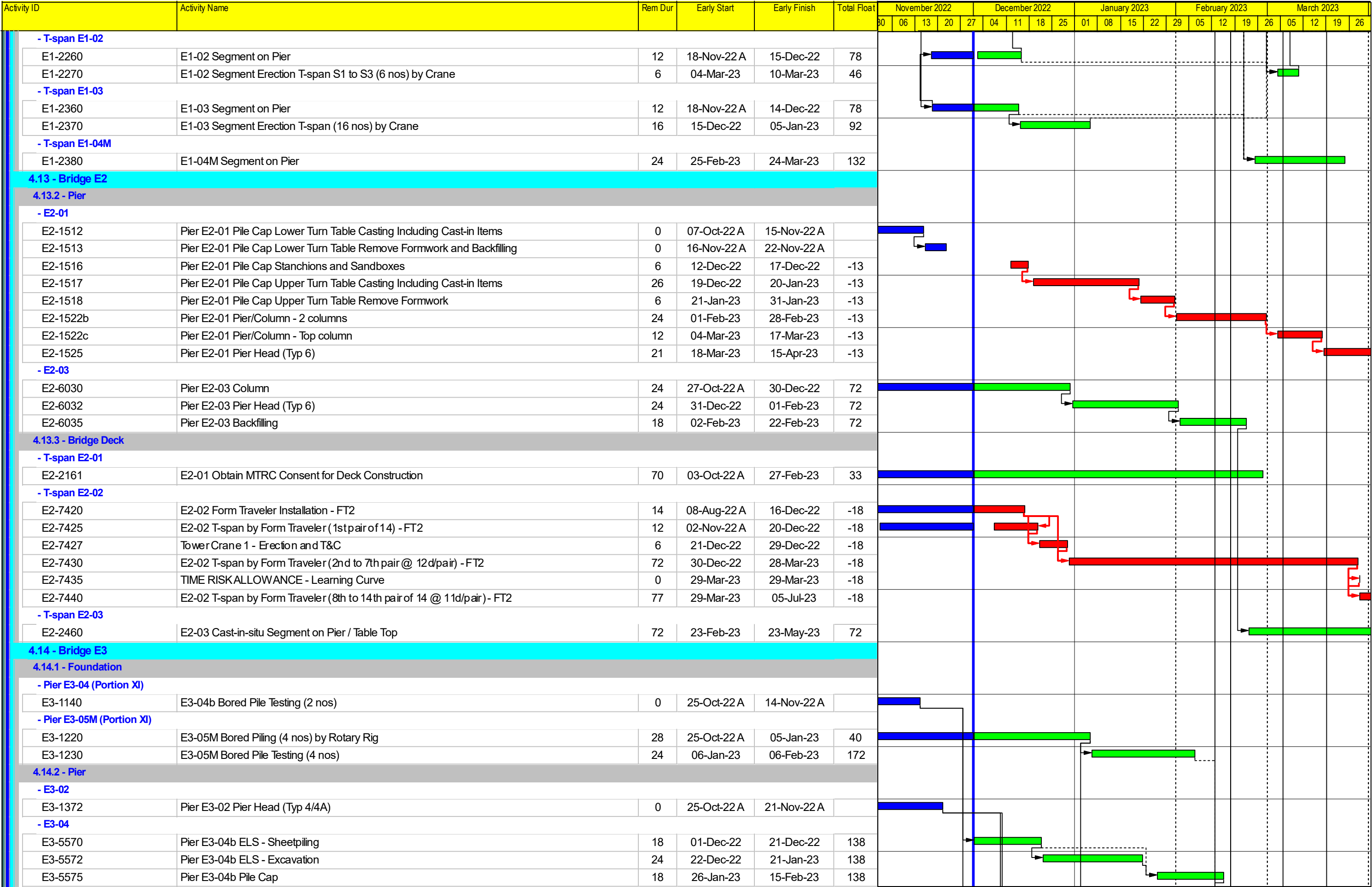




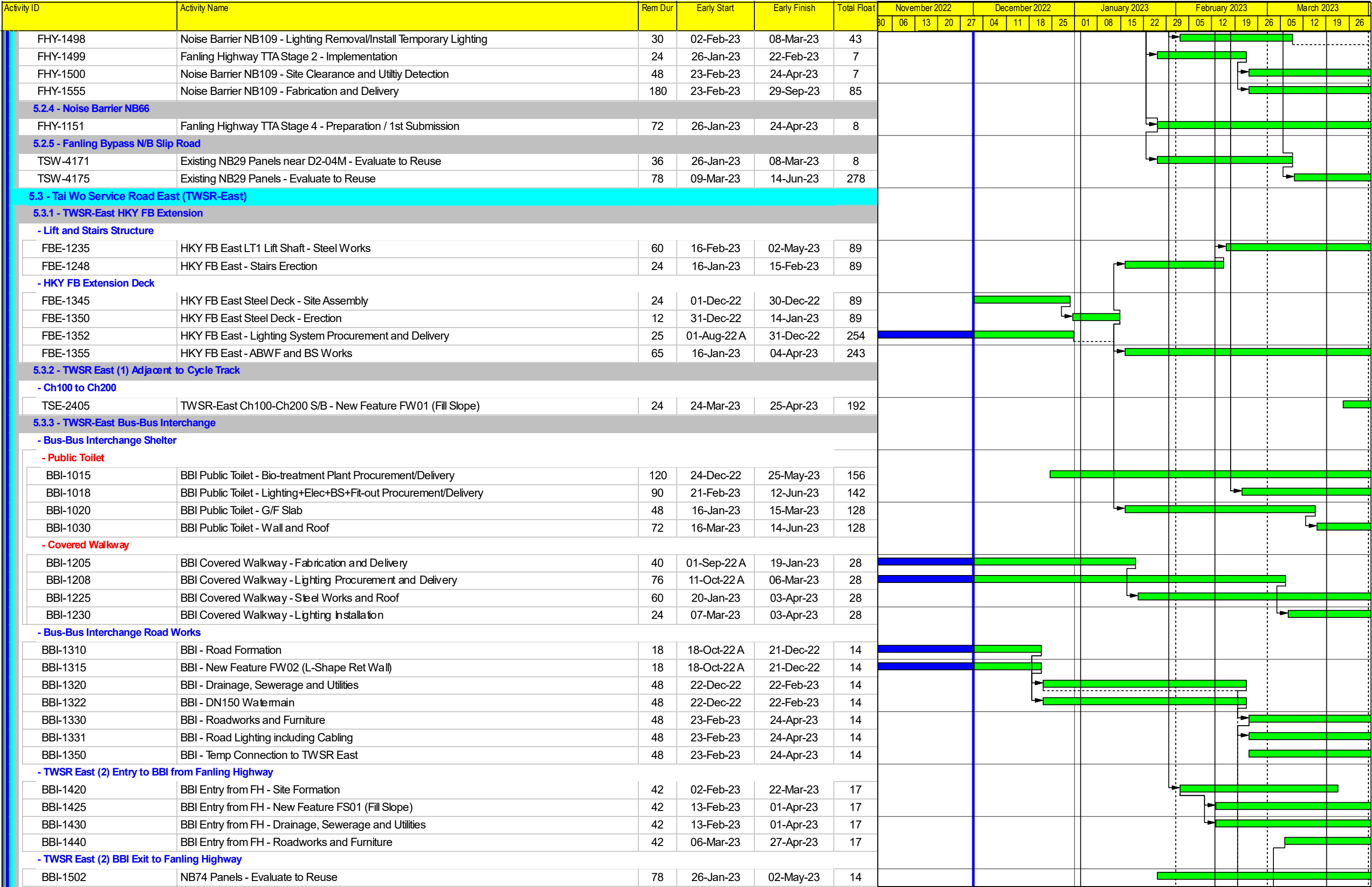






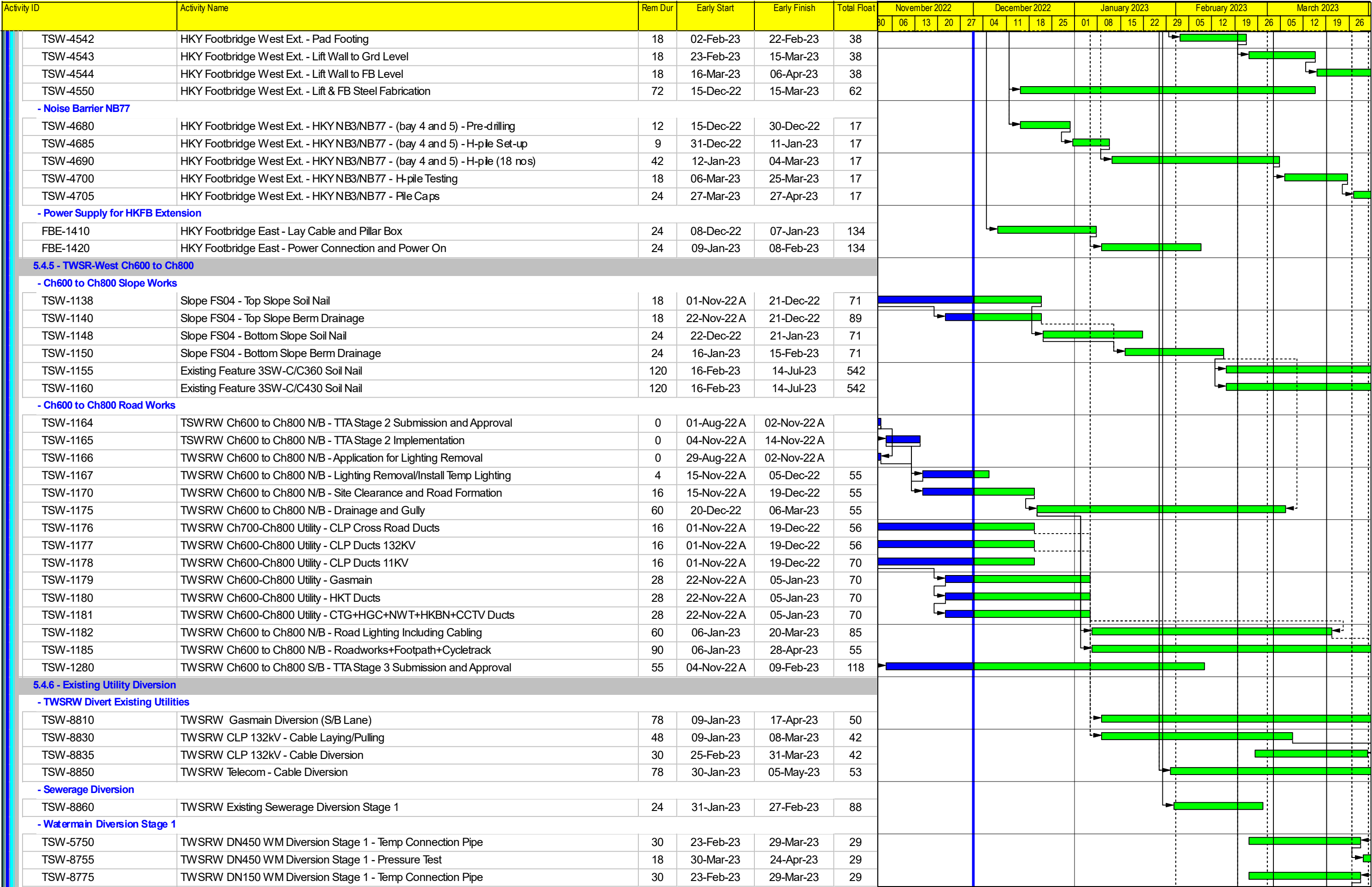


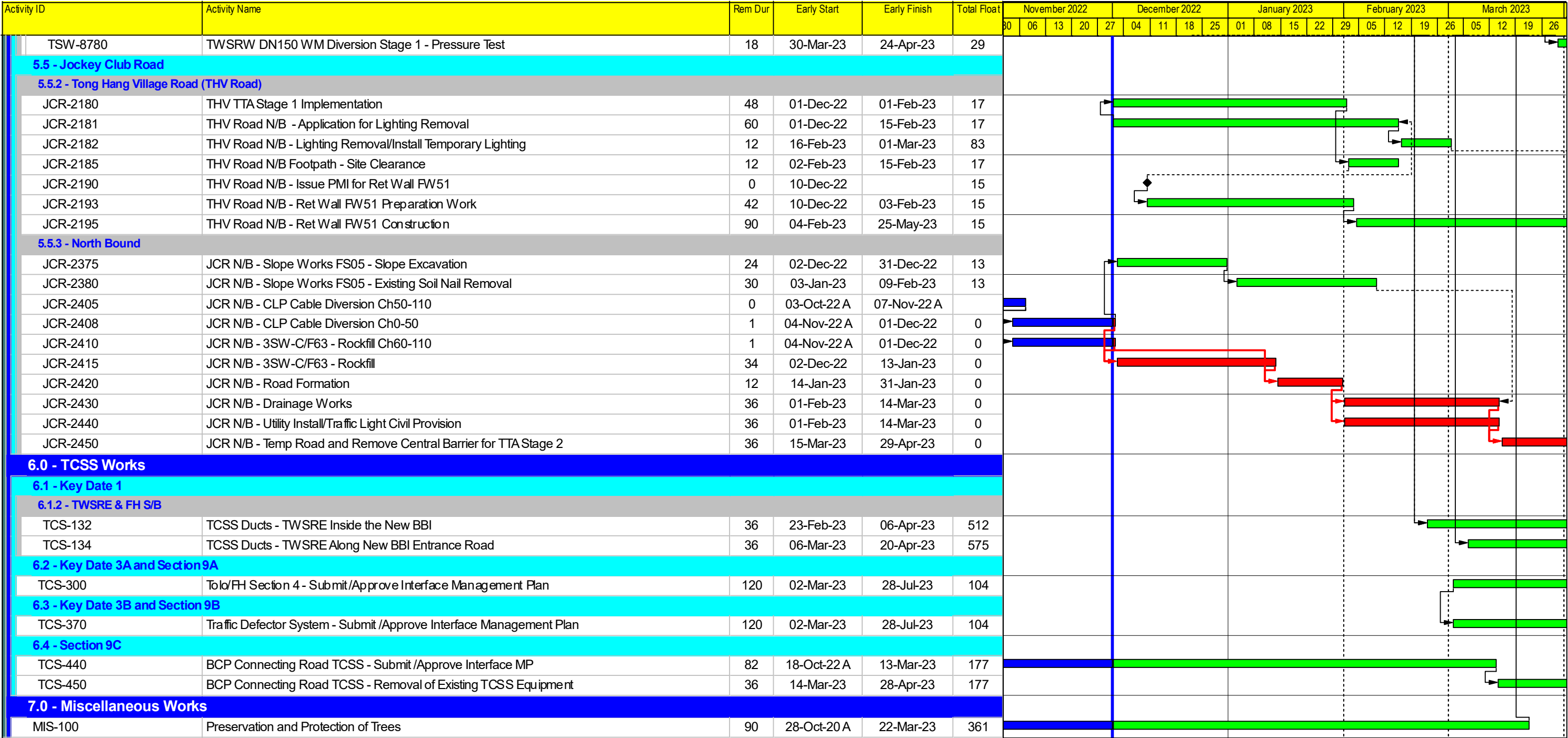




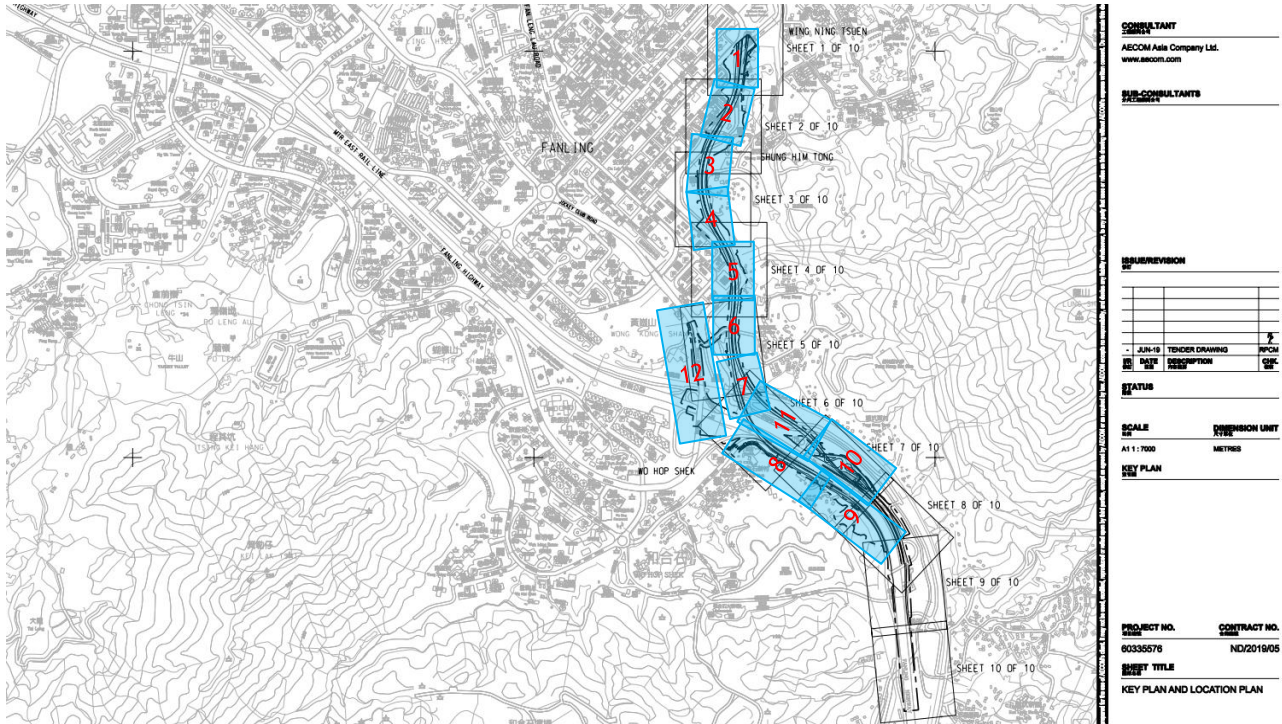












1

## North Team Area Highlighted - B1-02 Portal Beam



Portion 1 (On Kui St)  
B1-02 Portal Beam  
- Pile cap concreted on 05/11/22.  
- ES:01/11/23 EF:20/04/24  
- LS:01/11/23 LF:20/04/24  
- Target 1<sup>st</sup> pour concreting by 10/02/23  
- Ahead against R14A





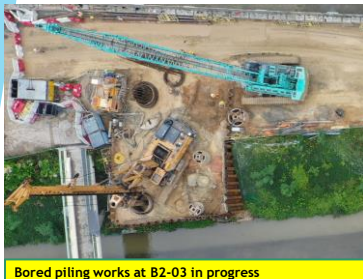
## 1 North Team



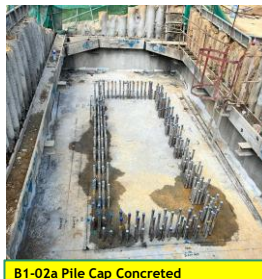
B1-01M 3<sup>rd</sup> layer excavation in progress



B1-02b Pile Cap Concreted



Bored piling works at B2-03 in progress

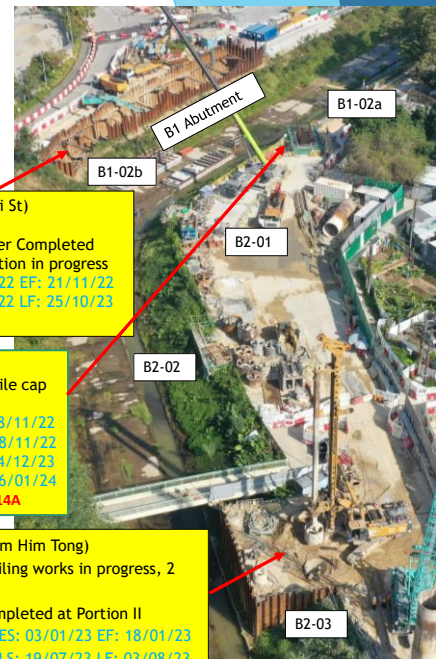


B1-02a Pile Cap Concreted

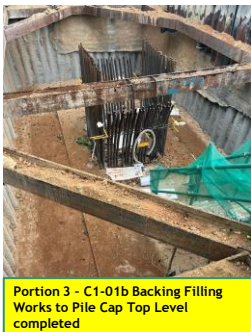
1. Portion 1 (On Kui St)
- B1-01M
  - 2<sup>nd</sup> ELS Strut layer Completed
  - 3<sup>rd</sup> Layer Excavation in progress
  - ELS - ES: 24/09/22 EF: 21/11/22
  - ELS - LS: 04/09/22 LF: 25/10/23
  - **On track R14A**

- Pier B1-02a & b
- Concreting of pile cap completed
  - Pile Cap - ES: 08/11/22 EF: 28/11/22
  - Pile Cap - LS: 14/12/23 LF: 06/01/24
  - **Ahead against R14A**

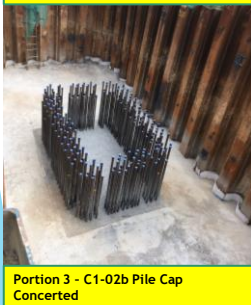
2. Portion 2 (Shum Him Tong)
- B2-03 Bored Piling works in progress, 2 nos. remained
  - 2 nos. I.C. completed at Portion II
  - Bored Piling - ES: 03/01/23 EF: 18/01/23
  - Bored Piling - LS: 19/07/23 LF: 03/08/23
  - **On track R14A**



## 2 North Team



Portion 3 - C1-01b Backing Filling Works to Pile Cap Top Level completed



Portion 3 - C1-02b Pile Cap Concreted

- Portion 3  
C1-01b
- Backing Fill Works to Pile Cap Top Level completed
  - Pile Cap - ES: 29/08/22 EF: 20/10/22
  - Pile Cap - LS: 25/07/23 LF: 03/08/23
  - **On track R14A**

- Portion 3  
C1-02b
- Concreting of pile cap completed
  - Pile Cap - ES: 06/12/22 EF: 28/12/22
  - Pile Cap - LS: 04/09/23 LF: 23/09/23
  - **On track R14A**



- Portion 3  
C1-02a
- Concreting of pile cap completed
  - Pile Cap - ES: 11/10/22 EF: 31/10/22
  - Pile Cap - LS: 11/09/23 LF: 03/10/23
  - **On Track against R14A**



Portion 3 - C1-02a Pile Cap Constructed



## 2 North Team



C1-04b pier head completed on 29/11/22



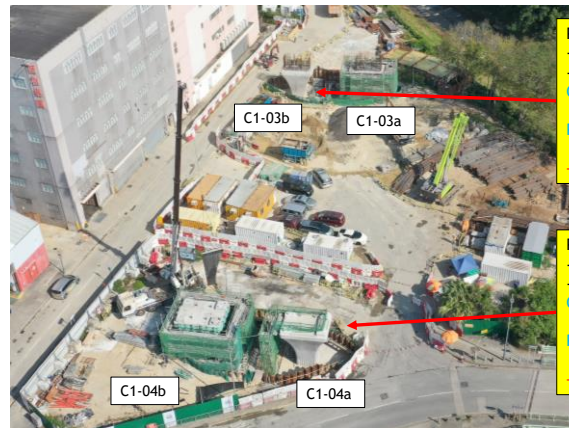
C1-04b bearing plinth completed on 08/12/22



C1-03a pier head completed on 07/12/22



Dismantling of falsework at C1-03b completed



Portion 3 (Tong Shun Hing)

- C1-03b Pier head completed on 07/11/22
- C1-03a pier head completed on 07/12/22

Column

- ES: 04/02/23 EF: 24/02/23
- LS: 23/06/23 LF: 14/07/23

Pier head

- ES: 25/02/23 EF: 30/03/23
- LS: 15/07/23 LF: 18/08/23

- Ahead against R14A

Portion 3 (Tong Shun Hing)

- C1-04a pier head completed on 28/10/22
- C1-04b pier head completed on 29/11/22

Column

- ES: 10/12/22 EF: 03/01/23
- LS: 24/05/23 LF: 14/06/23

Pier head

- ES: 04/01/23 EF: 10/01/23
- LS: 15/06/23 LF: 21/07/23

- Ahead against R14A

## 5 North Team

Area Highlighted

- Portal Beam - C3-04 & C3-03



C3-03 truss erection completed on 23/11/22



C3-03 portal beam soffit formwork completed on 08/12/22

Portion 6 (Village side)

C3-04 MJ Portal in progress

- Portal beam - ES:08/11/22 EF:06/03/23
- LS:05/12/22 LF:01/04/23
- Target 1<sup>st</sup> pour concreting by 30/12/22
- On track against R14A

Portion 6 (Village side)

C3-03 portal beam

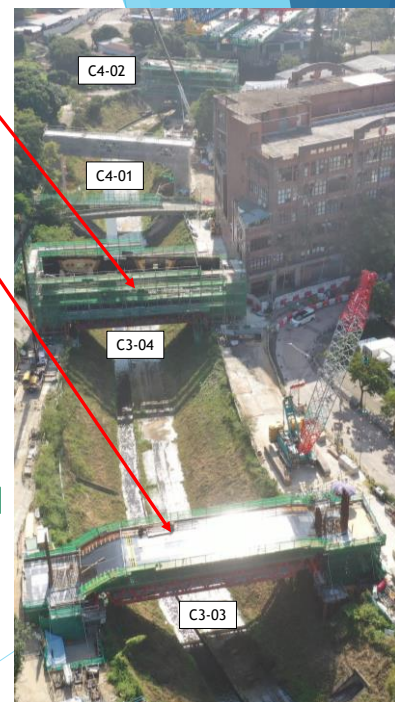
- Portal beam - ES:03/10/22 EF:13/02/23
- LS:12/12/22 LF:27/04/23
- Target 1<sup>st</sup> pour concreting by 28/12/22
- On track against R14A



C3-04 MJ Portal completed on 21/11/2022



C3-04 formwork erection in progress





5

## North Team Area Highlighted - HD - C4-02

### Portion 6

#### C4-02

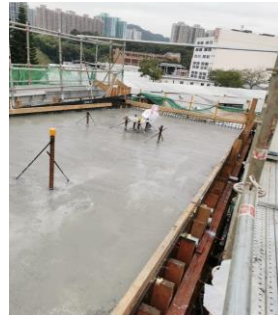
- C4-02 cross head
- ES: 12/08/22 EF: 28/11/22
- LS: 12/08/22 LF: 12/12/22
- 1<sup>st</sup> pour concreting by 11/11/22
- 2<sup>nd</sup> pour concreting by 03/12/22
- Ahead against R14A



C4-02 Dismantling of formwork & falsework in progress



Concreting for C4-02 cross head (2<sup>nd</sup> pour) completed on 03/12/2022



Rebar fixing for C4-02 cross head (1<sup>st</sup> pour) completed on 10/11/2022



Concreting for C4-02 cross head (1<sup>st</sup> pour) completed on 11/11/2022

5

## North Team



C3-01a pier head construction in progress



### Portion 6 (Village side)

#### C3-01a

- Pile Cap completed on 27/10/22.
- C3-01a pier head in progress
- Pier head - ES: 22/11/22 EF: 19/12/22
- LS: 06/01/23 LF: 06/02/23
- Ahead against R14A

### Portion 5 (On Lok Garden)

#### C2-04a

- Pile cap completed on 03/11/22.
- Handover for pier construction on 10/11/22
- Pier head construction in progress
- Pier + Pier head - ES: 15/11/22 EF: 12/01/23
- LS: 14/12/22 LF: 14/02/23
- On Track against R14A



C2-03a pier construction completed on 6/12/2022

### Portion 5 (On Lok Garden)

#### C2-03a

- Pile cap completed on 15/11/22
- Handover for pier construction on 22/11/22.
- Pier completed on 06/12/2022
- Pier - ES: 22/11/22 EF: 19/12/22
- LS: 21/01/23 LF: 21/02/23
- On Track against R14A



C2-04a pier head construction in progress



## 6 North Team

Portion 8 (Man Young yard)

D1-02

- Pier head completed on 16/11/22
- Hand over for backfilling works on 27/11/22
- Backfilling to existing ground level in progress.
- Target to handover to Viaduct Team on 12/12/22
- Backfilling - ES:06/12/22 EF:19/12/22  
- LS:01/06/23 LF:14/06/23
- Ahead against R14A



D1-02 pier head construction completed on 16/11/2022



D1-02 hand over for backfilling works on 25/11/22



D1-02 backfilling and pipe pile extraction in progress.

## 6

CEDD Contract no. ND/2019/05  
Fanling North New Development Areas,  
Phase 1 : Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)

### ▶ Viaduct

#### Launching Girder (Bridge C4)

- Completed assembling whole Launching Girder and respective T&C
- Completed erecting total 20 pairs of precast segments at Pier C4-03L and C4-03R T-Span
- Commenced erecting Pier C4-04R end span segments



## 6 North Team

### Portion 8 (Man Young yard)

#### E1-04

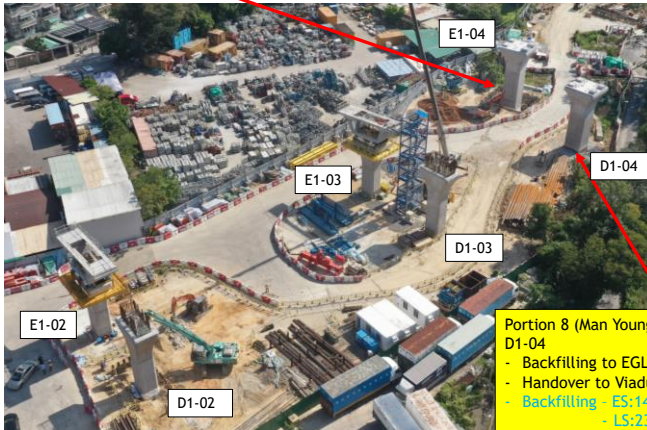
- Pier head completed on 19/11/22
- Hand over for backfilling on 06/12/22
- Backfilling to EGL in progress.
- Backfilling - ES:23/09/22 EF:26/09/22  
- LS:18/07/23 LF:18/07/23
- Slippage against R14A



E1-04 pier head construction completed on 19/11/22



E1-04 bearing plinth completed on 20/11/22



### Portion 8 (Man Young yard)

#### D1-04

- Backfilling to EGL completed on 29/11/22.
- Handover to Viaduct Team on 09/12/22.
- Backfilling - ES:14/10/22 EF:27/10/22  
- LS:23/08/23 LF:21/08/23
- Slippage against R14A



E1-04 backfilling and pipe pile extraction in progress.



D1-04 backfilling and pipe pile extraction. Handover to Viaduct Team on 09/12/22

## 6

CEDD Contract no. ND/2019/05  
Fanling North New Development Areas,  
Phase 1 : Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)

### Viaduct

#### Segment Precast Works

- Total completed 363 nos. of Type A segments
- 2<sup>nd</sup> cast of segments for deviator and gully was in progress
- Total 56 nos. of Type A segments delivered to site for segments erection at C4 and E1.

#### Forecast of Precast Segment Nos.

Up to November 2022	December 2022	January 2023
347	30	30





7

## North Team Area Highlighted - E2-01 & D2-01



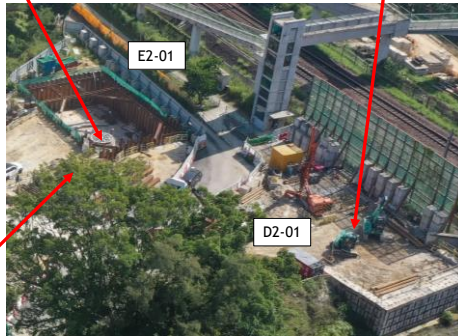
E2-01 lower pile cap cast on 22/11/22.



E2-01 reaction blocks complete concreting on 03/12/22. Installation of stanchion and sand box completed on 10/12/22.



D2-01 pre-grouting works (outside MTRC 6m Zone) completed on 02/12/22. Plant mobilization for pipe piling on 07/12/22.



### Portion 8 (MTR trackside)

#### E2-01

- Lower pile cap cast on 22/11/22.
- Reaction blocks concreted on 03/12/22.
- E2-01 Pile Cap Construction
  - ES: 07/10/22 EF: 05/01/23
  - LS: 07/10/22 LF: 05/01/23
- Slippage against R14A

#### D2-01

- Pre-grouting works (outside MTRC 6m Zone) completed on 02/12/22.
- Plant mobilization for pipe piling on 07/12/22.
- Pipe piling commenced on 12/12/22.
- D2-01 ELS + Grouting + Excavation
  - ES:11/11/22 EF:16/02/23
  - LS:15/11/22 LF:20/02/23
- Slippage against R14A

7

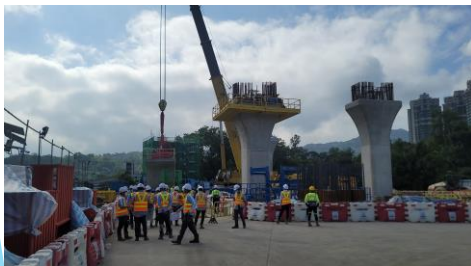


CEDD Contract no. ND/2019/05  
Fanling North New Development Areas,  
Phase 1 : Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)

## Viaduct

### Segments Erection by Crane (Bridge E1)

- Completed erecting E1-E1-02-S00 and E1-E1-03-S00 on 16 Nov 2022.
- Completed installation of access tower at Pier E1-03.
- Assembling scaffold for rebar fixing of 2<sup>nd</sup> cast E1-E1-03-S00 diaphragm in progress.





CEED Contract no. ND/2019/05  
 Fanling North New Development Areas,  
 Phase 1 : Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)

## ▶ Viaduct

### Form Traveller (Bridge E2 and E3)

- 1<sup>st</sup> Form Traveller at E2-02:
  - External mould, and internal mould completed assembling
  - Rebar fixing of web and bottom slab completed
  - Rebar fixing of top slab and cast-in items installation in progress
  - Scheduled to concrete E2-E2-02-E2-01-S01 on 17 Dec 2022 and E2-E2-02-E2-03-S01 on 19 Dec 2022
- 2<sup>nd</sup> Form Traveller at E3-03:
  - Adjusting external mould and installing shutter mould in progress
  - Rebar fixing for whole segment will be carried out after adjustment completed
  - Scheduled to concrete before 2023 CNY
- 3<sup>rd</sup> Form Traveller & 4<sup>th</sup> Traveller:
  - Design and ICE endorsement in progress



7 & 11

▶ South Team  
 Area Highlighted: D2-03

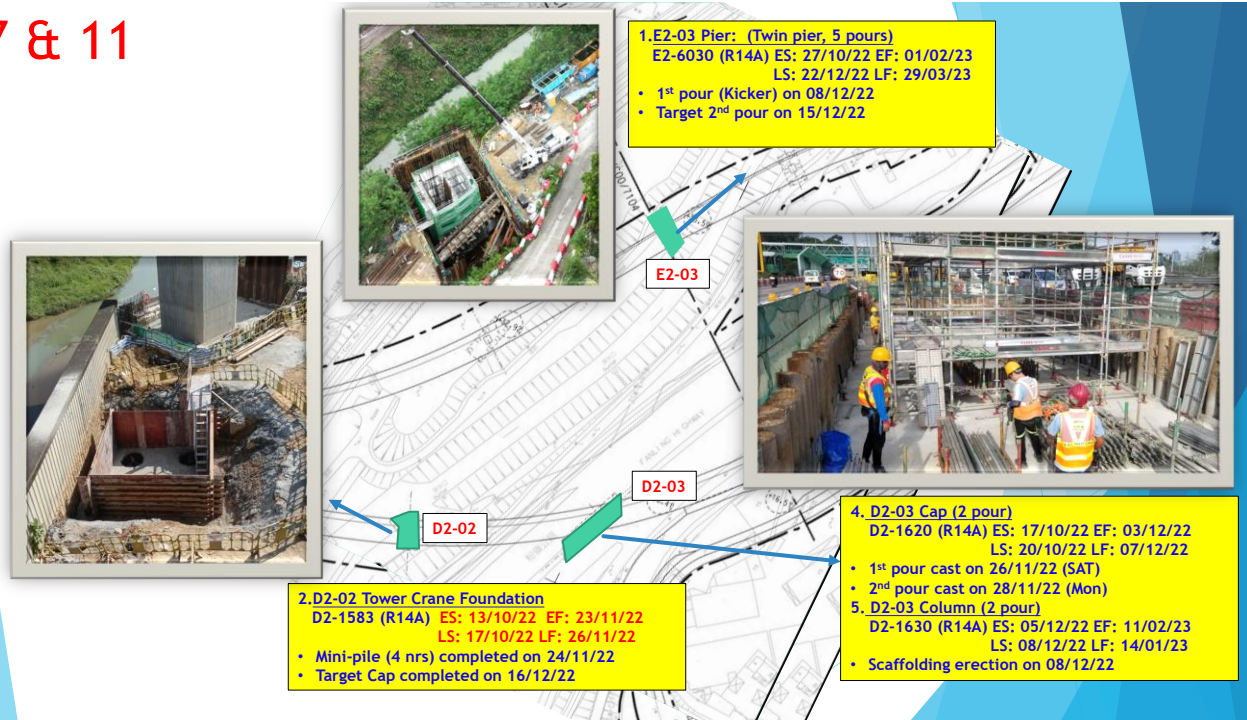


1<sup>st</sup> pour cast on 26 Nov 22 (SAT)

2<sup>nd</sup> pour cast on 28 Nov 22 (Mon)



# 7 & 11



## 7

CEDD Contract no. ND/2019/05  
 Fanling North New Development Areas,  
 Phase 1 : Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)

### ► Viaduct

#### Bridge Rotation

- Bottom turn table for Pier E2-01 completed concrete casting on 22 November 2022
- Installation of sliding track, sand box, stanchion, spherical bearing, monitoring system and anchor block for prestressing are completed





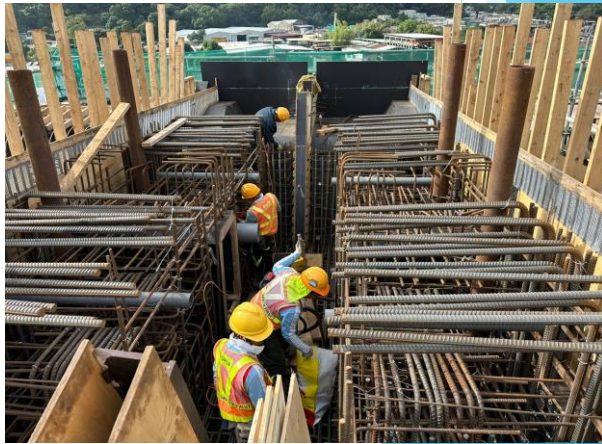
7

CEDD Contract no. ND/2019/05  
 Fanling North New Development Areas,  
 Phase 1 : Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)

## ▶ Viaduct

### Segment On Pier (SOP)

- Formwork erection and rebar fixing for SOP at Pier E3-01 was completed.
- Scheduled to concrete on 16 December 2022.



7

CEDD Contract no. ND/2019/05  
 Fanling North New Development Areas,  
 Phase 1 : Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)

## ▶ Viaduct

### Others

- Installation of base mast for D2-02 tower crane was completed on 12 December 2022.



9

▶ South Team  
Area Highlighted: TWSRW



Trench excavation for CLP duct laying 210/300m completed



Slope work FS06 90% completed



1<sup>st</sup> stage diversion start  
blacktop on 12/12/22

9

1. HKY FB East Steel Deck - Site Assembly  
FBE-1345 (R14A) ES:01/11/22 EF:28/11/22  
LS:03/12/22 LF:03/01/23  
• Paint trail done on 8/12/22

2. HKY FB East Steel Deck - Erection  
FBE-1350 (R14A) ES:29/11/22 EF:12/12/22  
LS:04/01/23 LF:17/01/23  
• Target steel truss delivery in mid of Dec 22  
• Target fabrication of staircase completed by mid of Dec 22

3. TWSRE - BBI Road formation  
BBI-1310 (R14A) ES:18/10/22 EF:05/12/22  
LS:19/11/22 LF:10/01/23

4. TWSRE - BBI Road work  
BBI-1330 (R14A) ES:07/02/23 EF:03/04/23  
LS:11/03/23 LF:11/05/23

5. TWSRE - Dn600 Watermain within BBI area  
PMI 027- 200 (R14A) ES:18/10/22 EF:28/11/22  
LS:19/05/23 LF:03/07/23  
• Target completed by end of Dec 22

6. TWSRE - BBI Cover walkway Footing  
BBI-1215 (R14A) ES:13/12/22 EF:19/01/23  
LS:18/01/23 LF:24/02/23  
• Footing bay 8~12 and bay 19 ~ 20 completed (7/20 completed)  
• Bay 2 ~ 7 in progress  
• Bay 13 ~ 18 after drainage work



9



## ► South Team

### 1. FS06 – Cut Slope

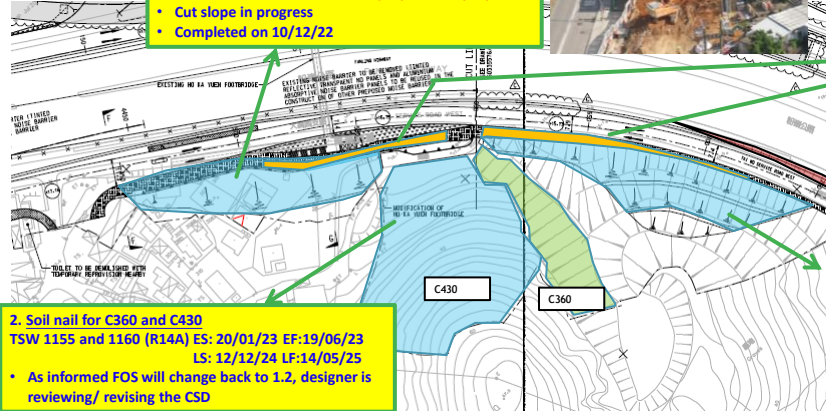
TSW 3021 and 3030 (R14A) ES: 14/10/22 EF:07/11/22  
LS: 29/11/22 LF:28/12/22

- Cut slope in progress
- Completed on 10/12/22



### 3. CLP cable ducts

- TTA for joint bay at south bound of TWSRW target to be implemented in 1<sup>st</sup> quarter 2023
- Trench excavation for CLP 132 kv in progress (section at toe of FS04 and FS06) and to be completed by mid of Jan 23



### 2. Soil nail for C360 and C430

TSW 1155 and 1160 (R14A) ES: 20/01/23 EF:19/06/23  
LS: 12/12/24 LF:14/05/25

- As informed FOS will change back to 1.2, designer is reviewing/ revising the CSD



### 4. FS 04 – Soil Nail

TSW 1138 (R14A) ES: 01/11/22 EF: 28/11/22  
LS: 22/02/23 LF:21/03/23

- Scaffolding for soil nail (Upper berm) in progress

10



## ► South Team

E3-02

### 1. E3-02 (pier head)

E3-1372 (R14A) ES:25/10/22 EF:21/11/22  
LS:16/05/23 LF:13/06/23

- Target concreting on 19/11/22
- Proof core (3<sup>rd</sup> pour) done on 28/11/22
- Removal scaffolding in progress



E3-04b

### 2. Bored Pile E3-05M (4 nrs)

E3-1220 (R14A) ES:25/10/22 EF:05/01/23  
LS:10/12/22 LF:24/02/23

- P2 & P3 cast
- P1 will be commence after E4-01-P2 cast

E3-05



### 3. Bored Pile E4-01 (2 nrs)

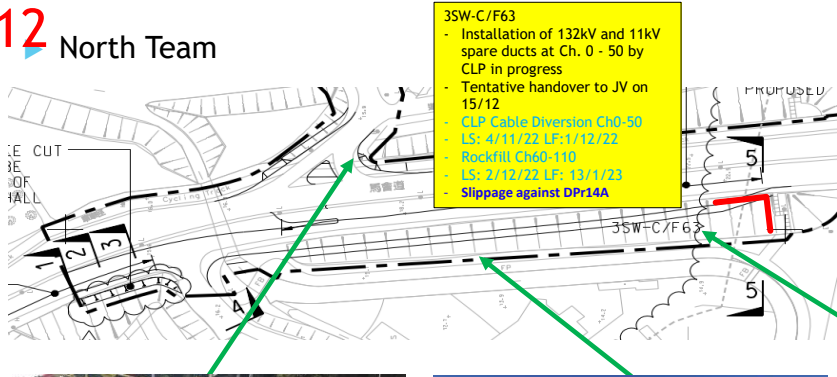
E4-1070 (R14A) ES:06/01/23 EF:13/02/23  
LS:25/02/23 LF:31/03/23

- P2 in progress. Target concreting 16/12/22

E4-01



# 12 North Team



Removal of tree stump commenced on 30/11/2022



Rockfill slope at Ch. 50-110



CLP installation of spare duct at Ch. 0 - 50 commenced on 23/11/2022

## **Construction Programme of ND/2019/07**

Contract No. ND/2019/07 Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2022 Dec	Jan	Feb	Mar	Apr
Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works										
Key Dates and Sectional Completion of the Works										
Contractual Key Dates		0	07-Jan-23	07-Jan-23	0					
KDS1000	KD1 - Completion of all works within Portion V of the Site necessary for the opening of partial Road L1	0		07-Jan-23*	0					
Contractual Sectional Completion of the Works		0	04-Mar-23	04-Mar-23	0					
KDS1040	Section 4- Completion of site formation and infrastructure works in Works Area D	0		04-Mar-23*	0					
Preliminaries, Contractor's Design, Method Statement Submission and Approval										
General Submission		174	08-Oct-22 A	30-May-23	-226					
PGS1260	TTA Scheme for UU along MSK Road	150	01-Jan-23	30-May-23	-226					
PGS1270	TTA Scheme for Luen Chit St. and Ma Sik Rd Junction	85	08-Oct-22 A	31-Dec-22	-226					
Contractor's Design Submission and Approval		90	02-Dec-22 A	22-Mar-23	0					
Permanent Works Design		90	08-Dec-22	22-Mar-23	0					
PWD1030	Design for irrigation system	75	08-Dec-22	04-Mar-23	-1					
PWD1035	Time risk allowance for Design for irrigation system	7	06-Mar-23	13-Mar-23	-1					
PWD1040	Design for noise barrier panel	90	08-Dec-22	22-Mar-23	0					
Major Temporary Works Design		8	02-Dec-22 A	08-Dec-22	-95					
TWD1055	Time risk allowance for ELS design for construction of foundation of noise barrier	7	02-Dec-22 A	08-Dec-22	-95					
TWD1065	Time risk allowance for Formwork design for construction of noise barrier	7	02-Dec-22 A	08-Dec-22	-95					
Major Construction Works Method Statement		258	29-Dec-21 A	31-Dec-22	-115					
MS1580	Method statement submission and approval for construction of noise barrier	60	29-Dec-21 A	08-Dec-22	-95					
MS1590	Method statement for construction of NS560 sewerage by trenchless method	24	19-Aug-22 A	31-Dec-22	-176					
Tendering and Procurement for Major Subcontractor		396	10-Aug-22 A	07-Nov-23	-145					
TDS1170	Place Order and Delivery of NB steel posts	299	10-Aug-22 A	04-Jun-23	-66					
TDS1180	Place Order and Delivery of NB steel panel	335	08-Dec-22*	07-Nov-23	-145					
Tree Works and Submission of the tree survey report and tree preservation and removal										
Tree Works on Ma Sik Road		102	02-Mar-22 A	31-Dec-22	-76					
TWS1200	TPRP and Tree felling works (Ma Sik Road) (before Noise Barrier Construction)	80	02-Mar-22 A	08-Dec-22	-124					
TWS1210	TPRP and Tree transplanting works at the side of road (9nos) (before noise barrier construction)	80	28-Mar-22 A	31-Dec-22	-76					
Section 1- Site Formation and Infrastructure Works in Area A										
Site Formation (Portion II- Area A 21900m2)		364	03-Jan-22 A	27-Mar-23	-200					
Site Formation Works in South Part of Portion II		364	03-Jan-22 A	27-Mar-23	-200					
S1-SF1415	Site formation works part 2 (12577m3) and Removal of temporary works, haul road and temporary accesses	75	03-Jan-22 A	19-Dec-22	-200					
S1-SF1417	Site formation works part 3 (12577m3) and Removal of temporary works, haul road and temporary accesses	78	20-Dec-22	27-Mar-23	-200					
Site Formation (Portion III- Area A 4900m2)		15	02-Mar-23	18-Mar-23	199					
S1-SF1546	Removal of existing feature 3SW-A/F85	15	02-Mar-23	18-Mar-23	199					
Site Formation (Portion IV- Area A 3800m2)		31	23-Dec-21 A	19-Dec-22	-66					
S1-SF1780	Site clearance	20	30-Dec-21 A	19-Dec-22	-191					
S1-SF1800	Construction of haul road	21	23-Dec-21 A	19-Dec-22	-66					
Box Culvert BC3 and Outfall 10		285	21-May-22 A	24-Mar-23	-144					
Box Culvert BC3 (CH168 to CH216)		81	14-Dec-22	24-Mar-23	-144					
S1-BC0875	Erection of traveller formwork at Bay 18	30	14-Dec-22	20-Jan-23	-233					
S1-BC0880	Construction of the box culvert side wall and top slab Bay 18	20	25-Jan-23	16-Feb-23	-233					
S1-BC0890	Backfilling from Bay 17 to Bay 18 (2310m3)	31	17-Feb-23	24-Mar-23	-144					
Box Culvert BC3 (CH0 to CH168)		30	21-May-22 A	09-Dec-22	-240					
S1-BC1050	Construction of the box culvert side wall and top slab Bay 2 and inspection chamber	30	21-May-22 A	09-Dec-22	-240					
Box Culvert BC3 (CH216 to CH264)		94	12-Oct-22 A	23-Mar-23	-143					
S1-BC1075	Excavation and construction of the box culvert base slab Bay 19	10	14-Oct-22 A	13-Dec-22	-233					
S1-BC1080	Construction of the box culvert side wall and top slab Bay 19	30	17-Feb-23	23-Mar-23	-233					
S1-BC1085	Excavation and construction of the box culvert base slab Bay 20	10	12-Oct-22 A	16-Dec-22	-156					
S1-BC1105	Excavation and construction of the box culvert base slab Bay 22	10	17-Dec-22	30-Dec-22	-76					
Drainage, Sewerage, Waterworks and Road Works		189	30-Jun-22 A	25-Mar-23	238					
Along Ma Sik Road		18	09-Dec-22	31-Dec-22	306					
S1-CS2130	CE156 - Modification Works of Existing Lay-by at Ma Sik Road, provision for GMB Stand and road markings	18	09-Dec-22	31-Dec-22	306					
Along Proposed Cycletrack and Footpath		189	30-Jun-22 A	25-Mar-23	-58					
Works in Portion I		189	30-Jun-22 A	25-Mar-23	-58					
Works in Portion I CT73 (Ch400 to Ch649)		189	30-Jun-22 A	25-Mar-23	-58					
S1-CS1472	Irrigation system (CT73 Ch400 to Ch649 total 249m)	85	10-Dec-22	25-Mar-23	-235					
S1-CS1473	Fresh water main works (CT73 Ch400 to Ch649 total 249m)	85	10-Dec-22	25-Mar-23	-235					
S1-CS1474	Flushing water main works (CT73 Ch400 to Ch649 total 249m)	85	10-Dec-22	25-Mar-23	-235					
S1-CS1475	U-Channel along the Cycletrack(CT73 Ch400 to Ch649 total 249m)	85	10-Dec-22	25-Mar-23	-58					
S5-RD1580	Material Procurement for Fresh watermain PVC pipe, fabrication and delivery	130	30-Jun-22 A	09-Dec-22	-235					
Works in Portion III CT76 (Ch100 to Ch298.277)		62	03-Jan-23	18-Mar-23	-170					
S1-CS1790	CE149 - Sewerage DN600 - Construction of working pit at FMH_FL1.19 (Receiving Pit)	30	03-Jan-23	09-Feb-23	-170					
S1-CS1800	CE149 - Sewerage DN600 - Construction of working pit at FMH_FL1.19A (Jacking Pit)	32	10-Feb-23	18-Mar-23	-170					
Section 4- Site Formation and Infrastructure Works in Area D										
S4-SF1050	Site clearance	40	11-Feb-22 A	16-Mar-23	-191					
S4-SF1120	Site formation works (10276m3)	80	04-Feb-22 A	12-Jun-23	-200					
Section 5- Site Formation and Infrastructure Works in Area E and Remainder of the Works										
Road L1		146	09-Mar-22 A	31-May-23	-130					
Road L1 in Portion V (P600 CH100 to CH194)		83	11-Oct-22 A	25-Mar-23	-176					
S5-RD1345	Construction of drainage works (8nos Manholes 235m)	80	16-Dec-22	25-Mar-23	-321					
S5-RD1350	Construction of sewerage works (4nos Manholes)	46	11-Oct-22 A	26-Jan-23	-321					
S5-RD1570	CE149 - Sewerage DN600 - Construction of working pit at FMH_FL1.16 (Jacking Pit, 6mx3mx8m)	25	03-Dec-22 A	31-Dec-22	-170					
S5-RD1585	CE149 - Sewerage DN600 - Setup for trenchless construction at FMH_FL1.16 (from FL1.16 to FL1.19)	30	03-Jan-23	09-Feb-23	-170					
S5-RD1590	CE149 - Sewerage DN600 - Construction of Sewerage (from FL1.16 to FL1.19)	32	10-Feb-23	18-Mar-23	-170					
Road L1 in Portion IV (P600 CH194 to CH393, P700 CH100 to CH175)		146	09-Mar-22 A	31-May-23	-130					

RB

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CHINA ROAD AND BRIDGE CORPORATION






Three Month Rolling Programme (Data Date : 08-Dec-22)

Page : 1 of 2



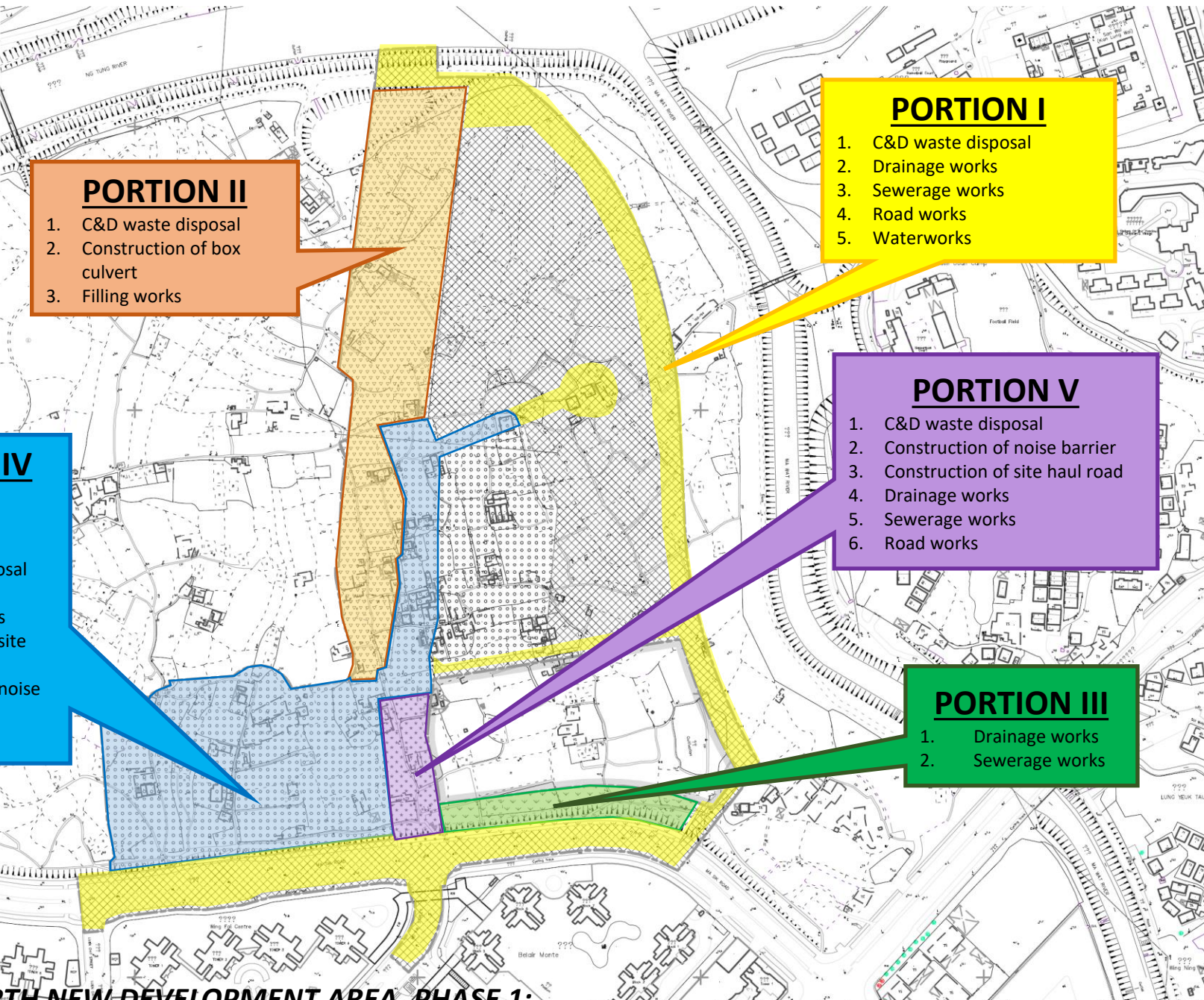
Contract No. ND/2019/07 Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2022 Dec	2023 Jan	2023 Feb	2023 Mar	2023 Apr
S5-RD1180	Construction of drainage (17nos Manholes 630m)	85	09-Mar-22 A	31-May-23	-130					
S5-RD1182	Construction of sewerage (16nos Manholes)	85	04-Apr-22 A	15-May-23	-130					
Road L2		241	17-Nov-22 A	18-Aug-23	-129					
S5-RD1495	Site formation works	50	17-Nov-22 A	17-Jan-23	-37		Site formation works			
S5-RD1502	Construction of sewerage works (3nos manholes)	50	17-Nov-22 A	18-Aug-23	-129					
Noise Barrier NB62		70	14-Nov-22 A	06-Mar-23	-92					
S5-NB1060	Excavation and construction of base slabs and wall stems (Bay 1 - Bay 6)	70	14-Nov-22 A	06-Mar-23	-92				Excavation and construction of base slabs and wall stems (Bay 1 - Bay 6)	
Noise Barrier NB63		189	01-Nov-22 A	30-May-23	0					
Noise Barrier NB63 (Bay 18 to Bay 21)		164	11-Nov-22 A	28-Apr-23	25					
S1-NB1265-2	Installation of Mini Piles (Bay 18 - Bay 21 18 nos) - grouting vertical piles + raking piles	36	11-Nov-22 A	09-Jan-23	-186		Installation of Mini Piles (Bay 18 - Bay 21 18 nos) - grouting vertical piles + raking piles			
S1-NB1275	Excavation and construction of base slab (Bay 18 - Bay 21)	42	07-Mar-23	28-Apr-23	25					
Noise Barrier NB63 (Bay 13 to Bay 17)		98	10-Jan-23	12-May-23	-122					
S1-NB1180-2	Installation of Mini Piles (Bay 13 - Bay 17 12nos) - grouting + remaining piles	48	10-Jan-23	09-Mar-23	-186			Installation of Mini Piles (Bay 13 - Bay 17 12nos) - grouting + remaining pi		
S1-NB1200	Installation of sheet piles (Bay 13 - Bay 17)	50	10-Mar-23	12-May-23	-122					
Noise Barrier NB63 (Bay 7 to Bay 12)		189	01-Nov-22 A	30-May-23	-186					
S1-NB1170	Pre-drilling works (Bay 7 - Bay 12) (8nos) (after diversion of existing footpath and tree felling & transplanting)	40	01-Nov-22 A	19-Dec-22	-123	Pre-drilling works (Bay 7 - Bay 12) (8nos) (after diversion of existing footpath and tree felling & transplanting)				
S1-NB1190	Installation of Mini Piles (Bay 7 - Bay 12 16nos) (CSD) (Original: 30nos H-pile, 45days)	64	10-Mar-23	30-May-23	-186					
Noise Barrier NB63 (Bay 1 to Bay 6)		84	03-Jan-23	18-Apr-23	-152					
S1-NB1014	TTAApproved	0	03-Jan-23*		-152		TTAApproved			
S1-NB1015	Implement TTA @ Luen Chit St. and Ma Sik Rd Junction	10	03-Jan-23	13-Jan-23	-152		Implement TTA @ Luen Chit St. and Ma Sik Rd Junction			
S1-NB1020	UU detection and trial pit	14	14-Jan-23	02-Feb-23	-152			UU detection and trial pit		
S1-NB1040	Pre-drilling works (12nos) (after TTA, diversion of existing footpath and tree felling & transplanting)	60	03-Feb-23	18-Apr-23	-152					
Section 6- Completion of Preservation And Protection Of Existing Trees		1146	31-Aug-20 A	26-Oct-24	-233					
S6-CS1000	Preservation and protection of trees	1146	31-Aug-20 A	26-Oct-24	-233					

Portion	Legend
I	
II	
III	
IV	
V	

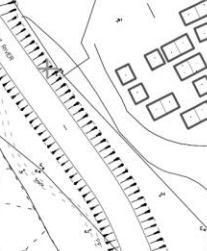
**PORTION II**

- C&D waste disposal
- Construction of box culvert
- Filling works



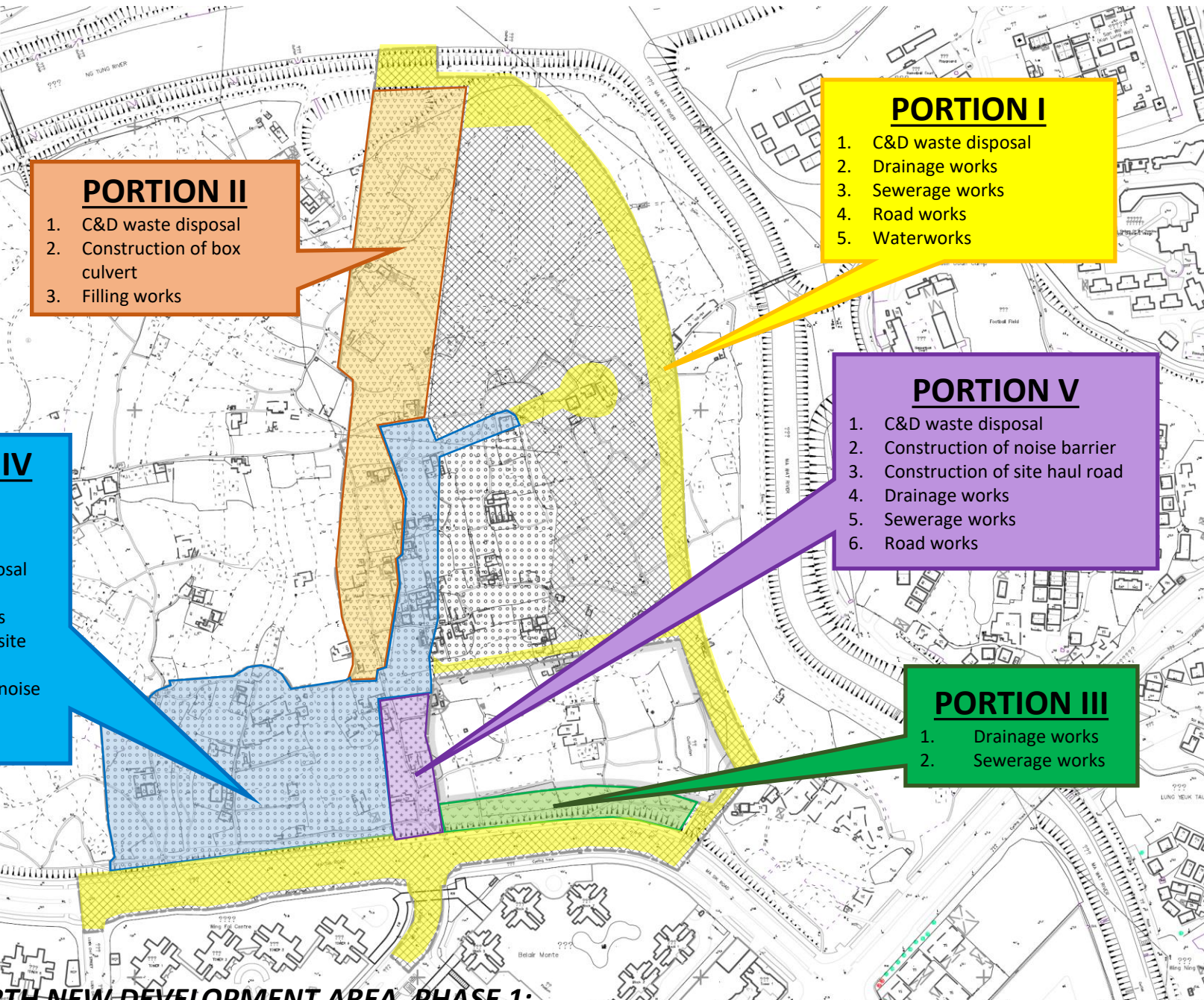
**PORTION I**

- C&D waste disposal
- Drainage works
- Sewerage works
- Road works
- Waterworks



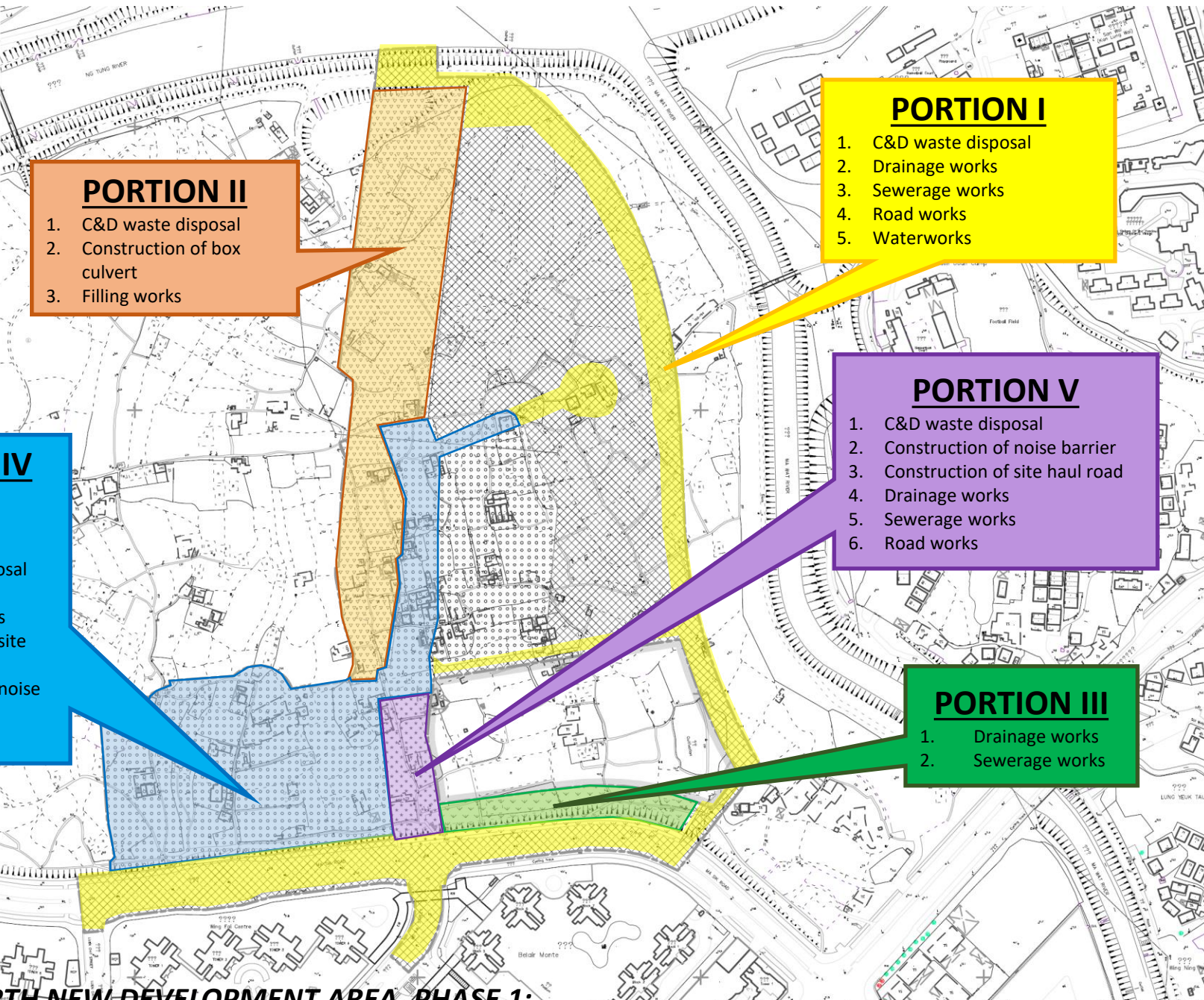
**PORTION IV**

- Site Clearance
- Drainage works
- Sewerage works
- C&D waste disposal
- Filling works
- Mini piling works
- Construction of site haul road
- Construction of noise barrier
- Road works



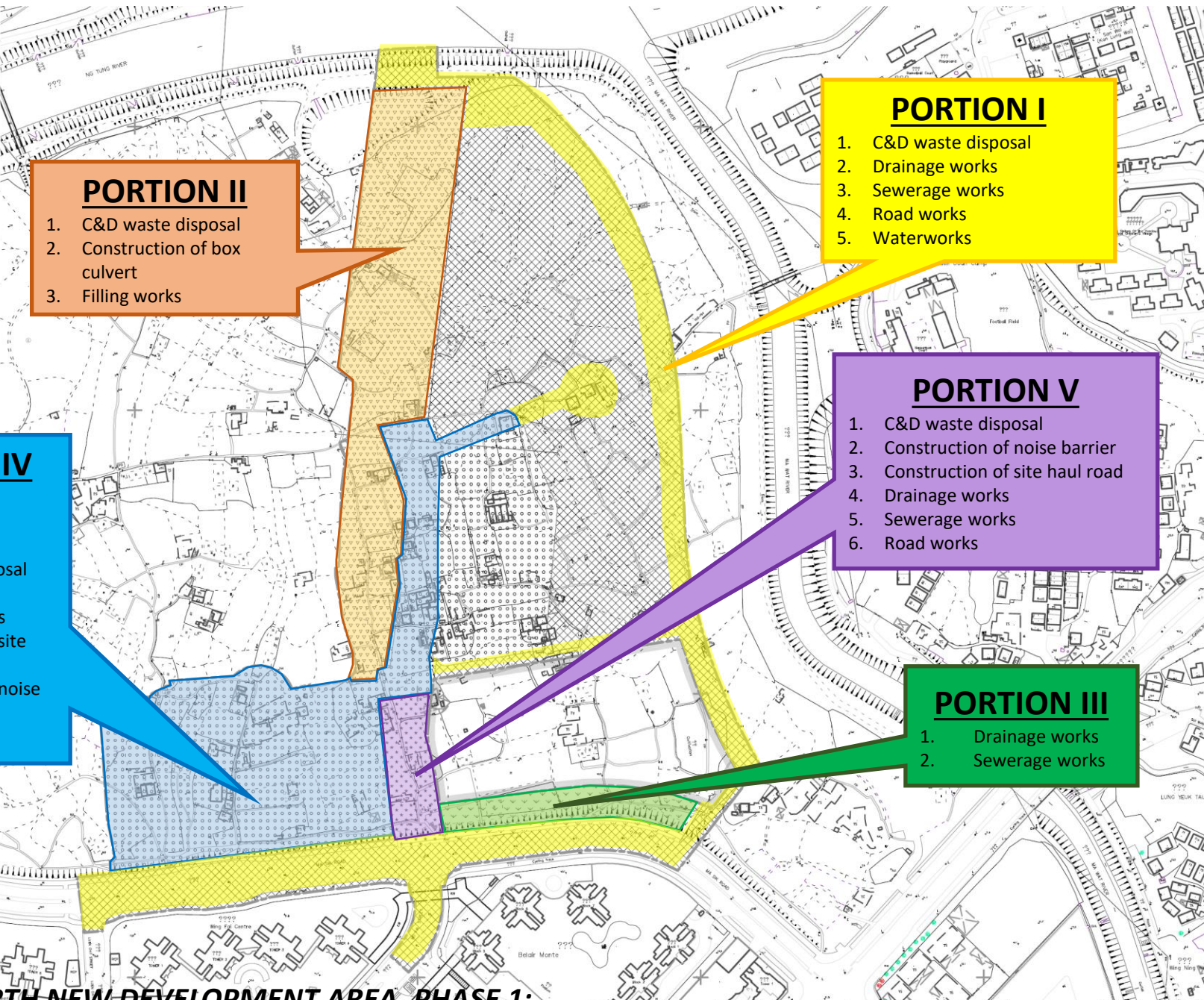
**PORTION V**

- C&D waste disposal
- Construction of noise barrier
- Construction of site haul road
- Drainage works
- Sewerage works
- Road works



**PORTION III**

- Drainage works
- Sewerage works



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**APPENDIX B**  
**ACTION AND LIMIT LEVELS**

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**Appendix B - Action and Limit Levels****Table B-1 Action and Limit Levels for 1-hour TSP**

Monitoring station	Action Level (ug/m <sup>3</sup> )	Limit Level (ug/m <sup>3</sup> )
FLN-DMS1	303	500
FLN-DMS3	301	
FLN-DMS5	279	
KTN-DMS4(B)	297	

**Table B-2 Action and Limit Levels for 24-hour TSP**

Monitoring station	Action Level (ug/m <sup>3</sup> )	Limit Level (ug/m <sup>3</sup> )
FLN-DMS1	150	260
FLN-DMS3	165	
FLN-DMS5A	153	
KTN-DMS4(B)	192	

**Table B-3 Action and Limit Levels for Construction Noise**

Time Period	Action Level	Limit Level
0700-1900 hrs on normal weekdays	When one documented complaint is received	75 dB(A) *

Noted:

If works are to be carried during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

(\*) reduce to 70 dB(A) for schools and 65 dB(A) during school examination periods.

**Table B-4.1 Action and Limit Levels for Water Quality Monitoring<sup>(1)</sup>**

Parameters	Action Level	Limit Level
DO in mg/L (depth average) <sup>#+</sup>	5 percentile of baseline data.	4 mg/L or 1 percentile of baseline data.
SS in mg/L (depth averaged) <sup>*&amp;</sup>	95 percentile of baseline data or 120% of upstream control station.	20 mg/L or 99 percentile of baseline data or 130% of upstream control station.
Turbidity in NTU (depth averaged) <sup>*^</sup>	95 percentile of baseline data or 120% of upstream control station.	99 percentile of baseline data or 130% of upstream control station.
Unionized ammonia in mg/L (depth averaged) <sup>*~</sup>	95 percentile of baseline data or 120% of upstream control	0.021mg/L or 99 percentile of baseline data or 130% of

	station.	upstream control station.
Nitrate nitrogen in mg/L (depth averaged)*^	95 percentile of baseline data or 120% of upstream control station.	99 percentile of baseline data or 130% of upstream control station.
Orthophosphate in mg/L (depth averaged)*^	95 percentile of baseline data or 120% of upstream control station.	99 percentile of baseline data or 130% of upstream control station.

## Remarks:

# AL of DO is 5 percentile of baseline data or level at control station at same tide of the same day (whichever lower) and LL of DO is 4.0 mg/L or level at control station at same tide of the same day (whichever lower);

+ 1 percentile of baseline data were adopted for LL for DO as those levels were greater than 4 mg/L;

\* AL is 120% of control station's level at the same tide of the same day when depth average greater than 95 percentile of baseline data;

^ LL is 130% of control station's level at the same tide of the same day when depth average greater than 99 percentile of baseline data.

~ LL is 130% of control station's level at the same tide of the same day when depth average greater than 99 percentile of baseline data or 0.021mg/L.

& LL is 130% of control station's level at the same tide of the same day when depth average greater than 99 percentile of baseline data or 20mg/L.

**Table B-4.2 Summary of Baseline Water Quality Monitoring Results (KTN NDA)<sup>(1)</sup>**

Monitoring Parameter					
Location  Parameter	KTN-CS1				
	Max	Min	Average	5 Percentile	1 Percentile
DO in mg/L	7.79	6.28	6.82	6.32	6.28
	Max	Min	Average	95 Percentile	99 Percentile
Turbidity in NTU	72.4	4.59	10.88	62.2	72.2
Suspended Solid in mg/L	74	2	9	60	73
Unionized ammonia in mg/L	0.0005	0.0001	0.0003	0.0004	0.0005
Nitrate nitrogen in mg/L	0.52	0.09	0.27	0.50	0.52
Orthophosphate in mg/L	0.19	0.01	0.10	0.17	0.19

Monitoring Parameter					
Location  Parameter	KTN-IS1				
	Max	Min	Average	5 Percentile	1 Percentile
DO in mg/L	8.08	4.71	6.83	6.14	5.02

	Max	Min	Average	95 Percentile	99 Percentile
Turbidity in NTU	44.56	4.57	8.63	38.98	44.56
Suspended Solid in mg/L	35	2	6	31	35
Unionized ammonia in mg/L	0.0006	0.0001	0.0004	0.0005	0.0006
Nitrate nitrogen in mg/L	0.57	0.09	0.29	0.54	0.57
Orthophosphate in mg/L	0.14	0.03	0.09	0.13	0.14

Note:

(1) The Action and Limit Levels for Water Quality Monitoring and the Summary of Baseline Water Quality Monitoring Results are according to pre-construction ET's Updated EM&A Manual and Baseline Water Quality Monitoring Report (KTN & FLN NDA).

**Table B-4.3 Action and Limit Levels for Additional Water Quality Monitoring**

Parameters	Action Level	Limit Level
<b>River Beas (SYR-IS1)</b>		
DO in mg/L (depth average) <sup>[1]</sup>	SYR-IS1: <u>6.1</u> <sup>[2]</sup>	SYR-IS1: <u>6.0</u> <sup>[2]</sup>
SS in mg/L (depth average) <sup>[1]</sup>	SYR-IS1: <u>75.6</u> or 120% of upstream control station, whichever is higher <sup>[3]</sup>	SYR-IS1: <u>83.1</u> or 130% of upstream control station, whichever is higher <sup>[3]</sup>
Turbidity in NTU (depth average) <sup>[1]</sup>	SYR-IS1: <u>48.2</u> or 120% of upstream control station, whichever is higher <sup>[3]</sup>	SYR-IS1: <u>50.9</u> or 130% of upstream control station, whichever is higher <sup>[3]</sup>
Arsenic in µg/L (depth average) <sup>[2]</sup>	SYR-IS1: <u>5.4</u> or 120% of upstream control station, whichever is higher <sup>[3]</sup>	SYR-IS1: 50 µg/L <sup>[4]</sup>
<b>River Indus and near Siu Hang San Tsuen Stream (NTR-IS1, SHST-IS2, MWR-IS3)</b>		
DO in mg/L (depth average) <sup>[1]</sup>	NTR-IS1: <u>5.8</u> <sup>[2]</sup> SHST-IS2: <u>7.0</u> <sup>[2]</sup> MWR-IS3: <u>8.6</u> <sup>[2]</sup>	NTR-IS1: <u>5.7</u> <sup>[2]</sup> SHST-IS2: <u>6.8</u> <sup>[2]</sup> MWR-IS3: <u>8.5</u> <sup>[2]</sup>
SS in mg/L (depth average) <sup>[1]</sup>	NTR-IS1: <u>8.9</u> SHST-IS2: <u>4.0</u> MWR-IS3: <u>14.0</u> or 120% of upstream control station, whichever is higher <sup>[3]</sup>	NTR-IS1: <u>9.0</u> SHST-IS2: <u>4.0</u> MWR-IS3: <u>14.4</u> or 130% of upstream control station, whichever is higher <sup>[3]</sup>
Turbidity in NTU (depth average) <sup>[1]</sup>	NTR-IS1: <u>6.0</u> SHST-IS2: <u>4.4</u> MWR-IS3: <u>10.1</u> or 120% of upstream control station, whichever is higher <sup>[3]</sup>	NTR-IS1: <u>6.1</u> SHST-IS2: <u>4.7</u> MWR-IS3: <u>11.1</u> or 130% of upstream control station, whichever is higher <sup>[3]</sup>

Remarks:

[1] "Depth-averaged" is calculated by taking the arithmetic mean of reading of all three depths.

[2] For DO, non-compliance occurs when monitoring results is lower than the limits.

[3] For turbidity, SS and arsenic, non-compliance occurs when monitoring results is larger than the limits.

[4] There is no local criterion for heavy metal. Limit Level of heavy metal is adopted from Category III Surface Water Quality Standards (GB3838-2002) (地表水環境質量標準), which applicable for Shenzhen River on mainland side.



**Table B-5 Action and Limit Levels for Ambient Arsenic Monitoring**

Parameter	Action Level	Limit Level
Ambient Arsenic Concentration	<b>9.36ng/m<sup>3</sup></b> - 80% of 11.7ng/m <sup>3</sup> – the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented)	<b>11.7ng/m<sup>3</sup></b> - the highest ambient arsenic concentration predicted during the construction phase with mitigation measures implemented

**Table B-6 Action level in the event of LFG being detected**

Parameter	Monitoring Results	Actions
O <sub>2</sub>	<19% v/v	Increase underground ventilation to restore O <sub>2</sub> to >19% v/v
	<18% v/v	Stop works, evacuate all personnel, prohibit entry, and increase ventilation to restore O <sub>2</sub> level to >19%
CH <sub>4</sub>	>10% LEL	Prohibit hot works, increase ventilation to restore CH <sub>4</sub> to <10% LEL
	>20% LEL	Stop works, evacuate all personnel, increase ventilation further to restore CH <sub>4</sub> to <10% LEL
CO <sub>2</sub>	>0.5% v/v	Increase ventilation to restore C O <sub>2</sub> to <0.5% v/v
	>1.5% v/v	Stop works, evacuate all personnel, increase ventilation further to restore CO <sub>2</sub> to <0.5%

**Table B-7 Vibration Limit for Construction Vibration Monitoring**

Type of Building	Guide Values of Maximum PPV* (mm/Sec)	
	Transient Vibration	Continuous Vibration
Vibration-sensitive / dilapidated buildings#	7.5	3.0
Declared monuments/ Historical structures	3.0	

**Table B-8.1 Action and Limit Levels and Responses to Evidence of Disturbance to Waterbirds using in Ng Tung, Sheung Yue and Shek Sheung Rivers**

Action Level	Response	Limit Level	Response
<b>Construction Phase</b>			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs project instigate remedial action to remove or reduce source of	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to NDAs project instigate remedial action. Review and adjust LVNP management

	disturbance.		measures to improve conditions for affected species.
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs project instigate remedial action to remove or reduce source of disturbance.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if caused identified as related to NDAs project instigate remedial action. Review and adjust LVNP management measures to improve conditions for affected species.
<b>Operational Phase</b>			
Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs review and adjust LVNP management measures to improve conditions for affected species in LVNP.	Decline in numbers of all waterbird species relative to numbers during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if cause identified as related to NDAs consider and implement additional mitigation measures (e.g. additional screening and screen planting, adjustments to infrastructure design).
Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Action Level response is triggered.	Investigate cause and if cause identified as related to NDAs review and adjust LVNP management measures to improve conditions for affected species.	Decline in numbers of any one waterbird species occurring in significant numbers* during Baseline Monitoring such that the Limit Level response is triggered.	Investigate cause and if cause identified as related to NDAs consider and implement additional mitigation measures (e.g. additional screen planting, adjustments to infrastructure design).

\* Whether numbers are significant will depend on species and season and should be determined following collection and evaluation of Baseline survey data.

**Table B-8.2 Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna**

Action Level	Response	Limit Level	Response
<b>Construction Phase</b>			
Reduction in species diversity such that Action Level response is triggered.	Investigate cause and if cause identified as related to Project instigate remedial action to remove or reduce source of disturbance.	Reduction in taxa diversity such that Limit Level response is triggered.	Investigate cause and if caused identified as related to Project instigate remedial action.

\* Whether numbers are significant will depend on species and season. Significance threshold for each species should be reviewed following collection of Baseline survey data.

**Table B-8.3 Action and Limit Levels and Responses to Evidence of Declines in non-aquatic Fauna**

Action Level	Response	Limit Level	Response
<b>Construction Phase</b>			
Reduction in species diversity such that Action Level response is triggered.	Investigate cause and if cause identified as related to Project instigate remedial action to remove or reduce source of disturbance.	Reduction in taxa diversity such that Limit Level response is triggered.	Investigate cause and if caused identified as related to Project instigate remedial action.

\* Whether numbers are significant will depend on species and season. Significance threshold for each species should be reviewed following collection of Baseline survey data.



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**APPENDIX C  
COPIES OF CALIBRATION  
CERTIFCATES**

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## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	37386A
Date of Issue:	2022-11-14
Date Received:	2022-11-11
Date Tested:	2022-11-11
Date Completed:	2022-11-14
Next Due Date:	2023-01-13

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X23808
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-02

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.130
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\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TSP - Total Suspended Particulates (1 hr Dust Meter)

### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-02	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23808	2203
Calibration Date:	11-Nov-22	11-Nov-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	33	39
2	53	60
3	69	77
4	77	88
5	92	101
Average	64.6	73.0

By Linear Regression of Y on X

Slope, mw = 1.0713

Intercept, bw = 3.7926

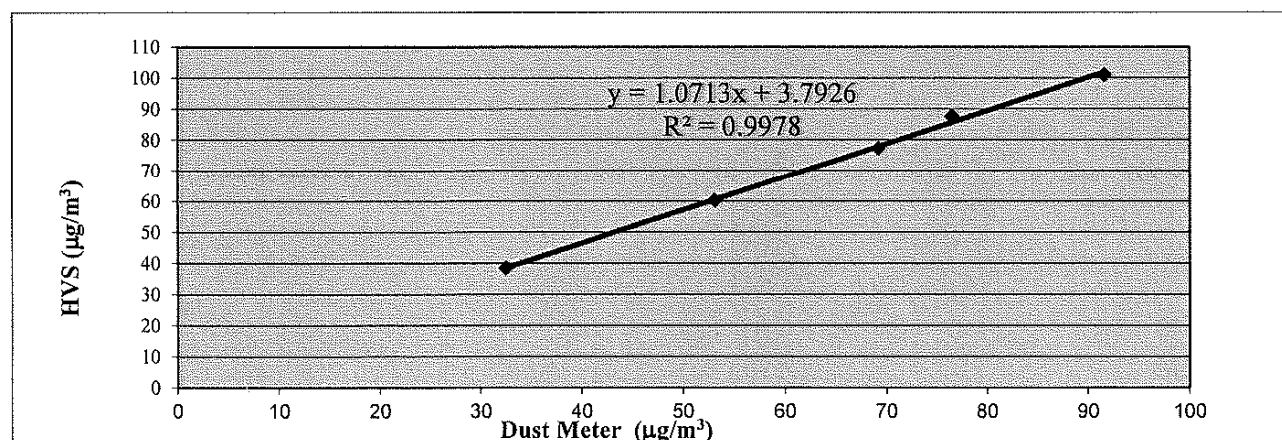
Correlation coefficient\* = 0.9989

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	73.0
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	64.6
Measuring time, (min)	60

Set Correlation Factor, SCF

SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ] 1.130



QC Reviewer: LEC MAN LBB Signature: hvi Date: 14/11/22



## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	37345
Date of Issue:	2022-10-31
Date Received:	2022-10-28
Date Tested:	2022-10-28
Date Completed:	2022-10-31
Next Due Date:	2022-12-30

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X24476
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-05

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.128
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\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

*General Manager*

## TSP - Total Suspended Particulates (1 hr Dust Meter)

### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-05	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24476	2203
Calibration Date:	28-Oct-22	28-Oct-22
Location:	Wellab Office (Calibration Room)	

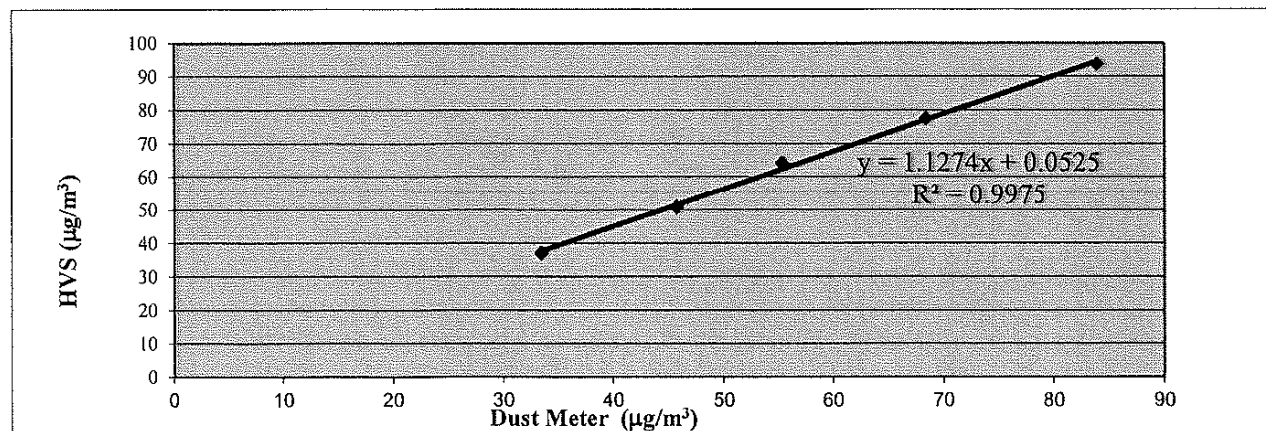
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	33	37
2	46	51
3	55	64
4	68	78
5	84	94
Average	57.3	64.7

By Linear Regression of Y on X  
 Slope, mw = 1.1274 Intercept, bw = 0.0525  
 Correlation coefficient\* = 0.9988

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	64.7
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	57.3
Measuring time, (min)	60

Set Correlation Factor, SCF  
 SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ] 1.128



QC Reviewer: CEP MDN HCV Signature: ke Date: 31/10/2022

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	37345A
Date of Issue:	2022-10-31
Date Received:	2022-10-28
Date Tested:	2022-10-28
Date Completed:	2022-10-31
Next Due Date:	2022-12-30

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X24477
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-06

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.122
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\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TSP - Total Suspended Particulates (1 hr Dust Meter)

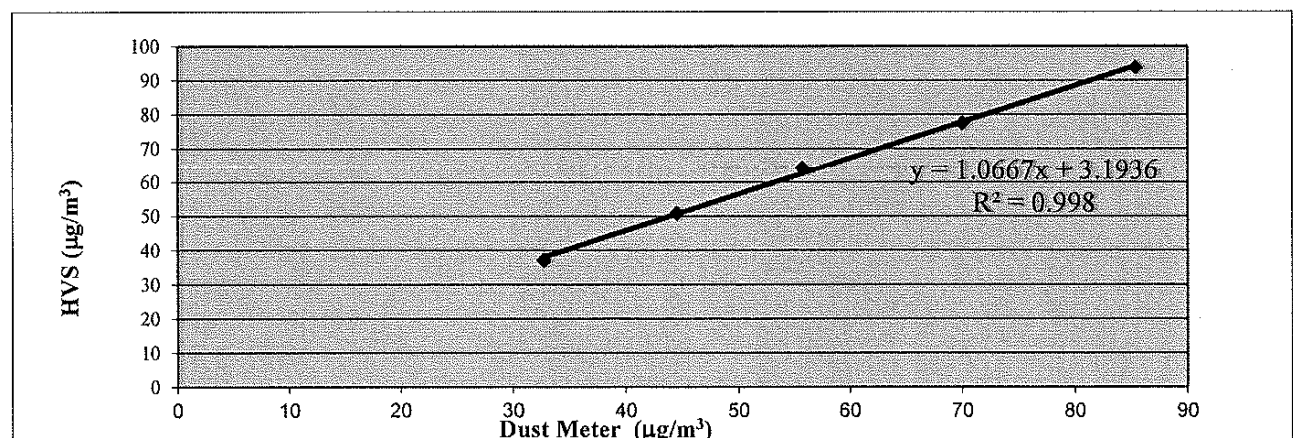
### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-06	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24477	2203
Calibration Date:	28-Oct-22	28-Oct-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	33	37
2	45	51
3	56	64
4	70	78
5	85	94
Average	57.7	64.7
<p>By Linear Regression of Y on X</p> <p>Slope, mw = <u>1.0667</u> Intercept, bw = <u>3.1936</u></p> <p>Correlation coefficient* = <u>0.9990</u></p>		

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	64.7
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	57.7
Measuring time, (min)	60
<p>Set Correlation Factor, SCF</p> <p>SCF = [ K=High Volume Sampler / Dust Meter, (<math>\mu\text{g}/\text{m}^3</math>) ] <u>1.122</u></p>	



QC Reviewer: Lit MMS HBR Signature: he Date: 31/10/2022

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	37386D
Date of Issue:	2022-11-14
Date Received:	2022-11-11
Date Tested:	2022-11-11
Date Completed:	2022-11-14
Next Due Date:	2023-01-13

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X24475
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-07

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.165
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*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

General Manager

## TSP - Total Suspended Particulates (1 hr Dust Meter)

### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-07	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24475	2203
Calibration Date:	11-Nov-22	11-Nov-22
Location:	Wellab Office (Calibration Room)	

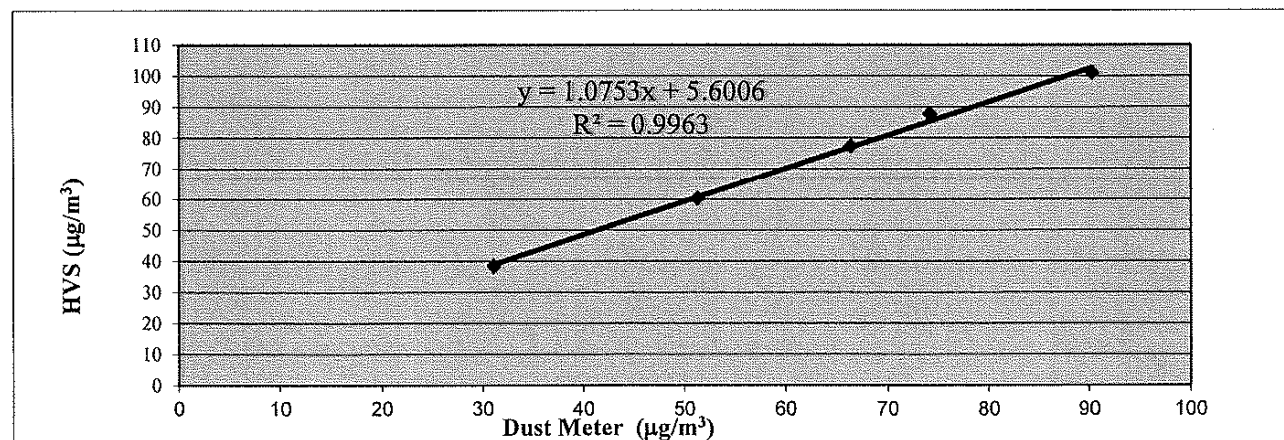
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	31	39
2	51	60
3	66	77
4	74	88
5	90	101
Average	62.7	73.0

By Linear Regression of Y on X  
 Slope , mw = 1.0753 Intercept, bw = 5.6006  
 Correlation coefficient\* = 0.9981

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	73.0
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	62.7
Measuring time, (min)	60

Set Correlation Factor , SCF  
 SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ] 1.165



QC Reviewer: LEE MAN HEE Signature: hei Date: 14/11/2022



## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.: 37345B  
Date of Issue: 2022-10-31  
Date Received: 2022-10-28  
Date Tested: 2022-10-28  
Date Completed: 2022-10-31  
Next Due Date: 2022-12-30

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description : Dust Monitor  
Manufacturer : Met One Instruments  
Model No. : AEROCET-831  
Serial No. : X24479  
Flow rate : 0.1 cfm  
Zero Count Test : 0 count per 1 minute  
Equipment No. : WA-01-08

**Test Conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.063
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\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TSP - Total Suspended Particulates (1 hr Dust Meter)

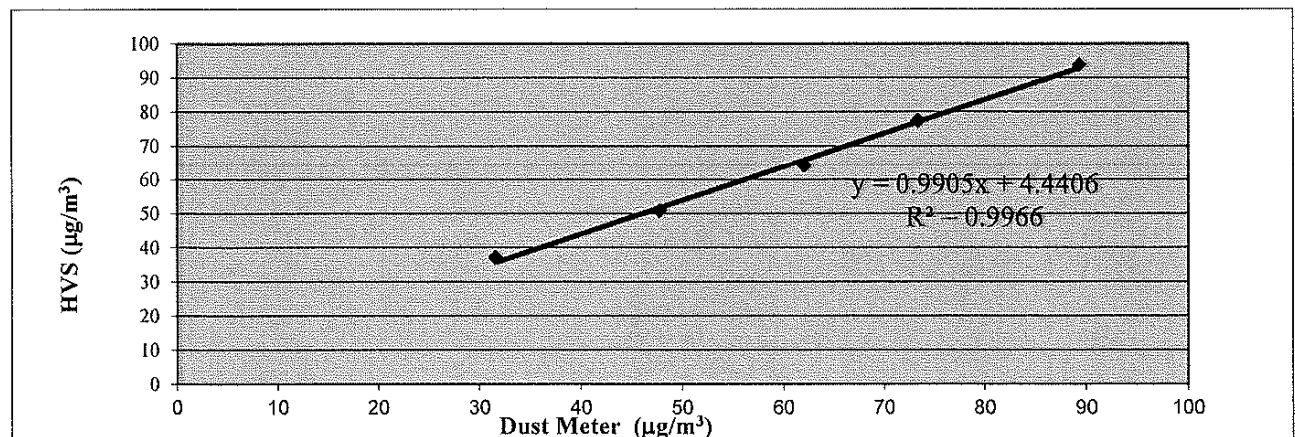
### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-08	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24479	2203
Calibration Date:	28-Oct-22	28-Oct-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	32	37
2	48	51
3	62	64
4	73	78
5	89	94
Average	60.8	64.7
By Linear Regression of Y on X Slope, mw = <u>0.9905</u> Intercept, bw = <u>4.4406</u> Correlation coefficient* = <u>0.9983</u>		

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	64.7
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	60.8
Measuring time, (min)	60
Set Correlation Factor, SCF SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ] <u>1.063</u>	



QC Reviewer: Lbb mwn hbr      Signature: hei      Date: 31/10/2022

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	37345C
Date of Issue:	2022-10-31
Date Received:	2022-10-28
Date Tested:	2022-10-28
Date Completed:	2022-10-31
Next Due Date:	2022-12-30

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for Calibration:**

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X23811
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-09

**Test Conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications & Methodology:**

1. Instruction and Operation Manual High Volume Sampler, Tisch Environmental Inc.
2. In-house method in according to the instruction manual: The Dust Monitor was compared with a calibrated High Volume Sampler and the result was used to generate the Correlation Factor (CF) between the Dust Monitor and High Volume Sampler.

**Results:**

Correlation Factor (CF)	1.091
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\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
Laboratory Manager



## TSP - Total Suspended Particulates (1 hr Dust Meter)

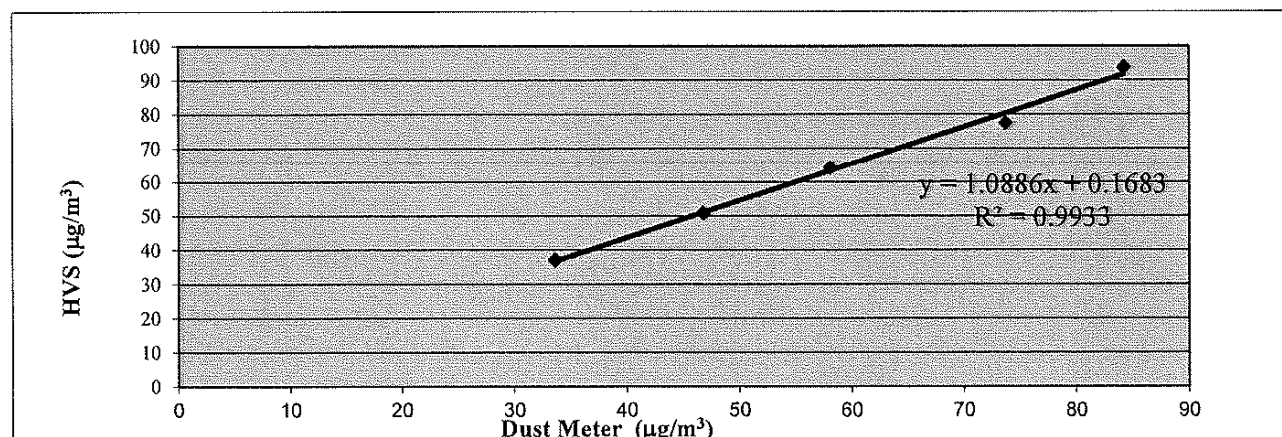
### Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-09	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23811	2203
Calibration Date:	28-Oct-22	28-Oct-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ( $\mu\text{g}/\text{m}^3$ ) X-axis	Mass concentration ( $\mu\text{g}/\text{m}^3$ ) Y-axis
1	34	37
2	47	51
3	58	64
4	74	78
5	84	94
Average	59.3	64.7
By Linear Regression of Y on X Slope, mw = <u>1.0886</u> Intercept, bw = <u>0.1683</u> Correlation coefficient* = <u>0.9967</u>		

\*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ( $\mu\text{g}/\text{m}^3$ )	64.7
Particulate Concentration by Dust Meter ( $\mu\text{g}/\text{m}^3$ )	59.3
Measuring time, (min)	60
Set Correlation Factor, SCF SCF = [ K=High Volume Sampler / Dust Meter, ( $\mu\text{g}/\text{m}^3$ ) ] <u>1.091</u>	



QC Reviewer: GA MAN H22      Signature: kei      Date: 31/10/2022

# High-Volume TSP Sampler

## 5-POINT CALIBRATION DATA SHEET

File No. Cal./220910

Equipment No.: WA-12-09  
Model No. TE-5170  
Operator: HL

Serial No. 2203  
Cal. Date: 10-Sep-22

Ambient Condition			
Temperature, Ta (K)	294.5	Pressure, Pa (mmHg)	762.3

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.2	3.52	60.07	7.7	2.80
2	9.8	3.15	53.86	6.2	2.51
3	8.1	2.87	48.98	5.5	2.36
4	5.6	2.38	40.75	3.6	1.91
5	3.6	1.91	32.71	2.3	1.53

### By Linear Regression of Y on X

Slope, mw = 0.0465

Intercept, bw = 0.0234

Correlation coefficient\* = 0.9975

\*If Correlation Coefficient < 0.990, check and recalibrate.

### Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.03

Remarks:

Conducted by: LEE MAN HEE  
Checked by: ITO Ka Ch

Signature: Lee  
Signature: Ch

Date: 10/9/2022  
Date: 10/9/2022

## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

File No. Cal./221111

Equipment No.: WA-12-09  
Model No. TE-5170  
Operator: HL

Serial No. 2203  
Cal. Date: 11-Nov-22

Ambient Condition			
Temperature, Ta (K)	293.5	Pressure, Pa (mmHg)	766.3

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	$mc \times Q_{std} + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-Jan-23	$Q_{std} = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.1	3.52	60.08	7.5	2.77
2	9.5	3.12	53.26	6.1	2.50
3	8.8	3.00	51.26	5.3	2.33
4	5.6	2.39	40.93	3.6	1.92
5	3.5	1.89	32.39	2.4	1.57

**By Linear Regression of Y on X**

Slope, mw = 0.0436

Intercept, bw = 0.1439

Correlation coefficient\* = 0.9979

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Q_{std} + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Q_{std} + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.98

Remarks: \_\_\_\_\_

Conducted by: LEE M/P/N H/EZ  
Checked by: GA

Signature: [Signature]  
Signature: [Signature]

Date: 11/11/2022  
Date: 11/11/2022



## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

Station	FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark	File No.	WMA20002/20/0015
Date:	1-Nov-22	Next Due Date:	31-Dec-22
Model No.	TE-5170	Operator:	HL
Equipment No.:	WA-12-20	Serial No.	3223

Ambient Condition			
Temperature, Ta (K)	296	Pressure, Pa (mmHg)	759.8

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$ $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			
Next Calibration Date:	20-Jan-23				

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.4	3.53	60.31	7.9	2.82
2	10.0	3.17	54.17	6.4	2.54
3	7.5	2.75	46.94	4.7	2.17
4	5.4	2.33	39.86	3.4	1.85
5	3.3	1.82	31.20	2.2	1.49

**By Linear Regression of Y on X**

Slope, mw = 0.0461      Intercept, bw = 0.0292

Correlation coefficient\* = 0.9994

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

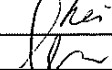
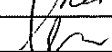
From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  4.03

Remarks:

Conducted by: <u>Edy M/PN 1/22</u>	Signature: <u></u>	Date: <u>1/11/2022</u>	
Checked by: <u>Do Ka Chun</u>	Signature: <u></u>	Date: <u>1/11/2022</u>	

## High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

Station FLN-DMS3 - House near Tong Hang  
Date: 10-Nov-22  
Model No. TE-5170  
Equipment No.: WA-12-17

File No. WMA20002/17/0015  
Next Due Date: 9-Jan-23  
Operator: HL  
Serial No. 3218

Ambient Condition			
Temperature, Ta (K)	299.5	Pressure, Pa (mmHg)	765.3

Orifice Transfer Standard Information					
Serial No.	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-Jan-23	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	$\Delta H$ (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.5	3.54	60.41	7.6	2.76
2	9.6	3.10	52.96	6.0	2.45
3	8.4	2.90	49.55	5.1	2.26
4	5.3	2.30	39.40	3.3	1.82
5	3.4	1.85	31.59	2.3	1.52

**By Linear Regression of Y on X**

Slope, mw = 0.0436      Intercept, bw = 0.1229  
Correlation coefficient\* = 0.9991

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 43 CFM

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = [\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; W =  $(mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$  3.98

Remarks: \_\_\_\_\_

Conducted by: LEE MAN WAI

Signature: \_\_\_\_\_

Date: 10/11/2022

Checked by: LEE KA CHUN

Signature: \_\_\_\_\_

Date: 10/11/2022

**RSP - Respirable Suspended Particulates Sampler (PM 10)**  
**Field Calibration Report**

Station KTN-DMS4A - Temporary Structure at Pak Shek Au  
Date: 11-Nov-22  
Model No. TE-6070X  
Equipment No.: WA-11-03

File No. WMA20002/03/0015  
Next Due Date: 10-Jan-23  
Operator: HL  
Serial No. 3225

Ambient Condition			
Temperature, Ta (K)	300	Pressure, Pa (mmHg)	765.6

Orifice Transfer Standard Information					
Serial No.:	2896	Slope, mc	0.0588	Intercept, bc	-0.01030
Last Calibration Date:	20-Jan-22	Next Calibration Date:	20-Jan-23		

Calibration of RSP Sampler							
Calibration Point	ORIFICE					HVS	
	$\Delta H$ (orifice), in. of water	Del Hc <sup>(1)</sup>	Qstd <sup>(2)</sup> (CFM)	Qa <sup>(3)</sup> (CFM) X-axis	Qa <sup>(3)</sup> (m <sup>3</sup> /min) X-axis	$\Delta W$ (HVS), in. of water	$[\Delta W \times (Ta + 30) / Pa]^{1/2}$ Y-axis
1	8.8	8.81	50.68	50.65	1.43	7.4	1.79
2	7.1	7.10	45.54	45.51	1.29	6.2	1.63
3	5.6	5.60	40.47	40.44	1.14	4.9	1.45
4	4.2	4.20	35.07	35.05	0.99	3.7	1.26
5	2.8	2.80	28.67	28.65	0.81	2.5	1.04

By Linear Regression of Y on X

Slope, mw = 0.0343 Intercept, bw = 0.0604  
Correlation coefficient\* = 0.9995

- (1)  $DEL Hc = \Delta H \times (Pa/760 \times 298/Ta)$   
(2)  $Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\}/mc$  (m<sup>3</sup>/min)  
(3)  $Qa = Qstd \times (Ta / Pa) \times (760 / 298)$  (m<sup>3</sup>/min)

\*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation	
Set Point Flow Rate., SFR	
$SFR = 1.13 \times (760/Pa) \times (Ta/298) =$	<u>39.90</u>
Sampler Well - Type Manometer Set Point, SSP	
$SSP = [ (mw \times SFR + bw)^2 \times Pa ] / (Ta + 30) =$	<u>4.74</u>

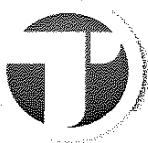
Remarks: \_\_\_\_\_

Conducted by: Lee Man Hee  
Checked by: Li Ka Chun

Signature: Lee Man Hee  
Signature: Li Ka Chun

Date: 11/11/2022  
Date: 11/11/2022





RECALIBRATION

DUE DATE:

January 20, 2023

## Certificate of Calibration

### Calibration Certification Information

Cal. Date: January 20, 2022      Rootsmeter S/N: 438320      Ta: 293      °K  
 Operator: Jim Tisch      Pa: 759.7      mm Hg  
 Calibration Model #: TE-5025A      Calibrator S/N: 2896

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4610	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9190	7.9	5.00
4	7	8	1	0.8780	8.8	5.50
5	9	10	1	0.7250	12.7	8.00

### Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left( \frac{Ta}{Pa} \right)}$ (y-axis)
1.0124	0.6929	1.4260	0.9958	0.6816	0.8783
1.0081	0.9731	2.0166	0.9916	0.9571	1.2420
1.0061	1.0948	2.2546	0.9896	1.0768	1.3887
1.0049	1.1445	2.3647	0.9884	1.1258	1.4564
0.9997	1.3789	2.8519	0.9833	1.3563	1.7565
QSTD	m=	2.07510	QA	m=	1.29939
	b=	-0.01030		b=	-0.00634
	r=	0.99995		r=	0.99995

### Calculations

Vstd=	$\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va=	$\Delta Vol((Pa-\Delta P)/Pa)$
Qstd=	Vstd/ΔTime	Qa=	Va/ΔTime
For subsequent flow rate calculations:			
Qstd= $1/m \left( \left( \sqrt{\Delta H \left( \frac{Pa}{Pstd} \right) \left( \frac{Tstd}{Ta} \right)} \right) - b \right)$		Qa= $1/m \left( \left( \sqrt{\Delta H \left( \frac{Ta}{Pa} \right)} \right) - b \right)$	

### Standard Conditions

Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsmeter manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

### RECALIBRATION

US EPA recommends annual recalibration per 1998  
 40 Code of Federal Regulations Part 50 to 51,  
 Appendix B to Part 50, Reference Method for the  
 Determination of Suspended Particulate Matter in  
 the Atmosphere, 9.2.17, page 30

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	36405A
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2023-03-06

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for calibration:**

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 580004
Equipment No.	: WN-01-02

**Test conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.: 36405B  
Date of Issue: 2022-03-07  
Date Received: 2022-03-04  
Date Tested: 2022-03-04  
Date Completed: 2022-03-07  
Next Due Date: 2023-03-06

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for calibration:**

Description : Sound Level Meter  
Manufacturer : BSWA  
Model No. : BSWA 308  
Serial No. : 580005  
Equipment No. : WN-01-03

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.: 36405E  
Date of Issue: 2022-03-07  
Date Received: 2022-03-04  
Date Tested: 2022-03-04  
Date Completed: 2022-03-07  
Next Due Date: 2023-03-06

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for calibration:**

Description : Sound Level Meter  
Manufacturer : BSWA  
Model No. : BSWA 308  
Serial No. : 580008  
Equipment No. : WN-01-06

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking at 94 and 114 dB

**Methodology:**

In-house method, according to manufacturer instruction manual

**Results:**

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.: 37018  
Date of Issue: 2022-08-22  
Date Received: 2022-08-19  
Date Tested: 2022-08-19  
Date Completed: 2022-08-22  
Next Due Date: 2023-08-21

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

#### Item for Calibration:

Description : Acoustical Calibrator  
Manufacturer : Brüel & Kjær  
Model No. : 4231  
Serial No. : 2412367  
Equipment No. : N-02-03

#### Test Conditions:

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

#### Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

#### Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1dB
At 114 dB SPL	114.0	114.0 ± 0.1dB

Remark: This report supersedes the one dated 2019-08-20 with certificate number 31951.

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.:	37163
Date of Issue:	2022-10-02
Date Received:	2022-09-30
Date Tested:	2022-10-02
Date Completed:	2022-10-02
Next Due Date:	2023-10-01

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for calibration:**

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 24803
Equipment No.	: N-09-03

**Test conditions:**

Room Temperature	: 17-22 degree Celsius
Relative Humidity	: 40-70%

**Methodology:**

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

**Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited  
(EM&A Department)  
Room 1808, Technology Park,  
18 On Lai Street,  
Shatin, NT, Hong Kong

Test Report No.: 37018A  
Date of Issue: 2022-08-22  
Date Received: 2022-08-19  
Date Tested: 2022-08-19  
Date Completed: 2022-08-22  
Next Due Date: 2023-08-21

Page: 1 of 1

**ATTN:** Ms. Meiling Tang

### Certificate of Calibration

**Item for calibration:**

Description : Acoustical Calibrator  
Manufacturer : SVANTEK  
Model No. : SV30A  
Serial No. : 24791  
Equipment No. : N-09-04

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Methodology:**

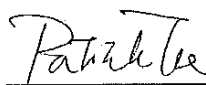
The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

**Results:**

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1 dB
At 114 dB SPL	114.0	114.0 ± 0.1 dB

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.: 37139B  
Date of Issue: 2022-09-25  
Date Received: 2022-09-24  
Date Tested: 2022-09-24 to  
2022-09-25  
Date Completed: 2022-09-25

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

### Certificate of Calibration

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-108
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	17B100681
- EXO Optical DO Sensor, Ti	599100-01	16J100992
- EXO conductivity/Temperature Sensor, Ti	599870	17H103451
- EXO Turbidity Sensor, Ti	599101-01	20J103612
- EXO pH Sensor Assembly, Guarded, Ti	599701	17B103616

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.)  
and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
General Manager

## TEST REPORT

Test Report No.:	37139B
Date of Issue:	2022-09-25
Date Received:	2022-09-24
Date Tested:	2022-09-24 to 2022-09-25
Date Completed:	2022-09-25

Page: 2 of 2

### Certificate of Calibration

#### Results:

#### Conductivity performance checking

	Instrument Readings ( $\mu\text{S}/\text{cm}$ )	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$ )	12700	12246-13534	Pass

#### Temperature performance checking

Reference thermometer- E431 Readings ( $^{\circ}\text{C}$ )	Instrument Readings ( $^{\circ}\text{C}$ )	Correction ( $^{\circ}\text{C}$ )	Comment
20.0	19.999	+0.001	N/A

#### pH performance checking

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	3.99	4.00 $\pm$ 0.10	Pass
pH QC buffer 6.86	6.83	6.86 $\pm$ 0.10	Pass
pH QC buffer 9.18	9.15	9.18 $\pm$ 0.10	Pass

#### D.O. performance checking

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.16	7.98	Difference between Titration value and instrument reading <0.2mg/L	Pass

#### Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	9.67	9.0-11.0	Pass
50 NTU	48.93	45.0-55.0	Pass
100 NTU	97.6	90.0-110.0	Pass

#### Depth performance checking

Water Depth	Instrument Readings (m)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.: 37139C  
Date of Issue: 2022-09-25  
Date Received: 2022-09-24  
Date Tested: 2022-09-24 to  
2022-09-25  
Date Completed: 2022-09-25

**ATTN:** Miss Mei Ling Tang

Page: 1 of 2

### Certificate of Calibration

**Item for calibration:**

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-121
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	17B101447
- EXO Optical DO Sensor, Ti	599100-01	16J101001
- EXO conductivity/Temperature Sensor, Ti	599870	17B100798
- EXO Turbidity Sensor, Ti	599101-01	17B102266
- EXO pH Sensor Assembly, Guarded, Ti	599701	17B100250

**Test conditions:**

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

**Test Specifications:**

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.)  
and Turbidity

**Methodology:**

According to manufacturer instruction manual, APHA 20e 4500-O C

**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**  
General Manager

## TEST REPORT

Test Report No.:	37139C
Date of Issue:	2022-09-25
Date Received:	2022-09-24
Date Tested:	2022-09-24 to 2022-09-25
Date Completed:	2022-09-25

Page: 2 of 2

### Certificate of Calibration

#### Results:

#### Conductivity performance checking

	Instrument Readings ( $\mu\text{S}/\text{cm}$ )	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$ )	12900	12246-13534	Pass

#### Temperature performance checking

Reference thermometer- E431 Readings ( $^{\circ}\text{C}$ )	Instrument Readings ( $^{\circ}\text{C}$ )	Correction ( $^{\circ}\text{C}$ )	Comment
20.0	20.001	-0.001	N/A

#### pH performance checking

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.00	4.00 + 0.10	Pass
pH QC buffer 6.86	6.87	6.86 + 0.10	Pass
pH QC buffer 9.18	9.17	9.18 + 0.10	Pass

#### D.O. performance checking

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.09	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.16	8.00	Difference between Titration value and instrument reading <0.2mg/L	Pass

#### Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	10.11	9.0-11.0	Pass
50 NTU	50.07	45.0-55.0	Pass
100 NTU	100.8	90.0-110.0	Pass

#### Depth performance checking

Water Depth	Instrument Readings (m)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*

## TEST REPORT

APPLICANT: Wellab Limited (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Test Report No.: 37645D  
Date of Issue: 2022-12-25  
Date Received: 2022-12-24  
Date Tested: 2022-12-24 to  
2022-12-25  
Date Completed: 2022-12-25

ATTN: Miss Mei Ling Tang

Page: 1 of 2

### Certificate of Calibration

#### Item for calibration:

YSI EXO1 Multiparameter Sondes	Equipment No.: SW-08-129	
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	17B101455
- EXO Optical DO Sensor, Ti	599100-01	17M101337
- EXO conductivity/Temperature Sensor, Ti	599870	17B100784
- EXO Turbidity Sensor, Ti	599101-01	16J101112
- EXO pH Sensor Assembly, Guarded, Ti	599701	16J100565

#### Test conditions:

Room Temperature : 17-22 degree Celsius  
Relative Humidity : 40-70%

#### Test Specifications:

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.)  
and Turbidity

#### Methodology:

According to manufacturer instruction manual, APHA 20e 4500-O C

\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
PATRICK TSE  
General Manager

## TEST REPORT

Test Report No.:	37645D
Date of Issue:	2022-12-25
Date Received:	2022-12-24
Date Tested:	2022-12-24 to 2022-12-25
Date Completed:	2022-12-25

Page: 2 of 2

### Certificate of Calibration

#### Results:

#### Conductivity performance checking

	Instrument Readings ( $\mu\text{S}/\text{cm}$ )	Acceptance Criteria	Comment
KCl stock solution (12890 $\mu\text{S}/\text{cm}$ )	13100	12246-13534	Pass

#### Temperature performance checking

Reference thermometer- E431 Readings ( $^{\circ}\text{C}$ )	Instrument Readings ( $^{\circ}\text{C}$ )	Correction ( $^{\circ}\text{C}$ )	Comment
20.0	20.002	-0.002	N/A

#### pH performance checking

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.00	$4.00 \pm 0.10$	Pass
pH QC buffer 6.86	6.94	$6.86 \pm 0.10$	Pass
pH QC buffer 9.18	9.25	$9.18 \pm 0.10$	Pass

#### D.O. performance checking

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.08	$<0.1\text{mg/L}$	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.24	8.15	Difference between Titration value and instrument reading $<0.2\text{mg/L}$	Pass

#### Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Acceptance Criteria	Comment
10 NTU	9.63	9.0-11.0	Pass
50 NTU	47.44	45.0-55.0	Pass
100 NTU	95.2	90.0-110.0	Pass

#### Depth performance checking

Water Depth	Instrument Readings (m)	Acceptance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

\*\*\*\*\*END OF REPORT\*\*\*\*\*





Eurotron Instruments (UK) Ltd  
Unit 18 Austin Way,  
Daventry, Northants, NN11 8QY  
T: 01327 871044  
F: 01327 301255

**CALIBRATION CERTIFICATE N. EE13257**

Job Reference 35844  
**Customer** Cadmus Distribution Group LT T/A Kesion  
Unit 34 . Waterhouse Business Centre  
2 Cromer Way  
Chelmsford  
  
CM1 2QE

Instrument Type: EIUK  
Instrument Model: RASI 700 BIO  
Instrument S/N: 330055  
Calibration date: 06 Apr 2022  
Due Date: 06 Apr 2023

**Traceability:** All measuring equipment used for calibration purposes is traceable to National or Internationally recognised standards.

**Test Method:** Under controlled conditions and procedures, known physical, electrical and gas mixture were applied to the instruments under test and the results are reported in the table below

**Due Date:** This is a recommendation only and does not imply any guaranteed performance of the instrument over this period.

<b>Standards:</b>	S/N/ID N.	Certificate:N
O2 certified gas mixture	373466	040008266460
H2S/CO2/CH4 certified gas mixture	384603□	040008461025
Pressure Calibrator	2803358	89402
Temperature Calibrator	2702DE150201A	84089

**CALIBRATION RESULTS**

Parameter	Unit	Applied	As received	Error	Pass/Fail	As left	Error	Pass/Fail
O2	% Vol	20.90	20.90	0.0	Pass	20.90	0.0	Pass
O2	% Vol	9.918	10.00	0.1	Pass	10.00	0.1	Pass
O2	% Vol	0.0	0.00	0.0	Pass	0.00	0.0	Pass
CO2IR	%Vol	39.987	40.48	0.5	Pass	40.18	0.2	Pass
CH4	%Vol	59.980	60.25	0.3	Pass	60.25	0.3	Pass
Pressure	mbar	0.00	n/a	N/A	N/A	0.00	0.00	Pass
	mbar	50.00	n/a	N/A	N/A	49.97	-0.03	Pass
	mbar	75.00	n/a	N/A	N/A	74.99	-0.01	Pass
	mbar	90.00	n/a	N/A	N/A	90.04	0.04	Pass
	mbar	100.00	n/a	N/A	N/A	100.19	0.19	Pass
Temperature	°C	0.00	n/a	N/A	N/A	0.2	0.2	Pass
(T2)	°C	200.00	n/a	N/A	N/A	200.1	0.1	Pass
	°C	400.00	n/a	N/A	N/A	400.2	0.2	Pass
	°C	600.00	n/a	N/A	N/A	600.1	0.1	Pass
	°C	1,190.00	n/a	N/A	N/A	1190.4	0.4	Pass
Temperature	°C	0.00	n/a	N/A	N/A	0.2	0.2	Pass
(Air,T1)	°C	50.00	n/a	N/A	N/A	50.2	0.2	Pass

Date: 06/04/22  
Printed Name: Anthony Kinninmonth / John Dorgan

Signature



## CALIBRATION CERTIFICATE

Calibration Item: Micromate System ISEE (Calibration with  
Geophone UM17121)  
Model No.: 721A2501  
Serial No.: UM17121  
Calibration Date: 21 February 2022  
Next Calibration Date: 21 February 2023  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

\*References are traceable to NIST or equivalent.

INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

Authorized by: \_\_\_\_\_



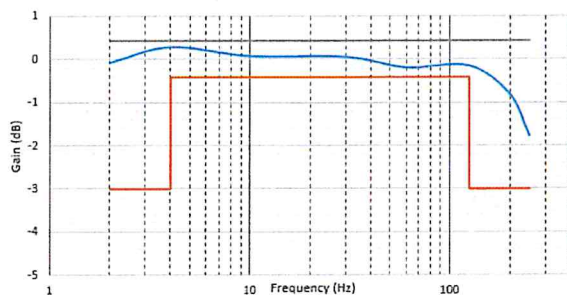
(Anson Kan)

Date: 21 February 2022

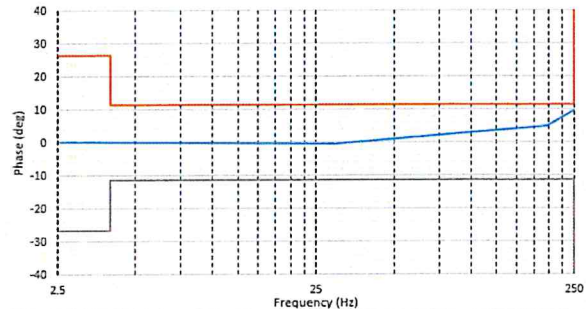


## Frequency Responses UM17121

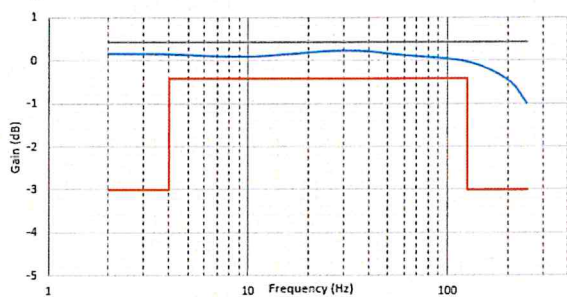
Vertical Frequency Response of UM17121



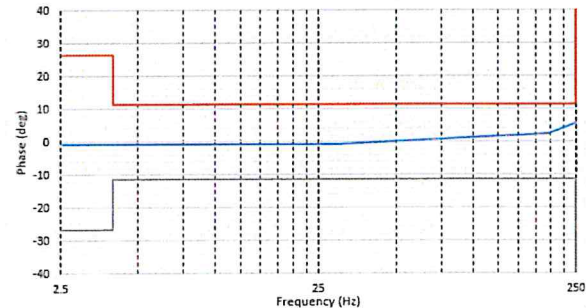
Vertical Phase Response of UM17121



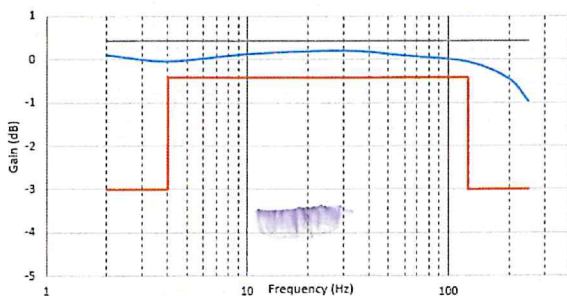
Longitudinal Frequency Response of UM17121



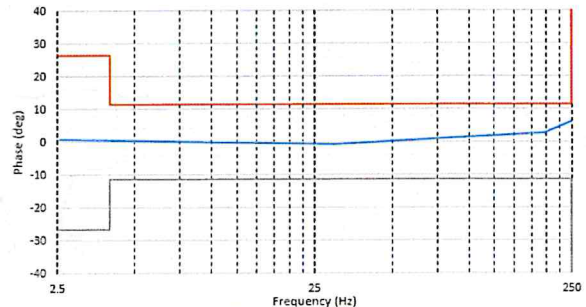
Longitudinal Phase Response of UM17121



Transverse Frequency Response of UM17121



Transverse Phase Response of UM17121





## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with  
main unit UM17121)  
Part Number: 721A2901  
Serial No.: UM17121  
Calibration Date: 21 February 2022  
Next Calibration Date: 21 February 2023  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

\*References are traceable to NIST or equivalent.

INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

Authorized by: \_\_\_\_\_



(Anson Kan)

Date: 21 February 2022



## CALIBRATION CERTIFICATE

Calibration Item: Micromate System ISEE (Calibration with  
Geophone UM17124)  
Model No.: 721A2501  
Serial No.: UM17124  
Calibration Date: 21 February 2022  
Next Calibration Date: 21 February 2023  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

\*References are traceable to NIST or equivalent.

INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

Authorized by: \_\_\_\_\_



(Anson Kan)

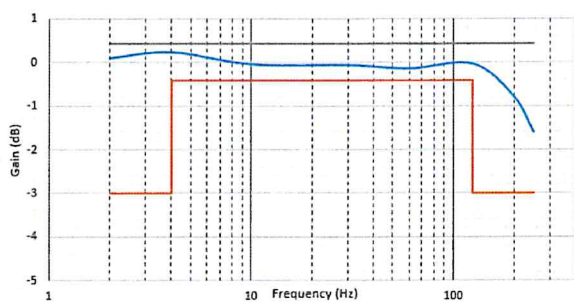
Date: 21 February 2022



## Frequency Responses UM17124

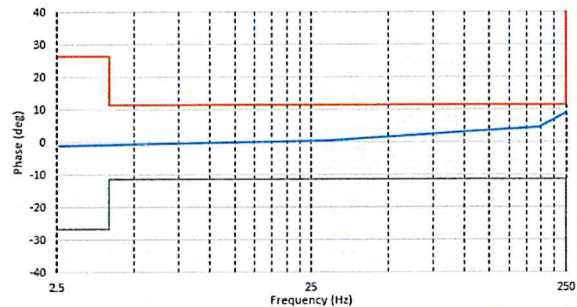
Vertical

Frequency Response of UM17124



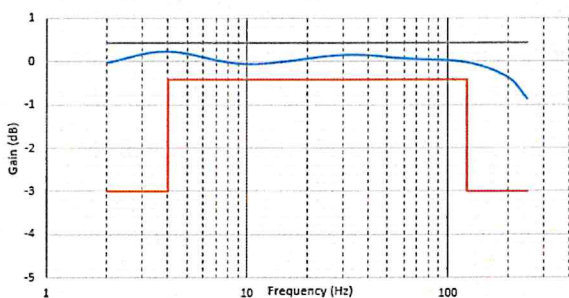
Vertical

Phase Response of UM17124



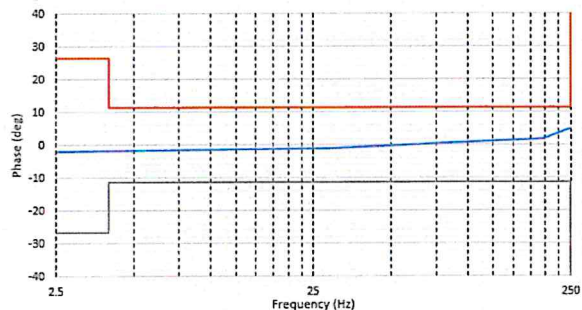
Longitudinal

Frequency Response of UM17124



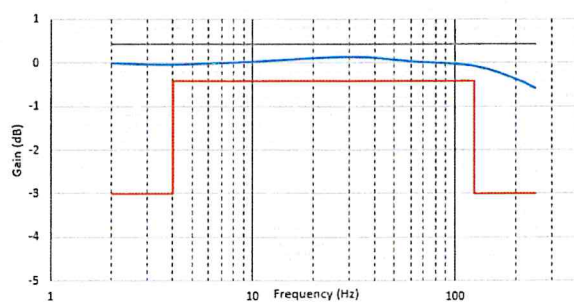
Longitudinal

Phase Response of UM17124



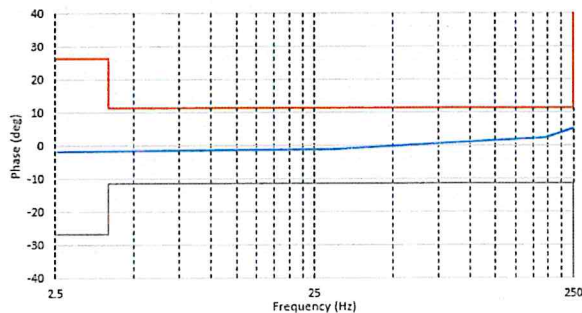
Transverse

Frequency Response of UM17124



Transverse

Phase Response of UM17124





## CALIBRATION CERTIFICATE

Calibration Item: TRIAXIAL GEOPHONE (Calibration with main unit UM17124)  
Part Number: 721A2901  
Serial No.: UM17124  
Calibration Date: 21 February 2022  
Next Calibration Date: 21 February 2023  
Method Used: In-house Method B3-001  
In-house Testing Procedure No.: B3-001

Test References	Model	Serial No.
Blastmate III	714A0801	BA15521
ISEE Triaxial Geophone	714A9701	BG14463
15MHz Function Generator*	33120A	US34003309
Stanford Spectrum Analyzer	SR760	41550
Keysight Multimeter*	34470A	MY57700765
HP Distortion Meter*	339A	2025A04515
Bruel & Kjaer Accelerometer*	4370	31474
Bruel & Kjaer Charge Amplifier*	2647	2731339
Bruel & Kjaer Conditional Amplifier*	2690	2437929
LDS Air Cooled Vibrator	V556	92794/1
LDS Field Power Supply	FPS10L	ARA 04/05
LDS Power Amplifier	PA1000L	ARA 07/06

\*References are traceable to NIST or equivalent.

INSTANTEL INC. hereby certifies that this unit has been calibrated and that the results are consistent with the specifications published regarding this instrument. The SENSORCHECK feature of the unit is sufficiently reliable to indicate proper operation, although it is recommended that this unit be sent to INSTANTEL or an authorized service center for regular calibration.

Authorized by: \_\_\_\_\_



(Anson Kan)

Date: 21 February 2022

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**APPENDIX D  
ENVIRONMENTAL MONITORING  
SCHEDULES**

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**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Impact Air Quality and Noise Monitoring Schedule (December 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Dec	2-Dec	3-Dec
				<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2	<b>24hr RSP (Arsenic)</b> KTN-DMS4A	
4-Dec	5-Dec	6-Dec	7-Dec	8-Dec	9-Dec	10-Dec
		<b>1hr TSP* X3</b> KTN-DMS4(B), FLN-DMS5 <b>24hr TSP*</b> <u>KTN-DMS4(B), FLN-DMS5A</u> <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2	<b>24hr RSP (Arsenic)</b> KTN-DMS4A		
11-Dec	12-Dec	13-Dec	14-Dec	15-Dec	16-Dec	17-Dec
	<b>1hr TSP* X3</b> KTN-DMS4(B), FLN-DMS5 <b>24hr TSP*</b> <u>KTN-DMS4(B), FLN-DMS5A</u> <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2	<b>24hr RSP (Arsenic)</b> KTN-DMS4A		<b>1hr TSP* X3</b> KTN-DMS4(B), FLN-DMS5 <b>24hr TSP*</b> <u>KTN-DMS4(B), FLN-DMS5A</u> <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	
18-Dec	19-Dec	20-Dec	21-Dec	22-Dec	23-Dec	24-Dec
	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2	<b>24hr RSP (Arsenic)</b> KTN-DMS4A		<b>1hr TSP* X3</b> KTN-DMS4(B), FLN-DMS5 <b>24hr TSP*</b> <u>KTN-DMS4(B), FLN-DMS5A</u> <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>24hr RSP (Arsenic)</b> KTN-DMS4A	
25-Dec	26-Dec	27-Dec	28-Dec	29-Dec	30-Dec	31-Dec
			<b>1hr TSP* X3</b> KTN-DMS4(B), FLN-DMS5 <b>24hr TSP*</b> <u>KTN-DMS4(B), FLN-DMS5A</u> <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2 <b>24hr RSP (Arsenic)</b> KTN-DMS4A		

Remarks:  
 \*Monitoring session would be conducted by portable TSP monitor.

Environmental Permit(s)	Contract No.	Air Quality Stations	Noise Stations
EP-466/2013/A EP-467/2013/A EP-468/2013/A	ND/2019/01	<u>1hr TSP and 24hr TSP</u> KTN-DMS4(B) - Temporary Structure near Fanling Highway (near Pak Shek Au)	--
EP-468/2013/A	ND/2019/03		
EP-466/2013/A EP-467/2013/A EP-468/2013/A	ND/2019/01	<u>24hr RSP (Arsenic)</u> KTN-DMS4A - Temporary Structure at Pak Shek Au	--
EP-468/2013/A	ND/2019/03		
EP-467/2013/A EP-468/2013/A <sup>(1)</sup>	ND/2019/01	--	CP-KTN-NMS2 - Residential Buildings at Ma Tso Lung
EP-468/2013/A <sup>(2)</sup>	ND/2019/01	--	CP-KTN-NMS3 -Fung Kong Garden
EP-469/2013 <sup>(3)</sup>	ND/2019/02	--	CP-KTN-NMS6 - Ho Sheung Heung, Hau Ku Shek Ancestral Hall, Hung Shing Temple & Pai Fung Temple and Sin Wai Nunnery
EP-470/2013/A	ND/2019/01	--	CP-KTN-NMS5 - N/A
EP-473/2013/A <sup>(4)</sup>	ND/2019/03	<u>1hr TSP and 24hr TSP</u> FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark	--
	ND/2019/04		--
EP-473/2013/A <sup>(5)</sup>	ND/2019/05	<u>1hr TSP and 24hr TSP</u> FLN-DMS3 - House near Tong Hang	--
EP-473/2013/A <sup>(6)</sup>	ND/2019/03	<u>1hr TSP</u> FLN-DMS5 - Noble Hill	--
	ND/2019/04	<u>24hr TSP</u> FLN-DMS5A - Good View New Village	--
EP-473/2013/A <sup>(7)</sup>	ND/2019/05	--	CP-FLN-NMS2 - Scattered Village Houses in Tong Hang
EP-473/2013/A <sup>(8)</sup>	ND/2019/04	--	CP-FLN-NMS1 - Belair Monte
	ND/2019/05	--	
EP-475/2013/A	ND/2019/06	--	
Remarks: 1. Since the distance between monitoring station CP-KTN-NMS2 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 2. Since the distance between monitoring station CP-KTN-NMS3 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 3. Since the distance between monitoring station CP-KTN-NMS1 and site boundary of ND/2019/02 under EP-469/2013 exceeds 300m. The monitoring station is not applicable to ND/2019/02 4. Since the distance between monitoring station FLN-DMS1 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/05 5. Since the distance between monitoring station FLN-DMS3 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/03 and ND/2019/04 6. Since the distance between monitoring station FLN-DMS5 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/05 7. Since the distance between monitoring station CP-FLN-NMS2 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 and ND/2019/04. 8. Since the distance between monitoring station CP-FLN-NMS1 and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03.			

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Impact Water Quality Monitoring Schedule (December 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Dec	2-Dec	3-Dec
					<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
4-Dec	5-Dec	6-Dec	7-Dec	8-Dec	9-Dec	10-Dec
	<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
11-Dec	12-Dec	13-Dec	14-Dec	15-Dec	16-Dec	17-Dec
	<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
18-Dec	19-Dec	20-Dec	21-Dec	22-Dec	23-Dec	24-Dec
	<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream	
25-Dec	26-Dec	27-Dec	28-Dec	29-Dec	30-Dec	31-Dec
			<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream		<b><u>Water Quality Monitoring</u></b> River Beas, River Indus and near Siu Hang San Tsuen Stream	

**Water Quality Monitoring Stations**

River Beas: SYR-CS1 - Upstream of river, SYR-IS1 - Downstream of river

River Indus and near Siu Hang San Tsuen Stream: NTR-CS1 - Upstream of river, NTR-IS1 - Downstream of river, SHST-IS2 - Water sensitive receiver at near Siu Hang San Tsuen Stream,

MWR-IS3 - Water sensitive receiver at near Ma Wat River



Environmental Permit(s)	Contract No.	Water Quality Stations
EP-469/2013	ND/2019/02	<u><b>River Beas</b></u> SYR-CS1 - Upstream of river SYR-IS1 - Downstream of river
EP-473/2013/A	ND/2019/04	<u><b>River Indus and near Siu Hang San Tsuen Stream</b></u> NTR-CS1 - Upstream of river NTR-IS1 - Downstream of river SHST-IS2 - Water sensitive receiver at near Siu Hang San Tsuen Stream MWR-IS3 - Water sensitive receiver at near Ma Wat River

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Impact Ecological Monitoring Schedule (December 2022)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Dec	2-Dec	3-Dec
4-Dec	5-Dec	6-Dec	7-Dec	8-Dec	9-Dec	10-Dec
	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5#</u></b> High tide: Start time: 07:00 Low tide: Start time: 13:00			Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 10:00 Low tide: Start time: 14:00	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution <b><u>T1, T6</u></b>	
11-Dec	12-Dec	13-Dec	14-Dec	15-Dec	16-Dec	17-Dec
	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5</u></b> High tide: Start time: 13:00 Low tide: Start time: 08:00			Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 15:00 Low tide: Start time: 10:00	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution <b><u>T3, T4, T5</u></b>	
18-Dec	19-Dec	20-Dec	21-Dec	22-Dec	23-Dec	24-Dec
				Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 10:00 Low tide: Start time: 13:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5#</u></b> High tide: Start time: 10:00 Low tide: Start time: 14:00	
25-Dec	26-Dec	27-Dec	28-Dec	29-Dec	30-Dec	31-Dec
				Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 15:00 Low tide: Start time: 09:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5</u></b> High tide: Start time: 15:00 Low tide: Start time: 09:00	

#Night-time avifauna monitoring in Long Valley

Item	Activity	Monitoring Stations/Transects
1	Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River, Sheung Yue River, and Long Valley	T1. Ng Tung River T2. Ng Tung River T3. Sheung Yue River T5. Long Valley
2	Monitoring of Measures to Minimise Impacts to Aquatic Fauna in Ma Tso Lung Stream and Siu Hang San Tsuen Stream	MS_01, MS_02, MS_03, MS_04, MS_05, MS_06, MS_07, MS_08, MS_09, MS_10, MS_11, MS_12, MS_13, MS_14, MS_15
3	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution	T1. Ma Tso Lung riparian zone and associated wetland habitats
		T1. Green belt areas E1-8,D1-8 and G1-3 in KTN NDA
		T1. AGR one C2-4 and C2-2 in KTN NDA
		T1. Areas north of Ng Tung River
		T3. Area west of Siu Hang San Tsuen Stream
		T4. South side of Fanling Highway and Castle Peak Road in the vicinity of Pak Shek Au
		T5. Area west and east of the southern limit of the FLN NDA work area
		T6. Areas in the western part of KTN



**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Weekly Site Inspection Schedule for December 2022**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Dec	2-Dec	3-Dec
				Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
4-Dec	5-Dec	6-Dec	7-Dec	8-Dec	9-Dec	10-Dec
	Site Inspection (ND/2019/05)		Site Inspection (ND/2019/02) Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)		Site Inspection (ND/2019/01) Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
11-Dec	12-Dec	13-Dec	14-Dec	15-Dec	16-Dec	17-Dec
		Site Inspection (ND/2019/02) Site Inspection (ND/2019/03)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/05) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/07)	
18-Dec	19-Dec	20-Dec	21-Dec	22-Dec	23-Dec	24-Dec
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/02) Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)		Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
25-Dec	26-Dec	27-Dec	28-Dec	29-Dec	30-Dec	31-Dec
			Site Inspection (ND/2019/02) Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01) Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	

**Contract No. NDO 04/2019**

**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas  
Tentative Impact Air Quality and Noise Monitoring Schedule (January 2023)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Jan	2-Jan	3-Jan	4-Jan	5-Jan	6-Jan	7-Jan
		<b>1hr TSP* X3</b> KTN-DMS4(B), FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4(B), FLN-DMS5A <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2  <b>24hr RSP (Arsenic)</b> KTN-DMS4A			
8-Jan	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan
	<b>1hr TSP* X3</b> KTN-DMS4(B), FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4(B), FLN-DMS5A <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2  <b>24hr RSP (Arsenic)</b> KTN-DMS4A			<b>1hr TSP* X3</b> KTN-DMS4(B), FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4(B), FLN-DMS5A  <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	
15-Jan	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan
	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2  <b>24hr RSP (Arsenic)</b> KTN-DMS4A			<b>1hr TSP* X3</b> KTN-DMS4(B), FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4(B), FLN-DMS5A <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3	<b>24hr RSP (Arsenic)</b> KTN-DMS4A
22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan	28-Jan
				<b>1hr TSP* X3</b> KTN-DMS4(B), FLN-DMS5 <b>24hr TSP*</b> KTN-DMS4(B), FLN-DMS5A <b>Noise</b> CP-KTN-NMS2, CP-KTN-NMS3, CP-KTN-NMS5, CP-KTN-NMS6 <b>24hr TSP</b> FLN-DMS1, FLN-DMS3	<b>1hr TSP* X3</b> FLN-DMS1, FLN-DMS3 <b>Noise</b> CP-FLN-NMS1, CP-FLN-NMS2  <b>24hr RSP (Arsenic)</b> KTN-DMS4A	
29-Jan	30-Jan	31-Jan				

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Remarks:

\*Monitoring session would be conducted by portable TSP monitor.

Environmental Permit(s)	Contract No.	Air Quality Stations	Noise Stations
EP-466/2013/A EP-467/2013/A EP-468/2013/A	ND/2019/01	<b><u>1hr TSP and 24hr TSP</u></b> KTN-DMS4(B) - Temporary Structure near Fanling Highway (near Pak Shek Au)	--
EP-468/2013/A	ND/2019/03		
EP-466/2013/A EP-467/2013/A EP-468/2013/A	ND/2019/01	<b><u>24hr RSP (Arsenic)</u></b> KTN-DMS4A - Temporary Structure at Pak Shek Au	--
EP-468/2013/A	ND/2019/03		
EP-467/2013/A EP-468/2013/A <sup>(1)</sup>	ND/2019/01	--	CP-KTN-NMS2 - Residential Buildings at Ma Tso Lung
EP-468/2013/A <sup>(2)</sup>	ND/2019/01	--	CP-KTN-NMS3 -Fung Kong Garden
EP-469/2013 <sup>(3)</sup>	ND/2019/02	--	CP-KTN-NMS6 - Ho Sheung Heung, Hau Ku Shek Ancestral Hall, Hung Shing Temple & Pai Fung Temple and Sin Wai Nunnery
EP-470/2013/A	ND/2019/01	--	CP-KTN-NMS5 - N/A
EP-473/2013/A <sup>(4)</sup>	ND/2019/03	<b><u>1hr TSP and 24hr TSP</u></b> FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark	--
	ND/2019/04		--
EP-473/2013/A <sup>(5)</sup>	ND/2019/05	<b><u>1hr TSP and 24hr TSP</u></b> FLN-DMS3 - House near Tong Hang	--
EP-473/2013/A <sup>(6)</sup>	ND/2019/03	<b><u>1hr TSP</u></b> FLN-DMS5 - Noble Hill	--
	ND/2019/04	<b><u>24hr TSP</u></b> FLN-DMS5A - Good View New Village	--
EP-473/2013/A <sup>(7)</sup>	ND/2019/05	--	CP-FLN-NMS2 - Scattered Village Houses in Tong Hang
EP-473/2013/A <sup>(8)</sup>	ND/2019/04	--	CP-FLN-NMS1 - Belair Monte
	ND/2019/05	--	
EP-475/2013/A	ND/2019/06	--	
Remarks: 1. Since the distance between monitoring station CP-KTN-NMS2 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 2. Since the distance between monitoring station CP-KTN-NMS3 and site boundary of ND/2019/03 under EP-468/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 3. Since the distance between monitoring station CP-KTN-NMS1 and site boundary of ND/2019/02 under EP-469/2013 exceeds 300m. The monitoring station is not applicable to ND/2019/02 4. Since the distance between monitoring station FLN-DMS1 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/05 5. Since the distance between monitoring station FLN-DMS3 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/03 and ND/2019/04 6. Since the distance between monitoring station FLN-DMS5 and site boundary of ND/2019/05 under EP-473/2013/A exceeds 500m. The monitoring station is not applicable to ND/2019/05 7. Since the distance between monitoring station CP-FLN-NMS2 and site boundary of ND/2019/03 and ND/2019/04 under EP-473/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03 and ND/2019/04. 8. Since the distance between monitoring station CP-FLN-NMS1 and site boundary of ND/2019/03 under EP-473/2013/A exceeds 300m. The monitoring station is not applicable to ND/2019/03.			



**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Tentative Impact Water Quality Monitoring Schedule (January 2023)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>1-Jan</b>	<b>2-Jan</b>	3-Jan	4-Jan	5-Jan	6-Jan	7-Jan
		<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream		<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream		<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream
<b>8-Jan</b>	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan
	<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream		<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream		<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream	
<b>15-Jan</b>	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan
	<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream		<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream		<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream	
<b>22-Jan</b>	<b>23-Jan</b>	<b>24-Jan</b>	<b>25-Jan</b>	26-Jan	27-Jan	28-Jan
				<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream		<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream
<b>29-Jan</b>	30-Jan	31-Jan				
	<u><b>Water Quality Monitoring</b></u> River Beas, River Indus and near Siu Hang San Tsuen Stream					

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

**Water Quality Monitoring Stations**

River Beas: SYR-CS1 - Upstream of river, SYR-IS1 - Downstream of river

River Indus and near Siu Hang San Tsuen Stream: NTR-CS1 - Upstream of river, NTR-IS1 - Downstream of river, SHST-IS2 - Water sensitive receiver at near Siu Hang San Tsuen Stream,

MWR-IS3 - Water sensitive receiver at near Ma Wat River

Environmental Permit(s)	Contract No.	Water Quality Stations
EP-469/2013	ND/2019/02	<u><b>River Beas</b></u> SYR-CS1 - Upstream of river SYR-IS1 - Downstream of river
EP-473/2013/A	ND/2019/04	<u><b>River Indus and near Siu Hang San Tsuen Stream</b></u> NTR-CS1 - Upstream of river NTR-IS1 - Downstream of river SHST-IS2 - Water sensitive receiver at near Siu Hang San Tsuen Stream MWR-IS3 - Water sensitive receiver at near Ma Wat River

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Tentative Impact Ecological Monitoring Schedule (January 2023)**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
<b>1-Jan</b>	<b>2-Jan</b>	3-Jan	4-Jan	5-Jan	6-Jan	7-Jan
				Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 17:00 Low tide: Start time: 12:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5#</u></b> High tide: Start time: 11:00 Low tide: Start time: 14:00	
<b>8-Jan</b>	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan
			Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution <b><u>T1, T6</u></b>	Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 13:00 Low tide: Start time: 11:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5#</u></b> High tide: Start time: 14:00 Low tide: Start time: 09:00	
<b>15-Jan</b>	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan
			Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution <b><u>T3, T4, T5</u></b>	Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 10:00 Low tide: Start time: 13:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5</u></b> High tide: Start time: 10:00 Low tide: Start time: 14:00	
<b>22-Jan</b>	<b>23-Jan</b>	<b>24-Jan</b>	<b>25-Jan</b>	26-Jan	27-Jan	28-Jan
				Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River <b><u>T1 T2</u></b> High tide: Start time: 16:00 Low tide: Start time: 10:00	Monitoring of Measures to Minimise Disturbance to Water Birds in Sheung Yue River and Long Valley <b><u>T3 T5#</u></b> High tide: Start time: 14:00 Low tide: Start time: 10:00	
<b>29-Jan</b>	30-Jan	31-Jan				

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

#Night-time avifauna monitoring in Long Valley

Item	Activity	Monitoring Stations/Transects
1	Monitoring of Measures to Minimise Disturbance to Water Birds in Ng Tung River, Sheung Yue River, and Long Valley	T1. Ng Tung River T2. Ng Tung River T3. Sheung Yue River T5. Long Valley
2	Monitoring of Measures to Minimise Impacts to Aquatic Fauna in Ma Tso Lung Stream and Siu Hang San Tsuen Stream	MS_01, MS_02, MS_03, MS_04, MS_05, MS_06, MS_07, MS_08, MS_09, MS_10, MS_11, MS_12, MS_13, MS_14, MS_15
3	Monitoring of Measures to Minimise Impacts on Ecological Sensitive Habitats from Disturbance and Pollution	T1. Ma Tso Lung riparian zone and associated wetland habitats
		T1. Green belt areas E1-8,D1-8 and G1-3 in KTN NDA
		T1. AGR one C2-4 and C2-2 in KTN NDA
		T1. Areas north of Ng Tung River
		T3. Area west of Siu Hang San Tsuen Stream
		T4. South side of Fanling Highway and Castle Peak Road in the vicinity of Pak Shek Au
		T5. Area west and east of the southern limit of the FLN NDA work area
		T6. Areas in the western part of KTN



**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Tentative Weekly Site Inspection Schedule for January 2023**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Jan	2-Jan	3-Jan	4-Jan	5-Jan	6-Jan	7-Jan
		Site Inspection (ND/2019/01) Site Inspection (ND/2019/05)	Site Inspection (ND/2019/02)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
8-Jan	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan	14-Jan
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/02)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
15-Jan	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan	21-Jan
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)	Site Inspection (ND/2019/02)	Site Inspection (ND/2019/04) Site Inspection (ND/2019/06)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07)	
22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan	28-Jan
				Site Inspection (ND/2019/04) Site Inspection (ND/2019/06) Site Inspection (ND/2019/05) Site Inspection (ND/2019/02)	Site Inspection (ND/2019/03) Site Inspection (ND/2019/07) Site Inspection (ND/2019/01)	
29-Jan	30-Jan	31-Jan				
	Site Inspection (ND/2019/05)	Site Inspection (ND/2019/01)				

The schedule may be changed due to unforeseen circumstances (adverse weather, etc.)

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**APPENDIX E**  
**AIR QUALITY AND AMBIENT ARSENIC**  
**MONITORING RESULTS AND**  
**GRAPHICAL PRESENTATION**

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## Appendix E - 1-hour TSP Monitoring Results

Location FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
1-Dec-22	9:00	Sunny	131.0
1-Dec-22	10:00	Sunny	125.3
1-Dec-22	11:00	Sunny	122.7
7-Dec-22	13:00	Sunny	69.3
7-Dec-22	14:00	Sunny	85.4
7-Dec-22	15:00	Sunny	82.3
13-Dec-22	9:00	Cloudy	78.1
13-Dec-22	10:00	Cloudy	56.4
13-Dec-22	11:00	Cloudy	71.0
19-Dec-22	9:00	Sunny	97.1
19-Dec-22	10:00	Sunny	95.4
19-Dec-22	11:00	Sunny	92.5
23-Dec-22	9:00	Sunny	54.2
23-Dec-22	10:00	Sunny	57.9
23-Dec-22	11:00	Sunny	51.9
29-Dec-22	9:00	Cloudy	165.6
29-Dec-22	10:00	Cloudy	173.8
29-Dec-22	11:00	Cloudy	179.9
Minimum			51.9
Maximum			179.9
Average			99.4

Location FLN-DMS3 - House near Tong Hang			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
1-Dec-22	13:00	Sunny	108.7
1-Dec-22	14:00	Sunny	106.9
1-Dec-22	15:00	Sunny	114.6
7-Dec-22	9:00	Sunny	65.8
7-Dec-22	10:00	Sunny	78.4
7-Dec-22	11:00	Sunny	79.9
13-Dec-22	13:00	Rainy	43.5
13-Dec-22	14:00	Rainy	35.9
13-Dec-22	15:00	Rainy	34.8
19-Dec-22	13:00	Sunny	80.9
19-Dec-22	14:00	Sunny	72.6
19-Dec-22	15:00	Sunny	94.1
23-Dec-22	13:00	Sunny	53.3
23-Dec-22	14:00	Sunny	55.4
23-Dec-22	15:00	Sunny	51.7
29-Dec-22	9:00	Cloudy	161.4
29-Dec-22	10:00	Cloudy	144.0
29-Dec-22	11:00	Cloudy	156.9
Minimum			34.8
Maximum			161.4
Average			85.5

## Appendix E - 1-hour TSP Monitoring Results

Location FLN-DMS5 - Noble Hill			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
6-Dec-22	9:00	Sunny	68.8
6-Dec-22	10:00	Sunny	76.1
6-Dec-22	11:00	Sunny	89.6
12-Dec-22	13:10	Sunny	78.0
12-Dec-22	14:10	Sunny	93.7
12-Dec-22	15:10	Sunny	70.7
16-Dec-22	9:00	Cloudy	41.6
16-Dec-22	10:00	Cloudy	33.3
16-Dec-22	11:00	Cloudy	23.2
22-Dec-22	9:00	Sunny	36.1
22-Dec-22	10:00	Sunny	31.4
22-Dec-22	11:00	Sunny	30.6
28-Dec-22	9:00	Sunny	148.8
28-Dec-22	10:00	Sunny	143.6
28-Dec-22	11:00	Sunny	138.7
Minimum			23.2
Maximum			148.8
Average			73.6

Location KTN-DMS4(B) - Temporary Structure at Pak Shek Au			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
6-Dec-22	13:00	Sunny	40.6
6-Dec-22	14:00	Sunny	52.4
6-Dec-22	15:00	Sunny	57.9
12-Dec-22	8:59	Fine	60.3
12-Dec-22	9:59	Fine	62.9
12-Dec-22	10:59	Fine	82.6
16-Dec-22	9:30	Cloudy	69.3
16-Dec-22	10:30	Cloudy	40.7
16-Dec-22	13:00	Cloudy	45.3
22-Dec-22	13:00	Sunny	46.6
22-Dec-22	14:00	Sunny	52.5
22-Dec-22	15:00	Sunny	40.3
28-Dec-22	13:00	Sunny	63.4
28-Dec-22	14:00	Sunny	81.9
28-Dec-22	15:00	Sunny	74.7
Minimum			40.3
Maximum			82.6
Average			58.1



## Appendix E - 24-hour TSP Monitoring Results

### Location FLN-DMS1 - Scattered Village Houses North of Proposed Potential Ecopark

Start Date	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Conc. (µg/m <sup>3</sup> )
			Initial	Final		Initial	Final		Initial	Final			
6-Dec-22	Sunny	287.0	2.9328	3.0409	0.1081	7159.8	7183.8	24.0	1.24	1.24	1.24	1785.7	60.5
12-Dec-22	Cloudy	287.5	2.9655	3.1829	0.2174	7183.8	7207.8	24.0	1.24	1.24	1.24	1782.1	122.0
16-Dec-22	Sunny	286.6	2.9508	2.9860	0.0352	7207.8	7231.8	24.0	1.24	1.24	1.24	1785.2	19.7
22-Dec-22	Sunny	286.8	2.9342	3.0883	0.1541	7231.8	7255.8	24.0	1.24	1.24	1.24	1783.1	86.4
28-Dec-22	Cloudy	288.8	2.9568	3.0374	0.0806	7255.8	7279.8	24.0	1.24	1.24	1.24	1783.0	45.2
												Min	19.7
												Max	122.0
												Average	66.8

### Location FLN-DMS3 - House near Tong Hang

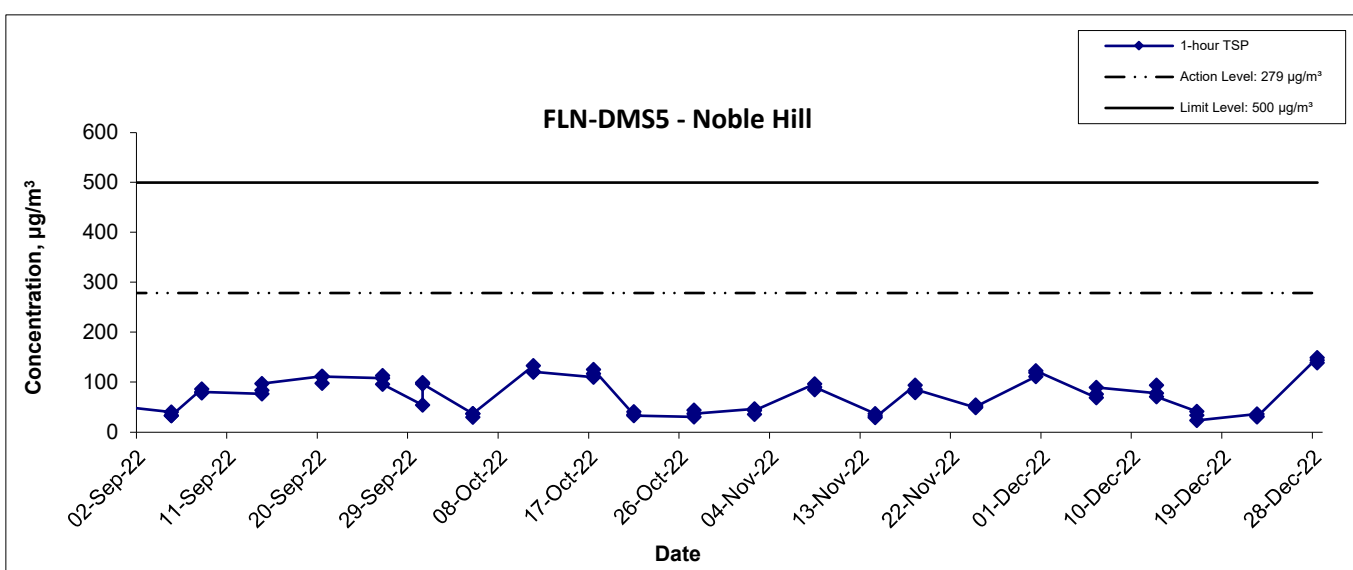
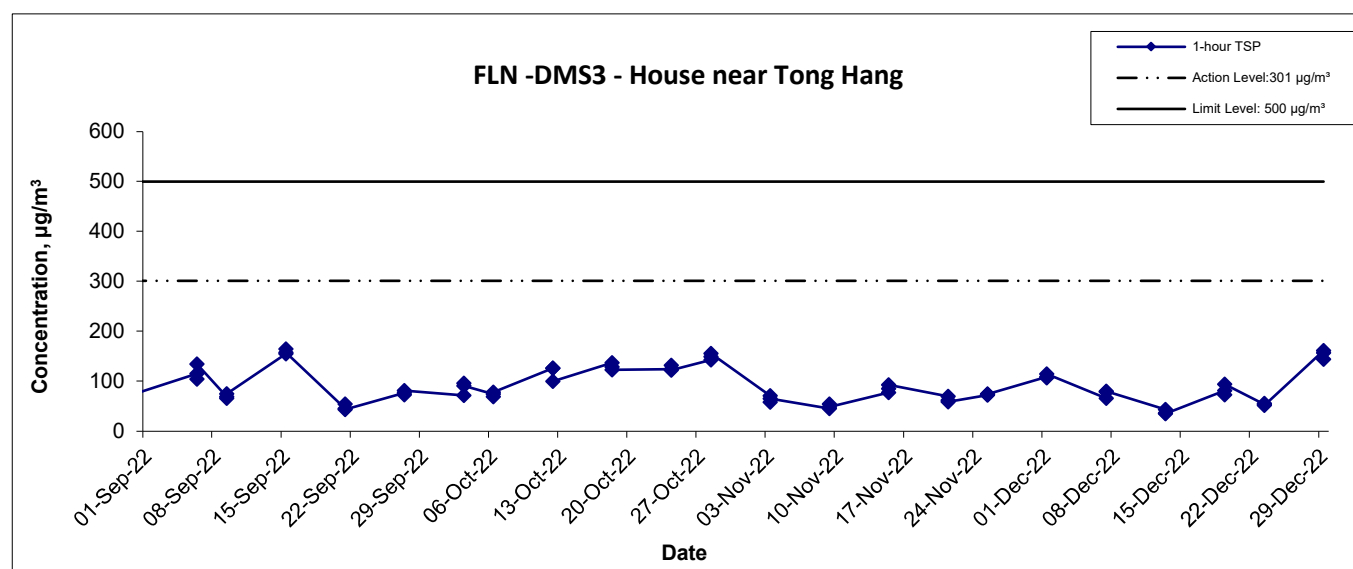
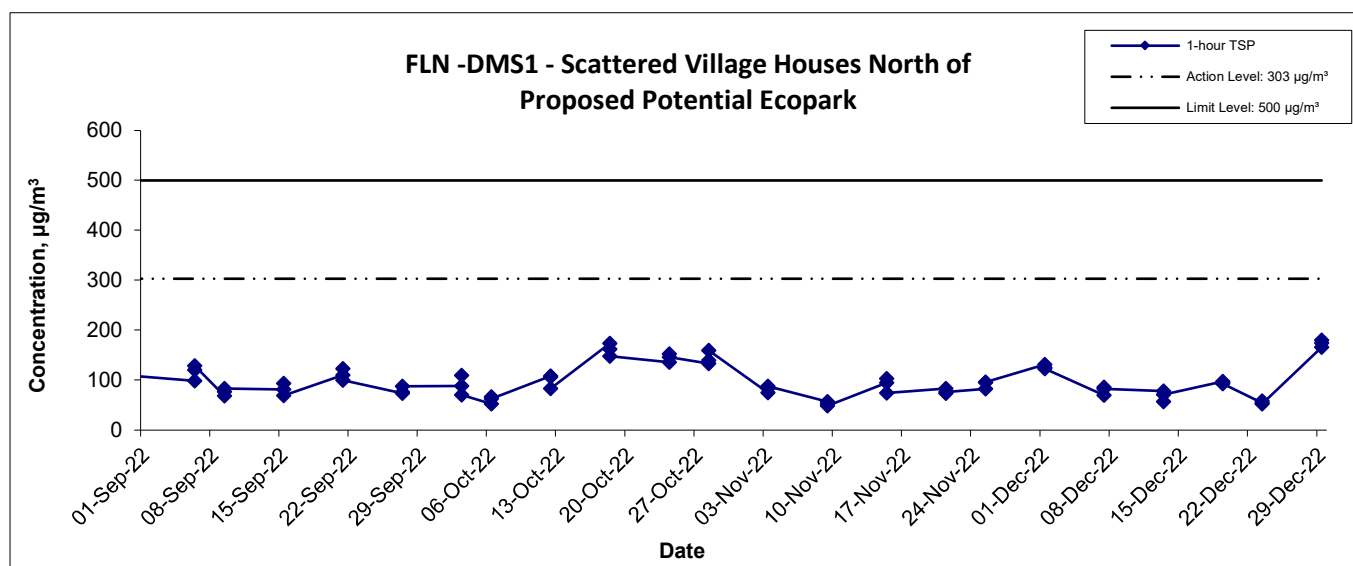
Start Date	Weather Condition	Air Temp. (K)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Conc. (µg/m <sup>3</sup> )
			Initial	Final		Initial	Final		Initial	Final			
6-Dec-22	Sunny	287.0	2.9259	3.0801	0.1542	8293.3	8317.3	24.0	1.25	1.25	1.25	1800.5	85.6
12-Dec-22	Cloudy	287.5	2.9627	3.1447	0.1820	8317.3	8341.3	24.0	1.25	1.25	1.25	1796.7	101.3
16-Dec-22	Sunny	286.6	2.9789	3.0203	0.0414	8341.3	8365.3	24.0	1.25	1.25	1.25	1799.9	23.0
22-Dec-22	Sunny	286.8	2.9417	3.0405	0.0988	8365.3	8389.3	24.0	1.25	1.25	1.25	1797.8	55.0
28-Dec-22	Cloudy	288.8	2.9921	3.1000	0.1079	8389.3	8413.3	24.0	1.25	1.25	1.25	1797.7	60.0
												Min	23.0
												Max	101.3
												Average	65.0


## Appendix E - 24-hour TSP Monitoring Results

Location FLN-DMS5A - Good View New Village			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
6-Dec-22	9:30	Sunny	59.3
12-Dec-22	10:00	Cloudy	132.2
16-Dec-22	9:15	Rainy	137.0
22-Dec-22	10:15	Sunny	101.6
28-Dec-22	10:00	Sunny	144.6
Minimum			59.3
Maximum			144.6
Average			114.9

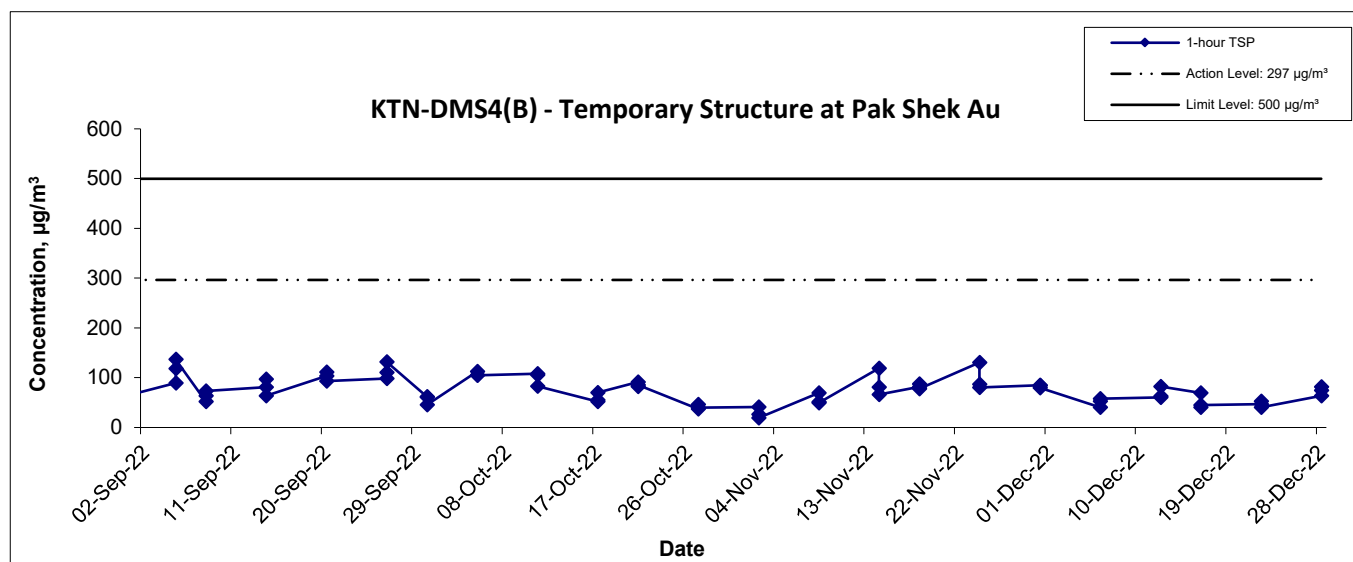
Location KTN-DMS4(B) - Temporary Structure at Pak Shek Au			
Date	Time	Weather	Particulate Concentration ( $\mu\text{g}/\text{m}^3$ )
6-Dec-22	9:45	Sunny	41.3
12-Dec-22	9:30	Cloudy	159.0
16-Dec-22	9:30	Rainy	108.7
22-Dec-22	10:30	Sunny	54.9
28-Dec-22	10:30	Sunny	64.2
Minimum			41.3
Maximum			159.0
Average			85.6


## 1-hr TSP Concentration Levels



Title	Service Contract No. NDO 04/2019		
	Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas		
	Graphical Presentation of 1-hour TSP Monitoring Results		
Scale	N.T.S		Project No.
	Date		WMA20002
Dec 22		Appendix	E
			

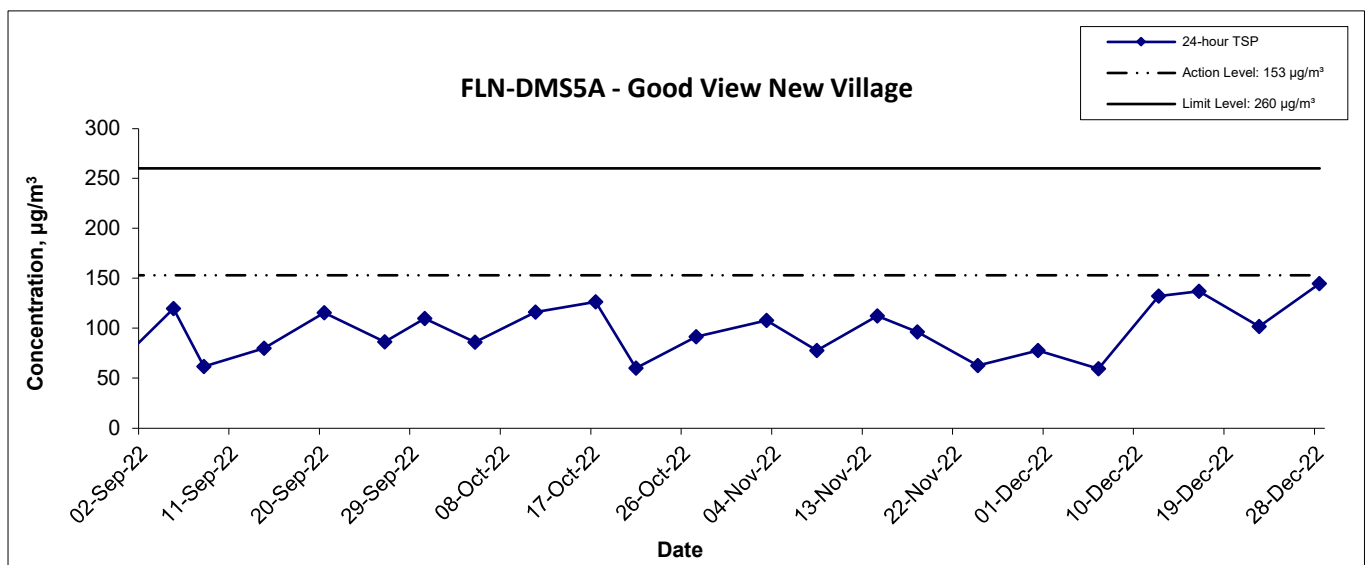
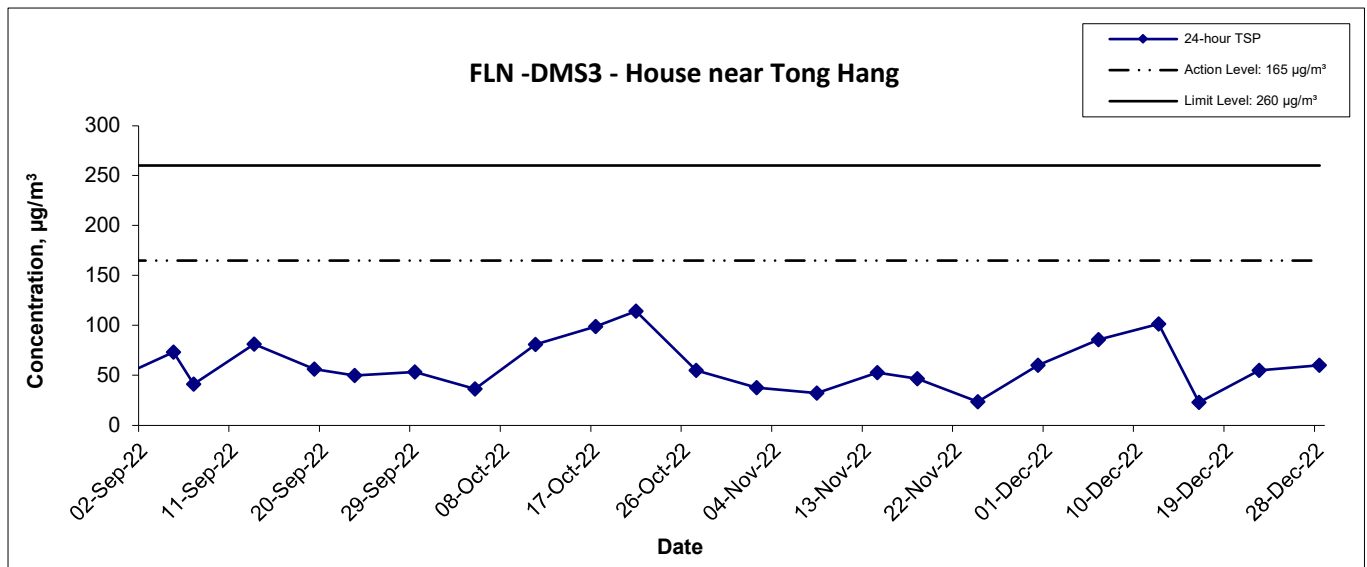
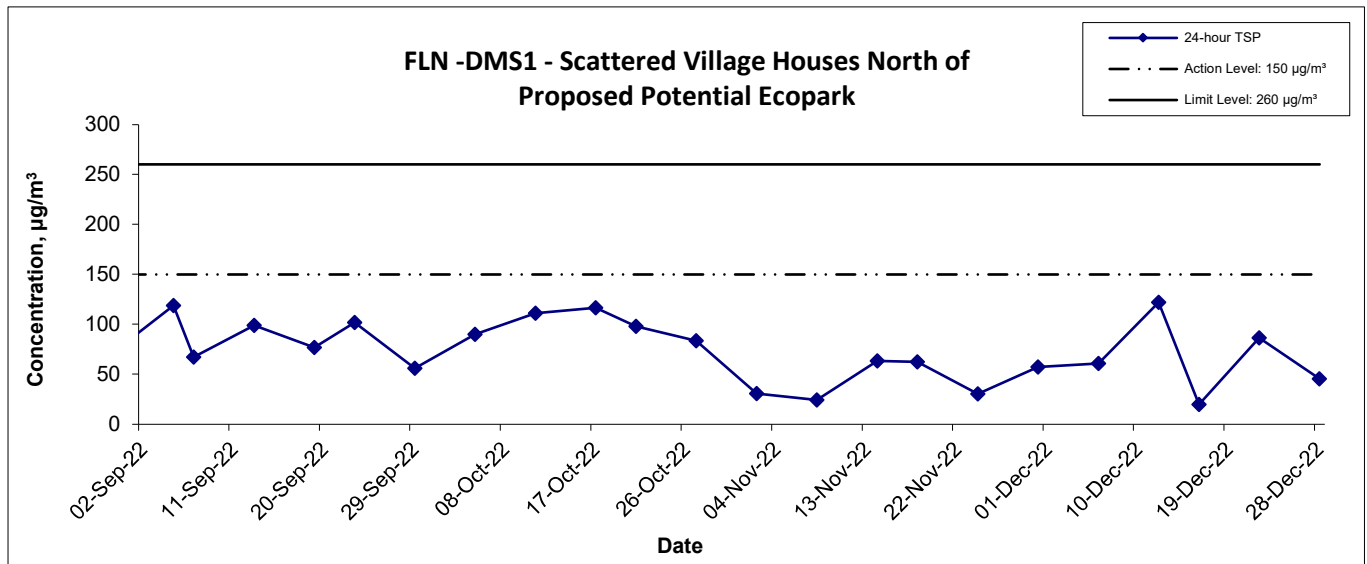
## 1-hr TSP Concentration Levels




<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of 1-hour TSP Monitoring Results	Scale	Project No.	
	N.T.S	WMA20002	
	Date	Appendix	
	Dec 22	E	

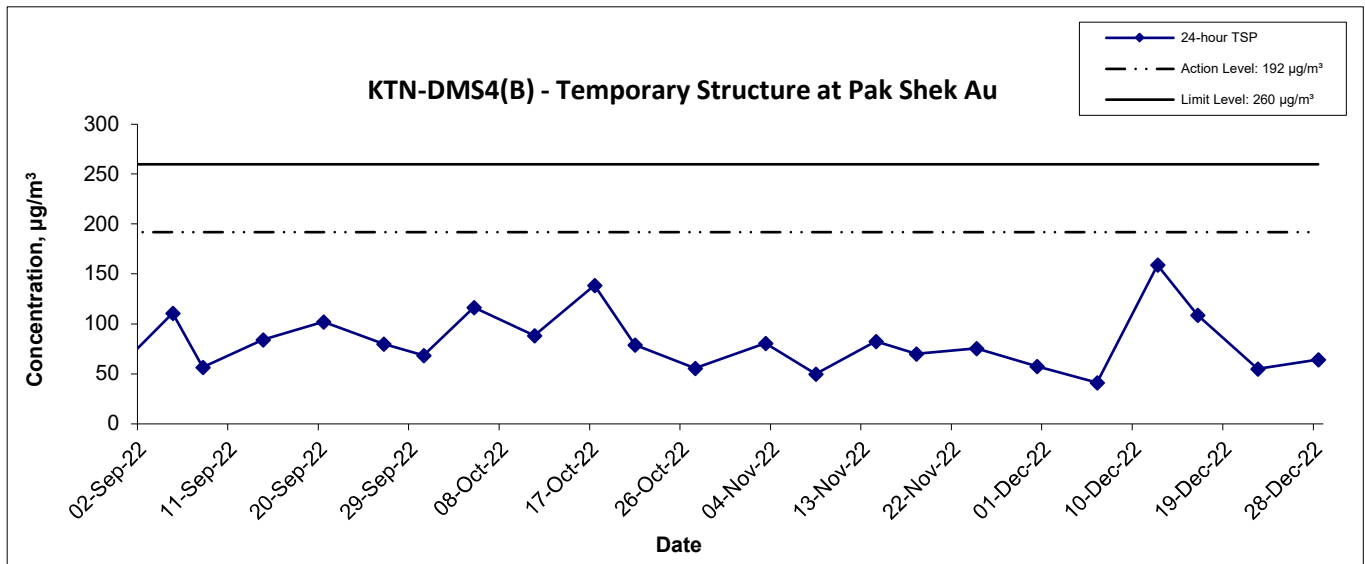



## 24-hr TSP Concentration Levels



<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of 24-hour TSP Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	
	<b>Date</b> Dec 22	<b>Appendix</b> E	

## 24-hr TSP Concentration Levels

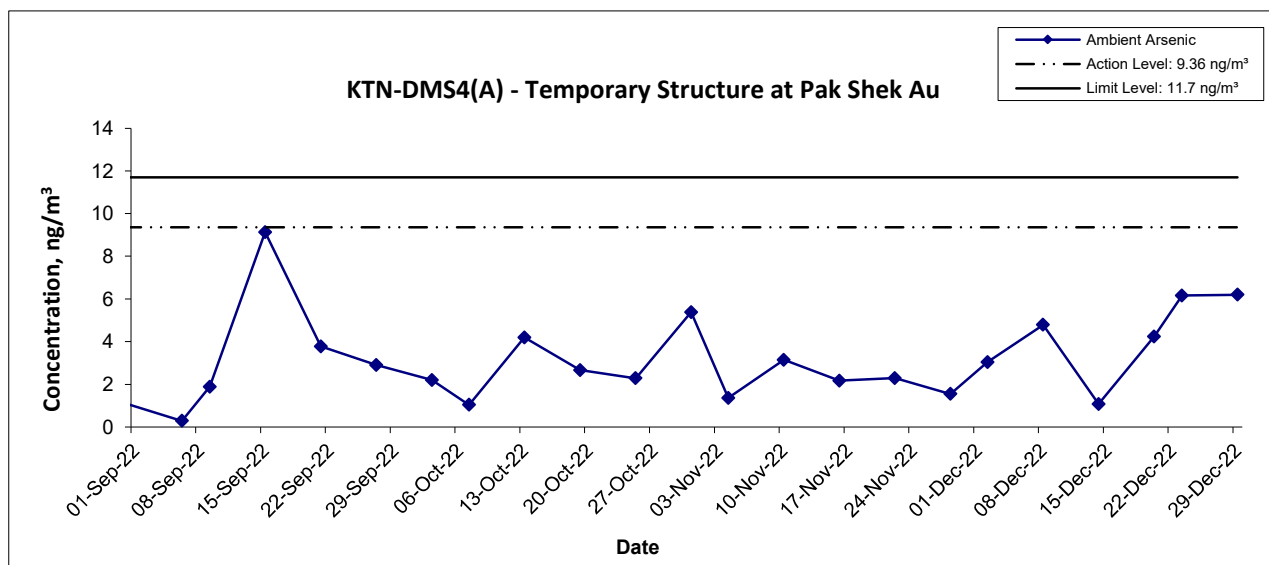



<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas <b>Graphical Presentation of 24-hour TSP Monitoring Results</b>	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	
	<b>Date</b> Dec 22	<b>Appendix</b> E	

## Appendix E - Ambient Arsenic Monitoring Results

Location KTN-DMS4(A) - Temporary Structure at Pak Shek Au			
Date	Arsenic ( $\mu\text{g}$ )	Standard Volume, Vstd ( $\text{m}^3$ )	Ambient Arsenic Concentration ( $\text{ng}/\text{m}^3$ )
2-Dec-22	4.8	1580.4	3.04
8-Dec-22	7.6	1586.9	4.79
14-Dec-22	1.7	1574.6	1.08
20-Dec-22	6.7	1578.9	4.24
23-Dec-22	9.7	1575.9	6.16
29-Dec-22	9.8	1581.0	6.20

## Ambient Arsenic



<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas  Graphical Presentation of Ambient Arsenic Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	 consulting . testing . research
	<b>Date</b> Dec 22	<b>Appendix</b> E	



## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	37520
Date of Issue:	2022-12-08
Date Received:	2022-12-05
Date Tested:	2022-12-05
Date Completed:	2022-12-08

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 37520  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
 Environmental Team for Environmental Monitoring and Audit Works in  
 Construction Phase for the First Phase Development of Kwu Tung North  
 and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	220411/028
Sample No.	37520-1
Arsenic (µg)	4.8

Remarks: 1) <= less than

2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**



**PATRICK TSE**

General Manager

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC37520
Date of Issue:	2022-12-08
Date Received:	2022-12-05
Date Tested:	2022-12-05
Date Completed:	2022-12-08

Page: 1 of 2

**ATTN:** Ms Ivy Tam

**QC report:**

**Method Blank**

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

**Filter Lot Blank**

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.03	N/A

**Laboratory control spike/ Method QC**

Parameter	MQC	Acceptance
Arsenic (%)	102	80-120

**Calibration check**

Parameter	CCV	Acceptance
Arsenic (%)	95	90-110

**Interference check solution A**

Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

**Interference check solution AB**

Parameter	ICS AB	Acceptance
Arsenic (%)	100	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37520

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

Report No.:	QC37520
Date of Issue:	2022-12-08
Date Received:	2022-12-05
Date Tested:	2022-12-05
Date Completed:	2022-12-08

Page: 2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	114	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	1	RPD $\leq$ 20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	101	90-110

Remarks: 1)  $\leq$  less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37520

\*\*\*\*\*END OF REP ORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	37521
Date of Issue:	2022-12-14
Date Received:	2022-12-09
Date Tested:	2022-12-09
Date Completed:	2022-12-14

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 37521  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
Environmental Team for Environmental Monitoring and Audit Works in  
Construction Phase for the First Phase Development of Kwu Tung North  
and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	220411/029
Sample No.	37521-1
Arsenic (µg)	7.6

Remarks: 1) < = less than

2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC37521
Date of Issue:	2022-12-14
Date Received:	2022-12-09
Date Tested:	2022-12-09
Date Completed:	2022-12-14

Page: 1 of 2

**ATTN:** Ms Ivy Tam

**QC report:**

**Method Blank**

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

**Filter Lot Blank**

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.03	N/A

**Laboratory control spike/ Method QC**

Parameter	MQC	Acceptance
Arsenic (%)	98	80-120

**Calibration check**

Parameter	CCV	Acceptance
Arsenic (%)	97	90-110

**Interference check solution A**

Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

**Interference check solution AB**

Parameter	ICS AB	Acceptance
Arsenic (%)	100	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37521

\*\*\*\*\*

**PREPARED AND CHECKED BY:**

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

Report No.:	QC37521
Date of Issue:	2022-12-14
Date Received:	2022-12-09
Date Tested:	2022-12-09
Date Completed:	2022-12-14
Page:	2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	124	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	7	RPD $\leq$ 20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	100	90-110

Remarks: 1)  $\leq$  less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37521

\*\*\*\*\*END OF REP ORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	37552
Date of Issue:	2022-12-20
Date Received:	2022-12-15
Date Tested:	2022-12-15
Date Completed:	2022-12-20

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 37552  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
Environmental Team for Environmental Monitoring and Audit Works in  
Construction Phase for the First Phase Development of Kwu Tung North  
and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	220411/030
Sample No.	37552-1
Arsenic (µg)	1.7

Remarks: 1) < = less than

2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC37552
Date of Issue:	2022-12-20
Date Received:	2022-12-15
Date Tested:	2022-12-15
Date Completed:	2022-12-20

Page: 1 of 2

**ATTN:** Ms Ivy Tam

**QC report:**

### Method Blank

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

### Filter Lot Blank

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.03	N/A

### Laboratory control spike/ Method QC

Parameter	MQC	Acceptance
Arsenic (%)	98	80-120

### Calibration check

Parameter	CCV	Acceptance
Arsenic (%)	92	90-110

### Interference check solution A

Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

### Interference check solution AB

Parameter	ICS AB	Acceptance
Arsenic (%)	104	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37552

\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

Report No.:	QC37552
Date of Issue:	2022-12-20
Date Received:	2022-12-15
Date Tested:	2022-12-15
Date Completed:	2022-12-20
Page:	2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	110	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	3	RPD $\leq$ 20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	103	90-110

Remarks: 1)  $\leq$  less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37552

\*\*\*\*\*END OF REP ORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	37559
Date of Issue:	2022-12-28
Date Received:	2022-12-21
Date Tested:	2022-12-21
Date Completed:	2022-12-28

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 37559  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
 Environmental Team for Environmental Monitoring and Audit Works in  
 Construction Phase for the First Phase Development of Kwu Tung North  
 and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	220411/031
Sample No.	37559-1
Arsenic (µg)	6.7

Remarks: 1) < = less than

2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
 General Manager

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC37559
Date of Issue:	2022-12-28
Date Received:	2022-12-21
Date Tested:	2022-12-21
Date Completed:	2022-12-28

**ATTN:** Ms Ivy Tam

Page: 1 of 2

**QC report:**

**Method Blank**

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

**Filter Lot Blank**

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.03	N/A

**Laboratory control spike/ Method QC**

Parameter	MQC	Acceptance
Arsenic (%)	99	80-120

**Calibration check**

Parameter	CCV	Acceptance
Arsenic (%)	108	90-110

**Interference check solution A**

Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

**Interference check solution AB**

Parameter	ICS AB	Acceptance
Arsenic (%)	96	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37559

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

Report No.:	QC37559
Date of Issue:	2022-12-28
Date Received:	2022-12-21
Date Tested:	2022-12-21
Date Completed:	2022-12-28
Page:	2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	83	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	2	RPD $\leq$ 20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	104	90-110

Remarks: 1)  $\leq$  less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37559

\*\*\*\*\*END OF REPORT\*\*\*\*\*



## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	37577
Date of Issue:	2023-01-03
Date Received:	2022-12-28
Date Tested:	2022-12-28
Date Completed:	2023-01-03

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 37577  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
Environmental Team for Environmental Monitoring and Audit Works in  
Construction Phase for the First Phase Development of Kwu Tung North  
and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	220411/033
Sample No.	37577-1
Arsenic (µg)	9.7

Remarks: 1) < = less than

2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC37577
Date of Issue:	2023-01-03
Date Received:	2022-12-28
Date Tested:	2022-12-28
Date Completed:	2023-01-03

Page: 1 of 2

**ATTN:** Ms Ivy Tam

**QC report:**

**Method Blank**

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

**Filter Lot Blank**

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.03	N/A

**Laboratory control spike/ Method QC**

Parameter	MQC	Acceptance
Arsenic (%)	102	80-120

**Calibration check**

Parameter	CCV	Acceptance
Arsenic (%)	103	90-110

**Interference check solution A**

Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

**Interference check solution AB**

Parameter	ICS AB	Acceptance
Arsenic (%)	99	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37577

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

Report No.:	QC37577
Date of Issue:	2023-01-03
Date Received:	2022-12-28
Date Tested:	2022-12-28
Date Completed:	2023-01-03

Page: 2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	87	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	14	RPD≤20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	100	90-110

Remarks: 1) <= less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37577

\*\*\*\*\*END OF REP ORT\*\*\*\*\*

## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	37599
Date of Issue:	2023-01-04
Date Received:	2022-12-30
Date Tested:	2022-12-30
Date Completed:	2023-01-04

**ATTN:** Ms Ivy Tam

Page: 1 of 1

**Sample Description :** 1 sample as received from customer said to be quartz filter  
**Laboratory No. :** 37599  
**Project No. :** WMA 20002  
**Project Title:** Service Contract No. NDO 04/2019  
 Environmental Team for Environmental Monitoring and Audit Works in  
 Construction Phase for the First Phase Development of Kwu Tung North  
 and Fanling North New Development Areas

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Arsenic	In-house method SOP036 (ICP-MS)	0.18 µg

### Results:

Sample ID	220411/032
Sample No.	37599-1
Arsenic (µg)	9.8

Remarks: 1) < = less than

2) Results for the test material reported as received

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
 General Manager



## TEST REPORT

**APPLICANT:** Wellab (EM&A)  
RM 1808, Technology Park,  
18 On Lai Street,  
Shatin, N.T., Hong Kong

Report No.:	QC37599
Date of Issue:	2023-01-04
Date Received:	2022-12-30
Date Tested:	2022-12-30
Date Completed:	2023-01-04

Page: 1 of 2

**ATTN:** Ms Ivy Tam

**QC report:**

**Method Blank**

Parameter	Method Blank	Acceptance
Arsenic (µg)	<0.036	<0.036

**Filter Lot Blank**

Parameter	Filter Lot Blank	Acceptance
Arsenic (µg)	0.03	N/A

**Laboratory control spike/ Method QC**

Parameter	MQC	Acceptance
Arsenic (%)	99	80-120

**Calibration check**

Parameter	CCV	Acceptance
Arsenic (%)	95	90-110

**Interference check solution A**

Parameter	ICS A	Acceptance
Arsenic (µg)	<0.036	<0.036

**Interference check solution AB**

Parameter	ICS AB	Acceptance
Arsenic (%)	99	70-130

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37599

\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

Report No.:	QC37599
Date of Issue:	2023-01-04
Date Received:	2022-12-30
Date Tested:	2022-12-30
Date Completed:	2023-01-04

Page: 2 of 2

### QC report:

#### Matrix Spike

Parameter	Matrix Spike	Acceptance
Arsenic (%)	109	75-125

#### Filter Duplicate

Parameter	Filter Duplicate	Acceptance
Arsenic (%)	10	RPD<20%

#### Serial dilution check

Parameter	Serial dilution check	Acceptance
Arsenic (%)	97	90-110

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37599

\*\*\*\*\*END OF REP ORT\*\*\*\*\*

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**APPENDIX F**  
**NOISE MONITORING RESULTS AND**  
**GRAPHICAL PRESENTATION**

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## Appendix F - Noise Monitoring Results

Location CP-FLN-NMS1 - Belair Monte (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
1-Dec-22	Sunny	10:30	63.0	70.1	59.9	62.2	69.9
		10:35	62.4	65.5	59.1		
		10:40	63.0	70.0	59.3		
		10:45	61.6	63.5	59.4		
		10:50	62.2	64.0	59.7		
		10:55	60.9	61.7	59.4		
7-Dec-22	Sunny	14:45	61.1	61.7	57.4	63.9	
		14:50	58.4	59.0	57.2		
		14:55	60.2	62.0	57.7		
		15:00	68.1	68.6	58.2		
		15:05	64.1	64.6	63.4		
		15:10	64.2	64.7	63.4		
13-Dec-22	Cloudy	10:30	67.6	71.6	60.1	68.1	
		10:35	67.7	71.1	59.3		
		10:40	68.5	72.2	62.8		
		10:45	68.5	71.8	63.3		
		10:50	66.4	70.0	61.0		
		10:55	69.4	72.4	60.8		
19-Dec-22	Sunny	10:30	64.9	68.0	58.1	64.5	
		10:35	61.3	62.9	57.7		
		10:40	63.1	66.2	58.3		
		10:45	65.8	67.8	57.9		
		10:50	64.7	67.7	58.9		
		10:55	65.5	68.6	61.6		
29-Dec-22	Cloudy	10:20	68.9	71.8	62.4	68.9	
		10:25	69.4	73.0	63.6		
		10:30	68.3	71.1	62.9		
		10:35	68.6	71.5	63.1		
		10:40	68.0	71.1	62.9		
		10:45	70.1	73.0	64.4		

Location CP-FLN-NMS2 - Scattered Village House in Tong Hang (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
1-Dec-22	Sunny	13:35	61.8	65.8	59.8	62.0	59.6
		13:40	60.7	61.8	59.5		
		13:45	63.0	70.1	60.2		
		13:50	62.4	65.2	59.0		
		13:55	61.6	63.8	59.3		
		14:00	62.0	64.1	59.9		
7-Dec-22	Sunny	13:30	63.9	64.2	62.7	60.9	
		13:35	60.2	61.7	59.2		
		13:40	58.4	59.9	57.2		
		13:45	60.6	61.2	58.8		
		13:50	58.9	60.0	59.0		
		13:55	61.1	62.8	59.1		
13-Dec-22	Cloudy	13:03	66.7	67.8	60.4	65.0	
		13:08	61.7	62.3	60.4		
		13:13	64.5	64.5	60.2		
		13:18	64.3	66.9	60.1		
		13:23	66.6	68.4	60.3		
		13:28	64.7	66.5	60.8		
19-Dec-22	Sunny	13:46	53.8	58.2	47.8	58.2	
		13:51	56.0	59.0	48.8		
		13:56	54.2	57.0	50.3		
		14:01	55.2	57.6	52.2		
		14:06	60.2	61.0	53.9		
		14:11	62.3	64.5	54.5		
29-Dec-22	Cloudy	11:04	59.7	61.4	57.6	59.9	
		11:09	61.0	62.9	57.8		
		11:14	59.3	60.6	57.7		
		11:19	61.0	63.9	57.5		
		11:24	59.1	60.6	56.9		
		11:29	59.1	61.3	56.4		



## Appendix F - Noise Monitoring Results

Location CP-KTN-NMS2 - Residential Buildings at Ma Tso Lung (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
6-Dec-22	Sunny	09:15	52.3	57.1	43.3	49.7	58.6
		09:20	45.5	47.1	42.8		
		09:25	52.9	57.8	43.6		
		09:30	47.8	49.3	43.2		
		09:35	44.6	46.3	42.8		
		09:40	48.2	49.5	42.5		
12-Dec-22	Sunny	09:30	56.4	60.4	40.7	51.4	
		09:35	43.9	45.2	38.2		
		09:40	49.5	53.9	37.4		
		09:45	53.5	58.9	38.0		
		09:50	45.8	50.0	37.1		
		09:55	42.8	45.5	36.4		
22-Dec-22	Sunny	09:20	59.7	64.9	49.8	62.3	
		09:25	69.5	72.3	44.9		
		09:30	49.4	50.3	43.4		
		09:35	47.3	49.1	44.3		
		09:40	46.4	48.5	43.4		
		09:45	47.6	49.2	45.2		
28-Dec-22	Sunny	11:20	62.7	66.1	48.8	59.1	
		11:25	62.1	65.0	45.6		
		11:30	56.3	59.9	42.6		
		11:35	56.4	60.8	43.1		
		11:40	54.0	56.6	42.4		
		11:45	55.2	58.3	43.3		

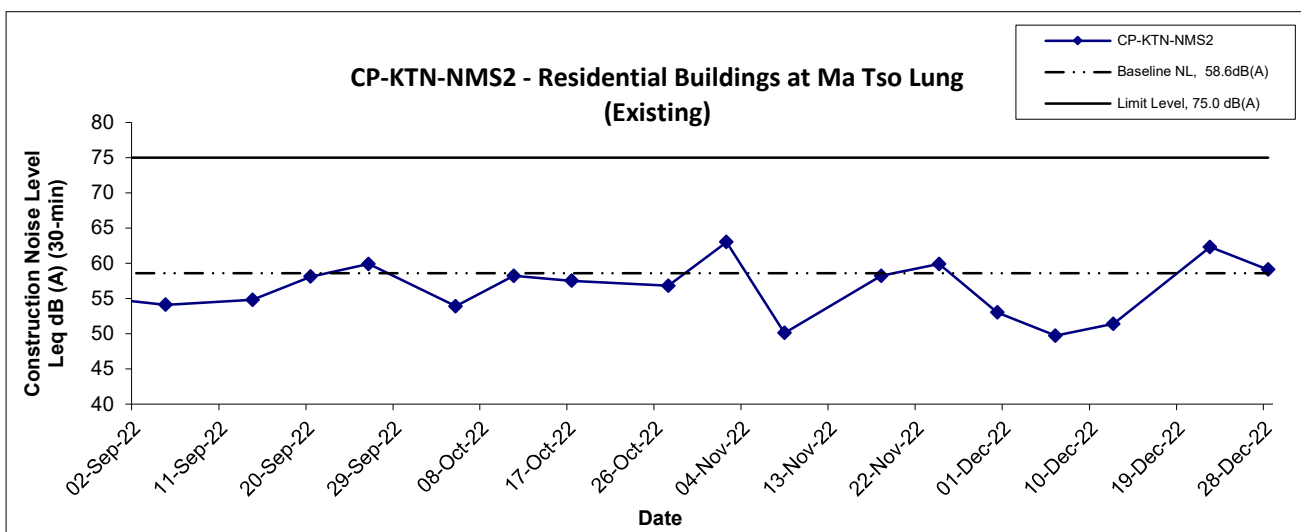
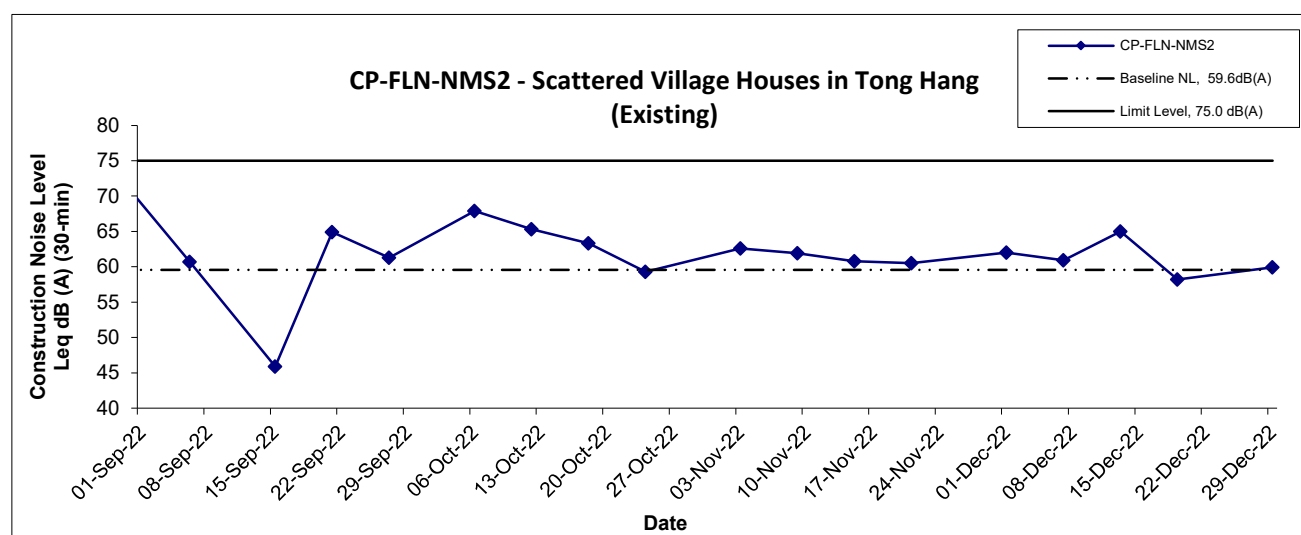
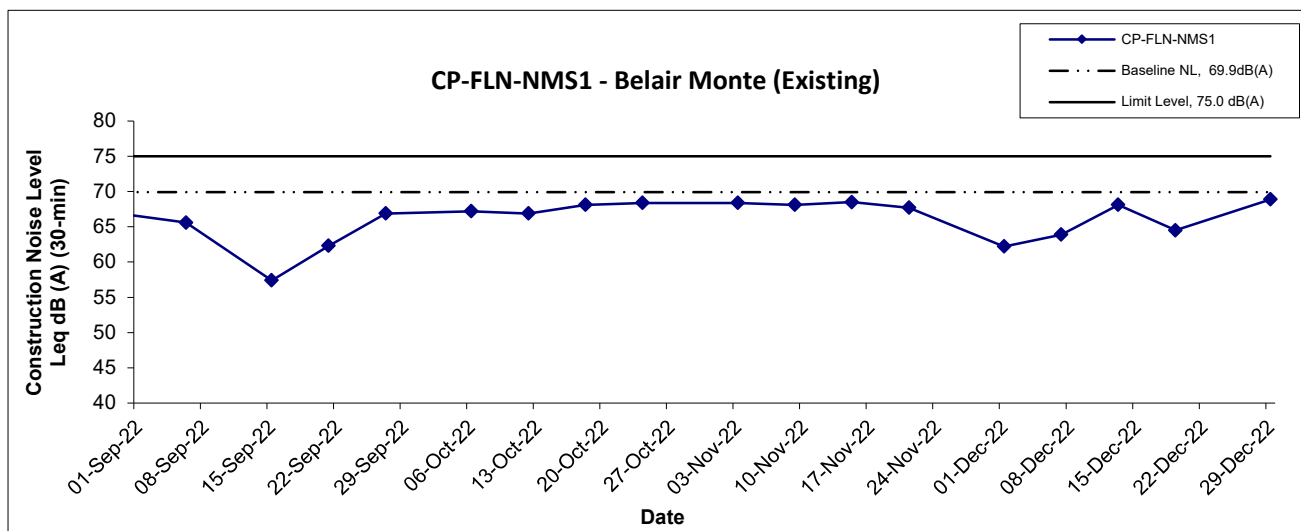
Location CP-KTN-NMS3 - Fung Kong Garden (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
6-Dec-22	Sunny	09:50	54.0	58.6	40.6	53.0	51.6
		09:55	45.0	46.6	41.2		
		10:00	59.2	64.0	41.7		
		10:05	45.4	47.4	41.5		
		10:10	45.3	50.7	40.3		
10:15	43.5	45.5	40.6	50.4			
12-Dec-22	Sunny	10:15	52.3		55.7	37.1	
		10:20	48.5		52.0	36.1	
		10:25	55.5		58.2	35.2	
		10:30	42.1		45.3	35.3	
		10:35	41.6	42.5	34.5		
10:40	44.5	47.6	36.4	58.2			
22-Dec-22	Sunny	10:06	58.1		58.8	57.3	
		10:11	58.1		58.7	57.4	
		10:16	58.4		58.8	57.3	
		10:21	57.9		58.5	57.2	
		10:26	58.0	58.6	57.3		
10:31	58.8	59.1	57.3	56.1			
28-Dec-22	Sunny	11:30	56.6		57.7	47.4	
		11:35	59.3		60.3	45.7	
		11:40	59.0		58.8	45.8	
		11:45	51.0		54.0	45.4	
		11:50	50.7	51.7	45.0		
11:55	49.5	50.7	45.4				


## Appendix F - Noise Monitoring Results

Location CP-KTN-NMS5 - N/A							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
6-Dec-22	Sunny	11:15	63.3	64.4	58.3	63.4	57.2
		11:20	59.7	62.1	55.9		
		11:25	64.2	68.8	55.2		
		11:30	67.3	71.8	57.1		
		11:35	61.6	65.1	55.6		
		11:40	58.5	59.1	55.7		
12-Dec-22	Sunny	11:00	53.6	57.0	48.5	55.4	
		11:05	52.1	54.1	49.4		
		11:10	51.4	53.3	49.4		
		11:15	54.1	55.2	52.7		
		11:20	56.1	59.7	53.3		
		11:25	59.5	62.6	54.1		
22-Dec-22	Sunny	16:45	53.6	55.9	49.9	56.4	
		16:50	55.7	58.2	50.6		
		16:55	58.9	61.4	52.7		
		17:00	57.8	60.1	51.2		
		17:05	53.9	56.1	50.4		
		17:10	55.8	59.4	50.8		
28-Dec-22	Sunny	16:40	54.6	57.0	52.6	54.9	
		16:45	55.8	55.9	52.4		
		16:50	53.3	54.2	52.5		
		16:55	55.3	56.1	52.5		
		17:00	56.2	58.7	52.5		
		17:05	53.6	54.8	52.3		

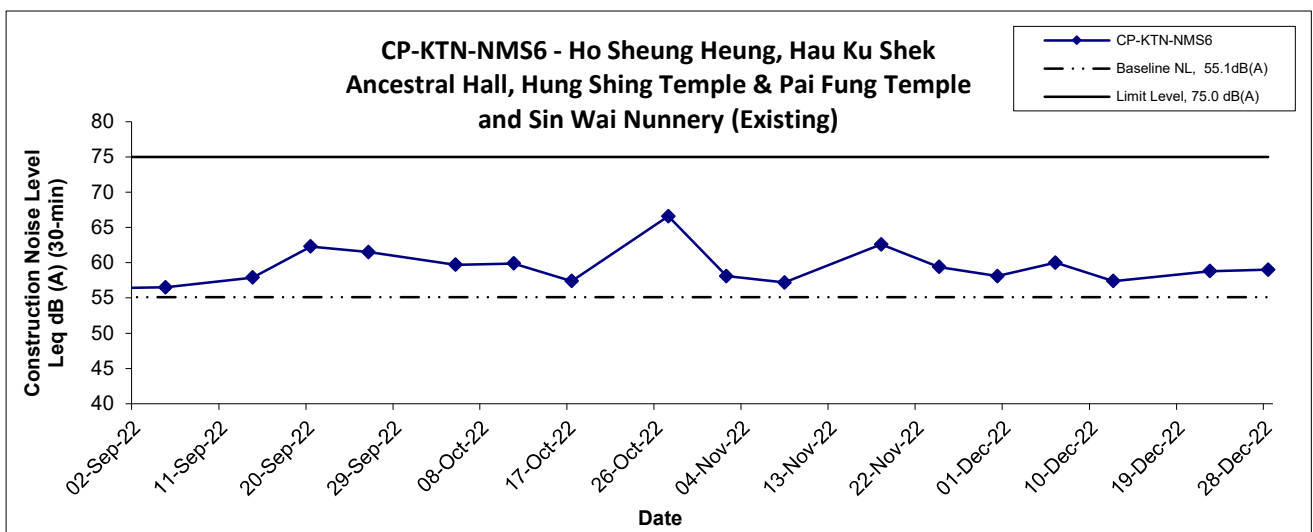
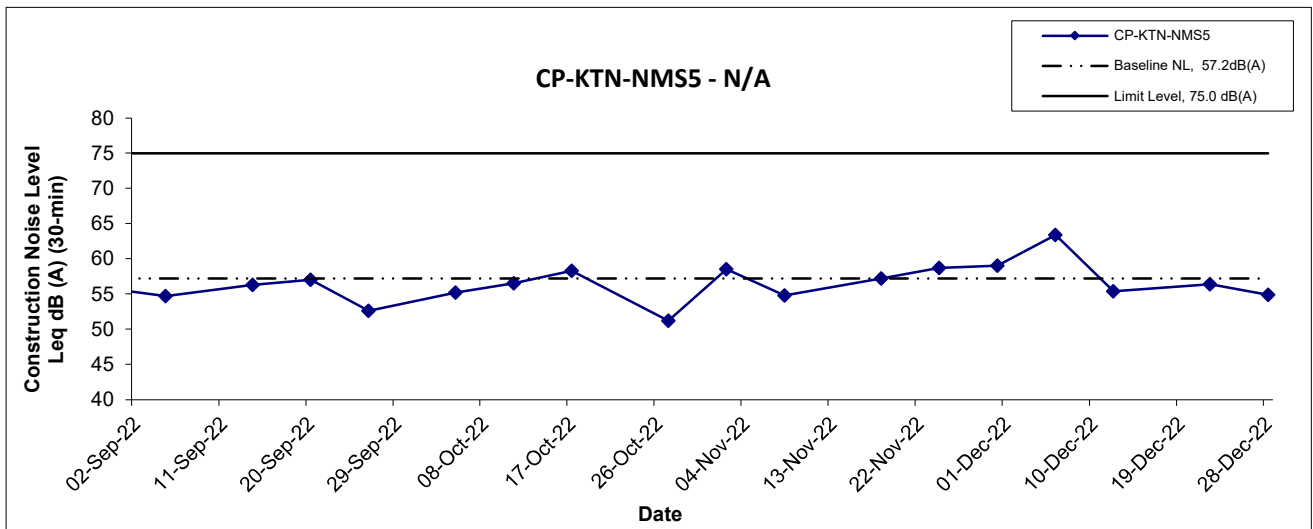
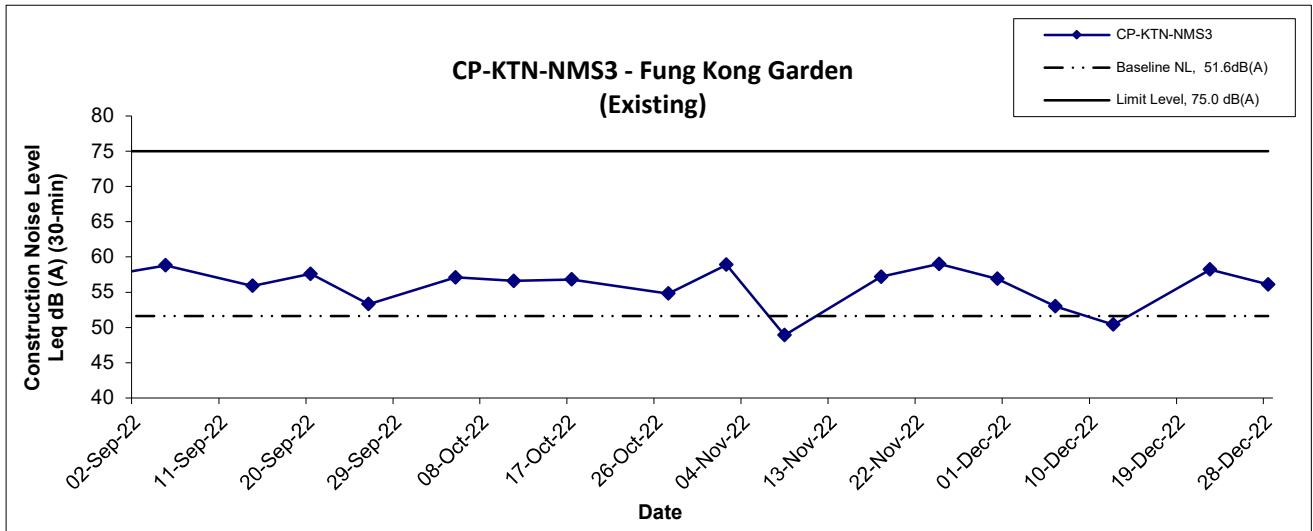
Location CP-KTN-NMS6 - Ho Sheung Heung, Hau Ku Shek Ancestral Hall, Hung Shing Temple & Pai Fung Temple and Sin Wai Nunnery (Existing)							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L <sub>eq</sub>	L <sub>10</sub>	L <sub>90</sub>	L <sub>eq</sub>	L <sub>eq</sub>
6-Dec-22	Sunny	10:30	60.2	61.6	55.0	60.0	55.1
		10:35	59.9	63.0	53.2		
		10:40	60.9	64.0	56.1		
		10:45	62.3	66.4	56.6		
		10:50	57.4	58.9	53.2		
		10:55	57.0	60.1	53.0		
12-Dec-22	Sunny	13:30	53.8	58.2	47.8	57.4	
		13:35	56.0	59.0	48.8		
		13:40	54.2	57.0	50.3		
		13:45	55.2	57.6	52.2		
		13:50	60.2	61.0	53.9		
		13:55	60.2	61.6	54.0		
22-Dec-22	Sunny	10:50	59.3	61.4	55.7	58.8	
		10:55	59.2	60.4	58.0		
		11:00	59.8	63.1	55.7		
		11:05	57.9	59.9	55.7		
		11:10	58.4	60.6	55.4		
		11:15	58.1	58.8	55.7		
28-Dec-22	Sunny	10:40	57.1	58.1	54.9	59.0	
		10:45	59.9	60.2	56.1		
		10:50	59.0	60.8	55.2		
		10:55	60.8	63.3	57.2		
		11:00	58.7	60.8	56.2		
		11:05	57.5	59.7	55.9		


## Noise Levels



<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Construction Noise Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	 consulting . testing . research
	<b>Date</b> Dec 22	<b>Appendix</b> F	

## Noise Levels



<b>Title</b> Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Construction Noise Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	 consulting . testing . research
	<b>Date</b> Dec 22	<b>Appendix</b> F	



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**APPENDIX G  
WATER QUALITY MONITORING  
RESULTS AND GRAPHICAL  
PRESENTATIONS**

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Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas  
Water Quality Monitoring Results

Location: SYR-CS1

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)		Arsenic (µg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Dec-22	Sunny	15:41	Middle	0.2	19.7 19.7	19.7	8.8 8.8	8.8	0.1 0.1	0.1	76.8 76.3	76.6	7.0 7.0	7.0	13.1 12.8	13.0	16 17	16.5	7 7	7.0
5-Dec-22	Cloudy	11:08	Middle	0.2	20.8 20.8	20.8	7.4 7.4	7.4	0.1 0.1	0.1	69.0 67.9	68.5	6.2 6.1	6.2	4.1 4.4	4.3	5 6	5.5	7 7	7.0
7-Dec-22	Sunny	10:33	Middle	0.2	19.3 19.3	19.3	7.4 7.4	7.4	0.1 0.1	0.1	64.8 64.0	64.4	6.0 5.9	6.0	7.6 7.8	7.7	8 7	7.5	6 7	6.5
9-Dec-22	Sunny	11:22	Middle	0.2	20.6 20.6	20.6	7.1 7.1	7.1	0.1 0.1	0.1	62.7 62.7	62.7	5.6 5.6	5.6	7.3 7.5	7.4	19 19	19.0	7 6	6.5
12-Dec-22	Fine	10:11	Middle	0.2	17.0 17.0	17.0	7.1 7.0	7.1	0.1 0.1	0.1	74.1 73.8	74.0	7.2 7.1	7.2	5.7 5.6	5.7	21 21	21.0	6 6	6.0
14-Dec-22	Rainy	10:24	Middle	0.2	15.4 15.4	15.4	7.0 7.0	7.0	0.1 0.1	0.1	57.5 57.2	57.4	5.8 5.7	5.8	8.5 8.6	8.6	39 34	36.5	6 6	6.0
16-Dec-22	Rainy	13:06	Middle	0.2	18.3 18.3	18.3	7.7 7.7	7.7	0.2 0.2	0.2	71.8 71.7	71.8	6.8 6.7	6.8	6.1 6.1	6.1	12 14	13.0	6 5	5.5
19-Dec-22	Sunny	13:36	Middle	0.2	18.5 18.5	18.5	6.9 6.9	6.9	0.1 0.1	0.1	86.0 85.9	86.0	8.1 8.1	8.1	12.4 12.6	12.5	36 44	40.0	7 6	6.5
21-Dec-22	Sunny	15:05	Middle	0.1	21.9 21.9	21.9	8.0 8.0	8.0	0.1 0.1	0.1	110.7 110.8	110.8	9.7 9.7	9.7	18.8 18.3	18.6	32 33	32.5	8 7	7.5
23-Dec-22	Sunny	12:43	Middle	0.1	19.8 19.8	19.8	8.2 8.2	8.2	0.2 0.2	0.2	143.2 143.5	143.4	13.1 13.1	13.1	7.4 7.5	7.5	6 5	5.5	5 6	5.5
28-Dec-22	Sunny	10:38	Middle	0.1	16.8 16.8	16.8	7.2 7.1	7.2	0.1 0.1	0.1	84.5 84.4	84.5	8.2 8.2	8.2	7.8 7.5	7.7	11 11	11.0	6 7	6.5
30-Dec-22	Sunny	12:44	Middle	0.2	19.0 19.0	19.0	8.1 8.2	8.2	0.2 0.2	0.2	107.4 107.5	107.5	10.0 10.0	10.0	8.5 8.4	8.5	17 14	15.5	9 9	9.0

Contract No. NDO 04/2019

Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas

Water Quality Monitoring Results

Location: SYR-IS1

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)		Arsenic (µg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Dec-22	Sunny	15:53	Middle	0.1	21.8 21.8	21.8	7.9 7.9	7.9	0.2 0.2	0.2	70.8 71.6	71.2	6.2 6.3	6.3	35.2 35.0	35.1	43 50	46.5	5 5	5.0
5-Dec-22	Cloudy	11:20	Middle	0.4	19.5 19.5	19.5	7.4 7.4	7.4	0.2 0.2	0.2	67.5 67.9	67.7	6.2 6.2	6.2	22.6 22.4	22.5	22 24	23.0	8 7	7.5
7-Dec-22	Sunny	10:44	Middle	0.5	19.5 19.5	19.5	7.5 7.4	7.5	0.2 0.2	0.2	69.1 69.6	69.4	6.4 6.4	6.4	16.0 15.5	15.8	19 21	20.0	6 6	6.0
9-Dec-22	Sunny	11:05	Middle	0.5	20.6 20.6	20.6	7.2 7.2	7.2	0.2 0.2	0.2	68.7 68.4	68.6	6.2 6.2	6.2	29.3 29.6	29.5	40 45	42.5	4 4	4.0
12-Dec-22	Fine	10:28	Middle	0.1	17.1 17.1	17.1	7.2 7.2	7.2	0.1 0.1	0.1	86.4 86.4	86.4	8.3 8.3	8.3	14.5 14.2	14.4	42 53	47.5	7 7	7.0
14-Dec-22	Rainy	10:38	Middle	0.1	14.7 14.6	14.7	7.2 7.2	7.2	0.1 0.1	0.1	85.9 85.7	85.8	8.7 8.7	8.7	23.5 23.2	23.4	53 54	53.5	7 7	7.0
16-Dec-22	Rainy	13:28	Middle	0.1	18.4 18.4	18.4	7.9 7.9	7.9	0.1 0.1	0.1	83.7 83.7	83.7	7.9 7.9	7.9	18.6 18.5	18.6	27 24	25.5	5 5	5.0
19-Dec-22	Sunny	13:46	Middle	0.1	19.2 19.2	19.2	7.3 7.3	7.3	0.1 0.1	0.1	104.9 105.0	105.0	9.7 9.7	9.7	36.4 34.4	35.4	64 63	63.5	7 7	7.0
21-Dec-22	Sunny	15:18	Middle	0.1	22.0 22.0	22.0	8.1 8.1	8.1	0.1 0.1	0.1	111.3 111.3	111.3	9.7 9.7	9.7	33.0 33.6	33.3	50 57	53.5	6 6	6.0
23-Dec-22	Sunny	12:55	Middle	0.4	18.5 18.5	18.5	7.6 7.6	7.6	0.3 0.3	0.3	72.0 71.8	71.9	6.7 6.7	6.7	23.8 23.4	23.6	30 25	27.5	4 3	3.5
28-Dec-22	Sunny	10:50	Middle	0.1	17.8 17.8	17.8	7.3 7.3	7.3	0.1 0.1	0.1	98.7 98.8	98.8	9.4 9.4	9.4	34.0 32.4	33.2	37 34	35.5	7 8	7.5
30-Dec-22	Sunny	12:55	Middle	0.1	19.8 19.8	19.8	7.8 7.8	7.8	0.1 0.1	0.1	116.9 117.2	117.1	10.7 10.7	10.7	21.2 21.1	21.2	32 35	33.5	9 9	9.0

Contract No. NDO 04/2019

Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas

Water Quality Monitoring Results

Location: NTR-CS1

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Dec-22	Sunny	16:59	Middle	0.2	20.5 20.5	20.5	7.8 7.8	7.8	0.1 0.1	0.1	88.3 87.5	87.9	7.9 7.9	7.9	7.4 7.5	7.5	18 21	19.5
5-Dec-22	Cloudy	10:42	Middle	0.1	20.1 20.1	20.1	7.5 7.5	7.5	0.1 0.1	0.1	97.5 97.5	97.5	8.9 8.9	8.9	5.9 5.9	5.9	6 6	6.0
7-Dec-22	Sunny	10:09	Middle	0.2	19.5 19.5	19.5	7.8 7.8	7.8	0.1 0.1	0.1	96.9 96.8	96.9	8.9 8.9	8.9	5.9 6.0	6.0	3 4	3.5
9-Dec-22	Sunny	10:06	Middle	0.2	19.8 19.7	19.8	7.3 7.3	7.3	0.1 0.1	0.1	91.0 90.9	91.0	8.3 8.3	8.3	11.0 10.9	11.0	16 16	16.0
12-Dec-22	Fine	11:43	Middle	0.2	18.8 18.8	18.8	7.2 7.2	7.2	0.1 0.1	0.1	103.1 103.1	103.1	9.6 9.6	9.6	5.3 5.3	5.3	7 8	7.5
14-Dec-22	Rainy	11:35	Middle	0.2	16.4 16.4	16.4	7.3 7.3	7.3	0.1 0.1	0.1	96.9 96.9	96.9	9.5 9.5	9.5	12.5 12.6	12.6	16 16	16.0
16-Dec-22	Rainy	14:38	Middle	0.2	18.9 18.9	18.9	7.5 7.5	7.5	0.1 0.1	0.1	92.7 92.6	92.7	8.6 8.6	8.6	18.5 18.5	18.5	11 12	11.5
19-Dec-22	Sunny	14:58	Middle	0.2	18.1 18.1	18.1	7.4 7.4	7.4	0.1 0.1	0.1	96.3 96.4	96.4	9.1 9.1	9.1	6.9 7.0	7.0	15 14	14.5
21-Dec-22	Sunny	17:10	Middle	0.2	18.5 18.5	18.5	7.6 7.6	7.6	0.1 0.1	0.1	82.8 82.7	82.8	7.8 7.8	7.8	10.6 10.7	10.7	15 13	14.0
23-Dec-22	Sunny	11:45	Middle	0.1	18.2 18.2	18.2	7.9 7.9	7.9	0.2 0.2	0.2	108.2 108.2	108.2	10.2 10.2	10.2	40.3 40.2	40.3	40 35	37.5
28-Dec-22	Sunny	09:25	Middle	0.2	16.9 16.8	16.9	7.2 7.2	7.2	0.1 0.1	0.1	87.4 87.0	87.2	8.5 8.4	8.5	6.6 6.6	6.6	6 6	6.0
30-Dec-22	Sunny	14:23	Middle	0.2	18.5 18.5	18.5	7.3 7.3	7.3	0.1 0.1	0.1	103.8 103.9	103.9	9.7 9.7	9.7	20.0 19.9	20.0	23 23	23.0



Contract No. NDO 04/2019

Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas

Water Quality Monitoring Results

Location: NTR-IS1

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Dec-22	Sunny	16:16	Middle	0.1	21.0 21.0	21.0	8.0 8.0	8.0	0.1 0.1	0.1	112.4 112.5	112.5	10.0 10.0	10.0	7.3 7.3	7.3	12 13	12.5
5-Dec-22	Cloudy	09:55	Middle	0.6	19.6 19.6	19.6	7.6 7.6	7.6	0.1 0.1	0.1	64.7 62.7	63.7	5.9 5.8	5.9	4.8 4.9	4.9	5 6	5.5
7-Dec-22	Sunny	09:18	Middle	0.1	17.9 17.9	17.9	8.0 8.0	8.0	0.1 0.1	0.1	99.4 99.4	99.4	9.4 9.4	9.4	6.0 5.9	6.0	5 5	5.0
9-Dec-22	Sunny	10:32	Middle	0.1	20.3 20.3	20.3	7.4 7.4	7.4	0.1 0.1	0.1	112.7 112.7	112.7	10.2 10.2	10.2	13.0 12.7	12.9	16 14	15.0
12-Dec-22	Fine	11:17	Middle	0.1	18.4 18.4	18.4	7.4 7.4	7.4	0.1 0.1	0.1	117.3 117.7	117.5	11.0 11.1	11.1	5.8 5.6	5.7	7 7	7.0
14-Dec-22	Rainy	11:15	Middle	0.1	15.4 15.4	15.4	7.4 7.4	7.4	0.1 0.1	0.1	105.6 105.6	105.6	10.6 10.6	10.6	9.9 10.0	10.0	16 16	16.0
16-Dec-22	Rainy	14:06	Middle	0.1	18.8 18.8	18.8	7.7 7.7	7.7	0.1 0.1	0.1	109.3 109.4	109.4	10.2 10.2	10.2	10.5 10.4	10.5	11 13	12.0
19-Dec-22	Sunny	14:10	Middle	0.1	18.9 18.9	18.9	7.5 7.5	7.5	0.1 0.1	0.1	115.1 115.3	115.2	10.7 10.7	10.7	7.3 7.2	7.3	10 12	11.0
21-Dec-22	Sunny	16:13	Middle	0.1	20.1 20.1	20.1	8.1 8.0	8.1	0.1 0.1	0.1	115.2 115.4	115.3	10.5 10.5	10.5	9.6 9.3	9.5	15 14	14.5
23-Dec-22	Sunny	10:58	Middle	0.6	16.6 16.6	16.6	7.9 7.8	7.9	0.2 0.2	0.2	75.5 75.2	75.4	7.4 7.3	7.4	14.7 14.8	14.8	14 14	14.0
28-Dec-22	Sunny	09:57	Middle	0.6	17.6 17.6	17.6	7.3 7.3	7.3	0.1 0.1	0.1	66.5 66.3	66.4	6.3 6.3	6.3	6.9 7.0	7.0	6 5	5.5
30-Dec-22	Sunny	13:28	Middle	0.1	19.5 19.5	19.5	7.2 7.2	7.2	0.1 0.1	0.1	118.3 118.3	118.3	10.9 10.9	10.9	11.5 11.5	11.5	19 19	19.0

**Contract No. NDO 04/2019**  
**Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas**  
**Water Quality Monitoring Results**

**Location: SHST-IS2**

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Dec-22	Sunny	16:26	Middle	0.1	19.0 18.9	19.0	8.4 8.5	8.5	0.1 0.1	0.1	89.2 88.7	89.0	8.3 8.2	8.3	6.6 6.5	6.6	6 6	6.0
5-Dec-22	Cloudy	10:07	Middle	0.1	18.6 18.6	18.6	7.7 7.7	7.7	0.1 0.1	0.1	86.0 86.0	86.0	8.0 8.0	8.0	6.1 6.2	6.2	6 6	6.0
7-Dec-22	Sunny	09:27	Middle	0.2	17.5 17.5	17.5	8.0 8.0	8.0	0.1 0.1	0.1	89.2 87.2	88.2	8.5 8.4	8.5	4.2 4.1	4.2	<2.5 <2.5	<2.5
9-Dec-22	Sunny	10:42	Middle	0.2	18.7 18.7	18.7	7.3 7.3	7.3	0.1 0.1	0.1	80.9 80.8	80.9	7.6 7.6	7.6	8.5 8.7	8.6	11 9	10.0
12-Dec-22	Fine	10:54	Middle	0.3	17.3 17.3	17.3	7.3 7.3	7.3	0.1 0.1	0.1	88.1 88.1	88.1	8.5 8.5	8.5	4.6 4.6	4.6	3 3	3.0
14-Dec-22	Rainy	11:02	Middle	0.3	14.7 14.6	14.7	7.5 7.5	7.5	0.1 0.1	0.1	94.5 94.0	94.3	9.6 9.6	9.6	7.3 7.4	7.4	12 12	12.0
16-Dec-22	Rainy	13:51	Middle	0.3	17.2 17.2	17.2	7.8 7.8	7.8	0.1 0.1	0.1	86.5 85.6	86.1	8.3 8.2	8.3	4.8 4.8	4.8	<2.5 <2.5	<2.5
19-Dec-22	Sunny	14:20	Middle	0.1	15.3 15.4	15.4	7.7 7.7	7.7	0.1 0.1	0.1	91.0 90.3	90.7	9.1 9.0	9.1	5.1 5.3	5.2	4 3	3.5
21-Dec-22	Sunny	16:22	Middle	0.2	17.1 17.2	17.2	7.7 7.7	7.7	0.1 0.1	0.1	84.6 84.0	84.3	8.2 8.1	8.2	5.0 5.0	5.0	6 6	6.0
23-Dec-22	Sunny	12:09	Middle	0.1	17.4 17.4	17.4	7.6 7.6	7.6	0.1 0.1	0.1	98.5 98.4	98.5	9.4 9.4	9.4	3.5 3.4	3.5	5 6	5.5
28-Dec-22	Sunny	10:07	Middle	0.1	15.5 15.5	15.5	7.6 7.6	7.6	0.1 0.1	0.1	84.3 84.2	84.3	8.4 8.4	8.4	6.3 6.2	6.3	5 6	5.5
30-Dec-22	Sunny	13:36	Middle	0.1	16.6 16.6	16.6	8.0 8.0	8.0	0.1 0.1	0.1	95.3 94.9	95.1	9.3 9.3	9.3	5.6 5.7	5.7	3 4	3.5

Contract No. NDO 04/2019

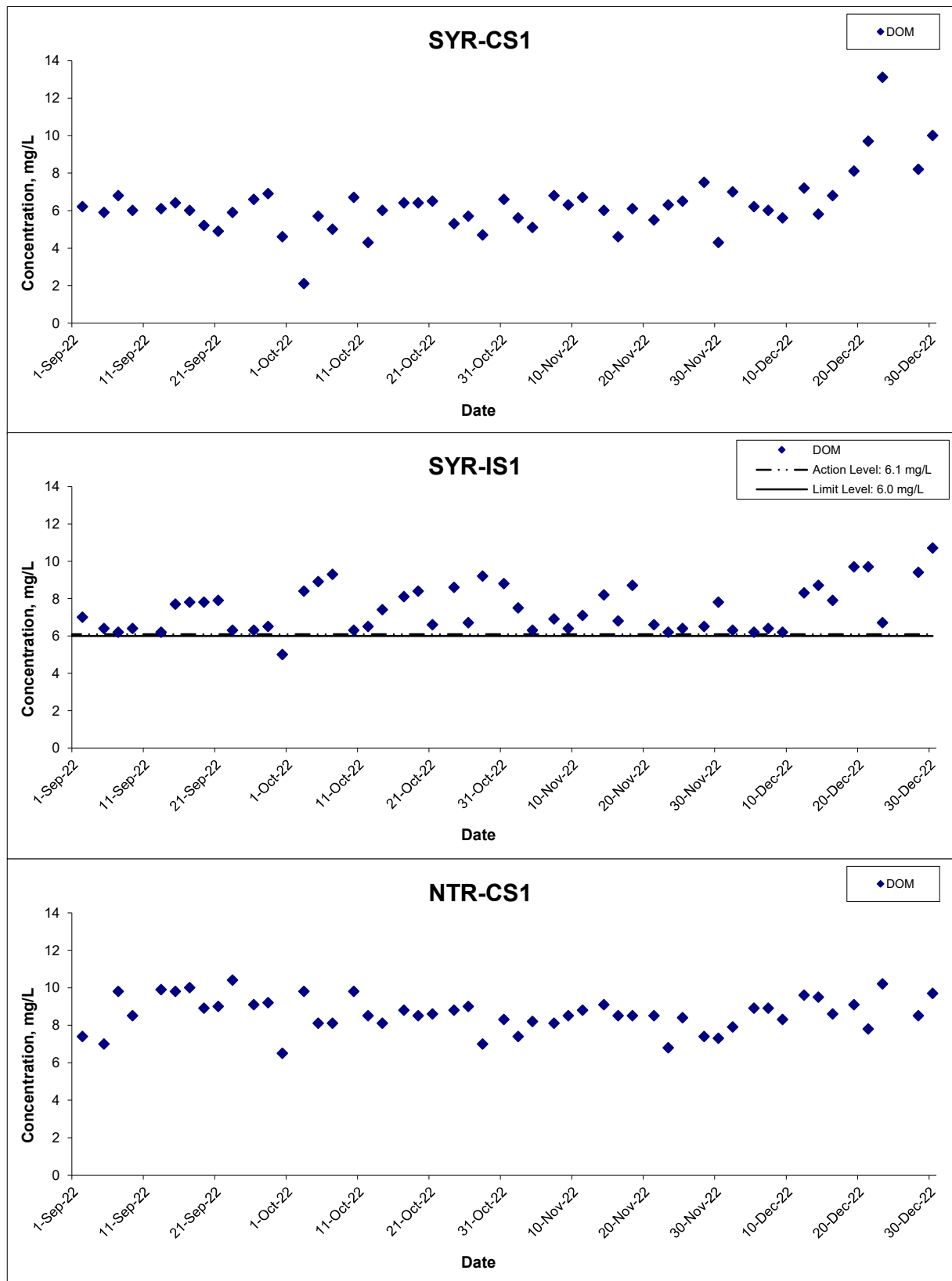
Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas


Water Quality Monitoring Results

Location: MWR-IS3

Date	Weather Condition	Start Time	Sampling Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
					Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
2-Dec-22	Sunny	16:54	Middle	0.2	20.5 20.5	20.5	7.3 7.3	7.3	0.1 0.1	0.1	98.1 98.6	98.4	8.8 8.9	8.9	7.8 7.3	7.6	14 15	14.5
5-Dec-22	Cloudy	10:30	Middle	0.2	19.4 19.4	19.4	7.9 7.9	7.9	0.1 0.1	0.1	100.6 100.6	100.6	9.3 9.3	9.3	6.2 5.9	6.1	8 7	7.5
7-Dec-22	Sunny	10:02	Middle	0.2	19.7 19.7	19.7	8.0 8.0	8.0	0.1 0.1	0.1	104.6 104.6	104.6	9.6 9.6	9.6	6.8 6.8	6.8	7 7	7.0
9-Dec-22	Sunny	09:52	Middle	0.2	20.1 20.1	20.1	7.6 7.6	7.6	0.1 0.1	0.1	101.9 101.9	101.9	9.3 9.3	9.3	11.0 11.1	11.1	11 11	11.0
12-Dec-22	Fine	12:05	Middle	0.2	18.3 18.3	18.3	7.5 7.5	7.5	0.2 0.2	0.2	111.4 111.4	111.4	10.5 10.5	10.5	4.9 4.8	4.9	7 8	7.5
14-Dec-22	Rainy	11:46	Middle	0.2	16.3 16.3	16.3	7.4 7.4	7.4	0.1 0.1	0.1	97.5 97.4	97.5	9.6 9.6	9.6	6.3 6.2	6.3	9 8	8.5
16-Dec-22	Rainy	15:09	Middle	0.2	19.0 19.0	19.0	7.6 7.6	7.6	0.1 0.1	0.1	93.6 94.1	93.9	8.7 8.7	8.7	12.6 12.5	12.6	10 11	10.5
19-Dec-22	Sunny	14:52	Middle	0.2	19.0 19.0	19.0	7.7 7.7	7.7	0.1 0.1	0.1	98.5 98.4	98.5	9.1 9.1	9.1	7.7 7.5	7.6	12 14	13.0
21-Dec-22	Sunny	16:45	Middle	0.2	18.9 18.9	18.9	7.9 7.9	7.9	0.1 0.1	0.1	96.2 96.0	96.1	8.9 8.9	8.9	12.5 12.3	12.4	12 11	11.5
23-Dec-22	Sunny	11:08	Middle	0.2	15.1 15.1	15.1	8.0 8.0	8.0	0.1 0.1	0.1	88.4 88.1	88.3	8.9 8.9	8.9	5.8 5.7	5.8	4 4	4.0
28-Dec-22	Sunny	09:06	Middle	0.2	17.3 17.3	17.3	7.8 7.8	7.8	0.1 0.1	0.1	90.4 90.1	90.3	8.7 8.7	8.7	6.1 6.1	6.1	7 8	7.5
30-Dec-22	Sunny	14:10	Middle	0.2	30.6 30.6	30.6	8.2 8.2	8.2	0.1 0.1	0.1	136.4 136.5	136.5	10.2 10.2	10.2	23.6 22.1	22.9	7 7	7.0

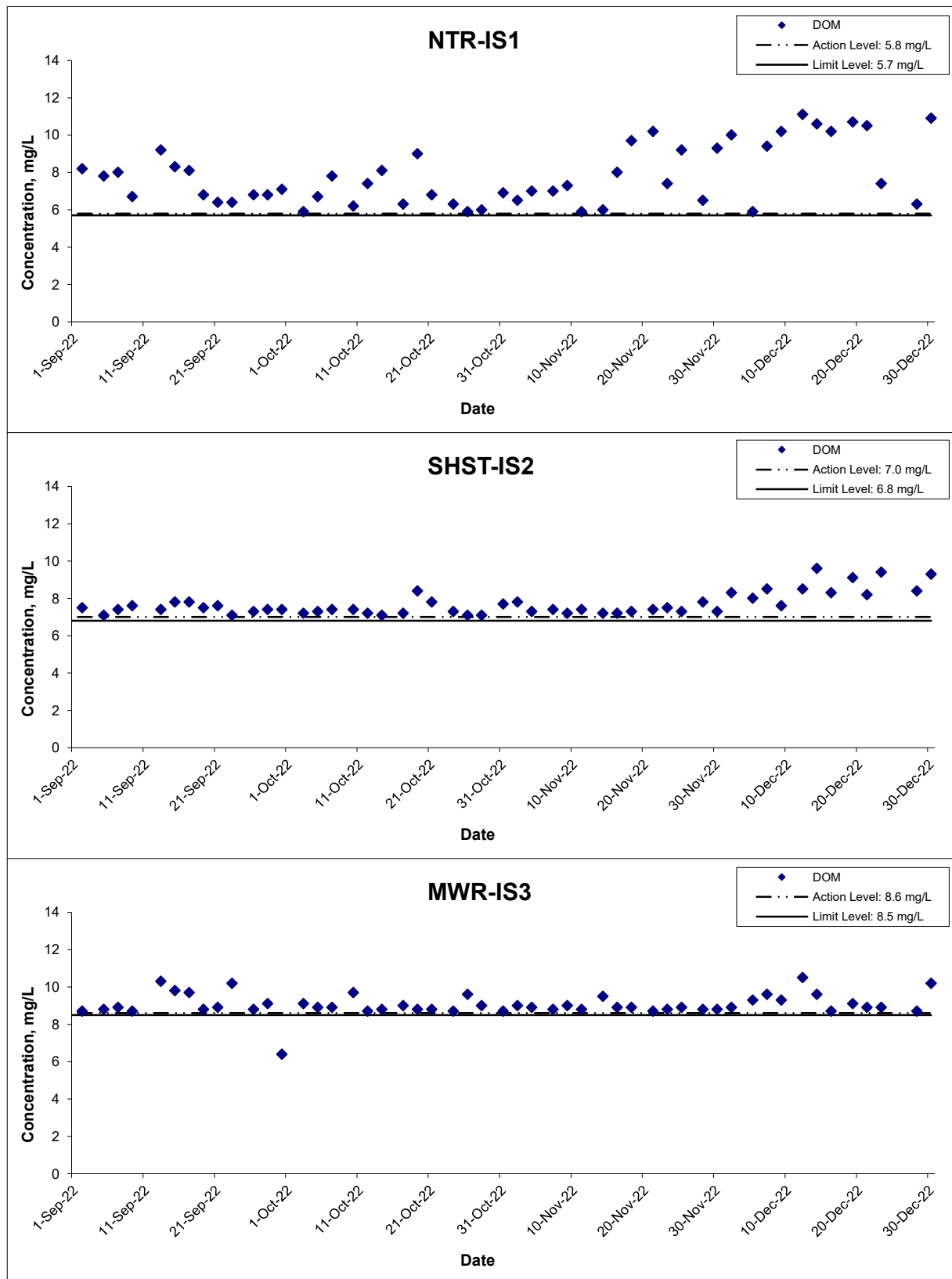
## Dissolved Oxygen (Middle)



<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas  Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	 consulting . testing . research
	<b>Date</b> Dec 22	<b>Appendix</b> G	

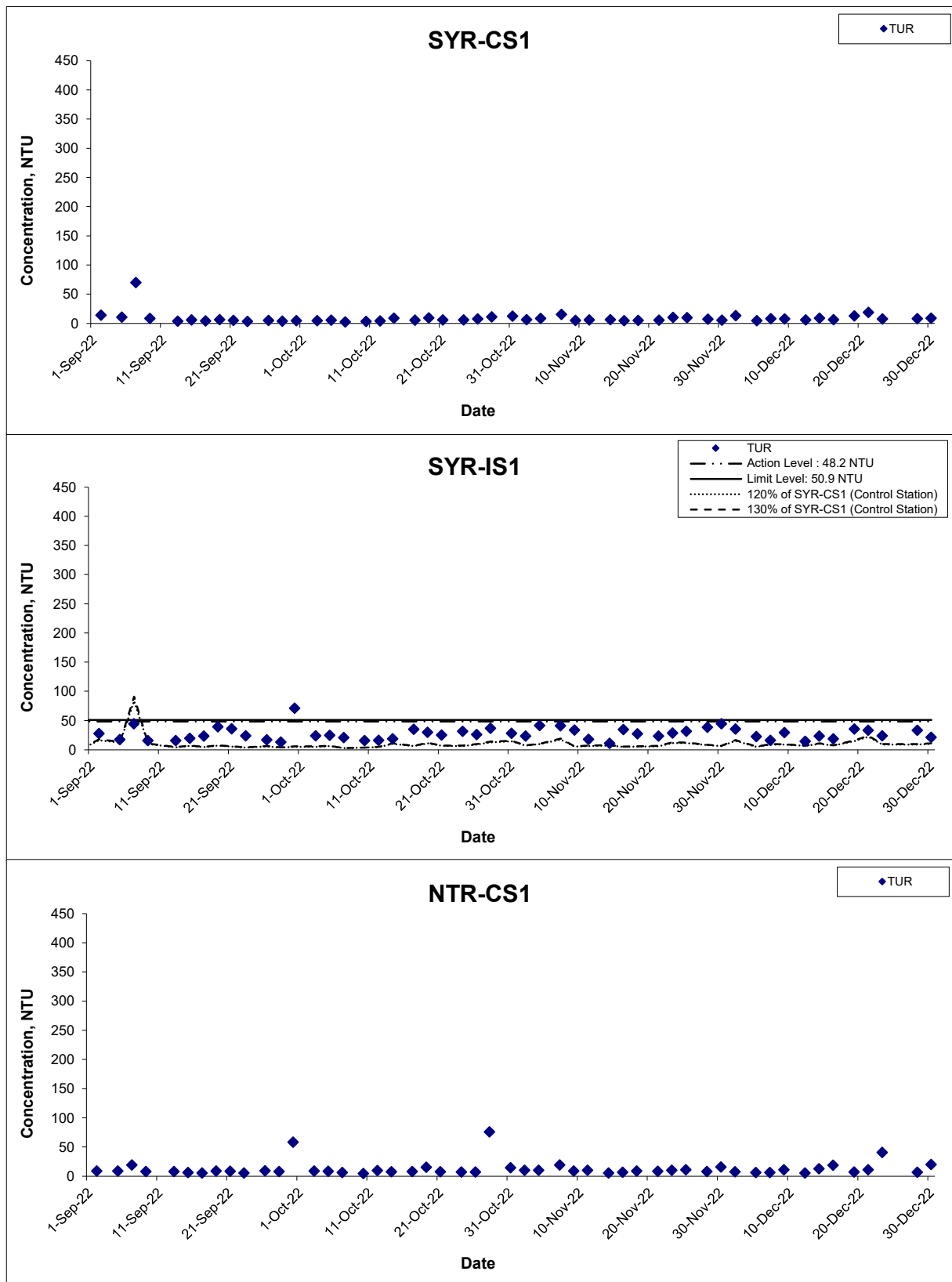


## Dissolved Oxygen (Middle)



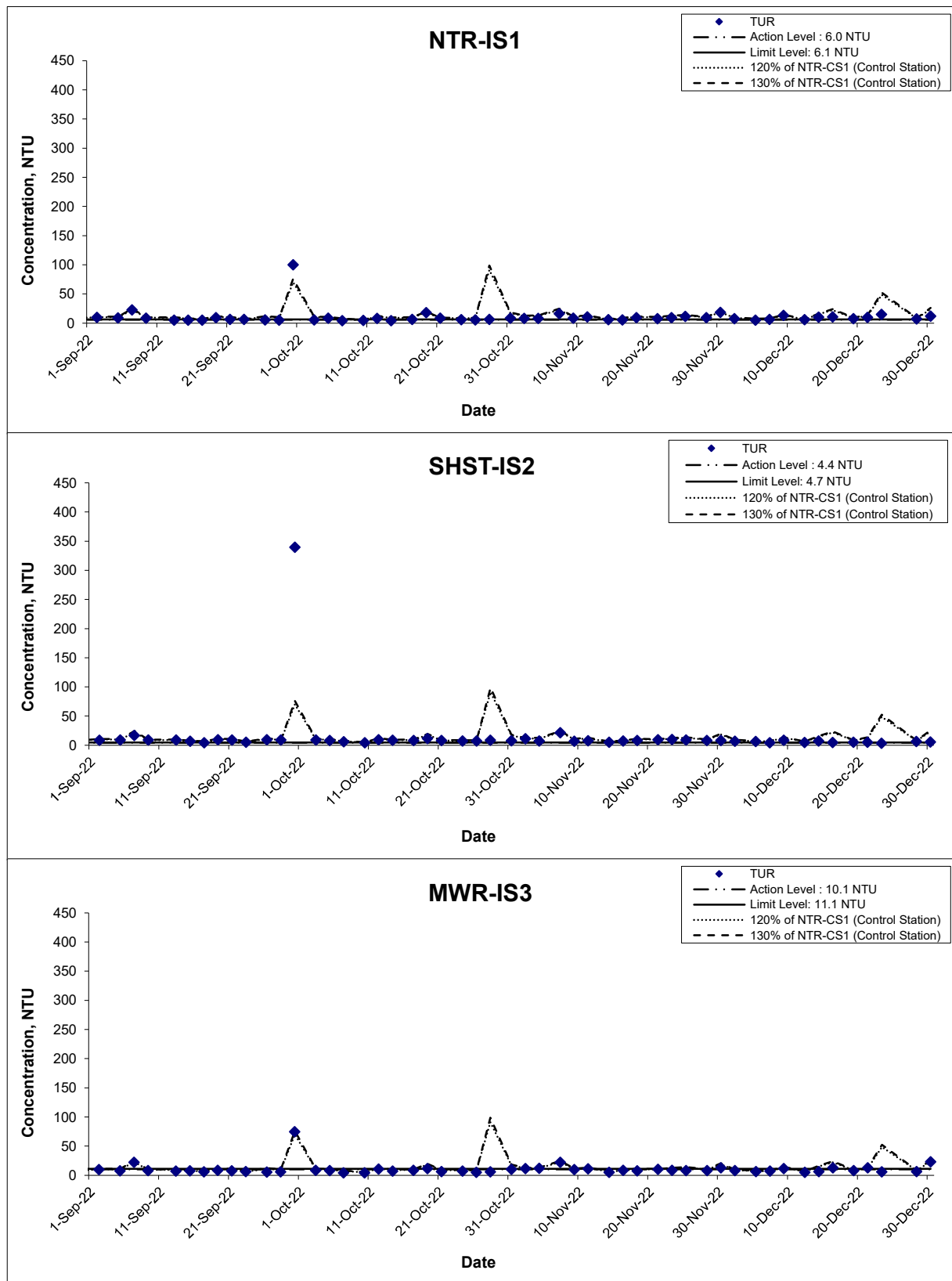
<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	
	<b>Date</b> Dec 22	<b>Appendix</b> G	


## Turbidity (Depth-averaged)



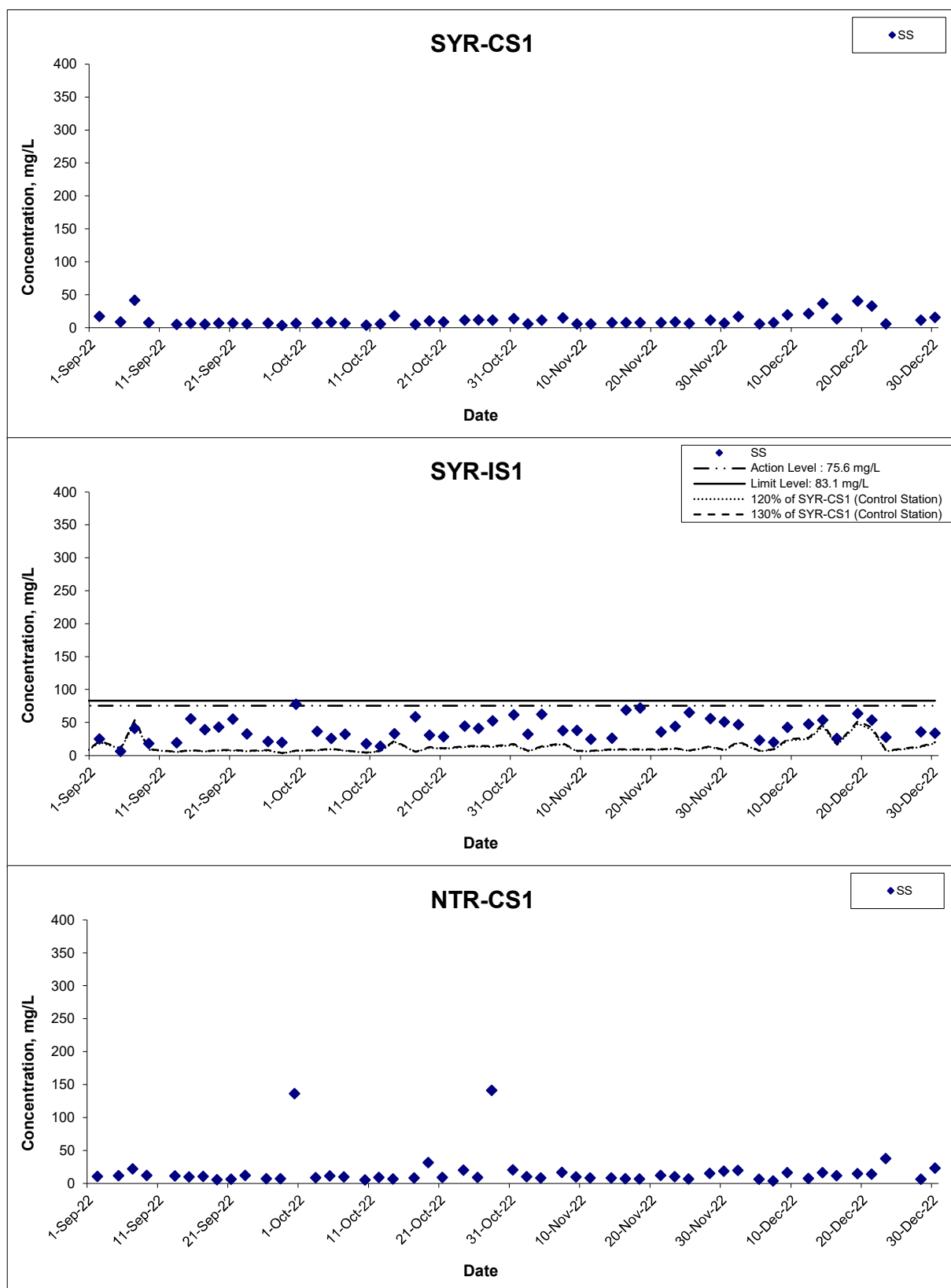
<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	<b>WELLAB 匯力</b> consulting . testing . research
	<b>Date</b> Dec 22	<b>Appendix</b> G	


## Turbidity (Depth-averaged)



<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas  Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	 consulting . testing . research
	<b>Date</b> Dec 22	<b>Appendix</b> G	

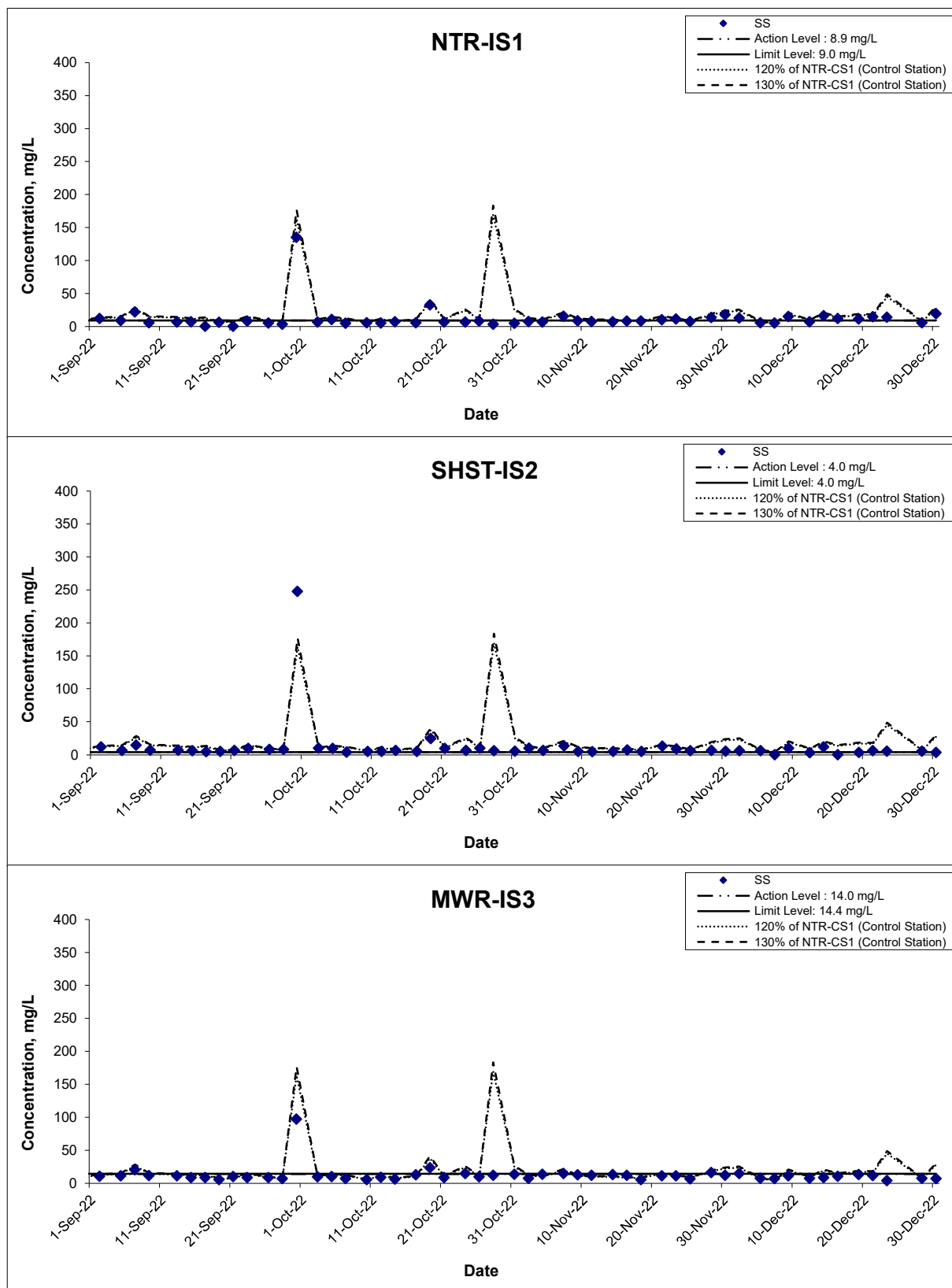
## Suspended Solids (Depth-averaged)




Title	Contract No. NDO 04/2019	Scale	Project No.	
	Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas	N.T.S	WMA20002	
Graphical Presentation of Water Quality Monitoring Results		Date	Appendix	
		Dec 22	G	

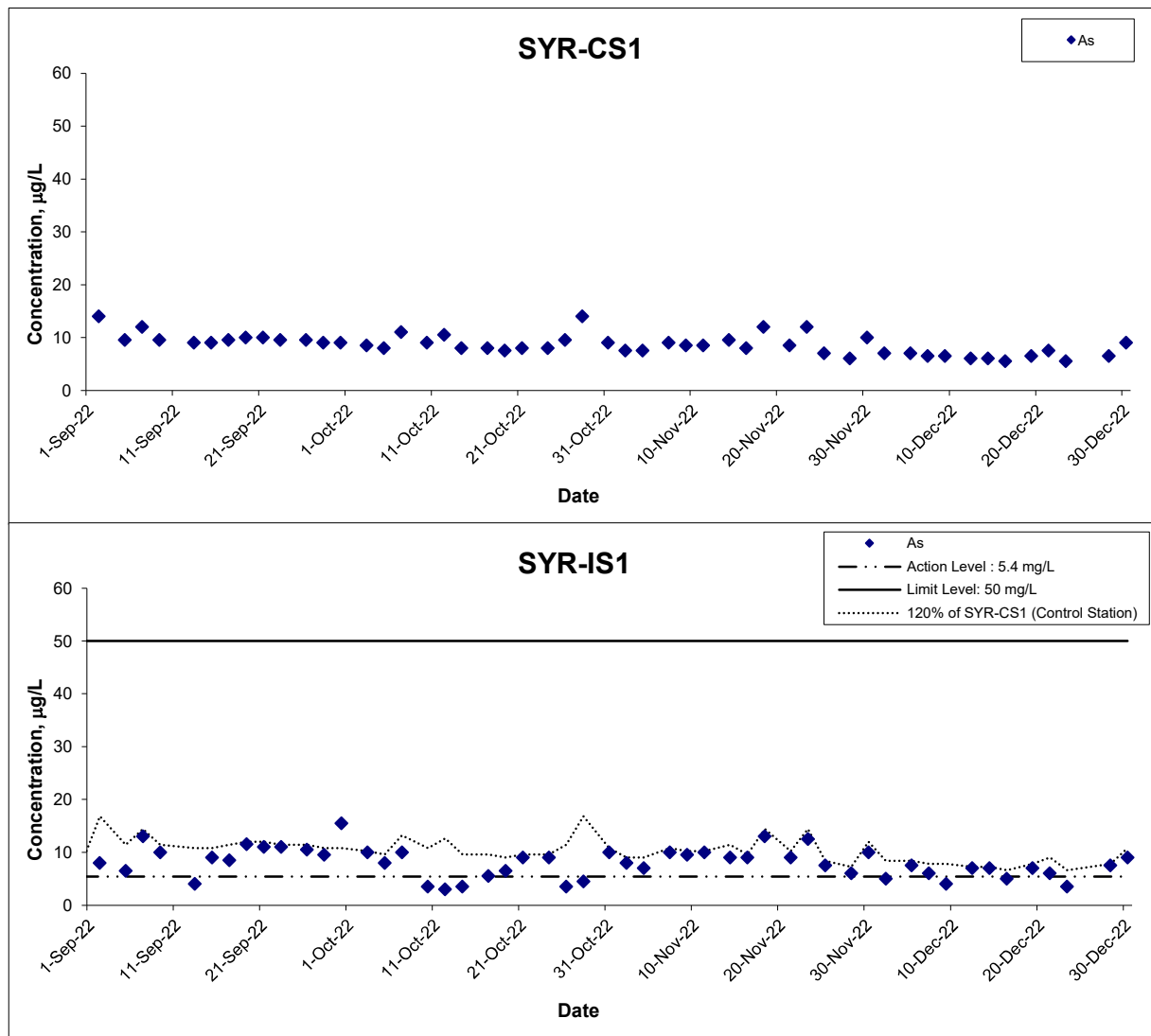



## Suspended Solids (Depth-averaged)



<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	 consulting . testing . research
	<b>Date</b> Dec 22	<b>Appendix</b> G	

## Arsenic (Depth-averaged)



<b>Title</b> Contract No. NDO 04/2019 Advance and First Stage Works of Kwu Tung North and Fanling North New Development Areas Graphical Presentation of Water Quality Monitoring Results	<b>Scale</b> N.T.S	<b>Project No.</b> WMA20002	 consulting . testing . research
	<b>Date</b> Dec 22	<b>Appendix</b> G	

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**APPENDIX H**  
**LABORATORY TESTING REPORTS FOR**  
**LABORATORY ANALYSIS**

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## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.: 37433  
Date of Issue: 2022-12-08  
Date Received: 2022-12-02  
Date Tested: 2022-12-02  
Date Completed: 2022-12-08

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37433  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221202  
**Sampling Date :** 2022-12-02

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37433-2	37433-3	37433-5	37433-6
Total Suspended Solids dried at 103-105°C (mg/L)	16	17	43	50
Arsenic (µg/L)	7	7	5	5

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37433A
Date of Issue:	2022-12-08
Date Received:	2022-12-02
Date Tested:	2022-12-02
Date Completed:	2022-12-08

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37433A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221202  
**Sampling Date :** 2022-12-02

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37433-8	37433-9	37433-11	37433-12
Total Suspended Solids dried at 103-105°C (mg/L)	18	21	12	13

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37433-14	37433-15	37433-17	37433-18
Total Suspended Solids dried at 103-105°C (mg/L)	6	6	14	15

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37449
Date of Issue:	2022-12-09
Date Received:	2022-12-05
Date Tested:	2022-12-05
Date Completed:	2022-12-09

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37449  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221205  
**Sampling Date :** 2022-12-05

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37449-2	37449-3	37449-5	37449-6
Total Suspended Solids dried at 103-105°C (mg/L)	5	6	22	24
Arsenic (µg/L)	7	7	8	7

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37449A
Date of Issue:	2022-12-09
Date Received:	2022-12-05
Date Tested:	2022-12-05
Date Completed:	2022-12-09

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37449A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221205  
**Sampling Date :** 2022-12-05

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37449-8	37449-9	37449-11	37449-12
Total Suspended Solids dried at 103-105°C (mg/L)	6	6	5	6

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37449-14	37449-15	37449-17	37449-18
Total Suspended Solids dried at 103-105°C (mg/L)	6	6	8	7

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37455
Date of Issue:	2022-12-13
Date Received:	2022-12-07
Date Tested:	2022-12-07
Date Completed:	2022-12-13

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37455  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221207  
**Sampling Date :** 2022-12-07

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37455-2	37455-3	37455-5	37455-6
Total Suspended Solids dried at 103-105°C (mg/L)	8	7	19	21
Arsenic (µg/L)	6	7	6	6

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37455A
Date of Issue:	2022-12-13
Date Received:	2022-12-07
Date Tested:	2022-12-07
Date Completed:	2022-12-13

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37455A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221207  
**Sampling Date :** 2022-12-07

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37455-8	37455-9	37455-11	37455-12
Total Suspended Solids dried at 103-105°C (mg/L)	3	4	5	5

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37455-14	37455-15	37455-17	37455-18
Total Suspended Solids dried at 103-105°C (mg/L)	<2.5	<2.5	7	7

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37461
Date of Issue:	2022-12-15
Date Received:	2022-12-09
Date Tested:	2022-12-09
Date Completed:	2022-12-15

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37461  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221209  
**Sampling Date :** 2022-12-09

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37461-2	37461-3	37461-5	37461-6
Total Suspended Solids dried at 103-105°C (mg/L)	19	16	40	45
Arsenic (µg/L)	7	6	4	4

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37461A
Date of Issue:	2022-12-15
Date Received:	2022-12-09
Date Tested:	2022-12-09
Date Completed:	2022-12-15

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37461A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221209  
**Sampling Date :** 2022-12-09

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37461-8	37461-9	37461-11	37461-12
Total Suspended Solids dried at 103-105°C (mg/L)	16	16	16	14

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37461-14	37461-15	37461-17	37461-18
Total Suspended Solids dried at 103-105°C (mg/L)	11	9	11	11

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.: 37482  
Date of Issue: 2022-12-16  
Date Received: 2022-12-12  
Date Tested: 2022-12-12  
Date Completed: 2022-12-16

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37482  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221212  
**Sampling Date :** 2022-12-12

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37482-2	37482-3	37482-5	37482-6
Total Suspended Solids dried at 103-105°C (mg/L)	21	21	42	53
Arsenic (µg/L)	6	6	7	7

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37482A
Date of Issue:	2022-12-16
Date Received:	2022-12-12
Date Tested:	2022-12-12
Date Completed:	2022-12-16

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37482A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221212  
**Sampling Date :** 2022-12-12

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37482-8	37482-9	37482-11	37482-12
Total Suspended Solids dried at 103-105°C (mg/L)	7	8	7	7

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37482-14	37482-15	37482-17	37482-18
Total Suspended Solids dried at 103-105°C (mg/L)	3	3	7	8

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37486
Date of Issue:	2022-12-19
Date Received:	2022-12-14
Date Tested:	2022-12-14
Date Completed:	2022-12-19

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37486  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221214  
**Sampling Date :** 2022-12-14

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37486-2	37486-3	37486-5	37486-6
Total Suspended Solids dried at 103-105°C (mg/L)	39	34	53	54
Arsenic (µg/L)	6	6	7	7

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.: 37486A  
Date of Issue: 2022-12-19  
Date Received: 2022-12-14  
Date Tested: 2022-12-14  
Date Completed: 2022-12-19

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37486A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221214  
**Sampling Date :** 2022-12-14

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37486-8	37486-9	37486-11	37486-12
Total Suspended Solids dried at 103-105°C (mg/L)	16	16	16	16

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37486-14	37486-15	37486-17	37486-18
Total Suspended Solids dried at 103-105°C (mg/L)	12	12	9	8

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37491
Date of Issue:	2022-12-19
Date Received:	2022-12-16
Date Tested:	2022-12-16
Date Completed:	2022-12-19

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37491  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221216  
**Sampling Date :** 2022-12-16

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37491-2	37491-3	37491-5	37491-6
Total Suspended Solids dried at 103-105°C (mg/L)	12	14	27	24
Arsenic (µg/L)	6	5	5	5

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37491A
Date of Issue:	2022-12-19
Date Received:	2022-12-16
Date Tested:	2022-12-16
Date Completed:	2022-12-19

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37491A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221216  
**Sampling Date :** 2022-12-16

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37491-8	37491-9	37491-11	37491-12
Total Suspended Solids dried at 103-105°C (mg/L)	11	12	11	13

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37491-14	37491-15	37491-17	37491-18
Total Suspended Solids dried at 103-105°C (mg/L)	<2.5	<2.5	10	11

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37526
Date of Issue:	2022-12-23
Date Received:	2022-12-19
Date Tested:	2022-12-19
Date Completed:	2022-12-23

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37526  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221219  
**Sampling Date :** 2022-12-19

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37526-2	37526-3	37526-5	37526-6
Total Suspended Solids dried at 103-105°C (mg/L)	36	44	64	63
Arsenic (µg/L)	7	6	7	7

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37526A
Date of Issue:	2022-12-23
Date Received:	2022-12-19
Date Tested:	2022-12-19
Date Completed:	2022-12-23

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37526A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221219  
**Sampling Date :** 2022-12-19

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37526-8	37526-9	37526-11	37526-12
Total Suspended Solids dried at 103-105°C (mg/L)	15	14	10	12

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37526-14	37526-15	37526-17	37526-18
Total Suspended Solids dried at 103-105°C (mg/L)	4	3	12	14

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37532
Date of Issue:	2022-12-28
Date Received:	2022-12-21
Date Tested:	2022-12-21
Date Completed:	2022-12-28

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37532  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221221  
**Sampling Date :** 2022-12-21

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37532-2	37532-3	37532-5	37532-6
Total Suspended Solids dried at 103-105°C (mg/L)	32	33	50	57
Arsenic (µg/L)	8	7	6	6

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37532A
Date of Issue:	2022-12-28
Date Received:	2022-12-21
Date Tested:	2022-12-21
Date Completed:	2022-12-28

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37532A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221221  
**Sampling Date :** 2022-12-21

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37532-8	37532-9	37532-11	37532-12
Total Suspended Solids dried at 103-105°C (mg/L)	15	13	15	14

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37532-14	37532-15	37532-17	37532-18
Total Suspended Solids dried at 103-105°C (mg/L)	6	6	12	11

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37537
Date of Issue:	2023-01-03
Date Received:	2022-12-23
Date Tested:	2022-12-23
Date Completed:	2023-01-03

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37537  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221223  
**Sampling Date :** 2022-12-23

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37537-2	37537-3	37537-5	37537-6
Total Suspended Solids dried at 103-105°C (mg/L)	6	5	30	25
Arsenic (µg/L)	5	6	4	3

Remarks: 1) <= less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37537A
Date of Issue:	2023-01-03
Date Received:	2022-12-23
Date Tested:	2022-12-23
Date Completed:	2023-01-03

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37537A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221223  
**Sampling Date :** 2022-12-23

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37537-8	37537-9	37537-11	37537-12
Total Suspended Solids dried at 103-105°C (mg/L)	40	35	14	14

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37537-14	37537-15	37537-17	37537-18
Total Suspended Solids dried at 103-105°C (mg/L)	5	6	4	4

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37564
Date of Issue:	2023-01-04
Date Received:	2022-12-28
Date Tested:	2022-12-28
Date Completed:	2023-01-04

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37564  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221228  
**Sampling Date :** 2022-12-28

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37564-2	37564-3	37564-5	37564-6
Total Suspended Solids dried at 103-105°C (mg/L)	11	11	37	34
Arsenic (µg/L)	6	7	7	8

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37564A
Date of Issue:	2023-01-04
Date Received:	2022-12-28
Date Tested:	2022-12-28
Date Completed:	2023-01-04

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37564A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221228  
**Sampling Date :** 2022-12-28

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37564-8	37564-9	37564-11	37564-12
Total Suspended Solids dried at 103-105°C (mg/L)	6	6	6	5

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37564-14	37564-15	37564-17	37564-18
Total Suspended Solids dried at 103-105°C (mg/L)	5	6	7	8

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37568
Date of Issue:	2023-01-04
Date Received:	2022-12-30
Date Tested:	2022-12-30
Date Completed:	2023-01-04

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 4 liquid samples as received from client said to be water  
**Laboratory No. :** 37568  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221230  
**Sampling Date :** 2022-12-30

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L
2	Arsenic	In-house method SOP022 (ICP-AES) and SOP076 (ICP-MS)	1 µg/L

### Results:

Sample ID	SYR-CS1-a	SYR-CS1-b	SYR-IS1-a	SYR-IS1-b
Sample No.	37568-2	37568-3	37568-5	37568-6
Total Suspended Solids dried at 103-105°C (mg/L)	17	14	32	35
Arsenic (µg/L)	9	9	9	9

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	37568A
Date of Issue:	2023-01-04
Date Received:	2022-12-30
Date Tested:	2022-12-30
Date Completed:	2023-01-04

**ATTN:** Mr. Marco Ma

Page: 1 of 1

**Sample Description :** 8 liquid samples as received from client said to be water  
**Laboratory No. :** 37568A  
**Project No. :** WMA20002  
**Project Name :** Contract No. NDO 04/2019  
Advance and First Stage Works of Kwu Tung North and Fanling North New  
Development Areas  
**Custody No. :** WMA20002/221230  
**Sampling Date :** 2022-12-30

### Tests Requested & Methodology:

Item	Parameters	Ref. Method	Limit of reporting
1	Total Suspended Solids dried at 103-105°C	APHA 17ed 2540 D	2.5 mg/L

### Results:

Sample ID	NTR-CS1-a	NTR-CS1-b	NTR-IS1-a	NTR-IS1-b
Sample No.	37568-8	37568-9	37568-11	37568-12
Total Suspended Solids dried at 103-105°C (mg/L)	23	23	19	19

Sample ID	SHST-IS2-a	SHST-IS2-b	MWR-IS3-a	MWR-IS3-b
Sample No.	37568-14	37568-15	37568-17	37568-18
Total Suspended Solids dried at 103-105°C (mg/L)	3	4	7	7

Remarks: 1) < = less than

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICK TSE**  
General Manager

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**APPENDIX I  
QUALITY CONTROL REPORTS FOR SS  
AND ARSENIC LABORATORY  
ANALYSIS**

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## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.: QC37433  
Date of Issue: 2022-12-08  
Date Received: 2022-12-02  
Date Tested: 2022-12-02  
Date Completed: 2022-12-08

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	98	102	80-120
Arsenic (%)	102	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	102	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	1	3	RPD≤5%
Arsenic (%)	3	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37433.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIA TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.: QC37449  
Date of Issue: 2022-12-09  
Date Received: 2022-12-05  
Date Tested: 2022-12-05  
Date Completed: 2022-12-09

Page: 1 of 1

**ATTN:** Mr. Marco Ma  
**QC report**

### Method Blank

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

### Method QC

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	106	109	80-120
Arsenic (%)	104	N/A	80-120

### Sample Spike

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	88	N/A	80-120

### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	1	2	RPD ≤ 5%
Arsenic (%)	3	N/A	RPD ≤ 20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37449.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC37455
Date of Issue:	2022-12-13
Date Received:	2022-12-07
Date Tested:	2022-12-07
Date Completed:	2022-12-13

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	114	118	80-120
Arsenic (%)	108	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	109	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	2	4	RPD≤5%
Arsenic (%)	3	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37455.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC37461
Date of Issue:	2022-12-15
Date Received:	2022-12-09
Date Tested:	2022-12-09
Date Completed:	2022-12-15

Page: 1 of 1

**ATTN:** Mr. Marco Ma

### QC report

#### Method Blank

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

#### Method QC

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	104	96	80-120
Arsenic (%)	100	N/A	80-120

#### Sample Spike

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	101	N/A	80-120

#### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	2	1	RPD≤5%
Arsenic (%)	6	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37461.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC37482
Date of Issue:	2022-12-16
Date Received:	2022-12-12
Date Tested:	2022-12-12
Date Completed:	2022-12-16

Page: 1 of 1

**ATTN:** Mr. Marco Ma  
**QC report**

### Method Blank

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

### Method QC

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	104	118	80-120
Arsenic (%)	107	N/A	80-120

### Sample Spike

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	112	N/A	80-120

### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	2	2	RPD≤5%
Arsenic (%)	14	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37482.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIA TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC37486
Date of Issue:	2022-12-19
Date Received:	2022-12-14
Date Tested:	2022-12-14
Date Completed:	2022-12-19

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

### Method Blank

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

### Method QC

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	107	103	80-120
Arsenic (%)	103	N/A	80-120

### Sample Spike

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	92	N/A	80-120

### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	1	2	RPD≤5%
Arsenic (%)	2	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37486.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC37491
Date of Issue:	2022-12-19
Date Received:	2022-12-16
Date Tested:	2022-12-16
Date Completed:	2022-12-19

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

### Method Blank

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

### Method QC

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	95	95	80-120
Arsenic (%)	100	N/A	80-120

### Sample Spike

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	89	N/A	80-120

### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	2	1	RPD≤5%
Arsenic (%)	5	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37491.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC37526
Date of Issue:	2022-12-23
Date Received:	2022-12-19
Date Tested:	2022-12-19
Date Completed:	2022-12-23

Page: 1 of 1

**ATTN:** Mr. Marco Ma

### QC report

#### Method Blank

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

#### Method QC

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	116	100	80-120
Arsenic (%)	105	N/A	80-120

#### Sample Spike

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	95	N/A	80-120

#### Sample Duplicate

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	4	3	RPD≤5%
Arsenic (%)	4	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37526.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

PREPARED AND CHECKED BY:

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager



## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC37532
Date of Issue:	2022-12-28
Date Received:	2022-12-21
Date Tested:	2022-12-21
Date Completed:	2022-12-28

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	102	96	80-120
Arsenic (%)	102	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	109	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	3	1	RPD≤5%
Arsenic (%)	7	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37532.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIA TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.: QC37537  
Date of Issue: 2023-01-03  
Date Received: 2022-12-23  
Date Tested: 2022-12-23  
Date Completed: 2023-01-03

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	103	87	80-120
Arsenic (%)	99	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	91	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	4	1	RPD≤5%
Arsenic (%)	7	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37537.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.: QC37564  
Date of Issue: 2023-01-04  
Date Received: 2022-12-28  
Date Tested: 2022-12-28  
Date Completed: 2023-01-04

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	116	104	80-120
Arsenic (%)	98	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	88	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	2	1	RPD≤5%
Arsenic (%)	4	N/A	RPD≤20%

Remarks: 1) < = less than

2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37564.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIA TSE**  
General Manager

## TEST REPORT

**APPLICANT:** Wellab Limited (EM&A Department)  
Rm 1714, Technology Park,  
18 On Lai Street,  
Shatin, N.T.

Report No.:	QC37568
Date of Issue:	2023-01-04
Date Received:	2022-12-30
Date Tested:	2022-12-30
Date Completed:	2023-01-04

Page: 1 of 1

**ATTN:** Mr. Marco Ma

**QC report**

**Method Blank**

Parameter	Method Blank 1	Method Blank 2	Acceptance
Total Suspended Solids (mg/L)	<0.5	<0.5	<0.5
Arsenic (µg/L)	<0.2	N/A	<0.2

**Method QC**

Parameter	MQC1	MQC2	Acceptance
Total Suspended Solids (%)	84	86	80-120
Arsenic (%)	98	N/A	80-120

**Sample Spike**

Parameter	Sample Spike 1	Sample Spike 2	Acceptance
Total Suspended Solids (%)	N/A	N/A	N/A
Arsenic (%)	92	N/A	80-120

**Sample Duplicate**

Parameter	Sample Duplicate 1	Sample Duplicate 2	Acceptance
Total Suspended Solids (%)	2	1	RPD<5%
Arsenic (%)	4	N/A	RPD<20%

Remarks: 1) < = less than

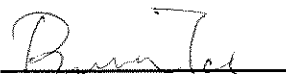
2) N/A = Not applicable

3) This report is the summary of quality control data for report number 37568.

\*\*\*\*\*END OF REPORT\*\*\*\*\*

*PREPARED AND CHECKED BY:*

For and On Behalf of **WELLAB Ltd.**

  
**PATRICIK TSE**  
General Manager



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**APPENDIX J  
LANDFILL GAS MONITORING  
RESULTS**

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**Contract No. ND/2019/01**

**Development of Kwu Tung North & Fanling North New Development Area, Phase 1:  
Kwu Tung North New Development Area, Phase 1: Site formation & Infrastructure works**

堆填區附近區域(Consultation Zone)每月氣體監察記錄

日期及時間	位置	氣體及安全標準	氧氣 O <sub>2</sub> >19%	甲烷 CH <sub>4</sub> <10% LEL	二氧化碳 CO <sub>2</sub> <0.5%
22-12-2022 11:14	CZ PT 1		20.99	0.03	0.01
22-12-2022 11:16	CZ container 1		21.05	0.04	0.02
22-12-2022 11:08	CZ container 2		20.95	0.00	0.02
22-12-2022 11:10	CZ container 3		20.95	0.01	0.02
22-12-2022 11:12	CZ container 4		20.96	0.04	0.02
22-12-2022 11:18	CZ container 5		21.05	0.01	0.02

Prepared by : Y L Chan (Safety Officer)

Date : 22-12-2022

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**APPENDIX K  
BUILT HERITAGE MONITORING  
RESULTS**

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## Summary of vibration readings at FL02 (C2-SEISM-01)

Table 2.3: Vibration Limit from PNAP APP-137 & PS 34.01(2)

TYPE OF BUILDING	GUIDE VALUES OF MAXIMUM PPV* (MM/SEC)	
	TRANSIENT VIBRATION	CONTINUOUS VIBRATION
Vibration-sensitive / dilapidated buildings#	7.5	3.0

Date	Max. PPV recorded (mm/s)	Serial no. of device (Micromate/ Supergraph)
01 Dec 2022	0.131	UM17121
02 Dec 2022	0.065	UM17124
03 Dec 2022	0.071	UM17121
05 Dec 2022	0.066	UM17124
06 Dec 2022	0.069	UM17121
07 Dec 2022	0.06	UM17124
08 Dec 2022	0.064	UM17124
09 Dec 2022	0.056	UM17121
10 Dec 2022	0.065	UM17121
12 Dec 2022	0.066	UM17124
13 Dec 2022	0.075	UM17124
14 Dec 2022	0.057	UM17121
15 Dec 2022	0.061	UM17124
16 Dec 2022	0.055	UM17121
17 Dec 2022	0.065	UM17121
19 Dec 2022	0.057	UM17124
20 Dec 2022	0.058	UM17121
21 Dec 2022	0.062	UM17124
22 Dec 2022	0.064	UM17121
23 Dec 2022	0.064	UM17124
24 Dec 2022	0.073	UM17121
28 Dec 2022	0.29	UM17124
29 Dec 2022	0.253	UM17121
30 Dec 2022	0.106	UM17124
31 Dec 2022	0.098	UM17124





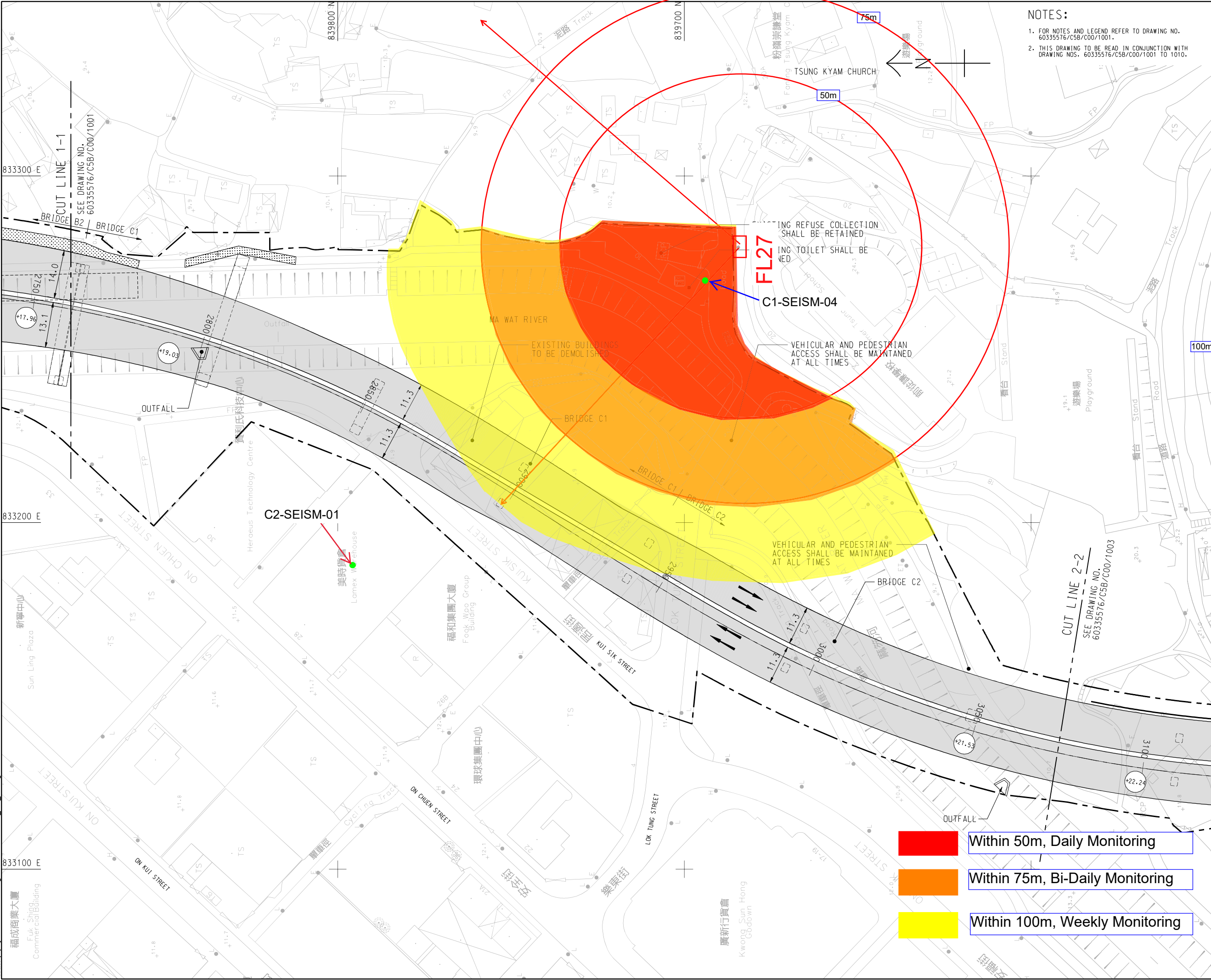
## Summary of vibration readings at FL27 (C1-SEISM-04)



Table 2.3: Vibration Limit from PNAP APP-137 & PS 34.01(2)

TYPE OF BUILDING	GUIDE VALUES OF MAXIMUM PPV* (MM/SEC)	
	TRANSIENT VIBRATION	CONTINUOUS VIBRATION
Vibration-sensitive / dilapidated buildings#	7.5	3.0

Date	Max. PPV recorded (mm/s)	Serial no. of device (Micromate/ Supergraph)
01 Dec 2022	0.401	UM17121
02 Dec 2022	1.287	UM17124
03 Dec 2022	0.200	UM17124
05 Dec 2022	0.205	UM17121
06 Dec 2022	0.139	UM17121
07 Dec 2022	0.144	UM17124
08 Dec 2022	0.144	UM17124
09 Dec 2022	0.182	UM17121
10 Dec 2022	0.150	UM17124
12 Dec 2022	0.151	UM17121
13 Dec 2022	0.186	UM17124
14 Dec 2022	0.176	UM17121
15 Dec 2022	0.216	UM17124
16 Dec 2022	0.207	UM17121
17 Dec 2022	0.148	UM17121
19 Dec 2022	0.152	UM17124
20 Dec 2022	0.163	UM17124
21 Dec 2022	0.190	UM17124
22 Dec 2022	0.120	UM17124
23 Dec 2022	0.268	UM17121
24 Dec 2022	0.082	UM17124
28 Dec 2022	0.087	UM17124
29 Dec 2022	0.143	UM17121
30 Dec 2022	0.191	UM17124
31 Dec 2022	0.335	UM17121



NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60335576/C5B/C00/1001.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60335576/C5B/C00/1001 TO 1010.

**AECOM**

**PROJECT**

**DEVELOPMENT OF KWU TUNG NORTH AND FANLING NORTH NEW DEVELOPMENT AREAS, PHASE 1**

**CONTRACT TITLE:**

**FANLING NORTH NEW DEVELOPMENT AREA, PHASE 1: FANLING BYPASS EASTERN SECTION (SHUNG HIM TONG TO KAU LUNG HANG)**

**CLIENT**

**CEDD** 土木工程拓展署  
Civil Engineering and Development Department

**CONSULTANT**

**AECOM Asia Company Ltd.**  
www.aecom.com

**SUB-CONSULTANTS**

分判工程顧問公司

ISSUE/REVISION			
NO.	DATE	DESCRIPTION	BY
1	JUN-19	TENDER DRAWING	RPCM
2			CHK

**STATUS**

擬定

**SCALE**

比例

**DIMENSION UNIT**

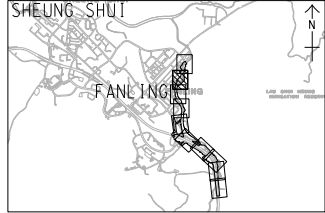
尺寸單位

A1 1: 500 METRES

**KEY PLAN**

索引圖

A1 1: 70000



**PROJECT NO.**

項目編號

60335576

**CONTRACT NO.**

合約編號

ND/2019/05

**SHEET TITLE**

圖紙名稱

**GENERAL LAYOUT**

**SHEET NUMBER**

圖紙編號

60335576/C5B/C00/1002

SHEET 2 OF 10

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**APPENDIX L**  
**ECOLOGICAL MONITORING RESULTS**

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**Appendix L1a. Avifauna Species Recorded for Water Birds Monitoring, 8 & 5 December 2022, High Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			8/12/2022 (T1 & T2), 5/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Overcast					
					Tidal Condition			High					
					Tide Level (m)			1.59, 1.67					
					Start Time			1000, 0700					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Alexandrine Parakeet	<i>Psittacula eupatria</i>	亞歷山大鸚鵡	RR	NT, Cap. 586				7					
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵒	WV		1		1		5				
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		3	2	2		9				
Black-faced Bunting	<i>Emberiza spodocephala</i>	灰頭鵒	WV, PM						3				
Black-faced Spoonbill	<i>Platalea minor</i>	黑臉琵鷺	CWV	EN, (EN), PGC			2						2
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV										1
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鵒	PM	RC			6	66		6			2
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵒	R		1	1			1				
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	4	3	1	5	5				4
Common Greenshank	<i>Tringa nebularia</i>	青腳鵒	PM, WV	RC	1		2	2					
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR				2		5				
Common Redshank	<i>Tringa totanus</i>	紅腳鵒	PM	RC				2					
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鵒	WV, PM		1	1	3	2					
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM					6					

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			8/12/2022 (T1 & T2), 5/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Overcast					
					Tidal Condition			High					
					Tide Level (m)			1.59, 1.67					
					Start Time			1000, 0700					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R				6		60				
Daurian Redstart	<i>Phoenicurus aureus</i>	北紅尾鵯	WV		1	1			2				
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV		2	3							
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM	(LC)		4		3					
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC				39		15			
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R			2	5		6				
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	CWV	RC						4			
Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>	東黃鵪鶉	PM, WV			1	1		4				
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	CWV	PRC			2						1
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	3	7	4						5
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鶿	UPM, WV										3
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC	2	2	2						1
Grey Wagtail	<i>Motacilla cinerea</i>	灰鵪鶉	WV				1						
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R										5
Little Bunting	<i>Emberiza pusilla</i>	小鵪鶉	CPM, WV				4	1	10				
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	21	14	3	8					2
Little Grebe	<i>Tachybaptus ruficollis</i>	小鸕鶿	R	LC						3			



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				8/12/2022 (T1 & T2), 5/12/2022 (T3 & T5)				
					Weather Condition				Sunny, Overcast				
					Tidal Condition				High				
					Tide Level (m)				1.59, 1.67				
					Start Time				1000, 0700				
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴝	WV, PM	LC				18					
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R						1				
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鷸	PM, WV	RC				2					
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R		2	5	6		3			1	1
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	WV	RC				21					
Olive-backed Pipit	<i>Anthus hodgsoni</i>	樹鵲	WV				4						
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鴝	R			1	2		1				
Oriental Turtle dove	<i>Streptopelia orientalis</i>	山斑鳩	WV, PM						1				
Plain Prinia	<i>Prinia inornata</i>	純色鷦鶯	R			4			2			2	
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鷸	WV	RC				22					
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR	(LC)			1						
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM										20
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵲	R		9	12			1				
Red-throated Pipit	<i>Anthus cervinus</i>	紅喉鵲	CPM, WV	RC				12					
Richard's Pipit	<i>Anthus richardi</i>	理氏鵲	WV, PM						2				
Rock Dove	<i>Columba livia</i>	原鴿	R			1			17				
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R				1		15				

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			8/12/2022 (T1 & T2), 5/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Overcast					
					Tidal Condition			High					
					Tide Level (m)			1.59, 1.67					
					Start Time			1000, 0700					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R				4		4				
Swinhoe's White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R		1	4							
White Wagtail	<i>Motacilla alba</i>	白鵲鴿	PM, WV		1	2	2	2	20				
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R					1	2				
White-shouldered Starling	<i>Sturnia sinensis</i>	灰背椋鳥	M, WV, Sv	LC									9
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)									1
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	PM, WV	LC				20					
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R		1							1	
Yellow-breasted Bunting	<i>Emberiza aureola</i>	黃胸鵲	PM	CR, RC					1				
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM			2							
Total No. of Species					16	20	24	19	24	4	0	3	14
Total No. of Conservation Interest Species					5	5	8	14	2	4	0	0	9

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			8/12/2022 (T1 & T2), 5/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Overcast					
					Tidal Condition			High					
					Tide Level (m)			1.59, 1.67					
					Start Time			1000, 0700					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
<p>Note:</p> <p>R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; SPM - Scarce Passage Migrant; CaM - Common autumn migrant; SaM - Scarce autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; SSv – Spring &amp; Summer Visitor; UR – Uncommon resident; RR – Rare resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor</p> <p>Status was decided according to AFCD biodiversity website (<a href="http://www.hkbiodiversity.net">www.hkbiodiversity.net</a>)</p> <p>Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance</p> <p>Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)</p> <p>CR: Rare in China Red Data Book Status</p> <p>VU: Vulnerable in IUCN Red List Status</p> <p>(VU): Vulnerable in China Red Data Book Status</p> <p>EN: Endangered in IUCN Red List Status</p> <p>(EN): Endangered in China Red Data Book Status</p> <p>NT: Near Threatened in IUCN Red List Status</p> <p>CR: Critically Endangered in IUCN Red List Status</p> <p>RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)</p> <p>WAL: Wet Agricultural Land</p> <p>DAL: Dry Agricultural Land</p> <p>SWH: Shallow Water Habitat</p> <p>P: Pond</p>													

**Appendix L1b. Avifauna Species Recorded for Water Birds Monitoring, 8 & 5 December 2022, Low Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			8/12/2022 (T1 & T2), 5/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.37, 1.19					
					Start Time			1400, 1300					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵯	WV		1	1			1				
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv										5
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV			1							
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		2	3		3	2				
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC				37		50			
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R		3								
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	3	3	4	3	2	6			5
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R		2								
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU		1							
Common Greenshank	<i>Tringa nebularia</i>	青腳鷸	PM, WV	RC		1	2	1		1			1
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R		2	1							
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR						2				
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM					1	1				
Common Redshank	<i>Tringa totanus</i>	紅腳鷸	PM	RC					3				
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		2		2		41				
Daurian Redstart	<i>Phoenicurus aureus</i>	北紅尾鵯	WV		1	1	1						

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			8/12/2022 (T1 & T2), 5/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.37, 1.19					
					Start Time			1400, 1300					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV			2							
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM	(LC)			5		1		6		
Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>	東黃鵲鴝	PM, WV							3			
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC					22		7		
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R				5						
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	CWV	RC							4		
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	CWV	PRC	1								
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV	PRC(RC)	1	7	4	1					1
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鶿	UPM, WV				3	1					
Grey Heron	<i>Ardea cinerea</i>	蒼鶯	WV	PRC	1								
Little Bunting	<i>Emberiza pusilla</i>	小鵲	CPM, WV					1					
Little Egret	<i>Egretta garzetta</i>	小白鶯	R	PRC(RC)	4	21	5	3		7			
Little Grebe	<i>Tachybaptus ruficollis</i>	小鸕鶿	R	LC					1				
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴝	WV, PM	LC					2				
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R					1					
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鶿	PM, WV	RC				4					
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鶿	R		3	9							



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				8/12/2022 (T1 & T2), 5/12/2022 (T3 & T5)				
					Weather Condition				Sunny, Sunny				
					Tidal Condition				Low				
					Tide Level (m)				1.37, 1.19				
					Start Time				1400, 1300				
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	WV	RC						15			
Olive-backed Pipit	<i>Anthus hodgsoni</i>	樹鵲	WV				8	2					
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鴝	R			1							
Oriental Turtle dove	<i>Streptopelia orientalis</i>	山斑鳩	WV, PM						4				
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R		2	5			6				
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鷸	WV	RC				4		11			
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR	(LC)	1								
Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	紅咀藍鵲	R		3								
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM										25
Red-throated Pipit	<i>Anthus cervinus</i>	紅喉鵲	CPM, WV	RC					3				
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵲	R		4	13							
Richard's Pipit	<i>Anthus richardi</i>	理氏鵲	WV, PM					6					
Rock Dove	<i>Columba livia</i>	原鴿	R			29							
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R						40				
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		4	1							
Swinhoe's White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R			1							
White Wagtail	<i>Motacilla alba</i>	白鵲鴿	PM, WV		2	2						1	

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			8/12/2022 (T1 & T2), 5/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.37, 1.19					
					Start Time			1400, 1300					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R					2					
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)					1				
Wood Sandpiper	<i>Tringa glareola</i>	林鷸	PM, WV	LC				6		4			
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R								1		
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM		2	2							
Total No. of Species					20	22	8	17	16	10	0	2	5
Total No. of Conservation Interest Species					6	6	4	10	6	10	0	0	3

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; SPM - Scarce Passage Migrant; CaM - Common autumn migrant; SaM - Scarce autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; SSv – Spring & Summer Visitor; UR – Uncommon resident; RR – Rare resident; SWV – Scarce winter visitor; M - Spring and Autumn Migrant; OV - Occasional visitor  
Status was decided according to AFCD biodiversity website ([www.hkbiodiversity.net](http://www.hkbiodiversity.net))  
Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)  
CR: Rare in China Red Data Book Status  
VU: Vulnerable in IUCN Red List Status  
(VU): Vulnerable in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
CR: Critically Endangered in IUCN Red List Status  
RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002))

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			8/12/2022 (T1 & T2), 5/12/2022 (T3 & T5)				
					Weather Condition			Sunny, Sunny				
					Tidal Condition			Low				
					Tide Level (m)			1.37, 1.19				
					Start Time			1400, 1300				
					Abundance							
					Transect Walk							
					T1	T2	T3	T5				
								WAL	DAL	SWH	P	Heard
WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond												

**Appendix L1c. Avifauna Species Recorded for Water Birds Monitoring, 15 & 12 December 2022, High Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			15/12/2022 (T1 & T2), 12/12/2022 (T3 & T5)					
					Weather Condition			Overcast, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.55, 1.56					
					Start Time			1300, 1500					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Alexandrine Parakeet	<i>Psittacula eupatria</i>	亞歷山大鸚鵡	RR	NT, Cap. 586		7							
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵒	WV			3	1		7				
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		2	3			5			2	2
Black-faced Bunting	<i>Emberiza spodocephala</i>	灰頭鵒	WV, PM						1				
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鵒	PM	RC			4	47	2	5			
Chestnut-eared Bunting	<i>Emberiza fucata</i>	栗耳鵒	SPM	LC					2				
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	4	2	3	4	8				1
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R		1	1							
Common Greenshank	<i>Tringa nebularia</i>	青腳鵒	PM, WV	RC		1	1	2	1	1			1
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R						3				
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R			2							
Common Redshank	<i>Tringa totanus</i>	紅腳鵒	PM	RC						2			
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鵒	WV, PM			2	3	3					
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM					6	2				
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R			5							42

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			15/12/2022 (T1 & T2), 12/12/2022 (T3 & T5)					
					Weather Condition			Overcast, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.55, 1.56					
					Start Time			1300, 1500					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Daurian Redstart	<i>Phoenicurus aureus</i>	北紅尾鵯	WV		1	1	1		4				
Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>	東黃鵯	PM, WV					2	7				
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC							53		
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R			12			63				
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	CWV	RC							4		
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	7	17	1						1
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鵯	UPM, WV				1	1					
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC	1	3	5						
Grey Wagtail	<i>Motacilla cinerea</i>	灰鵯	WV					3					
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R				6						10
Little Bunting	<i>Emberiza pusilla</i>	小鵯	CPM, WV						16				
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	4	40	2	2	1				
Little Grebe	<i>Tachybaptus ruficollis</i>	小鸕鶿	R	LC							2		
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鵯	WV, PM	LC			1	21					
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R			3			1				
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵯	R		5	6						1	
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	WV	RC							20		



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			15/12/2022 (T1 & T2), 12/12/2022 (T3 & T5)					
					Weather Condition			Overcast, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.55, 1.56					
					Start Time			1300, 1500					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Olive-backed Pipit	<i>Anthus hodgsoni</i>	樹鵲	WV			13		8					
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵲	R		2							1	
Oriental Turtle dove	<i>Streptopelia orientalis</i>	山斑鳩	WV, PM					1					
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鷸	WV	RC				22		1			
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR	(LC)			1						
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R		2	4			6			1	
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM										6
Red-throated Pipit	<i>Anthus cervinus</i>	紅喉鵲	CPM, WV	RC					12				
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵲	R		8	7							
Rock Dove	<i>Columba livia</i>	原鵲	R			24			17				
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R						70				
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		1	10	4		11				5
Swinhoe's White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R			38	1						
White Wagtail	<i>Motacilla alba</i>	白鵲鵲	PM, WV		2	4	6		19				
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R						2				
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)			2						
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R									1	

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			15/12/2022 (T1 & T2), 12/12/2022 (T3 & T5)					
					Weather Condition			Overcast, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.55, 1.56					
					Start Time			1300, 1500					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM			5							
Total No. of Species					12	24	18	11	24	4	4	4	9
Total No. of Conservation Interest Species					4	6	8	6	6	4	4	0	3

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; SPM - Scarce Passage Migrant; CaM - Common autumn migrant; SaM - Scarce autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; SSv – Spring & Summer Visitor; UR – Uncommon resident; RR – Rare resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor  
Status was decided according to AFCD biodiversity website ([www.hkbiodiversity.net](http://www.hkbiodiversity.net))  
Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)  
CR: Rare in China Red Data Book Status  
VU: Vulnerable in IUCN Red List Status  
(VU): Vulnerable in China Red Data Book Status  
EN: Endangered in IUCN Red List Status  
(EN): Endangered in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
CR: Critically Endangered in IUCN Red List Status  
RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)  
WAL: Wet Agricultural Land  
DAL: Dry Agricultural Land  
SWH: Shallow Water Habitat

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		15/12/2022 (T1 & T2), 12/12/2022 (T3 & T5)							
					Weather Condition		Overcast, Sunny							
					Tidal Condition		High							
					Tide Level (m)		1.55, 1.56							
					Start Time		1300, 1500							
					Abundance									
					Transect Walk									
					T1	T2	T3	T5						
								WAL	DAL	SWH	P	Heard	Flight	
P: Pond														

**Appendix L1d. Avifauna Species Recorded for Water Birds Monitoring, 15 & 12 December 2022, Low Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			15/12/2022 (T1 & T2), 12/12/2022 (T3 & T5)					
					Weather Condition			Drizzle, Overcast					
					Tidal Condition			Low					
					Tide Level (m)			0.52, 0.38					
					Start Time			1000, 0800					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵯	WV		1	1		5					
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV									1	
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		5	1	1		2			2	2
Black-faced Bunting	<i>Emberiza spodocephala</i>	灰頭鵯	WV, PM		2				3				
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鵯	PM	RC			1	42		16			8
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R						5				
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	5	5	3	3	9	3			2
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R		1	2							
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU		1	2						2
Common Greenshank	<i>Tringa nebularia</i>	青腳鵯	PM, WV	RC	1	3	3	5					
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R		1	2							
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR						5				
Common Redshank	<i>Tringa totanus</i>	紅腳鵯	PM	RC			2		1				
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鵯	WV, PM				1	1		4			1
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM					3					1

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			15/12/2022 (T1 & T2), 12/12/2022 (T3 & T5)					
					Weather Condition			Drizzle, Overcast					
					Tidal Condition			Low					
					Tide Level (m)			0.52, 0.38					
					Start Time			1000, 0800					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶯	R			2			1				
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		8	7			19				10
Daurian Redstart	<i>Phoenicurus aureus</i>	北紅尾鵯	WV			3			2				
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV		1								
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM	(LC)				8					1
Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>	東黃鵪鶉	PM, WV			3			11				
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC				12	2	21			
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R			8			13				18
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	CWV	RC						3			
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	CWV	PRC	5								
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV	PRC(RC)	23	5	1	1					1
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鶿	UPM, WV				1	1					14
Grey Heron	<i>Ardea cinerea</i>	蒼鶯	WV	PRC	8		1						
Grey Wagtail	<i>Motacilla cinerea</i>	灰鵪鶉	WV				2						
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R			4							6
Intermediate Egret	<i>Ardea intermedia</i>	中白鶯	CPM	RC	1								
Little Bunting	<i>Emberiza pusilla</i>	小鵪	CPM, WV						18				



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			15/12/2022 (T1 & T2), 12/12/2022 (T3 & T5)					
					Weather Condition			Drizzle, Overcast					
					Tidal Condition			Low					
					Tide Level (m)			0.52, 0.38					
					Start Time			1000, 0800					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	31	10							
Little Grebe	<i>Tachybaptus ruficollis</i>	小鷺鷥	R	LC							2		
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴝	WV, PM	LC				16		11			
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R			1							
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鵞	PM, WV	RC				1		1			
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵝	R		2	3	3		8	3		1	
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	WV	RC							1		
Olive-backed Pipit	<i>Anthus hodgsoni</i>	樹鵞	WV		2	3	14		2				
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵲	R		1								
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鵲	WV			3							
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R		1	1			9			4	
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鵞	WV	RC				12		6			
Red-throated Pipit	<i>Anthus cervinus</i>	紅喉鵞	CPM, WV	RC					14				
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵞	R		3	7							
Richard's Pipit	<i>Anthus richardi</i>	理氏鵞	WV, PM						2				
Rock Dove	<i>Columba livia</i>	原鴿	R			16			7				
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R		1				3			35	

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			15/12/2022 (T1 & T2), 12/12/2022 (T3 & T5)					
					Weather Condition			Drizzle, Overcast					
					Tidal Condition			Low					
					Tide Level (m)			0.52, 0.38					
					Start Time			1000, 0800					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Scarlet Minivet	<i>Pericrocotus speciosus</i>	赤紅山椒鳥	R		3								
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		2	4	3		8				
Spotted Redshank	<i>Tringa erythropus</i>	鶴鷸	SpM	RC						1			
Swinhoe's White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R			44							
Verditer Flycatcher	<i>Eumyias thalassinus</i>	銅藍鶇	UWV			1							
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)	1		1						1
White Wagtail	<i>Motacilla alba</i>	白鵲鴿	PM, WV		2	3	4	1	14				
Wood Sandpiper	<i>Tringa glareola</i>	林鷸	PM, WV	LC				5		2			
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R			1							
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM		2	1							
Total No. of Species					24	28	17	14	23	11	2	3	15
Total No. of Conservation Interest Species					8	5	8	10	4	9	2	0	6

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date		15/12/2022 (T1 & T2), 12/12/2022 (T3 & T5)						
					Weather Condition		Drizzle, Overcast						
					Tidal Condition		Low						
					Tide Level (m)		0.52, 0.38						
					Start Time		1000, 0800						
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; SPM - Scarce Passage Migrant; CaM - Common autumn migrant; SaM - Scarce autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; SSv – Spring & Summer Visitor; UR – Uncommon resident; RR – Rare resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor  
Status was decided according to AFCD biodiversity website ([www.hkbiodiversity.net](http://www.hkbiodiversity.net))  
Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)  
CR: Rare in China Red Data Book Status  
VU: Vulnerable in IUCN Red List Status  
(VU): Vulnerable in China Red Data Book Status  
EN: Endangered in IUCN Red List Status  
(EN): Endangered in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
CR: Critically Endangered in IUCN Red List Status  
RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)  
WAL: Wet Agricultural Land  
DAL: Dry Agricultural Land  
SWH: Shallow Water Habitat  
P: Pond

**Appendix L1e. Avifauna Species Recorded for Water Birds Monitoring, 22 & 23 December 2022, High Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			22/12/2022 (T1 & T2), 23/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.65, 1.5					
					Start Time			1000, 1000					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵯	WV			1							
Asian Brown Flycatcher	<i>Muscicapa dauurica</i>	北灰鶇	PM, WV			1							
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv		1	1							
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV		1	1	1						
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領椋鳥	R			2			1				2
Black-faced Bunting	<i>Emberiza spodocephala</i>	灰頭鵯	WV, PM		2								
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鵯	PM	RC			7	15	6	20	1	1	5
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R		2								
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	1	8	2	1	5				
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU			1						
Common Greenshank	<i>Tringa nebularia</i>	青腳鵯	PM, WV	RC		2	1		1	5			
Common Kestrel	<i>Falco tinnunculus</i>	紅隼	CaM, WV	Cap. 586					1				
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R			1	2						1
Common Redshank	<i>Tringa totanus</i>	紅腳鵯	PM	RC						1			
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鵯	WV, PM			2	1			3			2

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			22/12/2022 (T1 & T2), 23/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.65, 1.5					
					Start Time			1000, 1000					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM					2	5	5			
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶯	R			2							
Daurian Redstart	<i>Phoenicurus auroreus</i>	北紅尾鵯	WV		4	1			3				
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV			1			1				
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM	(LC)		1		7					
Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>	東黃鵪鶉	PM, WV						8				
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC						17	4		
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R						20				
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	CWV	RC						9	2		
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV	PRC(RC)		3	1		1				1
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鵪	UPM, WV			1	3						
Grey Heron	<i>Ardea cinerea</i>	蒼鶯	WV	PRC	1	1	1						
Grey Wagtail	<i>Motacilla cinerea</i>	灰鵪鶉	WV			2							
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R			1							10
Kentish Plover	<i>Charadrius alexandrinus</i>	環頸鵪	WV	RC						1			
Little Bunting	<i>Emberiza pusilla</i>	小鵪	CPM, WV		1				18				
Little Egret	<i>Egretta garzetta</i>	小白鶯	R	PRC(RC)		32	3	1	2				2



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			22/12/2022 (T1 & T2), 23/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.65, 1.5					
					Start Time			1000, 1000					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴝	WV, PM	LC						22			
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鵲	PM, WV	RC						1			
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R		3	2			2			3	
Northern Pintail	<i>Anas acuta</i>	針尾鴨	WV	RC						2			
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	WV	RC						3	9		
Olive-backed Pipit	<i>Anthus hodgsoni</i>	樹鵲	WV			7	4		9				
Oriental Magpie	<i>Pica serica</i>	喜鵲	R										2
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵲	R		1	1			1				
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶯	WV		1	1							
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R			1			6				
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鵲	WV	RC				7		11			1
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR	(LC)	1								
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM									10	
Red-throated Pipit	<i>Anthus cervinus</i>	紅喉鵲	CPM, WV	RC				8	10				
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵲	R			7							
Richard's Pipit	<i>Anthus richardi</i>	理氏鵲	WV, PM					1		4			
Rock Dove	<i>Columba livia</i>	原鴝	R						2				

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			22/12/2022 (T1 & T2), 23/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.65, 1.5					
					Start Time			1000, 1000					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R					50					
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		1	2	5		7				
Swinhoe's White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R		5	4							
White Wagtail	<i>Motacilla alba</i>	白鵲鴿	PM, WV		1	3	4		9	1			
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R			1				1			
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R						10				
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)					3				
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	PM, WV	LC				1		3			
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R		2							2	
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM		4	4							
Total No. of Species					17	30	14	9	24	17	4	4	9
Total No. of Conservation Interest Species					3	6	7	7	8	11	4	1	4

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			22/12/2022 (T1 & T2), 23/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.65, 1.5					
					Start Time			1000, 1000					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Note: R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; SPM - Scarce Passage Migrant; CaM - Common autumn migrant; SaM - Scarce autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; SSv – Spring & Summer Visitor; UR – Uncommon resident; RR – Rare resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net) Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586) CR: Rare in China Red Data Book Status VU: Vulnerable in IUCN Red List Status (VU): Vulnerable in China Red Data Book Status EN: Endangered in IUCN Red List Status (EN): Endangered in China Red Data Book Status NT: Near Threatened in IUCN Red List Status CR: Critically Endangered in IUCN Red List Status RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002) WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond													

**Appendix L1f. Avifauna Species Recorded for Water Birds Monitoring, 22 & 23 December 2022, Low Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				22/12/2022 (T1 & T2), 23/12/2022 (T3 & T5)				
					Weather Condition				Sunny, Sunny				
					Tidal Condition				Low				
					Tide Level (m)				1.44, 1.41				
					Start Time				1300, 1400				
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵯	WV		1				2				
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV		1								
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		2				4			5	
Black-faced Bunting	<i>Emberiza spodocephala</i>	灰頭鵯	WV, PM						1				
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鵯	PM	RC			2	35		31			
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R										3
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)		5		4	2	3			2
Collared Crow	<i>Corvus torquatus</i>	白頸鵲	UR	LC, VU			2						
Common Greenshank	<i>Tringa nebularia</i>	青腳鵯	PM, WV	RC			1	2					
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R			1			1				
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R						2				
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR						3				
Common Redshank	<i>Tringa totanus</i>	紅腳鵯	PM	RC				1					
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鵯	WV, PM				2						
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM					4	5	4			1

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date					22/12/2022 (T1 & T2), 23/12/2022 (T3 & T5)				
					Weather Condition					Sunny, Sunny				
					Tidal Condition					Low				
					Tide Level (m)					1.44, 1.41				
					Start Time					1300, 1400				
					Abundance									
					Transect Walk									
					T1	T2	T3	T5						
			WAL	DAL	SWH	P	Heard	Flight						
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶯	R		1									
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R			5							19	
Daurian Redstart	<i>Phoenicurus auroreus</i>	北紅尾鵯	WV		2		2		2					
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV			1								
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM	(LC)				7					1	
Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>	東黃鵪鶉	PM, WV					1	9				1	
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC				8		12				
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R						20					
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	CWV	RC				13		7				
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV	PRC(RC)		1	3			1				
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鵪	UPM, WV				2	8	2					
Grey Heron	<i>Ardea cinerea</i>	蒼鶯	WV	PRC			4							
Grey Wagtail	<i>Motacilla cinerea</i>	灰鵪鶉	WV		1									
Grey-headed Lapwing	<i>Vanellus cinereus</i>	灰頭麥雞	WV, PM	LC					1					
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R										8	
Little Bunting	<i>Emberiza pusilla</i>	小鵪	CPM, WV						20				1	
Little Egret	<i>Egretta garzetta</i>	小白鶯	R	PRC(RC)	6	13	8	1		1			1	



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			22/12/2022 (T1 & T2), 23/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.44, 1.41					
					Start Time			1300, 1400					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴝	WV, PM	LC			2	22	19	7			2
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R						1				
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鵲	PM, WV	RC						2			
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R		3	14			8			2	
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	WV	RC				3		8			
Olive-backed Pipit	<i>Anthus hodgsoni</i>	樹鵲	WV			1			5				
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵲	R			2			1				
Oriental Turtle dove	<i>Streptopelia orientalis</i>	山斑鳩	WV, PM						3				
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶯	WV		1	4							
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R						9				
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鵲	WV	RC				13		11			12
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM										4
Red-throated Pipit	<i>Anthus cervinus</i>	紅喉鵲	CPM, WV	RC					14				
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R		7	5							
Richard's Pipit	<i>Anthus richardi</i>	理氏鵲	WV, PM						6				
Rock Dove	<i>Columba livia</i>	原鴿	R			22			10				
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R		2				65				

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				22/12/2022 (T1 & T2), 23/12/2022 (T3 & T5)				
					Weather Condition				Sunny, Sunny				
					Tidal Condition				Low				
					Tide Level (m)				1.44, 1.41				
					Start Time				1300, 1400				
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Scarlet Minivet	<i>Pericrocotus speciosus</i>	赤紅山椒鳥	R		1								
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		1	4			11				
Swinhoe's White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R		1								
White Wagtail	<i>Motacilla alba</i>	白鵲鴿	PM, WV		3	3		3	15	4			1
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R					6	2				
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R			5							
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	PM, WV	LC				7					
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R		2								
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM			5							
Zitting Cisticola	<i>Cisticola juncidis</i>	棕扇尾鶯	PM, WV	LC					2				
Total No. of Species					16	15	11	17	29	12	0	2	13
Total No. of Conservation Interest Species					4	4	7	12	10	10	0	0	5

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			22/12/2022 (T1 & T2), 23/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			1.44, 1.41					
					Start Time			1300, 1400					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					

Note:  
R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; SPM - Scarce Passage Migrant; CaM - Common autumn migrant; SaM - Scarce autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; SSv – Spring & Summer Visitor; UR – Uncommon resident; RR – Rare resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor  
Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)  
Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)  
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VU: Vulnerable in IUCN Red List Status  
(VU): Vulnerable in China Red Data Book Status  
EN: Endangered in IUCN Red List Status  
(EN): Endangered in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
CR: Critically Endangered in IUCN Red List Status  
RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)  
WAL: Wet Agricultural Land  
DAL: Dry Agricultural Land  
SWH: Shallow Water Habitat  
P: Pond

**Appendix L1g. Avifauna Species Recorded for Water Birds Monitoring, 29 & 30 December 2022, High Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				29/12/2022 (T1 & T2), 30/12/2022 (T3 & T5)				
					Weather Condition				Sunny, Sunny				
					Tidal Condition				High				
					Tide Level (m)				1.61, 1.57				
					Start Time				1500, 1500				
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵯	WV					1					
Asian Koel	<i>Eudynamys scolopacea</i>	噪鵲	R									1	
Besra	<i>Accipiter virgatus</i>	松雀鷹	R, CPM	Cap.586								1	
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv		1								
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		3	3	2		7				
Black-faced Bunting	<i>Emberiza spodocephala</i>	灰頭鵯	WV, PM						1				
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鵯	PM	RC			3	46		36			
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R		2								
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	2	2	1	10				1	
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R		3								
Collared Crow	<i>Corvus torquatus</i>	白頸鵯	UR	LC, VU		1	1						
Common Greenshank	<i>Tringa nebularia</i>	青腳鵯	PM, WV	RC		1	1	1		2			
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R						2				
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR						6				
Common Redshank	<i>Tringa totanus</i>	紅腳鵯	PM	RC						2			

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			29/12/2022 (T1 & T2), 30/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.61, 1.57					
					Start Time			1500, 1500					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鵲	WV, PM		1								
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM					10		2			3
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		2	2			51				
Daurian Redstart	<i>Phoenicurus aureoreus</i>	北紅尾鵲	WV			1							
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	R, PM	(LC)				9					1
Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>	東黃鵲鴝	PM, WV										
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC				13		5	8		1
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R			1			50				
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	CWV	RC									
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鷀	CWV	PRC	1								1
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)		2	2	1					2
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鵲	UPM, WV				3			1			
Grey Wagtail	<i>Motacilla cinerea</i>	灰鵲鴝	WV						2				
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R										40
Kentish Plover	<i>Charadrius alexandrinus</i>	環頸鵲	WV	RC						1			
Little Bunting	<i>Emberiza pusilla</i>	小鵲	CPM, WV						2				
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)		42	7	1	1				1



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				29/12/2022 (T1 & T2), 30/12/2022 (T3 & T5)				
					Weather Condition				Sunny, Sunny				
					Tidal Condition				High				
					Tide Level (m)				1.61, 1.57				
					Start Time				1500, 1500				
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸕	WV, PM	LC				7		13			
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R				1		1				
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鵲	PM, WV	RC						1			
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R			6							
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	WV	RC						5	6		
Olive-backed Pipit	<i>Anthus hodgsoni</i>	樹鵲	WV			2	15		10				4
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶯	WV		1	6							
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R		1	2			1				
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鵲	WV	RC						19			
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR	(LC)									2
Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	紅咀藍鵲	R		2								
Red-throated Pipit	<i>Anthus cervinus</i>	紅喉鵲	CPM, WV	RC					8				
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵲	R		2	14							
Rock Dove	<i>Columba livia</i>	原鵲	R			3							
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R						100				30
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R			5	6						11
Swinhoe's White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R			4							
White Wagtail	<i>Motacilla alba</i>	白鵲鵲	PM, WV		1	4	4		5	1			2

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			29/12/2022 (T1 & T2), 30/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.61, 1.57					
					Start Time			1500, 1500					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R			1		2					
White-shouldered Starling	<i>Sturnia sinensis</i>	灰背椋鳥	M, WV, Sv	LC				1					
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)			1						
Wood Sandpiper	<i>Tringa glareola</i>	林鷸	PM, WV	LC				3	2	7		3	
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM			2							
Total No. of Species					13	19	14	10	19	13	2	0	16
Total No. of Conservation Interest Species					1	5	7	9	4	10	2	0	9
Note: R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; SPM - Scarce Passage Migrant; CaM - Common autumn migrant; SaM - Scarce autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; SSv – Spring & Summer Visitor; UR – Uncommon resident; RR – Rare resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net) Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586) CR: Rare in China Red Data Book Status VU: Vulnerable in IUCN Red List Status (VU): Vulnerable in China Red Data Book Status													

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			29/12/2022 (T1 & T2), 30/12/2022 (T3 & T5)					
					Weather Condition			Sunny, Sunny					
					Tidal Condition			High					
					Tide Level (m)			1.61, 1.57					
					Start Time			1500, 1500					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
								WAL	DAL	SWH	P	Heard	Flight
EN: Endangered in IUCN Red List Status (EN): Endangered in China Red Data Book Status NT: Near Threatened in IUCN Red List Status CR: Critically Endangered in IUCN Red List Status RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002) WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond													

**Appendix L1h. Avifauna Species Recorded for Water Birds Monitoring, 29 & 30 December 2022, Low Tide**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			29/12/2022 (T1 & T2), 30/12/2022 (T3 & T5)					
					Weather Condition			Fine, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			0.50, 0.84					
					Start Time			0900, 0900					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Alexandrine Parakeet	<i>Psittacula eupatria</i>	亞歷山大鸚鵡	RR	NT, Cap. 586		12							
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵯	WV		1				2				
Asian Brown Flycatcher	<i>Muscicapa dauurica</i>	北灰鶺鴒	PM, WV				1						
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV						2				
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R		1	2							
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC			1	75		24			1
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R										
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)	3	5	1		5				
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R		2								
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU		1	2						
Common Greenshank	<i>Tringa nebularia</i>	青腳鷸	PM, WV	RC		2		2		1			
Common Kestrel	<i>Falco tinnunculus</i>	紅隼	CaM, WV	Cap. 586									1
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R			1							
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR										2
Common Redshank	<i>Tringa totanus</i>	紅腳鷸	PM	RC						3			

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			29/12/2022 (T1 & T2), 30/12/2022 (T3 & T5)					
					Weather Condition			Fine, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			0.50, 0.84					
					Start Time			0900, 0900					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷸	WV, PM		1		1						
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM										2
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		2	12							
Daurian Redstart	<i>Phoenicurus aureoreus</i>	北紅尾鵯	WV		2				3				
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV										1
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM	(LC)				25					
Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>	東黃鵪鶉	PM, WV		1			4					3
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC				13		5			7
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R		2								
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	CWV	PRC	4								
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV	PRC(RC)	1	10	7	5	1				1
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鶿	UPM, WV				1		1	4			
Grey Heron	<i>Ardea cinerea</i>	蒼鶯	WV	PRC	1	1	3						
Grey Wagtail	<i>Motacilla cinerea</i>	灰鵪鶉	WV				2		3				2
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R										40
Little Bunting	<i>Emberiza pusilla</i>	小鵪	CPM, WV						4				
Little Egret	<i>Egretta garzetta</i>	小白鶯	R	PRC(RC)	1	52	7	4	4				



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			29/12/2022 (T1 & T2), 30/12/2022 (T3 & T5)					
					Weather Condition			Fine, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			0.50, 0.84					
					Start Time			0900, 0900					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Little Grebe	<i>Tachybaptus ruficollis</i>	小鷺鷥	R	LC							1		
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鸕	WV, PM	LC				1		10			
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鵲	PM, WV	RC						1			
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R			1				5			
Olive-backed Pipit	<i>Anthus hodgsoni</i>	樹鵲	WV				10		7				
Oriental Magpie	<i>Pica serica</i>	喜鵲	R						1				
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鵲	R			1			2				
Oriental Turtle dove	<i>Streptopelia orientalis</i>	山斑鳩	WV, PM										2
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鵲	WV		4	1							
Plain Prinia	<i>Prinia inornata</i>	純色鷓鵒	R		5								2
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鵲	WV	RC						26			
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR	(LC)									2
Red-throated Pipit	<i>Anthus cervinus</i>	紅喉鵲	CPM, WV	RC					6				
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵲	R		10								
Richard's Pipit	<i>Anthus richardi</i>	理氏鵲	WV, PM					1					
Rock Dove	<i>Columba livia</i>	原鵲	R						10				
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R						71				55

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date				29/12/2022 (T1 & T2), 30/12/2022 (T3 & T5)				
					Weather Condition				Fine, Sunny				
					Tidal Condition				Low				
					Tide Level (m)				0.50, 0.84				
					Start Time				0900, 0900				
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
			WAL	DAL	SWH	P	Heard	Flight					
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		2		1		18				3
Swinhoe's White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R			3							
White Wagtail	<i>Motacilla alba</i>	白鵲鵲	PM, WV		3	5	6		3	1			5
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)			1						1
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	PM, WV	LC				6		5			3
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R		2								
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM		2	3							
Total No. of Species					20	16	14	10	17	11	1	0	18
Total No. of Conservation Interest Species					5	7	7	7	4	8	1	0	8

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date			29/12/2022 (T1 & T2), 30/12/2022 (T3 & T5)					
					Weather Condition			Fine, Sunny					
					Tidal Condition			Low					
					Tide Level (m)			0.50, 0.84					
					Start Time			0900, 0900					
					Abundance								
					Transect Walk								
					T1	T2	T3	T5					
WAL	DAL	SWH	P	Heard				Flight					

Note:

R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; SPM - Scarce Passage Migrant; CaM - Common autumn migrant; SaM - Scarce autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; SSv – Spring & Summer Visitor; UR – Uncommon resident; RR – Rare resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor

Status was decided according to AFCD biodiversity website ([www.hkbiodiversity.net](http://www.hkbiodiversity.net))

Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance

Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)

CR: Rare in China Red Data Book Status

VU: Vulnerable in IUCN Red List Status

(VU): Vulnerable in China Red Data Book Status

EN: Endangered in IUCN Red List Status

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NT: Near Threatened in IUCN Red List Status

CR: Critically Endangered in IUCN Red List Status

RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)

WAL: Wet Agricultural Land

DAL: Dry Agricultural Land

SWH: Shallow Water Habitat

P: Pond

**Appendix L1i. Avifauna Species Recorded for Water Birds Monitoring, Night Survey, 5 December 2022, T5**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date: 5/12/2022					
					Start Time: 17:50					
					Abundance					
					WAL	DAL	SWH	P	Heard	Flight
Black-faced Spoonbill	<i>Platalea minor</i>	黑臉琵鷺	CWV	EN, (EN), PGC						2
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC	27		7			7
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)		1				3
Common Greenshank	<i>Tringa nebularia</i>	青腳鷸	PM, WV	RC			2			
Common Redshank	<i>Tringa totanus</i>	紅腳鷸	PM	RC			1			
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM		6					
Eurasian Coot	<i>Fulica atra</i>	骨頂雞	WV	RC				1		
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC				11		
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)						1
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC		1				3
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)		2				6
Little Grebe	<i>Tachybaptus ruficollis</i>	小鸕鶿	R	LC				2		
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鷸	PM, WV	RC			2			
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	WV	RC				2		
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鷸	WV	RC			13			
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM							10
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R			1				2
Wood Sandpiper	<i>Tringa glareola</i>	林鷸	PM, WV	LC	3					
Total No. of Species					3	4	5	4	0	8
Total No. of Conservation Interest Species					0	3	5	4	0	6

Note:

R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; RR – Rare resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor

Status was decided according to AFCD biodiversity website ([www.hkbiodiversity.net](http://www.hkbiodiversity.net))

Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance

Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)

CR: Rare in China Red Data Book Status

VU: Vulnerable in IUCN Red List Status

(VU): Vulnerable in China Red Data Book Status

EN: Endangered in IUCN Red List Status

(EN): Endangered in China Red Data Book Status

NT: Near Threatened in IUCN Red List Status

CR: Critically Endangered in IUCN Red List Status

RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)

WAL: Wet Agricultural Land; DAL: Dry Agricultural Land; SWH: Shallow Water Habitat; P: Pond.



**Appendix L1j. Avifauna Species Recorded for Water Birds Monitoring, Night Survey, 23 December 2022, T5**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date: 23/12/2022					
					Start Time: 17:50					
					Abundance					
					WAL	DAL	SWH	P	Heard	Flight
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R			5				
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV	LC						1
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	PM	RC	19		3			
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)						2
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R					2		
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM		4					4
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R			64				75
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC				9		7
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	CWV	RC	5			22		
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)			2			2
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鷸	UPM, WV		1					
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R							15
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)			2			14
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鷸	PM, WV	RC			2			
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	WV	RC				9		
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鷸	WV	RC			43			
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R		4					2
White-shouldered Starling	<i>Sturnia sinensis</i>	灰背棕鳥	M, WV, Sv	LC						9
Wood Sandpiper	<i>Tringa glareola</i>	林鷸	PM, WV	LC	2					
Total No. of Species					6	2	5	4	0	10
Total No. of Conservation Interest Species					3	0	5	3	0	6
Note: R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; RR – Rare resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)										

Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance  
Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)  
CR: Rare in China Red Data Book Status  
VU: Vulnerable in IUCN Red List Status  
(VU): Vulnerable in China Red Data Book Status  
EN: Endangered in IUCN Red List Status  
(EN): Endangered in China Red Data Book Status  
NT: Near Threatened in IUCN Red List Status  
CR: Critically Endangered in IUCN Red List Status  
RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)  
WAL: Wet Agricultural Land; DAL: Dry Agricultural Land; SWH: Shallow Water Habitat; P: Pond.

**Appendix L1k, Waterbirds Recorded in December 2022**

Common Name	Species Name	Chinese Name	Conservation Status	Recorded habitat from the survey	Distribution in Hong Kong*
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	LC	T5: In flight	Common resident and winter visitor. Widely distributed in Hong Kong.
Black-faced Spoonbill	<i>Platalea minor</i>	黑臉琵鷺	EN, (EN), PGC	T3: In flight T5: In flight	Common winter visitor. Found in Deep Bay area.
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鷸	RC	T3: River bank, River bed, in flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, Pond, In flight	Common passage migrant. Found in Deep Bay area, Long Valley, Kam Tin.
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	PRC(RC)	T1: River bank, In flight T2: River bank, In flight T3: River bank, River bed, in flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Common resident. Widely distributed in Hong Kong.
Common Greenshank	<i>Tringa nebularia</i>	青腳鷸	RC	T1: River bank, In flight T2: River bank, In flight T3: River bank, River bed, In flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Abundant winter visitor and migrant. Found in Deep Bay area.
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥		T1: River bank, In flight T2: River bank, In flight T3: River bank, River bed, In flight T5: Dry Agricultural Land, In flight	Common passage migrant and winter visitor. Widely distributed in wetland habitat throughout Hong Kong.
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞		T5: Dry Agricultural Land	Common winter visitor, resident and migrant. Found in Deep Bay area, Shuen Wan, Starling Inlet.
Common Redshank	<i>Tringa totanus</i>	紅腳鷸	RC	T3: River bed, In flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat	Abundant passage migrant and winter visitor. Found in Deep Bay area.

Common Name	Species Name	Chinese Name	Conservation Status	Recorded habitat from the survey	Distribution in Hong Kong*
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鵲		T1: River bank, In flight T2: River bank, In flight T3: River bank, River bed, In flight T5: Wet Agricultural Land, Shallow Water Habitat, In flight.	Common passage migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐		T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Common passage migrant and winter visitor. Found in Long Valley, Chau Tau, Sai Kung.
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鷺	(LC)	T2: River bank, In flight T3: River bank, River bed, In flight T5: Wet Agricultural Land, Dry Agricultural Land, In flight	Resident and common passage migrant. Widely distributed in Hong Kong.
Eurasian Coot	<i>Fulica atra</i>	骨頂雞	RC	T5: Pond	Uncommon winter visitor. Found in Deep Bay area, Plover Cove reservoir, Shuen Wan.
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	RC	T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, Pond, In flight	Common winter visitor. Found in Deep Bay area, Shuen Wan, Tai Lam Chung Reservoir, Victoria Harbour, Urban Park.
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	RC	T5: Wet Agricultural Land, Shallow Water Habitat, Pond	Common winter visitor. Found in Deep Bay area, Tai Lam Chung.
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	PRC	T1: In flight T2: In flight T3: In flight T5: In flight	Common winter visitor. Widely distributed in coastal areas throughout Hong Kong.
Great Egret	<i>Ardea alba</i>	大白鷺	PRC(RC)	T1: River bank, In flight T2: River bank, In flight T3: River bank, River bed, In flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Common resident and winter visitor. Widely distributed in Hong Kong.

Common Name	Species Name	Chinese Name	Conservation Status	Recorded habitat from the survey	Distribution in Hong Kong*
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鵪		T2: River bank T3: River bank, River bed T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight.	Uncommon passage migrant and winter visitor. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin, Shek Kong, Ho Chung.
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	PRC	T1: River bank, In flight T2: River bank, In flight T3: River bank, River bed, In flight T5: In flight	Common winter visitor. Found in Deep Bay area, Starling Inlet, Kowloon Park, Cape D'Aguilar.
Grey-headed Lapwing	<i>Vanellus cinereus</i>	灰頭麥雞	LC	T5: Dry Agricultural Land	Locally common winter visitor and migrant. Found in Kam tin, Tsim Bei Tsui, Lo Wu, Tai Long Wan, Shuen Wan, Castle Peak, Chek Lap Kok.
Intermediate Egret	<i>Ardea intermedia</i>	中白鷺	RC	T1: River bank, In flight	Resident and passage migrant. Found in Deep Bay area, Tai Long Wan, Starling Inlet, Tai O, Cape D'Aguilar
Kentish Plover	<i>Charadrius alexandrinus</i>	環頸鵪	RC	T5: Shallow Water Habitat	Abundant winter visitor and scarce migrant. Found in Deep Bay area, Chek Lap Kok, Shuen Wan, Sai Kung, Lantau Island.
Little Egret	<i>Egretta garzetta</i>	小白鷺	PRC(RC)	T1: River bank, In flight T2: River bank, In flight T3: River bank, River bed, In flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, Pond, In flight	Common resident. Widely distributed in coastal area throughout Hong Kong.
Little Grebe	<i>Tachybaptus ruficollis</i>	小鸕鶿	LC	T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, Pond	Common resident. Found in Deep Bay area.
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鵪	(LC)	T3: River bank, River bed, In flight T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Common winter visitor and passage migrant. Widely distributed in freshwater areas throughout Hong Kong.



Common Name	Species Name	Chinese Name	Conservation Status	Recorded habitat from the survey	Distribution in Hong Kong*
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鵲	RC	T5: Wet Agricultural Land, Shallow Water Habitat	Abundant winter visitor and migrant. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin, Sai Kung.
Northern Pintail	<i>Anas acuta</i>	針尾鴨	RC	T5: Shallow Water Habitat	Abundant winter visitor. Found in Deep Bay area, Shuen Wan, Long Valley, Kam Tin.
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	RC	T5: Wet Agricultural Land, Shallow Water Habitat, Pond	Abundant winter visitor. Found in Deep Bay area.
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鵲	RC	T5: Wet Agricultural Land, Shallow Water Habitat, In flight	Abundant winter visitor. Found in Deep Bay area.
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	(LC)	T1: In flight T3: In flight	Uncommon resident. Widely distributed in lakes and ponds throughout Hong Kong.
Spotted Redshank	<i>Tringa erythropus</i>	鶴鵲	RC	T5: Shallow Water Habitat.	Common spring passage migrant. Found in Deep Bay area.
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥		T3: River bank T5: Wet Agricultural Land, Dry Agricultural Land, In flight	Common resident. Widely distributed in wetland throughout Hong Kong.
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	(LC)	T1: River bank, In flight T3: River bank, River bed, In flight T5: Dry Agricultural Land, In flight	Common resident. Widely distributed in coastal areas throughout Hong Kong.
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	LC	T5: Wet Agricultural Land, Dry Agricultural Land, Shallow Water Habitat, In flight	Common migrant and winter visitor. Widely distributed in wetland area throughout Hong Kong.
Note:					

Common Name	Species Name	Chinese Name	Conservation Status	Recorded habitat from the survey	Distribution in Hong Kong*
<p>R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor</p> <p>Status was decided according to AFCD biodiversity website (<a href="http://www.hkbiodiversity.net">www.hkbiodiversity.net</a>)</p> <p>Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance</p> <p>Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)</p> <p>CR: Rare in China Red Data Book Status</p> <p>VU: Vulnerable in IUCN Red List Status</p> <p>(VU): Vulnerable in China Red Data Book Status</p> <p>EN: Endangered in IUCN Red List Status</p> <p>(EN): Endangered in China Red Data Book Status</p> <p>NT: Near Threatened in IUCN Red List Status</p> <p>CR: Critically Endangered in IUCN Red List Status</p> <p>RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)</p> <p>WAL: Wet Agricultural Land DAL: Dry Agricultural Land SWH: Shallow Water Habitat P: Pond</p> <p>*Source: Hong Kong Biodiversity Database, AFCD (<a href="https://www.afcd.gov.hk/English/conservation/hkbiodiversity/database/search.php">https://www.afcd.gov.hk/English/conservation/hkbiodiversity/database/search.php</a>)</p>					

**Appendix L1I. Birds Recorded in December 2022**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
Alexandrine Parakeet	<i>Psittacula eupatria</i>	亞歷山大鸚鵡	RR	NT, Cap. 586
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵯	WV	
Asian Brown Flycatcher	<i>Muscicapa dauurica</i>	北灰鶇	PM, WV	
Asian Koel	<i>Eudynamys scolopacea</i>	噪鵲	R	
Barn Swallow	<i>Hirundo rustica</i>	家燕	PM, Sv	
Besra	<i>Accipiter virgatus</i>	松雀鷹	R, CPM	Cap.586
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv	
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV	(RC), Cap.586
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R	
Black-crowned Night Heron	<i>Nycticorax nycticorax</i>	夜鷺	R, WV	LC
Black-faced Bunting	<i>Emberiza spodocephala</i>	灰頭鵯	WV, PM	
Black-faced Spoonbill	<i>Platalea minor</i>	黑臉琵鷺	CWV	EN, (EN), PGC
Black-winged Stilt	<i>Himantopus himantopus</i>	黑翅長腳鵯	PM	RC
Chestnut-eared Bunting	<i>Emberiza fucata</i>	栗耳鵯	SPM	LC
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R	
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)
Cinereous Tit	<i>Parus cinereus</i>	蒼背山雀	R	
Collared Crow	<i>Corvus torquatus</i>	白頸鴉	UR	LC, VU
Common Greenshank	<i>Tringa nebularia</i>	青腳鵯	PM, WV	RC
Common Kestrel	<i>Falco tinnunculus</i>	紅隼	CaM, WV	Cap. 586
Common Kingfisher	<i>Alcedo atthis</i>	普通翠鳥	R	

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
Common Moorhen	<i>Gallinula chloropus</i>	黑水雞	R	
Common Myna	<i>Acridotheres tristis</i>	家八哥	UR	
Common Redshank	<i>Tringa totanus</i>	紅腳鷸	PM	RC
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鷸	WV, PM	
Common Snipe	<i>Gallinago gallinago</i>	扇尾沙錐	WV, PM	
Common Tailorbird	<i>Orthotomus sutorius</i>	長尾縫葉鶯	R	
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R	
Daurian Redstart	<i>Phoenicurus aureus</i>	北紅尾鴝	WV	
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV	
Eastern Cattle Egret	<i>Bubulcus coromandus</i>	牛背鶯	R, PM	(LC)
Eastern Yellow Wagtail	<i>Motacilla tschutschensis</i>	東黃鵪鶉	PM, WV	
Eurasian Teal	<i>Anas crecca</i>	綠翅鴨	WV	RC
Eurasian Tree Sparrow	<i>Passer montanus</i>	樹麻雀	R	
Eurasian Wigeon	<i>Mareca penelope</i>	赤頸鴨	CWV	RC
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	CWV	PRC
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV	PRC(RC)
Green Sandpiper	<i>Tringa ochropus</i>	白腰草鷸	UPM, WV	
Grey Heron	<i>Ardea cinerea</i>	蒼鶯	WV	PRC
Grey Wagtail	<i>Motacilla cinerea</i>	灰鵪鶉	WV	
Grey-headed Lapwing	<i>Vanellus cinereus</i>	灰頭麥雞	WV, PM	LC
House Swift	<i>Apus nipalensis</i>	小白腰雨燕	SpM, R	

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
Intermediate Egret	<i>Ardea intermedia</i>	中白鷺	CPM	RC
Kentish Plover	<i>Charadrius alexandrinus</i>	環頸鴉	WV	RC
Little Bunting	<i>Emberiza pusilla</i>	小鵪	CPM, WV	
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)
Little Grebe	<i>Tachybaptus ruficollis</i>	小鸕鷀	R	LC
Little Ringed Plover	<i>Charadrius dubius</i>	金眶鴉	WV, PM	(LC)
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R	
Marsh Sandpiper	<i>Tringa stagnatilis</i>	澤鵲	PM, WV	RC
Masked Laughingthrush	<i>Pterorhinus perspicillatus</i>	黑臉噪鵲	R	
Northern Pintail	<i>Anas acuta</i>	針尾鴨	WV	RC
Northern Shoveler	<i>Spatula clypeata</i>	琵嘴鴨	WV	RC
Olive-backed Pipit	<i>Anthus hodgsoni</i>	樹鵲	WV	
Oriental Magpie	<i>Pica serica</i>	喜鵲	R	
Oriental Magpie-Robin	<i>Copsychus saularis</i>	鵲鴝	R	
Oriental Turtle dove	<i>Streptopelia orientalis</i>	山斑鳩	WV, PM	
Pallas's Leaf Warbler	<i>Phylloscopus proregulus</i>	黃腰柳鶯	WV	
Pied Avocet	<i>Recurvirostra avosetta</i>	反嘴鵲	WV	RC
Pied Kingfisher	<i>Ceryle rudis</i>	斑魚狗	UR	(LC)
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R	
Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	紅咀藍鵲	R	
Red-rumped Swallow	<i>Cecropis daurica</i>	金腰燕	UPM	



Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
Red-throated Pipit	<i>Anthus cervinus</i>	紅喉鵯	CPM, WV	RC
Red-whiskered bulbul	<i>Pycnonotus jocosus</i>	紅耳鵯	R	
Richard's Pipit	<i>Anthus richardi</i>	理氏鵯	WV, PM	
Rock Dove	<i>Columba livia</i>	原鴿	R	
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R	
Scarlet Minivet	<i>Pericrocotus speciosus</i>	赤紅山椒鳥	R	
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R	
Spotted Redshank	<i>Tringa erythropus</i>	鶴鵲	SpM	RC
Swinhoe's White-eye	<i>Zosterops simplex</i>	暗綠繡眼鳥	R	
Verditer Flycatcher	<i>Eumyias thalassinus</i>	銅藍鵯	UWV	
White Wagtail	<i>Motacilla alba</i>	白鵲鵯	PM, WV	
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R	
White-rumped Munia	<i>Lonchura striata</i>	白腰文鳥	R	
White-shouldered Starling	<i>Sturnia sinensis</i>	灰背棕鳥	M, WV, Sv	LC
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)
Wood Sandpiper	<i>Tringa glareola</i>	林鵲	PM, WV	LC
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R	
Yellow-breasted Bunting	<i>Emberiza aureola</i>	黃胸鵯	PM	CR, RC
Yellow-browed Warbler	<i>Phylloscopus inornatus</i>	黃眉柳鶯	WV, SpM	
Zitting Cisticola	<i>Cisticola juncidis</i>	棕扇尾鶯	PM, WV	LC

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status
<p>Note:</p> <p>R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident;</p> <p>Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)</p> <p>VU: Vulnerable on IUCN Red List of Threatened Species.</p> <p>(VU): Vulnerable in China Red Data Book Status</p> <p>RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)</p> <p>WAL: Wet Agricultural Land</p> <p>DAL: Dry Agricultural Land</p> <p>SWH: Shallow Water Habitat</p> <p>P: Pond</p>				

**Appendix L2. Mammal Species Recorded for Ecologically Sensitive Habitat Monitoring, 9 & 16 December 2022**

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Status	Date: 9/12 /2022, 16/12 /2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Domestic Cat	<i>Felis catus</i>	野貓		Introduced	+				
Domestic Dog	<i>Canis lupus familiaris</i>	野狗		Introduced	++		++		+++
Japanese Pipistrelle	<i>Pipistrellus abramus</i>	東亞家蝠	Cap. 170	Native	+++	+			++
Short-nosed Fruit Bat	<i>Cynopterus sphinx</i>	短吻果蝠	Cap. 170, NT, I	Native	+++				
Total No. of species					3	1	1	0	2
Total No. of Conservation Interest Species					2	1	0	0	1
<p>Note:</p> <p>Cap. 170: Species under protection of Wild Animals Protection Ordinance (Cap. 170)</p> <p>NT: Near Threatened in the Red List of China's Vertebrates</p> <p>I: Indeterminate in China Red Data Book Status</p> <p>Occurrence Status was according to The IUCN Red List of Threatened Species website (<a href="https://www.iucnredlist.org">https://www.iucnredlist.org</a>)</p> <p>+: species recorded within transect routes</p> <p>++: species commonly recorded within transect routes</p> <p>+++ : dominant species within transect routes</p> <p>Local Restrictedness Column has been removed as said information is no longer available.</p>									

**Appendix L3. Herpetofauna Species Recorded for Ecologically Sensitive Habitat Monitoring, 9 & 16 December 2022**

Appendix B5: Herpetofauna Species Recorded for Ecologically Sensitive Habitat Monitoring, 9 & 16 December 2022

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Status	Date: 9/12 /2022, 16/12 /2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Amphibian									
Asian Common Toad	<i>Bufo melanostictus</i>	黑眶蟾蜍	-	Native				+++	
Greenhouse Frog	<i>Eleutherodactylus planirostris</i>	溫室蟾	-	Introduced				+	+
Marbled Pigmy Frog	<i>Microhyla pulchra</i>	花姬蛙	-	Native	+				
Reptile									
Chinese gecko	<i>Gekko chinensis</i>	中國壁虎		Native	++				
Total No. of species					2	0	0	2	1
Total No. of Conservation Interest Species					0	0	0	0	0
Note: Occurrence Status was according to The IUCN Red List of Threatened Species website ( <a href="https://www.iucnredlist.org">https://www.iucnredlist.org</a> ) (NT): Near Threatened in Red List of China Vertebrates +: species recorded within transect routes ++: species commonly recorded within transect routes +++: dominant species within transect routes									

**Appendix L4. Butterfly Species Recorded Ecologically Sensitive Habitat Monitoring, 9 & 16 December 2022**

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Status*	Date: 9/12 /2022, 16/12 /2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Angled Castor	<i>Ariadne ariadne</i>	波蛺蝶			+				
Black Prince	<i>Rohana parisatis</i>	羅蛺蝶			+				
Blue-spotted Crow	<i>Euploea midamus</i>	藍點紫斑蝶			+				
Common Cerulean	<i>Jamides celeno</i>	錫冷雅灰蝶	R		+				
Common Grass Yellow	<i>Eurema hecabe</i>	寬邊黃粉蝶			+				
Common Indian Crow	<i>Euploea core</i>	幻紫斑蝶			+				+
Common Mormon	<i>Papilio polytes</i>	玉帶鳳蝶			+				
Common Sailer	<i>Neptis hylas</i>	中環蛺蝶			+				
Danaid Eggfly	<i>Hypolimnasthis misippus</i>	金斑蛺蝶	LC		+				
Dark Brand Bush Brown	<i>Mycalesis mineus</i>	小眉眼蝶			+				
Dark Cerulean	<i>Jamides bochus</i>	雅灰蝶			+++				
Forget-me-not	<i>Catochrysops strabo</i>	咖灰蝶	VR		+				
Great Mormon	<i>Papilio memnon</i>	美鳳蝶			+				
Indian Cabbage White	<i>Pieris canidia</i>	東方菜粉蝶			+++				
Lemon Emigrant	<i>Catopsilia pomona</i>	遷粉蝶			+				
Long-tailed Blue	<i>Lampides boeticus</i>	亮灰蝶			+				
Metallic Cerulean	<i>Jamides alecto</i>	素雅灰蝶	VR		+				
Pale Grass Blue	<i>Pseudozizeeria maha</i>	酢漿灰蝶			+++				



Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Status*	Date: 9/12 /2022, 16/12 /2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Plum Judy	<i>Abisara echerius</i>	蛇目褐蛱蝶					+		
Purple Sapphire	<i>Heliophorus epicles</i>	斜斑彩灰蝶			++				
Red-base Jezebel	<i>Delias pasithoe</i>	報喜斑粉蝶			+				
Rustic	<i>Cupha erymanthis</i>	黃襟蛱蝶			+				
Small White	<i>Pieris sp.</i>	菜粉蝶			++				
Spangle	<i>Papilio protenor</i>	藍鳳蝶			++				
Three-spot Grass Yellow	<i>Eurema blanda</i>	壁黃粉蝶			+				
White-edged Blue Baron	<i>Euthalia phemius</i>	尖翅翠蛱蝶			+				
Yellow Rajah	<i>Charaxes marmax</i>	螯蛱蝶	LC		+				
Total No. of species					26	0	1	0	1
Total No. of Conservation Interest Species					5	0	0	0	0
<p>Note:</p> <p>Occurrence Status was according to The IUCN Red List of Threatened Species website (<a href="https://www.iucnredlist.org">https://www.iucnredlist.org</a>)</p> <p>*Very limited data are available for the occurrence status (being native to Hong Kong) of butterflies</p> <p>+: species recorded within transect routes</p> <p>++: species commonly recorded within transect routes</p> <p>+++: dominant species within transect routes</p> <p>Conservation Status:</p> <p>LC: Local Concern (Fellowes et al. (2002))</p> <p>R: Rare (Chan et al. (2011))</p>									

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Status*	Date: 9/12 /2022, 16/12 /2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
VR: Very Rare (Chan et al. (2011))									

**Appendix L5. Odonata Species Recorded for Ecologically Sensitive Habitat Monitoring 9 & 16 December 2022**

Common Name	Species Name	Chinese Name	Conservation Status	Occurrence Status	Date: 9/12 /2022, 16/12 /2022				
					Relative Abundance				
					Transect Walk				
					T1	T3	T4	T5	T6
Green Skimmer	<i>Orthetrum sabina</i>	狹腹灰蜻		Native	+				
Wandering Glider	<i>Pantala flavescens</i>	黃蜻		Native	+++		+		+
Total No. of species					2	0	1	0	1
Total No. of Conservation Interest Species					0	0	0	0	0
<p>Note:</p> <p>LC: Local Concern (Fellowes et al., 2002)</p> <p>Occurrence Status was according to The IUCN Red List of Threatened Species website (<a href="https://www.iucnredlist.org">https://www.iucnredlist.org</a>)</p> <p>+: species recorded within transect routes</p> <p>++: species commonly recorded within transect routes</p> <p>+++: dominant species within transect routes</p>									

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**APPENDIX M**  
**WEATHER CONDITION**

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**APPENDIX M –  
GENERAL WEATHER CONDITIONS DURING THE MONITORING PERIOD**

<b>Date</b>	<b>Mean Air Temperature (°C)</b>	<b>Mean Relative Humidity (%)</b>	<b>Precipitation (mm)</b>
<b>1 December 22</b>	<b>16.5</b>	<b>72</b>	<b>Trace</b>
<b>2 December 22</b>	<b>16.5</b>	<b>69</b>	<b>0</b>
<b>3 December 22</b>	<b>19.2</b>	<b>73</b>	<b>0</b>
<b>4 December 22</b>	<b>21.2</b>	<b>74</b>	<b>0</b>
<b>5 December 22</b>	<b>17.9</b>	<b>66</b>	<b>0</b>
<b>6 December 22</b>	<b>17.1</b>	<b>68</b>	<b>0</b>
<b>7 December 22</b>	<b>18.7</b>	<b>68</b>	<b>Trace</b>
<b>8 December 22</b>	<b>19.9</b>	<b>72</b>	<b>0</b>
<b>9 December 22</b>	<b>19.6</b>	<b>67</b>	<b>0</b>
<b>10 December 22</b>	<b>18.4</b>	<b>61</b>	<b>0</b>
<b>11 December 22</b>	<b>16.7</b>	<b>60</b>	<b>0</b>
<b>12 December 22</b>	<b>16.2</b>	<b>61</b>	<b>Trace</b>
<b>13 December 22</b>	<b>14.5</b>	<b>71</b>	<b>3.2</b>
<b>14 December 22</b>	<b>12.5</b>	<b>91</b>	<b>8.7</b>
<b>15 December 22</b>	<b>14.6</b>	<b>91</b>	<b>3.8</b>



<b>Date</b>	<b>Mean Air Temperature (°C)</b>	<b>Mean Relative Humidity (%)</b>	<b>Precipitation (mm)</b>
<b>16 December 22</b>	<b>16.9</b>	<b>90</b>	<b>0.9</b>
<b>17 December 22</b>	<b>13.2</b>	<b>60</b>	<b>9.1</b>
<b>18 December 22</b>	<b>11.8</b>	<b>30</b>	<b>Trace</b>
<b>19 December 22</b>	<b>13.7</b>	<b>50</b>	<b>0</b>
<b>20 December 22</b>	<b>16.8</b>	<b>71</b>	<b>0</b>
<b>21 December 22</b>	<b>17.5</b>	<b>46</b>	<b>Trace</b>
<b>22 December 22</b>	<b>17.2</b>	<b>35</b>	<b>0</b>
<b>23 December 22</b>	<b>17.1</b>	<b>40</b>	<b>0</b>
<b>24 December 22</b>	<b>16.9</b>	<b>49</b>	<b>0</b>
<b>25 December 22</b>	<b>16.2</b>	<b>59</b>	<b>0</b>
<b>26 December 22</b>	<b>16.3</b>	<b>65</b>	<b>0</b>
<b>27 December 22</b>	<b>16.9</b>	<b>70</b>	<b>0</b>
<b>28 December 22</b>	<b>17.7</b>	<b>68</b>	<b>0</b>
<b>29 December 22</b>	<b>16.8</b>	<b>60</b>	<b>Trace</b>
<b>30 December 22</b>	<b>15</b>	<b>62</b>	<b>0</b>
<b>31 December 22</b>	<b>15.5</b>	<b>65</b>	<b>0</b>

\* The above information was extracted from the daily weather summary by Hong Kong Observatory.

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**APPENDIX N**  
**EVENT ACTION PLANS**

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**Appendix N:****Table N-1: Event / Action Plan for Air Quality**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>ACTION LEVEL</b>				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC,ER and Contractor; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Notify Contractor.	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Rectify any unacceptable practice and implement remedial measures; and 3. Amend working methods agreed with ER if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC,ER and Contractor; 3. Advise the ER and Contractor on the effectiveness of the proposed remedial measures; 4. Repeat measurements	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 3. Implement the

	<p>to confirm findings;</p> <p>5. Increase monitoring frequency to daily;</p> <p>6. Discuss with IEC, ER and Contractor on remedial actions required;</p> <p>7. If exceedance continues, arrange meeting with IEC and ER; and</p> <p>8. If exceedance stops, cease additional monitoring.</p>	Implementation of remedial measures.		<p>agreed proposals; and</p> <p>4. Amend proposal if appropriate.</p>
<b>LIMIT LEVEL</b>				
1.Exceedance for one sample	<p>Identify source, investigate the causes of exceedance and propose remedial measures;</p> <p>2. Inform ER, Contractor, IEC and EPD;</p> <p>3. Repeat measurement to confirm finding;</p> <p>4. Increase monitoring frequency to daily;</p> <p>5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</p>	<p>1. Check monitoring data submitted by ET;</p> <p>2. Check Contractor's working method;</p> <p>3. Discuss with ET, ER and Contractor on possible remedial measures;</p> <p>4. Advise the ER and ET on the effectiveness of the proposed remedial measures;</p> <p>5. Supervise implementation of remedial</p>	<p>1. Confirm receipt of notification of failure in writing;</p> <p>2. Notify Contractor; and</p> <p>3. Supervise and ensure remedial measures properly implemented.</p>	<p>1. Identify source, investigate the causes of exceedance and propose remedial measures;</p> <p>2. Take immediate action to avoid further exceedance;</p> <p>3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification;</p> <p>4. Implement the agreed proposals; and</p> <p>5. Amend proposal if appropriate.</p>

		measures.		
2.Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC, Contractor and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise and ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control; 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative



**Table N-2: Event / Action Plan for Construction Noise**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	1. Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss jointly with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the monitoring data submitted by the ET; 2. Review the construction methods and proposed remedial measures by the Contractor, and advise the ET and ER if the proposed remedial measures would be sufficient; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify the Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented	1. Submit noise mitigation proposals to ER and copy to the IEC and ET; 2. Implement noise mitigation proposals.
Limit Level	1. Identify source; 2. Inform IEC, ER and Contractor; 3. Repeat measurements to confirm findings; 4. Increase the monitoring frequency; 5. Carry out analysis of Contractor's working procedures with the ER and Contractor to determine possible mitigation to be implemented; 6. Inform IEC, ER and Contractor the causes and actions taken for the exceedances;	1. Discuss amongst the ER, ET, and Contractor on the potential remedial actions; 2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify the Contractor; 3. Require the Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to the ER and copy to the ET and IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problems still not under control; 5. Stop the relevant portion of works as

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	7. Assess effectiveness of Contractor's remedial actions and keep IEC informed of the results;  8. If exceedance stops, cease additional monitoring.		Contractor to stop that portion of work until the exceedance is abated.	determined by the ER until the exceedance is abated.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative

**Table N-3: Event / Action Plan for Water Quality**

EVENT	ACTION				
	ET		IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	1. Conduct addition site investigation on the same day;	1. Discuss with ET, ER and Contractor on the implemented mitigation measures;	1. Review proposals on remedial measures submitted by Contractor;	1. Identify source(s) of impact;	
	2. Inform IEC, Contractor and ER;	2. Review proposals on remedial measures submitted by Contractor and advise the ER accordingly; and	2. Discuss with IEC, ET and Contractor on the Implemented mitigation measures;	2. Inform the ER and confirm notification of the noncompliance in writing;	
	3. Check monitoring data, all plant, equipment, Contractor’s working methods and other relative information;	3. Review submit proposal and advise the ET and ER on the Effectiveness of the implemented mitigation measures.	3. Make agreement on the remedial measures to be implemented; and	3. Rectify unacceptable practice;	
	4. Review proposals on remedial measures submitted by Contractor;		4. Supervise the implementation of agreed remedial measures.	4. Check all plant and equipment;	
	5. Discuss remedial measures with IEC and Contractor and ER; and			5. Consider changes of working methods;	
	6. Review submit proposal and ensure the effectiveness of the implemented mitigation measures.			6. Discuss with ER, ET and IEC and submit proposal of remedial measures to ER and IEC; and	
				7. Implement the agreed mitigation measures.	
Action level being exceeded by more than one consecutive sampling days	1. Conduct addition site investigation on the same day;	1. Discuss with ET, Contractor and ER on the implemented mitigation measures;	1. Discuss with ET, IEC and Contractor on the proposed mitigation measures;	1. Identify source(s) of impact;	
	2. Inform IEC, Contractor and ER;	2. Review the proposed remedial measures submitted by Contractor and advise	2. Make agreement on the remedial measures to be implemented; and	2. Inform the ER and confirm notification of the non-compliance in writing;	
	3. Check monitoring data, all plant, equipment,			3. Rectify unacceptable	

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	Contractor's working methods and other relative information; 4. Discuss remedial measures with IEC, contractor and ER; and 5. Review submit proposal and ensure the agreed remedial measures are implemented	the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.	3. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures	practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of remedial measures to ER and IEC within 3 working days of notification; and 6. Implement the agreed mitigation measures.
Limit level being exceeded by one sampling day	1. Conduct addition site investigation on the same day; 2. Inform IEC, Contractor and ER; 3. Rectify unacceptable practice; 4. Check monitoring data, all plant, equipment, Contractor's working methods and other relative information; 5. Consider changes of working methods; 6. Discuss mitigation measures with IEC, ER and Contractor; 7. Review the submit	1. Discuss with ET, Contractor and ER on the implemented mitigation measures; 2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and 3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.	1. Discuss with ET, IEC and Contractor on the implemented remedial measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the remedial measures to be implemented; and 4. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures.	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the noncompliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment and consider changes of working methods; 5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	proposal and ensure the agreed remedial measures are implemented;			notification; and 6. Implement the agreed remedial measures.
Limit level being exceeded by more than one consecutive sampling days	<ol style="list-style-type: none"> <li>1. Conduct addition site investigation on the same day;</li> <li>2. Inform IEC, contractor and ER;</li> <li>3. Check monitoring data, all plant, equipment, Contractor's working methods and other relative information;</li> <li>4. Discuss mitigation measures with IEC, ER and Contractor; and</li> <li>5. Review the submit proposal and ensure the agreed remedial measures are implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET, Contractor and ER on the implemented mitigation measures;</li> <li>2. Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and</li> <li>3. Review and advise the ET and ER on the effectiveness of the implemented mitigation measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET, IEC and Contractor on the implemented remedial measures</li> <li>2. Request Contractor to critically review the working methods;</li> <li>3. Make agreement on the remedial measures to be implemented;</li> <li>4. Discuss with ET and IEC on the effectiveness of the implemented mitigation measures; and</li> <li>5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the dredging activities until no exceedance of Limit level.</li> </ol>	<ol style="list-style-type: none"> <li>1. Identify source(s) of impact;</li> <li>2. Inform the ER and confirm notification of the noncompliance in writing;</li> <li>3. Rectify Unacceptable practice;</li> <li>4. Check all plant and equipment and consider changes of working methods;</li> <li>5. Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and</li> <li>6. Implement the agreed remedial measures.</li> <li>7. As directed by the ER, to slow down or stop all or part of the dredging activities until no exceedance of Limit level.</li> </ol>



Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative

**Table N-4: Actions in the event of LFG being detected**

Parameter	Monitoring Results	Actions
O <sub>2</sub>	<19% v/v	Increase underground ventilation to restore O <sub>2</sub> to >19% v/v
	<18% v/v	Stop works, evacuate all personnel, prohibit entry, and increase ventilation to restore O <sub>2</sub> level to >19%
CH <sub>4</sub>	>10% LEL	Prohibit hot works, increase ventilation to restore CH <sub>4</sub> to <10% LEL
	>20% LEL	Stop works, evacuate all personnel, increase ventilation further to restore CH <sub>4</sub> to <10% LEL
CO <sub>2</sub>	>0.5% v/v	Increase ventilation to restore C O <sub>2</sub> to <0.5% v/v
	>1.5% v/v	Stop works, evacuate all personnel, increase ventilation further to restore CO <sub>2</sub> to <0.5%

Note: Depending on the results of the measurements, actions required will vary and should be set down by the Safety Officer or another appropriately qualified person. As a minimum these should encompass those actions specified in the above table.

**Table N-5: Event / Action Plan for Ambient Arsenic Monitoring**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>ACTION LEVEL</b>				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC,ER and Contractor; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate
2. Exceedance for two or more consecutive samples	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC,ER and Contractor; 3. Advise the ER and Contractor on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC, ER and Contractor on remedial	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 2. Implement the agreed proposals; and 3. Amend proposal if appropriate.

	actions required; 7. If exceedance continues, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring.			
<b>LIMIT LEVEL</b>				
1.Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor, IEC and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ER and ET on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate.
2.Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC, agree with the Contractor on the	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification;

	<p>procedures to determine possible mitigation to be implemented;</p> <p>6. Arrange meeting with IEC, Contractor and ER to discuss the remedial actions to be taken;</p> <p>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</p> <p>8. If exceedance stops, cease additional monitoring.</p>	<p>their effectiveness and advise the ER accordingly;</p> <p>3. Supervise the implementation of remedial measures</p>	<p>remedial measures to be implemented;</p> <p>4. Supervise and ensure remedial measures properly implemented; and</p> <p>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</p>	<p>3. Implement the agreed proposals;</p> <p>4. Resubmit proposals if problem still not under control;</p> <p>5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.</p>
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Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative

**Table N-6.1 Action and Limit Levels and Responses for Avifauna Monitoring and General Site Inspection in the LVNP during Construction Phase.**

EVENT	RESPONSE			
	ET	IEC	Contractor	Project Proponent
<b>AVIFAUNA MONITORING</b>				
Action Level exceeded.	1. Check monitoring data and repeat data analysis to confirm findings;  2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;  3. Identify potential source(s) of impact;  4. Immediately inform IEC, Contractor and PP.  5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and  6. Conduct necessary site inspections/audits to ensure all remedial	1. Check monitoring data, analysis and investigation by ET;  2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and  3. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	1. Confirm receipt of notification of the exceedance of Action Level in writing; and  2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	1. Check the monitoring results and findings from ET and IEC;  2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and  3. Supervise the instigated further mitigation measure(s).



	measures are properly implemented by the Contractor, as agreed with the PP.			
Limit Level exceeded.	<ol style="list-style-type: none"> <li>1. Check monitoring data and repeat data analysis to confirm findings;</li> <li>2. Identify potential source(s) of impact;</li> <li>3. Immediately inform IEC, Contractor and PP.</li> <li>4. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</li> <li>5. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</li> <li>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data, analysis and investigation by ET;</li> <li>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</li> <li>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</li> <li>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</li> <li>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</li> <li>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</li> <li>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the monitoring results and findings from ET and IEC;</li> <li>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</li> <li>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</li> <li>4. Supervise the instigated further mitigation measure(s).</li> </ol>

	implemented by the Contractor, as agreed with the PP.	feedback the audit results to the PP.		
<b>General Site Inspection</b>				
Action Level exceeded.	1. Investigate if the activity identified is related to the construction works;  2. Immediately inform IEC, Contractor and PP.  3. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and  4. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	1. Check the investigation and findings of the ET;  2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and  3. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	1. Confirm receipt of notification of the exceedance of Action Level in writing; and  2. Propose and implement the remedial measures(s) to mitigate the impact(s) of the activity identified.	1. Check the investigation and findings of the ET and IEC;  2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and  3. Supervise the instigated further mitigation measure(s).
Limit Level exceeded	1. Investigate if the activity identified is related to the construction works;	1. Check the investigation and findings or the ET;  2. Discuss with the PP,	1. Confirm receipt of notification of the exceedance of Limit Level in writing;	1. Check the monitoring results and findings from ET and IEC;  2. Discuss the need for

	<p>2. Immediately inform IEC, Contractor and PP.</p> <p>3. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</p> <p>4. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>5. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>ET, and Contractor on the need for further mitigation measure(s);</p> <p>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</p> <p>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</p> <p>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</p> <p>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</p> <p>4. Supervise the instigated further mitigation measure(s).</p>
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**Table N-6.2 Action and Limit Levels and Responses to Evidence of Disturbance to Waterbirds using in Ng Tung, Sheung Yue and Shek Sheung Rivers**

EVENT	RESPONSE			
	ET	IEC	Contractor	Project Proponent
<b>Construction Phase</b>				
Action Level	1. Check monitoring	1. Check monitoring data,	1. Confirm receipt of	1. Check the monitoring

exceeded.	<p>data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>analysis and investigation by ET;</p> <p>2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>notification of the exceedance of Action Level in writing; and</p> <p>2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and</p> <p>3. Supervise the instigated further mitigation measure(s).</p>
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Limit Level Exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Identify potential source(s) of impact;</p> <p>3. Immediately inform IEC, Contractor and PP.</p> <p>4. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</p> <p>5. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</p> <p>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</p> <p>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</p> <p>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</p> <p>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</p> <p>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</p> <p>4. Supervise the instigated further mitigation measure(s).</p>
<b>Operational Phase</b>				
Action Level	1. Check monitoring	1. Check monitoring	1. Confirm receipt of	1. Check the monitoring



exceeded.	<p>data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>data, analysis and investigation by ET;</p> <p>2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>3. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>notification of the exceedance of Action Level in writing; and</p> <p>2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and</p> <p>3. Supervise the instigated further mitigation measure(s).</p>
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Limit Level exceeded.	<ol style="list-style-type: none"> <li>1. Check monitoring data and repeat data analysis to confirm findings;</li> <li>2. Identify potential source(s) of impact;</li> <li>3. Immediately inform IEC, Contractor and PP.</li> <li>4. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</li> <li>5. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</li> <li>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data, analysis and investigation by ET;</li> <li>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</li> <li>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</li> <li>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</li> <li>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</li> <li>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</li> <li>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the monitoring results and findings from ET and IEC;</li> <li>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</li> <li>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</li> <li>4. Supervise the instigated further mitigation measure(s).</li> </ol>
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**Table N-6.3 Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna**  
WMA20002\App N - Event Action Plan

EVENT	RESPONSE			
	ET	IEC	Contractor	Project Proponent
<b>Construction Phase</b>				
Action Level exceeded.	1. Check monitoring data and repeat data analysis to confirm findings;  2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;  3. Identify potential source(s) of impact;  4. Immediately inform IEC, Contractor and PP.  5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and  6. Conduct necessary site inspections/audits to ensure all remedial measures are properly	1. Check monitoring data, analysis and investigation by ET;  2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and  3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	1. Confirm receipt of notification of the exceedance of Action Level in writing; and  2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	1. Check the monitoring results and findings from ET and IEC;  2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and  3. Supervise the instigated further mitigation measure(s).

	implemented by the Contractor, as agreed with the PP.			
Limit Level exceeded.	<ol style="list-style-type: none"> <li>1. Check monitoring data and repeat data analysis to confirm findings;</li> <li>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</li> <li>3. Identify potential source(s) of impact;</li> <li>4. Immediately inform IEC, Contractor and PP.</li> <li>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</li> <li>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data, analysis and investigation by ET;</li> <li>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</li> <li>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</li> <li>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</li> <li>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</li> <li>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</li> <li>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the monitoring results and findings from ET and IEC;</li> <li>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</li> <li>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</li> <li>4. Supervise the instigated further mitigation measure(s).</li> </ol>

	7. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	results to the PP.		
<b>Operational Phase</b>				
Action Level exceeded.	1. Check monitoring data and repeat data analysis to confirm findings;  2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;  3. Identify potential source(s) of impact;  4. Immediately inform IEC, Contractor and PP.  5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;	1. Check monitoring data, analysis and investigation by ET;  2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and  3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	1. Confirm receipt of notification of the exceedance of Action Level in writing; and  2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	1. Check the monitoring results and findings from ET and IEC;  2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and  3. Supervise the instigated further mitigation measure(s).



	and  6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.			
Limit Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</p> <p>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</p> <p>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p>	<p>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</p> <p>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</p> <p>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</p> <p>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</p> <p>4. Supervise the instigated further mitigation measure(s).</p>

	<p>impact(s) identified;</p> <p>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>7. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>		
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**Table N-6.4 Action and Limit Levels and Responses to Evidence of Declines in the Seasonal Non-aquatic Fauna (Herptofauna, Butterfly and Odonates) in Ecologically Sensitive Habitats**

EVENT	RESPONSE			
	ET	IEC	Contractor	Project Proponent
<b>Construction Phase</b>				
Action Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p>	<p>1. Confirm receipt of notification of the exceedance of Action Level in writing; and</p> <p>2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and</p>

	<p>construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>		<p>3. Supervise the instigated further mitigation measure(s).</p>
Limit Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</p>	<p>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</p> <p>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s),</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the</p>

	<p>natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</p> <p>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>7. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</p> <p>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>then propose and implement the further mitigation measure(s); and</p> <p>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>Contractor;</p> <p>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</p> <p>4. Supervise the instigated further mitigation measure(s).</p>
<b>Operational Phase</b>				

Action Level exceeded.	<ol style="list-style-type: none"> <li>1. Check monitoring data and repeat data analysis to confirm findings;</li> <li>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</li> <li>3. Identify potential source(s) of impact;</li> <li>4. Immediately inform IEC, Contractor and PP.</li> <li>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</li> <li>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data, analysis and investigation by ET;</li> <li>2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</li> <li>3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of the exceedance of Action Level in writing; and</li> <li>2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the monitoring results and findings from ET and IEC;</li> <li>2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and</li> <li>3. Supervise the instigated further mitigation measure(s).</li> </ol>
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Limit Level exceeded.	<ol style="list-style-type: none"> <li>1. Check monitoring data and repeat data analysis to confirm findings;</li> <li>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</li> <li>3. Identify potential source(s) of impact;</li> <li>4. Immediately inform IEC, Contractor and PP.</li> <li>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</li> <li>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</li> <li>7. Conduct necessary</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data, analysis and investigation by ET;</li> <li>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</li> <li>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</li> <li>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</li> <li>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</li> <li>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</li> <li>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check the monitoring results and findings from ET and IEC;</li> <li>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</li> <li>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</li> <li>4. Supervise the instigated further mitigation measure(s).</li> </ol>

	<p>site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>			
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**Table N-6.5 Action and Limit Levels and Responses to Evidence of Declines in the Non-seasonal Non-aquatic Fauna (Mammals) in Ecologically Sensitive Habitats**

EVENT	RESPONSE			
	ET	IEC	Contractor	Project Proponent
<b>Construction Phase</b>				
Action Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>3. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit</p>	<p>1. Confirm receipt of notification of the exceedance of Action Level in writing; and</p> <p>2. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and</p> <p>3. Supervise the instigated further mitigation measure(s).</p>

	<p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	results to the PP.		
Limit Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</p> <p>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</p> <p>4. Review the remedial measure(s) proposed by the Contractor and advise the PP</p>	<p>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</p> <p>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</p> <p>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</p> <p>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</p> <p>4. Supervise the instigated further mitigation measure(s).</p>

	<p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</p> <p>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>7. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>accordingly; and</p> <p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>		
<b>Operational Phase</b>				
Action Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p> <p>2. Review relevant ecological data to</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p> <p>2. Review the remedial measure(s) proposed by the Contractor and</p>	<p>1. Confirm receipt of notification of the exceedance of Action Level in writing; and</p> <p>2. Propose and implement the</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p> <p>2. Discuss the need for increased site inspection/audit</p>

	<p>check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and</p> <p>6. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.</p>	<p>advise the PP accordingly; and</p> <p>3. Conduct necessary site inspections/ audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>remedial measures(s) to mitigate the impact(s) identified.</p>	<p>frequency proposed by ET with IEC and the Contractor; and</p> <p>3. Supervise the instigated further mitigation measure(s).</p>
Limit Level exceeded.	<p>1. Check monitoring data and repeat data analysis to confirm findings;</p>	<p>1. Check monitoring data, analysis and investigation by ET;</p>	<p>1. Confirm receipt of notification of the exceedance of Limit Level in writing;</p>	<p>1. Check the monitoring results and findings from ET and IEC;</p>



	<p>2. Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related;</p> <p>3. Identify potential source(s) of impact;</p> <p>4. Immediately inform IEC, Contractor and PP.</p> <p>5. Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified;</p> <p>6. Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and</p> <p>7. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed</p>	<p>2. Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s);</p> <p>3. Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly;</p> <p>4. Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and</p> <p>5. Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.</p>	<p>2. Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and</p> <p>3. Propose and implement the remedial measures(s) to mitigate the impact(s) identified.</p>	<p>2. Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor;</p> <p>3. Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and</p> <p>4. Supervise the instigated further mitigation measure(s).</p>
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**APPENDIX O**  
**SUMMARY OF EXCEEDANCE**

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**Appendix O: Exceedance Report****(A) Exceedance Report for Air Quality**

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Air Quality	1-hr TSP	0	0	0	0
	24-hr TSP	0	0	0	0
	24-hr RSP (Ambient Arsenic)	0	0	0	0

**(B) Exceedance Report for Construction Noise**

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Noise	$L_{eq}(30 \text{ min.})$ dB(A)	0	0	0	0

**(C) Exceedance Report for Water Quality**

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Water Quality	DO	0	0	0	0
	Turbidity	0	0	0	0
	SS	0	0	0	0
	Arsenic	0	0	0	0

**(D) Exceedance Report for Landfill Gas**

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Landfill Gas	O <sub>2</sub> (% v/v) CH <sub>4</sub> (% LEL) CO <sub>2</sub> (% v/v)	0	0	0	0

**(E) Exceedance Report for Built Heritage Monitoring**

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of this Contract	
		Action Level	Limit Level	Action Level	Limit Level
Cultural Heritage	Built Heritage Monitoring	0	0	0	0



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**APPENDIX P**  
**SITE AUDIT SUMMARY**

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**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221209
Date	9 December 2022 (Friday)
Time	13:00 – 14:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Land Contamination</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landfill Gas Hazard</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>K. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:221129), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		9 December 2022
Checked by	Dr. Priscilla Choy		9 December 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221214
Date	14 December 2022 (Wednesday)
Time	14:00 – 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Land Contamination</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landfill Gas Hazard</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>K. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:221209), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		20 December 2022
Checked by	Dr. Priscilla Choy		20 December 2022

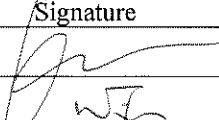
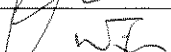
**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221220
Date	20 December 2022 (Tuesday)
Time	09:30 – 11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Land Contamination</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landfill Gas Hazard</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>K. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:221214), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		20 December 2022
Checked by	Dr. Priscilla Choy		20 December 2022





**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/01 – Kwu Tung North New Development Area, Phase 1: Site Formation and Infrastructure Work**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221229
Date	29 December 2022 (Thursday)
Time	09:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Noise</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Land Contamination</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Landfill Gas Hazard</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Cultural Heritage</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>J. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>K. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>L. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.:221220), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		29 December 2022
Checked by	Dr. Priscilla Choy		29 December 2022



*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/02 – Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development and Shek Wu Hui*

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221207
Date	7 December 2022 (Wednesday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
221207-R01	• To enhance and properly maintain existing water mitigation measures at site boundaries.	D 3
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:221130), item 221130-R01 was remarked as 221207-R01. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Him Ng		7 December 2022
Checked by	Dr. Priscilla Choy		7 December 2022





*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/02 – Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development and Shek Wu Hui*

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221213
Date	13 December 2022 (Tuesday)
Time	09:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	•	
	<b><i>E. Waste / Chemical Management</i></b>	
221213-R02	• Contractor was reminded to clear the stockpile of materials regularly.	E 1
	<b><i>F. Cultural Heritage</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Landscape and Visual</i></b>	
221213-R01	• To remove construction material leaning onto retained trees and set up tree protection zone.	G 1
	<b><i>H. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>L. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.:221207), all items have been rectified/improved by the contractor.	

	Name	Signature	Date
Recorded by	Adrian Lam		15 December 2022
Checked by	Dr. Priscilla Choy		15 December 2022



*Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas*

*ND/2019/02 – Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development and Shek Wu Hui*

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221221
Date	21 December 2022 (Wednesday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
221221-R01	• To remove construction material leaning onto retained trees and set up tree protection zone.	G 1
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:221213), item 221213-R01 was remarked as 221221-R01. Follow-up action is needed to be reviewed. The other item was observed improved/rectified by the contractor.	

	Name	Signature	Date
Recorded by	Marco Ma		22 December 2022
Checked by	Dr. Priscilla Choy		22 December 2022



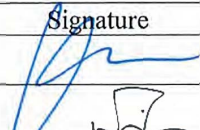

**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/02 – Kwu Tung North New Development Area, Phase 1: Roads and Drains between Kwu Tung North New Development and Shek Wu Hui**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221228
Date	28 December 2022 (Wednesday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Construction Noise Impact</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
221228-R02	• Sufficient mitigation measures should be deployed on the excavated section next to the Sheung Yue River.	D 10
221228-R03	• Broken silt-curtain should be replaced.	H 4
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
221228-R01	• To remove construction material leaning onto retained trees and set up tree protection zone.	G 1
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>L. Others</b>	
	• Follow-up on previous audit section (Ref. No.:221221), item 221221-R01 was remarked as 221228-R01. Follow-up action is needed to be reviewed.	

	Name	Signature	Date
Recorded by	Marco Ma		28 December 2022
Checked by	Dr. Priscilla Choy		28 December 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221202
Date	2 December 2022 (Friday)
Time	10:00-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
221202-O01	• Dusty debris were observed at the site exit of Yin Kong. Contractor was reminded to clear the dusty debris immediately.	B (4, 9)
221202-R02	• To clear the wheel-washing bay regularly. Vehicles leaving the site should be washed with high pressure water jets.	B 6, D 12 (ii, iii, iv)
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
221202-R01	• Contractor was reminded to enhance water mitigation measures around the boundary of works area to avoid muddy runoff from leaking onto Yin Kong Road	D 3
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape &amp; Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	Follow-up on previous audit section (Ref. No.:221125). Item no. 221125-O01, 221125-R01 and 221125-R02 were remarked as 221202-O01, 221202-R01 and 221202-R02. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Him Ng		2 December 2022
Checked by	Dr. Priscilla Choy		2 December 2022



***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221209
Date	9 December 2022 (Friday)
Time	10:00-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
221209-001	• Dusty debris were observed at the site exit of Yin Kong. Contractor was reminded to clear the dusty debris immediately.	B (4, 9)
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
221209-R01	• Contractor was reminded to enhance water mitigation measures around the boundary of works area to avoid muddy runoff from leaking onto Yin Kong Road	D 3
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape &amp; Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	Follow-up on previous audit section (Ref. No.:221202). Item no. 221202-R02 was improved by Contractor. Item no. 221202-O01 and 221202-R01 were remarked as 221209-O01 and 221209-R01. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Him Ng		12 December 2022
Checked by	Dr. Priscilla Choy		12 December 2022





***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221213
Date	13 December 2022 (Tuesday)
Time	14:30-15:15

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
221213-001	<ul style="list-style-type: none"> <li>Dusty debris were observed at the site exit of Yin Kong. Contractor was reminded to clear the dusty debris immediately, and enhance water and dust mitigation measures around the boundary of Yin Kong Road works area.</li> </ul>	B (4, 9) D 3
	<b><i>C. Construction Noise Impact</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>D. Water Quality</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>E. Waste / Chemical Management</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>F. Landscape &amp; Visual</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>G. Ecology</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>H. Permits/Licences</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>I. Others</i></b>	
	Follow-up on previous audit section (Ref. No.:221209). Items no. 221209-001 and 221209-R01 were remarked as 221213-001. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Adrian Lam		15 December 2022
Checked by	Dr. Priscilla Choy		15 December 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221223
Date	23 December 2022 (Friday)
Time	10:00-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
221223-001	<ul style="list-style-type: none"> <li>Dusty debris observed at the site exit of Yin Kong. Contractor was reminded to clear the dusty debris immediately, and enhance water and dust mitigation measures around the boundary of Yin Kong Road works area.</li> </ul>	B 9, D 3
	<b>C. Construction Noise Impact</b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b>D. Water Quality</b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b>E. Waste / Chemical Management</b>	
221223-R01	<ul style="list-style-type: none"> <li>Provide drip tray for chemical/fuel containers.</li> </ul>	E 2 i.
	<b>F. Landscape &amp; Visual</b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b>G. Ecology</b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b>H. Permits/Licences</b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b>I. Others</b>	
	Follow-up on previous audit section (Ref. No.:221213). Items no. 221213-001 was remarked as 221223-001. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Him Ng		27 December 2022
Checked by	Dr. Priscilla Choy		27 December 2022

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***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/03 – Kwu Tung North New Development Area, Phase 1: Development of Long Valley Nature Park***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221230
Date	30 December 2022 (Friday)
Time	10:00-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
221230-001	<ul style="list-style-type: none"> <li>Dusty debris observed at the site exit of Yin Kong. Contractor was reminded to clear the dusty debris immediately, and enhance water and dust mitigation measures around the boundary of Yin Kong Road works area.</li> </ul>	B 9, D 3
	<b><i>C. Construction Noise Impact</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>D. Water Quality</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>E. Waste / Chemical Management</i></b>	
221230-R01	<ul style="list-style-type: none"> <li>Provide drip tray for chemical/fuel containers.</li> </ul>	E 2 i.
	<b><i>F. Landscape &amp; Visual</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>G. Ecology</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>H. Permits/Licences</i></b>	
	<ul style="list-style-type: none"> <li>No environmental deficiency was identified during site inspection.</li> </ul>	
	<b><i>I. Others</i></b>	
	Follow-up on previous audit section (Ref. No.:221223). Items no. 221223-O01 and 221223-R01 were remarked as 221230-O01 and 221230-R01. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Him Ng		30 December 2022
Checked by	Dr. Priscilla Choy		30 December 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/04 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221201
Date	1 December 2022 (Thursday)
Time	14:00 – 15:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
221201-R01	• Covering of stockpile is required to minimize the muddy runoff during rainstorm.	D 8
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	Follow-up on previous audit section (Ref. No.: 221124), Item no. 221124-R02 and 221124-O01 were observed improved/rectified by the Contractor during site inspection. Item 221124_R01 was remarked as 221201-R01. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Marco Ma		2 December 2022
Checked by	Dr. Priscilla Choy		2 December 2022





**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/04 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221207
Date	7 December 2022 (Wednesday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
221207-R01	• Covering of stockpile is required to minimize the muddy runoff during rainstorm.	D 8
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	Follow-up on previous audit section (Ref. No.: 221201), Item no. 221201-R01 was remarked as 221207-R01. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Marco Ma		7 December 2022
Checked by	Dr. Priscilla Choy		7 December 2022





**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/04 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221215
Date	15 December 2022 (Thursday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
221215-R01	• Covering of stockpile is required to minimize the muddy runoff during rainstorm.	D 8
221215-O01	• Discharge of muddy water was observed. Enhance the water mitigation measure to avoid muddy water discharged.	D 3
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	Follow-up on previous audit section (Ref. No.: 221207), Item no. 221207-R01 was remarked as 221215-R01. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Him Ng		16 December 2022
Checked by	Dr. Priscilla Choy		16 December 2022

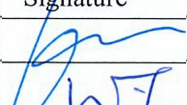

**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/04 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221221
Date	21 December 2022 (Thursday)
Time	14:00 – 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
221221-R01	• Covering of stockpile is required to minimize the muddy runoff during rainstorm.	D 8
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	Follow-up on previous audit section (Ref. No.: 221215), Item no. 221215-R01 was remarked as 221221-R01. Follow-up action is needed to be review. All other deficiency was observed improved/rectified by the contractor during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		22 December 2022
Checked by	Dr. Priscilla Choy		22 December 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/04 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shek Wu San Tsuen North to Lung Yeuk Tau)**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221229
Date	29 December 2022 (Thursday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
221229-R01	• Covering of stockpile is required to minimize the muddy runoff during rainstorm.	D 8
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	Follow-up on previous audit section (Ref. No.: 221221), Item no. 221221-R01 was remarked as 221229-R01. Follow-up action is needed to be review.	

	Name	Signature	Date
Recorded by	Him Ng		29 December 2022
Checked by	Dr. Priscilla Choy		29 December 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/05 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section between Shung Him Tong to Kau Lung Hang**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221205
Date	5 December 2022 (Monday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Noise</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Cultural Heritage</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>J. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 221128), all environmental deficiency was improved/rectified by Contractor.	

	Name	Signature	Date
Recorded by	Him Ng		6 December 2022
Checked by	Dr. Priscilla Choy		6 December 2022

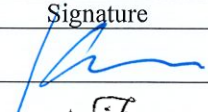

**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/05 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section between Shung Him Tong to Kau Lung Hang**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221215
Date	15 December 2022 (Thursday)
Time	09:00 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 221128), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		15 December 2022
Checked by	Dr. Priscilla Choy		15 December 2022



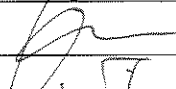
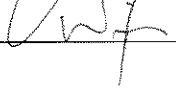
**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/05 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section between Shung Him Tong to Kau Lung Hang**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221219
Date	19 December 2022 (Monday)
Time	14:00 – 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 221215), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		20 December 2022
Checked by	Dr. Priscilla Choy		20 December 2022

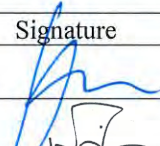

**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/05 – Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section between Shung Him Tong to Kau Lung Hang**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221228
Date	28 December 2022 (Wednesday)
Time	14:00 – 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Cultural Heritage</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>J. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 221219), no environmental deficiency was observed during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		29 December 2022
Checked by	Dr. Priscilla Choy		29 December 2022

**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**  
**ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221201
Date	1 December 2022 (Thursday)
Time	13:30 - 14:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 221124), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		1 December 2022
Checked by	Dr. Priscilla Choy		1 December 2022



***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221207
Date	7 December 2022 (Wednesday)
Time	09:00 - 09:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Noise</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 221201), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		7 December 2022
Checked by	Dr. Priscilla Choy		7 December 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221215
Date	15 December 2022 (Thursday)
Time	13:30 - 14:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Noise</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 221207), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Him Ng		16 December 2022
Checked by	Dr. Priscilla Choy		16 December 2022



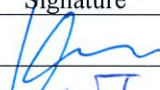

**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221221
Date	21 December 2022 (Wednesday)
Time	13:30 - 14:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>B. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Landscape and Visual</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>H. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>I. Others</b>	
	• Follow-up on previous audit section (Ref. No.: 221215), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		22 December 2022
Checked by	Dr. Priscilla Choy		22 December 2022



**Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas**

**ND/2019/06 – Fanling North New Development Area, Phase 1: Reprovisioning of North District Temporary Wholesale Market for Agricultural Products**

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221229
Date	29 December 2022 (Thursday)
Time	13:30 - 14:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Noise</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 221221), no environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Him Ng		29 December 2022
Checked by	Dr. Priscilla Choy		29 December 2022



***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/07 – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221202
Date	2 December 2022 (Friday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 221125), no major environmental deficiency was observed/identified during the site inspection.	

	Name	Signature	Date
Recorded by	Him Ng		2 December 2022
Checked by	Dr. Priscilla Choy		2 December 2022


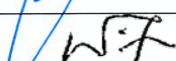
***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/07 – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221209
Date	9 December 2022 (Friday)
Time	09:30 – 10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 221202), no major environmental deficiency was observed/identified during the site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		9 December 2022
Checked by	Dr. Priscilla Choy		9 December 2022



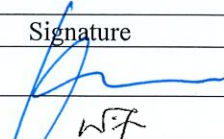
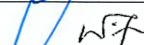
***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/07 – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221216
Date	16 December 2022 (Friday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 221209), no major environmental deficiency was observed/identified during the site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		19 December 2022
Checked by	Dr. Priscilla Choy		19 December 2022



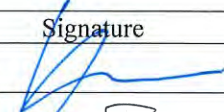

***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/07 – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221223
Date	23 December 2022 (Friday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 221216), no major environmental deficiency was observed/identified during the site inspection.	

	Name	Signature	Date
Recorded by	Marco Ma		29 December 2022
Checked by	Dr. Priscilla Choy		29 December 2022



***Service Contract No. NDO 04/2019 Environmental Team for Environmental Monitoring and Audit Works in Construction Phase for the First Phase Development of Kwu Tung North and Fanling North New Development Areas***

***ND/2019/07 – Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works***

**Weekly Site Inspection Record Summary**

Checklist Reference Number	221230
Date	30 December 2022 (Friday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b><i>B. Air Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>C. Construction Noise Impact</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>D. Water Quality</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>E. Waste / Chemical Management</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>F. Landscape and Visual</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>G. Ecology</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>H. Permits/Licences</i></b>	
	• No environmental deficiency was identified during site inspection.	
	<b><i>I. Others</i></b>	
	• Follow-up on previous audit section (Ref. No.: 221223), no major environmental deficiency was observed/identified during the site inspection.	

	Name	Signature	Date
Recorded by	Him Ng		30 December 2022
Checked by	Dr. Priscilla Choy		30 December 2022

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**APPENDIX Q**  
**ENVIRONMENTAL MITIGATION**  
**IMPLEMENTATION SCHEDULE (EMIS)**

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EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
<b>Construction Dust Impact</b>							
S3.8	D1	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road is proposed to achieve dust removal efficiency of 92.1%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.7 L/m <sup>2</sup> to achieve the respective dust removal efficiencies	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	^
S3.8	D2	The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	^
S3.8	D3	<p>Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction Phase</p> <ul style="list-style-type: none"> <li>Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</li> <li>Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads;</li> <li>A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones;</li> <li>The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle;</li> <li>Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;</li> <li>When there are open excavation and reinstatement works,</li> </ul>	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	#  ^  ^  ^  ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period.</p> <ul style="list-style-type: none"> <li>• The portion of any road leading only to construction site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials;</li> <li>• Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously;</li> <li>• Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;</li> <li>• Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding;</li> <li>• Any skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>• Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides;</li> <li>• Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed;</li> <li>• Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system; and</li> </ul>					<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>N/A</p> <p>N/A</p> <p>^</p>



EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<ul style="list-style-type: none"> <li>Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.</li> </ul>					^
SURFACE S3.8	D4	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction phase	^
<b>Noise Impact (Construction Phase)</b>							
S4.9	N1	Implement the following good site management practices: <ul style="list-style-type: none"> <li>Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme;</li> <li>Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> <li>Plant known to emit noise strongly in one direction, where</li> </ul>	Control construction airborne noise	Contractor	All construction sites	Construction phase	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>possible, be orientated so that the noise is directed away from nearby NSRs; silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works;</p> <ul style="list-style-type: none"> <li>• Mobile plant should be sited as far away from NSRs as possible and practicable;</li> <li>• Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.</li> </ul>					<p>^</p> <p>^</p>
S4.9	N2	Install temporary site hoarding (approx 2.4m high) located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	Construction phase	^
S4.9	N3	Install movable noise barriers and full enclosure and acoustic mat, screen the noisy plants including air compressor and generator.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction phase	^
S4.9	N4	Use of “Quiet” Plant and Working Methods	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction phase	^
S4.9	N5	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction phase	^
S4.9	N6	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected	Contractor	Selected representative	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
			representative locations		noise monitoring stations		
<b>Water Quality Impact (Construction Phase)</b>							
S5.7	W1	<p><u>Construction Runoff and Site Drainage</u></p> <p>In accordance with the Practice Note for Professional Persons on Construction Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), construction phase mitigation measures should be provided and the Storm Water Pollution Control Plan is given below. where appropriate, should include the following:</p> <p><b>Stormwater Pollution Control Plan</b></p> <ul style="list-style-type: none"> <li>At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. The design of the temporary on-site drainage system will be undertaken by the Contractor prior to the commencement of construction.</li> <li>Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipments in order to avoid or minimize polluted runoff. Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8m<sup>3</sup> capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple</li> </ul>	Control construction runoff	Contractor	All construction sites	Construction phase	<p>*</p> <p>#</p>

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		<p>inputs from a variety of sources and suited to applications where the influent is pumped.</p> <ul style="list-style-type: none"> <li>The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt/sediment trap. The silt/sediment traps should be incorporated in the permanent drainage channels to enhance deposition rates.</li> <li>The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction.</li> <li>Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.</li> <li>All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.</li> <li>Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, it should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or</li> </ul>					<p>^</p> <p>^</p> <p>#</p> <p>^</p> <p>^</p>

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		<p>foundation excavations should be discharged into storm drains via silt removal facilities.</p> <ul style="list-style-type: none"> <li>All open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m<sup>3</sup> should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.</li> <li>Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed into foul sewers.</li> <li>Precautions to be taken at any time of year when rainstorms are likely, actions to be taken when a rainstorm is imminent or forecasted, and actions to be taken during or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events.</li> <li>All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to</li> </ul>					<p>^</p> <p>^</p> <p>^</p> <p>*</p>



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		<p>public roads and drains.</p> <ul style="list-style-type: none"> <li>Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain.</li> <li>Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.</li> <li>All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby.</li> <li>Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the meander, wetlands and fish ponds.</li> </ul>					<p>N/A</p> <p>^</p> <p>^</p> <p>^</p>
S5.7	W2	<p><u>Stream Diversion</u></p> <ul style="list-style-type: none"> <li>In order to prevent sediment transport during riverbank works, deployment of silt curtain should be implemented, especially when construction works encroach or occur in close distance to water body. It is recommended to carry out all the riverbank works and diversion works within a cofferdam or diaphragm wall and the work areas on riverbed should be kept in dry condition.</li> </ul>	Minimize water quality impact due to stream diversion	Contractor	All streams that required diversion	Construction phase	*

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S5.7	W3	<u>Groundwater from Contaminated Area</u> <ul style="list-style-type: none"> <li>For other inaccessible sites, site investigation is required when they are resumed and handed over to the Project Proponent to identify if contaminated groundwater is found.</li> <li>If the investigation results indicated that the groundwater to be generated from construction works would be contaminated, the contaminated groundwater should be either discharged into recharged wells, or properly treated in compliance with the requirements of Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters.</li> <li>If recharged well method were used, the groundwater quality in the recharged well should not be affected by recharging operation, i.e. the pollution levels of the recharged groundwater should not be higher than that in the recharging wells.</li> <li>If treatment and discharge method were used, the design of wastewater treatment facilities, such as active carbon and petrol interceptor, should be submitted to the EPD and a discharge license should be obtained under the WPCO through the Regional Offices of EPD.</li> </ul>	Minimize water quality impact due to potential groundwater from contaminated area	Contractor	All identified groundwater-contaminated areas	Construction phase	N/A
							N/A
							N/A
							N/A
S5.7	W4	<u>Sewage from Workforce</u> Portable chemical toilets and sewage holding tanks should be provided for	Handling of site sewage	Contractor	All construction sites	Construction Phase	^

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		<p>handling the construction sewage generated by the workforce. A licensed Contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.</p> <p>Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause water quality impact after undertaking all required measures.</p>					
<b>Waste Management (Construction Waste)</b>							
S7.6	WM1	<p><u>Waste Reduction Measures</u></p> <p>Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction:</p> <ul style="list-style-type: none"> <li>segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>proper storage and site practices to minimize the potential for</li> </ul>	Reduce waste generation	Contractor	All construction sites where practicable	Prior to the commencement of construction	<p>^</p> <p>^</p>

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		<p>damage and contamination of construction materials;</p> <ul style="list-style-type: none"> <li>plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste;</li> <li>sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions (i.e. soil, broken concrete, metal etc);</li> <li>provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.</li> </ul>					<p>^</p> <p>N/A</p> <p>^</p>
S7.6	WM2	Prepare Waste Management Plan and submit to the Engineer for approval	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	^
S7.6	WM3	<p><u>Good Site Practice</u></p> <p>The following good site practices are recommended throughout the construction activities:</p> <ul style="list-style-type: none"> <li>Nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;</li> <li>Training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling;</li> </ul>	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p>

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		<ul style="list-style-type: none"> <li>Provision of sufficient waste disposal points and regular collection for disposal;</li> <li>Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;</li> <li>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;</li> </ul>					^   ^   ^
S7.6	WM4	<u>Storage of Waste</u> The following recommendation should be implemented to minimize the impacts: <ul style="list-style-type: none"> <li>Waste such as soil should be handled and stored well to ensure secure containment;</li> <li>Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away;</li> <li>Different locations should be designated to stockpile each material to enhance reuse;</li> </ul>	Minimize waste impacts from storage	Contractor	All construction sites	Construction phase	^   ^   ^
S7.6	WM5	<u>Collection and Transportation of Waste</u> The following recommendation should be implemented to minimize the	Minimize waste impact	Contractor	All construction	Construction	



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		impacts: <ul style="list-style-type: none"> <li>Remove waste in timely manner;</li> <li>Employ the trucks with cover or enclosed containers for waste transportation;</li> <li>Obtain relevant waste disposal permits from the appropriate authorities; and</li> <li>Disposal of waste should be done at licensed waste disposal facilities.</li> </ul>	from storage		sites	phase	^ ^ ^ ^
S7.6	WM6	<u>Excavated and C&amp;D Material</u> Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at Public Fill Reception Facilities areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials: <ul style="list-style-type: none"> <li>Maintain temporary stockpiles and reuse excavated fill material for backfilling;</li> <li>Carry out on-site sorting;</li> <li>Deliver surplus artificial hard materials to Tuen Mun Area 38 recycling plant or its successor for recycling into subsequent useful products;</li> <li>Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; and</li> <li>Implement a recording system for the amount of waste generated,</li> </ul>	Minimize waste impacts from excavated and C&D material	Contractor	All construction sites	Construction phase	^ ^ N/A N/A N/A ^

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		<p>recycled and disposed of for checking;</p> <p>Standard formwork should be used as far as practicable in order to minimize the arising of C&amp;D waste. The use of more durable formwork (e.g. metal hoarding) or plastic facing should be encouraged in order to enhance the possibility of recycling. The purchasing of construction materials should be carefully planned in order to avoid over ordering and wastage.</p> <p>Wheel wash facilities have to be provided at the site entrance before the trucks leaving the works area.</p>					N/A  ^
S7.6	WM7	<p><u>Contaminated Soil</u></p> <p>As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to minimize any potential exposure to contaminated soils or groundwater. The details of river measures to minimize the potential environmental implications arising from the handling of contaminated materials refer to Land Contamination Section.</p>	Remediate contaminated soil	Contractor	All construction sites where applicable	Construction phase	^
S7.6	WM8	<p><u>Chemical Waste</u></p> <p>If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producers. Chemical wastes should be stored in appropriate containers and collected by a licensed</p>	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction phase	^

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		chemical waste Contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.					
S7.6	WM9	<u>General Waste</u> <ul style="list-style-type: none"> <li>General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling.</li> <li>Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean.</li> <li>A reputable waste collector should be employed to remove general refuse on a daily basis.</li> </ul>	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	^   ^   ^
S7.6	WM10	<u>Sewage</u> <ul style="list-style-type: none"> <li>The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities.</li> <li>Regularly collection by licensed collectors should be arranged to minimize potential environmental impacts.</li> </ul>	Minimize production of sewage impacts	Contractor	All construction sites	Construction phase	N/A   N/A

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S7.6	WM11	Topsoil reuse – Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical. This is considered a general measure for good site practice.	Good site practice	Contractor/ Project Proponent	Onsite	Construction phase	N/A
<b>Land Contamination</b>							
S 8.4	LC2	Detailed site investigation (SI) for all inaccessible potentially contaminated sites in 2 NDAs	Verify the land contamination potential before the commencement of construction	Project Proponent Detailed Design Consultant Contractor	All inaccessible potentially contaminated sites in 2 NDAs as listed in the CAP	After the land is resumed and handed over to the Project Proponent	N/A
S 8.5	LC3	Preparation and submission of supplementary Contamination Assessment Report (CAR) and Remediation Action Plan (RAP) for all inaccessible potentially contaminated sites in 2 NDAs to EPD for agreement if land contamination is confirmed	Present the findings of SI and evaluate the potential environmental and human health impacts Recommend appropriate mitigation measures for the contaminated soil and groundwater identified in the assessment if	Project Proponent/ Detailed Design Consultant	All inaccessible potentially contaminated sites in 2 NDAs as listed in the CAP	Prior to the commencement of any proposed construction works if land contamination is confirmed and remediation is required	N/A

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			remediation is required				
S 8.5	LC4	Preparation and submission of Remediation Report to EPD for agreement	Demonstrate that the decontamination work is adequate and is carried out in accordance with the endorsed supplementary CAR and RAP	Project Proponent/ Detailed Design Consultant	All inaccessible potentially contaminated sites in 2 NDAs as listed in the CAP	Prior to the commencement of any proposed construction works if land contamination is confirmed and remediation is required	N/A
S 8.6	LC5	Re-appraisal of surveyed sites (if they become part of the land requirement for NDA development) that were not identified as potentially contaminated or could not be accessed for visual inspection during the site survey	Verify the land contamination potential due to potential change of land uses before the commencement of construction	Project Proponent/ Detailed Design Consultant	All surveyed sites (if they become part of the land requirement for NDA development (that were not identified as potentially	After the land is resumed and handed over to the Project Proponent.	N/A



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					contaminated or could not be accessed for visual inspection during the site survey as listed in the CAP		
S 8.7.2 and Appendix 8.4	LC6	Treatment of arsenic-containing soil “Solidification/Stabilization” (S/S) treatment method was proposed for the treatment of arsenic-containing soil. Toxicity Characteristic Leaching Procedure (TCLP) test should be undertaken after S/S in order to ensure that the contaminant will not leach to the environment. Unconfined Compressive Strength (UCS) test should be conducted, and not less than 1MPa should be met prior to the backfilling or stockpiled for future reuse within the study area.	To treat the arsenic containing soil	Government Developer/ Contractor	KTN NDA	Prior to commencement of construction works within KTN NDA	N/A
S 8.7.2 and Appendix 8.4	LC7	Excavation and Transportation <ul style="list-style-type: none"> <li>Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety;</li> <li>In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table;</li> <li>Excavation should be carried out during dry season as far as</li> </ul>	To minimize the potential environmental impacts arising from the handling of contaminated materials	Contractor	KTN NDA	Prior to commencement of construction works within KTN NDA	N/A

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		<p>possible to minimize runoff from excavated soils;</p> <ul style="list-style-type: none"> <li>Stockpiling site(s) should be lined with impermeable sheeting and bunded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or contaminated run-off during rainy season. Watering should be avoided on stockpiles of soil to minimize runoff;</li> <li>Supply of suitable backfill material after excavation, if require; Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet season;</li> <li>Speed control for the trucks carrying excavated materials should be enforced; and Vehicle wheel washing facilities at the site's exit points should be established and used.</li> </ul>					^
S 8.7.2 and Appendix 8.4	LC8	<p>Solidification/Stabilization</p> <ul style="list-style-type: none"> <li>The loading, unloading, handling, transfer or storage of cement should be carried out in an enclosed system;</li> <li>Mixing process and other associated material handling activities should be properly scheduled to minimize potential noise impact and dust emission;</li> <li>The mixing facilities should be sited as far apart as</li> </ul>	To minimize the potential environmental impacts arising from the handling of contaminated materials	Contractor	KTN NDA	The course of treatment	<p>N/A</p> <p>^</p> <p>^</p>

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		<p>practicable from the nearby noise sensitive receivers;</p> <ul style="list-style-type: none"> <li>Mixing of soil and cement / water / other additive(s) should be undertaken at a solidification plant to minimize the potential for leaching;</li> <li>Runoff from the solidification / stabilization area should be prevented by constructing a concrete bund along the perimeter of the solidification / stabilization area;</li> <li>If stockpile of treated soil is required, the stockpiling site(s) should be lined with impermeable sheeting and banded. Stockpiles should be properly covered by impermeable sheeting to reduce dust emission during dry season or site run-off during rainy season; and</li> </ul> <p>If necessary, there should be clear and separated areas for stockpiling of untreated and treated materials.</p>					<p>^</p> <p>^</p> <p>*</p>
S 8.7.2 and Appendix 8.4	LC9	<p><u>Safety Measures</u></p> <ul style="list-style-type: none"> <li>Set up a list of safety measures for site workers;</li> <li>Provide written information and training on safety for site workers;</li> <li>Keep a log-book and plan showing the zones requiring treatment and clean zones;</li> <li>Maintain a hygienic working environment;</li> <li>Avoid dust generation;</li> <li>Provide face and respiratory protection gear to site workers if</li> </ul>	To minimize the potential adverse effects on health and safety of construction workers	Contractor	KTN NDA	The course of treatment	N/A

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		<p>necessary;</p> <ul style="list-style-type: none"> <li>• Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight gloves) to site workers if necessary;</li> <li>• Provide first aid training and materials to site worker;</li> <li>• Bulk earth moving equipment should be utilized as much as possible to minimize worker</li> </ul> <p>Eating, drinking and smoking should not be allowed in the excavation areas and treatment area to avoid inadvertent ingestion of arsenic containing soil.</p>					
<b>Landfill Gas Hazard</b>							
S10.6	LFG1	<ul style="list-style-type: none"> <li>• Underground rooms or void should be avoided as far as practicable in the proposed developments within the Consultation Zone and should be avoided totally in the proposed developments within the MTLL.</li> <li>• Buildings or structures within the MTLL should be at ground level with raised floor slabs which are less prone to gas ingress.</li> <li>• For the high risk category, the use of active control of gas, including barriers and detection systems are recommended. These measures include the control of gas by mechanical means e.g. ventilation of spaces with air to dilute gas, or extraction of gas using fans or blowers.</li> <li>• For the low risk category, the provision of barriers to the movement of gas is recommended. Measures recommended</li> </ul>	To minimize the risk of LFG hazards to occupants within MTLL and its 250m Consultation Zone	Government / Developer/ Detailed Design Consultant within MTLL and its 250m Consultation Zone	Buildings within MTLL and its 250m Consultation Zone	Detailed design phase	N/A

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		<p>include the use of membranes in floors or walls, or in trenches, coupled with high permeability vents such as nofines gravel in trenches or voids/permeable layers below structures.</p> <ul style="list-style-type: none"> <li>The need and practicality of incorporating such measures should be reviewed in the detailed Qualitative LFG Hazards Assessment (QLFGHA) during the detailed design stage for developments within the 250m Consultation Zone and within MTLL. Recommendations on the detailed precautionary and protection measures to be adopted should be given in the QLFGHA.</li> <li>The design and construction method of the proposed development within MTLL (i.e. the proposed recreational area in site E1-1) should be provided to EPD for agreement in the design stage to ensure compatibility with the landfill restoration facilities and aftercare works within MTLL, such that these facilities and works will not be affected by the construction or operation of the proposed development.</li> </ul>					
S10.6	LFG2	<ul style="list-style-type: none"> <li>During all works, safety procedures should be implemented to minimize the risks of fires and explosions, asphyxiation of workers (especially in confined space) and toxicity effects resulting from contact with contaminated soils and groundwater.</li> <li>Safety officers, specifically trained with regard to LFG and leachate related hazards and the appropriate actions to take in</li> </ul>	To minimize the risk of LFG hazards to the staff and visitors within MTLL and its 250m Consultation Zone	Contractor	Construction sites within MTLL and its 250m Consultation Zone	Construction phase	<p>^</p> <p>^</p>

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		<p>adverse circumstances, should be present on all worksites throughout the works.</p> <ul style="list-style-type: none"> <li>All personnel who work on site and all visitors to the site should be made aware of the possibility of ignition of gas in the vicinity of the works, the possible presence of contaminated water and the need to avoid physical contact with it.</li> <li>Those staff who work in, or have responsibility for “at risk” areas, including bore pilling and excavation works, should receive appropriate training on working in areas susceptible to LFG.</li> <li>Enhanced personal hygiene practices including washing thoroughly after working and eating only in “clean” areas should be adopted where contact may have been made with any groundwater which is thought to be contaminated with leachate.</li> <li>Any offices / quarters set up on site should take precautions against LFG ingress, such as being raised off the ground. Other storage premises, e.g. shipping containers, where this is not possible should be well ventilated prior to entry.</li> <li>Adequate precautions to prevent the accumulation of LFG under site buildings and within storage shed should be taken by raising buildings off the ground where appropriate and “airing” storage containers prior to entry by personnel and ensuring adequate ventilation at all times.</li> </ul>					<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>



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		<ul style="list-style-type: none"> <li>Smoking and naked flames should be prohibited within confined spaces. “No Smoking” and “No Naked Flame” notices in Chinese and English should be posted prominently around the construction site. Safety notices should be posted warning of the potential hazards.</li> <li>Welding, flame-cutting or other hot works may only be carried out in confined spaces when controlled by a “permit to work” procedure, properly authorized by the Safety Officer. The permit to work procedure should set down clearly the requirements for continuous monitoring of methane, carbon dioxide and oxygen throughout the period during which the hot works are in progress. The procedure should also require the presence of an appropriately qualified person who shall be responsible for reviewing the gas measurements as they are made, and who shall have executive responsibility for suspending the work in the event of unacceptable or hazardous conditions. Only those workers who are appropriately trained and fully aware of the potentially hazardous conditions which may arise should be permitted to carry out hot works in confined areas.</li> <li>During the construction works, adequate fire extinguishers and breathing apparatus sets should be made available on site and appropriate training given in their use.</li> </ul>					<p>^</p> <p>N/A</p> <p>^</p>

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		<ul style="list-style-type: none"> <li>Ongoing gas monitoring should be considered for offices, stores etc set up on site.</li> </ul>					^
S10.6	LFG3	<p>Utility Companies</p> <ul style="list-style-type: none"> <li>The developers should make the utility companies aware of the location and features of the site within the Consultation Zone during the respective detailed design stage as part of the QLFCHA.</li> <li>The utilities companies should have a responsibility to train and ensure their staff to take appropriate precautions at all times when entering enclosed spaces or plant rooms.</li> <li>Should utility installation be required in site E1-1, the developers should make the utility companies aware of the potential constraints imposed by the landfill restoration facilities and aftercare works to ensure these facilities and works will remain unaffected. Appropriate precautionary measures against landfill gas should also be taken should utility installation be required within the MTLL.</li> </ul> <p>Building Management</p> <ul style="list-style-type: none"> <li>The management committee of the building estate will hold a special responsibility to ensure that the occupants of the building, its staff and maintenance workers are protected from LFG and that visitors to the site are also made aware as to the dangers and the</li> </ul>	<p>To minimize the risk of LFG hazards to the occupants, maintenance personnel, visitors and other users within MTLL and its 250m Consultation Zone</p>	Government / Developer within MTLL and its 250m Consultation Zone	Buildings within MTLL and its 250m Consultation Zone	Operation phase	N/A

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		<p>precautions required to be taken.</p> <ul style="list-style-type: none"> <li>Of primary importance to satisfactorily upholding this responsibility will be to ensure that strict procedures for maintaining control over all temporary and /or permanent works proposed at the site are reviewed with regard to the LFG hazard. This needs to be accompanied by a comprehensive contingency plan in case of incidents, including liaison with EPD officers, Fire Services Department, Landfill Restoration Contractors and others, as necessary.</li> <li>All construction and maintenance (including utilities) personnel working at the site should be made aware of the hazards of LFG and its possible presence on site. This should be achieved through a combination of posting warning signs in prominent places and also by access to detailed information on LFG hazards and the designs and procedural means by which these hazards are being minimized on site. In addition, entry to confined spaces such as refuse/store rooms, drainage manholes etc. should be preceded by a period of “airing” the space by opening the door widely allowing fresh air to enter. Where appropriate, monitoring of gas should also precede entry.</li> <li>Any proposed modifications or additions to the building structure should be subject to a further assessment of LFG hazard,</li> </ul>					

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		<p>particularly in areas where a gas membrane has been installed. Any penetrations of the membrane must be repaired as soon as possible after detection or works completion using similar products.</p> <ul style="list-style-type: none"> <li>The building management company should also make arrangement with Landfill Restoration Contractor so that they are advised of all situations which may potentially threaten the safety of the building occupants resulting from any accidents or failures at the landfill site. The building management company should also have available suitable gas monitoring equipment for any ad hoc investigations necessary relating to LFG and be in a position to undertake any future routine monitoring of gas which may be considered necessary soloing completion of the defects correction period.</li> <li>To ensure that all the above protection and precautionary measures and issues pertaining to LFG are properly and consistently addressed by future users and owners of the site, it is recommended that a comprehensive LFG hazard management system be developed by the owner of the building or its property management agency. The system should be developed by the developers of the sites as part of the QLFGHA before the occupation of the building and implemented during its operational</li> </ul>					

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		phase.					
<b>Cultural Heritage (Pre-construction Phase)</b>							
S11.6.1	CH1	<p><u>Undertaking Further Archaeological Survey to Cover the Outstanding Areas</u></p> <p>Further archaeological surveys to cover the outstanding areas of the not-yet-surveyed-area with medium archaeological potential located in the areas with proposed development as presented in Figure 11.9 should be implemented after land resumption to confirm and verify the findings of the EIA. The survey should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance. It should be noted that the scope of further archaeological survey is based on the current proposed alignment. Any additional works areas which have not been covered by the current archaeological impact assessment should be covered as soon as possible. Subject to the findings of the archaeological survey to be conducted after land resumption, additional mitigation measures would be designed and implemented before the commencement of construction works to mitigate the adverse impact.</p>	To confirm and verify the findings of the EIA	Project Proponent/ Contractor/ Qualified Archaeologist	In the not-yet-surveyed-areas with medium archaeological potential located in the areas within Areas D1-11, A3-5, A3-6, B1-1, and B1-7,	After land resumption but before construction	N/A

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S11.6.1	CH2	<u>Undertaking Survey-cum-Rescue Excavation</u> A Survey-cum-Rescue Excavation should be conducted after land resumption and before the commencement of construction works to define the precise archaeological deposits extent and to preserve the archaeological resources by record. The excavation should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance.	To define the precise archaeological deposits extent and to preserve the archaeological resources as far as possible	Project Proponent/ Contractor/ Qualified Archaeologist	In KTN NDA, for Site 3 and In FLN NDA for Site 5.	After land resumption but before construction commencement of the zone	N/A
S11.6.1	CH3	<u>Undertaking Preservation in-situ for Site 7</u> Preservation in-situ of the cultivation deposits in Site 7 is proposed. If disturbance to the site by the design of the Central Park is unavoidable, further archaeological survey should be conducted after land resumption prior to the pre-construction stage to assess the feasibility to incorporate Site 7 into the design of the development plan of the proposed zone. Appropriate followup actions, including preservation of the significant archaeological deposits in-situ in the Central Park, would then be considered with the consent of AMO.  The recommended mitigation measure of preservation in-situ with further archaeological survey should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the	To preserve the archaeological resources as far as possible.	Project Proponent/ Contractor/ Qualified Archaeologist	Site 7 in FLN NDA	After land resumption prior to preconstruction stage of the proposed Central Park (Area C2-8, Zoning O)	N/A



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		Authority under the AM Ordinance.					
S11.6.1	CH4	<u>Undertaking Induction Training</u> Induction training should be provided to the construction Contractor before the commencement of the excavation works in Spots A, D, F to H. An induction will be conducted as part of the environmental health and safety induction programme to all site staff before they are deployed on site. The induction will include an introduction on the historical development of the Site, the possible archaeological remains that may be encountered during ground excavation works as well as the reporting procedures in case suspected archaeological remains are identified. A set of the presentation material (in the form of power point presentation) with content details will be prepared by an archaeologist and submitted to AMO for reference and record purpose. The first induction briefing will be video recorded and it will be used as induction briefing material for new site staff.	To preserve the archaeological resources as far as possible	Project Proponent/ Contractor/ Qualified Archaeologist	Spots A, D, F to H	Before the commencement of the excavation works and before site staff are deployed on site	N/A
S11.6.1	CH5	<u>Undertaking Archaeological Impact Assessment before Construction at A1</u> It is recommended that an Archaeological Impact Assessment to be conducted in the impacted area in Area B1-8 and B1-9 at A1 (Sheung	To define the precise archaeological deposits extent and to preserve the archaeological resources as	Project Proponent/ Contractor/ Qualified	Area B1-8 and B1-9 zoned as R4 and R3 in A1	After land resumption but before construction	N/A

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		Shui Wa Shan Site of Archaeological Interest) after land resumption and before construction when detail construction work information is available to determine the need for further archaeological follow up actions.	far as possible	Archaeologist			
S11.6.1	CH6	<u>Undertaking Archaeological Impact Assessment before Construction within A1 but except Area B1-8 and B1-9</u>  Should there be any development work within the Sheung Shui Wa Shan Site of Archaeological Interest, it is recommended that an Archaeological Impact Assessment is required after land resumption and before construction when detail construction work information is available to determine the need for further archaeological follow up actions.	To define the precise archaeological deposits extent and to preserve the archaeological resources as far as possible.	Project Proponent/ Contractor/ Qualified Archaeologist	Area within A1 except Area B1-8 and B1-9 in R4 &R3 zoning	After land resumption but before construction	N/A
S11.6.2	CH7	<u>Undertaking baseline condition survey and baseline vibration impact assessment</u>  In case any potential vibration impact on any nearby built heritage features are identified during the pre-construction stage of the Project, prior to commencement of construction works, a baseline condition survey and baseline vibration impact assessment should be conducted by a qualified building surveyor or a qualified structural engineer to define the vibration limit (a vibration limit at 7.5mm/s could be adopted for graded historic buildings) and to evaluate if construction vibration monitoring and structural strengthening measures are required during	To minimize the vibration impacts during preconstruction stage on any identified potential vibration impacted built heritage features	Project Proponent/ Contractor	G303 and G308	Preconstruction stage before commencement of construction works during Schedule 3 study	N/A

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		construction phase so as to ensure the construction performance meets with the vibration standard stated in the EIA report. The condition survey of graded historic building should be submitted to AMO for information.					
S11.6.2	CH8	<u>Undertaking baseline condition survey and baseline vibration impact assessment</u>  In case any potential vibration impact on any nearby built heritage features are identified during the pre-construction stage of the Project, prior to commencement of construction works, a baseline condition survey and baseline vibration impact assessment should be conducted by a qualified building surveyor or a qualified structural engineer to define the vibration limit (a vibration limit at 7.5mm/s and 15mm/s could be adopted for graded historic buildings and historic buildings respectively) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction phase so as to ensure the construction performance meets with the vibration standard stated in the EIA report. The condition survey of graded historic building should be submitted to AMO for information.	To minimize the vibration impacts during preconstruction stage on any identified potential vibration impacted built heritage features	Project Proponent/ Contractor	KT57, FL05, FL18, and FL2	Preconstruction stage before commencement of construction works	N/A
S11.6.2	CH9	<u>Conducting Photographic and Cartographic Records Prior to Removal/Relocation of Impacted Built Heritages</u>  Prior to removal/relocation of the directly impacted historical buildings and cultural/historical landscape features, photographic and cartographic	To preserve the directly impacted sites by record prior to their removal / relocation	Project Proponent/ Contractor	Ancillary structures of G303, HKT01, HKT02, Entrance	Prior to Removal / Relocation of features before commencement of construction	N/A

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		records should be conducted to preserve them by record. Liaison with and obtaining agreement from the descendants of these features will be carried out the Project Proponent.			Gate of HKT03, HKT04, KT01 to KT10, KT13, KT36, KT39, KT40, KT41, KT43, KT45, KT47, KT50, KT54, KT62 to KT63, KT69, FL01, FL16, and FL35	works during Schedule 3 study	
S11.6.2	CH10	<u>Conducting Photographic and Cartographic Records Prior to Removal/Relocation of Impacted Built Heritages</u> Prior to removal/relocation of the directly impacted historical buildings and cultural/historical landscape features, photographic and cartographic records should be conducted to preserve them by record. Liaison with and obtaining agreement from the descendants of these features will be carried out by the Project Proponent.	To preserve the directly impacted sites by record prior to their removal / relocation	Project Proponent/ Contractor	KT12 and KT61	Prior to Removal / Relocation of features before commencement of construction works	N/A
S11.6.2	CH11	Relocation of Built Heritages Relocation of built heritages to a reasonable location nearby may be required.	To preserve the directly impacted sites by relocation	Project Proponent/ Contractor	HKT01, HKT02, Entrance Gate of HKT03	After the photographic and cartographic records and before commencement of	N/A

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						construction works	
S11.6.2	CH12	Drainage System and Access Route Design For the retained built heritage items in developable area, drainage system and access route would be designed to prevent the persevered flooding and maintain the accessibility to the built heritage.	To prevent the persevered flooding and maintain the accessibility to the built heritage	Contractor /Detailed Design consultant	The retained built heritage items	Pre-construction phase	N/A
<b>Cultural Heritage (Construction Phase)</b>							
S11.6.1	CH13	<u>Inform Upon Archaeological Discovery</u> Pursuant to the Antiquities and Monuments Ordinance, the construction Contractor should inform the AMO immediately in case of discovery of antiquities or supposed antiquities in the course of excavation works in construction phase.	Special attention should be given to areas evaluated to have archaeological potential or significance.	Contractor	All soil excavation works	Immediately upon discovery during excavation works	N/A
S11.6.2	CH14	<u>Watertable Monitoring</u> Since the construction works and development activities may induce change in the watertable. It is recommended the Contractor should ensure that the change of watertable induced by the construction works and development activities will not result in settlement of built heritage.	To minimize the potential impacts to the built heritage items by the change of watertable induced by the works during the Construction phase	Contractor	Within NDAs	Construction phase	N/A

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S11.6.2	CH15	<u>Conducting Construction Vibration Monitoring and Structural Strengthening Measures</u> Construction vibration monitoring and structural strengthening measures should be conducted during Construction phase based on the assessment result of baseline condition survey and baseline vibration impact assessment, so as to ensure the construction performance meets with the vibration standard stated in the EIA report.	To minimize the potential impacts during Construction phase on any identified potential vibration impacted built heritage features	Contractor	Identified potential vibration impacted built heritage features	Construction phase, with details specified in baseline condition survey and baseline vibration impact assessment	^
<b><i>Landscape and Visual Impact (Detailed Design, Prior to Construction, Construction and Operation Phases)</i></b>							
S.12.9	LV1	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.  With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.		Detailed design consultant/ Contractor	Throughout NDAs,	Prior to Construction, Construction & for all planting, this should be installed as the areas become available, to achieve early establishment	N/A



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S.12.9 MM1	LV2	Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.	Reduce topographical changes and minimize land resumption	Government / Detailed Design Consultant/ Contractor	Throughout NDAs, particularly for reservoirs	Prior to Construction	N/A
S.12.9 MM2	LV3	Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and	Improve visual amenity of the new buildings, NDAs in general and integrate as best possible into the surrounding landscape	Detailed Design Consultant	Throughout NDAs	Prior to Construction	N/A

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		light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines. All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated. Construction time frame should also be considered and designs seek to keep it to a practical minimum.					
S12.9 MM14.4	LV 4	Avoid affecting Watercourses – In the detailed design, consideration should be made of watercourses, to minimize any impacts e.g. at new bridge crossings, viaducts, road alignment etc. Guidelines stated should be followed.  For example, for the stream at Siu Hang San Tsuen in FLN NDA, much of the stream is located underneath the viaduct for the proposed Fanling Bypass. In order to avoid impacts to the stream, the detailed	Avoid direct impacts to watercourses	Detailed Design Consultant/ Contractor	All watercourses, particularly the stream at Siu Hang San Tsuen that will flow under the Fanling Bypass Eastern	Prior to Construction and Construction Phase	^

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		final design of the viaduct should follow guidelines and ensure that no viaduct footings or other structures are placed in the stream.  Bridges and box culverts should also be used to minimize the necessity of watercourse modification and protect the watercourses where necessary.			Section		
<b>Landscape and Visual (Construction)</b>							
S.12.9 MM3	LV5	Open Space Provision - the principles adopted in the RODP planning ensure that public open space systems are incorporated. All requirements for open space areas stipulated in the planning documents for the formulation of the Preliminary Layout Plan should be adhered to.	Reprovision of open space.  Enhance visual amenity of the area and improve the overall landscape character	Government  Developer/ Detailed Design  Consultant/ Contractor/	Onsite as stipulated in the planning documents for the formulation of the Preliminary Layout Plan	Prior to Construction and Construction Phas	N/A
S.12.9 MM4	LV6	Tree Protection & Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.	Protect and Preserve Trees	Government / Detailed Design  Consultant/ Contractor	Onsite	Prior to Construction and Construction Phase	N/A

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		A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained					
S.12.9 MM5	LV7	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible.</p> <p>A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted,</p>	Transplant Trees where suitable for transplantation	Government / Detailed Design Consultant/ Contractor	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

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		HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.					
S.12.9 MM6	LV8	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	Government / Detailed Design  Consultant/ Contractor	Onsite	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM7	LV9	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p> <p>Compensatory planting is proposed at the potential open areas such as</p>	Compensate for trees and shrubs lost due to the Project.	Government / Detailed Design  Consultant/ Contractor	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

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		<p>open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.</p> <p>Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Raphiolepis indica</i>, and <i>Rhododendron simsii</i> are suggested.</p>					
S.12.9 MM8	LV10	<p>Woodland Compensatory Planting – Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.</p> <p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 &amp; E27 also).</p> <p>Native tree species are suggested for planting in the appropriate</p>					N/A



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		<p>locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>, <i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>.</p> <p>In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i>.</p> <p>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</p>					

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S.12.9 MM9	LV11	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. building edges, piers).	Soften hard surfaces and facilities	Government / Developer/ Detailed Design Consultant/ Contractor	On appropriate structures	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM10	LV12	Green Roof – Roof greening where appropriate should be established on proposed buildings as per the guidelines stated. These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable.	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels. Provide greening.	Government / Developer/ Detailed Design Consultant/ Contractor	On appropriate buildings	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM11	LV13	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Detailed Design Consultant/ Contractor	Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

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S.12.9 MM12	LV14	<p>Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics.</p> <p>For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)</p>	To soften the hard, straight edges and provide greening along roads.	Government / Developer/ Detailed Design Consultant/ Contractor	On viaducts or along roads	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM13 & EIA Annex 13	LV15	<p>Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance on- wetland areas within the LVNP. (See E4,E15 and E25 also)</p> <p>Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ reprovisioned watercourses.</p>	Compensate for Marsh/ Wetland lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

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S.12.9 MM14.1	LV16	<p>Reprovision of Natural Stream – Where natural streams are unavoidably affected along some of their length, they can be diverted to avoid the proposed new developments and retain the integrity of the whole stream. Detailed design of any stream diversion should follow the Guidelines in ETWB Technical Circular (Works) No. 5/2005 (Protection of natural streams/rivers from adverse impacts arising from construction works) and appropriate construction methods should be used.</p> <p>Two short stretches of the Ma Tso Lung Stream will be affected by Project in the KTN NDA; by the LMC Eastern Connection Road on the western border of Site F1-3 and further upstream by Site E-2.</p> <p>At both these locations, the stream will be reprovisioned and maintain the flow between unaffected sections of the stream. The reprovisioned stream will be provided with a natural bed and banks, as well as having an area of marsh/ pool next to it and trees and shrubs further from the banks. (See E2, E14 and E24 also)</p>	Achieve a natural stream, similar to existing, including wetland planting provision for embankments	Government / Developer/ Detailed Design Consultant/ Contractor	Streams and channelized watercourses e.g. a Ma Tso Lung and Siu Han San Tsuen	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S12.9 MM14.2	LV17	Stream Buffer Planting –Providing a minimum 10 m buffer with planting (where there is a general presumption against any development taking place) along streams where they flow close to developments, confers a degree of protection to the stream course and its associated vegetation.	Protect natural streams	Government / Developer/ Detailed Design Consultant/ Contractor	Streams and channelized watercourses e.g. a Ma Tso Lung and Siu Han	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

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		<p>For the stream at Ma Tso Lung in KTN NDA, the middle and upper sections will be designated as Green Belt zone where there is a general presumption against development as buffer to the stream.</p> <p>For the stream at Siu Hang San Tsuen in FLN NDA, within the NDA boundary much of the stream would be located underneath the viaduct for the proposed Fanling Bypass. To the south of the viaduct the stream flows through an Open Space area D1-3. In this Open Space zone a 10m buffer is proposed in which natural vegetation will be retained and enhanced and human activities will be limited in order to avoid direct impacts to the stream bed and to minimize potential indirect impacts to the stream and riparian corridor. (See E3 also)</p>			San Tsuen		
S12.9 MM14.3	LV18	Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc.	Minimize the necessity of watercourse modification, protect watercourses where possible and enhance channelized watercourses	Government / Developer/ Detailed Design Consultant/ Contractor	Channelized watercourse, particularly the Ma Wat River Channel Diversion	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

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		For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.					
S12.9 MM15	LV19	<p>Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs.</p> <p>All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.</p>	Reprovision for ponds lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	E1-7 and C1-9 (LVNP) in KNT NDA and generally throughout NDA	Prior to Construction, Construction Phase Maintenance in Operation Phase	N/A
S.12.9 MM16	LV20	<p>Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non- reflective, recessive colours be used.</p> <p>Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).</p>	To screen undesirable views of the works site.	Contractor	Throughout NDAs	Construction Phase	^



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S.12.9 MM17	LV21	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.  Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Developer/ Contractor	Throughout NDAs	Construction and Operation Phases	N/A
<b><i>Ecology (Prior to Construction Phase or throughout the project)</i></b>							
S. 13.9	E1	Egretry Habitat Creation & Management Plan (EHCMP) and Woodland Planting and Management Plan (WPMP)	Compensate for loss of Man Kam To Road egretry.  Compensate for loss of secondary woodland and hillside plantation of ecological significance.	Project Proponent/ Detailed Design Consultant (EHCMP and WPMP).	FLN area A1-7 (egretry compensation). KTN areas E1-8 and G1-3 (woodland compensation).	Detailed design phase	N/A

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S. 13.9	E2	Detailed design of development along lower reaches of Ma Tso Lung Stream and Ma Tso Lung San Tsuen Stream in OU zones F1-2 and F1-3 and detailed design of LMC Loop Eastern Connection Road with restoration of diverted stream and riparian corridor, permanent barrier and underpass on the at-grade section  Compensation for the loss of seasonally wet grassland at Ma Tso Lung by habitat restoration and enhancement along diverted section of Ma Tso Lung Stream	Minimize impacts on Ma Tso Lung Stream and Ma Tso Lung San Tsuen Stream and riparian corridor of importance to species of conservation significance.	Project Proponent/ Detailed Design Consultant. (design of Ma Tso Lung Stream diversion and buffer zone habitat restoration measures)	KTN areas F1-2 and F1-3 and LMC Loop Eastern Connection Road.	Detailed design and construction phases.	N/A
S13.9	E3	Detailed design, implementation and management of Siu Hang San Tsuen Stream to have 10m wide vegetated buffer in Open Space zone D1-3, Fanling Bypass to cross stream on viaduct.	Minimize impacts on Siu Hang San Tsuen Stream and stream fauna.	PlanD, Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	FLN area D1-3.	Detailed design, construction and operation phases.	N/A
S.13.9	E4	Long Valley Nature Park (LVNP) designation, design and implementation.	Compensate for wetland loss arising from the project and protection of	Project Proponent/ Detailed Design	Long Valley KTN area C1-9 and any suitable areas to	Detailed design phase	N/A

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		Enhancement of non-wetland habitats in LVNP. Planning for the advanced provision of alternative foraging habitat along main river channels for large waterbirds.	Long Valley from adverse ecological impacts including provision of additional/alternative habitat for large waterbirds using Ng Tung, Sheung Yue and Shek Sheung River channels.	Consultant (Long Valley Nature Park Habitat Creation & Management Plan)	be identified during the planning stage		
S13.9	E5	Stringent planning control requirements in Long Valley north and west of Sheung Yue River, including Ho Sheung Heung egrettry.	Protect these wetland areas from indirect impacts to habitats and fauna especially breeding ardeids foraging in these areas and utilizing flight-lines from Ho Sheung Heung egrettry. Avoid habitat loss and disturbance to fauna of conservation significance, especially nesting ardeids Maintenance of ecological linkages with Deep Bay ecosystem and avoidance	PlanD.	KTN areas C2-1 and C2-2 , Ho Sheung Heung egrettry and areas north of Long Valley along the Ng Tung River to the Shenzhen River	Detailed design phase	N/A

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			of severance of these linkages, especially for waterbirds				
S13.9	E6	Planning for creation of Green Corridors along the Sheung Yue, Ng Tung and Shek Sheung Rivers, retention and provision of screen plantings where feasible; and detailed design of Open Space areas and development areas along river corridors.	Minimize disturbance to large waterbirds using Ng Tung, Sheung Yue and Shek Sheung River channels.  Maintain ecological linkages within NDA Project Area and between Project Area and Deep Bay ecosystem, especially for Long Valley and waterbirds.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	Area along Ng Tung, Sheung Yue and Shek Sheung River	Detailed design, construction and operational phases.	N/A
S13.9	E7	Building setback and mounding in locations near Long Valley.  KTN area B3-12 (30m setback from road D3) and KTN area C1-1 (15m setback and mounding along northern and northeastern boundaries).	Minimization of disturbance impacts to fauna using Long Valley.	PlanD	KTN area B3-12 (30m setback from road D3) and KTN area C1-1 (15m setback and mounding along	Detailed design phase	N/A

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					northern and northeastern boundaries.		
S13.9	E8	<p>Preparation and implementation of Guidelines for building design measures to minimize mortality and light and glare impacts to fauna.</p> <p>Guidelines to address the following measures:</p> <p>Use opaque, non-transparent, non-reflective noise barriers for all developments associated with the Project.</p> <p>Measures to include the following:</p> <ul style="list-style-type: none"> <li>Fritting, or the placement of ceramic lines or dots on glass, which creates a visual barrier to birds and reduces air conditioning loads by lowering heat gain, while still allowing light transmission for interior spaces. It is most successful when the frits are applied on the outside surface. Frosted glass has similar effects;</li> <li>Angled glass to be used only for smaller panes in buildings with a limited amount of glass;</li> <li>The use of glass that reflects UV light (primarily visible to birds, but not to humans) to reduce collisions;</li> <li>Film and art treatment allow glass surfaces to be used a medium of expression, often related to the nature and use of the building, as well indicating to birds their impenetrability;</li> </ul>	Minimize mortality and disturbance impacts on fauna, especially mammals and birds.	PlanD/ Project Proponent/ Developer/ Detailed Design Consultant	Near Long Valley	Detailed design phase	N/A

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		<ul style="list-style-type: none"> <li>Lightweight external screens can be added to windows or become a façade element of larger buildings, and are suitable where non-operable windows are prevalent, which is often the case in modern buildings in HK</li> </ul>					
	E9	Not used					N/A
S13.8	E10	Review development footprint and layout of proposed developments in KTN areas D1-11a and G1-5 to avoid/minimize direct and indirect impacts on secondary woodland at Ho Sheung Heung and shrubland at Crest Hill.	Minimize loss of secondary woodland and shrubland of ecological value.	Project Proponent/Detailed Design Consultant	KTN areas D1-11a and G1-5 to avoid/minimize direct and indirect impacts on secondary woodland at Ho Sheung Heung and Crest Hill	Detailed design phase	N/A



S13.9	E11	<p>No construction during ardeid breeding season (1 March to 31 July) along Sheung Yue River north or east of KTN D1-5 and east of D1-9 and C2-3, construction hours restricted to 09.00 to 17.30 during 1 March to 31 July on new pedestrian bridge over the Sheung Yue River, new pedestrian bridge over the tidal section of the Ng Tung River and existing bridge between KTN areas C2-2 and C1-8.</p> <p>Review Design and construction methods for all bridges especially those on the Sheung Yue and tidal Ng Tung Rivers and adopt methods which minimize impacts on Long Valley and the rivers, and disturbance and fragmentation impacts on fauna.</p> <p>No overlap in construction of bridges over main river channels. Measures to ensure no hydrological disruption to Long Valley Watercourse and water supply to Long Valley to be designed at the detailed design stage for the rechannelisation of the Long Valley Watercourse and the development of areas through which it passes, including KTN area B3-12. Contingency plan to address any disruption to be included in LVNP HCMP. Avoid removal or interference with screen planting undertaken under the Construction of Cycle Tracks and Associated Supporting Facilities from Sha Po Tsuen to Shek Sheung project.</p>	Minimize disturbance impacts (including cumulative impacts with cycle track project) to flight-lines of breeding ardeids.	Project Proponent/ Detailed Design Consultant Contractor	Along and within Sheung Yue and Ng Tung Rivers, Long Valley, Long Valley and watercourse upstream areas including KTN area B3-12	Detailed design/ construction phase.	^
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<b>Ecology (Construction Phase)</b>							
S13.9	E12	Compensatory egret habitat provision and establishment.  Review condition and location of egretries before commencement of works. Formulate and implement additional mitigation measures as appropriate.  Phasing of works near and within Man Kam To Road Egret habitat outside breeding season	Compensate for loss of Man Kam To Road egret habitat.  Avoid mortality of breeding egrets	Project Proponent/ Detailed Design Consultant/ Contractor	FLN area A1-7 500m from Man Kam To Road Egret habitat.	Construction phase.	^
S13.9	E13	Review design and construction methods for bridges, especially those on the Sheung Yue and tidal Ng Tung Rivers, and adopt measures which minimize impacts on rivers and disturbance and fragmentation impacts on fauna.  No construction during ardeid breeding season (1 March to 31 July) along Sheung Yue River north and east of KTN area D1-5 and east of D1-9 and C2-3 and restriction of working hours on new pedestrian bridges over the Sheung Yue River and tidal Ng Tung River to 09.00 to 17.30 during the ardeid breeding season (1 March to 31 July)  Provision of alternative foraging habitat along main river channels for large waterbirds.	Minimize impacts on rivers and disturbance and fragmentation impacts on fauna	Project Proponent/ Detailed Design Consultant/ Contractor	Along and within the Sheung Yue, Ng Tung and Shek Sheung Rivers	Detailed design and construction phases.	^

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S13.9	E14	<p>Buffer zone of 15-30m as appropriate on both sides (not less than 45m total width) of Ma Tso Lung Stream north of the point where it is crossed by the LMC Loop Eastern Connection Road, and Ma Tso Lung Stream diversion during construction of the LMC Loop Eastern Connection Road; development along lower reaches of Ma Tso Lung Stream and Ma Tso Lung San Tsuen Stream in OU zones in KTN areas F1-2 and F1-3 to be set back beyond buffer.</p> <p>Construction and maintenance of permanent 1.2m high solid faunal barrier at all at-grade sections of LMC Loop eastern connection Road north of junction with road D4 within 15-30m as appropriate of Ma Tso Lung Stream buffer and construction of faunal underpass beneath road.</p> <p>Compensation for the loss of seasonally wet grassland at Ma Tso Lung by habitat restoration and enhancement along diverted section of Ma Tso Lung Stream.</p>	Minimize impacts direct and indirect impacts of habitat loss, disturbance, pollution and fragmentation on Ma Tso Lung Stream and marsh and riparian corridor of importance to species of conservation significance.	PlanD/ Project Proponent/ Developer/ Detailed Design Consultant/ Contractor. (Design of Ma Tso Lung Stream diversion and buffer zone habitat restoration measures)	KTN areas H1-1, F12 and F1-3 and Lok Ma Chau Loop Eastern Connection Road.	Detailed design and construction phases.	N/A

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S.13.9	E15	Creation and enhancement of proposed Long Valley Nature Park and creation and enhancement of wetland and buffer planting within LVNP.	Compensate for wetland loss arising from the project	Project Proponent/ Contractor (LVNP Detailed Habitat Creation & Management Plan)	Long Valley, (KTN area C1-9).	Construction phase.	^
S13.9	E16	Creation of Green Corridors along the Sheung Yue, Ng Tung and Shek Sheung Rivers, retention and provision of screen plantings where feasible; provision of Open Space areas and development areas along river corridors;  Design and erection of 2m high solid dull green site barrier fence between river channel and any active works area along or adjacent to Ng Tung, Sheung Yue and Shek Sheung Rivers.  Ng Tung, Sheung Yue and Shek Sheung Rivers screen planting.	Minimize disturbance to waterbirds using Ng Tung, Sheung Yue and Shek Sheung River channels.	Detailed Design Consultant/ Contractor	Ng Tung, Sheung Yue and Shek Sheung Rivers	Detailed design and Construction phases.	^

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S13.9	E17	<p>Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance on edge of development areas, including along any roads adjacent to or penetrating into areas/habitats of ecological importance.</p> <p>Erection of a 2m high dull green site barrier fence at the edge of the works area or 30m from Ma Tso Lung Stream and tributaries, whichever distance is the greater.</p>	<p>Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna. Measures to minimize flight- line impacts to birds, especially breeding ardeids.</p>	Contractor	<p>Interface between areas/habitats/ fauna/ flora of ecological importance (e.g. KTN areas B1-3, C1-5, C1- 6, C1-9, C2-2, C2-4, C2-5, D1-8, E1-8, G1-3, H1-1, Ma Tso Lung Stream and tributaries; FLN areas A1-3, A1-7 and A1-9) and works areas; and around any works areas north of the Fanling Bypass and north of the Ng Tung River west of the western terminus</p>	Construction phase.	^

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					of the Fanling Bypass. Riparian corridor of Ma Tso Lung Stream and tributaries.		
S13.9	E18	Compensatory woodland planting, management and maintenance.	Compensate for loss of secondary woodland and hillside plantation of ecological significance.	Project Proponent/ Contractor	KTN areas E1-8 and G1-3.	Construction phase.	N/A
S13.9	E19	Use opaque, non-transparent, non-reflective noise barriers for all construction sites. Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Contractor	All construction sites	Construction phase.	^
S13.9	E20	Pre-site clearance check for presence of flora or fauna of conservation significance and bat roosts. If any are found, measures should be proposed and implemented to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works, transplantation and translocation. Seek agreement of relevant authorities including AFCD in respect of proposed measures, then implement.	Minimize impacts to flora and fauna of conservation significance. Minimize impacts to protected fauna and flora species. Formulate and implement mitigation measures to	Government/ Developer/ Contractor/ Ecologist	All construction sites.	Prior to clearance of vegetation and structures.	N/A



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		<p>Pre-site clearance check on all construction sites and pre –works commencement check on watercourses to be physically and/or hydrologically impacted by construction activities for presence of protected plant species/specimens of conservation significance. If any are found consider adjustments to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works,</p> <p>Pre-site clearance of construction sites in Crest Hill area, KTN areas D1-7, D1-11 and G1-5 (where Eurasian Hobby was recorded) and on Cheung Po Tau, FLN area A3-1 (where Grey Nightjar was recorded) for presence of any breeding birds/breeding sites. If any are found consider adjustments to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works, translocation and translocation.</p> <p>Seek agreement of relevant authorities including AFCD in respect of proposed measures, then implement.</p> <p>Pre-site clearance check on all construction sites for presence of Chinese Bullfrog, translocation to suitable areas including LVNP.</p>	avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works, translocation and translocation.				
S13.9	E21	Pre-works commencement check on watercourses to be physically and/or hydrologically impacted by construction activities for presence of flora or fauna of conservation significance and bat roosts. If any are found consider adjustments to avoid, minimize and/or compensate for impacts; including adjustments to design, timing of works, translocation and	Minimize impacts to flora and fauna of conservation significance. Minimize impacts to protected fauna and flora species. Consider	Government/ Developer/ Contractor/ Ecologist	All construction sites.	Prior to clearance of vegetation and structures.	N/A

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		<p>translocation. Seek agreement of relevant authorities including AFCD in respect of proposed measures, then implement.</p> <p>Pre-site clearance check on all construction sites for presence of reptile species of conservation significance, capture and translocate to receptor site; review translocation options in respect to species in Ma Tso Lung area and determine whether release locally or elsewhere is appropriate. Seek agreement of relevant authorities including AFCD in respect of proposed measures then implement</p> <p>Pre-works commencement check on watercourses to be physically and/or hydrologically impacted by construction activities for presence of Small Snakehead and <i>Somaniathelphusa zanklon</i>. Capture any <i>Somaniathelphusa zanklon</i> found and translocate to Ma Tso Lung Stream/ other suitable areas including LVNP</p>	<p>and implement adjustments to avoid, minimize or compensate for impacts; including adjustments to design, timing of works, transplantation and translocation</p>				
S13.9	E22	Prevention of dust, run-off and pollutants impacting Deep Bay catchment area and areas of ecological importance.	Avoid increase to pollution entering ecologically sensitive Deep Bay ecosystem.	Contractor	All construction sites.	Construction	N/A
<b>Specific Mitigation Measures for Designated Projects</b>							
<b>DP2- Castle Peak Road Diversion (Major Improvement)</b>							
<b>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</b>							

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
S.12.A9	LV1-DP2	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.  With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.		Detailed Design Consultant/ Contractor	Throughout NDAs,	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become available, to achieve early establishment	N/A
S.12.A9 MM14.4	LV4-DP2	Avoid affecting Watercourses – In the detailed design, consideration should be made of watercourses, to minimize any impacts e.g. at new bridge crossings, viaducts, road alignment etc. Guidelines stated should be followed.  For example, for the stream at Siu Hang San Tsuen in FLN NDA, much of the stream is located underneath the viaduct for the proposed Fanling Bypass. In order to avoid impacts to the stream, the detailed final design of the viaduct should follow guidelines and ensure that no viaduct footings or other structures are placed in the stream. Bridges and box culverts should also be used to minimize the necessity of watercourse modification and protect the watercourses where necessary.	Avoid direct impacts to watercourses	Detailed Design Consultant/ Contractor	All watercourses, particularly the stream at Siu Hang San Tsuen that will flow under the Fanling Bypass Eastern Section	Prior to Construction and Construction Phase	N/A
S.12.A9 MM4	LV5-DP2	Tree Protection & Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction.	Protect and Preserve Trees	Government/ Detailed	Onsite	Prior to Construction	#

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.</p>		Design Consultant/ Contractor		and Construction Phase	
S.12.A9 MM5	LV6- DP2	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme. A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p>	Transplant Trees where suitable for transplantation	Government Detailed Design Consultant/ Contractor	<i>Onsite where possible, otherwise consider offsite locations</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit" should be referred to.					
S.12.A9 MM6	LV7- DP2	Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow. In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.	To avoid substantial slope cutting and fill slopes. To prevent erosion and subsequent loss of landscape resources and character. To ensure man-made slopes are as visually amenable as possible.	Government Detailed Design Consultant/ Contractor	<i>Onsite</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM8	LV9- DP2	Woodland Compensatory Planting – Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.	Reprovide areas of woodland to compensate for those areas of quality woodland lost.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	<i>In areas identified in the EIA Landscape Mitigation Plans and as agreed with AFCD</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 &amp; E27 also).</p> <p>Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>, <i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>. In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i>.</p> <p>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</p>					
S.12.A9	LV10-	Vertical Greening – Planting of climbers to grow up vertical surfaces were	Soften hard surfaces and	Government	<i>On appropriate</i>	Prior to	N/A



EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
MM9	DP2	appropriate (e.g. viaduct piers, noise barriers).	facilities	Detailed Design Consultant/ Contractor	<i>structures</i>	Construction, Construction Phase & Maintenance in Operation Phase	
S.12.A9 MM11	LV11- DP2	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government Detailed Design Consultant/ Contractor	<i>Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM12	LV12- DP2	Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural	To soften the hard, straight edges and provide greening along roads.	Government Detailed Design Consultant/ Contractor	<i>On viaducts or along roads.</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		forms and textural finishes which improve aesthetics.  For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)					
S.12.A9 MM13 & EIA Annex 13	LV13- DP2	Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance onwetland areas within the LVNP. (See E4,E15 and E25 also)  Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ reprovisioned watercourses.	Compensate for Marsh/ Wetland lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	<i>Onsite where possible. Otherwise consider offsite locations</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM14.3	LV14- DP2	Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible.  Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary	Minimize the necessity of watercourse modification, protect watercourses where possible and enhance channelized watercourses	Government / Detailed Design Consultant/ Contractor	<i>Channelized watercourse, particularly the Ma Wat River Channel Diversion</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>maintenance work can be carried out and that the channel meets all its requirements for water flow, etc.</p> <p>For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.</p>					
S.12.A9 MM15	LV15-DP2	<p>Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs.</p> <p>All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.</p>	<p>Reprovision for ponds lost due to the Project.</p>	<p>Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority</p>	<p><i>E1-7 and C1-9 (LVNP) in KNT NDA and generally throughout NDA</i></p>	<p>Prior to Construction, Construction Phase Maintenance in Operation Phase</p>	N/A
<b>Landscape and Visual (Construction)</b>							
S.12.A9 MM16	LV16-DP2	<p>Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, nonreflective, recessive colours be used.</p> <p>Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).</p>	<p>To screen undesirable views of the works site.</p>	<p>Contractor</p>	<p><i>Throughout NDAs</i></p>	<p>Construction Phase</p>	^

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S.12.A9 MM17	LV17-DP2	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.  Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	Throughout NDAs	Construction and Operation Phases	^
<b>Ecology (Detailed Design, Construction and Operational Phases)</b>							
S13.9	E2-DP2	Use opaque, non-transparent, non-reflective noise barriers.  Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Detailed Design Consultant/ Contractor/ Maintenance Authority	Within NDA.	Detailed design phase, Construction phase and Operation phase.	^
<b>Ecology (Construction Phase)</b>							
S.13.9	E3-DP2	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance.	Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna.	Contractor.	Interface between areas/habitats of ecological importance (KTN area B1-3) and works areas.	Construction phase.	^
S13.9	E4-DP2	Compensatory native woodland planting.	Compensate for loss of	Project	KTN NDA areas	Construction	N/A

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			plantation of ecological significance.	Proponent / Contractor	E1-8 and G1-3.	phase.	
<b>Cultural Heritage (Construction Phase)</b>							
S11.6.2	CH5-DP2	Conducting Construction Vibration Monitoring and Structural Strengthening Measures Construction vibration monitoring and structural strengthening measures should be conducted during Construction phase based on the assessment result of baseline condition survey and baseline vibration impact assessment, so as to ensure the construction performance meets with the vibration standard stated in the EIA report.	To minimize the potential impacts during Construction phase on any identified potential vibration impacted built heritage features	Project Proponent/ Contractor	Identified potential vibration impacted built heritage features	Construction phase, with details specified in baseline condition survey and baseline vibration impact assessment,	N/A
<b>DP3- KTN NDA Road P1 and P2 (New Road) and associated new Kwu Tung Interchange (New Road) and Pak Shek Au Interchange Improvement (Major Improvement)</b>							
<b>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</b>							
S.12.A9	LV1-DP3	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to. With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.		Detailed Design Consultant/ Contractor	Throughout NDAs,	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become available, to achieve early establishment	^
S.12.A9	LV4-	Avoid affecting Watercourses – In the detailed design, consideration should	Avoid direct impacts to	Detailed	All watercourses,	Prior to Construction	^

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MM14.4	DP3	<p>be made of watercourses, to minimize any impacts e.g. at new bridge crossings, viaducts, road alignment etc.</p> <p>Guidelines stated should be followed.</p> <p>For example, for the stream at Siu Hang San Tsuen in FLN NDA, much of the stream is located underneath the viaduct for the proposed Fanling Bypass.</p> <p>In order to avoid impacts to the stream, the detailed final design of the viaduct should follow guidelines and ensure that no viaduct footings or other structures are placed in the stream.</p> <p>Bridges and box culverts should also be used to minimize the necessity of watercourse modification and protect the watercourses where necessary.</p>	watercourses	Design Consultant/ Contractor	<i>particularly the stream at Siu Hang San Tsuen that will flow under the Fanling Bypass Eastern Section</i>	And Construction Phase	
S.12.A9 MM4	LV5- DP3	<p>Tree Protection &amp; Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction.</p> <p>In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will</p>	Protect and Preserve Trees	Government Detailed Design Consultant/ Contractor	<i>Onsite</i>	Prior to Construction and Construction Phase	N/A



EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.					
S.12.A9 MM5	LV6- DP3	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 „Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit“ should be referred to.</p>	Transplant Trees where suitable for transplantation	Government Detailed Design Consultant/ Contractor	<i>Onsite where possible.</i> <i>Otherwise consider offsite locations.</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM6	LV7- DP3	<p>Slope Landscaping – Site formation should be reduced as far as possible.</p> <p>Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and</p>	Government Detailed Design Consultant/	<i>Onsite</i>	Prior to Construction, Construction Phase &	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	Contractor		Maintenance in Operation Phase	
S.12.A9 MM7	LV8-DP3	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensate orytrees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p> <p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots. Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>, <i>Rhodomyrtus tomentosa</i>, <i>Rhaphiolepis indica</i>, and <i>Rhododendron simsii</i> are suggested.</p>	Compensate for trees and shrubs lost due to the Project.	Government  Detailed Design  Consultant/ Contractor	<p><i>Onsite where possible.</i></p> <p><i>Otherwise consider offsite locations</i></p>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9	LV9-	Woodland Compensatory Planting –Specific Woodland compensatory	Reprovide areas of	Project	<i>In areas</i>	Prior to	N/A

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MM8	DP3	<p>planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.</p> <p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 &amp; E27 also). Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>, <i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>. In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomyrtus tomentosa</i>, <i>Raphiolepis indica</i>, and <i>Rhododendron simsii</i>. The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for</p>	woodland to compensate for those areas of quality woodland lost.	Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	<i>identified in the EIA Landscape Mitigation Plans and as agreed with AFCD</i>	Construction, Construction Phase & Maintenance in Operation Phase	

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		the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.					
S.12.A9 MM9	LV10- DP3	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government Detailed Design Consultant/ Contractor	<i>On appropriate structures</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM11	LV11- DP3	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government Detailed Design Consultant/ Contractor	<i>Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9	LV12-	Road Greening –For viaducts, soft landscaping should be provided to soften	To soften the hard,	Government	<i>On viaducts or</i>	Prior to	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
MM12	DP3	the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics.  For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)	straight edges and provide greening along roads.	Detailed Design Consultant/ Contractor	<i>along roads.</i>	Construction, Construction Phase & Maintenance in Operation Phase	
S.12.A9 MM13 EIA Annex 13	LV13- DP3	Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance onwetland areas within the LVNP. (See E4,E15 and E25 also)  Also see LV16, LV17, and LV18 as wetland planting should be provided along the embankments and beds of modified/ reprovisioned watercourses.	Compensate for Marsh/ Wetland lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	<i>Onsite where possible. Otherwise consider offsite locations</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM14.3	LV14- DP3	Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel	Minimize the necessity of watercourse modification,	Government / Detailed Design	<i>Channelized watercourse, particularly the</i>	Prior to Construction, Construction	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible.  Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc. For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.	protect watercourses where possible and enhance channelized watercourses	Consultant/  Contractor	<i>Ma Wat River Channel Diversion</i>	Phase & Maintenance in Operation Phase	
S.12.A9 MM15	LV15- DP3	Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs.  All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.		Project Proponent/  Detailed Design Consultant/  Contractor/  Maintenance Authority	<i>E1-7 and C1-9 (LVNP) in KNT NDA and generally throughout NDA</i>	Prior to Construction, Construction Phase Maintenance in Operation Phase	N/A
<b>Landscape and Visual (Construction)</b>							
S.12.A9 MM16	LV16- DP3	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically	To screen undesirable views	Contractor	<i>Throughout NDAs</i>	Construction Phase	N/A



EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, nonreflective, recessive colours be used.  Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	of the works site.				
S.12.A9 MM17	LV17-DP3	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.  Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	Throughout NDAs	Construction and Operation Phases	N/A
<b>Ecology (Detailed Design, Construction and Operational Phases)</b>							
S13.9	E3-DP3	Use opaque, non-transparent, non-reflective noise barriers.  Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Detailed Design Consultant/ Contractor Maintenance Authority.	Throughout.	Detailed design, Construction and Operation phases.	^
<b>Ecology (Construction Phase)</b>							
S.13.9	E4-DP3	Creation of proposed Long Valley Nature Park and creation and enhancement of wetland and woodland areas and buffer planting within LVNP.	Compensate for wetland loss arising from the project.	Project Proponent/ Contractor	Long Valley	Construction phase.	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
				(LVNP Detailed Habitat Creation & Management Plan).			
S.13.9	E5-DP3	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance on edge of development areas, including along any roads adjacent to or penetrating into areas/habitats of ecological importance.	Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna. Measures to minimize flightline impacts to birds,	Contractor.	Interface between areas/habitats of ecological importance (KTN areas B1-3, H1-1) and works areas.	Construction phase.	N/A
S13.9	E6-DP3	Compensatory native woodland planting.	Compensate for loss of plantation of ecological significance.	Project Proponent / Contractor	KTN areas E1-8 and G1-3.	Construction phase.	N/A
<b>DP4- KTN NDA Road D1 to D5 (New Road)</b>							
<b>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</b>							
S.12.A9	LV1-DP4	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to		Detailed Design Consultant/	<u>Throughout NDAs,</u>	Prior to Construction, Construction & for all	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		try and restore these to their former state to suit future land use, should be adhered to.  With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.		Contractor		planting, this should be installed as soon as the areas become available, to achieve early establishment	
S.12.A9 MM1	LV2-DP4	Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.	Reduce topographical changes and minimize land resumption	Government / Detailed Design Consultant/ Contractor/	<u>Throughout NDAs, particularly for reservoirs</u>	Prior to Construction	N/A
S.12.A9 MM2	LV3-DP4	Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design	Improve visual amenity of the new buildings, NDAs in general and integrate as best possible	Detailed Design Consultant/	Throughout NDAs	Prior to Construction	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines.</p> <p>All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated.</p> <p>Construction time frame should also be considered and designs seek to keep it to a practical minimum.</p>	into the surrounding landscape				
S.12.A9	LV4-	Tree Protection & Preservation – Existing trees to be retained within the	Protect and Preserve Trees	Government /	Onsite	Prior to Construction	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
MM4	DP4	<p>Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.</p>		Detailed Design  Consultant/  Contractor		and Construction  Phase	
S.12.A9 MM5	LV5- DP4	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC</p>	Transplant Trees where suitable for transplantation	Government /  Detailed Design  Consultant/  Contractor	Onsite possible.  Consider  locations where  Otherwise offsite  locations	Prior to Construction,  Construction Phase &  Maintenance in  Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.  For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 „Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit’ should be referred to.					
S.12.A9 MM6	LV6- DP4	Slope Landscaping – Site formation should be reduced as far as possible.  Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.  In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.	To avoid substantial slope cutting and fill slopes.  To prevent erosion and subsequent loss of landscape resources and character.  To ensure man-made slopes are as visually amenable as possible.	Government  Detailed Design  Consultant/ Contractor	Onsite	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM7	LV7- DP4	Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments.  Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.  Compensatory planting is proposed at the potential open areas such as	Compensate for trees and shrubs lost due to the Project.	Government  Detailed Design  Consultant/ Contractor	Onsite where possible.  Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A



EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.  Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i> , <i>Diospyros vaccinioides</i> , <i>Gardenia jasminoides</i> , <i>Ixora chinensis</i> , <i>Ligustrum sinense</i> , <i>Litsea rotundifolia</i> , <i>Melastoma dodecandrum</i> , <i>Atalantia buxifolia</i> , <i>Rhodomyrtus tomentosa</i> , <i>Raphiolepis indica</i> , and <i>Rhododendron simsii</i> are suggested..					
S.12.A9 MM8	LV8- DP4	Woodland Compensatory Planting –Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.  The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 & E27 also).  Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i> , <i>Bischofia javanica</i> , <i>Castanopsis fissa</i> , <i>Celtis sinensis</i> , <i>Cinnamomum burmannii</i> , <i>Cinnamomum camphora</i> ,	Reprovide areas of woodland to compensate for those areas of quality woodland lost.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	In areas identified in the EIA Landscape Mitigation Plans and as agreed with AFCD	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>Xanthoxylum avicennae, Hibiscus tiliaceus, Liquidambar formosana, Sapium discolor, Schefflera heptaphylla and Ilex rotunda. In addition some understory vegetation may be planted including shrubs such as Atalantia buxifolia, Diospyros vaccinioides, Gardenia jasminoides, Ixora chinensis, Ligustrum sinense, Litsea rotundifolia, Melastoma malabathricum, Melastoma dodecandrum, Rhodomyrtus tomentosa, Raphiolepis indica, and Rhododendron simsii.</p> <p>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</p>					
S.12.A9 MM9	LV9- DP4	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government / Detailed Design Consultant/ Contractor	On appropriate structures	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.A9 MM11	LV10- DP4	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads	Government / Detailed Design	Along roads, around suitable	Prior to Construction, Construction Phase &	N/A

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			and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Consultant/ Contractor	built structures , or around VSRS to contain their view out to the NDA structures.	Maintenance in Operation Phase	
S.12.A9 MM12	LV11- DP4	Road Greening –For viaducts, soft landscaping should be provided to soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics.  For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)	To soften the hard, straight edges and provide greening along roads.	Government  Detailed Design  Consultant/ Contractor	On viaducts or along roads.	Prior to Construction, Construction Phase &  Maintenance in Operation Phase	N/A
S.12.A9 MM13 & EIA Annex 13	LV12- DP4	Marsh/Wetland Compensation –The proposed Long Valley Nature Park (LVNP) will be designed and implemented to enhance on-wetland areas within the LVNP. (See E4,E15 and E25 also)  Also see LV16, LV17, and LV18 as wetland planting should be provided	Compensate for Marsh/ Wetland lost due to the  Project.	Project Proponent/ Detailed Design  Consultant/	Onsite where possible.  Otherwise consider offsite	Prior to Construction, Construction Phase &  Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		along the embankments and beds of modified/ re-provisioned watercourses.		Contractor/ Maintenance Authority	locations		
S.12.A9 MM15	LV13- DP4	Pond Replacement –Principles adopted in the design of the NDAs ensure that they incorporate ponds within the RODPs.  All requirements for ponds stipulated in the planning documents for the formulation of the Preliminary Layout Plan (e.g. at Fung Kong Shan Park in E1-7 of KNT ND) should be adhered to.	Reprovision for ponds lost due to the Project.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	E1-7 and C1-9 (LVNP) in KNT NDA and generally throughout NDA	Prior to Construction, Construction Phase  Maintenance in Operation Phase	N/A
<b>Landscape and Visual (Construction)</b>							
S.12.A9 MM16	LV14- DP4	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used.  Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	To screen undesirable views of the works site.	Contractor			N/A
S.12.A9 MM17	LV15- DP4	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the	To minimize glare impact to adjacent VSRs	Government / Contractor	<u>Throughout NDAs</u>	Construction and Operation Phases	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		Construction phase.  Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.					
<b>Ecology (Prior to Detailed Design Prior to Construction Phase)</b>							
S. 13.9	E1-DP4	Egretry Habitat Creation & Management Plan (EHCMP) and Woodland Planting and Management Plan (WPMP)	Compensate for loss of Man Kam To Road egretry.  Compensate for loss of secondary woodland and hillside plantation of ecological significance.	Project Proponent/ Detailed Design Consultant (EHCMP and WPMP).	FLN area A1-7 (egretry compensation). KTN areas E1-8 and G1-3 (woodland compensation).	Detailed design phase.	N/A
<b>Ecology (Detailed Design, Construction and Operational Phases)</b>							
S13.9	E2-DP4	Use opaque, non-transparent, non-reflective noise barriers. Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Detailed Design Consultant/ Contractor Maintenance Authority.	Throughout.	Throughout.	N/A
<b>Ecology (Construction Phase)</b>							
S.13.9	E3-DP4	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance.	Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora	Contractor.	Interface between areas/habitats of ecological importance (KTN	Construction phase.	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
			and fauna.		areas B1-3, E1-8, G1-3 and H1-1) and works areas		
S13.9	E4-DP4	Compensatory native woodland planting.	Compensate for loss of plantation of ecological significance.	Project Proponent / Contractor	KTN areas E1-8 and G1-3.	Construction phase.	N/A
S13.8	E5-DP4	Maintenance of compensatory native woodland planting.	Compensate for loss of plantation of ecological significance.	Maintenance Authority.	KTN areas E1-8 and G1-3.	Operation phase	N/A
<b>Cultural Heritage (Pre-construction Phase)</b>							
S11.6.1	CH1-DP4	<u>Undertaking Survey-cum-Rescue Excavation</u> A Survey-cum-Rescue Excavation should be conducted after land resumption and before the commencement of construction works to define the precise archaeological deposits extent and to preserve the archaeological resources by record. The excavation should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance.	To define the precise archaeological deposits extent and to preserve the archaeological resources as far as possible.	Project Proponent / Contractor/ Qualified Archaeologist	In KTN NDA, for Site 1	After land resumption but before Construction commencement of the zones	N/A
S11.6.1	CH2-DP4	<u>Undertaking Further Archaeological Survey to Cover the Outstanding Areas</u> Further archaeological surveys to cover the outstanding areas of the not-yet-surveyed-area with medium archaeological potential located with	To confirm and verify the findings of the EIA	Project Proponent/ Contractor/ Qualified	In the not-yet-surveyed- areas with medium archaeological	After land resumption but before construction	N/A



EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		areas with proposed development as presented in <b>Figure 11.9</b> should be implemented after land resumption to confirm and verify the findings of the EIA. The survey should be conducted by a professional archaeologist and prior to fieldwork commencement, the archaeologist should obtain a Licence to Excavate and Search for Antiquities from the Authority under the AM Ordinance. It should be noted that the scope of further archaeological survey is based on the current proposed alignment. Any additional works areas which have not been covered by the current archaeological impact assessment should be covered as soon as possible. Subject to the findings of the archaeological survey to be conducted after land resumption, additional mitigation measures would be designed and implemented before the commencement of construction works to mitigate the adverse impact.		Archaeologist	potential located within the work extent of DP4		
S11.6.1	CH3-DP4	<u>Undertaking Induction Training</u> Induction training should be provided to the construction Contractor before the commencement of the excavation works in Spot E. An induction will be conducted as part of the environmental health and safety induction programme to all site staff before they are deployed on site. The induction will include an introduction on the historical development of the Site, the possible archaeological remains that may be encountered during ground excavation works as well as the reporting procedures in case suspected archaeological remains are identified. A set	To preserve the archaeological resources as far as possible	Project Proponent/ Contractor/ Qualified Archaeologist	Spot E	Before the commencement of the excavation works and before site staff are deployed on site	N/A

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		of the presentation material (in the form of power point presentation) with content details will be prepared by an archaeologist and submitted to AMO for reference and record purpose. The first induction briefing will be video recorded and it will be used as induction briefing material for new site staff.					
S11.6.2	CH4-DP4	<u>Conducting Photographic and Cartographic Records Prior to Removal/Relocation of Impacted Built Heritages</u> Prior to removal/relocation of the directly impacted historical buildings and cultural/historical landscape features, photographic and cartographic records should be conducted to preserve them by record. Liaison with and obtaining agreement from the descendants of these features will be carried out by the Project Proponent.	To preserve the directly impacted sites by record prior to their removal / relocation	Project Proponent/ Contractor	Entrance Gate of HKT03, KT16, KT17 and KT18	Prior to Removal / Relocation of features before commencement of construction works	N/A
S11.6.2	CH5-DP4	<u>Undertaking baseline condition survey and baseline vibration impact assessment</u> In case any potential vibration impact on any nearby built heritage features are identified during the pre-construction stage of the Project, prior to commencement of construction works, a baseline condition survey and baseline vibration impact assessment should be conducted by a qualified building surveyor or a qualified structural engineer to define the vibration limit (a vibration limit at 15mm/s could be adopted for historic buildings) and to evaluate if construction vibration monitoring and structural strengthening measures are required during construction	To minimize the vibration impacts during preconstruction stage on any identified potential vibration impacted built heritage features	Project Proponent/ Contractor	HKT03 (Main Building) and G308	Preconstruction stage before commencement of construction works	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		phase so as to ensure the construction performance meets with the vibration standard stated in the EIA report.					
S11.6.2	CH6-DP4	<u>Relocation of Built Heritages</u> Relocation of built heritages to a reasonable location nearby may be required.	To preserve the directly impacted sites by relocation	Project Proponent/ Contractor	Entrance Gate of HKT03	After the photographic and cartographic records and before commencement of construction works	N/A
<b>Cultural Heritage (Construction Phase)</b>							
S11.6.2	CH7-DP4	<u>Conducting Construction Vibration Monitoring and Structural Strengthening Measures</u> Construction vibration monitoring and structural strengthening measures should be conducted during Construction phase based on the assessment result of baseline condition survey and baseline vibration impact assessment, so as to ensure the construction performance meets with the vibration standard stated in the EIA report.	To minimize the potential impacts during Construction phase on any identified potential vibration impacted built heritage features	Contractor	Identified potential vibration impacted built heritage features	Construction phase, with details specified in baseline condition survey and baseline vibration impact assessment,	N/A
<b>DP5- New sewage pumping stations (SPSs) in KTN NDA</b>							
<b>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</b>							
S.12.B9	S.12.B9	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to. With regard to topsoil, where identified, it should be stripped, treated		Detailed Design Consultant/ Contractor/	Throughout NDAs,	Prior to Construction, Construction & for all planting,	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.				this should be installed as soon as the areas become available, to achieve early establishment	
S.12.B9 MM1	LV2- DP5	Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.	Reduce topographical changes and minimize land resumption	Government / Detailed Design Consultant/ Contractor/	Throughout NDAs, particularly for reservoirs	Prior to Construction	N/A
S.12.B9 MM2	LV3- DP5	Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form,	Improve visual amenity of the new buildings, NDAs in	Detailed Design Consultant/	Throughout NDAs	Throughout NDAs	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines.</p> <p>All Noise barriers, particularly noise barriers but also any barriers proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a designed as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated Construction time frame should also be considered.</p>	general and integrate as best possible into the surrounding landscape				
S.12.B9 MM4	LV4- DP5	<p>Tree Protection &amp; Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction.</p> <p>In particular OVTs will be preserved according to ETWB Technical Circular</p>	<p>Protect and Preserve  Trees</p>	<p>Government  Detailed Design</p>	Onsite	<p>Prior to Construction  and</p>	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>(Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.</p>		Consultant/ Contractor		Construction Phase	
S.12.B9 MM5	LV5- DP5	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p>	Transplant Trees where suitable for transplantation	Government  Detailed Design Consultant/ Contractor	Onsite where possible.  Otherwise consider offsite location.	Prior to Construction,, Construction Phase & Maintenance in Operation Phase	N/A



EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 „Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit“ should be referred to.					
S.12.B9 MM6	LV6- DP5	Slope Landscaping – Site formation should be reduced as far as possible.  Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.  In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011- Technical Guidelines on Landscape Treatment for Slopes.	To avoid substantial slope cutting and fill slopes.  To prevent erosion and subsequent loss of landscape resources and character.  To ensure man-made slopes are as visually amenable as possible.	Government/  Detailed Design Consultant/	Onsite	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.B9 MM7	LV7- DP5	Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.  Compensatory planting is proposed at the potential open areas such as open	Compensate for trees and shrubs lost due to the Project.	Government/  Detailed Design Consultant/  Contractor	Onsite where possible.  Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.  Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i> , <i>Diospyros vaccinioides</i> , <i>Gardenia jasminoides</i> , <i>Ixora chinensis</i> , <i>Ligustrum sinense</i> , <i>Litsea rotundifolia</i> , <i>Melastoma dodecandrum</i> , <i>Atalantia buxifolia</i> , <i>Rhodomyrtus tomentosa</i> , <i>Raphiolepis indica</i> , and <i>Rhododendron simsii</i> are suggested.					
S.12.B9 MM8	LV8-DP5	Woodland Compensatory Planting –Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.  The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 & E27 also).  Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i> , <i>Bischofia javanica</i> , <i>Castanopsis fissa</i> , <i>Celtis sinensis</i> , <i>Cinnamomum burmannii</i> , <i>Cinnamomum camphora</i> , <i>Xanthoxylum</i>	Reprovide areas of woodland to compensate for those areas of quality woodland lost.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	In areas identified in the EIA Landscape Mitigation Plans and as agreed with AFCD	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p><i>avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>. In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomyrtus omentosa</i>, <i>Raphiolepis indica</i>, and <i>Rhododendron simsii</i>.</p> <p>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</p>					
S.12.B9 MM9	LV9- DP5	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government / Detailed Design Consultant/ Contractor	<i>On appropriate structures</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
S.12.B9 MM10	LV10-DP5	Green Roof – Roof greening where appropriate should be established on proposed buildings as per the guidelines stated. These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable.	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels. Provide greening.	Government / Detailed Design Consultant/ Contractor	<i>On appropriate buildings</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.B9 MM11	LV11-DP5	Screen Planting – Tall screen/buffer trees and shrubs should be implanted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Detailed Design Consultant/ Contractor	<i>Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.B9 MM14.3	LV12-DP5	Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the	Minimize the necessity of watercourse modification, protect watercourses where possible and enhance channelized watercourses	Government / Detailed Design Consultant/ Contractor	<u>Channelized watercourse, particularly the Ma Wat River Channel Diversion</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and that the channel meets all its requirements for water flow, etc.  For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.					
<b>Landscape and Visual (Construction)</b>							
S.12.B9 MM16	LV13- DP5	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, nonreflective, recessive colours be used.  Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	To screen undesirable views of the works site.	Contractor	<i>Throughout NDAs</i>	Construction Phase	N/A
S.12.B9 MM17	LV14- DP5	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.  Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	<i>Throughout NDAs</i>	Construction and Operation Phases	^
<b>Ecology (Construction Phase)</b>							
S.13.9	E1-DP5	Design and erection of 2m high solid dull green site barrier fence	Minimize dust,	Contractor.	<i>Interface</i>	Construction phase.	N/A

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		between active works areas and all areas/habitats of ecological importance.	disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna.		<i>between areas/habitats of ecological importance and works areas (all sides of KTN area F1-2).</i>		
<b><i>DP7-Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works (SWHSTW)</i></b>							
<b><i>Landscape and Visual (Construction Phase and Operational Phase)</i></b>							
S.12.9 MM4	LV1- DP7	Tree Protection & Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.  A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of	Protect and Preserve Trees	Government /  Detailed Design Consultant/ Contractor	<u>Onsite</u>	Prior to Construction and Construction Phase	N/A



EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		tree protection measures for those trees to be retained.					
S.12.9 MM9	LV2-DP7	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. building edges, piers).	Soften hard surfaces and facilities	Government / Detailed Design Consultant/ Contractor	<i>On appropriate structures</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.9 MM10	LV3-DP7	Green Roof – Roof greening where appropriate should be established on proposed buildings as per the guidelines stated.  These guidelines provide further details including information regarding structural loading, design, maintenance, etc. considerations as well as providing information on what types of plants might be suitable.	Reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels. Provide greening.	Government / Detailed Design Consultant/ Contractor	<i>On appropriate buildings</i>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
<b>DP10- Fanling Bypass Eastern Section (New Road)</b>							
<b>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</b>							
S.12.D9	LV1-DP10	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.  With regard to topsoil, where identified, it should be stripped, treated		Detailed Design Consultant/ Contractor	<i>Throughout NDAs.</i>	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.				available, to achieve early establishment	
S.12.D9 MM1	LV2- DP10	Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.	Reduce topographical changes and minimize land resumption	Government/ Detailed Design Consultant/ Contractor	<u>Throughout NDAs, particularly for reservoirs</u>	Prior to Construction	N/A
S.12.D9 MM4	LV3- DP10	Tree Protection & Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any	Protect and Preserve Trees	Government/ Detailed Design Consultant/ Contractor	<u>Onsite</u>	Prior to Construction and Construction Phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		works adjacent to all retained trees, including trees in Contractor's works areas.  A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.					
S.12.D9 MM5	LV4- DP10	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be</p>	Transplant Trees where suitable for transplantation	Government/ Detailed Design Consultant/ Contractor	<u>Onsite where possible.</u>  <u>Otherwise consider offsite locations</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		referred to.					
S.12.D9 MM6	LV5- DP10	<p>Slope Landscaping – Site formation should be reduced as far as possible. Seeding of modified slopes should be done as soon as grading works are completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To avoid substantial slope cutting and fill slopes.</p> <p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	Government/ Detailed Design  Consultant/ Contractor	<u>Onsite</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.D9 MM7	LV6- DP10	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p> <p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.</p> <p>Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma</i></p>	Compensate for trees and shrubs lost due to the Project.	Government/ Detailed Design  Consultant/ Contractor	<u>Onsite where possible.</u> <u>Otherwise consider offsite locations</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

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		<i>dodecandrum, Atalantia buxifolia, Rhodomyrtus tomentosa, Rhaphiolepis indica, and Rhododendron simsii</i> are suggested.					
S.12.D9 MM8	LV7- DP10	<p>Woodland Compensatory Planting –Specific Woodland compensatory planting is proposed for any areas of quality woodland that are unavoidably affected by the Project. The location and design of the woodland compensatory planting will principally be within habitats of lower value such as upland grassland. The proposed locations are identified, for example, on the foothills of Tai Shek Mo, and on the higher ground of Fung Kong Shan in KTN NDA; along Fanling Bypass; and a small area in the northern FLN NDA.</p> <p>The intention of the compensatory woodland will be to recreate areas of quality woodland, not necessarily to compensate for loss of trees on a like for like basis (See E18 &amp; E27 also).</p> <p>Native tree species are suggested for planting in the appropriate locations, including <i>Ailanthus fordii</i>, <i>Bischofia javanica</i>, <i>Castanopsis fissa</i>, <i>Celtis sinensis</i>, <i>Cinnamomum burmannii</i>, <i>Cinnamomum camphora</i>, <i>Xanthoxylum avicennae</i>, <i>Hibiscus tiliaceus</i>, <i>Liquidambar formosana</i>, <i>Sapium discolor</i>, <i>Schefflera heptaphylla</i> and <i>Ilex rotunda</i>. In addition some understory vegetation may be planted including shrubs such as <i>Atalantia buxifolia</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma malabathricum</i>, <i>Melastoma dodecandrum</i>, <i>Rhodomyrtus tomentosa</i>,</p>	Reprovide areas of woodland to compensate for those areas of quality woodland lost.	Project Proponent/ Detailed Design Consultant/ Contractor/ Maintenance Authority	<u><i>In areas identified in the EIA Landscape Mitigation Plans and as agreed with AFCD</i></u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

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		<i>Rhaphiolepis indica, and Rhododendron simsii.</i> <i>The area allocated for compensatory woodland planting allows in part for the fact that it will take some time for the compensatory planting to achieve the landscape and ecological function and value of the area to be lost. In addition, it allows for the fact that not all of the areas identified for planting will prove to be plantable, by virtue of topography and ground conditions and, especially, because though the areas identified are largely grassland it is inevitable that these areas will already support some patches of trees and shrubs which would be inappropriate for further planting.</i>					
S.12.D9 MM9	LV8- DP10	Vertical Greening – Planting of climbers to grow up vertical surfaces were appropriate (e.g. viaduct piers, noise barriers).	Soften hard surfaces and facilities	Government/ Detailed Design Consultant/ Contractor	<u>On appropriate structures</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.D9 MM11	LV9- DP10	Screen Planting – Tall screen/buffer trees and shrubs should be planted. This measure may additionally form part of the compensatory planting.	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government/ Detailed Design Consultant/ Contractor	<u>Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.</u>	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.D9M	LV10-	Road Greening –For viaducts, soft landscaping should be provided to	To soften the hard, straight	Government/	<u>On viaducts or</u>	Prior to Construction,	N/A



EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
M12	DP10	soften the hard, straight edges (for climbers used to cover the vertical, hard surfaces of the piers – see MM9 Vertical Greening) and shade tolerant plants should be planted, where light is sufficient, to improve aesthetic value of areas under viaducts. Both at grade planting and use of elevated planters should be considered for the soft landscaping of viaducts, taking into account the preference to minimize the overall viaduct bulk and integrate architectural forms and textural finishes which improve aesthetics.  For at grade roads, planting should be considered along central dividers and on road islands e.g. in the middle of roundabouts. (Roadside planting i.e. at the road edge and not in the central divider or road island, is considered part of Screen Planting)	edges and provide greening along roads.	Detailed Design  Consultant/  Contractor	<u>along roads.</u>	Construction Phase &  Maintenance in  Operation Phase	
S.12.D9 MM14.3	LV11- DP10	Enhancement Planting along Embankment - For channelized watercourses, if these are modified, the Drainage Services Department Practice Note No.1/2005 – Guidelines on Environmental Considerations for River Channel Design, should be considered and appropriate mitigation measures included ensuring the new watercourses match the existing as far as possible. Measures can include enhancement planting to upgrade the channels as appropriate, including consideration of wetland planting along embankments where appropriate; as well as consideration of the best materials for the channel lining (e.g. gabion). All measures must also ensure any necessary maintenance work can be carried out and	Minimize the necessity of watercourse modification, protect watercourses where possible and enhance channelized watercourses	Government/  Detailed Design  Consultant/  Contractor	<u>Channelized</u>  <u>watercourse,</u>  <u>particularly the</u>  <u>Ma Wat River</u>  <u>Channel</u>  <u>Diversion</u>	Prior to Construction,  Construction Phase &  Maintenance in  Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		that the channel meets all its requirements for water flow, etc.  For example, a stretch of the Ma Wat River Channel in the south of FLN NDA will have to be diverted for the construction of the Fanling Bypass Eastern Section. This measure will be particularly relevant in this area.					
<b>Landscape and Visual (Construction)</b>							
S.12.D9 MM16	LV12- DP10	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, non-reflective, recessive colours be used.  Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	To screen undesirable views of the works site.	Contractor	<u>Throughout NDAs</u>	Construction Phase	^
S.12.D9 MM17	LV13- DP10	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.  Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	<u>Throughout NDAs</u>	Construction and Operation phases	^
<b>Ecology (Detailed Design, Construction and Operational Phases)</b>							
S13.8	E1- DP10	Use opaque, non-transparent, non-reflective noise barriers. Unnecessary lighting should be avoided.	Minimize mortality impacts on birds.	Detailed Design Consultant/	<u>Throughout NDAs</u>	Detailed design, construction and	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
				Contractor Maintenance Authority.		Operation phases.	
<b>Ecology (Construction Phase)</b>							
S13.9	E3-DP10	Lower reaches of Siu Hang San Tsuen Stream to have 10m wide vegetated buffer in Open Space Zone D1-3 and Fanling Bypass to cross stream on viaduct.	Minimize impacts on Siu Hang San Tsuen Stream and stream fauna.	Contractor.	<u>FLN area D1-3.</u>	Construction phase.	N/A
S.13.9	E4-DP10	Design and erection of 2m high solid dull green site barrier fence between active works areas and all areas/habitats of ecological importance.	Minimize dust, disturbance, mortality and other adverse ecological impacts on habitats, flora and fauna. Measures to minimize flight-line impacts to birds, especially breeding ardeids.	Contractor.	<u>Interface between areas/habitats of ecological importance and works areas (all of the north side of the Bypass works areas west of interchange with Sha Tau Kok Road).</u>	Construction phase.	N/A
<b>Cultural Heritage (Construction Phase)</b>							
S11.6.2	CH4-DP10	<u>Conducting Construction Vibration Monitoring and Structural Strengthening Measures</u> Construction vibration monitoring and structural strengthening measures	To minimize the potential impacts during Construction phase on any	Contractor.	<u>Identified potential vibration impacted built</u>	Construction phase, with details specified in baseline condition	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		should be conducted during Construction phase based on the assessment result of baseline condition survey and baseline vibration impact assessment, so as to ensure the construction performance meets with the vibration standard stated in the EIA report.	identified potential vibration impacted built heritage features		<i>heritage features</i>	survey and baseline vibration impact assessment,	
<b><i>DPI2-Reprovision of temporary wholesale market in FLN NDA</i></b>							
<b><i>Landscape and Visual (Detailed Design, Prior to Construction, Construction and Operational Phases)</i></b>							
S.12.D9	LV1-DP12	General Good Practice Measures - For areas unavoidably disturbed by the Project on a short term basis e.g. works areas, the general principle to try and restore these to their former state to suit future land use, should be adhered to.  With regard to topsoil, where identified, it should be stripped, treated appropriately, and where suitable and practical stored for re-use in the construction of the soft landscape works such as roadside amenity strips, and open space sites.		Detailed design consultant/ Contractor	Throughout NDAs,	Prior to Construction, Construction & for all planting, this should be installed as soon as the areas become available, to achieve early establishment	N/A
S.12.D9 MM1	LV2-DP12	Minimum Topographical Change –To minimize landscape and visual impacts, the footprint and elevation of such elements should be optimized to reduce topographical/ landform changes, as well as reduce land take and interference with natural terrain. Where there is a need to significantly cut into the existing landform, retaining walls should be considered as well as cut slopes, to minimize landform changes and land resumption, while also considering visual amenity. Earthworks and	Reduce topographical changes and minimize land resumption	Government / Detailed Design Consultant/ Contractor	Throughout NDAs, particularly for reservoirs	Prior to Construction	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		engineered slopes should be designed to be a visually interesting landform, compatible with the surrounding landscape and to mimic the natural contouring and terrain e.g. introduction and continuation of natural features such as spurs and ridges where appropriate, to support assimilation with the hillside setting.					
S.12.D9 MM2	LV3- DP12	Detailed Design (Visual) –The footprint and massing of development components and the works area should also be kept to a practical minimum and the detailed design of development components for Construction phase should follow the Sustainable Building Design Guidelines. The form, textures, finishes and colours of the proposed development components should aim to be compatible with the existing surroundings. To improve visual amenity designs should be aesthetically pleasing and treatment of structures also improve visual amenity. For example, natural building materials such as stone and timber, should be considered for architectural features, and light earthy tone colours such as shades of green, shades of grey, shades of brown and off-white should also be considered to reduce the visibility of the development components, including all roadwork, buildings and noise barriers. In addition, the design of structures should consider green roofs were feasible, following stated guidelines.  All Noise barriers, particularly noise barriers but also any barriers	Improve visual amenity of the new buildings, NDAs in general and integrate as best possible into the surrounding landscape	Detailed Design Consultant	Throughout NDAs	Prior to Construction	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>proposed for ecological impact mitigation, should be kept to a practical minimum, and be of such a design as to integrate as well as possible into the surrounding visual context and be as low as practical to minimize blocking views. Noise barrier design, including vertical, cantilever or curved, and noise enclosures including semi-enclosure and full enclosure, at grade and/ or elevated, should follow the guidelines stated.</p> <p>Construction time frame should also be considered and designs seek to keep it to a practical minimum.</p>					
S.12.D9 MM4	LV4- DP12	<p>Tree Protection &amp; Preservation – Existing trees to be retained within the Project Site should be carefully protected during construction. In particular OVTs will be preserved according to ETWB Technical Circular (Works) No. 29/2004. Detailed Tree Protection Specification shall be provided in the Contract Specification. Under this specification, the Contractor shall be required to submit, for approval, a detailed working method statement for the protection of trees prior to undertaking any works adjacent to all retained trees, including trees in Contractor's works areas.</p> <p>A detailed tree survey will be carried out for the Tree Removal Application (TRA) process which will be carried out at the later detailed design stage of the Project. The detailed tree survey will propose which</p>	Protect and Preserve Trees	Government / Detailed Design Consultant/ Contractor	Onsite	Prior to Construction and Construction Phase	N/A



EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		trees should be retained, transplanted or felled and will include details of tree protection measures for those trees to be retained.					
S.12.D9 MM5	LV5- DP12	<p>Tree Transplantation – Trees unavoidably affected by the Project works should be transplanted where practical. Trees should be transplanted straight to their final receptor site and not held in a temporary nursery as far as possible. A detailed Tree Transplanting Specification shall be provided in the Contract Specification, where applicable. Sufficient time for necessary tree root and crown preparation periods shall be allowed in the project programme.</p> <p>A detailed transplanting proposal will be submitted to relevant government departments for approval in accordance with ETWBTC 2/2004 and 3/2006 and final locations of transplanted trees should be agreed prior to commencement of the work.</p> <p>For trees associated with highways e.g. roadside planting along highways, that are unavoidably affected and should be transplanted, HyD HQ/GN/13 'Interim Guidelines for Tree Transplanting Works under Highways Department's Vegetation Maintenance Ambit' should be referred to.</p>	Transplant Trees where suitable for transplantation	Government / Detailed Design Consultant/ Contractor	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
S.12.D9 MM6	LV6- DP12	<p>Slope Landscaping – Site formation should be reduced as far as possible.</p> <p>Seeding of modified slopes should be done as soon as grading works are</p>	To avoid substantial slope cutting and fill slopes.	Government / Detailed Design	Onsite	Prior to Construction, Construction Phase &	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<p>completed to prevent erosion and subsequent loss of landscape resources and character. Woodland tree seedlings and/ or shrubs should be planted where slope gradient and site conditions allow.</p> <p>In addition, landscape planting should be provided for the retaining structures associated with modified slopes where conditions allow. All slope landscaping works should comply with GEO Publication No. 1/2011-Technical Guidelines on Landscape Treatment for Slopes.</p>	<p>To prevent erosion and subsequent loss of landscape resources and character.</p> <p>To ensure man-made slopes are as visually amenable as possible.</p>	Consultant/ Contractor		Maintenance in Operation Phase	
S.12.D9 MM7	LV7- DP12	<p>Compensatory Planting – Compensatory tree planting for felled trees shall be provided to the satisfaction of relevant Government departments. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Removal Application process under ETWBTC 3/2006.</p> <p>Compensatory planting is proposed at the potential open areas such as open spaces, amenity areas, open areas of the streetscapes, as well as the open areas within development lots.</p> <p>Compensatory planting for shrubs should be considered in suitable locations. Native species such as <i>Melastoma malabathricum</i>, <i>Diospyros vaccinioides</i>, <i>Gardenia jasminoides</i>, <i>Ixora chinensis</i>, <i>Ligustrum sinense</i>, <i>Litsea rotundifolia</i>, <i>Melastoma dodecandrum</i>, <i>Atalantia buxifolia</i>,</p>	Compensate for trees and shrubs lost due to the Project.	Government / Detailed Design Consultant/ Contractor	Onsite where possible. Otherwise consider offsite locations	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
		<i>Rhodomyrtus tomentosa</i> , <i>Rhaphiolepis indica</i> , and <i>Rhododendron simsii</i> are suggested.					
S.12.D9 MM11	LV8- DP12	Screen Planting – Tall screen/buffer trees and shrubs should be planted.  This measure may additionally form part of the compensatory planting	To screen proposed structures such as roads and buildings. Improve compatibility with the surrounding environment and create a pleasant pedestrian environment	Government / Detailed Design Consultant/ Contractor	Along roads, around suitable built structures, or around VSRs to contain their view out to the NDA structures.	Prior to Construction, Construction Phase & Maintenance in Operation Phase	N/A
<b>Landscape and Visual (Construction)</b>							
S.12.D9 MM16	LV9- DP12	Screen Hoarding –Screen hoarding shall be erected along areas of the construction works site boundary where the works site borders publically accessible routes and/or is close to visually sensitive receivers (VSRs). It is proposed that the screening be compatible with the surrounding environment and where possible, nonreflective, recessive colours be used.  Any works areas near the ecological sensitive areas should erect 2m high dull green site boundary fence. Details can refer to the ecological impact assessment (Chapter 13 of the EIA report).	To screen undesirable views of the works site.	Contractor	Throughout NDAs	Construction Phase	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures (What Measures)	Objectives of the recommended Measures & Main Concerns to address (What Requirements)	Who to implement the measures? (Who)	Location of the measures (Where)	When to Implement the measures? (When)	Implementation Status
S.12.D9 MM17	LV10- DP12	Light Control – Construction day and night time lighting should be controlled to minimize glare impact to adjacent VSRs during the Construction phase.  Street and night time lighting shall also be controlled to minimize glare impact to adjacent VSRs during the operation phase.	To minimize glare impact to adjacent VSRs	Government / Contractor	Throughout NDAs	Construction and Operation Phases	N/A

**Implementation status:**

- ^ Mitigation measure was fully implemented
- \* Observation/reminder was made during site audit but improved/rectified by the contractor
- # Observation/reminder was made during site audit but not yet improved/rectified by the contractor
- X Non-compliance of mitigation measure
- Non-compliance but rectified by the contractor

N/A Not Applicable at this stage as no such site activities were conducted in the reporting period

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**APPENDIX R**  
**WASTE GENERATION IN THE**  
**REPORTING MONTH**

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Name of Department: Civil Engineering and Development Department

**Monthly Summary Waste Flow Table for 2022**

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete (a)	Reused in the Contract (b)	Reused in Other Projects (c)	Disposed as Public Fill (d)	Imported Fill (e)	Metals	Paper / Cardboard Packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
January	17.001	0.000	9.565	4.775	2.661	1.060	0.004	0.278	0.004	47.200	1.918
February	6.211	0.000	5.760	0.000	0.451	0.496	0.000	0.178	0.000	129.600	2.085
March	8.648	0.000	7.500	0.832	0.316	0.273	0.000	0.225	0.000	70.800	2.408
April	15.315	0.000	13.017	0.875	1.423	0.000	0.000	0.000	0.000	185.558	2.248
May	11.397	0.000	9.052	0.126	2.219	3.002	0.000	0.262	0.000	90.900	1.775
June	3.683	0.000	1.718	0.949	1.016	0.184	0.000	0.000	0.000	0.000	0.581
Sub-total	62.255	0.000	46.612	7.557	8.086	5.015	0.004	0.943	0.004	524.058	11.015
July	9.751	0.000	9.633	0.000	0.118	4.907	0.000	0.365	0.000	0.000	2.845
August	4.224	0.000	4.224	0.000	0.000	2.901	0.000	0.278	0.000	0.000	1.424
September	9.826	0.000	9.803	0.000	0.023	0.558	4.873	0.337	0.002	183.600	1.042
October	7.753	0.000	7.753	0.000	0.000	3.905	0.012	0.527	0.009	0.000	1.735
November	1.609	0.000	0.940	0.000	0.669	4.350	0.035	0.375	0.004	0.000	0.409
December	3.875	0.000	2.236	0.000	1.639	6.315	0.004	0.435	0.007	0.000	0.806
Total	99.293	0.000	81.201	7.557	10.535	27.951	4.928	3.260	0.026	707.658	19.276



Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper / Cardboard Packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
1,310.619	300.000	1,010.619	0.000	0.000	0.000	20.000	10.000	20.000	0.500	10.000

- Notes: (1) The performance target are given in PS Clause 1.115(14)  
(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.  
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material  
(4) The Contractor shall also submit the latest forecast of the amount of C&D materials expected to be generated from the Works, together with a break down of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m<sup>3</sup>.  
(5) Conversion factors for reporting purpose:  
in-situ: rock = 2.5 tonnes/m<sup>3</sup>; soil = 2.0 tonnes/m<sup>3</sup>  
excavated: rock = 2.0 tonnes/m<sup>3</sup>; soil = 1.8 tonnes/m<sup>3</sup>  
broken concrete and bitumen = 2.4 tonnes/m<sup>3</sup>  
C&D Waste = 0.9 tonnes/m<sup>3</sup>  
Slurry = 1.0 tonnes/m<sup>3</sup>  
(6) Numbers are rounded off to the nearest three decimal places  
\* Forecast  
(7) Total Quantity Generated = a+b+c+d



俊和 - 群利聯營體  
CW - KL JV

Name of Department: CEDD

## Appendix F

Contract No.: ND/2019/02

Year **2022**

**Waste Flow Table**

Month	Total Quantity Generated (a) = (c)+(d)+(e)	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-Inert C&D Wastes Generated Monthly				
		Hard Rock and Large Broken Concrete (b)	Reused in the Contract (c)	Reused in other Projects (d)	Disposed as Public Fill* (e)	Imported Fill (f)	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse#
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
Jan	252.48	0.00	0.00	0.00	252.48	576.91	0.00	0.00	0.00	0.00	8.24
Feb	8.76	0.00	0.00	0.00	8.76	0.00	0.00	0.00	0.00	0.00	9.34
Mar	2,193.94	0.00	0.00	102.40	2,091.54	0.00	0.00	0.00	0.00	0.00	47.52
Apr	9,471.29	0.00	0.00	9,327.00	144.29	0.00	0.00	0.00	0.00	0.00	18.03
May	2,431.62	0.00	0.00	2,431.62	0.00	0.00	0.00	0.00	0.00	0.00	18.09
June	47.93	0.00	0.00	0.00	47.93	0.00	0.00	0.00	0.00	0.00	18.86
<b>Sub-total</b>	<b>14,406.02</b>	<b>0.00</b>	<b>0.00</b>	<b>11,861.02</b>	<b>2,545.00</b>	<b>576.91</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>120.08</b>
July	4,941.13	0.00	0.00	4,941.13	0.00	0.00	0.00	0.00	0.00	0.00	108.05
Aug	3,500.06	0.00	0.00	3,500.06	0.00	0.00	0.00	0.00	0.00	0.00	67.79
Sept	8,302.23	0.00	0.00	8,302.23	0.00	0.0	0.000	0.00	0.00	0.00	78.31
Oct	6,849.25	0.00	0.00	6,849.25	0.00	0.00	0.00	0.00	0.00	0.00	23.60
Nov	1,166.53	0.00	0.00	1,166.53	0.00	0.00	0.00	0.00	0.00	0.00	71.36
Dec	3,738.79	0.00	0.00	3,738.79	0.00	0.00	0.00	0.00	0.00	0.00	129.16
<b>Sub-total</b>	<b>28,497.99</b>	<b>0.00</b>	<b>0.00</b>	<b>28,497.99</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>478.27</b>
<b>Total</b>	<b>42,904.01</b>	<b>0.00</b>	<b>0.00</b>	<b>40,359.01</b>	<b>2,545.00</b>	<b>576.91</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>598.35</b>

Notes:

- (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- (3) Broken concrete for recycling into aggregates.

Forecast of Total Quantities of C&D Materials to be Generated from the ND/2019/02											
Forecast Made at the End of the Project	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemicals Waste	Others, e.g. general refuse
									(see Note 2)		
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
Total:	234,210	8,400	2,500	0	231,710	600	100	1.0	0.5	0.5	375

Name of Department: CEDD

Contract No.: ND/2019/03

### Monthly Summary Waste Flow Table for **2019** (Year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	-	-	-	-	-	-	-	-	-	-	-
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-
Sub-total	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sept	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	0	0	0	0	0	0	0	0	0	0	0
Total	-	-	-	-	-	-	-	-	-	-	-

\*Remark: Imported Fill not taken into account of Total Quantity Generated

#Revised Figure

Name of Department: CEDD

Contract No.: ND/2019/03

### Monthly Summary Waste Flow Table for **2020** (Year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0	0	0	0	0	0	0	0	0	0	0
Feb	0	0	0	0	0	0	0	0	0	0	0.01
Mar	0	0	0	0	0	0	0	0	0	0	0.004
Apr	0	0	0	0	0	0	0	0	0	0	0.038
May	0	0	0	0	0	0	0	0	0	0	0.004
June	0	0	0	0	0	0	0	0	0	0	0.015
Sub-total	0	0	0	0	0	0	0	0	0	0	0.071
July	0	0	0	0	0.1	0	0	0	0	0	0.03
Aug	0	0	0	0	0	0	0	0	0	0	0
Sept	0	0	0	0	0	0	0	0	0	0	0
Oct	0	0	0	0	0.08	0	0	0	0	0	0
Nov	0.18	0	0	0	0.08	0	0	0	0	0	0.1
Dec	0.578	0	0	0	0.54	0	0	0	0	0	0.038
Total	1.077	0	0	0	0.8	0	0	0	0	0	0.277

\*Remark: Imported Fill not taken into account of Total Quantity Generated

#Revised Figure

Contract No.: ND/2019/03

Name of Department: CEDD

### Monthly Summary Waste Flow Table for 2021 (Year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	0.83	0	0	0.22	0.61	0	0	0	0	0	0.075
Feb	0	0	0	0	0	0.096	0	0	0	0	0.022
Mar	0.56	0	0	0	0.56	0.26	0	0	0	0	0.15
Apr	0.68	0	0	0	0.68	0.30	0	0	0	0	0.31
May	0.66	0	0	0	0.66	0.15	0	0	0	0	0.21
Jun	0.11	0	0	0	0.11	0.30	0	0	0	0	0.19
Sub-Total	2.84	0	0	0.22	2.62	1.106	0	0	0	0	0.957
Jul	0.26	0	0	0	0.26	0.14	0	0	0	0	0.178
Aug	0	0	0	0	0	0.39	0	0	0	0	0.15
Sep	0	0	0	0	0	0.074	11.9	0	0	0	0.132
Oct	0	0	0	0	0	0	0	0	0	0	0.297
Nov	0	0	0	0	0	0	0	0	0	0	1.05
Dec	0.195	0	0	0.015	0.18	0	0	0	0	0	0.098
Total	3.295	-	-	0.235	3.06	1.71	11.9	0	0	0	2.858

\*Remark: Imported Fill not taken into account of Total Quantity Generated

#Revised Figure



Contract No.: ND/2019/03

Name of Department: CEDD

### Monthly Summary Waste Flow Table for 2022 (Year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill*	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
Jan	1.82	0	0	0.38	1.44	0	0	0	0	0	0.09
Feb	0.36	0	0	0.10	0.25	0	0	0	0	0	0
Mar	1.28	0	0	0.25	1.03	0	0	0	0	0	0
Apr	0.36	0	0	0.07	0.29	0	0	0	0	0	0
May	1.46	0	0	0.31	1.15	0	0	0	0	0	0
Jun	0.92	0	0	0	0.92	0	0	0	0	0	0.18
Sub-Total	6.20	0	0	1.11	5.08	0	0	0	0	0	0.27
Jul	0.46	0	0	0	0.46	0	0	0	0	0	0.08
Aug	0.05	0	0	0	0.05	0	0	0	0	0	0
Sep	0.05	0	0	0	0.05	0	0	0	0	0	0
Oct	0.04	0	0	0	0.04	0	0	0	0	0	0
Nov	0.15	0	0	0	0.15	0	0	0	0	0	0
Dec	0.12	0	0	0	0.12	0	0	0	0	0	0
Total	7.07	0	0	1.11	5.95	0	0	0	0	0	0.35

\*Remark: Imported Fill not taken into account of Total Quantity Generated

#Revised Figure

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m <sup>3</sup> )
9	2	1	1	6	10	3	3	1	1	3

\*Remark: Figure to be revised if necessary

Notes:

- (1) The performance targets are given in ETWB Technical Circular PS Clause 6(14).
  - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
  - (4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m<sup>3</sup>. (ETWB Technical Circular PS Clause 5(4)(b) refers).
- [Delete Note (4) and the table above on the forecast, where inapplicable].

Monthly Summary Waste Flow Table for 2022 (Year)

Month	Total Quantity Generated	Actual Quantities of Inert C&D Materials Generated Monthly					Actual Quantities of Non-Inert C&D Wastes Generated Monthly				
		Hard Rock and Large Broken Concrete (a)	Reused in the Contract (b)	Reused in other Projects (c)	Disposed as Public Fill (d)	Imported Fill (e)	Metals (f)	Paper/ cardboard packaging (g)	Plastics (h)	Chemical Waste (i)	Others, e.g. general refuse (j)
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)
Jan	4,848.68	0.00	0.00	0.00	4,804.00	0.00	0.00	0.04	0.00	0.00	44.64
Feb	3,655.87	0.00	0.00	0.00	3,649.51	0.00	0.00	0.04	0.00	0.00	6.32
Mar	7,450.34	0.00	0.00	0.00	7,437.69	0.00	0.00	0.00	0.00	0.00	12.65
Apr	11,735.85	0.00	0.00	0.00	11,710.90	0.00	0.00	0.00	0.00	0.00	24.95
May	9,832.56	0.00	0.00	3,652.34	6,142.44	0.00	0.00	0.00	0.00	0.00	37.78
June	13,563.32	0.00	0.00	1,401.44	12,117.79	0.00	0.00	0.00	0.00	0.00	44.09
Sub-total	51,086.62	0.00	0.00	5,053.78	45,862.33	0.00	0.00	0.04	0.00	0.00	170.43
July	3,907.73	0.00	0.00	0.00	3,853.71	0.00	0.00	0.00	0.00	0.00	54.02
Aug	4,271.42	0.00	0.00	2,193.59	1,976.39	0.00	0.00	0.00	0.00	0.00	101.44
Sept	9,314.59	0.00	0.00	5,760.30	3,433.90	0.00	0.00	0.00	0.00	0.00	120.39
Oct	5,612.08	0.00	0.00	3,023.70	2,498.06	0.00	0.00	0.00	0.00	0.00	90.32
Nov	7,348.49	0.00	0.00	0.00	6,603.98	0.00	0.00	0.00	0.00	0.00	744.51
Dec	7,092.71	0.00	0.00	0.00	6,933.45	0.00	0.00	0.00	0.00	0.00	159.26
Sub-total	37,547.02	0.00	0.00	10,977.59	25,299.49	0.00	0.00	0.00	0.00	0.00	1,269.94
Total	88,633.64	0.00	0.00	16,031.37	71,161.82	0.00	0.00	0.04	0.00	0.00	1,440.37

Notes:

- (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
- (3) Broken concrete for recycling into aggregates.
- (4) Total quantity generated = a+b+c+d+e+f+g+h+i+j

Forecast of Total Quantities of C&D Materials to be Generated from the DCK JV											
Forecast Made at the End of the Project	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemicals Waste	Others, e.g. general refuse
	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(in tonnes)	(see Note 3) (in tonnes)	(in tonnes)	(in tonnes)
	141,782.30	0	10,000	20,000.00	60,000.00	32,200.00	80	0.8	0	1.5	19,500.00

## Monthly Summary Waste Flow Table for 2022 (year)

Name of Person completing the record: Louise Poon (EO)

Project : Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section (Shung Him Tong to Kau Lung Hang)

Contract No.: ND/2019/05

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated (a) = (b)+(c)+(d)+(e)	Hard Rock and Large Broken Concrete (b)	*Reused in the Contract (c)	Reused in other Projects (d)	Disposed as Public Fill (e)	Imported Fill (f)	Metals (g)	Paper/ cardboard packaging/ (h)	Plastics (i) (see Note 3)	Yard Waste (j)	Chemical Waste (k)	Others, e.g. general refuse (l)
	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000m <sup>3</sup> )	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 kg)
Jan-22	4.715	0.000	0.432	0.000	4.283	0.100	95.790	0.818	0.183	36.710	0.000	121.720
Feb-22	5.110	0.000	0.072	0.000	5.038	0.000	0.005	0.033	0.006	39.770	0.000	53.150
Mar-22	3.639	0.000	0.144	0.000	3.495	0.343	0.020	0.385	0.334	91.890	0.000	34.140
Apr-22	2.481	0.000	0.510	0.000	1.971	0.000	2.230	0.000	0.000	0.260	0.000	54.880
May-22	2.588	0.000	0.324	0.000	2.264	0.582	0.048	0.685	0.399	3.090	0.000	70.230
Jun-22	2.694	0.000	0.612	0.353	1.729	0.000	6.277	0.635	0.041	11.540	0.000	55.700
Sub-total	21.227	0.000	2.094	0.353	18.780	1.025	104.370	2.556	0.963	183.260	0.000	389.820
Jul-22	7.613	0.000	0.708	1.635	5.270	0.000	0.016	0.727	0.870	23.410	0.000	73.430
Aug-22	5.874	0.000	1.440	0.454	3.980	0.000	2.164	0.653	0.011	10.750	0.000	77.630
Sep-22	10.128	0.000	3.714	0.398	6.016	0.000	13.776	0.569	0.039	22.250	0.000	144.490
Oct-22	11.409	0.000	3.588	0.018	7.803	0.000	0.043	0.842	0.052	12.160	0.000	149.500
Nov-22	13.231	0.000	5.850	0.000	7.381	0.000	0.024	0.480	0.037	17.830	0.000	124.830
Dec-22	7.207	0.000	3.078	0.000	4.129	0.000	0.013	0.395	0.007	12.000	0.000	50.380
Total in 2022	76.688	0.000	20.472	2.857	53.359	1.025	120.406	6.222	1.979	281.660	0.000	1010.080
Total of the Project since 2020	107.100	0.000	24.477	2.857	79.766	5.110	137.704	9.432	3.820	782.813	24.882	3088.910

\*Approx. estimation for each dump truck is 6m<sup>3</sup>/truck or 12 ton/truck

Total Quantity of Inert C&D Materials Generated: 107.100 (in '000m<sup>3</sup>) (a) = (b) + (c) + (d) + (e)

## Monthly Summary Waste Flow Table for 2022 (year)

Name of Person completing the record: KM LUI (EO)

Project : Fanling North New Development Area, Phase 1: Site Formation and Infrastructure Works

Contract No.: ND/2019/07

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete (a)	Reused in the Contract (b)	Reused in other Projects (c)	Disposed as Public Fill (d)	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse
	(in '000T)	(in '000T)	(in '000T)	(in '000T)	(in '000T)	(in '000T)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 T)
Jan	0.949	0	0	0	0.949	8.930	0.0002	0	0.008	0	0.446
Feb	0.383	0	0	0	0.383	0	0	0	0	0	0.116
Mar	0.575	0	0	0	0.575	0.824	0	0	0	0	0.212
Apr	0.000	0	0	0	0.000	9.905	0	0.251	0	0	0.045
May	0.000	0	0	0	0.000	0.758	0	0	0.001	0	0.016
Jun	0.031	0	0	0	0.031	1.054	0	0	0	0	0.016
Sub-total	1.938	0.000	0.000	0.000	1.938	21.471	0.000	0.251	0.009	0.000	0.851
Jul	0.060	0	0	0	0.060	0.830	0	0	0	0	0.023
Aug	0.030	0	0	0	0.030	2.172	0	0	0	0	0.003
Sep	0.012	0	0	0	0.012	3.925	0	0	0	0	0.014
Oct	0	0	0	0	0	0.630	0	0	0.002	0	0.022
Nov	0	0	0	0	0	0	0	0	0	0	0.023
Dec	0.211	0	0	0	0.211	0	0	0.066	0	0	0.052
Total	5.309	0.000	1.514	0.000	3.795	150.047	0.017	1.763	0.025	212.240	5.649

- Notes:
- (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (2) Plastics refer to plastic bottles/containers, plastic sheets/ foam from packaging materials.
  - (3) Broken concrete for recycling into aggregates.
  - (4) Total Quantity Generated = a+b+c+d..



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**APPENDIX S**  
**COMPLAINT LOG**

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**Appendix S - Complaint Log**

<b>Log Ref.</b>	<b>Location</b>	<b>Received Date</b>	<b>Details of Complaint</b>	<b>Investigation/ Mitigation Action</b>	<b>Status</b>
COM-2020-07-01	Public Road at Portion 6a (ND/2019/01)	13 <sup>th</sup> July 2020	The EPD visit on 13 July 2020 was to respond the complaint received from the 2nd week in July regarding the dust problem in public road of Portion 6a. Mr. Tse (EPD) observed muddy wheel track on the public road, and he expressed that the public road should keep free of mud even it was inside the project area. He also advised BKRWJV (the Contractor) to clean up the muddy wheel track and provide rectified photos to him.	A designated person is provided at the ingress/egress for vehicle washing before the wheel washing facility is in use, this is to make sure all vehicle are free of mud before leaving the site. And, the designated person is also responsible for cleaning the public road if any mud is found on it.	Closed
COM-2020-11-01	Portion 4 and Portion 7 near Dills Corner Garden (ND/2019/01)	11 <sup>th</sup> November 2020	The EPD inspection at Portion 4 on 11 November 2020 was to respond the complaint regarding the dust problem near Dills Corner Garden referred by a District Council Member. No construction activities was carried out and no obvious dust emission was observed. EPD advised BKRWJV (the Contractor) to increase the height of temporary water barrier and install sprinklers on bare ground. Another EPD inspection was conducted on 26 November 2020 at	The height of temporary water barrier was increased at Portion 4. Sprinklers were installed on bare ground at Portion 4 and on top soil at Portion 7. Manual water spraying were provided regularly. Hydroseeding will be provided on soil surface at Portion 4 for long-term measures.  Proper implementation of dust mitigation measures will be continuously reviewed and monitored to avoid potential dust impact on site.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			Portion 7 for the dust complaint. During inspection, no obvious dust emission was observed and potential dust may generate from top soil which appear to be dry. EPD advised the Contractor to install sprinklers on top soil for dust suppression.		
COM-2020-11-02	Works Area A & B (ND/2019/05)	27 <sup>th</sup> November 2020	The complainant complained about the noise generated from the alarm of scissors platform during works for PM's site accommodation on Sunday and called the police force. Police officer has checked that Construction Noise Permit has been applied for the construction work. Also, the complainant complained about the reflective blue color of roof material of site office.	Permit-to-Work system was properly implemented for works at restricted hours. The PME used have been checked in compliance with the valid Construction Noise Permit (CNP No.: GW-RN0788-20). Acoustics mats were erected between works area and noise sensitive receivers. Scissor platform or noisy work activities will be arranged and minimized to be used on Sunday or evening time on weekdays. Specific training for the quieter works arrangement was provided to workers. Also, the blue roof will be covered by non-reflective green roof material.	Closed
COM-2021-01-01	Ma Tso Lung Road (ND/2019/01)	7 <sup>th</sup> January 2021	A complaint regarding soil deposited on Ma Tso Lung Road was referred by EPD verbally.	No soil / mud deposit or mud track were observed along the Ma Tso Lung Road during investigation and site inspection between Contractor, the <i>Supervisor</i> , ET and IEC. The road condition of Ma Tso Lung Road will be closely monitored and the public road will be regularly cleaned if mud deposit was observed. Wheel washing facilities at every site entrance will be regularly monitored to ensure proper implementation of dust control measures.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
COM-2021-01-02	Ma Tso Lung Road (Near L/P VD5622) (ND/2019/01)	13 <sup>th</sup> January 2021	A complaint was received from 1823 regarding the suspected odour emitted from muddy water discharged.	Water sample collected from the wastewater treatment facility was clear and no odour was detected. Sewage from chemical toilet was collected on a regular basis by licensed collector. Brownish wastewater was observed discharging upstream of the site from an unknown factory to the uncharted channel which may be potential source of the odour.	Closed
COM-2021-01-03	CTC Storage Yard (ND/2019/05)	22 <sup>nd</sup> January 2021	A complaint was referred from EPD regarding the noise generated before 7 a.m. on weekdays and machinery noise generated on Sunday from CTC Storage Yard.	No attendance record of workers working for CTC Storage Yard earlier than 8 a.m. and on Sunday (day of complaint) was recorded. To ensure strict compliance to Noise Control Ordinance and prevent noise nuisance to the nearby villages, the Contractor has implemented the following enhancement measures: 1. Issue a memo to the relevant sub-contractor on restricted working hour. 2. Conduct specific training to sub-contractor frontline supervisor and works. 3. Apply a construction noise permit for the suspected location.	Closed
COM-2021-01-04	Ho Sheung Heung (ND/2019/02)	28 <sup>th</sup> January 2021	A complaint was received from 1823 regarding an idling construction vehicle near Ho Sheung Heung to operate the engine for over 10	Ad-hoc training was provided to workers on switching off idling engines when awaiting on site. Poster for “Switching off idling engines” was posted at site entrance to alert workers on the	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			minutes. Also, the complainant complained on noise nuisance from the speaker during meeting.	issue. For noise nuisance from the meeting, the speaker volume in the future event will be lower as much as possible.	
COM-2021-02-01	CTC Storage Yard (ND/2019/05)	4 <sup>th</sup> February 2021	A complaint was received from EPD call on 2 <sup>nd</sup> February 2021 regarding a noise complaint from a Tong Hang villager about noise from CTC storage yard at around 19:00 – 20:00 on 1 <sup>st</sup> February 2021.	The suspected cause of the complaint was the delivery of a rotary drilling rig by a tractor lorry arrived at CTC Storage Yard at around 19:00 at 1 <sup>st</sup> February 2021. The delivery time was restricted due to the oversized tractor lorry (width >2.4m and length protruded >1.4m at tractor tail). No loading and unloading was conducted during the time of complaint.  For follow up action, the Contractor will apply Construction Noise Permit for any foreseeable delivery that may not be finished before restricted hours and will notify possible affected village representatives in advance.	Closed
COM-2021-02-02	CTC Storage Yard (ND/2019/05)	16 <sup>th</sup> February 2021	A complaint was received from EPD call on 10 <sup>th</sup> February 2021 regarding a noise complaint from a Tong Hang villager about some impact noise from CTC Storage yard at Sunday's daytime (7 <sup>th</sup> February 2021).	Under investigation, erection of chain link fence for separating works area and adjacent village house was conducted by a sub-contractor on 7 <sup>th</sup> February 2021 without notification to the Contractor. Sub-contractor has been reminded that any work within site area shall be conducted after instruction by the Contractor and permit-to-work system on restricted hours works shall be strictly followed.	Closed
COM-2021-02-03	CTC Storage Yard (ND/2019/05)	2 <sup>nd</sup> March 2021	A complaint was received from EPD call on 24 <sup>th</sup> February 2021 regarding a noise complaint from a Tong Hang villagers about some machinery noise	Further enhancement on erection of acoustics mats and mobile acoustics mat panels was conducted at strategic location at E1-01 for mitigation of the noise impact to the nearby	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			and dust from CTC Storage yard. Joint site inspection of the Contractor, the <i>supervisor</i> and EPD was conducted on the same day for the bored piling at CTC Storage Yard and check on the noise and dust mitigation measures. EPD requested to enhance noise and dust mitigation measures for grabbing operation of the Rotary Drill Rig for construction of piles of E1-01.	sensitive receivers. Regular water spraying has been applied to suppress the dust from grabbing procedure and the skip.	
COM-2021-03-01	Ma Tso Lung Shun Yee San Tsuen (ND/2019/01)	1 <sup>st</sup> March 2021	A complaint was referred from EPD regarding fly-tipping of C&D waste near Ma Tso Lung Shun Yee San Tsuen and muddy public road.	Under investigation, the suspected site near Shun Yee San Tsuen was out of project site boundary. Internal trip ticket system was properly implemented for dump trucks transported from project site to other approved alternative disposal ground. Also, dump trucks were properly washed and mechanical cover of dump trucks were closed while leaving the site.  For follow up action, banners and flags were displayed on site to promote the environmental protection awareness. Regular training was provided to remind the dump truck drivers that illegal dumping is strictly prohibited.	Closed
COM-2021-03-02	CTC Storage Yard (ND/2019/05)	15 <sup>th</sup> March 2021	A complaint was received from EPD call and an inspection by EPD was conducted on 9 <sup>th</sup> March 2021 regarding a dust complaint from a Tong Hang villager. The complainant	For follow up action, the Contractor provided training to remind frontline supervisors and workers to wet the auger before movement when it was dried for preventing any occasional situation that the auger was dried.	Closed



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			complained that rotary drill rig shall be equipped with enclosure for dust control and rotary drill rig had exhaust disturbance. Also, the complainant requested to improve wheel washing at site entrance.	The Contractor provided training to brief frontline supervisor and the operators to prevent exhaust disturbance. Also, the drill rigs exhaust pipe shall not face to the public area. If it is avoidable, screens shall be arranged to divert the exhaust gas. An additional cut-off drain was constructed and notice signs were erected for notifying drivers to give wheel washing in front of the cut-off drains.	
COM-2021-03-03	Ma Tso Lung Road (ND/2019/01)	9 <sup>th</sup> April 2021	A complaint was referred from EPD on 23 March 2021 regarding muddy public access road along Ma Tso Lung Road.	The muddy access road was found generated from a nearby private factory where the access road is not hard paved. The Contractor arranged water browser to help clean up the section of road on 24 <sup>th</sup> and 25 <sup>th</sup> March 2021 respectively. Also, dump truck were properly washed at project site exit near Ma Tso Lung Road.	Closed
COM-2021-04-01	Long Valley, Kwu Tung (ND/2019/03)	9 <sup>th</sup> April 2021	A complaint was referred from EPD regarding to associated impacts arising from construction works at Long Valley Nature Park, causing nuisance and affecting the habitat and ecological value in Long Valley.	Construction works for development of Long Valley Nature Park are conducted according to the recommended mitigation measures stated in Habitat Creation and Management Plan. Wetland creation and restoration works are in progress which include provision of paddy field, turning abandoned agricultural lands into wet agricultural land and provision of open water habitat with bird island. Irrigation channel is under construction for provision of reliable water supply to farmland.  For construction works, the following significant mitigation measures are implemented: 1. Provide noise barriers to minimize noise nuisance to adjacent field where Greater Painted-	Closed

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				<p>snipe was found;</p> <p>2. Arrange concrete pump for concreting works to minimise noise impact;</p> <p>3. Provide water spraying on the exposed earth to dampen the dusty surface;</p> <p>4. Provide shade cloth to separate works area and marsh where Greater Painted-snipe were found;</p> <p>5. Demarcation of temporary vehicle access to prohibit vehicle across the farmland;</p> <p>6. Provide 2m dull green site boundary fence along Long Valley work areas; and</p> <p>7. Block the main accesses by temporary barrier to avoid human disturbance.</p>	
COM-2021-04-02	Close to junction of Ma Wat River and Ng Tung River (ND/2019/04, ND/2019/05, ND/2019/06)	23 <sup>rd</sup> April 2021	A complaint was referred from EPD regarding to suspected polluting effluent discharged from Ma Wat River near junction of Ma Wat River and Ng Tung River.	<p>Under investigation, muddy water was observed from a small stream of Ma Wat River which is outside project site boundary. Contractor's wastewater treatment facilities and mitigation measures on water quality were checked. Latest discharge monitoring results shows the discharge quality in compliance with the limit stated in the discharge licence.</p> <p>The following mitigation measures will keep implemented and inspected:</p> <p>1. Installation of silt curtain, geotextiles and concrete blocks for excavation works at Ng Tung River with regular inspection;</p> <p>2. Exposed slope paved with concrete to prevent muddy runoff;</p> <p>3. Setting up wastewater treatment plants at</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				several locations of the site area; 4. Bund/seal off works area near river and set up with dewatering system; 5. Spare water pumps and sand bags for emergency use during heavy rain; 6. Regular training to the operators of wastewater treatment facilities; and 7. Regular checking and maintenance of the wastewater treatment facilities and desilting tank.	
COM-2021-04-03	Near Shek Wu San Tsuen, Sheung Shui (ND/2019/04)	28 <sup>th</sup> April 2021	A complaint was referred from EPD regarding to construction dust arising from dump trucks from construction sites near Shek Wu San Tsuen.	No obvious dust emission was observed during EPD inspection on 28 <sup>th</sup> and 29 <sup>th</sup> April 2021, However, potential dust impact may arise from sandy materials found on public road and exposed ground surface.  For follow up action, soil debris were removed at public road. Water spraying was provided on the exposed ground surface. Also, all dump trucks are covered properly and wheel wash is provided before leaving site. Implemented of the mitigation measures will keep reviewed and monitored.	Closed
COM-2021-05-01	Near Tong Hang section of Ma Wat River (ND/2019/05)	17 <sup>th</sup> May 2021	A complaint was referred from EPD regarding to suspected polluting effluent discharged from construction sites near Ma Wat River.	Under investigation, no pollution from works areas near Ma Wat River was observed. For wastewater pollution control, all wastewater treatment facilities have been setup at discharge points. According to the latest discharge monitoring results on April 2021, no non-compliance to limit set in discharge licence was recorded. Regular maintenance and services of the facilities have been conducted. Close monitoring	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				with checklist has been conducted by operators of the facilities. Mitigation measures such as sealing gaps between concrete blocks/water barriers/pipe pile walls have been implemented to prevent leakage. Implementation of the mitigation measures will keep reviewed and closely monitored.	
COM-2021-09-01	Chau Tau Road near the CLP Chau Tau Substation (ND/2019/01)	2 <sup>nd</sup> September 2021	A complaint was referred by EPD and an inspection by EPD was conducted on 3 September 2021 regarding a muddy public access road at Chau Tau Road near the CLP Chau Tau Substation.	<p>Ad-hoc site inspection was conducted on 2 Sep 2021 at Chau Tau Road near the CLP Chau Tau Substation, no muddy wheel track or soil deposit was observed. No concrete lorry was observed using the Chau Tau Road near the CLP Chau Tau Substation.</p> <p>Concreting at Portion 5 was observed during EPD inspection on 3 September 2021, wheel washing bay and manual wheel washing was provided at site exit, all vehicles were properly washed and no muddy track was observed at Chau Tau Road.</p> <p>The Contractor has been implement following mitigation measure upon received the complaint:</p> <ul style="list-style-type: none"> <li>• Rearranged the traffic route and informed the concrete lorry drivers not to use Chau Tau Road;</li> <li>• Keep monitoring the effectiveness of the wheel washing facilities at site exist; and</li> <li>• Clean up the public road immediately if soil deposit was observed.</li> </ul>	Closed

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COM-2021-09-02	Not specified (ND/2019/01)	3 <sup>rd</sup> September 2021	A complaint was referred by EPD regarding C&D waste stored on site.	<p>Refer to the photos provided by the complainant, the mentioned C&amp;D waste mainly felled trees mixed with general refuse and temporary stored within the site boundary, Ad-hoc site inspection was conducted by Contractor and RSS on 3<sup>rd</sup> September 2021, all C&amp;D waste were stored within the site boundary, no odour perceived during site inspection.</p> <p>The Contractor has been implement following mitigation measure upon received the complaint:</p> <ul style="list-style-type: none"> <li>Sort out the non-inert waste from the felled trees;</li> <li>Remove the general refuse if possible, otherwise, coved by tarpaulin sheet; and</li> <li>Relocate or transport the yard waste to other places which are not easy visible by public.</li> </ul> <p>Implementation of the mitigation measures will keep reviewed and closely monitored to ensure no adverse impact will be generated from the construction works of the Project.</p>	Closed
COM-2021-11-01	Close to Shek Wu San Tsuen (ND/2019/04)	3 <sup>rd</sup> November 2021	A complaint was referred from EPD on 22 <sup>th</sup> November 2021, about various issues including suspected environmental nuisances from the captioned Project from a member of public on 3 <sup>rd</sup> Nov 2021. He followed-up again on 19 <sup>th</sup> Nov 2021.	<p>Site inspection was conducted by contractor and EPD inspectors on 25<sup>th</sup> November 2021, no obvious dust emission was observed within site boundary. The potential dust impact may arise from sandy materials found at public road which is under DSD maintenance.</p> <p>Air quality monitoring was carried out at location FLN-DMS1 - Scattered Village</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				<p>Houses North of Proposed Potential Ecopark and Location FLN-DMS5 - Noble Hill near Shek Wu San Tsuen in accordance with the EM&amp;A manual. With reference to the air quality monitoring data collected in Nov 2021, all monitoring data were complied with the action and limit level and no exceedance was recorded.</p> <p>The Contractor has been implement following mitigation measure upon received the complaint:</p> <ul style="list-style-type: none"> <li>• 工程團隊亦已於接近民居並正在進行大型工程(例如建造大口徑樁)位置安裝了各種隔音屏障，例如在大型機器的發電機上加上隔音布、在圍板加上隔音屏障</li> <li>• 增加自動灑水系統</li> </ul>	
COM-2021-12-01	On Kui Street along Ma Wat River (ND/2019/05)	13 <sup>rd</sup> December 2021	AECOM referred to public complaints received by 1823 on 13 December 2021 regarding "中鐵建保華聯營公司粉嶺地盤工人沖建築泥水落河 污染河道。"	<p>Refer to the photo attached in the above complaint, it is suspected that there were bentonite slurry leaking from the flexible pipe joint near works area of pier C2-01 and the cause of incident as blow:</p> <ul style="list-style-type: none"> <li>• Tightness of flexible pipe joint</li> <li>• Worker's awareness and knowledge on proper handling of pipe leakage</li> <li>• Readiness of contingency tools and equipment for the pipe leakage</li> </ul> <p>The Contractor has been implement following mitigation measure upon received the complaint:</p> <ul style="list-style-type: none"> <li>• Doubling pipe clamps at each joint to strengthen the connection tightness and</li> </ul>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				seal <ul style="list-style-type: none"> <li>• Briefing workers for proper spillage handling</li> <li>• Well readiness of contingency tools and equipment for handling of leakage</li> <li>• Designating responsible supervisor for regular pipeline condition check and monitoring</li> <li>• Daily inspection for pipeline condition by responsible supervisors before works</li> <li>• Erection of bunding/sandbags along the works area to effectively stop any potential leakage/surface runoff</li> <li>• Review and updated Environmental Management Plans (EMP) covering Site Specific Procedures for Muddy runoff/leakage Control (See CSF submission, ref. no. CSF/HSE/002115) on 21 Dec 2021</li> <li>• Specific trainings of proper handling of leakage adjacent to the river/drainage for JV managerial and supervisory staff</li> </ul>	
COM-2022-01-01	Close to Shek Wu San Tsuen (ND/2019/04)	13 <sup>rd</sup> January 2022	A complaint was referred from EPD on 14 Jan 2022 from a public member alleged the captioned Project of “我們每個工作天都會受到高噪音和震動的影響，在沒有足夠的保障下，使近距離的民居十分擔心，屋裂有惡化跡象，兒童/長者難有	Contractor have carried out daily noise monitoring and vibration monitoring. No exceedance was recorded. The monitoring results are displayed on the notice board for easy reference. For noise control measures, QPME label are affixed to generators and acoustic noise barriers are mounted on powered mechanical equipments such as	Closed



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			寧靜環境，成人在家中工作、兒童做功課在噪雜的環保下，難以適應，我們很希望受到合理的重視和改善，使實際環境不會太差。”	excavators, crawler cranes and vibration hammers and installed along hoarding to minimize noise nuisance to neighborhood.  Based on the findings of investigation, no exceedance of noise and vibration monitoring was found. Contractor will ensure that the construction works carried out must comply with the condition stated in the Noise Control Ordinance and to implement mitigation measures proposed in the Project Implementation Schedule.	
COM-2022-01-02	Near Sheung Yue River (ND/2019/02)	28 <sup>th</sup> January 2022	A complaint was received from 1823 on 28 Jan 2022 regarding “在雙魚河河邊單車徑附近的工程，一個多月來，當工人沒有工作期間，所有機械都沒有熄匙，當機械運作時，產生很大的噪音及很多廢氣。理解工人有工作時，機械運作是正常，但一個月來工人沒工作時，機械依然運作，產生問題嚴重，要求部門跟進及處理。”	Investigation was conducted by contractor on 4 Feb 2022. All plants are turned off when awaiting more than 3 min. Dark smoke monitoring for the powered mechanical equipment had been carried out. No dark smoke was recorded. Based on the findings of investigation, no exceedance of noise and air monitoring was found.  Follow-up Actions had been conducted on 4 Feb 2022. Mitigation measures are implemented. Dull green barriers are installed around active works areas to prevent dust emitted to the public. QPME is used to minimize noise nuisance to the neighbourhood.  Specific environmental training about Noise and Smoke Control for Plants was provided to frontline staff on 4 Feb 2022. The frontline staff was reminded to switch off idling equipment for	Closed

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				preventing recurrence of idling construction equipment awaiting on site, and carry out routine maintenance of plant and equipment for mitigating unwanted noise and air pollutant emissions.	
COM-2022-02-01	Ng Tung River (ND/2019/04)	17 <sup>th</sup> February 2022	<p>EPD received 2 complaints from members of public about suspected disposal of foam waste and illegal discharge from the captioned Project to Ng Tung River on 13 &amp; 16 Feb 2022 respectively.</p> <p>Details of complaint case received on 13 Feb 2022: 「本人途經唔上水悟洞河近馬屎埔新村附近地盤發現河道有大量懷疑發泡膠影響何到魚類生物, 要求環境保護署或相關部門進行跟進」</p> <p>Details of complaint case received on 16 Feb 2022: 「2022年2月10日下午三時, 發現梧桐河面出現乳白色, 懷疑與附近工程泥漿水有關, 懷疑經雨水渠排出。」</p>	<p>Investigation was conducted by contractor. It is found that no foam has been used on site. No construction works was carried out during 9 Feb to 14 Feb 2022 at A3 piling platform as two suspected close contact cases for A3-02 piling platform team was found. The bored piling works and A3 piling platform welding works was suspended from 9 Feb 2022 and resumed on 14 Feb 2022 after the whole team received negative results.</p> <p>Mitigation measures are implemented, there is a silt curtain enclosing the opened workfronts and the openings of the A3 piling platform. Hence, the platform and other workfronts along the river have no discharge to the river.</p> <p>In addition, it is reported that suspected contaminated water was discharging to Ma Wat River from surrounding industrial buildings near C5 contract site.</p> <p>Based on the findings of investigation, no foam</p>	Closed

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				has been used by on site and no suspected contaminated water was discharged from the project. Thus, the complaint cases are not caused by our project.	
COM-2022-03-01	Near Ho Sheung Heung (ND/2019/02)	2 <sup>nd</sup> March 2022	A complaint was received from EPD on 8 Mar 2022 from a public member regarding "投訴河上鄉鄉公所附近地盤的機器及吊雞車的難嗅氣味滋擾"	<p>Joint inspection for the issue was conducted by AECOM, Environmental team, Contractor on 9 March 2022 and no source of odour was found during the inspection. There was no major works. The area is for temporary soil storage. Only one excavator is at Portion 11. The excavator is well maintained and no bad smell is emitted. Moreover, all plants are checked before used. As per the contract requirement, project must use Euro V diesel in our plants, which is a cleaner fuel than industrial diesel and shall generate less odour. Project regularly conducts diesel sampling and testing to ensure that the used fuel is Euro V diesel. A diesel sampling for the excavator at Portion11 was also conducted on 9 March 2022.</p> <p>Based on the findings of investigation, all plants are well maintained and checked before use. Cleaner fuel is used for plants onsite. No odour was found. CW-KL JV mitigates air pollution from sources to reduce environmental nuisance to the neighbourhood.</p>	Closed
COM-2022-03-02	Near Ho Sheung Heung (ND/2019/02)	23 <sup>rd</sup> March 2022	A complaint was received from EPD on 22 Mar 2022 from a public member regarding "河鄉近洪聖爺廟"	Joint inspection for the issue was conducted by AECOM, Environmental team, Independent Environmental Checker and Contractor on 25 March 2022. There was no major works. The area	Closed

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			<p>有個很大的基建地盤，經常發出很大噪音，包括車輛駛入後停泊時的聲浪，地盤面積有半個摩士公園大，車輛可以泊到其他地方，減少對居民的滋擾，之前亦曾作出相同投訴，有環保署職員跟進，故現堅持要求再次跟進及回覆 "</p>	<p>is for temporary soil storage. A dump truck was at portion 11, but left the site in short time. All dump trucks used in the project would not stay on site overnight and left the site before 6p.m. One excavator and one loader were at Portion 11. No idling crane lorry was at Portion 11. The equipment would be switched off when not in use. Moreover, all our plants are well maintained and checked before used.</p> <p>Noise monitoring around Portion 11 had been conducted on 26, 28 and 29 March 2022 (AM and PM periods) by Contractor with AECOM. The noise levels are lower than the standard of noise requirement for domestic premises (75dB(A)). It was predicted that no noise exceedance would be found at NSRs.</p> <p>Environmental Training related to use of equipment onsite had been provided to site staff to increase their awareness of environmental protection. Posters of mitigating adverse environmental impacts had been fixed at Portion 11 to increase workers' environmental awareness. QR codes for air quality, noise, and water quality monitoring data conducted by Environmental team of the project had been also fixed at Portion 11 for the public's information.</p> <p>Based on the findings of investigation, all plants</p>	

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				are well maintained and checked before use. CW-KL JV mitigates noise pollution from sources to reduce environmental nuisance to the neighborhoods. No noise exceedance is predicted to be found at NSRs. Environmental promotion is given to site staff to increase their awareness of environmental protection.	
COM-2022-06-15	Near Ng Tung River, adjacent to Shek Wu San Tsuen North (ND/2019/04)	5 <sup>th</sup> July 2022	A complaint was received from EPD on 15 June 2022 from a public member regarding “本人住在梧桐河多年，每天都會到河邊兩岸進行晨運或會經河邊出外購物。由年頭開始，兩岸邊有些小型機械在進行工程，開始時還好，但近期發現機械所發出的黑煙比以前多，有時發現有些污水，泥水和油污流道出行人道來。本人有一次發現有些泥水和油污落到溝渠和地面，便好心跟現場人員講叫他們小心。但是他們沒有理會，因為梧桐河是一個非常美麗的地方，假日也有很多人來遊玩。避免意外發生，希望貴處能代為處理。”	<p>Investigation was conducted by contractor and reply as follow: “工程團隊經常及日後亦會加緊巡視地盤範圍，同時敦促工程人員注重機械及挖掘機的廢氣排放，以及工程污水或泥水流出，減少對周邊環境的影響。”</p> <p>Air monitoring was conducted on 2, 8, 14, 20, 24 and 30 June 2022, including AM and PM period. No exceedance of air monitoring was found. One exceedance of Water Quality Monitoring was found on 13 June 2022, but based on the investigation report, there was no direct evidence showing that the exceedance recorded at the 3 nearby monitoring stations were due to Contract.</p> <p>For dark smoke emission, the contractor would collect and test the Ultra Low Sulphur Diesel(ULSD) content monthly. For monitoring of any muddy water discharging from construction activities, the contractor would collect and test the suspended solids from Ng Tung River monthly, also collect and test pH, suspended solids and</p>	Closed

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				COD of wastewater sampling at wastewater treatment plant monthly.	
COM-2022-06-28	Near Ng Tung River, adjacent to Shek Wu San Tsuen North (ND/2019/04)	5 <sup>th</sup> July 2022	A complaint was received from EPD on 28 June 2022 from a public member regarding “連續兩日聞到燒塑膠燒鐵味，然後見到地盤這部機放黑煙，每幾秒噴一次村民不想再持續吸入這些毒氣。”	Investigation was conducted by contractor and reply as follow: “本工程沒有包含燃燒塑製品或鐵製品工序，而附近居民有焚燒垃圾習慣，有可能因而產生誤會；工程所使用的機械及挖掘機已符合環保署要求，有團隊接收投訴後即時於6月29日安排維修人員檢查相關挖掘機並無異常，同時就投訴人的關注已於7月4日將所述挖掘機調離該範圍。工程團隊會繼續盡力安排工程機械及挖掘機在合理工作距離內遠離居民住處，以減少對居民的影響。”	Closed
COM-2022-06-30	Near Ng Tung River, adjacent to Shek Wu San Tsuen North (ND/2019/04)	5 <sup>th</sup> July 2022	A complaint was received from EPD on 30 June 2022 from a public member regarding “講嚟講去都係得個講字，日日都大塵，又話整自動灑水系統等咗咁耐都有，機器又放黑煙又臭。”	Investigation was conducted by contractor and reply as follow: “自動灑水系統已安裝完成，另外工程人員亦會手動向工地範圍噴灑水份，以減低塵埃對附近居民的影響；而由於相關投訴時段（6月30日）至今均為雨天，工程人員亦有持續觀察塵土飛揚及泥水等開題，由於雨水可有效隔絕塵埃，待天氣好轉後相關恆常減少塵埃的措施亦會恢復，例如地面乾燥就會進行相對應減少塵埃的措施，包括人手及自動灑水等。”	Closed
COM-2022-07-21	Man Young Storage area (ND/2019/05)	21 <sup>st</sup> July 2022	EPD received a public complaint on 14 July 2022 from nearby villagers regarding noise and odour nuisance from generators. Complaint detail is as follow:	Investigation was conducted by contractor and clarify a few points as follow: 1. Instead of four generators being used simultaneously from the complaint, there shall be actually two generators being used	Closed

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			"現投訴地盤長期24 小時 長期用柴油發電機，做成民居滋擾，因為噪音及震動。附近居民無法睡眠，柴油氣味亦令人非常討厭，請問法例是否不能晚上七點後不能用柴油發電機。另外那地盤晚上七點後亦有人工作。故亦不一需要長時間開發發電機，而那地盤共有四個發電機同時開動。該地盤為保華公司與中國建築聯營。正確地址為粉嶺塘坑村370 號。萬勇地盤。燈柱號碼AJ2326 對面"	<p>alternatively (one is solely for standby purpose) for power supply of site works and containers.</p> <p>2. Instead of 24 hours operation of the concerned generator from the complaint, there shall be actually no restricted hour (19:00-07:00) works for generator operation according to our permit-to-work system (see appendix I).</p> <p>3. A valid construction noise permit (ref. no.: GW-RN0551-22) is obtained on 11/7/2022 covering concerned works area and PMEs before 23:00 (see appendix II). All conditions imposed on permit will be strictly followed once restricted hour works are conducted.</p> <p>The cause of the complaint is concluded to be noise and odour nuisance for the daily operation of one generator in non-restricted hours (07:00 to 19:00).</p> <p>For noise mitigation measures, contractor had arranged all generators of Quality Powered Mechanical Equipment (QPME) type and installed sound reduction fabric along the side of site boundary facing to the villagers. On top of these measures, JV had installed acoustic blanket (27 dB sound reduction) enclosing the two generators for non-restricted hour operation</p> <p>For odour mitigation measures, on top of currently</p>	



Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				using all generators with approved NRMM type, JV also installed odour adsorption bags which is made of activated carbon during oil fueling practice to further reduce nuisance.	
COM-2022-07-27	Near Portion 1b/1c (Ma Tso Lung) (ND/2019/01)	27 <sup>th</sup> July 2022	A complaint referred from 1823 regarding dust emission and noise impact, “古洞馬草壟地盤沒有任何圍板引致沙塵及噪音影響附近村民事宜”	<p>The contractor claimed that due to the confirmation of site formation level of the hoarding, water main diversion and necessary access, the erection of site hoarding is on hold. Weekly environmental walk was conducted at the mentioned area on 19 and 26 July 2022, no obvious dust emissions and noise impacts were identified.</p> <p>EPD carried out complaint investigation at Portion 1b / 1c on 26 July 2022 at 11:00, no adverse comment was given.</p> <p>Air quality monitoring and noise monitoring were carried out at nearby location once to twice a week and no exceedance was recorded. An ad-hoc noise monitoring was carried out on 28 July 2022 at Portion 1b, no exceedance was recorded also.</p> <p>The contractor would start the hoarding erection in early of August 2022, erect tarpaulin sheet on temporary fencing in front of villager's house etc as mitigation. The environmental conditions of the site will be continuously reviewed and monitored to ensure no adverse impacts generated from the construction works of the Project.</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
COM-2022-07-21	Lower Ng Tung River (from upstream Ma Wat River) (ND/2019/05)	29 <sup>th</sup> July 2022	<p>EPD received a complaint on 29 July 2022 concerning that the brownish silty water was continuously flowing to Lower Ng Tung River from upstream of Mat Wat River. The complaint was forwarded to ET by EPD through email on 5 Aug 2022.</p> <p>Based on peripheral inspection, the muddy water was spotted.</p>	<p>At the time of EPD's inspection, a tiny gap was found at the bund around the sheet piles at B2-03. The gap was then sealed off so as to prevent muddy runoff from the sheet piling work.</p> <p>Concerning the photo taken at C2-02 by EPD, there shall be collection facilities to divert runoff to our wastewater treatment plant prior to discharge. Wastewater collection facilities including sufficient water pumps and flexible pipes are prepared during works.</p> <p>Meanwhile, below are some JV's regular preventive measures for water pollution control:</p> <ol style="list-style-type: none"> <li>1. 18 nos. of wastewater treatment facilities are operating for different working areas including B2-03 and C2-02;</li> <li>2. Discharge qualities are regularly monitored and tested by HOKLAS accredited laboratory. The results show all discharge quality are complying with discharge standards as per discharge license, test results for concerned areas which were submitted to EPD.</li> </ol>	Closed
COM-2022-08-08	Ma Wat River near Lamp Post EB1339 (ND/2019/05)	8 <sup>th</sup> August 2022	<p>EPD received a complaint EPD ref: N07/RN/00016607-22 on 8 August 2022 and forwarded to ET through E-mail on 12/08/2022 and transferred to JV on the same day.</p> <p>The complaint content: "近電燈柱</p>	<p><b>Noise</b></p> <p>Refer to the Contractor's internal Permit-to-Work (PTW) System for restricted hours works, there was no works carried out at Pier C4-01 on any Sundays or public holidays which is nearest to the lamp pole EB1339 since 13 July 2022. The</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			EB1339 沿麻笏河一帶，有一大型建天橋工程，本來已經帶給鄉郊空氣和噪音污染，近來星期日和假期也開工，其機器均嘈雜和發出廢氣，貴署不應該容許工程在假日運作，嚴重影響跑步、踏單車和郊遊人士。請貴署注視。"	<p>Sundays works at Pier C4-02 and C4-03 which are further away from the aforesaid lamp pole were performed in accordance with the CNP ref. GW-RN0551-22 (with validity from 11 July 2022 to 10 October 2022 granted by EPD on 30 June 2022). Therefore, the possible cause of the incident might be Sundays' works at Pier C4-02 and C4-03 on 31/07/2022 and Pier C4-02 on 07/08/2022 but the works at these areas were carried out in complying with the condition to the valid CNP.</p> <p><b>Air</b></p> <p>For the aforesaid Sundays' works for Pier C4-02, a generator has been used and emitted exhaust gas that might be the cause of the incident. There is a high volume sampler for regular air monitoring at around 30m distance from the generator. Up to now, there was no any exceedance reported from ET since commencement of the project. Based on the above findings, it might conclude that there was no any non-compliance issue.</p> <p>Nevertheless, the Contractor will conduct internal surprise check to the restricted hours works, if any, and give exhaust checking and fuel testing to ensure compliance of ULSD standard.</p>	
COM-2022-08-16a	Ma Wat River near Lamp Post EB1339 (ND/2019/05)	16 <sup>th</sup> August 2022	EPD received a complaint (EPD ref: N07/RN/00017008-22) regarding water pollution in Fanling On Lok Tsuen near lamp post EB1339 on 16	To facilitate ET's investigation, this report is providing the following information: Since the works areas vicinity to lamp post EB1339 are Piers C4-01 and C4-02, the following	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			<p>August 2022. EPD forwarded the case to ET through email on 17 August 2022.</p> <p>The complaint content: " 本人留意到近麻笏村的麻笏河有大量水泥水流入河，影響釣魚人士，查看下，是由上游（近安樂村業和街利亨中心近電燈柱EB1339）一帶的多個大型工程的水泥流入河。另外，建築物 and 工地範圍和附近很多積水，很污糟，有大量工人的飯盒和垃圾，引起蚊患和衛生。"</p>	<p>investigation are focusing on these two works area locations.</p> <ol style="list-style-type: none"> <li>1. Site activities at Piers C4-01 and C4-02; From thorough investigation, there are only minor defect rectification works for pier concrete surface at Pier no. C4-01 which is nearest to the lamp pole EB1339. Besides, there are only formwork/falsework dismantling works in the concerned area at Pier C4-02 which is further away from the aforesaid lamp pole. The whole area has been hard paved without any muddy surface. It is reasonably concluded that there are no construction activities in the concerned location which would generate large amount of muddy water.</li> <li>2. Preventive measures for pollution control; 18 nos. of wastewater treatment facilities have been setup and operating for different working areas including works area of Pier Nos. C4-01 &amp; C4-02 in the concerned period.</li> <li>3. Latest discharge monitoring results; The water quality of the discharge from the Site have been monitored according to the granted discharge licence ref. WT00036996-2020. Discharge qualities are regularly monitored and tested by HOKLAS accredited laboratory. The results show all discharge samples are complying with discharge standards outlined in discharge license, test results of discharge sample in concerned areas which were</li> </ol>	

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				<p>submitted to EPD.</p> <p>4. Any possible source of muddy discharge to induce the captioned incident; Based on the above information and investigation findings, it is concluded that the source of muddy discharge was not related to the construction activities under Contract No. ND/2019/05.</p> <p>5. Housekeeping; Receptacle with lid were provided on site. Cleaning have been performing in daily basis. Daily morning brief have been conducting to remind frontline staff about housekeeping.</p> <p>Although it is concluded that the complaint was not related to the Contract, the Contractor will keep daily monitoring on site condition and visual check discharge qualities against with standard solution of suspended solids (30 mg/L stipulated in licence condition) in order to get rid of any muddy discharge to the river. In addition, the Contractor will regularly conduct morning briefing and tool-box training to the frontline for keeping refresh their awareness on muddy water control.</p>	
COM-2022-08-16b	Ma Sik Road and Sha Tau Kok Road near Lung Yeuk Tau (ND/2019/04)	16 <sup>th</sup> August 2022	A complaint was received from EPD on 16 August 2022, "One Innovale construction site located in Ma Sik Road and Sha Tau Kok Road (Lung Yeuk Tau) that has been creating not only serious dust but also muddy	<p>Investigation was conducted by contractor and reply as follow:</p> <p>"Despite the fact that the One Innovale construction site, where the complainant concerned about, is not part of ND/2019/04 project, we would ensure all vehicles has used the</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			materials along the main road. During sunny days, dust flies up with busy traffic flow. This morning I even saw muds dropped down from the trucks made the road a muddy mess pollution."	wheel washing facilities before leaving the site. Also, we have assigned two workers to conduct cleaning works to area adjacent with our vehicle egress. Moreover, we inspect every dump trucks on application of mechanical dump truck cover and keep photo records for compliance control. In addition, water bowser is arranged for road washing along Sha Tau Kok Road adjacent with our vehicle egress regularly."	
COM-2022-09-01	青山公路近燈柱EA2139 (ND/2019/01 , ND/2019/05)	1 <sup>st</sup> September 2022	Complaint received by EPD on 1 Sep 2022 and forwarded to ET on 2 Sep 2022, “投訴土木工程署, 環保署監管不善, 大量黃泥水從地盤流入附近河流, 影響生態. 地點: 青山公路近燈柱EA2139”.	Investigation was conducted by contractor and reply as follow: “A soil storage area was handed over from ND/2019/01 to ND/2019/05 on 18 August 2022. As this is a new area just possessed about 2 weeks before the date of this complaint, site preparation and setup such as wheel washing bay, temporary drainage system, wastewater treatment facility etc. were still undergoing. Some temporary measures were provided in place for preventing runoff into the adjacent public drainage system. During the site preparation and setup works, it was found that there is a pipework by others outside C5's site which intermittently discharges muddy water into the surface drainage and suspected the complaint is caused by this. Contractor of C1 also provided certain information as follow: “Portion 1e (next to the said area) which is a temporary storage area with no major construction works will be carried out at such portion. The grey water pipe which is	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				<p>belongs to other contractor nearby and muddy water discharge into the surface drainage was occasionally observed. We suspected the complaint is caused by this. Few water pipes were identified at the north sides near the interface of other contractor.”</p> <p>From 5 Sep 2022, the weekly environmental inspection of C5 with Environmental Team (ET) will cover this area for regular identification of any deficiency in environmental management.</p>	
COM-2022-09-29	Construction site nearby Dills Corner Garden Blk 5 (ND/2019/02)	29 <sup>th</sup> September 2022	Complaint received by EPD on 29 Sep 2022 and forwarded to ET on 30 Sep 2022. Complaint detail is as follow: “石仔嶺花園第五座投訴工程噪音滋擾。我們不知承辦商工程，請幫忙跟進。謝謝！”	<p>Joint inspection for the issue was conducted by AECOM, EPD and Contractor on 29 September 2022. Installation of sheet pile by Vibration Hammer was in progress during the inspection. Considering the founding during inspection and in order to quantify the noise nuisance made by related works, noise monitoring around Portion 2 had been conducted on 30 September, 3 and 5 October 2022(AM and PM periods) by Contractor with AECOM. Result shown that all noise levels are lower than the standard (75dB(A)). But the traffic condition has been considered as an influencing factor. Based on the findings, no noise exceedance is predicted to be found at NSRs.</p> <p>Several mitigation measures have been taken to alleviate the impact made. Noise screen has been erected along the fencing at Portion 2. Moreover, noise generation works including installation of sheet pile will be suspended at Portion 2 during 11:00-14:00 of working day. Environmental</p>	Closed



Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				promotion is given to site staff to increase their awareness of environmental protection.	
COM-2022-10-06	Fanling On Lok Tsuen near lamp post EB1339” (ND/2019/05)	7 <sup>th</sup> October 2022	Complaint received by EPD on 6 Oct 2022 and forwarded to ET on 7 Oct 2022. “近電燈柱 EB1339 近麻笏河，有一大型建天橋工程，星期日和假期幾十名工人正在開工，工作間大型鐵板聲炒耳，工人大聲叫囂，還開擴音器播歌.....使附近寧靜的安樂村、麻笏村、塘坑村和郊遊人士不安寧。”	Based on the Contractor’s internal Permit-to-Work (PTW) System for restricted hours works, there was no works carried out at Pier C4-01 on recent Sundays or public holidays where is located near lamp pole EB1339 since September 2022. The holiday works at Pier C4-02 which are further away from the aforesaid lamp pole were carried out on 04/10/2022 in accordance with the CNP ref. GW-RN0551-22 granted by EPD. The works involved housekeeping and scaffold erection without any Powered Mechanic Equipment (PMEs). Therefore, the possible cause of the incident might be the work at Pier C4-02 on 04/10/2022. But the scaffold erection involved prescribed construction work in non-Designated Area was carried out with fully compliance with the valid CNP. Therefore, it might conclude that there was no any non-compliance issue. Nevertheless, the Contractor have conducted specific training to relevant site supervisors to remind workers to refrain from using loud speakers/playing loud music for works during restricted hours and to ensure keep the restricted hours works as quiet as possible, if any, and will install sound absorbing materials for the concerned works.	Closed
COM-2022-10-09	Portion 5 (ND/2019/02)	17 <sup>th</sup> October 2022	Complaint received by EPD on 13 Oct 2022 and forwarded to ET on 17	As mentioned by EPD, the construction site is near Shek Sheung River. The complaint location	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
			Oct 2022. The complainant alleged the captioned Project of "有關上水石上河有地盤直接排放污水落河事宜 2022 年 10 月 9 日 地盤直接排放污水落河"	may be Portion 5 of project site. Joint inspection for the issue was conducted by EPD, AECOM and Contractor on 14 October 2022. According to the record of construction site, no work was arranged on 9 Oct 2022. Subject to the comments made by EPD staff during the site inspection, several mitigation measures have been taken to enhance the water pollution control performance. Contractor had arranged a wastewater treatment tank to replace the existing tank on site to improve the treatment performance and one more sedimentation tank is introduced to increase the detention time. Moreover, all hoses related to the wastewater transportation have been removed from the slope near Shek Sheung River. Also, water discharge has been suspended for the facilities enhancement. Contractor enhanced the routine checking and maintenance of wastewater treatment facilities including cleaning and replacing of tanks. Posters of mitigating adverse environmental impacts had been fixed at Portion 5 to increase workers' environmental awareness. Training has been provided for site staff. Based on the findings of investigation, CW-KL JV enhanced water pollution control to reduce nuisance to the environment. Environmental promotion is given to site staff to increase their awareness of environmental protection.	
COM-2022-10-18	安樂村新界蔬	28 <sup>th</sup> October 2022	EPD received a complaint (EPD ref: N07/RN/00022664-22) regarding	Since the works areas adjacent to North District Temporary Wholesale Market (北區臨時農	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
	菜批發市場旁 (ND/2019/05)		water pollution in “construction works of the Kwu Tung North new development area of NENT Project” on 18 October 2022 and forwarded to ET through E-mail on 28 October 2022 and ET transferred to JV on the same day. The complaint alleged: "投訴安樂村新界蔬菜批發市場旁有人私自破壞污水渠並把污水接駁至麻笏非法排放污水，投訴人表示親眼見到涉事人員鑿爛污水渠，具體位置會後續來電補充附近的燈柱號碼，又表示部門跟進時如需要具體位置亦可直接聯絡查詢人。"	產品批發市場) are Portion I and Portion II, the following investigation are focusing on these two works area locations. 1. Site activities at Portion I and Portion II; In response to the complaint, “sewerage pipe being damaged and connected to Ma Wat River” is not observed on-site. There were substructure construction works which did not generate wastewater in Portion I and II. 2. Preventive measures for pollution control; 2 nos. of wastewater treatment facilities have been setup and operating for works area in portion I & Portion II in the concerned period. 3. Latest discharge monitoring results; The water quality of the discharge from the Site have been monitored according to the granted discharge licence ref. WT00036996-2020. Discharge qualities are regularly monitored and tested by HOKLAS accredited laboratory. The results show all discharge samples are complying with discharge standards outlined in discharge license, test results of discharge sample in concerned areas which were submitted to EPD. 4. Any possible source of muddy discharge to induce the captioned incident; No wastewater generating activities were conducted at Portion I and II on 18 October 2022. Wastewater (if any) from all construction activities is properly collected, treated and	

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				monitored. Based on the above findings, it is concluded that the complaint was not related to the Contract. Contractor will continue daily monitoring on our site condition and visual check discharge qualities against with standard solution of suspended solids (30 mg/L stipulated in licence condition) in order to get rid of any water pollution to the river. In addition, Contractor will regularly conduct morning briefing and tool-box training to the frontline for keeping refresh their awareness on water pollution control.	
COM-2022-10-31	near Po Lau Road, Kwu Tung (ND/2019/01)	31 <sup>st</sup> October 2022	EPD received a complaint with ref: N07/RN/00024008-22 on 31 October 2022 and referred the complaint to ET. Description: A complaint referred from EPD regarding dust impact near Po Lau Road, Kwu Tung. The complaint alleged: “古洞開發區波樓路新大樓附近有路面平整工程，早上九時多有儲泥及卸泥活動，吹起沙塵，影響駕駛安全”	The suspected complaint location was Portion 1b. According to the records of Hong Kong Observatory on 31 October 2022, typhoon signal number 1 was hoisted and the local winds were generally strong. 1. Weekly environmental walk and EPD ad-hoc inspection was carried out on 01 November 2022 morning, it was reminded that the frequency of watering shall be increased under strong wind condition. 2. Two water browsers were deployed for regularly watering of main haul road. 3. Mist cannon was provided on site for dust suppression. 4. Manual water spraying was provided to maintain site condition in a damp condition. 5. Once the level of stockpile reached the formation level, hydroseeding was applied.	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
				6. Dust monitoring was carried out at KTN-DMS4(B) on 21 Oct 2022 and 27 Oct 2022, no exceedance was recorded. 7. Cover the slope surface with impervious sheeting. 8. Addition water browser with capacity 20,000L was deployed on site on 01 November 2022. 9. Hydroseeding to exposed soil once the formation level reached. 10. Keep closely monitoring on the concerned area.	
COM-2022-11-10	Construction site near Shek Wu San Tsuen North (ND/2019/04)	10 <sup>th</sup> November 2022	EPD received a complaint with ref: N07/ RN/00025077-22 on 10 November 2022 and referred the complaint to ET and IEC on 2 December 2022. The complaint alleged: "White smoke was emitted from an operating crane (blue/white color) in the construction site of Fanling North New Development Area, Phase 1: Fanling Bypass Eastern Section nearby Shek Wu San Tsuen North."	<p>There was a crane in blue/white color working in the area nearby Shek Wu San Tsuen. According to Contractor's record, the crane has stopped works since 10 Nov 2022 afternoon for the preparation of removal from site. No white or dark smoke emission has been observed on 10 Nov 2022 morning. The crane was removed on 12 Nov 2022. Photo record shown that the blue/white crane was totally removed on 14 Nov 2022.</p> <p>Based on the findings of investigation, no emission of white smoke was observed on the date of complaint. The Contractor would keep monitoring the plant whether there are dark smoke emission and the operation would stop at once if dark smoke emission has been observed, by comparing with the Ringelmann Chart.</p>	Closed

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
COM-2022-12-07	Construction site near Lamp post VD6513 (ND/2019/05)	7 <sup>th</sup> December 2022	<p>EPD received a complaint with ref.: N07/RN/00028143-22 on 7 Dec 2022 and referred the complaint to ET and IEC on 14 Dec 2022. The complaint alleged: “本人住北區，習慣晨運，目睹近來北區太多基建工程，已經很多污染，環保署有沒有積極監察？”</p> <p>本人於星期日(27.12.2022)，行經粉嶺龍山近塘坑村附近，近電燈柱VD6513，興建中的橋跨行人路，高空掉下釘子在行人路上，掉下發泡膠並隨風吹散各地和麻芴河流中，請環保署查看是否有物質？做成污染。附上圖。另外，水馬大部分欠蓋存積水。</p> <p>高空掉建築物很危險”</p>	<p>The investigation results are as follows::</p> <ol style="list-style-type: none"> <li>1. The works area vicinity to lamp post VD6513 is Piers C4-03. There are viaduct construction works above the concerned lamp post.</li> <li>2. Expanding foam and tiny metal nails found over there were both non-hazardous and non-harmful substance. It is suspected that they were some remaining left behind from previous foundation construction works or by the public due to there is a public area currently. Although the material might be not from the current works, to maintain good neighborhood relationship, the Contractor have promptly followed up as follow: <ol style="list-style-type: none"> <li>A. Cleaned up the expanding foam and metal nails,</li> <li>B. Tightened and securely fixed the safety net,</li> <li>C. Sealed up those water-filled barriers without lids and their damaged parts.</li> </ol> </li> </ol> <p>JV conducted joint site inspection with EPD inspectors at the concerned area on 13 Dec 2022. EPD satisfied with the above follow-up actions taken for the complaint.</p>	Closed

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**APPENDIX T**  
**SUMMARY OF SUCCESSFUL**  
**PROSECUTION**

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**Appendix T - Summary of Successful Prosecution**

<b>Date of Successful Prosecution</b>	<b>Details of the Successful Prosecution</b>	<b>Status</b>	<b>Follow Up</b>
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**APPENDIX U  
SUMMARY TABLE FOR REQUIRED  
SUBMISSION UNDER  
ENVIRONMENTAL PERMIT**

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## Development of Kwu Tung North and Fanling North New Development Areas

### Summary for the EP Submissions

DP No.	EP No.	Designated Project	Phase (1st Phase = 1, Remaining Phase = 2)	Commencement date of construction	C1	C2	C3	C4	C5	C6	C7
<a href="#">DP2</a>	<a href="#">EP-466/2013/A</a>	Castle Peak Road Diversion	1	12-Aug-20	<a href="#">C1-DP2</a>						
<a href="#">DP3</a>	<a href="#">EP-467/2013/A</a>	Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement	1	12-Aug-20	<a href="#">C1-DP3</a>						
<a href="#">DP4</a>	<a href="#">EP-468/2013/A</a>	Kwu Tung North New Development Area Road D1 to D5	1	1-Jun-20 (for C1) 3-Jul-20 (for C3)	<a href="#">C1-DP4</a>		<a href="#">C3-DP4</a>				
<a href="#">DP5</a>	<a href="#">EP-469/2013</a>	Sewage Pumping Stations in Kwu Tung North New Development Area	1	28-Oct-20		<a href="#">C2-DP5</a>					
<a href="#">DP7</a>	<a href="#">EP-470/2013</a>	Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works	1	23-Mar-20	<a href="#">C1-DP7</a>						
<a href="#">DP10</a>	<a href="#">EP-473/2013/A</a>	Fanling Bypass Eastern Section	1	6-Oct-20 (for C3) 23-Feb-21 (for C4) 1-Aug-20 (for C5)			<a href="#">C3-DP10</a>	<a href="#">C4-DP10</a>	<a href="#">C5-DP10</a>		
<a href="#">DP12</a>	<a href="#">EP-475/2013/A</a>	Reprovision of temporary Wholesale Market in Fanling North New Development Area	1	29-Oct-19						<a href="#">C6-DP12</a>	
<a href="#">DP14</a>	<a href="#">EP-546/2017</a>	Fanling North Temporary Sewage Pumping Station	1	16-Feb-21				<a href="#">C4-DP14</a>			

DP2	EP-466/2013/A	Castle Peak Road Diversion				
Construction commencement date			12 August 2020			
Operation commencement date			tbc			
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction.	Notified 2 March 2020	
2.1	Establish of ET	Before construction	<b>Establish -</b> An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction .	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	<b>Deposit</b>	at least 4 weeks before the commencement of construction.	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	<b>Inform in writing</b>	no later than 2 weeks before the commencement of construction.	Deposited 27 July 2020	
2.5	Layout Plan	Before construction	<b>Deposit</b>	no later than 2 weeks before the commencement of construction.	Deposited 27 July 2020	EPD Approved 25 August 2020
2.6	Cultural Heritage Impact -- Baseline condition survey and baseline vibration impact assessment	Before construction	<b>To Conduct -</b> A baseline condition survey and baseline vibration impact assessment by a qualified building surveyor or a qualified structural engineer.  <u>Note:</u> The baseline condition survey and baseline vibration impact assessment shall be included in and form part of the Baseline Monitoring Report to be submitted under Condition 3.3.	prior to the commencement of construction.	Submitted 8 October 2022	
2.7	Cultural Heritage Impact -- Photographic and Cartographic Records/ Proposals on relocation of any building	Others	<b>Deposit -</b> A copy of Photographic and cartographic records of directly impacted historical buildings at HKT08 and the entrance gate of HKT03.	prior to the commencement of the respective removal or relocation works.	NA	No relocation is required.
		Others	<b>For Approval -</b> Proposals on relocation of any built heritages.	prior to commencement of the respective relocation work.	NA	No relocation is required.
2.8	Landscape Plan	Others	<b>Deposit</b>	at least 6 weeks before the commencement of the corresponding parts of landscape and visual mitigation measures of the Project.	NA	Submitted justification 3 October 2022 PlanD comment 13 October 2022
2.10	Traffic Noise Mitigation Plan	Before construction	<b>Submit</b>	At least one month before commencement of construction	To be submitted before commencement of Remaining Phase works	
3.3	Baseline Monitoring Report	Before construction	<b>Submit</b>	at least 2 weeks before the commencement of construction.	Submitted by Pre-Construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	<b>Submit</b>	within 2 weeks after the end of each reporting month throughout the entire construction period.	Submitted by ET Monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address.	in place within one month after the commencement of construction of the Project.	Notified 7 July 2022	First Notified 22 April 2020 [For all EPs]
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit.	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available.	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation.	N/A	

Remarks:
tbc: To be confirmed  
DP: Designated Project  
\* tentative submission date will be supplemented once available  
# The Landscape Plan will be submitted by CEDD’s Castle Peak Road project team as confirmed since there is no existing tree is being affected by CEDD KTN NDA Phase 1 Works within the small portion of area along Castle Peak Road (near Pak Shek Au) which is overlapped with DP2 work boundary.

DP3	EP-467/2013/A	Kwu Tung North New Development Area Road P1 and P2 and Associated New Kwu Tung Interchange and Pak Shek Au Interchange Improvement				
Construction commencement date		12 August 2020				
Operation commencement date		tbc				
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notified 2 March 2020	
2.1	Establish of ET	Before construction	<b>Establish -</b> An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	<b>Deposit</b>	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	<b>Inform in writing</b>	no later than 2 weeks before the commencement of construction	Deposited 27 July 2020	
2.5	Layout Plan	Before construction	<b>Deposit</b>	no later than 2 weeks before the commencement of construction	Deposited 27 July 2020	EPD Approved 25 August 2020
2.6	Traffic Noise Mitigation Plan	Before construction	<b>For Approval</b>	no later than 1 month before the commencement of construction	Deposited 31 July 2019	EPD Approved 9 August 2019
2.7	Cultural Heritage Impact -- Photographic and Cartographic Records	Others	<b>Deposit -</b> A copy of Photographic and cartographic records of directly impacted historical buildings and cultural/historical lanscape features at Locatoins KT38, KT44 and KT52.	prior to the commencement of the respective removal or relocation works	Deposited 10 Feb 2021	No relocation is required
2.8	Landscape Plan	Others	<b>Deposit</b>	at least 6 weeks before the commencement of the corresponding parts of landscape and visual mitigation measures of the Project	Deposited 19 December 2022	
3.3	Baseline Monitoring Report	Before construction	<b>Submit</b>	at least 2 weeks before the commencement of construction	Submitted by Pre-Construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	<b>Submit</b>	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET Monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address	in place within one month after the commencement of construction of the Project.	Notified 7 July 2022	First Notified 22 April 2020 [For all EPs]
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation	N/A	

Remarks: tbc: To be confirmed  
DP: Designated Project  
\*tentative submission date will be supplemented once available

DP4	EP-468/2013/A	Kwu Tung North New Development Area Road D1 to D5				
Construction commencement date		1 June 2020				
Operation commencement date		tbc				
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notified 2 March 2020	
2.1	Establish of ET	Before construction	<b>Establish -</b> An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	<b>Deposit</b>	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	<b>Inform in writing</b>	no later than 2 weeks before the commencement of construction	Deposited 14 May 2020	
2.5	Layout Plan	Before construction	<b>Deposit</b>	no later than 2 weeks before the commencement of construction	Deposited 14 May 2020	
2.6	Cultural Heritage Impact -- Baseline condition survey and baseline vibration impact assessment	Before construction	<b>To Conduct -</b> A baseline condition survey and baseline vibration impact assessment by a qualified building surveyor or a qualified structural engineer  <u>Note:</u> The baseline condition survey and baseline vibration impact assessment shall be included in and form part of the Baseline Monitoring Report to be submitted under Condition 3.3	prior to the commencement of construction	Submitted 8 October 2022	
2.7	Cultural Heritage Impact -- Photographic and Cartographic Records/ Proposals on relocation of any building	Others	<b>Deposit -</b> A copy of Photographic and cartographic records of directly impacted historical buildings and cultural/historical landscape features at locations HKT03, KT16, KT17 and KT18	prior to the commencement of the respective removal or relocation works	NA	No relocation is required.
		Others	<b>For Approval -</b> Proposals on relocation of any built heritages	prior to commencement of the respective relocation work	NA	No relocation is required.
2.8	Compensatory Tree Planting Plan	Before construction	<b>For Approval</b>	prior to the commencement of construction	Resubmitted 17 August 2022	EPD approved 31 August 2022
2.9	Habitat Creation and Management Plan	Others	<b>For Approval</b>	prior to the commencement of construction of relevant part of the Project	Submitted 20 October 2020	EPD approved 4 November 2020
2.10	Traffic Noise Mitigation Plan	Before construction	<b>For Approval</b>	no later than 1 month before commencement of construction	Submitted 31 July 2019	EPD approved 9 August 2019
3.3	Baseline Monitoring Report	Before construction	<b>Submit</b>	at least 2 weeks before the commencement of construction	Submitted by Pre-Construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	<b>Submit</b>	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET Monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address	in place within one month after the commencement of construction of the Project.	Notified 7 July 2022	First Notified 22 April 2020 [For all EPs]
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation	N/A	

Remarks: tbc: To be confirmed  
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DP5	EP-469/2013	Sewage Pumping Stations in Kwu Tung North New Development Area				
Construction commencement date		28 October 2020				
Operation commencement date		tbc				
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notify 14 October 2020	
2.1	Establish of ET	Before construction	<b>Establish -</b> An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	<b>Deposit</b>	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	<b>Inform in writing</b>	no later than 2 weeks before the commencement of construction	Deposited 17 September 2020	
2.5	Location Plans	Before construction	<b>Deposit</b>	no later than 2 weeks before the commencement of construction	Deposited 11 August 2022	First Deposited 15 October 2020
2.6	Landscape Plan	Before construction	<b>Deposit</b>	at least 6 weeks before the commencement of th corresponding parts of landscape and visual mitigation measures	Deposited 9 August 2022	Comments from PlanD on 8 September 2022
3.3	Baseline Monitoring Report	Before construction	<b>Submit</b>	at least 2 weeks before the commencement of construction	Submitted by Pre-construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	<b>Submit</b>	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET Monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address	in place within one month after the commencement of construction of the Project.	Notified 7 July 2022	First Notified 22 April 2020 [For all EPs]
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation	N/A	

Remarks: tbc: To be confirmed  
DP: Designated Project  
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DP7	EP-470/2013	Utilization of Treated Sewage Effluent (TSE) from Shek Wu Hui Sewage Treatment Works				
Construction commencement date		23 March 2020				
Operation commencement date		tbc				
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notify 22 January 2020	
2.1	Establish of ET	Before construction	<b>Establish -</b> An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	<b>Deposit</b>	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	<b>Inform in writing</b>	no later than 2 weeks before the commencement of construction	Deposited 14 May 2020	
2.5	Layout Plan	Before construction	<b>Deposit</b>	no later than 2 weeks before the commencement of construction	Deposited 14 May 2020	
3.3	Baseline Monitoring Report	Before construction	<b>Submit</b>	at least 2 weeks before the commencement of construction	Submitted by Pre-Construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	<b>Submit</b>	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET Monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address	in place within one month after the commencement of construction of the Project.	Notified 7 July 2022	First Notified 22 April 2020 [For all EPs]
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation	N/A	

Remarks: tbc: To be confirmed  
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DP10	EP-473/2013/A	Fanling Bypass Eastern Section				
Construction commencement date		1 August 2020				
Operation commencement date		tbc				
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notified 8 September 2020	
2.1	Establish of ET	Before construction	<b>Establish -</b> An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	<b>Deposit</b>	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	<b>Inform in writing</b>	no later than 2 weeks before the commencement of construction	Deposited 17 March 2021	
2.5	Location Plans	Before construction	<b>Deposit</b>	no later than 2 weeks before the commencement of construction	Deposited 10 December 2020	
2.6	Relocation Plan for Rose Bitterling	Before construction	<b>Approval</b>	before the commencement of construction	N/A	
2.7	Egretry Habitat Creation and Management Plan	Before construction	<b>Approval</b>	before the commencement of construction	N/A	
2.8	Detailed Design of Siu Hang San Tsuen Stream	Before construction	<b>Deposit</b>	before the commencement of construction	Deposited 5 May 2022	EPD Satisfied 18 May 2022
2.9	Traffic Noise Mitigation Plan	Before construction	<b>Approval</b>	no later than 1 month before the commencement of construction	Submitted 11 September 2020	EPD Approved 8 October 2020
2.10	Cultural Heritage Impact -- Baseline condition survey and baseline vibration impact assessment	Before construction	<b>To Conduct -</b> A baseline condition survey and baseline vibration impact assessment by a qualified building surveyor or a qualified structural engineer  <u>Note:</u> The baseline condition survey and baseline vibration impact assessment shall be included in and form part of the Baseline Monitoring Report to be submitted under Condition 3.3	prior to the commencement of construction	Submitted 1 September 2022, 5 May 2022 and 12 July 2022	
2.11	Cultural Heritage Impact -- Photographic and Cartographic Records/ Proposals on relocation of any building	Others	<b>Deposit -</b> A copy of Photographic and cartographic records of directly impacted historical buildings and cultural/historical landscape features at FL19	prior to the commencement of the respective removal or relocation works	Submitted 25 May 2022	No relocation is required
		Others	<b>For Approval -</b> Proposals on relocation of any built heritages	prior to commencement of the respective relocation work	NA	No relocation is required
3.3	Baseline Monitoring Report	Before construction	<b>Submit</b>	at least 2 weeks before the commencement of construction	Submitted by Pre-Construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	<b>Submit</b>	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET Monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address	in place within one month after the commencement of construction of the Project.	Notified 7 July 2022	First Notified 22 April 2020 [For all EPs]
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation	N/A	

Remarks: tbc: To be confirmed  
DP: Designated Project  
\*tentative submission date will be supplemented once available

DP12	EP-475/2013/A	Reprovision of Temporary Wholesale Market in Fanling North New Development Area				
Construction commencement date		29 October 2019				
Operation commencement date		tbc				
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 8 weeks prior to the commencement of construction	Notified 15 October 2019	
2.1	Establish of ET	Before construction	<b>Establish -</b> An ET & IEC of at least 7 years of experience in EM&A or environmental management.	no later than 6 weeks before the commencement of construction	Established 5 March 2020	Pre-construction ET
					Established 23 January 2020	Construction Phase ET
2.2	Employment of IEC				Established 11 March 2020	Pre-construction IEC
					Established 20 February 2020	Construction Phase IEC
2.3	Update EM&A Manual	Before construction	<b>Deposit</b>	at least 4 weeks before the commencement of construction	Latest submitted on 4 September 2020 by Pre-construction ET	
2.4	Management organization of the main construction companies	Before construction	<b>Inform in writing</b>	no later than 2 weeks before the commencement of construction	Deposited 14 October 2019	
2.5	Layout Plan	Before construction	<b>Deposit</b>	no later than 2 weeks before the commencement of construction	Deposited 14 October 2019	
2.6	Landscape Plan	Others	<b>Deposit</b>	at least 6 weeks before the commencement of the corresponding parts of landscape and visual mitigation measures of the Project	Deposited 31 March 2022	
3.3	Baseline Monitoring Report	Before construction	<b>Submit</b>	at least 2 weeks before the commencement of construction	Submitted by Pre-construction ET	by Fugro
3.4	Monthly EM&A Report	During construction	<b>Submit</b>	within 2 weeks after the end of each reporting month throughout the entire construction period	Submitted by ET monthly	
4.2	Dedicated website	During construction	<b>Set up and Notify in writing --</b> the internet address	in place within one month after the commencement of construction of the Project.	Notified 7 July 2022	First Notified 22 April 2020 [For all EPs]
		During construction and operation	<b>Upload --</b> All environmental monitoring results described in Condition 4.1 and all submissions required by this Permit	in the shortest time practicable, and in no event later than 2 weeks after the relevant environmental monitoring data are collected or become available	N/A	
			<b>Maintain</b>	entire construction period and during the first 3-year of operation	N/A	

Remarks: tbc: To be confirmed  
 DP: Designated Project  
 \*tentative submission date will be supplemented once available

DP14	EP-546/2017	Fanling North Temporary Sewage Pumping Station				
Construction commencement date			16 February 2021			
Operation commencement date			tbc			
EP Condition		Requirements and Submissions			Submission Status	Remarks
		Period	Action	Timeframe		
1.12	Commencement date of construction	Before construction		no later than 1 month prior to the commencement of construction	Notified 8 September 2020	
1.14	Commencement date of operation	Before operation	Notify in writing	no later than 1 month prior to the commencement of operation	N/A	
2.4	IEC Audit Report	After construction	Deposit	within one month upon completion of the construction works	N/A	