

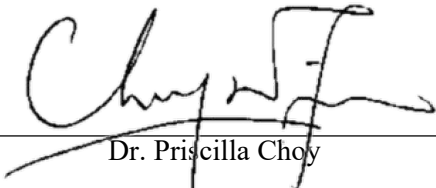
Civil Engineering and Development Department

**Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop:
Main Works Package 1 –
Environmental Team**

**Environmental Permit No.:
EP-477/2013/B
- Development of Lok Ma Chau Loop**

**Monthly Environmental Monitoring and
Audit Report for January 2024**

(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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Our ref.: LES/J2021-04/CS/L160
Date : 23 February 2024

By Post & Email

Civil Engineering and Development Department
West Development Office
West Division (5)
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38 Sai Lau Kok Road, Tsuen Wan,
New Territories

Attn: Ms. TAM Im Fei

Dear Ms. TAM,

**Agreement No. WD/01/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Independent
Environmental Checker**

Verification of Monthly EM&A Report (January 2024)

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report of certified by the Environmental Team Leader in February 2024. We hereby verify the captioned submission in accordance with Clause 3.4 of the Environmental Permit No. EP-477/2013/B for the project of Development of Lok Ma Chau Loop.

Should you have any query, please feel free to contact the undersigned.

Yours faithfully,
For and On Behalf Of
Lam Environmental Services Limited

Raymond Dai
Independent Environmental Checker

c.c. AECOM
Wellab Limited

Mr. Eric Wong
Dr. Priscilla Choy

By Email
By Email

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EXECUTIVE SUMMARY

Introduction

1. This is the 61st Monthly Environmental Monitoring and Audit (EM&A) Report prepared for Environmental Permit No.: EP-477/2013/B - Development of Lok Ma Chau Loop (hereinafter called “the Project”). This report documents the findings of Environmental Monitoring and Audit (EM&A) works conducted in the period from 1st to 31st January 2024 (hereinafter called “the reporting month”).
2. During the reporting month, the following Works Contracts were undertaken for the Project:
 - Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 (hereinafter called the “Contract 1”)
 - Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1 (hereinafter called the “Contract 2”)
 - Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2 (hereinafter called the “Contract 3”)

Environmental Monitoring and Audit Activities

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

Table I Summary Table for EM&A Activities in the Reporting Month

Environmental Aspect		Monitoring Parameter	Date
Air Quality		1-hr Total Suspended Particulates (TSP) Monitoring	2 nd , 8 th , 12 th , 18 th , 24 th and 30 th January 2024
		24-hr TSP Monitoring	3 rd , 8 th , 11 th , 17 th , 23 rd and 29 th January 2024
Construction Noise		Leq30mins	2 nd , 8 th , 18 th , 24 th and 30 th January 2024
Water Quality		<ul style="list-style-type: none"> • Temperature • pH • Turbidity • Water depth • Salinity • Dissolved Oxygen (DO) • Suspended Solids (SS) 	2 nd , 4 th , 6 th , 8 th , 10 th , 12 th , 15 th , 17 th , 19 th , 22 nd , 24 th , 26 th , 29 th and 31 st January 2024
Ecological	Lok Ma Chau (LMC) Loop	Avifauna flight line survey	25 th January 2024
		Mammal monitoring (by infra-red flash cameras)	Temporary suspended as the connectivity between the reed marsh in the LMC Loop and the EA Zone has been fenced off due to other project’s land occupier (i.e. emergency hospital)

Environmental Aspect		Monitoring Parameter	Date
Ecological	Western Connection Road (WCR)	Avifauna flight line survey	25 th January 2024
		Avifauna survey at Pond 12	2 nd , 8 th , 19 th , 25 th and 29 th January 2024
		Herpetofauna survey	Not required in the reporting month according to Section 11.4.2.2 of EM&A Manual.
		Aquatic Fauna survey	25 th January 2024
		Water Quality Monitoring for Aquatic Fauna	<u>LMC Meander</u> 2 nd , 4 th , 6 th , 8 th , 10 th , 12 th , 15 th , 17 th , 19 th , 22 nd , 24 th , 26 th , 29 th and 31 st January 2024 <u>Stream and associated ponds south of Lung Hau Road</u> 2 nd , 12 th , 19 th , 25 th and 31 st January 2024
Site Environmental Audit	Environmental protection and pollution control measures	<u>Contract 1</u> 3 rd , 11 th , 17 th 24 th and 29 th January 2024 <u>Contract 2</u> 3 rd , 11 th , 17 th 24 th and 29 th January 2024 <u>Contract 3</u> 3 rd , 8 th , 15 th , 22 nd and 29 th January 2024	

Breaches of Action and Limit Levels

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

Table II Summary Table for Environmental Exceedances in the Reporting Month

Environmental Monitoring	Parameter	Action Level	Limit Level	Event & Action		
				Investigation Result	No. of Exceedance related to the Construction Works of the	Corrective Action
Air Quality	1-hr TSP	0	0	--	0	--
	24-hr TSP	0	0	--	0	--
Construction Noise	<u>Daytime</u> Leq(30min)	0	0	--	0	--
Water Quality	DO	0	0	--	0	0
	Turbidity	0	0	--	0	0
	SS	0	0	--	0	0

1-hour TSP Monitoring

5. All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

6. All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise

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

Water Quality

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

Ecological Monitoring

LMC Loop

Avifauna (Flight Line Survey)

9. Avifauna monitoring was conducted as scheduled in the reporting month. Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including Ecological Area Zone (EA Zone) and along Shenzhen River. It demonstrates that the large waterbirds including migratory waterbirds, Great Cormorant and Black-faced Spoonbill prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Mammals

10. According the Clause 11.4.1.2 of EM&A Manual, the objective of mammals monitoring is to monitor the connectivity between the reed marsh in the LMC Loop and the EA Zone. In view of current site condition of Loop, the connectivity between the reed marsh in the LMC Loop and the EA Zone has been fenced off due to other project's land occupier.
11. In addition, the 12-month establishment period of EA zone has also been completed. The mammals monitoring in the Loop has therefore been temporarily suspended since March 2022 and will be resumed subject to the site condition.

Western Connection Road

Avifauna (Flight Line Survey)

12. Avifauna monitoring was conducted as scheduled in the reporting month. Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including Ecological Area Zone (EA Zone) and along Shenzhen River. It demonstrates that the large waterbirds including migratory waterbirds, Great Cormorant and Black-

faceted Spoonbill prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Avifauna (Pond 12)

13. Avifauna survey at Pond 12 was conducted as scheduled in the reporting month. Weekly count of birds using the Pond was recorded. No significant impact of construction activities on bird use of the pond was observed.

Herpetofauna

14. No herpetofauna survey was conducted during the period between November 2023 to February 2024 according to Section 11.4.2.2 of EM&A Manual.

Aquatic fauna

15. Aquatic fauna survey was conducted as scheduled in the reporting month. No significant impact of construction activities on the stream was observed.

Land Contamination

16. Decontamination for five arsenic-contaminated zones (LD01 - LD05) identified in LMC Loop was completed and the final Remediation Report was submitted and approved by EPD in accordance with Condition 2.16 of the Environmental Permit under Contract No. YL/2017/03.
17. No work related to land contamination was conducted in the reporting month.

Site Environmental Audit

18. In the reporting month, weekly joint site inspections to evaluate the site environmental performance had been carried out by the representatives of the Consultants, Independent Environmental Checker (IEC), Environmental Team (ET) and the Contractors. The date(s) of the weekly site environmental audit conducted under the Project are summarized in **Table III**.

Table III Summary Table for Site Environmental Audit in the Reporting Month

Contract(s)	Date(s) of Site Environmental Audit
Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1	3 rd , 11 th , 17 th 24 th and 29 th January 2024
Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1	3 rd , 11 th , 17 th 24 th and 29 th January 2024
Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2	3 rd , 8 th , 15 th , 22 nd and 29 th January 2024

19. No non-compliance was recorded during the site inspections.

Complaint Log

20. One environmental complaint related to construction noise was received in the reporting month.

Notification of Summons and Successful Prosecutions

21. No notification of summons or successful prosecution was received in the reporting month.

Reporting Change

22. This report has been prepared in compliance with the reporting requirements for the subsequent monthly EM&A Report as required by the EM&A Manual for Development of Lok Ma Chau Loop (EM&A Manual). No reporting change was made in the reporting month.

Future Key Issues

23. Major site activities for the coming reporting months will include:

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

- (a) Road L1 Drainage and Underground Utilities (UU) enabling works
- (b) Structure Construction for Box Culverts
- (c) Retaining Wall & Slope Works at WCR
- (d) Drainage Works and Roadworks
- (e) Woodland Compensation Works
- (f) Meander Bridge South Piers Cap and Northern Span Construction
- (g) Public Transport Interchange (PTI) drainage works
- (h) Wetland Fence Construction
- (i) Deep Cement Mixing (DCM) Works

Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Reedbed Cell No. 3A

- (a) Monthly monitoring of the polishing function of the Reedbed Cell No. 3A.

DRL

- (b) Temporary works.
- (c) Bored Pile works.
- (d) Sheet piling works.
- (e) ELS works.
- (f) Segment precast.
- (g) Pier construction.

- (h) Construction of pile cap.

LMC Road

- (i) Sheet-piling works.
- (j) Drainage works.
- (k) Bored piling works.
- (l) Water main installation.
- (m) Pile cap construction.
- (n) Nullah modification works
- (o) Site formation.
- (p) Underground utilities works.
- (q) Constriction of noise barrier.
- (r) Soil-nailing.
- (s) Construction of box culvert.
- (t) Construction of retaining wall.

Fanling Highway

- (u) Construction of retaining wall.
- (v) Pier construction.
- (w) Installation of pierhead segment.
- (x) Backfilling works for retaining wall.
- (y) Sheet-piling works for retaining wall.
- (z) Full span erection.
- (aa) Fabrication of precast segment.
- (bb) Installation of parapet at retaining wall.
- (cc) Construction of subway.

Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2

- (a) LMC Station Structural Steel Materials Delivery
- (b) LMC Station Strengthening Works
- (c) ELS Works and Pile Caps & Tie Beam Construction at Elevated PTI and Double-deck Footbridge
- (d) Elevated PTI Superstructure Construction

1 INTRODUCTION

- 1.1 Wellab Limited (WELLAB) was appointed by the Civil Engineering and Development Department (CEDD) under Service Contract No. WD/04/2020 as the Environmental Team to undertake the Environmental Monitoring and Audit (EM&A) programme for the Works Contracts under Main Works Package 1 and the remaining works under Contract No. YL/2017/03 – Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works to ensure that the environmental performance of the Works Contracts comply with the requirements specified in the Environmental Permit (EP), Environmental Monitoring & Audit (EM&A) Manual, Environmental Impact Assessment (EIA) Report of the Project and other relevant statutory requirements.

Purpose of the report

- 1.2 This is the 61st EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme in the period from 1st to 31st January 2024.

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, monitoring results and Event / Action Plans.

Section 6: **Ecological Monitoring** - summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations and monitoring results.

Section 7 **Land Contamination** - summarises the remediation works progress for contamination soil and relevant submission.

Section 8 **Waste Management** – summarises the implementation status of waste management.

Section 9: **Environmental Site Inspection** - summarises the audit findings of the

weekly site inspections undertaken within the reporting month.

Section 10: **Implementation Status of Environmental Mitigation Measures** - summarises the compliance status of environmental mitigation measures.

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 and monitoring schedule for the next three months.

Section 13: **Conclusions and Recommendations**

2 PROJECT INFORMATION

Background

- 2.1 The development at Lok Man Chau (LMC) Loop is one of the ten major infrastructure projects for economic growth of the Hong Kong Special Administrative Region (HKSAR). The HKSAR Government would work with the Shenzhen authorities to tap the land resources of the LMC Loop to meet future development needs and consolidate the strategic position of both cities in the Pan-Pearl River Delta region. The Project is to develop LMC Loop with higher education as the leading land use, complemented by high-tech research and development facilities and cultural and creative industries.
- 2.2 The planning and engineering study for the Loop development is a designated project (DP) classified under Item 1 Schedule 3 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). In October 2013, the EIA Report (AEIAR-176/2013) of the Project was approved by the Director of Environmental Protection pursuant to the EIA Ordinance in accordance with the EIA Study Brief (No. ESB-201/2008 and ESB-238/2011) and the Technical Memorandum on Environmental Impact Assessment Process (EIAO-TM). The Environmental Permit (EP) (EP no.: EP-477/2013) was also granted in November 2013.
- 2.3 Pursuant to Section 13 of the EIAO, the Director of Environmental Protection amends the Environmental Permit (No. EP-477/2013) based on the Application No. VEP- 595/2021 and the environmental Permit (Permit No. EP-477/2013/A) was issued on 12th August 2021 for Development of Lok Ma Chau Loop. In December 2023, the Director of Environmental Protection further amends the Environmental Permit (No. EP-477/2013/A) based on the Application No. VEP-629/2023 and the latest Environmental Permit (No. EP-477/2013/B) was issued on 29th December 2023 for Development of Lok Ma Chau Loop.
- 2.4 The Loop development is implemented by three works packages in stages, namely: Advance Works, Main Works Package 1 (MWP1) and Main Works Package 2 (MWP2).
- 2.5 Contract No. YL/2017/03 – Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works (hereinafter called the “Contract”) was awarded to Sang Hing – Kuly Joint Venture (hereinafter called the “Contractor 1”) in June 2018 for the Advance Works. All construction works of Contract No. YL/2017/03 have been completed and the works were successfully handed over to AFCD and DSD on 30th December 2021.
- 2.6 For MWP1, there will be a total of 5 Works Contracts and the contract packaging is shown below.
- 1) Contract 1 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 – Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1
 - 2) Contract 2 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1
 - 3) Contract 3 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 – Direct Road Link Phase 2
 - 4) Contract 4 - Development of Lok Ma Chau Loop: Main Works Package 1 –

Contract 4 – Fresh Water Service Reservoir and Associated Waterworks

- 5) Contract 5 - Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 5 – Landscaping Works within Lok Ma Chau Loop

- 2.7 Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 – Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 (hereinafter called the “Contract 1”) was awarded to CRCC-Kwan Lee-Paul Y. JV in July 2021.
- 2.8 Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1 (hereinafter called the “Contract 2”) was awarded to China Road and Bridge Corporation in September 2021.
- 2.9 Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2 (hereinafter called the “Contract 3”) was awarded to Paul Y.-Chun Wo-CRCC JV in February 2022.
- 2.10 During the reporting month, the following Works Contracts were undertaken for the Project:
- Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 (Contract 1)
 - Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1 (Contract 2)
 - Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2 (Contract 3)
- 2.11 The layout of the construction works under the Project and the scope of works under the Project are summarized in **Table 2.1**.

Table 2.1 Site Layout and Scope of Works under the Project

Contract(s)	Scope of Works	Site Layout Plan
Contract No. YL/2017/03 – Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works (Completed)	<ul style="list-style-type: none"> a) Land decontamination treatment within the Loop; b) Establishment of an Ecological Area (EA) within the Loop; c) Construction of a temporary access to the Loop; d) Minor improvement works to Ha Wan Tsuen East Road and other ancillary works; e) Construction of temporary noise barriers and miscellaneous road works along Lok Ma Chau Road; f) Ground treatment works to the first batch of land parcels within the Loop for development of buildings and associated facilities for Phase 1 of the Hong Kong – Shenzhen Innovation and Technology Park and development of the western electricity substation; and g) Implementation of environmental mitigation measures for the works mentioned in the items (a) to (f) above. 	Figure 1a
Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1	<ul style="list-style-type: none"> a) Ground treatment and site formation works; b) Construction of carriageway, footpaths, cycle tracks and a public transport interchange within the Loop; c) Construction of Western Connection Road Phase 1 through widening of existing Ha Wan Tsuen East Road, which includes construction of footpath, cycle track, slopes, retaining walls and a vehicular bridge over the old Shenzhen River meander; d) Provision of other infrastructures, including a tertiary sewage treatment works and sewerage system, water supply system, drainage system, and other associated works; and e) Environmental mitigation measures including about 18 ha offsite wetland compensation and about 1.3 ha offsite woodland compensation. 	Figure 1b
Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1	<ul style="list-style-type: none"> a) Construction of Western Connection Road Phase 2 through widening of a section of existing Lok Ma Chau Road; b) Construction of Direct Road Link Phase 1 comprising a viaduct of about 720m long; construction of slip roads connecting Lok Ma Chau Road and Fanling Highway / San Tin Highway including a viaduct of about 340 m long; c) Construction of a cycle track cum footbridge; d) Construction of associated works including road improvement works, footpaths, cycle tracks, slopes, retaining walls, water supply system and drainage system; and e) Provision of noise barriers. 	Figure 1b
Contract No.: YL/2021/01 – Development of Lok	<ul style="list-style-type: none"> a) Construction of an elevated public transport interchange of an approximate area of 5,700 square metres above the existing Lok Ma Chau 	Figure 1b

Contract(s)	Scope of Works	Site Layout Plan
Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2	Spur Line Public Transport Interchange; b) Construction of an approximately 90 metres long double-deck footbridge and a lift tower of approximately 21 metres in height with three lifts and three escalators connecting the elevated public transport interchange mentioned above to the MTR Lok Ma Chau Station; c) Associated modification works within the MTR Lok Ma Chau Station; and d) Associated roadworks, landscaping, electrical and mechanical works and ancillary works.	

Project Organisation

2.12 Different parties with different levels of involvement in the Project organization. The key personnel contact names and numbers are summarised in **Table 2.2**.

Table 2.2 Key Contacts of the Project

Organization	Project Role	Contact Person	Tel No.	Fax No.
CEDD	Project Proponent	Mr. Davy KS CHAN	2417 6370	2412 0358
WELLAB	ET	Dr Priscilla Choy – ET Leader	2898 7388	2898 7076
Lam Environmental Services Limited (LAM)	IEC	Mr. Raymond Dai	2839 5666	2882 3331
Contract No. YL/2020/01				
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA
CRCC-Kwan Lee-Paul Y. JV	Contractor	Site Agent – Mr. Sam Lee	9284 1964	2774 0197
		Senior Engineer – Mr. Max Mak	9263 1116	2774 0197
		Senior Engineer – Mr. Stephen Leung	9770 6390	2774 0197
		Environmental Officer – Ms. Lila Lui	5261 0378	2774 0197
Contract No. YL/2020/02				
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA
China Road and Bridge Corporation	Contractor	Site Agent – Mr. Roger Poon	9503 2488	3996 9202
		Construction Team Leader – Mr. Angus Mok	98389224	3996 9202
		Environmental Officer – Mr. Calvin So	9724 6254	3996 9202

Organization	Project Role	Contact Person	Tel No.	Fax No.
Contract No. YL/2021/01				
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA
Paul Y.-Chun Wo-CRCC JV	Contractor	Site Agent – Mr. Desmond Tang	5188 0815	3015 7861
		Section Agent – Mr. Charles Choi	6350 0142	3015 7861
		Environmental Officer – Mr. Tino Law	6856 4150	3015 7861

Construction Programme

2.13 Copies of contractors' construction programmes are provided in **Appendix A**.

Summary of Construction Works Undertaken During Reporting Month

2.14 The major site activities undertaken in the reporting month included:

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

- (a) Wetland Ecological Monitoring Wetland Compensation Establishment Works and Ecological Monitoring
- (b) Excavation and Lateral Support Cofferdam Construction for Vehicular Bridge over the Old Shenzhen River Meander
- (c) Excavation and Lateral Support (ELS) Cofferdam Construction for Box Culvert A and C
- (d) Excavation and Lateral Support (ELS) Cofferdam Construction and Underground Utilities (UU) installation for Road L1
- (e) Drainage works for Public Transport Interchange
- (f) Retaining Wall Works, Drainage Works and Roadworks for Western Connection Road

Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

RW9

- (a) Retaining Wall RW9 backfilling works with SRT are completed, parapet RC structure is completed.
- (b) Retaining Wall RW8 sheet pile installation works is in progress.

Lok Ma Chau Road

- (c) Pile Cap construction is completed. Bored piling is completed.
- (d) Preparation works for Bored Piling at EIBC completed. Bored piling is in progress.
- (e) Nullah modification works (breaking existing surface and formation designed profile) is in progress.
- (f) PW6A Pipe Pile pre-boring works completed all, site formation is completed.
- (g) Monitoring of groundwater level at PW6A.
- (h) Sheet pile installation works at Retaining Wall RW6 is completed.
- (i) DN700 water main installation along Lok Ma Chau Road.

Fanling Highway

- (j) ST01-P06 Pier construction completed, ST01-P05 preparation works are in progress.

Reedbed Cell No. 3A

- (k) Monthly monitoring of the polishing function of the Reedbed Cell No. 3A carried out.

CS1 &2

- (l) Watermain laying works, FNOs and CLP laying works completed (96 out of 100meters) and suspended in front of Bored Pile Wall BPW1 at north of Chau Tau West Road.

DRL

- (m) Temporary border fence inspected and accepted by HKPF, temporary works are in progress.
- (n) Bored Pile works are in progress.
- (o) Sheet piling is completed.
- (p) ELS works are in progress.
- (q) ABWF works at subway is in progress.
- (r) DRL Approach Ramp sheet piling is completed.

Pai Lau

- (s) Pai Lau - ABWF works in progress.

Fu Tai

- (t) RW-CTW sheet piling works in progress.

LCS

- (u) Pierhead segment installed.

Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2

- (a) Underground Utility detection
- (b) Trial pit excavation
- (c) Material / Waste Lifting and Delivery
- (d) Utilities diversion
- (e) Bored pile construction
- (f) Erect external scaffold outside LMC Station
- (g) E&M
- (h) Double Deck Footbridge
- (i) Temporary Lighting system
- (j) Site Demarcation
- (k) ELS installation Works
- (l) Tie beam and pile cap construction
- (m) Column construction
- (n) Falsework at EPTI
- (o) EPTI RC deck construction

Status of Environmental Licences, Notifications and Permits

2.15 A summary of the relevant permits, licences, and/or notifications on environmental protection for the Project is presented in **Table 2.3**.

Table 2.3 Status of Environmental Licences, Notifications and Permits

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
Environmental Permit (EP)				
Contract No. YL/2020/01	EP-477/2013	22/11/2013	N/A	Valid
Contract No. YL/2020/02	EP-477/2013/A	12/08/2021	28/12/2023	Replaced by EP-473/2013/B
Contract No. YL/2021/01	EP-477/2013/B	29/12/2023	N/A	Valid
Construction Noise Permit (CNP)				
Contract No. YL/2020/01	GW-RN1315-23	8/12/2023	7/03/2024	Valid
	GW-RN1304-23	8/12/2023	7/03/2024	Valid
Contract No. YL/2020/02	GW-RN1347-23	17/12/2023	29/02/2024	Valid
	GW-RN1115-23	09/11/2023	08/01/2024	Expired in the reporting month
	GW-RN0027-24	12/01/2024	11/03/2024	Renewal CNP for GW-RN1115-23
Contract No. YL/2021/01	GW-RN1363-23	28/12/2023	27/02/2024	Valid
Notification pursuant to Air Pollution Control (Construction Dust) Regulation				
Contract No. YL/2020/01	469726	21/07/2021	Till the Contract ends	Receipt acknowledged by EPD

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
Contract No. YL/2020/02	471916	20/09/2021	Till the Contract ends	Receipt acknowledged by EPD
Contract No. YL/2021/01	479880	17/05/2022	Till the Contract ends	Receipt acknowledged by EPD
Billing Account for Disposal of Construction Waste				
Contract No. YL/2020/01	7041333	27/07/2021	Till the Contract ends	Valid
Contract No. YL/2020/02	7041861	15/10/2021	Till the Contract ends	Valid
Contract No. YL/2021/01	7043434	22/05/2022	Till the Contract ends	Valid
Registration of Chemical Waste Producer				
Contract No. YL/2020/01	WPN 5213-620-C4632-01	21/07/2021	Till the Contract ends	Valid
Contract No. YL/2020/02	WPN 5213-542-C1232-24	29/11/2021	Till the Contract ends	Valid
Contract No. YL/2021/01	WPN 5213-542-P3483-01	21/04/2022	Till the Contract ends	Valid
Effluent Discharge License under Water Pollution Control Ordinance				
Contract No. YL/2020/01	WT00039466-2021	22/09/2023	31/12/2026	Valid
	WT00041233-2022	31/10/2022	31/07/2027	Valid
Contract No. YL/2020/02	WT00041280-2022	27/07/2022	31/07/2027	Valid
	WT00042556-2022	23/11/2022	30/11/2027	Valid
	WT00043043-2023	21/04/2023	30/04/2028	Valid
	WT10001592-2023	7/09/2023	30/09/2028	Valid
	WT10001042-2023	29/11/2023	30/11/2028	Valid
Contract No. YL/2021/01	WT00041259-2022	21/07/2022	31/07/2027	Valid
Specified Processes for Cement Works under Air Pollution Control Ordinance				
Contract No. YL/2020/01	L-3-270(1)	25/04/2023	24/04/2025	Valid

Status of Compliance with Environmental Permits Conditions

2.16 The status of compliance with Environmental Permit and required submission related to this Project under the EP is summarized in **Table 2.4**:

Table 2.4 Summary Table for Status of Compliance / Required Submission under Environmental Permit for Main Works Package 1

EP Conditions	Submission(s)	Requirement	Submission Date	Approval Status
2.3	Management Organizations	no later than one month before the commencement of construction of the Project	<u>YL/2020/01</u> : 7 July 2021 <u>YL/2020/02</u> : 17 Nov 2021 <u>YL/2021/01</u> : 30 Mar 2022	*
2.4	Pedestrian Walkway Reserve in the Direct Link to MTR LMC	at least one month before the commencement of construction of the Direct	17 Nov 2021	*

EP Conditions	Submission(s)	Requirement	Submission Date	Approval Status
	Station	Link, deposited with the Director		
2.5 & 2.6	Submission of Works Schedule and Location Plans	Works Schedule: at least one month before the commencement of the works of the Project Location Plan: at least two weeks before the commencement of the works of the Project	<u>YL/2020/01</u> : 7 July 2021 <u>YL/2020/02</u> : 17 Nov 2021 <u>YL/2021/01</u> : 30 Mar 2022	*
2.7	Ecological Mitigation / Habitat Creation and Management Plan	at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director	7 Dec 2021 (Issue 4)	*
2.8	Landscape Plan	at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director	To be submitted at least one month before the commencement of corresponding parts of the works of the Project (tentative submission date will be supplemented once available)	*
2.11	Emergency Contingency Plan	at least one month before the commencement of the concerned works of the Project, deposited with the Director	26 Oct 2021	*
2.15	Re-appraisal report	at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director	18 Jun 2021	*
2.16	Remediation Report	no later than one month after the completion of the remediation works for approval	N/A (no remediation is required according to re-appraisal report)	N/A
2.17	(a) Updated Contamination Assessment Plan (CAP) (b) Contamination Assessment Report (CAR) (c) Remedial Action Plan (RAP) (d) Remediation Report (RR)	(a) submitted to the Director for approval (b) no later than two months after the completion of the Supplementary SI (c) submitted to the Director for approval (d) no later than one month after the completion of the remediation works for approval	N/A (no remediation is required according to re-appraisal report)	N/A
3.3	Baseline Monitoring Report	at least one month before commencement of construction of the Project.	3 Dec 2018	*
3.4	Monthly EM&A Report	within 10 working days after the end of each reporting month	Regular submitted within 10 working days after the end of each reporting	*

EP Conditions	Submission(s)	Requirement	Submission Date	Approval Status
			month	

Remarks: * Approval not required in EP-477/2013/B
 N/A – Not Applicable

3 AIR QUALITY MONITORING

Monitoring Requirements

- 3.1 In accordance with the EM&A Manual for Development of Lok Ma Chau Loop (EM&A Manual), impact 1-hour Total Suspended Particulates (TSP) and 24-hour TSP monitoring were conducted to monitor the air quality for the Project. **Appendix B** shows the established Action/Limit Levels for the air quality monitoring work.
- 3.2 Impact 1-hour TSP monitoring was conducted for at least three times every 6 days, while impact 24-hour TSP monitoring was conducted for at least once every 6 days at 4 air quality monitoring stations.

Monitoring Location

- 3.3 Impact air quality monitoring was conducted at the 4 monitoring stations under the Project, as shown in **Figure 2**. **Table 3.1** describes the location of the air quality monitoring stations.

Table 3.1 Location of Air Quality Monitoring Stations

Monitoring Station	Location
DMS-1a (see Note 1)	Village House along Ha Wan Tsuen East Road
DMS-2A (see Note 2)	Village House along Lok Ma Chau Road
DMS-2B (see Note 3)	Site boundary near Village House along Lok Ma Chau Road
DMS-3	Village House along Old Border Road
DMS-4A (see Note 4)	Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Notes:

- In view of the disturbance concerned by the villagers near the original air quality monitoring location DMS-1, an alternative location (DMS-1a) was proposed which was verified by IEC and agreed by EPD.
- Monitoring at DMS-2 (originally proposed in the approved EM&A Manual) was denied during the baseline monitoring. An alternative location (DMS-2A) was proposed which was verified by IEC and agreed by EPD.
- Alternative location (DMS-2B) was proposed due to DMS-2A is situated within the site area for upcoming road widening works which was verified by IEC and agreed by EPD.
- Proposed replacement monitoring location for Air Sensitive Receiver (ASR) MTL-20 – Village house in Ma Tso Lung (DMS-4A) as no work would be conducted near ASR MTL-20 due to exclusion of the original Eastern Connection Road (ECR) which was verified by IEC and agreed by EPD.

Monitoring Equipment

- 3.4 **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(s)	Equipment	Model and Make	Quantity
DMS-3	HVS Sampler for 24-hour TSP monitoring	TISCH Model: TE-5170	2
DMS-4A	1-hour TSP Dust Meter	Met One Instruments: AEROCET-831	2

Monitoring Station(s)	Equipment	Model and Make	Quantity
	Calibrator	TISCH Model: TE-5025A	1
(1) DMS-2B (2) DMS-1a	Dust Meter for 1-hour and 24-hour TSP monitoring	Met One Instruments: AEROCET-831	3
DMS-4A	Wind Anemometer	DAVIS Model: Vantage PRO2 6152CUK	1

Remarks:

(1) Air quality monitoring has been conducted at DMS-2B (and suspended from DMS-2A) starting from 20 January 2023. Due to the complaint received from the nearby villager about the sound arising from HVS, dust meter was requested for air quality monitoring at DMS-2B starting from March 2023. IEC had no comment on the proposal of using dust meter for monitoring at DMS-2B.

(2) The power supply from the Village House at DMS-1a is not secured for operation of HVS. Therefore, dust meter for 24-hr TSP monitoring at DMS-1a was proposed to ensure the monitoring data collection. IEC had no comment on the proposal of using dust meter for 24-hr TSP monitoring at DMS-1a on 21 June 2022.

Monitoring Parameters and Frequencies

3.5 **Table 3.3** summarises the monitoring parameters and frequencies of impact dust monitoring during the course of the Project activities. The air quality monitoring schedule for the reporting month is shown in **Appendix D**.

Table 3.3 Impact Air Quality Monitoring Parameters and Frequencies

Parameters	Frequency
1-hr TSP	Three times in every 6 days
24-hr TSP	Once per 6 days

Monitoring Methodology and Quality Assurance/Quality Control (QA/QC) Procedure**24-hour TSP Air Quality Monitoring*****Instrumentation***

3.6 HVSs 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

3.7 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 metres apart;
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protruded above the sampler;

- A minimum of 2 metres of separation from walls, parapets and penthouses was required for rooftop samples;
- A minimum of 2 metres 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 metres 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 had been obtained to set up the samplers; and
- A secured supply of electricity was provided to operate the samplers.

Filters Preparation

- 3.8 Wellab Limited was the HOKLAS accredited laboratory (HOKLAS Registration No.083) and responsible for the preparation of 24-hr conditioned and pre-weighed filter papers for the monitoring team.
- 3.9 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 ± 3 °C; the relative humidity (RH) was $< 50\%$ and not variable by more than $\pm 5\%$. A convenient working RH was 40%.
- 3.10 Wellab Limited has comprehensive QA and QC programmes.

Operating/Analytical Procedures

- 3.11 Operating/analytical procedures for the air quality monitoring were highlighted as follows:
- Prior to the commencement of the dust sampling, the flow rate of the HVS was properly set (between 1.1 m³/min. and 1.4 m³/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. Then the filter holding frame was 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 could 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 Wellab Limited 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 not vary by more than $\pm 3^\circ\text{C}$; the RH should be $< 50\%$ and 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

3.12 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 condition; and
- All HVSs were calibrated (five-point calibration) using Calibration Kit prior to the commencement of the baseline monitoring and thereafter at bi-monthly intervals.

1-hour and 24-hour TSP Air Quality Monitoring

3.13 The measuring procedures of the dust meter are in accordance with the Manufacturer's Instruction Manual as follows:

(AEROCET-831)

- The 1-hour dust meter is placed 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 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 measuring after 1 hour sampling.
- For 24-hour TSP monitoring, the hold time was set for collection of 24-hour TSP samples. A separate automotive battery was used to support the dust meter for 24-hour TSP monitoring.
- 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

3.14 The following maintenance/calibration is required for the direct dust meters:

- Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method prior to the commencement of the baseline monitoring. Dust meter will be checked and calibrated at bi-monthly intervals throughout the air quality monitoring period, if necessary.

Results and Observations

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

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		
DMS – 1a	78.4	40.0 – 133.6	353	500
DMS – 2B	95.7	67.9 – 152.2	370	
DMS – 3	84.9	48.8 – 130.7	351	
DMS – 4A	86.8	54.9 – 130.9	350	

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		
DMS – 1a	72.1	52.0 – 105.1	184	260
DMS – 2B	98.5	68.2 – 134.2	166	
DMS – 3	56.3	36.4 – 72.2	166	
DMS – 4A	49.8	31.3 – 88.7	152	

- 3.16 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 3.17 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.
- 3.18 According to our field observations, the major dust source identified at the designated air quality monitoring stations in the reporting month are as follows:

Table 3.6 Observation at Air Quality Monitoring Stations

Monitoring Station	Major Dust Source
DMS-1a	Road traffic, exposed site area, site vehicle / equipment movement
DMS-2B	Road traffic, exposed site area, site vehicle / equipment movement
DMS-3	Road traffic
DMS-4A	Road traffic

- 3.19 The wind speed and wind direction were recorded by the installed Wind Anemometer set at DMS-4A. The location is shown in **Figure 2**.
- 3.20 The general weather condition and the wind data for the reporting month are summarised in **Appendix I**.

Event and Action Plan

- 3.21 Should any project related non-compliance of the criteria occur, action in accordance with the Event Action Plan in **Appendix J** shall be carried out.

4 NOISE MONITORING

Monitoring Requirements

- 4.1 In accordance with the EM&A Manual, four noise monitoring stations, namely NMS-1, NMS-2, NMS-3 and NMS-4A were selected for impact monitoring for the Project. Impact noise monitoring was conducted for at least once per week during the construction phase of the Project. **Appendix B** shows the established Action / Limit Levels for the noise monitoring works.

Monitoring Location

- 4.2 Impact noise monitoring was conducted at the 4 monitoring stations under the Project, as shown in **Figure 3**. **Table 4.1** describes the locations of the noise monitoring stations.

Table 4.1 Location of Noise Monitoring Stations

Monitoring Station	Location	Measurement
NMS-1	Village house in Ha Wan Tsuen	Façade Measurement
NMS-2	Village house along existing Ha Wan Tsuen	Free Field
NMS-3	Village house along Old Border Road	Free Field
NMS-4A (see Note 1)	Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill	Free Field measurement

Note:

- Proposed replacement monitoring location for Noise Sensitive Receiver (NSR) MTL-20 – Village house in Ma Tso Lung (NMS-4A) as no work would be conducted near NSR MTL-20 due to exclusion of the original ECR.

Monitoring Equipment

- 4.3 **Table 4.2** summarises the noise monitoring equipment. Copies of calibration certificates are provided in **Appendix C**.

Table 4.2 Noise Monitoring Equipment

Equipment	Model	Quantity
Integrating Sound Level Meter	BSWA 308	2
Calibrator	SVANTEK SV 30A	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

Monitoring Stations	Parameter	Duration	Frequency
NMS-1 NMS-2 NMS-3 NMS-4A	L10(30 min.) dB(A) L90(30 min.) dB(A) Leq(30 min.) dB(A) (as six consecutive Leq, 5min readings)	0700-1900 hrs on normal weekdays	Once per week

Remarks:

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.

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 facade 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, the time weighting and the 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 hrs 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 L_{eq} , L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were 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 record 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 head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.

4.6 The sound level meter and calibrator 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 G**.

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

Monitoring Station	Noise Level, L_{eq} (30min) dB(A)		Action Level	Limit Level
	Average	Range		
NMS-1	57.0	52.7 – 59.6	When one documented complaint is received.	75 dB(A)
NMS-2	70.1	68.6 – 71.2		
NMS-3	53.7	44.3 – 57.0		
NMS-4A	52.3	50.6 – 53.4		

Remark: +3dB(A) façade correction included

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

- 4.9 All noise monitoring was conducted as scheduled in the reporting month. No Action and Limit Level exceedance was recorded.
- 4.10 According to our field observations, the major noise source identified at the designated noise monitoring stations in the reporting month are as follows:

Table 4.5 Observation at Noise Monitoring Stations

Monitoring Station	Major Noise Source
NMS-1	Excavation works, loading and unloading works, site vehicle / equipment movement
NMS-2	Excavation works, loading and unloading works, site vehicle / equipment movement
NMS-3	Road traffic
NMS-4A	Road traffic

Event and Action Plan

- 4.11 Should any project related non-compliance of the criteria occur, action in accordance with the Event Action Plan in **Appendix J** shall be carried out.

5 WATER QUALITY MONITORING

Monitoring Requirements

- 5.1 According to the EM&A Manual, impact water quality monitoring shall be carried out three days per week during the construction period. The interval between two sets of monitoring shall not be less than 36 hours.
- 5.2 Replicate in-situ measurements and samples collected from each independent sampling event shall be collected to ensure a robust statistically interpretable database.
- 5.3 Impact water quality monitoring was conducted at three depths (i.e. 1m below surface, mid-depth and 1m above river bed, except where the water depth was less than 6m, mid-depth station might be omitted. Should the water depth be less than 3m, only the mid-depth station was monitored) dissolved oxygen (DO) concentration, DO saturation, suspended solids (SS), turbidity, pH, salinity and temperature were monitored in accordance with the requirements set out in the EM&A Manual.
- 5.4 **Appendix B** shows the established Action and Limit Levels for the water quality monitoring work.

Monitoring Locations

- 5.5 Impact water quality monitoring was conducted at 6 monitoring stations under the Project, which is summarised in **Table 5.1**. The locations of monitoring stations are shown in **Figure 4**.
- 5.6 Based on the updated construction programme under Contract No. YL/2017/03, the water-based construction works for temporary vehicular bridge was completed on 7th April 2021 which was confirmed by Engineer Representative under Contract No. YL/2017/03 via email dated 15th June 2021. The additional monitoring station, BS1 was therefore proposed to be deleted from the water quality monitoring programme starting from 28th June 2021. Other water quality monitoring stations remain unchanged. This Proposal for Update of Water Quality Monitoring Stations was verified by IEC and agreed by EPD via email dated 22nd June 2021.

Table 5.1 Location for Water Quality Monitoring Stations

Monitoring Station	Location	Nature of the Location
CS1	Control Station at Old Shenzhen River	Control Station at Meander
IS1	Impact Station at Old Shenzhen River	Impact Station at Meander
IS2	Impact Station at Old Shenzhen River	Impact Station at Meander
IS4	Impact Station at Ping Hang Stream	Reference Station
CS5	Control Station at south of Lung Hau	Control Station for IS6
IS6	Impact Station near Lung Hau Road	Impact Station
⁽¹⁾ BS1	Impact Station at Old Shenzhen River Meander	Additional impact station for temporary vehicular bridge

Note:

1. Terminated starting from 28th June 2021 according to Proposal for Update of Water Quality Monitoring Stations (approved by EPD on 22nd June 2021).

Monitoring Equipment

Instrumentation

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

DO and Temperature Measuring Equipment

- 5.8 The instrument for measuring DO and temperature was portable and weatherproof complete with cable, sensor, comprehensive operation manuals and use DC power source. It was capable of measuring:

- A DO level in the range of 0-20 mg/L and 0-200% saturation; and
- A temperature of 0-45 degree Celsius.

- 5.9 It had a membrane electrode with automatic temperature compensation complete with a cable.
- 5.10 Sufficient stocks of spare electrodes and cables were available for replacement where necessary.
- 5.11 Salinity compensation was built-in in the DO equipment.

Turbidity

- 5.12 Turbidity was measured in-situ by the nephelometric method. The instrument was portable and weatherproof using a DC power source 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 SS. The turbidity measurement was carried out on split water sample collected from the same depths of SS samples.

Sampler

- 5.13 A water sampler, consisting of a transparent Polyvinyl Chloride (PVC) of a capacity of not less than two litres which could 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 self-made sampling bucket was also used for sampling at the monitoring station with shallow water.

Water Depth Detector

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

pH

- 5.15 The instrument was consisting 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.

Salinity

- 5.16 A portable salinometer capable of recording salinity within the range of 0-40 ppt was used for salinity measurements.

Sample Container and Storage

- 5.17 Following collection, water samples for laboratory analysis were stored in high density polythene bottles (250ml/1L) with no preservatives added, packed in ice (cooled to 4 °C without being frozen) and kept in dark during both on-site temporary storage and shipment to the testing laboratory. The samples were delivered to the laboratory as soon as possible and the laboratory determination work was started within 24 hours after collection of the water samples. Sufficient volume of samples was collected to achieve the detection limit.
- 5.18 **Table 5.2** also summarises the type of sampling bottle and preservation method for laboratory testing.

Table 5.2 Types of Sampling Bottle and Preservation Method

Parameter	Preservation Method	Type of Sample Container
Total SS	Refrigerate	1 litre plastic bottle

Calibration of In-Situ Instruments

- 5.19 All in-situ monitoring instruments were checked, calibrated and certified by Wellab Limited before use, and subsequently re-calibrated at 3-month intervals throughout all stages of the water quality monitoring programme. Responses 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 event.
- 5.20 For the on-site calibration of field equipment (Multi-parameter Water Quality System), the BS 1427:2009, "Guide to on-site test methods for the analysis of waters" was observed.
- 5.21 Sufficient stocks of spare parts were maintained for replacement when necessary. Backup monitoring equipment was also being made available so that monitoring could proceed uninterrupted even when some equipment was under maintenance, calibration, etc.
- 5.22 The equipment used for impact water quality monitoring is shown in **Table 5.3** and copies of the calibration certificates are shown in **Appendix C**. All the monitoring equipment complied with the requirements set out in the EM&A Manual.

Table 5.3 Water Quality Monitoring Equipment

Equipment	Model and Make	Quantity
Sonar Water Depth Detector	Garmin Fishfinder 140 / Garmin Striker plus 4	1
Water Sampler	A 2-litre transparent PVC cylinder with latex cups at both ends or self-made sampling bucket	1
Multi-parameter Water Quality System	YSI EXO 1	1

Monitoring Parameters and Frequency

5.23 **Table 5.4** summarises the monitoring parameters, monitoring depths and frequency of the water quality monitoring. The water quality monitoring schedule for the reporting month is shown in **Appendix D**.

Table 5.4 Water Quality Monitoring Parameters, Depths and Frequency

Monitoring Station	Parameter (unit)	Depth	Frequency
CS1, IS1, IS2, IS4, CS5, IS6	<ul style="list-style-type: none"> • Temperature(°C) • pH (pH unit) • turbidity (NTU) • water depth (m) • salinity (ppt) • DO (mg/L and % of saturation) • SS (mg/L) 	<ul style="list-style-type: none"> • 3 water depths: 1m below water surface, mid-depth and 1m above river bed. • If the water depth was less than 3m, mid-depth sampling only. • If water depth was less than 6m, mid-depth might be omitted. 	<ul style="list-style-type: none"> • 3 days per week during the construction period of the Project

5.24 Monitoring location/position, time, water depth, sampling depth, pH, salinity, DO saturation, water temperature, tidal stages, weather conditions and any special phenomena or work underway nearby were recorded.

Monitoring Methodology

Instrumentation

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

Operating/Analytical Procedures

5.26 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 values between the first and second readings of each set was more than 25% of the value of the first readings, this set of readings was discarded and further readings were taken.

Laboratory Analytical Methods

5.27 The testing of all parameters was conducted by Wellab Limited for the water samples and comprehensive QA and QC procedures were in place in order to ensure the quality and consistency of results. The testing method, reporting limit and detection limit are provided in **Table 5.5**.

Table 5.5 Laboratory Analysis Method for Water Samples

Determinant	Instrumentation	Analytical Method	Limit of Reporting	Detection Limit
SS	Weighing	APHA 17ed 2540 D	2.5 mg/L	0.5 mg/L

Remark: The limit of reporting, 2.5mg/L has been adopted during baseline water quality monitoring stage

QA/QC Requirements

Decontamination Procedures

- 5.28 Water sampling equipment used during the course of the monitoring programme was decontaminated by manual washing and rinsed clean seawater/distilled water after each sampling event. All disposal equipment was discarded after sampling.

Sampling Management and Supervision

- 5.29 All sampling bottles were labelled with the sample identity laboratory number and sampling date. Water samples were dispatched to the testing laboratory for analysis as soon as possible after the sampling. All samples were stored in a cool box and kept at 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.
- 5.30 The laboratory determination work was started as soon as possible after collection of the water samples.

QC Measures for Sample Testing

- 5.31 The sample testing and following QC programme were performed by Wellab Limited for every batch of 20 samples:
- ✧ One method blank; and
 - ✧ One set of QC samples.

Maintenance and Calibration

- 5.32 All in-situ monitoring instruments were checked, calibrated and certified by Wellab Limited before use, and subsequently re-calibrated at 3-month intervals throughout all stages of the water quality monitoring programme.

Results and Observations

- 5.33 The monitoring results and graphical presentation of water quality at the monitoring stations are shown in **Appendix H**.
- 5.34 The summary of exceedance recorded in the reporting month is shown in **Appendix K** and summarised in the **Table 5.6**.

Table 5.6 Summary of Water Quality Exceedances

Station	Exceedance Level	DO	Turbidity	SS	Total Number of Non-project Related Exceedances	Total Number of project Related Exceedances
IS1	Action Level	0	0	0	0	0
	Limit Level	0	0	0	0	0
IS2	Action Level	0	0	0	0	0
	Limit Level	0	0	0	0	0
IS4	Action Level	0	0	0	0	0
	Limit Level	0	0	0	0	0
IS6	Action Level	0	0	0	0	0
	Limit Level	0	0	0	0	0
Total	Action Level	0	0	0	0	0
	Limit Level	0	0	0	0	0

5.35 Water quality monitoring was conducted according to the schedule as shown in **Appendix D**. No Action/Limit Level exceedance was recorded.

5.36 No water quality monitoring was conducted at IS6 in the reporting month since the channel was dry. Water quality monitoring station, IS6 will be further reviewed and a proposal for any alternative monitoring location including justification will be submitted for approval from IEC and EPD (if necessary).

**IS6**

Event and Action Plan

5.35 Should any project related non-compliance of the criteria occur, action in accordance with the Event Action Plan in **Appendix J** shall be carried out.

6 ECOLOGICAL MONITORING

LMC Loop

Monitoring Requirements (Avifauna Monitoring – Flight Line Survey)

Monitoring Requirements

- 6.1 As required under Section 11.4.1.1 of EM&A Manual, flight line corridor survey was required from the beginning of work until 12 months after the establishment of the Ecological Area or completion of work on the Western Connection Road, whichever was the later.
- 6.2 The purpose of the survey was to identify the number and species composition of birds using the flight line and monitor if there was any impact from construction works.

Monitoring Frequency

- 6.3 Flight line survey is required to be carried out on monthly basis.

Monitoring Location

- 6.4 The flight line corridor survey work should be carried out at the Lok Ma Chau Lookout, according to Section 11.4.1.1 of the EM&A Manual. The location at Lok Ma Chau Lookout is shown in **Figure 5a**.

Monitoring Methodology

- 6.5 Flight lines of birds through the area were surveyed once monthly at Lok Ma Chau Lookout, adjacent to the Loop.
- 6.6 Observations were carried out at Lok Ma Chau Lookout for two hours from 30 minutes before sunrise in the early morning.
- 6.7 During the survey, the surveyor marked on a standard map for the estimated location of the flight path used by waterbird species, birds of prey or other larger species of conservation interest passing through the area. Flights involving short hops from point to point were not recorded. The focus was on the flight line corridor over the Loop or the southwest section of old Shenzhen River meander.
- 6.8 During the survey, species generally commensal with man (e.g. Black-collared Starling), common and widespread in HK (e.g. Crested Myna) or small in size and not prone to following flight lines en masse (e.g. Barn Swallow) were ignored in order to concentrate on species of conservation interest and/or those prone to using flight lines (e.g. large waterbirds).
- 6.9 For each observation of birds in flight, the number, the species and their height above the ground were recorded. Height above the ground was estimated in relation to the level of the Loop and adjacent fish pond area, and/or the location of the observer.

- 6.10 Given the difficulty of accurately measuring height above ground from a distance, three height classes were used: 10m, 20m and 30m or above. In practice, this means birds were assigned to ranges of 5-15m (10m height class), 15-25m (20m height class) and 25m or above (30m height class). Approximate heights of observation points were 40m at Lok Ma Chau Lookout.
- 6.11 Flight line locations marked on the maps were then overlain with a 100m grid, each square having a unique number.
- 6.12 The number of birds of each species passing through each 100m grid (the number of “bird-flights”) and their height above ground were then entered into an Excel spreadsheet. These data were then mapped, and on the figures produced a greater intensity of colour indicated a higher number of birds, as shown in **Figure 6**.

Monitoring Day

- 6.13 The flight line survey was carried out on 25th January 2024. Sunrise time at 7:04 am and the survey started at 6:34 am and lasted for 2 hours. The weather was fine throughout the survey.

Monitoring Result

- 6.14 Total number of birds observed was 1,044. Six species were included in the record of the flight line survey, including Little Egret, Great Egret, Chinese Pond Heron, Black-faced Spoonbill, Grey Heron and Great Cormorant. **Table 6.1** shows the summary of the number of birds observed in this Survey.

Table 6.1 Number of Birds Observed

Species	Number of Birds	Height class 1	Height Class 2	Height Class 3
Little Egret 小白鷺	54	0	42	12
Great Egret 大白鷺	375	3	227	145
Chinese Pond Heron 池鷺	1	0	0	1
Black-faced Spoonbill 黑臉琵鷺	5	0	0	5
Grey Heron 蒼鷺	17	0	9	8
Great Cormorant 普通鸕鶿	592	0	440	152
Total	1,044	3	718	323

- 6.15 The total number of bird-flights (number of birds of each species passing through each 100m square) observed across all 100m grid squares was 10,238. **Table 6.2** shows the number of bird-flights for the six species respectively.

Table 6.2 **Number of Bird-flights**

Species	Total number of Bird-Flights
Little Egret 小白鷺	540
Great Egret 大白鷺	3,683
Chinese Pond Heron 池鷺	3
Black-faced Spoonbill 黑臉琵鷺	50
Grey Heron 蒼鷺	154
Great Cormorant 普通鸕鶿	5,808
Total	10,238

6.16 The distribution of flight line usage in this survey is shown in **Figure 6**.

6.17 Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including Ecological Area Zone (EA Zone) and along Shenzhen River. It demonstrates that the large waterbirds including migratory waterbirds, Great Cormorant and Black-faced Spoonbill prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Monitoring Requirements (Mammals)

Monitoring Requirements

6.18 As required under Section 11.4.1.2 of the EM&A Manual, monitoring of mammals are required for Eurasian Otter, other mammals and dogs during the site formation and establishment period of Ecological Area.

6.19 The purpose of the monitor is to observe the connectivity between the reed marsh in the LMC Loop and the Ecological Area, and if there was any sign of otter and mammals around the Ecological Area.

Monitoring Location

6.20 Three cameras should be placed where accessible, facing towards the Ecological Area and the Loop. The locations of cameras are subject to the project progress and result of the survey.

Monitoring Methodology

6.21 Monitoring of Eurasians Otter is notoriously difficult due to their secretive and nocturnal habits in Hong Kong. Therefore, remote-sensing (infra-red flash) cameras shall be used to detect any signs of Eurasian Otter and mammals.

Monitoring Results

6.22 In view of current site condition of Loop, the connectivity between the reed marsh in the LMC Loop and the EA Zone has been fenced off due to other project's land occupier. In addition, 12-month establishment period of EA zone has also been completed.

- 6.23 The mammals monitoring in the Loop was therefore temporarily suspended since March 2022 and will be resumed subject to the site condition.

Western Connection Road

Monitoring Requirements (Avifauna Monitoring – Flight Line Survey)

- 6.24 Refer to Sections 6.1 to 6.17.

Monitoring Requirements (Avifauna Monitoring – Pond 12)

Monitoring Requirements

- 6.25 As required under Section 11.4.2.1 of EM&A Manual, weekly counts of the number and species of bird using Pond 12 was required from the beginning of work until 12 months after the establishment of the Ecological Area or completion of work on the Western Connection Road, whichever is the later.
- 6.26 The purpose of the survey was to identify the number and species composition of birds using Pond 12 to ensure there would be no impacts greater than predicted from construction works.

Monitoring Frequency

- 6.27 Pond 12 avifauna survey is required to be carried out on a weekly basis.

Monitoring Location

- 6.28 Monitoring of avifauna was conducted at Pond 12. Location of Pond 12 is shown in **Figure 5a**.

Monitoring Methodology

- 6.29 The species and number of birds using Pond 12 were surveyed weekly. Each weekly survey started before the commencement of works of the day, and ended 1 hour after works had begun.
- 6.30 During the survey, the surveyor would identify and count each bird using Pond 12 with a pair of binoculars and a camera. The abundance and species of the identified birds would be recorded.

Monitoring Result

- 6.31 Pond 12 avifauna surveys were carried out weekly in the reporting month.

Dates of pond 12 avifauna survey: 2nd, 8th, 19th, 25th and 29th January 2024

- 6.32 In total, 366 individuals from 26 avifauna species were recorded at Pond 12 in the reporting month. The detailed results are shown in **Appendix R1**.

- 6.33 The monitoring results during construction works were compared against the results before the commencement of works of the day. The number of bird species and the abundance of birds recorded at Pond 12 during construction were higher than the results prior to the construction works. (Refer to **Table 6.3**).

Table 6.3 Summary of Avifauna Monitoring Results at Pond 12

Monitoring Date	Number of Species		Abundance	
	Before Construction	During Construction	Before Construction	During Construction
2 nd January 2024	15	13	51	67
8 th January 2024	9	9	25	31
19 th January 2024	13	14	27	31
25 th January 2024	7	16	32	47
29 th January 2024	8	13	20	35

- 6.34 The monitoring results indicated Pond 12 was utilized by waterbirds and wetland-dependent species in the reporting month. No significant impact of construction activities on bird use of the pond was observed.

Herpetofauna

Monitoring Requirements

- 6.35 Under Section 11.4.2.2 of EM&A Manual, monitoring of the only herpetofauna species of conservation interest in the area around pond 12, the Chinese Bullfrog, should be conducted before and during the whole construction period.
- 6.36 The purpose of the survey was to ensure the abundance of the Chinese Bullfrog in the area of Pond 12, LMC Tsuen, and nearby wetlands is not affected by construction works.

Monitoring Frequency

- 6.37 Herpetofauna monitoring was conducted once monthly during wet season (March to October), including both day-time and night-time survey.

Monitoring Location

- 6.38 Herpetofauna monitoring was conducted along the designated transect around Pond 12, LMC Tsuen, as well as any nearby wetlands within a 100m radius into which disturbed bull frog may move. Location of the Herpetofauna survey transect is shown in **Figure 5b** for reference.

Monitoring Methodology

- 6.39 Survey along the transect was conducted once during daytime, and once during night time. Surveyors would actively search for presence of tadpoles, froglets or adults in

potential habitats (such as ditches, ponds, marshes and wet agricultural land) through direct observation, or identification of vocalisations.

Monitoring Result

- 6.40 No herpetofauna survey was conducted during the period between November 2023 to February 2024 according to Section 11.4.2.2 of EM&A Manual.

Aquatic Fauna

Monitoring Requirements

- 6.41 Under Section 11.4.2.3 of EM&A Manual, surveys of the population of Rose Bitterling at streams and associated ponds south of Lung Hau Road and monitoring of water quality are required to identify potential impacts.
- 6.42 The purpose of the survey was to ensure the population of Rose Bitterling at the stream and associated ponds south of Lung Hau Road as well as the water quality at the area where Rose Bitterling is present are not affected by construction works.

Monitoring Frequency

- 6.43 Monitoring of Rose Bitterling population was conducted monthly during the construction period of WCR to identify potential impacts.
- 6.44 *In situ* monitoring of water quality was conducted weekly at the stream and associated ponds south of Lung Hau Road where Rose Bitterling is present, and whole site audit was carried out at the construction site to identify potential impacts on the stream.
- 6.45 *In situ* monitoring of water quality in LMC Meander was conducted weekly during the construction phase and the first 12 months of operation.

Monitoring Location

- 6.46 Monitoring of Rose Bitterling and *in situ* monitoring of water quality were conducted at the stream and associated ponds south of Lok Ma Chau Road where Rose Bitterling is present. There are 4 sampling points along the stream, and 4 sampling points at the ponds. The sampling locations are shown in **Figure 5c**.
- 6.47 *In situ* monitoring of water quality in LMC Meander was conducted at 3 monitoring stations, including CS1, IS1 and IS2, as stated in Section 6.3 of the EM&A Manual. The monitoring stations are shown in **Figure 4**.

Monitoring Methodology

- 6.48 Monitoring of Rose Bitterling was conducted by bankside observation with the aid of binoculars, for 5 minutes at each sampling point. After bankside observation, sweep netting was also carried out at each sampling point, if feasible.

- 6.49 The number of Rose Bitterling observed on bankside and by sweep netting at each sampling location was recorded. Other human activities or change in environment that may affect the survey result will be specified, if any.
- 6.50 Measurements for *in situ* monitoring of water quality include temperature, pH, salinity, turbidity and dissolved oxygen. Monitoring equipment for water quality monitoring is presented in Section 5.

Monitoring Result

- 6.51 Aquatic fauna survey was carried out once and weekly *in situ* water quality monitoring was conducted in the reporting month.

Date of Aquatic Fauna Survey: 25th January 2024

LMC Meander

2nd, 4th, 6th, 8th, 10th, 12th, 15th, 17th, 19th,
22nd, 24th, 26th, 29th and 31st January
2024

Date of Water Quality Monitoring for
Aquatic Fauna

Stream and associated ponds south of
Lung Hau Road

2nd, 12th, 19th, 25th and 31st January 2024

- 6.52 No potential impact due to the runoff from the construction activities of the Western Connection Road was identified during the survey of Aquatic Fauna in the reporting month. In addition, no deterioration in the water quality due to the construction activities of the Western Connection Road was observed.
- 6.53 The detailed aquatic fauna (Rose Bitterling) results and *In situ* water quality monitoring results at the stream and associated ponds south of Lung Hau Road are shown in **Appendices R3** and **R4** respectively.
- 6.54 *In situ* water quality monitoring results in LMC Meander at 3 monitoring stations, including CS1, IS1 and IS2 are presented in Section 5 and **Appendix H**. No Action/Limit Level exceedance was recorded.

7 LAND CONTAMINATION

General

- 7.1 According to the EM&A Manual Section 8.2 and the details of the remediation and associated testing referred to in Chapter 8 of the EIA Report (AEIAR-176/2013), five (5) arsenic-contaminated zones were identified within the Loop. The estimated depth and volume of contaminated soil for each remediation zone are listed in **Table 7.1** below.

Table 7.1 Detailed Contamination Information for Designated Remediation Areas

Contamination Zone ID in EIA	Contamination Hot Spot	Estimated Vertical Extent of Contamination	Estimated Thickness (m)	Estimated Area of Contamination Zone (m ²)	Estimated Volume of Contaminated Soil (m ³)
A-S24	LD-001	2.5m to 4.0m below existing ground level	1.5	4001	6002
A-SG10	LD-002	4.0m to 5.5m below existing ground level	1.5	3520	5280
A-S20	LD-003	2.5m to 4.0m below existing ground level	1.5	4989	7484
A-S03	LD-004-A	2.5m to 4.0m below existing ground level	1.5	4580	6870
A-S03a1	LD-004-B	4.0m to 5.5m below existing ground level	1.5	4452	6678
A-S03c1	LD-004-C	1.0m to 2.5m below existing ground level	1.5	5601	8402
A-S01	LD-005	2.5m to 5.5m below existing ground level	3.0	5576	16728

- 7.2 Based on the Contract requirements, “Solidification / Stabilisation” was the recommended treatment method to remediate all contaminated soils and Portland cement was proposed to be used for the contaminated soil treatment. The target of soil remediation is listed in **Table 7.2**.

Table 7.2 Contaminant Solidification & Stabilisation Target for Cement Solidification / Stabilisation (CS/S)

Contaminant	Toxicity Characteristic Leaching Procedure (TCLP) Limit of Arsenic	Unconfined Compressive Strength (UCS)
Metal – Arsenic	≤5 mg/L	≥1 Mpa

- 7.3 Trial of CS/S was undertaken between April and June 2019 and the second trial was conducted in August 2019. According to trial performance results, cement / soil ratios of 10% and 7.5% could achieve the remediation target and these ratios had been adopted for the subsequent remediation work. The proposed cement/soil ratios were accepted by

relevant parties before the remediation work started. The contaminated soil excavation and remediation commenced on site in mid-July 2019.

Remediation Work Progress in the Reporting Month

- 7.4 As advised by the Contractor, Decontamination for all Hotspots (LD01 - LD05) was completed and backfilling of treated soil was completed on 31 May 2021. After completion of remediation works at each hot spots, Interim Remediation Reports (IRR) would be prepared by the Land Contamination Specialist and submitted to EPD in accordance with Condition 2.16 of the EP. The status of IRRs are summarised below.
- (a) IRR for hot spot LD-001 endorsed by EPD on 6th January 2020
 - (b) IRR for hot spot LD-003 endorsed by EPD on 18th March 2020
 - (c) IRR for hot spot LD-002 commented by EPD on 3rd September 2020 and resubmitted by Contractor on 16th September 2020
 - (d) IRR for hot spot LD-005 endorsed by EPD on 23rd October 2020
 - (e) Final Remediation Report including the result of hotspot LD-004 was submitted to EPD on 28th June 2021. The final Remediation Report was approved by EPD with minor comments in August 2021.
- 7.5 No work related to land contamination was conducted in the reporting month.

8 WASTE MANAGEMENT

General

8.1 Waste management was carried out in accordance with the Waste Management Plan (WMP) for the Project.

Solid and Liquid Waste Management Status

8.2 The amount of waste generated by the activities of the Project in the reporting month is shown **Table 8.1**.

Table 8.1 Quantities of Waste Generated in the Reporting Month

Contract(s)	Waste Type		Quantity this month	Disposal / Dumping Grounds
Contract No. YL/2020/01	Inert	Reused in this Contract (Inert) (in '000 m ³)	0	N/A
		Reused in other Contracts/ Projects (Inert) (in '000 m ³)	0	N/A
		Disposal as Public Fill (Inert) (in '000 m ³)	0.633	Tuen Mun Area 38 Fill Bank
Contract No. YL/2020/02		Reused in this Contract (Inert) (in '000 m ³)	0	N/A
		Reused in other Contracts/ Projects (Inert) (in '000 m ³)	0	N/A
		Disposal as Public Fill (Inert) (in '000 m ³)	1.863	Tuen Mun Area 38 Fill Bank
Contract No. YL/2021/01		Reused in this Contract (Inert) (in '000 m ³)	0	N/A
		Reused in other Contracts/ Projects (Inert) (in '000 m ³)	0	N/A
		Disposal as Public Fill (Inert) (in '000 m ³)	0	N/A
Contract No. YL/2020/01	Non-inert	Recycled Metal ('000kg)	0	N/A
		Recycled Paper / Cardboard Packing ('000kg)	0	N/A
		Recycled Plastic ('000kg)	0	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m ³)	0.246	NENT Landfill
Contract No. YL/2020/02		Recycled Metal ('000kg)	0	N/A
		Recycled Paper / Cardboard Packing ('000kg)	0	N/A
		Recycled Plastic ('000kg)	0	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m ³)	0.274	NENT Landfill
Contract No. YL/2021/01		Recycled Metal ('000kg)	0	N/A
		Recycled Paper / Cardboard Packing ('000kg)	0	N/A
		Recycled Plastic ('000kg)	0	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m ³)	0.003	NENT Landfill

8.3 The amount of waste generated by the construction works of the Project in Waste Flow Table during the reporting month is shown in **Appendix O**.

9 ENVIRONMENTAL SITE INSPECTION

Site Audits

- 9.1 Site audits were carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures on the Project site. The summaries of site audits are attached in **Appendix L**.
- 9.2 Site audits were conducted by ET with the representative of the Consultants, the Contractor and IEC on 3rd, 8th, 11th, 15th, 17th, 22nd, 24th and 29th January 2024 in the reporting month. Summary of site audits under the Project are presented in **Table 9.1**. The details of observations during site audit are shown in **Table 9.2**.

Table 9.1 Summary of Site Audits

Contract(s)	Date(s) of Site Environmental Audit
Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1	3 rd , 11 th , 17 th 24 th and 29 th January 2024
Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1	3 rd , 11 th , 17 th 24 th and 29 th January 2024
Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2	3 rd , 8 th , 15 th , 22 nd and 29 th January 2024

- 9.3 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 9.2**.

Table 9.2 Observations and Recommendations of Site Audit

Parameters	Date	Observations and Recommendations	Follow-up
Contract No. YL/2020/01			
<i>Air Quality</i>	03/01/2024	Provide NRMM label for the excavator.	NRMM label has been displayed on the excavator by the Contractor as observed during follow-up audit session on 11/01/2024.
	17/01/2024	Dust suppression measures shall be enhanced at WCR.	Water sprinkler system has been operated properly for dust suppression by the Contractor as observed during follow-up audit session on 24/01/2024.
	24/01/2024	The mud trail outside the site entrance near Pai Lau should be cleared and ensure all site vehicles should be washed before leaving the site.	Mud trails have been cleared. All site vehicles are properly washed before leaving the site by the Contractor as observed during follow-up audit session on 29/01/2024.
	24/01/2024	The stockpiles of dusty materials and	Stockpiles of dusty materials and

Parameters	Date	Observations and Recommendations	Follow-up
		exposed slopes should be covered with tarpaulin sheet properly at WCR.	exposed slope at WCR were covered by the Contractor as observed during follow-up audit session on 29/01/2024.
<i>Noise</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Water Quality</i>	11/01/2024	The exposed slope at meander bridge south should be properly covered and the site drainage system should also be well established to avoid the discharge of muddy surface runoff.	Exposed sloped were covered by the Contractor and earth bund with sandbags were in place to prevent muddy surface runoff discharge as observed during follow-up audit session on 17/01/2024.
<i>Waste / Chemical Management</i>	11/01/2024 17/01/2024	The rubbish outside the hoarding boundary at Pond 11 should be cleared.	The rubbish outside the hoarding boundary have been cleared by the Contractor as observed during follow-up audit session on 24/01/2024.
	17/01/2024	Drip trays or other mitigation measures should be provided for chemical containers and/ or breaker to prevent oil leakage at meander bridge south works areas.	The chemical containers and/ or breaker have been removed by the Contractor as observed during follow-up audit session on 24/01/2024.
<i>Land Contamination</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Landscape and Visual</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Ecology</i>	03/01/2024	Provide maintenance to green hoarding around the meander bridge works area.	Green fences have been provided around the meander bridge works area by the Contractor as observed during follow-up audit session on 11/01/2024.
	24/01/2024	The green fences at meander bridge shall be in 3m height according to EP condition.	Green fences unaffected by works have been maintained at 3m height by the Contractor as observed during follow-up audit session on 29/01/2024.
<i>Fisheries</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Permits/Licences</i>	--	No major environmental deficiency was identified during the reporting month.	--
Contract No. YL/2020/02			
<i>Air Quality</i>	03/01/2024	To enhance the dust suppression for the dusty haul road at Fu Tai site.	Water spraying has been provided for the dusty haul road by the Contractor as observed during follow-up audit session on 11/01/2024.
<i>Noise</i>	--	No major environmental deficiency was identified during the reporting	--

Parameters	Date	Observations and Recommendations	Follow-up
		month.	
Water Quality	03/01/2024	Discharge of untreated water was observed at LCS. Contractor was reminded to provide appropriate water treatment system	The site discharge has been pumped to the wetsep for treatment before discharging out by the Contractor as observed during follow-up audit session on 11/01/2024.
	03/01/2024	Provide sufficient sandbags to avoid debris fall out at Fu Tai site.	Sand bag bund has been erected around the works area by the Contractor as observed during follow-up audit session on 11/01/2024.
	03/01/2024 11/01/2024	No sufficient site drainage system was established to collect the muddy site surface runoff for subsequent treatment / recycle use at TAR2/DRLP09. The Contractor was reminded to establish appropriate it as soon as possible.	Sandbag bunds and geotextile are in place to prevent muddy surface runoff discharge as observed during follow-up audit session on 17/01/2024.
	11/01/2024 17/01/2024 24/01/2024 29/01/2024	The handrail and wooden board which are easily falling into the nullah at Fu Tai Site should be cleared.	Environmental deficiencies were observed not improved/ rectified by the Contractor in the reporting period. Follow up action is needed in the next audit session.
	24/01/2024	The blockage at the access to the wetsep should be cleared to allow the maintenance of the wetsep can be carried out (LCS).	The wetsep can be accessed for the maintenance (LCS) as observed during follow-up audit session on 29/01/2024.
	29/01/2024	Provide sufficient water mitigation measure for the discharge point at LCS. These measures should include the use of sandbags with geo-textile and maintaining site tidiness to prevent runoff.	The exposed slope near the discharging point has been properly covered by the Contractor as observed during follow-up audit session on 07/02/2024.
Waste / Chemical Management	03/01/2024	Remove construction waste regularly at Fu Tai site.	The construction wastes have been cleared by the Contractor as observed during follow-up audit session on 11/01/2024.
	24/01/2024	The oil leakage from the crawler crane should be cleared as chemical waste and maintenance should be provided for the plant equipment to avoid further oil leakage (DRL).	Previous oil leakage was cleaned up after the inspection. No further oil leakage was observed during follow-up audit session on 29/01/2024.
	29/01/2024	Provide sufficient water mitigation measure for the discharge point at LCS. These measures should include the use of sandbags with geo-textile and maintaining site tidiness to prevent runoff.	The exposed slope near the discharging point has been properly covered by the Contractor as observed during follow-up audit session on 07/02/2024.
Land Contamination	--	No major environmental deficiency was identified during the reporting month.	--
Landscape and Visual	--	No major environmental deficiency was identified during the reporting	--

Parameters	Date	Observations and Recommendations	Follow-up
		month.	
<i>Ecology</i>	3/01/2024 11/01/2024 17/01/2024	The green fences / visual barriers at the site area for DRL are not in 3m high. The Contractor was reminded to rectify it as soon as possible according to Condition 2.7(e) of EP.	The 3m green fences / visual barriers at the site area for DRL has been properly erected by the Contractor as observed during follow-up audit session on 24/01/2024
	03/01/2024	The construction site boundary is not clear at Fu Tai site and some construction materials/wastes were observed placing at the nearby grassland/stream. The Contractor was reminded to clear those materials/wastes and clearly delineate the work site to prevent encroachment onto adjacent areas/habitats.	A surveyor has checked and erected the flag to clearly delineate the work site as observed during follow-up audit session on 11/01/2024.
	11/01/2024 17/01/2027	The construction wastes including the chemical container and rubbish at near the nearby habitat should be cleared (Fu Tai Site).	The construction wastes including the chemical container and rubbish have been cleared by the Contractor as observed during follow-up audit session on 24/01/2024.
	29/01/2024	Provide maintenance for the green fence at 98C.	The green fence has been properly maintained and erected by the Contractor as observed during follow-up audit session on 07/02/2024.
<i>Fisheries</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Permits/Licences</i>	--	No major environmental deficiency was identified during the reporting month.	--
Contract No. YL/2021/01			
<i>Air Quality</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Noise</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Water Quality</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Waste / Chemical Management</i>	22/01/2024	Drip tray should be provided for the chemical containers at EEAA.	Drip tray is provided for chemical containers at EEAA by the Contractor as observed during follow-up audit session on 29/01/2024.
<i>Land Contamination</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Landscape and Visual</i>	22/01/2024	The water-filled barrier should be properly deployed along the works	The water-filled barrier is re-aligned further from the nearby

Parameters	Date	Observations and Recommendations	Follow-up
		boundary and no disturbance to the nearby retained trees (EEAA).	trees, and materials are moved away from the tree protection zone by the Contractor as observed during follow-up audit session on 29/01/2024.
<i>Ecology</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Fisheries</i>	--	No major environmental deficiency was identified during the reporting month.	--
<i>Permits/Licences</i>	--	No major environmental deficiency was identified during the reporting month.	--

10 IMPEMENTATION STATUS OF ENVIRONMENTAL MITIGATION MEASURES

- 10.1 According to the EIA Report, EP and the 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 M**.
- 10.2 The compliance status of environmental mitigation measures related to the Project according to EP are summarised in **Table 10.1**.

Table 10.1 Compliance Status of Related Environmental Mitigation Measures

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
<u>Submission and Measures to Mitigate Ecological Impact</u>				
To reduce the ecological impact during construction and operation stages of the Project, a series of ecological mitigation measures shall be implemented as conforming to the relevant information and recommendations, including those described in Section 12.7 (Ecological Mitigation Measures), contained in the EIA Report. The key ecological mitigation measures shall include:				
(a) conducting pre-construction search for any otter holts/dens and herpetofaunal species of conservation concern in construction sites, with remedial measures such as setting of no works area around otter holts/den and translocation of important species identified, if any;	Completed	November 2018	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	No otter holts/dens and herpetofauna species of conservation concern were identified.
		July 2021	Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	
(b) creating and establishing an Ecological Area, approximately 12.78 ha. in size, containing reed marsh and marsh habitat prior to total clearance of reed marsh in the Loop, including a lowrise building buffer zone of 50m width from the Ecological Area, with appropriate screenplanting;	Completed (for creating and establishing an Ecological Area)	Dec 2022	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	Ecological monitoring survey in the EA Zone during the 12-month establishment (1st January 2021 - 31st December 2021) and further 12-month establishment periods (1st January 2022 – 31st December 2022). The records of a key mammal, all six key bird, one key herpetofauna and three key dragonfly species, as well as the breeding nests of birds and other species of conservation importance demonstrate the positive attractiveness of this established EA Zone in Lok Ma Chau Loop.
		Not Completed (for lowrise building buffer zone of 50m width from the Ecological Area, with appropriate screenplanting;)		Operation phase ecological mitigation measure

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
(c) stabilising the bank of the old Shenzhen River meander of the Loop, approximately 3.5 km long, including re-vegetation upon completion of the works and various ecological designs, such as practicability of installation of otter holts and provision of potential feeding area and spraint locations for otters in the stabilised bank;	Not Completed			To be implemented under Main Works Package 1
(d) creating a 23 m minimum width vegetated setback at the edges of the Loop along the southwestern and north-eastern sections of the meander;	Not Completed			Operation phase ecological mitigation measure
(e) installing 3m-high olive green fence around construction areas to allow or deter different animal passages where appropriate;	Completed	Dec 2020	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	
	On-going		Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	The Contractor was reminded to maintain the green fence around construction areas.

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
(f) providing (i) permanent compensatory off-site wetland areas; and (ii) construction stage temporary compensatory off-site wetland areas during various construction stages of the Project, in advance of any corresponding wetland loss;	Completed	Oct 2022		To mitigate the potential indirect and indirect construction disturbance of the LMC Loop Project (including the WCR); in which specific habitat features to promote their user by Eurasian Otter has been constructed, including the establishment of wetlands, otter holts, floating platforms, and rock platforms. Ecological monitoring survey in the OWCA during the 12-month establishment (October 2022 – October 2023).
(g) providing at least 0.4 ha woodland compensation area by planting trees and shrubs near Horn Hill, to compensate for the loss of woodland affected by the Western Connection Road (WCR) and other works of the Project;	Not Completed			To be implemented under Main Works Package 1
EP-477/2013/A (1 to 28 December 2023) (h) carrying out outside dry-season (from November to February next year), the construction works associated with the site formation in the Ecological Area, stabilization of the bank of the old Shenzhen River meander, Western Connection Road along Ha Wan Tsuen Road, to minimise disturbances to migratory birds/water birds;	Completed (the construction works associated with the site formation in the Ecological Area)	Dec 2020	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	.
EP-477/2013/B (29 to 31 December 2023) (h) carrying out outside dry-season (from November to February next year), the construction works associated with the site formation in the Ecological Area and stabilization of the bank of the old Shenzhen River meander, to minimise disturbances to migratory birds/water birds;	Not Completed (stabilization of the bank of the old Shenzhen River meander)			To be implemented under Main Works Package 1
	Until 28 December 2023 (Western Connection Road along Ha Wan Tsuen Road)		Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	Until 28 December 2023 according to EP-477/2013/B

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
<p><u>EP-477/2013/A (1 to 28 December 2023)</u> (i) using powered mechanical equipment for construction works only during the period 9am to 5pm at and near the old Shenzhen River meander and other identified important ecologically sensitive areas, if any;</p> <p><u>EP-477/2013/B (29 to 31 December 2023)</u> (i) using powered mechanical equipment for construction works only during the period 9am to 5pm at and near the old Shenzhen River meander (except the Meander Bridge) and other identified important ecologically sensitive areas, if any;</p>	On-going		Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	Site wide implementation. Restriction zone at 25m from the EA zone and 23m from the Meander according to approved HCMP (May 2022 (Issue 3)).
(j) prohibiting use of direct lighting on the old Shenzhen River meander and controlling nighttime lighting to reduce potential ecological impact;	Completed	Dec 2020	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	
	On-going		Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	Site wide implementation.
(k) implementing measures to minimise magnitude of construction runoff and to avoid/minimise the potential impact of spillage events, if any; and	Completed	Dec 2020	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	
	On-going		Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	Site wide implementation.

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
(l) using opaque noise barriers along the proposed roads and using appropriate glass and façade treatment for buildings in the Loop to minimise the mortality of fast-moving wildlife (e.g. birds).	Completed (for temporary noise barriers)	July 2021	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	
	Completed (for temporary noise barriers)	July 2022	Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	
	Not Completed (for Operation Stage Noise barriers and using appropriate glass and façade treatment for buildings in the Loop)			Operation phase ecological mitigation measure

EP Condition 2.7	Status	Completion Time	Under Contract	Remarks
Four hard copies and two electronic copies of an Ecological Mitigation / Habitat Creation and Management Plan shall be, at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director. The Plan(s) shall show the design details, locations, implementation programme, maintenance and management schedules, and drawings in the scale of 1:1,000 or other appropriate scale of the ecological mitigation measures of the Project. Before submission to the Director, the Plan(s) shall be certified by the ET Leader and verified by the IEC as conforming to the relevant information and recommendations contained in the EIA Report. All measures recommended in the finalised submission(s) under this Condition shall be fully and properly implemented.	Completed	May 2022 (Issue 3)	Development of Lok Ma Chau Loop – land decontamination and advance engineering works	
		Nov 2021 (Issue 4)	Development of Lok Ma Chau Loop – Main Works Package 1 – site formation and infrastructure works	

EP Requirements	Compliance Status	Remarks
Submissions or Measures to be implemented for Construction of the Project		
EP Condition 2.9 To mitigate construction stage noise impact, the following noise mitigation measures shall be implemented during the construction stage of the Project:		
(a) temporary noise barriers shall be installed along the construction access roads to screen the construction traffic noise and noisy construction activities and equipment during different construction stages of the Project as described in Table 1 and Figures 2a, 2b, 3a and 3b of this Permit;	Yes	The temporary noise barriers (TNBs) along LMC Road were completed under the Contract in October 2021 (Figures 2a and 2b of EP-477/2013/B). (Appendix N) The TNBs installation under Contract 2 were completed in August 2022 (Figures 3a and 3b of EP-477/2013/B). (Appendix N) Due to the updated site condition, TNB5 deems to serve the function of TNB16 before the commencement of road widening works of the Western Connection Road.
(b) use of movable noise barriers, noise enclosures and quiet powered mechanical equipment for the noisy construction activities and equipment as described in Table 1 and with reference to the typical designs as shown in Figure 4 of this Permit;	Yes	-
(c) concrete lorry mixer(s) shall be operated at least 25 m away from the noise sensitive receivers (NSRs) No. HWTR-6 and HWTR-11 at the Western Connection Road as shown in Figures 2b and 3b as described in Table 1 of this Permit to avoid exceedance due to cumulative construction noise; and	Yes	-
(d) no percussive piling nor blasting by explosive shall be implemented in the Project.	Yes	-
EP Condition 2.10 To Mitigate Construction Stage Fisheries Impact		
For some fish ponds which will be partly affected by construction works, to mitigate construction stage fisheries impacts, a layer of sheet pile/barrier wall shall be erected to separate the works area from the remaining areas of the affected fish ponds before the commencement of other construction works, e.g. excavation or filling within the works area. The sheet pile/barrier wall shall be constructed by non-percussive piling method (e.g. Press-in method) to reduce the fisheries impact. In addition, the sheet pile/barrier wall shall have impermeable lining to minimise water loss from the fish pond to the works area.	Not applicable	Based on the ground truthing during the weekly site inspections / site visits prior to the commencement of the works at all Ponds, no fisheries impacts were anticipated due to the following observation: <ul style="list-style-type: none"> • No aquaculture activities include drying of ponds, reprofiling, harvesting and feeding; • No evidence of recently used pond culture equipment; • No presence of fish-rearing paraphernalia and • No evidence of trimming of vegetation growing on pond bund. As such, the erection of sheet

EP Requirements	Compliance Status	Remarks
		pile/barrier wall to mitigate construction stage fisheries impacts as stated in Condition 2.10 of the EP would not be applicable. The photographic records of Ponds in January 2024 are shown in Appendix S .
EP Condition 2.12 To Mitigate Construction Stage Water Quality Impact		
To reduce sediment transport arising from the stabilisation works at the bank of the old Shenzhen River meander of the LMC Loop, cofferdam/diaphragm wall and/or silt curtain system shall be deployed to surround the works area, from water surface down to the bottom of the meander, in order to minimise the sediment loss to the water body outside the works areas.	Yes	Silt curtain system was deployed to surround the works area under YL/2020/01.
EP Condition 2.14 To Minimise the Disturbance to the Reedbed System of MTR LMC Spurline		
For the construction of the Direct Link, the existing reeds in the reedbed system of the MTR LMC Spurline shall not be removed by the construction works of the Project, except for the 2 areas with a total area of approximately 320 m ² in size within the Reedbed No. 3 as shown in Figure 5 of this Permit. Upon the completion of works at the reedbed system, the affected reedbed system shall be reinstated.	Yes	These measures have been implemented under YL/2020/02.

Remark: N/A – Not fulfilled yet

Ecological Mitigation Measures – Offsite Wetland Compensation Areas (OWCAs)

- 10.3 According to the EIA Report, habitat loss and disturbance impacts are predicted for both construction and operation phase of the development of Lok Ma Chau Loop. All these impacts are expected to be compensated both temporarily (during construction phase) and permanently (during operation phase). Among other measures identified from EIA report to avoid, minimize and compensate for identified impacts, three areas of existing fishpond habitat (Areas 2, 7 and 9) were proposed in the EIA Report to provide OWCAs.
- 10.4 These Areas are located within a Priority Site for Enhanced Conservation, namely "Deep Bay wetlands outside the Ramsar site". Many of these fishponds are currently participating in the Nature Conservation Management Agreement Scheme in the Northwest New Territories, which has the objective of restoring and enhancing the conservation value of commercial fishponds in the area. In general, the activities involved in the establishment of OWCAs are in nature the same as those associated with commercial fishpond management currently taking place in the area. Therefore, there are no direct implications for the ecological impacts at OWCAs according to Section 12.7.9 of EIA report.
- 10.5 Under EP, an Ecological Mitigation/ Habitat Creation and Management Plan (HCMP) is required for all habitat compensation measures required by the Project EIA. The OWCAs are established according to the HCMP which provides a framework and specifications for development and management of the OWCAs.

- 10.6 The OWCA (Areas 2, 7 and 9) has been substantially completed and the starting date of establishment period is confirmed by AFCD on 14th October 2022.
- 10.7 According to Section 6.1.2 of approved HCMP, the monitoring of the OWCA have been commenced for the establishment period starting from 14th October 2022. The Environmental Team would undertake the monitoring role through relevant EIAO Documents, audit mechanisms, participation at meetings, as well as certification of results and reports according to EM&A Manual, Section 11.5. The Monthly Monitoring and Management Report for OWCA would be submitted by the Ecologist under YL/2020/01 separately.

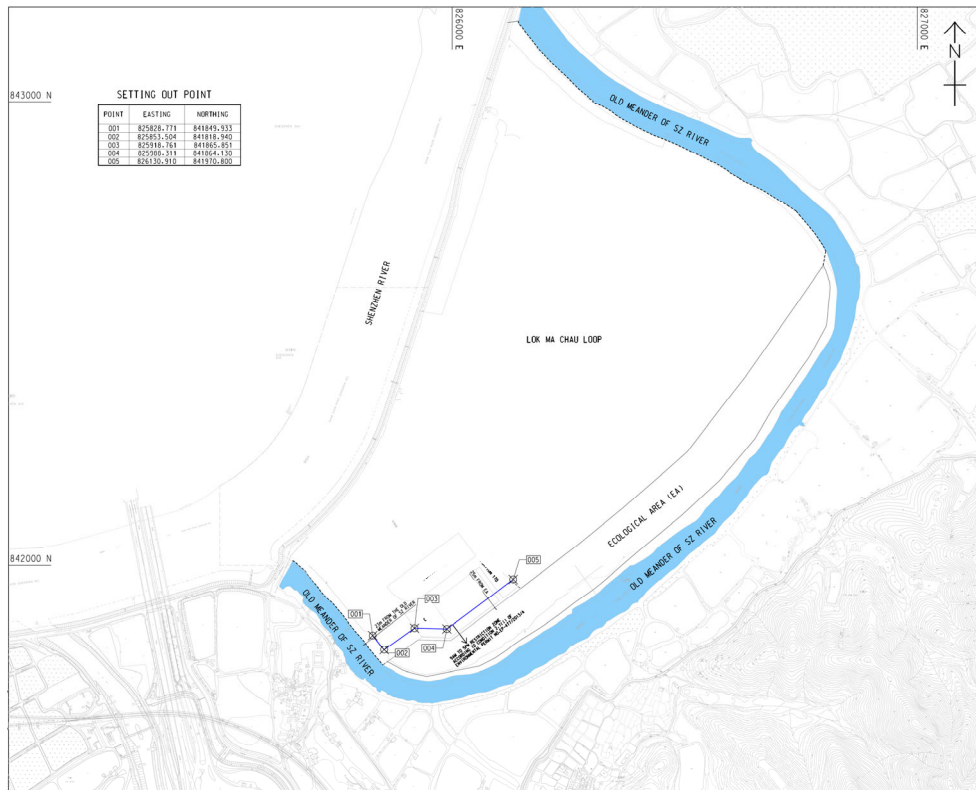
Ecological Mitigation Measures – Installation of 3m-high Olive Green Fence

- 10.8 The green fence around the future Ribbon Park Reedbed has been removed and replaced by the hoarding due to the other project’s land occupier since March 2022. (See Figure & photo below)



- 10.9 Installation of the green fence alongside the Ecological Area and the Meander was

proposed and completed on 20th May 2022. The layout plan of the green fence installation is shown below: -



10.10 The Contractor was reminded to maintain the green fence around construction areas and ensure no disturbance to the exiting trees and reed marsh habitat subject to the latest situation of LMC Loop.

11 ENVIRONMENTAL NON-CONFORMANCE (EXCEEDANCES)

Summary of Exceedances

- 11.1 Summary of exceedances is provided in **Appendix K**.
- 11.2 No Action/Limit Level exceedance was recorded for air quality monitoring, construction noise and water quality monitoring.

Summary of Environmental Complaint

- 11.3 One environmental complaint related to construction noise was received in the reporting month. The statistical summary table of the environmental complaints is presented in **Table 11.1** and the details and status of the investigation are presented in Complaint Log as attached in **Appendix P**.

Table 11.1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Project related complaint
Jan 2019 – Dec 2023	23	24	1
Jan 2024	1		0

Summary of Notification of Summons and Successful Prosecutions

- 11.4 There was no prosecution or notification of summons received since the commencement of the Project. The statistical summary table of the summons and prosecution are presented in **Tables 11.2** and **11.3** respectively. Summary of successful prosecution as attached in **Appendix Q**.

Table 11.2 Statistical Summary of Environmental Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Project related summon
Jan 2019 – Dec 2023	0	0	0
Jan 2024	0		0

Table 11.3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Project related Prosecution
Jan 2019 – Dec 2023	0	0	0
Jan 2024	0		0

12 FUTURE KEY ISSUES

Key Issues in the Coming Months

12.1 Major site activities for the coming reporting months will include:

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

- (a) Road L1 Drainage and Underground Utilities (UU) enabling works
- (b) Structure Construction for Box Culverts
- (c) Retaining Wall & Slope Works at WCR
- (d) Drainage Works and Roadworks
- (e) Woodland Compensation Works
- (f) Meander Bridge South Piers Cap and Northern Span Construction
- (g) Public Transport Interchange (PTI) drainage works
- (h) Wetland Fence Construction
- (i) Deep Cement Mixing (DCM) Works

Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Reedbed Cell No. 3A

- (a) Monthly monitoring of the polishing function of the Reedbed Cell No. 3A.

DRL

- (b) Temporary works.
- (c) Bored Pile works.
- (d) Sheet piling works.
- (e) ELS works.
- (f) Segment precast.
- (g) Pier construction.
- (h) Construction of pile cap.

LMC Road

- (i) Sheet-piling works.
- (j) Drainage works.
- (k) Bored piling works.
- (l) Water main installation.
- (m) Pile cap construction.

- (n) Nullah modification works
- (o) Site formation.
- (p) Underground utilities works.
- (q) Constriction of noise barrier.
- (r) Soil-nailing.
- (s) Construction of box culvert.
- (t) Construction of retaining wall.

Fanling Highway

- (u) Construction of retaining wall.
- (v) Pier construction.
- (w) Installation of pierhead segment.
- (x) Backfilling works for retaining wall.
- (y) Sheet-piling works for retaining wall.
- (z) Full span erection.
- (aa) Fabrication of precast segment.
- (bb) Installation of parapet at retaining wall.
- (cc) Construction of subway.

Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2

- (a) LMC Station Structural Steel Materials Delivery.
- (b) LMC Station Strengthening Works.
- (c) ELS Works and Pile Caps & Tie Beam Construction at Elevated PTI and Double-deck Footbridge.
- (d) Elevated PTI Superstructure Construction.

12.2 Dust can be generated during construction works and exposed site area during dry weather. To prevent high dust concentrations, the Contractor should pay attention on the air quality mitigation measures as far as practicable to minimise the dust impact to the villages which are located adjacent to the Project works. The Contractor was also reminded to follow the Project Implementation Schedule in the approved EIA report / EM&A Manual to implement appropriate dust control measures including “watering in all works areas once per hour during working hours to control fugitive dust impact, particularly during dry weather and covering any excavated or stockpile of dusty material by impervious sheets and spraying all dusty material with water immediately prior to any loading transfer operations to keep the dusty materials wet during material handling at the stockpile areas” as well as the relevant dust control practices as stipulated in the Air Pollution Control (Construction Dust) Regulation such that no adverse dust impact would arise from the Project works.

12.3 Ecology is also one of the key environmental issues during construction of the Project.

Noise pollution has a negative impact on wildlife species by reducing habitat quality. Therefore, noise mitigation measures such as using quiet plants and noise barriers should be in place, where applicable. The Contractor should properly maintain the temporary noise barriers by frequently checking and maintaining the acoustic materials wrapped on noisy part of PME and ensure no gaps between noise barriers; proactively identify any potential construction noise impact to NSRs and provide sufficient mitigation measures if necessary. Moreover, the fencing used for the site boundary and as a visual barrier during the construction phase shall also be properly maintained at 3m high and of a dull or olive green colour, in order to minimise visual impact as this fencing is to shroud the most visible human activity (movement of persons and vehicles) from adjacent wetland areas. All ecological mitigation measures recommended in the Project Implementation Schedule in EP / approved EIA report / EM&A Manual should be properly implemented and maintained as far as practicable.

- 12.4 The Contractor is recommended to arrange and maintain the water quality mitigation measures according to the construction site drainage plan. 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 site/sediment trap. The sediment/silt traps should be incorporated in the permanent drainage channels to enhance deposition rates. Efficient silt removal facilities shall deploy to ensure all treated effluent from wastewater treatment plant shall meet the requirements as stated in WPCO licences and drainage facilities shall be not be clogged with sediment to avoid overflow during rainy season. The site drainage plan shall also be updated based on the site condition and construction programme.

Monitoring Schedule for the Next Month

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

Construction Programme for the Next Month

- 12.6 Tentative construction programmes are provided in **Appendix A**.

13 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

- 13.1 The EM&A Report presents the EM&A works undertaken in January 2024 in accordance with EM&A Manual.

Air Quality

1-hour TSP Monitoring

- 13.2 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

24-hour TSP Monitoring

- 13.3 All 24-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Construction Noise

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

Water Quality

- 13.5 All water quality monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Ecological Monitoring

LMC Loop

Avifauna (Flight Line Survey)

- 13.6 Avifauna monitoring was conducted as scheduled in the reporting month. Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including EA Zone and along Shenzhen River. It demonstrates that the large waterbirds including migratory waterbirds, Great Cormorant and Black-faced Spoonbill prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Mammals

- 13.7 According to Clause 11.4.1.2 of the EM&A Manual, the connectivity between the reed marsh in the LMC Loop and the EA Zone has been fenced off due to other project's land occupier.
- 13.8 In addition, the 12-month establishment period of EA zone has been completed. The mammals monitoring in the Loop was therefore temporarily suspended in the reporting month and will be resumed subject to the site condition.

Western Connection Road*Avifauna (Flight Line Survey)*

- 13.9 Avifauna monitoring was conducted as scheduled in the reporting month. Flight lines recorded were in general concentrated mainly on LMC Meander and adjacent areas including Ecological Area Zone (EA Zone) and along Shenzhen River. It demonstrates that the large waterbirds including migratory waterbirds, Great Cormorant and Black-faced Spoonbill prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Avifauna (Pond 12)

- 13.10 Avifauna survey at Pond 12 was conducted as scheduled in the reporting month. Weekly count of birds using the Pond was recorded. No significant impact of construction activities on bird use of the pond was observed.

Herpetofauna

- 13.11 No herpetofauna survey was conducted during the period between November 2023 to February 2024 according to Section 11.4.2.2 of EM&A Manual.

Aquatic fauna

- 13.12 Aquatic fauna survey was conducted as scheduled in the reporting month. No significant impact of construction activities on the stream was observed.

Land Contamination

- 13.13 Decontamination for five arsenic-contaminated zones (LD01 - LD05) identified in LMC Loop was completed and the final Remediation Report was submitted and approved by EPD in accordance with Condition 2.16 of the EP under Contract No. YL/2017/03.
- 13.14 No work related to land contamination was conducted in the reporting month.

Environmental Site Inspection

- 13.15 Environmental site inspections were conducted on 3rd, 8th, 11th, 15th, 17th, 22nd, 24th and 29th January 2024 by ET in the reporting month.

Environmental Complaints, Summons and Prosecutions

- 13.16 One environmental complaint related to construction noise was received in the reporting month.
- 13.17 No notification of summons or successful prosecution was received in the reporting month.
- 13.18 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.

Recommendations

13.19 According to the environmental audit performed in the reporting month, the following recommendations were made:

Air Quality Impact

- To provide the dust suppression measures such as water spraying on all haul roads, exposed work site areas and dust generation works;
- To provide and maintain impervious materials to cover the stockpiles of dusty materials or erecting dust screen for the work site near public road;
- To design, establish and properly use the wheel washing facilities at the site exits;
- To pave the site exits / entrances;
- To keep maintain machinery to prevent emission of black smoke; and
- To inspect NRMM labels which should be displayed for all regulated machines.

Noise Impact

- To inspect the noise sources inside the site;
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers; and
- To provide and maintain properly temporary noise barriers or other appropriate sound reduction measures for operations of noisy equipment near the noise sensitive receivers, if necessary.

Water Impact

- To properly deploy and check regularly the silt curtain, ensure the works area are completely surrounded, and prevent any surface runoff discharge into the old Shenzhen River meander or stream;
- To establish, review and implement temporary drainage system;
- To identify any wastewater discharges from site;
- To provide maintenance on any leaking hoses to prevent water leakage;
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge;
- To provide and enhance the protection and bunding around the storage area for excavated materials;
- To review the capacity of de-silting facilities for discharge and update maintenance records of wastewater treatment facilities;
- To ensure the drainage facilities are probably protected and maintained;
- To maintain the cover for the exposed slope surfaces by tarpaulin or other means;
- To designate the area for wheel washing and set up the associated drainage for water from a wheel wash;
- To pave the exit points and ensure vehicles leaving the site are free from debris of dirt;
- To implement the effective water quality mitigation measures according to the site drainage plan, and review the site drainage plan measures as appropriate; and
- To regularly clear any floating vegetation at the meander to ensure a good flow of water.

Ecology Impact

- To maintain properly the 3m high olive-green fence around the construction site and along the works of meander bridge;
- To provide and maintain visual barrier along Ha Wan Tsuen Road;
- To ensure the powered mechanical equipment for construction works only during the period 9am to 5pm at and near the old Shenzhen River meander and other identified important ecologically sensitive areas, if any; and
- To prevent any surface runoff discharge into the stream, further enhance and secure the existing mitigation measures so as to prevent debris and runoff from discharging into nearby nullah.

Waste/Chemical Management

- To check for any accumulation of waste materials or rubbish on site and remove them promptly;
- To carry out inspection of dump trucks at site exit to ensure inert and non-inert C&D materials are properly segregated before delivering off site;
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment and the site;
- To maintain the drip tray well and/or provide tarpaulin sheet properly for equipment to prevent oil and chemical leakage; and
- To avoid improper handling, storage and dispose of oil drums or chemical containers on site.

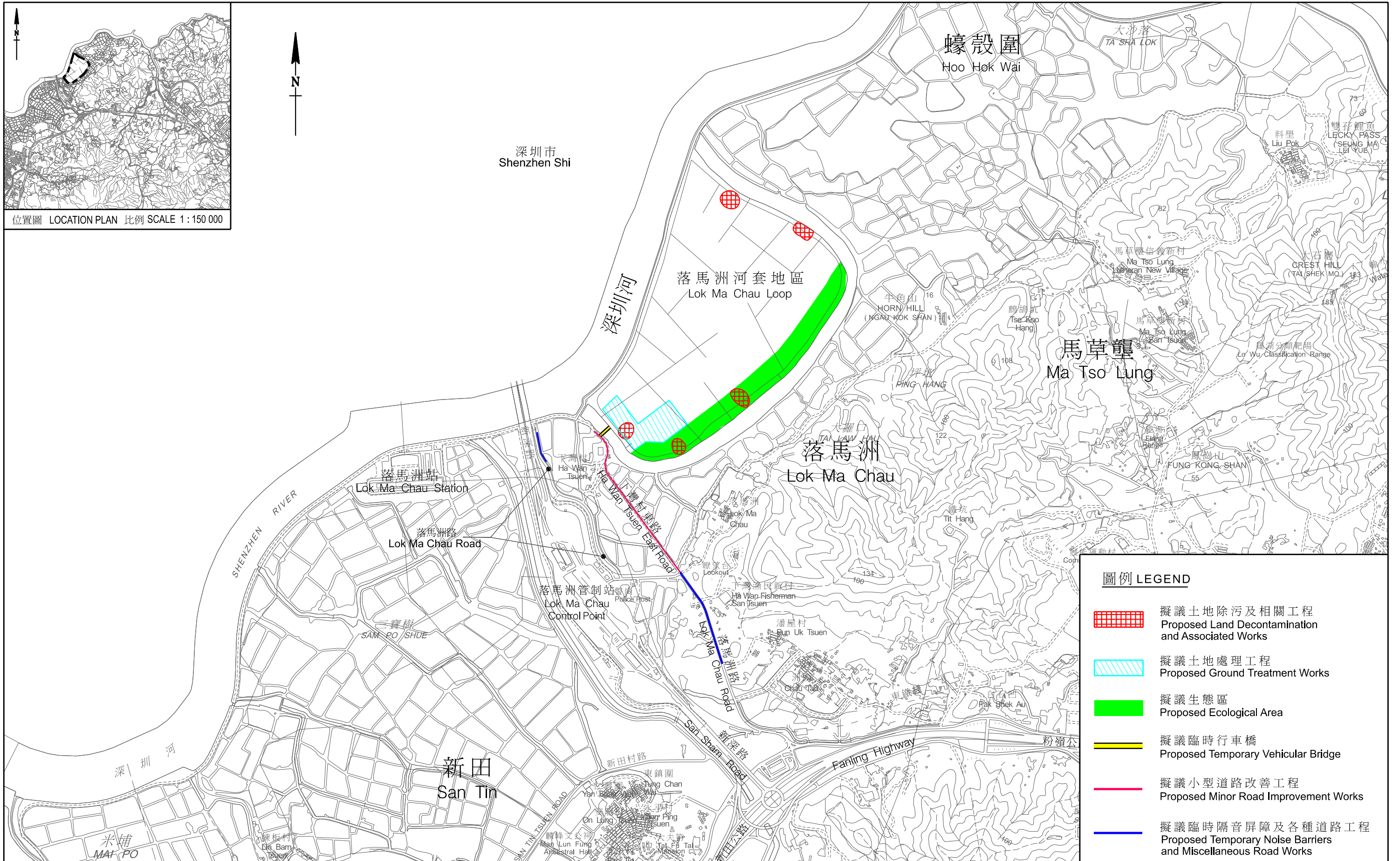
Landscape and Visual

- To erect and properly maintain the protection fencing and tree protection zone around the preserved trees; and
- To avoid placing construction materials within the tree protection zone.

Permits/Licences

- To display the Environmental Permit conspicuously on site.

FIGURE(S)



工務計劃項目第748CL號—落馬洲河套地區發展：土地除污及前期工程
 PWP ITEM No. 748CL-DEVELOPMENT OF LOK MA CHAU LOOP :
 LAND DECONTAMINATION AND ADVANCE ENGINEERING WORKS

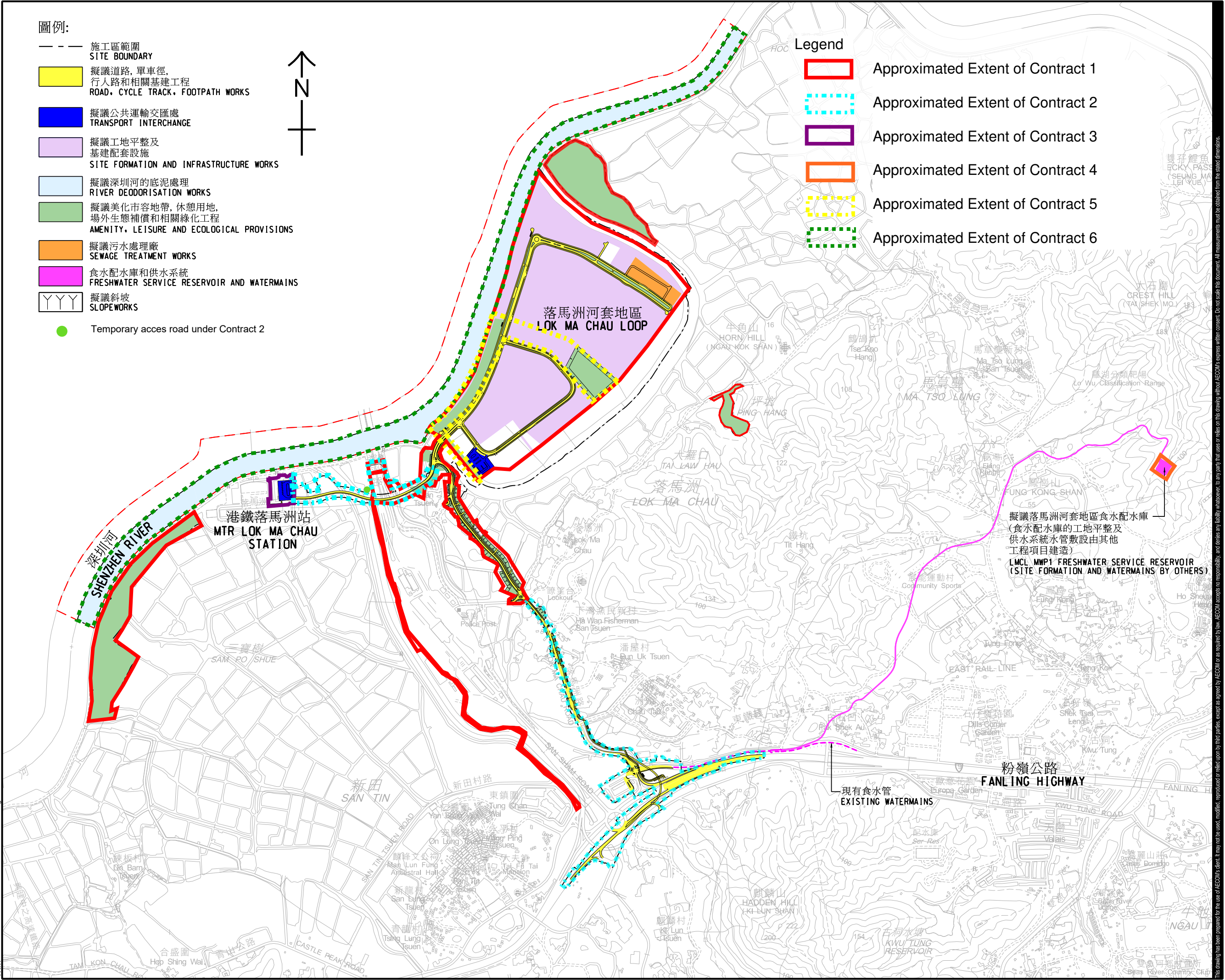
FIGURE 1 a
 LAYOUT PLAN

ISO A1 594mm x 841mm
Approved:
Checked:
Designer:
Project Management Initials:
5/12/2020
P:\PROJECTS\60588085\DRAWING\SKETCH\SK0099.dgn
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- 圖例:**
- 施工區範圍
SITE BOUNDARY
 - 擬議道路, 單車徑, 行人路和相關基建工程
ROAD, CYCLE TRACK, FOOTPATH WORKS
 - 擬議公共運輸交匯處
TRANSPORT INTERCHANGE
 - 擬議工地平整及基建配套設施
SITE FORMATION AND INFRASTRUCTURE WORKS
 - 擬議深圳河的底泥處理
RIVER DEODORISATION WORKS
 - 擬議美化市容地帶, 休憩用地, 場外生態補償和相關綠化工程
AMENITY, LEISURE AND ECOLOGICAL PROVISIONS
 - 擬議污水處理廠
SEWAGE TREATMENT WORKS
 - 食水配水庫和供水系統
FRESHWATER SERVICE RESERVOIR AND WATERMANS
 - 擬議斜坡
SLOPEWORKS
 - Temporary access road under Contract 2



- Legend**
- Approximated Extent of Contract 1
 - Approximated Extent of Contract 2
 - Approximated Extent of Contract 3
 - Approximated Extent of Contract 4
 - Approximated Extent of Contract 5
 - Approximated Extent of Contract 6



PROJECT
DEVELOPMENT OF
LOK MA CHAU LOOP
MAIN WORKS PACKAGE 1
DESIGN AND
CONSTRUCTION

CLIENT
土木工程拓展署
Civil Engineering and
Development Department

CONSULTANT
AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

ISSUE/REVISION

I/R	DATE	DESCRIPTION	CHK.

STATUS

SCALE
A1 1: 8000

DIMENSION UNIT
METRES

KEY PLAN

PROJECT NO.
60588085

CONTRACT NO.
CE 5/2018(CE)

SHEET TITLE
落馬洲河套地區發展 -
第一期主體工程 -
工程平面圖 (圖一)
PROJECT LAYOUT (Figure 1b)

SHEET NUMBER
60588085/SK0099

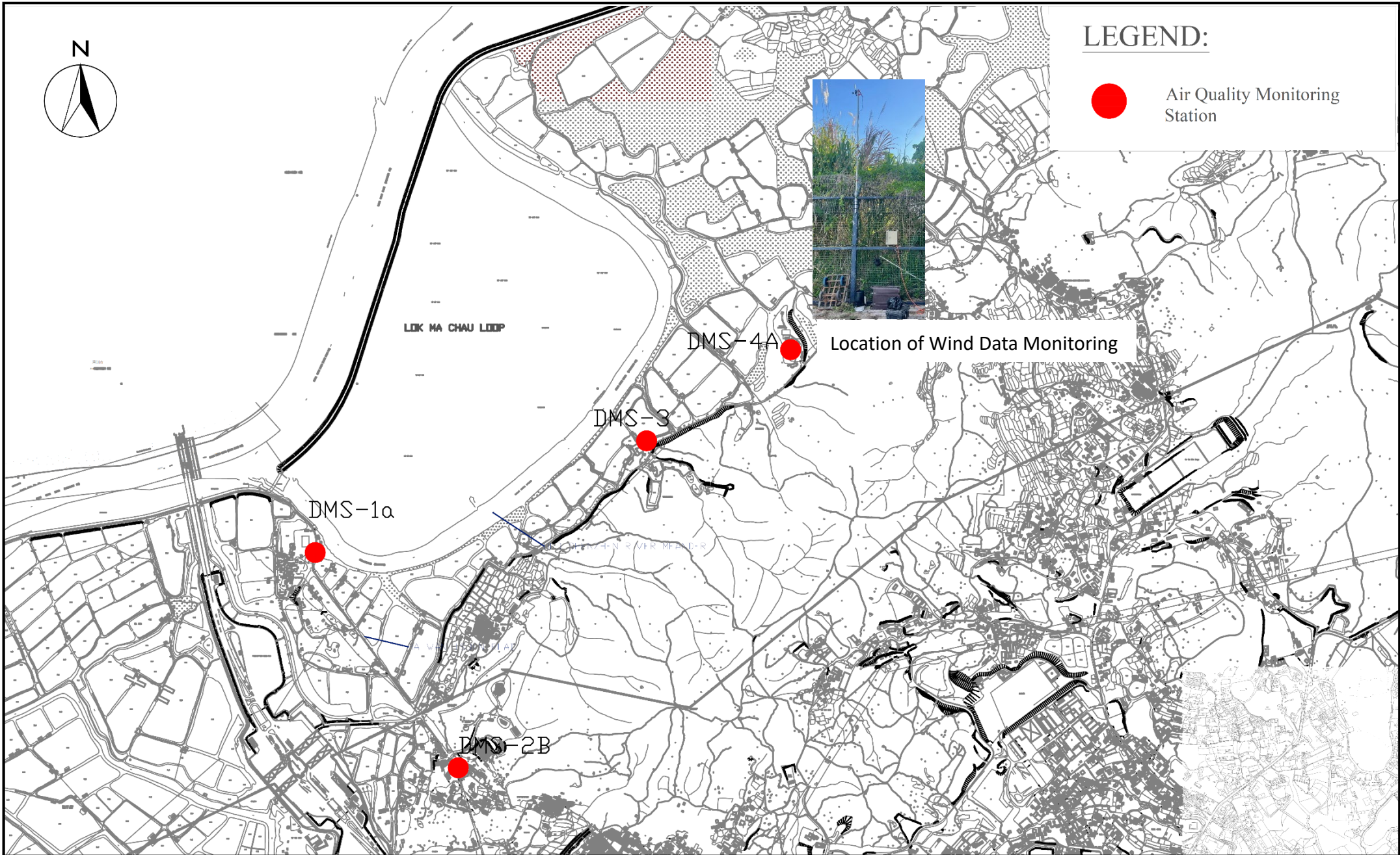


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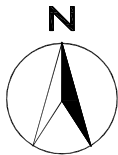
 Air Quality Monitoring Station



Location of Wind Data Monitoring

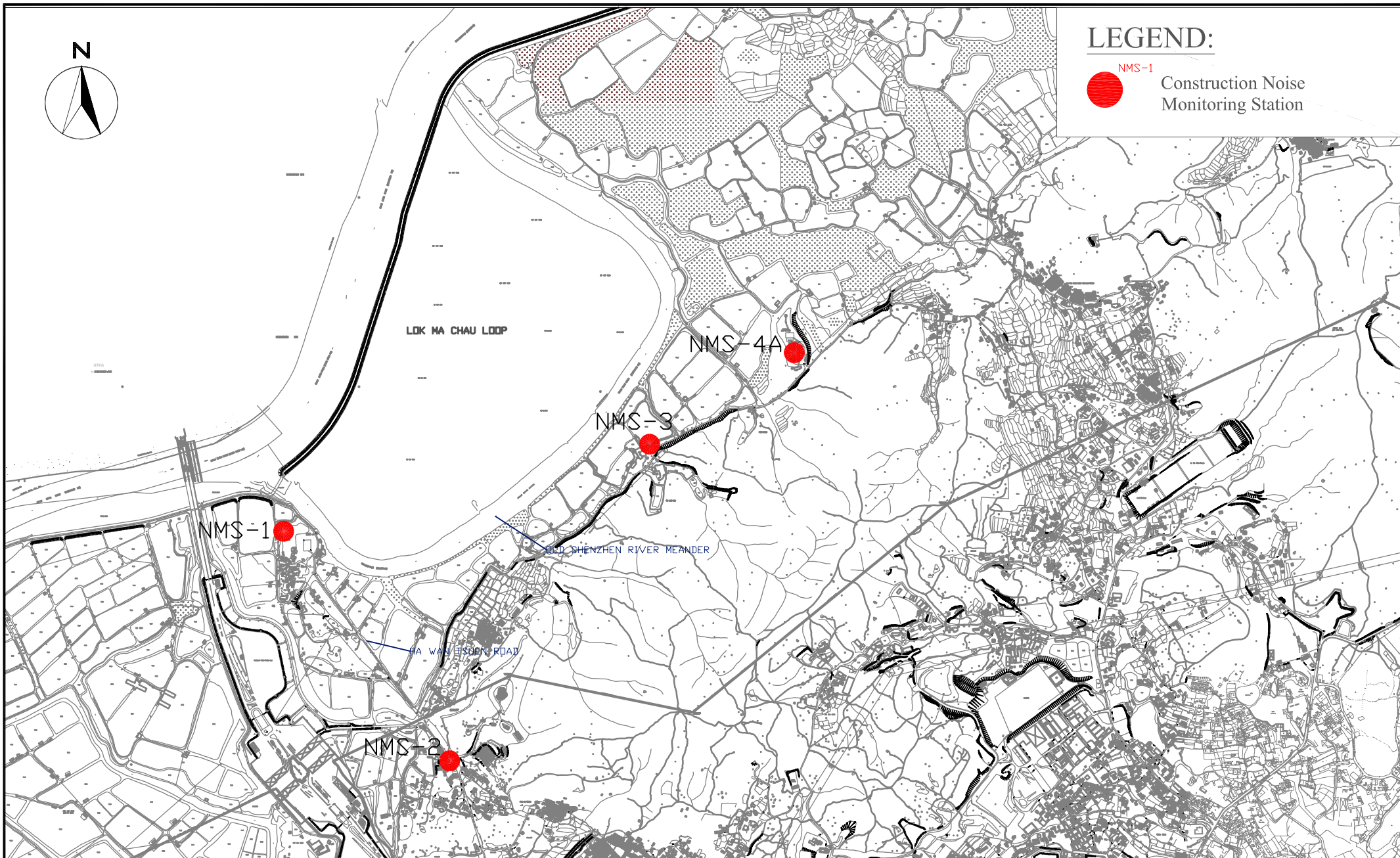


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CHECK	PC	DRAWN	IT
JOB No.	WMA21009	FIGURE NO.	Fig 2
		REV	-

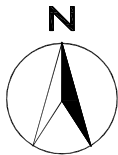


LEGEND:

NMS-1
 Construction Noise Monitoring Station

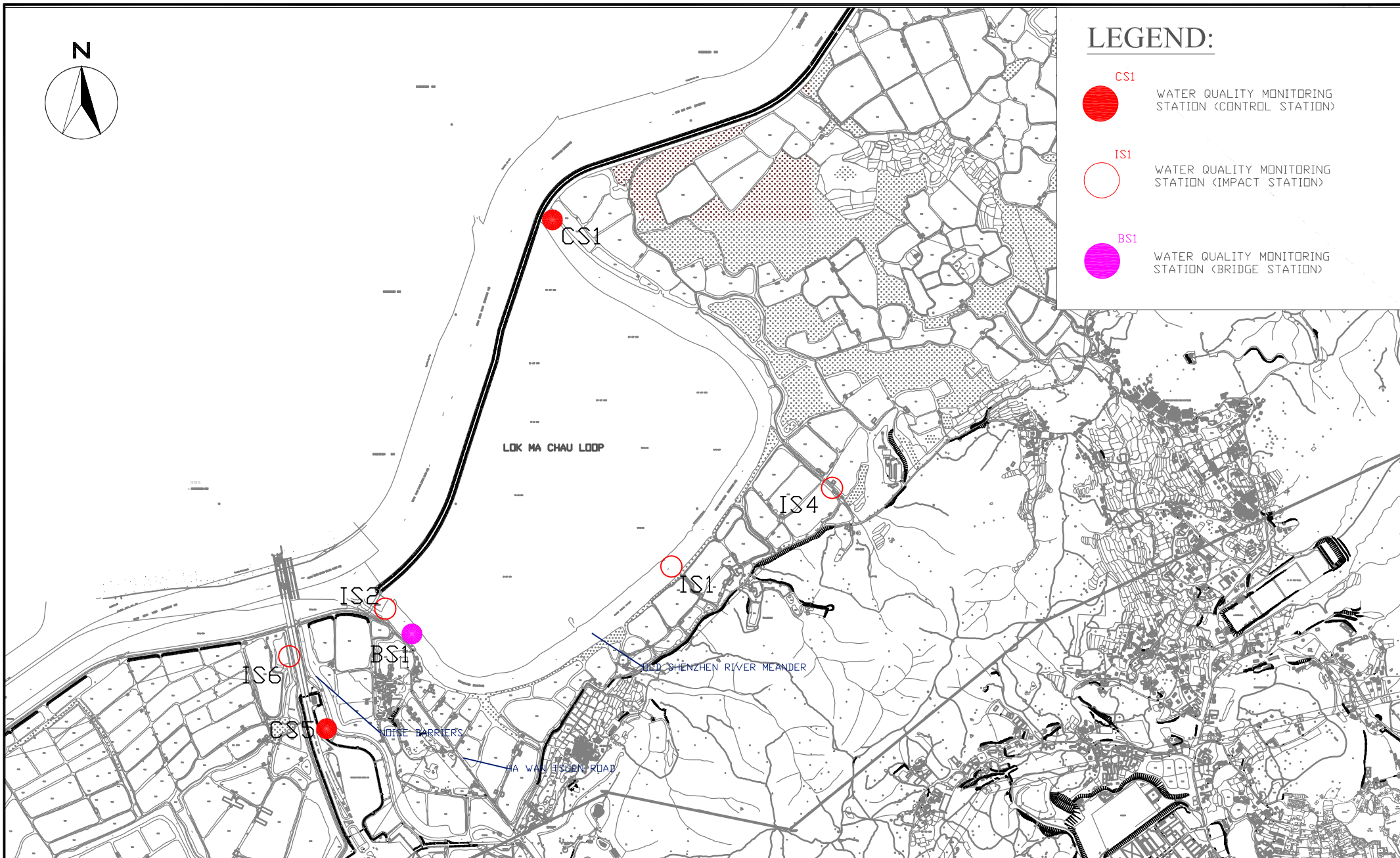


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		REV	-

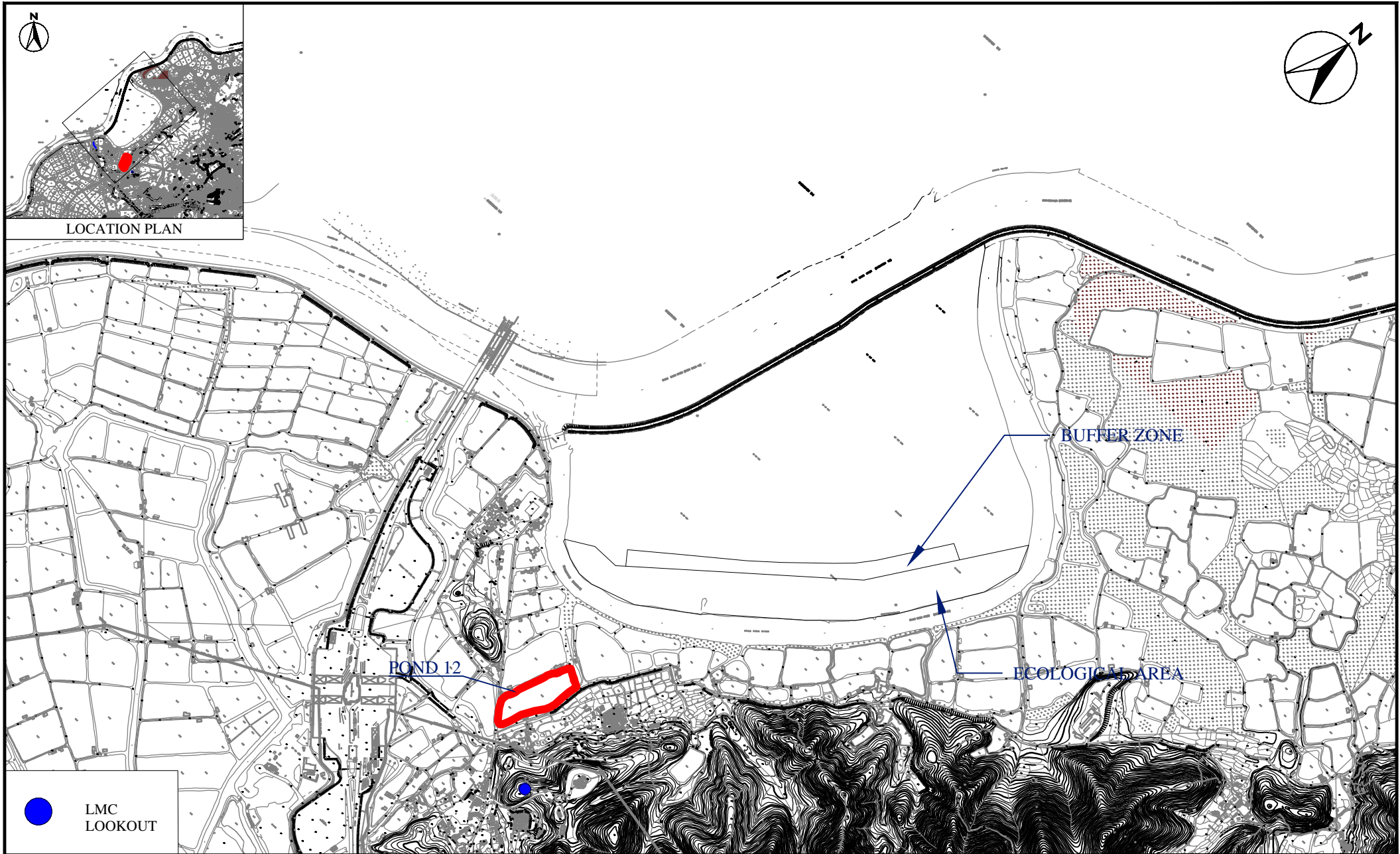


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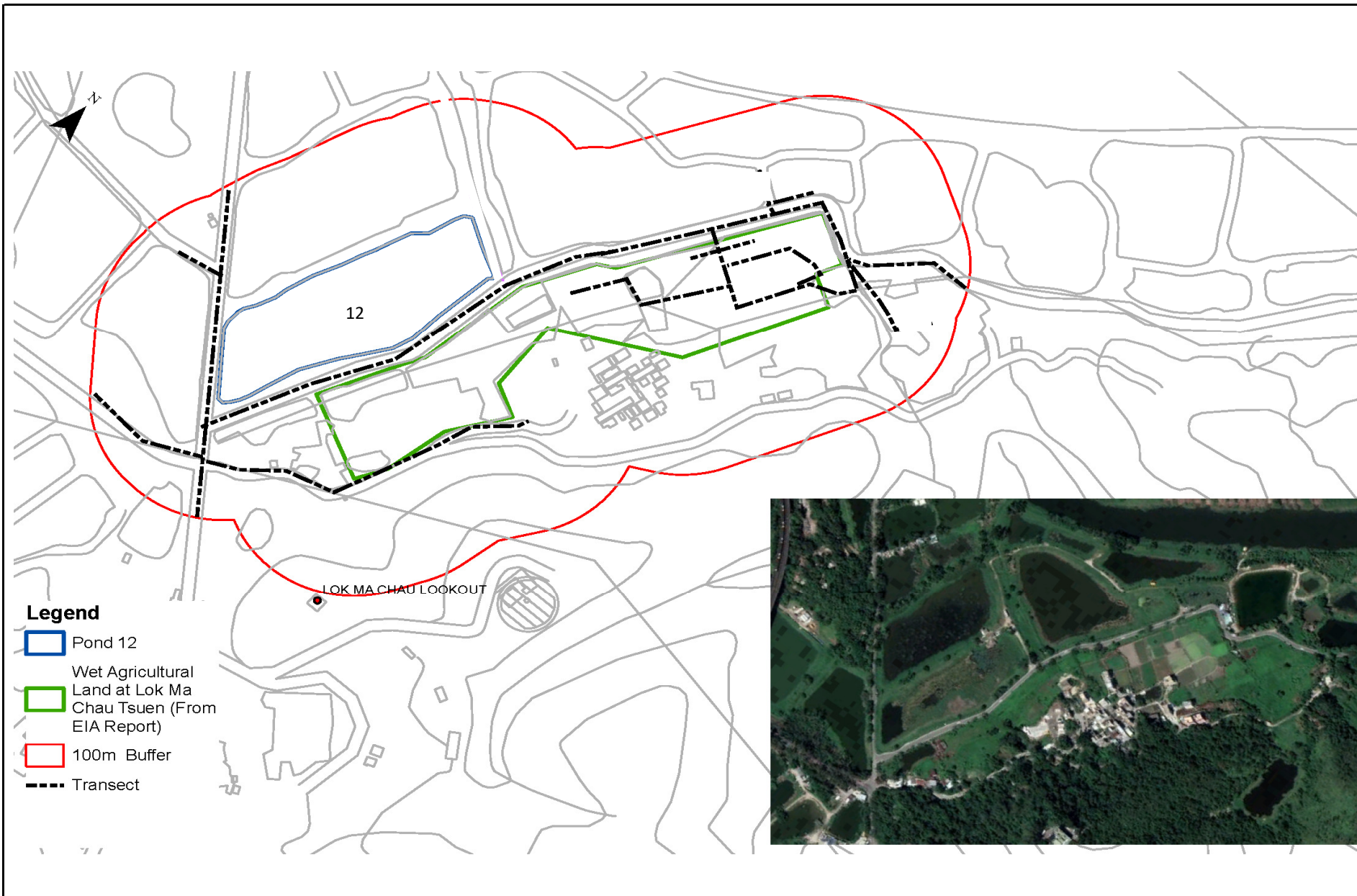
- CS1 WATER QUALITY MONITORING STATION (CONTROL STATION)
- IS1 WATER QUALITY MONITORING STATION (IMPACT STATION)
- BS1 WATER QUALITY MONITORING STATION (BRIDGE STATION)



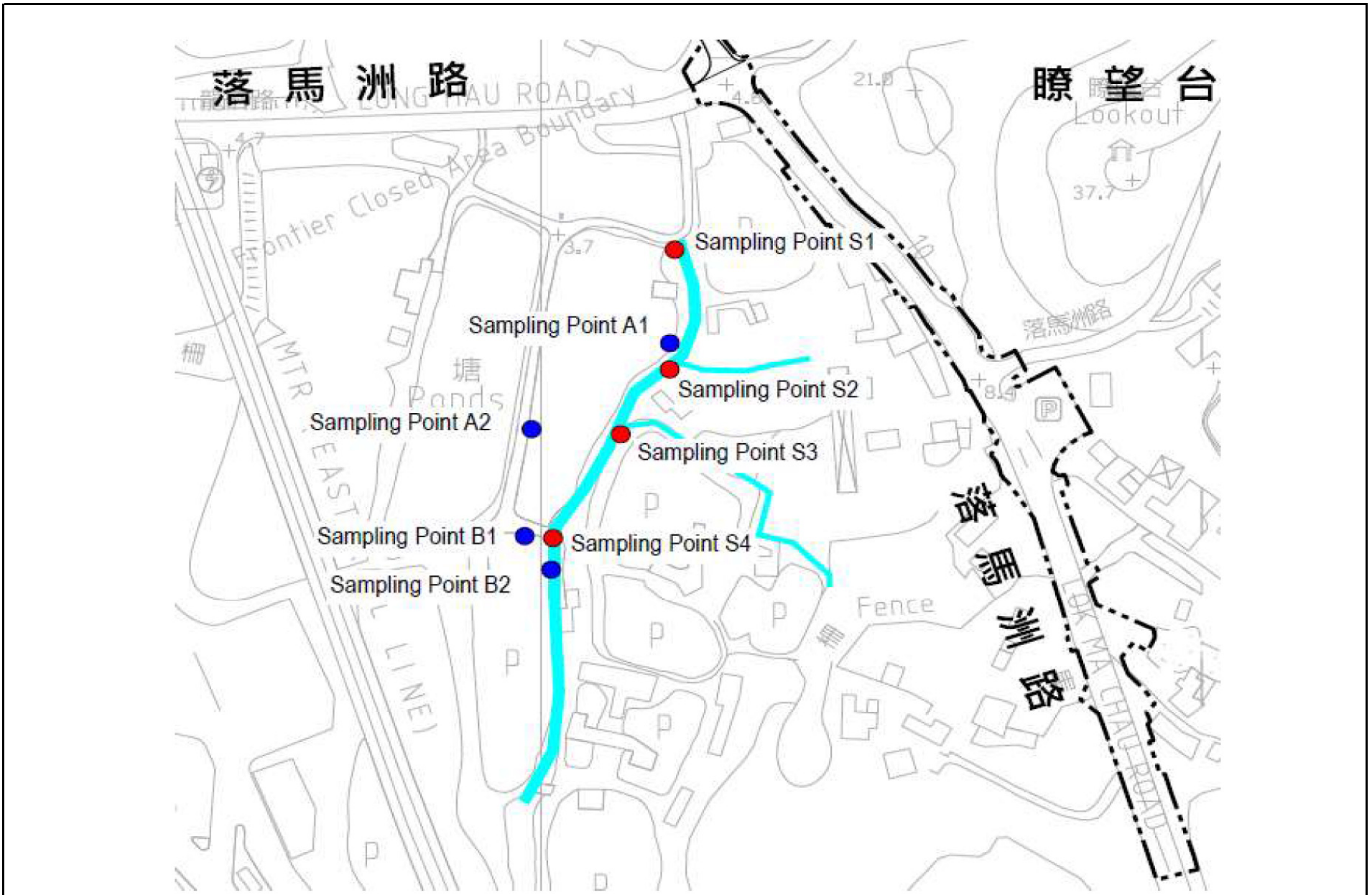
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CHECK	PC	DRAWN	IT
JOB No.	WMA 21009	FIGURE NO.	Fig 4
		REV	-



SCALE	1:14000 @ A4	DATE	MAR 2022
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JOB No.	WMA 21009	FIGURE NO.	Fig 5a
		REV	-



Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop Main Work Package 1 - Environmental Team Locations of Transect for Monitoring of Chinese Bull Frog		Scale	Project No.	WELLAB 匯力 consulting . testing . research
		N.T.S	WMA21009	
		Date	Figure	
		Mar-22	5b	



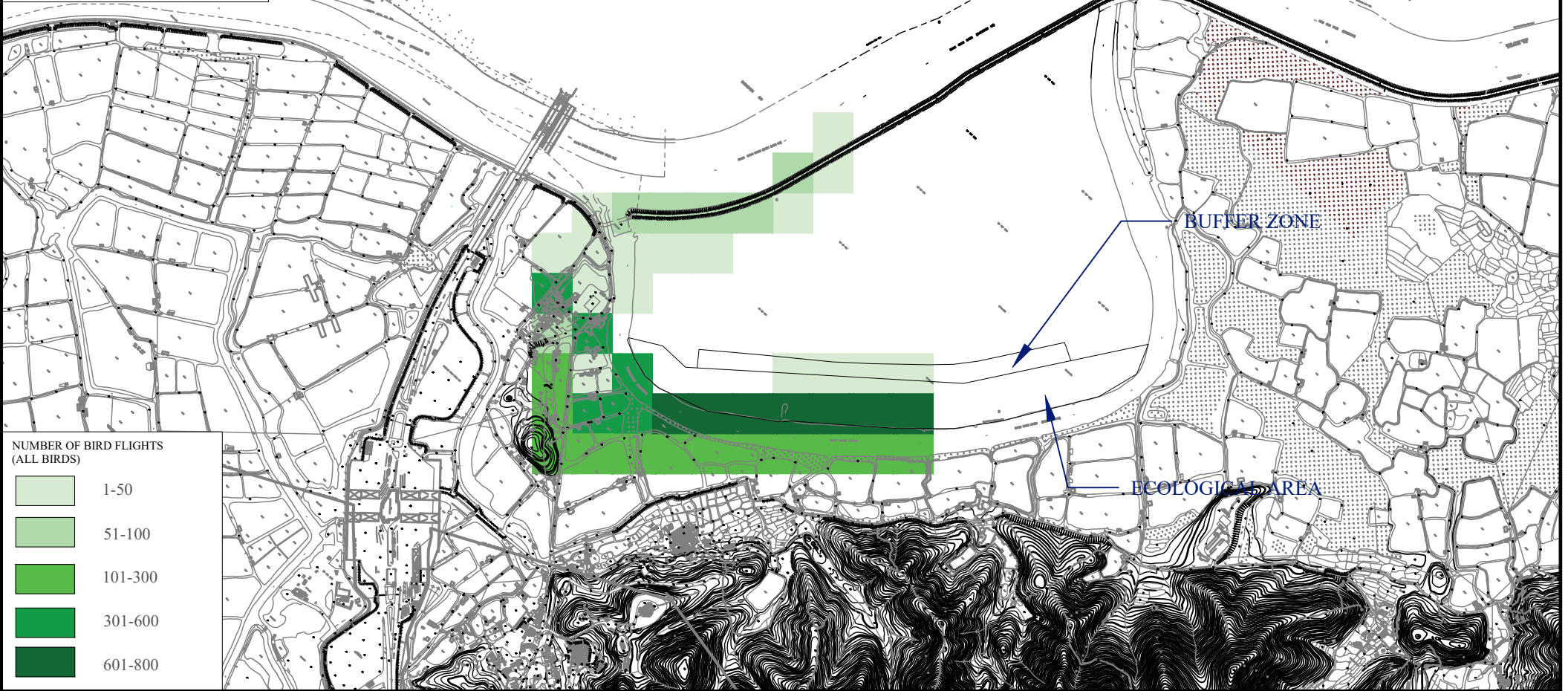
Service Contract No. WD/04/2020
 Development of Lok Ma Chau Loop Main Work Package 1 - Environmental Team

Locations of Rose Bitterling Sampling Points

Scale	N.T.S	Project No.	WMA21009	
Date	Mar-22	Figure	5c	



LOCATION PLAN



NUMBER OF BIRD FLIGHTS
(ALL BIRDS)

- 1-50
- 51-100
- 101-300
- 301-600
- 601-800



Service Contract No. WD/04/2020
 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team
 Flight Lines of All Bird Species

SCALE	1:14000 @A4	DATE	January 2024
CHECK	IT	DRAWN	ML
JOB No.	WMA 21009	FIGURE NO.	Fig 6
		REV	-

**APPENDIX A
CONSTRUCTION PROGRAMME**

**Contract No. YL/2020/01 - Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 1 Site Formation
and Infrastructure Works inside Lok Ma Chau Loop and
Western Connection Road Phase 1**

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	December 38				January 39					February 40				March 41				April 42										
								03	10	17	24	31	07	14	21	28	04	11	18	25	03	10	17	24	31	07	14	21							
								Gantt Chart Area																											
PMI150-110	PMI No. 150 - Quotation Preparation and Submission	21	21-Mar-23A	03-Jan-24	21-Jul-23	23-Jul-23	-164	PMI No. 150 - Quotation Preparation and Submission																											
PMI150-120	PMI No. 150 - PM Review and Reply	14	04-Jan-24	17-Jan-24	24-Jul-23	06-Aug-23	-164	PMI No. 150 - PM Review and Reply																											
PMI No. 159 - Installation of Manhole Connectors for Sewerage Works at Road L1 (CH 1170 - 1430)																																			
PMI159-110	PMI No. 159 - Quotation Preparation and Submission	21	13-Apr-23A	04-Jan-24	06-May-23	09-May-23	-240	PMI No. 159 - Quotation Preparation and Submission																											
PMI159-120	PMI No. 159 - PM Review and Reply	14	05-Jan-24	18-Jan-24	10-May-23	23-May-23	-240	PMI No. 159 - PM Review and Reply																											
PMI No. 163 - Additional Manhole adjacent to Box Culvert C (3 Apr 2023)																																			
PMI163-120	PMI No. 163 - PM Review and Reply	14	15-Sep-23A	14-Jan-24	10-May-23	23-May-23	-236	PMI No. 163 - PM Review and Reply																											
Preliminary and Preparations																																			
Subletting																																			
PRE-365B	Subletting for Irrigation System (Road L1 Ch 1170-1430) (PMI103, PMI109)	45	31-Jul-23A	02-Jan-24	11-Nov-26	11-Nov-26	845	Subletting for Irrigation System (Road L1 Ch 1170-1430) (PMI103, PMI109)																											
Design Submissions for the Works																																			
PRE-500	Prepare, Submit, Processing & Approval for Glass Balustrade System and Other System and Support for Meander Bridge	150	11-Mar-24	10-Sep-24	11-Mar-24	10-Sep-24	0	Prepare, Submit, Processing & Approval for Glass Balustrade System and Other System and Support for Meander Bridge																											
TAR3																																			
KD2-105A	TAR 3 - Design Approval	6	29-Mar-22A	01-Jan-24	01-Jun-23	01-Jun-23	-214	TAR 3 - Design Approval																											
Retaining Walls																																			
RW2																																			
RW-220	RW2 - Design for Temporary Works Resubmission	3	29-Nov-23A	04-Jan-24	24-Feb-24	27-Feb-24	42	RW2 - Design for Temporary Works Resubmission																											
RW-230	RW2 - Design for Temporary Works Approval	3	05-Jan-24	08-Jan-24	28-Feb-24	01-Mar-24	42	RW2 - Design for Temporary Works Approval																											
PW1																																			
RW-550	PW1 (CSD NRW2) - Design for Temporary Works PM Review	3	22-Nov-23A	20-Jan-24	25-Mar-24	17-Apr-24	67	PW1 (CSD NRW2) - Design for Temporary Works PM Review																											
RW-560	PW1 (CSD NRW2) - Design for Temporary Works Resubmission	3	22-Jan-24	24-Jan-24	18-Apr-24	20-Apr-24	67	PW1 (CSD NRW2) - Design for Temporary Works Resubmission																											
RW-570	PW1 (CSD NRW2) - Design for Temporary Works Approval	3	25-Jan-24	27-Jan-24	22-Apr-24	24-Apr-24	67	PW1 (CSD NRW2) - Design for Temporary Works Approval																											
Key Date KD2 - TAR 3																																			
KD2-PC	Contract Key Date 2 (sd+730) - Uptake of TAR3 and Provision of Relevant Phase 1A Utilities	0	02-Jan-24	17-Feb-24	01-Jun-23	15-Jul-23	-217	Contract Key Date 2 (sd+730) - Uptake of TAR3 and Provision of Relevant Phase 1A Utilities																											
KD2 - Construction																																			
KD2-1090	TAR 3 - UU Construction (Telecom)	37	02-Jan-24	17-Feb-24	01-Jun-23	15-Jul-23	-176	TAR 3 - UU Construction (Telecom)																											
Key Date KD3 - Road D1 and L1																																			
KD3 - ROAD L1 Construction																																			
KD3 - L1 - Submissions																																			
KD3-0120C	PMI No. 099 - PMI No. 099 - PM Review and Reply	14	26-Aug-23A	14-Jan-24	29-Oct-26	11-Nov-26	1032	PMI No. 099 - PMI No. 099 - PM Review and Reply																											
KD3-0160B	Issued PMI No. 150 - Quotation Preparation and Submission	21	21-Mar-23A	03-Jan-24	26-Oct-26	28-Oct-26	1029	Issued PMI No. 150 - Quotation Preparation and Submission																											
KD3-0160C	Issued PMI No. 150 - PM Review and Reply	14	04-Jan-24	17-Jan-24	29-Oct-26	11-Nov-26	1029	Issued PMI No. 150 - PM Review and Reply																											
KD3-1195	Road L1 - Method Statement Street Furniture Prep & Submit, PM Review, Resubmission, Approval	45	02-Jan-24	27-Feb-24	05-May-23	28-Jun-23	-198	Road L1 - Method Statement Street Furniture Prep & Submit, PM Review, Resubmission, Approval																											
KD3 - L1 - Construction																																			
KD3 - Road L1 Stage 1 (Portion 18C, Next to Portion 17B Hammerhead) 260m																																			
KD3-5315	Portion 18C Road L1 (CH1170-1430) - Stage 1 (Building 11)	201	22-Nov-22A	28-Mar-24	10-May-23	19-Feb-24	-33	Portion 18C Road L1 (CH1170-1430) - Stage 1 (Building 11)																											
KD3-5325	Portion 18C Road L1 (CH1170-1430) - Stage 2 (Building 12)	106	02-Feb-23A	11-Mar-24	10-May-23	17-Jan-24	-42	Portion 18C Road L1 (CH1170-1430) - Stage 2 (Building 12)																											
KD3-5327	Portion 18C Road L1 (CH1170-1430) - Stage 3 (Building 8)	39	25-Sep-23A	27-Mar-24	25-Sep-23	02-Feb-24	-42	Portion 18C Road L1 (CH1170-1430) - Stage 3 (Building 8)																											
KD3-5329	Portion 18C Road L1 (CH1170-1430) - Stage 4 (Building 9)	123	01-Mar-23A	03-Apr-24	22-May-23	19-Feb-24	-35	Portion 18C Road L1 (CH1170-1430) - Stage 4 (Building 9)																											
KD3-5331	Portion 18C Road L1 (CH1170-1430) - Stage 5 (Building 12, Box C)	52	05-Oct-23A	02-Jan-24	10-May-23	11-Nov-26	846	Portion 18C Road L1 (CH1170-1430) - Stage 5 (Building 12, Box C)																											
KD3-5333	Portion 18C Road L1 (CH1170-1430) - Stage 6 (CLPSS)	75	18-May-23A	02-Apr-24	28-Jul-23	19-Feb-24	-34	Portion 18C Road L1 (CH1170-1430) - Stage 6 (CLPSS)																											
KD3-5350	Portion 18C Road L1 (CH1170-1430) - Footpath and Cycle Track	24	22-Mar-24	23-Apr-24	07-Feb-24	19-Feb-24	-51	Portion 18C Road L1 (CH1170-1430) - Footpath and Cycle Track																											
KD3-5330	Road L1 (CH1170-1430) - Carriageway Complete (PMI088)	0		28-Mar-24	31-Jul-23		-197	Road L1 (CH1170-1430) - Carriageway Complete (PMI088)																											
Key Date KD4 - WCR Carriageway + 1 Footpath																																			
KD4 - Submissions																																			
KD4-1000	WCR Carriageway - MS Preparation and Submission	14	18-Jan-24	02-Feb-24	21-Feb-24	07-Mar-24	25	WCR Carriageway - MS Preparation and Submission																											
KD4-1005	WCR Carriageway - MS PM Review	21	03-Feb-24	02-Mar-24	08-Mar-24	05-Apr-24	25	WCR Carriageway - MS PM Review																											
KD4-1010	WCR Carriageway - MS Resubmission	14	04-Mar-24	19-Mar-24	06-Apr-24	22-Apr-24	25	WCR Carriageway - MS Resubmission																											
KD4-1015	WCR Carriageway - MS Approval	21	20-Mar-24	17-Apr-24	23-Apr-24	18-May-24	25	WCR Carriageway - MS Approval																											
Key Date KD6 - Box Culverts A2 and A1 in Portion 7																																			
KD6 - Box Culvert A1 (Portion 7, CH 0-75) 75m (CSD Scheme)																																			
KD6-1155	Interface Portion 7 - CLP ESS Excavation and ELS Installation (Depth 4m from Existing Level)	110	12-Jan-24	30-May-24	03-Jul-26	11-Nov-26	727	Interface Portion 7 - CLP ESS Excavation and ELS Installation (Depth 4m from Existing Level)																											
KD6-1175	Box Culvert A1 (CH0-75, PMI 076 - 31 Jul 2023) - Complete	0		23-Mar-24*		31-Jul-23	-193	Box Culvert A1 (CH0-75, PMI 076 - 31 Jul 2023) - Complete																											
KD6-1225	Issued PMI No. 092 - Quotation Preparation and Submission	21	13-Jan-23A	07-Jan-24	29-Jan-23	04-Feb-23	-337	Issued PMI No. 092 - Quotation Preparation and Submission																											
KD6-1235	Issued PMI No. 092 - PM Review and Reply	14	08-Jan-24	21-Jan-24*	05-Feb-23	18-Feb-23	-337	Issued PMI No. 092 - PM Review and Reply																											
Box Culvert A1 (CH 0-75) ELS Installation and Structure Construction																																			
KD6-1405	Box A1 (CH 0-75) - Base Slab Construction	30	19-Sep-23A	02-Jan-24	11-May-23	11-May-23	-193	Box A1 (CH 0-75) - Base Slab Construction																											
KD6-1415	Box A1 (CH 0-75) - Walls and Top Slab Construction	65	14-Nov-23A	30-Jan-24	11-May-23	09-Jun-23	-193	Box A1 (CH 0-75) - Walls and Top Slab Construction																											
KD6-1425	Box A1 (CH 0-75) - Backfilling	12	11-Mar-24	23-Mar-24	18-Jul-23	31-Jul-23	-193	Box A1 (CH 0-75) - Backfilling																											
KD6-1485	Box A1 (CH 0-75) - Chamber Construction	30	31-Jan-24	09-Mar-24	10-Jun-23	17-Jul-23	-193	Box A1 (CH 0-75) - Chamber Construction																											
Key Date KD7 - Meander Bridge and CLP Transformer Delivery																																			
KD7-1030	Complete North Span Deck Structural RC Works & South Pile Caps	0		13-Jan-24*		13-Jan-24	0	Complete North Span Deck Structural RC Works & South Pile Caps																											
KD7-1040	Complete Middle Span Soffit Formwork	0		16-Apr-24*		16-Apr-24	0	Complete Middle Span Soffit Formwork																											
KD7 - Piers and Abutment																																			
MB South Side																																			
KD7-2150	Meander Bridge - RC for South Piers' Caps	7	04-Dec-23A	19-Dec-23A	05-Jan-24	05-Jan-24		Meander Bridge - RC for South Piers' Caps																											
KD7-2160	Meander Bridge - Backfill to Pile Caps Top and Erect Working Platform	4	20-Dec-23A	23-Dec-23A	05-Jan-24	05-Jan-24		Meander Bridge - Backfill to Pile Caps Top and Erect Working Platform																											
KD7-2170	Meander Bridge - RC for South Piers (1st Pour)	6	27-Dec-23A	11-Jan-24	05-Jan-24	11-Jan-24	0	Meander Bridge - RC for South Piers (1st Pour)																											
KD7-2180	Meander Bridge - RC for South Piers (1st Pour) Backfill and ELS Removal	5	12-Jan-24	17-Jan-24	12-Jan-24	17-Jan-24	0	Meander Bridge - RC for South Piers (1st Pour) Backfill and ELS Removal																											
KD7-2190	Meander Bridge - RC for South Piers (2nd Pour)	6	18-Jan-24	24-Jan-24	18-Jan-24	24-Jan-24	0	Meander Bridge - RC for South Piers (2nd Pour)																											
KD7-2200	Meander Bridge - RC for South Piers Concrete Curing, Steel Frame and Working Platform Removal, Clearance	6	25-Jan-24	31-Jan-24	25-Jan-24	31-Jan-24	0	Meander Bridge - RC for South Piers Concrete Curing, Steel Frame and Working Platform Removal, Clearance																											
KD7 - Superstructure																																			
KD7 - Deck Stage 1 - Northern Span (North Abutment to North Pier) (Ch 971 - 957.5, 14.5m)																																			
KD7-2240	Meander Bridge - Northern Span RC (1st Pour)	1	21-Dec-23A	21-Dec-23A	02-Jan-24	02-Jan-24		Meander Bridge - Northern Span RC (1st Pour)																											
KD7-2810	Meander Bridge - Northern Span Formwork, Rebar Fixing & Tendon Sheath Installation for Web	7	22-Dec-23A	02-Jan-24	02-Jan-24	02-Jan-24	0	Meander Bridge - Northern Span Formwork, Rebar Fixing & Tendon Sheath Installation for Web																											



■ Actual Level of Effort
■ Actual Work
■ Remaining Work
■ Critical Remaining Work
◆ Milestone

Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1
Three Month Rolling Programme

Project ID : d.YL28-240119
 Layout : YL-02 3MRP
 Date : 19-Jan-24/ Page 2 of 7

Three Month Rolling Programme			
Date	Revision	Checked	Approved
31-Dec-23	MPR No. 30		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	December 38				January 39				February 40				March 41				April 42											
								03	10	17	24	31	07	14	21	28	04	11	18	25	03	10	17	24	31	07	14	21							
S12C-6800	Stage 1 18C Road L1 (Building 11) - Run In/Out (Paving Block Installation)	6	16-Feb-24	22-Feb-24	21-Dec-23	29-Dec-23	-42																												
S12C Road L1 - Stage 2 (Building 12)																																			
S12C Road L1 - Stage 2 (Building 12) - UU Installation and Enabling Works (by Others)																																			
S12C-6680	Stage 2 18C Road L1 (Building 12) - UU enabling works (telecom)	6	04-Dec-23A	04-Jan-24	13-Nov-23	15-Nov-23	-40																												
S12C Road L1 - Stage 2 (Building 12) - Roadworks and Lighting																																			
S12C-5975	Stage 2 18C Road L1 (Building 12) - Roadworks (Street Light Ducting)	6	11-Dec-23A	11-Jan-24	30-Jan-24	05-Feb-24	21																												
S12C-5978	Stage 2 18C Road L1 (Building 12) - Roadworks (Smart Light Ducting)	6	04-Dec-23A	08-Jan-24	13-Nov-23	18-Nov-23	-40																												
S12C-5985	Stage 2 18C Road L1 (Building 12) - Roadworks (Footpath - Formation, SRT & Kerb Installation)	11	09-Jan-24	20-Jan-24	20-Nov-23	01-Dec-23	-40																												
S12C-5990	Stage 2 18C Road L1 (Building 12) - Roadworks (Footpath - Paving Block Installation)	15	23-Feb-24	11-Mar-24	30-Dec-23	17-Jan-24	-42																												
S12C-5995	Stage 2 18C Road L1 (Building 12) - Roadworks (Lighting)	10	16-Mar-24	27-Mar-24	23-Jan-24	02-Feb-24	-42																												
S12C Road L1 - Stage 3 (Building 8)																																			
S12C Road L1 - Stage 3B (Building 8) - Drainage & Sewage, Watermain & Flushing																																			
S12C-6600	Stage 3B 18C Road L1 (Bldg 8) - Drainage and Sewage	30	06-Sep-23A	13-Jan-24	22-May-23	31-May-23	-187																												
S12C-6612	Stage 3B 18C Road L1 (Bldg 8) - Fire Hydrant Pipe and Irrigation Pipe Installation	8	18-Jan-24	26-Jan-24	06-Feb-24	19-Feb-24	16																												
S12C Road L1 - Stage 3 (Building 8) - UU Installation and Enabling Works (by Others)																																			
S12C-5810	Stage 3A 18C Road L1 (Bldg 8) - UU enabling works (132kV)	9	14-Dec-23A	24-Jan-24	01-Jun-23	10-Jun-23	-187																												
S12C-5816	Stage 3A 18C Road L1 (Bldg 8) - UU enabling works (11kV)	9	25-Jan-24	03-Feb-24	12-Jun-23	21-Jun-23	-187																												
S12C-5820	Stage 3A 18C Road L1 (Bldg 8) - UU enabling works (Gas Main)	9	05-Feb-24	19-Feb-24	23-Jun-23	04-Jul-23	-187																												
S12C-5880	Stage 3A 18C Road L1 (Bldg 8) - UU enabling works (Telecom)	8	20-Feb-24	28-Feb-24	05-Jul-23	13-Jul-23	-187																												
S12C Road L1 - Stage 3 (Building 8) - Roadworks and Lighting																																			
S12C-5950	Stage 3 18C Road L1 (Bldg 8) - Roadworks (Street Light Ducting)	8	29-Feb-24	08-Mar-24	14-Jul-23	22-Jul-23	-187																												
S12C-5953	Stage 3 18C Road L1 (Bldg 8) - Roadworks (Gully and Gully Pipe Installation)	7	09-Mar-24	16-Mar-24	24-Jul-23	31-Jul-23	-187																												
S12C-5954	Stage 3 18C Road L1 (Bldg 8) - Roadworks (Footpath - Formation, SRT & Kerb Installation)	14	18-Mar-24	06-Apr-24	30-Dec-23	16-Jan-24	-62																												
S12C-5956	Stage 3 18C Road L1 (Bldg 8) - Roadworks (Footpath - Paving Block Installation)	14	08-Apr-24	23-Apr-24	17-Jan-24	01-Feb-24	-62																												
S12C-5957	Stage 3 18C Road L1 (Bldg 8) - Roadworks (Cycle Track)	11	24-Apr-24	07-May-24	02-Feb-24	19-Feb-24	-62																												
S12C-6000	Stage 3 18C Road L1 (Bldg 8) - Roadworks (Lighting)	10	28-Mar-24	12-Apr-24	03-Feb-24	19-Feb-24	-42																												
S12C Road L1 - Stage 3 (Building 8) - Existing Run In / Out (Phase 1)																																			
S12C-6840	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Gas Main)	3	29-Nov-23A	02-Jan-24	18-Oct-23	18-Oct-23	-61																												
S12C-6850	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Telecom)	2	03-Jan-24	04-Jan-24	19-Oct-23	20-Oct-23	-61																												
S12C-6860	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Street Light Ducting)	2	03-Jan-24	04-Jan-24	19-Oct-23	20-Oct-23	-61																												
S12C-6870	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Footpath & Cycle Track - Formation, SRT & Kerb Installation)	14	04-Mar-24	19-Mar-24	15-Dec-23	03-Jan-24	-61																												
S12C-6880	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Footpath - Paving Block Installation)	7	06-Apr-24	13-Apr-24	17-Jan-24	24-Jan-24	-61																												
S12C-6890	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Cycle Track)	7	15-Apr-24	22-Apr-24	25-Jan-24	01-Feb-24	-61																												
S12C Road L1 - Stage 3 (Building 8) - Existing Run In / Out (Phase 2)																																			
S12C-6900	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Drainage)	5	06-Jan-24	11-Jan-24	25-Nov-23	30-Nov-23	-33																												
S12C-6910	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (132kV)	4	12-Jan-24	16-Jan-24	01-Dec-23	05-Dec-23	-33																												
S12C-6920	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (11kV)	3	17-Jan-24	19-Jan-24	06-Dec-23	08-Dec-23	-33																												
S12C-6930	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Gas Main)	3	20-Jan-24	23-Jan-24	09-Dec-23	12-Dec-23	-33																												
S12C-6940	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Telecom)	2	24-Jan-24	25-Jan-24	13-Dec-23	14-Dec-23	-33																												
S12C-6950	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Street Light Ducting)	2	24-Jan-24	25-Jan-24	13-Dec-23	14-Dec-23	-33																												
S12C-6960	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Footpath & Cycle Track - Formation, SRT & Kerb Installation)	14	04-Mar-24	19-Mar-24	15-Dec-23	03-Jan-24	-61																												
S12C-6970	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Footpath - Paving Block Installation)	7	06-Apr-24	13-Apr-24	17-Jan-24	24-Jan-24	-61																												
S12C-6980	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Cycle Track)	7	15-Apr-24	22-Apr-24	25-Jan-24	01-Feb-24	-61																												
S12C Road L1 - Stage 4 (Building 9)																																			
S12C Road L1 - Stage 4 (Building 9) - UU Installation and Enabling Works (by Others)																																			
S12C-6015	Stage 4 18C Road L1 (Bldg 9) - UU enabling works (Fire Hydrant Pipe and Irrigation Pipe Installation)	10	20-Nov-23A	10-Jan-24	30-Oct-23	07-Nov-23	-52																												
S12C-6630	Stage 4 18C Road L1 (Bldg 9) - UU enabling works (11kV)	9	05-Dec-23A	04-Jan-24	30-Oct-23	01-Nov-23	-52																												
S12C-6635	Stage 4 18C Road L1 (Bldg 9) - UU enabling works (Gas Main)	9	05-Jan-24	15-Jan-24	02-Nov-23	11-Nov-23	-52																												
S12C-6640	Stage 4 18C Road L1 (Bldg 9) - UU enabling works (Telecom)	8	16-Jan-24	24-Jan-24	13-Nov-23	21-Nov-23	-52																												
S12C Road L1 - Stage 4 (Building 9) - Roadworks and Lighting																																			
S12C-5935	Stage 4 18C Road L1 (Bldg 9) - Roadworks (Street Light Ducting)	8	25-Jan-24	02-Feb-24	22-Nov-23	30-Nov-23	-52																												
S12C-5937	Stage 4 18C Road L1 (Bldg 9) - Roadworks (Footpath & Cycle Track - Formation, SRT & Kerb Installation)	14	03-Feb-24	23-Feb-24	01-Dec-23	16-Dec-23	-52																												
S12C-5938	Stage 4 18C Road L1 (Bldg 9) - Roadworks (Footpath & Cycle Track - Paving Block Installation)	14	24-Feb-24	11-Mar-24	20-Dec-23	08-Jan-24	-50																												
S12C-5940	Stage 4 18C Road L1 (Bldg 9) - Roadworks (Cycle Track)	7	12-Mar-24	19-Mar-24	09-Jan-24	16-Jan-24	-50																												
S12C-6650	Stage 4 18C Road L1 (Bldg 9) - Roadworks (Lighting)	10	20-Mar-24	03-Apr-24	03-Feb-24	19-Feb-24	-35																												
S12C Road L1 - Stage 4 (Building 9) - Existing Run In / Out																																			
S12C-7050	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Footpath & Cycle Track - Formation, SRT & Kerb Installation)	11	01-Mar-24	13-Mar-24	23-Dec-23	08-Jan-24	-52																												
S12C-7060	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Footpath - Paving Block Installation)	7	14-Mar-24	21-Mar-24	09-Jan-24	16-Jan-24	-52																												
S12C-7070	Stage 3 18C Road L1 (Bldg 8) - Run In/Out (Cycle Track)	7	22-Mar-24	02-Apr-24	17-Jan-24	24-Jan-24	-52																												
S12C Road L1 - Stage 5 (Building 12, Box C)																																			
S12C-6390	Interface Portion 18C - Allow Access to HSITP for Sewerage Pipe Construction (PS Appendix 1.27D)	90	02-Apr-24	20-Jul-24	31-Oct-23	20-Feb-24	-122																												
S12C Road L1 - Stage 5 (Building 12, Box C) - Drainage & Sewage, Watermain & Flushing																																			
S12C-5755A	Stage 5 18C Road L1 (Building 12, Box C) - SMH04100 Construction and 2250 Drainage Laying	50	05-Oct-23A	03-Feb-24	10-May-23	09-Jun-23	-197																												
S12C-5755B	Stage 5 18C Road L1 (Building 12, Box C) - SMH03050 Construction and Drainage Laying	10	05-Jan-24	16-Jan-24	30-May-23	09-Jun-23	-181																												
S12C-5755C	Stage 5 18C Road L1 (Building 12, Box C) - RMH02244, RMH02245A, RMH02245B and Drainage Laying	10	05-Feb-24	20-Feb-24	10-Jun-23	21-Jun-23	-197																												
S12C-5755D	Stage 5 18C Road L1 (Building 12, Box C) - SMH03050 Construction and Drainage Laying	10	07-Feb-24	22-Feb-24	13-Jun-23	24-Jun-23	-197																												
S12C Road L1 - Stage 5 (Building 12, Box C) - Roadworks and Lighting																																			
S12C-6020	Portion 18C Road L1 (Building 12, Box C) - Roadworks (Carriageway)	30	23-Feb-24	28-Mar-24	26-Jun-23	31-Jul-23	-197																												
S12C Road L1 - Stage 6 (CLP Substation)																																			
S12C-5761E	Stage 6 18C Road L1 (CLPSS) - Roadworks (Carriageway)	21	22-Nov-23A	04-Jan-24	28-Jul-23	31-Jul-23	-129																												
S12C-5762A	Stage 6 18C Road L1 (CLPSS) - UU enabling works (Water & Flushing Pipe)	19	16-Nov-23A	08-Jan-24	27-Dec-23	03-Jan-24	-4																												
S12C-5762B	Stage 6 18C Road L1 (CLPSS) - UU enabling works (Replace Damaged 132kV Cable Duct)	21	06-Feb-24	05-Mar-24	27-Dec-23	20-Jan-24	-34																												
S12C-5762C	Stage 6 18C Road L1 (CLPSS) - UU enabling works (Replace Damaged Gully Pipe)	7	06-Mar-24	13-Mar-24	22-Jan-24	29-Jan-24	-34																												
S12C-5763	Stage 6 18C Road L1 (CLPSS) - Roadworks (Lighting and Irrigation Pipe)	7	14-Mar-24	21-Mar-24	30-Jan-24	06-Feb-24	-34																												
S12C-5764	Stage 6 18C Road L1 (CLPSS) - Roadworks (Permanent Run In / Out)	7	22-Mar-24	02-Apr-24	07-Feb-24	19-Feb-24	-34																												
Section 13 - Ground Treatment Works and Site Formation at Portion 21																																			
S13-1030	Portion 21 - MS Retaining Wall PW2 Prep & Submission (14d), PM Review (28d), Resubmission (14), Approval (28d)	89	02-Jan-24	23-Apr-24	02-Jan-24	23-Apr-24	0																												
S13-1070	Portion 21 - General Fill (6,520m3 @ 300m3/d)	8	24-Apr-24	03-May-24	03-Nov-26	11-Nov-26	749																												
S13-1080	Portion 21 - Construct Retaining Wall PW2	59	24-Apr-24	05-Jul-24	24-Apr-24	05-Jul-24	0																												
Section 15.7a - Ground Treatment Works and Site Formation at Portion 15.7a (Area																																			
S15.7a-1000	Portion 15.7a - Site Clearance and Preparation Works (Ecological survey, Tree Survey)	6	02-Apr-24	09-Apr-24	15-Feb-23	21-Feb-23	-332																												



■ Actual Level of Effort
■ Actual Work
■ Remaining Work
■ Critical Remaining Work
◆ Milestone

Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1
Three Month Rolling Programme

Project ID : d.YL28-240119
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Three Month Rolling Programme			
Date	Revision	Checked	Approved
31-Dec-23	IMPR No. 30		

Contract No. YL/2020/02 – Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 2 Western

Connection Road Phase 2, Connection Roads to Fanling /

San Tin Highway and Direct Road Link Phase 1

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and Direct Road Link Phase 1

Activity ID	Activity Name	BL Project Start	BL Project Finish	Works Duration	Start	Finish	Variance - BL Project Finish Date	Physical % Complete	Total Float	Gantt Chart (2022-2026)																																																							
										2022												2023												2024												2025												2026							
Major Permanent Works Design										14-Dec-21	23-Nov-23	714	14-Dec-21 A	25-Mar-24	-105	0	879	[Gantt Chart for Major Permanent Works Design]																																															
MPW1030-10	Acceptance of aesthetic design of Pai Lau	24-Jan-23	20-Feb-23	24	24-Jan-23 A	21-Feb-23 A	0	100%		Acceptance of aesthetic design of Pai Lau																																																							
MPW1010-10	Acceptance of design for noise barriers at Western Connection Road	24-Apr-23	22-May-23	176	24-Apr-23 A	14-Nov-23 A	-152	100%		Acceptance of design for noise barriers at Western Connection Road																																																							
MPW1020-10	Acceptance of design and shop drawings for covered walkways at Cycle Track cum Footbridge with staircases	19-Apr-23	16-May-23	259	19-Apr-23 A	14-Feb-24	-235	0%	913	Acceptance of design and shop drawings for covered walkways at Cycle Track cum Footbridge with staircases																																																							
MPW1015-10	Acceptance of design for security fences	02-May-23	29-May-23	169	02-May-23 A	14-Nov-23 A	-145	100%		Acceptance of design for security fences																																																							
MPW1095-10	Acceptance of glass balustrades	27-Oct-23	23-Nov-23	24	27-Feb-24	25-Mar-24	-105	0%	56	Acceptance of glass balustrades																																																							
MPW1045-10	Acceptance of interim water main along temporary access road TAR1	17-Apr-23	24-Apr-23	6	17-Mar-23 A	24-Mar-23 A	27	100%		Acceptance of interim water main along temporary access road TAR1																																																							
MSS1320	Shop Drawings submission and approval for noise barrier steelworks and panels	26-May-23	07-Sep-23	156	26-May-23 A	23-Nov-23 A	-66	100%		Shop Drawings submission and approval for noise barrier steelworks and panels																																																							
MPW1032	Submission and acceptance for irrigation system	17-Jun-22	29-Sep-22	90	17-Jun-22 A	29-Sep-22 A	0	100%		Submission and acceptance for irrigation system																																																							
MPW1035	Submission and acceptance for road lighting system	27-Jun-23	09-Oct-23	221	27-Jun-23 A	09-Mar-24	-131	0%	293	Submission and acceptance for road lighting system																																																							
MPW1020	Submission design and shop drawings for covered walkways at Cycle Track cum Footbridge with staircases	19-May-22	27-Jul-22	60	19-May-22 A	27-Jul-22 A	0	100%		Submission design and shop drawings for covered walkways at Cycle Track cum Footbridge with staircases																																																							
MPW1030	Submission for aesthetic design of Pai Lau	12-Feb-22	27-May-22	277	04-Apr-22 A	21-Feb-23 A	-230	100%		Submission for aesthetic design of Pai Lau																																																							
MPW1095	Submission for glass balustrades	13-May-23	25-Aug-23	248	13-May-23 A	26-Feb-24	-158	0%	56	Submission for glass balustrades																																																							
MPW1045	Submission for interim water main along temporary access road TAR1	07-Jan-23	18-Mar-23	60	07-Jan-23 A	18-Mar-23 A	0	100%		Submission for interim water main along temporary access road TAR1																																																							
MPW1015	Submission of design for for security fences	14-Dec-21	16-Mar-22	80	14-Dec-21 A	16-Mar-22 A	0	100%		Submission of design for for security fences																																																							
MPW1010	Submission of design for noise barriers at Western Connection Road	19-May-22	27-Jul-22	60	19-May-22 A	27-Jul-22 A	0	100%		Submission of design for noise barriers at Western Connection Road																																																							
Major Temporary Works Design										15-Sep-21	20-Jan-24	841	15-Sep-21 A	22-May-24	-105	0	161	[Gantt Chart for Major Temporary Works Design]																																															
MTW1235	Design & Approval of Temporary Working Platform for the Construction of BPW1	05-Apr-22	13-Jun-22	175	05-Apr-22 A	26-Oct-22 A	-115	100%		Design & Approval of Temporary Working Platform for the Construction of BPW1																																																							
MTW1110	Design of temporary noise barrier	16-Dec-21	25-Jan-22	15	14-Oct-21 A	01-Nov-21 A	74	100%		Design of temporary noise barrier																																																							
MTW1130	Design of working platform for piling works	04-Dec-21	11-Feb-22	32	04-Dec-21 A	11-Jan-22 A	28	100%		Design of working platform for piling works																																																							
MTW1245	ELS design & approval for construction of Pai Lau	18-Jun-22	27-Aug-22	63	18-Jun-22 A	31-Aug-22 A	-3	100%		ELS design & approval for construction of Pai Lau																																																							
MTW1145	ELS design for construction of box culvert	15-Nov-21	22-Jan-22	109	04-Jan-22 A	11-May-22 A	-92	100%		ELS design for construction of box culvert																																																							
MTW1210	ELS design for construction of DN600 and Associated Valve Chambers/bend blocks	09-Oct-23	29-Nov-23	45	08-Feb-24	30-Mar-24	-105	0%	91	ELS design for construction of DN600 and Associated Valve Chambers/bend blocks																																																							
MTW1220	ELS design for construction of DN700 and Associated Valve Chambers/bend blocks	30-Nov-23	20-Jan-24	45	01-Apr-24	22-May-24	-105	0%	161	ELS design for construction of DN700 and Associated Valve Chambers/bend blocks																																																							
MTW1140	ELS design for construction of noise barrier along Lok Ma Chau Road	08-Apr-23	16-Jun-23	170	08-Apr-23 A	23-Oct-23 A	-110	100%		ELS design for construction of noise barrier along Lok Ma Chau Road																																																							
MTW1180	ELS design for construction of pilecap for bridge DRL, ST-01 and CTFB	12-Feb-22	02-Jun-22	258	28-Dec-21 A	25-Oct-22 A	-123	100%		ELS design for construction of pilecap for bridge DRL, ST-01 and CTFB																																																							
MTW1225	ELS design for construction of Retaining Wall RW10	08-Apr-23	16-Jun-23	92	08-Apr-23 A	24-Jul-23 A	-32	100%		ELS design for construction of Retaining Wall RW10																																																							
MTW1185	ELS design for construction of Retaining Wall RW12	09-Oct-23	24-Oct-23	14	08-Feb-24	23-Feb-24	-105	0%	-34	ELS design for construction of Retaining Wall RW12																																																							
MTW1195	ELS design for construction of Retaining Wall RW13	09-Oct-23	24-Oct-23	14	08-Feb-24	23-Feb-24	-105	0%	-21	ELS design for construction of Retaining Wall RW13																																																							
MTW1205	ELS design for construction of Retaining Wall RW14	09-Oct-23	24-Oct-23	14	08-Feb-24	23-Feb-24	-105	0%	4	ELS design for construction of Retaining Wall RW14																																																							
MTW1175	ELS design for construction of Retaining Wall RW6	02-May-23	22-Jun-23	65	02-May-23 A	15-Jul-23 A	-20	100%		ELS design for construction of Retaining Wall RW6																																																							
MTW1215	ELS design for construction of Retaining Wall RW7	09-Oct-23	24-Oct-23	14	08-Feb-24	23-Feb-24	-105	0%	18	ELS design for construction of Retaining Wall RW7																																																							
MTW1165	ELS design for construction of Retaining Wall RW8a, RW8b & RW8c	08-Apr-23	22-Jun-23	85	08-Apr-23 A	15-Jul-23 A	-20	100%		ELS design for construction of Retaining Wall RW8a, RW8b & RW8c																																																							
MTW1155	ELS design for construction of Retaining Wall RW9	19-Jul-22	26-Sep-22	73	06-Jul-22 A	29-Sep-22 A	-2	100%		ELS design for construction of Retaining Wall RW9																																																							
MTW1230	ELS Design for Drainage Works Incl. Manholes and Catchpits	08-Apr-23	16-Jun-23	92	08-Apr-23 A	24-Jul-23 A	-32	100%		ELS Design for Drainage Works Incl. Manholes and Catchpits																																																							
MTW1150	ELS design for modification of existing Chau Tau Main Channel	14-Dec-21	03-Feb-22	101	17-Dec-21 A	14-Apr-22 A	-59	100%		ELS design for modification of existing Chau Tau Main Channel																																																							
MTW1120	ELS design for modification of existing subways	24-Nov-21	07-Feb-22	65	24-Nov-21 A	07-Feb-22 A	0	100%		ELS design for modification of existing subways																																																							
MTW1160	Steel mould design for precast segments	08-Apr-23	22-Jun-23	92	08-Apr-23 A	24-Jul-23 A	-27	100%		Steel mould design for precast segments																																																							
MTW1170	Temp Drainage Management Plan for Construction of Box Culvert - Submission & Approval	08-Aug-22	15-Oct-22	60	08-Aug-22 A	15-Oct-22 A	0	100%		Temp Drainage Management Plan for Construction of Box Culvert - Submission & Approval																																																							
MTW1190	Temp Drainage Management Plan for Modification of Existing Chau Tau Main Channel - Submission & Approval	08-Aug-22	15-Oct-22	60	08-Aug-22 A	15-Oct-22 A	0	100%		Temp Drainage Management Plan for Modification of Existing Chau Tau Main Channel - Submission & Approval																																																							
MTW1200	Temp Drainage Management Plan for Pier Piling Construction at East Nullah - Submission & Approval	08-Aug-22	15-Oct-22	60	08-Aug-22 A	15-Oct-22 A	0	100%		Temp Drainage Management Plan for Pier Piling Construction at East Nullah - Submission & Approval																																																							
MTW1100	Temporary accesses of staircases to Reedbed No.3A	15-Sep-21	13-Oct-21	25	15-Sep-21 A	13-Oct-21 A	0	100%		Temporary accesses of staircases to Reedbed No.3A																																																							
WAWSD Statutory Vetting and Approval										02-May-23	03-Oct-23	133	02-May-23 A	03-Oct-23 A	0	0		[Gantt Chart for WAWSD Statutory Vetting and Approval]																																															
CSD1010	Prepare and submit WWO 46 Part I & Part II	14-Jul-23	10-Aug-23	25	14-Jul-23 A	11-Aug-23 A	-1	100%		Prepare and submit WWO 46 Part I & Part II																																																							
CSD1020	Review and Approval Process - WA issue form WW046 Part III	12-Aug-23	03-Oct-23	45	12-Aug-23 A	03-Oct-23 A	0	100%		Review and Approval Process - WA issue form WW046 Part III																																																							



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- Primary Baseline
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- Remaining Work
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3 Months Rolling Programme			
Date	Revision	Checked	Approved
08-Jan-23	Rev.2.1k	DML	RP/RS
15-Aug-24	Rev.3.0b	SLX	RP/RS
14-Dec-23	Rev.3.0d	SLX	RP/RS

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and Direct Road Link Phase 1

Activity ID	Activity Name	BL Project Start	BL Project Finish	Works Duration	Start	Finish	Variance - BL Project Finish Date	Physical % Complete	Total Float	Gantt Chart (2022-2026)																																																	
										2022												2023												2024												2025												2026	
CSD1000	Submission & Approval of Appointed Plumber	02-May-23	06-Jun-23	63	02-May-23 A	13-Jul-23 A	-33	100%		Submission & Approval of Appointed Plumber																																																	
Subcontracting											744																																																
SUC1090	Box culvert modification works	18-Dec-21	25-Feb-22	109	23-Nov-21 A	30-Mar-22 A	-27	100%		Box culvert modification works																																																	
SUC1260	Civil works for Reedbed 3A	21-Sep-21	29-Nov-21	55	21-Sep-21 A	24-Nov-21 A	5	100%		Civil works for Reedbed 3A																																																	
SUC1200	Design, supply and installation of lighting system	08-Oct-22	11-Nov-22	30	08-Oct-22 A	11-Nov-22 A	0	100%		Design, supply and installation of lighting system																																																	
SUC1170	Design, supply and installation of glass balustrades	08-Apr-23	12-May-23	83	08-Apr-23 A	13-Jul-23 A	-53	100%		Design, supply and installation of glass balustrades																																																	
SUC1180	Design, supply and installation of security fences	19-Jul-23	22-Aug-23	57	19-Jul-23 A	22-Sep-23 A	-27	100%		Design, supply and installation of security fences																																																	
SUC1190	Design, supply and installation of steelworks and noise barrier panels and covered walkway	08-Apr-23	12-May-23	83	08-Apr-23 A	13-Jul-23 A	-53	100%		Design, supply and installation of steelworks and noise barrier panels and covered walkway																																																	
SUC1130	Drainage and road work	23-Oct-21	31-Dec-21	49	30-Nov-21 A	26-Jan-22 A	-21	100%		Drainage and road work																																																	
SUC1080	Earth work	03-Nov-21	07-Dec-21	32	20-Oct-21 A	26-Nov-21 A	10	100%		Earth work																																																	
SUC1060	Erection of contractor's site office (under the bridge)	28-Dec-22	21-Jan-23	36	28-Dec-22 A	08-Feb-23 A	-15	100%		Erection of contractor's site office (under the bridge)																																																	
SUC1100	Fabrication and transportation of precast segments	22-Mar-22	30-May-22	64	10-Mar-22 A	24-May-22 A	6	100%		Fabrication and transportation of precast segments																																																	
SUC1210	Flexible pavement	22-Apr-23	26-May-23	136	22-Apr-23 A	27-Sep-23 A	-106	100%		Flexible pavement																																																	
SUC1030	Ground investigation and pre-drilling works	09-Oct-21	02-Nov-21	27	15-Oct-21 A	16-Nov-21 A	-11	100%		Ground investigation and pre-drilling works																																																	
SUC1010	ICE for temporary works design and contractor's design	09-Oct-21	06-Nov-21	27	24-Sep-21 A	26-Oct-21 A	11	100%		ICE for temporary works design and contractor's design																																																	
SUC1160.10	In Situ Post Tension Prestressing (EIT and Monostrand System)	31-May-22	08-Aug-22	147	31-May-22 A	18-Nov-22 A	-87	100%		In Situ Post Tension Prestressing (EIT and Monostrand System)																																																	
SUC1220	Landscape works	14-Sep-21	23-Oct-21	19	14-Sep-21 A	05-Oct-21 A	16	100%		Landscape works																																																	
SUC1280	Pai Lau at Pun Uk Tsuen	08-Aug-22	04-Oct-22	91	02-Jun-22 A	16-Sep-22 A	16	100%		Pai Lau at Pun Uk Tsuen																																																	
SUC1040	Piling works	29-Nov-21	05-Feb-22	104	29-Nov-21 A	30-Mar-22 A	-44	100%		Piling works																																																	
SUC1270	Predrilling works	09-Oct-21	24-Nov-21	27	15-Oct-21 A	16-Nov-21 A	8	100%		Predrilling works																																																	
SUC1110	R.C structure for bridges / civil provisions for UU works (SP-021)	15-Jan-22	25-Mar-22	106	30-Dec-21 A	03-May-22 A	-32	100%		R.C structure for bridges / civil provisions for UU works (SP-021)																																																	
SUC1070	R.C structure for noise barrier and retaining wall	21-Jan-22	31-Mar-22	100	03-Dec-21 A	30-Mar-22 A	2	100%		R.C structure for noise barrier and retaining wall																																																	
SUC1240	RC of Retaining Wall, Noise Barrier Footing and Modification Works	21-Oct-21	04-Feb-22	101	03-Dec-21 A	30-Mar-22 A	-46	100%		RC of Retaining Wall, Noise Barrier Footing and Modification Works																																																	
SUC1120	Slope works	26-Feb-22	22-Mar-22	27	05-Nov-21 A	07-Dec-21 A	91	100%		Slope works																																																	
SUC1150	Subcon for Erection of precast segment	08-Apr-23	16-Jun-23	99	08-Apr-23 A	01-Aug-23 A	-39	100%		Subcon for Erection of precast segment																																																	
SUC1000	Subletting procedure	15-Sep-21	08-Oct-21	26	15-Sep-21 A	15-Oct-21 A	-5	100%		Subletting procedure																																																	
SUC1160	Supply and Installation of Bridge Bearings & Movement Joints	08-Aug-22	06-Oct-22	60	08-Aug-22 A	06-Oct-22 A	0	100%		Supply and Installation of Bridge Bearings & Movement Joints																																																	
SUC1250	Temporary Cycle Track	08-Aug-22	11-Aug-22	61	26-Aug-22 A	26-Oct-22 A	-75	100%		Temporary Cycle Track																																																	
SUC1230	Temporary noise barriers	18-Mar-22	12-May-22	48	18-Mar-22 A	13-May-22 A	0	100%		Temporary noise barriers																																																	
SUC1020	Traffic consultant	09-Oct-21	02-Nov-21	22	25-Sep-21 A	21-Oct-21 A	11	100%		Traffic consultant																																																	
SUC1140	Waterwork	31-May-22	04-Jul-22	30	31-May-22 A	04-Jul-22 A	0	100%		Waterwork																																																	
Method Statement Submission and Approval for Major Construction Works											915																																																
MSS1420	Method Statement submission & approval for Construction of Retaining Wall - RW10	25-Jul-23	23-Aug-23	93	25-Jul-23 A	25-Oct-23 A	-63	100%		Method Statement submission & approval for Construction of Retaining Wall - RW10																																																	
MSS1380	Method Statement submission & approval for Construction of Retaining Wall - RW12	25-Oct-23	07-Nov-23	14	24-Feb-24	08-Mar-24	-122	0%	-39	Method Statement submission & approval for Construction of Retaining Wall - RW12																																																	
MSS1390	Method Statement submission & approval for Construction of Retaining Wall - RW13	25-Oct-23	07-Nov-23	14	24-Feb-24	08-Mar-24	-122	0%	-24	Method Statement submission & approval for Construction of Retaining Wall - RW13																																																	
MSS1400	Method Statement submission & approval for Construction of Retaining Wall - RW14	25-Oct-23	07-Nov-23	14	24-Feb-24	08-Mar-24	-122	0%	5	Method Statement submission & approval for Construction of Retaining Wall - RW14																																																	
MSS1450	Method Statement submission & approval for Construction of Retaining Wall - RW6	08-Oct-23	28-Oct-23	21	09-Nov-23 A	29-Nov-23 A	-32	100%		Method Statement submission & approval for Construction of Retaining Wall - RW6																																																	
MSS1410	Method Statement submission & approval for Construction of Retaining Wall - RW7	25-Oct-23	07-Nov-23	14	24-Feb-24	08-Mar-24	-122	0%	19	Method Statement submission & approval for Construction of Retaining Wall - RW7																																																	
MSS1370	Method Statement submission & approval for Construction of Retaining Wall - RW8a, RW8b & RW8c	16-Jul-23	14-Aug-23	91	16-Jul-23 A	14-Oct-23 A	-61	100%		Method Statement submission & approval for Construction of Retaining Wall - RW8a, RW8b & RW8c																																																	
MSS1350	Method Statement submission & approval for Construction of Retaining Wall - RW9	16-Oct-22	14-Dec-22	165	16-Oct-22 A	30-Mar-23 A	-105	100%		Method Statement submission & approval for Construction of Retaining Wall - RW9																																																	
MSS1340	Method Statement submission & approval for modification of Existing Chau Tau Main Channel	08-Apr-23	06-Jun-23	98	08-Apr-23 A	14-Jul-23 A	-38	100%		Method Statement submission & approval for modification of Existing Chau Tau Main Channel																																																	
MSS1330	Method statement submission and approval for watermains installation	08-Apr-23	06-Jun-23	58	08-Apr-23 A	04-Jun-23 A	2	100%		Method statement submission and approval for watermains installation																																																	
MSS1360	Method statement submission and approval for Construction of Bored Piling Works BPW1	01-Sep-22	30-Oct-22	50	01-Sep-22 A	21-Oct-22 A	10	100%		Method statement submission and approval for Construction of Bored Piling Works BPW1																																																	
MSS1300	Method statement submission and approval for construction of deck for the cycle track cum footbridge	08-Apr-23	06-Jun-23	105	08-Apr-23 A	21-Jul-23 A	-45	100%		Method statement submission and approval for construction of deck for the cycle track cum footbridge																																																	
MSS1430	Method statement submission and approval for Construction of Drainage, Manholes & Catchpits	25-Jul-23	23-Aug-23	91	25-Jul-23 A	23-Oct-23 A	-61	100%		Method statement submission and approval for Construction of Drainage, Manholes & Catchpits																																																	



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- Primary Baseline
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3 Months Rolling Programme			
Date	Revision	Checked	Approved
08-Jan-23	Rev.2.1k	DML	RP/RS
15-Aug-24	Rev.3.0b	SLX	RP/RS
14-Dec-23	Rev.3.0d	SLX	RP/RS

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and Direct Road Link Phase 1

Activity ID	Activity Name	BL Project Start	BL Project Finish	Works Duration	Start	Finish	Variance - BL Project Finish Date	Physical % Complete	Total Float	Gantt Chart (2022-2026)																																																	
										2022												2023												2024												2025												2026	
MSS1460	Method statement submission and approval for Construction of Noise Barrier	25-Apr-23	23-Jun-23	154	25-Apr-23 A	25-Sep-23 A	-94	100%		Method statement submission and approval for Construction of Noise Barrier																																																	
MSS1480	Method statement submission and approval for Construction of Pai Lau	05-Jul-22	31-Aug-22	58	05-Jul-22 A	31-Aug-22 A	0	100%		Method statement submission and approval for Construction of Pai Lau																																																	
MSS1270	Method statement submission and approval for construction of piers	05-Aug-22	03-Sep-22	341	17-Dec-21 A	23-Nov-22 A	-80	100%		Method statement submission and approval for construction of piers																																																	
MSS1250	Method statement submission and approval for construction of pile caps	10-Jan-22	08-Feb-22	369	24-Nov-21 A	28-Nov-22 A	-292	100%		Method statement submission and approval for construction of pile caps																																																	
MSS1510	Method Statement submission and approval for Construction of Retaining Wall RW-CTW	08-Oct-23	21-Oct-23	8	01-Nov-23 A	08-Nov-23 A	-18	100%		Method Statement submission and approval for Construction of Retaining Wall																																																	
MSS1470	Method statement submission and approval for Construction of Slope Works	08-Apr-23	06-Jun-23	190	08-Apr-23 A	14-Oct-23 A	-130	100%		Method statement submission and approval for Construction of Slope Works																																																	
MSS1490	Method statement submission and approval for Construction of Temp.Noise Barrier	08-Jul-22	21-Aug-22	133	22-Mar-22 A	02-Aug-22 A	20	100%		Method statement submission and approval for Construction of Temp.Noise Barrier																																																	
MSS1440	Method statement submission and approval for Construction of Temporary Working Platform for BPW1	16-Oct-22	14-Dec-22	226	11-Apr-22 A	23-Nov-22 A	22	100%		Method statement submission and approval for Construction of Temporary Working Platform for BPW1																																																	
MSS1280	Method statement submission and approval for erection of precast segments for ST01	13-Jul-23	10-Sep-23	72	13-Jul-23 A	22-Sep-23 A	-12	100%		Method statement submission and approval for erection of precast segments for																																																	
MSS1310	Method statement submission and approval for erection of precast segments for Direct Road Link	08-Oct-23	06-Dec-23	61	09-Oct-23 A	08-Dec-23 A	-2	100%		Method statement submission and approval for erection of precast segments																																																	
MSS1260	Method statement submission and approval for fabrication of precast segments	08-Apr-23	12-May-23	96	08-Apr-23 A	12-Jul-23 A	-61	100%		Method statement submission and approval for fabrication of precast segments																																																	
MSS1240	Method statement submission and approval for installation of bored piles	01-Nov-21	30-Dec-21	276	15-Sep-21 A	18-Jun-22 A	-169	100%		Method statement submission and approval for installation of bored piles																																																	
MSS1290	Method statement submission and approval for installation of socketed H-piles	14-Oct-22	27-Nov-22	38	30-Mar-22 A	07-May-22 A	205	100%		Method statement submission and approval for installation of socketed H-piles																																																	
MSS1210	Method statement submission and approval for modification of box culvert	06-Sep-21	04-Nov-21	83	21-Jan-22 A	14-Apr-22 A	-160	100%		Method statement submission and approval for modification of box culvert																																																	
MSS1230	Method statement submission and approval for modification of existing subways	06-Sep-21	17-Oct-21	42	06-Sep-21 A	17-Oct-21 A	0	100%		Method statement submission and approval for modification of existing subways																																																	
MSS1200	Method statement submission and approval for pre-construction site check for reedbed cell(PS 31.5)	15-Sep-21	21-Sep-21	79	15-Sep-21 A	03-Dec-21 A	-72	100%		Method statement submission and approval for pre-construction site check for reedbed cell(PS 31.5)																																																	
MSS1220	Method statement submission and approval for reedbed cell relocation	23-Sep-21	31-Oct-21	61	08-Sep-21 A	08-Nov-21 A	-7	100%		Method statement submission and approval for reedbed cell relocation																																																	
MSS1500	Method statement submission and approval for timber platform erection for piling works at Retaining Wall PW6A	08-Oct-23	21-Oct-23	13	09-Oct-23 A	21-Oct-23 A	0	100%		Method statement submission and approval for timber platform erection for piling																																																	
MSS1520	Method Statement submission and approval for RW-CTW	08-Oct-23	06-Dec-23	38	01-Nov-23 A	08-Dec-23 A	-2	100%		Method Statement submission and approval for RW-CTW																																																	
Preliminary		06-Sep-21	27-May-24	981	20-Sep-21 A	27-May-24	0		21																																																		
PRE1030	Application of excavation permit(1.17A)	06-Sep-21	17-Nov-21	102	28-Sep-21 A	31-Jan-22 A	-60	100%		Application of excavation permit(1.17A)																																																	
PRE1045	Baseline environmental monitoring and reports (by others)	20-Sep-21	08-Nov-21	39	29-Sep-21 A	16-Nov-21 A	-6	100%		Baseline environmental monitoring and reports (by others)																																																	
PRE1050	Establishment of wheel washing system	11-Apr-23	13-May-23	54	11-Apr-23 A	14-Jun-23 A	-26	100%		Establishment of wheel washing system																																																	
PRE1000	Initial survey and topographic survey (PS 1.47)	15-Sep-21	22-Oct-21	53	06-Oct-21 A	08-Dec-21 A	-39	100%		Initial survey and topographic survey (PS 1.47)																																																	
PRE1040	Installation of instrumentation and monitoring points (incl. ADMS inside MTRC Tunnel)	27-Sep-21	08-Nov-21	35	27-Sep-21 A	08-Nov-21 A	0	100%		Installation of instrumentation and monitoring points (incl. ADMS inside MTRC Tunnel)																																																	
PRE1055	Preparation and submission of temporary drainage management plan	23-Dec-21	09-Mar-22	91	18-Nov-21 A	11-Mar-22 A	-1	100%		Preparation and submission of temporary drainage management plan																																																	
PRE1010	Tree survey and tree assessment	20-Sep-21	13-Nov-21	45	20-Sep-21 A	13-Nov-21 A	0	100%		Tree survey and tree assessment																																																	
TMLG and Major TTA Scheme		27-Sep-21	27-May-24	965	06-Oct-21 A	27-May-24	0		21																																																		
PRE1015	Establish TMLG	27-Sep-21	07-Dec-21	47	06-Oct-21 A	01-Dec-21 A	6	100%		Establish TMLG																																																	
PRE1110	Preparation and approval of TTA scheme for Installation of U/G Services/Utilities at LMC Road	08-Aug-22	06-Oct-22	60	08-Aug-22 A	06-Oct-22 A	0	100%		Preparation and approval of TTA scheme for Installation of U/G Services/Utilities at LMC Road																																																	
PRE1020	Preparation and approval of TTA scheme for the installation of piles and construction of pile cap	08-Dec-21	23-Feb-22	78	08-Dec-21 A	23-Feb-22 A	0	100%		Preparation and approval of TTA scheme for the installation of piles and construction of pile cap																																																	
PRE1090	Preparation and approval of TTA scheme for the pier and pierhead segments	08-Apr-23	06-Jun-23	136	08-Apr-23 A	21-Aug-23 A	-76	100%		Preparation and approval of TTA scheme for the pier and pierhead segments																																																	
PRE1100	Preparation and approval of TTA scheme for the segment erection	09-Mar-24	07-May-24	60	09-Mar-24	07-May-24	0	0%	21	Preparation and approval of TTA scheme for the segment erection																																																	
PRE1270	Presentation and liaison with stakeholders before TTA implementation	08-May-24	27-May-24	20	08-May-24	27-May-24	0	0%	21	Presentation and liaison with stakeholders before TTA implementation																																																	
Contractor's Site Accommodation		03-Dec-22	15-Mar-23	60	05-Dec-22 A	18-Feb-23 A	21																																																				
PRE1230	Construction of foundation for site accommodation	24-Dec-22	17-Feb-23	39	07-Dec-22 A	28-Jan-23 A	18	100%		Construction of foundation for site accommodation																																																	
PRE1240	Erection of contractor's site accommodation	03-Dec-22	18-Feb-23	54	12-Dec-22 A	18-Feb-23 A	0	100%		Erection of contractor's site accommodation																																																	
PRE1200	Site clearance	15-Mar-23	15-Mar-23	11	05-Dec-22 A	17-Dec-22 A	70	100%		Site clearance																																																	
Interface Management Plan		06-Sep-21	12-Oct-21	123	06-Sep-21 A	07-Feb-22 A	-93																																																				



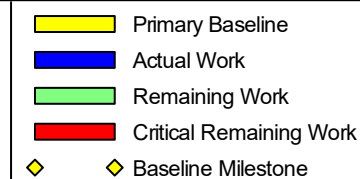
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- Primary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- Baseline Milestone

3 Months Rolling Programme			
Date	Revision	Checked	Approved
08-Jan-23	Rev.2.1k	DML	RP/RS
15-Aug-24	Rev.3.0b	SLX	RP/RS
14-Dec-23	Rev.3.0d	SLX	RP/RS

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and Direct Road Link Phase 1

Activity ID	Activity Name	BL Project Start	BL Project Finish	Works Duration	Start	Finish	Variance - BL Project Finish Date	Physical % Complete	Total Float	Gantt Chart (2022-2026)																																																							
										2022												2023												2024												2025												2026							
PRE1260	Establish Interface Management Liaison Groups and Site Liaison Groups (PS 1.18)	06-Sep-21	12-Oct-21	115	15-Sep-21 A	07-Feb-22 A	-93	100%		Establish Interface Management Liaison Groups and Site Liaison Groups (PS 1.18)																																																							
PRE1250	Submission and approval of interface management plan(PS1.114)	06-Sep-21	12-Oct-21	30	06-Sep-21 A	12-Oct-21 A	0	100%		Submission and approval of interface management plan(PS1.114)																																																							
Prefabrication of Precast Units											03-Oct-22	10-Apr-25	921	03-Oct-22 A	10-Apr-25	0	644																																																
FPS1010	Fabrication of precast segments	07-Aug-23	22-Apr-24	210	07-Aug-23 A	22-Apr-24	0	0%	11	Fabrication of precast segments																																																							
FPS1000	Setting up precast yard for precast segments	03-Oct-22	10-Dec-22	60	03-Oct-22 A	10-Dec-22 A	0	100%		Setting up precast yard for precast segments																																																							
Fabrication of Noise Barriers											25-Sep-23	10-Apr-25	457	25-Sep-23 A	10-Apr-25	0	522																																																
FNB1000	Fabrication of steelworks and panels for NB13, NB14 and NB16	25-Sep-23	07-May-24	180	25-Sep-23 A	07-May-24	0	0%	522	Fabrication of steelworks and panels for NB13, NB14 and NB16																																																							
FNB1010	Fabrication of steelworks and panels for NB6, NB24 and NB7, NB8	11-Mar-24	18-Oct-24	180	11-Mar-24	18-Oct-24	0	0%	522	Fabrication of steelworks and panels for NB6, NB24 and NB7, NB8																																																							
FNB1020	Fabrication of steelworks and panels for NB9, NB10 and NB11, NB12, NB15 and NB23	02-Sep-24	10-Apr-25	180	02-Sep-24	10-Apr-25	0	0%	522	Fabrication of steelworks and panels for NB9, NB10 and NB11, NB12, NB15 and NB23																																																							
Fabrication of roof covered walkway steelworks for Staircases and footbridge											27-Dec-23	22-Nov-24	270	26-Mar-24	22-Feb-25	-73	50																																																
FCW1000	Fabrication of steelwork, steel canopy and roofing system	27-Dec-23	22-Nov-24	270	26-Mar-24	22-Feb-25	-73	0%	50	Fabrication of steelwork, steel canopy and roofing system																																																							
Water Pipes, Valves & Fittings											11-Apr-23	28-Jul-23	115	08-Mar-23 A	28-Jul-23 A	0																																																	
PMD1020	Procurement of Water Pipes for TAR1 at Portion 2A & 2B	11-Apr-23	16-May-23	25	08-Mar-23 A	07-Apr-23 A	30	100%		Procurement of Water Pipes for TAR1 at Portion 2A & 2B																																																							
PMD1010	Procurement, Manufacture and Delivery of Water Pipes, Valves & Fittings (DN700 Water Main at LMC/CP Roads)	11-Apr-23	28-Jul-23	90	08-Apr-23 A	28-Jul-23 A	0	100%		Procurement, Manufacture and Delivery of Water Pipes, Valves & Fittings (DN700 Water Main at LMC/CP Roads)																																																							
Section 1 of the Works- Completion of the Works within Portion 1,2A,2B,3,5,7,8,9&10 of the Site											29-Nov-21	20-Nov-25	1534	30-Nov-21 A	10-Feb-26	-82	-105																																																
S1.KD.1010	Section 1 Completion of Works within Portion 1,2A,2B,3,5,7,8, 9 and 10 of the Site not covered by other sections		20-Nov-25	0		14-Jan-26	-44	0%	-63	Section 1 Completion of Works within Portion 1,2A,2B,3,5,7,8, 9 and 10 of the Site not covered by other sections																																																							
Construction of Reedbed No.3A including the Reedbed System and Reinstatement of Reedbed No.3											30-Nov-21	20-Oct-25	1244	30-Nov-21 A	10-Feb-26	-93	-86																																																
S010120	Construction channels, embankments and pump pits and connect to MTR drainage system	16-Dec-21	21-Feb-22	50	16-Dec-21 A	19-Feb-22 A	2	100%		Construction channels, embankments and pump pits and connect to MTR drainage system																																																							
S010145	Construction of pumping system, maintenance access and staircase	22-Feb-22	28-Feb-22	41	28-Dec-21 A	18-Feb-22 A	9	100%		Construction of pumping system, maintenance access and staircase																																																							
S010100	Erection of chain link fence	30-Nov-21	15-Dec-21	14	30-Nov-21 A	15-Dec-21 A	0	100%		Erection of chain link fence																																																							
S010180	Laying grasscrete, chain link fence, hydroseeding and isolation of reedbed cell No.3	29-Mar-22	14-Apr-22	11	22-Mar-22 A	04-Apr-22 A	9	100%		Laying grasscrete, chain link fence, hydroseeding and isolation of reedbed cell No.3																																																							
S010160	Pilot test for the wastewater polishing effectiveness of the reedbed system	01-Mar-22	01-Apr-22	22	09-Mar-22 A	04-Apr-22 A	-1	100%		Pilot test for the wastewater polishing effectiveness of the reedbed system																																																							
S010200	Planned achievement of Key Date KD-1 of the Works		14-Apr-22	0		04-Apr-22 A	9	100%		Planned achievement of Key Date KD-1 of the Works																																																							
S010140	Planting of reeds	22-Feb-22	28-Feb-22	21	27-Jan-22 A	24-Feb-22 A	4	100%		Planting of reeds																																																							
S010220	Reinstatement of reedbed cell No.3 after completion of DRL	06-May-25	20-Oct-25	140	25-Aug-25	10-Feb-26	-93	0%	-86	Reinstatement of reedbed cell No.3 after completion of DRL																																																							
Laying of Interim Water Main along TAR1 in Portion 2A and 2B											11-Apr-23	26-Aug-23	70	03-Apr-23 A	30-Jun-23 A	48																																																	
Laying of Interim Water Main in Portion 2B											11-Apr-23	23-Jun-23	64	03-Apr-23 A	23-Jun-23 A	0																																																	
S010255	Implement TTA	11-Apr-23	11-Apr-23	0	03-Apr-23 A	03-Apr-23 A	4	100%		Implement TTA																																																							
S010245	Laying of interim water main CH.80 to CH.262.834 along TAR1 (182.8m)	11-Apr-23	09-May-23	49	11-Apr-23 A	08-Jun-23 A	-25	100%		Laying of interim water main CH.80 to CH.262.834 along TAR1 (182.8m)																																																							
S010250	Testing, Chemical Cleaning, Flushing, Connection and backfilling	09-Jun-23	23-Jun-23	12	09-Jun-23 A	23-Jun-23 A	0	100%		Testing, Chemical Cleaning, Flushing, Connection and backfilling																																																							
S010275	UU Detection, Trial Pit, Shift (if any)	12-Apr-23	12-Apr-23	2	04-Apr-23 A	07-Apr-23 A	1	100%		UU Detection, Trial Pit, Shift (if any)																																																							
Laying of Interim Water Main in Portion 2A											27-Apr-23	26-Aug-23	53	27-Apr-23 A	30-Jun-23 A	48																																																	
S010260	Excavation and laying of interim water main CH.6.005 to CH.80 (74m)	27-Apr-23	15-May-23	41	27-Apr-23 A	15-Jun-23 A	-26	100%		Excavation and laying of interim water main CH.6.005 to CH.80 (74m)																																																							
S010280	Planned achievement of Key Date KD-2 of the Works		26-Aug-23	0		30-Jun-23 A	48	100%		Planned achievement of Key Date KD-2 of the Works																																																							
S010265	Testing, Chemical Cleaning, Flushing, Connection and backfilling	16-Jun-23	16-Jun-23	12	16-Jun-23 A	30-Jun-23 A	-11	100%		Testing, Chemical Cleaning, Flushing, Connection and backfilling																																																							
Taxi Holding Area											16-Dec-21	18-Jul-25	1100	16-Dec-21 A	04-Sep-25	-41	44																																																
S010300	Implementation of TTA and modification of temporary taxi holding area	16-Dec-21	08-Mar-22	180	16-Dec-21 A	30-Jul-22 A	-115	100%		Implementation of TTA and modification of temporary taxi holding area																																																							
S010305	Reinstatement of taxi holding area	15-Apr-25	18-Jul-25	75	09-Jun-25	04-Sep-25	-41	0%	44	Reinstatement of taxi holding area																																																							
Superstructure for Bridge ST01											08-Oct-23	20-Nov-25	811	27-Oct-23 A	14-Jan-26	-55	-78																																																
Construction of Pierhead Segment											08-Oct-23	20-Aug-24	374	27-Oct-23 A	03-Nov-24	-75	1																																																
Construction of Pierhead Segment at Pier ST01-P02											18-Oct-23	21-Nov-23	35	08-Feb-24	13-Mar-24	-113	52																																																
S010420	Cast In-situ Pierhead Segment Infill at Pier ST01-P02	21-Nov-23	21-Nov-23	1	13-Mar-24	13-Mar-24	-113	0%	52	Cast In-situ Pierhead Segment Infill at Pier ST01-P02																																																							
S010400	Installation of falsework / Temporary Platform System	18-Oct-23	02-Nov-23	16	08-Feb-24	23-Feb-24	-113	0%	52	Installation of falsework / Temporary Platform System																																																							
S010405	Installation of precast shell segment, formwork and fixing of the rebar	03-Nov-23	20-Nov-23	18	24-Feb-24	12-Mar-24	-113	0%	52	Installation of precast shell segment, formwork and fixing of the rebar																																																							
Construction of Pierhead Segment at Pier ST01-P03 (based on Contractor's proposed design)											08-Oct-23	30-Nov-23	41	27-Oct-23 A	06-Dec-23 A	-6																																																	
S60370	Curing and Formwork Dismantle for temporary joint at Tier ST01-P03	21-Nov-23	30-Nov-23	12	27-Oct-23 A	07-Nov-23 A	23	100%		Curing and Formwork Dismantle for temporary joint at Tier ST01-P03																																																							



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Activity ID	Activity Name	BL Project Start	BL Project Finish	Works Duration	Start	Finish	Variance - BL Project Finish Date	Physical % Complete	Total Float	Gantt Chart (2022-2026)																																																	
										2022												2023												2024												2025												2026	
S02CP3340	Installation of bored piles for Pier ST01-P03 (CSD changed to 1 bored pile)	08-Aug-22	30-Aug-22	24	27-Jun-22 A	26-Jul-22 A	31	100%		■ Installation of bored piles for Pier ST01-P03 (CSD changed to 1 bored pile)																																																	
S02CP3360	Sonic test and interface core	24-Aug-22	26-Aug-22	2	08-Oct-22 A	11-Oct-22 A	-35	100%		■ Sonic test and interface core																																																	
Installation of bored piles for Pier ST01-P04										■ Installation of bored piles for Pier ST01-P04 (2 nos) (CSD changed to 1 bored pile)																																																	
S02CP3390	Drainage Diversion at ST01-P04	08-Feb-23	17-Feb-23	14	11-Feb-23 A	25-Feb-23 A	-7	100%		■ Drainage Diversion at ST01-P04																																																	
S02CP3380	Installation of bored piles for Pier ST01-P04 (2 nos) (CSD changed to 1 bored pile)	20-Feb-23	15-Mar-23	23	27-Feb-23 A	25-Mar-23 A	-9	100%		■ Installation of bored piles for Pier ST01-P04 (2 nos) (CSD changed to 1 bored pile)																																																	
S02CP3400	Sonic test and interface core	15-Apr-23	18-Apr-23	3	15-Apr-23 A	18-Apr-23 A	0	100%		■ Sonic test and interface core																																																	
Installation of bored piles for Pier ST01-P06										■ Installation of bored piles for Pier ST01-P06 (2 nos) (CSD changed to 1 bored pile)																																																	
S02CP3590	Implement TTA	31-Aug-22	31-Aug-22	1	03-Jan-23 A	04-Jan-23 A	-101	100%		■ Implement TTA																																																	
S02CP3580	Installation of bored piles for Pier ST01-P06 (2 nos) (CSD changed to 1 bored pile)	01-Sep-22	24-Sep-22	38	04-Jan-23 A	21-Feb-23 A	-119	100%		■ Installation of bored piles for Pier ST01-P06 (2 nos) (CSD changed to 1 bored pile)																																																	
S02CP3600	Sonic test and interface core	11-Apr-23	13-Apr-23	3	11-Apr-23 A	13-Apr-23 A	0	100%		■ Sonic test and interface core																																																	
Installation of bored piles for Pier ST01-P05										■ Installation of bored piles for Pier ST01-P05 (2 nos) (CSD changed to 1 bored pile)																																																	
S02CP3420	Installation of bored piles for Pier ST01-P05 (2 nos) (CSD changed to 1 bored pile)	04-Jan-24	27-Jan-24	21	22-Feb-24	16-Mar-24	-39	0%	-39	■ Installation of bored piles for Pier ST01-P05 (2 nos) (CSD changed to 1 bored pile)																																																	
S02CP3415	New Access Road connecting to FanLing Highway	07-Dec-23	03-Jan-24	21	09-Jan-24 A	01-Feb-24 A	-25	100%		■ New Access Road connecting to FanLing Highway																																																	
S02CP3425	Site Clearance of Tree trunk and root balls	16-Nov-23	06-Dec-23	21	09-Nov-23 A	29-Nov-23 A	7	100%		■ Site Clearance of Tree trunk and root balls																																																	
S02CP3440	Sonic test and interface core	17-Feb-24	20-Feb-24	3	08-Apr-24	10-Apr-24	-39	0%	-39	■ Sonic test and interface core																																																	
Installation of bored piles for Abutment ST01-B01										■ Installation of bored piles for Abutment ST01-B01 (1st 2 nos.)																																																	
S2B.NM.2005	Excavate and Break Existing Nullah Southside Channel	16-Feb-24	29-Feb-24	14	23-Feb-24	07-Mar-24	-7	0%	-51	■ Excavate and Break Existing Nullah Southside Channel																																																	
S2B.NM.2010	Install Sheet Piling Along Southside Nullah for Temporary Piling Platform Erection	01-Mar-24	14-Mar-24	14	08-Mar-24	21-Mar-24	-7	0%	-51	■ Install Sheet Piling Along Southside Nullah for Temporary Piling Platform Erection																																																	
S02CP3530	Preparation and Platform Erection Works for Bored Piles at Abutment ST01-B01 and FBP-05	15-Mar-24	22-Mar-24	7	22-Mar-24	02-Apr-24	-6	0%	-41	■ Preparation and Platform Erection Works for Bored Piles at Abutment ST01-B01 and FBP-05																																																	
S02CP3520	Sonic test and interface core	21-Jun-24	24-Jun-24	3	28-Jun-24	02-Jul-24	-6	0%	11	■ Sonic test and interface core																																																	
S02CP3500	Stage 1 - Installation of bored piles for Abutment ST01-B01 (1st 2 nos.)	23-Mar-24	29-Apr-24	28	03-Apr-24	07-May-24	-6	0%	-41	■ Stage 1 - Installation of bored piles for Abutment ST01-B01 (1st 2 nos.)																																																	
S02CP3510	Stage 2 - Installation of bored piles for Abutment ST01-B01 (2nd 2 nos.)	30-Apr-24	03-Jun-24	28	08-May-24	11-Jun-24	-6	0%	-41	■ Stage 2 - Installation of bored piles for Abutment ST01-B01 (2nd 2 nos.)																																																	
Installation of bored piles for Abutment ST01-B02										■ Installation of bored piles for Abutment ST01-B02 (change to 2 nos)																																																	
S02CP3750	Implement TTA	19-Dec-23	19-Dec-23	1	05-Mar-24	05-Mar-24	-60	0%	-34	■ Implement TTA																																																	
S02CP3740	Installation of bored piles for Abutment ST01-B02 (change to 2 nos)	20-Dec-23	07-Feb-24	40	06-Mar-24	25-Apr-24	-60	0%	-34	■ Installation of bored piles for Abutment ST01-B02 (change to 2 nos)																																																	
S02CP3760	Sonic test and interface core	20-Feb-24	22-Feb-24	3	06-May-24	08-May-24	-60	0%	19	■ Sonic test and interface core																																																	
Installation of bored piles for Pier ST01-P09										■ Installation of bored piles for Pier ST01-P09 (2 nos) (CSD changed to 1 no.)																																																	
S02CP3710	Implement TTA	07-Feb-24	07-Feb-24	1	25-Apr-24	25-Apr-24	-60	0%	-34	■ Implement TTA																																																	
S02CP3700	Installation of bored piles for Pier ST01-P09 (2 nos) (CSD changed to 1 no.)	08-Feb-24	05-Mar-24	20	26-Apr-24	21-May-24	-60	0%	-34	■ Installation of bored piles for Pier ST01-P09 (2 nos) (CSD changed to 1 no.)																																																	
S02CP3720	Sonic test and interface core	22-Mar-24	25-Mar-24	3	07-Jun-24	11-Jun-24	-60	0%	-6	■ Sonic test and interface core																																																	
Installation of bored piles for Pier ST01-P08										■ Installation of bored piles for Pier ST01-P08 (2 nos) (CSD changed to 1 no.)																																																	
S02CP3670	Implement TTA	05-Mar-24	05-Mar-24	1	21-May-24	21-May-24	-60	0%	-34	■ Implement TTA																																																	
S02CP3660	Installation of bored piles for Pier ST01-P08 (2 nos) (CSD changed to 1 no.)	06-Mar-24	28-Mar-24	20	22-May-24	14-Jun-24	-60	0%	-34	■ Installation of bored piles for Pier ST01-P08 (2 nos) (CSD changed to 1 no.)																																																	
S02CP3680	Sonic test and interface core	19-Apr-24	22-Apr-24	3	03-Jul-24	05-Jul-24	-60	0%	16	■ Sonic test and interface core																																																	
Installation of bored piles for Pier ST01-P07										■ Installation of bored piles for Pier ST01-P07 (2 nos) (CSD changed to 1 no.)																																																	
S02CP3630	Implement TTA	02-Apr-24	02-Apr-24	1	15-Jun-24	15-Jun-24	-60	0%	-34	■ Implement TTA																																																	
S02CP3620	Installation of bored piles for Pier ST01-P07 (2 nos) (CSD changed to 1 no.)	03-Apr-24	26-Apr-24	20	17-Jun-24	10-Jul-24	-60	0%	-34	■ Installation of bored piles for Pier ST01-P07 (2 nos) (CSD changed to 1 no.)																																																	
S02CP3640	Sonic test and interface core	16-May-24	18-May-24	3	27-Jul-24	30-Jul-24	-60	0%	-30	■ Sonic test and interface core																																																	
Pilehead Treatment, Pile Cap and Pier/Abutment Construction										■ Construction of pier																																																	
At Pier ST01-P01										■ Construction of pile cap																																																	
S02CP4020	Construction of pier	26-Jan-24	01-Apr-24	67	28-Apr-24	03-Jul-24	-93	0%	-48	■ Construction of pier																																																	
S02CP4010	Construction of pile cap	15-Mar-24	01-Apr-24	18	16-Jun-24	03-Jul-24	-93	0%	-48	■ Construction of pile cap																																																	
S02CP4000	Excavation and pilehead treatment	09-Feb-24	20-Feb-24	12	12-May-24	23-May-24	-93	0%	-48	■ Excavation and pilehead treatment																																																	
S02CP3990	Installation of ELS	26-Jan-24	08-Feb-24	14	28-Apr-24	11-May-24	-93	0%	-48	■ Installation of ELS																																																	
At Pier ST01-P02										■ Construction of pier																																																	
S02CP3840	Construction of pier	30-May-23	16-Jun-23	47	30-May-23 A	15-Jul-23 A	-29	100%		■ Construction of pier																																																	
S02CP3830	Construction of pile cap	11-Mar-23	24-Mar-23	13	15-Mar-23 A	27-Mar-23 A	-3	100%		■ Construction of pile cap																																																	
S02CP3820	Excavation and pilehead treatment	13-Mar-23	25-Mar-23	12	06-Mar-23 A	18-Mar-23 A	7	100%		■ Excavation and pilehead treatment																																																	

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- ◆ Baseline Milestone

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										2022												2023												2024												2025												2026	
S031040	Installation of working platform and Pre-drilling works for Pier DRL-P05	23-Feb-22	15-Mar-22	31	09-Feb-22 A	17-Mar-22 A	-1	100%		Installation of working platform and Pre-drilling works for Pier DRL-P05																																																	
S031180	Installation of working platform and Pre-drilling works for Pier DRL-P06 (PD01)	09-Oct-23	25-Oct-23	68	29-Aug-23 A	18-Nov-23 A	-21	100%		Installation of working platform and Pre-drilling works for Pier DRL-P06 (PD01)																																																	
S031050	Installation of working platform and Pre-drilling works for Pier DRL-P06 (PD02)	05-Mar-22	25-Mar-22	3	14-Dec-21 A	17-Dec-21 A	79	100%		Installation of working platform and Pre-drilling works for Pier DRL-P06 (PD02)																																																	
S031130	Installation of working platform and Pre-drilling works for Pier DRL-P08	26-Oct-23	10-Nov-23	20	26-Jan-24 A	21-Feb-24	-82	100%	-55	Installation of working platform and Pre-drilling works for Pier DRL-P08																																																	
S031260	Installation of working platform for Pier DRL-P10	08-Aug-22	03-Sep-22	14	15-Aug-22 A	31-Aug-22 A	4	100%		Installation of working platform for Pier DRL-P10																																																	
S031160	Pre-drilling works for Abutment DRL A01	27-Apr-23	09-Jun-23	144	07-Jan-22 A	07-Jul-22 A	275	100%		Pre-drilling works for Abutment DRL A01																																																	
S031170	Pre-drilling works for approach ramp AP04 (9 nos)	27-Apr-23	03-Jul-23	63	25-Feb-22 A	17-May-22 A	335	100%		Pre-drilling works for approach ramp AP04 (9 nos)																																																	
S031510	Pre-drilling works for CSD DRL AP04 (AP & A01) (12 nos)	08-Aug-22	19-Sep-22	45	30-Jun-22 A	23-Aug-22 A	23	100%		Pre-drilling works for CSD DRL AP04 (AP & A01) (12 nos)																																																	
S031150	Pre-drilling works for Pier DRL-P02 in Portion 9	22-Aug-22	06-Sep-22	12	08-Jun-22 A	22-Jun-22 A	65	100%		Pre-drilling works for Pier DRL-P02 in Portion 9																																																	
S031140	Pre-drilling works for Pier DRL-P03 in Portion 9	05-Aug-22	20-Aug-22	15	18-May-22 A	06-Jun-22 A	65	100%		Pre-drilling works for Pier DRL-P03 in Portion 9																																																	
S031070	Pre-drilling works for Pier DRL-P07 (2 nos)	05-Jul-23	20-Jul-23	35	18-Aug-23 A	27-Sep-23 A	-59	100%		Pre-drilling works for Pier DRL-P07 (2 nos)																																																	
S031120	Pre-drilling works for Pier DRL-P09(in MTR protection zone)upon implementation of TTA	28-Jun-22	14-Jul-22	25	12-Jul-22 A	10-Aug-22 A	-22	100%		Pre-drilling works for Pier DRL-P09(in MTR protection zone)upon implementation of TTA																																																	
S031110	Pre-drilling works for Pier DRL-P10 (in MTR protection zone)upon implementation of TTA	05-Sep-22	21-Sep-22	10	06-Sep-22 A	19-Sep-22 A	3	100%		Pre-drilling works for Pier DRL-P10 (in MTR protection zone)upon implementation of TTA																																																	
S031100	Pre-drilling works for Pier-P11	31-May-22	10-Jun-22	35	22-Dec-21 A	08-Feb-22 A	99	100%		Pre-drilling works for Pier-P11																																																	
S031090	Pre-drilling works for Pier-P12	20-May-22	30-May-22	14	07-Jan-22 A	24-Jan-22 A	100	100%		Pre-drilling works for Pier-P12																																																	
S031080	Pre-drilling works for Pier-P13	10-May-22	19-May-22	30	17-Jan-22 A	24-Feb-22 A	67	100%		Pre-drilling works for Pier-P13																																																	
Piling Works		08-Aug-22	08-Feb-24	669	08-Aug-22 A	06-Jun-24	-119		-79																																																		
S031200	Plant mobilization and setup for piling works	08-Aug-22	06-Sep-22	31	08-Aug-22 A	08-Sep-22 A	-1	100%		Plant mobilization and setup for piling works																																																	
Installation of Bored Piles for Pier DRL-P13		13-Sep-22	10-Feb-23	87	09-Sep-22 A	05-Dec-22 A	68																																																				
S031210	Installation of bored piles for Pier DRL-P13 (2 nos)	13-Sep-22	02-Oct-22	36	09-Sep-22 A	15-Oct-22 A	-12	100%		Installation of bored piles for Pier DRL-P13 (2 nos)																																																	
S031220	Interface core and sonic test	08-Feb-23	10-Feb-23	7	28-Nov-22 A	05-Dec-22 A	68	100%		Interface core and sonic test																																																	
Installation of Bored Piles for Pier DRL-P12		08-Oct-22	10-Feb-23	103	24-Aug-22 A	05-Dec-22 A	68																																																				
S031230	Installation of bored piles for Pier DRL-P12 (2 nos)	08-Oct-22	27-Oct-22	45	24-Aug-22 A	08-Oct-22 A	20	100%		Installation of bored piles for Pier DRL-P12 (2 nos)																																																	
S031235	Interface core and sonic test	08-Feb-23	10-Feb-23	8	27-Nov-22 A	05-Dec-22 A	68	100%		Interface core and sonic test																																																	
Installation of Bored Piles for Pier DRL-P11		09-May-23	09-Aug-23	78	24-May-23 A	09-Aug-23 A	0																																																				
S031240	Installation of bored piles for Pier DRL-P11 (4 nos) (duration adjusted based on actual production rate)	09-May-23	07-Jun-23	62	24-May-23 A	24-Jul-23 A	-47	100%		Installation of bored piles for Pier DRL-P11 (4 nos) (duration adjusted based on actual production rate)																																																	
S031245	Interface core and sonic test	07-Aug-23	09-Aug-23	3	07-Aug-23 A	09-Aug-23 A	0	100%		Interface core and sonic test																																																	
Installation of Bored Piles for Pier DRL-P10		19-Apr-23	04-Feb-24	415	19-Apr-23 A	06-Jun-24	-123		-157																																																		
Access and Site Clearance		19-Apr-23	21-Oct-23	309	19-Apr-23 A	21-Feb-24	-123		-157																																																		
S031206	Access to DRL-P10	08-Oct-23		0	08-Feb-24		-123	0%	-157	Access to DRL-P10																																																	
S031205	Application and Approval for Access (via Custom)	19-Apr-23	23-May-23	28	19-Apr-23 A	16-May-23 A	7	100%		Application and Approval for Access (via Custom)																																																	
S031215	Site Clearance - Trees Felling works	08-Oct-23	14-Oct-23	7	08-Feb-24	14-Feb-24	-123	0%	-150	Site Clearance - Trees Felling works																																																	
S031255	Watermain Diversion Works	08-Oct-23	21-Oct-23	14	08-Feb-24	21-Feb-24	-123	0%	-157	Watermain Diversion Works																																																	
Piling Works		22-Oct-23	04-Feb-24	106	22-Feb-24	06-Jun-24	-123		-157																																																		
S031275	Construction Temporary Piling Platform	10-Dec-23	16-Dec-23	7	11-Apr-24	17-Apr-24	-123	0%	-157	Construction Temporary Piling Platform																																																	
S031280	Installation of bored piles for Pier DRL-P10 (2 nos) (duration adjusted based on actual production rate)	17-Dec-23	25-Jan-24	40	18-Apr-24	27-May-24	-123	0%	-157	Installation of bored piles for Pier DRL-P10 (2 nos) (duration adjusted based on actual production rate)																																																	
S031290	Interface core and sonic test	02-Feb-24	04-Feb-24	3	04-Jun-24	06-Jun-24	-123	0%	-157	Interface core and sonic test																																																	
S031250	Sheet Piling Installation Works	22-Oct-23	02-Dec-23	42	22-Feb-24	03-Apr-24	-123	0%	-157	Sheet Piling Installation Works																																																	
S031265	Slope Cut works	03-Dec-23	09-Dec-23	7	04-Apr-24	10-Apr-24	-123	0%	-157	Slope Cut works																																																	
Installation of Bored Piles for Pier DRL-P09		28-Sep-23	01-Feb-24	183	28-Sep-23 A	28-Mar-24	-56		-73																																																		
S031550	Cast concrete decking with reinforcement	11-Dec-23	13-Dec-23	10	27-Dec-23 A	05-Jan-24 A	-23	100%		Cast concrete decking with reinforcement																																																	
S031520	Decking over CLP Cables and Site formation (PMI to be issued)	28-Sep-23	27-Oct-23	16	28-Sep-23 A	13-Oct-23 A	14	100%		Decking over CLP Cables and Site formation (PMI to be issued)																																																	
S031300	Implementation of TTA	28-Sep-23		0	28-Sep-23 A		0	100%		Implementation of TTA																																																	
S031530	Install Instrumentation and Monitoring	28-Oct-23	29-Oct-23	3	14-Oct-23 A	16-Oct-23 A	13	100%		Install Instrumentation and Monitoring																																																	
S031540	Install Sheet Piles and backfill	30-Oct-23	10-Dec-23	32	28-Oct-23 A	28-Nov-23 A	12	100%		Install Sheet Piles and backfill																																																	
S031310	Installation of bored piles for Pier DRL-P9 (2 nos) (duration adjusted based on actual production rate)	14-Dec-23	22-Jan-24	40	08-Feb-24	18-Mar-24	-56	0%	-85	Installation of bored piles for Pier DRL-P9 (2 nos) (duration adjusted based on actual production rate)																																																	
S031320	Interface core and sonic test	30-Jan-24	01-Feb-24	3	26-Mar-24	28-Mar-24	-56	0%	-73	Interface core and sonic test																																																	
Installation of Bored Piles for Pier DRL-P05		20-Feb-23	13-Jun-23	109	20-Feb-23 A	08-Jun-23 A	5																																																				
S031330	Installation of bored pile for Pier DRL-P05 (4 nos) (duration adjusted based on actual production rate)	20-Feb-23	10-May-23	81	20-Feb-23 A	11-May-23 A	-1	100%		Installation of bored pile for Pier DRL-P05 (4 nos) (duration adjusted based on actual production rate)																																																	

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- Primary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- Baseline Milestone

3 Months Rolling Programme

Date	Revision	Checked	Approved
08-Jan-23	Rev.2.1k	DML	RP/RS
15-Aug-24	Rev.3.0b	SLX	RP/RS
14-Dec-23	Rev.3.0d	SLX	RP/RS

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and Direct Road Link Phase 1

Activity ID	Activity Name	BL Project Start	BL Project Finish	Works Duration	Start	Finish	Variance - BL Project Finish Date	Physical % Complete	Total Float	Gantt Chart (2022-2026)																																																	
										2022												2023												2024												2025												2026	
S031340	Interface core and sonic test	08-Jun-23	13-Jun-23	1	08-Jun-23 A	08-Jun-23 A	5	100%		Interface core and sonic test																																																	
Installation of Bored Piles for Pier DRL-P04		05-Nov-22	13-Apr-23	125	05-Nov-22 A	10-Mar-23 A	35			■ Installation of bored pile for Pier DRL-P04 (2 nos)																																																	
S031350	Installation of bored pile for Pier DRL-P04 (2 nos)	05-Nov-22	24-Nov-22	41	05-Nov-22 A	16-Dec-22 A	-21	100%		■ Installation of bored pile for Pier DRL-P04 (2 nos)																																																	
S031360	Interface core and sonic test	11-Apr-23	13-Apr-23	0	10-Mar-23 A	10-Mar-23 A	35	100%		Interface core and sonic test																																																	
Installation of Bored Piles for Pier DRL-P06		26-Oct-23	21-Dec-23	82	30-Nov-23 A	19-Feb-24	-60		7	■ Installation of bored pile for Pier DRL-P06(2nos) (duration adjusted based on actual production rate)																																																	
S031370	Installation of bored pile for Pier DRL-P06(2nos) (duration adjusted based on actual production rate)	26-Oct-23	04-Dec-23	65	30-Nov-23 A	02-Feb-24 A	-60	100%		■ Installation of bored pile for Pier DRL-P06(2nos) (duration adjusted based on actual production rate)																																																	
S031380	Interface core and sonic test	19-Dec-23	21-Dec-23	3	17-Feb-24	19-Feb-24	-60	0%	7	Interface core and sonic test																																																	
Installation of Bored Piles for Pier DRL-P07		08-Oct-23	03-Dec-23	72	16-Nov-23 A	26-Jan-24 A	-54			■ Installation of bored pile for Pier DRL-P07(2nos) (duration adjusted based on actual production rate)																																																	
S031390	Installation of bored pile for Pier DRL-P07(2nos) (duration adjusted based on actual production rate)	08-Oct-23	16-Nov-23	54	16-Nov-23 A	08-Jan-24 A	-53	100%		■ Installation of bored pile for Pier DRL-P07(2nos) (duration adjusted based on actual production rate)																																																	
S031400	Interface core and sonic test	01-Dec-23	03-Dec-23	3	24-Jan-24 A	26-Jan-24 A	-54	100%		Interface core and sonic test																																																	
Installation of Bored Piles for Pier DRL-P08		11-Nov-23	08-Feb-24	90	22-Feb-24	21-May-24	-103		-63	■ Installation of bored pile for Pier DRL-P08 (4nos) (duration adjusted based on actual production rate)																																																	
S031410	Installation of bored pile for Pier DRL-P08 (4nos) (duration adjusted based on actual production rate)	11-Nov-23	19-Jan-24	70	22-Feb-24	01-May-24	-103	0%	-71	■ Installation of bored pile for Pier DRL-P08 (4nos) (duration adjusted based on actual production rate)																																																	
S031420	Interface core and sonic test	03-Feb-24	08-Feb-24	6	16-May-24	21-May-24	-103	0%	-63	Interface core and sonic test																																																	
Installation of Bored Piles for Pier DRL-P03		09-May-23	03-Aug-23	88	08-May-23 A	03-Aug-23 A	0			■ Installation of bored piles for Pier DRL-P03 (2 nos) (duration adjusted based on production rate)																																																	
S031430	Installation of bored piles for Pier DRL-P03 (2 nos) (duration adjusted based on production rate)	09-May-23	17-Jun-23	41	08-May-23 A	17-Jun-23 A	0	100%		■ Installation of bored piles for Pier DRL-P03 (2 nos) (duration adjusted based on production rate)																																																	
S031440	Interface core and sonic test	01-Aug-23	03-Aug-23	3	01-Aug-23 A	03-Aug-23 A	0	100%		Interface core and sonic test																																																	
Installation of Bored Piles for Pier DRL-P02		27-Apr-23	07-Aug-23	101	29-Apr-23 A	07-Aug-23 A	0			■ Installation of bored piles for Pier DRL-P02 (4 nos) (duration adjusted based on production rate)																																																	
S031450	Installation of bored piles for Pier DRL-P02 (4 nos) (duration adjusted based on production rate)	27-Apr-23	05-Jul-23	74	29-Apr-23 A	11-Jul-23 A	-6	100%		■ Installation of bored piles for Pier DRL-P02 (4 nos) (duration adjusted based on production rate)																																																	
S031460	Interface core and sonic test	02-Aug-23	07-Aug-23	6	02-Aug-23 A	07-Aug-23 A	0	100%		Interface core and sonic test																																																	
Installation of Bored Piles for Abutment DRL-A01 (6 nos)		21-Dec-22	11-Apr-23	126	06-Dec-22 A	11-Apr-23 A	0			■ Installation of bored piles for Abutment DRL-A01 (6 nos) (CSD004 Changed to 12 nos Socket H-Pile @ 4 days / pile)																																																	
S031470	Installation of bored piles for Abutment DRL-A01 (6 nos) (CSD004 Changed to 12 nos Socket H-Pile @ 4 days / pile)	21-Dec-22	06-Feb-23	44	06-Dec-22 A	19-Jan-23 A	19	100%		■ Installation of bored piles for Abutment DRL-A01 (6 nos) (CSD004 Changed to 12 nos Socket H-Pile @ 4 days / pile)																																																	
S031480	Interface core and sonic test (duration change to 0 to be deleted)	11-Apr-23	11-Apr-23	0	11-Apr-23 A	11-Apr-23 A	0	100%		Interface core and sonic test (duration change to 0 to be deleted)																																																	
Installation of Bored Piles for Approach ramp AP04 (9 nos)		27-Oct-22	11-Apr-23	166	27-Oct-22 A	11-Apr-23 A	0			■ Mobilization of rig and Installation of bored piles for approach ramp AP04 (9 nos) (CSD-003 change to H-Pile 11 nos)																																																	
S031500	Interface core and sonic test (to be deleted)	11-Apr-23	11-Apr-23	0	11-Apr-23 A	11-Apr-23 A	0	100%		Interface core and sonic test (to be deleted)																																																	
S031490	Mobilization of rig and Installation of bored piles for approach ramp AP04 (9 nos) (CSD-003 change to H-Pile 11 nos)	27-Oct-22	09-Dec-22	84	27-Oct-22 A	19-Jan-23 A	-40	100%		■ Mobilization of rig and Installation of bored piles for approach ramp AP04 (9 nos) (CSD-003 change to H-Pile 11 nos)																																																	
Installation of Bored Piles for Approach Ramp at U-Through (12 nos)		08-Oct-22	11-Apr-23	185	08-Oct-22 A	11-Apr-23 A	0			■ Mobilization of rig & Installation of bored piles for approach ramp U-trough (12 nos) (CSD-003 change to H-pile 17 nos)																																																	
S60110	Interface core and sonic test (to be deleted)	11-Apr-23	11-Apr-23	0	11-Apr-23 A	11-Apr-23 A	0	100%		Interface core and sonic test (to be deleted)																																																	
S60100	Mobilization of rig & Installation of bored piles for approach ramp U-trough (12 nos) (CSD-003 change to H-pile 17 nos)	08-Oct-22	15-Dec-22	147	08-Oct-22 A	04-Mar-23 A	-79	100%		■ Mobilization of rig & Installation of bored piles for approach ramp U-trough (12 nos) (CSD-003 change to H-pile 17 nos)																																																	
Pilehead Treatment and Construction of Pile Cap		08-Mar-23	31-Mar-24	488	08-Mar-23 A	07-Jul-24	-98		-76	■ Construction of pile cap																																																	
At Pier DRL-P13		11-Apr-23	21-Jun-23	68	11-Apr-23 A	17-Jun-23 A	4			■ Construction of pile cap																																																	
S031620	Construction of pile cap	01-Jun-23	21-Jun-23	17	01-Jun-23 A	17-Jun-23 A	4	100%		■ Construction of pile cap																																																	
S031610	Excavation and pilehead treatment	13-Apr-23	26-Apr-23	30	27-Apr-23 A	26-May-23 A	-30	100%		■ Excavation and pilehead treatment																																																	
S031600	Installation of ELS	11-Apr-23	20-Apr-23	14	11-Apr-23 A	25-Apr-23 A	-4	100%		■ Installation of ELS																																																	
At Pier DRL-P12		08-Mar-23	28-May-23	86	08-Mar-23 A	01-Jun-23 A	-4			■ Construction of pile cap																																																	
S031650	Construction of pile cap	08-May-23	28-May-23	25	08-May-23 A	01-Jun-23 A	-4	100%		■ Construction of pile cap																																																	
S031640	Excavation and pilehead treatment	19-Apr-23	02-May-23	17	19-Apr-23 A	06-May-23 A	-3	100%		■ Excavation and pilehead treatment																																																	
S031630	Installation of ELS	08-Mar-23	17-Mar-23	17	08-Mar-23 A	25-Mar-23 A	-7	100%		■ Installation of ELS																																																	
At Pier DRL-P11		06-Sep-23	21-Nov-23	134	06-Sep-23 A	17-Jan-24 A	-57			■ Construction of pile cap																																																	
S031680	Construction of pile cap	01-Nov-23	21-Nov-23	14	04-Jan-24 A	17-Jan-24 A	-57	100%		■ Construction of pile cap																																																	
S031670	Excavation and pilehead treatment	18-Oct-23	31-Oct-23	43	22-Nov-23 A	03-Jan-24 A	-64	100%		■ Excavation and pilehead treatment																																																	
S031660	Installation of ELS	06-Sep-23	15-Sep-23	43	06-Sep-23 A	22-Nov-23 A	-67	100%		■ Installation of ELS																																																	
At Pier DRL-P10		05-Feb-24	06-Mar-24	31	07-Jun-24	07-Jul-24	-123		-157	■ Construction of pile cap																																																	
S031710	Construction of pile cap	26-Feb-24	06-Mar-24	10	28-Jun-24	07-Jul-24	-123	0%	-157	■ Construction of pile cap																																																	
S031690	ELS Modification and Excavation Works	05-Feb-24	18-Feb-24	14	07-Jun-24	20-Jun-24	-123	0%	-157	■ ELS Modification and Excavation Works																																																	
S031700	Pilehead treatment	19-Feb-24	25-Feb-24	7	21-Jun-24	27-Jun-24	-123	0%	-157	■ Pilehead treatment																																																	
At Pier DRL-P09		23-Jan-24	25-Feb-24	34	19-Mar-24	21-Apr-24	-56		-85	■ Construction of pile cap																																																	
S031740	Construction of pile cap	16-Feb-24	25-Feb-24	10	12-Apr-24	21-Apr-24	-56	0%	-85	■ Construction of pile cap																																																	
S031715	Demolish concrete decking for Bored Piling	23-Jan-24	25-Jan-24	3	19-Mar-24	21-Mar-24	-56	0%	-85	■ Demolish concrete decking for Bored Piling																																																	
S031720	Modification ELS and Excavation Works	26-Jan-24	08-Feb-24	14	22-Mar-24	04-Apr-24	-56	0%	-85	■ Modification ELS and Excavation Works																																																	
S031730	Pilehead treatment	09-Feb-24	15-Feb-24	7	05-Apr-24	11-Apr-24	-56	0%	-85	■ Pilehead treatment																																																	



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- Primary Baseline
- Actual Work
- Remaining Work
- Critical Remaining Work
- ◆ Baseline Milestone

3 Months Rolling Programme			
Date	Revision	Checked	Approved
08-Jan-23	Rev.2.1k	DML	RP/RS
15-Aug-24	Rev.3.0b	SLX	RP/RS
14-Dec-23	Rev.3.0d	SLX	RP/RS

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and Direct Road Link Phase 1

Activity ID	Activity Name	BL Project Start	BL Project Finish	Works Duration	Start	Finish	Variance - BL Project Finish Date	Physical % Complete	Total Float	Gantt Chart (2022-2026)																																																	
										2022												2023												2024												2025												2026	
S032980	Cast In-situ stitch P06-P07	09-Jun-24	18-Jun-24	10	18-Sep-24	27-Sep-24	-101	0%	-85	[Gantt bar for S032980]																																																	
S032970	Erection of T-Span at Pier DRL-P06 (14 segments) (incl.stressing of C-tendons)	26-May-24	08-Jun-24	14	04-Sep-24	17-Sep-24	-101	0%	-85	[Gantt bar for S032970]																																																	
S033140	Implement TTA	25-May-24	25-May-24	1	03-Sep-24	03-Sep-24	-101	0%	-85	[Gantt bar for S033140]																																																	
S032990	Stressing and grouting of S & E Bottom Tendons P06-P07	19-Jun-24	02-Jul-24	14	28-Sep-24	11-Oct-24	-101	0%	-85	[Gantt bar for S032990]																																																	
At Pier DRL-P05											[Summary bar for Pier DRL-P05]																																																
S033010	Cast In-situ stitch P05-P06	17-Jun-24	28-Jun-24	12	26-Sep-24	07-Oct-24	-101	0%	-81	[Gantt bar for S033010]																																																	
S033190	Cut Temp Top Tendons, Install Bearings and Release Fixity at Pier P05	21-Jul-24	25-Jul-24	5	30-Oct-24	03-Nov-24	-101	0%	-85	[Gantt bar for S033190]																																																	
S033000	Erection of T-Span at Pier DRL-P05 (22 segments)	26-May-24	16-Jun-24	22	04-Sep-24	25-Sep-24	-101	0%	-81	[Gantt bar for S033000]																																																	
S033180	Install Temporary Fixity at P05 (incl. checking and ice certification)	23-May-24	25-May-24	3	01-Sep-24	03-Sep-24	-101	0%	-81	[Gantt bar for S033180]																																																	
S033320	Stress External Tendons - Bridge C	26-Jul-24	24-Aug-24	30	04-Nov-24	03-Dec-24	-101	0%	-85	[Gantt bar for S033320]																																																	
S033020	Stressing and grouting of S & E Bottom Tendons P05-P06	03-Jul-24	20-Jul-24	18	12-Oct-24	29-Oct-24	-101	0%	-85	[Gantt bar for S033020]																																																	
At Pier DRL-P04											[Summary bar for Pier DRL-P04]																																																
S033040	Cast In-situ stitch P04-P05	08-Apr-24	21-Apr-24	14	18-Jul-24	31-Jul-24	-101	0%	-58	[Gantt bar for S033040]																																																	
S033030	Erection of T-Span at Pier DRL-P04 (20 segments) (incl.stressing of C-tendons)	19-Mar-24	07-Apr-24	20	28-Jun-24	17-Jul-24	-101	0%	-85	[Gantt bar for S033030]																																																	
S033050	Stressing and grouting of S & E Bottom Tendons P04-P05	22-Apr-24	12-May-24	21	01-Aug-24	21-Aug-24	-101	0%	-58	[Gantt bar for S033050]																																																	
At Pier DRL-P03											[Summary bar for Pier DRL-P03]																																																
S033070	Cast In-situ stitch P03-P04	28-Apr-24	11-May-24	14	07-Aug-24	20-Aug-24	-101	0%	-30	[Gantt bar for S033070]																																																	
S033060	Erection of T-Span at Pier DRL-P03 (20 segments) (incl.stressing of C-tendons)	08-Apr-24	27-Apr-24	20	18-Jul-24	06-Aug-24	-101	0%	-85	[Gantt bar for S033060]																																																	
S033080	Stressing and grouting of S & E Bottom Tendons P03-P04	20-May-24	08-Jun-24	20	29-Aug-24	17-Sep-24	-101	0%	-38	[Gantt bar for S033080]																																																	
At Pier DRL-P02											[Summary bar for Pier DRL-P02]																																																
S033100	Cast In-situ stitch P02-P03	15-May-24	24-May-24	10	24-Aug-24	02-Sep-24	-101	0%	-58	[Gantt bar for S033100]																																																	
S033090	Erection of end segments at Pier DRL-P02 (10 segments Incl DRL- B)	28-Apr-24	07-May-24	10	07-Aug-24	16-Aug-24	-101	0%	-85	[Gantt bar for S033090]																																																	
S033120	Erection of Falseworks for erection of end span at P02	25-Apr-24	27-Apr-24	3	04-Aug-24	06-Aug-24	-101	0%	-85	[Gantt bar for S033120]																																																	
S033260	Install Bearings and Release Fixity at Pier P02	08-May-24	14-May-24	7	17-Aug-24	23-Aug-24	-101	0%	-58	[Gantt bar for S033260]																																																	
S033150	Stress External Tendon - Bridge B	09-Jun-24	08-Jul-24	30	18-Sep-24	17-Oct-24	-101	0%	-38	[Gantt bar for S033150]																																																	
S033110	Stressing and grouting of S & E Bottom Tendons P02-P03	25-May-24	08-Jun-24	15	03-Sep-24	17-Sep-24	-101	0%	-58	[Gantt bar for S033110]																																																	
At Abutment DRL-A01											[Summary bar for Abutment DRL-A01]																																																
S033210	Cast In-situ stitch P13-A01	16-Feb-24	25-Feb-24	10	27-May-24	05-Jun-24	-101	0%	-39	[Gantt bar for S033210]																																																	
S033200	Erection of end segments at Abutment A01(7 segments) (incl.stressing of C-tendons)	27-Jan-24	05-Feb-24	10	07-May-24	16-May-24	-101	0%	-85	[Gantt bar for S033200]																																																	
S033240	Falseworks at Abutment A01 End Span	24-Jan-24	26-Jan-24	3	04-May-24	06-May-24	-101	0%	-85	[Gantt bar for S033240]																																																	
S033290	Install Bearings at Abutment A01	06-Feb-24	15-Feb-24	10	17-May-24	26-May-24	-101	0%	-39	[Gantt bar for S033290]																																																	
S033300	Remove Falsework	05-Mar-24	07-Mar-24	3	14-Jun-24	16-Jun-24	-101	0%	-39	[Gantt bar for S033300]																																																	
S033220	Stressing and grouting of S & E Bottom Tendons A01-P13	26-Feb-24	04-Mar-24	8	06-Jun-24	13-Jun-24	-101	0%	-39	[Gantt bar for S033220]																																																	
In-situ Deck for Bridge DRL-A01											[Summary bar for In-situ Deck for Bridge DRL-A01]																																																
S033230	Construction of bridge deck for bridge DRL-A	09-Jun-24	28-Jul-24	50	18-Sep-24	06-Nov-24	-101	0%	-58	[Gantt bar for S033230]																																																	
Parapet, and Finishing Works											[Summary bar for Parapet, and Finishing Works]																																																
S033400	Construction of parapet and central barrier	08-Nov-24	03-May-25	191	14-Feb-25	23-Aug-25	-112	0%	-157	[Gantt bar for S033400]																																																	
S033420	Drainage construction	28-Nov-24	05-Feb-25	70	06-Mar-25	14-May-25	-98	0%	-157	[Gantt bar for S033420]																																																	
S033410	Installation of movement joint	28-Nov-24	05-Feb-25	70	06-Mar-25	14-May-25	-98	0%	-100	[Gantt bar for S033410]																																																	
S033430	Installation of security fence,noise barrier and roof steel structure	06-Feb-25	11-Apr-25	65	15-May-25	18-Jul-25	-98	0%	-157	[Gantt bar for S033430]																																																	
S033460	Planned completion of Section 3 of the Works		03-May-25	0		23-Aug-25	-112	0%	-157	[Gantt bar for S033460]																																																	
S033450	Road lighting and street furniture	04-Apr-25	03-May-25	30	11-Jul-25	09-Aug-25	-98	0%	-157	[Gantt bar for S033450]																																																	
S033440	Road pavement and road marking & signages	06-Feb-25	07-Mar-25	30	25-Jul-25	23-Aug-25	-169	0%	-157	[Gantt bar for S033440]																																																	
Section 4 of the Works- Completion of the Establishment Works for Landscape Softworks in Section 1											[Summary bar for Section 4 of the Works]																																																
S040100	Establishment works for landscape softworks	21-Nov-25	20-Nov-26	365	15-Jan-26	14-Jan-27	-55	0%	-78	[Gantt bar for S040100]																																																	
Section 5 of the Works- Completion of the works within Portion 6 of the Site											[Summary bar for Section 5 of the Works]																																																
S050100-70	Architectural and finishing works (PMI #046 revised configuration)	16-Jun-23	09-Aug-23	45	16-Jun-23 A	09-Aug-23 A	0	100%		[Gantt bar for S050100-70]																																																	
S050100-15	Backfill and road reinstatement under TTA Stage 1	17-Oct-22	27-Oct-22	6	08-Oct-22 A	15-Oct-22 A	11	100%		[Gantt bar for S050100-15]																																																	
S050100-35	Backfill and road reinstatement under TTA Stage 2	17-Nov-22	28-Nov-22	9	09-Nov-22 A	19-Nov-22 A	8	100%		[Gantt bar for S050100-35]																																																	
S050100-30	Columns construction under TTA Stage 2	27-Jan-23	11-Feb-23	27	27-Jan-23 A	28-Feb-23 A	-14	100%		[Gantt bar for S050100-30]																																																	
S050100-50	Construction of Pai Lau - Backfill and road reinstatement under TTA Stage 3	24-Mar-23	04-Apr-23	9	24-Mar-23 A	04-Apr-23 A	0	100%		[Gantt bar for S050100-50]																																																	

Contract No. YL/2021/01 – Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 3 Direct Road

Link Phase 2

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	January				February				March				April						
								17	24	31	07	14	21	28	04	11	18	25	03	10	17	24	31	07	14	21
DDF - Stage 2																										
DDF - Stage 2 Piling Works																										
DDF-1060	CE 024 (PM1019,036) Drainage Diversion (60cd EOT) (ELS & Excavation combined w/ P11-1 & P11-2)	71	16-Apr-24	25-Jun-24	21-Nov-23	30-Jan-24	-147																			
DDF - Stage 3																										
DDF - Stage 3 Construct Pile Cap and Pier P12																										
DDF-1548	Stage 3 - P12 Backfilling to Top of Pile Cap	6	14-Dec-23A	20-Dec-23A	27-Oct-23	27-Oct-23																				
DDF-1558	Stage 3 - P12 Erect Scaffold Platform	6	21-Dec-23A	29-Dec-23A	27-Oct-23	27-Oct-23																				
DDF-1568	Stage 3 - P12 Construct Pier (up to 1m above FGL)	14	30-Dec-23A	16-Jan-24	27-Oct-23	10-Nov-23	-54																			
DDF-1578	Stage 3 - P12 Backfilling	6	17-Jan-24	23-Jan-24	11-Nov-23	17-Nov-23	-54																			
DDF-1588	Stage 3 - P12 Remove ELS	6	24-Jan-24	30-Jan-24	18-Nov-23	24-Nov-23	-54																			
DDF-1598	Stage 3 - P12 Erect Scaffold Platform	6	31-Jan-24	06-Feb-24	25-Nov-23	01-Dec-23	-54																			
DDF-1608	Stage 3 - P12 Construct Pier	18	07-Feb-24	02-Mar-24	02-Dec-23	22-Dec-23	-54																			
DDF-1609	Stage 3 - P12 Concealed Conduit Installation	18	07-Feb-24	02-Mar-24	02-Dec-23	22-Dec-23	-54																			
DDF - Stage 3 Construct Pile Cap and Pier T12																										
DDF-1628	Stage 3 - T12 Excavation	8	04-Dec-23A	12-Dec-23A	09-Aug-23	09-Aug-23																				
DDF-1638	Stage 3 - T12 Construct Pile Cap	14	13-Dec-23A	02-Jan-24	09-Aug-23	09-Aug-23	-119																			
DDF-1648	Stage 3 - T12 Backfilling to Top of Pile Cap	6	03-Jan-24	09-Jan-24	10-Aug-23	16-Aug-23	-119																			
DDF-1658	Stage 3 - T12 Erect Scaffold Platform	6	10-Jan-24	16-Jan-24	17-Aug-23	23-Aug-23	-119																			
DDF-1668	Stage 3 - T12 Construct Pier (up to 1m above FGL)	14	17-Jan-24	01-Feb-24	24-Aug-23	08-Sep-23	-119																			
DDF-1678	Stage 3 - T12 Backfilling	6	02-Feb-24	08-Feb-24	09-Sep-23	15-Sep-23	-119																			
DDF-1688	Stage 3 - T12 Remove ELS	6	09-Feb-24	20-Feb-24	16-Sep-23	22-Sep-23	-119																			
DDF-1698	Stage 3 - T12 Erect Scaffold Platform	6	21-Feb-24	27-Feb-24	23-Sep-23	29-Sep-23	-119																			
DDF-1708	Stage 3 - T12 Construct Pier	18	28-Feb-24	19-Mar-24	03-Oct-23	24-Oct-23	-119																			
DDF-1709	Stage 3 - T12 Concealed Conduit Installation	18	28-Feb-24	19-Mar-24	02-Dec-23	22-Dec-23	-68																			
DDF - Stage 3 Construct Pile Cap and Pier R12																										
DDF-1728	Stage 3 - R12 Excavation	8	01-Dec-23A	12-Dec-23A	30-Aug-23	30-Aug-23																				
DDF-1738	Stage 3 - R12 Construct Pile Cap	14	13-Dec-23A	02-Jan-24	30-Aug-23	30-Aug-23	-101																			
DDF-1748	Stage 3 - R12 Backfilling to Top of Pile Cap	6	03-Jan-24	09-Jan-24	31-Aug-23	06-Sep-23	-101																			
DDF-1758	Stage 3 - R12 Erect Scaffold Platform	6	10-Jan-24	16-Jan-24	07-Sep-23	13-Sep-23	-101																			
DDF-1768	Stage 3 - R12 Construct Pier (up to 1m above FGL)	14	17-Jan-24	01-Feb-24	14-Sep-23	29-Sep-23	-101																			
DDF-1778	Stage 3 - R12 Backfilling	6	02-Feb-24	08-Feb-24	03-Oct-23	09-Oct-23	-101																			
DDF-1788	Stage 3 - R12 Remove ELS	6	09-Feb-24	20-Feb-24	10-Oct-23	16-Oct-23	-101																			
DDF-1798	Stage 3 - R12 Erect Scaffold Platform	6	21-Feb-24	27-Feb-24	17-Oct-23	24-Oct-23	-101																			
DDF-1808	Stage 3 - R12 Construct Pier	16	20-Mar-24	11-Apr-24	25-Oct-23	11-Nov-23	-119																			
DDF-1809	Stage 3 - R12 Concealed Conduit Installation	18	20-Mar-24	13-Apr-24	25-Oct-23	14-Nov-23	-119																			
DDF - Stage 3 Construct Pile Cap and Pier Q12																										
DDF-1918	Stage 3 - Q12 Install ELS	12	06-Dec-23A	12-Dec-23A	05-Oct-23	05-Oct-23																				
DDF-1928	Stage 3 - Q12 Excavation	8	13-Dec-23A	23-Dec-23A	05-Oct-23	05-Oct-23																				
DDF-1938	Stage 3 - Q12 Construct Pile Cap	14	24-Dec-23A	06-Jan-24	05-Oct-23	10-Oct-23	-72																			
DDF-1948	Stage 3 - Q12 Backfilling to Top of Pile Cap	6	08-Jan-24	13-Jan-24	11-Oct-23	17-Oct-23	-72																			
DDF-1958	Stage 3 - Q12 Erect Scaffold Platform	6	15-Jan-24	20-Jan-24	18-Oct-23	25-Oct-23	-72																			
DDF-1968	Stage 3 - Q12 Construct Pier (up to 1m above FGL)	14	22-Jan-24	06-Feb-24	26-Oct-23	10-Nov-23	-72																			
DDF-1978	Stage 3 - Q12 Backfilling	6	07-Feb-24	17-Feb-24	11-Nov-23	17-Nov-23	-72																			
DDF-1988	Stage 3 - Q12 Remove ELS	6	19-Feb-24	24-Feb-24	18-Nov-23	24-Nov-23	-72																			
DDF-1998	Stage 3 - Q12 Erect Scaffold Platform	6	26-Feb-24	02-Mar-24	25-Nov-23	01-Dec-23	-72																			
DDF-2008	Stage 3 - Q12 Construct Pier	18	04-Mar-24	23-Mar-24	02-Dec-23	22-Dec-23	-72																			
DDF-2009	Stage 3 - Q12 Concealed Conduit Installation	18	04-Mar-24	23-Mar-24	02-Dec-23	22-Dec-23	-72																			
Portion 4																										
Portion 4 Works																										
P4-110	Upkeeping and Maintenance of Completed Works at Portion 4	780	16-Mar-23A	24-Nov-24	01-Jan-24	24-Nov-24	0																			

**APPENDIX B
ACTION AND LIMIT LEVELS**

Appendix B - Action and Limit Levels

Table B-1 Action and Limit Levels for 1-Hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
DMS – 1a	353	500
DMS – 2A	370	
DMS – 3	351	
DMS – 4A	350	

Table B-2 Action and Limit Levels for 24-Hour TSP

Location	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
DMS – 1	184	260
DMS – 2A	166	
DMS – 3	166	
DMS – 4A	152	

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 Action and Limit Levels for Water Quality

Parameter (unit)	Water Depth	Action Level	Limit Level
DO (mg/L)	Depth average	IS1: <u>7.0 / NA</u> ⁽⁴⁾ IS2: <u>5.3 / NA</u> ⁽⁴⁾ IS4: <u>4.1 / NA</u> ⁽⁴⁾ IS6: <u>5.9</u> BS1: <u>3.9 / NA</u> ⁽⁴⁾	IS1: <u>6.8 or 4</u> ⁽⁴⁾ IS2: <u>5.2 or 4</u> ⁽⁴⁾ IS4: <u>3.8 or 4</u> ⁽⁴⁾ IS6: <u>5.8</u> BS1: <u>3.7 or 4</u> ⁽⁴⁾
Turbidity (NTU)	Depth average	IS1: <u>27.7</u> IS2: <u>35.5</u> IS4: <u>70.9</u> BS1: <u>29.9</u>	IS1: <u>29.9</u> IS2: <u>38.1</u> IS4: <u>74.6</u> BS1: <u>32.6</u>
		IS6: 120% of upstream control station (CS5)	IS6: 130% of upstream control station (CS5)
SS (mg/L)	Depth average	IS1: <u>28.0</u> IS2: <u>39.8</u> IS4: <u>155</u> BS1: <u>36.5</u>	IS1: <u>28.8</u> IS2: <u>41.2</u> IS4: <u>175</u> BS1: <u>36.9</u>
		IS6: 120% of upstream control station (CS5)	IS6: 130% of upstream control station (CS5)

Note:

- (1) Depth-averaged was calculated by taking the arithmetic means of reading of all three depths
- (2) For DO, non-compliance of the water quality limit would occur when monitoring result at impact stations was lower than the limit.
- (3) For SS & turbidity, non-compliance of the water quality limits would occur when monitoring result at impact stations was higher than the limits.
- (4) The proposal of adopting 4 mg/L as the Limit Level of DO for the period from April to September due to seasonal change of DO was accepted by EPD via email on 10 Dec 2019.

**APPENDIX C
COPIES OF CALIBRATION
CERTIFICATES**

High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

Station DMS-3 - Village House along Old Border Road
Date: 27-Dec-23
Equipment No.: WA-12-24

File No. WMA21009/24/0017
Operator: HL
Next Due Date: 26-Feb-24
Serial No. 10576

Ambient Condition			
Temperature, Ta (K)	289	Pressure, Pa (mmHg)	772.9

Orifice Transfer Standard Information					
Serial No.	0993	Slope, mc	0.0574	Intercept, bc	-0.04292
Last Calibration Date:	16-Jan-23	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	16-Jan-24	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	11.9	3.53	62.25	7.5	2.80
2	9.1	3.09	54.53	6.0	2.51
3	7.9	2.88	50.86	5.3	2.36
4	5.7	2.44	43.31	4.0	2.05
5	4.4	2.15	38.14	3.4	1.89

By Linear Regression of Y on X

Slope, mw = 0.0386 Intercept, bw = 0.3982
Correlation coefficient* = 0.9992

*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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.04

Remarks: _____

Conducted by: LEE MAN HING Signature: _____
Checked by: Lo Ka Chun Signature: _____

Date: 27/12/2023
Date: 27/12/2023

High-Volume TSP Sampler 5-POINT CALIBRATION DATA SHEET

Station <u>DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill</u>	File No. <u>WMA21009/07/0017</u>
Date: <u>27-Dec-23</u>	Operator: <u>HL</u>
Equipment No.: <u>WA-12-07</u>	Next Due Date: <u>26-Feb-24</u>
	Serial No. <u>1801</u>

Ambient Condition			
Temperature, Ta (K)	290.8	Pressure, Pa (mmHg)	772.2

Orifice Transfer Standard Information					
Serial No.	0993	Slope, mc	0.0574	Intercept, bc	-0.04292
Last Calibration Date:	16-Jan-23	$mc \times Qstd + bc = [\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	16-Jan-24	$Qstd = \{[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Calibration Point	Orifice			HVS	
	ΔH (orifice), in. of water	$[\Delta H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (CFM) X - axis	ΔW (HVS), in. of water	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	12.7	3.64	64.05	8.0	2.89
2	10.1	3.24	57.20	6.4	2.58
3	8.2	2.92	51.62	5.6	2.41
4	6.9	2.68	47.41	4.9	2.26
5	3.4	1.88	33.50	2.6	1.65

By Linear Regression of Y on X

Slope, mw = 0.0400 Intercept, bw : 0.3251
Correlation coefficient* = 0.9980

*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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.02

Remarks: _____

Conducted by: Lee Man Kit Signature: _____

Date: 27/12/2023

Checked by: Lo Ka Chun Signature: _____

Date: 27/12/2023

Certificate of Calibration

Calibration Certification Information			
Cal. Date: January 16, 2023	Rootsmeter S/N: 438320	Ta: 293	°K
Operator: Jim Tisch		Pa: 749.0	mm Hg
Calibration Model #: TE-5025A	Calibrator S/N: 0993		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3860	3.2	2.00
2	3	4	1	0.9880	6.4	4.00
3	5	6	1	0.8810	8.0	5.00
4	7	8	1	0.8410	8.8	5.50
5	9	10	1	0.6950	12.8	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)
0.9981	0.7201	1.4159	0.9957	0.7184	0.8845
0.9938	1.0059	2.0024	0.9915	1.0035	1.2509
0.9917	1.1257	2.2388	0.9893	1.1230	1.3985
0.9906	1.1779	2.3480	0.9883	1.1751	1.4668
0.9853	1.4177	2.8318	0.9829	1.4143	1.7690
QSTD	m=	2.02881	QA	m=	1.27041
	b=	-0.04292		b=	-0.02681
	r=	0.99998		r=	0.99998

Calculations	
Vstd= $\Delta Vol \left(\frac{Pa - \Delta P}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)$	Va= $\Delta Vol \left(\frac{Pa - \Delta P}{Pa} \right)$
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.:	39318
Date of Issue:	2023-11-13
Date Received:	2023-11-11
Date Tested:	2023-11-11
Date Completed:	2023-11-13
Next Due Date:	2024-01-12

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.	: X23807
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-01

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)	1.164
-------------------------	-------

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-01-01	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23807	2203
Calibration Date:	11-Nov-23	11-Nov-23
Location:	Wellab Office (Calibration Room)	

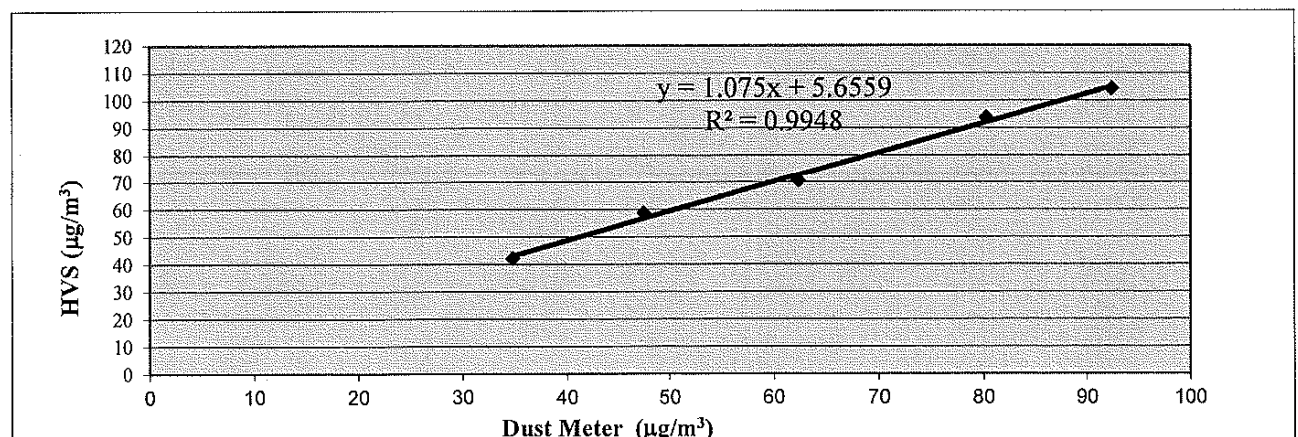
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	35	42
2	48	59
3	62	71
4	80	94
5	92	104
Average	63.5	73.9

By Linear Regression of Y on X
 Slope, mw = 1.0750 Intercept, bw = 5.6559
 Correlation coefficient* = 0.9974

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	73.9
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	63.5
Measuring time, (min)	60

Set Correlation Factor, SCF
 SCF = [K=High Volume Sampler / Dust Meter, ($\mu\text{g}/\text{m}^3$)] 1.164



QC Reviewer: LOI MDA 1/16/23 Signature: hei Date: 11/11/2023

TEST REPORT

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

Test Report No.:	39724
Date of Issue:	2024-01-15
Date Received:	2024-01-13
Date Tested:	2024-01-13
Date Completed:	2024-01-15
Next Due Date:	2024-03-14

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.	: X23807
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-01

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)	1.124
-------------------------	-------

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-01-01	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23807	2203
Calibration Date:	13-Jan-24	13-Jan-24
Location:	Wellab Office (Calibration Room)	

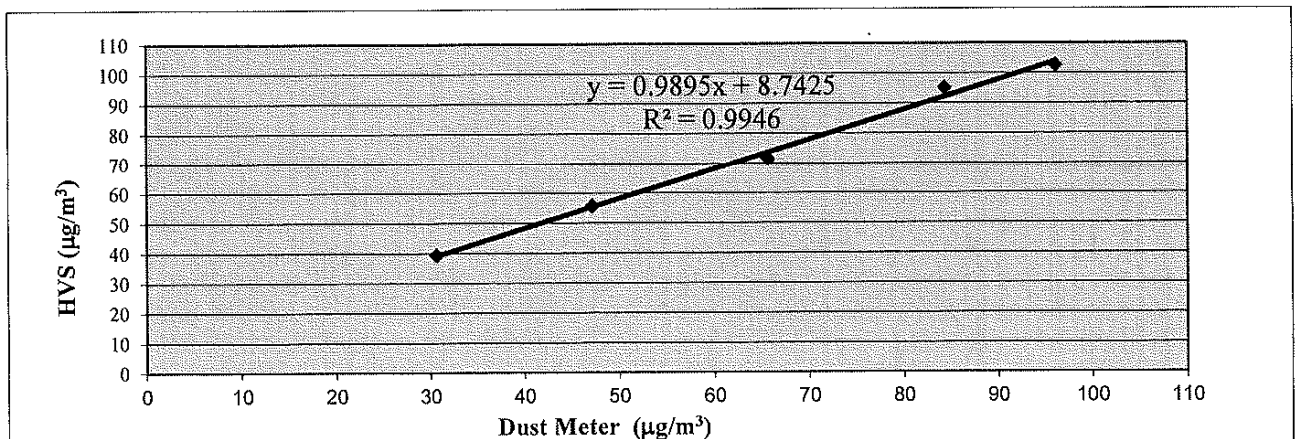
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	31	39
2	47	56
3	66	72
4	84	95
5	96	103
Average	64.8	72.9

By Linear Regression of Y on X
 Slope, mw = 0.9895 Intercept, bw = 8.7425
 Correlation coefficient* = 0.9973

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	72.9
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	64.8
Measuring time, (min)	60

Set Correlation Factor, SCF
 SCF = $[K = \text{High Volume Sampler} / \text{Dust Meter, } (\mu\text{g}/\text{m}^3)]$ 1.124



QC Reviewer: LGE MBN HGV Signature: hes Date: 13/1/24

TEST REPORT

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

Test Report No.:	39318B
Date of Issue:	2023-11-13
Date Received:	2023-11-11
Date Tested:	2023-11-11
Date Completed:	2023-11-13
Next Due Date:	2024-01-12

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.	: X23809
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-03

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)	1.143
-------------------------	-------

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-01-03	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23809	2203
Calibration Date:	11-Nov-23	11-Nov-23
Location:	Wellab Office (Calibration Room)	

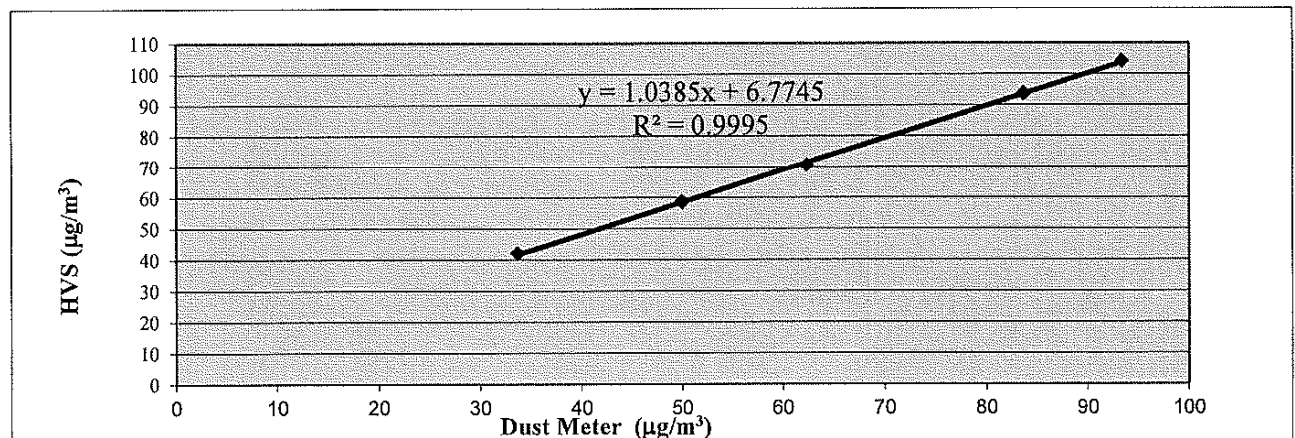
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	34	42
2	50	59
3	62	71
4	84	94
5	93	104
Average	64.6	73.9

By Linear Regression of Y on X
 Slope, mw = 1.0385 Intercept, bw = 6.7745
 Correlation coefficient* = 0.9997

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	73.9
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, ($\mu\text{g}/\text{m}^3$)] 1.143



QC Reviewer: LOB MAN WAO Signature: hei Date: 11/11/2023

TEST REPORT

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

Test Report No.:	39724B
Date of Issue:	2024-01-15
Date Received:	2024-01-13
Date Tested:	2024-01-13
Date Completed:	2024-01-15
Next Due Date:	2024-03-14

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.	: X23809
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-03

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)	1.134
-------------------------	-------

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-01-03	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23809	2203
Calibration Date:	13-Jan-24	13-Jan-24
Location:	Wellab Office (Calibration Room)	

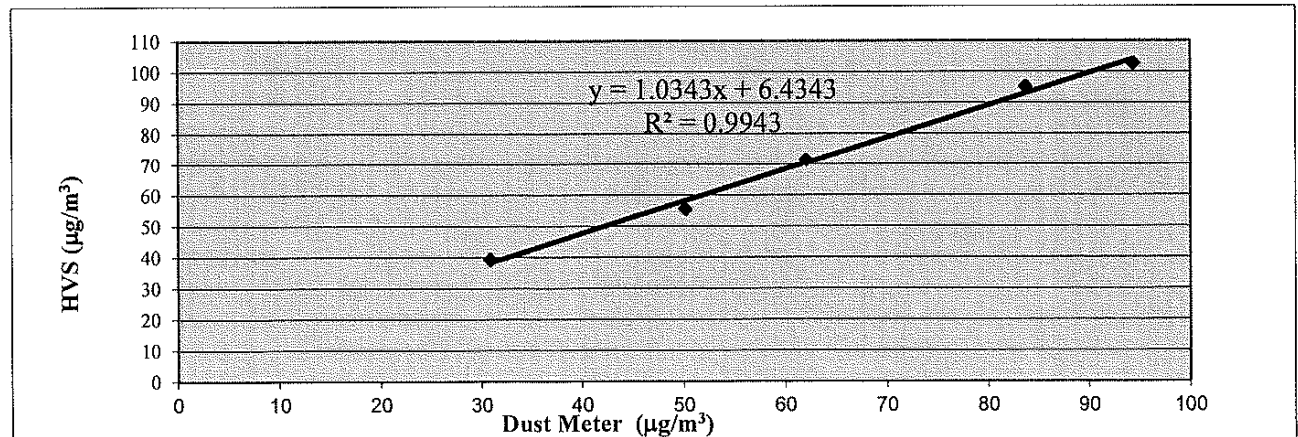
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	31	39
2	50	56
3	62	72
4	84	95
5	94	103
Average	64.3	72.9

By Linear Regression of Y on X
 Slope, mw = 1.0343 Intercept, bw = 6.4343
 Correlation coefficient* = 0.9972

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	72.9
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	64.3
Measuring time, (min)	60

Set Correlation Factor, SCF
 SCF = [K=High Volume Sampler / Dust Meter, ($\mu\text{g}/\text{m}^3$)] 1.134



QC Reviewer: LEE MAN YEE Signature: hee Date: 13/1/24

TEST REPORT

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

Test Report No.:	39318C
Date of Issue:	2023-11-13
Date Received:	2023-11-11
Date Tested:	2023-11-11
Date Completed:	2023-11-13
Next Due Date:	2024-01-12

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.	: X23810
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-04

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)	1.179
-------------------------	-------

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-01-04	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23810	2203
Calibration Date:	11-Nov-23	11-Nov-23
Location:	Wellab Office (Calibration Room)	

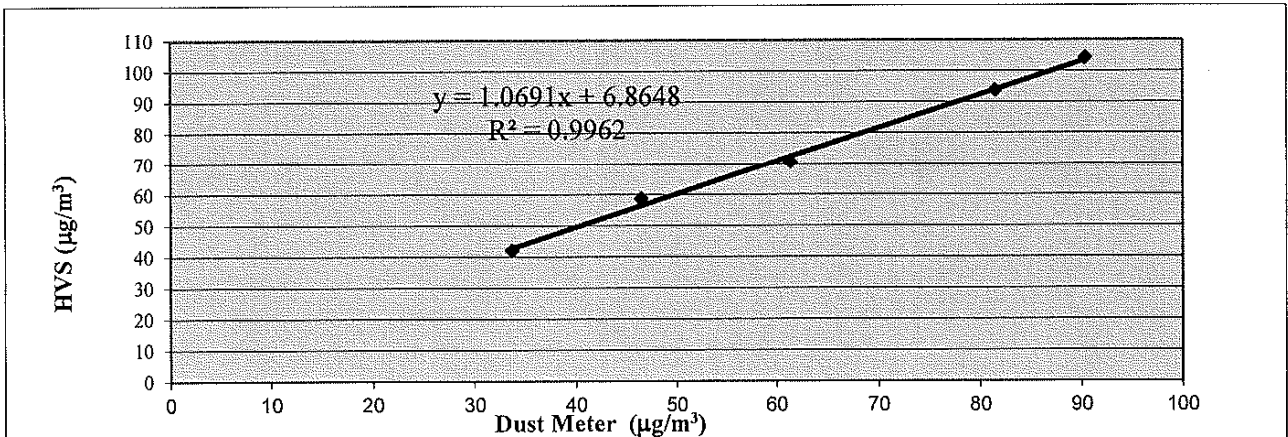
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	34	42
2	47	59
3	61	71
4	82	94
5	90	104
Average	62.7	73.9

By Linear Regression of Y on X
 Slope, $m_w =$ 1.0691 Intercept, $b_w =$ 6.8648
 Correlation coefficient* = 0.9981

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	73.9
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	62.7
Measuring time, (min)	60

Set Correlation Factor, SCF
 $\text{SCF} = [K = \text{High Volume Sampler} / \text{Dust Meter, } (\mu\text{g}/\text{m}^3)]$ 1.179



QC Reviewer: LBZ MAN MBZ Signature: he Date: 11/11/2023

TEST REPORT

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

Test Report No.:	39724C
Date of Issue:	2024-01-15
Date Received:	2024-01-13
Date Tested:	2024-01-13
Date Completed:	2024-01-15
Next Due Date:	2024-03-14

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. : X23810
 Flow rate : 0.1 cfm
 Zero Count Test : 0 count per 1 minute
 Equipment No. : WA-01-04

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)	1.118
-------------------------	-------

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-01-04	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23810	2203
Calibration Date:	13-Jan-24	13-Jan-24
Location:	Wellab Office (Calibration Room)	

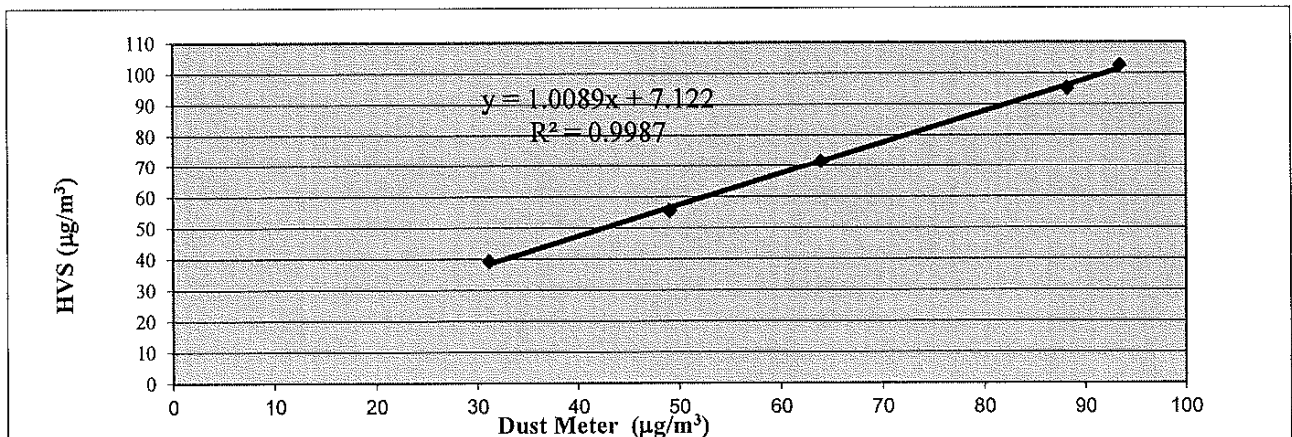
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	31	39
2	49	56
3	64	72
4	88	95
5	94	103
Average	65.2	72.9

By Linear Regression of Y on X
 Slope, mw = 1.0089 Intercept, bw = 7.1220
 Correlation coefficient* = 0.9993

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	72.9
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	65.2
Measuring time, (min)	60

Set Correlation Factor, SCF
 SCF = [K=High Volume Sampler / Dust Meter, ($\mu\text{g}/\text{m}^3$)] 1.118



QC Reviewer: Liz MAN MB2 Signature: he Date: 13/1/24

TEST REPORT

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

Test Report No.:	39476
Date of Issue:	2023-12-27
Date Received:	2023-12-23
Date Tested:	2023-12-23
Date Completed:	2023-12-27
Next Due Date:	2024-02-26

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)	1.138
-------------------------	-------

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:	23-Dec-23	23-Dec-23
Location:	Wellab Office (Calibration Room)	

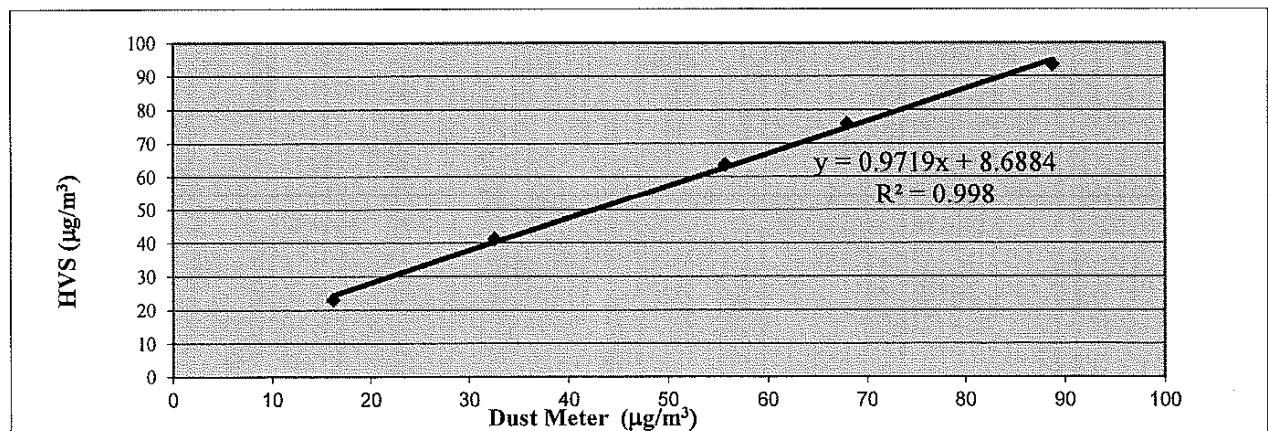
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	16	23
2	33	41
3	56	64
4	68	76
5	89	94
Average	52.3	59.5

By Linear Regression of Y on X
 Slope, mw = 0.9719 Intercept, bw = 8.6884
 Correlation coefficient* = 0.9990

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	59.5
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	52.3
Measureing time, (min)	60

Set Correlation Factor , SCF
 SCF = [K=High Volume Sampler / Dust Meter, ($\mu\text{g}/\text{m}^3$)] 1.138



QC Reviewer: CEE MPP MPZ Signature: hi Date: 23/12/23

TEST REPORT

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

Test Report No.:	39476C
Date of Issue:	2023-12-27
Date Received:	2023-12-23
Date Tested:	2023-12-23
Date Completed:	2023-12-27
Next Due Date:	2024-02-26

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)	1.116
-------------------------	-------

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:	23-Dec-23	23-Dec-23
Location:	Wellab Office (Calibration Room)	

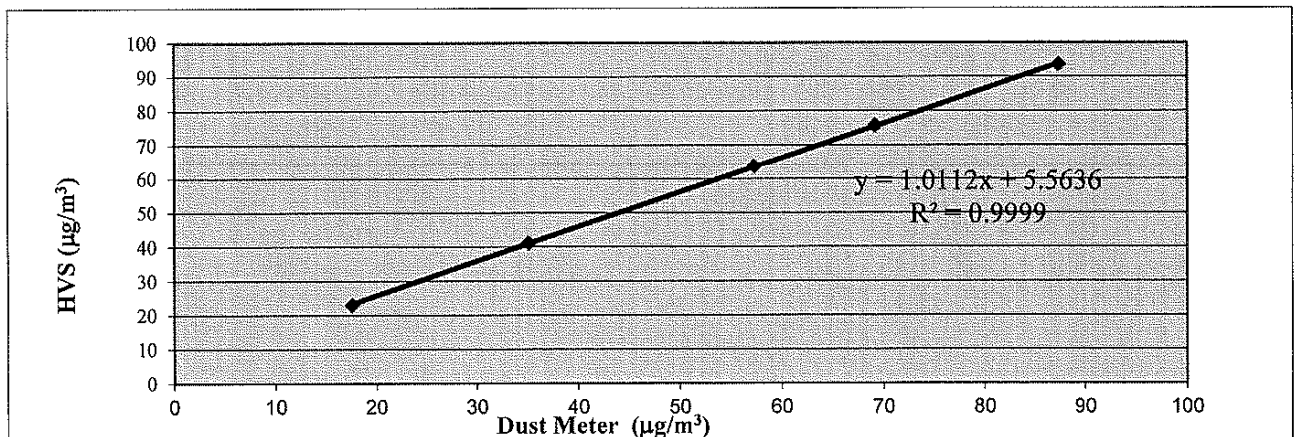
Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration ($\mu\text{g}/\text{m}^3$) X-axis	Mass concentration ($\mu\text{g}/\text{m}^3$) Y-axis
1	18	23
2	35	41
3	57	64
4	69	76
5	87	94
Average	53.3	59.5

By Linear Regression of Y on X
 Slope, mw = 1.0112 Intercept, bw = 5.5636
 Correlation coefficient* = 0.9999

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particulate Concentration by High Volume Sampler ($\mu\text{g}/\text{m}^3$)	59.5
Particulate Concentration by Dust Meter ($\mu\text{g}/\text{m}^3$)	53.3
Measuring time, (min)	60

Set Correlation Factor, SCF
 SCF = [K=High Volume Sampler / Dust Meter, ($\mu\text{g}/\text{m}^3$)] 1.116



QC Reviewer: LEE MIA HIR Signature: Lee Date: 23/12/23

TEST REPORT

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

Test Report No.:	37893B
Date of Issue:	2023-03-06
Date Received:	2023-03-03
Date Tested:	2023-03-03
Date Completed:	2023-03-06
Next Due Date:	2024-03-05

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.:	37894A
Date of Issue:	2023-03-13
Date Received:	2023-03-10
Date Tested:	2023-03-10
Date Completed:	2023-03-13
Next Due Date:	2024-03-12

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.	: 580013
Equipment No.	: WN-01-09

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.:	38981
Date of Issue:	2023-10-03
Date Received:	2023-09-29
Date Tested:	2023-09-29
Date Completed:	2023-10-03
Next Due Date:	2024-10-02

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 1801, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	38981A
Date of Issue:	2023-10-03
Date Received:	2023-09-29
Date Tested:	2023-09-29
Date Completed:	2023-10-03
Next Due Date:	2024-10-02

Page: 1 of 1

ATTN: Ms. Meiling Tang

Certificate of Calibration

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 24780
Equipment No.	: N-09-05

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.:	39318E
Date of Issue:	2023-11-13
Date Received:	2023-11-11
Date Tested:	2023-11-11
Date Completed:	2023-11-13
Next Due Date:	2024-05-12

ATTN: Ms. Meiling Tang

Page: 1 of 2

Certificate of Calibration

Item for calibration:

Description : Weather Stations, Vantage Pro2
Manufacturer : Davis Instruments
Model No. : 6152CUK
Serial No. : AK130520007

Test conditions:

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

Test Specifications:

1. Performance check of anemometer
2. Performance check of wind direction sensor

Methodology:

In-house method with reference anemometer

PREPARED AND CHECKED BY:

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


PATRICK TSE
General Manager

TEST REPORT

Test Report No.:	37674E
Date of Issue:	2023-12-26
Date Received:	2023-12-23
Date Tested:	2023-12-23
Date Completed:	2023-12-26
Next Due Date:	2024-06-25

Page: 2 of 2

Results:

1. Performance check of anemometer

Air Velocity, m/s		Difference D (m/s)
Instrument Reading (V1)	Reference Value (V1)	D = V1 - V2
2.00	2.00	0.00

2. Performance check of wind direction sensor

Wind Direction (°)		Difference D (°)
Instrument Reading (W1)	Reference Value (W2)	D = W1 - W2
0	0	0
45	45	0
90	90	0
135.1	135	0.1
180	180	0
225.2	225	0.2
270	270	0
315.2	315	0.2
360	360	0

*****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.:	39516D
Date of Issue:	2023-12-22
Date Received:	2023-12-21
Date Tested:	2023-12-21 to 2023-12-22
Date Completed:	2023-12-22

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.:	39516D
Date of Issue:	2023-12-22
Date Received:	2023-12-21
Date Tested:	2023-12-21 to 2023-12-22
Date Completed:	2023-12-22

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	19.998	+0.002	N/A

pH performance checking

	Instrument Readings (pH unit)	Acceptance Criteria	Comment
pH QC buffer 4.00	4.04	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.86	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.24	9.18 ± 0.10	Pass

D.O. performance checking

	Instrument Readings (mg/L)	Acceptance Criteria	Comment
Zero DO solution	0.08	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Acceptance Criteria	Comment
8.12	8.03	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	10.02	9.0-11.0	Pass
50 NTU	50.11	45.0-55.0	Pass
100 NTU	100.5	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*****

**APPENDIX D
ENVIRONMENTAL MONITORING
SCHEDULES**

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Impact Monitoring Schedule (January 2024)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Jan	2-Jan	3-Jan	4-Jan	5-Jan	6-Jan
		Aquatic Fauna Survey (Water Quality Monitoring only) 1hr TSP X 3 Noise Avifauna (Pond 12) Water Quality Monitoring	24hr TSP	Water Quality Monitoring		Water Quality Monitoring
7-Jan	8-Jan	9-Jan	10-Jan	11-Jan	12-Jan	13-Jan
	Avifauna (Pond 12) 1hr TSP X 3 Noise 24hr TSP Water Quality Monitoring		Water Quality Monitoring	24hr TSP	Aquatic Fauna Survey (Water Quality Monitoring only) 1hr TSP X 3 Water Quality Monitoring	
14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan	20-Jan
	Water Quality Monitoring		24hr TSP Water Quality Monitoring	1hr TSP X 3 Noise	Aquatic Fauna Survey (Water Quality Monitoring only) Avifauna (Pond 12) Water Quality Monitoring	
21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan	27-Jan
	Water Quality Monitoring	24hr TSP	1hr TSP X 3 Noise Water Quality Monitoring	Aquatic Fauna Survey Avifauna (Pond 12) Avifauna (Flightline Survey)	Water Quality Monitoring	
28-Jan	29-Jan	30-Jan	31-Jan			
	Avifauna (Pond 12) 24hr TSP Water Quality Monitoring	1hr TSP X 3 Noise	Aquatic Fauna Survey (Water Quality Monitoring only) Water Quality Monitoring			

Air Quality Monitoring Station

DMS-1a - Village House along Ha Wan Tsuen East Road
DMS-2B - Site boundary near Village House along Lok Ma Chau
DMS-3 - Village house along Old Border Road
DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Noise Monitoring Station

NMS-1 - Village House in Ha Wan Tsuen
NMS-2 - Village house along existing Ha Wan Tsuen East Road
NMS-3 - Village house along Old Border Road
NMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Water Quality Monitoring Station

CS1 - Control Station at Old Shenzhen River Meander
IS1 - Impact Station at Old Shenzhen River Meander
IS2 - Impact Station at Old Shenzhen River Meander
IS4 - Impact Station for at Ping Hang Stream
CS5 - Control Station at channel at south of Lung Hau Road
IS6 - Impact Station next to Lung Hau Road
BS1 - Impact Station at Old Shenzhen River Meander
(Terminated starting from 28 June 2021- approved by EPD via email dated 22 June 2021)

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Tentative Impact Monitoring Schedule (February 2024)

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1-Feb	2-Feb	3-Feb
					24hr TSP Water Quality Monitoring	
4-Feb	5-Feb	6-Feb	7-Feb	8-Feb	9-Feb	10-Feb
	Aquatic Fauna Survey (Water Quality Monitoring only) 1hr TSP X 3 Noise Water Quality Monitoring	Avifauna (Pond 12)	Water Quality Monitoring	24hr TSP	1hr TSP X 3 Water Quality Monitoring	Site close and no works due to Chinese Lunar Year Holiday
11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb	17-Feb
				Avifauna (Pond 12) 1hr TSP X 3 Noise 24hr TSP Water Quality Monitoring		Aquatic Fauna Survey (Water Quality Monitoring only) Water Quality Monitoring
Site close and no works due to Chinese Lunar Year Holidays			Site close and no works			
18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb
	Water Quality Monitoring	24hr TSP	1hr TSP X 3 Noise Water Quality Monitoring	Aquatic Fauna Survey Avifauna (Pond 12)	Avifauna (Flightline Survey) Water Quality Monitoring	
25-Feb	26-Feb	27-Feb	28-Feb	29-Feb		
	Aquatic Fauna Survey (Water Quality Monitoring only) 24hr TSP Water Quality Monitoring	1hr TSP X 3 Noise	Water Quality Monitoring	Avifauna (Pond 12)		

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

Air Quality Monitoring Station

DMS-1a - Village House along Ha Wan Tsuen East Road
DMS-2B - Site boundary near Village House along Lok Ma Chau
DMS-3 - Village house along Old Border Road
DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Noise Monitoring Station

NMS-1 - Village House in Ha Wan Tsuen
NMS-2 - Village house along existing Ha Wan Tsuen East Road
NMS-3 - Village house along Old Border Road
NMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Water Quality Monitoring Station

CS1 - Control Station at Old Shenzhen River Meander
IS1 - Impact Station at Old Shenzhen River Meander
IS2 - Impact Station at Old Shenzhen River Meander
IS4 - Impact Station for at Ping Hang Stream
CS5 - Control Station at channel at south of Lung Hau Road
IS6 - Impact Station next to Lung Hau Road
BS1 - Impact Station at Old Shenzhen River Meander
(Terminated starting from 28 June 2021- approved by EPD via email dated 22 June 2021)

APPENDIX E
1-HOUR TSP MONITORING RESULTS
AND GRAPHICAL PRESENTATION

Appendix E - 1-hour TSP Monitoring Results

Location DMS-1a - Village House along Ha Wan Tsuen East Road			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
2-Jan-24	9:00	Sunny	80.6
2-Jan-24	10:00	Sunny	65.6
2-Jan-24	11:00	Sunny	69.2
8-Jan-24	13:00	Sunny	76.8
8-Jan-24	14:00	Sunny	64.0
8-Jan-24	15:00	Sunny	69.8
12-Jan-24	9:00	Cloudy	87.6
12-Jan-24	10:00	Cloudy	100.9
12-Jan-24	11:00	Cloudy	85.0
18-Jan-24	9:00	Sunny	55.1
18-Jan-24	10:00	Sunny	96.5
18-Jan-24	11:00	Sunny	88.4
24-Jan-24	9:00	Fine	55.5
24-Jan-24	10:00	Fine	40.0
24-Jan-24	11:00	Fine	48.2
30-Jan-24	8:00	Cloudy	133.6
30-Jan-24	9:00	Cloudy	108.3
30-Jan-24	10:00	Cloudy	86.8
		Minimum	40.0
		Maximum	133.6
		Average	78.4

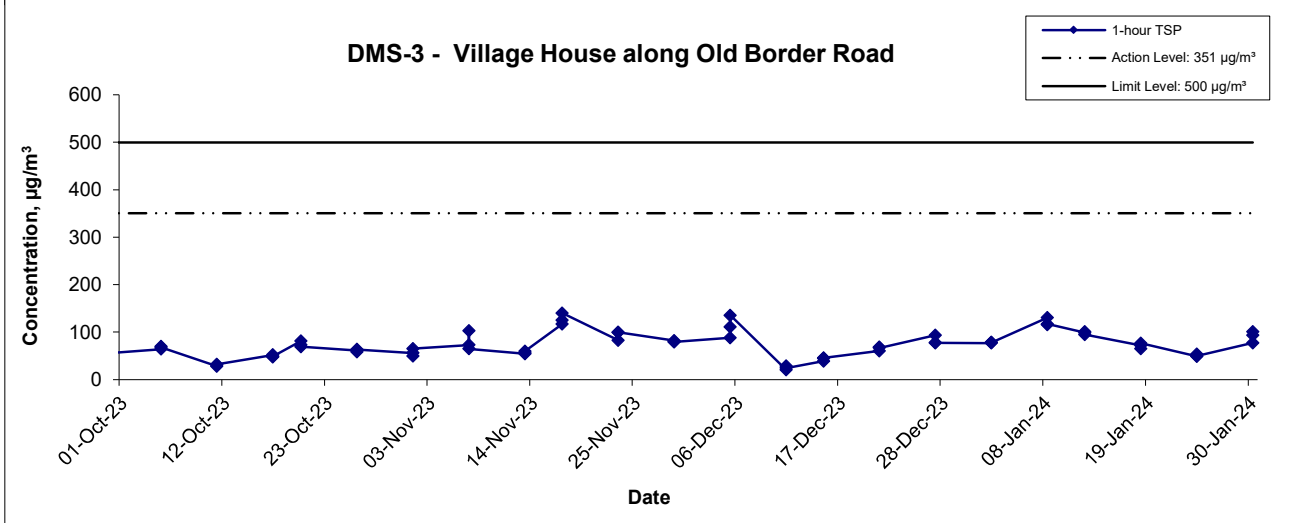
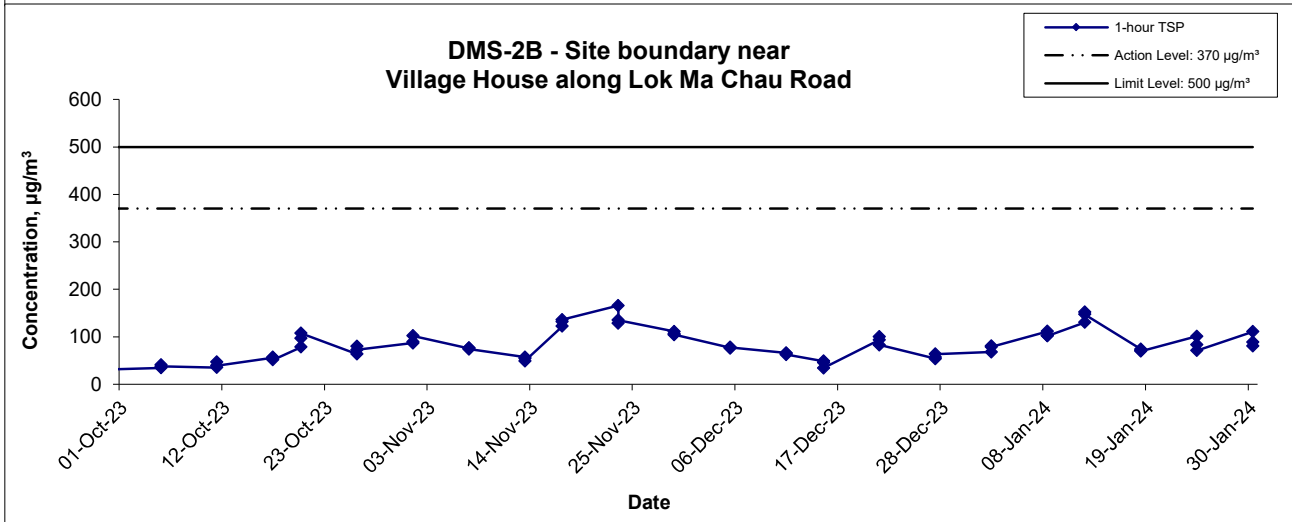
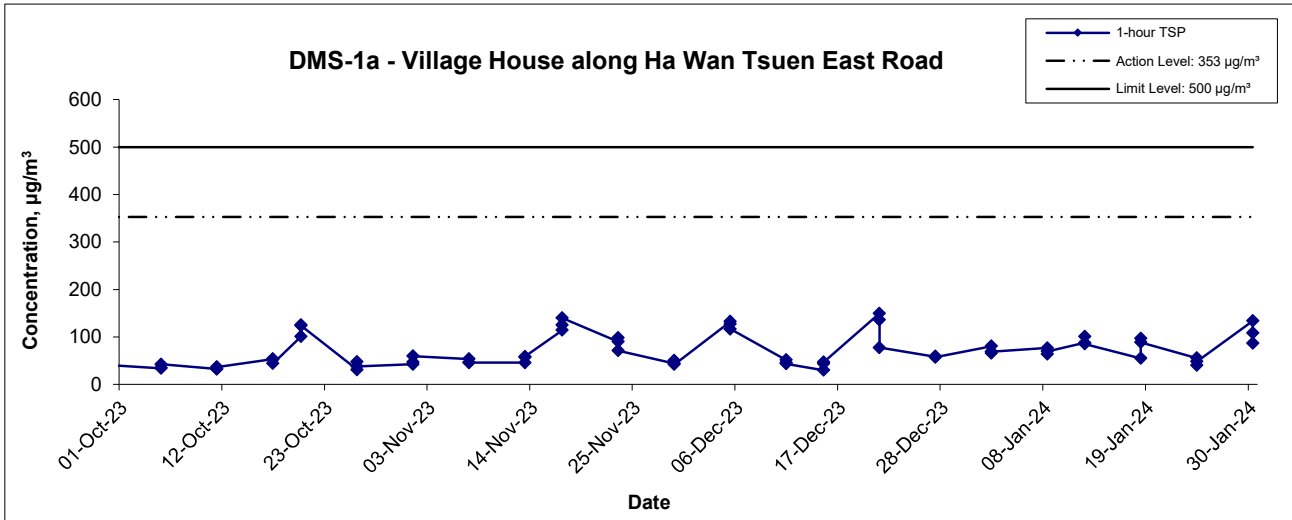
Location DMS-2B - Site boundary near Village House along Lok Ma Chau Road			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
2-Jan-24	8:55	Sunny	67.9
2-Jan-24	9:55	Sunny	80.8
2-Jan-24	10:55	Sunny	78.7
8-Jan-24	13:00	Sunny	111.3
8-Jan-24	14:00	Sunny	102.3
8-Jan-24	15:00	Sunny	102.1
12-Jan-24	8:15	Cloudy	130.2
12-Jan-24	9:15	Cloudy	152.2
12-Jan-24	10:15	Cloudy	147.3
18-Jan-24	9:00	Sunny	73.9
18-Jan-24	10:00	Sunny	71.4
18-Jan-24	11:00	Sunny	69.5
24-Jan-24	9:00	Cloudy	100.9
24-Jan-24	10:00	Cloudy	83.4
24-Jan-24	11:00	Cloudy	71.0
30-Jan-24	8:15	Cloudy	110.7
30-Jan-24	9:15	Cloudy	88.5
30-Jan-24	10:15	Cloudy	80.8
		Minimum	67.9
		Maximum	152.2
		Average	95.7


Appendix E - 1-hour TSP Monitoring Results

Location DMS-3 - Village House along Old Border Road			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
2-Jan-24	13:00	Sunny	76.9
2-Jan-24	14:00	Sunny	78.4
2-Jan-24	15:00	Sunny	78.0
8-Jan-24	13:00	Sunny	130.7
8-Jan-24	14:00	Sunny	115.9
8-Jan-24	15:00	Sunny	117.3
12-Jan-24	9:00	Cloudy	99.0
12-Jan-24	10:00	Cloudy	100.9
12-Jan-24	11:00	Cloudy	94.8
18-Jan-24	9:00	Sunny	72.0
18-Jan-24	10:00	Sunny	64.9
18-Jan-24	11:00	Sunny	76.4
24-Jan-24	8:30	Cloudy	48.8
24-Jan-24	9:30	Cloudy	53.4
24-Jan-24	10:30	Cloudy	49.7
30-Jan-24	8:30	Cloudy	77.3
30-Jan-24	9:30	Cloudy	93.4
30-Jan-24	10:30	Cloudy	100.5
		Minimum	48.8
		Maximum	130.7
		Average	84.9

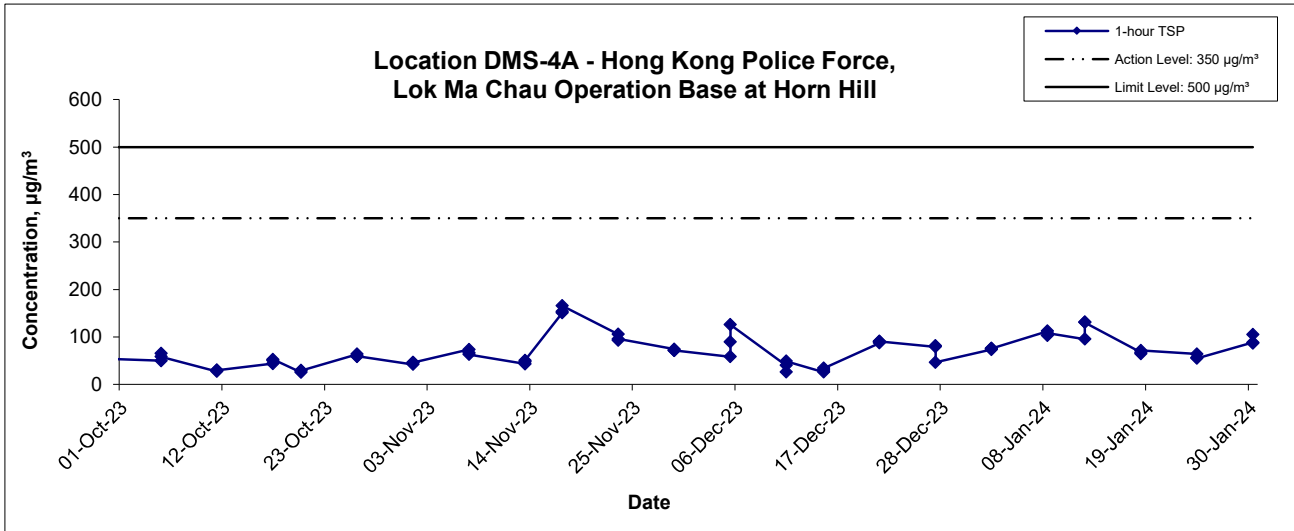
Location DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
2-Jan-24	9:00	Sunny	73.4
2-Jan-24	10:00	Sunny	75.1
2-Jan-24	11:00	Sunny	75.8
8-Jan-24	9:00	Sunny	112.1
8-Jan-24	10:00	Sunny	102.9
8-Jan-24	11:00	Sunny	107.8
12-Jan-24	13:00	Cloudy	95.3
12-Jan-24	14:00	Cloudy	130.9
12-Jan-24	15:00	Cloudy	130.6
18-Jan-24	9:00	Sunny	67.3
18-Jan-24	10:00	Sunny	64.5
18-Jan-24	11:00	Sunny	71.3
24-Jan-24	13:00	Cloudy	64.0
24-Jan-24	14:00	Cloudy	56.4
24-Jan-24	15:00	Cloudy	54.9
30-Jan-24	13:10	Cloudy	88.2
30-Jan-24	14:10	Cloudy	104.7
30-Jan-24	15:10	Cloudy	86.6
		Minimum	54.9
		Maximum	130.9
		Average	86.8


1-hour TSP Concentration Levels



Title	Service Contract No. WD/04/2020		Scale	Project		 consulting . testing . research
	Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team			N.T.S	No. WMA21009	
Graphical Presentation of 1-hour TSP Monitoring Results			Date	Appendix		
			Jan 24	E		

1-hour TSP Concentration Levels



Title	Service Contract No. WD/04/2020		Scale	N.T.S	Project No.	WMA21009	 consulting . testing . research
	Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team			Date		Jan 24	
Graphical Presentation of 1-hour TSP Monitoring Results							

**APPENDIX F
24-HOUR TSP MONITORING RESULTS
AND GRAPHICAL PRESENTATION**

Appendix F - 24-hour TSP Monitoring Results

Location DMS-1a - Village House along Ha Wan Tsuen East Road			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
3-Jan-24	9:00	Sunny	54.0
8-Jan-24	10:40	Sunny	88.1
11-Jan-24	8:40	Cloudy	52.0
17-Jan-24	9:00	Sunny	63.9
23-Jan-24	9:00	Cloudy	69.4
29-Jan-24	9:00	Cloudy	105.1
		Minimum	52.0
		Maximum	105.1
		Average	72.1

Location DMS-2B - Site boundary near Village House along Lok Ma Chau Road			
Date	Time	Weather	Particulate Concentration ($\mu\text{g}/\text{m}^3$)
3-Jan-24	9:00	Sunny	68.2
8-Jan-24	11:35	Sunny	124.6
11-Jan-24	9:10	Cloudy	134.2
17-Jan-24	9:00	Sunny	71.4
23-Jan-24	9:20	Cloudy	85.4
29-Jan-24	9:00	Cloudy	107.4
		Minimum	68.2
		Maximum	134.2
		Average	98.5

Appendix F - 24-hour TSP Monitoring Results

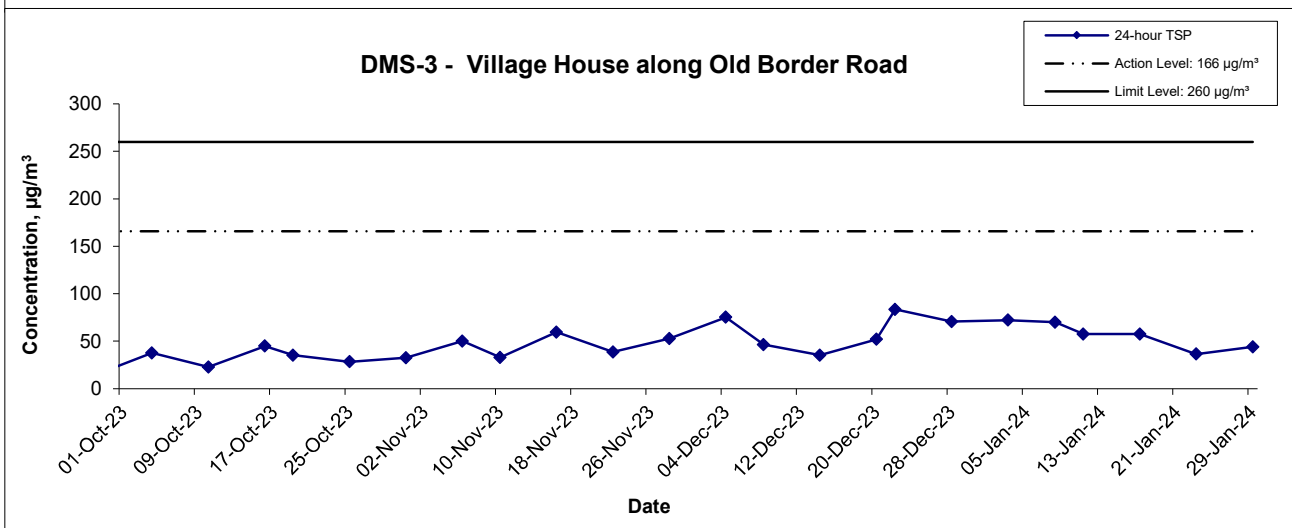
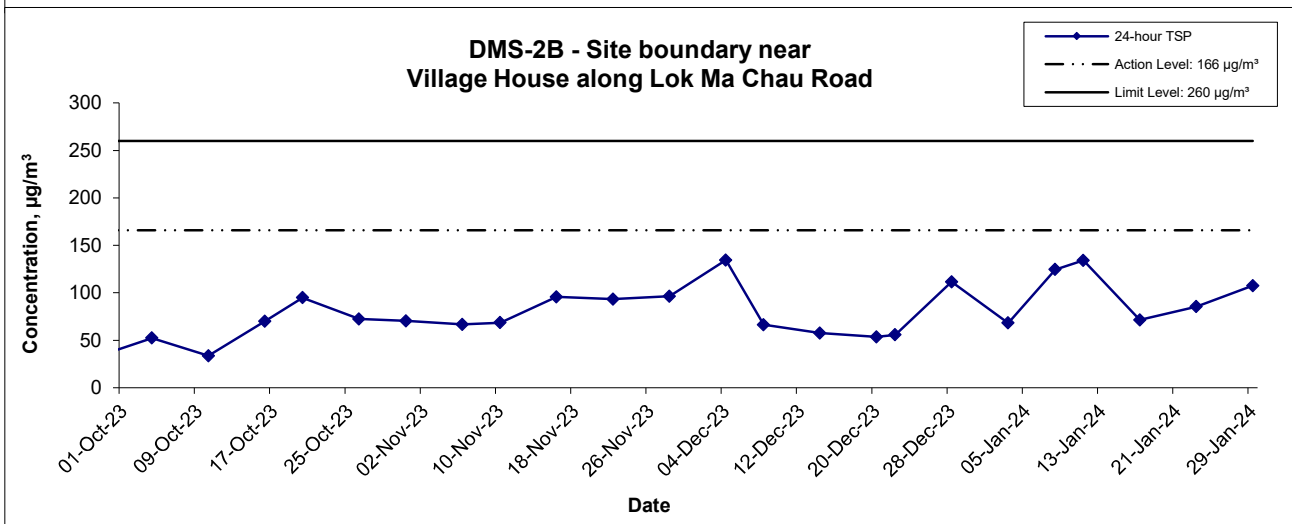
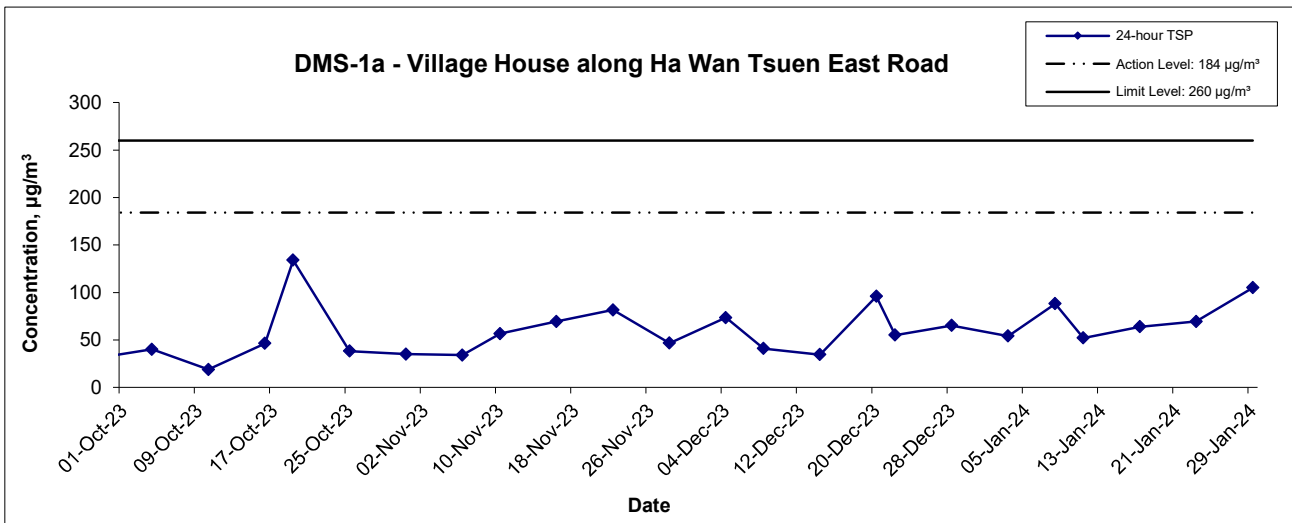
Location DMS-3 - Village House along Old Border Road

Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m ³ /min.)		Av. flow (m ³ /min)	Total vol. (m ³)	Conc. (µg/m ³)
				Initial	Final		Initial	Final		Initial	Final			
3-Jan-24	Sunny	289.7	767.5	2.9444	3.0694	0.1250	5125.6	5149.6	24.0	1.199	1.206	1.203	1731.8	72.2
8-Jan-24	Sunny	291.0	768.2	2.9459	3.0668	0.1209	5149.6	5173.6	24.0	1.201	1.198	1.200	1727.8	70.0
11-Jan-24	Cloudy	291.4	766.7	2.9085	3.0079	0.0994	5173.6	5197.6	24.0	1.195	1.200	1.197	1724.3	57.6
17-Jan-24	Sunny	291.1	769.1	2.9000	2.9996	0.0996	5198.3	5222.3	24.0	1.200	1.201	1.201	1728.7	57.6
23-Jan-24	Cloudy	284.7	771.7	2.9222	2.9862	0.0640	5222.3	5246.3	24.0	1.206	1.234	1.220	1756.6	36.4
29-Jan-24	Sunny	284.3	772.9	3.0257	3.1030	0.0773	0.0	24.0	24.0	1.223	1.221	1.222	1759.8	43.9
													Min	36.4
													Max	72.2
													Average	56.3

Location DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

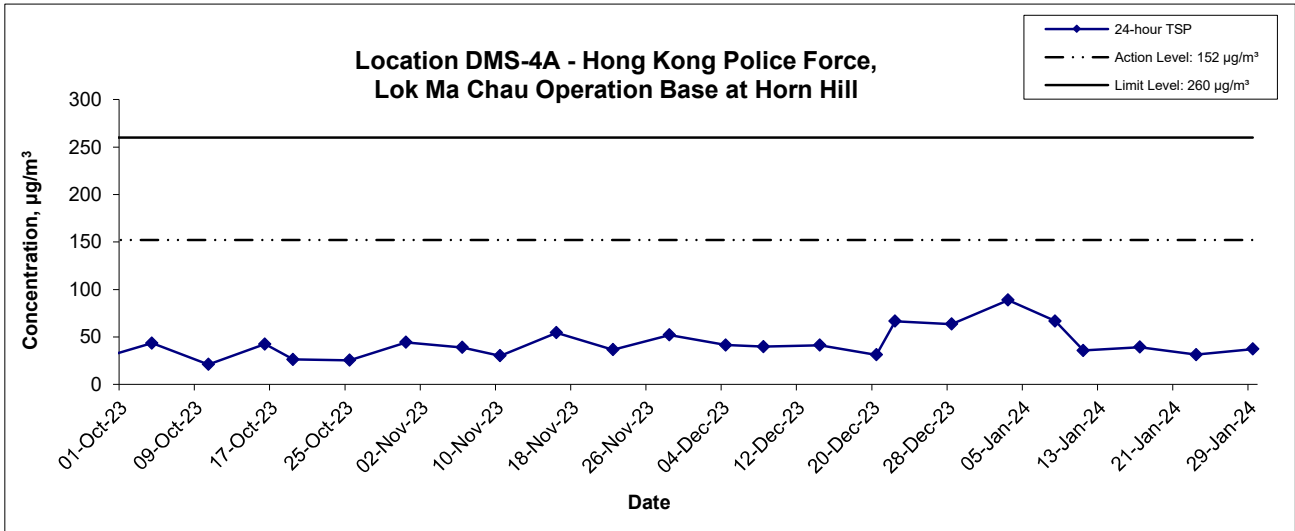
Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m ³ /min.)		Av. flow (m ³ /min)	Total vol. (m ³)	Conc. (µg/m ³)
				Initial	Final		Initial	Final		Initial	Final			
3-Jan-24	Sunny	289.7	767.5	2.9041	3.0590	0.1549	34693.2	34717.2	24.0	1.209	1.216	1.212	1745.7	88.7
8-Jan-24	Sunny	291.0	768.2	2.9458	3.0619	0.1161	34717.2	34741.2	24.0	1.211	1.208	1.210	1741.8	66.7
11-Jan-24	Cloudy	291.4	766.7	2.8730	2.9351	0.0621	34741.3	34765.3	24.0	1.205	1.209	1.207	1738.4	35.7
17-Jan-24	Sunny	291.1	769.1	2.9510	3.0195	0.0685	34765.3	34789.3	24.0	1.209	1.211	1.210	1742.7	39.3
23-Jan-24	Cloudy	284.7	771.7	2.9052	2.9606	0.0554	34789.3	34813.3	24.0	1.216	1.242	1.229	1769.6	31.3
29-Jan-24	Sunny	284.3	772.9	3.0973	3.1632	0.0659	34813.3	34837.3	24.0	1.232	1.230	1.231	1772.7	37.2
													Min	31.3
													Max	88.7
													Average	49.8

24-hour TSP Concentration Levels



Title Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of 24-hour TSP Monitoring Results	Scale	N.T.S	Project No.	WMA21009	匯力 consulting . testing . research
	Date	Jan 24	Appendix	F	

24-hour TSP Concentration Levels



Title Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of 24-hour TSP Monitoring Results	Scale	N.T.S	Project No.	WMA21009	consulting . testing . research
	Date	Jan 24	Appendix	F	

**APPENDIX G
NOISE MONITORING RESULTS AND
GRAPHICAL PRESENTATION**

Appendix G - Noise Monitoring Results

Location NMS-1 -Village house in Ha Wan Tsuen							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
2-Jan-24	Cloudy	08:20	53.1	55.1	50.1	52.7	47.3
		08:25	52.3	54.0	49.7		
		08:30	52.8	55.4	49.8		
		08:35	52.3	54.2	49.9		
		08:40	53.0	54.9	49.9		
08:45	52.6	55.3	49.4				
8-Jan-24	Cloudy	10:30	50.4	51.9	48.8	55.6	
		10:35	53.9	56.5	48.6		
		10:40	53.9	55.8	49.5		
		10:45	54.7	57.1	50.5		
		10:50	58.2	60.7	52.0		
10:55	58.0	61.8	50.5				
18-Jan-24	Sunny	10:40	54.0	55.5	52.2	54.1	
		10:45	54.0	55.6	51.5		
		10:50	54.0	56.3	50.6		
		10:55	52.5	54.6	50.4		
		11:00	52.4	53.7	50.5		
11:05	56.3	57.1	50.7				
24-Jan-24	Cloudy	08:45	57.9	61.0	53.7	59.0	
		08:50	57.9	60.8	53.8		
		08:55	60.1	62.9	55.6		
		09:00	60.3	63.5	53.6		
		09:05	59.4	62.6	54.7		
09:10	57.9	60.8	53.9				
30-Jan-24	Cloudy	14:10	59.3	61.6	51.0	59.6	
		14:15	59.9	62.8	52.0		
		14:20	58.3	61.0	50.8		
		14:25	60.2	62.6	52.7		
		14:30	59.2	61.4	52.7		
14:35	60.2	62.6	53.1				

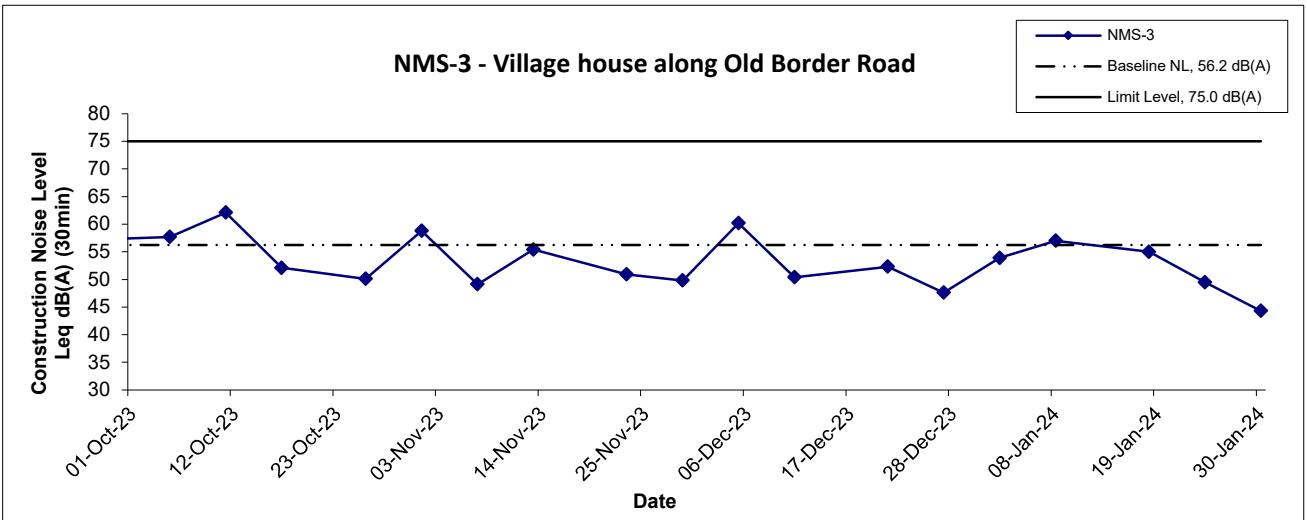
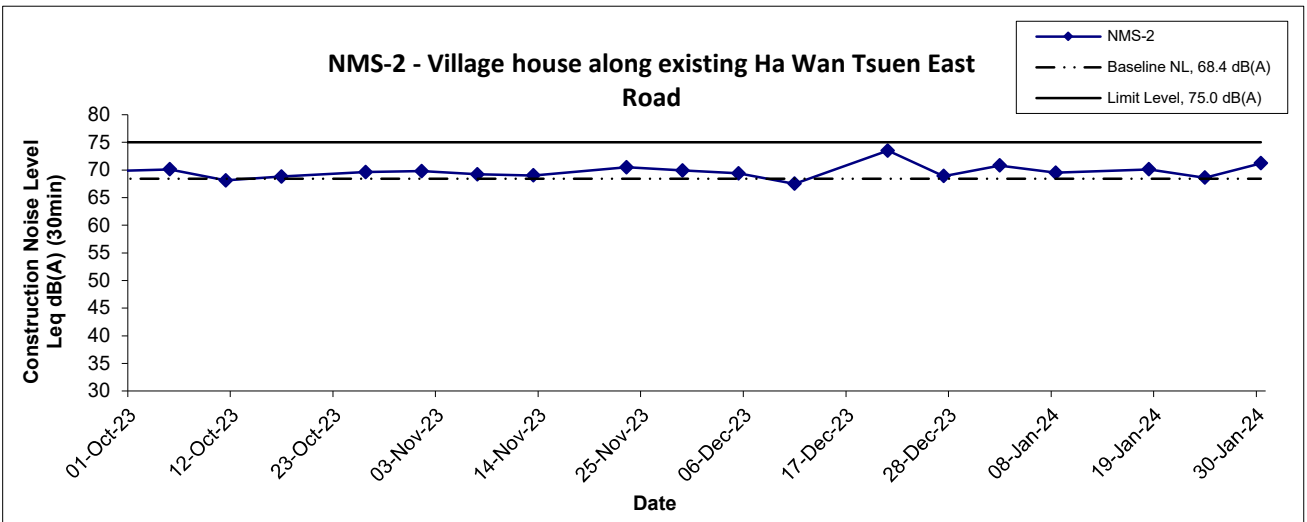
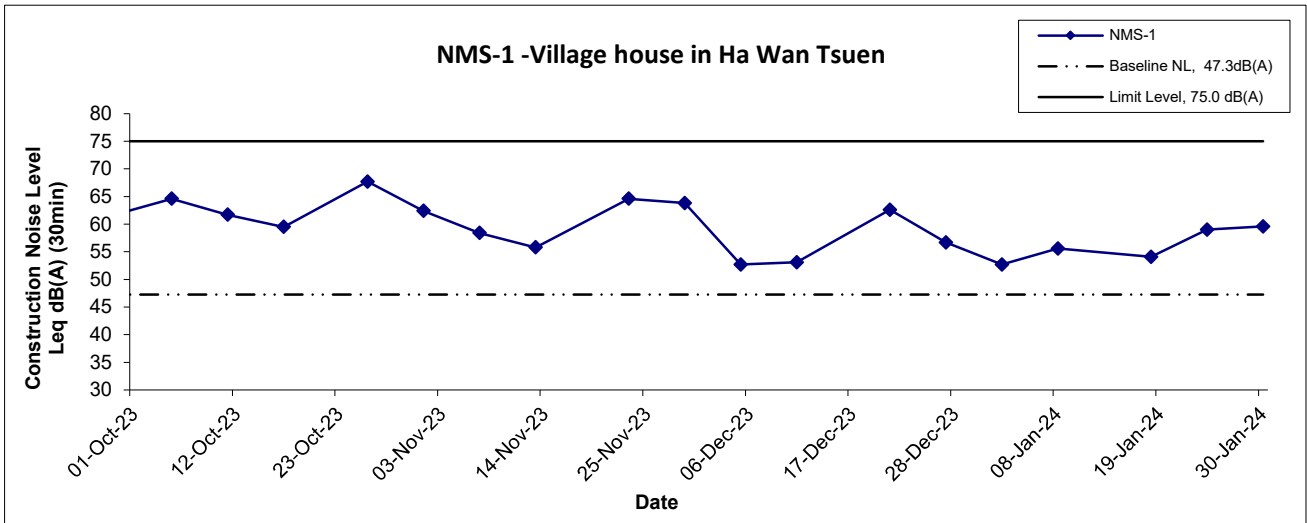
Location NMS-2 - Village house along existing Ha Wan Tsuen East Road							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}
2-Jan-24	Sunny	11:25	68.6	73.2	55.3	70.8	68.4
		11:30	71.4	74.8	55.4		
		11:35	69.7	73.7	55.4		
		11:40	73.2	75.3	56.8		
		11:45	70.1	72.9	55.2		
11:50	70.4	73.1	55.0				
8-Jan-24	Sunny	11:20	70.1	73.8	52.2	69.5	
		11:25	63.6	67.8	50.2		
		11:30	71.9	75.6	51.5		
		11:35	70.2	74.9	56.3		
		11:40	70.1	72.6	51.1		
11:45	66.4	70.5	49.8				
18-Jan-24	Sunny	11:25	68.7	73.2	55.2	70.1	
		11:30	70.0	73.2	55.8		
		11:35	69.9	73.4	53.9		
		11:40	69.0	72.4	51.1		
		11:45	70.8	74.0	50.7		
11:50	71.7	75.8	58.1				
24-Jan-24	Cloudy	14:40	67.8	72.2	51.6	68.6	
		14:45	69.8	73.3	53.8		
		14:50	67.7	72.0	55.3		
		14:55	64.6	69.8	52.8		
		15:00	71.5	73.8	53.6		
15:05	67.2	73.2	53.6				
30-Jan-24	Cloudy	08:45	71.0	73.7	57.0	71.2	
		08:50	69.5	72.9	57.9		
		08:55	73.9	79.0	57.4		
		09:00	69.7	73.5	57.3		
		09:05	70.7	75.4	56.3		
09:10	70.7	73.8	57.1				

Appendix G - Noise Monitoring Results

Location NMS-3 - Village house along Old Border Road									
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level		
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}		
2-Jan-24	Sunny	13:20	52.0	53.4	47.5	53.9	56.2		
		13:25	51.8	54.1	47.1				
		13:30	52.2	53.4	49.3				
		13:35	54.4	57.0	50.0				
		13:40	54.8	57.6	50.1				
13:45	56.2	56.6	49.5						
8-Jan-24	Sunny	09:40	56.6	56.8	56.0	57.0		56.2	
		09:45	56.9	57.8	55.9				
		09:50	56.9	57.4	55.8				
		09:55	57.9	58.5	55.9				
		10:00	57.3	58.7	55.7				
10:05	55.9	56.3	55.5						
18-Jan-24	Sunny	09:00	54.8	55.4	54.0	55.0			56.2
		09:05	55.3	56.8	54.0				
		09:10	54.4	54.9	54.0				
		09:15	56.2	59.3	54.4				
		09:20	54.4	55.4	53.1				
09:25	54.6	55.8	54.1						
24-Jan-24	Cloudy	10:50	50.9	52.0	47.4	49.5	56.2		
		10:55	51.0	53.2	47.2				
		11:00	48.8	50.9	47.5				
		11:05	49.7	51.8	46.4				
		11:10	48.4	49.9	46.6				
11:15	47.1	48.7	44.8						
30-Jan-24	Cloudy	10:00	44.5	46.6	37.7	44.3		56.2	
		10:05	47.3	47.8	38.1				
		10:10	46.0	48.3	37.9				
		10:15	42.6	46.0	37.8				
		10:20	38.7	39.8	37.6				
10:25	42.0	44.6	37.9						

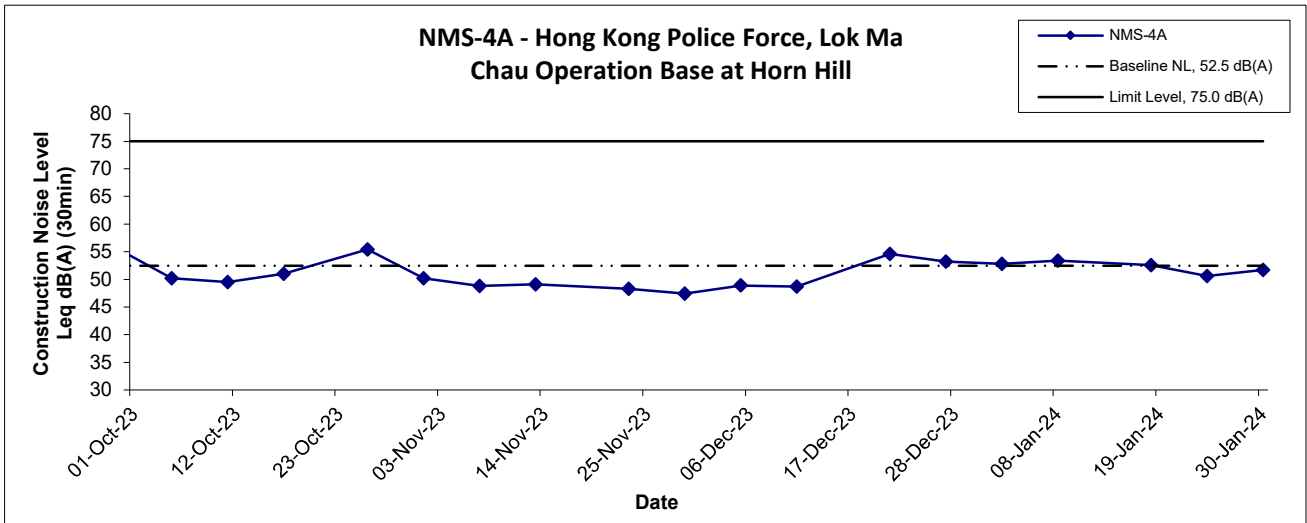
Location NMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill									
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level		
			L _{eq}	L ₁₀	L ₉₀	L _{eq}	L _{eq}		
2-Jan-24	Sunny	09:30	54.0	54.2	51.4	52.8	52.5		
		09:35	52.3	53.5	50.9				
		09:40	52.7	54.2	51.1				
		09:45	53.8	54.9	51.0				
		09:50	51.4	52.2	50.6				
09:55	52.0	54.2	50.8						
8-Jan-24	Sunny	09:00	53.5	54.7	52.5	53.4		52.5	
		09:05	53.8	55.1	52.5				
		09:10	53.3	54.6	52.2				
		09:15	52.8	53.4	52.1				
		09:20	53.0	53.5	52.1				
09:25	53.8	54.9	52.7						
18-Jan-24	Sunny	09:45	54.8	57.9	51.0	52.6			52.5
		09:50	52.7	53.9	51.1				
		09:55	51.8	53.0	50.6				
		10:00	51.9	53.3	50.5				
		10:05	51.8	53.1	50.6				
10:10	51.4	52.5	50.3						
24-Jan-24	Cloudy	13:10	53.1	55.9	51.2	50.6	52.5		
		13:15	50.9	53.4	45.7				
		13:20	48.5	50.8	43.1				
		13:25	49.0	53.0	43.7				
		13:30	52.6	56.7	43.7				
13:35	45.1	46.3	42.1						
30-Jan-24	Cloudy	13:15	50.9	51.6	41.3	51.7		52.5	
		13:20	47.9	51.0	41.6				
		13:25	52.4	55.6	40.6				
		13:30	49.8	51.8	40.8				
		13:35	54.4	58.5	42.0				
13:40	52.1	48.9	40.5						

Noise Levels



Title Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. WMA21009	consulting . testing . research
	Date Jan 24	Appendix G	

Noise Levels



Title Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Construction Noise Monitoring Results	Scale N.T.S	Project No. WMA21009	consulting . testing . research
	Date Jan 24	Appendix G	

**APPENDIX H
WATER QUALITY MONITORING
RESULTS AND GRAPHICAL
PRESENTATION**

Water Quality Monitoring Results at CS1

Date	Weather Condition	Sea Condition**	Sampling Time	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-Jan-24	Sunny	Calm	10:39	Middle	0.5	20.2	20.2	7.9	7.9	4.6	4.6	87.9	87.9	7.8	7.8	7.1	7.2	7	6.5
						20.2		7.9		4.6		87.8		7.8		7.2		6	
4-Jan-24	Sunny	Calm	09:22	Middle	0.5	20.2	20.2	6.9	6.9	4.4	4.4	87.0	87.2	7.7	7.7	9.5	9.5	14	15.0
						20.2		6.9		4.4		87.4		7.7		9.4		16	
6-Jan-24	Sunny	Calm	09:48	Middle	0.5	19.2	19.2	7.8	7.8	4.6	4.6	101.0	101.0	9.1	9.1	16.7	16.7	28	27.0
						19.2		7.8		4.6		101.0		9.1		16.6		26	
8-Jan-24	Sunny	Calm	12:37	Middle	0.3	21.5	21.5	7.7	7.7	0.8	0.8	83.3	83.4	7.3	7.3	12.6	12.6	27	27.5
						21.5		7.7		0.8		83.4		7.3		12.5		28	
10-Jan-24	Sunny	Calm	13:55	Middle	0.3	22.5	22.5	8.2	8.2	1.1	1.1	78.3	78.4	6.7	6.8	8.8	8.9	21	19.5
						22.5		8.2		1.1		78.4		6.8		8.9		18	
12-Jan-24	Cloudy	Calm	09:46	Middle	0.5	20.7	20.7	7.5	7.5	6.2	6.2	90.8	90.8	7.9	7.9	9.0	9.1	11	10.5
						20.7		7.5		6.2		90.7		7.8		9.2		10	
15-Jan-24	Sunny	Calm	09:47	Middle	0.5	21.0	21.0	7.9	7.9	6.6	6.6	104.2	104.4	8.9	9.0	11.5	11.6	20	18.5
						20.9		7.9		6.6		104.6		9.0		11.7		17	
17-Jan-24	Fine	Calm	10:53	Middle	0.3	21.5	21.5	7.7	7.8	1.6	1.6	93.7	93.8	8.2	8.2	7.6	7.6	7	7.5
						21.5		7.9		1.6		93.8		8.2		7.6		8	
19-Jan-24	Sunny	Calm	10:26	Middle	0.5	23.0	23.0	8.0	8.0	6.6	6.6	92.7	92.7	7.7	7.7	18.4	18.5	30	29.0
						23.0		8.0		6.6		92.6		7.7		18.5		28	
22-Jan-24	Cloudy	Calm	11:38	Middle	0.2	19.0	19.0	8.2	8.2	1.8	1.8	95.0	94.9	8.7	8.7	10.1	10.1	29	28.5
						19.0		8.2		1.8		94.8		8.7		10.0		28	
24-Jan-24	Fine	Calm	10:56	Middle	0.5	14.3	14.3	7.6	7.6	6.8	6.8	70.6	70.6	6.9	6.9	7.7	7.6	7	7.0
						14.3		7.6		6.8		70.6		6.9		7.5		7	
26-Jan-24	Cloudy	Calm	15:34	Middle	0.2	14.3	14.3	8.0	8.0	1.2	1.2	106.7	106.8	10.8	10.9	12.7	12.8	30	30.0
						14.3		8.0		1.2		106.8		10.9		12.9		30	
29-Jan-24	Cloudy	Calm	16:21	Middle	0.2	16.6	16.6	8.1	8.1	1.1	1.1	114.4	114.4	11.1	11.1	8.0	8.1	32	32.5
						16.6		8.1		1.1		114.3		11.1		8.1		33	
31-Jan-24	Cloudy	Calm	16:18	Middle	0.2	18.4	18.4	8.1	8.1	1.1	1.1	98.1	98.1	9.2	9.2	10.5	10.6	39	37.5
						18.4		8.1		1.1		98.0		9.1		10.6		36	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at CS5

Date	Weather Condition	Sea Condition**	Sampling Time	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-Jan-24	Sunny	Calm	09:23	Middle	0.1	18.6	18.6	8.2	8.2	0.3	0.3	85.9	85.9	8.0	8.0	9.5	9.5	3	2.5
						18.6		8.2		0.3		85.8		8.0		9.4		3	
4-Jan-24	Sunny	Calm	08:32	Middle	0.1	18.9	18.9	7.2	7.3	0.5	0.5	72.6	72.8	6.7	6.8	19.9	20.2	16	16.0
						18.9		7.3		0.5		73.0		6.8		20.5		16	
6-Jan-24	Sunny	Calm	08:49	Middle	0.1	17.2	17.2	8.1	8.1	0.2	0.2	81.4	81.4	7.8	7.8	15.0	15.2	10	10.0
						17.2		8.0		0.2		81.3		7.8		15.3		10	
8-Jan-24	Sunny	Calm	11:06	Middle	0.1	20.7	20.7	8.0	8.0	0.2	0.2	79.7	79.8	7.1	7.2	10.0	10.1	12	12.5
						20.7		8.0		0.2		79.8		7.2		10.1		13	
10-Jan-24	Sunny	Calm	12:29	Middle	0.1	23.1	23.1	8.2	8.2	0.2	0.2	85.8	86.1	7.3	7.4	14.9	14.9	12	13.0
						23.1		8.2		0.2		86.3		7.4		14.8		14	
12-Jan-24	Cloudy	Calm	08:49	Middle	0.1	18.4	18.4	8.1	8.1	0.4	0.4	84.3	84.3	7.9	7.9	40.5	40.3	16	15.0
						18.4		8.1		0.4		84.2		7.9		40.1		14	
15-Jan-24	Sunny	Calm	08:52	Middle	0.1	17.6	17.6	8.2	8.2	0.3	0.3	81.3	81.2	7.7	7.7	10.4	10.4	4	4.0
						17.6		8.2		0.3		81.1		7.7		10.4		4	
17-Jan-24	Fine	Calm	09:33	Middle	0.1	20.1	20.1	8.2	8.2	1.0	1.0	106.2	106.2	9.6	9.6	7.4	7.5	5	5.0
						20.1		8.2		1.0		106.2		9.6		7.5		5	
19-Jan-24	Sunny	Calm	11:11	Middle	0.1	23.3	23.3	8.1	8.1	0.3	0.3	119.7	119.7	10.2	10.2	13.4	13.4	14	14.5
						23.3		8.1		0.3		119.7		10.2		13.3		15	
22-Jan-24	Cloudy	Calm	10:20	Middle	0.1	17.3	17.3	8.0	8.0	0.1	0.1	104.3	104.3	10.0	10.0	11.6	11.7	9	8.5
						17.3		8.0		0.1		104.3		10.0		11.7		8	
24-Jan-24	Fine	Calm	10:03	Middle	0.1	11.4	11.4	8.4	8.4	0.6	0.6	108.1	108.1	11.8	11.8	15.5	15.8	7	7.5
						11.4		8.4		0.6		108.1		11.8		16.0		8	
26-Jan-24	Cloudy	Calm	14:12	Middle	0.1	14.8	14.8	8.4	8.4	0.9	0.9	110.5	110.6	11.2	11.2	11.5	11.5	11	12.0
						14.8		8.4		0.9		110.6		11.2		11.4		13	
29-Jan-24	Cloudy	Calm	15:14	Middle	0.1	18.0	18.0	8.2	8.2	0.2	0.2	133.9	134.2	12.7	12.7	9.2	9.2	6	5.5
						18.0		8.2		0.2		134.4		12.7		9.2		5	
31-Jan-24	Cloudy	Calm	15:30	Middle	0.1	19.8	19.8	8.3	8.3	1.7	1.7	109.2	109.3	9.9	9.9	14.2	14.3	19	19.5
						19.8		8.3		1.7		109.3		9.9		14.3		20	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at IS1

Date	Weather Condition	Sea Condition**	Sampling Time	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-Jan-24	Sunny	Calm	10:23	Middle	0.4	19.8	19.8	7.4	7.4	4.8	4.8	82.2	82.0	7.3	7.3	5.8	5.9	4	3.5
						19.8		7.4		4.8		81.8		7.3		5.9		3	
4-Jan-24	Sunny	Calm	08:59	Middle	0.4	19.6	19.6	6.8	6.8	4.6	4.6	79.7	80.1	7.1	7.2	8.0	8.1	10	10.0
						19.6		6.8		4.6		80.4		7.2		8.1		10	
6-Jan-24	Sunny	Calm	09:26	Middle	0.4	19.0	19.0	7.3	7.3	4.6	4.6	96.3	96.2	8.7	8.7	14.2	14.5	23	23.5
						19.0		7.3		4.6		96.0		8.7		14.7		24	
8-Jan-24	Sunny	Calm	12:15	Middle	0.3	20.9	20.9	7.8	7.9	0.5	0.5	85.5	85.6	7.6	7.6	10.5	10.5	19	20.0
						20.9		7.9		0.5		85.6		7.6		10.5		21	
10-Jan-24	Sunny	Calm	13:37	Middle	0.3	22.0	22.0	8.0	8.0	1.8	1.8	83.2	83.6	7.2	7.3	7.4	7.4	15	16.0
						22.0		8.0		1.8		84.0		7.3		7.3		17	
12-Jan-24	Cloudy	Calm	09:22	Middle	0.4	19.7	19.7	7.2	7.2	6.6	6.6	91.0	90.9	8.0	8.0	10.5	10.5	11	11.0
						19.7		7.2		6.6		90.8		8.0		10.5		11	
15-Jan-24	Sunny	Calm	09:19	Middle	0.4	19.4	19.4	7.6	7.6	7.2	7.2	119.0	119.3	10.5	10.5	10.9	10.8	15	14.5
						19.4		7.6		7.2		119.6		10.5		10.7		14	
17-Jan-24	Fine	Calm	10:35	Middle	0.3	20.9	20.9	7.7	7.7	4.8	4.9	105.8	105.9	9.2	9.2	7.0	7.1	7	7.5
						20.9		7.7		4.9		106.0		9.2		7.1		8	
19-Jan-24	Sunny	Calm	09:52	Middle	0.5	21.6	21.6	8.1	8.1	7.1	7.1	85.3	85.5	7.2	7.3	10.0	10.0	15	15.5
						21.5		8.1		7.1		85.6		7.3		9.9		16	
22-Jan-24	Cloudy	Calm	11:21	Middle	0.2	18.5	18.5	8.2	8.2	1.1	1.1	77.3	77.2	7.2	7.2	10.0	10.0	16	17.0
						18.5		8.2		1.1		77.1		7.2		10.0		18	
24-Jan-24	Fine	Calm	10:33	Middle	0.5	12.0	12.0	7.6	7.6	6.9	6.9	80.1	79.9	8.3	8.3	9.9	9.9	5	5.5
						12.0		7.6		6.9		79.7		8.2		9.9		6	
26-Jan-24	Cloudy	Calm	15:13	Middle	0.2	14.5	14.5	7.8	7.8	6.9	6.9	103.7	103.7	10.1	10.2	7.3	7.3	13	12.0
						14.5		7.8		6.9		103.7		10.2		7.3		11	
29-Jan-24	Cloudy	Calm	16:09	Middle	0.2	16.7	16.7	8.2	8.2	1.8	1.8	99.7	99.8	9.6	9.6	6.9	6.9	14	13.5
						16.7		8.2		1.8		99.8		9.6		6.9		13	
31-Jan-24	Cloudy	Calm	16:06	Middle	0.2	19.3	19.3	8.1	8.1	1.9	1.9	99.8	99.9	9.1	9.1	8.9	8.9	15	15.0
						19.3		8.1		1.9		100.0		9.1		8.9		15	

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at IS2

Date	Weather Condition	Sea Condition**	Sampling Time	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-Jan-24	Sunny	Calm	09:06	Middle	0.1	20.1 20.1	20.1	7.1 7.1	7.1	4.6 4.6	4.6	61.5 62.1	61.8	5.4 5.5	5.5	16.8 17.0	16.9	7 8	7.5
4-Jan-24	Sunny	Calm	08:20	Middle	0.1	20.7 20.7	20.7	7.0 7.0	7.0	5.0 5.0	5.0	61.8 61.5	61.7	5.4 5.4	5.4	22.4 22.3	22.4	28 28	28.0
6-Jan-24	Sunny	Calm	08:35	Middle	0.1	19.5 19.5	19.5	7.0 7.0	7.0	5.2 5.2	5.2	69.3 69.2	69.3	6.2 6.2	6.2	23.9 23.9	23.9	35 36	35.5
8-Jan-24	Sunny	Calm	11:23	Middle	0.1	21.4 21.4	21.4	8.1 8.1	8.1	3.0 3.0	3.0	84.7 84.5	84.6	7.4 7.3	7.4	17.5 17.4	17.5	37 33	35.0
10-Jan-24	Sunny	Calm	13:04	Middle	0.1	22.2 22.1	22.2	8.1 8.1	8.1	6.1 6.1	6.1	99.4 99.6	99.5	8.4 8.4	8.4	20.0 19.9	20.0	36 37	36.5
12-Jan-24	Cloudy	Calm	08:34	Middle	0.1	20.0 20.0	20.0	7.7 7.7	7.7	7.2 7.2	7.2	102.2 102.2	102.2	8.9 8.9	8.9	27.7 27.5	27.6	33 36	34.5
15-Jan-24	Sunny	Calm	08:38	Middle	0.1	20.1 20.1	20.1	7.1 7.1	7.1	7.4 7.4	7.4	91.9 91.8	91.9	8.0 8.0	8.0	24.5 24.3	24.4	16 15	15.5
17-Jan-24	Fine	Calm	09:51	Middle	0.1	21.1 21.1	21.1	7.8 7.8	7.8	7.2 7.2	7.2	89.4 89.0	89.2	7.6 7.6	7.6	13.7 13.7	13.7	21 25	23.0
19-Jan-24	Sunny	Calm	10:59	Middle	0.1	23.5 23.5	23.5	8.0 8.0	8.0	6.8 6.8	6.8	88.7 88.7	88.7	7.3 7.3	7.3	19.1 19.2	19.2	22 20	21.0
22-Jan-24	Cloudy	Calm	10:47	Middle	0.1	19.7 19.7	19.7	7.4 7.4	7.4	5.8 5.8	5.8	77.7 77.6	77.7	6.9 6.9	6.9	19.4 19.5	19.5	32 30	31.0
24-Jan-24	Fine	Calm	09:32	Middle	0.1	13.7 13.8	13.8	6.9 6.9	6.9	6.8 6.8	6.8	61.2 60.6	60.9	6.1 6.0	6.1	21.3 20.9	21.1	14 12	13.0
26-Jan-24	Cloudy	Calm	14:35	Middle	0.1	15.2 15.2	15.2	7.8 7.8	7.8	6.9 6.9	6.9	77.1 76.9	77.0	7.4 7.4	7.4	17.1 17.1	17.1	23 21	22.0
29-Jan-24	Cloudy	Calm	15:34	Middle	0.1	17.8 17.9	17.9	7.4 7.4	7.4	4.3 4.3	4.3	87.8 87.7	87.8	8.1 8.1	8.1	25.1 25.1	25.1	35 32	33.5
31-Jan-24	Cloudy	Calm	15:45	Middle	0.1	19.0 19.0	19.0	7.8 7.8	7.8	6.0 6.0	6.0	86.5 86.5	86.5	7.8 7.7	7.8	25.8 25.7	25.8	30 28	29.0

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

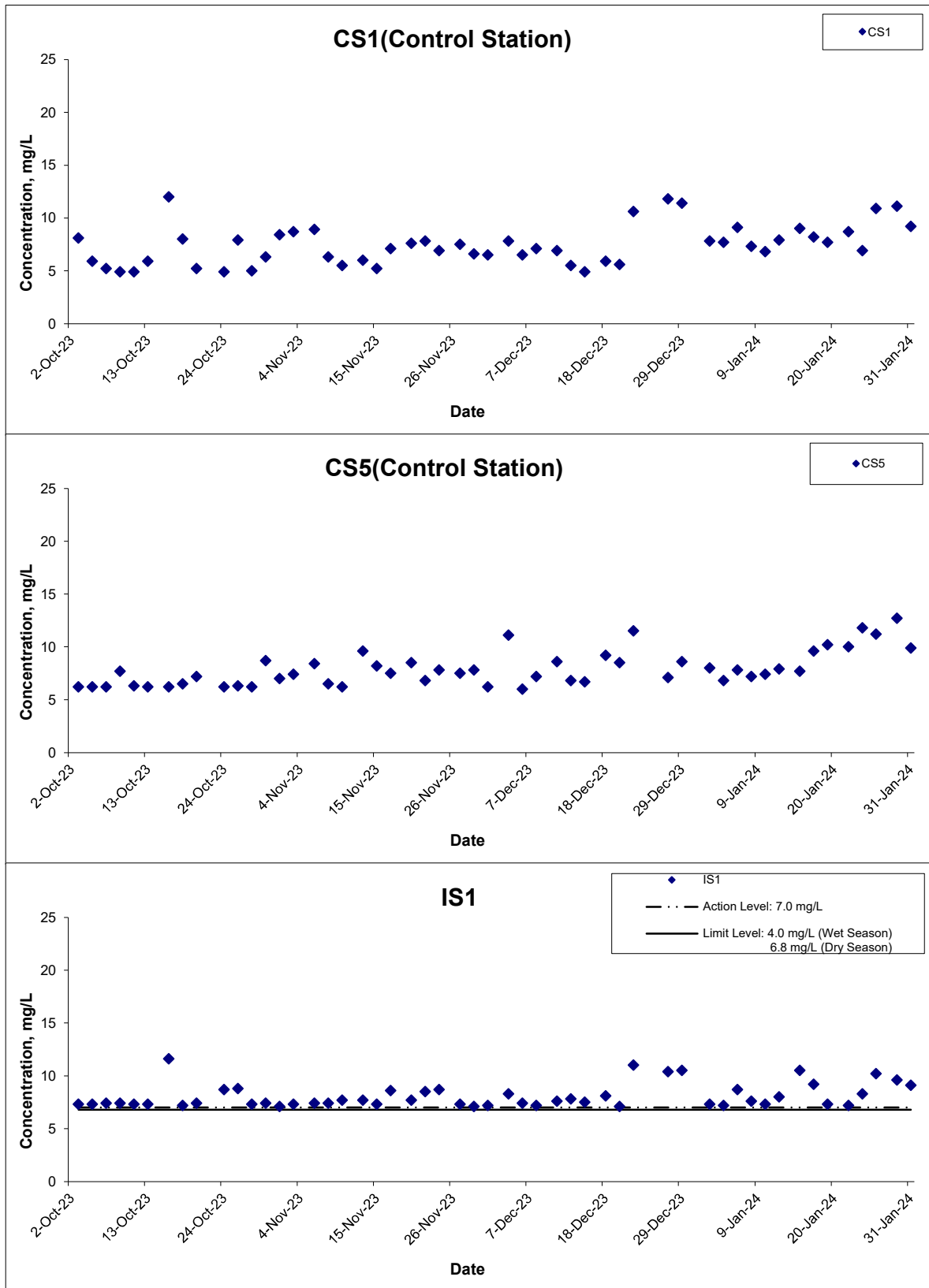
Water Quality Monitoring Results at IS4

Date	Weather Condition	Sea Condition**	Sampling Time	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-Jan-24	Sunny	Calm	10:14	Middle	0.1	18.1	18.1	8.1	8.1	0.0	0.0	51.6	51.6	4.9	4.9	14.0	14.0	5	5.5
						18.1		8.1		0.0		4.9		14.0					
4-Jan-24	Sunny	Calm	08:45	Middle	0.2	18.4	18.4	6.8	6.8	0.1	0.1	47.6	47.7	4.5	4.5	39.5	39.3	100	100.5
						18.4		6.8		0.1		4.5		39.0					
6-Jan-24	Sunny	Calm	09:09	Middle	0.2	17.9	17.9	7.6	7.6	0.1	0.1	52.0	52.3	4.9	5.0	21.9	21.9	19	18.5
						17.9		7.6		0.1		5.0		21.9					
8-Jan-24	Sunny	Calm	12:01	Middle	0.1	21.1	21.1	7.8	7.8	0.1	0.1	62.4	62.4	5.6	5.6	8.9	8.9	41	38.0
						21.1		7.8		0.1		5.5		8.9					
10-Jan-24	Sunny	Calm	13:19	Middle	0.1	22.9	22.9	8.0	8.0	4.0	4.0	87.8	87.8	7.4	7.4	11.8	11.8	17	16.5
						22.9		8.0		4.0		7.4		11.7					
12-Jan-24	Cloudy	Calm	09:09	Middle	0.1	18.3	18.3	7.3	7.3	0.1	0.1	44.2	44.5	4.2	4.2	56.3	56.3	73	72.0
						18.3		7.3		0.1		4.2		56.2					
15-Jan-24	Sunny	Calm	09:08	Middle	0.1	17.6	17.6	7.4	7.4	0.1	0.1	44.0	43.8	4.2	4.2	50.3	50.4	61	62.5
						17.6		7.4		0.1		4.2		50.4					
17-Jan-24	Fine	Calm	10:13	Middle	0.2	19.1	19.1	7.1	7.1	0.2	0.2	52.2	52.1	4.8	4.8	8.0	8.0	19	21.5
						19.1		7.1		0.1		4.8		8.0					
19-Jan-24	Sunny	Calm	09:36	Middle	0.2	21.5	21.6	7.9	7.9	0.3	0.3	47.9	48.0	4.2	4.2	25.4	25.4	32	33.0
						21.6		7.9		0.3		4.2		25.4					
22-Jan-24	Cloudy	Calm	11:00	Middle	0.2	17.2	17.2	7.3	7.3	0.2	0.2	66.6	66.5	6.4	6.4	14.3	14.3	30	28.5
						17.2		7.3		0.2		6.4		14.2					
24-Jan-24	Fine	Calm	10:19	Middle	0.1	12.0	12.0	8.0	8.0	0.1	0.1	39.5	39.7	4.3	4.3	19.1	19.2	12	12.5
						12.0		8.0		0.1		4.3		19.2					
26-Jan-24	Cloudy	Calm	14:52	Middle	0.2	14.7	14.7	7.5	7.5	0.2	0.2	42.0	42.2	4.3	4.3	20.5	20.5	28	29.0
						14.7		7.5		0.2		4.3		20.5					
29-Jan-24	Cloudy	Calm	15:55	Middle	0.2	17.7	17.7	7.4	7.4	0.2	0.2	47.2	47.4	4.5	4.5	11.6	11.6	7	7.5
						17.7		7.4		0.2		4.5		11.6					
31-Jan-24	Cloudy	Calm	15:58	Middle	0.2	19.7	19.7	7.7	7.7	0.3	0.3	46.8	46.9	4.3	4.3	11.5	11.5	23	21.5
						19.7		7.7		0.3		4.3		11.5					

Remarks: *DA: Depth-Averaged

**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Dissolved Oxygen



Title Service Contract No. WD/04/2020
 Development of Lok Ma Chau Loop:
 Main Works Package 1 - Environmental Team

Graphical Presentation of Water Quality Monitoring Results

Scale
 N.T.S

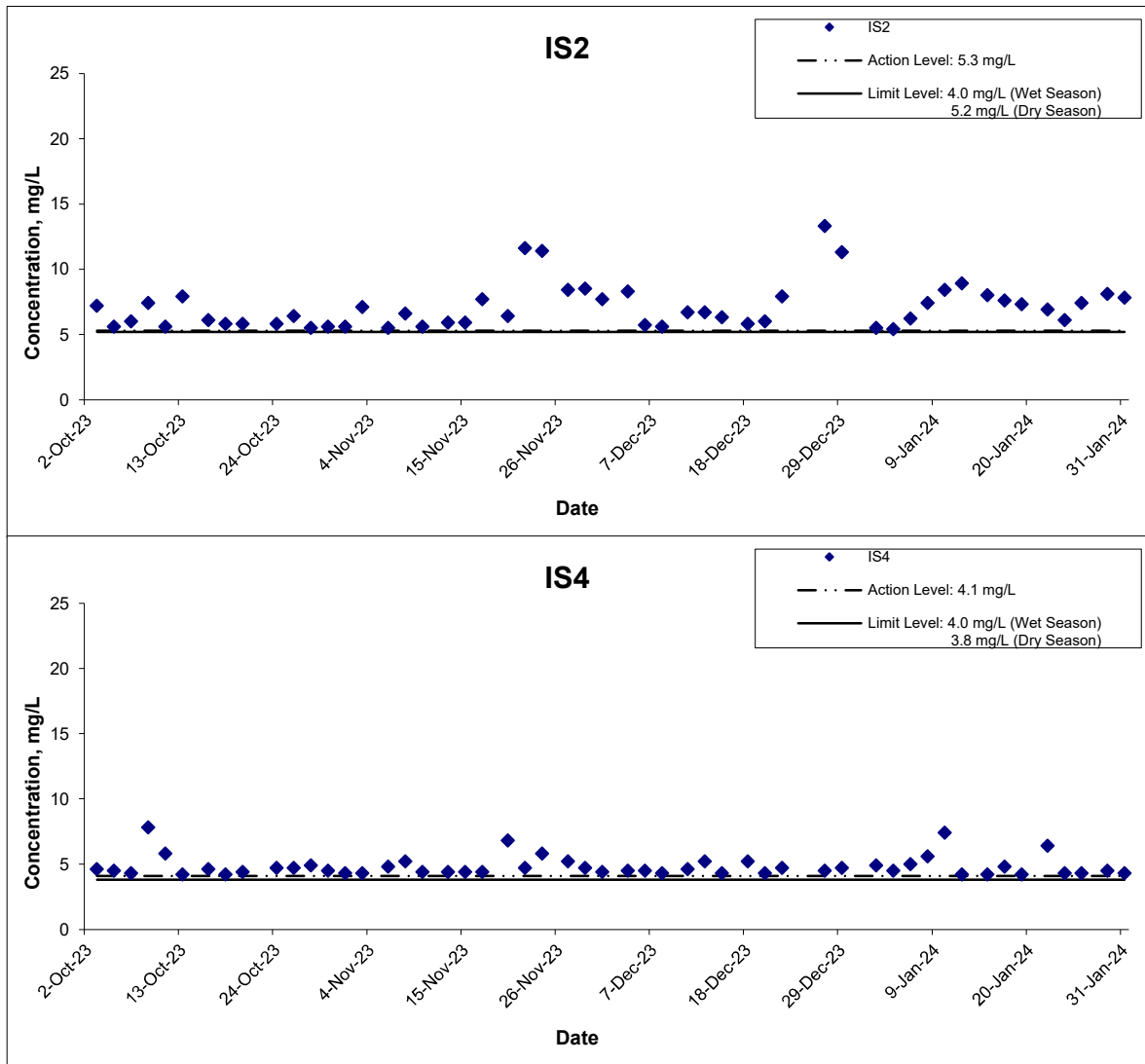
Date
 Jan 24

Project No.
 WMA21009

Appendix
 H



Dissolved Oxygen



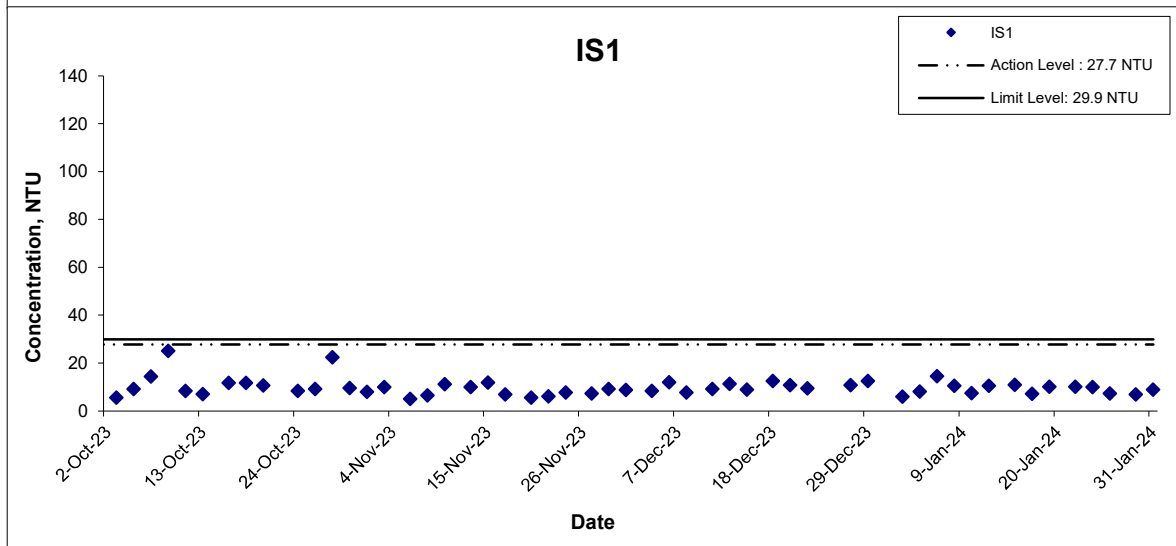
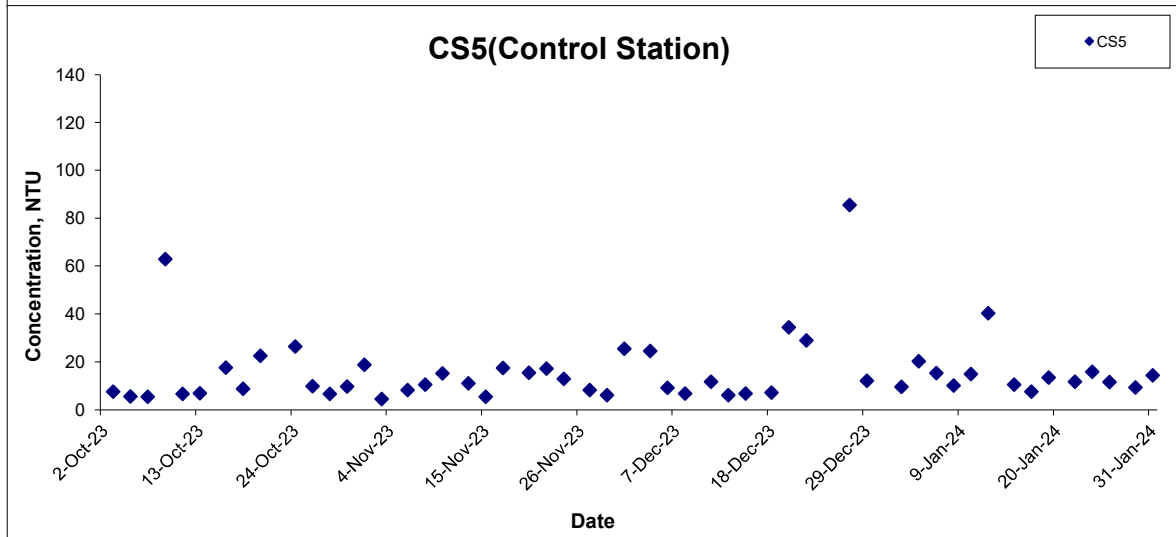
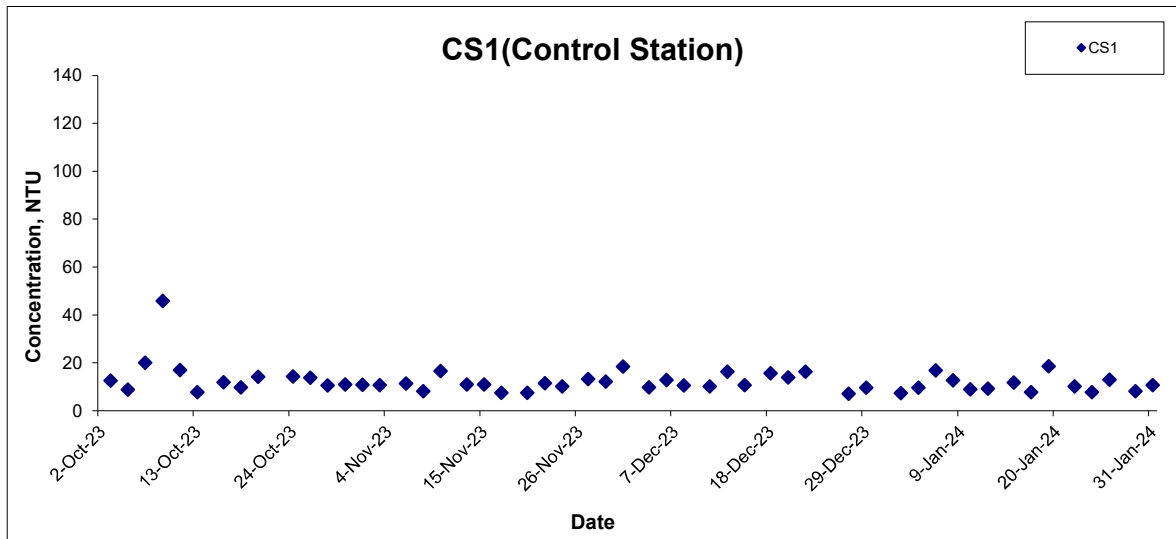
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 Development of Lok Ma Chau Loop:
 Main Works Package 1 - Environmental Team
 Graphical Presentation of Water Quality Monitoring
 Results

Scale
 N.T.S
 Date
 Jan 24

Project
 No. WMA21009
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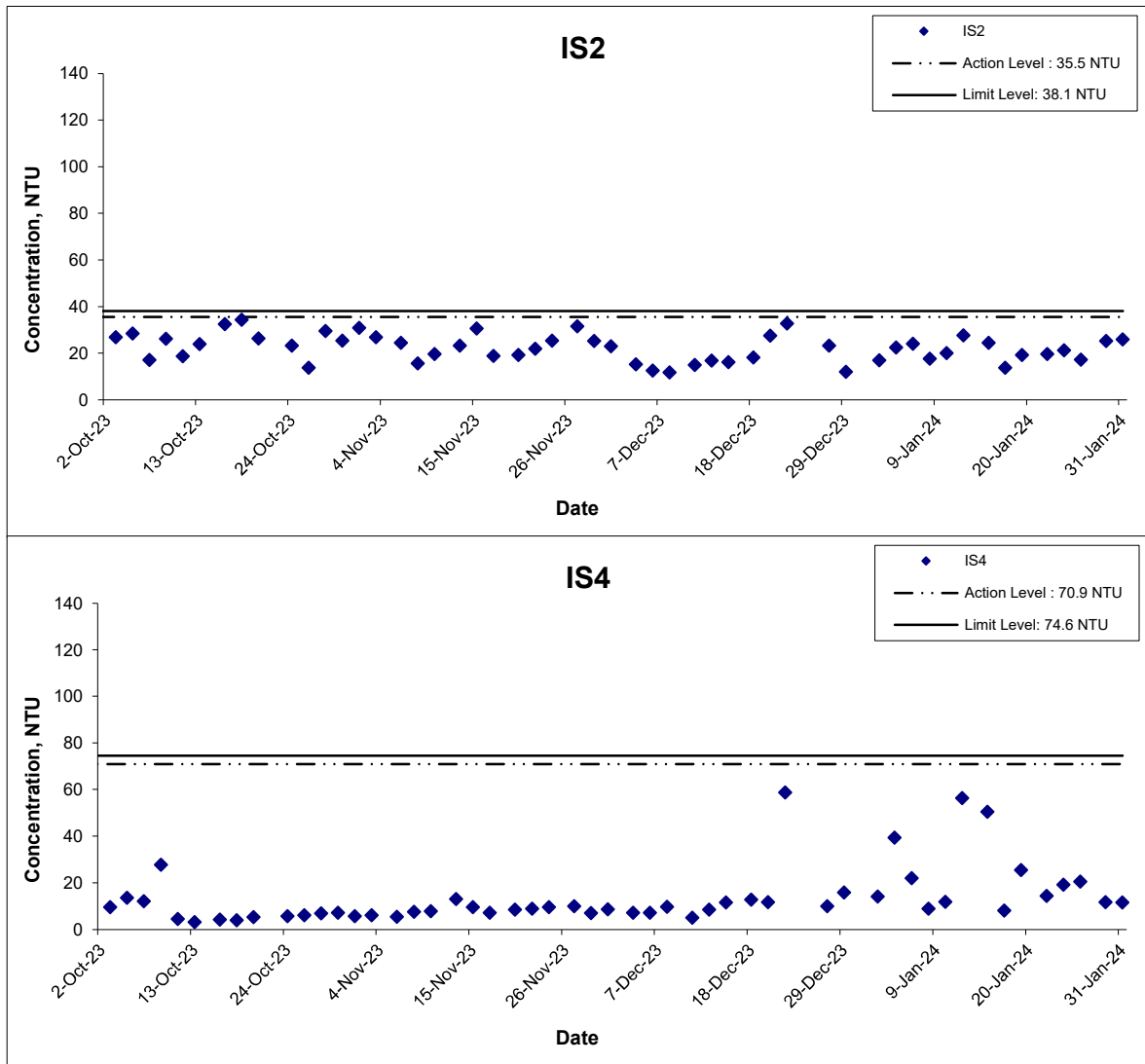


Turbidity



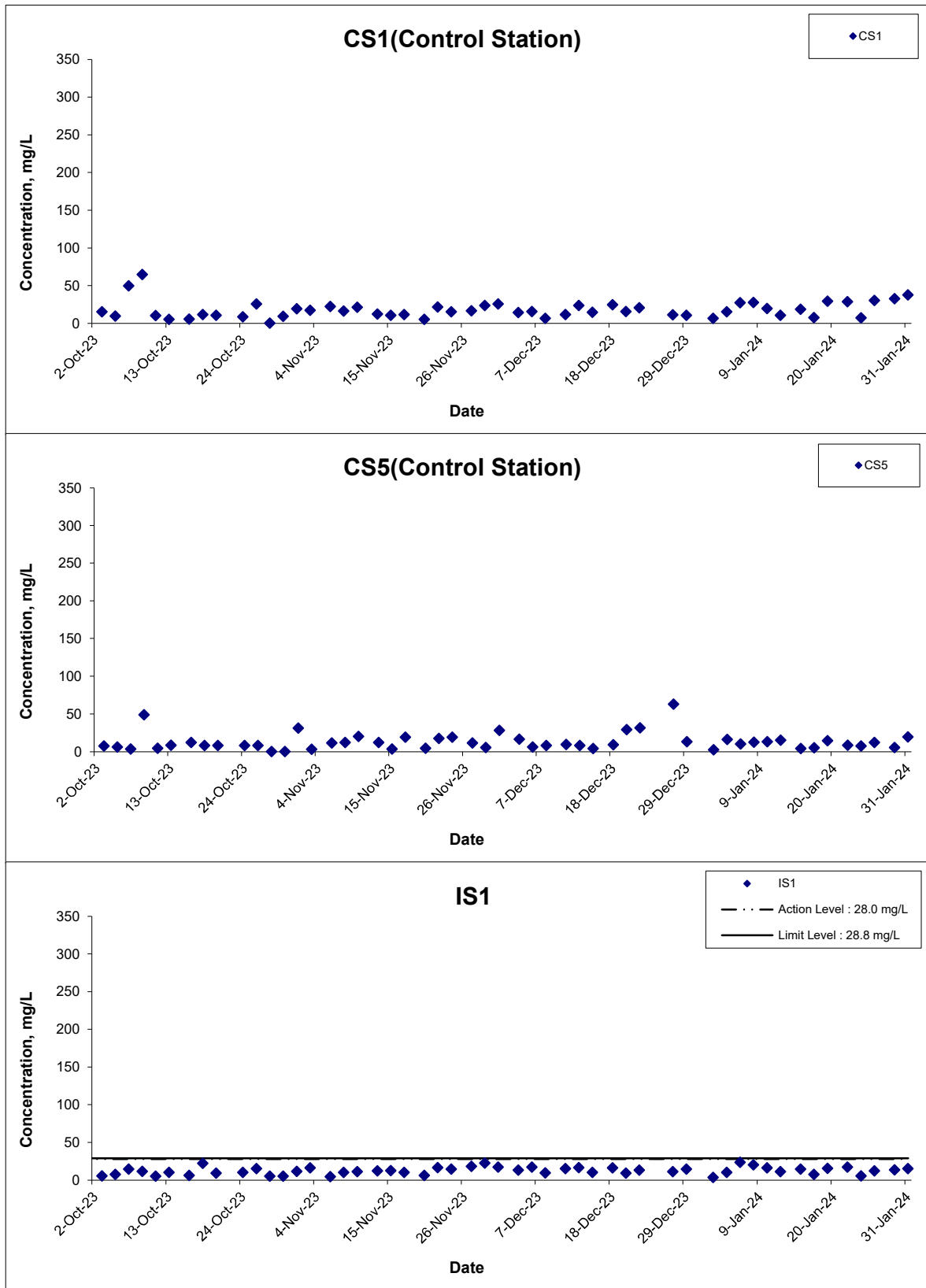
Title Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. WMA21009	consulting . testing . research
	Date Jan 24	Appendix H	

Turbidity



Title Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale	N.T.S	Project No.	WMA21009
	Date	Jan 24	Appendix	H

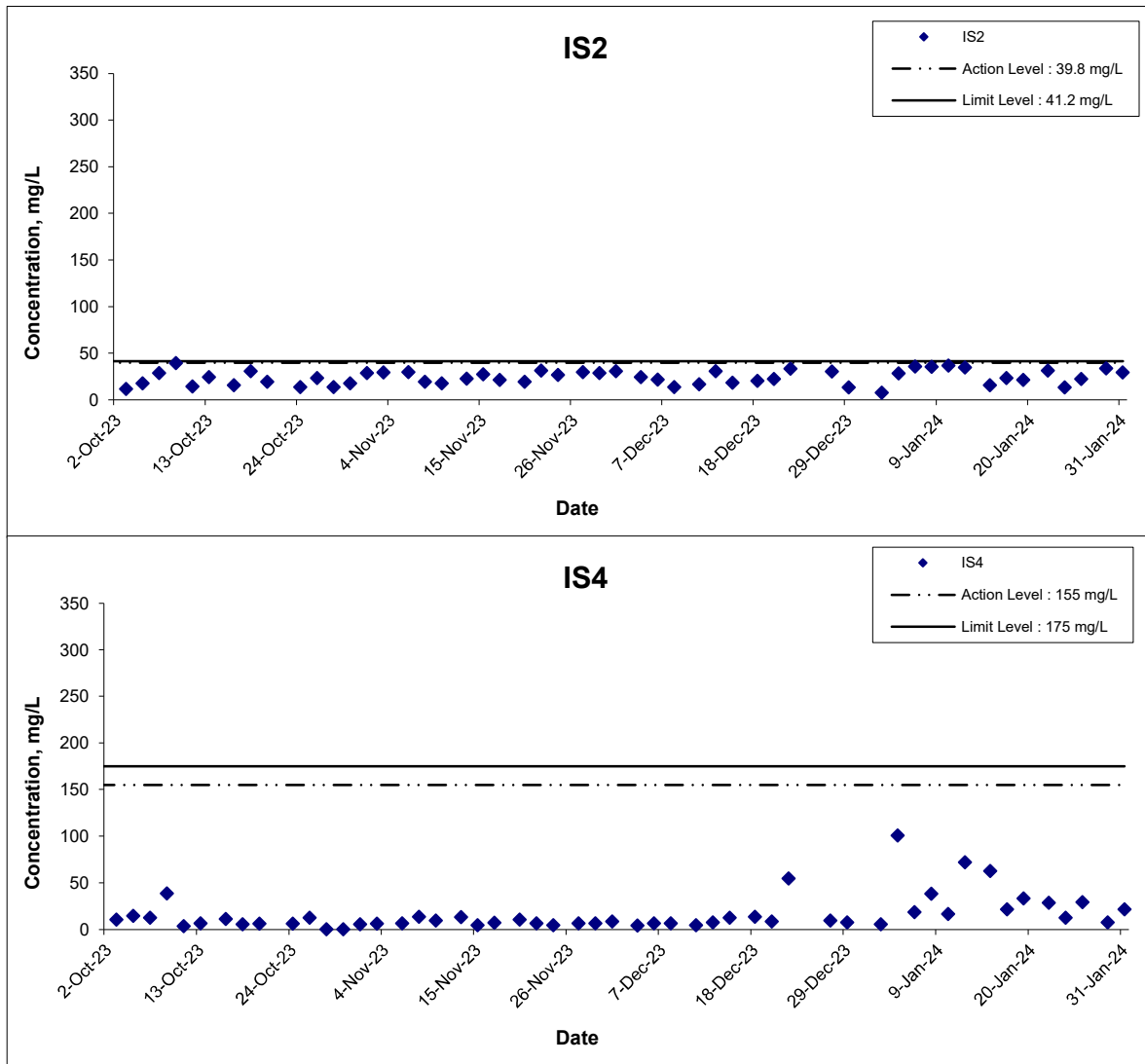
Suspended Solids




Remark: The graphical point at zero concentration is presented as <2.5 mg/L

Title Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. WMA21009	consulting . testing . research
	Date Jan 24	Appendix H	

Suspended Solids



Remark: The graphical point at zero concentration is presented as <2.5 mg/L

Title Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. WMA21009	 consulting . testing . research
	Date Jan 24	Appendix H	

**APPENDIX I
WEATHER CONDITION**

**APPENDIX I –
GENERAL WEATHER CONDITIONS DURING THE MONITORING PERIOD**

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 January 2024	19.9	75	0.0
2 January 2024	18.7	76	0.0
3 January 2024	18.8	64	0.0
4 January 2024	17.0	67	0.0
5 January 2024	18.8	75	0.0
6 January 2024	20.2	76	0.0
7 January 2024	19.9	71	0.0
8 January 2024	19.1	73	Trace
9 January 2024	20.5	77	Trace
10 January 2024	20.3	67	0.0
11 January 2024	18.9	69	Trace
12 January 2024	18.9	75	0.0
13 January 2024	19.6	57	0.0
14 January 2024	20.7	56	0.0
15 January 2024	20.9	71	0.0
16 January 2024	18.7	75	0.0
17 January 2024	19.2	72	0.1

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
18 January 2024	21.2	74	0.0
19 January 2024	21.1	76	0.0
20 January 2024	21.4	75	0.0
21 January 2024	19.1	68	Trace
22 January 2024	15.0	72	0.5
23 January 2024	7.9	75	2.7
24 January 2024	9.2	59	0.0
25 January 2024	12.3	56	0.0
26 January 2024	15.0	61	0.0
27 January 2024	15.5	67	1.0
28 January 2024	13.7	83	2.4
29 January 2024	15.9	82	Trace
30 January 2024	18.3	88	Trace
31 January 2024	19.3	92	Trace

* The above information was extracted from the daily weather summary by Hong Kong Observatory.

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
1-Jan-2024	00:00	3.1	W
1-Jan-2024	01:00	3.6	W
1-Jan-2024	02:00	1.8	W
1-Jan-2024	03:00	1.8	W
1-Jan-2024	04:00	2.2	W
1-Jan-2024	05:00	1.3	W
1-Jan-2024	06:00	1.3	W
1-Jan-2024	07:00	0.9	W
1-Jan-2024	08:00	0.0	WNW
1-Jan-2024	09:00	0.4	W
1-Jan-2024	10:00	1.3	W
1-Jan-2024	11:00	0.4	NNW
1-Jan-2024	12:00	0.9	W
1-Jan-2024	13:00	0.9	W
1-Jan-2024	14:00	0.4	NW
1-Jan-2024	15:00	0.4	NW
1-Jan-2024	16:00	0.9	W
1-Jan-2024	17:00	0.9	W
1-Jan-2024	18:00	0.9	W
1-Jan-2024	19:00	0.0	WNW
1-Jan-2024	20:00	1.3	W
1-Jan-2024	21:00	2.2	W
1-Jan-2024	22:00	2.7	W
1-Jan-2024	23:00	1.8	W
2-Jan-2024	00:00	1.8	W
2-Jan-2024	01:00	2.2	W
2-Jan-2024	02:00	1.3	W
2-Jan-2024	03:00	0.9	W
2-Jan-2024	04:00	0.4	W
2-Jan-2024	05:00	0.9	W
2-Jan-2024	06:00	1.3	W
2-Jan-2024	07:00	0.9	W
2-Jan-2024	08:00	0.4	W
2-Jan-2024	09:00	0.9	W
2-Jan-2024	10:00	0.4	W
2-Jan-2024	11:00	0.4	N
2-Jan-2024	12:00	1.3	N
2-Jan-2024	13:00	0.4	W
2-Jan-2024	14:00	0.4	W
2-Jan-2024	15:00	0.4	W
2-Jan-2024	16:00	0.4	W
2-Jan-2024	17:00	0.0	NW
2-Jan-2024	18:00	0.0	WNW
2-Jan-2024	19:00	0.4	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
2-Jan-2024	20:00	0.4	W
2-Jan-2024	21:00	0.4	W
2-Jan-2024	22:00	0.0	W
2-Jan-2024	23:00	0.0	W
3-Jan-2024	00:00	0.0	WNW
3-Jan-2024	01:00	0.4	WNW
3-Jan-2024	02:00	0.0	NW
3-Jan-2024	03:00	0.0	WNW
3-Jan-2024	04:00	0.0	NW
3-Jan-2024	05:00	0.0	---
3-Jan-2024	06:00	0.0	NW
3-Jan-2024	07:00	0.0	WNW
3-Jan-2024	08:00	0.4	W
3-Jan-2024	09:00	1.8	W
3-Jan-2024	10:00	1.3	W
3-Jan-2024	11:00	0.4	W
3-Jan-2024	12:00	0.4	W
3-Jan-2024	13:00	0.4	SSW
3-Jan-2024	14:00	0.4	SSW
3-Jan-2024	15:00	0.4	N
3-Jan-2024	16:00	0.0	SW
3-Jan-2024	17:00	0.4	SW
3-Jan-2024	18:00	1.3	W
3-Jan-2024	19:00	1.3	W
3-Jan-2024	20:00	1.3	W
3-Jan-2024	21:00	0.9	N
3-Jan-2024	22:00	0.9	W
3-Jan-2024	23:00	0.9	W
4-Jan-2024	00:00	0.9	W
4-Jan-2024	01:00	0.9	W
4-Jan-2024	02:00	0.9	N
4-Jan-2024	03:00	0.9	W
4-Jan-2024	04:00	0.4	W
4-Jan-2024	05:00	1.3	N
4-Jan-2024	06:00	1.3	N
4-Jan-2024	07:00	0.4	N
4-Jan-2024	08:00	0.0	W
4-Jan-2024	09:00	0.0	W
4-Jan-2024	10:00	0.0	WSW
4-Jan-2024	11:00	0.4	N
4-Jan-2024	12:00	0.4	SSW
4-Jan-2024	13:00	0.4	W
4-Jan-2024	14:00	0.4	SW
4-Jan-2024	15:00	0.4	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
4-Jan-2024	16:00	0.0	NW
4-Jan-2024	17:00	0.4	NNW
4-Jan-2024	18:00	0.0	NW
4-Jan-2024	19:00	0.0	NW
4-Jan-2024	20:00	0.4	NW
4-Jan-2024	21:00	0.0	NW
4-Jan-2024	22:00	0.0	NNW
4-Jan-2024	23:00	0.4	W
5-Jan-2024	00:00	0.0	W
5-Jan-2024	01:00	0.0	W
5-Jan-2024	02:00	1.3	W
5-Jan-2024	03:00	1.3	W
5-Jan-2024	04:00	1.8	W
5-Jan-2024	05:00	0.0	W
5-Jan-2024	06:00	0.9	W
5-Jan-2024	07:00	0.4	W
5-Jan-2024	08:00	0.9	W
5-Jan-2024	09:00	0.4	WSW
5-Jan-2024	10:00	0.4	W
5-Jan-2024	11:00	0.4	SSW
5-Jan-2024	12:00	0.0	SSW
5-Jan-2024	13:00	0.0	SSW
5-Jan-2024	14:00	0.0	WSW
5-Jan-2024	15:00	0.4	E
5-Jan-2024	16:00	0.4	E
5-Jan-2024	17:00	0.4	E
5-Jan-2024	18:00	0.0	ENE
5-Jan-2024	19:00	0.4	NW
5-Jan-2024	20:00	0.9	NW
5-Jan-2024	21:00	0.0	WNW
5-Jan-2024	22:00	0.0	NW
5-Jan-2024	23:00	0.0	NW
6-Jan-2024	00:00	0.0	WNW
6-Jan-2024	01:00	0.0	WNW
6-Jan-2024	02:00	0.0	---
6-Jan-2024	03:00	0.0	NW
6-Jan-2024	04:00	0.0	---
6-Jan-2024	05:00	0.0	---
6-Jan-2024	06:00	0.0	WNW
6-Jan-2024	07:00	0.0	WNW
6-Jan-2024	08:00	0.0	---
6-Jan-2024	09:00	0.0	W
6-Jan-2024	10:00	0.0	---
6-Jan-2024	11:00	0.0	WSW

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
6-Jan-2024	12:00	0.0	W
6-Jan-2024	13:00	0.0	WSW
6-Jan-2024	14:00	0.0	N
6-Jan-2024	15:00	0.0	N
6-Jan-2024	16:00	0.0	N
6-Jan-2024	17:00	0.4	N
6-Jan-2024	18:00	0.0	N
6-Jan-2024	19:00	0.0	NW
6-Jan-2024	20:00	0.4	NW
6-Jan-2024	21:00	0.9	WNW
6-Jan-2024	22:00	0.0	WNW
6-Jan-2024	23:00	0.4	WNW
7-Jan-2024	00:00	1.3	W
7-Jan-2024	01:00	0.0	W
7-Jan-2024	02:00	0.0	W
7-Jan-2024	03:00	0.0	W
7-Jan-2024	04:00	0.0	W
7-Jan-2024	05:00	0.0	W
7-Jan-2024	06:00	0.4	W
7-Jan-2024	07:00	0.0	WNW
7-Jan-2024	08:00	0.0	W
7-Jan-2024	09:00	1.3	W
7-Jan-2024	10:00	1.3	W
7-Jan-2024	11:00	1.8	W
7-Jan-2024	12:00	0.9	W
7-Jan-2024	13:00	0.4	W
7-Jan-2024	14:00	0.9	W
7-Jan-2024	15:00	0.9	W
7-Jan-2024	16:00	0.9	W
7-Jan-2024	17:00	0.4	W
7-Jan-2024	18:00	1.3	W
7-Jan-2024	19:00	1.3	W
7-Jan-2024	20:00	1.3	W
7-Jan-2024	21:00	1.8	W
7-Jan-2024	22:00	0.4	W
7-Jan-2024	23:00	0.4	W
8-Jan-2024	00:00	1.8	W
8-Jan-2024	01:00	1.3	W
8-Jan-2024	02:00	1.3	W
8-Jan-2024	03:00	1.8	W
8-Jan-2024	04:00	2.2	W
8-Jan-2024	05:00	1.3	W
8-Jan-2024	06:00	0.4	W
8-Jan-2024	07:00	1.3	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
8-Jan-2024	08:00	1.8	W
8-Jan-2024	09:00	0.9	W
8-Jan-2024	10:00	0.4	W
8-Jan-2024	11:00	0.9	W
8-Jan-2024	12:00	0.9	W
8-Jan-2024	13:00	0.9	W
8-Jan-2024	14:00	0.9	W
8-Jan-2024	15:00	1.3	W
8-Jan-2024	16:00	1.3	W
8-Jan-2024	17:00	1.3	W
8-Jan-2024	18:00	0.4	W
8-Jan-2024	19:00	0.4	NW
8-Jan-2024	20:00	0.0	W
8-Jan-2024	21:00	0.0	W
8-Jan-2024	22:00	0.0	W
8-Jan-2024	23:00	0.0	---
9-Jan-2024	00:00	0.0	W
9-Jan-2024	01:00	0.0	W
9-Jan-2024	02:00	0.4	W
9-Jan-2024	03:00	0.4	W
9-Jan-2024	04:00	0.9	W
9-Jan-2024	05:00	0.4	W
9-Jan-2024	06:00	0.0	W
9-Jan-2024	07:00	0.0	W
9-Jan-2024	08:00	0.9	NW
9-Jan-2024	09:00	0.4	W
9-Jan-2024	10:00	0.0	WSW
9-Jan-2024	11:00	0.0	WSW
9-Jan-2024	12:00	0.0	WSW
9-Jan-2024	13:00	0.0	WSW
9-Jan-2024	14:00	0.0	SSW
9-Jan-2024	15:00	0.0	SW
9-Jan-2024	16:00	0.0	E
9-Jan-2024	17:00	0.4	ENE
9-Jan-2024	18:00	0.0	ENE
9-Jan-2024	19:00	0.0	NW
9-Jan-2024	20:00	1.3	N
9-Jan-2024	21:00	0.4	N
9-Jan-2024	22:00	0.0	N
9-Jan-2024	23:00	0.0	WNW
10-Jan-2024	00:00	0.0	N
10-Jan-2024	01:00	0.4	N
10-Jan-2024	02:00	0.4	N
10-Jan-2024	03:00	0.4	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
10-Jan-2024	04:00	1.8	W
10-Jan-2024	05:00	1.3	W
10-Jan-2024	06:00	1.3	W
10-Jan-2024	07:00	0.9	W
10-Jan-2024	08:00	0.9	W
10-Jan-2024	09:00	1.3	W
10-Jan-2024	10:00	0.9	W
10-Jan-2024	11:00	1.8	W
10-Jan-2024	12:00	1.8	W
10-Jan-2024	13:00	0.9	SSW
10-Jan-2024	14:00	0.4	SSW
10-Jan-2024	15:00	1.3	W
10-Jan-2024	16:00	1.3	W
10-Jan-2024	17:00	0.9	W
10-Jan-2024	18:00	0.4	W
10-Jan-2024	19:00	0.0	W
10-Jan-2024	20:00	0.0	W
10-Jan-2024	21:00	0.9	W
10-Jan-2024	22:00	0.4	W
10-Jan-2024	23:00	0.0	W
11-Jan-2024	00:00	0.9	W
11-Jan-2024	01:00	0.4	W
11-Jan-2024	02:00	0.9	W
11-Jan-2024	03:00	0.9	W
11-Jan-2024	04:00	1.3	W
11-Jan-2024	05:00	0.4	W
11-Jan-2024	06:00	0.9	N
11-Jan-2024	07:00	0.4	N
11-Jan-2024	08:00	0.9	N
11-Jan-2024	09:00	0.4	N
11-Jan-2024	10:00	0.0	N
11-Jan-2024	11:00	0.0	N
11-Jan-2024	12:00	0.4	W
11-Jan-2024	13:00	0.4	W
11-Jan-2024	14:00	0.4	W
11-Jan-2024	15:00	0.4	W
11-Jan-2024	16:00	0.0	N
11-Jan-2024	17:00	0.0	ENE
11-Jan-2024	18:00	0.4	W
11-Jan-2024	19:00	0.9	N
11-Jan-2024	20:00	0.0	WNW
11-Jan-2024	21:00	0.0	WNW
11-Jan-2024	22:00	0.0	WSW
11-Jan-2024	23:00	0.0	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
12-Jan-2024	00:00	0.0	WSW
12-Jan-2024	01:00	0.0	---
12-Jan-2024	02:00	0.0	---
12-Jan-2024	03:00	0.0	W
12-Jan-2024	04:00	0.0	WNW
12-Jan-2024	05:00	0.0	W
12-Jan-2024	06:00	0.0	W
12-Jan-2024	07:00	0.0	W
12-Jan-2024	08:00	0.4	W
12-Jan-2024	09:00	0.4	W
12-Jan-2024	10:00	0.4	W
12-Jan-2024	11:00	0.4	W
12-Jan-2024	12:00	0.0	SSW
12-Jan-2024	13:00	0.0	SW
12-Jan-2024	14:00	0.0	SSW
12-Jan-2024	15:00	0.9	E
12-Jan-2024	16:00	0.4	E
12-Jan-2024	17:00	0.0	E
12-Jan-2024	18:00	0.9	W
12-Jan-2024	19:00	0.9	W
12-Jan-2024	20:00	0.0	W
12-Jan-2024	21:00	0.0	W
12-Jan-2024	22:00	0.0	W
12-Jan-2024	23:00	0.0	W
13-Jan-2024	00:00	0.0	WNW
13-Jan-2024	01:00	0.0	---
13-Jan-2024	02:00	0.0	---
13-Jan-2024	03:00	0.0	W
13-Jan-2024	04:00	0.0	W
13-Jan-2024	05:00	0.4	W
13-Jan-2024	06:00	0.0	W
13-Jan-2024	07:00	1.3	W
13-Jan-2024	08:00	1.8	W
13-Jan-2024	09:00	0.9	W
13-Jan-2024	10:00	1.3	W
13-Jan-2024	11:00	1.3	W
13-Jan-2024	12:00	0.9	W
13-Jan-2024	13:00	0.4	W
13-Jan-2024	14:00	0.4	WNW
13-Jan-2024	15:00	0.9	W
13-Jan-2024	16:00	0.9	W
13-Jan-2024	17:00	0.4	W
13-Jan-2024	18:00	0.0	W
13-Jan-2024	19:00	0.0	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
13-Jan-2024	20:00	0.0	W
13-Jan-2024	21:00	0.0	---
13-Jan-2024	22:00	0.4	W
13-Jan-2024	23:00	1.3	W
14-Jan-2024	00:00	1.8	W
14-Jan-2024	01:00	0.4	W
14-Jan-2024	02:00	1.8	W
14-Jan-2024	03:00	0.4	W
14-Jan-2024	04:00	0.9	W
14-Jan-2024	05:00	2.2	W
14-Jan-2024	06:00	2.2	W
14-Jan-2024	07:00	1.3	W
14-Jan-2024	08:00	0.4	W
14-Jan-2024	09:00	0.0	WSW
14-Jan-2024	10:00	0.0	WSW
14-Jan-2024	11:00	0.4	W
14-Jan-2024	12:00	0.4	W
14-Jan-2024	13:00	0.4	W
14-Jan-2024	14:00	0.4	W
14-Jan-2024	15:00	0.9	W
14-Jan-2024	16:00	0.9	NW
14-Jan-2024	17:00	0.4	NNW
14-Jan-2024	18:00	0.9	W
14-Jan-2024	19:00	0.0	W
14-Jan-2024	20:00	0.0	---
14-Jan-2024	21:00	0.0	---
14-Jan-2024	22:00	0.0	---
14-Jan-2024	23:00	0.0	---
15-Jan-2024	00:00	0.0	---
15-Jan-2024	01:00	0.0	NW
15-Jan-2024	02:00	0.0	WNW
15-Jan-2024	03:00	0.0	---
15-Jan-2024	04:00	0.0	WNW
15-Jan-2024	05:00	0.0	---
15-Jan-2024	06:00	0.0	---
15-Jan-2024	07:00	0.0	---
15-Jan-2024	08:00	0.0	---
15-Jan-2024	09:00	0.0	---
15-Jan-2024	10:00	0.0	WSW
15-Jan-2024	11:00	0.9	W
15-Jan-2024	12:00	0.4	WNW
15-Jan-2024	13:00	1.8	W
15-Jan-2024	14:00	1.3	W
15-Jan-2024	15:00	1.8	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
15-Jan-2024	16:00	1.3	W
15-Jan-2024	17:00	1.3	W
15-Jan-2024	18:00	0.9	W
15-Jan-2024	19:00	0.9	W
15-Jan-2024	20:00	3.6	W
15-Jan-2024	21:00	4.9	W
15-Jan-2024	22:00	3.6	W
15-Jan-2024	23:00	4.0	W
16-Jan-2024	00:00	3.6	W
16-Jan-2024	01:00	4.0	W
16-Jan-2024	02:00	4.9	W
16-Jan-2024	03:00	2.7	W
16-Jan-2024	04:00	3.1	W
16-Jan-2024	05:00	2.2	W
16-Jan-2024	06:00	3.1	W
16-Jan-2024	07:00	3.6	W
16-Jan-2024	08:00	3.6	W
16-Jan-2024	09:00	1.3	W
16-Jan-2024	10:00	1.3	W
16-Jan-2024	11:00	0.4	NNW
16-Jan-2024	12:00	0.4	W
16-Jan-2024	13:00	0.9	NW
16-Jan-2024	14:00	0.4	NNW
16-Jan-2024	15:00	0.0	W
16-Jan-2024	16:00	0.4	W
16-Jan-2024	17:00	0.9	NW
16-Jan-2024	18:00	0.4	W
16-Jan-2024	19:00	0.0	W
16-Jan-2024	20:00	0.0	W
16-Jan-2024	21:00	0.0	WNW
16-Jan-2024	22:00	0.0	W
16-Jan-2024	23:00	0.9	W
17-Jan-2024	00:00	0.9	W
17-Jan-2024	01:00	1.3	W
17-Jan-2024	02:00	0.4	W
17-Jan-2024	03:00	0.4	W
17-Jan-2024	04:00	0.4	W
17-Jan-2024	05:00	0.0	---
17-Jan-2024	06:00	0.0	W
17-Jan-2024	07:00	1.3	W
17-Jan-2024	08:00	1.8	W
17-Jan-2024	09:00	2.7	W
17-Jan-2024	10:00	2.2	W
17-Jan-2024	11:00	1.8	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
17-Jan-2024	12:00	2.2	W
17-Jan-2024	13:00	1.3	W
17-Jan-2024	14:00	0.4	W
17-Jan-2024	15:00	0.4	W
17-Jan-2024	16:00	0.4	W
17-Jan-2024	17:00	0.4	W
17-Jan-2024	18:00	0.0	WNW
17-Jan-2024	19:00	0.0	NNW
17-Jan-2024	20:00	0.0	---
17-Jan-2024	21:00	0.0	W
17-Jan-2024	22:00	0.4	W
17-Jan-2024	23:00	0.0	W
18-Jan-2024	00:00	0.0	---
18-Jan-2024	01:00	0.0	WNW
18-Jan-2024	02:00	0.0	WNW
18-Jan-2024	03:00	0.0	---
18-Jan-2024	04:00	0.0	W
18-Jan-2024	05:00	0.0	W
18-Jan-2024	06:00	0.0	---
18-Jan-2024	07:00	0.4	W
18-Jan-2024	08:00	0.9	W
18-Jan-2024	09:00	0.4	W
18-Jan-2024	10:00	0.9	W
18-Jan-2024	11:00	0.9	W
18-Jan-2024	12:00	0.9	W
18-Jan-2024	13:00	0.0	---
18-Jan-2024	14:00	0.0	---
18-Jan-2024	15:00	0.0	---
18-Jan-2024	16:00	0.4	W
18-Jan-2024	17:00	0.9	W
18-Jan-2024	18:00	1.3	W
18-Jan-2024	19:00	0.0	---
18-Jan-2024	20:00	0.0	---
18-Jan-2024	21:00	0.0	---
18-Jan-2024	22:00	0.0	---
18-Jan-2024	23:00	0.0	---
19-Jan-2024	00:00	0.0	---
19-Jan-2024	01:00	0.0	---
19-Jan-2024	02:00	0.0	---
19-Jan-2024	03:00	0.0	---
19-Jan-2024	04:00	0.0	---
19-Jan-2024	05:00	0.0	---
19-Jan-2024	06:00	0.0	---
19-Jan-2024	07:00	0.0	---

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
19-Jan-2024	08:00	0.0	---
19-Jan-2024	09:00	0.0	---
19-Jan-2024	10:00	0.0	---
19-Jan-2024	11:00	1.3	W
19-Jan-2024	12:00	0.9	W
19-Jan-2024	13:00	0.9	NNW
19-Jan-2024	14:00	0.9	W
19-Jan-2024	15:00	0.9	W
19-Jan-2024	16:00	0.9	NNW
19-Jan-2024	17:00	0.9	NNW
19-Jan-2024	18:00	0.4	NNW
19-Jan-2024	19:00	0.4	WNW
19-Jan-2024	20:00	0.4	W
19-Jan-2024	21:00	0.0	W
19-Jan-2024	22:00	0.0	WSW
19-Jan-2024	23:00	0.0	W
20-Jan-2024	00:00	0.0	W
20-Jan-2024	01:00	0.0	WSW
20-Jan-2024	02:00	0.0	W
20-Jan-2024	03:00	0.0	W
20-Jan-2024	04:00	0.0	W
20-Jan-2024	05:00	0.0	W
20-Jan-2024	06:00	0.0	WNW
20-Jan-2024	07:00	0.0	---
20-Jan-2024	08:00	0.0	N
20-Jan-2024	09:00	0.0	---
20-Jan-2024	10:00	0.0	---
20-Jan-2024	11:00	0.0	WSW
20-Jan-2024	12:00	0.0	SSW
20-Jan-2024	13:00	0.0	SSW
20-Jan-2024	14:00	0.0	SSW
20-Jan-2024	15:00	0.0	S
20-Jan-2024	16:00	0.0	SSE
20-Jan-2024	17:00	0.0	SSW
20-Jan-2024	18:00	0.0	SSW
20-Jan-2024	19:00	0.0	SSW
20-Jan-2024	20:00	0.0	SSW
20-Jan-2024	21:00	0.0	SSW
20-Jan-2024	22:00	0.0	S
20-Jan-2024	23:00	0.0	---
21-Jan-2024	00:00	0.0	SSW
21-Jan-2024	01:00	0.4	SSW
21-Jan-2024	02:00	1.3	W
21-Jan-2024	03:00	0.0	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
21-Jan-2024	04:00	0.9	WSW
21-Jan-2024	05:00	0.4	W
21-Jan-2024	06:00	0.4	WSW
21-Jan-2024	07:00	1.8	WSW
21-Jan-2024	08:00	0.4	WSW
21-Jan-2024	09:00	0.4	SSW
21-Jan-2024	10:00	0.4	SSW
21-Jan-2024	11:00	0.0	SSW
21-Jan-2024	12:00	0.0	SSW
21-Jan-2024	13:00	0.4	WSW
21-Jan-2024	14:00	0.4	SSW
21-Jan-2024	15:00	0.0	SSW
21-Jan-2024	16:00	0.0	SSW
21-Jan-2024	17:00	0.0	W
21-Jan-2024	18:00	0.0	WSW
21-Jan-2024	19:00	0.0	W
21-Jan-2024	20:00	0.0	S
21-Jan-2024	21:00	0.4	W
21-Jan-2024	22:00	0.4	W
21-Jan-2024	23:00	0.0	W
22-Jan-2024	00:00	1.3	WSW
22-Jan-2024	01:00	0.9	WSW
22-Jan-2024	02:00	0.9	WSW
22-Jan-2024	03:00	0.4	WSW
22-Jan-2024	04:00	0.4	WSW
22-Jan-2024	05:00	0.9	WSW
22-Jan-2024	06:00	0.4	WSW
22-Jan-2024	07:00	0.9	WSW
22-Jan-2024	08:00	1.3	WSW
22-Jan-2024	09:00	1.3	WSW
22-Jan-2024	10:00	0.9	W
22-Jan-2024	11:00	1.3	W
22-Jan-2024	12:00	1.3	W
22-Jan-2024	13:00	0.9	WSW
22-Jan-2024	14:00	0.9	SSW
22-Jan-2024	15:00	0.9	WSW
22-Jan-2024	16:00	0.9	WSW
22-Jan-2024	17:00	0.9	W
22-Jan-2024	18:00	0.4	SW
22-Jan-2024	19:00	0.4	SSW
22-Jan-2024	20:00	1.3	WSW
22-Jan-2024	21:00	0.9	WSW
22-Jan-2024	22:00	1.3	SW
22-Jan-2024	23:00	1.3	SSW

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
23-Jan-2024	00:00	1.3	WSW
23-Jan-2024	01:00	1.8	WSW
23-Jan-2024	02:00	1.3	WSW
23-Jan-2024	03:00	0.9	W
23-Jan-2024	04:00	1.3	W
23-Jan-2024	05:00	1.3	SSW
23-Jan-2024	06:00	0.9	W
23-Jan-2024	07:00	0.9	W
23-Jan-2024	08:00	0.9	SW
23-Jan-2024	09:00	1.3	W
23-Jan-2024	10:00	0.9	SSW
23-Jan-2024	11:00	0.9	WSW
23-Jan-2024	12:00	0.9	WSW
23-Jan-2024	13:00	0.9	W
23-Jan-2024	14:00	0.4	N
23-Jan-2024	15:00	0.0	---
23-Jan-2024	16:00	0.0	---
23-Jan-2024	17:00	0.4	NE
23-Jan-2024	18:00	0.0	---
23-Jan-2024	19:00	0.0	---
23-Jan-2024	20:00	0.0	---
23-Jan-2024	21:00	0.0	---
23-Jan-2024	22:00	0.0	---
23-Jan-2024	23:00	0.0	---
24-Jan-2024	00:00	0.0	---
24-Jan-2024	01:00	0.0	---
24-Jan-2024	02:00	0.0	---
24-Jan-2024	03:00	0.0	---
24-Jan-2024	04:00	0.0	---
24-Jan-2024	05:00	0.0	---
24-Jan-2024	06:00	0.0	---
24-Jan-2024	07:00	0.0	---
24-Jan-2024	08:00	0.0	---
24-Jan-2024	09:00	0.0	---
24-Jan-2024	10:00	0.0	---
24-Jan-2024	11:00	0.0	---
24-Jan-2024	12:00	0.0	N
24-Jan-2024	13:00	0.4	N
24-Jan-2024	14:00	0.4	N
24-Jan-2024	15:00	0.4	N
24-Jan-2024	16:00	0.4	N
24-Jan-2024	17:00	0.9	N
24-Jan-2024	18:00	0.4	N
24-Jan-2024	19:00	0.4	N

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
24-Jan-2024	20:00	0.0	N
24-Jan-2024	21:00	0.9	N
24-Jan-2024	22:00	0.9	N
24-Jan-2024	23:00	0.4	N
25-Jan-2024	00:00	0.4	N
25-Jan-2024	01:00	0.4	N
25-Jan-2024	02:00	0.4	N
25-Jan-2024	03:00	0.4	N
25-Jan-2024	04:00	0.4	N
25-Jan-2024	05:00	0.4	N
25-Jan-2024	06:00	0.4	N
25-Jan-2024	07:00	0.4	N
25-Jan-2024	08:00	0.4	N
25-Jan-2024	09:00	0.9	N
25-Jan-2024	10:00	0.4	N
25-Jan-2024	11:00	0.4	N
25-Jan-2024	12:00	0.4	N
25-Jan-2024	13:00	0.4	N
25-Jan-2024	14:00	0.0	N
25-Jan-2024	15:00	0.0	N
25-Jan-2024	16:00	0.0	N
25-Jan-2024	17:00	0.0	N
25-Jan-2024	18:00	0.0	N
25-Jan-2024	19:00	0.0	---
25-Jan-2024	20:00	0.0	N
25-Jan-2024	21:00	0.4	N
25-Jan-2024	22:00	0.4	N
25-Jan-2024	23:00	0.0	N
26-Jan-2024	00:00	0.0	N
26-Jan-2024	01:00	0.0	N
26-Jan-2024	02:00	0.4	N
26-Jan-2024	03:00	0.0	N
26-Jan-2024	04:00	0.4	N
26-Jan-2024	05:00	0.0	N
26-Jan-2024	06:00	0.0	N
26-Jan-2024	07:00	0.4	N
26-Jan-2024	08:00	0.4	N
26-Jan-2024	09:00	0.4	N
26-Jan-2024	10:00	0.4	N
26-Jan-2024	11:00	0.4	N
26-Jan-2024	12:00	0.0	N
26-Jan-2024	13:00	0.4	N
26-Jan-2024	14:00	0.4	N
26-Jan-2024	15:00	0.4	N

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
26-Jan-2024	16:00	0.0	N
26-Jan-2024	17:00	0.0	N
26-Jan-2024	18:00	0.0	N
26-Jan-2024	19:00	0.0	N
26-Jan-2024	20:00	0.0	N
26-Jan-2024	21:00	0.4	N
26-Jan-2024	22:00	0.0	N
26-Jan-2024	23:00	0.0	N
27-Jan-2024	00:00	0.0	N
27-Jan-2024	01:00	0.0	N
27-Jan-2024	02:00	0.4	N
27-Jan-2024	03:00	0.0	N
27-Jan-2024	04:00	0.0	N
27-Jan-2024	05:00	0.0	N
27-Jan-2024	06:00	0.0	N
27-Jan-2024	07:00	0.0	N
27-Jan-2024	08:00	0.0	N
27-Jan-2024	09:00	0.0	N
27-Jan-2024	10:00	0.4	N
27-Jan-2024	11:00	0.4	N
27-Jan-2024	12:00	0.4	N
27-Jan-2024	13:00	0.4	N
27-Jan-2024	14:00	0.4	N
27-Jan-2024	15:00	0.4	N
27-Jan-2024	16:00	0.4	N
27-Jan-2024	17:00	0.4	N
27-Jan-2024	18:00	0.4	N
27-Jan-2024	19:00	0.4	N
27-Jan-2024	20:00	0.4	N
27-Jan-2024	21:00	0.4	N
27-Jan-2024	22:00	0.4	N
27-Jan-2024	23:00	0.0	N
28-Jan-2024	00:00	0.0	N
28-Jan-2024	01:00	0.4	N
28-Jan-2024	02:00	0.4	N
28-Jan-2024	03:00	0.4	N
28-Jan-2024	04:00	0.4	N
28-Jan-2024	05:00	0.4	N
28-Jan-2024	06:00	0.0	---
28-Jan-2024	07:00	0.0	---
28-Jan-2024	08:00	0.0	---
28-Jan-2024	09:00	0.0	---
28-Jan-2024	10:00	0.0	---
28-Jan-2024	11:00	0.0	---

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
28-Jan-2024	12:00	0.0	---
28-Jan-2024	13:00	0.0	---
28-Jan-2024	14:00	0.0	---
28-Jan-2024	15:00	0.0	---
28-Jan-2024	16:00	0.0	---
28-Jan-2024	17:00	0.0	---
28-Jan-2024	18:00	0.0	---
28-Jan-2024	19:00	0.0	---
28-Jan-2024	20:00	0.0	---
28-Jan-2024	21:00	0.0	---
28-Jan-2024	22:00	0.0	---
28-Jan-2024	23:00	0.0	---
29-Jan-2024	00:00	0.0	---
29-Jan-2024	01:00	0.0	---
29-Jan-2024	02:00	0.0	---
29-Jan-2024	03:00	0.0	---
29-Jan-2024	04:00	0.0	---
29-Jan-2024	05:00	0.0	---
29-Jan-2024	06:00	0.0	N
29-Jan-2024	07:00	0.0	---
29-Jan-2024	08:00	0.0	---
29-Jan-2024	09:00	0.0	---
29-Jan-2024	10:00	0.0	---
29-Jan-2024	11:00	0.0	---
29-Jan-2024	12:00	0.0	---
29-Jan-2024	13:00	0.0	---
29-Jan-2024	14:00	0.0	---
29-Jan-2024	15:00	0.0	---
29-Jan-2024	16:00	0.0	N
29-Jan-2024	17:00	0.4	N
29-Jan-2024	18:00	0.9	N
29-Jan-2024	19:00	0.0	N
29-Jan-2024	20:00	0.0	N
29-Jan-2024	21:00	0.0	N
29-Jan-2024	22:00	0.4	N
29-Jan-2024	23:00	0.0	N
30-Jan-2024	00:00	0.4	N
30-Jan-2024	01:00	0.9	N
30-Jan-2024	02:00	0.9	N
30-Jan-2024	03:00	0.9	N
30-Jan-2024	04:00	1.3	N
30-Jan-2024	05:00	0.4	N
30-Jan-2024	06:00	0.4	N
30-Jan-2024	07:00	0.0	N

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
30-Jan-2024	08:00	0.9	N
30-Jan-2024	09:00	0.0	N
30-Jan-2024	10:00	0.0	N
30-Jan-2024	11:00	0.0	N
30-Jan-2024	12:00	0.4	N
30-Jan-2024	13:00	0.4	N
30-Jan-2024	14:00	0.4	N
30-Jan-2024	15:00	0.4	N
30-Jan-2024	16:00	0.4	N
30-Jan-2024	17:00	0.0	N
30-Jan-2024	18:00	0.4	N
30-Jan-2024	19:00	0.0	N
30-Jan-2024	20:00	0.0	---
30-Jan-2024	21:00	0.0	N
30-Jan-2024	22:00	0.0	---
30-Jan-2024	23:00	0.0	---
31-Jan-2024	00:00	0.0	---
31-Jan-2024	01:00	0.0	---
31-Jan-2024	02:00	0.0	N
31-Jan-2024	03:00	0.0	N
31-Jan-2024	04:00	0.0	N
31-Jan-2024	05:00	0.0	N
31-Jan-2024	06:00	0.0	N
31-Jan-2024	07:00	0.0	N
31-Jan-2024	08:00	0.9	N
31-Jan-2024	09:00	0.9	N
31-Jan-2024	10:00	0.9	N
31-Jan-2024	11:00	0.0	N
31-Jan-2024	12:00	0.4	N
31-Jan-2024	13:00	0.4	N
31-Jan-2024	14:00	1.3	N
31-Jan-2024	15:00	0.4	N
31-Jan-2024	16:00	0.9	N
31-Jan-2024	17:00	0.0	N
31-Jan-2024	18:00	0.0	N
31-Jan-2024	19:00	0.4	N
31-Jan-2024	20:00	0.0	N
31-Jan-2024	21:00	1.8	N
31-Jan-2024	22:00	0.4	N
31-Jan-2024	23:00	0.0	---

APPENDIX J
EVENT ACTION PLANS

Appendix J Event / Action Plan for Air Quality

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Notify Contractor. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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 actions required; 7. If exceedance continues, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 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 agreed proposals; and 4. Amend proposal if appropriate.

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL				
1.Exceedance for one sample	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 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	<ol style="list-style-type: none"> 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; 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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;

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	8. If exceedance stops, cease additional monitoring.	of remedial measures.	Contractor to stop that portion of work until the exceedance is abated.	6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Construction Noise

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level	<ol style="list-style-type: none"> 1. Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures are properly implemented 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 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. 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 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. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Water Quality

	Action			
Event	ET	IEC	ER	Contractor
Action level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Inform IEC, Contractor and ER; 2. Check monitoring data, all plant, equipment and Contractor's working methods; and 3. Discuss remedial measures with IEC and Contractor and ER. 	<ol style="list-style-type: none"> 1. Discuss with ET, ER and Contractor on the implemented mitigation measures; 2. Review proposals on 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. 	<ol style="list-style-type: none"> 1. Discuss with IEC, ET and Contractor on the implemented mitigation measures; 2. Make agreement on the remedial measures to be implemented; 3. Supervise the implementation of agreed remedial measures. 	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing; 3. Rectify unacceptable practice; 4. Check all plant and equipment; 5. Consider changes of working methods; 6. Discuss with ER, ET and IEC and purpose remedial measures to IEC and ER; and 7. Implement the agreed mitigation measures.
Action level being exceeded by two or more consecutive sampling days	<ol style="list-style-type: none"> 1. Repeat in-situ measurement on next day of exceedance to confirm findings; 2. Inform IEC, contractor and ER; 3. Check monitoring data, all plant, equipment and Contractor's working methods; 4. Discuss remedial measures with IEC, contractor and ER 5. Ensure remedial measures are implemented 	<ol style="list-style-type: none"> 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. 	<ol style="list-style-type: none"> 1. Discuss with ET, IEC and Contractor on the proposed mitigation measures; 2. Make agreement on the remedial measures to be implemented; and 3. Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures. 	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance 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 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	<ol style="list-style-type: none"> 1. Repeat measurement on next day of exceedance to confirm findings; 2. Inform IEC, contractor and ER; 	<ol style="list-style-type: none"> 1. Discuss with ET, Contractor and ER on the implemented mitigation measures; 	<ol style="list-style-type: none"> 1. Discuss with ET, IEC and Contractor on the implemented remedial measures; 	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance in writing;

	Action			
Event	ET	IEC	ER	Contractor
	3. Rectify unacceptable practice; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Consider changes of working methods; 6. Discuss mitigation measures with IEC, ER and Contractor; and 7. Ensure the agreed remedial measures are implemented	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.	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.	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 notification; and 6. Implement the agreed remedial measures.
Limit level being exceeded by two or more consecutive sampling days	1. Inform IEC, contractor and ER; 2. Check monitoring data, all plant, equipment and Contractor's working methods; 3. Discuss mitigation measures with IEC, ER and Contractor; and 4. Ensure mitigation measures are implemented; and 5. Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days	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; 4. Discuss with ET and IEC on the effectiveness of the implemented mitigation measures; and 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.	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of the non-compliance 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 notification; and 6. Implement the agreed remedial measures. 7. As directed by the ER, to slow down or stop all or part of the dredging activities until no exceedance of Limit level.

Event / Action Plan for Landscape and Visual during construction phase

Event	Action			
	ET	IEC	ER	Contractor
Non-conformity on one occasion	<ol style="list-style-type: none"> 1. Inform the Contractor, IEC and ER 2. Discuss remedial actions with IEC, ER and Contractor 3. Monitor remedial actions until rectification has been completed 	<ol style="list-style-type: none"> 1. Check inspection report 2. Check Contractor's working method 3. Discuss with ET, ER and Contractor on possible remedial measures 4. Advise ER on effectiveness of proposed remedial measures 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of non-conformity in writing 2. Review and agree on the remedial measures proposed by the Contractor 3. Supervise implementation of remedial measures 	<ol style="list-style-type: none"> 1. Identify source and investigate the non-conformity 2. Implement remedial measures 3. Amend working methods agreed with ER as appropriate 4. Rectify damage and undertake any necessary replacement
Repeated Non-conformity	<ol style="list-style-type: none"> 1. Identify source(s) 2. Inform Contractor, IEC and ER 3. Discuss inspection frequency 4. Discuss remedial actions with IEC, ER and Contractor 5. Monitor remedial actions until rectification has been completed 6. If non-conformity stops, cease additional monitoring 	<ol style="list-style-type: none"> 1. Check inspection report 2. Check Contractor's working method 3. Discuss with ET, ER and Contractor on possible remedial measures 4. Advise ER on effectiveness of proposed remedial measures 	<ol style="list-style-type: none"> 1. Notify the Contractor 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented 3. Supervise implementation of remedial measures 	<ol style="list-style-type: none"> 1. Identify source and investigate the non-conformity 2. Implement remedial measures 3. Amend working methods agreed with ER as appropriate 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by ER until the non-conformity is abated.

Abbreviations: ET – Environmental Team, IEC – Independent Environmental Checker, ER – Engineer's Representative

Each step of actions required shall be implemented within 1 working day unless otherwise specified or agreed with EPD.

**APPENDIX K
SUMMARY OF EXCEEDANCE**

Appendix K 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 the Project	
		Action Level	Limit Level	Action Level	Limit Level
Air Quality	1-hr TSP	0	0	0	0
	24-hr TSP	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 the Project	
		Action Level	Limit Level	Action Level	Limit Level
Noise	L _{eq} (30 min.) dB(A)	1	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 the Project	
		Action Level	Limit Level	Action Level	Limit Level
Water Quality	Dissolved Oxygen (DO)	0	0	0	0
	Turbidity	0	0	0	0
	Suspended Solids (SS)	0	0	0	0

APPENDIX L
SITE AUDIT SUMMARY

**Contract No. YL/2020/01 - Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 1 Site Formation
and Infrastructure Works inside Lok Ma Chau Loop and
Western Connection Road Phase 1**

Service Contract No. WD/04/2020

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team



Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 –
Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western
Connection Road Phase 1

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240103
Date	3 January 2024 (Wednesday)
Time	14:30 – 16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
240103-R02	• Provide NRMM label for the excavator.	B24
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
240103-R01	• Provide maintenance to green hoarding around the meander bridge works area.	H 2
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	Follow-up on previous audit section (Ref. No.: 231227), item no. 231227-R02 was improved/ rectified by the Contractor. Item no. 231227-R01 was remarked as 240103-R01, follow-up action is needed to be reviewed.	



	Name	Signature	Date
Recorded by	Him Ng		8 January 2024
Checked by	Dr. Priscilla Choy		8 January 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240111
Date	11 January 2024 (Thursday)
Time	9:30 - 10:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
240111-R02	• The exposed slope at meander bridge south should be properly covered and the site drainage system should also be well established to avoid the discharge of muddy surface runoff.	D1 & D8
	E. Waste / Chemical Management	
240111-R01	• The rubbish outside the hoarding boundary at Pond 11 should be cleared.	E6ii.
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
	• No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	Follow-up on previous audit section (Ref. No.: 240103), all environmental deficiencies have been improved/ rectified by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		11 January 2024
Checked by	Dr. Priscilla Choy		11 January 2024

Service Contract No. WD/04/2020

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 –



Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240117
Date	17 January 2024 (Wednesday)
Time	14:00 - 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
240117-R02	• Dust suppression measures shall be enhanced at WCR.	B 1
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
240117-R01	• The rubbish outside the hoarding boundary at Pond 11 should be cleared.	E6ii.
240117-R03	• Drip trays or other mitigation measures should be provided for chemical containers and/ or breaker to prevent oil leakage at meander bridge south works areas.	E 12, 13
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
	• No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	Follow-up on previous audit section (Ref. No.: 240111), all environmental deficiencies have been improved/ rectified by the contractor.	



	Name	Signature	Date
Recorded by	Adrian Lam		19 January 2024
Checked by	Dr. Priscilla Choy		19 January 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240124
Date	24 January 2024 (Wednesday)
Time	14:30 - 16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
240124-R02	• The mud trail outside the site entrance near Pai Lau should be cleared and ensure all site vehicles should be washed before leaving the site.	B6 & B9
240124-R03	• The stockpiles of dusty materials and exposed slopes should be covered with tarpaulin sheet properly at WCR.	B2
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
240124-R01	• The green fences at meander bridge shall be in 3m height according to EP condition.	H2
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	Follow-up on previous audit section (Ref. No.: 240117), all environmental deficiencies have been improved/ rectified by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		24 January 2024
Checked by	Dr. Priscilla Choy		24 January 2024

Service Contract No. WD/04/2020


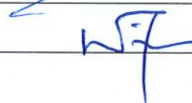
**Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 –
Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western
Connection Road Phase 1**

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240129
Date	29 January 2024 (Monday)
Time	14:45 - 15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
	• No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	Follow-up on previous audit section (Ref. No.: 240124), all environmental deficiencies have been improved/ rectified by the contractor.	

	Name	Signature	Date
Recorded by	Adrian Lam		30 January 2024
Checked by	Dr. Priscilla Choy		30 January 2024

Contract No. YL/2020/02 – Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 2 Western

Connection Road Phase 2, Connection Roads to Fanling /

San Tin Highway and Direct Road Link Phase 1

Service Contract No. WD/04/2020

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team



Contract No. YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 –
Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway
and Direct Road Link Phase 1

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240103
Date	3 January 2024 (Wednesday)
Time	9:30-12:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
240103-R01	• To enhance the dust suppression for the dusty haul road at Fu Tai site.	B1
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
240103-O01	• No sufficient site drainage system was established to collect the muddy site surface runoff for subsequent treatment / recycle use at TAR2/DRLP09. The Contractor was reminded to establish appropriate it as soon as possible.	D2, D4
240103-O04	• Discharge of untreated water was observed at LCS. Contractor was reminded to provide appropriate water treatment system.	D8
240103-R03	• Provide sufficient sandbags to avoid debris fall out at Fu Tai site.	D5
	E. Waste / Chemical Management	
240103-R02	• Remove construction waste regularly at Fu Tai site.	E1iii.
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
240103-O02	• The construction site boundary is not clear at Fu Tai site and some construction materials and sheet-piling were observed placing at the nearby stream. The Contractor was reminded to clear those material, establish proper mitigation measures, and clearly delineate the work site to prevent encroachment onto adjacent areas/habitats.	H3, H18
240103-O03	• The green fences / visual barriers at the site area for DRL are not 3m high. The Contractor was reminded to rectify it as soon as possible according to Condition 2.7(e) of EP.	H1
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.: 231227), follow up action is required for the item 231227-O01, O02, O03, R01, which were renamed as 240103-O01, O02, O03, R01 respectively. Item 231227-R02, R03 and R04 were rectified by the contractor.	

	Name	Signature	Date
Recorded by	Him Ng		8 January 2024
Checked by	Dr. Priscilla Choy		8 January 2024

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team


Contract No. YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240111
Date	11 January 2024 (Thursday)
Time	14:00-15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
240111-F01	• No sufficient site drainage system was established to collect the muddy site surface runoff for subsequent treatment / recycle use at TAR2/DRLP09. The Contractor was reminded to establish appropriate it as soon as possible.	D2, D4
240111-R01	• The handrail and wooden board which are easily falling into the nullah at Fu Tai Site should be cleared.	D19
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
240111-F02	• The green fences / visual barriers at the site area for DRL are not 3m high. The Contractor was reminded to rectify it as soon as possible according to Condition 2.7(e) of EP.	H1
240111-R02	• The construction wastes including the chemical container and rubbish at near the nearby habitat should be cleared (Fu Tai Site).	H2
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.: 240102), follow up action is required for the item 240103-O01 and O03 which were renamed as 240111-F01 and F02 respectively. Other environmental deficiencies were rectified/ improved by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		11 January 2024
Checked by	Dr. Priscilla Choy		11 January 2024

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team



Contract No. YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240117
Date	17 January 2024 (Wednesday)
Time	09:30-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
240111-F02	• The handrail and wooden board which are easily falling into the nullah at Fu Tai Site should be cleared.	D19
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
240111-F01	• The green fences / visual barriers at the site area for DRL are not 3m high. The Contractor was reminded to rectify it as soon as possible according to Condition 2.7(e) of EP.	H1
240111-F03	• The construction wastes including the chemical container and rubbish at near the nearby habitat should be cleared (Fu Tai Site).	H2
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.: 240111), follow up action is required for the item 240111-F02, R01 and R03 which were renamed as 240111-F01, F02 & F03 respectively. Other environmental deficiencies were rectified/ improved by the contractor.	

	Name	Signature	Date
Recorded by	Adrian Lam		19 January 2024
Checked by	Dr. Priscilla Choy		19 January 2024

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team



Contract No. YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240124
Date	24 January 2024 (Wednesday)
Time	09:30-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
240124-F01	• The handrail and wooden board which are easily falling into the nullah at Fu Tai Site should be cleared.	D19
240124-R01	• The blockage at the access to the wetsep should be cleared to allow the maintenance of the wetsep can be carried out (LCS).	D8
	E. Waste / Chemical Management	
240124-R02	• The oil leakage from the crawler crane should be cleared as chemical waste and maintenance should be provided for the plant equipment to avoid further oil leakage (DRL).	E12
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
	• No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.: 240117), follow up action is required for the item 240117-F02 which was renamed as 240124-F01. Other environmental deficiencies were rectified/ improved by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		24 January 2024
Checked by	Dr. Priscilla Choy		24 January 2024

Service Contract No. WD/04/2020

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team



Contract No. YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 –
Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway
and Direct Road Link Phase 1

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240129
Date	29 January 2024 (Monday)
Time	09:30-11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
240129-F01	• The handrail and wooden board which are easily falling into the nullah at Fu Tai Site should be cleared.	D19
240129-R02	• Provide sufficient water mitigation measure for the discharge point at LCS. These measures should include the use of sandbags with geo-textile and maintaining site tidiness to prevent runoff.	D 5
	E. Waste / Chemical Management	
240129-R02	• Provide sufficient water mitigation measure for the discharge point at LCS. These measures should include the use of sandbags with geo-textile and maintaining site tidiness to prevent runoff.	E11
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
240129-R01	• Provide maintenance for the green fence at 98C.	H1
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.: 240124), follow up action is required for the item 240124-F01 which was renamed as 240129-F01. Other environmental deficiencies were rectified/ improved by the contractor.	

	Name	Signature	Date
Recorded by	Him Ng		30 January 2024
Checked by	Dr. Priscilla Choy		30 January 2024

Contract No. YL/2021/01 – Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 3 Direct Road

Link Phase 2

Service Contract No. WD/04/2020

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team


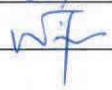
Contract No. YL/2021/01 – Direct Road Link Phase 2

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240103
Date	3 January 2024 (Wednesday)
Time	13:30-14:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
	• No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.:231227), no major environmental deficiency was observed during the site inspection.	



	Name	Signature	Date
Recorded by	Him Ng		8 January 2024]
Checked by	Dr. Priscilla Choy		8 January 2024]

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240108
Date	8 January 2024 (Monday)
Time	14:00-15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Air Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>C. Noise</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>D. Water Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>F. Land Contamination</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>H. Ecology</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>I. Fisheries</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>J. Permits/Licences</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>K. Others</i>	
	• Follow-up on previous audit section (Ref. No.:240103), no major environmental deficiency was observed during the site inspection.	



	Name	Signature	Date
Recorded by	Adrian Lam		8 January 2024
Checked by	Dr. Priscilla Choy		8 January 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240115
Date	15 January 2024 (Monday)
Time	14:00-15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<i>B. Air Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>C. Noise</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>D. Water Quality</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>E. Waste / Chemical Management</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>F. Land Contamination</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>G. Landscape and Visual</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>H. Ecology</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>I. Fisheries</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>J. Permits/Licences</i>	
	• No environmental deficiency was identified during site inspection.	
	<i>K. Others</i>	
	• Follow-up on previous audit section (Ref. No.:240108), no major environmental deficiency was observed during the site inspection.	



	Name	Signature	Date
Recorded by	Ivy Tam		15 January 2024
Checked by	Dr. Priscilla Choy		15 January 2024

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240122
Date	22 January 2024 (Monday)
Time	14:00-15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
240122-R01	• Drip tray should be provided for the chemical containers at EEAA.	E3i. & E13
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
240122-R02	• The water-filled barrier should be properly deployed along the works boundary and no disturbance to the nearby retained trees (EEAA).	G1 & G2
	H. Ecology	
	• No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.:240115), no major environmental deficiency was observed during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		22 January 2024
Checked by	Dr. Priscilla Choy		22 January 2024

Service Contract No. WD/04/2020

Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team


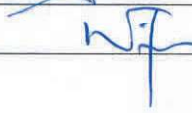
Contract No. YL/2021/01 – Direct Road Link Phase 2

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	240129
Date	29 January 2024 (Monday)
Time	13:30-14:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	• No environmental deficiency was identified during site inspection.	
	F. Land Contamination	
	• No environmental deficiency was identified during site inspection.	
	G. Landscape and Visual	
	• No environmental deficiency was identified during site inspection.	
	H. Ecology	
	• No environmental deficiency was identified during site inspection.	
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	• Follow-up on previous audit section (Ref. No.:240122), all major environmental deficiency were rectified/ improved by Contractors.	

	Name	Signature	Date
Recorded by	Adrian Lam		30 January 2024
Checked by	Dr. Priscilla Choy		30 January 2024

**APPENDIX M
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)**

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
Construction Dust Impact							
S3.8	D1-DP 1/DP2/ DP3	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 1.6 L/m ² to achieve the respective dust removal efficiencies	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	^
S3.8	D2-DP 1/DP2/ DP3	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation <ul style="list-style-type: none"> All vehicles shall be shut down in intermittent use Only well-maintained plant should be operated on-site to avoid emission of dark smoke Valid No-Road Mobile Machinery (NRMM) labels should be provided to regulated machines 	Reduce air pollution emission from construction vehicles and plants	Contractor	All construction sites	Construction stage	^ ^ *
S3.8	D2-DP 1/DP2/ DP3	<ul style="list-style-type: none"> Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction Phase 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; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty material do not leak from 	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	^ * ^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>the vehicle;</p> <ul style="list-style-type: none"> • 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; • When there are open excavation and reinstatement works, 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. • 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; 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; • 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; • 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; Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by 					<p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

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		impervious sheeting or placed in an area sheltered on the top and the 3 sides; <ul style="list-style-type: none"> • 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; • 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 • 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. 					N/A N/A ^
S3.8	D4-DP 1/DP2/ DP3	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction stage	^
Construction Noise Impact							
S4.8	N-CP1-DP1/D P2/DP3	Implement the following good site management practices: <ul style="list-style-type: none"> • Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme; • 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; • Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs; silencers or mufflers on construction 	Control construction airborne noise	Contractor	All construction sites	Construction stage	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>equipment should be properly fitted and maintained during the construction works;</p> <ul style="list-style-type: none"> • Mobile plant should be sited as far away from NSRs as possible and practicable; • Material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 					<p>^</p> <p>^</p>
S4.8	N-CP2-DP1/D P2/DP3	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	^
S4.8	N-CP3-DP1/D P2/DP3	Install movable noise barriers and full enclosure, 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	^
S4.8	N-CP4-DP1/D P2/DP3	Use of "Quiet" Plant and Working Methods	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction phase	^
S4.8	N-CP5-DP1/D P2/DP3	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	^
S4.8	N-CP6-DP2	Setting the concrete lorry mixer at around 25m away from the existing NSRs along Ha Wan Tsuen Road and Lok Ma Chau Road	Reduce the noise levels from concrete lorry mixer	Contractor	Sections with NSRs along Ha Wan Tsuen Road and Lok	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
					Ma Chau Road		
S4.8	N-CP8-DP2	Provide temporary noise barrier during construction phase.	Control airborne noise from construction access road traffic	Contractor	Refer to Figure 4-8 of the EIA report	Construction phase	^
S4.8	N-CP7-DP2/N-CP6-D P1/N-C P6-DP3	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction phase	^
Water Quality Impact (Construction Phase)							
S5.7	W1-CP -DP1/D P2/DP3	<p>Construction Runoff and Site Drainage</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, where appropriate, should include the following:</p> <ul style="list-style-type: none"> Update and implementation of Stormwater Pollution Control Plan 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. 	Minimize water quality impact from construction site runoff and general construction activities	Contractor	All construction sites where practicable	Construction phase	^ ^

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		<ul style="list-style-type: none"> • 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 8 m3 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 inputs from a variety of sources and suited to applications where the influent is pumped. • 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. • 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. • 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 					<p style="text-align: center;">*</p> <p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">*</p>

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		<p>slope surfaces should be covered by tarpaulin or other means.</p> <ul style="list-style-type: none"> • 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. • 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 foundation excavations should be discharged into storm drains via silt removal facilities. • All open stockpiles of construction materials (for example, aggregates, sand and fill material) of 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. • 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. • 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. 					<p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

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		<ul style="list-style-type: none"> • 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 wheelwash bay to prevent vehicle tracking of soil and silty water to public roads and drains. • 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. • Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. • 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. • 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 					<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">#</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		sewage or wastewater into the meander, wetlands and fish ponds.					
S5.7	W3-CP -DP1/D P2/DP3	<u>Groundwater from Contaminated Area</u> <ul style="list-style-type: none"> • No mitigation measure is required for groundwater treatment in LMC Loop. • Additional investigation is required to identify if contaminated groundwater is found. • 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. • 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. • 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. 	Minimize groundwater quality impact from contaminated area	Contractor	Areas where contamination is found.	Construction phase	N/A N/A N/A N/A N/A
S5.7	W3-CP -DP1/D P2/DP3	<u>Sewage from Workforce</u> <ul style="list-style-type: none"> • Portable chemical toilets and sewage holding tanks should be provided for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate 	Minimize water quality from sewage effluent	Contractor	All construction sites where practicable	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>portable toilets to cater 0.15m³/day/employed populations and be responsible for appropriate disposal and maintenance.</p> <ul style="list-style-type: none"> 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. 					<p>^</p> <p>^</p>
S5.7	W4-CP -DP1	<p><u>Riverbanks Formation</u></p> <ul style="list-style-type: none"> 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 within a cofferdam or diaphragm wall. Water quality of the Shenzhen River and the meander would be monitored to ensure effectiveness of the implemented mitigation measures. 	Minimize water quality impact from riverbank works	Contractor	Riverbank works	Construction Phase	<p>^</p> <p>^</p>
S5.7	W1-CP -BR	<p><u>Bio-remediation in Shenzhen River</u></p> <ul style="list-style-type: none"> Water quality monitoring and audit is recommended to ensure that the proposed bio-remediation operation would not result in adverse water quality impact. Details of the water quality monitoring programme are presented in the EM&A Manual. If unacceptable water quality impact in the receiving water is recorded, additional measures such as slowing down, or rescheduling of works should be 	Minimize water quality impact from bio-remediation of Shenzhen River	Contractor	Shenzhen River where practicable	Construction phase	N/A

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		implemented as necessary.					
S5.7	W4-CP -DP3	<p><u>Construction of Viaduct across Reedbed in LMC Station</u></p> <p>As a precautionary measures, three options are recommended to ensure the compliance of No Net Increase in Pollution Load in Deep Bay for further consideration. They include:</p> <ul style="list-style-type: none"> On-site compensate the same area of the occupied reedbed; Provide pilot plant during construction; or Increase the hydraulic retention time of the proposed Loop STW. <p>Details of these measures will be subject to further liaison with MTRC and a separate VEP application.</p>	Minimize water quality impact from of viaduct on reedbed	Contractor	Construction sites across reedbed in LMC Station	Construction phase	N/A
S5.7	W5-CP -DP2/D P3	<p><u>Construction of Bridge Crossing</u></p> <ul style="list-style-type: none"> Good site management as stipulated in ProPECC PN1/94 should be fully implemented to avoid polluted liquid or solid wastes from falling into the WSRs. All the fishponds will be drained and no fishpond will be affected by bridge crossing. In the meander, cofferdam or diaphragm walls should be deployed for protecting fish ponds or nearby rivers during bridge pier construction and or road widening work at fishponds. For the low level viaducts crossing the small streams at Ma Tso Lung, Ping Hang and channel near Lung Hau Road, precast structures will be used such that there will be no construction work in the water streams, and thus, to avoid direct water quality impacts. 	Minimize water quality impact from construction of bridge crossing	Contractor	Construction sites for bridge crossing where practicable	Construction phase	N/A N/A N/A

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		<p>good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;</p> <ul style="list-style-type: none"> • Training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling; • Provision of sufficient waste disposal points and regular collection for disposal; • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; 					<p>^</p> <p>^</p> <p>^</p> <p>^</p>
S7.6	WM4-D P1/DP2 /DP3	<p><u>Storage of Waste</u></p> <p>The following recommendation should be implemented to minimize the impacts:</p> <ul style="list-style-type: none"> • Waste such as soil should be handled and stored well to ensure secure containment; • Stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; • Different locations should be designated to stockpile each material to enhance reuse; 	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p> <p>^</p>
S7.6	WM5-D P1/DP2 /DP3	<p><u>Collection and Transportation of Waste</u></p> <p>The following recommendation should be implemented to minimize the impacts:</p> <ul style="list-style-type: none"> • Remove waste in timely manner; • Employ the trucks with cover or enclosed containers for waste transportation; 	Minimize waste impact from storage	Contractor	All construction sites	Construction phase	<p>*</p> <p>^</p>

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		<ul style="list-style-type: none"> Obtain relevant waste disposal permits from the appropriate authorities; and Disposal of waste should be done at licensed waste disposal facilities. 					<p>^</p> <p>^</p>
S7.6	WM6-D P1/DP2 /DP3	<p><u>Excavated and C&D Material</u></p> <p>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:</p> <ul style="list-style-type: none"> Maintain temporary stockpiles and reuse excavated fill material for backfilling; Carry out on-site sorting; Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; and Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified. <p>The recommended C&D materials handling should include:</p> <ul style="list-style-type: none"> On-site Sorting of C&D Materials Reuse of C&D Materials Use of Standard Formwork and Planning of Construction Materials Purchasing Provision of Wheel Wash Facilities <p>Details refer to Section 7.6.1.4 of the EIA report.</p>	Minimize waste impacts from excavated and C&D material	Contractor	All construction sites	Construction phase	<p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p> <p>^</p>
S7.6	WM7-D P1/DP2	<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</p>	Remediate contaminated soil	Contractor	All construction sites where	Construction phase	N/A

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	/DP3	minimize any potential exposure to contaminated soils or groundwater. The details of mitigation measures to minimize the potential environmental implications arising from the handling of contaminated materials refer to Land Contamination Section.			applicable		
S7.6	WM8-D P1/DP2 /DP3	<p><u>Chemical Waste</u></p> <ul style="list-style-type: none"> 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 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. 	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction phase	*
S7.6	WM9-D P1/DP2 /DP3	<p><u>General Waste</u></p> <ul style="list-style-type: none"> General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. 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. A reputable waste collector should be employed to remove 	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		general refuse on a daily basis.					
S7.6	WM10-DP1/D P2	<p><u>Sewage</u></p> <ul style="list-style-type: none"> The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities. Regularly collection by licensed collectors should be arranged to minimize potential environmental impacts. 	Minimize production of sewage impacts	Contractor	All construction sites	Construction phase	^ ^
S7.6	WM11-DP2	<p><u>Sediment</u></p> <p>The following mitigation measures are recommended during transportation and stockpiling:</p> <ul style="list-style-type: none"> stockpiling area(s) must be properly designed and closed to the dredging locations as far as possible; Stockpiling area(s) should be lined with impermeable sheeting and bunded; stockpiles should be properly covered by impermeable sheeting; vehicles delivering the sediments should be covered, and truck bodies and tailgates should be sealed to prevent any discharge during transportation; bulk earth moving equipments should be utilized as much as possible to minimize workers' handling and contact of the excavated materials; and personal protective clothing should be provided to site workers. 	Minimize waste impacts from sediment	Contractor	All construction sites	Construction phase	N/A N/A N/A N/A N/A

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		In case contamination of excavated materials is confirmed after testing, the mitigation measures described in Land Contamination Impacts section should also be implemented to minimize potential environmental impacts.					
Land Contamination							
S8.7	LC1-D P2/DP3	<u>Remediation of arsenic-contaminated soil</u> <ul style="list-style-type: none"> “Solidification/Stabilization” (S/S) treatment method was proposed for the remediation of arsenic-contaminated 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. Off-site disposal or reuse of the solidified material is not allowed. 	To remediate arsenic-contaminated soil	Project Proponent/ Contractor	LMC Loop, contaminated area	Prior to commencement of construction works within the contaminated area	N/A
S8.7	LC1-D P1/DP2 /DP3	<u>Excavation and Transportation</u> <ul style="list-style-type: none"> Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; 	To minimise the potential environmental impacts arising from the handling of contaminated materials	Contractor	Contaminated area		N/A N/A

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		<ul style="list-style-type: none"> • Excavation should be carried out during dry season as far as possible to minimise contaminated runoff from contaminated soils; • 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 contaminated soil to minimize contaminated runoff; • Supply of suitable clean backfill material after excavation, if required; • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet season; • Speed control for the trucks carrying contaminated materials should be enforced; and • Vehicle wheel washing facilities at the site's exit points should be established and used. 					<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>
S8.7	LC3-D P1/DP2 /DP3	<p><u>Solidification/Stabilization</u></p> <ul style="list-style-type: none"> • The loading, unloading, handling, transfer or storage of cement should be carried out in an enclosed system; • Mixing process and other associated material handling 	To minimize the potential environmental impacts arising from the handling of contaminated materials	Contractor	Contaminated area	The course of remediation	<p>N/A</p> <p>N/A</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>activities should be properly scheduled to minimise potential noise impact and dust emission;</p> <ul style="list-style-type: none"> • The mixing facilities should be sited as far apart as practicable from the nearby noise sensitive receivers; • Mixing of contaminated soil and cement / water / other additive(s) should be undertaken at a solidification plant to minimise the potential for leaching; • Runoff from the solidification / stabilization area should be prevented by constructing a concrete bund along the perimeter of the solidification / stabilization area; • The run-off contained in the concrete bund area along the perimeter of the paved solidification / stabilization area, if any, will be collected, stored and used for the mixing process of cement / contaminated soil; • If stockpile of treated soil is required, the 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 site run-off during rainy season; and If necessary, there should be clear and separated areas for stockpiling of untreated and treated materials. 					<p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p>
S8.7	LC4-D P3	<p><u>Safety Measures</u></p> <ul style="list-style-type: none"> • Set up a list of safety measures for site workers; • Provide written information and training on safety for site 	To minimize the potential adverse effects on health and safety of construction	Contractor	Contaminated area	The course of remediation	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>workers;</p> <ul style="list-style-type: none"> • Keep a log-book and plan showing the contaminated zones and clean zones; • Maintain a hygienic working environment; • Avoid dust generation; • Provide face and respiratory protection gear to site workers if necessary; • Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight gloves) to site workers, if necessary; • Provide first aid training and materials to site worker; • Bulk earth moving equipment should be utilized as much as possible to minimize workers' handling and contact of the contaminated materials; and • Eating, drinking and smoking should not be allowed in contaminated areas to avoid inadvertent ingestion of contaminant. 	workers				
S8.8	LC5-D P3	<u>Re-appraisal on the entire contamination assessment area for associated infrastructure in the adjacent areas in Hong Kong outside LMC Loop.</u>	Ensure any potential contamination activities from land use changes after the approval of this land contamination assessment study	Project Proponent /Detailed design consultant	Entire contamination assessment area for associated infrastructure in the adjacent	After land resumption	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>and root zones from vehicles and storage of materials.</p> <ul style="list-style-type: none"> Specifications for the protection of existing trees will be provided during the preparation of the detailed tree survey by Detailed Design consultants at detailed design and construction phase. 					^
S11.5.4 Table 11.5.9	L-CP2- DP1/D P2/DP3	<p><u>Works Area and Temporary Works Areas (Good Site Practice)</u></p> <ul style="list-style-type: none"> The construction sequence and construction programme shall be optimized in order to minimize the duration of impact. Construction site controls shall be enforced including the storage of materials, the location and appearance of site accommodation and site storage; and the careful design of site lighting to prevent light spillage. The temporary works areas shall be restored to its original condition or enhanced through the introduction of new amenity areas or planting areas following the completion of the construction phase. 	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^ ^ ^
	L-CP3- DP1/D P2/DP3	<p><u>Advance Implementation of Mitigation Planting</u></p> <ul style="list-style-type: none"> Replanting of existing / disturbed vegetation shall be undertaken at the earliest possible stage of the construction phase of the project using predominantly native plant species although ornamental species may be used for roadside planting and amenity areas. 	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^
	L-CP4-	<u>Transplantation of Existing Trees</u>	Minimize landscape impacts	Contractor	The whole	Construction	

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
S11.6.5 Table 11.6.3	V-CP1- DP3	<p><u>Preservation and Protection of Existing Trees (Good Site Practice)</u></p> <ul style="list-style-type: none"> The proposed works should avoid disturbance to the existing trees within and close to the works areas. The tree preservation proposals shall be coordinated with the layout and design of the engineering and architectural works at detailed design phase for further retention of individual trees. The preservation of existing tree shall provide instant greening and screening effect for proposed works. 	Minimise visual impact	Detailed design consultant / Contractor	The whole project area where applicable	Detailed design and construction phase	^
	V-CP2- DP3	<p><u>Works Area and Temporary Works Areas (Good Site Practice)</u></p> <ul style="list-style-type: none"> The construction sequence and construction programme shall be optimized in order to minimize the duration of impact. Construction site controls shall be enforced including the storage of materials, the location and appearance of site accommodation and site storage; and the careful design of site lighting to prevent light spillage. Hoarding designed with recessive colour shall be set up around the construction site providing screening effect for the construction works. The site office or temporary above-ground structures shall be sited at less visual prominent locations. 	Minimise visual impact	Contractor	The whole project area where applicable	Construction phase	^ * ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
	V-CP3-DP3	<u>Advance Implementation of Mitigation Planting</u> <ul style="list-style-type: none"> Replanting of existing / disturbed vegetation shall be undertaken at the earliest possible stage of the construction phase of the project using predominantly native plant species although ornamental species may be used for roadside planting and amenity areas. 	Minimise visual impact and advance mitigation planting for screening purpose.	Detailed design consultant / Contractor	The whole project area where applicable	Detailed design and construction phases	N/A
	V-CP5-DP3	<u>Coordination with Concurrent Projects</u> <ul style="list-style-type: none"> Coordinated implementation programme with concurrent projects to minimise impacts and where possible reduce the period of disturbance. 	Minimize visual impacts	Contractor	The whole project area where applicable	Construction phase	^
Ecology (Construction Phase)							
S12.7	E1-DP1	<u>Disturbance to Fish Ponds at HHW</u> <ul style="list-style-type: none"> Development set back a minimum of 23m from the edge Meander. Management of fish pond habitat to enhance ecological value to twice existing value, in order to compensate for disturbance to large waterbirds. Creation and establishment will occur prior to commencement of substantive works associated with any element of the project for which fish pond compensation is required. <u>Construction phase</u> <ul style="list-style-type: none"> Erection of a 3m high, dull green site boundary fence to 	On the disturbance to fish ponds at HHW	Detailed design consultant/ Contractor	Fish ponds at HHW and LMC	Detailed design, construction phase	N/A N/A N/A ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		minimise disturbance to wetland habitats caused by human activity in LMC Loop.					
S12.7	E2-DP1 /DP3	<p><u>Construction run-off</u></p> <ul style="list-style-type: none"> Temporary sewerage and drainage will be designed and installed to collect wastewater and prevent it from entering nearby water bodies; Proper locations well away from nearby water bodies will be used for temporary storage of materials (i.e. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction debris and spoil, and these will be identified before commencement of works; To prevent muddy water entering nearby water bodies, work sites close to nearby water bodies will be isolated, using such items as sandbags or silt curtains with lead edge at bottom and properly supported props. Other protective measures will also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the work site; If temporary access along a riverbed is unavoidable, this will be kept to the minimum in width and length. Temporary river crossings will be supported on stilts above the river bed; Stockpiling of construction materials, if necessary, will be properly covered and located away from nearby water 	Minimise the indirect impact from the increasing suspended solids and pollutants in LMC Meander	Contractor	Seawall,	During construction	<p>^</p> <p>*</p> <p>^</p> <p>^</p> <p>^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>bodies;</p> <ul style="list-style-type: none"> • Construction debris and spoil will be covered and/or properly disposed of as soon as possible to avoid being washed into nearby water bodies; • Construction effluent, site run-off and sewage will be properly collected and/or treated. Wastewater from any construction site will be minimised via the following in descending order: reuse, recycling and treatment; • Proper locations for discharge outlets of wastewater treatment facilities well away from sensitive receivers will be identified (i.e. treated wastewater will not be discharged into LMC Meander, natural streams, marsh, reedbed, active or abandoned fish ponds); • Adequate lateral support will be erected where necessary in order to prevent soil/mud from slipping into the Ecological Area or LMC Meander; • Site boundary will be clearly marked and any works beyond the boundary strictly prohibited; • Regular water monitoring and site audit will be carried out at adequate points along LMC Meander, and at the outfalls of the natural streams around LMC Loop. If the monitoring and audit results show that pollution occurs, adequate measures including temporarily cessation of works will be considered. 					<p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
S12.7	E3-DP1 /DP2/D P3	<p><u>Pollutant Runoff to Downstream areas from Accidental Spillage</u></p> <ul style="list-style-type: none"> Prepare an emergency contingency plan The plan will include, but not be limited to, the following: <ul style="list-style-type: none"> - Potential emergency situations; - Chemicals or hazardous materials used on-site (and their location); - Emergency response team; - Emergency response procedures; - List of emergency telephone hotlines; - Locations and types of emergency response equipment; - Training plan and testing for effectiveness. 	Minimize indirect impact from pollutant runoff to downstream areas from accidental spillage	Contractor/ Operator	Area within project site near streams	Construction phase and operation phase	^
S12.7	E4-DP1 /DP2/D P3	<ul style="list-style-type: none"> Use opaque, non-transparent, non-reflective noise barriers for all developments associated with the Project. Design of buildings should not incorporate use of night-time lighting at or near top of buildings, highly reflective materials should not be used where vegetation is adjacent and glass surfaces should not be angled upwards in a way that reflects the sky. Unnecessary lighting should be eliminated. Appropriate glass and façade treatments should be used where required to minimise impact. Unnecessary lighting should be avoided. <p>These include the following:</p> <ul style="list-style-type: none"> Fritting, or the placement of ceramic lines or dots on glass, 	Minimize the mortality impacts on birds	Developer / Detailed design consultant/ contractor/ operator	Area within project site	Detailed design, construction and operation phases	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>has little effect on the human-perceived transparency of the window but creates a visual barrier to birds outside. This treatment also has the advantage of reducing 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.</p> <ul style="list-style-type: none"> • Angled glass may be used only for smaller panes in buildings with a limited amount of glass. • The use of glass that reflects UV light (primarily visible to birds, but not to humans) acts to reduce collision. • 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. • 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. <p>In terms of reducing night-time mortality impacts, eliminating unnecessary lighting is one of the easiest methods, and has the added advantage of saving energy and expense. Potential impacts of nocturnal avian collision with buildings should be minimised by not creating sky glow from the use of night-time lighting at or near the top of buildings or other structures. In</p>					<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>addition to avoiding uplighting, light spillage should be minimised, while green and blue lights should be used where possible. As far as possible, lights should be controlled by motion sensors, and building operations should be managed in such a way as reduce or eliminate night lighting near windows. The potential advantages of removing unnecessary lighting in terms of reducing the carbon footprint of the LMC Loop development are obvious.</p>					
S12.7	E5-DP1 /DP2/D P3	<ul style="list-style-type: none"> • Minimize loss of natural vegetation along LMC Meander, and suitable replacement planting with possible installation of otter holts and the provision of potential feeding area and spraint locations for otters in the stabilized bank subject to detailed design. • No significant change to velocity of water flow, water level or water quality. • No direct lighting on Meander. • 3m high, dull green site boundary fence for all developments associated with the project. • Pre-construction surveys for otter holts or natal dens will be conducted in LMC Loop before the commencement of construction works. Work in the area of any otter holt found to cease pending examination by experienced Ecologist. If in use for breeding, works in the area will temporarily stop until end of breeding activity. • No construction activities within 100m of LMC Meander between one hour prior to sunset and one hour after 	Minimize impacts on Eurasian Otter	Detailed design consultant/ Contractor	Construction site within the project	Detailed design, construction phase	<p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p> <p style="text-align: center;">*</p> <p style="text-align: center;">^</p> <p style="text-align: center;">^</p>

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>sunrise.</p> <ul style="list-style-type: none"> Provision of compensatory reed marsh in the Ecological Area in LMC Loop, including open water channels and islands within the reed marsh, both of which features are considered to be used by the species. 					^
S12.7	E8-DP2	<ul style="list-style-type: none"> Refer to E2 and E3 	Prevent impacts on Rose Bitterling, small snakehead and <i>Somanniathelphus zanklon</i>	Contractor	Within project site	Construction phase	^
S12.7	E10-DP 1	<ul style="list-style-type: none"> Preserve undisturbed, semi-natural habitat conditions of LMC Meander and adjacent areas of LMC Loop up to approximately 150m in width in order to avoid disturbance to core part of flight line corridor. This area to comprise an Ecological Area largely constituting reed marsh and a 50m wide buffer zone densely planted with shrubs and trees. Small number of low buildings (max 14mPD high, except the building height of on-site STW is 15mPD high) allowed in inner 25m of this area at a plot ratio of 0.1. At Ha Wan Tsuen entry point for many birds to LMC Loop area provide a wider Ecological Area to minimize disturbance from nearby buildings. Further minimisation of impact by maintaining a lower 	Minimize impacts on flight line corridor from LMC Loop development	Developer / Detailed design consultant/ Contractor/ Operator	Within project site	Detailed design, construction and operation phases	^ ^ N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
				Detailed design consultant / Contractor /		construction phases	
S12.7	E16-DP 1	<ul style="list-style-type: none"> Provision of compensatory reed marsh in the Ecological Area will provide habitat suitable for Common Evening Hawker. Measures designed to protect other fauna and water quality will generally benefit odonata. 	Protect Odonata	Project Proponent/ Detailed design consultant/ Contractor Operator	Ecological area	EA established prior to construction and manage at all phases	^ ^
S12.7	E14-DP 2	<ul style="list-style-type: none"> Replacement planting of native tree species relevant to Deep Bay area and the area impacted. Planting to occur in tandem with that required for woodland loss arising 	Minimize the ecological impacts	Contractor	Woodland and shrubland habitat along Ha Wan Tsuen Road	Construction phase	^
S12.7	E15-DP 2	<ul style="list-style-type: none"> Use noise/visual barriers to minimise disturbance. Construction activities should not be carried out before 0900h or after 1700h in order to minimise disturbance to the flight line corridor (and to mammals). 	Minimize impacts on flight line corridor from Western Connection Road	Contractor	Construction site from Western Connection Road	Construction phase	^ ^
S12.7	E16-DP 2	<ul style="list-style-type: none"> Use of opaque visual/noise barriers and roadside planting of trees and shrubs to minimize disturbance impacts. 	Minimize impacts on flight line corridor from Western Connection	Project Proponent/ Detailed	Construction site from Western	Detailed design, construction and operation	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
			Road	design consultant/ Contractor Operator	Connection Road	phases	
S12.9	EG2-D P3	All generic mitigation measures proposed in Tables 12.82a and 12.82b in the EIA report.	Avoid, minimize and mitigate overall ecological impact.	Project proponent / contractor / detailed design consultant / developer / operator	All areas.	All phases	^
Fisheries (Construction Phase)							
S13.7	F4-	<ul style="list-style-type: none"> Reprovision of replacement Artificial Reefs(of the same volume as the existing ARs inside Marine Exclusion Zone) 	Mitigate water quality impacts on the existing ARs	Project proponent	To be determined	Construction phase or operation phase	N/A
S11.7	F2	<ul style="list-style-type: none"> Reduce re-suspension of sediments Limit dredging and works fronts. Good site practices Strict enforcement of no marine dumping Spill response plan 	Minimise marine water quality impacts	Contractor	Seawall	During construction	N/A N/A N/A N/A
S13.7	F4-DP3	During the construction phase, a layer of sheet pile wall will be	Bund stability	Contractor	Fish ponds	Construction	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		erected along the site boundary adjacent to fish ponds after commencement of site works. The sheet pile wall will be constructed by silent piling method (Press-in method) which induces minimal vibration. Therefore the stability of the fish pond bund will not be influenced by the construction of the sheet pile wall, subsequent construction works and the loading from the road during operational phase. In addition, the sheet pile wall will have grouting or a grout curtain to avoid water seepage from the fish pond to the excavation area. With these measures, significant impacts are not anticipated.				phase	
S13.7	F5-DP3	Temporary traffic arrangements will be instigated to maintain or provide alternative access to fish ponds during construction phase.	Prevent Blockage of Access Roads to Fish Ponds	Contractor	Fish ponds	Construction phase	^
S13.7	F6-DP3	Standard mitigation measures to control site runoff and other pollutants caused by construction activities and good site practices will be implemented during the construction phase of the Project. Excavated material and other inert construction wastes produced will be transferred to proper recipients (i.e. landfill) (see Waste Management Section). Sewage from the proposed development will be dealt with via a sewerage system and will not be discharged directly to surrounding water bodies.	Avoid water quality impact	Contractor	Fish ponds	Construction phase	^
S13.7	F7-DP3	<p><u>Dust Minimization</u></p> <ul style="list-style-type: none"> • During all excavation works, good site practice should be adopted to minimize impacts on fisheries. The below site practices should be adopted during this time. • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with 	Dust minimization	Contractor	Fish ponds	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;</p> <ul style="list-style-type: none"> • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • 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; • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; • In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; • Supply of suitable clean backfill material after excavation, if required; • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated run-off, and truck bodies and tailgates should 					

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>be sealed to prevent any discharge during transport or during wet season;</p> <ul style="list-style-type: none"> • Speed control for the trucks carrying contaminated materials should be enforced; and • Vehicle wheel washing facilities at the site's exit points should be established and used. 					
S13.7	F8-DP3	<p><u>Contingency plan</u></p> <p>The contractor should prepare an emergency contingency plan for actions to be taken if significant impacts, such as accidental spillage of chemicals, water seepage from fish ponds, damaged/destabilized pond bunds, pond water contamination by site runoff, on fish ponds occur. The contractor should submit the emergency contingency plan dealing with, but not limited to, the aforementioned potential impacts to the engineer for review, comment and approval. The fish pond operators will also be consulted for the details of the contingency plan, which will also be submitted to AFCD for review and comment. The plan should include, but not limited to, the following:</p> <ul style="list-style-type: none"> • Potential emergency situations; • Chemicals or hazardous materials used on-site (and their location); • Emergency response team; • Emergency response procedures; • List of emergency telephone hotlines; • Locations and types of emergency response equipment; • Training plan and testing for effectiveness. 	Deal with any accidental spillage event	Contractor / Operator	Fish ponds	Construction and operational phases	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
Food Safety (Construction Phase)							
S15	F1-DP3	<p><u>Contingency plan</u></p> <p>The contractor should have effective communication with Food and Environmental Hygiene Department (FEHD) / Centre of Food Safety (CFS), on food surveillance and food incidents. Food Surveillance Programme (http://www.cfs.gov.hk/english/programme/programme_fs/programme_fs.html). is undertaken by CFS to inspect food safety in Hong Kong, with a three-tier surveillance strategy (consisting of routine food surveillance, targeted food surveillance and seasonal food surveillance). Under this programme, aquatic products (including pond fish) at import, wholesale and retail levels are sampled for microbiological (i.e. bacteria and viruses), chemical (i.e. natural toxins, food additives and contaminants) and radiation testings. All food safety surveillance results of by a monthly "Food Safety Report" in press releases and also presented in CFS website. If pond fish samples do not comply with food safety standards and they are verified to be from fish ponds of concerned under this study through "food tracing", fish selling shall be stopped as instructed by CFS.</p>	Minimize significant impacts on fish ponds	Contractor	Fish pond within project site	Construction phase	N/A
S15	F2-DP3	<p><u>Dust Minimization</u></p> <ul style="list-style-type: none"> During all excavation works, good site practice should be adopted to minimize the release of TSP, impact of land contamination and the associated food safety implications. The below site practices should be adopted during excavation works. Any excavated or stockpile of dusty material should be 	Dust minimization	Contractor	Fish pond within project site	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>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;</p> <ul style="list-style-type: none"> • Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; • 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; • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; • In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; • Supply of suitable clean backfill material after excavation, if required; • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or 					

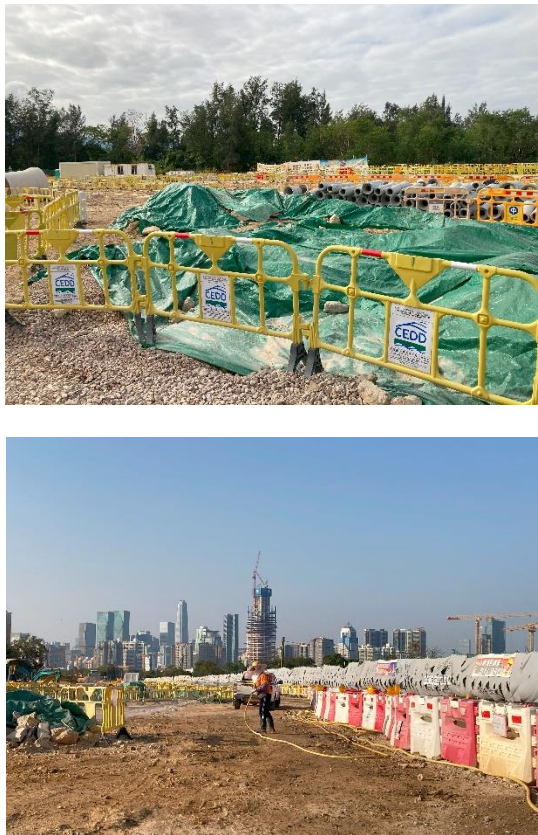
EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		<p>contaminated run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet season;</p> <ul style="list-style-type: none"> • Speed control for the trucks carrying contaminated materials should be enforced; and • Vehicle wheel washing facilities at the site's exit points should be established and used. 					

- Remarks: ^ Compliance of mitigation measure
- * Recommendation was made during site audit but improved/rectified by the contractor
- # Recommendation was made during site audit but not yet improved/rectified by the contractor.
- N/A Not Applicable at this stage as no such site activities were conducted in the reporting period (e.g. concrete batching plant, barging point, seawall dredging and filling, bored piling, landscaping works etc)

**Contract No. YL/2020/01 - Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 1 Site Formation
and Infrastructure Works inside Lok Ma Chau Loop and
Western Connection Road Phase 1**



Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> 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; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; 	



Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> • A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones; • 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; 	 

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> • 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; • 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; 	 

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma



Working Period: 1st to 31st January 2024

- 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.



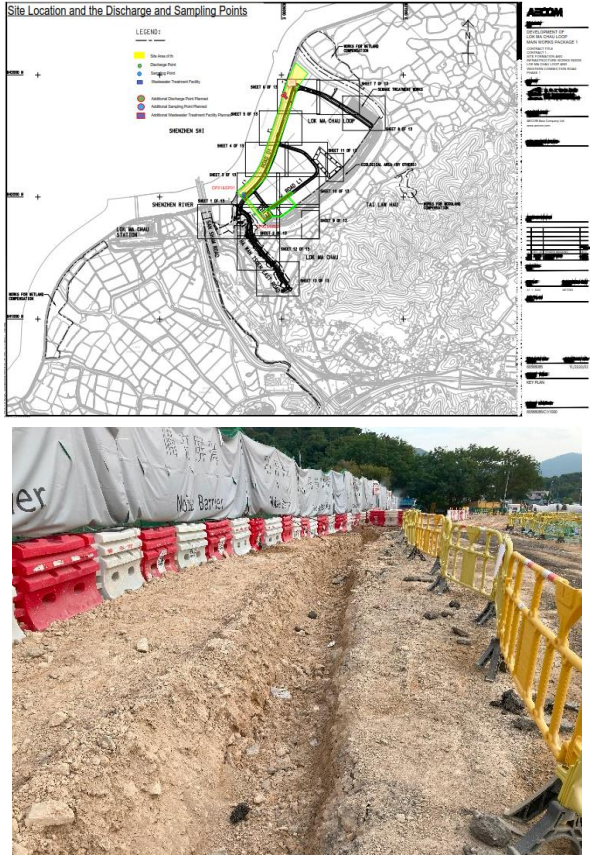
Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S4.8	All site area	Noise impact	<ul style="list-style-type: none"> Mobile plant should be sited as far away from NSRs as possible and practicable; All generator used onsite are Quality Powered Mechanical Equipment (QPME) registered with EPD. Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator. 	 



Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S5.7	All site area	Water Pollution Control	<ul style="list-style-type: none"> Update and implementation of Stormwater Pollution Control Plan. 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. 	 <p>The figure consists of two parts. The top part is a map titled 'Site Location and the Discharge and Sampling Points'. It shows a detailed site plan with various colored zones and points. A legend on the left identifies symbols for 'Site Boundary', 'Discharge Point', 'Sampling Point', 'Perimeter Protection Facility', 'Artificial Drainage Pipe/Channel', 'Artificial Stormwater Storage Pond/Retention Pond', and 'Artificial Stormwater Treatment Facility'. The map shows the site's location relative to surrounding roads and infrastructure. The bottom part is a photograph showing a long, narrow trench dug into the ground at a construction site. The trench is lined with red and white plastic sheeting. Yellow plastic safety barriers are placed along the right side of the trench. The ground is dirt and gravel.</p>



Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> • 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. <p>Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m³ 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 inputs from a variety of sources and suited to applications where the influent is pumped.</p>	 


Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> 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. <p>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.</p> <ul style="list-style-type: none"> Portable chemical toilets and sewage holding tanks should be provided for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets to cater 0.15m³/day/employed populations and be responsible for appropriate disposal and maintenance. 	 



Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> • 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. 	


Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S7.6	All site area	Waste Generation	<ul style="list-style-type: none"> • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Proper storage and site practices to minimize the potential for damage and contamination of construction materials; 	 



Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none">• Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.	 A group of construction workers wearing hard hats and high-visibility vests are gathered under a sheltered area, likely receiving training. Some workers are wearing blue and white safety gear, while others are in yellow and orange. They are standing in a line, facing towards the center where a training session is taking place. The background shows a construction site with various materials and structures.


Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> • Prepare Waste Management Plan and submit to the Engineer for approval • Proper storage and sorting of excavated inert materials to maximize on site reuse for backfilling 	 


Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none">• General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling.	 A photograph showing three recycling bins lined up against a wall. From left to right: a brown bin with a red recycling symbol, a yellow bin with a yellow recycling symbol, and a blue bin with a blue recycling symbol. Each bin has a black lid and a white label with a recycling symbol and text.



Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
			<ul style="list-style-type: none"> 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 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. 	


Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA 12.7 EP 2.7	Constructi on site within the project Pond habitat along alignment (mainly Ha Wan Tsuen Road)	Ecology	Installing 3m high olive-green fence around construction areas to allow or deter different animal passages where appropriate; Carrying out outside dry-season (from November to February next year), the construction works associated with the site formation in the Ecological Area, stabilization of the bank of the old Shenzhen River meander, to minimise disturbances to migratory birds/water birds;	 

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024



Ref	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
	Old Shenzhen River meander and other identified important ecologically sensitive areas,		Using powered mechanical equipment for construction works only during the period 9am to 5pm at and near the old Shenzhen River meander and other identified important ecologically sensitive areas, if any;	



Contract No. YL/2020/02 – Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 2 Western

Connection Road Phase 2, Connection Roads to Fanling /

San Tin Highway and Direct Road Link Phase 1

Ref*	Location/Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> 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; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; 	 


Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; • 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; 	 

Contract No. YL/2020/02



Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2,
Connection Roads to Fanling/ San Tin Highway and Direct Road Link Phase 1

Working Period: 1st to 31th January 2024


Proactive Environmental Protection Proforma

			<ul style="list-style-type: none">• 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.	
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Proactive Environmental Protection Proforma

Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S4.8	All site area	Noise impact	<ul style="list-style-type: none"> • Mobile plant should be sited as far away from NSRs as possible and practicable; • Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator. 	 

Proactive Environmental Protection Proforma

EIA S5.7	All site area	Water Pollution Control	<ul style="list-style-type: none">• 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. • 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 equipment in order to avoid or minimize polluted runoff.	
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- Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m³ 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 inputs from a variety of sources and suited to applications where the influent is pumped.

- 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.






Contract No. YL/2020/02

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2,
Connection Roads to Fanling/ San Tin Highway and Direct Road Link Phase 1

Working Period: 1st to 31th January 2024

Proactive Environmental Protection Proforma

			<ul style="list-style-type: none">• 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.	
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Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S7.6	All site area	Waste Generation	<ul style="list-style-type: none"> • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Proper storage and site practices to minimize the potential for damage and contamination of construction materials; 	 


• Proper storage and sorting of excavated inert materials to maximize on site reuse for backfilling




• General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling.



		<ul style="list-style-type: none">• 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. • 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 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.	 
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Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S12.7	All site area	Ecology	<ul style="list-style-type: none"> • Use opaque, non-transparent, non-reflective noise barriers for all developments associated with the Project. • On-site compensate the same area of the occupied reedbed 	 <p>The 'Photo Records (Partial)' column contains two photographs. The top photograph shows a paved road with a white double line, a concrete noise barrier, and a chain-link fence behind it, with trees in the background under a cloudy sky. The bottom photograph shows a reedbed area with a concrete walkway, a small stream of water, and tall green reeds under a blue sky with white clouds.</p>


Proactive Environmental Protection Proforma

ERR S4.2.2	STEMDC	Ecology	<ul style="list-style-type: none">• Installation of 3m-high olive green fence site hoarding around construction areas to reduce disturbance and such installation should allow passage of animal • Well-defined and fenced work area to prevent intentional or accidental encroachment or trespassing to other part of the mitigation wetland for access, parking, operation of plants/machineries, or stockpiling of construction material/waste nearby	
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Contract No. YL/2020/02

**Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2,
Connection Roads to Fanling/ San Tin Highway and Direct Road Link Phase 1
Proactive Environmental Protection Proforma**



Working Period: 1st to 31th January 2024



			<ul style="list-style-type: none">Measures to avoid any spillage or discharge of untreated runoff from the site to other part of the mitigation wetland should be implemented, including but not limited to provision of sandbags barrier and perimeter channels at site boundaries,	
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Contract No. YL/2021/01 – Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 3 Direct Road

Link Phase 2

Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> 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; Any dusty materials remaining after a stockpile is removed should be wetted with water and cleared from the surface of roads; 	 

Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S3.8	All site area	Dust impact	<ul style="list-style-type: none"> • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; • 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; 	 

• 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;





• 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;



- 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.



Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S4.8	All site area	Noise impact	<ul style="list-style-type: none"> • Mobile plant should be sited as far away from NSRs as possible and practicable; • Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator. 	 

Contract No. YL/2021/01 – Contract No.: YL/2021/01

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2

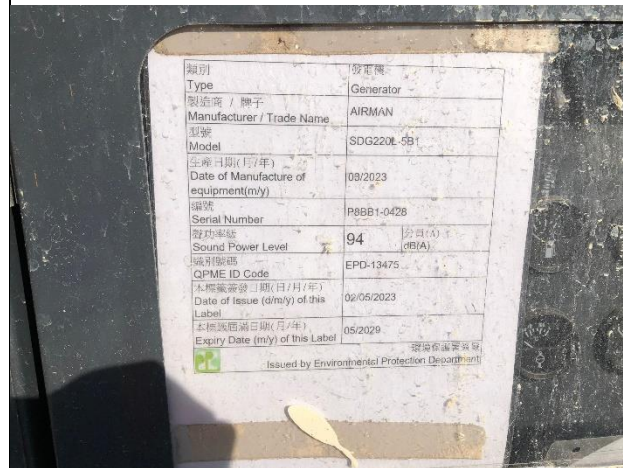
Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

• An acoustic canvas had been deployed along the site boundary facing the public.



• All generator used onsite are Quality Powered Mechanical Equipment (QPME) registered with EPD.



<p>EIA S5.7</p>	<p>All site area</p>	<p>Water Pollution Control</p>	<ul style="list-style-type: none"> Update and implementation of Stormwater Pollution Control Plan. 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. 	<div> <p style="text-align: right;">S/2021/01_C3-0000 Contract No. YL/2021/01 Development of Lok Ma Chau Loop: Main Works Package 1 - Contract 3 - Direct Road Link Phase 2</p> <p style="text-align: center;">CONTRACTOR'S SUBMISSION FORM</p> <p>To : AECOM</p> <p>Attention : Mr. Roger Man (Project Manager's delegate)</p> <p>Submission Ref. No. : CS/21/000088A</p> <p>AECOM Ref. No. :</p> <p>Date of Submission : 3 Dec 2022</p> <p>Title of Submission : Temporary Drainage Management Plan (Rev. 2)</p> <p>Proposed Location of Works : Portion 1</p> <p>Specification/Drawing Reference : P.S. Clause 1.21A</p> <p>Description of Context :</p> <p>Pursuant to P.S. Clause 1.24(A), We would like to submit the captioned subject for your review and approval.</p> <p>Attachments :</p> <p>Reply required by :</p> <p>Purpose of Submission :</p> <p>For Approval <input checked="" type="checkbox"/> For Comment <input type="checkbox"/> For Information <input type="checkbox"/> For Record <input type="checkbox"/> For Action <input type="checkbox"/></p> <p>FROM : Paul Yee-Chun Wo - CREC Joint Venture</p> <table border="1"> <thead> <tr> <th>Prepared by:</th> <th>Reviewed by:</th> <th>Approved & submitted by:</th> </tr> </thead> <tbody> <tr> <td>Title: Graduate Engineer Stephane Leung</td> <td>Title: Section Agent Charles Choi CW</td> <td>Title: Site Agent Dennis Tang</td> </tr> <tr> <td>Signature: </td> <td>Signature: </td> <td>Signature: </td> </tr> <tr> <td>Date: 3 DEC 2022</td> <td>Date: 3 DEC 2022</td> <td>Date: 3 DEC 2022</td> </tr> </tbody> </table> <p><small>* User Guide to Submission Form B - Design & Construction C - Construction D - Operation & Maintenance E - Decommissioning F - Planning & Design G - Environmental & Social H - Health, Safety & Environment I - Quality Management System J - Risk Management K - Stakeholder Engagement L - Other</small></p> </div> <div> </div>	Prepared by:	Reviewed by:	Approved & submitted by:	Title: Graduate Engineer Stephane Leung	Title: Section Agent Charles Choi CW	Title: Site Agent Dennis Tang	Signature:	Signature:	Signature:	Date: 3 DEC 2022	Date: 3 DEC 2022	Date: 3 DEC 2022
Prepared by:	Reviewed by:	Approved & submitted by:														
Title: Graduate Engineer Stephane Leung	Title: Section Agent Charles Choi CW	Title: Site Agent Dennis Tang														
Signature:	Signature:	Signature:														
Date: 3 DEC 2022	Date: 3 DEC 2022	Date: 3 DEC 2022														

• 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 equipment in order to avoid or minimize polluted runoff.



• Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m³ 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 inputs from a variety of sources and suited to applications where the influent is pumped.



- 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.



- 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.

Overall No: 0220207
 Development of Lok Ma Chau Loop: Main Works Package 1
 Contract 3: Direct Road Link Phase 2
 Wastewater Treatment Facilities Operation and Maintenance Record
 污水處理設施運作及維護紀錄表

Wastewater Treatment Facility: CW / 污水處理設施: 100-01

Location: 100-01

Date 日期	Time 時間	Weather 天氣	Wind Speed 風速	Wind Direction 風向	Temperature 溫度	pH	DO	BOD	COD	SS	NH4-N	NO3-N	TN	TP	Oil	Sulfide	Total Solids	Remarks 備註	Inspector 檢查員	
																				Flow Rate 流量
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3																				
4																				
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1. 此表格只供記錄用，不作為法律文件。
 2. 表格內之數據應由操作人員或檢查員填寫。
 3. 表格內之數據應與現場實際情況相符。
 4. 表格內之數據應與相關儀器之讀數一致。

• Portable chemical toilets and sewage holding tanks should be provided for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets to cater 0.15m³/day/employed populations and be responsible for appropriate disposal and maintenance.



• 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.

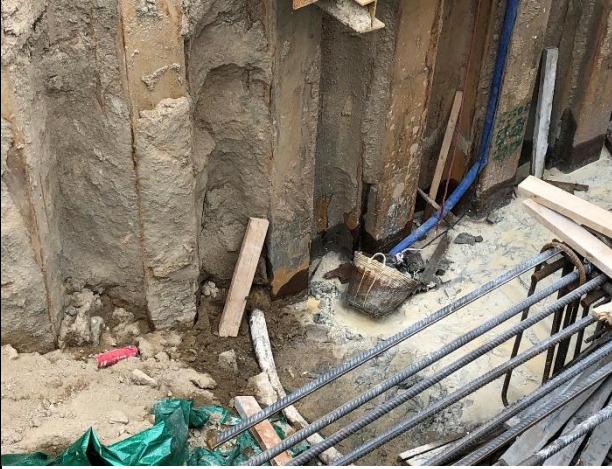


Contract No. YL/2021/01 – Contract No.: YL/2021/01

Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2

Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

			<ul style="list-style-type: none">•An additional water pump had been set up and the concerned outlet have been sealed up with concrete	
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Ref*	Location/ Working Period	Anticipated Major Impacts	Recommended Mitigation Measures	Photo Records (Partial)
EIA S7.6	All site area	Waste Generation	<ul style="list-style-type: none"> • Segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling of materials and their proper disposal; • Proper storage and site practices to minimize the potential for damage and contamination of construction materials; 	 

Contract No. YL/2021/01 – Contract No.: YL/2021/01
Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2
Proactive Environmental Protection Proforma

Working Period: 1st to 31st January 2024

- Provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.



- Prepare Waste Management Plan and submit to the Engineer for approval

YL/2021/01_CSP_Env.01

Contract No. YL/2021/01
Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3
Direct Road Link Phase 2

CONTRACTOR'S SUBMISSION FORM

To : AECOM
 Attention : Mr. Roger Man (Project Manager's delegate)

Submission Ref. No* : CSF/HSE/0000005
 AECOM Ref. No. : -
 Date of Submission : 13 October 2023

Title of Submission : Site Management Plan for Implementation of the Trip Ticket System Rev.19
 Proposed Location of Works : -
 Specification/Drawing Reference : PS Clause 25.25 (10)
 Description of Content : -

According to PS Clause 25.25 (10), we would like to submit the Site Management Plan for Implementation of the Trip Ticket System (Rev.19) for your approval.


Attachments : Site Management Plan for Implementation of the Trip Ticket System (Rev.19)
 Reply required by : 21 days

Purpose of Submission* : For Approval For Comment For Information For Record For Action

FROM : Paul Y – Chun Wo – CRCCL Joint Venture

	Prepared by:	Reviewed by:	Approved & submitted by:
Title	Environmental Officer (Tiao Law)	HSE Manager (Ho Wong)	Site Agent (Desmond Tang)
Signature			
Date	5 October 2023	5 October 2023	5 October 2023

*Mark Code in Submission Ref. No.:
 P – Project & Structures F01 – Foundation STW – Sewage Treatment Works S – Survey FF – Park
 M – Site Investigation W02 – Water & Wastewater Services L04 – Landfilling P – Pipelines & Piling H0 – Health, Safety & Environment


		<ul style="list-style-type: none">• 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. • 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 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.	
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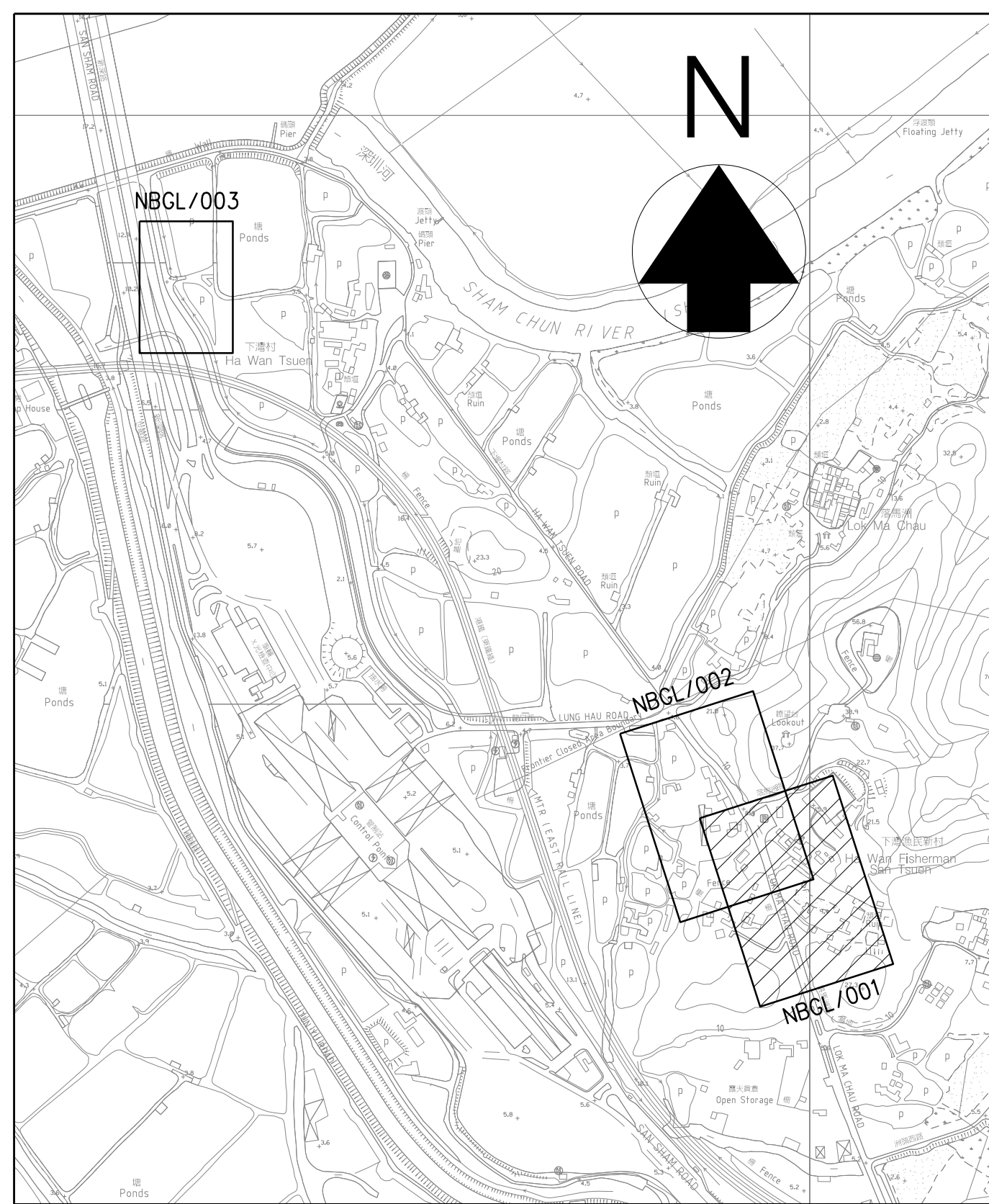
APPENDIX N
TEMPORARY NOISE BARRIERS

NOTES:

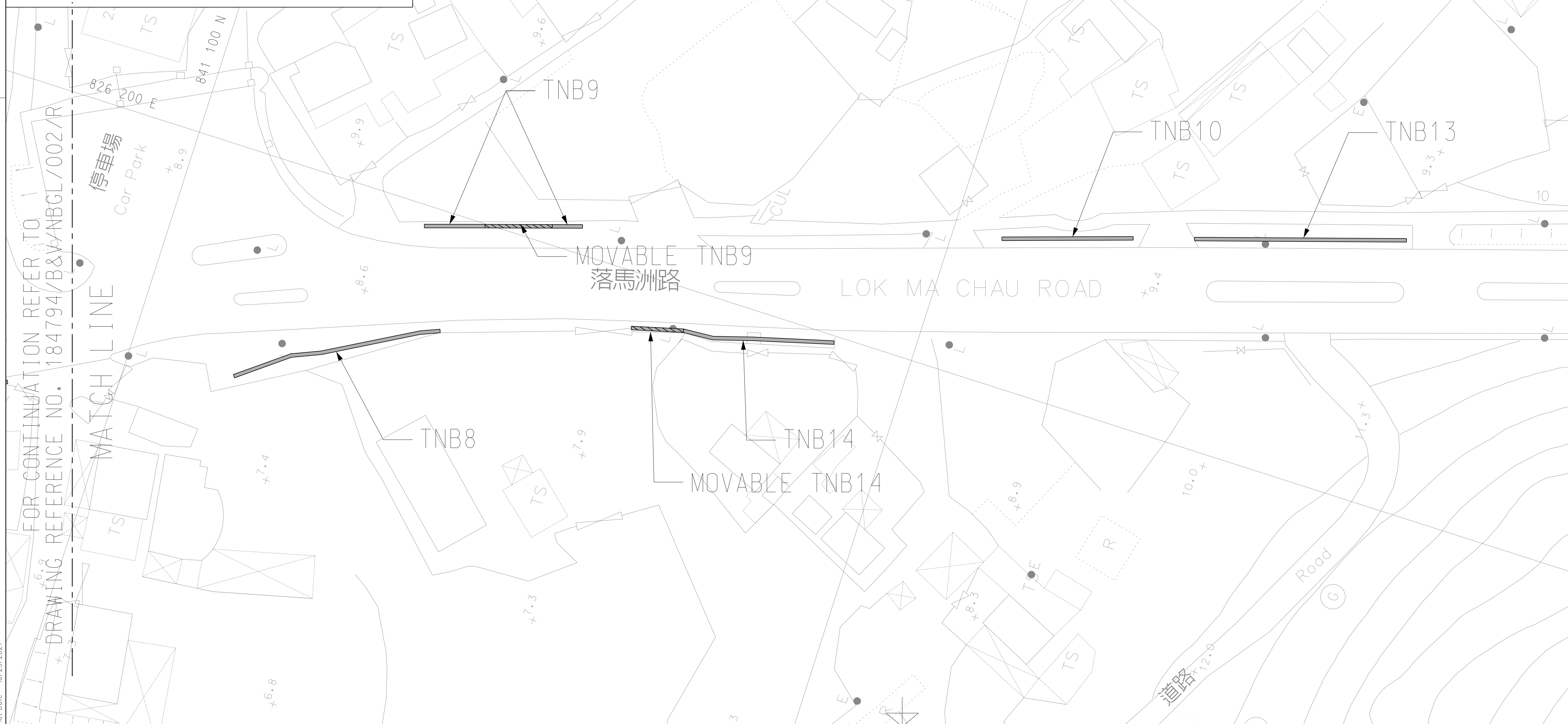
1. FOR DETAILS OF NOISE BARRIER, PLEASE REFER TO DRAWING NO. 184794/B&V/NB15/001/R & NO. 184794/B&V/NB15/002/R.

LEGEND:

-  1.5m - HIGH TEMPORARY NOISE BARRIER
-  1.5m - HIGH MOVEABLE TEMPORARY NOISE BARRIER



LOCATION PLAN
N.T.S.



WORK AS EXECUTED

DATE OF COMMENCEMENT : 22 JUN 2018

DATE OF COMPLETION :

核准
Approved

合約編號
Contract No. YL/2017/03

合約編號
Agreement No. CE 5/2014 (CE)

合約名稱
Contract title
DEVELOPMENT OF LOK MA CHAU LOOP:
LAND DECONTAMINATION AND
ADVANCE ENGINEERING WORKS

圖則名稱
Drawing title
AS-CONSTRUCTED DRAWING
NOISE BARRIER -
GENERAL LAYOUT PLAN
(SHEET 1 OF 3)

圖則參考編號
Drawing Reference No. 184794/NBGL/001/R

修訂
Revision -

合約圖則編號
Contract Drawing No.

修訂
Revision -

比例
Scale A1 1 : 300
A3 1 : 600

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



 binnies

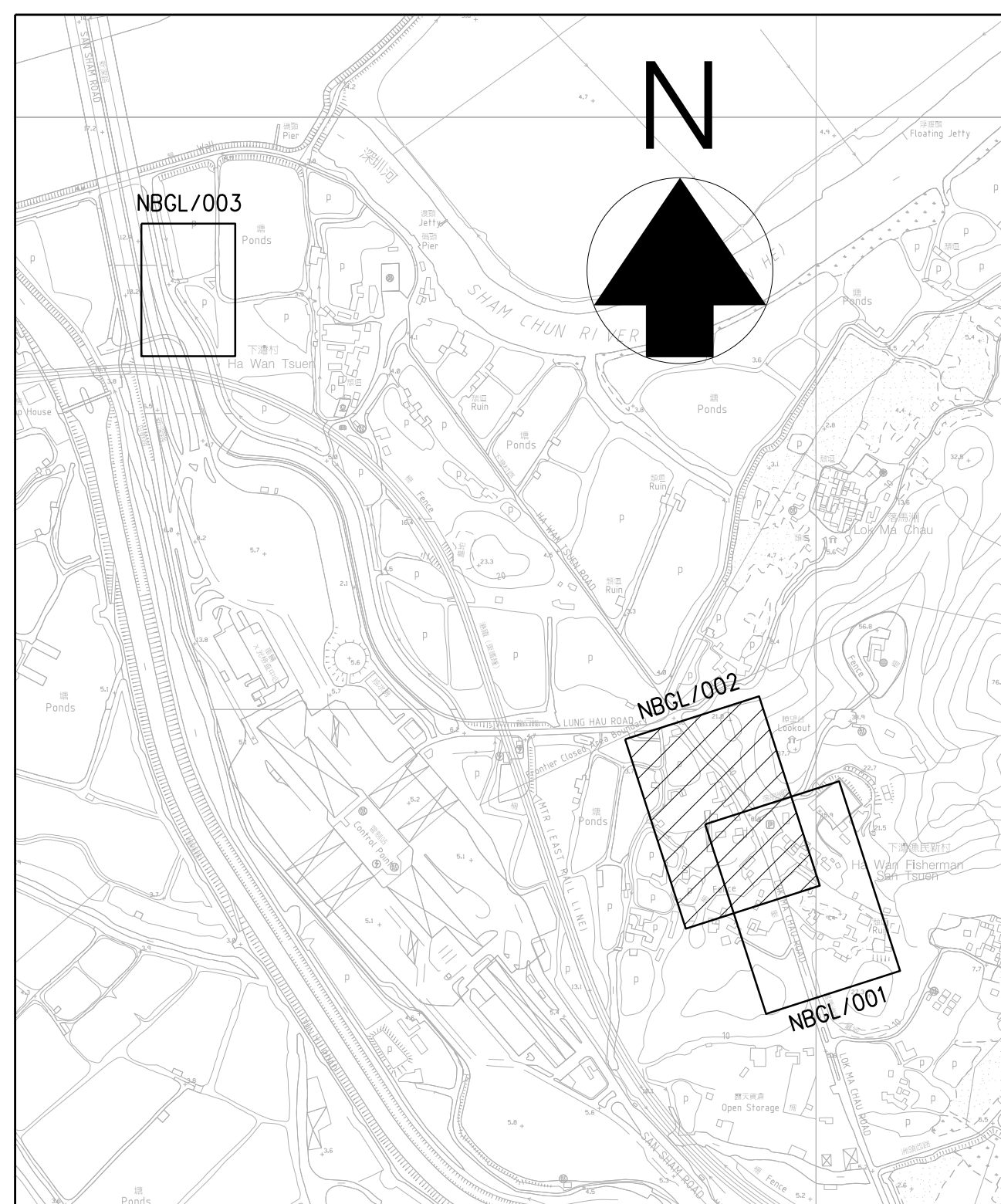
BINNIES HONG KONG LIMITED
賓尼士工程顧問有限公司

NOTES:

1. FOR DETAILS OF NOISE BARRIER, PLEASE REFER TO DRAWING NO. 184794/B&V/NB15/001/R & NO. 184794/B&V/NB15/002/R.

LEGEND:

-  1.5m - HIGH TEMPORARY NOISE BARRIER
-  1.5m - HIGH MOVEABLE TEMPORARY NOISE BARRIER



LOCATION PLAN
N.T.S.



FOR CONTINUATION REFER TO DRAWING REFERENCE NO. 184794/B&V/NBGL/001/R

MATCH LINE

WORK AS EXECUTED

DATE OF COMMENCEMENT : 22 JUN 2018

DATE OF COMPLETION :

核准
Approved

合約編號
Contract No. YL/2017/03

合約編號
Agreement No. CE 5/2014 (CE)

合約名稱
Contract title
DEVELOPMENT OF LOK MA CHAU LOOP:
LAND DECONTAMINATION AND
ADVANCE ENGINEERING WORKS

圖則名稱
Drawing title
AS-CONSTRUCTED DRAWING
NOISE BARRIER -
GENERAL LAYOUT PLAN

(SHEET 2 OF 3)

圖則參考編號
Drawing Reference No. 184794/NBGL/002/R 修訂
Revision -

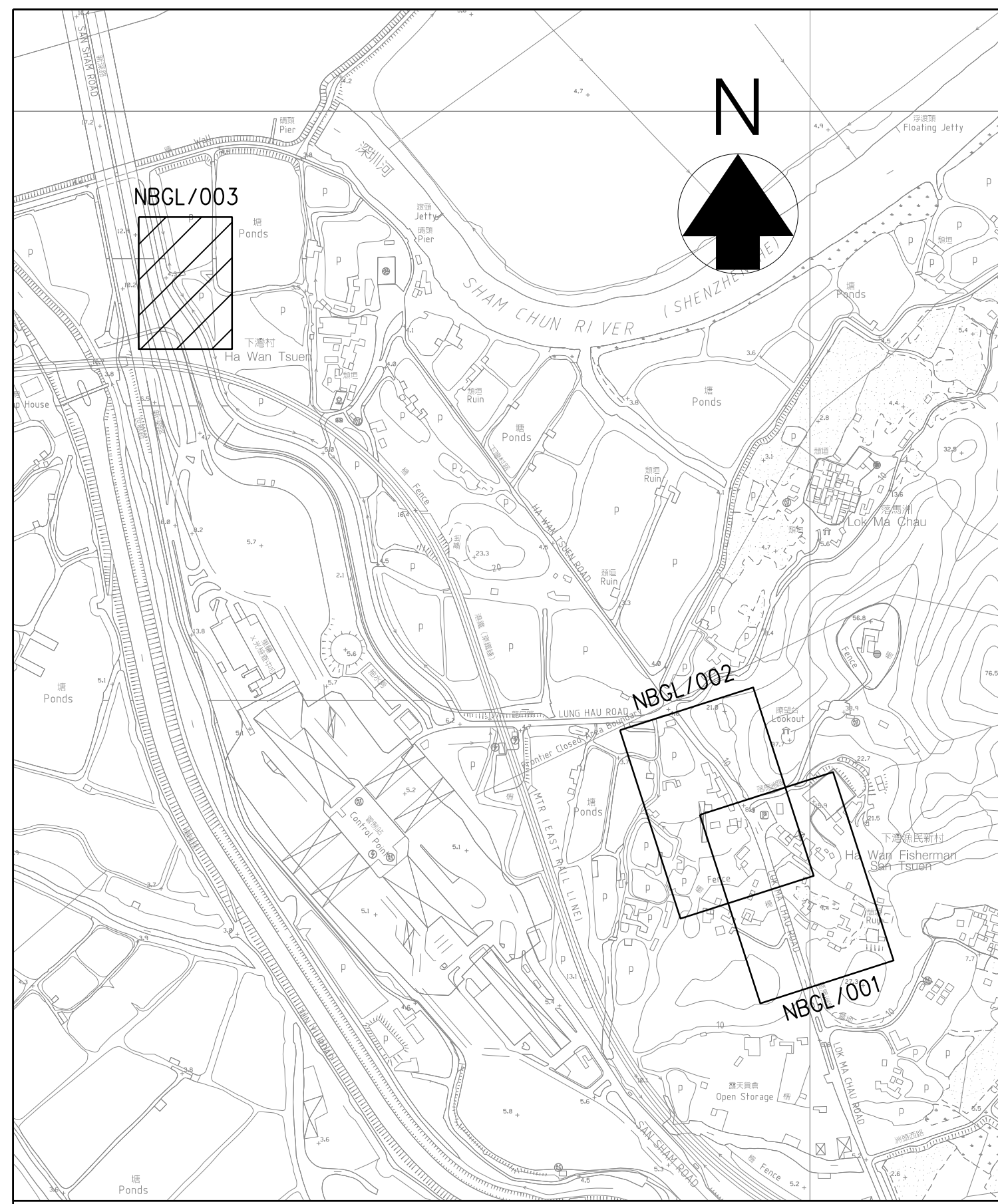
合約圖則編號
Contract Drawing No. 修訂
Revision -

比例
Scale A1 1 : 300
A3 1 : 600

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

 binnies

BINNIES HONG KONG LIMITED
賓尼士工程顧問有限公司

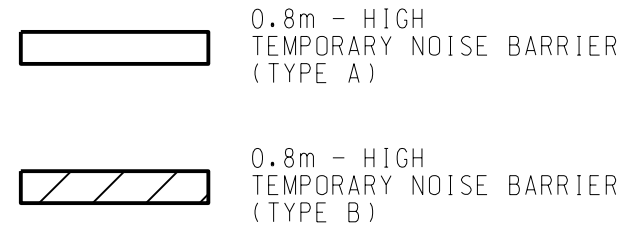


LOCATION PLAN
N.T.S.



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NOTE:
1. FOR DETAILS OF NOISE BARRIER, PLEASE REFER TO DRAWING NO. 184794/B&V/NB08/001/R.

LEGEND:

 0.8m - HIGH TEMPORARY NOISE BARRIER (TYPE A)
 0.8m - HIGH TEMPORARY NOISE BARRIER (TYPE B)

WORK AS EXECUTED

DATE OF COMMENCEMENT : 22 JUN 2018
DATE OF COMPLETION :

核准 Approved

合約編號 Contract No. YL/2017/03

合約編號 Agreement No. CE 5/2014 (CE)

合約名稱 Contract title
DEVELOPMENT OF LOK MA CHAU LOOP:
LAND DECONTAMINATION AND
ADVANCE ENGINEERING WORKS

圖則名稱 Drawing title
AS-CONSTRUCTED DRAWING
NOISE BARRIER -
GENERAL LAYOUT PLAN
(SHEET 3 OF 3)

圖則參考編號 Drawing Reference No. 184794/NBGL/003/R 修訂 Revision -

合約圖則編號 Contract Drawing No. 修訂 Revision -




比例 Scale A1 1 : 200
A3 1 : 400

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


BINNIES HONG KONG LIMITED
賓尼士工程顧問有限公司

Plot Date : 11/7/2021




Development of Lok Ma Chau Loop – Land Decontamination and Advance Engineering Works
Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road

TNB ID	Photo
TNB1	
TNB2	
TNB11	
TNB3	
TNB4	



Development of Lok Ma Chau Loop – Land Decontamination and Advance Engineering Works
Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road

TNB ID	Photo
TNB6	 A photograph showing a temporary noise barrier (TNB6) along a road. The barrier is a grey metal fence with a concrete base. In the background, there are buildings, including a yellow one with Chinese characters. A red line with the label 'TNB6' spans the length of the barrier.
TNB7	 A photograph showing a temporary noise barrier (TNB7) along a road. The barrier is a grey metal fence with a concrete base. In the background, there are buildings, including a multi-story one with a red roof and palm trees. A red line with the label 'TNB7' spans the length of the barrier.
TNB8	 A photograph showing a temporary noise barrier (TNB8) along a road. The barrier is a grey metal fence with a concrete base. In the background, there are trees and a building with a red roof. A red line with the label 'TNB8' spans the length of the barrier. The date '29/07/2021' is visible in the bottom right corner of the photo.

Development of Lok Ma Chau Loop – Land Decontamination and Advance Engineering Works
Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road




TNB ID	Photo
TNB9	 A photograph showing a temporary noise barrier (TNB9) along a road. The barrier consists of grey concrete blocks topped with a chain-link fence. In the background, there are trees and a building. A red rectangular box highlights the barrier, with the label 'TNB9' in red text above it.
TNB10	 A photograph showing a temporary noise barrier (TNB10) along a road. The barrier consists of grey concrete blocks topped with a chain-link fence. The background shows lush green trees. A red rectangular box highlights the barrier, with the label 'TNB10' in red text above it. The date '29/4/2021' is visible in the bottom right corner.
TNB13	 A photograph showing a temporary noise barrier (TNB13) along a road. The barrier consists of grey concrete blocks topped with a chain-link fence. In the background, there are trees and a building. A red rectangular box highlights the barrier, with the label 'TNB13' in red text above it. The date '29/4/2021' is visible in the bottom right corner.




Development of Lok Ma Chau Loop – Land Decontamination and Advance Engineering Works
Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road




TNB ID	Photo
TNB14	 A photograph showing a temporary noise barrier (TNB14) along a road. The barrier is a grey metal fence. In the background, there are buildings and trees. A red rectangle highlights the barrier, with the text 'TNB14' written above it.
TNB15	 A photograph showing a temporary noise barrier (TNB15) along a road. The barrier is a concrete wall. In the background, there are trees. A red rectangle highlights the barrier, with the text 'TNB15' written above it. A date stamp '27/06/2020' is visible in the bottom right corner of the photo.




YL/2020/02 – Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and Direct Road Link Phase 1

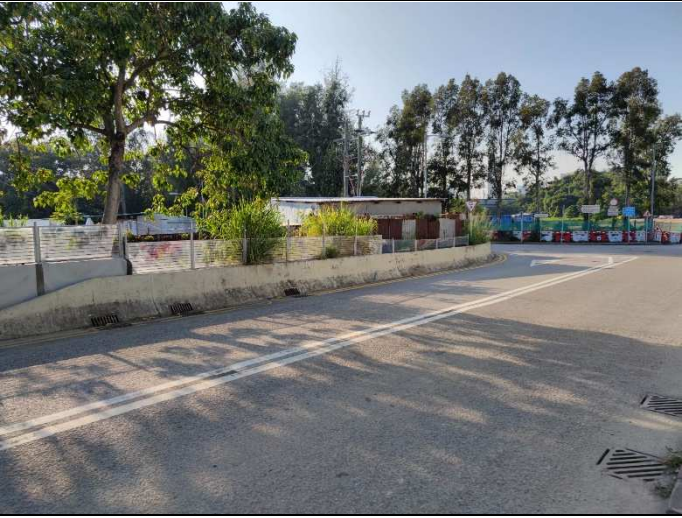
Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road

TNB ID	Photo
2	
3 4	
5	

TNB ID	Photo
6	
7	
8	

TNB ID	Photo	Construction Status
9		Completed
10		Completed
11		Completed

TNB ID	Photo
12	
13	
14	

TNB ID	Photo
17	

**APPENDIX O
WASTE GENERATION IN THE
REPORTING MONTH**

**Contract No. YL/2020/01 - Development of Lok Ma Chau
Loop: Main Works Package 1 – Contract 1 Site Formation
and Infrastructure Works inside Lok Ma Chau Loop and
Western Connection Road Phase 1**

Monthly Summary Waste Flow Table for 2024 (year)

Name of Person completing the record: Lila Lui (EO)

Development of Lok Ma Chau Loop : Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection

Contract No.: YL/2020/01

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	Metals	Paper/ cardboard packaging/	Plastics	Yard Waste	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan-24	0.633	0.000	0.000	0.000	0.633	0.244	0.000	0.000	0.000	0.000	0.000	0.246
Feb-24												
Mar-24												
Apr-24												
May-24												
Jun-24												
Sub-total												
Jul-24												
Aug-24												
Sep-24												
Oct-24												
Nov-24												
Dec-24												
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Remarks:

1. Assume the density of soil fill=2.0 tonnes/m³
2. Assume the density of rock and broken concrete=2.5 tonnes/m³
3. Assume the density of refuse = 1.5 tonnes/m³
4. The inert C&D material except slurry and bentonite are disposed at Tuen Mun 38
5. The slurry and bentonite are disposed at Tseung Kuwn O 137.
6. The non-inert C&D wastes, including general refuse are disposed at NENT

Contract No. YL/2020/02 – Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 2 Western

Connection Road Phase 2, Connection Roads to Fanling /

San Tin Highway and Direct Road Link Phase 1

Monthly Summary Waste Flow Table for 2024 (year)

Name of Person completing the record: Calvin So (EO)

Project : Development of Lok Ma Chau Loop: Main Works Package 1– Contract 2, Western Connection Road Phase 2,
Connection Roads in Fanling / San Tin Highway and Direct Road Link Phase 1

Contract No.: YL/2020/02

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 ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000 m ³)
Jan	1.863	0.000	0.000	0.000	1.863	1.332	0.000	0.000	0.000	0.000	0.274
Feb	-	-	-	-	-	-	-	-	-	-	-
Mar	-	-	-	-	-	-	-	-	-	-	-
Apr	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-
Jun	-	-	-	-	-	-	-	-	-	-	-
Sub-total	1.863	0.000	0.000	0.000	1.863	1.332	0.000	0.000	0.000	0.000	0.274
Jul	-	-	-	-	-	-	-	-	-	-	-
Aug	-	-	-	-	-	-	-	-	-	-	-
Sep	-	-	-	-	-	-	-	-	-	-	-
Oct	-	-	-	-	-	-	-	-	-	-	-
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
Total	1.863	0.000	0.000	0.000	1.863	1.332	0.000	0.000	0.000	0.000	0.274

Note:

1. For non-inert portion of C&D material, assume the density of 1 m³ general refuse is equal to 200 kg.
2. For inert portion of C&D material, assume 6 m³ per each full-filled dump truck.
3. All values are round off to the third decimal places.

Contract No. YL/2021/01 – Development of Lok Ma Chau

Loop: Main Works Package 1 – Contract 3 Direct Road

Link Phase 2

Monthly Summary Waste Flow Table for 2024 (year)

Name of Person completing the record: Tino Law

Development of Lok Ma Chau Loop : Main Works Package 1 – Contract 3

Contract No.: YL/2021/01

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	Metals	Paper/ cardboard packaging/	Plastics (see Note 3)	Yard Waste	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
Feb-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
Jul-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sep-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dec-24	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003

Remarks:

1. Assume the density of soil fill=2.0 tonnes/m³
2. Assume the density of rock and broken concrete=2.5 tonnes/m³
3. Assume the density of refuse = 1.5 tonnes/m³
4. The inert C&D material except slurry and bentonite are disposed at Tuen Mun 38
5. The non-inert C&D wastes, including general refuse are disposed at NENT

**APPENDIX P
COMPLAINT LOGS**

Appendix P - Complaint LogContract No. YL/2017/03 – Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Complaint Nature	Investigation Finding	Status
1	9-Sep-19	EPD	EPD Ref: 25222-19	Water quality and air quality	Non-project related	Interim report was submitted to EPD on 23 Sep 2019
2	11-Oct-19	EPD	EPD Ref: 28550-19	Air quality	Non-project related	Interim report was submitted to EPD on 6 Nov 2019
3	30-Oct-19	EPD	EPD Ref: 30478-19	Air quality	Non-project related	Interim report was submitted to EPD 14 Nov 2019
4	10-Dec-19	1823 (CEDD)	1823 Case no: 2-6145710343	Noise and air quality	Non-project related	Final reply to 1823 on 24 Dec 2019. IR prepared by Contractor was agreed by IEC and ET
5	5-Mar-21	1823	1823 Case no: 3-6641544979	Air quality	Non-project related	Final reply to 1823 on 11 Mar 2021. IR prepared by Contractor was agreed by IEC and ET

Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 – Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 / Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1 / Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
COM-2021-10-01	11 October 2021	EPD	EPD File Ref.: N07/RN/00 024120-21	<p>EPD received a public complaint on 11 October 2021. The complainant alleged the following:</p> <p>(a) Discharge of muddy water from construction sites of “Development of Lok Ma Chau Loop” project to Shenzhen River in the morning of 8 October 2021; and,</p> <p>(b) Use of powered mechanical equipment (including excavators and dump trucks) in the construction sites of “Development of Lok Ma Chau Loop” project on Sunday.</p>	<p>(a) <u>Water Quality</u> Non-project related According to the interim report, wastewater treatment facilities and relevant mitigation measures were properly implemented and there is no direct evidence to demonstrate the muddy discharge was inducted by the Contract. Further preventive measures, such as increasing the height of the temporary drainage by using sandbag and providing the earth bund with geo-textile along the site boundary, were implemented on 12 October 2021 in order to avoid muddy water from leaking into Shen Zhen River.</p> <p>(b) <u>Noise</u> Project related Typhoon No. 8 (Tropical cyclone: Lion Rock) was hoisted on 9 October 2021. Severe rainfall was recorded due to the adverse weather. To avoid leakage of the muddy water into the meander of the Shenzhen River, JV mobilized an excavator and dump truck to clear the blockage as an emergency measure. ET reminded the Contractor to update the site drainage</p>	Interim report was submitted to EPD on 29 Oct 2021

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>plan according to the construction programme and closely check the effectiveness of the implemented mitigation measures on site so that the EP, EIA and EM&A manual recommendation and requirements are complied with.</p> <p>In addition, the Contractor was also reminded to prepare a contingency plan for emergency environmental incidents.</p>	
COM-2021-11-01	15 November 2021	EPD	EPD File Ref.: N06/RN/00 027302-21	EPD received a public complaint on 15 November 2021. The complainant concerned about the dust nuisance in the construction sites of “Development of Lok Ma Chau Loop” project.	<p>According to the interim report, dust mitigation measures have been properly implemented on site:</p> <ul style="list-style-type: none"> - Haul road of the main site have been paved with concrete and the speed of the vehicle has been restricted to below 8kmper hour within the construction area to minimize fugitive dust emission. - Wheel washing fallibilities have been established at the location where the vehicles into the haul road in order to keep clear of any loose surface material. - Mist spray and water trucks have been provided to water the paved haul road regularly and at least once per hour on exposed work site. - Water spray has been provided during the handling of the fill material at the site and all the dusty loads transported to, from and between site location have been covered. - Induction training and tool box talk have been provided to the site staff and workers regarding the dust suppression measure. - Temporary covers have been provided to stockpile of the dusty materials and the exposed slope. 	Interim report was submitted to EPD on 25 Nov 2021

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					Further preventive measures, establishment of the automatic water spray system along the haul road and increasing the amount of the mist spray machine to enhance the efficiency of the dust suppression measures will also be provided.	
COM-2022-01-01	2 January 2022	EPD	EPD File Ref.: N06/RN/0000184-22	EPD received a public complaint by phone in Jan 2022 regarding noise from general construction work associated with the Lok Ma Chau Loop Development Project being carried out on 2.1.2022 at around 15:30 hours (i.e. within the restricted hours on Sunday).	<p>According to the location under complaint, the work was likely carried out within the work site of “Direct Road Link to MTR Lok Ma Chau Station” and/or “Western Connection Road”. Therefore, interim reports were submitted by Contract No.: YL/2020/01 and YL/2020/02 respectively:-</p> <p><u>Contract No.: YL/2020/01</u></p> <p>According to the site diary, no construction work was carried out during restricted hours at the location under complaint for YL/2020/01 on 2 January 2022. For prevention measure, Permit –to –Work system has been implemented for all the construction works being conducted in the restricted hours to enhance site control. All the construction works need to inform JV at least one day in advance.</p> <p>In addition, all staff and workers involved in the site operation during the restricted hours have to obtain a valid site pass and display to the security guards when entering site area for the enhancement of the site security system.</p> <p>Based on the above information and investigation findings, the noise complaint is not related to the</p>	Interim report was submitted to EPD on 14 Feb 2022

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>construction works of the Contract YL/2020/01.</p> <p><u>Contract No.: YL/2020/02</u> According to the site diary, no construction work was carried out during restricted hours at the location under complaint on 2 January 2022 for YL/2020/02. Nevertheless, construction team was reminded to strictly follow the requirement stated in the issued construction noise permit when construction work is required during restricted hours.</p> <p>Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract YL/2020/02.</p>	
COM-2022-04-01	4 April 2022	1823	1823 Case no: 3-7155426748	The complainant concerned about the muddy surface runoff arising from the construction works of “Development of Lok Ma Chau Loop” project. at Lok Ma Chau Road near Ha Wan Tsuen Road.	<p>According to the interim report, no construction works was carried out at the location of complaint which is outside the site boundary of the Project from 1st April to 4th April 2022. Appropriate water quality mitigation measures have been properly implemented on site and there is no direct evidence to demonstrate the muddy discharge was induced by the Project.</p> <p>Further preventive measures, such as set up a monitoring point at the exit of the site to check the wheels of the vehicles are clean enough so that no mud and grit adhered to the wheels of the trucks when leaving the site. In addition, sprinkler truck will be only operated at appropriate location within the project site to avoid nuisance to the public road user.</p>	Final reply to 1823 on 12 April 2022. Interim report prepared by Contractor was agreed by IEC and ET

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
COM-2022-08-01	1 August 2022	EPD	EPD File Ref.: N06/RN/00 015561-22	The complainant concerned about the muddy water discharged by a piling contractor “德運建築鑽探有限公司” on 20 th July 2022	<u>Contract No.: YL/2020/01</u> 德運建築鑽探有限公司 is not related to the Contract No. YL/2020/01. After checking on site, the complaint was referred to other party.	Interim report was submitted to EPD on 18 Aug 2022
COM-2022-08-02	4 August 2022	EPD	EPD File Ref.: N06/RN/00 015953-22	The complainant concerned about the muddy water discharging to the public area from a construction site near Fu Tai Car Park.	<u>Contract No.: YL/2020/02</u> Joint site investigation with RSS was carried out on 5 Aug 2022 near Fu Tai Carpark. There were no construction works carried out near Fu Tai Carpark and no muddy water was noted. Preventive measures (sand bag bund) had been provided.	Interim report was submitted to EPD on 18 Aug 2022
COM-2022-10-01	14 October 2022	EPD	EPD File Ref.: N06/RN/00 022308-22	The complainant concerned about the noise arising from piling works carried out at 6am in the morning and around 11pm at night at the construction site adjacent to the existing Lok Ma Chau MTR Station.	<u>Contract No.: YL/2021/01</u> According to the interim report, the piling works were carried out with valid construction noise permit from 08:00 to 23:00 under Contract YL/2021/01 nearby Lok Ma Chau Station. Noise control measures (e.g., permit-to-work system) have been implemented on site. Further noise mitigation measure, such as set up the acoustic canvas to enclose the engine of the used powered mechanical equipment to minimize the noise generated from works and the impact to the nearby resident.	Interim report was submitted to EPD on 17 Nov 2022
COM-2022-10-02	14 October 2022	EPD	EPD File Ref.: N06/RN/00 022342-22	The complainant concerned about the noise arising from piling works carried out before 7am and at around 11pm at the construction site adjacent to the existing Lok Ma Chau MTR Station.	<u>Contract No.: YL/2021/01</u> According to the interim report, the piling works were carried out with valid construction noise permit from 08:00 to 23:00 under Contract YL/2021/01 nearby Lok Ma Chau Station. Noise control measures (e.g., permit-to-work system) have been implemented on site.	Interim report was submitted to EPD on 17 Nov 2022

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					Further noise mitigation measure, such as set up the acoustic canvas to enclose the engine of the used powered mechanical equipment to minimize the noise generated from works and the impact to the nearby resident.	
COM-2022-10-03	28 October 2022	EPD	EPD File Ref.: N06/RN/00 023772-22	The complainant concerned about the noise arising from percussive piling works carried out on 27 & 28 Oct 2022 in Lok Ma Chau Loop (at a work site near “落馬州河套區創科園地盤”)	<u>Contract No.: YL/2020/01</u> According to the interim report, no percussive piling works were carried out under Contract No. YL/2020/01 inside Lok Ma Chau Loop on 27 th and 28 th October 2022 according to per Condition 2.9 (d) of EP 477/2013/A.	Interim report was submitted to EPD on 22 Nov 2022
COM-2022-11-01	20 November 2022	EPD	EPD File Ref.: N07/RN/00 026174-22	The complainant concerned about the noise arising from piling works carried out at around 7am to around 10pm at the construction site adjacent to the Lok Ma Chau minibus station (落馬州關口小巴士站旁地盤).	<u>Contract No.: YL/2021/01</u> According to the interim report, the piling works were carried out with valid construction noise permit from 09:00 to 23:00 under Contract YL/2021/01 nearby Lok Ma Chau Station. Noise control measures (e.g., permit-to-work system) have been implemented on site. Further noise mitigation measure, such as set up the acoustic canvas to enclose the engine of the used powered mechanical equipment and along the site boundary facing the resident of Shenzhen City to minimize the noise generated from works and the impact to the nearby resident. In addition, the duration of potential noisy construction activities (e.g., core demouling and casing extraction)	Interim report was submitted to EPD on 5 Dec 2022

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					were also minimized.	
COM-2022-12-01	4 December 2022	EPD	EPD File Ref.: N06/RN/00 027607-22)	The complainant alleged that: “... 打樁噪音造成困擾,情況已維持幾個星期,最初只係星期六下午,近兩星期日日朝早點前後就開始,到黃昏點幾6點先至停”. The complainant provided co-ordinate information (x=826305.0; y=842363.0) for reference.	<u>Contract No.: YL/2020/01</u> According to the interim report, no percussive piling works were carried out since the commencement of the Contract with reference to the site diary records. Refer to the coordinate information (x=826305.0; y=842363.0) provided by the complainant, the location of concerned is not within the works area under the Contract. Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract.	Interim report was submitted to EPD on 22 Dec 2022
COM-2022-12-01	8 December 2022	EPD	EPD File Ref.: N06/RN/00 028165-22)	The complainant alleged that there was percussive piling works carried out within the work site of Lok Ma Chau Loop, and commented that “落馬洲河套地盤打樁噪音問題,到目前仍然如是”. The complainant provided a video record of 7 Dec 2022 (taken at around 1500 hours) showing the suspected percussive piling work. The complainant provided co-ordinate information (x=826305.0; y=842363.0)	<u>Contract No.: YL/2020/01</u> According to the interim report, no percussive piling works were carried out since the commencement of the Contract with reference to the site diary records. Refer to the coordinate information (x=826305.0; y=842363.0) provided by the complainant, the location of concerned is not within the works area under the Contract. Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract.	Interim report was submitted to EPD on 22 Dec 2022

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
				for reference, and did not indicate where he/she was affected by the construction noise.		
COM-2023-02-01	15 February 2023	EPD	EPD File Ref.: N06/RN/0004267-23)	The complaint was lodged by a resident of Shenzhen City ‘...'附上落马洲工程夜间持续到现在还在工作的视频，轰隆声非常影响我们住在对面深圳居民的休息！希望能得到改善！不要在夜间扰民！谢谢！". Two short videos were attached in EPD's email dated 15 February 2023.	<p><u>Contract No.: YL/2021/01</u></p> <p>According to the interim report, piling works were carried out by the Contractor from 09:00 to 23:00 with valid construction noise permit under Contract YL/2021/01 of the Public Transport Interchange of Lok Ma Chau MTR Station.</p> <p>Noise monitoring was conducted for works during the restricted hours and no exceedance was recorded. The duration of working time for core demoulding and casting extraction were also minimized in order to reduce noise levels. Acoustic canvas sheets were installed to enclose the engine of used PME and deployed along the site boundary facing the resident of Shenzhen City to minimize the noise generated from works and the impact to the nearby resident.</p> <p>For enhancement, a 3m high noise barrier was installed next the rotary drilling rig on 15 February 2023. All night works were reviewed and suspended until 19 February 2023.</p>	Interim report was submitted to EPD on 24 Feb 2023
COM-2023-03-01	3 March 2023	EPD	EPD File Ref.: N06/RN/00	The complaint was lodged by a resident of Shenzhen City “附件有视频，拍不到做工	<p><u>Contract No.: YL/2021/01</u></p> <p>According to the interim report, the piling works were</p>	Interim report was submitted to EPD on 17

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
			006284 23	程，但机器的轰隆声从早到晚，即使现在 22:24 分还在热火朝天的工作中！孩子和老人都需要休息，特别是老人，这种声音让他们已经很久没能早点休息！！！望能解决！或者可否告知什么时候工程能结束？ A short video was attached in EPD's email on 8 th March 2023.	<p>carried out from 09:00 to 23:00 with valid construction noise permit under Contract YL/2021/01 at the Public Transport Interchange of Lok Ma Chau MTR Station. Other than the piling works, there were no construction works undertaken by Contract YL/2021/01 on that night. Noise source was recorded in the short video provided by the complaint. However, the noise source had yet to be ascertained.</p> <p>Since the commencement of the contract, Permit to Work (PTW) System for construction works undertaking during restricted hours has been implemented. PMEs used were followed the granted CNP as well as the condition(s) stipulated in CNP were fulfilled.</p> <p>In addition, noise monitoring was conducted for works during the restricted hours, and no exceedance was recorded.</p> <p>Acoustic canvas sheets were installed to enclose the engine of used powered mechanical equipment. A 3m high noise barrier was installed next to the rotary drilling rig. For enhancement, another 3m high noise barrier was erected facing the residential blocks of Shenzhen City on 7 March 2023. The piling works at the site area near Lok Ma Chau MTR Station are tentatively scheduled to be completed in the first quarter of 2024.</p>	Mar 2023
COM-2023-04-01	3 April 2023	EPD	EPD File Ref.: N06/RN/00	The complaint was lodged by a resident of Shenzhen City "this site is still operating at	<p><u>Contract No.: YL/2021/01</u></p> <p>According to the interim report, the piling works were</p>	Interim report was submitted to EPD on 27

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
			009011-23	this time (10:15pm). It is not the first time it operates until this late but every single night since the work began. Last Sunday, it operated until 4pm”. A sound recording and phot were attached to the email.	<p>carried out from 08:00 to 19:00 on 2 April (Sunday) and 08:00 to 23:00 on 3 April with valid construction noise permit under Contract YL/2021/01 at the Public Transport Interchange of Lok Ma Chau MTR Station. Other than the piling works, there were no construction works undertaken for Contract YL/2021/01 during the aforementioned periods. The complaint included a sound recording that captured noise, but the source of the noise has not yet been determined.</p> <p>Since the commencement of the contract, Permit to Work (PTW) System for construction works undertaking during restricted hours has been implemented. Frontline supervisor and sub-contractors have to apply a PTW one working day in advance of the construction works during restricted hours and attend the pre-work briefing prior to commencing works on site to ensure strict compliance with the conditions of construction noise permit. No works and PMEs were allowed without the approved PTW form.</p> <p>Based on the Contractor’s record, two rotary drill rigs were operated as listed in Group L of granted CNP at 08:00 – 19:00 on 2 April (Sunday) and 19:00 – 23:00 on 3 April, and only one group (L) of the PME was used for carrying out construction work at the same time. PMEs used were followed the granted CNP as well as the condition(s) stipulated in CNP were fulfilled. The power generating part of the rotary drilling rigs was screened by</p>	Apr 2023

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status																
					<p>acoustic barrier. In addition, noise monitoring was conducted for works during the restricted hours, and no exceedance was recorded. The duration of working time for core demoulding and casing extraction were also minimized in order to reduce noise levels. 3m high noise barriers were installed next to the rotary drilling rigs. Another noise barriers were erected facing the residential blocks of Shenzhen City.</p> <p>All construction works performed during the restricted hours were reviewed and no non-compliance was identified. A refresher training on a CNP compliance was provided to relevant frontline staff and workers on 20th April 2023.</p>																	
COM-2023-05-01	8 May 2023	EPD	EPD File Ref.: N06/RN/00 011649 23	<p>A public complaint was received by EPD on 8 May 2023 and supplemented a video taken by complainant on 14 May 2023. The complaint was lodged by a resident of Shenzhen City "地點，港鐵落馬洲站，樓下近巴士總站，福田口岸建築地盤剛，經常發出噪音，剛才星期六五月六號約15點40分，估計噪音超過100分配，另外經常在18:00後，及於星期日公眾假期等日子進行施工及發出噪音造成滋擾。"</p>	<p>Contract No.: YL/2021/01</p> <p>According to the interim report, construction activities being undertaken nearby Lok Ma Chau MTR Station on 6 May (Saturday) and 14 May (Sunday) 2023 were:</p> <table border="1"> <thead> <tr> <th>Date</th> <th colspan="2">6 May (Saturday)</th> <th>14 May (Saturday)</th> </tr> </thead> <tbody> <tr> <td>Working Time:</td> <td>08:00 to 19:00 (Normal working hours)</td> <td>19:00 to 23:00 (Restricted hours)</td> <td>08:00 to 19:00 (Restricted hours)</td> </tr> <tr> <td>Location:</td> <td colspan="3">The Public Transport Interchange of Lok Ma Chau MTR Station</td> </tr> <tr> <td>Construction</td> <td colspan="2">Piling works</td> <td>Air lifting works</td> </tr> </tbody> </table>	Date	6 May (Saturday)		14 May (Saturday)	Working Time:	08:00 to 19:00 (Normal working hours)	19:00 to 23:00 (Restricted hours)	08:00 to 19:00 (Restricted hours)	Location:	The Public Transport Interchange of Lok Ma Chau MTR Station			Construction	Piling works		Air lifting works	Interim report was submitted to EPD on 17 May 2023
Date	6 May (Saturday)		14 May (Saturday)																			
Working Time:	08:00 to 19:00 (Normal working hours)	19:00 to 23:00 (Restricted hours)	08:00 to 19:00 (Restricted hours)																			
Location:	The Public Transport Interchange of Lok Ma Chau MTR Station																					
Construction	Piling works		Air lifting works																			

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status														
					<p>activities: <table border="1" style="display: inline-table; vertical-align: top;"><tr><td style="width: 150px; height: 15px;"></td><td style="width: 150px; height: 15px;"></td></tr></table></p> <p>The noise recorded in the video was considered not arising from Contract YL/2021/01.</p> <p>Since the commencement of the contract, Permit to Work (PTW) System for construction works undertaking during restricted hours has been implemented. No works and PME were allowed without the approved PTW form.</p> <p>PMEs used record</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Date:</td> <td style="width: 40%;">6 May (Saturday)</td> <td style="width: 40%;">14 May (Saturday)</td> </tr> <tr> <td>Time (restricted hours)</td> <td>19:00 to 23:00</td> <td>08:00 to 19:00</td> </tr> <tr> <td>Group of granted CNP:</td> <td>L</td> <td>M</td> </tr> <tr> <td>PMEs used:</td> <td>1 x Rotary drilling rig</td> <td>2 x De-senders 2 x Mobile cranes 2 x Air compressors</td> </tr> </table> <p>PMEs used were followed the granted CNP as well as the condition(s) stipulated in CNP were fulfilled. The power generating part of the rotary drilling rigs was screened by acoustic barrier. In addition, noise monitoring was conducted for works during the restricted hours, and no exceedance was recorded. The duration of working time for core demoulding and casing extraction were also minimized in order to reduce noise levels. A 3m high noise barrier were installed next to the rotary drilling rig. Another noise barriers were erected facing the residential</p>			Date:	6 May (Saturday)	14 May (Saturday)	Time (restricted hours)	19:00 to 23:00	08:00 to 19:00	Group of granted CNP:	L	M	PMEs used:	1 x Rotary drilling rig	2 x De-senders 2 x Mobile cranes 2 x Air compressors	
Date:	6 May (Saturday)	14 May (Saturday)																		
Time (restricted hours)	19:00 to 23:00	08:00 to 19:00																		
Group of granted CNP:	L	M																		
PMEs used:	1 x Rotary drilling rig	2 x De-senders 2 x Mobile cranes 2 x Air compressors																		

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>blocks of Shenzhen City. The generators used on site were Quality Powered Mechanical Equipment (QPME).</p> <p>According to the calculation by the Contractor during the non-restricted hour on 6 May (Saturday), the mitigated noise level at the nearest residential building in Shenzhen based on the SWL of PMEs used were below 75dB(A).</p> <p>All construction works performed during the restricted hours were reviewed and no non-compliance was identified. A refresher training on a CNP compliance was provided to relevant frontline staff and workers on 12 May 2023. The deployment of the temporary noise barriers would be reviewed from time to time to cater for the changing site conditions.</p>	
COM-2023-10-01	2 October 2023	EPD	EPD File Ref.: N07/RN/00 023409-23	EPD received a public complaint on 2 October 2023 regarding flytipping of C&D wastes from a construction site. “街燈 BD1944、BD1308附近有地盤非法傾倒建築物料(紅毛泥)到河流中，導致河中魚類死亡”。	<p><u>Contract No.: YL/2020/02</u></p> <p>According to the interim report, the following investigation was conducted:</p> <ol style="list-style-type: none"> 1. EPD SEPI Mr. Arthur Lau and his team, accompanied by CRBC Environmental Officer, Mr. Calvin So, carried out site inspection at Lok Ma Chau works area on 4 October 2023. During the inspection, no dead fish and construction waste was found in the nullah. Three water samples were taken by EPD (two from the nullah near street lamp post nos. BD1944 and BD1308 respectively, one from the wastewater treatment facility at Fu Tai works area) 	Interim report was submitted to EPD on 6 Nov 2023

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>during the inspection. No adverse comment was received from EPD during the inspection regarding the captioned.</p> <p>2. A joint site investigation amongst ET, IEC, AECOM and CRBC was carried out on 4 October 2023. No dead fish and deposition of construction waste (e.g. cement) was identified at the nullahs on both sides of Lok Ma Chau Road. Wastewater generated near Fu Tai works area was properly treated prior to discharge to the designated discharge point in accordance with the Discharge Licence (Licence Number: WT10001592-2023). No inert material was placed near the nullah in Fu Tai works area. No chemical is discharged to the existing Chau Tau nullah.</p> <p>3. The construction waste in Fu Tai works area was free from the nullah, sandbags were provided at the working area near the nullah. The inert construction waste (e.g. soil) generated in Fu Tai works area was transported to Reedbed works area for further arrangement, such as temporary storage for future use and disposal at designated Public Fill Bank.</p> <p>4. The construction activities conducted from 25 September 2023 to 6 October 2023 in Fu Tai works area are the following:</p> <p>(a) RCD drilling (Involving driven of steel casing into rock head level instead of applying bentonite, wastewater was collected and recycled by set of sedimentation tanks,</p>	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>therefore no wastewater was leaked to nearby nullah.)</p> <ul style="list-style-type: none"> (b) RCD airlifting (Wastewater was collected by set of sedimentation tanks and discharged after treatment of Wetsep to discharge point) (c) Concreting by tremie pipe without applying of curing compound (Wastewater was displaced by concrete within the steel casing and discharged after treatment of Wetsep to discharge point without any overflow) <p>The construction waste generated was transported to Reedbed works area for further arrangement. The construction activities conducted at the works area opposite to street lamp post no. BD1308 is unlikely to cause any effect to the nullah next to street lamp post no. BD1944 as nullah system is already diverted to different stream next to Chau Tau Ventilation Building. Therefore, the construction activities adjacent to the existing Chau Tau nullah were discrete from the downstream nullah.</p> <p>5. Mitigation measures taken on wastewater pollution control and waste management:</p> <ul style="list-style-type: none"> (a) Wastewaste treatment facilities were employed in Fu Tai Area. Wastewater generated in the area was treated properly in accordance with the Discharge Licence (Licence Number: WT10001592-2023) 	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>before discharge to the designated discharge point since the Discharge Licence (Licence Number: WT10001592-2023) was granted (early September 2023).</p> <p>(b) The nullah near Fu Tai works area is free from construction material, sandbags were provided at the working area near the nullah since the commencement of works in Fu Tai works area.</p> <p>(c) CCTVs were installed along the nullah in Lok Ma Chau Road for monitoring since August 2023. The site condition of the nullah in Lok Ma Chau Road can be seen at real time and recorded through the CCTVs. No dead fish and construction waste was found in the nullah during the period of 25 September 2023 to 4 October 2023. No incident of oil / chemical spillage at Fu Tai Site area.</p> <p>6. Nevertheless, CRBC will continue to comply with the Water Pollution Control Ordinance and Waste Disposal Ordinance. Based on the investigation result, it is considered that the complaint was not related to Contract No. YL/2020/02.</p>	
COM-2023-12-01	4 December 2023	EPD	N/A	EPD received a public complaint on 4 December 2023 regarding to muddy	<p><u>Contract No.: YL/2020/02</u></p> <p>According to the interim report, the following</p>	Interim report was submitted to EPD on 19

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
				<p>water and dust nuisance from a construction site. "落馬洲潘屋村口有一個地盤排放出泥水及造成大塵滋擾。這地盤是鄰近村民等車的地方，可以影響到出入的老人。" The complainant made a request that "dust screens" should be set up at the construction area near "the public light bus stand" alleged as temporary nature for Pun Uk Tsuen.</p>	<p>investigation was conducted:</p> <ol style="list-style-type: none"> 1. Excavation and site clearance was conducted at the concerned site area. 2. EPD SEPI Mr. Arthur Lau and his team, accompanied by CRBC Environmental Officer, Mr. Calvin So and RSS, carried out site inspection at Pun Uk Tsuen works area on 5 December 2023. During the inspection, no muddy water and dust nuisance were found at the concerned site area. No adverse comment was received from EPD during the inspection under the subject complaint. 3. Mitigation measures took on site for wastewater pollution control and dust nuisance before receiving the complaint: <ol style="list-style-type: none"> (a) Sandbags have been placed along the boundary of the works area to prevent wastewater to be ran-off from the site. (b) Tarpaulin sheet has been provided for the exposed slopes to minimize the dust nuisance to nearby pedestrians. 4. Additional mitigation measures took on site to further strengthen the wastewater pollution control and dust nuisance after the complaint: 	Dec 2023

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
					<p>(a) Double layer of sandbags have been placed along the work area to prevent wastewater to be ran-off from the site.</p> <p>(b) Dust screen has been erected to minimize dust nuisance to nearby pedestrians.</p> <p>5. Nevertheless, CRBC will continue to comply with the Water Pollution Control Ordinance and Air Pollution Control Ordinance. Base on the investigation result, it is considered that the complaint was not related to Contract No. YL/2020/02.</p>	
COM-2024-1-01	14 January 2024	EPD	EPD File Ref.: N06/RN/00 001389-24)	An environmental complaint has been received by EPD regarding construction works of the Lok Ma Chau Loop Project (Environmental Permit No. EP-477/2013/B). The complainant alleged that there was a construction noise generated from percussive piling works around the work site of Central Government – Aided Emergency Hospital. The details of the complaint according to EPD email dated 16 January 2024 is a	<p><u>Contract No.: YL/2020/01</u></p> <p>According to the interim report, the following investigation was conducted:</p> <ol style="list-style-type: none"> 1. Percussive piling works is not required under YL/2020/01, no percussive piling works were carried out since the commencement of the Contract and no site activities after 20:00 on 12 January 2024. 2. A site inspection conducted on 18 January 2024, by EPD SEPI, Mr Arthur Lau and his team, accompanied by representatives from JV at works area of Contract YL/2020/01. During the 	Interim report was submitted to EPD on 7 February 2024

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
				follows, “投訴人投訴落馬洲福田口岸中央援港醫院附近有工程噪音滋擾事宜，投訴人表示在1月12日晚上九點半依然有打樁的聲音，嚴重滋擾投訴人休息。要求部問跟進和處理個案”。	inspection, no piling works was observed. No adverse comment was received from EPD during the inspection regarding the caption. 3. Based on above information and investigation findings, the noise complaint is not related to the construction works of the Contract YL/2020/01.	

**APPENDIX Q
SUMMARY OF SUCCESSFUL
PROSECUTION**

Appendix Q - Summary of Successful Prosecution

Date of Successful Prosecution	Details of the Successful Prosecution	Status	Follow Up
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APPENDIX R
ECOLOGICAL MONITORING RESULTS

Appendix R1 – Avifauna Monitoring Results (Pond 12)

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	2 nd January 2024
					Weather Condition	Fine
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵯	WV		1	1
Azure-winged Magpie	<i>Cyanopica cyanus</i>	灰喜鵲	R		3	
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV		4	4
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵯	R		1	
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)		4
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		6	6
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV		2	3
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	11	6
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC	1	2
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	CWV	PRC	13	19
Large-billed Crow	<i>Corvus macrorhynchus</i>	大嘴烏鴉	R		1	2
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	2	9
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R		1	
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵯	R		2	
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R			6

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	2 nd January 2024
					Weather Condition	Fine
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
White Wagtail	<i>Motacilla alba</i>	白鵲鴿	PM, WV		1	2
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R		2	3
Total No. of Species					15	13
No. of Birds Recorded					51	67

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	8 th January 2024
					Weather Condition	Cloudy
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵲	WV			2
Black Drongo	<i>Dicrurus macrocercus</i>	黑卷尾	Sv			2
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鵲	R		3	
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R			3
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	CWV	PRC	9	9
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鵂	R	(VU)	1	1
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC	1	1
Little Egret	<i>Egretta garzetta</i>	小白鷺	R	PRC(RC)	2	
Long-tailed Shrike	<i>Lanius schach</i>	棕背伯勞	R		1	
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鵲	R		5	3
Scaly-breasted Munia	<i>Lonchura punctulata</i>	斑文鳥	R			8
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		2	
White-breasted Waterhen	<i>Amaurornis phoenicurus</i>	白胸苦惡鳥	R		1	
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R			2
Total No. of Species					9	9
No. of Birds Recorded					25	31

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	19 th January 2024
					Weather Condition	Fine
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵯	WV		1	
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV		1	2
Black-collared Starling	<i>Gracupica nigricollis</i>	黑領棕鳥	R			2
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R		1	1
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鷺	R	PRC(RC)		1
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		3	2
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	CWV	PRC	8	10
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鵂	R	(VU)	1	
Great Egret	<i>Ardea alba</i>	大白鷺	R, WV	PRC(RC)	2	1
Grey Heron	<i>Ardea cinerea</i>	蒼鷺	WV	PRC	1	1
Large-billed Crow	<i>Corvus macrorhynchus</i>	大嘴烏鴉	R		1	1
Plain Prinia	<i>Prinia inornata</i>	純色鷦鶯	R		1	2
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R		3	1
White Wagtail	<i>Motacilla alba</i>	白鶺鴒	PM, WV			1
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)	1	1

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	19 th January 2024
					Weather Condition	Fine
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷦鶯	R		3	5
Total No. of Species					13	14
No. of Birds Recorded					27	31

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	25 th January 2024
					Weather Condition	Fine
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵯	WV			1
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV		1	1
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R		2	2
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶯	R	PRC(RC)		1
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R			4
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV		2	2
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	CWV	PRC	18	20
Greater Coucal	<i>Centropus sinensis</i>	褐翅鴉鵂	R	(VU)		1
Great Egret	<i>Ardea alba</i>	大白鶯	R, WV	PRC(RC)	2	1
Grey Heron	<i>Ardea cinerea</i>	蒼鶯	WV	PRC		1
Large-billed Crow	<i>Corvus macrorhynchus</i>	大嘴烏鴉	R			2
Little Egret	<i>Egretta garzetta</i>	小白鶯	R	PRC(RC)		1
Plain Prinia	<i>Prinia inornata</i>	純色鶯鶯	R		2	2
Spotted Dove	<i>Streptopelia chinensis</i>	珠頸斑鳩	R			1
White-throated Kingfisher	<i>Halcyon smyrnensis</i>	白胸翡翠	R	(LC)		1
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鶯鶯	R		5	6

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	25 th January 2024
					Weather Condition	Fine
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Total No. of Species					7	16
No. of Birds Recorded					32	47

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	29 th January 2024
					Weather Condition	Fine
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Amur Stonechat	<i>Saxicola stejnegeri</i>	黑喉石鵲	WV			1
Black Kite	<i>Milvus migrans</i>	黑鳶	R, WV		1	2
Chinese Bulbul	<i>Pycnonotus sinensis</i>	白頭鶇	R		2	3
Chinese Pond Heron	<i>Ardeola bacchus</i>	池鶯	R	PRC(RC)		1
Common Sandpiper	<i>Actitis hypoleucos</i>	磯鶯	WV, PM			1
Crested Myna	<i>Acridotheres cristatellus</i>	八哥	R		1	2
Dusky Warbler	<i>Phylloscopus fuscatus</i>	褐柳鶯	PM, WV		2	2
Great Cormorant	<i>Phalacrocorax carbo</i>	普通鸕鶿	CWV	PRC	9	13
Red-whiskered Bulbul	<i>Pycnonotus jocosus</i>	紅耳鶇	R		1	2
Plain Prinia	<i>Prinia inornata</i>	純色鷓鴣	R		1	1
Red-billed Blue Magpie	<i>Urocissa erythrorhyncha</i>	紅咀藍鶇	R			1
White Wagtail	<i>Motacilla alba</i>	白鶇鶯	PM, WV			1
Yellow-bellied Prinia	<i>Prinia flaviventris</i>	黃腹鷓鴣	R		3	5
Total No. of Species					8	13
No. of Birds Recorded					20	35

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; 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))

Appendix R2 – Herpetofauna (Chinese Bullfrog) Survey Results

No herpetofauna survey was conducted during the period between November 2023 to February 2024 according to Section 11.4.2.2 of EM&A Manual.

Appendix R3 – Aquatic Fauna (Rose Bitterling) Survey Results

Common Name	Species Name	Chinese Name	Date: 25 th January 2024							
			Weather Condition: Sunny							
			Counts							
			Location(s)							
			S1	S2	S3	S4	A1	A2	B1	B2
Rose Bitterling	<i>Rhodeus ocellatus</i>	高體鯉鰱	Direct Observation:							
			0	0	0	0	0	26	0	0
			Sweep Netting:							
			0	0	0	0	0	0	0	0

Appendix R4

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 02-Jan-24

Location	Weather Condition	Start Time	Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)	
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Sunny	12:05	19.5	19.5	7.3	7.3	0.1	0.1	74.7	74.3	6.9	6.9	5.1	5.3
			19.5		7.3		0.1		73.9		6.8		5.5	
A2	Sunny	11:51	20.0	20.0	7.4	7.4	0.1	0.1	73.0	73.0	6.6	6.6	3.8	3.8
			20.0		7.4		0.1		73.0		6.6		3.8	
B1	Sunny	11:41	20.6	20.6	7.7	7.7	0.1	0.1	67.9	67.6	6.1	6.1	6.4	6.4
			20.6		7.7		0.1		67.3		6.0		6.3	
B2	Sunny	11:34	20.9	20.9	7.9	7.9	0.1	0.1	67.8	67.3	6.1	6.1	5.6	5.6
			20.9		7.9		0.1		66.8		6.0		5.6	
S1	Sunny	12:12	20.3	20.3	7.2	7.2	0.1	0.1	67.5	67.4	6.1	6.1	17.9	17.8
			20.3		7.2		0.1		67.3		6.1		17.7	
S2	Sunny	11:59	22.3	22.3	7.3	7.3	0.1	0.1	65.4	65.2	5.7	5.7	2.6	2.6
			22.3		7.2		0.1		65.0		5.7		2.6	
S3	Sunny	11:22	21.4	21.4	8.3	8.3	0.1	0.1	60.2	60.0	5.3	5.3	6.6	6.6
			21.4		8.2		0.1		59.8		5.3		6.6	
S4	Sunny	11:29	21.2	21.2	7.9	7.9	0.1	0.1	58.8	58.4	5.2	5.2	6.8	6.6
			21.2		7.9		0.1		57.9		5.1		6.4	

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 12-Jan-24

Location	Weather Condition	Start Time	Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)	
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Sunny	14:47	20.6	20.6	7.5	7.5	0.1	0.1	57.6	57.5	5.2	5.2	5.2	5.2
			20.6		7.5		0.1		57.4		5.2			
A2	Sunny	14:33	20.8	20.8	7.7	7.7	0.1	0.1	62.7	62.6	5.6	5.6	4.8	4.8
			20.8		7.7		0.1		62.4		5.6			
B1	Sunny	14:26	21.4	21.4	8.1	8.1	0.1	0.1	102.8	103.1	9.1	9.1	9.0	9.0
			21.4		8.1		0.1		103.3		9.1			
B2	Sunny	14:20	21.7	21.7	8.3	8.3	0.1	0.1	111.3	111.5	9.8	9.8	7.6	7.7
			21.7		8.3		0.1		111.6		9.8			
S1	Sunny	14:55	21.0	21.0	7.4	7.4	0.1	0.1	62.5	62.4	5.6	5.6	34.9	34.2
			21.0		7.4		0.1		62.2		5.5			
S2	Sunny	14:41	22.4	22.4	7.6	7.6	0.1	0.1	65.8	65.8	5.7	5.7	5.1	5.1
			22.4		7.6		0.1		65.7		5.7			
S3	Sunny	14:05	22.1	22.1	8.4	8.4	0.2	0.2	48.8	48.8	4.3	4.3	9.5	9.5
			22.1		8.4		0.2		48.7		4.3			
S4	Sunny	14:12	22.3	22.3	8.2	8.2	0.1	0.1	56.3	56.1	4.9	4.9	5.4	5.5
			22.3		8.2		0.1		55.9		4.9			

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 19-Jan-24

Location	Weather Condition	Start Time	Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)	
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Sunny	12:24	21.2	21.2	7.3	7.3	0.1	0.1	63.4	63.4	5.6	5.6	6.7	6.8
			21.2		7.3		0.1		63.3		5.6		6.8	
A2	Sunny	12:03	22.1	22.1	7.3	7.3	0.1	0.1	66.1	66.1	5.8	5.8	6.1	6.2
			22.1		7.3		0.1		66.1		5.8		6.2	
B1	Sunny	11:55	23.0	23.0	7.7	7.7	0.1	0.1	95.2	95.2	8.2	8.2	5.9	6.0
			23.0		7.7		0.1		95.1		8.2		6.0	
B2	Sunny	11:46	23.2	23.2	7.8	7.8	0.1	0.1	94.1	94.0	8.0	8.0	6.2	6.2
			23.2		7.8		0.1		93.9		8.0		6.2	
S1	Sunny	12:32	20.4	20.4	7.4	7.4	0.3	0.3	57.9	57.9	4.9	4.9	25.2	25.6
			20.4		7.4		0.3		57.9		4.9		25.9	
S2	Sunny	12:12	23.2	23.2	7.2	7.2	0.1	0.1	69.8	69.8	6.0	6.0	3.4	3.4
			23.2		7.2		0.1		69.8		6.0		3.4	
S3	Sunny	11:23	22.4	22.4	7.9	7.9	0.1	0.1	54.1	54.0	4.7	4.7	10.2	10.3
			22.4		7.9		0.1		53.8		4.7		10.3	
S4	Sunny	11:37	22.7	22.8	7.8	7.8	0.1	0.1	55.1	54.9	4.8	4.8	4.9	4.8
			22.8		7.8		0.1		54.7		4.7		4.7	

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 25-Jan-24

Location	Weather Condition	Start Time	Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)	
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Cloudy	10:00	13.4	13.4	7.6	7.6	0.1	0.1	72.1	71.6	7.5	7.5	6.2	6.2
			13.4		7.6		0.1		71.0		7.4		6.2	
A2	Cloudy	09:43	12.9	12.9	7.5	7.5	0.1	0.1	75.2	74.9	7.9	7.9	6.5	6.5
			12.9		7.5		0.1		74.5		7.9		6.4	
B1	Cloudy	09:36	12.1	12.1	7.9	7.9	0.1	0.1	74.4	74.1	8.0	8.0	6.2	6.1
			12.1		7.9		0.1		73.8		7.9		6.0	
B2	Cloudy	09:30	12.2	12.2	8.0	8.0	0.1	0.1	77.0	76.4	8.3	8.2	5.9	5.9
			12.2		8.0		0.1		75.7		8.1		5.9	
S1	Cloudy	10:07	13.4	13.4	7.4	7.4	0.1	0.1	62.2	62.1	6.5	6.5	15.5	15.5
			13.4		7.4		0.1		61.9		6.5		15.5	
S2	Cloudy	09:54	19.1	19.1	7.5	7.5	0.1	0.1	64.3	64.1	6.0	6.0	3.7	3.7
			19.0		7.4		0.1		63.9		5.9		3.7	
S3	Cloudy	09:16	17.1	17.1	7.9	7.9	0.1	0.1	59.7	59.5	5.8	5.8	5.8	5.8
			17.1		7.9		0.1		59.3		5.7		5.7	
S4	Cloudy	09:23	15.6	15.6	7.8	7.8	0.1	0.1	65.9	65.0	6.6	6.5	4.6	4.6
			15.6		7.8		0.1		64.0		6.4		4.5	

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 31-Jan-24

Location	Weather Condition	Start Time	Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity (NTU)	
			Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
A1	Cloudy	10:17	17.1	17.1	7.3	7.3	0.1	0.1	60.8	60.8	5.9	5.9	4.0	4.0
			17.1		7.3		0.1		60.8		5.9		4.0	
A2	Cloudy	09:57	17.2	17.2	7.1	7.1	0.1	0.1	70.6	70.5	6.8	6.8	4.4	4.4
			17.2		7.1		0.1		70.4		6.8		4.4	
B1	Cloudy	09:49	17.2	17.2	7.4	7.4	0.1	0.1	60.5	60.2	5.8	5.8	6.6	6.6
			17.2		7.3		0.1		59.9		5.8		6.6	
B2	Cloudy	09:42	17.3	17.3	7.5	7.5	0.1	0.1	57.6	57.0	5.5	5.5	5.1	5.1
			17.3		7.5		0.1		56.4		5.4		5.1	
S1	Cloudy	10:26	18.0	18.0	7.3	7.3	0.1	0.1	77.0	76.9	7.3	7.3	18.5	18.5
			18.0		7.3		0.1		76.7		7.3		18.5	
S2	Cloudy	10:10	21.3	21.3	7.1	7.1	0.1	0.1	41.7	41.7	3.7	3.7	10.2	10.2
			21.3		7.1		0.1		41.7		3.7		10.2	
S3	Cloudy	09:27	20.0	20.1	7.7	7.7	0.1	0.1	50.3	50.0	4.6	4.6	15.0	15.0
			20.1		7.7		0.1		49.7		4.5		15.0	
S4	Cloudy	09:35	19.8	19.8	7.4	7.4	0.1	0.1	48.3	48.0	4.4	4.4	5.1	5.1
			19.8		7.4		0.1		47.6		4.3		5.1	

**APPENDIX S
PHOTO RECORDS OF THE STATUS OF
PONDS**

Appendix S – Photo Records of the status of Ponds in January 2024

	
<p>Pond 5</p>	<p>Pond 6</p>
	
<p>Pond 7</p>	<p>Pond 8</p>
	
<p>Pond 9</p>	<p>Pond 10</p>
	
<p>Pond 11</p>	<p>Pond 12</p>



Pond 13