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/A - Development of Lok Ma Chau Loop

Monthly Environmental Monitoring and Audit Report for April 2022

(Version 1.0)

Certified By

Dr. Priscilla Choy
(Environmental Team Leader)

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/L060
Date : 17 May 2022

By Post & Email

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

Attn: Ms. JIM Wing Yan, Eva

Dear Ms. JIM,

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

Verification of Monthly EM&A Report (April 2022)

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report of certified by the Environmental Team Leader in May 2022. We hereby verify the captioned submission in accordance with Clause 3.4 of the Environmental Permit No. EP-477/2013/A 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	Mr. Eric Wong Mr. Terrant Cheung	By Email
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EXECUTIVE SUMMARY

Introduction

1. This is the 40th Monthly Environmental Monitoring and Audit (EM&A) Report prepared for Environmental Permit No.: EP-477/2013/A - 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 30th April 2022 (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")

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	6th, 12th, 14th, 20th, 26th and 29th April 2022
		24-hr TSP Monitoring	4th, 8th, 13th, 19th, 25th and 28th April 2022
Construction Noise		$L_{eq30mins}$	6th, 12th, 20th and 26th April 2022
Water Quality		• Temperature • pH • Turbidity • Water depth • Salinity • Dissolved Oxygen (DO) • Suspended Solids (SS)	1st, 4th, 6th, 8th, 11th, 13th, 19th, 21st, 23rd, 25th, 27th and 29th April 2022
Ecological	Lok Ma Chau (LMC) Loop	Avifauna flight line survey	22nd April 2022
		Mammal monitoring (by infra-red flash cameras)	Temporary suspended as the connectivity between the existing reed marsh and the EA Zone has been fenced off due to other project's land occupier (i.e. emergency hospital)
	Western Connection Road (WCR)	Avifauna flight line survey	22nd April 2022
		Avifauna survey at Pond 12	6th, 13th, 20th and 27th April 2022
		Herpetofauna survey	25th April 2022
		Aquatic Fauna survey	21st April 2022
		Water Quality Monitoring for Aquatic Fauna	LMC Meander 1st, 4th, 6th, 8th, 11th, 13th, 19th, 21st,

Environmental Aspect	Monitoring Parameter	Date
		23rd, 25th, 27th and 29th April 2022 Stream and associated ponds south of Lung Hau Road 8th, 13th, 21st and 25th April 2022
Site Environmental Audit	Environmental protection and pollution control measures	6th, 8th, 13th, 20th, 27th April 2022

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 Project	Corrective Action
Air Quality	1-hr TSP	0	0	--	0	--
	24-hr TSP	0	0	--	0	--
Construction Noise	Daytime Leq(30min)	0	0	--	0	--
Water Quality	DO	0	0	--	0	--
	Turbidity	0	0	--	0	--
	SS	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. Most birds avoided using the flight line over the centre of LMC Loop which is considered due to the construction activities from other project's land occupier.

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 existing reed marsh and the EA. In view of current site condition of Loop, the connectivity between the existing reed marsh and the EA Zone has been fenced off due to other project's land occupier.
11. In addition, 12-month establishment period of EA zone has also been completed. So, the mammals monitoring in the Loop was temporary suspended in the reporting month 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. Most birds avoided using the flight line over the centre of LMC Loop which is considered due to the construction activities from other project's land occupier.

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.

Herptofauna

14. Herptofauna survey was conducted as scheduled in the reporting month. No significant impact of construction activities on the numbers of this species was observed.

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 EP-477/2013/A 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	8th, 13th, 20th, 27th April 2022
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	6th, 13th, 20th, 27th April 2022

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

Complaint Log

20. One environmental complaint related to water quality 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) Western Connection Road (WCR) Stage 1 Construction: Demolition of Existing Structures, Excavation, DCM and Retaining Wall.

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

(a) Tree Felling / Tree Transplant.
(b) Pre-construction Condition Survey inside MTRC tunnel.
(c) Erection of Contractor’ s Site Office.
(d) Pre-drilling and Trial Pits for Bridge ST01, CTFB and DRL.
(e) Site clearance and GI works for Cut Slopes CS1, CS2 and Retaining wall BPW1, and associated temporary working platform.
(f) Erection of Temporary Noise Barrier along the Lok Ma Chau Road.
(g) Box Culvert Modification at Lok Ma Chau Road (Stage 1).
(h) Demolition of Existing Structures along Lok Ma Chau Road. Structure Ref. R67, A83, A87, A88, R41, R42.
(i) Existing Cycle Track Subway Modification.
(j) Construction of Pai Lau.
(k) Bored pile and socketed H-Pile for Bridge CTFB & ST01.
(l) Construction of Retaining walls RW 8 and RW 9.
(m) Operation of TAR1 and TAR2.

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 40th EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme in the period from 1st to 30th April 2022.

Structure of the report

1.3 The structure of the report is as follows:
Section 1: **Introduction -** purpose and structure of the report.

Section 2: **Project Information** - summarises background and scope of the Project, site description, project organisation and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licences during the reporting month.

Section 3: **Air Quality Monitoring -** summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.

Section 4: **Noise Monitoring -** summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, monitoring results and Event / Action Plans.

Section 5: **Water Quality Monitoring -** summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequencies, monitoring locations, Action and Limit Levels, 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. E EP-477/2013/A) was issued on 12 August 2021 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 30 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 (hereinafter called the "Contractor 2") 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 (hereinafter called the "Contractor 3") in September 2021.

2.9 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")

2.10 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)	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	a) Site formation of 70ha for the Loop; b) Ground treatment by either surcharge and installation of vertical band drains or deep cement mixing method, and associated slopeworks, retaining wall, landscaping works; c) Construction of internal roads (Road D1 and Road L1), Public Transport Interchange (PTI) and associated drainage and sewerage works, waterworks, street lighting, utilities (including interim water main), street furniture and traffic aids, etc. within the Loop;	Figure 1b

Contract(s)	Scope of Works	Site Layout Plan
	d) Construction of bridge structure across old Shenzhen River meander; e) Temporary haul road linking Sai Kwo Road to the Loop; f) Ecological and environmental mitigation measures within the Loop including retention of reedbeds; g) Ecological and environmental mitigation measures outside the Loop including fishpond, off-site wetland and woodland compensation; and h) Construction of Western Connection Road (WCR) Phase 1 (section along existing Ha Wan Tsuen East Road) - Widening of Ha Wan Tsuen East Road; - Provision of cycle track and footpath; - Associated site formation and ground treatment works; - Utilities; and - Associated noise mitigation measures.	
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	a) Remainder of Western Connection Road (WCR) comprising the following (excluding the first section WCR which is included in Contract 1) - Improvement of Lok Ma Chau (LMC) Road; - Provision of cycle track and footpath; - Construction of elevated cycle track cum footpath connecting Lok Ma Chau Road and Castle Peak Road – Chau Tau; - Associated noise mitigation measures; - Associated slope works, retaining wall and natural terrain mitigation works; and - Associated box culverts, drainage works and water works, street furniture and traffic aids, utilities and landscape works. b) LMC Road and San Tin Highway Connection - Construction of bridge structure connecting LMC Road and San Tin Highway; and - Junction Improvement works at Castle Peak Road and LMC Road. c) Construction of Direct Road Link (DRL) Phase 1 comprising a vehicular bridge structure with provision of covered pedestrian walkway linking LMC Station PT1 and Ha Wan Tsuen East Road.	Figure 1b

Project Organisation

2.11 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. K.W. Luk	2417 6397	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. James Au	9879 8109	2774 0197
		JV Representative - Mr. Alvin Chan	9105 6863	2774 0197
		Team Leader - Mr. Jack Chu	9775 3008	2774 0197
		Team Leader - Mr. Desmond Tang	5188 0815	2774 0197
		Section Agent - Mr. S M Ma	6628 6221	2774 0197
		Superintendent - Mr. Y K Poon	9177 8196	2774 0197
		Superintendent - Mr. Ray Wong	9171 0919	2774 0197
		Environmental Officer – M. Lila Lui	5261 0378	27740197
		Environmental Supervisor- Mr. Ray Wong	9171 0919	27740197
Contract No. YL/2020/02				
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA
China Road and Bridge Corporation	Contractor	Site Agent – Raymond Suen	9779 8871	3996 9202
		Team Leader – Jackson Chan	9254 1635	3996 9202
		Team Leader – Billy Leung	9777 0799	3996 9202
		Deputy Team Leader – Roger Poon	9503 2488	3996 9202

		Senior Foreman – Po Hang Lam	9345 6134	3996 9202
		Senior Foreman – Ka Kit Chan	6088 7741	3996 9202
		Foreman – Philip Tse	5128 1232	3996 9202
		Environmental Officer – Calvin So	9724 6254	3996 9202
		Environmental Supervisor- Alice Ngai	9148 5688	3996 9202

Construction Programme

2.12 A copy of Contractor's construction programmes are provided in **Appendix A**.

Summary of Construction Works Undertaken During Reporting Month

2.13 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) All works at LMC Loop suspended on 21 Feb 2022.

(b) Wetland Compensation Establishment Works and Ecological Monitoring.

(c) Portion 6 - WCR Site Clearance, Demolition of Existing Structures.

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

(a) Tree felling and transplantation works.

(b) Box culvert modification and trial pits works.

(c) Pre-drilling works at ST01, CTFB and DRL.

(d) Temporary Noise Barrier.

(e) Reedbed Cell no. 3A pilot test commenced on 9 March 2022 and completed on 4 April 2022.

(f) Retaining Wall BPW1 / CS1 / CS2 haul road and diverted footpath for villagers completed, GI and site clearance in progress.

(g) CTFB Site clearance and forming haul road completed, predrilling in progress.

(h) Demolition of Existing Structures.

Status of Environmental Licences, Notifications and Permits

2.14 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 Contract No. YL/2020/02	EP-477/2013	22/11/2013	N/A	Valid
	EP-477/2013/A	12/08/2021	N/A	Valid
Construction Noise Permit (CNP)				
Contract No. YL/2020/01	GW-RN0246-22	26/03/2022	25/06/2022	Valid
Contract No. YL/2020/02	GW-RN0099-22	11/2/2022	10/8/2022	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. YL/2020/02	471916	20/09/2021	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
Registration of Chemical Waste Producer				
Contract No. YL/2020/01	WPN 5213-620-C4632-01	20/08/2021	Till the Contract ends	Valid
Contract No. YL/2020/02	WPN 5213-542-C1232-24	29/11/2021	Till the Contract ends	Valid
Effluent Discharge License under Water Pollution Control Ordinance				
Contract No. YL/2020/01	WT00039466-2021	22/12/2021	31/12/2026	Valid
Contract No. YL/2020/02	--	--	--	--

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-3	Village House along Old Border Road
DMS-4A (see Note 3)	Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

Notes:

1. 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.
2. 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.
3. 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-2A DMS-3 DMS-4A	HVS Sampler for 24-hour TSP monitoring	TISCH Model: TE-5170	3
	1-hour TSP Dust Meter	Met One Instruments: AEROCET-831	6
	Calibrator	TISCH Model: TE-5025A	1

Monitoring Station(s)	Equipment	Model and Make	Quantity
(1) 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

Remark: (1) 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 is proposed to ensure the monitoring data collection.

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

<u>24-hour TSP Air Quality Monitoring</u>

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 ±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 m^3/min. and 1.4 m^3/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 ±3°C; the RH should be < 50% and not vary by more than ±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 3.5** respectively. Detailed monitoring results and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix E and F** respectively.

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

Monitoring Station	Concentration (µg/m³)		Action Level, µg/m³	Limit Level, µg/m³
	Average	Range		
DMS – 1a	95.7	22.8 – 260.1	353	500
DMS – 2A	115.2	38.3 – 278.7	370	
DMS – 3	88.3	41.3 – 199.0	351	
DMS – 4A	86.6	26.5 – 194.4	350	

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

Monitoring Station	Concentration (µg/m³)		Action Level, µg/m³	Limit Level, µg/m³
	Average	Range		
DMS – 1a	67.2	34.5 – 121.0	184	260
DMS – 2A	84.3	48.5 – 119.5	166	
DMS – 3	41.3	26.1 – 77.5	166	
DMS – 4A	71.0	34.9 – 146.6	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 (mainly due to other project)
DMS-2A	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 Action Plan in **Appendix J** shall be carried out.

4 NOISE MONITORING

Monitoring Requirements

4.1 In accordance with 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

Notes:

1. Proposed replacement monitoring location for Noise Sensitive Receiver (NSR) MTL-20 – Village house in Ma Tso Lung (DMS-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	3
Calibrator	B&K 4231 & SVANTEK SV 30A	3

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	L_{10}(30 min.) dB(A) L_{90}(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 min.) dB(A) (as six consecutive $L_{eq, 5min}$ 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	60.6	53.7 – 62.2	When one documented complaint is received.	75 dB(A)
NMS-2	68.1	65.7 – 71.1		
NMS-3	55.2	49.0 – 57.0		
NMS-4A	51.4	46.1 – 52.7		

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 (mainly due to other project)
NMS-2	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 Action Plan in **Appendix J** shall be carried out.

5 WATER QUALITY MONITORING

Monitoring Requirements

5.1 According to 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 location 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 proramme 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	2

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	• Temperature(°C) • pH (pH unit) • turbidity (NTU) • water depth (m) • salinity (ppt) • DO (mg/L and % of saturation) • SS (mg/L)	• 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.	• 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
Total	Action Level	0	0	0	0	0
	Limit Level	0	0	0	0	0

5.35 No water quality monitoring was conducted at IS6 in the reporting month due to the channel was dry.

IS6

5.36 Water quality monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

Event and Action Plan

5.37 Should any project related non-compliance of the criteria occur, action in accordance with the 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 22nd April 2022. Sunrise time at 5:57 am and the survey started at 5:27 am and lasted for 2 hours. The weather was cloudy throughout the survey.

Monitoring Result

6.14 Total number of birds observed was 167. Six species were included in the record of the flight line survey, including Little Egret, Great Egret, Chinese Pond Heron, Grey Heron, Great Cormorant and Black Kite. **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	113	4	51	58
Great Egret 大白鷺	35	1	2	32
Chinese Pond Heron 池鷺	4	0	4	0
Grey Heron 蒼鷺	1	0	1	0
Great Cormorant 普通鸕鷀	12	0	3	9
Black Kite 黑鳶	2	0	0	2
Total	167	5	61	101

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 1,756. **Table 6.2** shows the number of bird-flights for the four species respectively.

Table 6.2 Number of Bird-flights

Species	Total number of Bird-Flights
Little Egret 小白鷺	1195
Great Egret 大白鷺	377
Chinese Pond Heron 池鷺	32
Grey Heron 蒼鷺	10
Great Cormorant 普通鸕鷀	124
Black Kite 黑鳶	18
Total	1,756

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

6.17 Flight lines were in general concentrated mainly on LMC Meander and adjacent areas including Ecological Area (EA) Zone and along Shenzhen River. Most birds avoided using the flight line over the centre of LMC Loop which is considered due to the construction activities from other project's land occupier.

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 existing reed marsh 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 location 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 existing reed marsh 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 So, the mammals monitoring in the Loop was temporary suspended in the reporting month and will be resumed subject to the site condition.

Western Connection Road

Monitoring Requirements (Avifauna Monitoring – Flight Line Survey)

6.24 Refer to Section 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: 6th, 13th, 20th and 27th April 2022

6.32 In total, 224 individuals from 19 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. (**Table 6.3** refer).

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

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
6th April 2022	7	12	26	34
13th April 2022	8	11	32	41
20th April 2022	9	16	17	38
27th April 2022	6	10	12	24

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 are 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 Herpetofauna survey was carried out once in the reporting month.

Date of Herpetofauna survey:	25th April 2022 (both day-time and night-time survey)

6.41 No potential impact due to the construction activities of Western Connection Road was identified during the survey of Chinese Bullfrog in the reporting month. The detailed results are shown in **Appendix R2**.

Aquatic Fauna

Monitoring Requirements

6.42 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.

6.43 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

6.44 Monitoring of Rose Bitterling population was conducted monthly during the construction period of WCR to identify potential impacts.

6.45 *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.

6.46 *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

6.47 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**.

6.48 *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

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

6.50 The number of Rose Bitterling observed on bankside and by sweep netting at each sampling location were recorded. Other human activities or change in environment that may affect the survey result will be specified, if any.

6.51 Measurements for *in situ* monitoring of water quality includes temperature, pH, salinity, turbidity and dissolved oxygen. Monitoring equipment for water quality monitoring are presented in Section 5.

Monitoring Result

6.52 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:	21st April 2022
Date of Water Quality Monitoring for Aquatic Fauna	LMC Meander 1st, 4th, 6th, 8th, 11th, 13th, 19th, 21st, 23rd, 25th, 27th and 29th April 2022 Stream and associated ponds south of Lung Hau Road 8th, 13th, 21st and 25th April 2022

6.53 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, there is no deterioration in the water quality due to the construction activities of the Western Connection Road was observed.

6.54 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 **Appendix R3** and **R4** respectively. During the monitoring on 13th, 21st and 25th April 2022, regular cleansing of drains was observed conducted by villager which caused the muddy runoff at S1. Therefore, relative higher turbidity results were recorded.

6.55 *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-477/2013/A. 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 hotpsot 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 are 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)	0.058	N/A
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)	0.063	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)	0.068	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)	0.121	NENT Landfill

8.3 The amount of wastes 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 6th, 8th, 13th, 20th, 27th April 2022 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	8th, 13th, 20th, 27th April 2022
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	6th, 13th, 20th, 27th April 2022

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			
No major environmental deficiency was identified during site inspection.			
Contract No. YL/2020/02			
Waste / Chemical Management	27/04/2022	Clear the oil spillage arising from the breaker as chemical waste and properly maintenance should be provided for the equipment to avoid further oil leakage (LCS site).	Improvement/ Rectification was observed during follow-up audit session on 4 May 2022.
Ecology	06/04/2022	Clear the construction materials at the stream and avoid further materials nearby from getting into the stream (Fu Tai Site Area).	Improvement/ Rectification was observed during follow-up audit session on 13 April 2022.

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 Ecological and Noise Mitigation Measures related to the Project according to EP Condition 2.7 and 2.9 respectively are summarized in **Table 10.1**.

Table 10.1 Compliance status of Ecological and Noise Mitigation Measures (EP Condition 2.7 and 2.9)

EP Requirements	Compliance Status	Remarks
Submission and Measures to Mitigate Ecological Impact		
EP Condition 2.7 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;	Yes	**Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works** The pre-construction search has been carried out in November 2018 before the Advance Works commencement. No otter holts/dens and herpetofauna species of conservation concern were identified. **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** The pre-construction search has been carried out at Area, 2, 7 & 9 as well as LMC Loop and WCR site areas in May / June 2021 and June / July 2021 respectively before the Works commencement. No otter holts/dens and herpetofauna species of conservation concern were identified.
(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;	Yes	Ecological Area has been established under the Contract. Low-rise building buffer zone and screenplanting which will be provided under Main Works Package 1.
(c) stabilising the bank of the old Shenzhen River meander of the Loop, approximately 3.5 km long,	Yes	The EA design has implemented these measures.

EP Requirements	Compliance Status	Remarks
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;		
(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;	N/A	Vegetated setback will be provided under Main Works Package 1
(e) installing 3m-high olive green fence around construction areas to allow or deter different animal passages where appropriate;	Yes	The Contractor was reminded to maintain and re-arrange the green fence around construction areas and ensure no disturbance to the exiting trees and reed marsh habitat.
(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;	Yes	Creation of off-site wetland areas have been substantially completed.
(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;	N/A	To be implemented under Main Works Package 1
(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;	Yes	-
(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;	Yes	-
(j) prohibiting use of direct lighting on the old Shenzhen River meander and controlling nighttime lighting to reduce potential ecological impact;	Yes	-
(k) implementing measures to minimise magnitude of construction runoff and to avoid/minimise the potential impact of spillage events, if any; and	Yes	-
(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).	Yes	The works for noise barriers along Lok Ma Chau Road were completed under the Contract in October 2021. Façade treatment for buildings in the Loop will be provided under the responsible works packages.
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	Yes	**Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works**

EP Requirements	Compliance Status	Remarks
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.		The HCMP has been submitted and approved under the EP condition 2.7. **Development of Lok Ma Chau Loop Main Works Package 1 – Design and Construction** The HCMP has been submitted under the EP condition 2.7 and approved in December 2021.
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. (**Appendix N**) The TNB5 and TNB 12 to be built under the Contract 2. 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	-

Ecological Mitigation Measures – Offsite Wetland Compensation Areas (OWCAs)

10.3 According to 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 OWCAs according to Section 12.7.9 of EIA report.

10.5 Under Environmental Permit (EP) number EP-477/2013/A, 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 OWCAs (Areas 2, 7 and 9) has been substantial completed and defect rectification works were conducted in the reporting month.

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

10.7 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.

10.8 Due to the site area in Loop has been handed over for the construction of emergency hospital on 21 February 2021, the planning for re-arrangement of the green fence around construction areas will be updated in due course subject to the latest situation of LMC Loop.

10.9 The Contractor was reminded to maintain and re-arrange 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, construction noise and water quality monitoring.

Summary of Environmental Complaint

11.3 There was one (1) environmental complaint related to water quality received on 4th April 2022. The statistical summary table of the environmental complaints is presented in **Table 11.1**. The Complaint Log is attached in **Appendix P**.

Table 11.1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Project related complaint
Jan 2019 –March 2022	8	9	1
April 2022	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 **Table 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 complaint
Jan 2019 –March 2022	0	0	0
April 2022	0		0

Table 11.3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Project related complaint
Jan 2019 –March 2022	0	0	0
April 2022	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) Western Connection Road (WCR) Stage 1 Construction: Demolition of Existing Structures, Excavation, DCM and Retaining Wall.

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

(a) Tree Felling / Tree Transplant.
(b) Pre-construction Condition Survey inside MTRC tunnel.
(c) Erection of Contractor's Site Office.
(d) Pre-drilling and Trial Pits for Bridge ST01, CTFB and DRL.
(e) Site clearance and GI works for Cut Slopes CS1, CS2 and Retaining wall BPW1, and associated temporary working platform.
(f) Erection of Temporary Noise Barrier along the Lok Ma Chau Road.
(g) Box Culvert Modification at Lok Ma Chau Road (Stage 1).
(h) Demolition of Existing Structures along Lok Ma Chau Road. Structure Ref. R67, A83, A87, A88, R41, R42.
(i) Existing Cycle Track Subway Modification.
(j) Construction of Pai Lau.
(k) Bored pile and socketed H-Pile for Bridge CTFB & ST01.
(l) Construction of Retaining walls RW 8 and RW 9.
(m) Operation of TAR1 and TAR2.

12.2 Dust can be generated during construction works and exposed site area during the summer months. To prevent high dust concentrations during the summer months, 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 approved EIA report / EM&A Manual to implement appropriate dust control measure 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 so that no adverse dust impact arising from the Project works site.

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. In addition, the Contractor was reminded to frequently check and maintain 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. 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 also recommended to arrange and maintain water quality mitigation measures during wet season (i.e. April to September). 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. The site drainage plan shall also be updated based on the site condition and construction programme.

12.5 Due to the site area in Loop has been handed over for the construction of emergency hospital on 21 February 2021, potential environmental impacts arising from the above construction activities are mainly associated with construction dust, noise, water quality, ecology and waste management. ET and IEC will closely review the environmental monitoring results and review the environmental situations outside the works area during the site inspection to check if significant environmental problems are identified.

Monitoring Schedule for the Next Month

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

Construction Programme for the Next Month

12.7 A 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 April 2022 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 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. Most birds avoided using the flight line over the centre of LMC Loop which is considered due to the construction activities from other project's land occupier.

Mammals

13.7 According the Clause 11.4.1.2 of EM&A Manual, the connectivity between the existing reed marsh and the EA Zone has been fenced off due to other project's land occupier.

13.8 In addition, 12-month establishment period of EA zone has also been completed. So, the mammals monitoring in the Loop was temporary 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 EA Zone and along Shenzhen River. Most birds avoided using the flight line over the centre of LMC Loop which is considered due to the construction activities from other project's land occupier.

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.

Herptofauna

13.11 Herptofauna survey was conducted as scheduled in the reporting month. No significant impact of construction activities on the numbers of this species was observed.

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-477/2013/A 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 6th, 8th, 13th, 20th and 27th April 2022 by ET in the reporting month.

Environmental Complaints, Summons and Prosecutions

13.16 There was one (1) environmental complaint, no notification of summons or successful prosecution received in the reporting month.

13.17 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

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

Air Quality Impact

- To enhance the dust suppression measures such as water spraying on all haul roads and exposed work site area;
- To maintain the impervious material to cover the stockpile of dusty materials; 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;
- To provide temporary noise barriers or other appropriate sound reduction measures for operations of noisy equipment near the noise sensitive receivers, if necessary.

Water Impact

- To prevent any surface runoff discharge into the old Shenzhen River meander or stream;
- To review and implement temporary drainage system;
- To identify any wastewater discharges from site;
- To remove the sand or dusty material away from the EA zone, old Shenzhen River meander or stream;
- To divert all the water generated from construction site to de-silting facilities with enough handling capacity before discharge;
- To review the capacity of de-silting facilities for discharge;
- To ensure the drainage facilities would not be clogged with sediment to avoid overflow during rainy season;
- To designate the area for wheel washing and set up the associated drainage for water from a wheel wash;
- To implement the effective water quality mitigation measures according to the site drainage plan; and
- To provide the wheel washing facilities at all exit of site area.

Ecology Impact

- To maintain the 3m high olive green fence around the construction site;
- 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.

Waste/Chemical Management

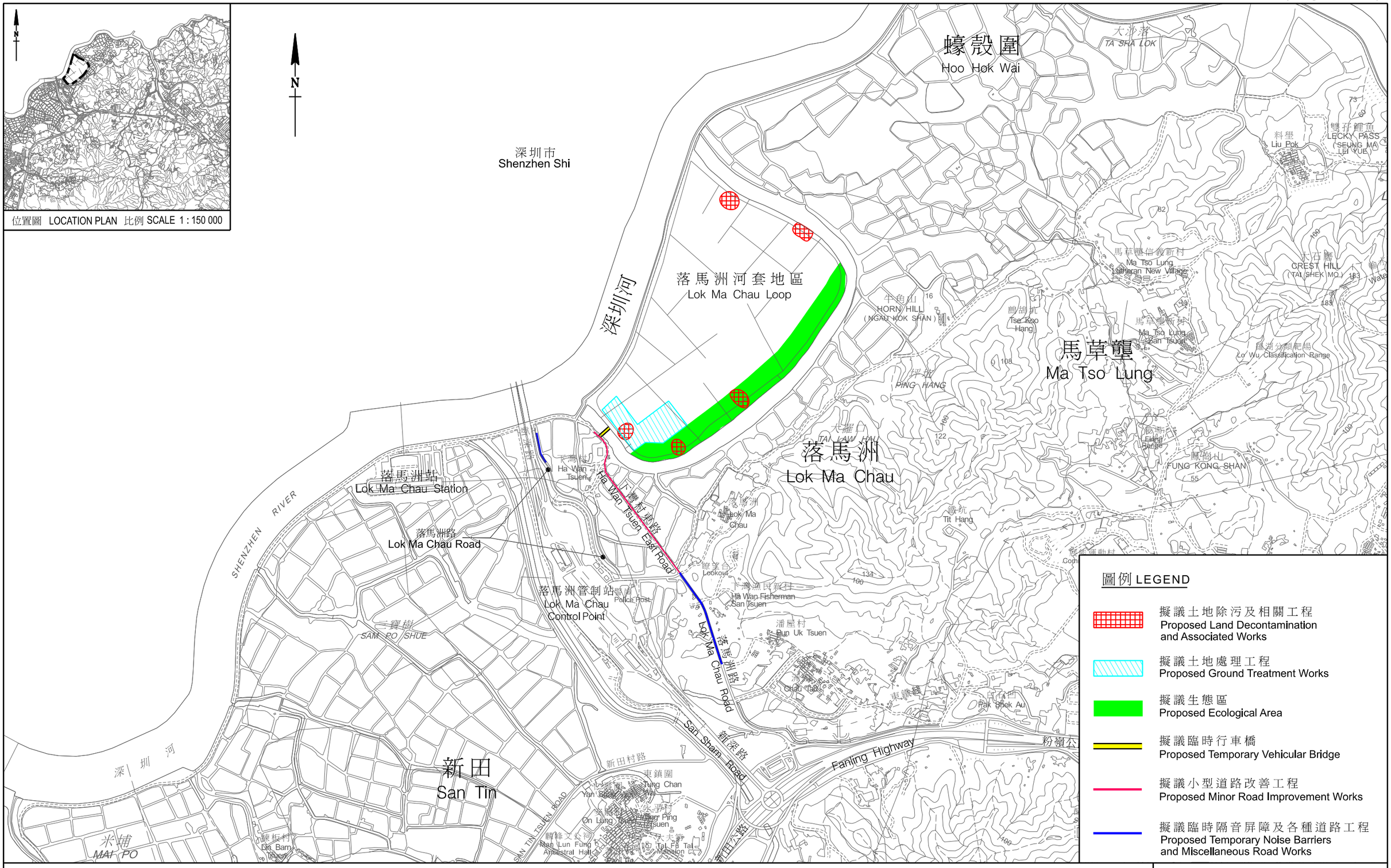
- To check for any accumulation of waste materials or rubbish on site;
- To carry out inspection of dump trucks at site exit to ensure inert and non-inert C&D materials are properly segregated before delivering off site;
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site;

- To maintain the drip tray well 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 maintain the protection fencing and tree protection zone around the preserved trees.

FIGURE(S)



圖例 LEGEND

- 擬議土地除污及相關工程 Proposed Land Decontamination and Associated Works
- 擬議土地處理工程 Proposed Ground Treatment Works
- 擬議生態區 Proposed Ecological Area
- 擬議臨時行車橋 Proposed Temporary Vehicular Bridge
- 擬議小型道路改善工程 Proposed Minor Road Improvement Works
- 擬議臨時隔音屏障及各種道路工程 Proposed Temporary Noise Barriers and Miscellaneous Road Works

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

R:\Sketch-WDO\W1\W1-008\W1-008.dgn

1/2/2018

A3 420MM X 297MM

ISO A1 594mm x 841mm

Approved:

Checked:

Designer:

Project Management Initials:

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 WATERMAINS
- 擬議斜坡 SLOPEWORKS

N

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

落馬洲河套地區
LOK MA CHAU LOOP

港鐵落馬洲站
MTR LOK MA CHAU STATION

深圳河
SHENZHEN RIVER

擬議落馬洲河套地區食水配水庫
(食水配水庫的工地平整及供水系統水管敷設由其他工程項目建造)
LMCL MWP1 FRESHWATER SERVICE RESERVOIR (SITE FORMATION AND WATERMAINS BY OTHERS)

現有食水管
EXISTING WATERMAINS

粉嶺公路
FANLING HIGHWAY

HOC

牛角山 HORN HILL (NGAU KOK SHAN)

鵝頸坑 Tse Koo Hang

馬草壟 MA TSO LUNG

Ma Tso Lung San Tsuen

鹿湖分類配場 Lo Wu Classification Range

大石鷹 CREST HILL (TAI SHEK MO)

雙孖鯉魚 TWIN CARP'S BACK (SEUNG MA LEI YUE)

坪坑 PING HANG

大罅口 TAI LAW HAU

落馬洲 LOK MA CHAU

Lok Ma Chau

Tit Hang

Lookout

Police Post

下灣漁民新村 Ha Wan Fisherman San Tsuen

潘屋村 Pun Uk Tsuen

洲頭 Chau Tau

二聖樹 SAM PO SHUE

新田 SAN TIN

SAN SHAM ROAD

SAN TIN TSUEN ROAD

東鎮圍 Tung Chan Wai

Yan Shau Wai

On Lung Tsuen

Ping Ha Tsuen

Man Lun Fung Ancestral Hall

Tai Fo Tai Mansion

San Tin Tsuen

新龍村 San Lung Tsuen

青龍村 Tsing Lung Tsuen

Kit Lun Tsuen

麒麟山 HADDEN HILL (KI LUN SHAN)

KWU TUNG RESERVOIR

合盛圍 Hop Shing Wai

TAM KON CHAU RD

CASTLE PEAK ROAD

Kin Barn Tsuen

Fung Kong Shan

Tung Fong

EAST RAIL LINE

Tung Kok

Pak Shek Au

Dills Corner Garden

Shek Tsai Leng

Kwu Tung

Fung Kong Shan

Ho Sheung Heung

Fung Hong

Kwu Tung Road

Valais

Ser. Res.

Europa Garden

Cross Borough

Bear River Country Club

牛潭尾 NGAU TAM MEI

AECOM

PROJECT
項目

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

CLIENT
業主

土木工程拓展署 Civil Engineering and Development Department

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
分判工程顧問公司

ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核

STATUS
狀況

SCALE 比例: A1 1 : 8000

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號: 60588085

CONTRACT NO. 合約編號: CE 5/2018(CE)

SHEET TITLE
圖紙名稱

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
圖紙編號

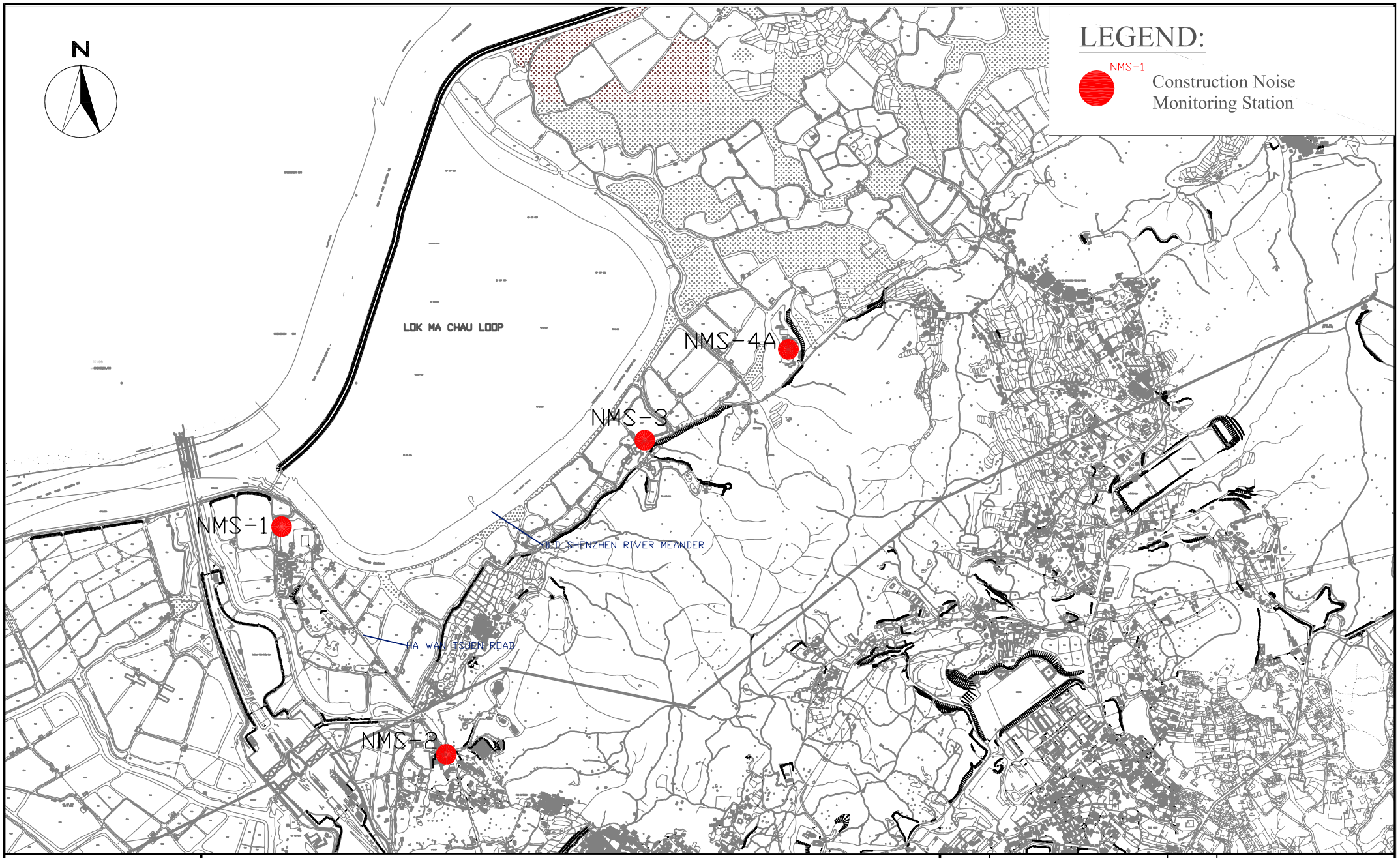
60588085/ SK0099

Plot File by: Tsuiwy
PATH: P:\PROJECTS\60588085\DRAWING\GIS\ECTCHSK0099.dgn
5/5/2020

WELLAB 匯力
consulting . testing . research

Service Contract No. WD/04/2020
Development of Lok Man Chau Loop: Main Work Package 1 - Environmental Team
Location of Air Quality Monitoring Stations

SCALE	1:400 A4	DATE	May 2021
CHECK	PC	DRAWN	IT
JOB No.	WMA21009	FIGURE NO. Fig 2	REV –

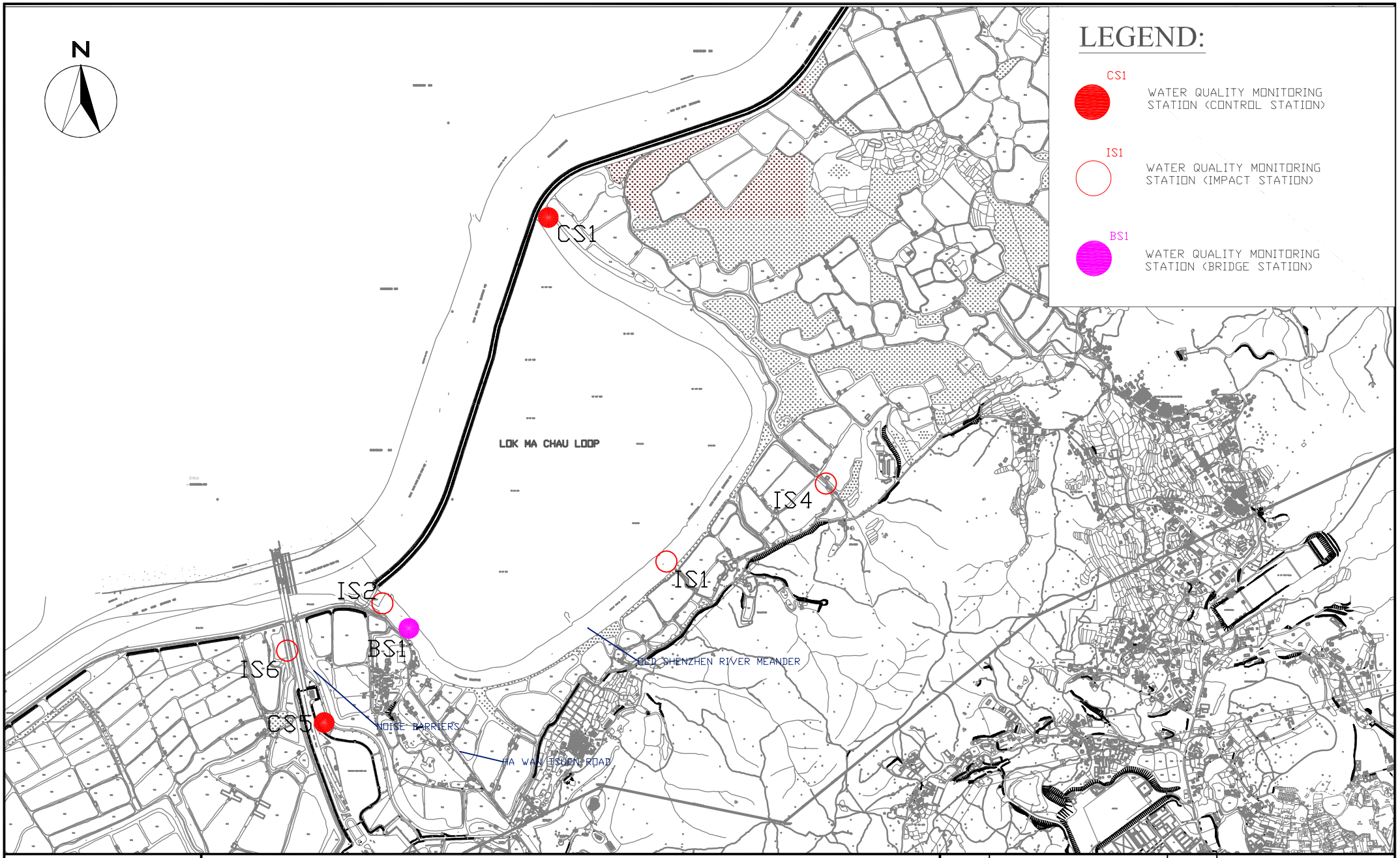


WELLAB 匯力
consulting . testing . research

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

Location of Noise Monitoring Stations

SCALE	1:400 A4	DATE	May 2021
CHECK	PC	DRAWN	IT
JOB No.	WMA 21009	FIGURE NO.	Fig 3
		REV	-



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consulting . testing . research

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

Location of Water Quality Monitoring Stations

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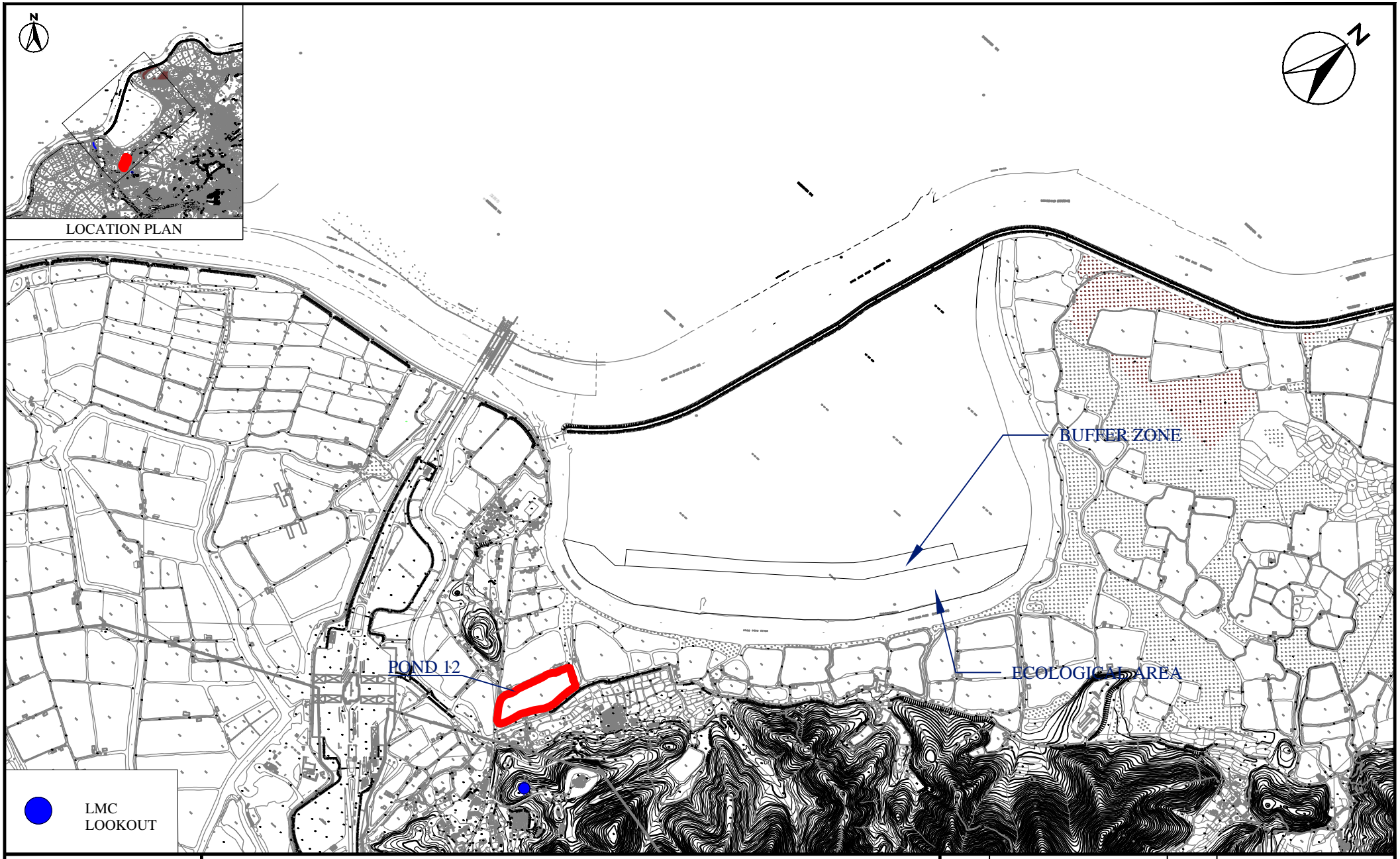
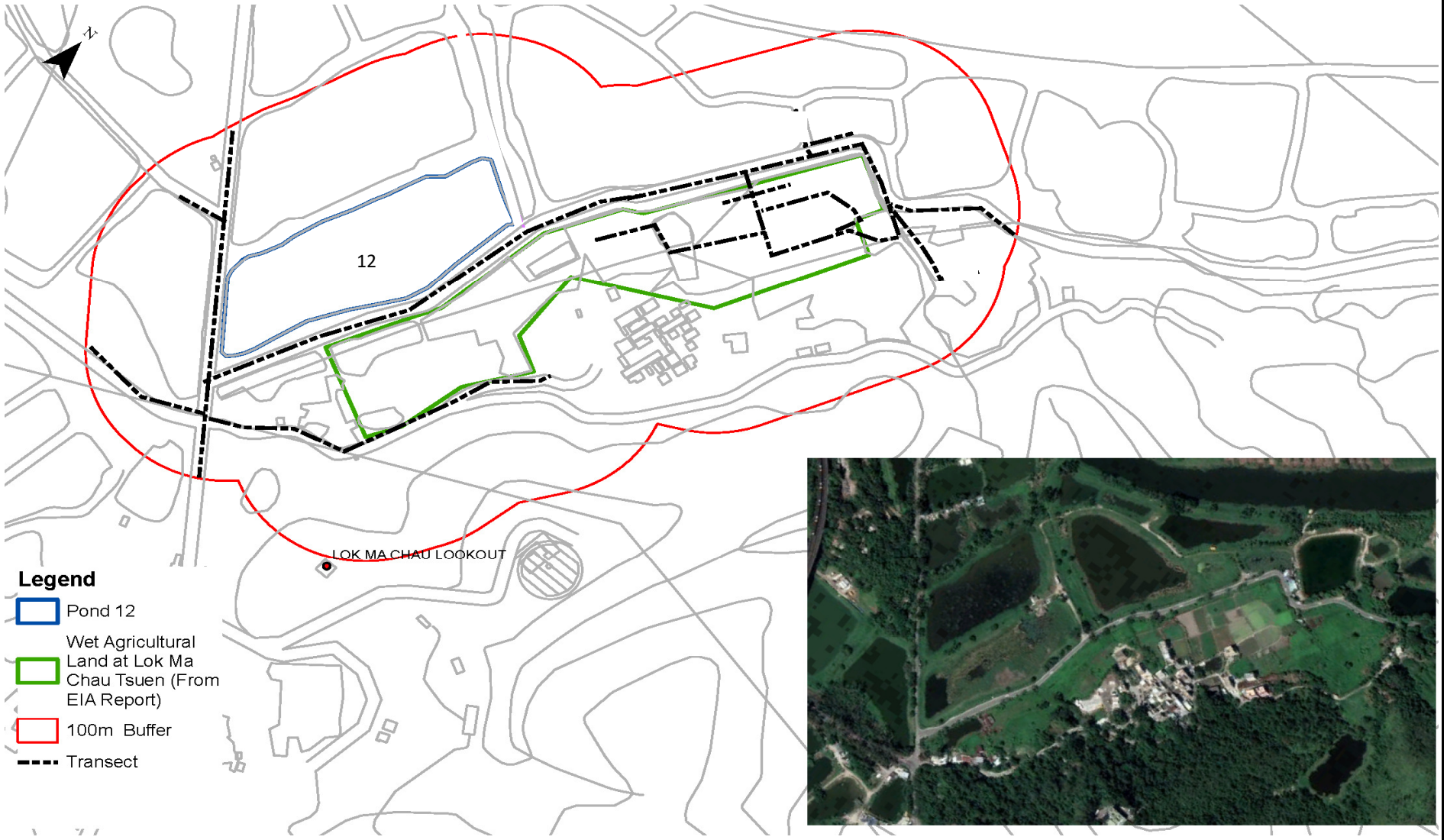
CHECK	PC	DRAWN	IT
JOB No.	WMA 21009	FIGURE NO.	Fig 4
		REV	-



WELLAB 匯力
consulting . testing . research

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team
Locations of Pond 12 and Lok Ma Chau Lookout

SCALE	1:14000 @A4	DATE	MAR 2022
CHECK	IT	DRAWN	ML
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.
N.T.S	WMA21009
Date	Figure
Mar-22	5b

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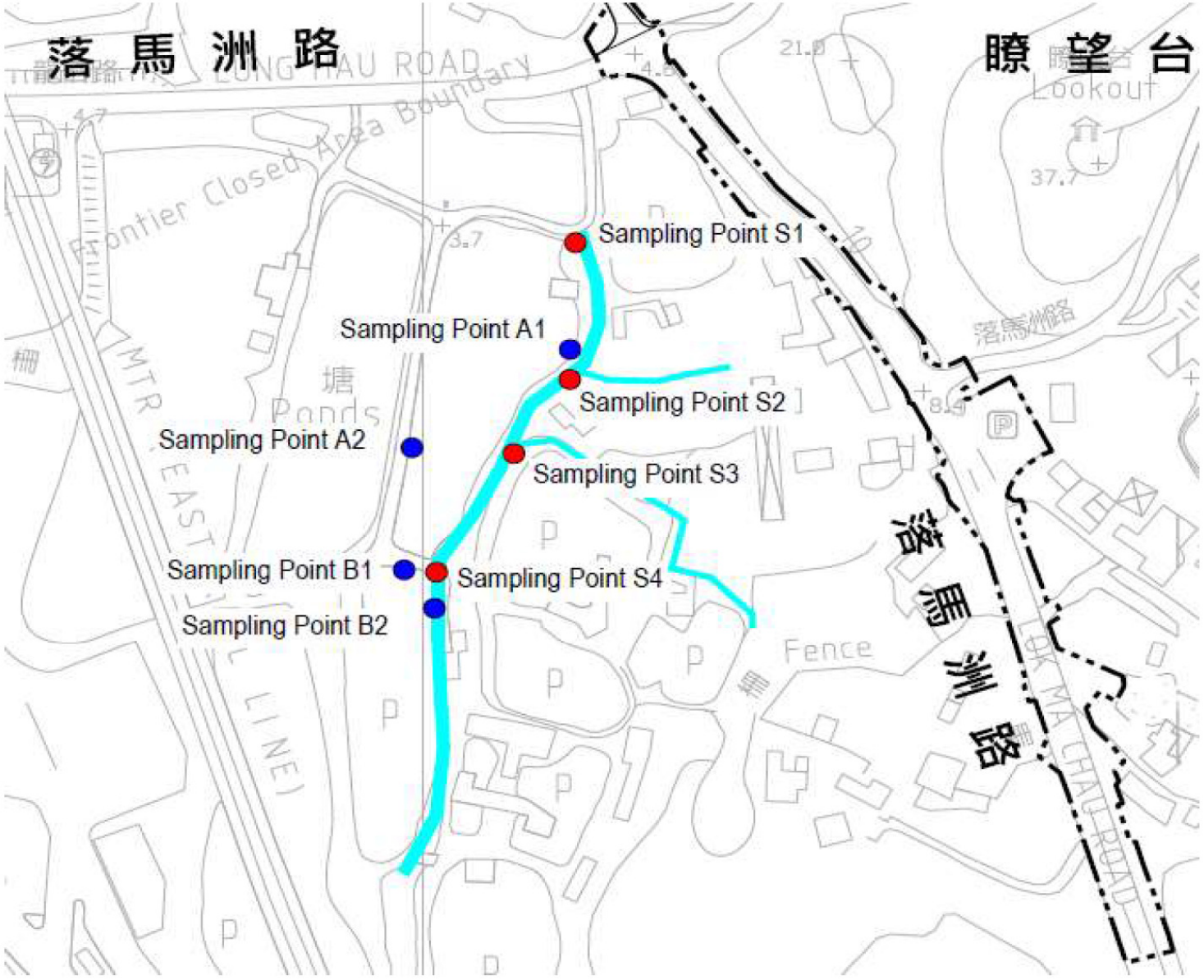
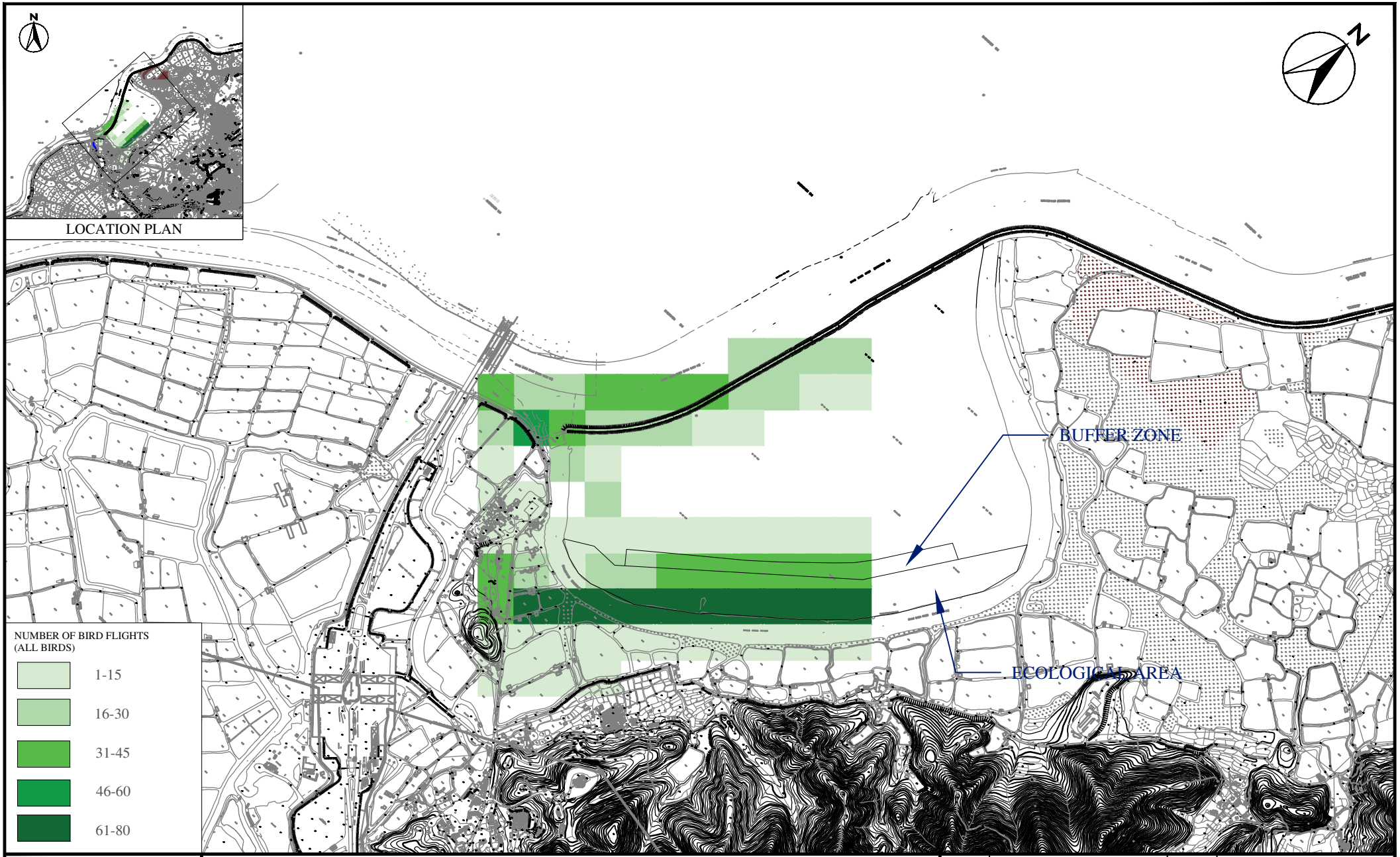


Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop Main Work Package 1 - Environmental Team Locations of Rose Bitterling Sampling Points	Scale N.T.S	Project No. WMA21009	WELLAB 匯力 consulting . testing . research
	Date Mar-22	Figure 5c	



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

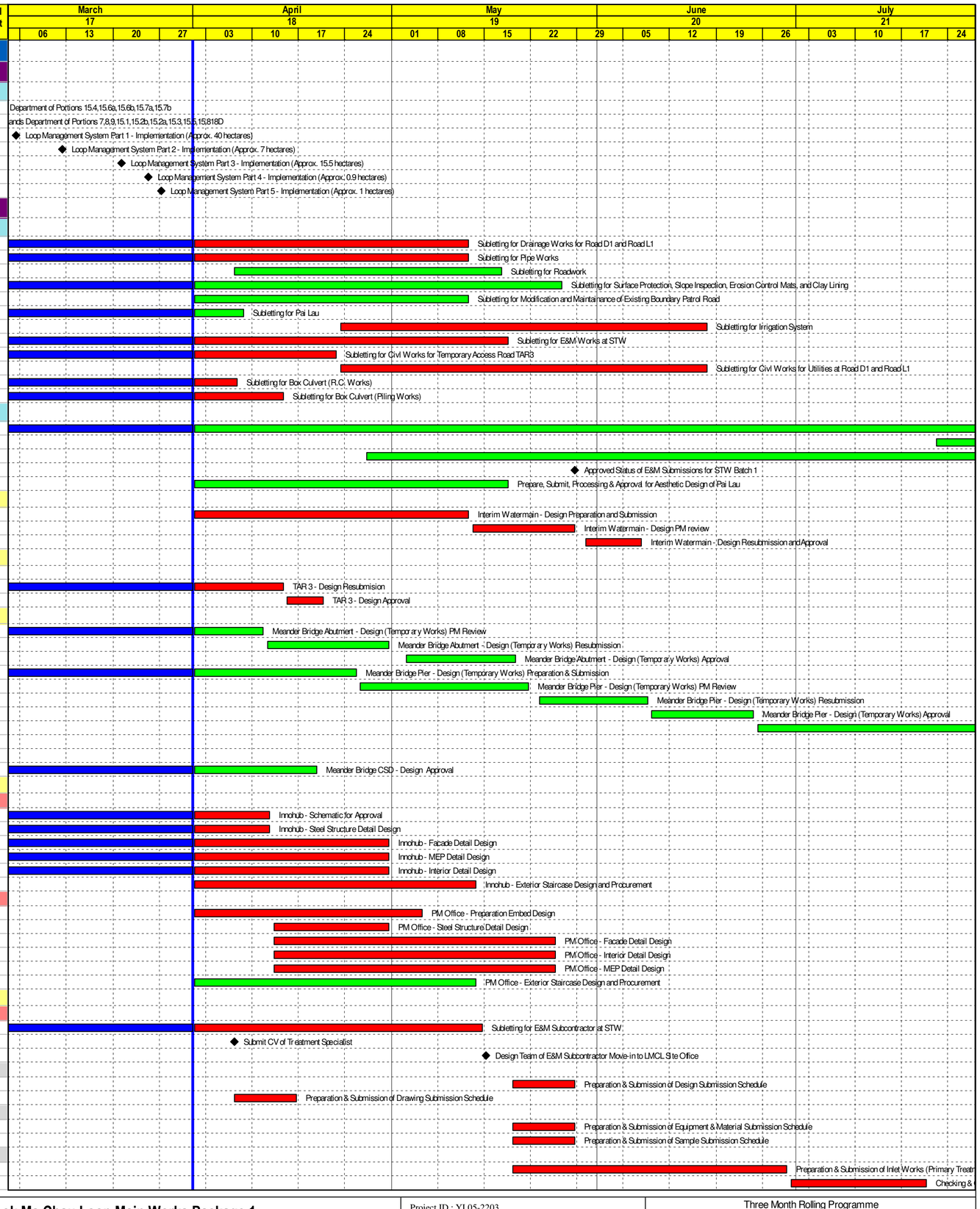
Flight Lines of All Bird Species

SCALE	1:14000 @A4	DATE	APR 2022
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
Contract No. YL/2020/01 - Updated Programme DPr5 (Mar 2022		520	15-Jul-21 A	14-Jun-25	10-Oct-21	12-Nov-26	200
Planned Completion Dates		13	22-Feb-22 A	27-Mar-22 A	12-Nov-26	12-Nov-26	
Compensation Events		13	22-Feb-22 A	27-Mar-22 A	12-Nov-26	12-Nov-26	
CE-2202A	Handover to Lands Department of Portions 15.4,15.6a,15.6b,15.7a,15.7b	0	22-Feb-22 A		12-Nov-26		
CE-2202B	Handover to Lands Department of Portions 7,8,9,15.1,15.2b,15.2a,15.3,15.5,15.818D	0	24-Feb-22 A		12-Nov-26		
CE-2202C	Loop Management System Part 1 - Implementation (Approx. 40 hectares)	0	05-Mar-22 A		12-Nov-26		
CE-2202D	Loop Management System Part 2 - Implementation (Approx. 7 hectares)	0	12-Mar-22 A		12-Nov-26		
CE-2202E	Loop Management System Part 3 - Implementation (Approx. 15.5 hectares)	0	21-Mar-22 A		12-Nov-26		
CE-2202F	Loop Management System Part 4 - Implementation (Approx. 0.9 hectares)	0	25-Mar-22 A		12-Nov-26		
CE-2202G	Loop Management System Part 5 - Implementation (Approx. 1 hectares)	0	27-Mar-22 A		12-Nov-26		
Preliminary and Preparations		150	31-Aug-21 A	07-Nov-22	22-Feb-22	12-Nov-26	570
Subletting		231	01-Sep-21 A	17-Jun-22	22-Feb-22	06-Dec-22	143
PRE-310	Subletting for Drainage Works for Road D1 and Road L1	30	21-Feb-22 A	12-May-22	02-Apr-22	13-May-22	1
PRE-315	Subletting for Pipe Works	30	21-Feb-22 A	12-May-22	02-Apr-22	13-May-22	1
PRE-325	Subletting for Roadwork	30	07-Apr-22	17-May-22	26-Apr-22	01-Jun-22	13
PRE-345	Subletting for Surface Protection, Slope Inspection, Erosion Control Mats, and Clay Lining	45	18-Feb-22 A	26-May-22	07-Sep-22	28-Oct-22	128
PRE-365	Subletting for Modification and Maintainance of Existing Boundary Patrol Road	30	01-Apr-22	12-May-22	02-Jun-22	09-Jul-22	48
PRE-380	Subletting for Pai Lau	18	08-Feb-22 A	08-Apr-22	30-Nov-22	06-Dec-22	197
PRE-385	Subletting for Irrigation System	45	23-Apr-22	17-Jun-22	25-Apr-22	18-Jun-22	1
PRE-395	Subletting for E&M Works at STW	173	01-Sep-21 A	18-May-22	24-Feb-22	06-Apr-22	-31
PRE-410A	Subletting for Civil Works for Temporary Access Road TAR3	45	27-Jan-22 A	22-Apr-22	16-Mar-22	01-Apr-22	-14
PRE-415A	Subletting for Civil Works for Utilities at Road D1 and Road L1	45	23-Apr-22	17-Jun-22	25-Apr-22	18-Jun-22	1
PRE-432	Subletting for Box Culvert (R.C. Works)	28	20-Jan-22 A	07-Apr-22	22-Feb-22	26-Feb-22	-33
PRE-433	Subletting for Box Culvert (Piling Works)	28	27-Jan-22 A	14-Apr-22	22-Feb-22	05-Mar-22	-33
Design Submissions for the Works		150	31-Aug-21 A	07-Nov-22	22-Feb-22	07-Sep-23	118
PRE-435A	Prepare, Submit, Processing & Approval for Alternative Design for STW	255	31-Aug-21 A	23-Aug-22	28-Jun-22	14-Nov-22	68
PRE-455	Prepare, Submit, Processing & Approval for Noise Barrier for Public Transportation Interchange (PTI)	90	22-Jul-22	07-Nov-22	06-Sep-22	22-Dec-22	39
PRE-460	Prepare, Submit, Processing & Approval for MiC and its Foundation for ADB of STW	90	27-Apr-22	13-Aug-22	04-Jul-22	19-Oct-22	54
PRE-465	Approved Status of E&M Submissions for STW Batch 1	0		28-May-22*		16-Apr-22	-42
PRE-495	Prepare, Submit, Processing & Approval for Aesthetic Design of Pai Lau	35	01-Apr-22	18-May-22	29-Jul-23	07-Sep-23	389
Interim Watermains		51	01-Apr-22	07-Jun-22	22-Feb-22	18-May-22	-16
KD1-100	Interim Watermain - Design Preparation and Submission	30	01-Apr-22	12-May-22	22-Feb-22	28-Mar-22	-33
KD1-110	Interim Watermain - Design PM review	14	13-May-22	28-May-22	22-Apr-22	10-May-22	-16
KD1-120	Interim Watermain - Design Resubmission and Approval	7	30-May-22	07-Jun-22	11-May-22	18-May-22	-16
TAR3		30	25-Jan-22 A	20-Apr-22	10-Mar-22	28-Mar-22	-7
KD2-103	TAR 3 - Design PM Review	3	25-Jan-22 A	27-Jan-22 A	10-Mar-22	10-Mar-22	
KD2-104	TAR 3 - Design Resubmision	37	28-Jan-22 A	14-Apr-22	10-Mar-22	22-Mar-22	-19
KD2-105A	TAR 3 - Design Approval	6	15-Apr-22	20-Apr-22	23-Mar-22	28-Mar-22	-23
Meander Bridge		155	17-Jan-22 A	30-Jul-22	06-May-22	08-Dec-22	109
KD7-108	Meander Bridge Abutment - Design (Temporary Works) PM Review	21	07-Feb-22 A	11-Apr-22	06-May-22	16-May-22	25
KD7-109	Meander Bridge Abutment - Design (Temporary Works) Resubmission	14	12-Apr-22	30-Apr-22	17-May-22	01-Jun-22	25
KD7-110	Meander Bridge Abutment - Design (Temporary Works) Approval	14	03-May-22	19-May-22	02-Jun-22	18-Jun-22	25
KD7-607	Meander Bridge Pier - Design (Temporary Works) Preparation & Submission	30	07-Feb-22 A	25-Apr-22	17-Jun-22	07-Jul-22	59
KD7-608	Meander Bridge Pier - Design (Temporary Works) PM Review	21	26-Apr-22	21-May-22	08-Jul-22	01-Aug-22	59
KD7-609	Meander Bridge Pier - Design (Temporary Works) Resubmission	14	23-May-22	08-Jun-22	02-Aug-22	17-Aug-22	59
KD7-610	Meander Bridge Pier - Design (Temporary Works) Approval	14	09-Jun-22	24-Jun-22	18-Aug-22	02-Sep-22	59
KD7-617	Meander Bridge Superstructure - Design (Temporary Works) Preparation & Submission	30	25-Jun-22	30-Jul-22	04-Nov-22	08-Dec-22	109
KD7-640	Meander Bridge CSD - Design PM Review	15	17-Jan-22 A	08-Feb-22 A	12-May-22	12-May-22	
KD7-650	Meander Bridge CSD - Design Resubmission	9	09-Feb-22 A	18-Feb-22 A	12-May-22	12-May-22	
KD7-660	Meander Bridge CSD - Design Approval	14	19-Feb-22 A	19-Apr-22	12-May-22	25-May-22	29
Site Office		77	18-Feb-22 A	25-May-22	22-Feb-22	23-May-22	-2
Innohub / Reception & Atrium Module		67	18-Feb-22 A	13-May-22	22-Feb-22	23-Apr-22	-15
PRE-0895	Innohub - Schematic for Approval	12	18-Feb-22 A	12-Apr-22	22-Feb-22	03-Mar-22	-33
PRE-0900	Innohub - Steel Structure Detail Design	12	18-Feb-22 A	12-Apr-22	22-Feb-22	03-Mar-22	-33
PRE-0910	Innohub - Facade Detail Design	25	18-Feb-22 A	30-Apr-22	02-Mar-22	26-Mar-22	-26
PRE-0915	Innohub - MEP Detail Design	25	18-Feb-22 A	30-Apr-22	09-Mar-22	02-Apr-22	-20
PRE-1005	Innohub - Interior Detail Design	25	18-Feb-22 A	30-Apr-22	09-Mar-22	02-Apr-22	-20
PRE-1045	Innohub - Exterior Staircase Design and Procurement	31	01-Apr-22	13-May-22	15-Mar-22	23-Apr-22	-15
PM Site Office		41	01-Apr-22	25-May-22	24-Feb-22	23-May-22	-2
PRE-0919	PM Office - Preparation Embed Design	25	01-Apr-22	05-May-22	24-Feb-22	24-Mar-22	-31
PRE-0920	PM Office - Steel Structure Detail Design	13	13-Apr-22	30-Apr-22	04-Mar-22	18-Mar-22	-33
PRE-0930	PM Office - Facade Detail Design	32	13-Apr-22	25-May-22	24-Mar-22	05-May-22	-16
PRE-1025	PM Office - Interior Detail Design	32	13-Apr-22	25-May-22	24-Mar-22	05-May-22	-16
PRE-1035	PM Office - MEP Detail Design	32	13-Apr-22	25-May-22	24-Mar-22	05-May-22	-16
PRE-1055	PM Office - Exterior Staircase Design and Procurement	31	01-Apr-22	13-May-22	12-Apr-22	23-May-22	8
Sewage Treatment Works		356	01-Sep-21 A	22-Aug-22	22-Feb-22	20-Nov-22	90
STW - E&M		356	01-Sep-21 A	22-Aug-22	22-Feb-22	20-Nov-22	90
PRE-EM005	Subletting for E&M Subcontractor at STW	122	01-Sep-21 A	14-May-22	22-Feb-22	06-Apr-22	-38
PRE-EM010	Submit CV of Treatment Specialist	0	07-Apr-22		07-Apr-22		0
PRE-EM015	Design Team of E&M Subcontractor Move-in to LMCL Site Office	0	15-May-22*		29-Apr-22		-15
Design Submission Schedule		52	07-Apr-22	28-May-22	07-Apr-22	16-Apr-22	-42
PRE-EM020	Preparation & Submission of Design Submission Schedule	10	19-May-22	28-May-22	07-Apr-22	16-Apr-22	-42
PRE-EM030	Preparation & Submission of Drawing Submission Schedule	10	07-Apr-22	16-Apr-22	07-Apr-22	16-Apr-22	0
Equipment & Material Submission Schedule		10	19-May-22	28-May-22	07-Apr-22	16-Apr-22	-42
PRE-EM040	Preparation & Submission of Equipment & Material Submission Schedule	10	19-May-22	28-May-22	07-Apr-22	16-Apr-22	-42
PRE-EM050	Preparation & Submission of Sample Submission Schedule	10	19-May-22	28-May-22	07-Apr-22	16-Apr-22	-42
Inlet Works (Primary Treatment System)		93	19-May-22	19-Aug-22	21-May-22	21-Aug-22	2
PRE-EM070	Preparation & Submission of Inlet Works (Primary Treatment System)	42	19-May-22	29-Jun-22	21-May-22	01-Jul-22	2
PRE-EM080	Checking & Certification of Inlet Works (Primary Treatment System) by ICE	21	30-Jun-22	20-Jul-22	02-Jul-22	22-Jul-22	2



CRCC - Kwan Lee - Paul Y. JV

Remaining Level of Effort ◆ Milesto...
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work

Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1

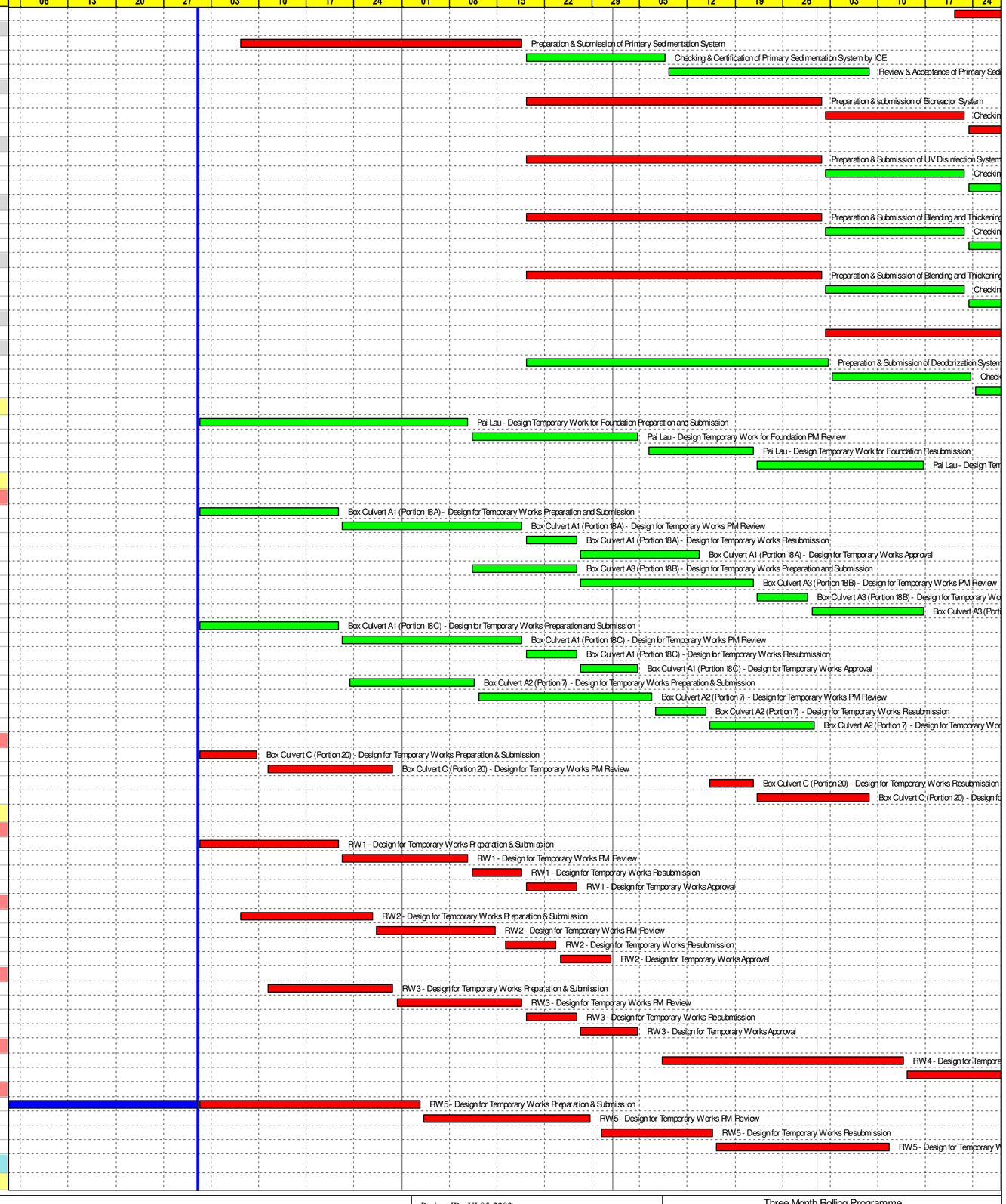
Three Month Rolling Programme

Project ID : YL05-2203
Layout : YL-02 3MRP
Date : 04-Apr-22 / Page 1 of 8

Three Month Rolling Programme

Date	Revision	Checked	Approved
14-Apr-22	MPR No. 9		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
PRE-EM090	Review & Acceptance of Inlet Works (Primary Treatment System) by PM	30	21-Jul-22	19-Aug-22	23-Jul-22	21-Aug-22	2
Primary Sedimentation System		93	07-Apr-22	08-Jul-22	07-Apr-22	21-Aug-22	44
PRE-EM100	Preparation & Submission of Primary Sedimentation System	42	07-Apr-22	18-May-22	07-Apr-22	18-May-22	0
PRE-EM110	Checking & Certification of Primary Sedimentation System by ICE	21	19-May-22	08-Jun-22	02-Jul-22	22-Jul-22	44
PRE-EM120	Review & Acceptance of Primary Sedimentation System by PM	30	09-Jun-22	08-Jul-22	23-Jul-22	21-Aug-22	44
Bioreactor System		95	19-May-22	21-Aug-22	19-May-22	21-Aug-22	0
PRE-EM130	Preparation & submission of Bioreactor System	44	19-May-22	01-Jul-22	19-May-22	01-Jul-22	0
PRE-EM140	Checking & certification of Bioreactor System by ICE	21	02-Jul-22	22-Jul-22	02-Jul-22	22-Jul-22	0
PRE-EM150	Review & acceptance of Bioreactor System by PM	30	23-Jul-22	21-Aug-22	23-Jul-22	21-Aug-22	0
Membrane Filtration System		95	19-May-22	21-Aug-22	19-May-22	20-Nov-22	91
PRE-EM160	Preparation & Submission of UV Disinfection System	44	19-May-22	01-Jul-22	19-May-22	01-Jul-22	0
PRE-EM170	Checking & Certification of UV Disinfection System by ICE	21	02-Jul-22	22-Jul-22	01-Oct-22	21-Oct-22	91
PRE-EM180	Review & Acceptance of UV Disinfection System by PM	30	23-Jul-22	21-Aug-22	22-Oct-22	20-Nov-22	91
UV Disinfection System		95	19-May-22	21-Aug-22	19-May-22	20-Nov-22	91
PRE-EM190	Preparation & Submission of Blending and Thickening System	44	19-May-22	01-Jul-22	19-May-22	01-Jul-22	0
PRE-EM200	Checking & Certification of Blending and Thickening System by ICE	21	02-Jul-22	22-Jul-22	01-Oct-22	21-Oct-22	91
PRE-EM210	Review & Acceptance of Blending and Thickening System by PM	30	23-Jul-22	21-Aug-22	22-Oct-22	20-Nov-22	91
Blending and Thickening System		95	19-May-22	21-Aug-22	19-May-22	20-Nov-22	91
PRE-EM220	Preparation & Submission of Blending and Thickening System	44	19-May-22	01-Jul-22	19-May-22	01-Jul-22	0
PRE-EM230	Checking & Certification of Blending and Thickening System by ICE	21	02-Jul-22	22-Jul-22	01-Oct-22	21-Oct-22	91
PRE-EM240	Review & Acceptance of Blending and Thickening System by PM	30	23-Jul-22	21-Aug-22	22-Oct-22	20-Nov-22	91
Sludge Dewatering System		45	02-Jul-22	15-Aug-22	02-Jul-22	15-Aug-22	0
PRE-EM250	Preparation & Submission of Sludge Dewatering System	45	02-Jul-22	15-Aug-22	02-Jul-22	15-Aug-22	0
Deodorization System		96	19-May-22	22-Aug-22	17-Aug-22	20-Nov-22	90
PRE-EM280	Preparation & Submission of Deodorization System Including Associated Duct Works	45	19-May-22	02-Jul-22	17-Aug-22	30-Sep-22	90
PRE-EM290	Checking & Certification of Deodorization System Including Associated Duct Works by ICE	21	03-Jul-22	23-Jul-22	01-Oct-22	21-Oct-22	90
PRE-EM300	Review & Acceptance of Deodorization System by PM	30	24-Jul-22	22-Aug-22	22-Oct-22	20-Nov-22	90
Pai Lau		84	01-Apr-22	16-Jul-22	31-May-23	07-Sep-23	340
PL-100	Pai Lau - Design Temporary Work for Foundation Preparation and Submission	28	01-Apr-22	10-May-22	31-May-23	04-Jul-23	340
PL-110	Pai Lau - Design Temporary Work for Foundation PM Review	21	11-May-22	04-Jun-22	05-Jul-23	28-Jul-23	340
PL-120	Pai Lau - Design Temporary Work for Foundation Resubmission	14	06-Jun-22	21-Jun-22	29-Jul-23	14-Aug-23	340
PL-130	Pai Lau - Design Temporary Work for Foundation Approval	21	22-Jun-22	16-Jul-22	15-Aug-23	07-Sep-23	340
Box Culverts		84	01-Apr-22	16-Jul-22	06-Apr-22	13-Apr-23	218
Box Culvert A1. A2, A3		84	01-Apr-22	16-Jul-22	14-Jun-22	13-Apr-23	218
12A-102	Box Culvert A1 (Portion 18A) - Design for Temporary Works Preparation and Submission	14	01-Apr-22	21-Apr-22	14-Jun-22	29-Jun-22	56
12A-103	Box Culvert A1 (Portion 18A) - Design for Temporary Works PM Review	21	22-Apr-22	18-May-22	30-Jun-22	25-Jul-22	56
12A-104	Box Culvert A1 (Portion 18A) - Design for Temporary Works Resubmission	7	19-May-22	26-May-22	26-Jul-22	02-Aug-22	56
12A-105	Box Culvert A1 (Portion 18A) - Design for Temporary Works Approval	14	27-May-22	13-Jun-22	03-Aug-22	18-Aug-22	56
12B-102	Box Culvert A3 (Portion 18B) - Design for Temporary Works Preparation and Submission	14	11-May-22	26-May-22	03-Feb-23	18-Feb-23	218
12B-103	Box Culvert A3 (Portion 18B) - Design for Temporary Works PM Review	21	27-May-22	21-Jun-22	20-Feb-23	15-Mar-23	218
12B-104	Box Culvert A3 (Portion 18B) - Design for Temporary Works Resubmission	7	22-Jun-22	29-Jun-22	16-Mar-23	23-Mar-23	218
12B-106	Box Culvert A3 (Portion 18B) - Design for Temporary Works Approval	14	30-Jun-22	16-Jul-22	24-Mar-23	13-Apr-23	218
12C-107	Box Culvert A1 (Portion 18C) - Design for Temporary Works Preparation and Submission	14	01-Apr-22	21-Apr-22	27-Jun-22	13-Jul-22	67
12C-108	Box Culvert A1 (Portion 18C) - Design for Temporary Works PM Review	21	22-Apr-22	18-May-22	14-Jul-22	06-Aug-22	67
12C-109	Box Culvert A1 (Portion 18C) - Design for Temporary Works Resubmission	7	19-May-22	26-May-22	08-Aug-22	15-Aug-22	67
12C-110	Box Culvert A1 (Portion 18C) - Design for Temporary Works Approval	7	27-May-22	04-Jun-22	16-Aug-22	23-Aug-22	67
KD6-085	Box Culvert A2 (Portion 7) - Design for Temporary Works Preparation & Submission	14	23-Apr-22	11-May-22	25-Jun-22	12-Jul-22	51
KD6-090	Box Culvert A2 (Portion 7) - Design for Temporary Works PM Review	21	12-May-22	06-Jun-22	13-Jul-22	05-Aug-22	51
KD6-095	Box Culvert A2 (Portion 7) - Design for Temporary Works Resubmission	7	07-Jun-22	14-Jun-22	06-Aug-22	13-Aug-22	51
KD6-100	Box Culvert A2 (Portion 7) - Design for Temporary Works Approval	14	15-Jun-22	30-Jun-22	15-Aug-22	30-Aug-22	51
Box Culvert C		77	01-Apr-22	08-Jul-22	06-Apr-22	28-May-22	-33
S9-202	Box Culvert C (Portion 20) - Design for Temporary Works Preparation & Submission	7	01-Apr-22	09-Apr-22	06-Apr-22	13-Apr-22	3
S9-203	Box Culvert C (Portion 20) - Design for Temporary Works PM Review	14	11-Apr-22	29-Apr-22	14-Apr-22	04-May-22	3
S9-204	Box Culvert C (Portion 20) - Design for Temporary Works Resubmission	6	15-Jun-22	21-Jun-22	05-May-22	12-May-22	-33
S9-205	Box Culvert C (Portion 20) - Design for Temporary Works Approval	14	22-Jun-22	08-Jul-22	13-May-22	28-May-22	-33
Retaining Walls		142	14-Feb-22 A	06-Aug-22	28-Feb-22	21-Jul-22	-14
RW1		42	01-Apr-22	26-May-22	24-Mar-22	18-May-22	-7
RW-140	RW1 - Design for Temporary Works Preparation & Submission	14	01-Apr-22	21-Apr-22	24-Mar-22	09-Apr-22	-7
RW-150	RW1 - Design for Temporary Works PM Review	14	22-Apr-22	10-May-22	11-Apr-22	29-Apr-22	-7
RW-160	RW1 - Design for Temporary Works Resubmission	7	11-May-22	18-May-22	30-Apr-22	10-May-22	-7
RW-170	RW1 - Design for Temporary Works Approval	7	19-May-22	26-May-22	11-May-22	18-May-22	-7
RW2		42	07-Apr-22	31-May-22	24-Mar-22	18-May-22	-11
RW-200	RW2 - Design for Temporary Works Preparation & Submission	14	07-Apr-22	26-Apr-22	24-Mar-22	09-Apr-22	-11
RW-210	RW2 - Design for Temporary Works PM Review	14	27-Apr-22	14-May-22	11-Apr-22	29-Apr-22	-11
RW-220	RW2 - Design for Temporary Works Resubmission	7	16-May-22	23-May-22	30-Apr-22	10-May-22	-11
RW-230	RW2 - Design for Temporary Works Approval	7	24-May-22	31-May-22	11-May-22	18-May-22	-11
RW3		42	11-Apr-22	04-Jun-22	15-Mar-22	07-May-22	-22
RW-300	RW3 - Design for Temporary Works Preparation & Submission	14	11-Apr-22	29-Apr-22	15-Mar-22	30-Mar-22	-22
RW-310	RW3 - Design for Temporary Works PM Review	14	30-Apr-22	18-May-22	31-Mar-22	20-Apr-22	-22
RW-320	RW3 - Design for Temporary Works Resubmission	7	19-May-22	26-May-22	21-Apr-22	28-Apr-22	-22
RW-330	RW3 - Design for Temporary Works Approval	7	27-May-22	04-Jun-22	29-Apr-22	07-May-22	-22
RW4		51	08-Jun-22	06-Aug-22	21-May-22	21-Jul-22	-14
RW-400	RW4 - Design for Temporary Works Preparation & Submission	30	08-Jun-22	13-Jul-22	21-May-22	25-Jun-22	-14
RW-410	RW4 - Design for Temporary Works PM Review	21	14-Jul-22	06-Aug-22	27-Jun-22	21-Jul-22	-14
RW5		119	14-Feb-22 A	11-Jul-22	28-Feb-22	07-Jun-22	-28
RW-500	RW5 - Design for Temporary Works Preparation & Submission	30	14-Feb-22 A	03-May-22	28-Feb-22	25-Mar-22	-28
RW-510	RW5 - Design for Temporary Works PM Review	21	04-May-22	28-May-22	26-Mar-22	23-Apr-22	-28
RW-520	RW5 - Design for Temporary Works Resubmission	14	30-May-22	15-Jun-22	25-Apr-22	12-May-22	-28
RW-530	RW5 - Design for Temporary Works Approval	21	16-Jun-22	11-Jul-22	13-May-22	07-Jun-22	-28
Fabrication and Delivery		114	17-Jan-22 A	11-Jun-22	24-Feb-22	12-Nov-26	1308
Site Office		114	17-Jan-22 A	11-Jun-22	24-Feb-22	12-Nov-26	1308



CRCC - Kwan Lee - Paul Y. JV

Remaining Level of Effort ◆ Milesto...
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work

Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1

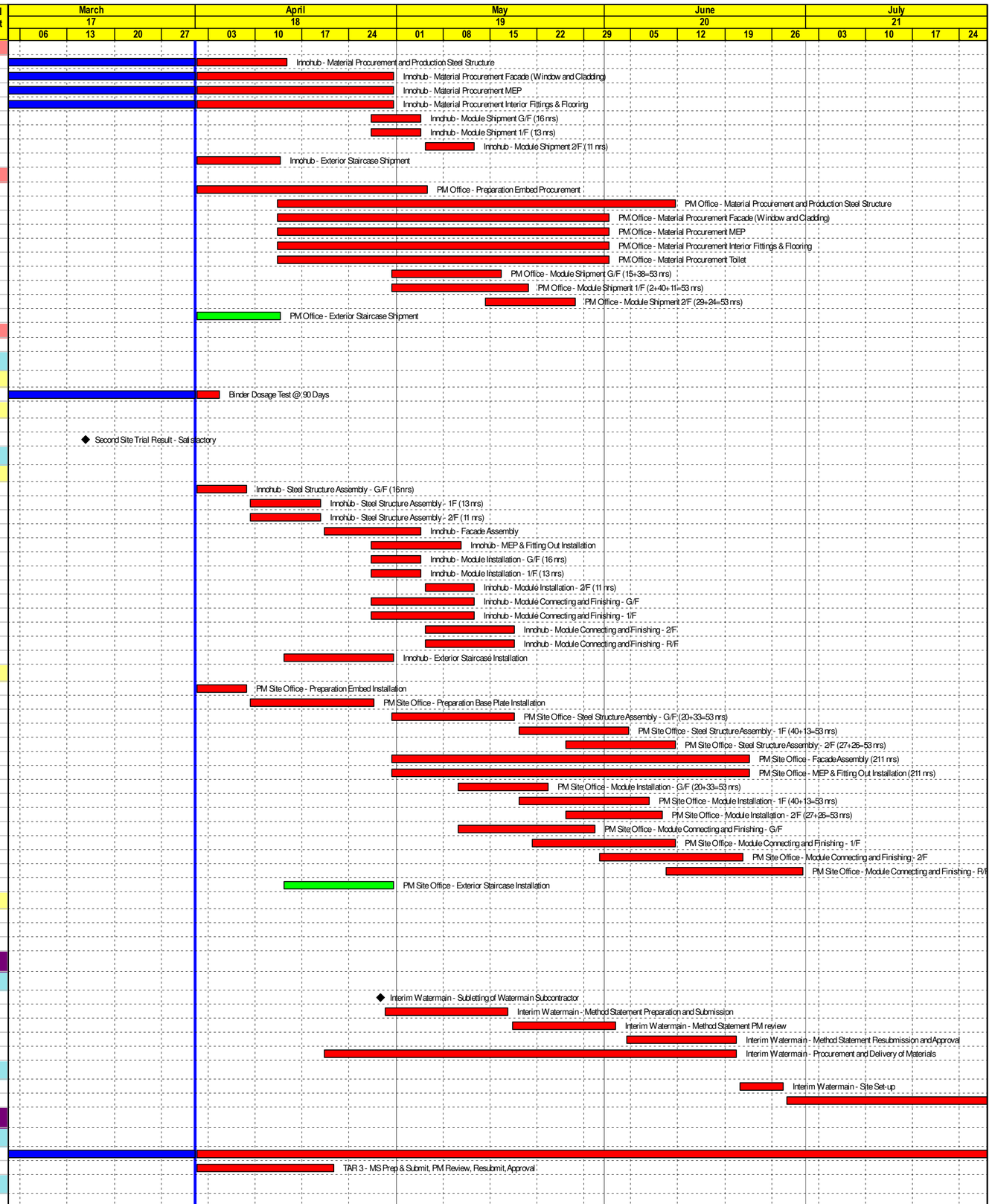
Three Month Rolling Programme

Project ID : YL05-2203
Layout : YL-02 3MRP
Date : 04-Apr-22 / Page 2 of 8

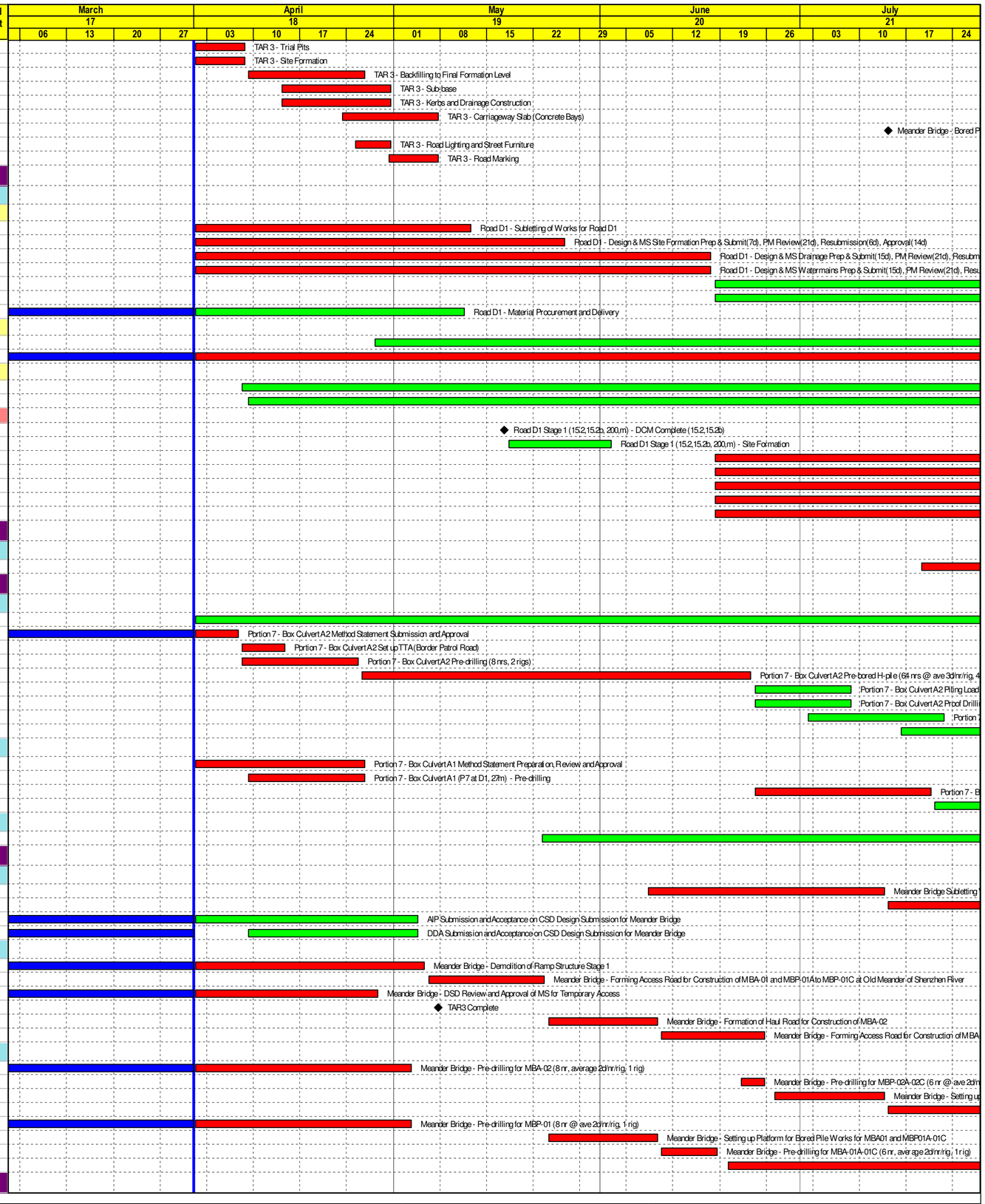
Three Month Rolling Programme

Date	Revision	Checked	Approved
14-Apr-22	MPR No. 9		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Innohub / Reception & Atrium Module		89	17-Jan-22 A	12-May-22	28-Feb-22	02-Apr-22	-28
SO-1020	Innohub - Material Procurement and Production Steel Structure	37	17-Jan-22 A	14-Apr-22	28-Feb-22	11-Mar-22	-28
SO-1050	Innohub - Material Procurement Facade (Window and Cladding)	30	12-Feb-22 A	30-Apr-22	02-Mar-22	26-Mar-22	-26
SO-1060	Innohub - Material Procurement MEP	30	12-Feb-22 A	30-Apr-22	09-Mar-22	02-Apr-22	-20
SO-1070	Innohub - Material Procurement Interior Fittings & Flooring	30	12-Feb-22 A	30-Apr-22	09-Mar-22	02-Apr-22	-20
SO-1150	Innohub - Module Shipment G/F (16 nrs)	6	27-Apr-22	04-May-22	28-Mar-22	02-Apr-22	-22
SO-1160	Innohub - Module Shipment 1/F (13 nrs)	6	27-Apr-22	04-May-22	21-Mar-22	26-Mar-22	-28
SO-1170	Innohub - Module Shipment 2/F (11 nrs)	6	05-May-22	12-May-22	28-Mar-22	02-Apr-22	-28
SO-1400	Innohub - Exterior Staircase Shipment	10	01-Apr-22	13-Apr-22	15-Mar-22	25-Mar-22	-15
PM Site Office		55	01-Apr-22	11-Jun-22	24-Feb-22	13-May-22	-24
SO-1025	PM Office - Preparation Embed Procurement	25	01-Apr-22	05-May-22	24-Feb-22	24-Mar-22	-31
SO-1030	PM Office - Material Procurement and Production Steel Structure	46	13-Apr-22	11-Jun-22	04-Mar-22	30-Apr-22	-33
SO-1080	PM Office - Material Procurement Facade (Window and Cladding)	38	13-Apr-22	01-Jun-22	24-Mar-22	13-May-22	-16
SO-1090	PM Office - Material Procurement MEP	38	13-Apr-22	01-Jun-22	24-Mar-22	13-May-22	-16
SO-1100	PM Office - Material Procurement Interior Fittings & Flooring	38	13-Apr-22	01-Jun-22	24-Mar-22	13-May-22	-16
SO-1110	PM Office - Material Procurement Toilet	38	13-Apr-22	01-Jun-22	24-Mar-22	13-May-22	-16
SO-1370	PM Office - Module Shipment G/F (15+38=53 nrs)	12	30-Apr-22	16-May-22	25-Mar-22	08-Apr-22	-27
SO-1380	PM Office - Module Shipment 1/F (2+40+11=53 nrs)	16	30-Apr-22	20-May-22	01-Apr-22	23-Apr-22	-21
SO-1390	PM Office - Module Shipment 2/F (29+24=53 nrs)	12	14-May-22	27-May-22	14-Apr-22	30-Apr-22	-21
SO-1410	PM Office - Exterior Staircase Shipment	10	01-Apr-22	13-Apr-22	12-Apr-22	26-Apr-22	8
Contractor Site Office		10	19-Jan-22 A	29-Jan-22 A	12-Nov-26	12-Nov-26	
SO-1470	Contractor Site Office - Materila Delivery	10	19-Jan-22 A	29-Jan-22 A	12-Nov-26	12-Nov-26	
Prerequisites for DCM Construction		108	28-Nov-21 A	04-Apr-22	22-Feb-22	12-Nov-26	1682
DCM Laboratory Mix		90	28-Nov-21 A	04-Apr-22	22-Feb-22	25-Feb-22	-38
PRE-420F	Binder Dosage Test @ 90 Days	90	28-Nov-21 A	04-Apr-22*	22-Feb-22	25-Feb-22	-38
Site Trial		35	08-Feb-22 A	15-Mar-22 A	12-Nov-26	12-Nov-26	
PRE-436	First Site Trial Result - Failed	0		08-Feb-22 A		12-Nov-26	
PRE-437	Second Site Trial Result - Satisfactory	0		15-Mar-22 A			
Site Office and Innohub		113	11-Feb-22 A	30-Jun-22	24-Feb-22	12-Nov-26	1232
Innohub / Reception & Atrium Module		35	01-Apr-22	18-May-22	28-Feb-22	11-Apr-22	-27
SO-1000	Innohub - Steel Structure Assembly - G/F (16nrs)	6	01-Apr-22	08-Apr-22	28-Feb-22	05-Mar-22	-28
SO-1120	Innohub - Steel Structure Assembly - 1F (13 nrs)	6	09-Apr-22	19-Apr-22	07-Mar-22	12-Mar-22	-28
SO-1130	Innohub - Steel Structure Assembly - 2/F (11 nrs)	6	09-Apr-22	19-Apr-22	07-Mar-22	12-Mar-22	-28
SO-1135	Innohub - Facade Assembly	12	20-Apr-22	04-May-22	14-Mar-22	26-Mar-22	-28
SO-1136	Innohub - MEP & Fitting Out Installation	10	27-Apr-22	10-May-22	23-Mar-22	02-Apr-22	-26
SO-1140	Innohub - Module Installation - G/F (16 nrs)	6	27-Apr-22	04-May-22	28-Mar-22	02-Apr-22	-22
SO-1180	Innohub - Module Installation - 1/F (13 nrs)	6	27-Apr-22	04-May-22	21-Mar-22	26-Mar-22	-28
SO-1190	Innohub - Module Installation - 2/F (11 nrs)	6	05-May-22	12-May-22	28-Mar-22	02-Apr-22	-28
SO-1200	Innohub - Module Connecting and Finishing - G/F	12	27-Apr-22	12-May-22	28-Mar-22	11-Apr-22	-22
SO-1210	Innohub - Module Connecting and Finishing - 1/F	12	27-Apr-22	12-May-22	28-Mar-22	11-Apr-22	-22
SO-1220	Innohub - Module Connecting and Finishing - 2/F	11	05-May-22	18-May-22	28-Mar-22	09-Apr-22	-28
SO-1230	Innohub - Module Connecting and Finishing - R/F	11	05-May-22	18-May-22*	28-Mar-22	09-Apr-22	-28
SO-1420	Innohub - Exterior Staircase Installation	12	14-Apr-22	30-Apr-22	26-Mar-22	09-Apr-22	-15
PM Site Office		71	01-Apr-22	30-Jun-22	24-Feb-22	21-May-22	-33
SO-1010	PM Site Office - Preparation Embed Installation	6	01-Apr-22	08-Apr-22	24-Feb-22	02-Mar-22	-31
SO-1240	PM Site Office - Preparation Base Plate Installation	13	09-Apr-22	27-Apr-22	03-Mar-22	17-Mar-22	-31
SO-1250	PM Site Office - Steel Structure Assembly - G/F (20+33=53 nrs)	14	30-Apr-22	18-May-22	18-Mar-22	02-Apr-22	-33
SO-1260	PM Site Office - Steel Structure Assembly - 1F (40+13=53 nrs)	14	19-May-22	04-Jun-22	07-Apr-22	26-Apr-22	-31
SO-1270	PM Site Office - Steel Structure Assembly - 2/F (27+26=53 nrs)	14	26-May-22	11-Jun-22	14-Apr-22	04-May-22	-31
SO-1280	PM Site Office - Facade Assembly (211 nrs)	43	30-Apr-22	22-Jun-22	18-Mar-22	13-May-22	-33
SO-1290	PM Site Office - MEP & Fitting Out Installation (211 nrs)	43	30-Apr-22	22-Jun-22	18-Mar-22	13-May-22	-33
SO-1300	PM Site Office - Module Installation - G/F (20+33=53 nrs)	12	10-May-22	23-May-22	25-Mar-22	08-Apr-22	-33
SO-1310	PM Site Office - Module Installation - 1F (40+13=53 nrs)	16	19-May-22	07-Jun-22	14-Apr-22	06-May-22	-25
SO-1320	PM Site Office - Module Installation - 2/F (27+26=53 nrs)	12	26-May-22	09-Jun-22	14-Apr-22	30-Apr-22	-31
SO-1330	PM Site Office - Module Connecting and Finishing - G/F	18	10-May-22	30-May-22	25-Mar-22	19-Apr-22	-33
SO-1340	PM Site Office - Module Connecting and Finishing - 1/F	18	21-May-22	11-Jun-22	20-Apr-22	12-May-22	-25
SO-1350	PM Site Office - Module Connecting and Finishing - 2/F	18	31-May-22	21-Jun-22	20-Apr-22	12-May-22	-33
SO-1360	PM Site Office - Module Connecting and Finishing - R/F	18	10-Jun-22	30-Jun-22*	29-Apr-22	21-May-22	-33
SO-1430	PM Site Office - Exterior Staircase Installation	12	14-Apr-22	30-Apr-22	27-Apr-22	12-May-22	8
Contractor Site Office		12	11-Feb-22 A	24-Feb-22 A	12-Nov-26	12-Nov-26	
SO-1435	Contractor Site Office - Blinding	1	11-Feb-22 A	11-Feb-22 A	12-Nov-26	12-Nov-26	
SO-1440	Contractor Site Office - Foundation	4	12-Feb-22 A	16-Feb-22 A	12-Nov-26	12-Nov-26	
SO-1450	Contractor Site Office - Steel Structure Assembly	7	17-Feb-22 A	24-Feb-22 A	12-Nov-26	12-Nov-26	
Key Date KD1 - Interim Watermain		92	20-Apr-22	09-Aug-22	08-Mar-22	30-Jun-22	-33
KD1 - Submissions		50	20-Apr-22	20-Jun-22	08-Mar-22	11-May-22	-33
KD1-1000	Interim Watermain - Subletting of Watermain Subcontractor	0		28-Apr-22		16-Mar-22	-33
KD1-1005	Interim Watermain - Method Statement Preparation and Submission	14	29-Apr-22	17-May-22	17-Mar-22	01-Apr-22	-33
KD1-1010	Interim Watermain - Method Statement PM review	14	18-May-22	02-Jun-22	02-Apr-22	22-Apr-22	-33
KD1-1015	Interim Watermain - Method Statement Resubmission and Approval	14	04-Jun-22	20-Jun-22	23-Apr-22	11-May-22	-33
KD1-1020	Interim Watermain - Procurement and Delivery of Materials	50	20-Apr-22	20-Jun-22	08-Mar-22	11-May-22	-33
KD1 - Construction		42	21-Jun-22	09-Aug-22	12-May-22	30-Jun-22	-33
KD1-1025	Interim Watermain - Site Set-up	6	21-Jun-22	27-Jun-22	12-May-22	18-May-22	-33
KD1-1030	Interim Watermain - TAR1 to Loop Excavation	36	28-Jun-22	09-Aug-22	19-May-22	30-Jun-22	-33
Key Date KD2 - TAR 3		182	07-Feb-22 A	27-Oct-22	08-Mar-22	30-Sep-22	-21
KD2 - Submission and Coordination		182	07-Feb-22 A	27-Oct-22	08-Mar-22	30-Sep-22	-21
KD2-1000	TAR 3 - Consultation with CLP on Requirements for Delivery Route	182	07-Feb-22 A	27-Oct-22	08-Mar-22	30-Sep-22	-21
KD2-1005	TAR 3 - MS Prep & Submit, PM Review, Resubmit, Approval	14	01-Apr-22	21-Apr-22	08-Mar-22	23-Mar-22	-21
KD2 - Construction		127	07-Feb-22 A	14-Jul-22	08-Mar-22	04-Jun-22	-33
KD2-1020	TAR 3 - Carry out Diversion (if needed)	6	07-Feb-22 A	12-Feb-22 A	08-Mar-22	08-Mar-22	



Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
KD2-1025	TAR 3 - Trial Pits	6	01-Apr-22	08-Apr-22	08-Mar-22	14-Mar-22	-21
KD2-1030	TAR 3 - Site Formation	6	01-Apr-22	08-Apr-22	08-Mar-22	14-Mar-22	-21
KD2-1035	TAR 3 - Backfilling to Final Formation Level	12	09-Apr-22	26-Apr-22	15-Mar-22	28-Mar-22	-21
KD2-1040	TAR 3 - Sub-base	12	14-Apr-22	30-Apr-22	19-Mar-22	01-Apr-22	-21
KD2-1045	TAR 3 - Kerbs and Drainage Construction	12	14-Apr-22	30-Apr-22	19-Mar-22	01-Apr-22	-21
KD2-1050	TAR 3 - Carriageway Slab (Concrete Bays)	12	23-Apr-22	07-May-22	25-Mar-22	08-Apr-22	-21
KD2-1052	Meander Bridge - Bored Piling Works Commencement	0	14-Jul-22		04-Jun-22		-33
KD2-1055	TAR 3 - Road Lighting and Street Furniture	6	25-Apr-22	30-Apr-22	26-Mar-22	01-Apr-22	-21
KD2-1056	TAR 3 - Road Marking	6	30-Apr-22	07-May-22	01-Apr-22	08-Apr-22	-21
Key Date KD3 - Road D1 and L1		126	26-Jan-22 A	14-Feb-23	26-Feb-22	14-Jun-23	47
KD3 - ROAD D1 Construction		126	26-Jan-22 A	14-Feb-23	26-Feb-22	14-Jun-23	47
KD3 - D1 - Submissions		154	21-Feb-22 A	27-Aug-22	02-Apr-22	18-Oct-22	41
KD3-1000	Road D1 - Subletting of Works for Road D1	30	01-Apr-22	12-May-22	02-Apr-22	13-May-22	1
KD3-1005	Road D1 - Design & MS Site Formation Prep & Submit(7d), PM Review(21d), Resubmission(6d), Approval(14d)	42	01-Apr-22	26-May-22	02-Apr-22	27-May-22	1
KD3-1010	Road D1 - Design & MS Drainage Prep & Submit(15d), PM Review(21d), Resubmission(10d), Approval(14d)	60	01-Apr-22	17-Jun-22	02-Apr-22	18-Jun-22	1
KD3-1015	Road D1 - Design & MS Watermains Prep & Submit(15d), PM Review(21d), Resubmission(10d), Approval(14d)	60	01-Apr-22	17-Jun-22	02-Apr-22	18-Jun-22	1
KD3-1020	Road D1 - Design & MS Road Paving & Marking Prep & Submit(15d), PM Review(21d), Resubmission(10d), Approval(14d)	60	18-Jun-22	27-Aug-22	06-Aug-22	18-Oct-22	41
KD3-1030	Road D1 - Design & MS Irrigation System Prep & Submit(15d), PM Review(21d), Resubmission(10d), Approval(14d)	60	18-Jun-22	27-Aug-22	06-Aug-22	18-Oct-22	41
KD3-1035	Road D1 - Material Procurement and Delivery	30	21-Feb-22 A	11-May-22	16-May-22	18-Jun-22	32
KD3 - D1 - DCM Works at Portion 7		126	26-Jan-22 A	14-Feb-23	26-Feb-22	14-Jun-23	47
S7-1425	Portion 7 - Surcharging Works	270	28-Apr-22	22-Jan-23	18-Sep-22	14-Jun-23	143
S7-1435	Portion 7 - DCM Works	274	26-Jan-22 A	14-Feb-23	26-Feb-22	06-Jan-23	-29
KD3 - D1 - Construction		185	08-Apr-22	21-Nov-22	14-May-22	06-Jan-23	37
KD6-1445	Portion 7 - Complete Box Culvert A2	178	08-Apr-22	12-Nov-22	14-May-22	13-Dec-22	26
KD6-1455	Portion 7 - Complete Box Culvert A1	184	09-Apr-22	21-Nov-22	28-May-22	06-Jan-23	37
KD3 - Road D1 Stage 1 (Road Next to Portion 15.2 and 15.2b)		86	17-May-22	27-Aug-22	01-Jun-22	29-Aug-22	1
KD3-2684	Road D1 Stage 1 (15.2,15.2b, 200,m) - DCM Complete (15.2,15.2b)	0		17-May-22		01-Jun-22	13
KD3-2685	Road D1 Stage 1 (15.2,15.2b, 200,m) - Site Formation	14	18-May-22	02-Jun-22	02-Jun-22	18-Jun-22	13
KD3-2695	Road D1 Stage 1 (15.2,15.2b, 200,m) - Drainage (under the Carriageway)	60	18-Jun-22	27-Aug-22	20-Jun-22	29-Aug-22	1
KD3-2705	Road D1 Stage 1 (15.2,15.2b, 200,m) - Sewerage	60	18-Jun-22	27-Aug-22	20-Jun-22	29-Aug-22	1
KD3-2715	Road D1 Stage 1 (15.2,15.2b, 200,m) - Watermains	60	18-Jun-22	27-Aug-22	20-Jun-22	29-Aug-22	1
KD3-2735	Road D1 Stage 1 (15.2,15.2b, 200,m) - Utilities (11kV Cable)	60	18-Jun-22	27-Aug-22	20-Jun-22	29-Aug-22	1
KD3-2740	Road D1 Stage 1 (15.2,15.2b, 200,m) - Utilities (Medium and Low Pressure Gas Mains)	60	18-Jun-22	27-Aug-22	20-Jun-22	29-Aug-22	1
Key Date KD4 - WCR Carriageway + 1 Footpath		14	19-Jul-22	03-Aug-22	24-Jun-22	11-Jul-22	-20
KD4 - Submissions		14	19-Jul-22	03-Aug-22	24-Jun-22	11-Jul-22	-20
KD4-1000	WCR Carriageway - MS Preparation and Submission	14	19-Jul-22	03-Aug-22	24-Jun-22	11-Jul-22	-20
Key Date KD6 - Box Culverts A2 and A1 in Portion 7		81	07-Feb-22 A	30-Sep-22	22-Feb-22	25-Mar-23	67
KD6 - Box Culvert A2 (Including Border Patrol Road & Portion 7)		80	07-Feb-22 A	27-Sep-22	22-Feb-22	29-Nov-22	23
KD6-0500	Portion 7 - Application to Border Police for Boundary Patrol Road TTA	180	01-Apr-22	27-Sep-22	03-Jun-22	29-Nov-22	63
KD6-1005	Portion 7 - Box Culvert A2 Method Statement Submission and Approval	18	07-Feb-22 A	07-Apr-22	22-Feb-22	26-Feb-22	-33
KD6-1010	Portion 7 - Box Culvert A2 Set up TTA (Border Patrol Road)	6	08-Apr-22	14-Apr-22	28-Feb-22	05-Mar-22	-33
KD6-1015	Portion 7 - Box Culvert A2 Pre-drilling (8 nrs, 2 rigs)	12	08-Apr-22	25-Apr-22	28-Feb-22	12-Mar-22	-33
KD6-1020	Portion 7 - Box Culvert A2 Pre-bored H-pile (64 nrs @ ave 3d/nr/rig, 4 rigs)	48	26-Apr-22	23-Jun-22	14-Mar-22	14-May-22	-33
KD6-1025	Portion 7 - Box Culvert A2 Piling Load Test	12	24-Jun-22	08-Jul-22	24-Aug-22	06-Sep-22	51
KD6-1030	Portion 7 - Box Culvert A2 Proof Drilling	12	24-Jun-22	08-Jul-22	24-Aug-22	06-Sep-22	51
KD6-1035	Portion 7 - Box Culvert A2 Sheetpiling (1 rig)	18	02-Jul-22	22-Jul-22	31-Aug-22	21-Sep-22	51
KD6-1040	Portion 7 - Box Culvert A2 ELS Installation	24	16-Jul-22	12-Aug-22	15-Sep-22	14-Oct-22	51
KD6 - Box Culvert A1 (Portion 7, Road D1)		99	01-Apr-22	03-Aug-22	11-Mar-22	02-Sep-22	26
KD6-1070	Portion 7 - Box Culvert A1 Method Statement Preparation, Review and Approval	18	01-Apr-22	26-Apr-22	11-Mar-22	31-Mar-22	-18
KD6-1075	Portion 7 - Box Culvert A1 (P7 at D1, 27m) - Pre-drilling	12	09-Apr-22	26-Apr-22	18-Mar-22	31-Mar-22	-18
KD6-1080	Portion 7 - Box Culvert A1 (P7 at D1, 27m) - Pre-bored H-pile (29 nrs @ ave 3d/nr/rig, 4 rigs)	22	24-Jun-22	20-Jul-22	16-May-22	10-Jun-22	-33
KD6-1085	Portion 7 - Box Culvert A1 (P7 at D1, 27m) - Piling Load Test	12	21-Jul-22	03-Aug-22	20-Aug-22	02-Sep-22	26
KD6 - Box Culvert A1 (Portion 7, Next to Road L1)		110	23-May-22	30-Sep-22	10-Nov-22	25-Mar-23	142
KD6-3335	Interface Portion 7 - CLP ESS Excavation and ELS Installation (Depth 4m from Existing Level)	110	23-May-22*	30-Sep-22	10-Nov-22	25-Mar-23	142
Key Date KD7 - Meander Bridge and CLP Transformer Delivery		303	29-Dec-21 A	09-Jan-23	22-Feb-22	28-Nov-22	-33
KD7 - Submissions		205	15-Jan-22 A	27-Sep-22	26-Apr-22	02-Sep-22	-20
KD7-1010	Meander Bridge Subletting Works	30	08-Jun-22	13-Jul-22	14-May-22	18-Jun-22	-20
KD7-1175	MS - Bridge Abutment (Temporary Works) Prep & Submit (14d), PM Review (21d), Resubmit (7d), Approval (21d)	64	14-Jul-22	27-Sep-22	20-Jun-22	02-Sep-22	-20
KD7-2025	AIP Submission and Acceptance on CSD Design Submission for Meander Bridge	51	15-Jan-22 A	04-May-22	26-Apr-22	25-May-22	17
KD7-2035	DDA Submission and Acceptance on CSD Design Submission for Meander Bridge	33	29-Jan-22 A	04-May-22	04-May-22	25-May-22	17
KD7 - Preparation Works		141	29-Dec-21 A	25-Jun-22	22-Feb-22	17-May-22	-33
KD7-1250	Meander Bridge - Demolition of Ramp Structure Stage 1	37	08-Feb-22 A	05-May-22	22-Feb-22	22-Mar-22	-33
KD7-1260	Meander Bridge - Forming Access Road for Construction of MBA-01 and MBP-01A to MBP-01C at Old Meander of Shenzhen F	14	06-May-22	23-May-22	23-Mar-22	08-Apr-22	-33
KD7-1265	Meander Bridge - DSD Review and Approval of MS for Temporary Access	61	29-Dec-21 A	28-Apr-22	28-Feb-22	22-Mar-22	-28
KD7-1266	TAR3 Complete	0		07-May-22		08-Apr-22	-21
KD7-1270	Meander Bridge - Formation of Haul Road for Construction of MBA-02	14	24-May-22	09-Jun-22	09-Apr-22	28-Apr-22	-33
KD7-1280	Meander Bridge - Forming Access Road for Construction of MBA-02 and MBP-02A to MBP-02C at Old Meander of Shenzhen F	14	10-Jun-22	25-Jun-22	29-Apr-22	17-May-22	-33
KD7 - Foundation		275	07-Feb-22 A	09-Jan-23	22-Feb-22	28-Nov-22	-33
KD7-1290	Meander Bridge - Pre-drilling for MBA-02 (8 nr, average 2d/nr/rig, 1 rig)	21	12-Feb-22 A	03-May-22	23-Mar-22	22-Apr-22	-8
KD7-1300	Meander Bridge - Pre-drilling for MBP-02A-02C (6 nr @ ave 2d/nr/rig, 2 rigs)	4	22-Jun-22	25-Jun-22	13-May-22	17-May-22	-33
KD7-1310	Meander Bridge - Setting up platform for Bore Pile works for MBA02 and MBP02A-02C	14	27-Jun-22	13-Jul-22	18-May-22	02-Jun-22	-33
KD7-1320	Meander Bridge - Bored Pile for MBA02 and MBP02A-02C, incl. testing (18nrs @ 10d/pile/rig)	148	14-Jul-22	09-Jan-23	04-Jun-22	28-Nov-22	-33
KD7-1330	Meander Bridge - Pre-drilling for MBP-01 (8 nr @ ave 2d/nr/rig, 1 rig)	21	07-Feb-22 A	03-May-22	22-Feb-22	19-Mar-22	-33
KD7-1335	Meander Bridge - Setting up Platform for Bored Pile Works for MBA01 and MBP01A-01C	14	24-May-22	09-Jun-22	28-Apr-22	16-May-22	-20
KD7-1340	Meander Bridge - Pre-drilling for MBA-01A-01C (6 nr, average 2d/nr/rig, 1 rig)	8	10-Jun-22	18-Jun-22	17-May-22	25-May-22	-20
KD7-1360	Meander Bridge - Bored Pile for MBA01 and MBP01A-01C, incl. testing (18nrs @ 10d/pile/rig)	148	20-Jun-22	13-Dec-22	26-May-22	19-Nov-22	-20
Key Date KD8 - Sewage Treatment Works (STW) Buildings		313	05-Nov-21 A	26-Nov-22	22-Feb-22	30-Oct-23	271



CRCC - Kwan Lee - Paul Y. JV

Remaining Level of Effort ◆ Milesto...
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work

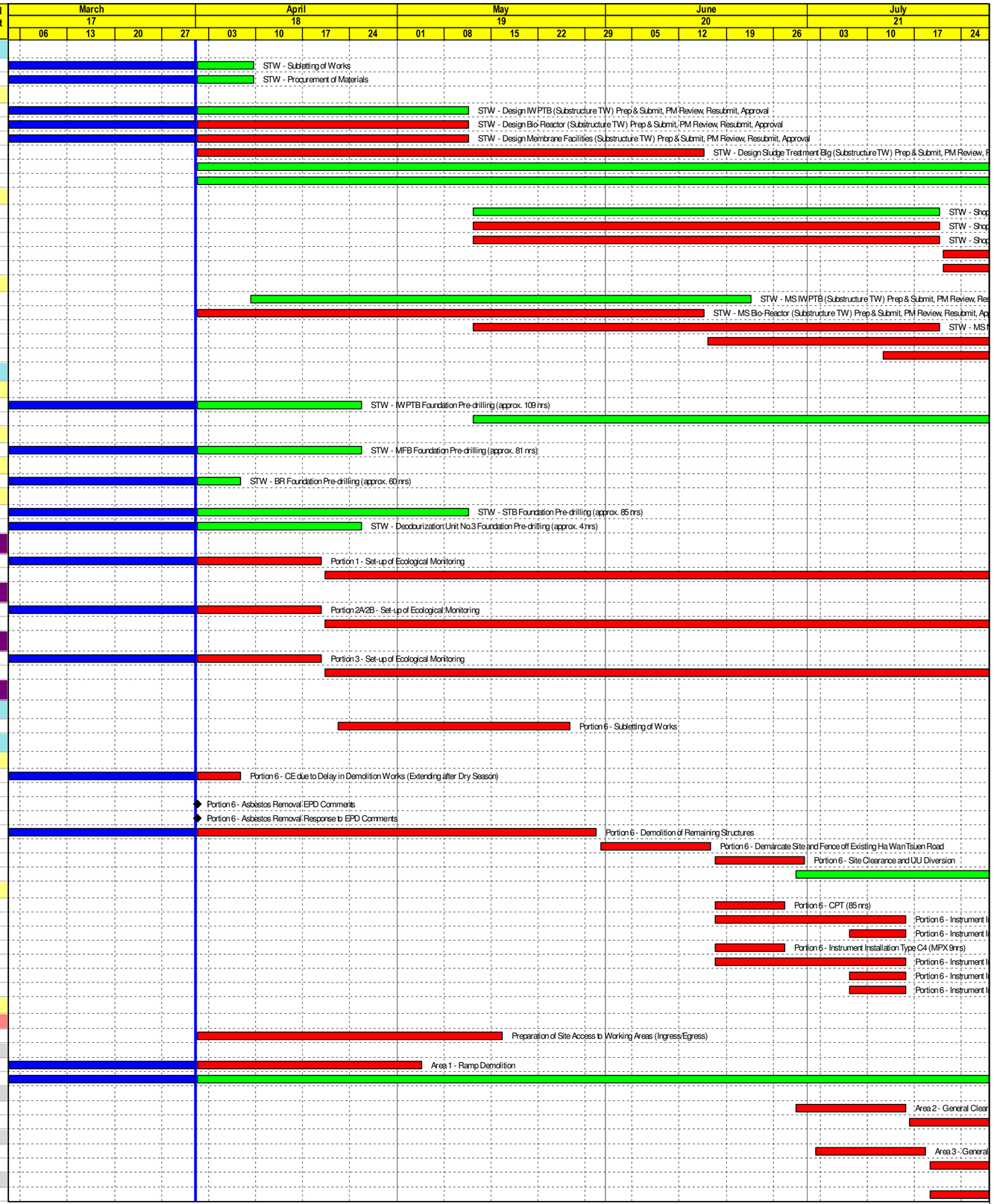
Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1

Three Month Rolling Programme

Project ID : YL05-2203
Layout : YL-02 3MRP
Date : 04-Apr-22 / Page 4 of 8

Three Month Rolling Programme			
Date	Revision	Checked	Approved
14-Apr-22	MPR No. 9		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
KD8 - Submissions		313	05-Nov-21 A	26-Nov-22	22-Feb-22	19-Oct-22	-33
KD8-1005	STW - Subletting of Works	47	30-Dec-21 A	09-Apr-22	08-Jun-22	15-Jun-22	51
KD8-1010	STW - Procurement of Materials	47	30-Dec-21 A	09-Apr-22	08-Jun-22	15-Jun-22	51
KD8 - Design		226	05-Nov-21 A	13-Aug-22	22-Feb-22	19-Oct-22	54
KD8-1015	STW - Design IWPTB (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	05-Nov-21 A	11-May-22	24-May-22	27-Jun-22	39
KD8-1020	STW - Design Bio-Reactor (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	05-Nov-21 A	11-May-22	22-Feb-22	26-Mar-22	-33
KD8-1025	STW - Design Membrane Facilities (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	05-Nov-21 A	11-May-22	03-Mar-22	06-Apr-22	-25
KD8-1030	STW - Design Sludge Treatment Blg (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	01-Apr-22	15-Jun-22	28-Mar-22	10-Jun-22	-4
KD8-1035	STW - Design Chem. Storage & FH Pump Room Prep & Submit (45d), PM Review (21d), Resubmit (21d), Approval (21d)	108	01-Apr-22	13-Aug-22	20-Apr-22	27-Aug-22	12
KD8-1040	STW - Design DOU No. 3 (Substructure TW) Prep & Submit (45d), PM Review (21d), Resubmit (21d), Approval (21d)	108	01-Apr-22	13-Aug-22	11-Jun-22	19-Oct-22	54
KD8 - Shop Drawings		166	12-May-22	26-Nov-22	28-Mar-22	19-Oct-22	-33
KD8-3330	STW - Shop Drawings for IWPTB (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	12-May-22	20-Jul-22	28-Jun-22	03-Sep-22	39
KD8-3335	STW - Shop Drawings for Bio-Reactor (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	12-May-22	20-Jul-22	28-Mar-22	10-Jun-22	-33
KD8-3340	STW - Shop Drawings for Membrane Facilities (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	12-May-22	20-Jul-22	07-Apr-22	20-Jun-22	-25
KD8-3345	STW - Shop Drawings for Sludge Treatment Blg (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	21-Jul-22	27-Sep-22	11-Jun-22	18-Aug-22	-33
KD8-3350	STW - SD for Chem. Storage & FH Pump Room Prep & Submit (45d), PM Review (21d), Resubmit (21d), Approval (21d)	108	21-Jul-22	26-Nov-22	11-Jun-22	19-Oct-22	-33
KD8 - Method Statement		187	01-Apr-22	17-Nov-22	28-Mar-22	19-Oct-22	-25
KD8-1330	STW - MS IWPTB (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	09-Apr-22	22-Jun-22	28-Jun-22	03-Sep-22	62
KD8-1335	STW - MS Bio-Reactor (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	01-Apr-22	15-Jun-22	28-Mar-22	10-Jun-22	-4
KD8-1340	STW - MS Membrane Facilities (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	12-May-22	20-Jul-22	07-Apr-22	20-Jun-22	-25
KD8-1345	STW - MS Sludge Treatment Blg (Substructure TW) Prep & Submit, PM Review, Resubmit, Approval	58	16-Jun-22	23-Aug-22	11-Jun-22	18-Aug-22	-4
KD8-1350	STW - MS Chem. Storage & FH Pump Room Prep & Submit (45d), PM Review (21d), Resubmit (21d), Approval (21d)	108	12-Jul-22	17-Nov-22	11-Jun-22	19-Oct-22	-25
KD8 - Construction		203	06-Dec-21 A	17-Aug-22	08-Jun-22	30-Oct-23	355
KD8 - Inlet Works and Primary Treatment Building (IWPTB)		203	06-Dec-21 A	17-Aug-22	08-Jun-22	05-Oct-22	39
KD8-2014	STW - IWPTB Foundation Pre-drilling (approx. 109 nrs)	55	06-Dec-21 A	25-Apr-22	08-Jun-22	27-Jun-22	51
KD8-2015	STW - IWPTB Foundation Socketed H-piles for IWPTB (109 nrs @ 3d/pile/rig, 4 rigs)	82	12-May-22	17-Aug-22	28-Jun-22	05-Oct-22	39
KD8 - Membrane Facility Building (MFB)		42	03-Jan-22 A	25-Apr-22	14-Sep-22	05-Oct-22	133
KD8-2004	STW - MFB Foundation Pre-drilling (approx. 81 nrs)	42	03-Jan-22 A	25-Apr-22	14-Sep-22	05-Oct-22	133
KD8 - Bio-Reactor (BRB)		50	22-Dec-21 A	07-Apr-22	14-Sep-22	19-Sep-22	133
KD8-1195	STW - BR Foundation Pre-drilling (approx. 60 nrs)	50	22-Dec-21 A	07-Apr-22	14-Sep-22	19-Sep-22	133
KD8 - Sludge Treatment Building (STB)		60	11-Jan-22 A	11-May-22	02-Jun-23	30-Oct-23	437
KD8-2352	STW - STB Foundation Pre-drilling (approx. 85 nrs)	60	11-Jan-22 A	11-May-22	02-Jun-23	07-Jul-23	342
KD8-2375	STW - Deodourization Unit No.3 Foundation Pre-drilling (approx. 4 nrs)	27	10-Feb-22 A	25-Apr-22	10-Oct-23	30-Oct-23	449
Section 1A - Wetland Compensation Establishment Works at Portion 1		525	11-Nov-21 A	19-Apr-23	10-Oct-21	28-Oct-22	-173
S1A-1000	Portion 1 - Set-up of Ecological Monitoring	66	11-Nov-21 A	19-Apr-22	10-Oct-21	28-Oct-21	-173
S1A-2000	Portion 1 - Establishment Works and Ecological Monitoring	365	20-Apr-22	19-Apr-23	29-Oct-21	28-Oct-22	-173
Section 2A - Wetland Compensation Establishment Works at Portion 2A/2B		525	11-Nov-21 A	19-Apr-23	10-Oct-21	28-Oct-22	-173
S2A-1000	Portion 2A/2B - Set-up of Ecological Monitoring	66	11-Nov-21 A	19-Apr-22	10-Oct-21	28-Oct-21	-173
S2A-2000	Portion 2A/2B - Establishment Works and Ecological Monitoring	365	20-Apr-22	19-Apr-23	29-Oct-21	28-Oct-22	-173
Section 3A - Wetland Compensation Establishment Works at Portion 3		525	11-Nov-21 A	19-Apr-23	10-Oct-21	28-Oct-22	-173
S3A-1000	Portion 3 - Set-up of Ecological Monitoring	66	11-Nov-21 A	19-Apr-22	10-Oct-21	28-Oct-21	-173
S3A-2000	Portion 3 - Establishment Works and Ecological Monitoring	365	20-Apr-22	19-Apr-23	29-Oct-21	28-Oct-22	-173
Section 6 - Western Connection Road (WCR)		181	28-Oct-21 A	17-Mar-23	14-Dec-21	12-Nov-26	520
S6 WCR Submission		28	22-Apr-22	26-May-22	11-Apr-22	18-May-22	-7
S6-1010A	Portion 6 - Subletting of Works	28	22-Apr-22	26-May-22	11-Apr-22	18-May-22	-7
S6 WCR Works		181	28-Oct-21 A	17-Mar-23	14-Dec-21	12-Nov-26	520
S6 WCR: Preliminary and Demolition Works		181	28-Oct-21 A	17-Mar-23	14-Dec-21	12-Nov-26	520
S6-1071	Portion 6 - CE due to Delay in Demolition Works (Extending after Dry Season)	120	01-Nov-21 A	07-Apr-22	05-Feb-22	11-Feb-22	-55
S6-1073A	Portion 6 - Abestos Removal Works EPD Submission	0		27-Jan-22 A		12-Nov-26	
S6-1073B	Portion 6 - Asbestos Removal EPD Comments	0		01-Apr-22*		08-Jan-22	-65
S6-1073C	Portion 6 - Asbestos Removal Response to EPD Comments	0		01-Apr-22*		14-Jan-22	-60
S6-1074	Portion 6 - Demolition of Remaining Structures	28	28-Oct-21 A	30-May-22	14-Dec-21	12-Feb-22	-85
S6-1080	Portion 6 - Demarcate Site and Fence off Existing Ha Wan Tsuen Road	14	31-May-22	16-Jun-22	14-Feb-22	01-Mar-22	-85
S6-1090	Portion 6 - Site Clearance and UU Diversion	12	17-Jun-22	30-Jun-22	02-Mar-22	15-Mar-22	-85
S6-1100	Portion 6 - Level Ground (97,660+32,330+550m3)	214	29-Jun-22	17-Mar-23	14-Apr-22	31-Oct-22	-111
S6 WCR: Instrumentation		24	17-Jun-22	15-Jul-22	01-Apr-22	04-May-22	-59
S6-1020	Portion 6 - CPT (85 nrs)	9	17-Jun-22	27-Jun-22	01-Apr-22	12-Apr-22	-59
S6-1040	Portion 6 - Instrument Installation Type C2 (SM1&2 66nrs)	24	17-Jun-22	15-Jul-22	01-Apr-22	04-May-22	-59
S6-1060	Portion 6 - Instrument Installation Type C2 (SMM 66nrs)	8	07-Jul-22	15-Jul-22	25-Apr-22	04-May-22	-59
S6-1110	Portion 6 - Instrument Installation Type C4 (MPX 9nrs)	9	17-Jun-22	27-Jun-22	01-Apr-22	12-Apr-22	-59
S6-1120	Portion 6 - Instrument Installation Type C4 (VMP 18 nrs @ ave 6d/nr/rig, 4 rigs)	24	17-Jun-22	15-Jul-22	01-Apr-22	04-May-22	-59
S6-1130	Portion 6 - Instrument Installation Type C4 (SP 9 nrs @ ave 3d/nr/rig, 4 rigs)	8	07-Jul-22	15-Jul-22	25-Apr-22	04-May-22	-59
S6-1610	Portion 6 - Instrument Installation Type Prism (9 nrs)	8	07-Jul-22	15-Jul-22	25-Apr-22	04-May-22	-59
S6 WCR: Construction Stage 1 and 1A		93	07-Feb-22 A	13-Dec-22	22-Feb-22	19-Nov-22	-9
S1: Road D1 to WCR CH 1900		93	07-Feb-22 A	13-Dec-22	22-Feb-22	19-Nov-22	-9
S6-3240	Preparation of Site Access to Working Areas (Ingress/Egress)	33	01-Apr-22	16-May-22	08-Mar-22	19-Apr-22	-21
S1: Area 1		222	07-Feb-22 A	13-Dec-22	22-Feb-22	19-Nov-22	-20
S6-3000	Area 1 - Ramp Demolition	36	08-Feb-22 A	04-May-22	08-Mar-22	04-Apr-22	-21
S6-3090	Area 1 - Piling Works (for Meander Bridge incl. Pre-drilling Works)	222	07-Feb-22 A	13-Dec-22	22-Feb-22	19-Nov-22	-20
S1: Area 2		72	29-Jun-22	22-Sep-22	14-Apr-22	14-Jul-22	-59
S6-3100	Area 2 - General Clearance and Backfill	14	29-Jun-22	15-Jul-22	14-Apr-22	04-May-22	-59
S6-3110	Area 2 - DCM4	58	16-Jul-22	22-Sep-22	05-May-22	14-Jul-22	-59
S1: Area 3		72	02-Jul-22	24-Sep-22	16-Mar-22	15-Jun-22	-85
S6-3130	Area 3 - General Clearance and Backfill	14	02-Jul-22	18-Jul-22	16-Mar-22	31-Mar-22	-85
S6-3140	Area 3 - DCM5	58	19-Jul-22	24-Sep-22	01-Apr-22	15-Jun-22	-85
S1: Area 4		11	19-Jul-22	30-Jul-22	20-Apr-22	03-May-22	-73
S6-3160	Area 4 - General Clearance and Backfill	11	19-Jul-22	30-Jul-22	20-Apr-22	03-May-22	-73



CRCC - Kwan Lee - Paul Y. JV

Remaining Level of Effort ◆ Milesto...
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work

Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1

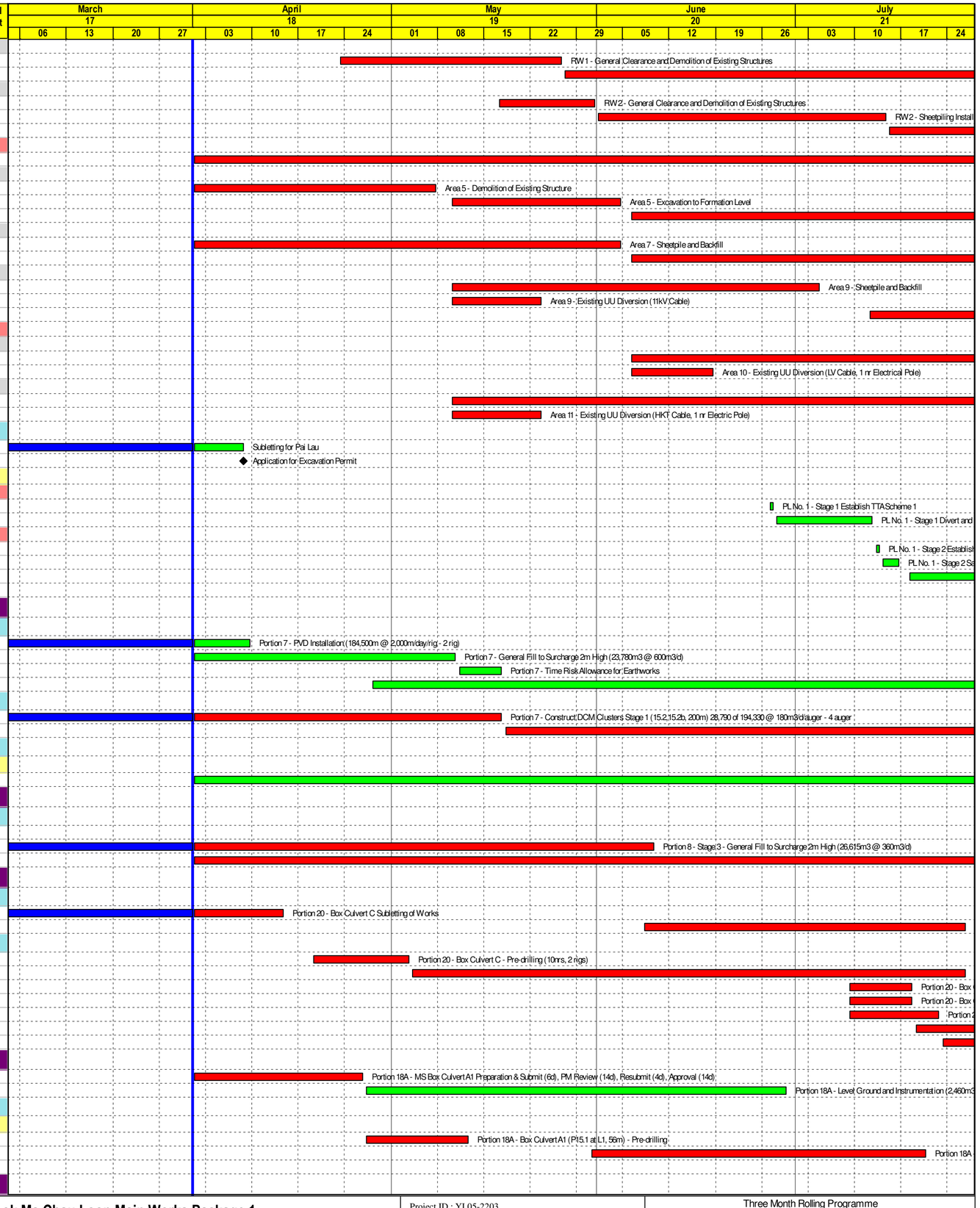
Three Month Rolling Programme

Project ID : YL05-2203
Layout : YL-02 3MRP
Date : 04-Apr-22 / Page 5 of 8

Three Month Rolling Programme

Date	Revision	Checked	Approved
14-Apr-22	MPR No. 9		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
S1: RW1		98	23-Apr-22	19-Aug-22	12-Apr-22	11-Aug-22	-7
S6-3270	RW1 - General Clearance and Demolition of Existing Structures	27	23-Apr-22	26-May-22	12-Apr-22	18-May-22	-7
S6-3290	RW1 - Open Excavation and Retaining Wall Construction	71	27-May-22	19-Aug-22	19-May-22	11-Aug-22	-7
S1: RW2		110	17-May-22	24-Sep-22	03-May-22	12-Sep-22	-11
S6-3200	RW2 - General Clearance and Demolition of Existing Structures	13	17-May-22	31-May-22	03-May-22	18-May-22	-11
S6-3210	RW2 - Sheetpiling Installation and Excavation	36	01-Jun-22	14-Jul-22	19-May-22	30-Jun-22	-11
S6-3220	RW2 - Open Excavation and Retaining Wall Construction	61	15-Jul-22	24-Sep-22	02-Jul-22	12-Sep-22	-11
S1: WCR CH 1900 to CH 1650		156	01-Apr-22	12-Oct-22	01-Mar-22	06-Sep-22	-28
S6-3420	Haul Road Construction CH 1900 to CH 1650	100	01-Apr-22	04-Aug-22	07-Mar-22	09-Jul-22	-22
S1: Area 5		136	01-Apr-22	16-Sep-22	07-Mar-22	20-Aug-22	-22
S6-3010	Area 5 - Demolition of Existing Structure	27	01-Apr-22	07-May-22	07-Mar-22	07-Apr-22	-22
S6-3390	Area 5 - Excavation to Formation Level	22	10-May-22	04-Jun-22	08-Apr-22	07-May-22	-22
S6-3400	Area 5 - RW3 Construction	87	06-Jun-22	16-Sep-22	10-May-22	20-Aug-22	-22
S1: Area 7		110	01-Apr-22	16-Aug-22	01-Mar-22	15-Jul-22	-27
S6-3440	Area 7 - Sheetpile and Backfill	49	01-Apr-22	04-Jun-22	01-Mar-22	30-Apr-22	-27
S6-3450	Area 7 - DCM Works	61	06-Jun-22	16-Aug-22	03-May-22	15-Jul-22	-27
S1: Area 9		129	10-May-22	12-Oct-22	08-Apr-22	06-Sep-22	-28
S6-3490	Area 9 - Sheetpile and Backfill	46	10-May-22	04-Jul-22	08-Apr-22	07-Jun-22	-22
S6-3495	Area 9 - Existing UU Diversion (11kV Cable)	12	10-May-22	23-May-22	27-Apr-22	12-May-22	-9
S6-3500	Area 9 - RW5 Construction	77	12-Jul-22	12-Oct-22	08-Jun-22	06-Sep-22	-28
S1: WCR CH 1650 to CH 1350		83	10-May-22	16-Aug-22	08-Apr-22	29-Jul-22	-15
S1: Area 10		61	06-Jun-22	16-Aug-22	18-May-22	29-Jul-22	-15
S6-3020	Area 10 - Sheetpile and Backfill	61	06-Jun-22	16-Aug-22	18-May-22	29-Jul-22	-15
S6-3025	Area 10 - Existing UU Diversion (LV Cable, 1 nr Electrical Pole)	12	06-Jun-22	18-Jun-22	19-May-22	01-Jun-22	-14
S1: Area 11		71	10-May-22	02-Aug-22	08-Apr-22	07-Jul-22	-22
S6-3595	Area 11 - Sheetpile and Backfill	71	10-May-22	02-Aug-22	08-Apr-22	07-Jul-22	-22
S6-3598	Area 11 - Existing UU Diversion (HKT Cable, 1 nr Electric Pole)	12	10-May-22	23-May-22	25-Apr-22	10-May-22	-11
S6 WCR Pai Lau		65	08-Feb-22 A	12-Aug-22	30-Nov-22	06-Oct-23	159
S6-3860	Subletting for Pai Lau	18	08-Feb-22 A	08-Apr-22	30-Nov-22	06-Dec-22	197
S6-3865	Application for Excavation Permit	0		08-Apr-22		20-Sep-23	530
Pai Lau No.1 Construction (Location 15, LMC Road)		40	27-Jun-22	12-Aug-22	19-Aug-23	06-Oct-23	340
PL No.1 - TTA Stage 1, Set Back the Footpath		13	27-Jun-22	12-Jul-22	19-Aug-23	02-Sep-23	340
S6-3615	PL No. 1 - Stage 1 Establish TTA Scheme 1	1	27-Jun-22	27-Jun-22	19-Aug-23	19-Aug-23	340
S6-3665	PL No. 1 - Stage 1 Divert and Set Back the Existing Footpath	12	28-Jun-22	12-Jul-22	21-Aug-23	02-Sep-23	340
PL No.1 - TTA Stage 2, Steel Decking (Western Portion)		27	13-Jul-22	12-Aug-22	04-Sep-23	06-Oct-23	340
S6-3625	PL No. 1 - Stage 2 Establish TTA Scheme 2 for Pai Lau (Western Portion)	1	13-Jul-22	13-Jul-22	04-Sep-23	04-Sep-23	340
S6-3675	PL No. 1 - Stage 2 Saw Cut and Install Decking	3	14-Jul-22	16-Jul-22	05-Sep-23	07-Sep-23	340
S6-3685	PL No. 1 - Stage 2 Driven Sheetpile to Design Level (Total 45 nrs of 7m Sheetpile, 4nrs/d)	11	18-Jul-22	29-Jul-22	08-Sep-23	20-Sep-23	340
S6-3695	PL No. 1 - Stage 2 Excavate and Construct Decking Steel Frame (Western Portion)	12	30-Jul-22	12-Aug-22	21-Sep-23	06-Oct-23	340
Section 7 - Ground Treatment Works and Site Formation at Portion 7		135	03-Jan-22 A	22-Jan-23	25-Feb-22	11-Dec-23	126
S7 Ground Improvement - PVD/Surcharge		135	03-Jan-22 A	22-Jan-23	23-Jun-22	13-Jun-23	55
S7-1090	Portion 7 - PVD Installation (184,500m @ 2,000m/day/rig - 2 rig)	45	03-Jan-22 A	09-Apr-22	23-Jun-22	30-Jun-22	64
S7-1100	Portion 7 - General Fill to Surcharge 2m High (23,780m3 @ 600m3/d)	28	01-Apr-22	10-May-22	22-Aug-22	23-Sep-22	114
S7-1110	Portion 7 - Time Risk Allowance for Earthworks	6	11-May-22	17-May-22	24-Sep-22	30-Sep-22	114
S7-1140	Portion 7 - Surcharge Period (9 months) (23,900m3)	270	28-Apr-22	22-Jan-23	17-Sep-22	13-Jun-23	142
S7 Ground Improvement - DCM		156	26-Jan-22 A	10-Aug-22	25-Feb-22	06-Jul-22	-30
S7-1190	Portion 7 - Construct DCM Clusters Stage 1 (15.2,15.2b, 200m) 28,790 of 194,330 @ 180m3/d/auger - 4 auger	52	26-Jan-22 A	17-May-22	25-Feb-22	06-Apr-22	-30
S7-1191	Portion 7 - Construct DCM Clusters Stage 2 (18D,15.5,15.4, 350m) 50,382 of 194,330 @ 180m3/d/auger - 4 auger	71	18-May-22	10-Aug-22	07-Apr-22	06-Jul-22	-30
S7 Civil Structures		180	01-Apr-22	27-Sep-22	15-Jun-23	11-Dec-23	440
S7 - Box Culvert B		180	01-Apr-22	27-Sep-22	15-Jun-23	11-Dec-23	440
S7-1220	Portion 7 - Application to Border Police for Boundary Patrol Road TTA	180	01-Apr-22	27-Sep-22	15-Jun-23	11-Dec-23	440
Section 8 - Ground Treatment Works and Site Formation at Portion 8		137	03-Dec-21 A	29-Dec-22	22-Feb-22	21-Nov-22	-15
S8 STW - Site Formation		137	03-Dec-21 A	29-Dec-22	22-Feb-22	21-Nov-22	-15
S8-1100	Portion 8 - Stage 2 - PVD Installation (360,000m @ 1,500m/day/rig - 2-3 rigs)	45	03-Dec-21 A	27-Jan-22 A	22-Feb-22	22-Feb-22	
S8-1110	Portion 8 - Stage 3 - General Fill to Surcharge 2m High (26,615m3 @ 360m3/d)	68	29-Jan-22 A	09-Jun-22	22-Feb-22	28-Apr-22	-33
S8-1140	Portion 8 - Stage 3 - Surcharge Period (9 months) (33,040m3)	273	01-Apr-22	29-Dec-22	22-Feb-22	21-Nov-22	-38
Section 9 - Ground Treatment Works and Site Formation at Portion 20		181	20-Jan-22 A	02-Sep-22	22-Feb-22	26-Jul-22	-33
S9 - Submission		148	20-Jan-22 A	26-Jul-22	22-Feb-22	16-Jun-22	-33
S9-1130	Portion 20 - Box Culvert C Subletting of Works	28	20-Jan-22 A	14-Apr-22	22-Feb-22	05-Mar-22	-33
S9-1140	Portion 20 - Box Culvert C Method Statement Prep & Sumbit (14d), PM Review(21d), Resubmit (7d), Approval (21d)	41	08-Jun-22	26-Jul-22	27-Apr-22	16-Jun-22	-33
S9 - Box Culvert C		114	19-Apr-22	02-Sep-22	07-Mar-22	26-Jul-22	-33
S9-1150	Portion 20 - Box Culvert C - Pre-drilling (10nrs, 2 rigs)	12	19-Apr-22	03-May-22	07-Mar-22	19-Mar-22	-33
S9-1160	Portion 20 - Box Culvert C - Pre-bored H-pile (92 nrs @ ave 3d/nr/rig, 4 rigs)	69	04-May-22	26-Jul-22	21-Mar-22	16-Jun-22	-33
S9-1170	Portion 20 - Box Culvert C - Piling Load Test	8	09-Jul-22	18-Jul-22	30-May-22	08-Jun-22	-33
S9-1180	Portion 20 - Box Culvert C - Proof Drilling (2 rigs)	8	09-Jul-22	18-Jul-22	04-Jun-22	13-Jun-22	-29
S9-1190	Portion 20 - Box Culvert C - Sheetpile	12	09-Jul-22	22-Jul-22	30-May-22	13-Jun-22	-33
S9-1200	Portion 20 - Box Culvert C - ELS Installation	18	19-Jul-22	08-Aug-22	14-Jun-22	05-Jul-22	-29
S9-1210	Portion 20 - Box Culvert C - Base Slab Construction	36	23-Jul-22	02-Sep-22	14-Jun-22	26-Jul-22	-33
Section 12A - Box Culvert A1 at Portion 18A		107	01-Apr-22	12-Aug-22	25-Mar-22	07-Sep-22	22
S12A-1010	Portion 18A - MS Box Culvert A1 Preparation & Submit (6d), PM Review (14d), Resubmit (4d), Approval (14d)	18	01-Apr-22	26-Apr-22	25-Mar-22	19-Apr-22	-6
S12A-1020	Portion 18A - Level Ground and Instrumentation (2,460m3)	52	27-Apr-22	29-Jun-22	09-Jul-22	07-Sep-22	59
Section 12A - Construction		89	27-Apr-22	12-Aug-22	01-Apr-22	05-Aug-22	-6
Section 12A - Box Culvert A1		89	27-Apr-22	12-Aug-22	01-Apr-22	05-Aug-22	-6
S12A-1040	Portion 18A - Box Culvert A1 (P15.1 at L1, 56m) - Pre-drilling	12	27-Apr-22	12-May-22	01-Apr-22	19-Apr-22	-18
S12A-1050	Portion 18A - Box Culvert A1 (P15.1 at L1, 56m) - Pre-bored H-pile (56 nrs @ ave 3d/nr/rig, 4 rigs)	42	31-May-22	20-Jul-22	20-Apr-22	10-Jun-22	-33
S12A-1060	Portion 18A - Box Culvert A1 (P15.1 at L1, 56m) - Piling Load Test	12	30-Jul-22	12-Aug-22	23-Jul-22	05-Aug-22	-6
Section 12B - Box Culvert A3 at Portion 18B (Over Underpass of HSITP)		148	01-Apr-22	30-Sep-22	09-Apr-22	30-Sep-22	0



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Actual Level of Effort
Actual Work
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Critical Remaining Work

Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1

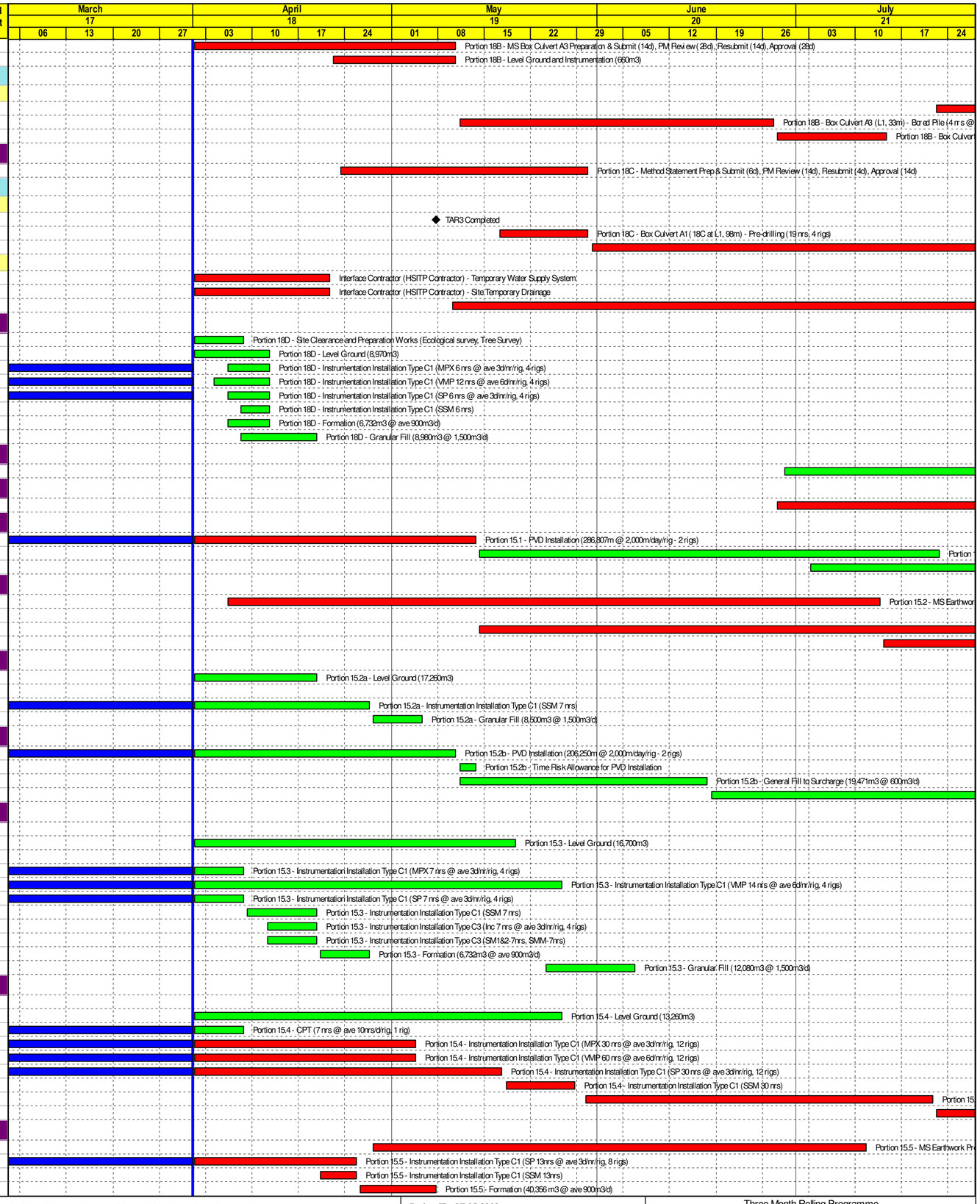
Three Month Rolling Programme

Project ID : YL05-2203
Layout : YL-02 3MRP
Date : 04-Apr-22 / Page 6 of 8

Three Month Rolling Programme

Date	Revision	Checked	Approved
14-Apr-22	MPR No. 9		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
S12B-1060	Portion 18B - MS Box Culvert A3 Preparation & Submit (14d), PM Review (28d), Resubmit (14d), Approval (28d)	28	01-Apr-22	10-May-22	09-Apr-22	17-May-22	6
S12B-1070	Portion 18B - Level Ground and Instrumentation (660m3)	14	22-Apr-22	10-May-22	29-Apr-22	17-May-22	6
Section 12B - Construction		120	11-May-22	30-Sep-22	18-May-22	30-Sep-22	0
Section 12B - Box Culvert A3		120	11-May-22	30-Sep-22	18-May-22	30-Sep-22	0
S12B-1108	Portion 18B - Coordination with HSTIP for Access Provision	60	22-Jul-22	30-Sep-22	22-Jul-22	30-Sep-22	0
S12B-1120	Portion 18B - Box Culvert A3 (L1, 33m) - Bored Pile (4 nos @ ave 10dhr/rig, 1 rig)	40	11-May-22	27-Jun-22	18-May-22	05-Jul-22	6
S12B-1130	Portion 18B - Box Culvert A3 (L1, 33m) - Sonic Test/ Interface Coring / Full Depth Coring	14	28-Jun-22	14-Jul-22	06-Jul-22	21-Jul-22	6
Section 12C - Box Culvert A1 at Portion 18C		240	01-Apr-22	26-Jan-23	11-Mar-22	31-Dec-22	-17
S12C-1060	Portion 18C - Method Statement Prep & Submit (6d), PM Review (14d), Resubmit (4d), Approval (14d)	30	23-Apr-22	30-May-22	11-Mar-22	19-Apr-22	-33
Section 12C - Construction		240	01-Apr-22	26-Jan-23	12-Mar-22	31-Dec-22	-17
Section 12C - Box Culvert A1 (Portion 18C at Road L1)		96	07-May-22	31-Aug-22	01-Apr-22	23-Jul-22	-33
S12C-1495	TAR3 Completed	0		07-May-22		19-Apr-22	-15
S12C-1500	Portion 18C - Box Culvert A1 (18C at L1, 98m) - Pre-drilling (19 nos, 4 rigs)	12	17-May-22	30-May-22	01-Apr-22	19-Apr-22	-33
S12C-1510	Portion 18C - Box Culvert A1 (18C at L1, 98m) - Pre-bored H-pile (104 nos @ ave 3d/nr/rig, 4 rigs)	78	31-May-22	31-Aug-22	20-Apr-22	23-Jul-22	-33
S12C - Interface with HSITP Contractor		240	01-Apr-22	26-Jan-23	12-Mar-22	31-Dec-22	-17
S12C-3335	Interface Contractor (HSITP Contractor) - Temporary Water Supply System	14	01-Apr-22	21-Apr-22*	12-Mar-22	28-Mar-22	-17
S12C-3345	Interface Contractor (HSITP Contractor) - Site Temporary Drainage	14	01-Apr-22	21-Apr-22*	12-Mar-22	28-Mar-22	-17
S12C-3355	Interface Portion 17B - Excavation Works (Depth at 10m from Existing Level)	213	10-May-22	26-Jan-23*	14-Apr-22	31-Dec-22	-17
Section 12D - Ground Treatment Works and Site Formation at Portion 18D		98	13-Dec-21 A	19-Apr-22	22-Jun-22	02-Sep-22	113
S12D-1085	Portion 18D - Site Clearance and Preparation Works (Ecological survey, Tree Survey)	6	01-Apr-22	08-Apr-22	22-Jun-22	28-Jun-22	63
S12D-1090	Portion 18D - Level Ground (8,970m3)	9	01-Apr-22	12-Apr-22	22-Jun-22	02-Jul-22	63
S12D-1100	Portion 18D - Instrumentation Installation Type C1 (MPX 6 nos @ ave 3d/nr/rig, 4 rigs)	59	13-Dec-21 A	12-Apr-22	24-Aug-22	30-Aug-22	113
S12D-1110	Portion 18D - Instrumentation Installation Type C1 (VMP 12 nos @ ave 6d/nr/rig, 4 rigs)	58	15-Dec-21 A	12-Apr-22	23-Aug-22	30-Aug-22	113
S12D-1120	Portion 18D - Instrumentation Installation Type C1 (SP 6 nos @ ave 3d/nr/rig, 4 rigs)	56	16-Dec-21 A	12-Apr-22	24-Aug-22	30-Aug-22	113
S12D-1130	Portion 18D - Instrumentation Installation Type C1 (SSM 6 nos)	4	08-Apr-22	12-Apr-22	26-Aug-22	30-Aug-22	113
S12D-1135	Portion 18D - Formation (6,732m3 @ ave 900m3/d)	6	06-Apr-22	12-Apr-22	24-Aug-22	30-Aug-22	113
S12D-1140	Portion 18D - Granular Fill (8,980m3 @ 1,500m3/d)	7	08-Apr-22	19-Apr-22	26-Aug-22	02-Sep-22	113
Section 13 - Ground Treatment Works and Site Formation at Portion 21		27	29-Jun-22	30-Jul-22	12-Mar-25	12-Apr-25	799
S13-1050	Portion 21 - Level Ground (2,910m3)	27	29-Jun-22	30-Jul-22	12-Mar-25	12-Apr-25	799
Section 14 - Ground Treatment Works and Site Formation at Portion 19		60	28-Jun-22	06-Sep-22	28-Jun-22	06-Sep-22	0
S14-1010	Portion 19 - MS Material Removal Preparation & Submit (14d), PM Review (28d), Resubmit (14d), Approval (28d)	60	28-Jun-22	06-Sep-22	28-Jun-22	06-Sep-22	0
Section 15.1 - Ground Treatment Works and Site Formation at Portion 15.1		168	13-Dec-21 A	29-Mar-23	25-Feb-22	25-Apr-23	10
S15.1-1110	Portion 15.1 - PVD Installation (286,807m @ 2,000m/day/rig - 2 rigs)	84	13-Dec-21 A	13-May-22	25-Feb-22	01-Apr-22	-30
S15.1-1120	Portion 15.1 - General Fill to Surcharge 2m High (39,140m3 @ 600m3/d)	58	14-May-22	22-Jul-22	11-Jun-22	18-Aug-22	23
S15.1-1190	Portion 15.1 - Surcharge Period (9 months, 58,325m3)	270	03-Jul-22	29-Mar-23	30-Jul-22	25-Apr-23	27
Section 15.2 - Ground Treatment Works and Site Formation at Portion 15.2		152	31-Jan-22 A	10-Aug-22	16-Mar-22	21-Jul-22	-17
S15.2-1030	Portion 15.2 - MS Earthwork Preparation, Submission, & Approval	78	06-Apr-22	13-Jul-22	16-Mar-22	22-Jun-22	-17
S15.2-1050	Portion 15.2 - CPT (6 nos @ ave 10nos/day/rig, 1 rig)	1	31-Jan-22 A	31-Jan-22 A	02-Apr-22	02-Apr-22	
S15.2-1140	Portion 15.2 - PVD Installation (993,000m @ 3,000m/day/rig - 4 rigs)	74	14-May-22	10-Aug-22	02-Apr-22	06-Jul-22	-30
S15.2-1180	Portion 15.2 - General Fill to Surcharge 2m High (16,563m3 @ 1,500m3/d)	24	14-Jul-22	10-Aug-22	23-Jun-22	21-Jul-22	-17
Section 15.2a - Ground Treatment Works and Site Formation at Portion 15.2a		74	28-Jan-22 A	05-May-22	14-Jun-22	13-Jul-22	56
S15.2a-1040	Portion 15.2a - Level Ground (17,260m3)	12	01-Apr-22	19-Apr-22	22-Jun-22	06-Jul-22	63
S15.2a-1050	Portion 15.2a - CPT (2 nos @ ave 10nos/d/rig, 1 rig)	1	28-Jan-22 A	28-Jan-22 A	07-Jul-22	07-Jul-22	
S15.2a-1090	Portion 15.2a - Instrumentation Installation Type C1 (SSM 7 nos)	34	29-Jan-22 A	27-Apr-22	14-Jun-22	06-Jul-22	56
S15.2a-1100	Portion 15.2a - Granular Fill (8,500m3 @ 1,500m3/d)	6	28-Apr-22	05-May-22	07-Jul-22	13-Jul-22	56
Section 15.2b - Ground Treatment Works and Site Formation at Portion 15.2b		141	11-Feb-22 A	14-Mar-23	23-Jun-22	13-Jun-23	35
S15.2b-1110	Portion 15.2b - PVD Installation (206,250m @ 2,000m/day/rig - 2 rigs)	37	11-Feb-22 A	10-May-22	23-Jun-22	26-Jul-22	64
S15.2b-1120	Portion 15.2b - Time Risk Allowance for PVD Installation	3	11-May-22	13-May-22	27-Jul-22	29-Jul-22	64
S15.2b-1130	Portion 15.2b - General Fill to Surcharge (19,471m3 @ 600m3/d)	32	11-May-22	17-Jun-22	10-Aug-22	16-Sep-22	76
S15.2b-1160	Portion 15.2b - Surcharge Period (9 months) (33,400m3)	270	18-Jun-22	14-Mar-23	17-Sep-22	13-Jun-23	91
Section 15.3 - Ground Treatment Works and Site Formation at Portion 15.3		136	13-Dec-21 A	06-Jun-22	30-Aug-22	09-Nov-22	130
S15.3-1000	Portion 15.3 - Site Clearance and Preparation Works (Ecological survey, Tree Survey)	6	22-Jan-22 A	28-Jan-22 A	30-Aug-22	30-Aug-22	
S15.3-1040	Portion 15.3 - Level Ground (16,700m3)	36	01-Apr-22	19-May-22	30-Aug-22	13-Oct-22	121
S15.3-1050	Portion 15.3 - CPT (3 nos @ 10nos/d/rig, 1 rig)	4	25-Jan-22 A	28-Jan-22 A	29-Sep-22	29-Sep-22	
S15.3-1060	Portion 15.3 - Instrumentation Installation Type C1 (MPX 7 nos @ ave 3d/nr/rig, 4 rigs)	45	31-Dec-21 A	08-Apr-22	30-Aug-22	05-Sep-22	121
S15.3-1070	Portion 15.3 - Instrumentation Installation Type C1 (VMP 14 nos @ ave 6d/nr/rig, 4 rigs)	95	13-Dec-21 A	26-May-22	20-Sep-22	09-Nov-22	138
S15.3-1080	Portion 15.3 - Instrumentation Installation Type C1 (SP 7 nos @ ave 3d/nr/rig, 4 rigs)	58	14-Dec-21 A	08-Apr-22	20-Sep-22	26-Sep-22	138
S15.3-1090	Portion 15.3 - Instrumentation Installation Type C1 (SSM 7 nos)	6	09-Apr-22	19-Apr-22	27-Sep-22	05-Oct-22	138
S15.3-1100	Portion 15.3 - Instrumentation Installation Type C3 (Inc 7 nos @ ave 3d/nr/rig, 4 rigs)	4	12-Apr-22	19-Apr-22	29-Sep-22	05-Oct-22	138
S15.3-1110	Portion 15.3 - Instrumentation Installation Type C3 (SM1&2-7nos, SMM-7nos)	4	12-Apr-22	19-Apr-22	29-Sep-22	05-Oct-22	138
S15.3-1115	Portion 15.3 - Formation (6,732m3 @ ave 900m3/d)	7	20-Apr-22	27-Apr-22	06-Oct-22	13-Oct-22	138
S15.3-1120	Portion 15.3 - Granular Fill (12,080m3 @ 1,500m3/d)	11	24-May-22	06-Jun-22	14-Oct-22	26-Oct-22	118
Section 15.4 - Ground Treatment Works and Site Formation at Portion 15.4		195	20-Dec-21 A	22-Aug-22	09-Mar-22	29-Jul-22	-20
S15.4-1000	Portion 15.4 - Site Clearance and Preparation Works (Ecological survey, Tree Survey)	6	22-Jan-22 A	28-Jan-22 A	07-May-22	07-May-22	
S15.4-1040	Portion 15.4 - Level Ground (13,260m3)	42	01-Apr-22	26-May-22	07-May-22	27-Jun-22	26
S15.4-1050	Portion 15.4 - CPT (7 nos @ ave 10nos/d/rig, 1 rig)	48	28-Dec-21 A	08-Apr-22	07-May-22	14-May-22	26
S15.4-1060	Portion 15.4 - Instrumentation Installation Type C1 (MPX 30 nos @ ave 3d/nr/rig, 12 rigs)	68	23-Dec-21 A	04-May-22	09-Mar-22	06-Apr-22	-20
S15.4-1070	Portion 15.4 - Instrumentation Installation Type C1 (VMP 60 nos @ ave 6d/nr/rig, 12 rigs)	71	20-Dec-21 A	04-May-22	09-Mar-22	06-Apr-22	-20
S15.4-1080	Portion 15.4 - Instrumentation Installation Type C1 (SP 30 nos @ ave 3d/nr/rig, 12 rigs)	79	22-Dec-21 A	17-May-22	09-Mar-22	21-Apr-22	-20
S15.4-1090	Portion 15.4 - Instrumentation Installation Type C1 (SSM 30 nos)	10	18-May-22	28-May-22	22-Apr-22	04-May-22	-20
S15.4-1095	Portion 15.4 - Formation (87,870m3 @ ave 1,800m3/d)	44	30-May-22	21-Jul-22	05-May-22	27-Jun-22	-20
S15.4-1100	Portion 15.4 - Granular Fill (41,650m3 @ 1,500m3/d)	27	22-Jul-22	22-Aug-22	28-Jun-22	29-Jul-22	-20
Section 15.5 - Ground Treatment Works and Site Formation at Portion 15.5		199	23-Dec-21 A	30-Aug-22	01-Mar-22	29-Jul-22	-27
S15.5-1030	Portion 15.5 - MS Earthwork Preparation, Submission, & Approval	60	28-Apr-22	11-Jul-22	31-Mar-22	16-Jun-22	-20
S15.5-1080	Portion 15.5 - Instrumentation Installation Type C1 (SP 13nos @ ave 3d/nr/rig, 8 rigs)	49	23-Dec-21 A	25-Apr-22	01-Mar-22	19-Mar-22	-27
S15.5-1090	Portion 15.5 - Instrumentation Installation Type C1 (SSM 13nos)	5	20-Apr-22	25-Apr-22	15-Mar-22	19-Mar-22	-27
S15.5-1095	Portion 15.5 - Formation (40,356 m3 @ ave 900m3/d)	10	26-Apr-22	07-May-22	21-Mar-22	31-Mar-22	-27



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Remaining Level of Effort ◆ Milesto...
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work

Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1

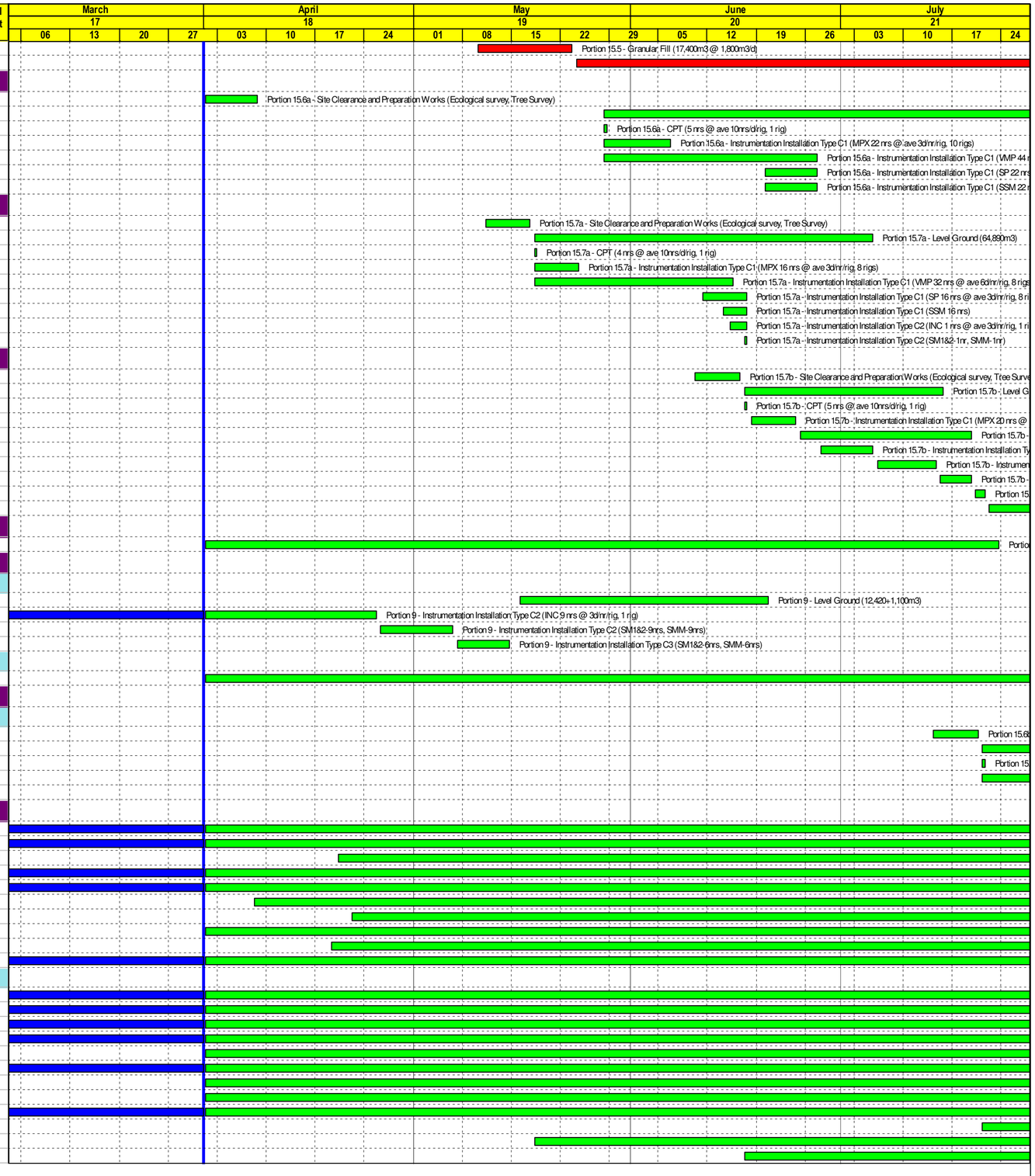
Three Month Rolling Programme

Project ID : YL05-2203
Layout : YL-02 3MRP
Date : 04-Apr-22 / Page 7 of 8

Three Month Rolling Programme

Date	Revision	Checked	Approved
14-Apr-22	MPR No. 9		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
S15.5-1100	Portion 15.5 - Granular Fill (17,400m3 @ 1,800m3/d)	12	10-May-22	23-May-22	01-Apr-22	19-Apr-22	-27
S15.5-1110	Portion 15.5 - PVD Installation (537,000m @ 2,000m/day/rig - 3 rigs)	83	24-May-22	30-Aug-22	20-Apr-22	29-Jul-22	-27
Section 15.6a - Ground Treatment Works and Site Formation at Portion 15.6a		123	01-Apr-22	31-Aug-22	14-Nov-22	18-Apr-23	183
S15.6a-1000	Portion 15.6a - Site Clearance and Preparation Works (Ecological survey, Tree Survey)	6	01-Apr-22	08-Apr-22	14-Nov-22	19-Nov-22	183
S15.6a-1040	Portion 15.6a - Level Ground (144,240m3)	80	28-May-22	31-Aug-22	06-Jan-23	18-Apr-23	183
S15.6a-1050	Portion 15.6a - CPT (5 nrs @ ave 10nrs/d/rig, 1 rig)	1	28-May-22	28-May-22	06-Jan-23	06-Jan-23	183
S15.6a-1060	Portion 15.6a - Instrumentation Installation Type C1 (MPX 22 nrs @ ave 3d/nr/rig, 10 rigs)	7	28-May-22	06-Jun-22	06-Jan-23	13-Jan-23	183
S15.6a-1070	Portion 15.6a - Instrumentation Installation Type C1 (VMP 44 nrs @ ave 6d/nr/rig, 10 rigs)	25	28-May-22	27-Jun-22	06-Jan-23	08-Feb-23	183
S15.6a-1080	Portion 15.6a - Instrumentation Installation Type C1 (SP 22 nrs @ ave 3d/nr/rig, 10 rigs)	7	20-Jun-22	27-Jun-22	01-Feb-23	08-Feb-23	183
S15.6a-1090	Portion 15.6a - Instrumentation Installation Type C1 (SSM 22 nrs)	7	20-Jun-22	27-Jun-22	01-Feb-23	08-Feb-23	183
Section 15.7a - Ground Treatment Works and Site Formation at Portion 15.7a		46	11-May-22	05-Jul-22	18-Feb-23	20-Apr-23	234
S15.7a-1000	Portion 15.7a - Site Clearance and Preparation Works (Ecological survey, Tree Survey)	6	11-May-22	17-May-22	18-Feb-23	24-Feb-23	231
S15.7a-1040	Portion 15.7a - Level Ground (64,890m3)	40	18-May-22	05-Jul-22	25-Feb-23	17-Apr-23	231
S15.7a-1050	Portion 15.7a - CPT (4 nrs @ ave 10nrs/d/rig, 1 rig)	1	18-May-22	18-May-22	17-Apr-23	17-Apr-23	270
S15.7a-1060	Portion 15.7a - Instrumentation Installation Type C1 (MPX 16 nrs @ ave 3d/nr/rig, 8 rigs)	6	18-May-22	24-May-22	25-Feb-23	03-Mar-23	231
S15.7a-1070	Portion 15.7a - Instrumentation Installation Type C1 (VMP 32 nrs @ ave 6d/nr/rig, 8 rigs)	24	18-May-22	15-Jun-22	17-Mar-23	18-Apr-23	248
S15.7a-1080	Portion 15.7a - Instrumentation Installation Type C1 (SP 16 nrs @ ave 3d/nr/rig, 8 rigs)	6	11-Jun-22	17-Jun-22	14-Apr-23	20-Apr-23	248
S15.7a-1090	Portion 15.7a - Instrumentation Installation Type C1 (SSM 16 nrs)	4	14-Jun-22	17-Jun-22	17-Apr-23	20-Apr-23	248
S15.7a-1100	Portion 15.7a - Instrumentation Installation Type C2 (INC 1 nrs @ ave 3d/nr/rig, 1 rig)	3	15-Jun-22	17-Jun-22	18-Apr-23	20-Apr-23	248
S15.7a-1110	Portion 15.7a - Instrumentation Installation Type C2 (SM1&2-1nr, SMM-1nr)	1	17-Jun-22	17-Jun-22	20-Apr-23	20-Apr-23	248
Section 15.7b - Ground Treatment Works and Site Formation at Portion 15.7b		110	10-Jun-22	20-Oct-22	18-Feb-23	05-Jul-23	206
S15.7b-1000	Portion 15.7b - Site Clearance and Preparation Works (Ecological survey, Tree Survey)	6	10-Jun-22	16-Jun-22	18-Feb-23	24-Feb-23	206
S15.7b-1040	Portion 15.7b - Level Ground (11,270m3)	24	17-Jun-22	15-Jul-22	25-Feb-23	24-Mar-23	206
S15.7b-1050	Portion 15.7b - CPT (5 nrs @ ave 10nrs/d/rig, 1 rig)	1	17-Jun-22	17-Jun-22	25-Feb-23	25-Feb-23	206
S15.7b-1060	Portion 15.7b - Instrumentation Installation Type C1 (MPX 20 nrs @ ave 3d/nr/rig, 10 rigs)	6	18-Jun-22	24-Jun-22	27-Feb-23	04-Mar-23	206
S15.7b-1070	Portion 15.7b - Instrumentation Installation Type C1 (VMP 40 nrs @ ave 6d/nr/rig, 10 rigs)	20	25-Jun-22	19-Jul-22	06-Mar-23	28-Mar-23	206
S15.7b-1080	Portion 15.7b - Instrumentation Installation Type C1 (SP 20 nrs @ ave 3d/nr/rig, 10 rigs)	6	28-Jun-22	05-Jul-22	08-Mar-23	14-Mar-23	206
S15.7b-1090	Portion 15.7b - Instrumentation Installation Type C1 (SSM 20 nrs)	8	06-Jul-22	14-Jul-22	15-Mar-23	23-Mar-23	206
S15.7b-1100	Portion 15.7b - Instrumentation Installation Type C2 (INC 1 nrs @ ave 3d/nr/rig, 1 rig)	4	15-Jul-22	19-Jul-22	24-Mar-23	28-Mar-23	206
S15.7b-1110	Portion 15.7b - Instrumentation Installation Type C2 (SM1&2-1nr, SMM-1nr)	2	20-Jul-22	21-Jul-22	29-Mar-23	30-Mar-23	206
S15.7b-1115	Portion 15.7b - Formation (70,359m3 @ ave 900m3/d)	75	22-Jul-22	20-Oct-22	31-Mar-23	05-Jul-23	206
Section 15.8 - Reed Bed Area		90	01-Apr-22	23-Jul-22	21-Nov-22	13-Mar-23	189
PRE-335	Portion 15.8 - Prepare, Submit & Coordination for Reed Transplant	90	01-Apr-22	23-Jul-22	21-Nov-22	13-Mar-23	189
Section 16 - Works Not Covered by Other Sections of the Works		113	09-Nov-21 A	30-Sep-22	21-Feb-24	04-Aug-25	403
S16 Portion 9 of the Site - North Meander		79	09-Nov-21 A	20-Jun-22	21-Feb-24	08-May-24	261
S16-1040	Portion 9 - Level Ground (12,420+1,100m3)	30	16-May-22	20-Jun-22	02-Apr-24	08-May-24	363
S16-1050	Portion 9 - Instrumentation Installation Type C2 (INC 9 nrs @ 3d/nr/rig, 1 rig)	99	09-Nov-21 A	25-Apr-22	21-Feb-24	11-Mar-24	556
S16-1060	Portion 9 - Instrumentation Installation Type C2 (SM1&2-9nrs, SMM-9nrs)	9	26-Apr-22	06-May-22	12-Mar-24	21-Mar-24	556
S16-1070	Portion 9 - Instrumentation Installation Type C3 (SM1&2-6nrs, SMM-6nrs)	6	07-May-22	14-May-22	22-Mar-24	28-Mar-24	556
S16 Portion 10 of the Site		148	01-Apr-22	30-Sep-22	05-Oct-24	04-Aug-25	548
S16-1015	Interface - Portion 10 FSAD Excavation and ELS (Depth 2m from Existing Level)	148	01-Apr-22*	30-Sep-22	05-Oct-24	04-Aug-25	548
Section 20 - Ground Treatment Works and Site Formation at Portion 15.6b		42	14-Jul-22	31-Aug-22	21-Jun-23	10-Aug-23	277
Section 20 - Ground Treatment Works at Portion 15.6b		42	14-Jul-22	31-Aug-22	21-Jun-23	10-Aug-23	277
S20-1000	Portion 15.6b - Site Clearance and Preparation Works (Ecological survey, Tree Survey)	6	14-Jul-22	20-Jul-22	21-Jun-23	28-Jun-23	277
S20-1010	Portion 15.6b - Level Ground (7,780m3)	36	21-Jul-22	31-Aug-22	29-Jun-23	10-Aug-23	277
S20-1020	Portion 15.6b - CPT (5 nrs @ ave 10nrs/d/rig, 1 rig)	1	21-Jul-22	21-Jul-22	29-Jun-23	29-Jun-23	277
S20-1030	Portion 15.6b - Instrumentation Installation Type C1 (MPX 14 nrs @ ave 3d/nr/rig, 8 rigs)	7	21-Jul-22	28-Jul-22	29-Jun-23	07-Jul-23	277
S20-1040	Portion 15.6b - Instrumentation Installation Type C1 (VMP 28 nrs @ ave 6d/nr/rig, 8 rigs)	23	29-Jul-22	24-Aug-22	08-Jul-23	03-Aug-23	277
Executive Summary		507	15-Jul-21 A	14-Jun-25	29-Oct-21	15-May-25	-12
ESUM-100	Subletting and Preparation	210	15-Jul-21 A	07-Jan-25	22-Feb-22	26-Nov-24	-33
ESUM-110	Design Submissions	210	26-Jul-21 A	07-Nov-22	22-Dec-22	22-Dec-22	39
ESUM-125	Wetland Establishment Works	365	20-Apr-22	19-Apr-23	29-Oct-21	28-Oct-22	-173
ESUM-150	Western Road Connection (WCR)	801	28-Oct-21 A	16-Oct-24	29-Oct-21	19-Jul-24	-73
ESUM-170	Sewage Treatment Works Building (Structure)	776	09-Oct-21 A	10-Jul-24	22-Feb-22	30-May-24	-33
ESUM-185	Box Culvert AConstruction at Portion 7	196	08-Apr-22	03-Dec-22	28-Feb-22	06-Jan-23	26
ESUM-190	Box Culvert AConstruction at Portion 12A-12C	575	22-Apr-22	02-Apr-24	29-Apr-22	20-Feb-24	-33
ESUM-200	Box Culvert B Construction and Public Transport Interchange	442	01-Apr-22	28-Sep-23	15-Jun-23	07-Oct-24	301
ESUM-205	Box Culvert C Construction	146	19-Apr-22	13-Oct-22	07-Mar-22	01-Sep-22	-33
ESUM-210	Meander Bridge and CLP Transformer Delivery and Enabling Works	597	01-Dec-21 A	02-Feb-24	22-Dec-23	22-Dec-23	-33
Ground Treatment and Site Formation		1083	09-Oct-21 A	14-Jun-25	22-Feb-22	15-May-25	-25
ESUM-GT07	S07 - Ground Treatment and Site Formation at Portion 7	414	20-Oct-21 A	15-Feb-23	25-Feb-22	07-Jul-23	114
ESUM-GT08	S08 - Ground Treatment and Site Formation at Portion 8	395	09-Oct-21 A	20-Jan-23	22-Feb-22	12-Dec-22	-31
ESUM-GT15.1	S15.1 - Ground Treatment and Site Formation at Portion 15.1	434	02-Nov-21 A	07-Jun-23	25-Feb-22	15-Jul-23	31
ESUM-GT15.2	S15.2 - Ground Treatment and Site Formation at Portion 15.2	413	31-Jan-22 A	03-Aug-23	02-Apr-22	15-Jul-23	-16
ESUM-GT15.2a	S15.2a - Ground Treatment and Site Formation at Portion 15.2a	457	01-Apr-22	18-Oct-23	22-Jun-22	11-Mar-24	116
ESUM-GT15.2b	S15.2b - Ground Treatment and Site Formation at Portion 15.2b	339	06-Jan-22 A	18-Apr-23	27-Jul-22	15-Jul-23	72
ESUM-GT15.3	S15.3 - Ground Treatment and Site Formation at Portion 15.3	579	01-Apr-22	18-Mar-24	30-Aug-22	11-Mar-24	-6
ESUM-GT15.4	S15.4 - Ground Treatment and Site Formation at Portion 15.4	682	01-Apr-22	25-Jul-24	07-May-22	29-Jun-24	-21
ESUM-GT15.5	S15.5 - Ground Treatment and Site Formation at Portion 15.5	408	20-Dec-21 A	09-Aug-23	21-Mar-22	15-Jul-23	-21
ESUM-GT15.6b	S15.6b - Ground Treatment and Site Formation at Portion 15.6b	856	21-Jul-22	14-Jun-25	29-Jun-23	15-May-25	-25
ESUM-GT15.7a	S15.7a - Ground Treatment and Site Formation at Portion 15.7a	784	18-May-22	07-Jan-25	25-Feb-23	04-Jan-25	-2
ESUM-GT15.7b	S15.7b - Ground Treatment and Site Formation at Portion 15.7b	854	17-Jun-22	09-May-25	25-Feb-23	26-Mar-25	-32



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Remaining Level of Effort ◆ Milesto...
Actual Level of Effort
Actual Work
Remaining Work
Critical Remaining Work

Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1

Three Month Rolling Programme

Project ID : YL05-2203
Layout : YL-02 3MRP
Date : 04-Apr-22 / Page 8 of 8

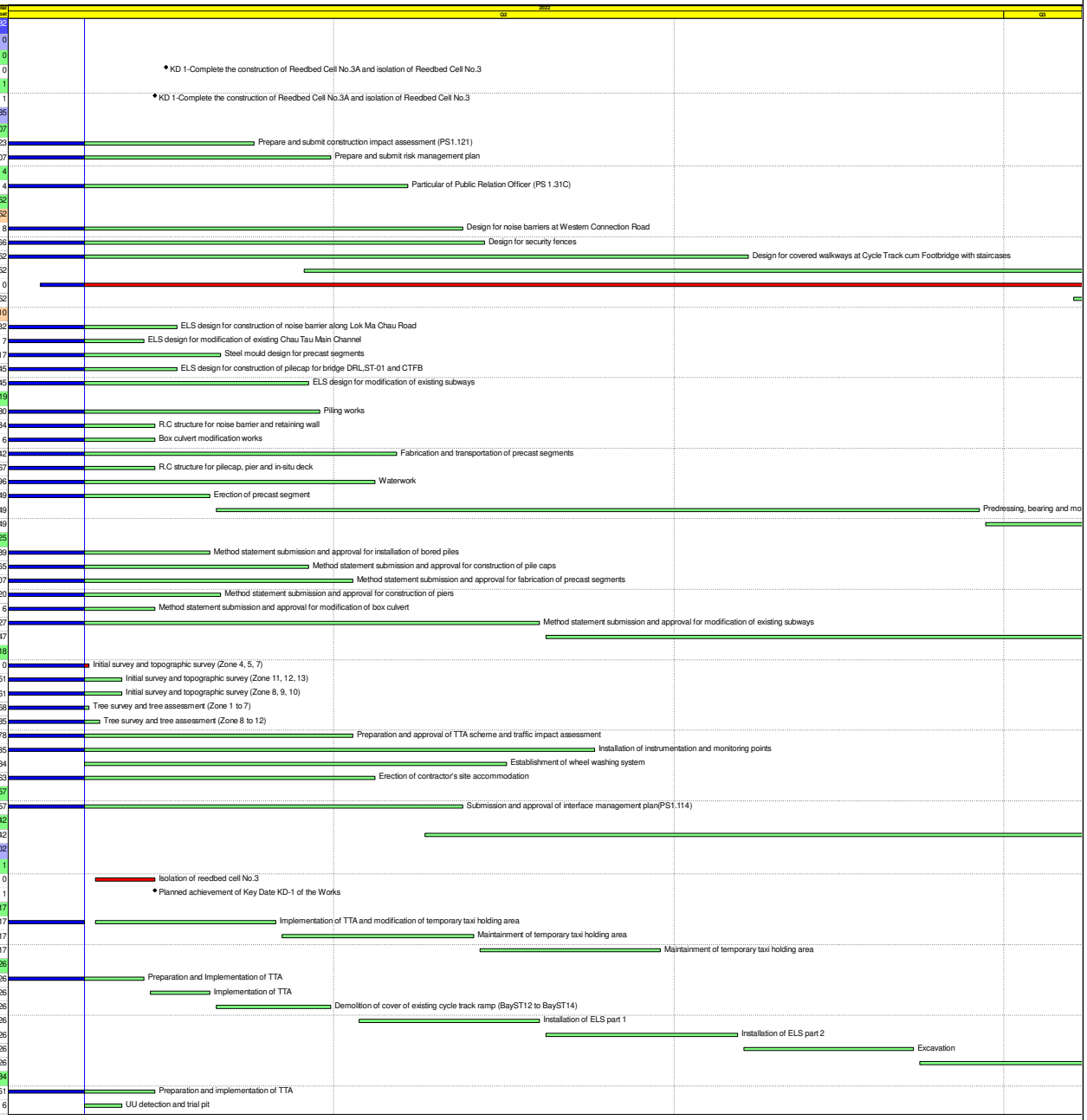
Three Month Rolling Programme

Date	Revision	Checked	Approved
14-Apr-22	MPR No. 9		

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/2020/02 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and DRL Phase 1

Activity ID	Activity Name	Actual Duration	Remaining Duration	Start	Finish	Total Float
	Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and DRL Phase 1	205	433	15-Sep-21 A	14-Jun-23	1232
	Key Date and Section of the Works	0	1	14-Apr-22	15-Apr-22	0
	Contractual Required Key Dates	0	0	15-Apr-22	15-Apr-22	0
KDD1000	KD 1-Complete the construction of Reedbed Cell No.3A and isolation of Reedbed Cell No.3	0	0		15-Apr-22*	0
	Planned Achievement of Key Dates	0	0	14-Apr-22	14-Apr-22	1
KDD1040	KD 1-Complete the construction of Reedbed Cell No.3A and isolation of Reedbed Cell No.3	0	0		14-Apr-22	1
	General Submission,Preliminaries, Contractor's Design,Method Statement Submission and Approval	205	230	15-Sep-21 A	23-Nov-22	1435
	General Submission	176	20	15-Sep-21 A	30-Apr-22	1407
GSS1010	Prepare and submit construction impact assessment (PS1.121)	176	14	15-Sep-21 A	23-Apr-22	23
GSS1150	Prepare and submit risk management plan	176	20	15-Sep-21 A	30-Apr-22	1407
	Particular Submission of Key People and Specially Required Staff	205	30	15-Sep-21 A	07-May-22	4
KEY1120	Particular of Public Relation Officer (PS 1.31C)	205	30	15-Sep-21 A	07-May-22	4
	Contractor's Design Submission and Approval	138	197	29-Oct-21 A	23-Nov-22	52
	Major Permanent Works Design	138	197	29-Oct-21 A	23-Nov-22	52
MPW1010	Design for noise barriers at Western Connection Road	138	30	29-Oct-21 A	12-May-22	8
MPW1015	Design for security fences	99	32	14-Dec-21 A	14-May-22	166
MPW1020	Design for covered walkways at Cycle Track cum Footbridge with staircases	68	52	19-Jan-22 A	07-Jun-22	52
MPW1025	Design for irrigation system	0	120	28-Apr-22	14-Sep-22	52
MPW1030	Aesthetic design of Pai Lau	4	91	04-Apr-22 A	22-Jul-22	0
MPW1035	Design for road lighting system	0	120	07-Jul-22	23-Nov-22	52
	Major Temporary Works Design	116	18	24-Nov-21 A	28-Apr-22	210
MTW1030	ELS design for construction of noise barrier along Lok Ma Chau Road	116	8	24-Nov-21 A	16-Apr-22	132
MTW1050	ELS design for modification of existing Chau Tau Main Channel	96	5	17-Dec-21 A	13-Apr-22	7
MTW1055	Steel mould design for precast segments	81	11	04-Jan-22 A	20-Apr-22	217
MTW1080	ELS design for construction of pilecap for bridge DRL,ST-01 and CTFB	87	8	28-Dec-21 A	16-Apr-22	45
MTW1100	ELS design for modification of existing subways	47	18	12-Feb-22 A	28-Apr-22	45
	Subcontracting	117	100	23-Nov-21 A	02-Aug-22	119
MTW3080	Piling works	112	19	29-Nov-21 A	29-Apr-22	80
MTW3140	R.C structure for noise barrier and retaining wall	108	6	03-Dec-21 A	14-Apr-22	134
MTW3180	Box culvert modification works	117	6	23-Nov-21 A	14-Apr-22	6
MTW3220	Fabrication and transportation of precast segments	99	25	14-Dec-21 A	06-May-22	142
MTW3240	R.C structure for pilecap, pier and in-situ deck	85	6	30-Dec-21 A	14-Apr-22	67
MTW3280	Waterwork	34	23	28-Feb-22 A	04-May-22	196
MTW3300	Erection of precast segment	50	10	09-Feb-22 A	19-Apr-22	49
MTW3320	Predressing, bearing and movement joints	0	60	20-Apr-22	28-Jun-22	49
MTW3340	Design, supply and installation of glass balustrades	0	30	29-Jun-22	02-Aug-22	49
	Method Statement Submission and Approval for Major Construction Works	176	106	15-Sep-21 A	09-Aug-22	225
MSS1040	Method statement submission and approval for installation of bored piles	176	10	15-Sep-21 A	19-Apr-22	89
MSS1060	Method statement submission and approval for construction of pile caps	116	18	24-Nov-21 A	28-Apr-22	165
MSS1065	Method statement submission and approval for fabrication of precast segments	86	21	29-Dec-21 A	02-May-22	207
MSS1070	Method statement submission and approval for construction of piers	96	11	17-Dec-21 A	20-Apr-22	320
MSS1080	Method statement submission and approval for modification of box culvert	66	6	21-Jan-22 A	14-Apr-22	6
MSS1090	Method statement submission and approval for modification of existing subways	6	36	01-Apr-22 A	19-May-22	27
MSS2010	Method statement submission and approval for erection of precst segments for ST01	0	70	20-May-22	09-Aug-22	47
	Preliminaries	196	47	24-Sep-21 A	24-May-22	1618
PRE1000	Initial survey and topographic survey (Zone 4, 5, 7)	159	1	24-Sep-21 A	08-Apr-22	0
PRE1004	Initial survey and topographic survey (Zone 11, 12, 13)	150	4	09-Nov-21 A	11-Apr-22	51
PRE1006	Initial survey and topographic survey (Zone 8, 9, 10)	150	4	09-Nov-21 A	11-Apr-22	1661
PRE1010	Tree survey and tree assessment (Zone 1 to 7)	157	1	27-Sep-21 A	08-Apr-22	58
PRE1012	Tree survey and tree assessment (Zone 8 to 12)	172	2	18-Oct-21 A	09-Apr-22	35
PRE1020	Preparation and approval of TTA scheme and traffic impact assessment	156	25	03-Nov-21 A	02-May-22	178
PRE1040	Installation of instrumentation and monitoring points	81	35	29-Dec-21 A	24-May-22	185
PRE1050	Establishment of wheel washing system	0	28	08-Apr-22	16-May-22	34
PRE1060	Erection of contractor's site accommodation	127	19	03-Nov-21 A	04-May-22	63
	Interface Management Plan	166	25	15-Sep-21 A	12-May-22	57
PRE1070	Submission and approval of interface management plan(PS1.114)	166	25	15-Sep-21 A	12-May-22	57
	Prefabrication of Precast Units	0	60	09-May-22	16-Jul-22	142
FPS1000	Setting up precast yard for precast segments	0	60	09-May-22	16-Jul-22	142
	Section 1 of the Works- Completion of the Works within Portion 1,2A,2B,3,5,7,8,9&10 of the Site	80	93	18-Jan-22 A	09-Jul-22	102
	Construction of Reedbed No.3A including the Reedbed System and Reinstatement of Reedbed No.3	0	6	09-Apr-22	14-Apr-22	1
S010180	Isolation of reedbed cell No.3	0	5	09-Apr-22	14-Apr-22	0
S010200	Planned achievement of Key Date KD-1 of the Works	0	0		14-Apr-22	1
	Taxi Holding Area	39	39	21-Feb-22 A	30-May-22	17
S010300	Implementation of TTA and modification of temporary taxi holding area	39	11	21-Feb-22 A	25-Apr-22	17
S010300-1	Maintainment of temporary taxi holding area	0	14	26-Apr-22	13-May-22	17
S010300-2	Maintainment of temporary taxi holding area	0	14	14-May-22	30-May-22	17
	Existing Cycle Track Subway Modification	65	73	18-Jan-22 A	09-Jul-22	26
S011035	Preparation and Implementation of TTA	65	5	18-Jan-22 A	13-Apr-22	26
S011035-1	Implementation of TTA	0	2	14-Apr-22	19-Apr-22	26
S011035-2	Demolition of cover of existing cycle track ramp (BayST12 to BayST14)	0	10	20-Apr-22	30-Apr-22	26
S011035-3	Installation of ELS part 1	0	14	03-May-22	19-May-22	26
S011040	Installation of ELS part 2	0	14	20-May-22	06-Jun-22	26
S011040-1	Excavation	0	14	07-Jun-22	22-Jun-22	26
S011040-2	Formwork and rebar fixing	0	14	23-Jun-22	09-Jul-22	26
	Retaining Walls	14	73	22-Mar-22 A	09-Jul-22	84
S011060	Preparation and implementation of TTA	14	6	22-Mar-22 A	14-Apr-22	151
S011060-1	UU detection and trial pit	0	3	08-Apr-22	11-Apr-22	6



Actual Work
Remaining Work
Critical Remaining Work
Milestone

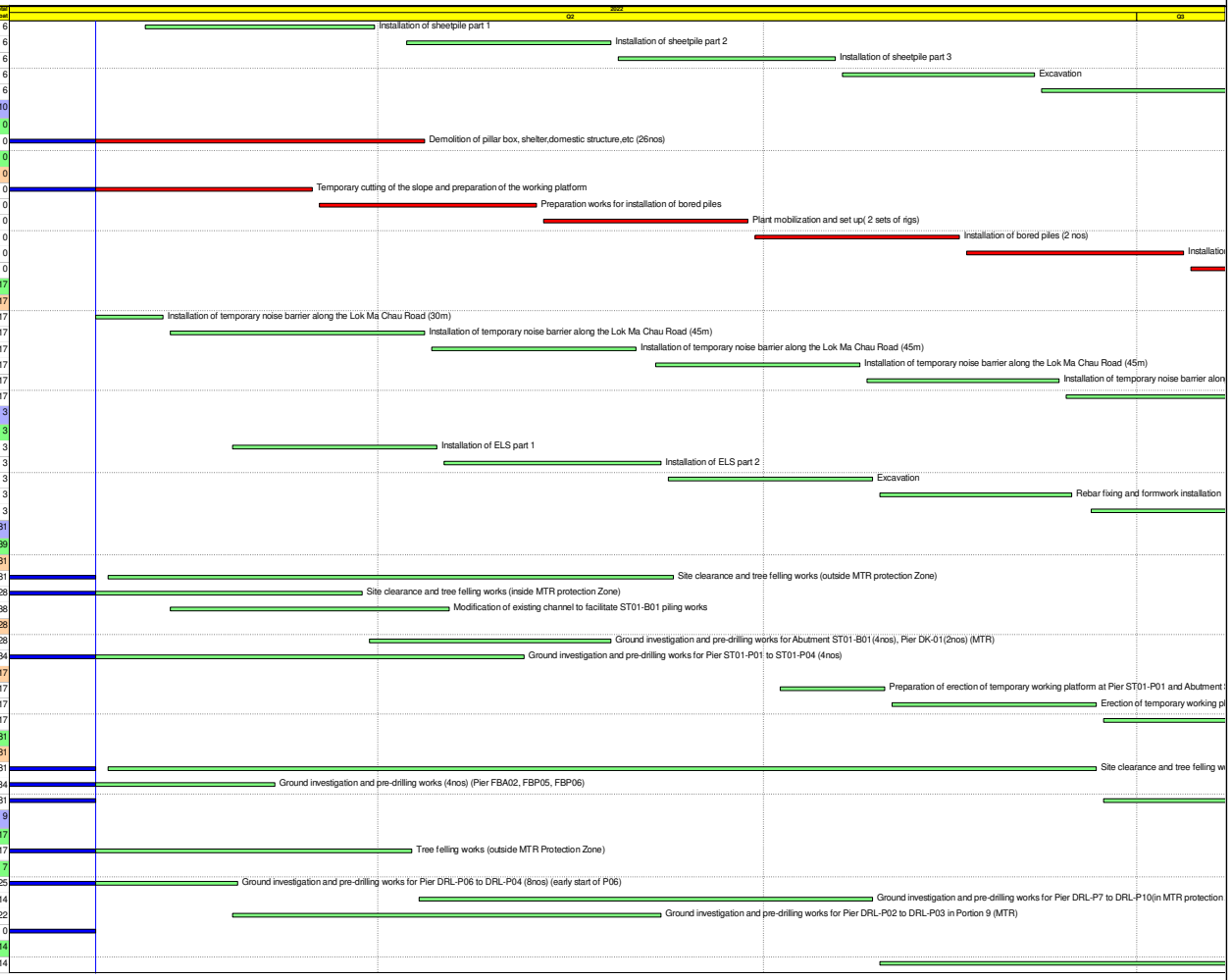
中國路橋工程有限責任公司
CHINA ROAD AND BRIDGE CORPORATION

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

Date	Revision	Checked	Approved
14-Apr-22	0	LDS	RS

Contract No. YL/2020/02 Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and DRL Phase 1

Activity ID	Activity Name	Actual Duration	Remaining Duration	Start	Finish	Total Float
S011060-2	Installation of sheetpile part 1	0	14	12-Apr-22	30-Apr-22	6
S011060-3	Installation of sheetpile part 2	0	14	03-May-22	19-May-22	6
S011060-4	Installation of sheetpile part 3	0	14	20-May-22	06-Jun-22	6
S011060-5	Excavation	0	14	07-Jun-22	22-Jun-22	6
S011060-6	Construction of Retaining Wall RW9(bay 1 of 8 bays)	0	14	23-Jun-22	09-Jul-22	6
Section 2A of the Works-Completion of the Works at Lok Ma Chau Road within Portion 1,5 and 8		99	82	06-Dec-21 A	20-Jul-22	10
Demolition of Existing Structure		99	19	06-Dec-21 A	04-May-22	0
S02A100	Demolition of pillar box, shelter,domestic structure,etc (26nos)	99	19	06-Dec-21 A	04-May-22	0
Retaining Walls		49	82	09-Feb-22 A	20-Jul-22	0
Retaining Wall BP1		49	82	09-Feb-22 A	20-Jul-22	0
S02A720	Temporary cutting of the slope and preparation of the working platform	49	12	09-Feb-22 A	25-Apr-22	0
S02A725	Preparation works for installation of bored piles	0	14	26-Apr-22	13-May-22	0
S02A725-1	Plant mobilization and set up(2 sets of rigs)	0	14	14-May-22	30-May-22	0
S02A725-2	Installation of bored piles (2 nos)	0	14	31-May-22	16-Jun-22	0
S02A725-3	Installation of bored piles (2 nos)	0	14	17-Jun-22	04-Jul-22	0
S02A725-4	Installation of bored piles (2 nos)	0	14	05-Jul-22	20-Jul-22	0
Noise Barriers		0	75	09-Apr-22 A	12-Jul-22	17
Temporary Noise Barrier		0	75	09-Apr-22 A	12-Jul-22	17
S02A680-1	Installation of temporary noise barrier along the Lok Ma Chau Road (30m)	0	5	09-Apr-22 A	13-Apr-22	17
S02A680-2	Installation of temporary noise barrier along the Lok Ma Chau Road (45m)	0	14	14-Apr-22	04-May-22	17
S02A680-3	Installation of temporary noise barrier along the Lok Ma Chau Road (45m)	0	14	05-May-22	21-May-22	17
S02A680-4	Installation of temporary noise barrier along the Lok Ma Chau Road (45m)	0	14	23-May-22	08-Jun-22	17
S02A680-5	Installation of temporary noise barrier along the Lok Ma Chau Road (45m)	0	14	09-Jun-22	24-Jun-22	17
S02A680-6	Installation of temporary noise barrier along the Lok Ma Chau Road (45m)	0	14	25-Jun-22	12-Jul-22	17
Section 2B of the Works-Completion of the Works at Junction of Castle Peak Road and Lok Ma Chau Road		0	70	19-Apr-22	13-Jul-22	3
Box Culvert Modification Works within Portion 10		0	70	19-Apr-22	13-Jul-22	3
S02B110-1	Installation of ELS part 1	0	14	19-Apr-22	05-May-22	3
S02B110-2	Installation of ELS part 2	0	14	06-May-22	23-May-22	3
S02B110-3	Excavation	0	14	24-May-22	09-Jun-22	3
S02B110-4	Rebar fixing and formwork installation	0	14	10-Jun-22	25-Jun-22	3
S02B110-5	Construction of box culvert from CHA 0 to CHA26 base slab	0	14	27-Jun-22	13-Jul-22	3
Section 2C of the Works- Completion of Substructure and Piling Works of ST01 and CTFB		111	138	22-Nov-21 A	24-Sep-22	81
Substructure and Piling Works for Bridge ST01		111	77	22-Nov-21 A	14-Jul-22	39
Preparation Works		111	35	22-Nov-21 A	24-May-22	81
S02C100	Site clearance and tree felling works (outside MTR protection Zone)	111	34	22-Nov-21 A	24-May-22	81
S02C105	Site clearance and tree felling works (inside MTR protection Zone)	55	16	29-Jan-22 A	29-Apr-22	28
S02C115	Modification of existing channel to facilitate ST01-B01 piling works	0	16	14-Apr-22	06-May-22	38
G.I and Pre-drilling		109	31	24-Nov-21 A	19-May-22	28
S02C107	Ground investigation and pre-drilling works for Abutment ST01-B01(4nos), Pier DK-01(2nos) (MTR)	0	15	30-Apr-22	19-May-22	28
S02C120	Ground investigation and pre-drilling works for Pier ST01-P01 to ST01-P04 (4nos)	109	25	24-Nov-21 A	12-May-22	34
Piling Works		0	35	02-Jun-22	14-Jul-22	17
S02C140	Preparation of erection of temporary working platform at Pier ST01-P01 and Abutment ST01-B01	0	7	02-Jun-22	10-Jun-22	17
S02C140-1	Erection of temporary working platform at Pier ST01-P01	0	14	11-Jun-22	27-Jun-22	17
S02C140-2	Erection of temporary working platform at Abutment ST01-B01	0	14	28-Jun-22	14-Jul-22	17
Substructure and Piling Works for CTFB		111	138	22-Nov-21 A	24-Sep-22	81
G.I and Pre-drilling		111	138	22-Nov-21 A	24-Sep-22	81
S02C640	Site clearance and tree felling works	111	62	22-Nov-21 A	27-Jun-22	81
S02C645	Ground investigation and pre-drilling works (4nos) (Pier FBA02, FBP05, FBP06)	109	10	24-Nov-21 A	22-Apr-22	134
S02C650	Ground investigation and pre-drilling works (7nos) (MTR)	57	75	27-Jan-22 A	24-Sep-22	81
Section 3 of the Works- Completion of the works of Direct Road Link within Portion 1,2A,2B, 5 and 9		137	433	22-Nov-21 A	14-Jun-23	9
Preparation Works		137	26	22-Nov-21 A	03-May-22	17
S033102	Tree felling works (outside MTR Protection Zone)	137	26	22-Nov-21 A	03-May-22	17
G.I and Pre-drilling		109	349	24-Nov-21 A	14-Jun-23	7
S033130	Ground investigation and pre-drilling works for Pier DRL-P06 to DRL-P04 (8nos) (early start of P06)	109	7	24-Nov-21 A	19-Apr-22	25
S033150	Ground investigation and pre-drilling works for Pier DRL-P7 to DRL-P10(in MTR protection zone)upon implementation of TTA	0	30	04-May-22	09-Jun-22	14
S033160	Ground investigation and pre-drilling works for Pier DRL-P02 to DRL-P03 in Portion 9 (MTR)	0	28	19-Apr-22	23-May-22	322
S033180	Ground investigation and pre-drilling works for Abutment DRL-A01 and Approach ramp AP04 in Portion 2A	74	40	07-Jan-22 A	14-Jun-23	0
Piling Works		0	30	10-Jun-22	15-Jul-22	14
S033200	Plant mobilization and setup for piling works	0	30	10-Jun-22	15-Jul-22	14



Actual Work
Remaining Work
Critical Remaining Work
Milestone

中國路橋工程有限責任公司
CHINA ROAD AND BRIDGE CORPORATION

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

Date	Revision	Checked	Approved
14-Apr-22	0	LDS	RS

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, µg/m^3	Limit Level, µg/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, µg/m^3	Limit Level, µg/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: 7.0 / NA(4) IS2: 5.3 / NA(4) IS4: 4.1 / NA(4) IS6: 5.9 BS1:3.9 / NA(4)	IS1: 6.8 or 4(4) IS2: 5.2 or 4(4) IS4: 3.8 or 4(4) IS6: 5.8 BS1: 3.7 or 4(4)
Turbidity (NTU)	Depth average	IS1: 27.7 IS2: 35.5 IS4: 70.9 BS1:29.9	IS1: 29.9 IS2: 38.1 IS4: 74.6 BS1:32.6
		IS6: 120% of upstream control station (CS5)	IS6: 130% of upstream control station (CS5)
SS (mg/L)	Depth average	IS1: 28.0 IS2: 39.8 IS4: 155 BS1:36.5	IS1: 28.8 IS2: 41.2 IS4: 175 BS1:36.9
		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 that 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 CERTIFCATES

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High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

File No. WMA21009/04/0006

Station DMS-2A - Village House along Lok Ma Chau Road
Operator: CH
Date: 21-Mar-22
Next Due Date: 20-May-22
Equipment No.: WA-12-04
Serial No. 1659

Ambient Condition			
Temperature, Ta (K)	298.5	Pressure, Pa (mmHg)	761.5

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

Calibration of TSP Sampler

Calibration Point	Orfice			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	12.9	3.59	61.32	7.7	2.78
2	11.0	3.32	56.64	6.7	2.59
3	8.1	2.85	48.62	5.1	2.26
4	5.9	2.43	41.52	3.8	1.95
5	3.8	1.95	33.36	2.4	1.55

By Linear Regression of Y on X

Slope , mw = 0.0436 **Intercept, bw =** 0.1178

Correlation coefficient* = 0.9991

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

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

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.97**

Remarks:

Conducted by: Ho Lai Shan Signature: Date: 21/3/2022
Checked by: Lee Man Hin Signature: Date: 21/3/2022

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High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

File No. WMA21009/24/0006
Station DMS-3 - Village House along Old Border Road
Operator: CH
Date: 21-Mar-22
Next Due Date: 20-May-22
Equipment No.: WA-12-24
Serial No. 10576

Ambient Condition			
Temperature, Ta (K)	297.9	Pressure, Pa (mmHg)	762.6

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

Calibration of TSP Sampler

Calibration Point	Orfice			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	3.57	60.95	7.7	2.78
2	10.2	3.20	54.64	6.4	2.53
3	8.8	2.97	50.76	5.5	2.35
4	6.1	2.47	42.29	3.9	1.98
5	4.2	2.05	35.12	2.7	1.65

By Linear Regression of Y on X

Slope , mw = 0.0442 **Intercept, bw =** 0.1048

Correlation coefficient* = 0.9996

*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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **4.00**

Remarks:

Conducted by: Ho Ka Chi Signature: Date: 21/3/22
Checked by: Ir MAN Wai Signature: Date: 21/3/2022

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High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

File No. WMA21009/07/0006

Station: DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill
Operator: CH
Date: 21-Mar-22
Next Due Date: 20-May-22
Equipment No.: WA-12-07
Serial No. 1801

Ambient Condition			
Temperature, Ta (K)	296.4	Pressure, Pa (mmHg)	762.8

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

Calibration of TSP Sampler

Calibration Point	Orfice			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	12.9	3.61	61.59	7.9	2.82
2	10.3	3.22	55.05	6.4	2.54
3	8.4	2.91	49.73	5.3	2.31
4	6.2	2.50	42.75	4.1	2.03
5	3.7	1.93	33.06	2.3	1.52

By Linear Regression of Y on X

Slope , mw = **0.0451** **Intercept, bw =** **0.0642**

Correlation coefficient* = **0.9984**

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

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

Therefore, Set Point; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **3.97**

Remarks:

Conducted by: Ho Ka Chun Signature: Date: 21/3/22

Checked by: LEE MAN HEI Signature: Date: 21/3/2022

TISCH Environmental

RECALIBRATION DUE DATE:
January 20, 2023

Certificate of Calibration

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

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

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0124	0.6929	1.4260	0.9958	0.6816	0.8783
1.0081	0.9731	2.0166	0.9916	0.9571	1.2420
1.0061	1.0948	2.2546	0.9896	1.0768	1.3887
1.0049	1.1445	2.3647	0.9884	1.1258	1.4564
0.9997	1.3789	2.8519	0.9833	1.3563	1.7565
QSTD	**m=**	**2.07510**	**QA**	**m=**	**1.29939**
	b=	**-0.01030**		**b=**	**-0.00634**
	r=	**0.99995**		**r=**	**0.99995**

Calculations

Vstd=	ΔVol((Pa-ΔP)/Pstd)(Tstd/Ta)	**Va=**	ΔVol((Pa-ΔP)/Pa)
Qstd=	Vstd/ΔTime	**Qa=**	Va/ΔTime

For subsequent flow rate calculations:

Qstd= $1/m\left(\left(\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}\right)-b\right)$

Qa= $1/m\left(\left(\sqrt{\Delta H\left(Ta/Pa\right)}\right)-b\right)$

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

Tisch Environmental, Inc.
145 South Miami Avenue
Village of Cleves, OH 45002

www.tisch-env.com
TOLL FREE: (877)263-7610
FAX: (513)467-9009

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New Territories, Hong Kong
Tel: 2898 7388 Fax: 2898 7076
Website : www.wellab.com.hk

TEST REPORT

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

Test Report No.:	36404
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2022-05-06
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)	1.129

****

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
General Manager

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Room 1714, Technology Park
18 On Lai Street, Shatin
New Territories, Hong Kong
Tel: 2898 7388 Fax: 2898 7076
Website : www.wellab.com.hk

TEST REPORT

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

Test Report No.:	36404A
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2022-05-06
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for Calibration:

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

Test Conditions:

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

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF)	1.116

****

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
General Manager

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Website : www.wellab.com.hk

TEST REPORT

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

Test Report No.:	36404B
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2022-05-06
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)	1.108

****

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

PATRICK TSE
General Manager

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Website : www.wellab.com.hk

TEST REPORT

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

Test Report No.:	36404C
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2022-05-06
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)	1.139

****

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TEST REPORT

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

Test Report No.:	36403
Date of Issue:	2022-02-28
Date Received:	2022-02-26
Date Tested:	2022-02-26
Date Completed:	2022-02-28
Next Due Date:	2022-04-27
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)	1.096

****

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TEST REPORT

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

Test Report No.:	36403A
Date of Issue:	2022-02-28
Date Received:	2022-02-26
Date Tested:	2022-02-26
Date Completed:	2022-02-28
Next Due Date:	2022-04-27
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for Calibration:

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

Test Conditions:

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

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF)	1.141

****

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TEST REPORT

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

Test Report No.:	36644A
Date of Issue:	2022-04-25
Date Received:	2022-04-23
Date Tested:	2022-04-23
Date Completed:	2022-04-25
Next Due Date:	2022-06-24
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for Calibration:

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

Test Conditions:

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

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF)	1.134

****

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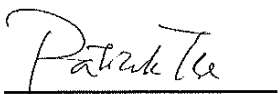

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TEST REPORT

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

Test Report No.:	36404D
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2022-05-06
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for Calibration:

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

Test Conditions:

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

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF)	1.090

****

PREPARED AND CHECKED BY:
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TEST REPORT

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

Test Report No.:	36403B
Date of Issue:	2022-02-28
Date Received:	2022-02-26
Date Tested:	2022-02-26
Date Completed:	2022-02-28
Next Due Date:	2022-04-27
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for Calibration:

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

Test Conditions:

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

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF)	1.155

****

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TEST REPORT

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

Test Report No.:	36403C
Date of Issue:	2022-02-28
Date Received:	2022-02-26
Date Tested:	2022-02-26
Date Completed:	2022-02-28
Next Due Date:	2022-04-27
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)	1.148

****

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Laboratory Manager

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TEST REPORT

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

Test Report No.:	36405
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2023-03-06
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for calibration:

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 570271
Equipment No.	: WN-01-01

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

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General Manager

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TEST REPORT

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

Test Report No.:	36405C
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2023-03-06
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for calibration:

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 580006
Equipment No.	: WN-01-04

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

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General Manager

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TEST REPORT

APPLICANT: **Wellab Limited**
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Room 1808, Technology Park,
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Test Report No.:	36481A
Date of Issue:	2022-03-14
Date Received:	2022-03-11
Date Tested:	2022-03-11
Date Completed:	2022-03-14
Next Due Date:	2023-03-13
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:
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TEST REPORT

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

Test Report No.:	35658
Date of Issue:	2021-08-23
Date Received:	2021-08-20
Date Tested:	2021-08-20
Date Completed:	2021-08-23
Next Due Date:	2022-08-22
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for Calibration:

Description	: Acoustical Calibrator
Manufacturer	: Brüel & Kjær
Model No.	: 4231
Serial No.	: 2412367
Equipment No.	: N-02-03

Test Conditions:

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

Methodology:

The Sound Level Calibrator has been calibrated in accordance with the documented procedures and using standard(s) and instrument(s) which are recommended by the manufacturer, or equivalent.

Results:

Sound Pressure Level (1kHz)	Measured SPL	Tolerance
At 94 dB SPL	94.0	94.0 ± 0.1dB
At 114 dB SPL	114.0	114.0 ± 0.1dB

Remark: This report supersedes the one dated 2019-08-20 with certificate number 31951.

****

PREPARED AND CHECKED BY:
For and On Behalf of **WELLAB Ltd.**

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General Manager

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TEST REPORT

APPLICANT: **Wellab Limited**
(EM&A Department)
Room 1701, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	35909
Date of Issue:	2021-10-04
Date Received:	2021-10-02
Date Tested:	2021-10-02
Date Completed:	2021-10-04
Next Due Date:	2022-10-03
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

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TEST REPORT

APPLICANT: **Wellab Limited**
(EM&A Department)
Room 1701, Technology Park,
18 On Lai Street,
Shatin, NT, Hong Kong

Test Report No.:	35909A
Date of Issue:	2021-10-04
Date Received:	2021-10-02
Date Tested:	2021-10-02
Date Completed:	2021-10-04
Next Due Date:	2022-10-03
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:
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PATRICK TSE
General Manager

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TEST REPORT

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

ATTN: **Ms. Meiling Tang**

Test Report No.:	36235
Date of Issue:	2022-02-28
Date Received:	2022-02-25
Date Tested:	2022-02-25
Date Completed:	2022-02-28
Next Due Date:	2022-08-27
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

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New Territories, Hong Kong
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Website : www.wellab.com.hk

TEST REPORT

Test Report No.:	36235
Date of Issue:	2022-02-28
Date Received:	2022-02-25
Date Tested:	2022-02-25
Date Completed:	2022-02-28
Next Due Date:	2022-08-27
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	225	0
270.3	270	0.3
315	315	0
360	360	0

**********END OF REPORT**********

WELLAB LIMITED
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TEST REPORT

APPLICANT: **Wellab Limited (EM&A)**
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Test Report No.:	36607
Date of Issue:	2022-03-25
Date Received:	2022-03-24
Date Tested:	2022-03-24 to 2022-03-25
Date Completed:	2022-03-25

ATTN: **Miss Mei Ling Tang**

Page: 1 of 2

Certificate of Calibration

Item for calibration:

YSI EXO1 Multiparameter Sondes	Equipment No.: SW-08-21	
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	16J100882
- EXO Optical DO Sensor, Ti	599100-01	17B102223
- EXO conductivity/Temperature Sensor, Ti	599870	17B100812
- EXO Turbidity Sensor, Ti	599101-01	20J103607
- EXO pH Sensor Assembly, Guarded, Ti	599701	17B103628

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.**

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TEST REPORT

Test Report No.:	36607
Date of Issue:	2022-03-25
Date Received:	2022-03-24
Date Tested:	2022-03-24 to 2022-03-25
Date Completed:	2022-03-25

Certificate of Calibration

Results:

Conductivity performance checking

	Instrument Readings (µS/cm)	Accetance Criteria	Comment
KCl stock solution (12890 µS/cm)	13000	12246-13534	Pass

Temperature performance checking

Reference thermometer-E431 Readings (°C)	Instrument Readings (°C)	Correction (°C)	Comment
20.0	20.001	-0.001	N/A

pH performance checking

	Instrument Readings (pH unit)	Accetance 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	9.16	9.18 ± 0.10	Pass

D.O. performance checking

	Instrument Readings (mg/L)	Accetance Criteria	Comment
Zero DO soultion	0.08	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Accetance Criteria	Comment
8.02	7.89	Difference between Titration value and instrument reading <0.2mg/L	Pass

Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Accetance Criteria	Comment
10 NTU	10.01	9.0-11.0	Pass
50 NTU	50.31	45.0-55.0	Pass
100 NTU	101.0	90.0-110.0	Pass

Depth performance checking

Water Depth	Instrument Readings (m)	Accetance Criteria	Comment
0.5 meter	0.50	0.45-0.55	Pass

**********END OF REPORT**********

WELLAB LIMITED
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TEST REPORT

APPLICANT: **Wellab Limited (EM&A)**
RM 1808, Technology Park,
18 On Lai Street,
Shatin, N.T., Hong Kong

Test Report No.:	36338
Date of Issue:	2022-02-14
Date Received:	2022-02-11
Date Tested:	2022-02-11 to 2022-02-14
Date Completed:	2022-02-14

ATTN: **Miss Mei Ling Tang**

Certificate of Calibration

Item for calibration:

YSI EXO1 Multiparameter Sondes	Equipment No.:	SW-08-40
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	16J102312
- EXO Optical DO Sensor, Ti	599100-01	17K101624
- EXO conductivity/Temperature Sensor, Ti	599870	17B100806
- EXO Turbidity Sensor, Ti	599101-01	16H102461
- EXO pII Sensor Assembly, Guarded, Ti	599701	16J101293

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

WELLAB LIMITED
Room 1714, Technology Park
18 On Lai Street, Shatin,
N.T., Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
Website: www.wellab.com.hk

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TEST REPORT

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Page:	2 of 2

Certificate of Calibration

Results:

Conductivity performance checking

	Instrument Readings (µS/cm)	Accetance Criteria	Comment
KCl stock solution (12890 µS/cm)	13200	12246-13534	Pass

Temperature performance checking

Reference thermometer-E431 Readings (°C)	Instrument Readings (°C)	Correction (°C)	Comment
20.0	20.002	-0.002	N/A

pH performance checking

	Instrument Readings (pH unit)	Accetance Criteria	Comment
pH QC buffer 4.00	4.01	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.84	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.26	9.18 ± 0.10	Pass

D.O. performance checking

	Instrument Readings (mg/L)	Accetance Criteria	Comment
Zero DO soultion	0.07	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Accetance Criteria	Comment
8.02	8.13	Difference between Titration value and instrument reading <0.2mg/L	Pass

Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Accetance Criteria	Comment
10 NTU	10.06	9.0-11.0	Pass
50 NTU	50.63	45.0-55.0	Pass
100 NTU	102.0	90.0-110.0	Pass

Depth performance checking

Water Depth	Instrument Readings (m)	Accetance 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 (April 2022)

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

Air Quality Monitoring Station
DMS-1a - Village House along Ha Wan Tsuen East Road
DMS-2A - Village house along Lok Ma Chau Road
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
Tentative Impact Monitoring Schedule (May 2022)

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

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-2A - Village house along Lok Ma Chau Road
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 ($\mu g/m^3$)
6-Apr-22	9:00	Sunny	230.8
6-Apr-22	10:00	Sunny	260.1
6-Apr-22	11:00	Sunny	244.9
12-Apr-22	9:00	Sunny	128.2
12-Apr-22	10:00	Sunny	154.7
12-Apr-22	11:00	Sunny	147.9
14-Apr-22	9:00	Sunny	30.0
14-Apr-22	10:00	Sunny	37.1
14-Apr-22	11:00	Sunny	52.3
20-Apr-22	8:30	Cloudy	62.8
20-Apr-22	9:30	Cloudy	51.9
20-Apr-22	10:30	Cloudy	49.3
26-Apr-22	8:00	Sunny	30.3
26-Apr-22	9:00	Sunny	29.6
26-Apr-22	10:00	Sunny	22.8
29-Apr-22	8:30	Sunny	55.2
29-Apr-22	9:30	Sunny	72.9
29-Apr-22	10:30	Sunny	62.4
		Minimum	22.8
		Maximum	260.1
		Average	95.7

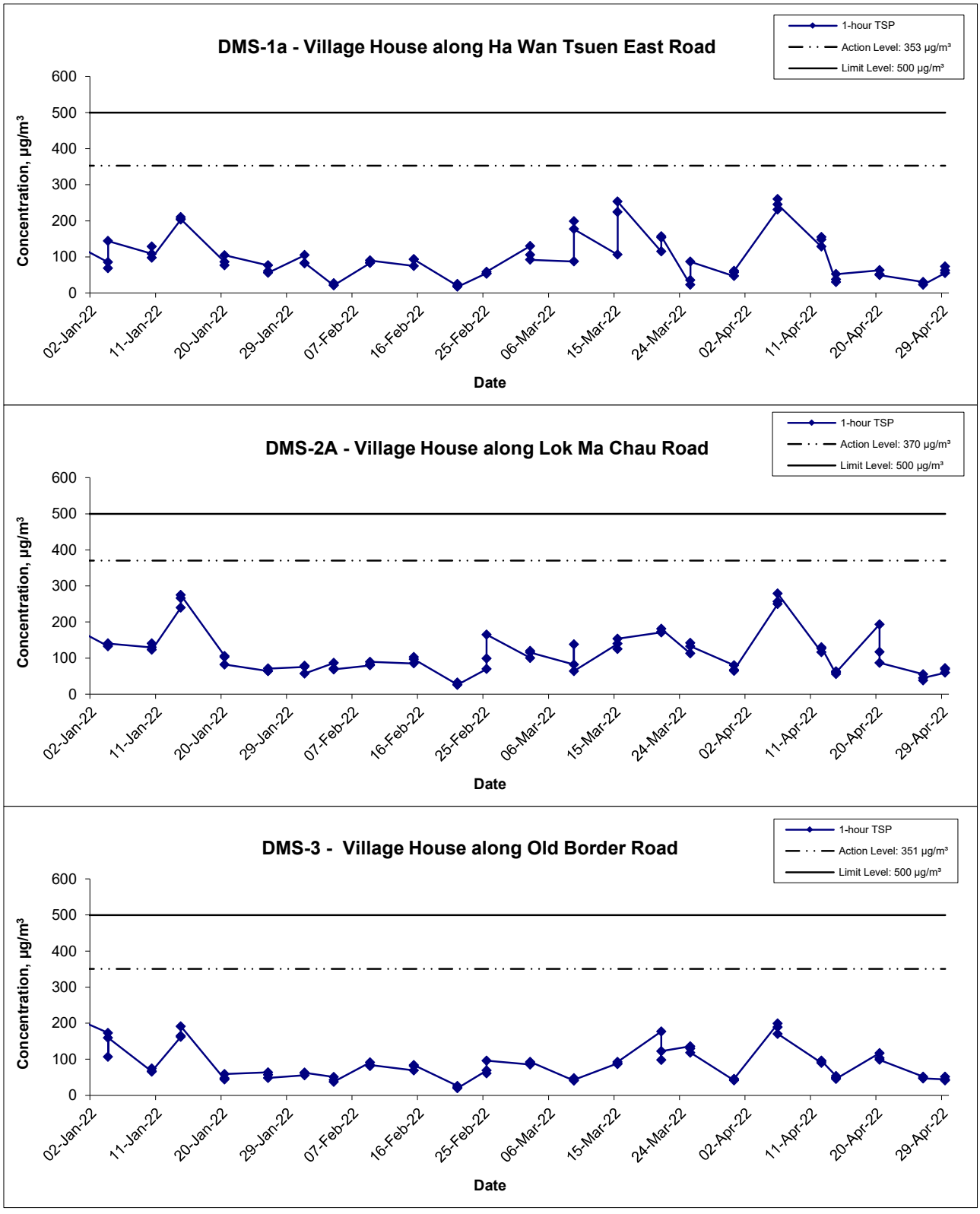
Location DMS-2A - Village House along Lok Ma Chau Road			
Date	Time	Weather	Particulate Concentration ($\mu g/m^3$)
6-Apr-22	9:00	Sunny	250.1
6-Apr-22	10:00	Sunny	256.6
6-Apr-22	11:00	Sunny	278.7
12-Apr-22	9:00	Sunny	116.3
12-Apr-22	10:00	Sunny	126.2
12-Apr-22	11:00	Sunny	129.9
14-Apr-22	13:00	Sunny	55.7
14-Apr-22	14:00	Sunny	62.8
14-Apr-22	15:00	Sunny	60.3
20-Apr-22	8:45	Cloudy	193.5
20-Apr-22	9:45	Cloudy	117.1
20-Apr-22	10:45	Cloudy	86.7
26-Apr-22	13:05	Sunny	55.2
26-Apr-22	14:05	Sunny	38.3
26-Apr-22	15:05	Sunny	45.0
29-Apr-22	13:20	Sunny	59.6
29-Apr-22	14:20	Sunny	71.9
29-Apr-22	15:20	Sunny	68.9
		Minimum	38.3
		Maximum	278.7
		Average	115.2

Appendix E - 1-hour TSP Monitoring Results

Location DMS-3 - Village House along Old Border Road			
Date	Time	Weather	Particulate Concentration ($\mu g/m^3$)
6-Apr-22	13:00	Sunny	199.0
6-Apr-22	14:00	Sunny	189.2
6-Apr-22	15:00	Sunny	170.4
12-Apr-22	9:00	Sunny	89.8
12-Apr-22	10:00	Sunny	94.6
12-Apr-22	11:00	Sunny	96.1
14-Apr-22	13:00	Sunny	53.8
14-Apr-22	14:00	Sunny	49.1
14-Apr-22	15:00	Sunny	45.3
20-Apr-22	9:00	Cloudy	117.2
20-Apr-22	10:00	Cloudy	103.3
20-Apr-22	11:00	Cloudy	98.5
26-Apr-22	8:40	Sunny	51.8
26-Apr-22	9:40	Sunny	48.2
26-Apr-22	10:40	Sunny	46.9
29-Apr-22	13:05	Sunny	44.1
29-Apr-22	14:05	Sunny	41.3
29-Apr-22	15:05	Sunny	51.4
		Minimum	41.3
		Maximum	199.0
		Average	88.3

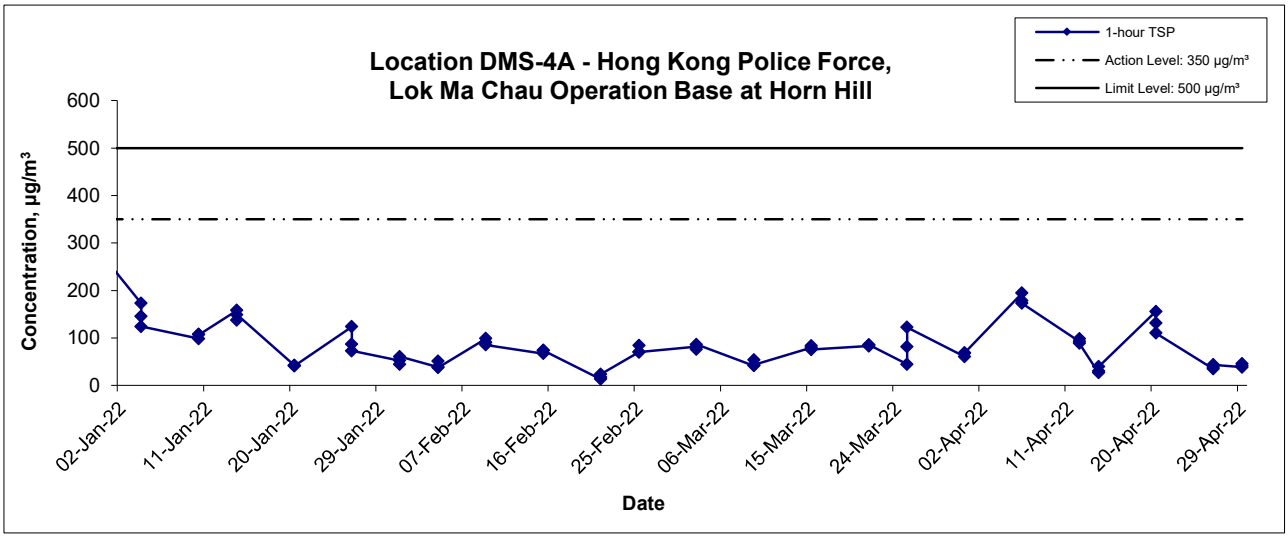
Location DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill			
Date	Time	Weather	Particulate Concentration ($\mu g/m^3$)
6-Apr-22	13:00	Sunny	194.4
6-Apr-22	14:00	Sunny	178.4
6-Apr-22	15:00	Sunny	172.9
12-Apr-22	9:00	Sunny	92.6
12-Apr-22	10:00	Sunny	97.8
12-Apr-22	11:00	Sunny	88.7
14-Apr-22	9:00	Sunny	26.5
14-Apr-22	10:00	Sunny	30.1
14-Apr-22	11:00	Sunny	39.3
20-Apr-22	8:50	Cloudy	155.7
20-Apr-22	9:50	Cloudy	131.2
20-Apr-22	10:50	Cloudy	110.2
26-Apr-22	9:00	Sunny	34.4
26-Apr-22	10:00	Sunny	37.9
26-Apr-22	11:00	Sunny	43.2
29-Apr-22	8:50	Sunny	38.2
29-Apr-22	9:50	Sunny	41.3
29-Apr-22	10:50	Sunny	45.8
		Minimum	26.5
		Maximum	194.4
		Average	86.6

1-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 1-hour TSP Monitoring Results	Scale: N.T.S	Project No.: WMA21009	WELLAB 匯力 consulting . testing . research
	Date: Apr 22	Appendix: E	

1-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 1-hour TSP Monitoring Results	Scale N.T.S Date Apr 22	Project No. WMA21009 Appendix E	WELLAB 匯力 consulting . testing . research

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 ($\mu g/m^3$)
4-Apr-22	9:00	Sunny	121.0
8-Apr-22	9:00	Sunny	89.4
13-Apr-22	9:00	Cloudy	65.2
19-Apr-22	8:30	Cloudy	41.1
25-Apr-22	8:00	Sunny	34.5
28-Apr-22	8:30	Sunny	51.7
		Minimum	34.5
		Maximum	121.0
		Average	67.2

Appendix F - 24-hour TSP Monitoring Results

Location DMS-2A - Village House along Lok Ma Chau 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. ($\mu g/m^3$)
				Initial	Final		Initial	Final		Initial	Final			
4-Apr-22	Sunny	290.9	769.6	3.3523	3.5576	0.2053	1287.2	1311.2	24.0	1.246	1.245	1.246	1793.8	114.5
8-Apr-22	Sunny	293.6	764.8	3.4995	3.7121	0.2126	1311.2	1335.2	24.0	1.238	1.234	1.236	1779.2	119.5
13-Apr-22	Cloudy	295.8	758.8	3.2392	3.4234	0.1842	1335.2	1359.2	24.0	1.226	1.225	1.226	1764.9	104.4
19-Apr-22	Cloudy	292.1	766.1	3.3253	3.4409	0.1156	1359.2	1383.2	24.0	1.239	1.241	1.240	1785.6	64.7
25-Apr-22	Sunny	299.4	758.9	3.4666	3.5618	0.0952	1383.2	1407.2	24.0	1.219	1.217	1.218	1753.5	54.3
28-Apr-22	Sunny	299.9	760.7	3.5372	3.6222	0.0850	1407.2	1431.2	24.0	1.217	1.219	1.218	1754.1	48.5
													Min	48.5
													Max	119.5
													Average	84.3

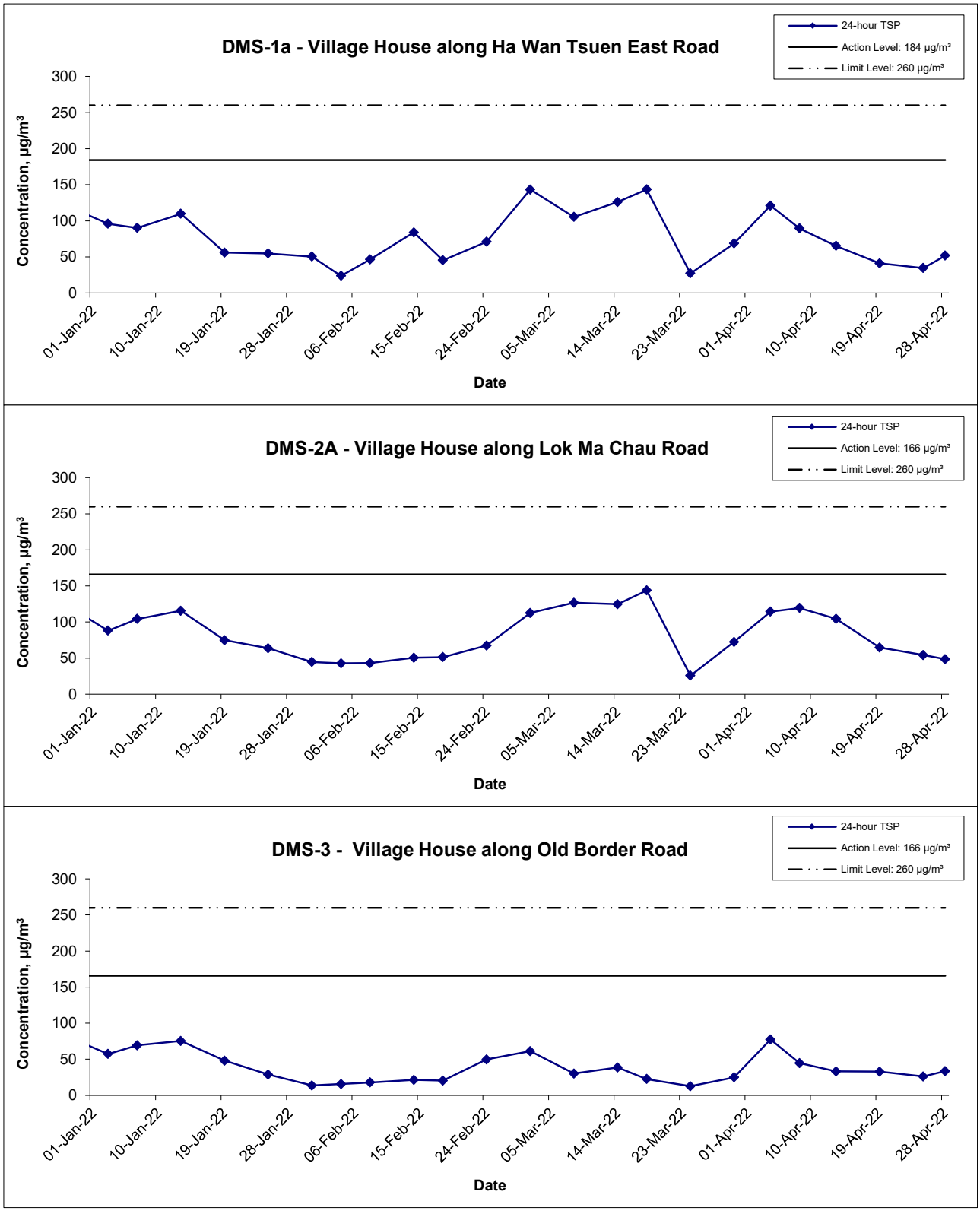
Location DMS-3 - Village House along Old Border Road

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. ($\mu g/m^3$)
				Initial	Final		Initial	Final		Initial	Final			
4-Apr-22	Sunny	290.9	769.6	3.3117	3.4497	0.1380	2216.5	2240.5	24.0	1.238	1.236	1.237	1781.4	77.5
8-Apr-22	Sunny	293.6	764.8	3.5002	3.5790	0.0788	2240.5	2264.5	24.0	1.229	1.225	1.227	1767.0	44.6
13-Apr-22	Cloudy	295.8	758.8	3.3201	3.3785	0.0584	2264.5	2288.5	24.0	1.218	1.216	1.217	1752.9	33.3
19-Apr-22	Cloudy	292.1	766.1	3.2833	3.3417	0.0584	2288.5	2312.5	24.0	1.231	1.232	1.231	1773.3	32.9
25-Apr-22	Sunny	299.4	758.9	3.3050	3.3504	0.0454	2312.5	2336.5	24.0	1.211	1.208	1.209	1741.7	26.1
28-Apr-22	Sunny	299.9	760.7	3.5011	3.5594	0.0583	2336.5	2360.5	24.0	1.209	1.211	1.210	1742.3	33.5
													Min	26.1
													Max	77.5
													Average	41.3

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

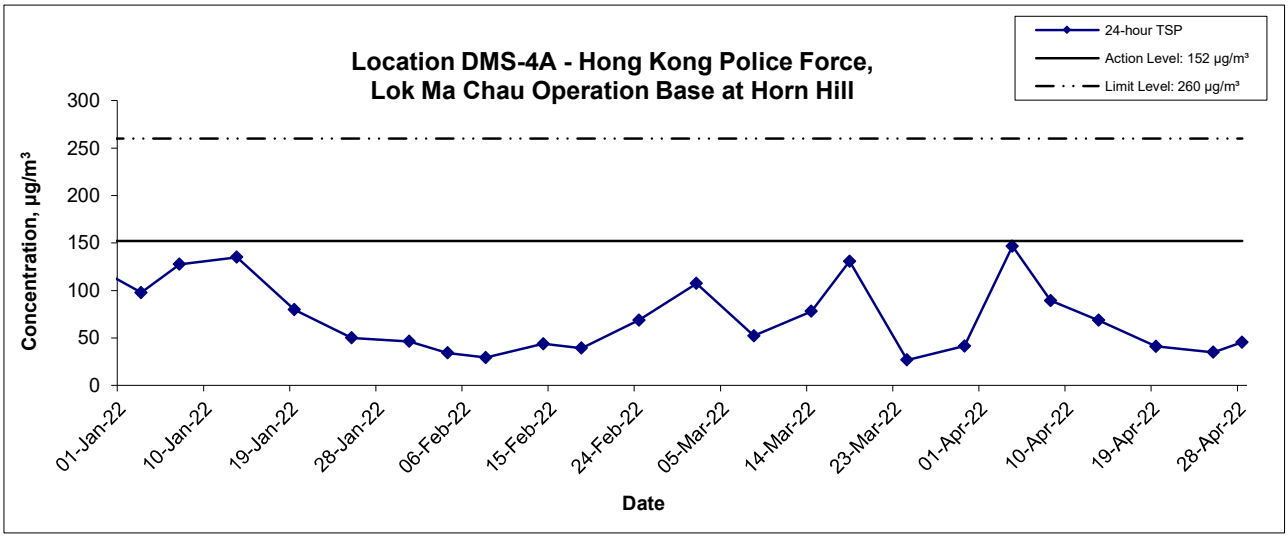
Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m^3/min.)		Av. flow (m^3/min)	Total vol. (m^3)	Conc. ($\mu g/m^3$)
				Initial	Final		Initial	Final		Initial	Final			
4-Apr-22	Sunny	290.9	769.6	3.3235	3.5849	0.2614	31777.3	31801.3	24.0	1.239	1.237	1.238	1782.6	146.6
8-Apr-22	Sunny	293.6	764.8	3.3842	3.5421	0.1579	31801.3	31825.3	24.0	1.230	1.226	1.228	1768.4	89.3
13-Apr-22	Cloudy	295.8	758.8	3.3218	3.4422	0.1204	31825.3	31849.3	24.0	1.219	1.218	1.218	1754.6	68.6
19-Apr-22	Cloudy	292.1	766.1	3.2151	3.2880	0.0729	31849.4	31873.4	24.0	1.232	1.233	1.232	1774.6	41.1
25-Apr-22	Sunny	299.4	758.9	3.3279	3.3887	0.0608	31873.4	31897.4	24.0	1.212	1.210	1.211	1743.6	34.9
28-Apr-22	Sunny	299.9	760.7	3.4867	3.5661	0.0794	31897.4	31921.4	24.0	1.210	1.212	1.211	1744.2	45.5
													Min	34.9
													Max	146.6
													Average	71.0

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	WELLAB 匯力 consulting . testing . research
		Date: Apr 22	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	WELLAB 匯力 consulting . testing . research
		Date Apr 22	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}
6-Apr-22	Sunny	09:15	56.3	60.3	47.8	53.7	47.3
		09:20	57.3	58.7	47.5		
		09:25	49.9	52.8	45.1		
		09:30	50.6	54.8	45.3		
		09:35	50.5	54.4	45.9		
		09:40	50.5	54.8	45.4		
12-Apr-22	Sunny	09:05	63.7	65.2	53.9	60.7	
		09:10	60.4	61.8	57.6		
		09:15	61.6	65.3	55.8		
		09:20	61.8	65.2	55.8		
		09:25	55.4	57.4	53.4		
		09:30	53.7	54.5	52.9		
20-Apr-22	Cloudy	11:00	62.8	63.1	62.0	62.2	
		11:05	62.9	63.5	62.3		
		11:10	63.1	63.7	62.5		
		11:15	60.5	60.8	59.4		
		11:20	61.3	62.4	59.4		
		11:25	62.2	62.8	61.6		
26-Apr-22	Sunny	14:10	61.8	62.2	61.3	61.9	
		14:15	62.0	62.5	61.5		
		14:20	61.9	62.6	61.3		
		14:25	62.0	62.4	61.5		
		14:30	61.8	62.3	61.4		
		14:35	61.8	62.2	61.4		

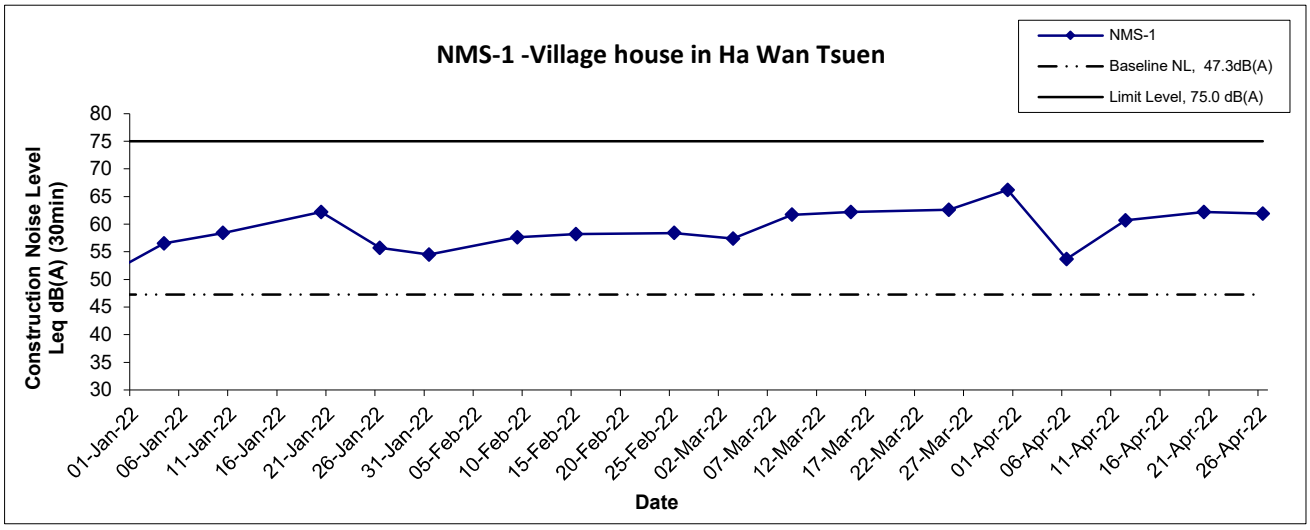
Location NMS-2 - Village house along existing Ha Wan Tsuen East Road							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
6-Apr-22	Sunny	11:30	73.2	76.4	52.3	71.1	68.4
		11:35	69.9	72.4	53.0		
		11:40	72.1	76.5	53.2		
		11:45	68.5	71.8	53.0		
		11:50	71.1	74.0	52.3		
		11:55	69.9	73.5	49.5		
12-Apr-22	Sunny	09:15	64.9	65.0	48.2	66.6	
		09:20	69.2	71.8	48.3		
		09:25	68.1	71.5	50.6		
		09:30	61.2	65.2	48.5		
		09:35	63.4	68.0	49.6		
		09:40	67.8	68.1	49.4		
20-Apr-22	Cloudy	10:48	65.8	69.2	49.6	65.7	
		10:53	64.1	64.2	48.8		
		10:58	65.2	68.3	47.7		
		11:03	65.4	66.1	56.3		
		11:08	68.1	67.6	55.5		
		11:13	64.5	65.3	51.9		
26-Apr-22	Sunny	13:25	61.0	63.5	47.6	66.4	
		13:30	62.8	63.0	46.4		
		13:35	68.2	72.2	52.6		
		13:40	63.7	64.9	48.9		
		13:45	68.6	72.1	56.0		
		13:50	68.5	69.3	52.6		

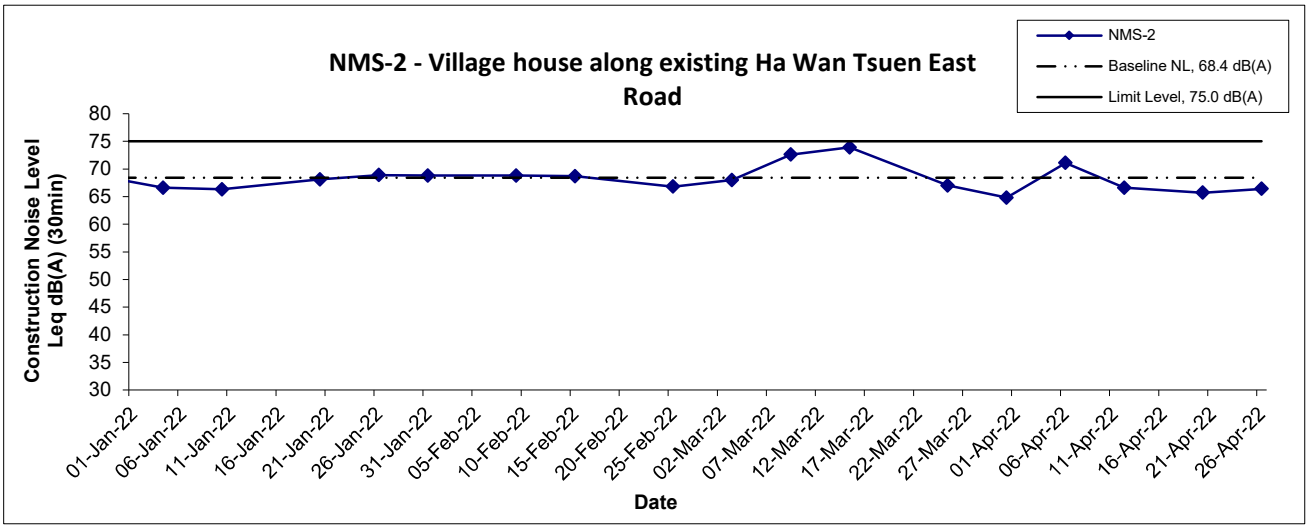
Appendix G - Noise Monitoring Results

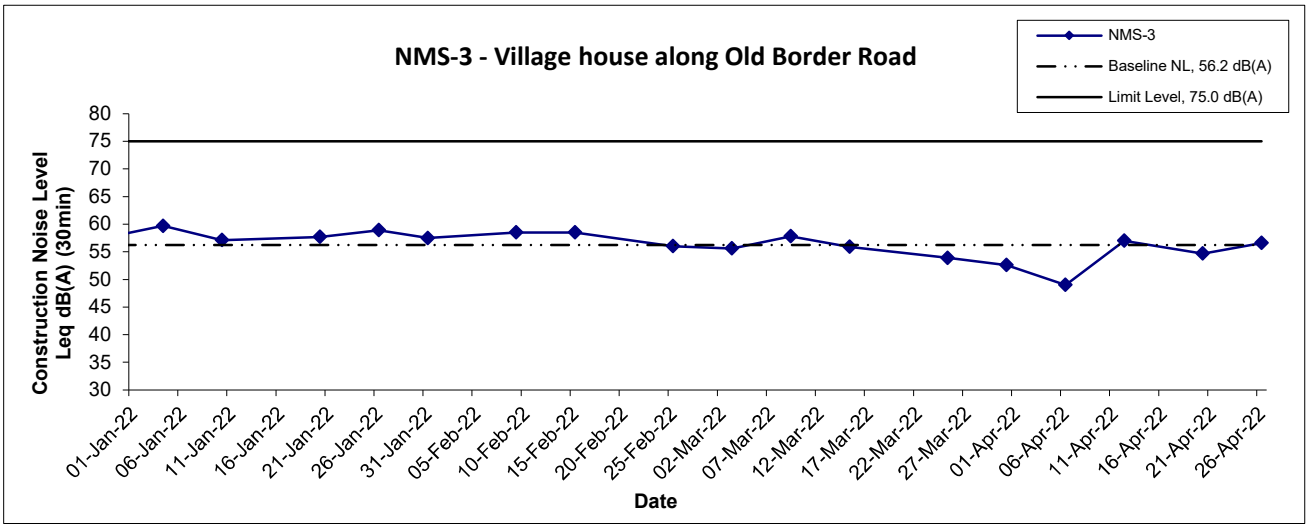
Location NMS-3 - Village house along Old Border Road							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
6-Apr-22	Sunny	13:25	50.0	52.5	46.6	49.0	56.2
		13:30	48.2	49.7	45.3		
		13:35	49.7	49.9	45.3		
		13:40	48.5	50.0	45.9		
		13:45	48.7	51.1	44.8		
		13:50	48.8	51.6	45.3		
12-Apr-22	Sunny	10:00	59.4	60.8	51.8	57.0	
		10:05	56.1	58.1	51.7		
		10:10	57.4	58.4	51.4		
		10:15	53.2	53.9	51.4		
		10:20	58.6	60.6	52.0		
		10:25	53.6	55.2	52.0		
20-Apr-22	Cloudy	09:50	53.5	55.2	52.0	54.7	
		09:55	53.6	54.6	52.3		
		10:00	57.1	57.1	52.9		
		10:05	54.8	55.7	53.1		
		10:10	54.3	55.1	53.0		
		10:15	53.7	54.5	52.7		
26-Apr-22	Sunny	08:45	53.2	54.4	51.2	56.6	
		08:50	55.0	57.8	51.7		
		08:55	53.6	55.8	50.8		
		09:00	60.5	65.4	50.5		
		09:05	54.8	56.6	50.7		
		09:10	57.3	59.3	50.6		

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}
6-Apr-22	Sunny	13:00	46.6	48.8	42.6	46.1	52.5
		13:05	48.1	51.0	43.3		
		13:10	46.4	47.6	42.5		
		13:15	44.7	46.6	42.9		
		13:20	45.2	46.7	43.2		
		13:25	44.6	46.3	42.3		
12-Apr-22	Sunny	13:05	51.6	53.6	49.3	52.2	
		13:10	52.4	52.6	49.5		
		13:15	51.3	52.7	50.0		
		13:20	52.5	54.5	50.2		
		13:25	52.0	53.7	50.2		
		13:30	53.2	55.1	51.1		
20-Apr-22	Cloudy	08:55	52.3	54.8	45.9	51.9	
		09:00	51.0	53.7	44.5		
		09:05	53.7	55.6	46.4		
		09:10	53.3	56.4	44.0		
		09:15	49.6	52.1	43.3		
		09:20	50.2	53.3	43.2		
26-Apr-22	Sunny	09:55	50.8	51.7	49.4	52.7	
		10:00	51.3	52.6	49.5		
		10:05	52.4	55.1	49.6		
		10:10	53.8	53.6	50.5		
		10:15	53.1	54.7	50.2		
		10:20	53.7	55.9	51.0		

Noise Levels



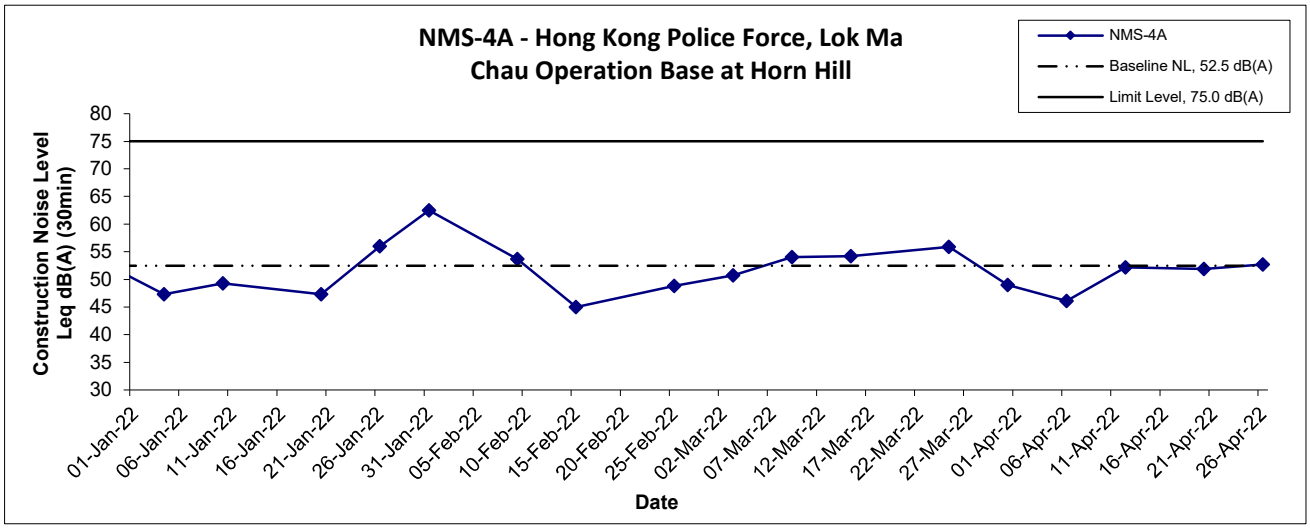




Title	Scale	Project No.
Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Construction Noise Monitoring Results	N.T.S	WMA21009
	Date: Apr 22	Appendix: G

WELLAB 匯力 consulting . testing . research

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	WELLAB 匯力 consulting . testing . research
		Date Apr 22	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
1-Apr-22	Sunny	Calm	11:03	Middle	0.5	27.2 27.3	27.3	8.0 8.0	8.0	2.0 2.0	2.0	134.6 135.3	135.0	10.6 10.6	10.6	27.2 26.6	26.9	36 45	40.5
4-Apr-22	Sunny	Calm	10:09	Middle	0.5	21.6 21.6	21.6	8.3 8.3	8.3	3.8 3.8	3.8	105.7 106.2	106.0	9.1 9.2	9.2	14.9 14.9	14.9	26 23	24.5
6-Apr-22	Sunny	Calm	12:07	Middle	0.5	27.4 27.4	27.4	8.4 8.4	8.4	3.0 3.0	3.0	160.6 160.6	160.6	12.5 12.5	12.5	17.3 17.0	17.2	23 28	25.5
8-Apr-22	Sunny	Calm	10:53	Middle	0.5	26.1 26.1	26.1	8.7 8.7	8.7	3.8 3.8	3.8	105.2 105.3	105.3	8.3 8.3	8.3	17.6 17.7	17.7	37 36	36.5
11-Apr-22	Sunny	Calm	11:25	Middle	0.5	29.4 29.4	29.4	8.8 8.8	8.8	3.7 3.7	3.7	108.7 109.0	108.9	8.1 8.2	8.2	13.1 12.9	13.0	24 24	24.0
13-Apr-22	Cloudy	Calm	10:37	Middle	0.5	26.5 26.5	26.5	8.5 8.5	8.5	3.7 3.7	3.7	81.8 81.8	81.8	6.4 6.4	6.4	18.3 18.3	18.3	30 31	30.5
19-Apr-22	Rainy	Calm	12:09	Middle	0.5	21.6 21.6	21.6	8.2 8.2	8.2	3.6 3.6	3.6	65.6 65.1	65.4	5.7 5.6	5.7	28.3 28.0	28.2	26 29	27.5
21-Apr-22	Cloudy	Calm	10:14	Middle	0.5	25.4 25.4	25.4	8.8 8.8	8.8	3.6 3.6	3.6	98.4 98.5	98.5	7.9 7.9	7.9	14.1 14.1	14.1	26 25	25.5
23-Apr-22	Sunny	Calm	10:01	Middle	0.5	27.8 27.8	27.8	9.4 9.4	9.4	3.5 3.5	3.5	139.4 139.4	139.4	10.7 10.7	10.7	15.8 16.1	16.0	24 28	26.0
25-Apr-22	Sunny	Calm	12:43	Middle	0.5	31.1 31.1	31.1	8.6 8.6	8.6	2.0 2.0	2.0	112.2 112.4	112.3	8.2 8.3	8.3	17.5 17.4	17.5	23 23	23.0
27-Apr-22	Sunny	Calm	10:51	Middle	0.5	31.4 31.4	31.4	8.8 8.8	8.8	3.2 3.2	3.2	149.0 149.1	149.1	10.8 10.8	10.8	18.1 18.3	18.2	32 29	30.5
29-Apr-22	Sunny	Calm	10:47	Middle	0.5	30.4 30.4	30.4	8.7 8.7	8.7	3.4 3.4	3.4	153.7 154.4	154.1	11.3 11.4	11.4	18.1 18.1	18.1	31 28	29.5

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
1-Apr-22	Sunny	Calm	09:13	Middle	0.1	24.7 24.8	24.8	8.2 8.2	8.2	0.5 0.5	0.5	72.3 72.2	72.3	6.0 6.0	6.0	37.9 37.7	37.8	48 52	50.0
4-Apr-22	Sunny	Calm	09:07	Middle	0.1	18.7 18.7	18.7	8.3 8.3	8.3	1.0 1.0	1.0	77.9 77.6	77.8	7.2 7.2	7.2	25.4 25.0	25.2	27 34	30.5
6-Apr-22	Sunny	Calm	10:56	Middle	0.1	24.4 24.4	24.4	8.1 8.1	8.1	1.2 1.2	1.2	95.6 95.5	95.6	7.9 7.9	7.9	58.5 58.4	58.5	54 49	51.5
8-Apr-22	Sunny	Calm	09:43	Middle	0.1	22.9 22.9	22.9	9.1 9.1	9.1	0.8 0.8	0.8	87.5 87.5	87.5	7.5 7.5	7.5	12.5 12.4	12.5	7 8	7.5
11-Apr-22	Sunny	Calm	10:25	Middle	0.2	25.8 25.9	25.9	8.2 8.2	8.2	0.4 0.4	0.4	83.5 83.5	83.5	6.8 6.8	6.8	6.4 6.4	6.4	14 17	15.5
13-Apr-22	Cloudy	Calm	09:35	Middle	0.1	25.7 25.7	25.7	8.5 8.5	8.5	0.3 0.3	0.3	75.7 75.9	75.8	6.2 6.2	6.2	36.2 35.9	36.1	62 54	58.0
19-Apr-22	Rainy	Calm	10:56	Middle	0.3	22.4 22.4	22.4	8.1 8.1	8.1	1.7 1.7	1.7	72.2 72.8	72.5	6.2 6.3	6.3	45.7 45.8	45.8	55 47	51.0
21-Apr-22	Cloudy	Calm	09:12	Middle	0.1	23.4 23.4	23.4	8.8 8.8	8.8	0.9 0.9	0.9	79.9 79.8	79.9	6.8 6.8	6.8	6.8 6.5	6.7	4 5	4.5
23-Apr-22	Sunny	Calm	08:56	Middle	0.1	25.7 25.7	25.7	8.8 8.8	8.8	0.7 0.7	0.7	75.5 75.4	75.5	6.1 6.1	6.1	9.7 9.7	9.7	20 23	21.5
25-Apr-22	Sunny	Calm	11:33	Middle	0.1	31.0 31.0	31.0	8.0 8.0	8.0	0.5 0.5	0.5	109.6 109.6	109.6	8.1 8.1	8.1	12.2 12.2	12.2	21 21	21.0
27-Apr-22	Sunny	Calm	09:49	Middle	0.2	29.3 29.3	29.3	7.6 7.6	7.6	1.9 1.9	1.9	94.0 94.0	94.0	7.1 7.1	7.1	29.5 29.4	29.5	13 13	13.0
29-Apr-22	Sunny	Calm	09:40	Middle	0.2	26.6 26.6	26.6	7.3 7.3	7.3	0.5 0.5	0.5	86.7 86.6	86.7	6.9 6.9	6.9	54.9 54.8	54.9	61 60	60.5

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
1-Apr-22	Sunny	Calm	11:24	Middle	0.5	27.5 27.5	27.5	8.0 8.0	8.0	3.8 3.8	3.8	114.2 114.7	114.5	8.8 8.9	8.9	15.4 15.1	15.3	13 14	13.5
4-Apr-22	Sunny	Calm	09:41	Middle	0.5	19.4 19.4	19.4	7.6 7.6	7.6	2.9 2.9	2.9	79.1 79.2	79.2	7.2 7.2	7.2	13.6 13.6	13.6	23 21	22.0
6-Apr-22	Sunny	Calm	11:35	Middle	0.5	28.1 28.1	28.1	8.5 8.6	8.6	3.0 3.0	3.0	159.5 159.9	159.7	12.3 12.3	12.3	15.9 15.7	15.8	24 29	26.5
8-Apr-22	Sunny	Calm	10:19	Middle	0.5	23.6 23.6	23.6	8.0 8.0	8.0	3.0 3.0	3.0	93.2 93.3	93.3	7.8 7.8	7.8	20.4 20.7	20.6	21 26	23.5
11-Apr-22	Sunny	Calm	11:02	Middle	0.5	27.5 27.5	27.5	8.4 8.4	8.4	3.3 3.3	3.3	112.8 113.0	112.9	8.8 8.8	8.8	18.3 18.4	18.4	24 28	26.0
13-Apr-22	Cloudy	Calm	10:17	Middle	0.5	26.0 26.0	26.0	8.1 8.1	8.1	4.5 4.5	4.5	91.0 90.9	91.0	7.2 7.2	7.2	14.9 14.7	14.8	25 20	22.5
19-Apr-22	Rainy	Calm	11:34	Middle	0.5	20.7 20.7	20.7	7.9 7.9	7.9	0.0 0.0	0.0	81.9 83.1	82.5	7.3 7.5	7.4	14.7 14.6	14.7	15 12	13.5
21-Apr-22	Cloudy	Calm	09:44	Middle	0.5	23.3 23.3	23.3	8.0 8.0	8.0	3.5 3.5	3.5	86.4 88.8	87.6	7.2 7.4	7.3	12.8 12.9	12.9	15 17	16.0
23-Apr-22	Sunny	Calm	09:36	Middle	0.5	26.0 26.0	26.0	8.0 8.0	8.0	3.5 3.5	3.5	90.1 89.8	90.0	7.2 7.1	7.2	13.9 13.7	13.8	13 13	13.0
25-Apr-22	Sunny	Calm	12:54	Middle	0.5	30.8 30.8	30.8	8.8 8.8	8.8	2.0 2.0	2.0	111.6 111.6	111.6	8.2 8.2	8.2	17.7 17.7	17.7	23 25	24.0
27-Apr-22	Sunny	Calm	10:15	Middle	0.2	31.5 31.5	31.5	8.0 8.0	8.0	3.5 3.5	3.5	106.5 106.9	106.7	7.7 7.7	7.7	14.9 14.8	14.9	27 27	27.0
29-Apr-22	Sunny	Calm	10:15	Middle	0.2	29.4 29.4	29.4	7.9 7.9	7.9	3.5 3.5	3.5	99.5 99.5	99.5	7.5 7.5	7.5	23.8 23.5	23.7	22 24	23.0

Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Water Quality Monitoring Results at 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
1-Apr-22	Sunny	Calm	09:37	Middle	0.1	24.9 24.9	24.9	8.0 8.0	8.0	3.0 3.0	3.0	70.4 70.2	70.3	5.7 5.7	5.7	31.0 31.4	31.2	32 33	32.5
4-Apr-22	Sunny	Calm	08:48	Middle	0.2	20.0 20.0	20.0	7.8 7.8	7.8	0.4 0.4	0.4	82.1 82.1	82.1	7.4 7.4	7.4	27.8 27.2	27.5	22 25	23.5
6-Apr-22	Sunny	Calm	10:39	Middle	0.1	24.6 24.5	24.6	7.9 7.9	7.9	5.7 5.8	5.8	79.0 78.4	78.7	6.4 6.3	6.4	32.5 33.2	32.9	22 24	23.0
8-Apr-22	Sunny	Calm	09:25	Middle	0.1	24.2 24.2	24.2	8.8 8.8	8.8	1.2 1.2	1.2	109.8 109.8	109.8	9.2 9.2	9.2	27.2 27.3	27.3	27 31	29.0
11-Apr-22	Sunny	Calm	10:36	Middle	0.1	25.7 25.7	25.7	8.2 8.2	8.2	4.4 4.4	4.4	94.0 94.0	94.0	7.5 7.5	7.5	26.4 27.1	26.8	36 33	34.5
13-Apr-22	Cloudy	Calm	09:09	Middle	0.1	26.1 26.1	26.1	8.4 8.4	8.4	1.4 1.4	1.4	69.4 68.8	69.1	5.6 5.5	5.6	32.3 32.4	32.4	23 21	22.0
19-Apr-22	Rainy	Calm	10:41	Middle	0.2	21.1 21.1	21.1	8.2 8.2	8.2	2.5 2.5	2.5	89.0 88.9	89.0	7.8 7.8	7.8	29.5 31.7	30.6	34 39	36.5
21-Apr-22	Cloudy	Calm	08:55	Middle	0.1	24.4 24.4	24.4	8.4 8.4	8.4	1.7 1.7	1.7	77.3 77.3	77.3	6.4 6.4	6.4	25.2 25.1	25.2	33 40	36.5
23-Apr-22	Sunny	Calm	08:28	Middle	0.1	26.2 26.2	26.2	8.7 8.7	8.7	0.8 0.8	0.8	88.3 88.2	88.3	7.1 7.1	7.1	22.4 22.8	22.6	25 23	24.0
25-Apr-22	Sunny	Calm	11:55	Middle	0.1	29.3 29.3	29.3	7.3 7.3	7.3	1.4 1.4	1.4	80.3 80.0	80.2	6.1 6.1	6.1	24.4 24.5	24.5	39 38	38.5
27-Apr-22	Sunny	Calm	09:28	Middle	0.1	28.3 28.3	28.3	7.8 7.8	7.8	0.6 0.6	0.6	80.1 80.0	80.1	6.2 6.2	6.2	10.0 10.0	10.0	31 32	31.5
29-Apr-22	Sunny	Calm	09:57	Middle	0.1	28.0 28.0	28.0	7.2 7.2	7.2	4.9 4.9	4.9	71.8 72.6	72.2	5.5 5.5	5.5	22.6 22.4	22.5	31 30	30.5

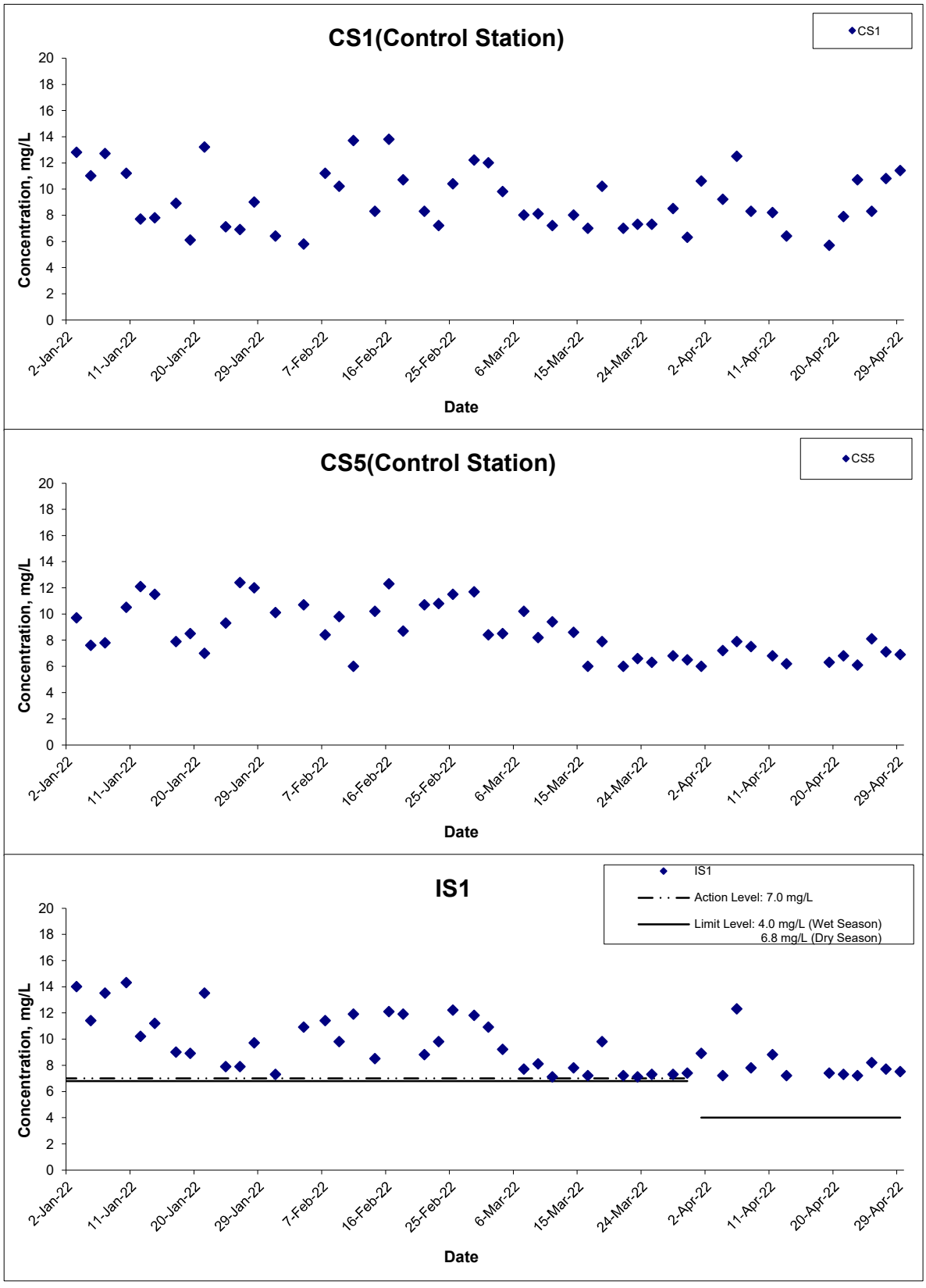
Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

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
1-Apr-22	Sunny	Calm	10:21	Middle	0.2	24.2 24.2	24.2	8.2 8.2	8.2	0.1 0.1	0.1	52.4 52.2	52.3	4.4 4.4	4.4	13.5 13.1	13.3	41 45	43.0
4-Apr-22	Sunny	Calm	09:23	Middle	0.1	18.3 18.3	18.3	8.3 8.2	8.3	0.1 0.1	0.1	44.5 44.2	44.4	4.2 4.2	4.2	6.0 5.9	6.0	8 8	8.0
6-Apr-22	Sunny	Calm	11:15	Middle	0.2	22.8 22.8	22.8	8.1 8.1	8.1	0.1 0.1	0.1	49.0 48.7	48.9	4.2 4.2	4.2	12.6 12.5	12.6	13 14	13.5
8-Apr-22	Sunny	Calm	10:00	Middle	0.1	20.8 20.9	20.9	8.9 8.9	8.9	0.1 0.2	0.2	46.7 46.5	46.6	4.2 4.2	4.2	4.3 4.3	4.3	8 7	7.5
11-Apr-22	Sunny	Calm	10:50	Middle	0.2	22.1 22.3	22.2	8.3 8.1	8.2	0.2 0.2	0.2	47.7 48.7	48.2	4.2 4.2	4.2	6.3 6.3	6.3	12 12	12.0
13-Apr-22	Cloudy	Calm	09:52	Middle	0.1	22.8 22.8	22.8	8.7 8.7	8.7	0.1 0.1	0.1	55.4 55.1	55.3	4.8 4.7	4.8	7.8 7.8	7.8	6 6	6.0
19-Apr-22	Rainy	Calm	11:16	Middle	0.1	20.1 20.1	20.1	8.3 8.3	8.3	0.1 0.1	0.1	45.9 46.0	46.0	4.2 4.2	4.2	6.1 6.2	6.2	7 6	6.5
21-Apr-22	Cloudy	Calm	09:27	Middle	0.1	21.8 21.8	21.8	8.4 8.4	8.4	0.1 0.1	0.1	50.0 49.8	49.9	4.4 4.4	4.4	5.3 5.2	5.3	5 6	5.5
23-Apr-22	Sunny	Calm	09:15	Middle	0.1	23.2 23.3	23.3	8.8 8.7	8.8	0.1 0.1	0.1	52.0 52.4	52.2	4.4 4.5	4.5	5.0 4.9	5.0	7 6	6.5
25-Apr-22	Sunny	Calm	12:24	Middle	0.2	26.2 26.2	26.2	7.0 7.0	7.0	0.1 0.1	0.1	51.5 51.9	51.7	4.2 4.2	4.2	6.7 6.7	6.7	14 14	14.0
27-Apr-22	Sunny	Calm	10:33	Middle	0.2	26.2 26.3	26.3	7.1 7.1	7.1	0.2 0.2	0.2	55.6 55.4	55.5	4.5 4.5	4.5	10.9 10.8	10.9	20 19	19.5
29-Apr-22	Sunny	Calm	10:25	Middle	0.2	24.8 24.8	24.8	7.3 7.3	7.3	0.2 0.2	0.2	56.0 55.7	55.9	4.6 4.6	4.6	29.1 28.3	28.7	59 50	54.5

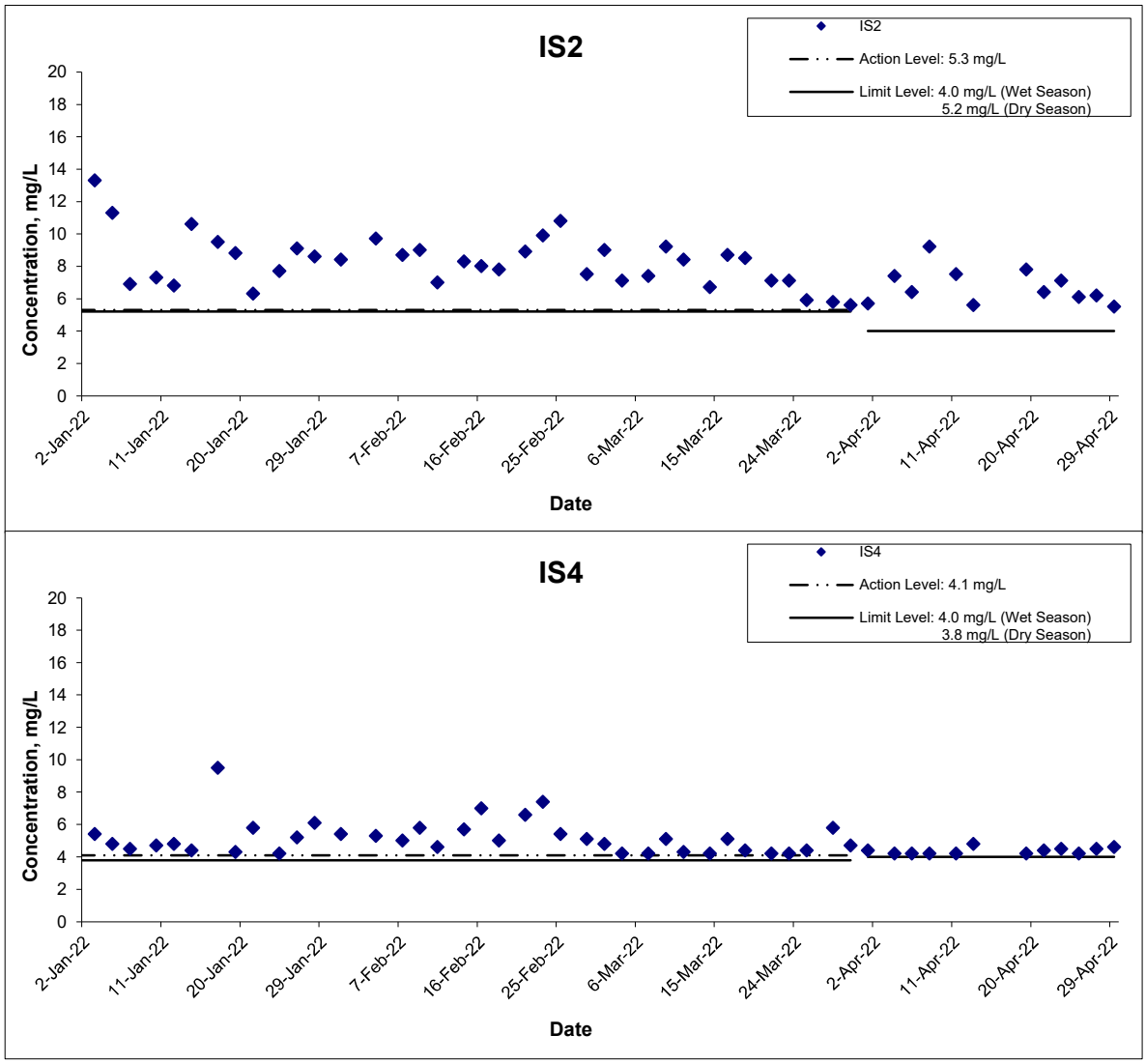
Remarks: *DA: Depth-Averaged
**Calm: Small or no wave; Moderate: Between calm and rough; Rough : White capped or rougher.

Dissolved Oxygen



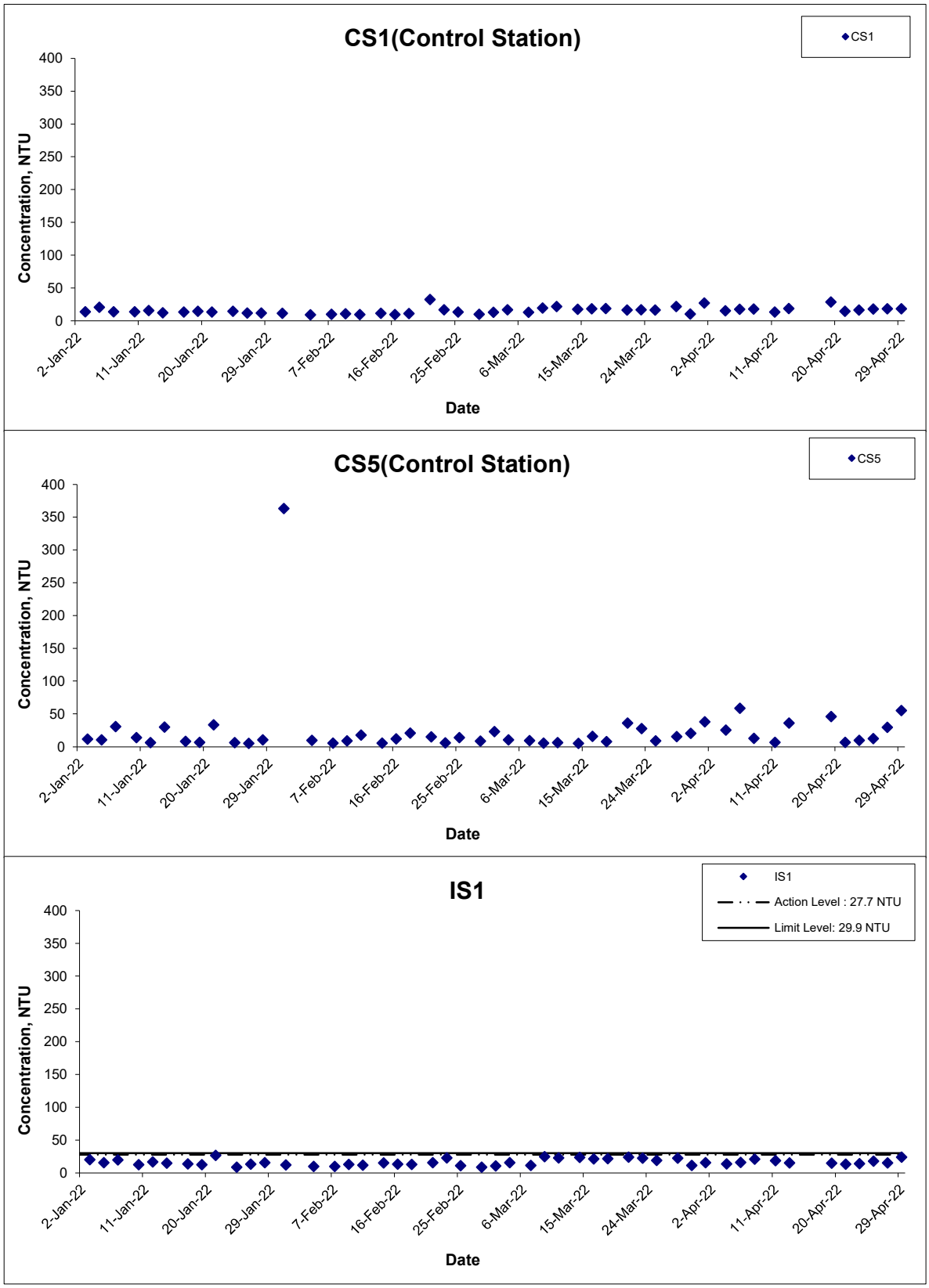
Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S Date Apr 22	Project No. WMA21009 Appendix H	WELLAB 匯力 consulting . testing . research

Dissolved Oxygen



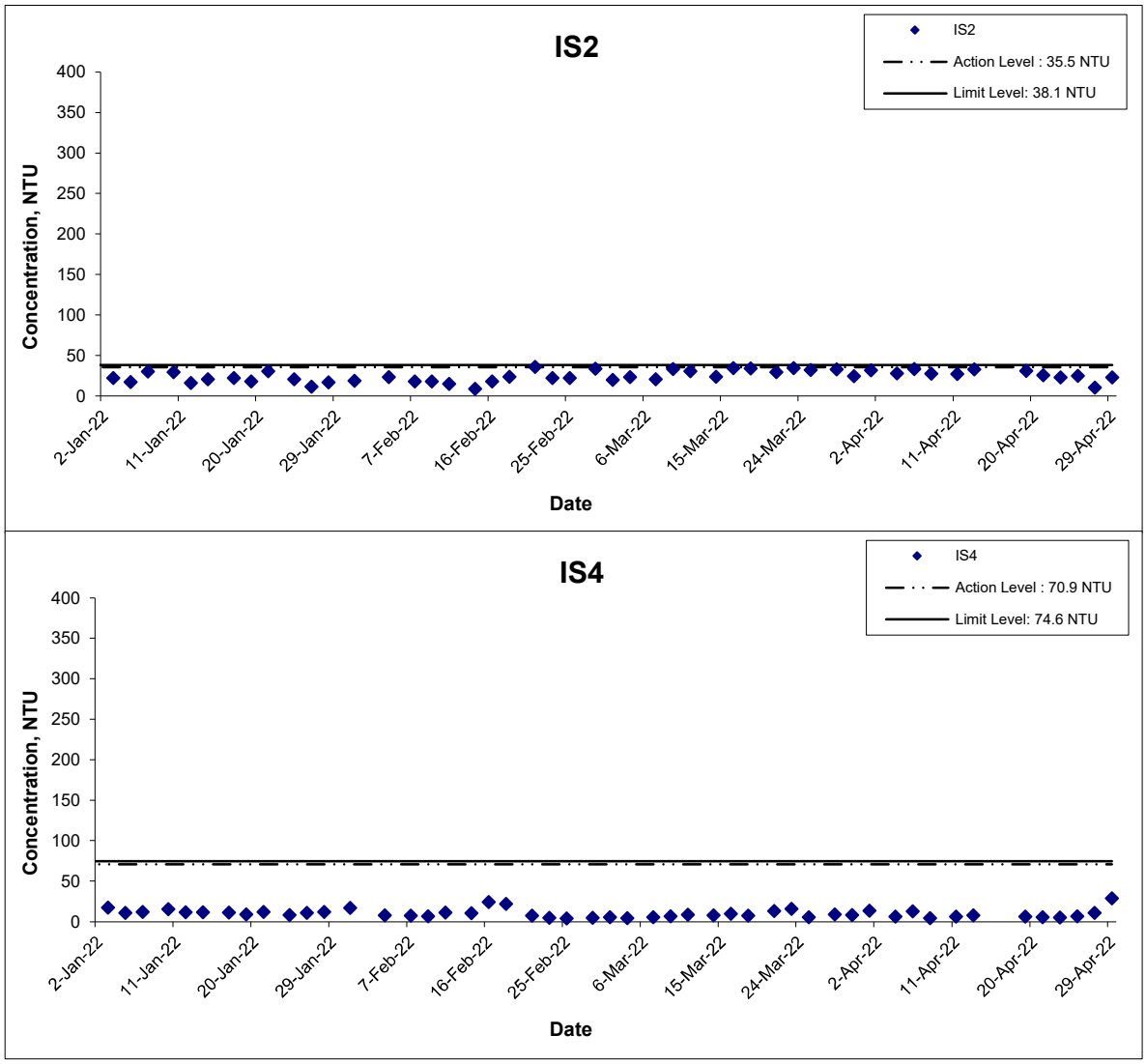
Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale N.T.S	Project No. WMA21009	WELLAB 匯力 consulting . testing . research
		Date Apr 22	Appendix H	

Turbidity



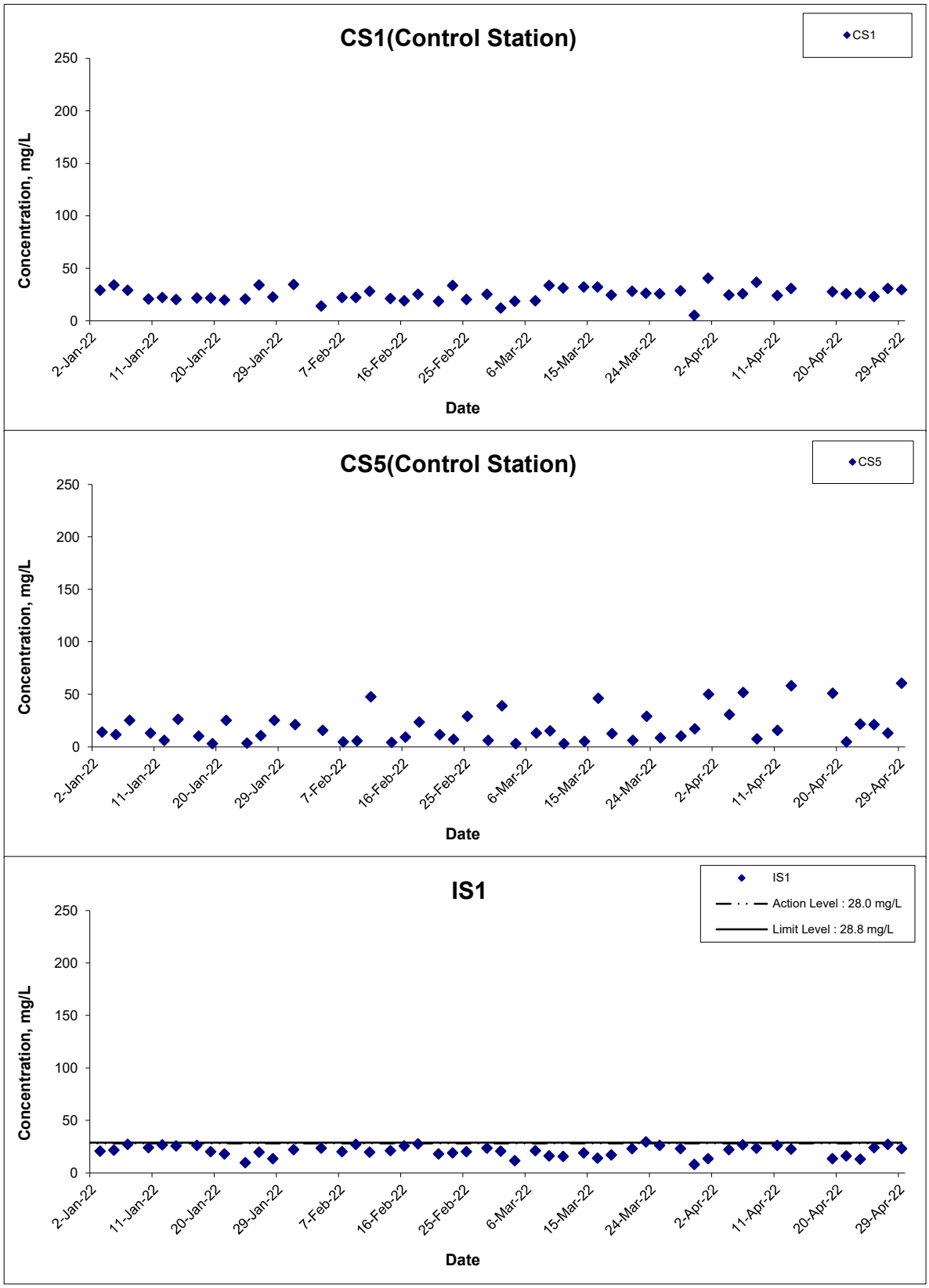
Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: WMA21009	WELLAB 匯力 consulting . testing . research
		Date: Apr 22	Appendix: H	

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 Date: Apr 22	Project No.: WMA21009 Appendix: H	WELLAB 匯力 consulting . testing . research

Suspended Solids



Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team	Scale	N.T.S	Project No. WMA21009
	Graphical Presentation of Water Quality Monitoring Results	Date	Apr 22	Appendix H

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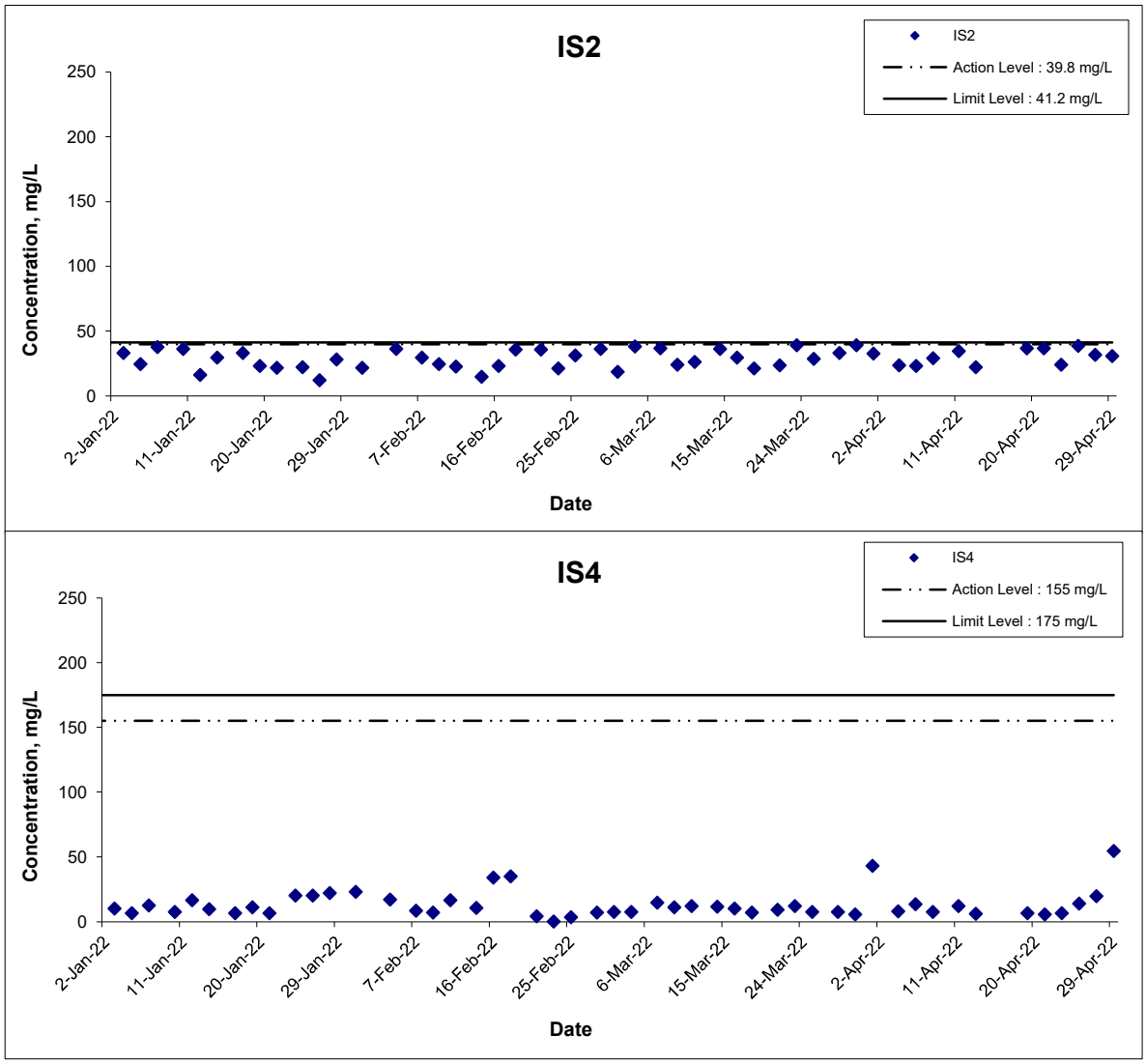
Suspended Solids



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	Scale	N.T.S	Project No. WMA21009
	Graphical Presentation of Water Quality Monitoring Results	Date	Apr 22	Appendix H

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APPENDIX I
WEATHER CONDITION

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
1-Apr-2022	00:00	0.4	SSW
1-Apr-2022	01:00	0.4	SSW
1-Apr-2022	02:00	0.4	SSW
1-Apr-2022	03:00	0.9	SSW
1-Apr-2022	04:00	0.4	SW
1-Apr-2022	05:00	0.9	SSW
1-Apr-2022	06:00	0.4	SSW
1-Apr-2022	07:00	0.9	SW
1-Apr-2022	08:00	0.9	SW
1-Apr-2022	09:00	0.9	SSW
1-Apr-2022	10:00	0.9	SSW
1-Apr-2022	11:00	0.9	SSW
1-Apr-2022	12:00	0.4	SSW
1-Apr-2022	13:00	0.4	SSW
1-Apr-2022	14:00	0.4	SSW
1-Apr-2022	15:00	0.9	SSW
1-Apr-2022	16:00	0.9	SSW
1-Apr-2022	17:00	1.3	SSW
1-Apr-2022	18:00	0.9	SSW
1-Apr-2022	19:00	0.9	SSW
1-Apr-2022	20:00	1.3	SSW
1-Apr-2022	21:00	0.9	SSW
1-Apr-2022	22:00	0.4	SSW
1-Apr-2022	23:00	0.4	SSW
2-Apr-2022	00:00	0.4	SSW
2-Apr-2022	01:00	0.0	SSW
2-Apr-2022	02:00	0.4	SSW
2-Apr-2022	03:00	0.4	SSW
2-Apr-2022	04:00	0.4	SSW
2-Apr-2022	05:00	0.4	SSW
2-Apr-2022	06:00	0.4	SSW
2-Apr-2022	07:00	0.4	SSW
2-Apr-2022	08:00	0.0	SSW
2-Apr-2022	09:00	0.0	SSE
2-Apr-2022	10:00	0.0	SSE
2-Apr-2022	11:00	0.4	SSW
2-Apr-2022	12:00	0.9	SSW
2-Apr-2022	13:00	0.9	SSW
2-Apr-2022	14:00	0.9	SSW
2-Apr-2022	15:00	1.3	SSW
2-Apr-2022	16:00	0.4	SSW
2-Apr-2022	17:00	0.0	SSE
2-Apr-2022	18:00	0.4	SSE
2-Apr-2022	19:00	0.0	SSW
2-Apr-2022	20:00	0.0	S
2-Apr-2022	21:00	0.0	SSW
2-Apr-2022	22:00	0.4	SSW
2-Apr-2022	23:00	0.0	SSW
3-Apr-2022	00:00	0.0	---
3-Apr-2022	01:00	0.0	SSW
3-Apr-2022	02:00	0.0	SSW
3-Apr-2022	03:00	0.4	SSW
3-Apr-2022	04:00	0.4	SSW
3-Apr-2022	05:00	0.4	SSW

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
3-Apr-2022	06:00	0.4	SSW
3-Apr-2022	07:00	0.4	SSW
3-Apr-2022	08:00	0.4	SSW
3-Apr-2022	09:00	0.4	SSW
3-Apr-2022	10:00	0.9	SSW
3-Apr-2022	11:00	0.4	SSW
3-Apr-2022	12:00	0.4	SSW
3-Apr-2022	13:00	0.4	SSW
3-Apr-2022	14:00	0.4	SSW
3-Apr-2022	15:00	0.4	SSW
3-Apr-2022	16:00	0.4	SSE
3-Apr-2022	17:00	0.4	SSW
3-Apr-2022	18:00	0.9	SSW
3-Apr-2022	19:00	0.9	W
3-Apr-2022	20:00	0.0	SSW
3-Apr-2022	21:00	0.0	---
3-Apr-2022	22:00	0.0	WSW
3-Apr-2022	23:00	0.0	S
4-Apr-2022	00:00	0.0	SSW
4-Apr-2022	01:00	0.4	SSW
4-Apr-2022	02:00	0.0	SSW
4-Apr-2022	03:00	0.9	SW
4-Apr-2022	04:00	0.0	SSW
4-Apr-2022	05:00	0.4	SW
4-Apr-2022	06:00	0.9	WSW
4-Apr-2022	07:00	0.9	SW
4-Apr-2022	08:00	0.0	WSW
4-Apr-2022	09:00	0.4	SSW
4-Apr-2022	10:00	0.4	SSW
4-Apr-2022	11:00	0.4	SSE
4-Apr-2022	12:00	0.4	SSW
4-Apr-2022	13:00	0.0	SSW
4-Apr-2022	14:00	0.4	SSE
4-Apr-2022	15:00	0.4	SSW
4-Apr-2022	16:00	0.4	SSE
4-Apr-2022	17:00	0.4	W
4-Apr-2022	18:00	0.4	NE
4-Apr-2022	19:00	0.4	WSW
4-Apr-2022	20:00	0.0	SW
4-Apr-2022	21:00	0.4	WSW
4-Apr-2022	22:00	0.0	WSW
4-Apr-2022	23:00	0.0	WSW
5-Apr-2022	00:00	0.4	WSW
5-Apr-2022	01:00	0.4	SSW
5-Apr-2022	02:00	0.0	SSW
5-Apr-2022	03:00	0.0	SSW
5-Apr-2022	04:00	0.0	SW
5-Apr-2022	05:00	0.0	SSW
5-Apr-2022	06:00	0.0	SW
5-Apr-2022	07:00	0.0	---
5-Apr-2022	08:00	0.0	SW
5-Apr-2022	09:00	0.0	---
5-Apr-2022	10:00	0.0	SSE
5-Apr-2022	11:00	0.0	SSE

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
5-Apr-2022	12:00	0.0	SSW
5-Apr-2022	13:00	0.0	SSW
5-Apr-2022	14:00	0.0	SSE
5-Apr-2022	15:00	0.0	WSW
5-Apr-2022	16:00	0.9	NE
5-Apr-2022	17:00	1.8	NE
5-Apr-2022	18:00	1.3	NE
5-Apr-2022	19:00	0.4	NE
5-Apr-2022	20:00	0.0	W
5-Apr-2022	21:00	0.9	W
5-Apr-2022	22:00	0.9	WSW
5-Apr-2022	23:00	0.4	WSW
6-Apr-2022	00:00	0.4	SSW
6-Apr-2022	01:00	0.0	SSW
6-Apr-2022	02:00	0.0	---
6-Apr-2022	03:00	0.0	---
6-Apr-2022	04:00	0.0	WSW
6-Apr-2022	05:00	0.0	WSW
6-Apr-2022	06:00	0.0	---
6-Apr-2022	07:00	0.4	W
6-Apr-2022	08:00	0.0	WSW
6-Apr-2022	09:00	0.0	W
6-Apr-2022	10:00	0.0	W
6-Apr-2022	11:00	0.0	SSW
6-Apr-2022	12:00	0.0	SSW
6-Apr-2022	13:00	0.0	WSW
6-Apr-2022	14:00	0.0	SSW
6-Apr-2022	15:00	0.4	SSW
6-Apr-2022	16:00	0.4	WSW
6-Apr-2022	17:00	0.4	SSW
6-Apr-2022	18:00	0.9	SW
6-Apr-2022	19:00	0.9	SW
6-Apr-2022	20:00	0.9	SSW
6-Apr-2022	21:00	0.4	SSW
6-Apr-2022	22:00	0.0	SSW
6-Apr-2022	23:00	0.4	SSW
7-Apr-2022	00:00	0.0	SSW
7-Apr-2022	01:00	0.0	SSW
7-Apr-2022	02:00	0.0	SSW
7-Apr-2022	03:00	0.0	SSW
7-Apr-2022	04:00	0.0	SSW
7-Apr-2022	05:00	0.0	---
7-Apr-2022	06:00	0.0	---
7-Apr-2022	07:00	0.0	---
7-Apr-2022	08:00	0.0	WSW
7-Apr-2022	09:00	0.0	WSW
7-Apr-2022	10:00	0.0	WSW
7-Apr-2022	11:00	0.0	SSW
7-Apr-2022	12:00	0.0	SSW
7-Apr-2022	13:00	0.0	SSW
7-Apr-2022	14:00	0.0	SSW
7-Apr-2022	15:00	0.0	SSE
7-Apr-2022	16:00	0.4	NE
7-Apr-2022	17:00	0.4	NE

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
7-Apr-2022	18:00	0.4	WSW
7-Apr-2022	19:00	0.9	SW
7-Apr-2022	20:00	0.4	WSW
7-Apr-2022	21:00	0.0	SSW
7-Apr-2022	22:00	0.9	SSW
7-Apr-2022	23:00	0.4	SW
8-Apr-2022	00:00	0.0	SSW
8-Apr-2022	01:00	0.0	SSW
8-Apr-2022	02:00	0.0	SSW
8-Apr-2022	03:00	0.4	SSW
8-Apr-2022	04:00	0.0	SW
8-Apr-2022	05:00	0.0	SSW
8-Apr-2022	06:00	0.0	---
8-Apr-2022	07:00	0.0	SSW
8-Apr-2022	08:00	0.0	SSW
8-Apr-2022	09:00	0.0	WSW
8-Apr-2022	10:00	0.0	SW
8-Apr-2022	11:00	0.0	S
8-Apr-2022	12:00	0.0	SSE
8-Apr-2022	13:00	0.4	SSE
8-Apr-2022	14:00	0.4	SSW
8-Apr-2022	15:00	0.0	SW
8-Apr-2022	16:00	0.4	NE
8-Apr-2022	17:00	2.2	NE
8-Apr-2022	18:00	1.3	NE
8-Apr-2022	19:00	0.4	SSW
8-Apr-2022	20:00	0.9	WNW
8-Apr-2022	21:00	0.4	SW
8-Apr-2022	22:00	0.0	SSW
8-Apr-2022	23:00	0.0	W
9-Apr-2022	00:00	0.9	SSW
9-Apr-2022	01:00	1.3	SSW
9-Apr-2022	02:00	0.4	SW
9-Apr-2022	03:00	0.4	SSW
9-Apr-2022	04:00	0.9	SSW
9-Apr-2022	05:00	0.9	SSW
9-Apr-2022	06:00	0.9	SSW
9-Apr-2022	07:00	0.4	SSW
9-Apr-2022	08:00	0.0	SW
9-Apr-2022	09:00	0.4	SSW
9-Apr-2022	10:00	0.0	SSW
9-Apr-2022	11:00	0.4	WSW
9-Apr-2022	12:00	0.4	SSW
9-Apr-2022	13:00	0.4	SW
9-Apr-2022	14:00	0.4	SSW
9-Apr-2022	15:00	0.4	WSW
9-Apr-2022	16:00	0.9	NE
9-Apr-2022	17:00	1.3	NE
9-Apr-2022	18:00	0.9	NE
9-Apr-2022	19:00	0.4	NE
9-Apr-2022	20:00	0.0	SSW
9-Apr-2022	21:00	0.0	SSW
9-Apr-2022	22:00	0.4	WSW
9-Apr-2022	23:00	0.9	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
10-Apr-2022	00:00	0.0	WSW
10-Apr-2022	01:00	0.0	---
10-Apr-2022	02:00	0.0	WSW
10-Apr-2022	03:00	0.0	SSW
10-Apr-2022	04:00	0.0	SSW
10-Apr-2022	05:00	0.0	---
10-Apr-2022	06:00	0.0	WSW
10-Apr-2022	07:00	0.0	---
10-Apr-2022	08:00	0.0	WSW
10-Apr-2022	09:00	0.0	SSW
10-Apr-2022	10:00	0.4	WSW
10-Apr-2022	11:00	0.0	SSW
10-Apr-2022	12:00	0.4	WSW
10-Apr-2022	13:00	0.4	NW
10-Apr-2022	14:00	0.4	SSW
10-Apr-2022	15:00	0.4	SSW
10-Apr-2022	16:00	0.4	SW
10-Apr-2022	17:00	0.4	W
10-Apr-2022	18:00	0.4	W
10-Apr-2022	19:00	0.4	W
10-Apr-2022	20:00	0.0	WSW
10-Apr-2022	21:00	0.0	WSW
10-Apr-2022	22:00	0.0	WSW
10-Apr-2022	23:00	0.0	SSW
11-Apr-2022	00:00	0.4	WSW
11-Apr-2022	01:00	0.0	SSW
11-Apr-2022	02:00	0.0	---
11-Apr-2022	03:00	0.0	---
11-Apr-2022	04:00	0.0	---
11-Apr-2022	05:00	0.0	---
11-Apr-2022	06:00	0.0	WNW
11-Apr-2022	07:00	0.0	WNW
11-Apr-2022	08:00	0.0	---
11-Apr-2022	09:00	0.4	W
11-Apr-2022	10:00	0.0	---
11-Apr-2022	11:00	0.0	SSW
11-Apr-2022	12:00	0.0	ENE
11-Apr-2022	13:00	0.0	ENE
11-Apr-2022	14:00	0.0	NE
11-Apr-2022	15:00	0.9	NE
11-Apr-2022	16:00	0.9	NE
11-Apr-2022	17:00	0.4	NE
11-Apr-2022	18:00	0.4	NE
11-Apr-2022	19:00	0.4	NE
11-Apr-2022	20:00	0.0	WSW
11-Apr-2022	21:00	0.0	W
11-Apr-2022	22:00	0.0	WSW
11-Apr-2022	23:00	0.0	---
12-Apr-2022	00:00	0.0	---
12-Apr-2022	01:00	0.0	SW
12-Apr-2022	02:00	0.0	WSW
12-Apr-2022	03:00	0.0	---
12-Apr-2022	04:00	0.0	WSW
12-Apr-2022	05:00	0.0	WSW

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
12-Apr-2022	06:00	0.0	W
12-Apr-2022	07:00	0.0	W
12-Apr-2022	08:00	0.0	---
12-Apr-2022	09:00	0.0	WSW
12-Apr-2022	10:00	0.0	SSE
12-Apr-2022	11:00	0.0	SSE
12-Apr-2022	12:00	0.0	S
12-Apr-2022	13:00	0.0	NE
12-Apr-2022	14:00	0.4	NE
12-Apr-2022	15:00	0.9	NE
12-Apr-2022	16:00	0.9	NE
12-Apr-2022	17:00	0.0	NE
12-Apr-2022	18:00	0.0	W
12-Apr-2022	19:00	0.0	SW
12-Apr-2022	20:00	0.0	SW
12-Apr-2022	21:00	0.0	SW
12-Apr-2022	22:00	0.0	---
12-Apr-2022	23:00	0.0	---
13-Apr-2022	00:00	0.0	---
13-Apr-2022	01:00	0.0	WSW
13-Apr-2022	02:00	0.0	WSW
13-Apr-2022	03:00	0.0	---
13-Apr-2022	04:00	0.0	W
13-Apr-2022	05:00	0.0	WSW
13-Apr-2022	06:00	0.4	W
13-Apr-2022	07:00	0.0	---
13-Apr-2022	08:00	0.0	W
13-Apr-2022	09:00	0.0	---
13-Apr-2022	10:00	0.0	NE
13-Apr-2022	11:00	0.0	NE
13-Apr-2022	12:00	0.0	NE
13-Apr-2022	13:00	0.4	NE
13-Apr-2022	14:00	0.9	NE
13-Apr-2022	15:00	0.4	NE
13-Apr-2022	16:00	0.9	NE
13-Apr-2022	17:00	0.4	NE
13-Apr-2022	18:00	0.4	NE
13-Apr-2022	19:00	0.0	NE
13-Apr-2022	20:00	0.0	N
13-Apr-2022	21:00	0.0	NNE
13-Apr-2022	22:00	0.0	---
13-Apr-2022	23:00	0.0	NNE
14-Apr-2022	00:00	0.0	S
14-Apr-2022	01:00	0.0	S
14-Apr-2022	02:00	0.0	WSW
14-Apr-2022	03:00	0.0	---
14-Apr-2022	04:00	0.0	---
14-Apr-2022	05:00	0.0	SE
14-Apr-2022	06:00	0.0	SSE
14-Apr-2022	07:00	0.0	S
14-Apr-2022	08:00	0.0	SSW
14-Apr-2022	09:00	0.0	SSW
14-Apr-2022	10:00	0.4	SSW
14-Apr-2022	11:00	0.9	SSW

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
14-Apr-2022	12:00	0.4	SSE
14-Apr-2022	13:00	0.4	S
14-Apr-2022	14:00	0.0	SSW
14-Apr-2022	15:00	1.3	NE
14-Apr-2022	16:00	0.9	NE
14-Apr-2022	17:00	0.4	SSE
14-Apr-2022	18:00	0.0	SSE
14-Apr-2022	19:00	0.0	SSE
14-Apr-2022	20:00	0.0	S
14-Apr-2022	21:00	0.0	SSW
14-Apr-2022	22:00	0.4	WSW
14-Apr-2022	23:00	0.4	WSW
15-Apr-2022	00:00	0.0	SW
15-Apr-2022	01:00	0.4	WSW
15-Apr-2022	02:00	0.9	WSW
15-Apr-2022	03:00	1.3	SSW
15-Apr-2022	04:00	0.9	SSW
15-Apr-2022	05:00	0.9	SSW
15-Apr-2022	06:00	0.4	SSW
15-Apr-2022	07:00	0.4	SSW
15-Apr-2022	08:00	0.4	SSW
15-Apr-2022	09:00	0.9	SSW
15-Apr-2022	10:00	1.3	SSW
15-Apr-2022	11:00	0.9	WSW
15-Apr-2022	12:00	1.3	SSW
15-Apr-2022	13:00	1.3	SSW
15-Apr-2022	14:00	1.3	WNW
15-Apr-2022	15:00	1.3	SW
15-Apr-2022	16:00	1.3	WSW
15-Apr-2022	17:00	1.3	WSW
15-Apr-2022	18:00	0.9	SW
15-Apr-2022	19:00	0.4	WSW
15-Apr-2022	20:00	0.9	SW
15-Apr-2022	21:00	1.3	SSW
15-Apr-2022	22:00	0.9	SSW
15-Apr-2022	23:00	1.8	SSW
16-Apr-2022	00:00	1.3	SW
16-Apr-2022	01:00	1.8	SSW
16-Apr-2022	02:00	2.7	SW
16-Apr-2022	03:00	3.1	SW
16-Apr-2022	04:00	2.2	SSW
16-Apr-2022	05:00	2.2	SW
16-Apr-2022	06:00	2.2	SW
16-Apr-2022	07:00	2.7	SW
16-Apr-2022	08:00	1.8	SW
16-Apr-2022	09:00	1.8	SW
16-Apr-2022	10:00	1.8	SW
16-Apr-2022	11:00	2.7	SSW
16-Apr-2022	12:00	2.2	SW
16-Apr-2022	13:00	1.8	SW
16-Apr-2022	14:00	1.8	SW
16-Apr-2022	15:00	2.2	SW
16-Apr-2022	16:00	1.3	SW
16-Apr-2022	17:00	1.8	SW

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
16-Apr-2022	18:00	0.4	SSW
16-Apr-2022	19:00	1.3	SSW
16-Apr-2022	20:00	0.9	SSW
16-Apr-2022	21:00	1.8	SSW
16-Apr-2022	22:00	0.9	SSW
16-Apr-2022	23:00	0.9	SSW
17-Apr-2022	00:00	1.3	SW
17-Apr-2022	01:00	1.3	SW
17-Apr-2022	02:00	0.4	SW
17-Apr-2022	03:00	0.9	SW
17-Apr-2022	04:00	0.9	SSW
17-Apr-2022	05:00	0.9	SSW
17-Apr-2022	06:00	0.9	SSW
17-Apr-2022	07:00	0.9	SSW
17-Apr-2022	08:00	0.9	SSW
17-Apr-2022	09:00	0.9	SSW
17-Apr-2022	10:00	0.4	SW
17-Apr-2022	11:00	0.9	SSW
17-Apr-2022	12:00	0.9	SW
17-Apr-2022	13:00	0.9	WSW
17-Apr-2022	14:00	0.9	SW
17-Apr-2022	15:00	0.9	SSW
17-Apr-2022	16:00	0.9	SSW
17-Apr-2022	17:00	0.9	SW
17-Apr-2022	18:00	0.4	SSW
17-Apr-2022	19:00	0.4	SSW
17-Apr-2022	20:00	0.4	SW
17-Apr-2022	21:00	0.0	SW
17-Apr-2022	22:00	0.0	W
17-Apr-2022	23:00	0.4	SSW
18-Apr-2022	00:00	0.0	SSW
18-Apr-2022	01:00	0.0	SSW
18-Apr-2022	02:00	0.0	SSW
18-Apr-2022	03:00	0.0	SSW
18-Apr-2022	04:00	0.0	SSW
18-Apr-2022	05:00	0.4	SSW
18-Apr-2022	06:00	0.0	SSW
18-Apr-2022	07:00	0.0	SSW
18-Apr-2022	08:00	0.0	SW
18-Apr-2022	09:00	0.0	SSW
18-Apr-2022	10:00	0.0	WSW
18-Apr-2022	11:00	0.0	SW
18-Apr-2022	12:00	0.0	SSW
18-Apr-2022	13:00	0.4	SSW
18-Apr-2022	14:00	0.0	SSW
18-Apr-2022	15:00	0.0	SSW
18-Apr-2022	16:00	0.0	SSE
18-Apr-2022	17:00	0.0	S
18-Apr-2022	18:00	0.0	SSW
18-Apr-2022	19:00	0.4	SSE
18-Apr-2022	20:00	0.4	S
18-Apr-2022	21:00	0.0	SSW
18-Apr-2022	22:00	0.4	SSW
18-Apr-2022	23:00	0.0	SSW

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
19-Apr-2022	00:00	0.0	SSE
19-Apr-2022	01:00	0.0	SSE
19-Apr-2022	02:00	0.0	SSW
19-Apr-2022	03:00	0.4	SSW
19-Apr-2022	04:00	0.0	SSW
19-Apr-2022	05:00	0.0	SSW
19-Apr-2022	06:00	0.0	SSE
19-Apr-2022	07:00	0.0	SSW
19-Apr-2022	08:00	0.0	SSW
19-Apr-2022	09:00	0.0	SSW
19-Apr-2022	10:00	0.0	S
19-Apr-2022	11:00	0.0	SSW
19-Apr-2022	12:00	0.0	SSW
19-Apr-2022	13:00	0.0	SSW
19-Apr-2022	14:00	0.0	SSW
19-Apr-2022	15:00	0.0	SSW
19-Apr-2022	16:00	0.4	SSW
19-Apr-2022	17:00	0.4	SSW
19-Apr-2022	18:00	0.4	SSW
19-Apr-2022	19:00	0.0	SSW
19-Apr-2022	20:00	0.0	WSW
19-Apr-2022	21:00	0.0	SW
19-Apr-2022	22:00	0.4	SSW
19-Apr-2022	23:00	0.0	SSW
20-Apr-2022	00:00	0.0	SSW
20-Apr-2022	01:00	0.0	---
20-Apr-2022	02:00	0.0	---
20-Apr-2022	03:00	0.0	S
20-Apr-2022	04:00	0.0	SSW
20-Apr-2022	05:00	0.0	---
20-Apr-2022	06:00	0.0	SSW
20-Apr-2022	07:00	0.0	SW
20-Apr-2022	08:00	0.0	SSW
20-Apr-2022	09:00	0.0	SW
20-Apr-2022	10:00	0.0	SSW
20-Apr-2022	11:00	0.0	SW
20-Apr-2022	12:00	0.4	WSW
20-Apr-2022	13:00	0.4	SSW
20-Apr-2022	14:00	0.4	SSE
20-Apr-2022	15:00	0.0	SSW
20-Apr-2022	16:00	0.0	SSE
20-Apr-2022	17:00	0.0	NNE
20-Apr-2022	18:00	0.0	NE
20-Apr-2022	19:00	0.0	NE
20-Apr-2022	20:00	0.0	---
20-Apr-2022	21:00	0.0	WSW
20-Apr-2022	22:00	0.9	W
20-Apr-2022	23:00	0.0	WSW
21-Apr-2022	00:00	0.0	WSW
21-Apr-2022	01:00	0.0	W
21-Apr-2022	02:00	0.0	W
21-Apr-2022	03:00	0.0	WSW
21-Apr-2022	04:00	0.0	WSW
21-Apr-2022	05:00	0.0	SW

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
21-Apr-2022	06:00	0.0	---
21-Apr-2022	07:00	0.0	WNW
21-Apr-2022	08:00	0.0	WSW
21-Apr-2022	09:00	0.0	WSW
21-Apr-2022	10:00	0.0	SSW
21-Apr-2022	11:00	0.0	WSW
21-Apr-2022	12:00	0.0	SSE
21-Apr-2022	13:00	0.0	WSW
21-Apr-2022	14:00	0.4	NE
21-Apr-2022	15:00	0.9	NE
21-Apr-2022	16:00	0.9	NE
21-Apr-2022	17:00	0.0	NE
21-Apr-2022	18:00	0.4	NE
21-Apr-2022	19:00	0.4	WSW
21-Apr-2022	20:00	0.4	WSW
21-Apr-2022	21:00	0.4	SSW
21-Apr-2022	22:00	0.0	SSW
21-Apr-2022	23:00	0.0	SW
22-Apr-2022	00:00	0.4	SSW
22-Apr-2022	01:00	0.0	SW
22-Apr-2022	02:00	0.0	SSW
22-Apr-2022	03:00	0.0	S
22-Apr-2022	04:00	0.0	---
22-Apr-2022	05:00	0.0	---
22-Apr-2022	06:00	0.0	WSW
22-Apr-2022	07:00	0.0	WSW
22-Apr-2022	08:00	0.0	WSW
22-Apr-2022	09:00	0.0	SSW
22-Apr-2022	10:00	0.0	SW
22-Apr-2022	11:00	0.4	SW
22-Apr-2022	12:00	0.4	SSW
22-Apr-2022	13:00	0.4	WNW
22-Apr-2022	14:00	0.4	WNW
22-Apr-2022	15:00	0.4	W
22-Apr-2022	16:00	0.9	WNW
22-Apr-2022	17:00	0.4	WSW
22-Apr-2022	18:00	0.4	NE
22-Apr-2022	19:00	0.0	NE
22-Apr-2022	20:00	0.0	WSW
22-Apr-2022	21:00	0.0	WSW
22-Apr-2022	22:00	0.0	WSW
22-Apr-2022	23:00	0.4	WSW
23-Apr-2022	00:00	0.0	WSW
23-Apr-2022	01:00	0.0	WSW
23-Apr-2022	02:00	0.0	SW
23-Apr-2022	03:00	0.0	SSW
23-Apr-2022	04:00	0.0	---
23-Apr-2022	05:00	0.0	---
23-Apr-2022	06:00	0.0	WSW
23-Apr-2022	07:00	0.0	W
23-Apr-2022	08:00	0.0	WSW
23-Apr-2022	09:00	0.0	SSW
23-Apr-2022	10:00	0.0	SW
23-Apr-2022	11:00	0.0	SSE

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
23-Apr-2022	12:00	0.4	NE
23-Apr-2022	13:00	0.9	NE
23-Apr-2022	14:00	1.3	NE
23-Apr-2022	15:00	0.9	NE
23-Apr-2022	16:00	0.9	NE
23-Apr-2022	17:00	0.9	NE
23-Apr-2022	18:00	0.9	NE
23-Apr-2022	19:00	0.9	NE
23-Apr-2022	20:00	0.0	NNE
23-Apr-2022	21:00	0.0	NNE
23-Apr-2022	22:00	0.0	NW
23-Apr-2022	23:00	0.0	WNW
24-Apr-2022	00:00	0.0	W
24-Apr-2022	01:00	0.0	---
24-Apr-2022	02:00	0.0	---
24-Apr-2022	03:00	0.0	---
24-Apr-2022	04:00	0.0	---
24-Apr-2022	05:00	0.0	---
24-Apr-2022	06:00	0.0	---
24-Apr-2022	07:00	0.0	---
24-Apr-2022	08:00	0.0	W
24-Apr-2022	09:00	0.0	W
24-Apr-2022	10:00	0.0	SSW
24-Apr-2022	11:00	0.0	SSE
24-Apr-2022	12:00	0.4	NE
24-Apr-2022	13:00	0.9	NE
24-Apr-2022	14:00	0.4	NNE
24-Apr-2022	15:00	0.4	NE
24-Apr-2022	16:00	0.9	NNE
24-Apr-2022	17:00	0.4	NNE
24-Apr-2022	18:00	0.9	NNE
24-Apr-2022	19:00	0.9	NNE
24-Apr-2022	20:00	0.0	NNE
24-Apr-2022	21:00	0.0	NNE
24-Apr-2022	22:00	0.0	---
24-Apr-2022	23:00	0.0	---
25-Apr-2022	00:00	0.0	---
25-Apr-2022	01:00	0.0	---
25-Apr-2022	02:00	0.0	---
25-Apr-2022	03:00	0.0	W
25-Apr-2022	04:00	0.0	---
25-Apr-2022	05:00	0.0	---
25-Apr-2022	06:00	0.0	---
25-Apr-2022	07:00	0.0	W
25-Apr-2022	08:00	0.0	W
25-Apr-2022	09:00	0.0	NNE
25-Apr-2022	10:00	0.4	NNE
25-Apr-2022	11:00	0.9	NE
25-Apr-2022	12:00	0.9	NNE
25-Apr-2022	13:00	0.9	NNE
25-Apr-2022	14:00	0.9	NNE
25-Apr-2022	15:00	0.9	NNE
25-Apr-2022	16:00	0.9	NNE
25-Apr-2022	17:00	0.9	NNE

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
25-Apr-2022	18:00	0.9	NNE
25-Apr-2022	19:00	0.4	NW
25-Apr-2022	20:00	0.4	N
25-Apr-2022	21:00	0.0	N
25-Apr-2022	22:00	0.0	NNE
25-Apr-2022	23:00	0.0	NNE
26-Apr-2022	00:00	0.0	NNW
26-Apr-2022	01:00	0.0	NW
26-Apr-2022	02:00	0.0	NNE
26-Apr-2022	03:00	0.0	N
26-Apr-2022	04:00	0.0	NE
26-Apr-2022	05:00	0.0	---
26-Apr-2022	06:00	0.0	---
26-Apr-2022	07:00	0.0	W
26-Apr-2022	08:00	0.4	W
26-Apr-2022	09:00	0.0	W
26-Apr-2022	10:00	0.4	NNE
26-Apr-2022	11:00	0.4	NNE
26-Apr-2022	12:00	0.9	NNE
26-Apr-2022	13:00	1.3	NNE
26-Apr-2022	14:00	1.3	NNE
26-Apr-2022	15:00	0.9	NNE
26-Apr-2022	16:00	0.9	NE
26-Apr-2022	17:00	0.4	NNE
26-Apr-2022	18:00	0.4	NNE
26-Apr-2022	19:00	0.0	NNE
26-Apr-2022	20:00	0.0	NE
26-Apr-2022	21:00	0.0	NNE
26-Apr-2022	22:00	0.0	NE
26-Apr-2022	23:00	0.0	---
27-Apr-2022	00:00	0.0	---
27-Apr-2022	01:00	0.0	---
27-Apr-2022	02:00	0.0	---
27-Apr-2022	03:00	0.0	---
27-Apr-2022	04:00	0.0	---
27-Apr-2022	05:00	0.0	N
27-Apr-2022	06:00	0.0	NW
27-Apr-2022	07:00	0.4	W
27-Apr-2022	08:00	0.4	W
27-Apr-2022	09:00	0.0	---
27-Apr-2022	10:00	0.0	ENE
27-Apr-2022	11:00	0.4	NE
27-Apr-2022	12:00	0.4	NE
27-Apr-2022	13:00	0.9	NE
27-Apr-2022	14:00	0.9	NNE
27-Apr-2022	15:00	0.9	NNE
27-Apr-2022	16:00	0.9	NNE
27-Apr-2022	17:00	0.4	NE
27-Apr-2022	18:00	0.9	NE
27-Apr-2022	19:00	0.4	NE
27-Apr-2022	20:00	0.0	NNW
27-Apr-2022	21:00	0.0	N
27-Apr-2022	22:00	0.0	---
27-Apr-2022	23:00	0.0	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
28-Apr-2022	00:00	0.0	W
28-Apr-2022	01:00	0.0	---
28-Apr-2022	02:00	0.0	---
28-Apr-2022	03:00	0.0	---
28-Apr-2022	04:00	0.0	---
28-Apr-2022	05:00	0.0	---
28-Apr-2022	06:00	0.0	---
28-Apr-2022	07:00	0.0	WSW
28-Apr-2022	08:00	0.0	---
28-Apr-2022	09:00	0.0	SW
28-Apr-2022	10:00	0.0	SSW
28-Apr-2022	11:00	0.4	WNW
28-Apr-2022	12:00	0.4	WNW
28-Apr-2022	13:00	0.9	WNW
28-Apr-2022	14:00	0.9	WSW
28-Apr-2022	15:00	0.9	SW
28-Apr-2022	16:00	0.9	WNW
28-Apr-2022	17:00	0.9	W
28-Apr-2022	18:00	0.4	WSW
28-Apr-2022	19:00	0.0	WNW
28-Apr-2022	20:00	0.4	SW
28-Apr-2022	21:00	0.4	SW
28-Apr-2022	22:00	0.0	WSW
28-Apr-2022	23:00	0.0	SW
29-Apr-2022	00:00	0.4	SW
29-Apr-2022	01:00	0.0	WSW
29-Apr-2022	02:00	0.0	SW
29-Apr-2022	03:00	0.0	SW
29-Apr-2022	04:00	0.0	WSW
29-Apr-2022	05:00	0.0	WSW
29-Apr-2022	06:00	0.0	WSW
29-Apr-2022	07:00	0.4	W
29-Apr-2022	08:00	0.0	SSW
29-Apr-2022	09:00	0.4	SSW
29-Apr-2022	10:00	0.4	SSW
29-Apr-2022	11:00	0.0	SSW
29-Apr-2022	12:00	0.0	NNE
29-Apr-2022	13:00	0.4	NE
29-Apr-2022	14:00	1.3	NE
29-Apr-2022	15:00	0.9	NE
29-Apr-2022	16:00	0.4	NE
29-Apr-2022	17:00	0.9	NE
29-Apr-2022	18:00	0.9	NE
29-Apr-2022	19:00	0.0	NE
29-Apr-2022	20:00	0.0	---
29-Apr-2022	21:00	0.0	---
29-Apr-2022	22:00	0.0	---
29-Apr-2022	23:00	0.0	---
30-Apr-2022	00:00	0.0	---
30-Apr-2022	01:00	0.0	W
30-Apr-2022	02:00	0.0	WSW
30-Apr-2022	03:00	0.0	W
30-Apr-2022	04:00	0.0	W
30-Apr-2022	05:00	0.0	W

Appendix I - Wind Data

Date	Time	Wind Speed m/s	Direction
30-Apr-2022	06:00	0.0	---
30-Apr-2022	07:00	0.0	SSW
30-Apr-2022	08:00	0.0	SSW
30-Apr-2022	09:00	0.9	SSW
30-Apr-2022	10:00	1.3	SW
30-Apr-2022	11:00	1.3	SSW
30-Apr-2022	12:00	1.3	SSW
30-Apr-2022	13:00	1.3	SW
30-Apr-2022	14:00	1.3	SSW
30-Apr-2022	15:00	1.3	SW
30-Apr-2022	16:00	1.3	SW
30-Apr-2022	17:00	1.3	SSW
30-Apr-2022	18:00	0.4	WSW
30-Apr-2022	19:00	0.9	WSW
30-Apr-2022	20:00	0.4	SSW
30-Apr-2022	21:00	0.4	SW
30-Apr-2022	22:00	0.9	SSW
30-Apr-2022	23:00	0.4	SSW

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	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC,ER and Contractor; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Notify Contractor.	1. Identify source, investigate the causes of exceedance and propose remedial measures 2. Rectify any unacceptable practice and implement remedial measures; and 3. Amend working methods agreed with ER if appropriate.
2. Exceedance for two or more consecutive samples	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.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. 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.

LIMIT LEVEL				
1.Exceedance for one sample	Identify source, investigate the causes of exceedanceand propose remedial measures; 2. Inform ER, Contractor, IEC and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ER and ET on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate.
2.Exceedance for two or more consecutive samples	Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC, Contractor and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise and ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control; 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event / Action Plan for Construction Noise

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
Action Level	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.	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.	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	1. Submit noise mitigation proposals to IEC and ER; 2. Implement noise mitigation proposals.
Limit Level	. 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.	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.	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.	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	. 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.	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.	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.	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	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	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 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.	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	Repeat measurement on next day of exceedance to confirm findings;	1. Discuss with ET, Contractor and ER on the implemented mitigation	1. Discuss with ET, IEC and Contractor on the implemented remedial	1. Identify source(s) of impact; 2. Inform the ER and confirm notification of

	Action			
Event	**ET**	**IEC**	**ER**	**Contractor**
sampling day	2. Inform IEC, contractor and ER; 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	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.	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.	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.
Limit level being exceeded by two or more consecutive sampling days	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.

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)	0	0	0	0

(C) Exceedance Report for Water Quality

Environmental Monitoring	Parameter	No. of non-project related Exceedance		No. of Exceedance related to the Construction Activities of 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

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	220408
Date	8 April 2022 (Friday)
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	
	• 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.: 220330), no major environmental deficiency were identified during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		8 April 2022
Checked by	Dr. Priscilla Choy		8 April 2022

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	220413
Date	13 April 2022 (Wednesday)
Time	9:30 – 10:00

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	
	• 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.: 220408), no major environmental deficiency were identified during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam	Ivy	13 April 2022
Checked by	Dr. Priscilla Choy		13 April 2022

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	220420
Date	20 April 2022 (Wednesday)
Time	14:00 – 14:30

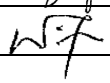
Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• 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.: 220413), no major environmental deficiency were identified during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam	Ivy	20 April 2022
Checked by	Dr. Priscilla Choy		20 April 2022

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	220427
Date	27 April 2022 (Wednesday)
Time	9:00 – 9:30

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.: 220420), no major environmental deficiency were identified during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		27 April 2022
Checked by	Dr. Priscilla Choy		27 April 2022

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	220406
Date	6 April 2022 (Wednesday)
Time	09:30 – 11:20

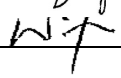
Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• 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	
220406-R01	• Clear the construction materials at the stream and avoid further materials nearby from getting into the stream (Fu Tai Site Area).	H12
	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.: 220330), all environmental deficiencies were rectified/ improved by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		6 April 2022
Checked by	Dr. Priscilla Choy		6 April 2022

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	220413
Date	13 April 2022 (Wednesday)
Time	14:00 – 15:45

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.: 220406), all environmental deficiencies were rectified/ improved by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		13 April 2022
Checked by	Dr. Priscilla Choy		13 April 2022

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	220420
Date	20 April 2022 (Wednesday)
Time	09:30 – 11:15

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.: 220413), no major environmental deficiency was identified during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		20 April 2022
Checked by	Dr. Priscilla Choy		20 April 2022

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	220427
Date	27 April 2022 (Wednesday)
Time	10:00 – 12:00

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	
220427-R01	• Clear the oil spillage arising from the breaker as chemical waste and properly maintenance should be provided for the equipment to avoid further oil leakage (LCS site).	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.: 220420), no major environmental deficiency was identified during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		27 April 2022
Checked by	Dr. Priscilla Choy		27 April 2022

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-DP1/DP2	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/m2 to achieve the respective dust removal efficiencies	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	*
S3.8	D2-DP1/DP2	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation • 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-DP1/DP2	• 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
		the vehicle; • 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					^ ^ ^ ^ ^ ^

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
		impervious sheeting or placed in an area sheltered on the top and the 3 sides; • 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-DP1/DP2	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/DP2	Implement the following good site management practices: • 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
		equipment should be properly fitted and maintained during the construction works; • 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.					^ ^
S4.8	N-CP2-DP1/DP2	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/DP2	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/DP2	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/DP2	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	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
					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-DP1	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/DP2	Construction Runoff and Site Drainage 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: • 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. • Diversion of natural stormwater should be provided as far	Minimize water quality impact from construction site runoff and general construction activities	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
		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 slope surfaces should be covered by tarpaulin or other means.					* * ^

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
		• 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. • All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the					* * * ^ * ^

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
		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 sewage or wastewater into the meander, wetlands and fish ponds.					^ ^ ^ ^

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
S5.7	W3-CP-DP1/DP2	*Groundwater from Contaminated Area* • 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/DP2	*Sewage from Workforce* • 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.	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
		• 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.					^ ^
S5.7	W4-CP-DP1	*Riverbanks Formation* • 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	^ ^
S5.7	W1-CP-BR	*Bio-remediation in Shenzhen River* • 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 implemented as necessary.	Minimize water quality impact from bio-remediation of Shenzhen River	Contractor	Shenzhen River where practicable	Construction phase	N/A
S5.7	W5-	*Construction of Bridge Crossing* • Good site management as stipulated in ProPECC PN1/94	Minimize water quality	Contractor	Construction	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
	CP-DP2	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.	impact from construction of bridge crossing		sites for bridge crossing where practicable	phase	N/A N/A N/A
Waste Management (Construction Waste)							
S7.6	WM1-DP1/DP2	<u>*Waste Reduction Measures*</u> Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction: • 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; • plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; • sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable portions	Reduce waste generation	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
		(i.e. soil, broken concrete, metal etc.); • provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.					^
S7.6	WM2-DP1/DP2	Prepare Waste Management Plan and submit to the Engineer for approval	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	^
S7.6	WM2-DP1/DP2	*Good Site Practice* The following good site practices are recommended throughout the construction activities: • Nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; • 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;	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	^ ^ ^ ^ ^
S7.6	WM4-DP1/DP2	*Storage of Waste* The following recommendation should be implemented to minimize the impacts: • Waste such as soil should be handled and stored well to	Minimize waste generation during construction	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
		ensuresecure 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;					^ ^
S7.6	WM5-DP1/DP2	<u>*Collection and Transportation of Waste*</u> The following recommendation should be implemented to minimize the impacts: • Remove waste in timely manner; • Employ the trucks with cover or enclosed containers for waste transportation; • Obtain relevant waste disposal permits from the appropriate authorities; and • Disposal of waste should be done at licensed waste disposal facilities.	Minimize waste impact from storage	Contractor	All construction sites	Construction phase	^ ^ ^ ^
S7.6	WM6-DP1/DP2	<u>*Excavated and C&D Material*</u> Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at Public Fill Reception Facilities areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials: • 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	Minimize waste impacts from excavated and C&D material	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
		ensure that the disposal of C&D materials are properly documented and verified. The recommended C&D materials handling should include: • 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 Details refer to Section 7.6.1.4 of the EIA report.					^ ^ ^ ^
S7.6	WM7-DP1/DP2	*Contaminated Soil* As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to minimize any potential exposure to contaminated soils or groundwater. The details of mitigation measures to minimize the potential environmental implications arising from the handling of contaminated materials refer to Land Contamination Section.	Remediate contaminated soil	Contractor	All construction sites where applicable	Construction phase	N/A
S7.6	WM8-DP1/DP2	*Chemical Waste* • 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	Control the chemical waste and ensure proper storage, handling and disposal	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
		accordance with the Waste Disposal (Chemical Waste) (General) Regulation.					
S7.6	WM9-DP1/DP2	*General Waste* • 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 general refuse on a daily basis.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	^ ^ ^
S7.6	WM10-DP1/DP2	*Sewage* • 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	*Sediment* The following mitigation measures are recommended during transportation and stockpiling: • 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	Minimize waste impacts from sediment	Contractor	All construction sites	Construction phase	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
		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. 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.					N/A N/A N/A N/A
Land Contamination							
S8.7	LC1-DP2	*Remediation of arsenic-contaminated soil* • "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	To remediate arsenic-contaminated soil	Project Proponent/ Contractor	LMC Loop, contaminated area	Prior to commencement of construction works within the contaminated area	N/A

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		or stockpiled for future reuse within the study area. Off-site disposal or reuse of the solidified material is not allowed.					
S8.7	LC1-DP1/DP2	*Excavation and Transportation* • 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; • 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	To minimise the potential environmental impacts arising from the handling of contaminated materials	Contractor	Contaminated area		N/A N/A N/A 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
		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.					N/A N/A
S8.7	LC3-DP1/DP2	*Solidification/Stabilization* • The loading, unloading, handling, transfer or storage of cement should be carried out in an enclosed system; • Mixing process and other associated material handling activities should be properly scheduled to minimise potential noise impact and dust emission; • 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)	To minimize the potential environmental impacts arising from the handling of contaminated materials	Contractor	Contaminated area	The course of remediation	N/A N/A N/A N/A 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
		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.					N/A
Landscape and Visual Impact (Construction Phase)							
S11.5.4 Table11.5 .9	L-CP1-DP1	*Preservation and Protection of Existing Trees (Good Site Practice)* • 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. • It is recommended that a full detailed tree survey and felling application will be undertaken and submitted for approval by the relevant government departments in accordance with ETWB TCW No. 3/2006, 'Tree Preservation'. This will be conducted during the detailed design phase of the project and submitted to DLO for approval. The methodology and scope including the programme for the tree survey and felling application are also subject to the approval of the relevant authorities. • Trees which are not in conflict with the proposals would be	Avoid disturbance and protection of existing trees	Detailed design consultant/ Contractor	Within project site	Detailed design and 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
		retained and shall be protected by means of fencing during construction phase to prevent damage to tree canopies and root zones from vehicles and storage of materials. • 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/DP2	*Works Area and Temporary Works Areas (Good Site Practice)* • 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/DP2	*Advance Implementation of Mitigation Planting* • 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	Minimize landscape impacts	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
		roadside planting and amenity areas.					
	L-CP4-DP1/DP2	<u>*Transplantation of Existing Trees*</u> • Some specimens have relatively higher amenity value which are in conflict with the proposals shall be considered for transplantation. For trees affected by the proposed infrastructure works the final receptor sites shall be preferably adjacent to their current locations alongside of the alignment to retain their contribution to the local landscape context. For the LMC Loop the receptor locations will be selected to allow the trees to be moved directly to their final locations in accordance with the detailed landscape proposals. • The transplanting proposals are subject to review at the detailed design phase and to agreement-in-principle with the relevant management and maintenance agents and/or government departments. The implementation programme for the proposed works shall reserve sufficient time for the advanced tree transplanting preparation works to enhance the survival of the transplanted trees. • The transplanting proposals will be subject to the findings of the detailed tree survey and felling application to be undertaken by the detailed design consultants and following approval by the relevant departments.	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^ ^ ^
	L-CP6-	<u>*Creation of Wetland and Landscape Buffer*</u>	Compensation of the loss	Project	The whole	Detailed design,	

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
	DP1/DP2	• The existing reedbed acquired for development areas for the project will be reinstated as part of the Ecological Area. The reinstatement shall be undertaken at the earliest possible stage during the construction phase of the project. • Creation of 12.78ha of Ecological Area (EA) containing reed marsh and marsh will be created at the southern portion of the LMC Loop, and a 50m width landscape buffer area will be set up in between the EA and the development area. Wetland creation concepts please refer to Figure 11.9zf and Chapter 12 Ecology Impact Assessment of this EIA. • Native tree and shrub mix will be utilised for the creation of landscape buffer along northern edge of EA to support the creation of avifauna habitat from ecologist perspectives as well as enhance the aesthetic and landscape diversity within the LMC Loop Development. • Creation of minimum 11.72 Ha. of permanent compensatory off-site wetland areas at Sam Po Shue and Hoo Hok Wai. For the potential locations for off-site wetlands please refer to Figure 11.9zf and 11.9zh, Chapter 2 Project Description and Chapter 12 Ecology Impact Assessment of this EIA.	of landscape resources	Proponent/ Detailed design consultant/ Contractor/ Operator	project area where applicable	construction and operational phases	^ ^ ^ N/A
	V-CP5-DP1/DP2	*Coordination with Concurrent Projects* • Coordinated implementation programme with concurrent projects to minimise impacts and where possible reduce the period of disturbance.	Minimize landscape impacts	Contractor	The whole project area where applicable	Construction phase	^

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Ecology (Construction Phase)							
S12.7	E1-DP1	*Disturbance to Fish Ponds at HHW* • 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. *Construction phase* • Erection of a 3m high, dull green site boundary fence to minimise disturbance to wetland habitats caused by human activity in LMC Loop.	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 ^
S12.7	E2-DP1	*Construction run-off* • 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;	Minimise the indirect impact from the increasing suspended solids and pollutants in LMC Meander	Contractor	Seawall,	During 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
		• 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 bodies; • 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					* ^ ^ ^ ^ ^

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
		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.					^ ^ ^
S12.7	E3-DP1/DP2	*Pollutant Runoff to Downstream areas from Accidental Spillage* • Prepare an emergency contingency plan The plan will include, but not be limited to, the following: - 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	^

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	E4-DP1/DP2	• 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. These include the following: • Fritting, or the placement of ceramic lines or dots on glass, 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. • 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	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
		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. 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 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.					^
S12.7	E5-DP1/DP2	• 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.	Minimize impacts on Eurasian Otter	Detailed design consultant/ Contractor	Construction site within the project	Detailed design, 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
		• 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 sunrise. • 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	• Refer to E2 and E3	Prevent impacts on Rose Bitterling, small snakehead and *Somanniathelphus zanklon*	Contractor	Within project site	Construction phase	N/A
S12.7	E10-DP1	• 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	Minimize impacts on flight line corridor from LMC Loop development	Developer / Detailed design	Within project site	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
		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 building height in areas adjacent to the buffer zone for the EA. In addition, the sewage treatment works, which is located near the point where many birds cross from the Meander to HHW, should not exceed 15mPD.		consultant/ Contractor/ Operator		phases	^ N/A N/A
S12.7	E11-DP1	• Employ site boundary fence as long as possible. Use of movable barrier for more intense site formation activity. Provision of fencing with 30cm gap between the existing reed marsh and LMC Meander during the establishment period of Ecological Area and the gap will be closed once established. • Restrict work to period from 0900h to 1700h. All major works along the edge of LMC Meander and in the Ecological Area will be conducted in the wet season.	Minimize disturbance impacts of mitigation provisions	Contractor	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
S12.7	E12-DP1/DP2	• Minimal night-time lighting • No direct light on Meander	Minimize impacts on LMC Meander	Contractor/ Operator	All	Construction and operation phases	^ ^
S12.7	E13-DP2	• Construction limited to wet season between the hours of 9am and 5pm. • Use of opaque visual/noise barriers and planting of trees shrubs along length of road adjacent to fish ponds. • Compensatory habitat management elsewhere to mitigate wetland loss.	Minimize impacts from the construction and operation disturbance impacts	Contractor/ Operator	Pond habitat along alignment (mainly Ha Wan Tsuen Road)	Construction and operation phases	^ ^ ^
S12.7	E16-DP1	• 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-DP2	• 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-DP2	• 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	Minimize impacts on flight line corridor from Western Connection	Contractor	Construction site from Western	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
		flight line corridor (and to mammals).	Road		Connection Road		
S12.7	E16-DP2	• 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 Road	Project Proponent/ Detailed design consultant/ Contractor Operator	Construction site from Western Connection Road	Detailed design, construction and operation phases	^
Fisheries (Construction Phase)							
S13.7	F4-	• 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	• 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 N/A

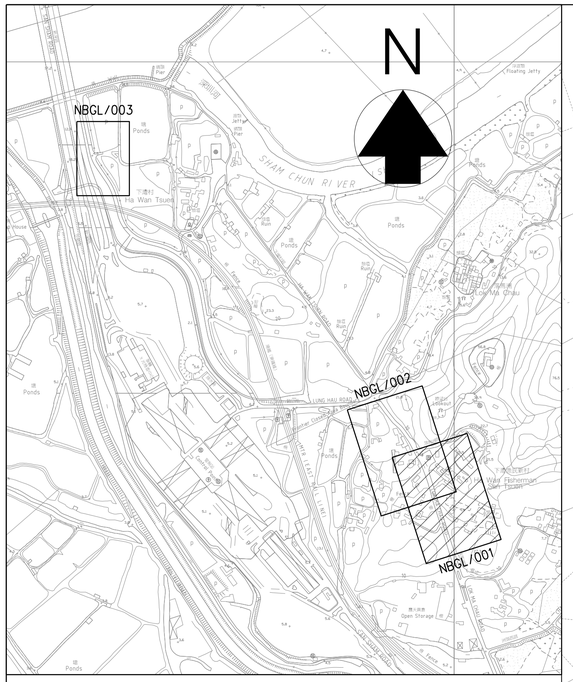
Remarks: ^ Compliance of mitigation measure

* 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 plan, barging point, seawall dredging and filling, bored piling, landscaping works etc)

APPENDIX N
TEMPORARY NOISE BARRIERS



LOCATION PLAN
N.T.S.

N

826 300 E

841 000 N

841 100 N

826 200 E

TNB9

TNB10

TNB13

TNB8

TNB14

MOVABLE TNB9

MOVABLE TNB14

落馬洲路

LOK MA CHAU ROAD

停車場
Car Park

道路
Road

FOR CONTINUATION REFER TO DRAWING REFERENCE NO. 184794/B&V/NBGL/002/R

MATCH LINE

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

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

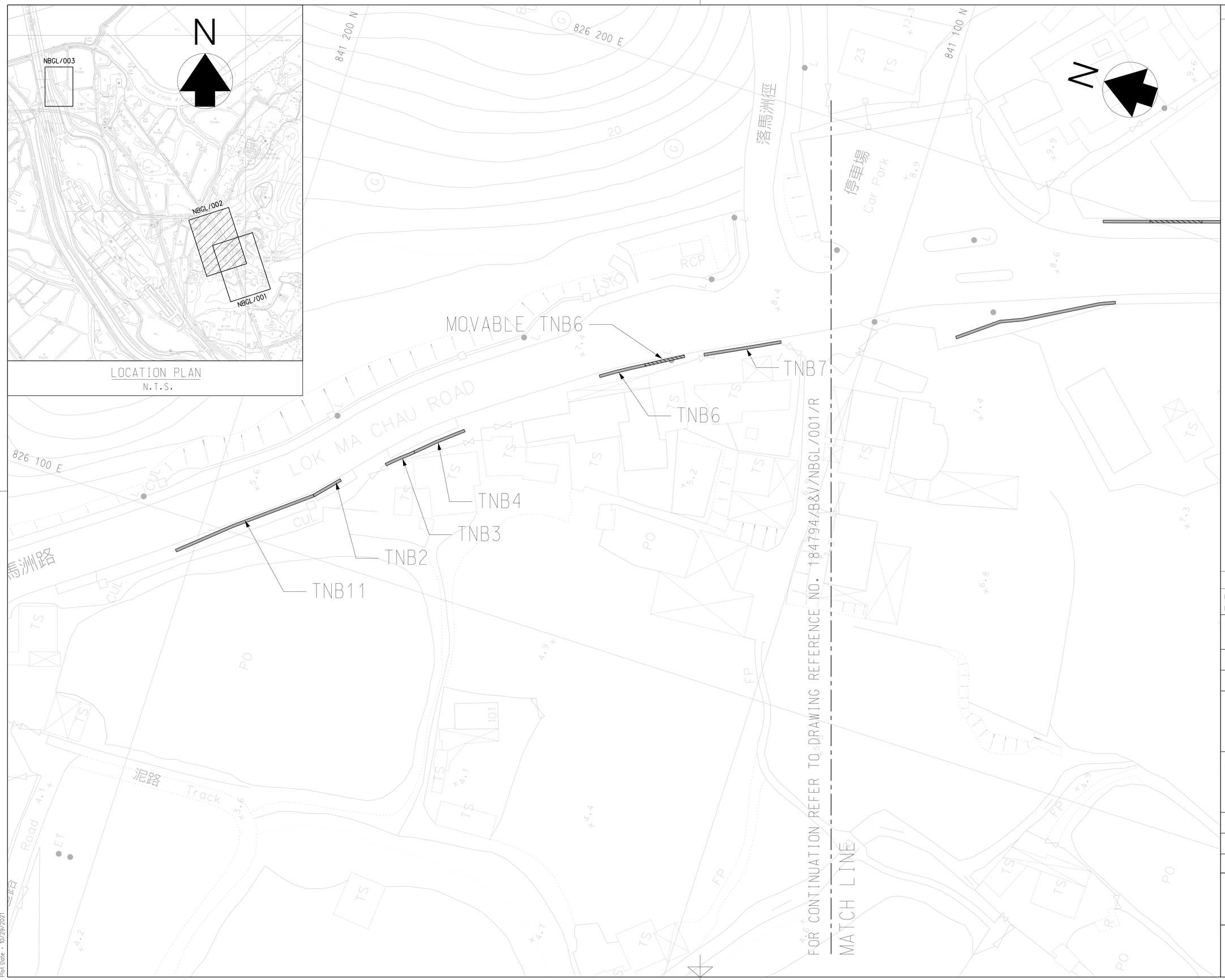
土木工程拓展署
CEDD Civil Engineering and Development Department

BINNIES HONG KONG LIMITED
賓尼斯工程顧問有限公司

Plot Date : 10/29/2021

CAD Filename : R:\YL201703\03-As-built Drawing (YL201703)\As-built Editable\184794-B&V-NBGL-001-R.dgn

LOCATION PLAN
N.T.S.



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

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.	修訂 Revision
184794/NBGL/002/R	–
合約圖則編號 Contract Drawing No.	修訂 Revision
	–

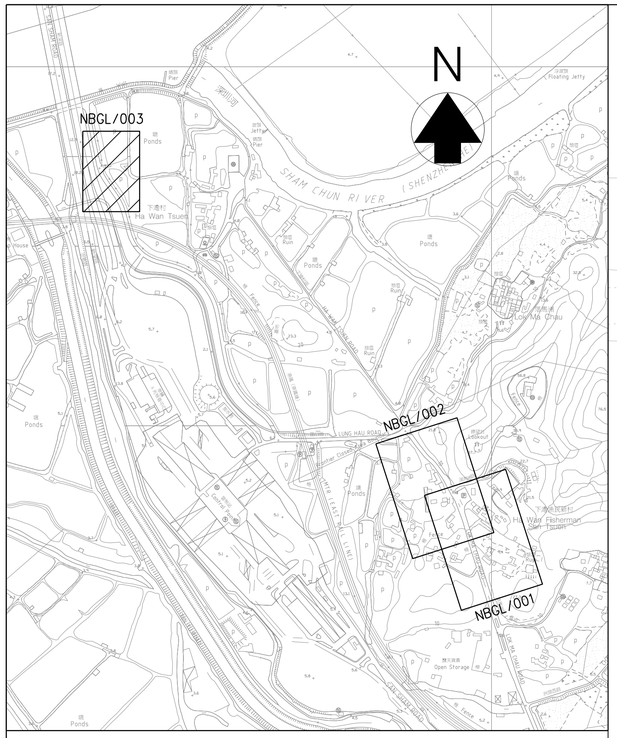
比例 Scale A1 1 : 300
A3 1 : 600

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

BINNIES HONG KONG LIMITED
賓尼斯工程顧問有限公司

Plot Date : 10/29/2021

CAD Filename : R:\YL201703\03-As-built Drawing (YL201703)\As-built Editable\184794-B&V-NBGL-002-R.dgn



LOCATION PLAN
N.T.S.

825500 E

841800 N

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)

TNB1

TNB15

LOK MA CHAU ROAD

新深路

排水口 Outfall

渠 Nullah

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 賓尼斯工程顧問有限公司

Plot Date = 11/1/2021

CAD Filename = R:\YL201703\03-As-built Drawing (YL201703)\As-built Editable\184794-B&V-NBGL-003-R.dgn

YL/2017/03
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	

YL/2017/03
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	
TNB7	
TNB8	

YL/2017/03
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	
TNB10	
TNB13	

YL/2017/03
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	
TNB15	

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 2022 (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 (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-22	1.485	0.000	1.472	0.000	0.013	0.000	0.000	0.000	0.000	76.140	0.000	1.730
Feb-22	0.242	0.000	0.000	0.000	0.242	0.000	9.150	0.000	0.000	24.170	0.000	0.426
Mar-22	0.120	0.000	0.000	0.000	0.120	0.000	0.000	0.000	0.000	0.000	0.000	0.143
Apr-22	0.058	0.000	0.000	0.000	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.068
May-22												
Jun-22												
Sub-total	1.905	0.000	1.472	0.000	0.433	0.000	9.150	0.000	0.000	100.310	0.000	2.367
Jul-22												
Aug-22												
Sep-22												
Oct-22												
Nov-22												
Dec-22												
Total	1.905	0.000	1.472	0.000	0.433	0.000	9.150	0.000	0.000	100.310	0.000	2.367

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 2022 (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	0.000	0.000	0.000	0.000	0.000	0.458	0.000	0.000	0.000	0.000	0.131
Feb	0.000	0.000	0.000	0.000	0.000	0.045	0.000	0.000	0.000	0.000	0.121
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.040
Apr	0.000	0.000	0.000	0.000	0.063	0.000	0.000	0.000	0.000	0.000	0.121
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	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	0.063	0.503	0.000	0.000	0.000	0.000	0.413
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dec	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	0.063	0.503	0.000	0.000	0.000	0.000	0.413

Note:

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

APPENDIX P
COMPLAINT LOGS

Appendix P - Complaint Log

Contract 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 Fining	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

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Fining	Status
COM-2021-10-01	11 October 2021	EPD	EPD File Ref.: N07/RN/00024120-21	EPD received a public complaint on 11 October 2021. The complainant alleged the following: (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, (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.	(a) Water Quality 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. (b) Noise 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	Interim report was submitted to EPD on 29 Oct 2021

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Fining	Status
					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. In addition, the Contractor was also reminded to prepare a contingency plan for emergency environmental incidents.	
COM-2021-11-01	15 November 2021	EPD	EPD File Ref.: N06/RN/00027302-21	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.	According to the interim report, dust mitigation measures have been properly implemented on site: - 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 Fining	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/000000184-22	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).	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:- <u>Contract No.: YL/2020/01</u> 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. 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. Based on the above information and investigation findings, the noise complaint is not related to the	Interim report was submitted to EPD on 14 Feb 2022

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Fining	Status
					construction works of the Contract YL/2020/01. <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. Based on the above information and investigation findings, the noise complaint is not related to the construction works of the Contract YL/2020/02.	
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.	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 inducted by the Project. 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.	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 Fining	Status

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	6th April 2022
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Barn Swallow	*Hirundo rustica*	家燕	PM, Sv			2
Black-collared Starling	*Gracupica nigricollis*	黑領椋鳥	R		5	2
Black Kite	*Milvus migrans*	黑鳶	R, WV			1
Chinese Bulbul	*Pycnonotus sinensis*	白頭鵐	R		2	3
Crested Myna	*Acridotheres cristatellus*	八哥	R			3
Little Egret	*Egretta garzetta*	小白鷺	R	PRC(RC)		2
Masked Laughingthrush	*Pterorhinus perspicillatus*	黑臉噪鶥	R			2
Red-whiskered Bulbul	*Pycnonotus jocosus*	紅耳鵐	R		3	3
Scaly-breasted Munia	*Lonchura punctulata*	斑文鳥	R		6	5
Stejneger's Stonechat	*Saxicola stejnegeri*	黑喉石鴴	WV		2	2
White-shouldered Starling	*Sturnia sinensis*	灰背椋鳥	M, WV, Sv	LC	3	3
Yellow-bellied Prinia	*Prinia flaviventris*	黃腹鷦鶯	R		5	6
Total No. of Species					**7**	**12**
No. of Birds Recorded					**26**	**34**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	13th April 2022
					Weather Condition	Fine
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Barn Swallow	*Hirundo rustica*	家燕	PM, Sv			5
Black-collared Starling	*Gracupica nigricollis*	黑領椋鳥	R		7	3
Chinese Bulbul	*Pycnonotus sinensis*	白頭鵐	R		10	2
Chinese Pond Heron	*Ardeola bacchus*	池鷺	R	PRC(RC)	1	
Crested Myna	*Acridotheres cristatellus*	八哥	R		2	3
Great Egret	*Ardea alba*	大白鷺	R, WV	PRC(RC)		1
Little Egret	*Egretta garzetta*	小白鷺	R	PRC(RC)	1	
Red-whiskered Bulbul	*Pycnonotus jocosus*	紅耳鵐	R			2
Scaly-breasted Munia	*Lonchura punctulata*	斑文鳥	R		1	8
Stejneger's Stonechat	*Saxicola stejnegeri*	黑喉石鴴	WV			1
White-breasted Waterhen	*Amaurornis phoenicurus*	白胸苦惡鳥	R			1
White-shouldered Starling	*Sturnia sinensis*	灰背椋鳥	M, WV, Sv	LC	5	9
Yellow-bellied Prinia	*Prinia flaviventris*	黃腹鷦鶯	R		5	6
Total No. of Species					**8**	**11**
No. of Birds Recorded					**32**	**41**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	20th April 2022
					Weather Condition	Overcast
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Barn Swallow	*Hirundo rustica*	家燕	PM, Sv		3	1
Black-collared Starling	*Gracupica nigricollis*	黑領椋鳥	R		1	1
Chinese Bulbul	*Pycnonotus sinensis*	白頭鵐	R		1	2
Chinese Pond Heron	*Ardeola bacchus*	池鷺	R	PRC(RC)	1	2
Crested Myna	*Acridotheres cristatellus*	八哥	R			1
Greater Coucal	*Centropus sinensis*	褐翅鴉鵑	R	(VU)		1
Great Egret	*Ardea alba*	大白鷺	R, WV	PRC(RC)	3	1
Jungle Crow	*Corvus macrorhynchus*	大嘴烏鴉	R			1
Little Egret	*Egretta garzetta*	小白鷺	R	PRC(RC)		2
Masked Laughingthrush	*Pterorhinus perspicillatus*	黑臉噪鶥	R		1	2
Red-whiskered Bulbul	*Pycnonotus jocosus*	紅耳鵐	R		2	3
Scaly-breasted Munia	*Lonchura punctulata*	斑文鳥	R			3
White-shouldered Starling	*Sturnia sinensis*	灰背椋鳥	M, WV, Sv	LC	3	6
White-throated Kingfisher	*Halcyon smyrnensis*	白胸翡翠	R			1
Yellow Bittern	*Ixobrychus sinensis*	黃葦鳽	USV, UPM	(LC)		2
Yellow-bellied Prinia	*Prinia flaviventris*	黃腹鷦鶯	R		2	9

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	20th April 2022
					Weather Condition	Overcast
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Total No. of Species					9	16
No. of Birds Recorded					17	38

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	27th April 2022
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Barn Swallow	*Hirundo rustica*	家燕	PM, Sv			1
Black-collared Starling	*Gracupica nigricollis*	黑領椋鳥	R			1
Chinese Bulbul	*Pycnonotus sinensis*	白頭鵐	R		1	3
Chinese Pond Heron	*Ardeola bacchus*	池鷺	R	PRC(RC)		1
Great Egret	*Ardea alba*	大白鷺	R, WV	PRC(RC)	1	1
Red-whiskered Bulbul	*Pycnonotus jocosus*	紅耳鵐	R		1	3
Scaly-breasted Munia	*Lonchura punctulata*	斑文鳥	R		2	3
White-shouldered Starling	*Sturnia sinensis*	灰背椋鳥	M, WV, Sv	LC	2	3
Yellow Bittern	*Ixobrychus sinensis*	黃葦鳽	USV, UPM	(LC)		1
Yellow-bellied Prinia	*Prinia flaviventris*	黃腹鷦鶯	R		5	7
Total No. of Species					**6**	**10**
No. of Birds Recorded					**12**	**24**

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 – Herptofauna (Chinese Bullfrog) Survey Results

Common Name	Species Name	Chinese Name	Date: 25 April, 2022					
			Weather Condition: Fine					
			Counts					
			Transect Walk					
			Day Transect			Night Transect		
			WAL	AFP	Others	WAL	AFP	Others
Chinese Bullfrog	*Hoplobatrachus rugulosus*	虎紋蛙	0	0	0	6*	0	0

WAL – Wet Agricultural Land, AFP – Abandoned Fishpond

* Vocal calls heard

Appendix R3 – Aquatic Fauna (Rose Bitterling) Survey Results

Common Name	**Species Name**	**Chinese Name**	**Date: 21 April, 2022**							
			Weather Condition: Fine							
			Counts							
			Location(s)							
			S1	**S2**	**S3**	**S4**	**A1**	**A2**	**B1**	**B2**
Rose Bitterling	*Rhodeus ocellatus*	高體鱊鮍	Direct Observation:							
			0	0	0	0	5	2	0	0
			Sweep Netting:							
			0	0	0	0	0	0	0	0

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 08-Apr-22

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	11:09	20.7 20.7	20.7	8.3 8.3	8.3	0.1 0.1	0.1	47.9 47.6	47.8	4.3 4.3	4.3	4.0 4.2	4.1
A2	Sunny	10:49	21.6 21.6	21.6	8.5 8.5	8.5	0.1 0.1	0.1	55.4 54.6	55.0	4.9 4.8	4.9	2.7 2.6	2.7
B1	Sunny	10:42	21.4 21.4	21.4	8.9 8.9	8.9	0.1 0.1	0.1	121.9 122.7	122.3	10.8 10.9	10.9	14.2 14.2	14.2
B2	Sunny	10:36	21.4 21.4	21.4	8.7 8.7	8.7	0.1 0.1	0.1	126.9 127.4	127.2	11.2 11.3	11.3	13.9 13.8	13.9
S1	Sunny	11:17	21.7 21.7	21.7	8.3 8.3	8.3	0.1 0.1	0.1	99.7 99.5	99.6	8.8 8.7	8.8	21.3 21.2	21.3
S2	Sunny	11:03	21.6 21.6	21.6	8.3 8.3	8.3	0.2 0.2	0.2	40.9 40.6	40.8	3.6 3.6	3.6	4.4 5.0	4.7
S3	Sunny	10:22	21.0 21.0	21.0	8.8 8.7	8.8	0.1 0.1	0.1	42.1 41.7	41.9	3.8 3.7	3.8	2.9 2.8	2.9
S4	Sunny	10:29	21.9 21.9	21.9	8.2 8.2	8.2	0.2 0.2	0.2	31.1 30.7	30.9	2.7 2.7	2.7	3.7 3.7	3.7

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 13-Apr-22

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	Rainy	12:03	26.1 26.1	26.1	8.1 8.1	8.1	0.1 0.1	0.1	60.8 60.4	60.6	4.9 4.9	4.9	3.5 3.4	3.5
A2	Rainy	11:41	26.0 26.0	26.0	8.3 8.3	8.3	0.1 0.1	0.1	33.6 33.5	33.6	2.7 2.7	2.7	4.5 4.1	4.3
B1	Rainy	11:34	25.7 25.7	25.7	8.5 8.5	8.5	0.1 0.1	0.1	103.3 103.4	103.4	8.4 8.4	8.4	17.7 17.6	17.7
B2	Rainy	11:28	25.8 25.8	25.8	8.4 8.4	8.4	0.1 0.1	0.1	104.3 103.7	104.0	8.5 8.5	8.5	26.0 26.6	26.3
S1	Rainy	12:11	23.7 23.7	23.7	8.4 8.4	8.4	0.1 0.1	0.1	69.9 69.6	69.8	5.9 5.9	5.9	294.0 295.7	294.9
S2	Rainy	11:56	23.3 23.3	23.3	8.3 8.3	8.3	0.2 0.2	0.2	43.0 42.3	42.7	3.7 3.6	3.7	6.5 5.6	6.1
S3	Rainy	11:14	23.9 23.9	23.9	8.7 8.7	8.7	0.02 0.02	0.02	28.2 27.7	28.0	2.4 2.3	2.4	12.4 12.7	12.6
S4	Rainy	11:21	23.8 23.8	23.8	8.3 8.3	8.3	0.2 0.2	0.2	35.0 34.6	34.8	3.0 2.9	3.0	7.2 6.9	7.1

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 21-Apr-22

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	12:02	24.4 24.3	24.4	8.9 8.9	8.9	0.1 0.1	0.1	43.2 42.5	42.9	3.6 3.6	3.6	2.5 2.5	2.5
A2	Sunny	11:13	24.5 24.4	24.5	9.1 9.1	9.1	0.1 0.1	0.1	33.9 33.3	33.6	2.8 2.8	2.8	3.7 3.7	3.7
B1	Sunny	11:07	24.3 24.3	24.3	9.3 9.3	9.3	0.1 0.1	0.1	103.0 102.6	102.8	8.6 8.6	8.6	14.1 14.2	14.2
B2	Sunny	10:53	24.5 24.5	24.5	9.3 9.3	9.3	0.1 0.1	0.1	132.5 133.7	133.1	11.0 11.2	11.1	16.9 16.7	16.8
S1	Sunny	12:28	23.8 23.9	23.9	9.1 9.1	9.1	0.2 0.2	0.2	38.1 37.6	37.9	3.2 3.2	3.2	391.3 389.0	390.2
S2	Sunny	11:52	24.5 24.5	24.5	9.1 9.1	9.1	0.2 0.2	0.2	47.4 46.4	46.9	4.0 3.9	4.0	2.2 2.2	2.2
S3	Sunny	10:32	24.2 24.2	24.2	9.5 9.5	9.5	0.2 0.1	0.2	26.9 25.7	26.3	2.3 2.2	2.3	5.9 5.8	5.9
S4	Sunny	10:43	25.3 25.3	25.3	9.0 9.0	9.0	0.2 0.2	0.2	40.8 36.4	38.6	3.4 3.0	3.2	6.1 5.8	6.0

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 25-Apr-22

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	14:51	31.3 31.3	31.3	8.6 8.6	8.6	0.1 0.1	0.1	89.1 89.0	89.1	6.6 6.6	6.6	2.4 2.4	2.4
A2	Sunny	14:35	30.5 30.5	30.5	9.7 9.6	9.7	0.1 0.1	0.1	78.1 77.8	78.0	5.9 5.8	5.9	3.7 3.7	3.7
B1	Sunny	14:25	32.0 32.0	32.0	10.3 10.3	10.3	0.1 0.1	0.1	186.8 187.9	187.4	13.6 13.7	13.7	13.5 13.5	13.5
B2	Sunny	14:18	32.2 32.2	32.2	9.9 9.9	9.9	0.1 0.1	0.1	190.0 190.4	190.2	13.8 13.9	13.9	14.8 14.8	14.8
S1	Sunny	14:59	30.6 30.6	30.6	8.9 8.9	8.9	0.2 0.2	0.2	98.4 98.0	98.2	7.4 7.3	7.4	62.5 61.4	62.0
S2	Sunny	14:45	26.5 26.5	26.5	9.5 9.5	9.5	0.2 0.2	0.2	48.5 48.5	48.5	3.9 3.9	3.9	1.8 1.7	1.8
S3	Sunny	14:03	29.9 30.0	30.0	9.8 9.8	9.8	0.2 0.2	0.2	16.4 16.3	16.4	1.2 1.2	1.2	9.1 9.1	9.1
S4	Sunny	14:11	28.8 28.8	28.8	9.0 9.0	9.0	0.2 0.2	0.2	23.0 22.8	22.9	1.8 1.8	1.8	6.7 6.7	6.7