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 October 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/L087
Date : 14 November 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. TAM Im Fei

Dear Ms. TAM,

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

Verification of Monthly EM&A Report (October 2022)

Reference is made to the Monthly Environmental Monitoring and Audit (EM&A) Report of certified by the Environmental Team Leader in November 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	By Email
	Wellab Limited	Dr. Priscilla Choy	By Email

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EXECUTIVE SUMMARY

Introduction

1. This is the 46th 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 31st October 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")
- Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 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	3rd, 7th, 13th, 19th, 25th and 31st October 2022
		24-hr TSP Monitoring	6th, 12th, 18th, 24th and 28th October 2022
Construction Noise		$L_{eq30mins}$	7th, 13th, 19th 25th and 31st October 2022
Water Quality		• Temperature • pH • Turbidity • Water depth • Salinity • Dissolved Oxygen (DO) • Suspended Solids (SS)	3rd, 5th, 7th, 10th, 12th, 14th, 17th, 19th, 21st, 24th, 26th, 28th and 31st October 2022
Ecological	Lok Ma Chau (LMC) Loop	Avifauna flight line survey	21st October 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)

Environmental Aspect		Monitoring Parameter	Date
Ecological	Western Connection Road (WCR)	Avifauna flight line survey	21st October 2022
		Avifauna survey at Pond 12	5th, 13th, 19th and 26th October 2022
		Herpetofauna survey	20th October 2022
		Aquatic Fauna survey	26th October 2022
		Water Quality Monitoring for Aquatic Fauna	LMC Meander 3rd, 5th, 7th, 10th, 12th, 14th, 17th, 19th, 21st, 24th, 26th, 28th and 31st October 2022 Stream and associated ponds south of Lung Hau Road 7th, 11th, 20th, 26th and 31st October 2022
Site Environmental Audit		Environmental protection and pollution control measures	Contract 1 and Contract 2 5th, 12th, 21st and 26th October 2022 Contract 3 3rd, 10th, 17th, 25th and 31st October 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)	1	0	The complaint case (EPD File Ref.: N06/RN/00023772-22) is under investigation		
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. One Action Level exceedance was recorded due to the noise complaint (0700-1900 hrs on normal weekdays) was received. No Limit Level exceedance was recorded.

Water Quality

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

Ecological Monitoring

LMC Loop

Avifauna (Flight Line Survey)

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

Mammals

10. According the Clause 11.4.1.2 of EM&A Manual, the objective of mammals monitoring is to monitor the connectivity between the 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, the 12-month establishment period of EA zone has also been completed. The mammals monitoring in the Loop has therefore been temporarily suspended since March 2022 and will be resumed subject to the site condition.

Western Connection Road

Avifauna (Flight Line Survey)

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

Avifauna (Pond 12)

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

Herpetofauna

14. Herpetofauna 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	5th, 12th, 21st and 26th October 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	5th, 12th, 21st and 26th October 2022
Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2	3rd, 10th, 17th, 25th and 31st October 2022

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

Complaint Log

20. Three environmental complaints related to construction noise were 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) Wetland Compensation Establishment Works and Ecological Monitoring.

(b) Additional Ground Investigation and Site Formation.

(c) Deep Cement Mixing Work.

(d) Piling Works for Box Culverts.

(e) Pre-drilling Construction for Vehicular Bridge over the old Shenzhen River Meander.

(f) Drainage works and roadworks.

(g) Road L1 Excavation and Lateral Support (ELS) Cofferdam Construction.

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

(a) Tree Felling / Tree Transplant.

(b) Pre-construction Condition Survey inside MTRC tunnel.

(c) Pre-drilling and Trial Pits for Bridge ST01, CTFB and DRL.

(d) Temporary diversion of 2 watermains, 1 gas main and CLP cables for box culvert modification.

(e) Box Culvert Modification at Lok Ma Chau Road (Stage 1).

(f) Demolition of Existing Structures along Lok Ma Chau Road.

(g) Construction of temporary cycle track along Lok Ma Chau Road and San Tin Public Transport Interchange.

(h) Existing Cycle Track Subway Modification.

(i) Construction of Pai Lau.

(j) Bored pile and socketed H-Pile for Bridge DRL, CTFB & ST01.

(k) Construction of Retaining walls RW 8 and RW 9.

(l) Operation of TAR1 and TAR2.

(m) Liaison with utility companies for utility diversion.

(n) Bored Pile at Retaining Wall BPW1.

(o) ELS cofferdam construction for ST01-P02 and P03.

(p) Commission of temporary cycle track along Castle Peak Road (Chau Tau).

(q) Road works along Lok Ma Chau Road.

(r) Drainage diversion for Pier ST01-P04 foundation construction.

(s) Construction of ST01-P02 and P03 pile cap.

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

(a) Elevated Passenger Transport Interchange (EPTI) Ground Investigation works.

(b) Elevated Passenger Transport Interchange (EPTI) Bored Pile Construction.

(c) Project Signboard Erection.

(d) Underground Utilities Diversion at Double-deck Footbridge.

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 46th EM&A Report which summarises the impact monitoring results and audit findings for the EM&A programme in the period from 1st to 31st October 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 12th 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 30th December 2021.

2.6 For MWP1, there will be a total of 5 Works Contracts and the contract packaging is shown below.

1) Contract 1 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 – Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1
2) Contract 2 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1
3) Contract 3 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 – Direct Road Link Phase 2
4) Contract 4 - Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 4 –Fresh Water Service Reservoir and Associated Waterworks
5) Contract 5 - Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 5 – Landscaping Works within Lok Ma Chau Loop

2.7 Contract No. YL/2020/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 – Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1 (hereinafter called the "Contract 1") was awarded to CRCC-Kwan Lee-Paul Y. JV (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 Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2 (hereinafter called the "Contract 3") was awarded to Paul Y.-Chun Wo-CRCC JV (hereinafter called the "Contractor 4") in February 2022.

2.10 During the reporting month, the following Works Contracts were undertaken for the Project:

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

2.11 The layout of the construction works under the Project and the scope of works under the Project are summarized in **Table 2.1**.

Table 2.1 Site Layout and Scope of Works under the Project

Contract(s)	Scope of Works	Site Layout Plan
Contract No. YL/2017/03 – Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works (Completed)	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(s)	Scope of Works	Site Layout Plan
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) Ground treatment and site formation works; b) Construction of carriageway, footpaths, cycle tracks and a public transport interchange within the Loop; c) Construction of Western Connection Road Phase 1 through widening of existing Ha Wan Tsuen East Road, which includes construction of footpath, cycle track, slopes, retaining walls and a vehicular bridge over the old Shenzhen River meander; d) Provision of other infrastructures, including a tertiary sewage treatment works and sewerage system, water supply system, drainage system, and other associated works; and e) Environmental mitigation measures including about 18 ha offsite wetland compensation and about 1.3 ha offsite woodland compensation.	Figure 1b
Contract No.: YL/2020/02 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 2 Western Connection Road Phase 2, Connection Roads to Fanling / San Tin Highway and Direct Road Link Phase 1	a) Construction of Western Connection Road Phase 2 through widening of a section of existing Lok Ma Chau Road; b) Construction of Direct Road Link Phase 1 comprising a viaduct of about 720mm long; construction of slip roads connecting Lok Ma Chau Road and Fanling Highway / San Tin Highway including a viaduct of about 340 m long; c) Construction of a cycle track cum footbridge; d) Construction of associated works including road improvement works, footpaths, cycle tracks, slopes, retaining walls, water supply system and drainage system; and e) Provision of noise barriers.	Figure 1b
Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2	a) Construction of an elevated public transport interchange of an approximate area of 5,700 square metres above the existing Lok Ma Chau Spur Line Public Transport Interchange; b) Construction of an approximately 90 metres long double-deck footbridge and a lift tower of approximately 21 metres in height with three lifts and three escalators connecting the elevated public transport interchange mentioned above to the MTR Lok Ma Chau Station; c) Associated modification works within the MTR Lok Ma Chau Station; and d) Associated roadworks, landscaping, electrical and mechanical works and ancillary works.	Figure 1b

Project Organisation

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

Table 2.2 Key Contacts of the Project

Organization	Project Role	Contact Person	Tel No.	Fax No.
CEDD	Project Proponent	Mr. Davy KS CHAN	2417 6370	2412 0358
WELLAB	ET	Dr Priscilla Choy – ET Leader	2898 7388	2898 7076
Lam Environmental Services Limited (LAM)	IEC	Mr. Raymond Dai	2839 5666	2882 3331
Contract No. YL/2020/01				
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA
CRCC-Kwan Lee-Paul Y. JV	Contractor	Site Agent – Mr. Jeremy Luk	9013 7913	2774 0197
		Senior Engineer – Mr. Max Mak	9263 1116	2774 0197
		Senior Engineer – Mr. Stephen Leung	9770 6390	2774 0197
		Environmental Officer – Ms. Lila Lui	5261 0378	2774 0197
Contract No. YL/2020/02				
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA
China Road and Bridge Corporation	Contractor	Site Agent – Mr. Raymond Suen	9779 8871	3996 9202
		Construction Team Leader –Mr. Roger Poon	9503 2488	3996 9202
		Environmental Officer – Mr. Calvin So	9724 6254	3996 9202
Contract No. YL/2021/01				
AECOM	Consultants	Mr. Eric Wong	9861 8664	TBA
Paul Y.-Chun Wo-CRCC JV	Contractor	Site Agent – Mr. Desmond Tang	5188 0815	3015 7861
		Section Agent – Mr. Charles Choi	6350 0142	3015 7861
		Environmental Officer – Ms. Apple Lee	6274 7443	3015 7861

Construction Programme

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

Summary of Construction Works Undertaken During Reporting Month

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

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

(a) Site Clearance Works and Site Formation Works along Western Connection Road.

(b) Wetland Compensation Establishment Works and Ecological Monitoring.

(c) Filling Work, Ground Investigation Works and Deep Cement Mixing works for Vehicular Bridge over the Old Shenzhen River Meander.

(d) Piling Works for Box Culvert C.

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) Box Culvert Modification: trial pit excavation and completed with the TTA area.

(c) Pre-drilling works at ST01, CTFB and DRL including foundation CSD for DRL-A01, AP04 and Approach Ramp.

(d) Socketed H-pile at Staircase & FBA-01 in CTFB and AP04, Approach Ramp & Abutment DRL-A01 in DRL.

(e) Demolition of Existing Structures.

(f) Installation of Concrete Blocks for Piling Platform of Retaining Wall BPW1 construction. Mobilization for bored pile.

(g) Bored pile works at ST01, CTFB and DRL.

(h) Sheetpiling for ELS for Retaining Wall RW9.

(i) Temporary cycle track along Castle Peak Road.

(j) Pun Uk Tsuen Pai Lau footing (Stage 1) and road reinstatement. TTA for footing construction (Stage 2).

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

(a) Underground Utility detection.

(b) Pre-drilling.

(c) Trial pit excavation.

(d) Material / Waste Lifting and Delivery.

(e) Utilities diversion.

(f) Bored pile construction.

(g) Scaffolding works.

Status of Environmental Licences, Notifications and Permits

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

Table 2.3 Status of Environmental Licences, Notifications and Permits

Contract No.	Permit / License No.	Valid Period		Status
		From	To	
Environmental Permit (EP)				
Contract No. YL/2020/01 Contract No. YL/2020/02	EP-477/2013	22/11/2013	N/A	Valid
Contract No. YL/2021/01	EP-477/2013/A	12/08/2021	N/A	Valid
Construction Noise Permit (CNP)				
Contract No. YL/2020/01	GW-RN0954-22	11/10/2022	10/01/2023	Valid
Contract No. YL/2020/02	GW-RN0826-22	8/09/2022	07/12/2022	Valid
Contract No. YL/2021/01	GW-RN0906-22	28/09/2022	27/12/2022	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
Contract No. YL/2021/01	479880	17/05/2022	Till the Contract ends	Receipt acknowledged by EPD
Billing Account for Disposal of Construction Waste				
Contract No. YL/2020/01	7041333	27/07/2021	Till the Contract ends	Valid
Contract No. YL/2020/02	7041861	15/10/2021	Till the Contract ends	Valid
Contract No. YL/2021/01	7043434	22/05/2022	Till the Contract ends	Valid
Registration of Chemical Waste Producer				
Contract No. YL/2020/01	WPN 5213-620-C4632-01	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
Contract No. YL/2021/01	WPN 5213-542-P3483-01	21/04/2022	Till the Contract ends	Valid
Effluent Discharge License under Water Pollution Control Ordinance				
Contract No. YL/2020/01	WT00039466-2021	15/07/2022	21/12/2026	Valid
	WT00041233-2022	18/07/2022	31/07/2027	Valid
Contract No. YL/2020/02	WT00041280-2022	27/07/2022	31/07/2027	Valid
Contract No. YL/2021/01	WT00041259-2022	21/07/2022	31/07/2027	Valid

Status of Compliance with Environmental Permits Conditions

2.16 The status of compliance with Environmental Permit (EP) No. EP-477/2013/A and required submission related to this Project under the EP is summarized in **Table 2.3**:

Table 2.4 Summary Table for Status of Compliance / Required Submission under EP No. EP-477/2013/A

EP Conditions	Submission(s)	Requirement	Submission Date	Approval Status
2.3	Management Organizations	no later than one month before the commencement of construction of the Project	YL/2020/01: 7 July 2021 YL/2020/02: 17 Nov 2021 YL/2021/01: 30 Mar 2022	*
2.4	Pedestrian Walkway Reserve in the Direct Link to MTR LMC Station	at least one month before the commencement of construction of the Direct Link, deposited with the Director	17 Nov 2021	*
2.5 & 2.6	Submission of Works Schedule and Location Plans	Works Schedule: at least one month before the commencement of the works of the Project Location Plan: at least two weeks before the commencement of the works of the Project	YL/2020/01: 7 July 2021 YL/2020/02: 17 Nov 2021 YL/2021/01: 30 Mar 2022	*
2.7	Ecological Mitigation / Habitat Creation and Management Plan	at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director	7 Dec 2021 (Issue 4)	*
2.8	Landscape Plan	at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director	To be submitted at least one month before the commencement of corresponding parts of the works of the Project (tentative submission date will be supplemented once available)	*
2.11	Emergency Contingency Plan	at least one month before the commencement of the concerned works of the Project, deposited with the Director	26 Oct 2021	*
2.15	Re-appraisal report	at least one month before the commencement of corresponding parts of the works of the Project, deposited with the Director	18 Jun 2021	*
2.16	Remediation Report	no later than one month after the completion of the remediation works for approval	N/A (no remediation is required according to re-appraisal report)	N/A
2.17	(a) Updated Contamination Assessment Plan (CAP)	(a) submitted to the Director for approval (b) no later than two months after the completion of the	N/A (no remediation is required according to re-appraisal report)	N/A

EP Conditions	Submission(s)	Requirement	Submission Date	Approval Status
	(b) Contamination Assessment Report (CAR) (c) Remedial Action Plan (RAP) (d) Remediation Report (RR)	Supplementary SI (c) submitted to the Director for approval (d) no later than one month after the completion of the remediation works for approval		
3.3	Baseline Monitoring Report	at least one month before commencement of construction of the Project.	3 Dec 2018	*
3.4	Monthly EM&A Report	within 10 working days after the end of each reporting month	Regular submitted within 10 working days after the end of each reporting month	*

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

3 AIR QUALITY MONITORING

Monitoring Requirements

3.1 In accordance with the EM&A Manual for Development of Lok Ma Chau Loop (EM&A Manual), impact 1-hour Total Suspended Particulates (TSP) and 24-hour TSP monitoring were conducted to monitor the air quality for the Project. **Appendix B** shows the established Action/Limit Levels for the air quality monitoring work.

3.2 Impact 1-hour TSP monitoring was conducted for at least three times every 6 days, while impact 24-hour TSP monitoring was conducted for at least once every 6 days at 4 air quality monitoring stations.

Monitoring Location

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

Table 3.1 Location of Air Quality Monitoring Stations

Monitoring Station	Location
DMS-1a (see Note 1)	Village House along Ha Wan Tsuen East Road
DMS-2A (see Note 2)	Village House along Lok Ma Chau Road
DMS-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	5
	Calibrator	TISCH Model: TE-5025A	1
(1) DMS-1a	Dust Meter for 1-hour and 24-hour	Met One Instruments: AEROCET-831	2

Monitoring Station(s)	Equipment	Model and Make	Quantity
	TSP monitoring		
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. IEC has no comment on the proposal of using dust meter for 24-hr TSP monitoring at DMS-1a on 21 June 2022.

Monitoring Parameters and Frequencies

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

Table 3.3 Impact Air Quality Monitoring Parameters and Frequencies

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

Monitoring Methodology and Quality Assurance/Quality Control (QA/QC) Procedure

24-hour TSP Air Quality Monitoring

Instrumentation

3.6 HVSs completed with appropriate sampling inlets were employed for 24-hour TSP monitoring. Each sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50).

HVS Installation

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

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

- Permission and access to the monitoring stations had been obtained to set up the samplers; and
- A secured supply of electricity was provided to operate the samplers.

Filters Preparation

3.8 Wellab Limited was the HOKLAS accredited laboratory (HOKLAS Registration No.083) and responsible for the preparation of 24-hr conditioned and pre-weighed filter papers for the monitoring team.

3.9 All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ±3 °C; the relative humidity (RH) was < 50% and not variable by more than ±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 **Table 3.5** respectively. Detailed monitoring results and graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix E** and **Appendix F** respectively.

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

Monitoring Station	Concentration (µg/m³)		Action Level, µg/m³	Limit Level, µg/m³
	Average	Range		
DMS – 1a	99.4	48.3 – 148.3	353	500
DMS – 2A	101.6	49.5 – 149.8	370	
DMS – 3	87.1	44.6 – 149.6	351	
DMS – 4A	84.8	42.8 – 119.8	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	85.1	46.2 – 112.9	184	260
DMS – 2A	92.9	71.8 – 123.5	166	
DMS – 3	56.5	30.9 – 68.4	166	
DMS – 4A	58.6	36.0 – 86.2	152	

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

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

3.18 According to our field observations, the major dust source identified at the designated air quality monitoring stations in the reporting month are as follows:

Table 3.6 Observation at Air Quality Monitoring Stations

Monitoring Station	Major Dust Source
DMS-1a	Road traffic, exposed site area, site vehicle / equipment movement
DMS-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 Event Action Plan in **Appendix J** shall be carried out.

4 NOISE MONITORING

Monitoring Requirements

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

Monitoring Location

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

Table 4.1 Location of Noise Monitoring Stations

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

Note:

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	4
Calibrator	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	66.5	63.5 – 68.9	When one documented complaint is received.	75 dB(A)
NMS-2	69.3	64.8 – 70.8		
NMS-3	57.1	52.3 – 60.1		
NMS-4A	54.3	47.1 – 56.7		

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. One Action Level exceedance was recorded due to the noise complaint (0700-1900 hrs on normal weekdays) was received. No 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 Event Action Plan in **Appendix J** shall be carried out.

5 WATER QUALITY MONITORING

Monitoring Requirements

5.1 According to the EM&A Manual, impact water quality monitoring shall be carried out three days per week during the construction period. The interval between two sets of monitoring shall not be less than 36 hours.

5.2 Replicate in-situ measurements and samples collected from each independent sampling event shall be collected to ensure a robust statistically interpretable database.

5.3 Impact water quality monitoring was conducted at three depths (i.e. 1m below surface, mid-depth and 1m above river bed, except where the water depth was less than 6m, mid-depth station might be omitted. Should the water depth be less than 3m, only the mid-depth station was monitored) dissolved oxygen (DO) concentration, DO saturation, suspended solids (SS), turbidity, pH, salinity and temperature were monitored in accordance with the requirements set out in the EM&A Manual.

5.4 **Appendix B** shows the established Action and Limit Levels for the water quality monitoring work.

Monitoring Locations

5.5 Impact water quality monitoring was conducted at 6 monitoring stations under the Project, which is summarised in **Table 5.1**. The locations of monitoring stations are shown in **Figure 4**.

5.6 Based on the updated construction programme under Contract No. YL/2017/03, the water-based construction works for temporary vehicular bridge was completed on 7th April 2021 which was confirmed by Engineer Representative under Contract No. YL/2017/03 via email dated 15th June 2021. The additional monitoring station, BS1 was therefore proposed to be deleted from the water quality monitoring 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**. No Action/Limit Level exceedance was recorded in the reporting month.

Table 5.6 Summary of Water Quality Exceedances

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

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

IS6

5.36 Water quality monitoring was conducted as scheduled in the reporting month.

Event and Action Plan

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

6 ECOLOGICAL MONITORING

LMC Loop

Monitoring Requirements (Avifauna Monitoring – Flight Line Survey)

Monitoring Requirements

6.1 As required under Section 11.4.1.1 of EM&A Manual, flight line corridor survey was required from the beginning of work until 12 months after the establishment of the Ecological Area or completion of work on the Western Connection Road, whichever was the later.

6.2 The purpose of the survey was to identify the number and species composition of birds using the flight line and monitor if there was any impact from construction works.

Monitoring Frequency

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

Monitoring Location

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

Monitoring Methodology

6.5 Flight lines of birds through the area were surveyed once monthly at Lok Ma Chau Lookout, adjacent to the Loop.

6.6 Observations were carried out at Lok Ma Chau Lookout for two hours from 30 minutes before sunrise in the early morning.

6.7 During the survey, the surveyor marked on a standard map for the estimated location of the flight path used by waterbird species, birds of prey or other larger species of conservation interest passing through the area. Flights involving short hops from point to point were not recorded. The focus was on the flight line corridor over the Loop or the southwest section of old Shenzhen River meander.

6.8 During the survey, species generally commensal with man (e.g. Black-collared Starling), common and widespread in HK (e.g. Crested Myna) or small in size and not prone to following flight lines en masse (e.g. Barn Swallow) were ignored in order to concentrate on species of conservation interest and/or those prone to using flight lines (e.g. large waterbirds).

6.9 For each observation of birds in flight, the number, the species and their height above the ground were recorded. Height above the ground was estimated in relation to the level of the Loop and adjacent fish pond area, and/or the location of the observer.

6.10 Given the difficulty of accurately measuring height above ground from a distance, three height classes were used: 10m, 20m and 30m or above. In practice, this means birds were assigned to ranges of 5-15m (10m height class), 15-25m (20m height class) and 25m or above (30m height class). Approximate heights of observation points were 40m

at Lok Ma Chau Lookout.

6.11 Flight line locations marked on the maps were then overlain with a 100m grid, each square having a unique number.

6.12 The number of birds of each species passing through each 100m grid (the number of "bird-flights") and their height above ground were then entered into an Excel spreadsheet. These data were then mapped, and on the figures produced a greater intensity of colour indicated a higher number of birds, as shown in **Figure 6.**

Monitoring Day

6.13 The flight line survey was carried out on 21st October 2022. Sunrise time at 6:21 am and the survey started at 5:52 am and lasted for 2 hours. The weather was fine throughout the survey.

Monitoring Result

6.14 Total number of birds observed was 1319. Six species were included in the record of the flight line survey, including Little Egret, Great Egret, Black-crowned Night 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	814	25	404	385
Great Egret 大白鷺	66	0	16	50
Black-crowned Night Heron 夜鷺	1	0	0	1
Grey Heron 蒼鷺	4	0	4	0
Great Cormorant 普通鸕鷀	430	1	86	343
Black Kite 黑鳶	4	0	0	4
Total	1319	26	510	783

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 13391. **Table 6.2** shows the number of bird-flights for the six species respectively.

Table 6.2 Number of Bird-flights

Species	Total number of Bird-Flights
Little Egret 小白鷺	8152
Great Egret 大白鷺	830
Black-crowned Night Heron 夜鷺	10
Grey Heron 蒼鷺	100
Great Cormorant 普通鸕鷀	4259
Black Kite 黑鳶	40
Total	13391

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

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

Monitoring Requirements (Mammals)

Monitoring Requirements

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

6.19 The purpose of the monitor is to observe the connectivity between the 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 locations of cameras are subject to the project progress and result of the survey.

Monitoring Methodology

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

Monitoring Results

6.22 In view of current site condition of Loop, the connectivity between the 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 The mammals monitoring in the Loop was therefore temporarily suspended since March 2022 and will be resumed subject to the site condition.

Western Connection Road

Monitoring Requirements (Avifauna Monitoring – Flight Line Survey)

6.24 Refer to Sections 6.1 to 6.17.

Monitoring Requirements (Avifauna Monitoring – Pond 12)

Monitoring Requirements

6.25 As required under Section 11.4.2.1 of EM&A Manual, weekly counts of the number and species of bird using Pond 12 was required from the beginning of work until 12 months after the establishment of the Ecological Area or completion of work on the Western Connection Road, whichever is the later.

6.26 The purpose of the survey was to identify the number and species composition of birds using Pond 12 to ensure there would be no impacts greater than predicted from construction works.

Monitoring Frequency

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

Monitoring Location

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

Monitoring Methodology

6.29 The species and number of birds using Pond 12 were surveyed weekly. Each weekly survey started before the commencement of works of the day, and ended 1 hour after works had begun.

6.30 During the survey, the surveyor would identify and count each bird using Pond 12 with a pair of binoculars and a camera. The abundance and species of the identified birds would be recorded.

Monitoring Result

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

Dates of pond 12 avifauna survey: 5th, 13th, 19th and 26th October 2022

6.32 In total, 238 individuals from 28 avifauna species were recorded at Pond 12 in the reporting month. The detailed results are shown in **Appendix R1**.

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

Table 6.3 Summary of Avifauna Monitoring Results at Pond 12

Monitoring Date	Number of Species		Abundance	
	Before Construction	During Construction	Before Construction	During Construction
5th October 2022	10	12	13	30
12th October 2022	10	12	14	31
19th October 2022	4	14	8	25
26th October 2022	11	18	54	63

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

Herpetofauna

Monitoring Requirements

6.35 Under Section 11.4.2.2 of EM&A Manual, monitoring of the only herpetofauna species of conservation interest in the area around pond 12, the Chinese Bullfrog, should be conducted before and during the whole construction period.

6.36 The purpose of the survey was to ensure the abundance of the Chinese Bullfrog in the area of Pond 12, LMC Tsuen, and nearby wetlands is not affected by construction works.

Monitoring Frequency

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

Monitoring Location

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

Monitoring Methodology

6.39 Survey along the transect was conducted once during daytime, and once during night time. Surveyors would actively search for presence of tadpoles, froglets or adults in potential habitats (such as ditches, ponds, marshes and wet agricultural land) through direct observation, or identification of vocalisations.

Monitoring Result

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

Date of Herpetofauna survey:	20th October 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 bankside observation with the aid of binoculars, for 5 minutes at each sampling point. After bankside observation, sweep

netting was also carried out at each sampling point, if feasible.

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

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

Monitoring Result

6.52 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:	26th October 2022
Date of Water Quality Monitoring for Aquatic Fauna	LMC Meander 3rd, 5th, 7th, 10th, 12th, 14th, 17th, 19th, 21st, 24th, 26th, 28th and 31st October 2022 Stream and associated ponds south of Lung Hau Road 7th, 11th, 20th, 26th and 31st October 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, 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.

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 is shown **Table 8.1**.

Table 8.1 Quantities of Waste Generated in the Reporting Month

Contract(s)	Waste Type		Quantity this month	Disposal / Dumping Grounds
Contract No. YL/2020/01	Inert	Reused in this Contract (Inert) (in '000 m^3)	0	N/A
		Reused in other Contracts/ Projects (Inert) (in '000 m^3)	0	N/A
		Disposal as Public Fill (Inert) (in '000 m^3)	0	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)	0.563	N/A
Contract No. YL/2021/01		Reused in this Contract (Inert) (in '000 m^3)	0	N/A
		Reused in other Contracts/ Projects (Inert) (in '000 m^3)	0	N/A
		Disposal as Public Fill (Inert) (in '000 m^3)	0.960	N/A
Contract No. YL/2020/01	Non-inert	Recycled Metal ('000kg)	0.006	N/A
		Recycled Paper / Cardboard Packing ('000kg)	0.107	N/A
		Recycled Plastic ('000kg)	0.003	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m^3)	0.075	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)	0.231	NENT Landfill
Contract No. YL/2021/01		Recycled Metal ('000kg)	0.007	N/A
		Recycled Paper / Cardboard Packing ('000kg)	0	N/A
		Recycled Plastic ('000kg)	0	N/A
		Chemical Wastes ('000kg)	0	N/A
		General Refuses ('000m^3)	0.003	N/A

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 3rd, 5th, 10th, 12th, 17th, 21st, 25th, 26th and 31st October 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	5th, 12th, 21st and 26th October 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	5th, 12th, 21st and 26th October 2022
Contract No.: YL/2021/01 – Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 3 Direct Road Link Phase 2	3rd, 10th, 17th, 25th and 31st October 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			
Water Quality	12/10/2022	To check the silt curtain regularly for meander bridge.	Improvement/ Rectification was observed during follow-up audit session on 21st October 2022.
Ecology	12/10/2022	To repair/ replace the damaged olive green fence at near EA zone	Improvement/ Rectification was observed during follow-up audit session on 21st October 2022.
Contract No. YL/2020/02			
Water Quality	5/10/2022	The exposed slope at near the nullah at LCS should be covered with tarpaulin sheet.	Improvement/ Rectification was observed during follow-up audit session on 12th October 2022.
Water Quality	12/10/2022	To provide soil berm along the slopes of RW9.	Improvement/ Rectification was observed during follow-up audit session on 21st October 2022.
Waste / Chemical Management	26/10/2022	The tarpaulin sheet should be provided at underneath of the vibrating clamp to avoid oil leakage during the maintenance works (RW9).	Improvement/ Rectification was observed during follow-up audit session on 2nd November 2022.

Parameters	Date	Observations and Recommendations	Follow-up
Contract No. YL/2021/01			
Water Quality	10/10/2022	To enhance the water mitigation measures around the gully near EEAA.	Improvement/ Rectification was observed during follow-up audit session on 17th October 2022.
Water Quality	17/10/2022	Provide water quality mitigation measures to avoid the mud and silt directly going into the perimeter drainage channels.	Improvement/ Rectification was observed during follow-up audit session on 25th October 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 Conditions 2.7 and 2.9 respectively are summarised in **Table 10.1**.

Table 10.1 Compliance Status of Ecological and Noise Mitigation Measures (EP Conditions 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.

EP Requirements	Compliance Status	Remarks
(c) stabilising the bank of the old Shenzhen River meander of the Loop, approximately 3.5 km long, including re-vegetation upon completion of the works and various ecological designs, such as practicability of installation of otter holts and provision of potential feeding area and spraint locations for otters in the stabilised bank;	Yes	The EA design has implemented these measures.
(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	Yes	**Development of Lok Ma Chau Loop: Land Decontamination and Advance Engineering Works**

EP Requirements	Compliance Status	Remarks
the commencement of corresponding parts of the works of the Project, deposited with the Director. The Plan(s) shall show the design details, locations, implementation programme, maintenance and management schedules, and drawings in the scale of 1:1,000 or other appropriate scale of the ecological mitigation measures of the Project. Before submission to the Director, the Plan(s) shall be certified by the ET Leader and verified by the IEC as conforming to the relevant information and recommendations contained in the EIA Report. All measures recommended in the finalised submission(s) under this Condition shall be fully and properly implemented.		The HCMP has been submitted and approved under the EP condition 2.7. **<u>Development of Lok Ma Chau Loop Main Works Package 1 – Design and Construction</u>** 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 (Figures 2a and 2b of EP-477/2013/A). (**Appendix N**) The TNBs installation under Contract 2 were completed in August 2022 (Figures 3a and 3b of EP-477/2013/A). (**Appendix N**) Due to the updated site condition, TNB5 deems to serve the function of TNB16 before the commencement of road widening works of the Western Connection Road.
(b) use of movable noise barriers, noise enclosures and quiet powered mechanical equipment for the noisy construction activities and equipment as described in Table 1 and with reference to the typical designs as shown in Figure 4 of this Permit;	Yes	-
(c) concrete lorry mixer(s) shall be operated at least 25 m away from the noise sensitive receivers (NSRs) No. HWTR-6 and HWTR-11 at the Western Connection Road as shown in Figures 2b and 3b as described in Table 1 of this Permit to avoid exceedance due to cumulative construction noise; and	Yes	-
(d) no percussive piling nor blasting by explosive shall be implemented in the Project.	Yes	-

Remark: N/A – Not fulfilled yet

Ecological Mitigation Measures – Offsite Wetland Compensation Areas (OWCAs)

10.3 According to the EIA Report, habitat loss and disturbance impacts are predicted for both construction and operation phase of the development of Lok Ma Chau Loop. All these impacts are expected to be compensated both temporarily (during construction phase) and permanently (during operation phase). Among other measures identified from EIA report to avoid, minimize and compensate for identified impacts, three areas of existing fishpond habitat (Areas 2, 7 and 9) were proposed in the EIA Report to provide OWCAs.

10.4 These Areas are located within a Priority Site for Enhanced Conservation, namely "Deep Bay wetlands outside the Ramsar site". Many of these fishponds are currently participating in the Nature Conservation Management Agreement Scheme in the Northwest New Territories, which has the objective of restoring and enhancing the conservation value of commercial fishponds in the area. In general, the activities involved in the establishment of OWCAs are in nature the same as those associated with commercial fishpond management currently taking place in the area. Therefore, there are no direct implications for the ecological impacts OWCAs according to Section 12.7.9 of EIA report.

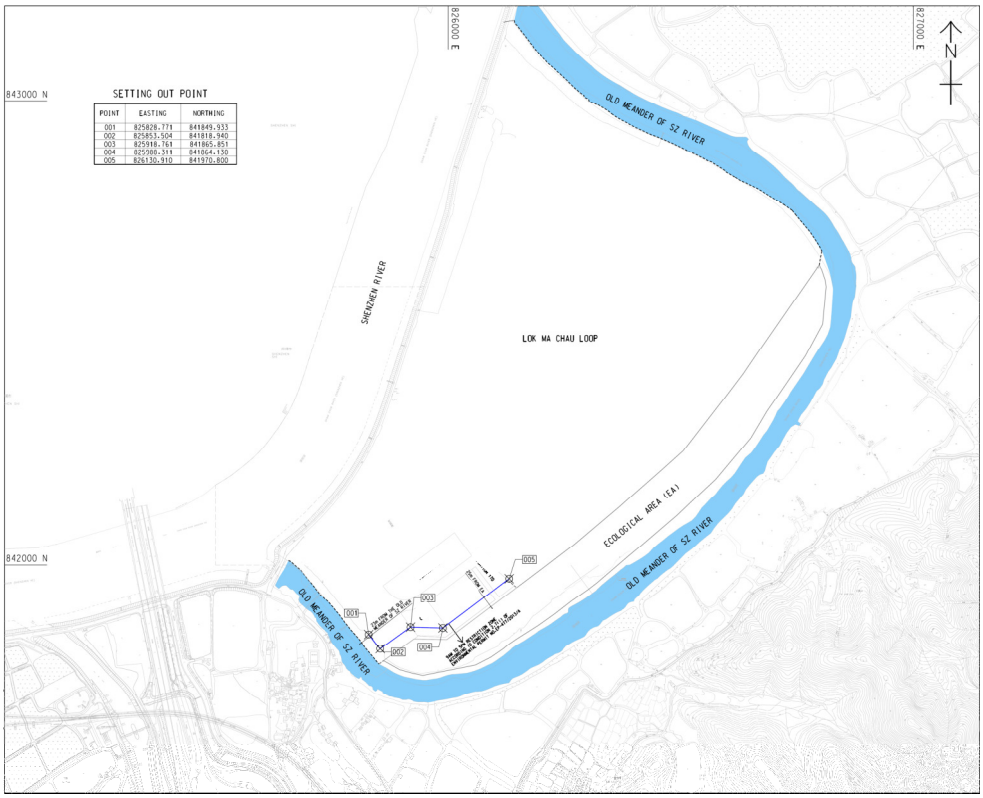
10.5 Under Environmental Permit (EP) number EP-477/2013/A, an Ecological Mitigation/ Habitat Creation and Management Plan (HCMP) is required for all habitat compensation measures required by the Project EIA. The OWCAs are established according to the HCMP which provides a framework and specifications for development and management of the OWCAs.

10.6 The OWCAs (Areas 2, 7 and 9) has been substantial completed and the establishment date is 14 October 2022 tentatively and pending AFCD's approval.

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. (See Figure & photo below)

10.8 Installation of the green fence alongside the Ecological Area and the Meander was proposed and completed on 20th May 2022. The layout plan of the green fence installation is shown below:-



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

11 ENVIRONMENTAL NON-CONFORMANCE (EXCEEDANCES)

Summary of Exceedances

11.1 Summary of exceedances is provided in **Appendix K**.

11.2 No Action/Limit Level exceedance was recorded for air quality and water quality monitoring.

11.3 One Action Level exceedance was recorded due to the noise complaint (0700-1900 hrs on normal weekdays) was received. No Limit Level exceedance was recorded.

Summary of Environmental Complaint

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

Table 11.1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Project related complaint
Jan 2019 – Sep 2022	11	14	1
Oct 2022	3		0

Summary of Notification of Summons and Successful Prosecutions

11.5 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 summon
Jan 2019 – Sep 2022	0	0	0
Oct 2022	0		0

Table 11.3 Statistical Summary of Environmental Prosecution

Reporting Period	Environmental Prosecution Statistics		
	Frequency	**Cumulative**	**Project related Prosecution**
Jan 2019 – Sep 2022	0	0	0
Oct 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) Wetland Compensation Establishment Works and Ecological Monitoring.

(b) Additional Ground Investigation and Site Formation.

(c) Deep Cement Mixing Work.

(d) Piling Works for Box Culverts.

(e) Pre-drilling Construction for Vehicular Bridge over the old Shenzhen River Meander.

(f) Drainage works and roadworks.

(g) Road L1 Excavation and Lateral Support (ELS) Cofferdam Construction.

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

(a) Tree Felling / Tree Transplant.

(b) Pre-construction Condition Survey inside MTRC tunnel.

(c) Pre-drilling and Trial Pits for Bridge ST01, CTFB and DRL.

(d) Temporary diversion of 2 watermains, 1 gas main and CLP cables for box culvert modification.

(e) Box Culvert Modification at Lok Ma Chau Road (Stage 1).

(f) Demolition of Existing Structures along Lok Ma Chau Road.

(g) Construction of temporary cycle track along Lok Ma Chau Road and San Tin Public Transport Interchange.

(h) Existing Cycle Track Subway Modification.

(i) Construction of Pai Lau.

(j) Bored pile and socketed H-Pile for Bridge DRL, CTFB & ST01.

(k) Construction of Retaining walls RW 8 and RW 9.

(l) Operation of TAR1 and TAR2.

(m) Liaison with utility companies for utility diversion.

(n) Bored Pile at Retaining Wall BPW1.

(o) ELS cofferdam construction for ST01-P02 and P03.

(p) Commission of temporary cycle track along Castle Peak Road (Chau Tau).

(q) Road works along Lok Ma Chau Road.

(r) Drainage diversion for Pier ST01-P04 foundation construction.

(s) Construction of ST01-P02 and P03 pile cap.

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

(a) Elevated Passenger Transport Interchange (EPTI) Ground Investigation works.

(e) Elevated Passenger Transport Interchange (EPTI) Bored Pile Construction.

(f) Project Signboard Erection.

(g) Underground Utilities Diversion at Double-deck Footbridge.

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

12.3 Ecology is also one of the key environmental issues during construction of the Project. Noise pollution has a negative impact on wildlife species by reducing habitat quality. Therefore, noise mitigation measures such as using quiet plants and noise barriers should be in place, where applicable. 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. 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 relevant WPCO licences. Wheel washing facilities shall be probably designed, established and utilized. The site drainage plan shall also be updated based on the site

conditions and latest construction programmes.

Monitoring Schedule for the Next Month

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

Construction Programme for the Next Month

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

13 CONCLUSIONS AND RECOMMENDATIONS

Conclusions

13.1 The EM&A Report presents the EM&A works undertaken in October 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. One Action Level exceedance was recorded due to the noise complaint (0700-1900 hrs on normal weekdays) was received. No 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. It demonstrates that the large waterbirds prefer using the flight line corridor above the LMC Meander as well as the unaffected Shenzhen River instead of the centre of LMC Loop.

Mammals

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

13.8 In addition, the 12-month establishment period of EA zone has been completed. The mammals monitoring in the Loop was therefore temporarily suspended in the reporting month and will be resumed subject to the site condition.

Western Connection Road

Avifauna (Flight Line Survey)

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

Avifauna (Pond 12)

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

Herpetofauna

13.11 Herpetofauna 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 3rd, 5th, 10th, 12th, 17th, 21st, 25th, 26th and 31st October 2022 by ET in the reporting month.

Environmental Complaints, Summons and Prosecutions

13.16 Three environmental complaints, no notification of summons or successful prosecution were 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, exposed work site areas and dust generation works;
- To maintain the impervious material to cover the stockpile of dusty materials;
- To design, establish and properly use the wheel washing facilities at the site exits; 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 check the silt curtain regularly and 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, floating rubbish 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 are probably maintained and not be clogged with sediment to avoid overflow;
- To cover the exposed slope surfaces by tarpaulin or other means;
- To designate the area for wheel washing and set up the associated drainage for water from a wheel wash;
- To pave the exit points; and
- To implement the effective water quality mitigation measures according to the site drainage plan.

Ecology Impact

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

Waste/Chemical Management

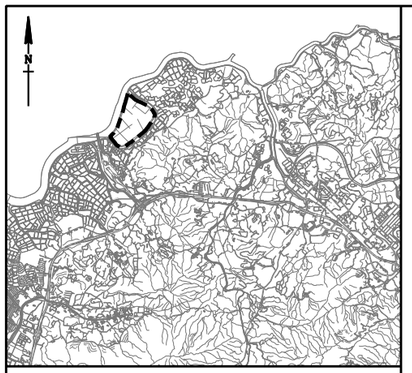
- To check for any accumulation of waste materials or rubbish on site;

- 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 and/or provide tarpaulin sheet properly for equipment to prevent oil and chemical leakage; and
- To avoid improper handling, storage and dispose of oil drums or chemical containers on site.

Landscape and Visual

- To erect and maintain the protection fencing and tree protection zone around the preserved trees; and
- To regularly clear the construction materials within the tree protection zone.

FIGURE(S)



工務計劃項目第748CL號—落馬洲河套地區發展：土地除污及前期工程

PWP ITEM No. 748CL-DEVELOPMENT OF LOK MA CHAU LOOP : LAND DECONTAMINATION AND ADVANCE ENGINEERING WORKS

FIGURE 1 a

LAYOUT PLAN

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

HORN HILL (NGAU KOK SHAN)
MA TSO LUNG
PING HANG
TAI LAU HAU
LOK MA CHAU
FUNG KONG SHAN
CREST HILL (TAI SHEK MO)
SAM PO SHUE
SAN TIN
HADDEN HILL (KI LUN SHAN)
KWU TUNG RESERVOIR
EAST RAIL LINE
CASTLE PEAK ROAD

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\GISKETCH\SK0099.dgn
5/5/2020

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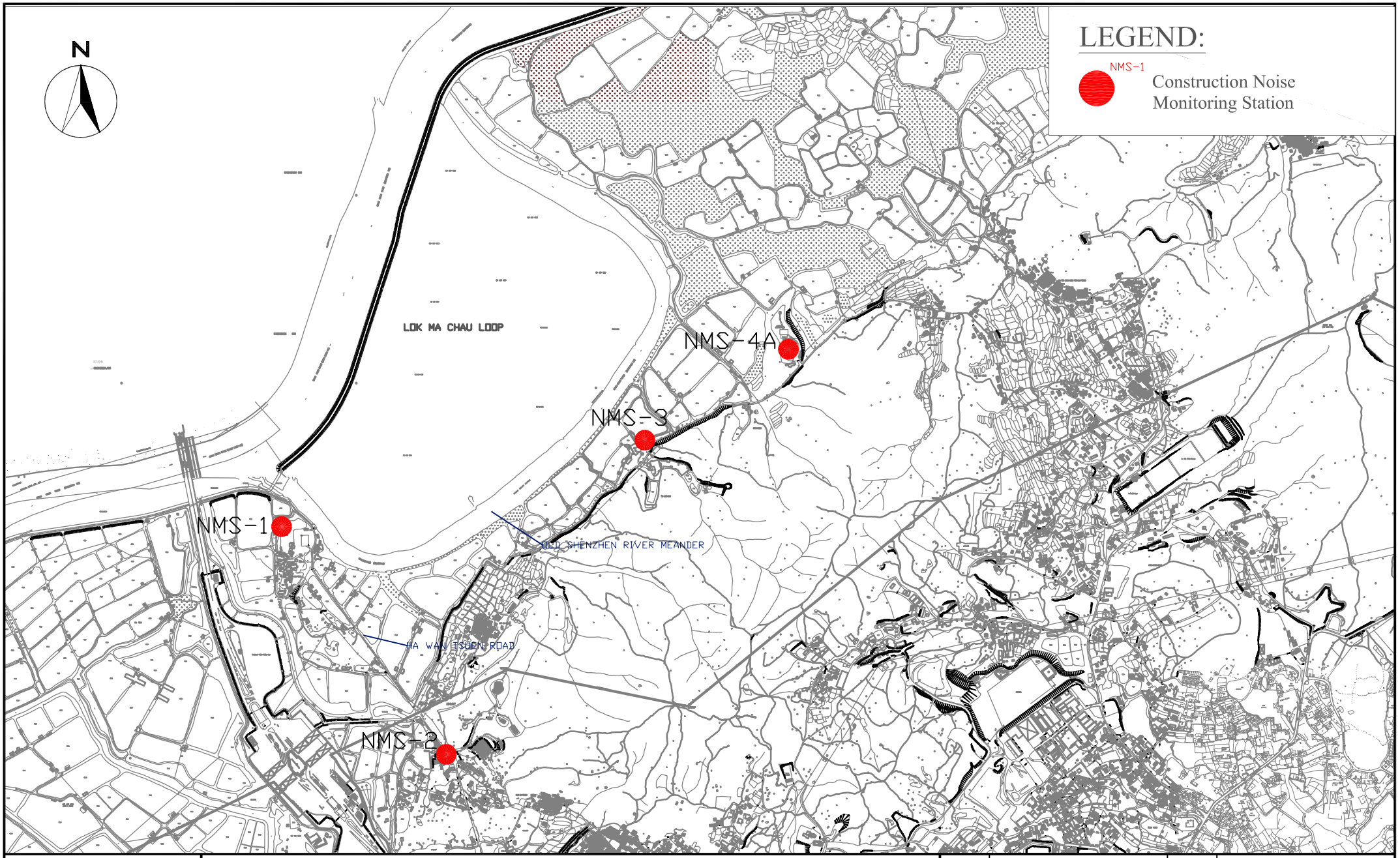
Service Contract No. WD/04/2020
Development of Lok Man Chau Loop: Main Work Package 1 - Environmental Team
Location of Air Quality Monitoring Stations

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

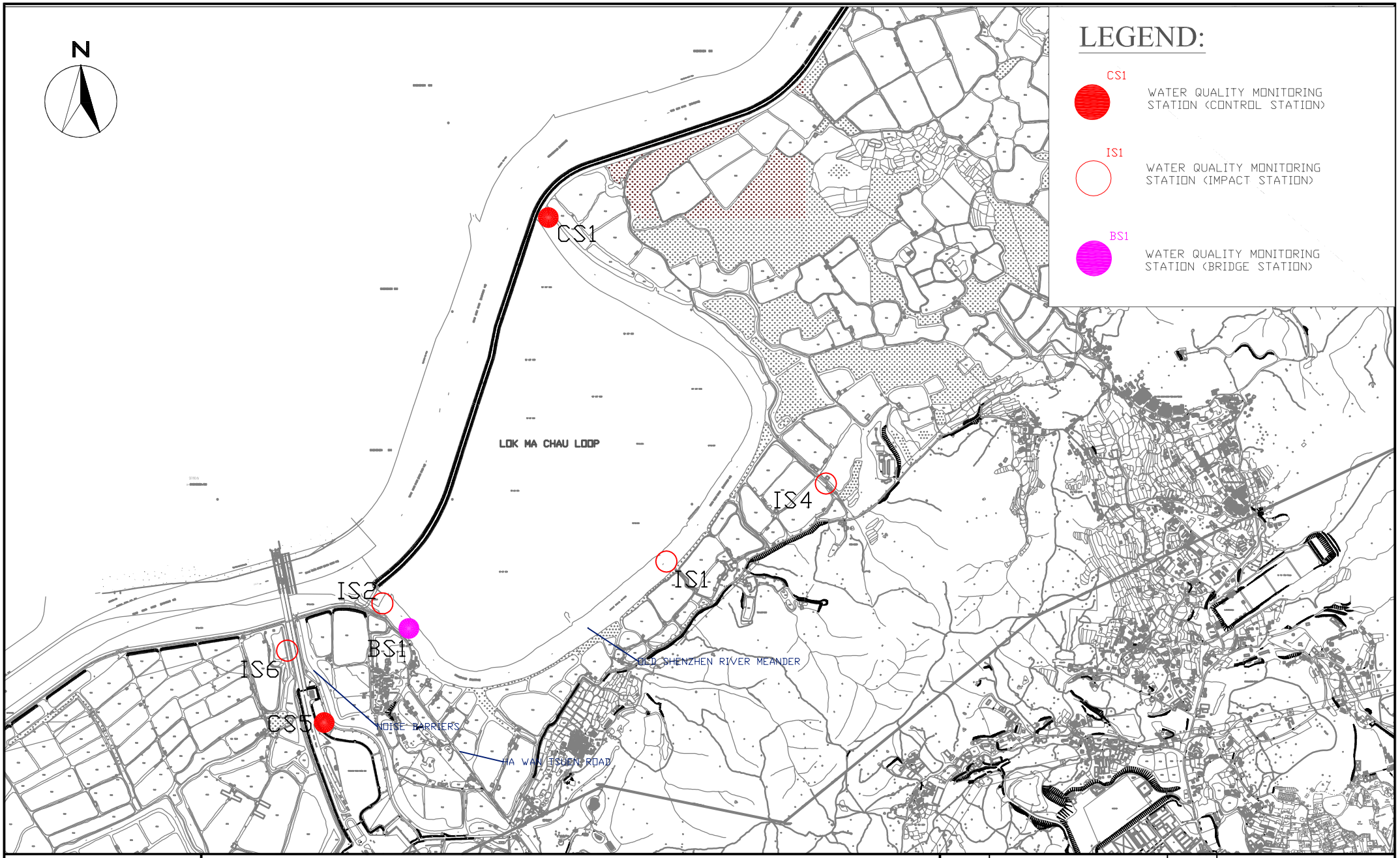


WELLAB 匯力
consulting . testing . research

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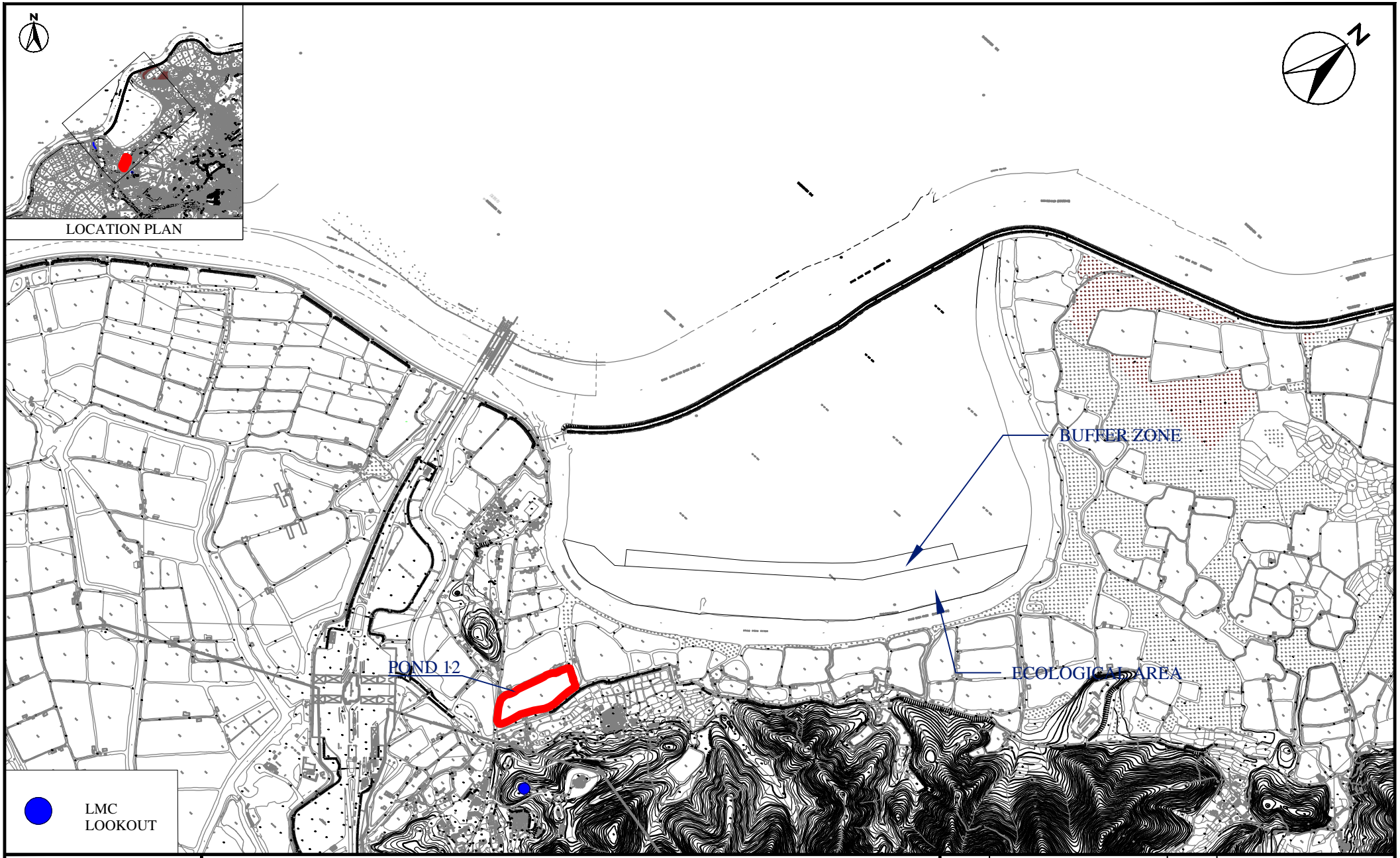
Service Contract No. WD/04/2020
Development of Lok Man Chau Loop: Main Work Package 1 - Environmental Team

Location of Water Quality Monitoring Stations

SCALE	1:400 A4	DATE	May 2021
CHECK	PC	DRAWN	IT
JOB No.	WMA 21009	FIGURE NO.	Fig 4
		REV	-



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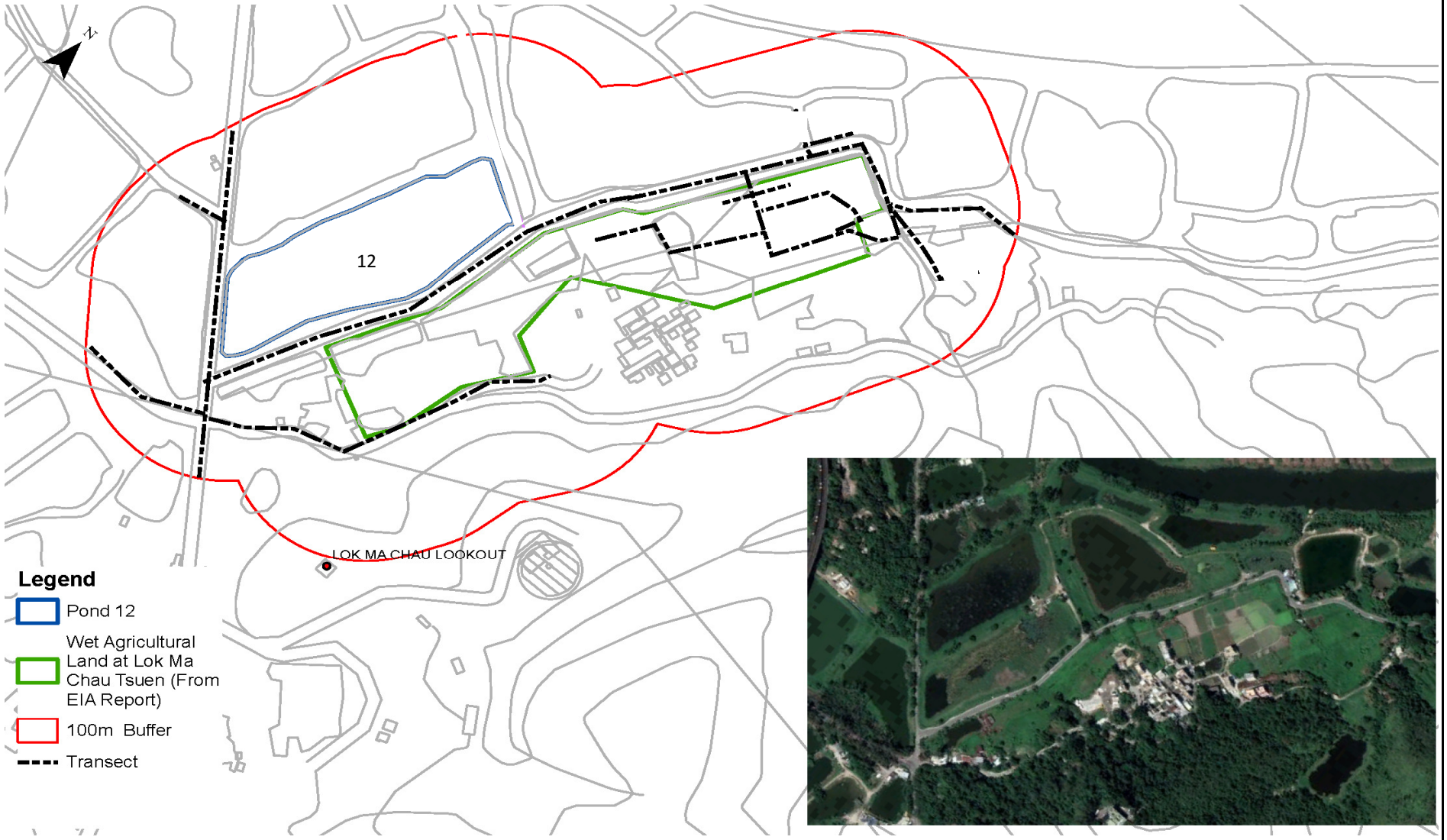
Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team
Locations of Pond 12 and Lok Ma Chau Lookout

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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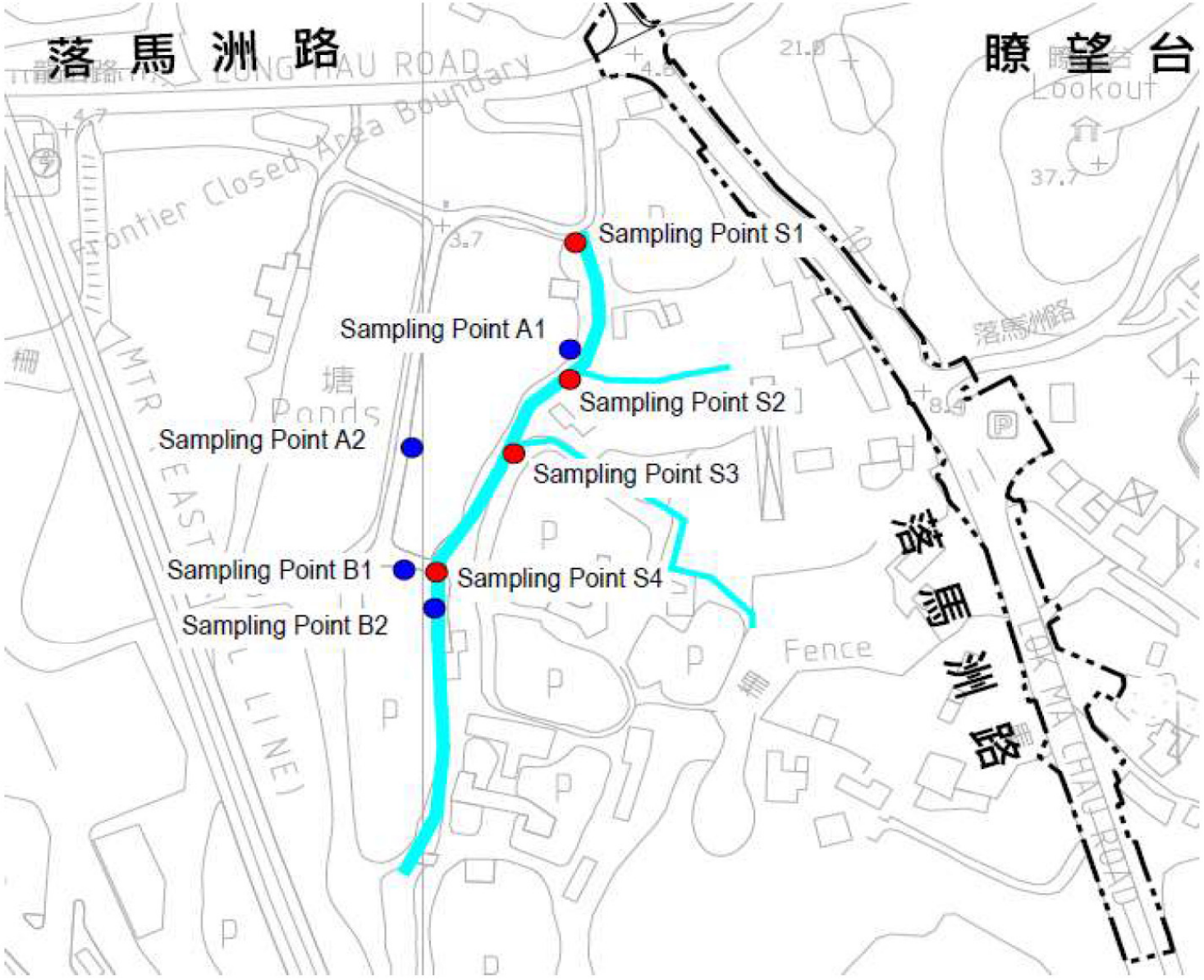
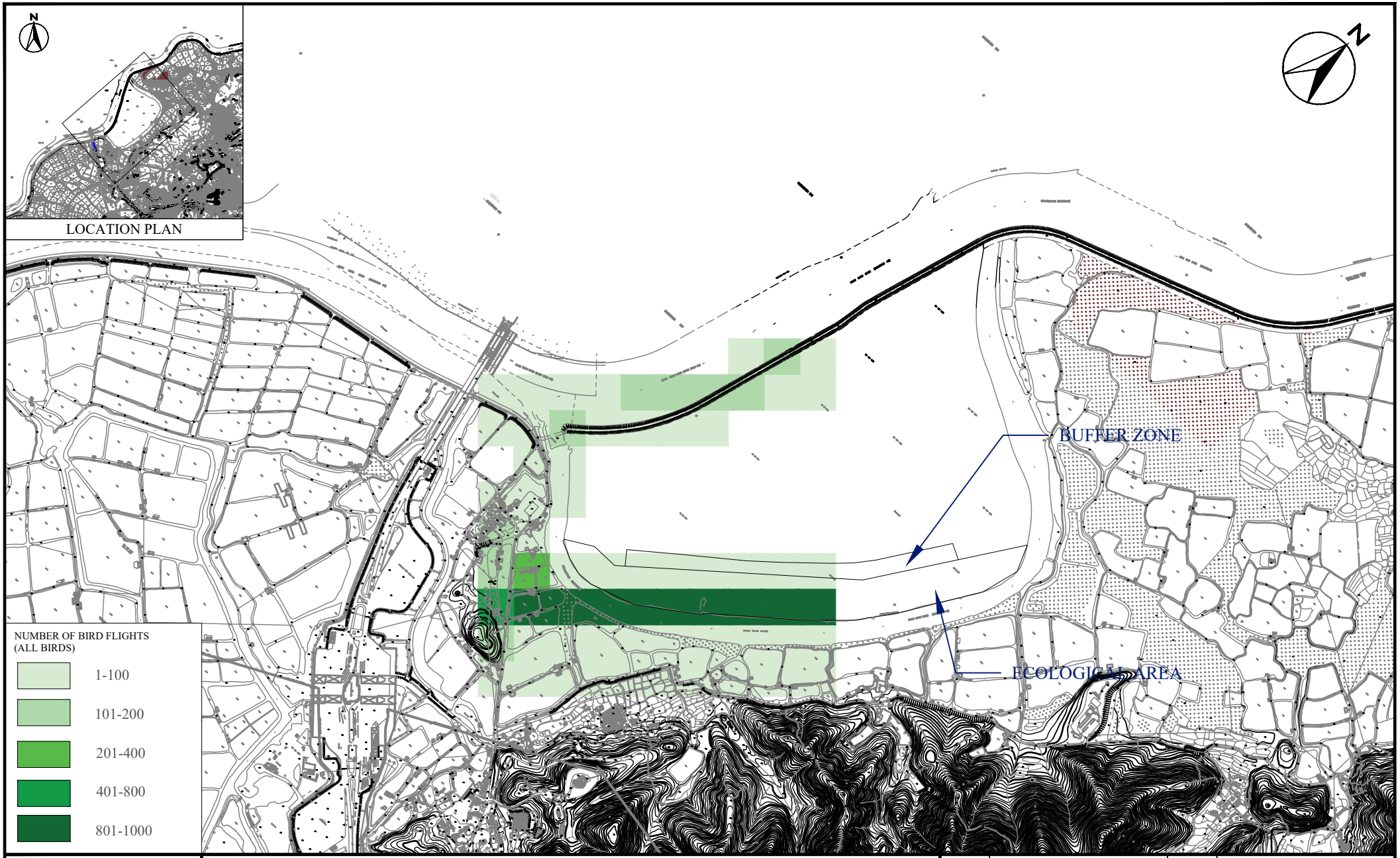


Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop Main Work Package 1 - Environmental Team Locations of Rose Bitterling Sampling Points	Scale N.T.S	Project No. WMA21009	WELLAB 匯力 consulting . testing . research
	Date Mar-22	Figure 5c	



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

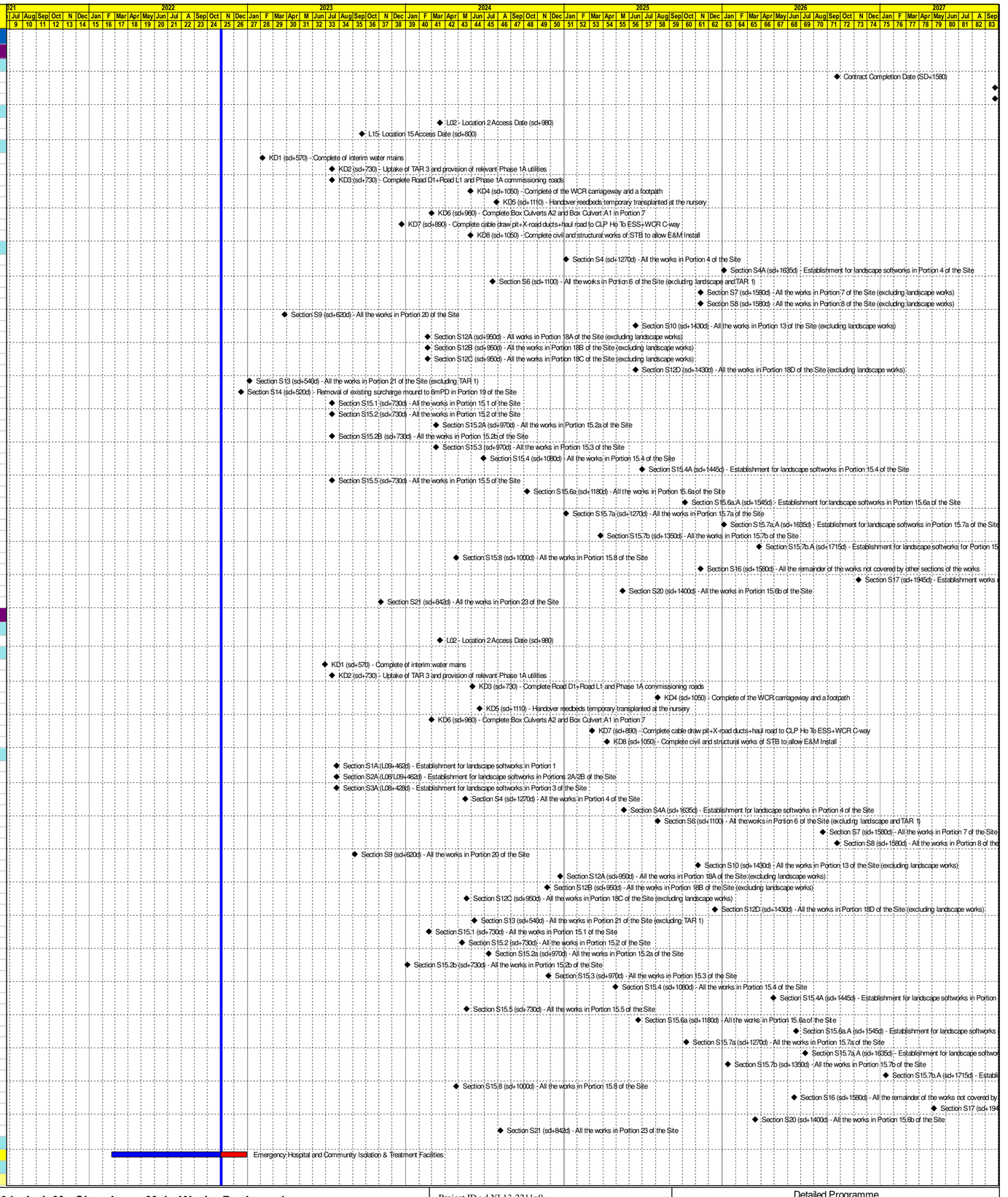
Flight Lines of All Bird Species

SCALE	1:14000 @A4	DATE	October 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	Suspend Date
Contract No. YL/2020/01 - Detailed Programme Rev. 13		843	01-Sep-21 A	22-Sep-27	22-Jul-21	11-Nov-26	-123	
Contract Data Part 1		1740	17-Dec-22	22-Sep-27	17-Dec-22	11-Nov-26	-315	
General		365	22-Sep-26	22-Sep-27	11-Nov-25	11-Nov-26	-315	
G3-CCD	Contract Completion Date (SD+1580)	0		22-Sep-26		11-Nov-25	-315	
G5-EW	Establishment Works (365 days)	0		22-Sep-27		11-Nov-26	-315	
G6-DD	Defect Date (CD+12 months)	0		22-Sep-27		11-Nov-26	-315	
Contract Access Dates to Part of the Site		180	23-Sep-23	21-Mar-24	22-Sep-23	21-Mar-24	0	
CL02	L02 - Location 2 Access Date (sd+980)	0	21-Mar-24*		21-Mar-24		0	
CL15	L15- Location 15 Access Date (sd+800)	0	23-Sep-23*		22-Sep-23		0	
Contract Key Dates		540	05-Feb-23	29-Jul-24	05-Feb-23	29-Jul-24	0	
KD01	KD1 (sd+570) - Complete of interim water mains	0		05-Feb-23*		05-Feb-23	0	
KD02	KD2 (sd+730) - Uptake of TAR 3 and provision of relevant Phase 1A utilities	0		15-Jul-23*		15-Jul-23	0	
KD03	KD3 (sd+730) - Complete Road D1+Road L1 and Phase 1A commissioning roads	0		15-Jul-23*		15-Jul-23	0	
KD04	KD4 (sd+1050) - Complete of the WCR carriageway and a footpath	0		30-May-24*		30-May-24	0	
KD05	KD5 (sd+1110) - Handover reedbeds temporary transplanted at the nursery	0		29-Jul-24*		29-Jul-24	0	
KD06	KD6 (sd+960) - Complete Box Culverts A2 and Box Culvert A1 in Portion 7	0		01-Mar-24*		01-Mar-24	0	
KD07	KD7 (sd+890) - Complete cable draw pit+X-road ducts+haul road to CLP Ho To ESS+WCR C-way	0		22-Dec-23*		22-Dec-23	0	
KD08	KD8 (sd+1050) - Complete civil and structural works of STB to allow E&M Install	0		30-May-24*		30-May-24	0	
Contract Section Completions		1425	17-Dec-22	11-Nov-26	17-Dec-22	11-Nov-26	0	
S04	Section S4 (sd+1270d) - All the works in Portion 4 of the Site	0		05-Jan-25*		05-Jan-25	0	
S04A	Section S4A (sd+1635d) - Establishment for landscape softworks in Portion 4 of the Site	0		05-Jan-26*		05-Jan-26	0	
S06	Section S6 (sd+1100) - All the works in Portion 6 of the Site (excluding landscape and TAR 1)	0		19-Jul-24*		19-Jul-24	0	
S07	Section S7 (sd+1580d) - All the works in Portion 7 of the Site (excluding landscape works)	0		11-Nov-25*		11-Nov-25	0	
S08	Section S8 (sd+1580d) - All the works in Portion 8 of the Site (excluding landscape works)	0		11-Nov-25*		11-Nov-25	0	
S09	Section S9 (sd+620d) - All the works in Portion 20 of the Site	0		27-Mar-23*		27-Mar-23	0	
S10	Section S10 (sd+1430d) - All the works in Portion 13 of the Site (excluding landscape works)	0		14-Jun-25*		14-Jun-25	0	
S12A	Section S12A (sd+950d) - All works in Portion 18A of the Site (excluding landscape works)	0		20-Feb-24*		20-Feb-24	0	
S12B	Section S12B (sd+950d) - All the works in Portion 18B of the Site (excluding landscape works)	0		20-Feb-24*		20-Feb-24	0	
S12C	Section S12C (sd+950d) - All the works in Portion 18C of the Site (excluding landscape works)	0		20-Feb-24*		20-Feb-24	0	
S12D	Section S12D (sd+1430d) - All the works in Portion 18D of the Site (excluding landscape works)	0		14-Jun-25*		14-Jun-25	0	
S13	Section S13 (sd+540d) - All the works in Portion 21 of the Site (excluding TAR 1)	0		06-Jan-23*		06-Jan-23	0	
S14	Section S14 (sd+520d) - Removal of existing surcharge mound to 6mPD in Portion 19 of the Site	0		17-Dec-22*		17-Dec-22	0	
S15.1	Section S15.1 (sd+730d) - All the works in Portion 15.1 of the Site	0		15-Jul-23*		15-Jul-23	0	
S15.2	Section S15.2 (sd+730d) - All the works in Portion 15.2 of the Site	0		15-Jul-23*		15-Jul-23	0	
S15.2A	Section S15.2A (sd+970d) - All the works in Portion 15.2a of the Site	0		11-Mar-24*		11-Mar-24	0	
S15.2B	Section S15.2B (sd+730d) - All the works in Portion 15.2b of the Site	0		15-Jul-23*		15-Jul-23	0	
S15.3	Section S15.3 (sd+970d) - All the works in Portion 15.3 of the Site	0		11-Mar-24*		11-Mar-24	0	
S15.4	Section S15.4 (sd+1080d) - All the works in Portion 15.4 of the Site	0		29-Jun-24*		29-Jun-24	0	
S15.4A	Section S15.4A (sd+1445d) - Establishment for landscape softworks in Portion 15.4 of the Site	0		29-Jun-25*		29-Jun-25	0	
S15.5	Section S15.5 (sd+730d) - All the works in Portion 15.5 of the Site	0		15-Jul-23*		15-Jul-23	0	
S15.6a	Section S15.6a (sd+1180d) - All the works in Portion 15.6a of the Site	0		07-Oct-24*		07-Oct-24	0	
S15.6a.A	Section S15.6a.A (sd+1545d) - Establishment for landscape softworks in Portion 15.6a of the Site	0		07-Oct-25*		07-Oct-25	0	
S15.7a	Section S15.7a (sd+1270d) - All the works in Portion 15.7a of the Site	0		05-Jan-25*		05-Jan-25	0	
S15.7a.A	Section S15.7a.A (sd+1635d) - Establishment for landscape softworks in Portion 15.7a of the Site	0		05-Jan-26*		05-Jan-26	0	
S15.7b	Section S15.7b (sd+1350d) - All the works in Portion 15.7b of the Site	0		26-Mar-25*		26-Mar-25	0	
S15.7b.A	Section S15.7b.A (sd+1715d) - Establishment for landscape softworks for Portion 15.7b of the Site	0		26-Mar-26*		26-Mar-26	0	
S15.8	Section S15.8 (sd+1000d) - All the works in Portion 15.8 of the Site	0		27-Apr-24*		10-Apr-24	-17	
S16	Section S16 (sd+1580d) - All the remainder of the works not covered by other sections of the works	0		11-Nov-25*		11-Nov-25	0	
S17	Section S17 (sd+1945d) - Establishment works not covered by other sections of the works.	0		11-Nov-26*		11-Nov-26	0	
S20	Section S20 (sd+1400d) - All the works in Portion 15.6b of the Site	0		15-May-25*		15-May-25	0	
S21	Section S21 (sd+842d) - All the works in Portion 23 of the Site	0		04-Nov-23*		04-Nov-23	0	
Planned Completion Dates		726	22-Feb-22 A	04-May-27	22-Jul-21	11-Nov-26	-68	
Planned Access Dates to Part of the Site		0	21-Mar-24	21-Mar-24	21-Mar-24	21-Mar-24	0	
AL02	L02 - Location 2 Access Date (sd+980)	0	21-Mar-24*		21-Mar-24		0	
Planned Key Dates		768	28-Jun-23	04-Aug-25	05-Feb-23	29-Jul-24	-371	
PKD01	KD1 (sd+570) - Complete of interim water mains	0		28-Jun-23*		05-Feb-23	-143	
PKD02	KD2 (sd+730) - Uptake of TAR 3 and provision of relevant Phase 1A utilities	0		15-Jul-23*		15-Jul-23	0	
PKD03	KD3 (sd+730) - Complete Road D1+Road L1 and Phase 1A commissioning roads	0		03-Jun-24*		15-Jul-23	-324	
PKD04	KD4 (sd+1050) - Complete of the WCR carriageway and a footpath	0		04-Aug-25*		30-May-24	-431	
PKD05	KD5 (sd+1110) - Handover reedbeds temporary transplanted at the nursery	0		19-Jun-24		29-Jul-24	40	
PKD06	KD6 (sd+960) - Complete Box Culverts A2 and Box Culvert A1 in Portion 7	0		01-Mar-24*		01-Mar-24	0	
PKD07	KD7 (sd+890) - Complete cable draw pit+X-road ducts+haul road to CLP Ho To ESS+WCR C-way	0		06-Mar-25*		22-Dec-23	-440	
PKD08	KD8 (sd+1050) - Complete civil and structural works of STB to allow E&M Install	0		09-Apr-25*		30-May-24	-314	
Planned Section Completions		1379	25-Jul-23	04-May-27	28-Oct-22	11-Nov-26	-174	
PS01A	Section S1A (L09+462d) - Establishment for landscape softworks in Portion 1	0		25-Jul-23*		28-Oct-22	-270	
PS02A	Section S2A (L08/L09+462d) - Establishment for landscape softworks in Portions 2A/2B of the Site	0		25-Jul-23*		28-Oct-22	-270	
PS03A	Section S3A (L08+428d) - Establishment for landscape softworks in Portion 3 of the Site	0		25-Jul-23*		28-Oct-22	-270	
PS04	Section S4 (sd+1270d) - All the works in Portion 4 of the Site	0		18-May-24		05-Jan-25	232	
PS04A	Section S4A (sd+1635d) - Establishment for landscape softworks in Portion 4 of the Site	0		18-May-25		05-Jan-26	232	
PS06	Section S6 (sd+1100) - All the works in Portion 6 of the Site (excluding landscape and TAR 1)	0		04-Aug-25*		19-Jul-24	-381	
PS07	Section S7 (sd+1580d) - All the works in Portion 7 of the Site (excluding landscape works)	0		20-Aug-26*		11-Nov-25	-282	
PS08	Section S8 (sd+1580d) - All the works in Portion 8 of the Site (excluding landscape works)	0		22-Sep-26*		11-Nov-25	-315	
PS09	Section S9 (sd+620d) - All the works in Portion 20 of the Site	0		05-Sep-23*		27-Mar-23	-162	
PS10	Section S10 (sd+1430d) - All the works in Portion 13 of the Site (excluding landscape works)	0		05-Nov-25*		14-Jun-25	-144	
PS12A	Section S12A (sd+950d) - All the works in Portion 18A of the Site (excluding landscape works)	0		23-Dec-24*		20-Feb-24	-307	
PS12B	Section S12B (sd+950d) - All the works in Portion 18B of the Site (excluding landscape works)	0		23-Nov-24*		20-Feb-24	-277	
PS12C	Section S12C (sd+950d) - All the works in Portion 18C of the Site (excluding landscape works)	0		20-May-24*		20-Feb-24	-90	
PS12D	Section S12D (sd+1430d) - All the works in Portion 18D of the Site (excluding landscape works)	0		15-Dec-25*		14-Jun-25	-184	
PS13	Section S13 (sd+540d) - All the works in Portion 21 of the Site (excluding TAR 1)	0		08-Jun-24*		06-Jan-23	-520	
PS15.1	Section S15.1 (sd+730d) - All the works in Portion 15.1 of the Site	0		24-Feb-24*		15-Jul-23	-224	
PS15.2	Section S15.2 (sd+730d) - All the works in Portion 15.2 of the Site	0		10-May-24*		15-Jul-23	-300	
PS15.2a	Section S15.2a (sd+970d) - All the works in Portion 15.2a of the Site	0		10-Jul-24*		11-Mar-24	-121	
PS15.2b	Section S15.2b (sd+730d) - All the works in Portion 15.2b of the Site	0		05-Jan-24*		15-Jul-23	-174	
PS15.3	Section S15.3 (sd+970d) - All the works in Portion 15.3 of the Site	0		26-Nov-24*		11-Mar-24	-260	
PS15.4	Section S15.4 (sd+1080d) - All the works in Portion 15.4 of the Site	0		29-Apr-25*		29-Jun-24	-304	
PS15.4A	Section S15.4A (sd+1445d) - Establishment for landscape softworks in Portion 15.4 of the Site	0		29-Apr-26*		29-Jun-25	-304	
PS15.5	Section S15.5 (sd+730d) - All the works in Portion 15.5 of the Site	0		20-May-24*		15-Jul-23	-310	
PS15.6a	Section S15.6a (sd+1180d) - All the works in Portion 15.6a of the Site	0		20-Jun-25*		07-Oct-24	-256	
PS15.6a.A	Section S15.6a.A (sd+1545d) - Establishment for landscape softworks in Portion 15.6a of the Site	0		20-Jun-26*		07-Oct-25	-256	
PS15.7a	Section S15.7a (sd+1270d) - All the works in Portion 15.7a of the Site	0		09-Oct-25*		05-Jan-25	-277	
PS15.7a.A	Section S15.7a.A (sd+1635d) - Establishment for landscape softworks in Portion 15.7a of the Site	0		11-Jul-26*		11-Nov-25	-242	
PS15.7b	Section S15.7b (sd+1350d) - All the works in Portion 15.7b of the Site	0		13-Jan-26*		26-Mar-25	-293	
PS15.7b.A	Section S15.7b.A (sd+1715d) - Establishment for landscape softworks for Portion 15.7b of the Site	0		13-Jan-27		11-Nov-26	-63	
PS15.8	Section S15.8 (sd+1000d) - All the works in Portion 15.8 of the Site	0		27-Apr-24		10-Apr-24	-17	
PS16	Section S16 (sd+1580d) - All the remainder of the works not covered by other sections of the works	0		16-Jun-26*		11-Nov-25	-217	
PS17	Section S17 (sd+1945d) - Establishment works not covered by other sections of the works.	0		04-May-27*		11-Nov-26	-174	
PS20	Section S20 (sd+1400d) - All the works in Portion 15.6b of the Site	0		18-Mar-26*		15-May-25	-307	
PS21	Section S21 (sd+842d) - All the works in Portion 23 of the Site	0		07-Aug-24*		04-Nov-23	-277	
Compensation Events (raised by Contractor)		191	22-Feb-22 A	31-Dec-22	18-Oct-21	17-Dec-21	-379	
CE-2213	Emergency Hospital and Community Isolation & Treatment Facilities	191	22-Feb-22 A	31-Dec-22	18-Oct-21	17-Dec-21	-379	
Project Manager's Instruction (PMI)		54	22-Jun-22 A	24-Nov-22	22-Jul-21	27-Oct-22	-10	
PMI No. 051 - Construction of Box Culvert A1 (Portion 7, L1) and Box Culvert C (Whole) (Quotation)		149	22-Jun-22 A	17-Nov-22	07-Jan-22	23-Jan-22	-298	



CRCC - Kwan Lee - Paul Y. JV

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

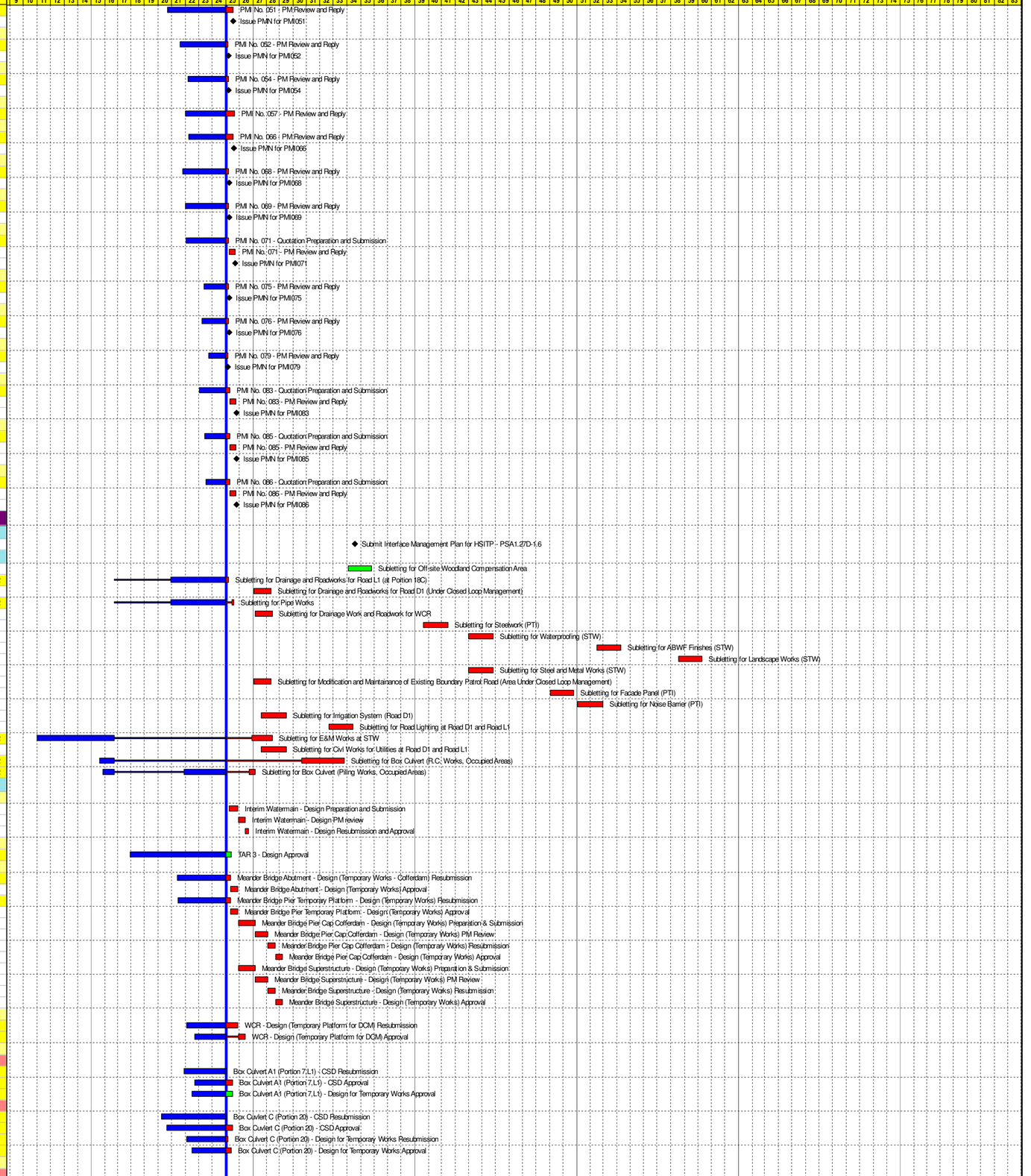
Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1

Detailed Programme

Project ID : d.YL13-2211x0
Layout : YL202001 AppA Detailed Programme
Date : 24-Oct-22/ Page 1 of 8

Detailed Programme			
Date	Revision	Checked	Approved
24-Oct-22	Rev. 12		
21-Sep-22	Rev. 11		
21-Sep-22	Rev. 10		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Suspend Date
PMI051-120	PMI No. 051 - PM Review and Reply	14	22-Jun-22 A	17-Nov-22	07-Jan-22	23-Jan-22	-298	
PMN-1140	Issue PMN for PMI051	0		17-Nov-22		23-Jan-22	-298	
PMI No. 052 - Construction of Road L1 (Portion 18C) and Associated Civil Works (Quotation)		110	20-Jul-22 A	06-Nov-22	06-Jul-22	11-Jul-22	-118	
PMI052-120	PMI No. 052 - PM Review and Reply	20	20-Jul-22 A	05-Nov-22	06-Jul-22	10-Jul-22	-118	
PMN-1010	Issue PMN for PMI052	0		06-Nov-22		11-Jul-22	-118	
PMI No. 054 - Construction of Road L1 and Associated HSITP Phase 1 Works (Quotation)		92	08-Aug-22 A	07-Nov-22	01-Jul-22	08-Aug-22	-91	
PMI054-120	PMI No. 054 - PM Review and Reply	30	08-Aug-22 A	06-Nov-22	01-Jul-22	05-Jul-22	-123	
PMN-1020	Issue PMN for PMI054	0		07-Nov-22		08-Aug-22	-91	
PMI No. 057 - Commence Civil Works in early March 2022 in connection with WCR (Quotation)		43	02-Aug-22 A	20-Nov-22	22-Jul-21	10-Aug-21	-467	
PMI057-120	PMI No. 057 - PM Review and Reply	43	02-Aug-22 A	20-Nov-22	22-Jul-21	10-Aug-21	-467	
PMI No. 066 - Carry-out Piling Works for the Construction of Box Culvert C (Whole) (Quotation)		35	09-Aug-22 A	18-Nov-22	16-Jan-22	24-May-22	-61	
PMI066-120	PMI No. 066 - PM Review and Reply	28	09-Aug-22 A	17-Nov-22	16-Jan-22	22-Jan-22	-299	
PMN-1130	Issue PMN for PMI066	0		18-Nov-22		24-May-22	-148	
PMI No. 068 - Carry-out Piling Works for Construction of Box Culvert A1 (From Ch0-120) (Quotation)		36	27-Jul-22 A	06-Nov-22	26-Aug-22	02-Sep-22	-23	
PMI068-120	PMI No. 068 - PM Review and Reply	14	27-Jul-22 A	07-Nov-22	26-Aug-22	01-Sep-22	-67	
PMN-1120	Issue PMN for PMI068	0		08-Nov-22		02-Sep-22	-54	
PMI No. 069 - Construction of Box Culvert C (Whole) (Quotation)		34	02-Aug-22 A	08-Nov-22	06-Jan-22	24-May-22	-57	
PMI069-120	PMI No. 069 - PM Review and Reply	14	02-Aug-22 A	07-Nov-22	06-Jan-22	12-Jan-22	-299	
PMN-1110	Issue PMN for PMI069	0		08-Nov-22		24-May-22	-139	
PMI No. 071 - Interim TWin DN300 Watermains in lieu of Interim DN400 Watermain		39	03-Aug-22 A	22-Nov-22	16-Jun-22	06-Jul-22	-48	
PMI071-110	PMI No. 071 - Quotation Preparation and Submission	40	03-Aug-22 A	07-Nov-22	16-Jun-22	21-Jun-22	-139	
PMI071-120	PMI No. 071 - PM Review and Reply	14	08-Nov-22	21-Nov-22	22-Jun-22	05-Jul-22	-139	
PMN-1040	Issue PMN for PMI071	0		22-Nov-22		06-Jul-22	-116	
PMI No. 075 - Box Culvert C (Whole) by 31 July 2023 (Quotation)		20	12-Sep-22 A	08-Nov-22	05-Feb-22	24-May-22	-57	
PMI075-120	PMI No. 075 - PM Review and Reply	14	12-Sep-22 A	07-Nov-22	05-Feb-22	11-Feb-22	-269	
PMN-1050	Issue PMN for PMI075	0		08-Nov-22		24-May-22	-139	
PMI No. 076 - Box Culvert A (CH 0 to 75) (Quotation)		21	08-Sep-22 A	08-Nov-22	26-Aug-22	02-Sep-22	-23	
PMI076-120	PMI No. 076 - PM Review and Reply	14	08-Sep-22 A	07-Nov-22	26-Aug-22	01-Sep-22	-67	
PMN-1060	Issue PMN for PMI076	0		08-Nov-22		02-Sep-22	-54	
PMI No. 079 - Construction of Meander Bridge (Quotation)		15	23-Sep-22 A	05-Nov-22	14-Jan-22	18-Jan-22	-99	
PMI079-120	PMI No. 079 - PM Review and Reply	14	23-Sep-22 A	05-Nov-22	14-Jan-22	18-Jan-22	-291	
PMN-1070	Issue PMN for PMI079	0		05-Nov-22		18-Jan-22	-234	
PMI No. 083- Interim Site Office for Accommodating Contractor's Staff & Part of RSS (Quotation)		30	02-Sep-22 A	24-Nov-22	04-Oct-22	27-Oct-22	-10	
PMI083-110	PMI No. 083 - Quotation Preparation and Submission	21	02-Sep-22 A	09-Nov-22	04-Oct-22	12-Oct-22	-28	
PMI083-120	PMI No. 083 - PM Review and Reply	14	10-Nov-22	23-Nov-22	13-Oct-22	26-Oct-22	-28	
PMN-1080	Issue PMN for PMI083	0		24-Nov-22		27-Oct-22	-24	
PMI No. 085 - Asbestos Investigation and Abatement Works (If Necessary) at R113 (Quotation)		26	14-Sep-22 A	24-Nov-22	25-Aug-21	17-Sep-21	-150	
PMI085-110	PMI No. 085 - Quotation Preparation and Submission	21	14-Sep-22 A	09-Nov-22	25-Aug-21	02-Sep-21	-433	
PMI085-120	PMI No. 085 - PM Review and Reply	14	10-Nov-22	23-Nov-22	03-Sep-21	16-Sep-21	-433	
PMN-1090	Issue PMN for PMI085	0		24-Nov-22		17-Sep-21	-349	
PMI No. 086 - Deletion of CLP Ducts, Joint Bays and Draw Pits at WCR and Road L1 (Quotation)		25	17-Sep-22 A	24-Nov-22	18-Jun-22	11-Jul-22	-47	
PMI086-110	PMI No. 086 - Quotation Preparation and Submission	21	17-Sep-22 A	09-Nov-22	18-Jun-22	26-Jun-22	-136	
PMI086-120	PMI No. 086 - PM Review and Reply	14	10-Nov-22	23-Nov-22	27-Jun-22	10-Jul-22	-136	
PMN-1100	Issue PMN for PMI086	0		24-Nov-22		11-Jul-22	-114	
Preliminary and Preparations		566	01-Sep-21 A	10-Oct-25	27-Nov-21	10-Dec-24	-119	
Preliminary Submissions		0	18-Aug-23	18-Aug-23	11-Oct-22	11-Oct-22	-311	
PRE-195	Submit Interface Management Plan for HSITP - PSA1.27D-1.6	0		18-Aug-23		11-Oct-22	-311	
Subletting		1212	01-Sep-21 A	10-Oct-25	22-Feb-22	26-Nov-24	-256	
PRE-305	Subletting for Off-site Woodland Compensation Area	45	04-Aug-23	25-Sep-23	25-Mar-24	22-May-24	190	
PRE-310A	Subletting for Drainage and Roadworks for Road L1 (at Portion 18C)	30	21-Feb-22 A	07-Nov-22	02-Aug-22	08-Aug-22	-75	22-Feb-22
PRE-310B	Subletting for Drainage and Roadworks for Road D1 (Under Closed Loop Management)	30	03-Jan-23	10-Feb-23	02-Apr-22	13-May-22	-222	
PRE-315	Subletting for Pipe Works	30	21-Feb-22 A	19-Nov-22	06-May-22	13-May-22	-158	22-Feb-22
PRE-325	Subletting for Drainage Work and Roadwork for WCR	30	06-Jan-23	14-Feb-23	25-Apr-22	01-Jun-22	-209	
PRE-330A	Subletting for Steelwork (PTI)	45	20-Jan-24	16-Mar-24	20-Dec-23	17-Feb-24	-24	
PRE-335A	Subletting for Waterproofing (STW)	45	02-May-24	25-Jun-24	06-Jul-23	26-Aug-23	-243	
PRE-350A	Subletting for ABWF Finishes (STW)	45	15-Feb-25	09-Apr-25	06-Apr-24	30-May-24	-256	
PRE-355	Subletting for Landscape Works (STW)	45	18-Aug-25	10-Oct-25	04-Oct-24	26-Nov-24	-256	
PRE-360	Subletting for Steel and Metal Works (STW)	45	02-May-24	25-Jun-24	06-Jul-23	26-Aug-23	-243	
PRE-365	Subletting for Modification and Maintainance of Existing Boundary Patrol Road (Area Under Closed Loop Management)	30	03-Jan-23	10-Feb-23	02-Jun-22	09-Jul-22	-175	
PRE-370	Subletting for Facade Panel (PTI)	45	02-Nov-24	24-Dec-24	15-Jul-24	04-Sep-24	-92	
PRE-375	Subletting for Noise Barrier (PTI)	45	03-Jan-25	28-Feb-25	11-Sep-24	05-Nov-24	-92	
PRE-385	Subletting for Irrigation System (Road D1)	45	20-Jan-23	17-Mar-23	25-Apr-22	18-Jun-22	-222	
PRE-390	Subletting for Road Lighting at Road D1 and Road L1	45	21-Jun-23	14-Aug-23	28-Mar-23	24-May-23	-67	
PRE-395	Subletting for E&M Works at STW	173	01-Sep-21 A	13-Feb-23	22-Feb-22	02-Apr-22	-253	22-Feb-22
PRE-415A	Subletting for Civil Works for Utilities at Road D1 and Road L1	45	20-Jan-23	17-Mar-23	25-Apr-22	18-Jun-22	-222	
PRE-432	Subletting for Box Culvert (R.C. Works, Occupied Areas)	28	20-Jan-22 A	25-Jul-23	28-Jun-22	28-Sep-22	-240	22-Feb-22
PRE-433	Subletting for Box Culvert (Piling Works, Occupied Areas)	28	27-Jan-22 A	05-Jan-23	25-Mar-22	04-Apr-22	-223	22-Feb-22
Design Submissions for the Works		345	29-Mar-22 A	14-Aug-24	27-Nov-21	10-Dec-24	46	
Interim Watermains		39	08-Nov-22	22-Dec-22	07-Jul-22	23-Aug-22	-101	
KD1-100	Interim Watermain - Design Preparation and Submission	18	08-Nov-22	28-Nov-22	07-Jul-22	27-Jul-22	-103	
KD1-110	Interim Watermain - Design PM review	14	29-Nov-22	14-Dec-22	30-Jul-22	15-Aug-22	-101	
KD1-120	Interim Watermain - Design Resubmission and Approval	7	15-Dec-22	22-Dec-22	16-Aug-22	23-Aug-22	-101	
TAR3		6	29-Mar-22 A	13-Nov-22	16-Jan-23	28-Jan-23	76	
KD2-105A	TAR 3 - Design Approval	6	29-Mar-22 A	13-Nov-22	16-Jan-23	28-Jan-23	76	
Meander Bridge		194	14-Jul-22 A	08-Mar-23	09-Dec-21	06-Sep-22	-147	
KD7-109	Meander Bridge Abutment - Design (Temporary Works - Cofferdam) Resubmission	28	14-Jul-22 A	11-Nov-22	16-May-22	26-May-22	-140	
KD7-110	Meander Bridge Abutment - Design (Temporary Works) Approval	14	12-Nov-22	28-Nov-22	27-May-22	13-Jun-22	-140	
KD7-609	Meander Bridge Pier Temporary Platform - Design (Temporary Works) Resubmission	14	16-Jul-22 A	11-Nov-22	09-Dec-21	20-Dec-21	-261	
KD7-610	Meander Bridge Pier Temporary Platform - Design (Temporary Works) Approval	14	12-Nov-22	28-Nov-22	21-Dec-21	08-Jan-22	-261	
KD7-611	Meander Bridge Pier Cap Cofferdam - Design (Temporary Works) Preparation & Submission	30	29-Nov-22	05-Jan-23	10-Jan-22	18-Feb-22	-261	
KD7-612	Meander Bridge Pier Cap Cofferdam - Design (Temporary Works) PM Review	21	06-Jan-23	03-Feb-23	19-Feb-22	15-Mar-22	-261	
KD7-613	Meander Bridge Pier Cap Cofferdam - Design (Temporary Works) Resubmission	14	04-Feb-23	20-Feb-23	16-Mar-22	31-Mar-22	-261	
KD7-614	Meander Bridge Pier Cap Cofferdam - Design (Temporary Works) Approval	14	21-Feb-23	08-Mar-23	01-Apr-22	21-Apr-22	-261	
KD7-617	Meander Bridge Superstructure - Design (Temporary Works) Preparation & Submission	30	29-Nov-22	05-Jan-23	06-Jun-22	11-Jul-22	-147	
KD7-618	Meander Bridge Superstructure - Design (Temporary Works) PM Review	21	06-Jan-23	03-Feb-23	12-Jul-22	04-Aug-22	-147	
KD7-619	Meander Bridge Superstructure - Design (Temporary Works) Resubmission	14	04-Feb-23	20-Feb-23	05-Aug-22	20-Aug-22	-147	
KD7-620	Meander Bridge Superstructure - Design (Temporary Works) Approval	14	21-Feb-23	08-Mar-23	22-Aug-22	06-Sep-22	-147	
Western Connection Road (WCR)		29	05-Aug-22 A	14-Dec-22	27-Nov-21	13-Jan-22	-271	
S6-9177	WCR - Design (Temporary Platform for DCM) Resubmission	14	05-Aug-22 A	28-Nov-22	27-Nov-21	24-Dec-21	-271	
S6-9187	WCR - Design (Temporary Platform for DCM) Approval	14	22-Aug-22 A	14-Dec-22	28-Dec-21	13-Jan-22	-271	
Box Culverts		71	08-Jun-22 A	16-Nov-22	08-Jan-22	18-Mar-23	47	
Box Culvert A1 (Ch 0-75)		168	30-Jul-22 A	16-Nov-22	02-Sep-22	18-Mar-23	98	
KD6-154	Box Culvert A1 (Portion 7,L1) - CSD Resubmission	15	30-Jul-22 A	02-Nov-22	19-Sep-22	21-Sep-22	-34	
KD6-156	Box Culvert A1 (Portion 7,L1) - CSD Approval	14	22-Aug-22 A	16-Nov-22	02-Sep-22	19-Sep-22	-48	
KD6-200	Box Culvert A1 (Portion 7,L1) - Design for Temporary Works Approval	14	17-Aug-22 A	16-Nov-22	03-Mar-23	18-Mar-23	98	
Box Culvert C		71	08-Jun-22 A	16-Nov-22	08-Jan-22	26-Jan-22	-100	
S9-110	Box Culvert C (Portion 20) - CSD Resubmission	15	08-Jun-22 A	02-Nov-22	24-Jan-22	26-Jan-22	-224	
S9-115	Box Culvert C (Portion 20) - CSD Approval	14	21-Jun-22 A	16-Nov-22	08-Jan-22	24-Jan-22	-238	
S9-204	Box Culvert C (Portion 20) - Design for Temporary Works Resubmission	26	05-Aug-22 A	05-Nov-22	08-Jan-22	13-Jan-22	-238	
S9-205	Box Culvert C (Portion 20) - Design for Temporary Works Approval	14	16-Aug-22 A	13-Nov-22	08-Jan-22	20-Jan-22	-297	
Retaining Walls		474	05-Jan-23	14-Aug-24	24-Jan-22	10-Dec-24	98	
RWMM1		101	15-Apr-24	14-Aug-24	12-Aug-24	10-Dec-24	98	



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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

Detailed Programme

Project ID : d.YL13-2211x0
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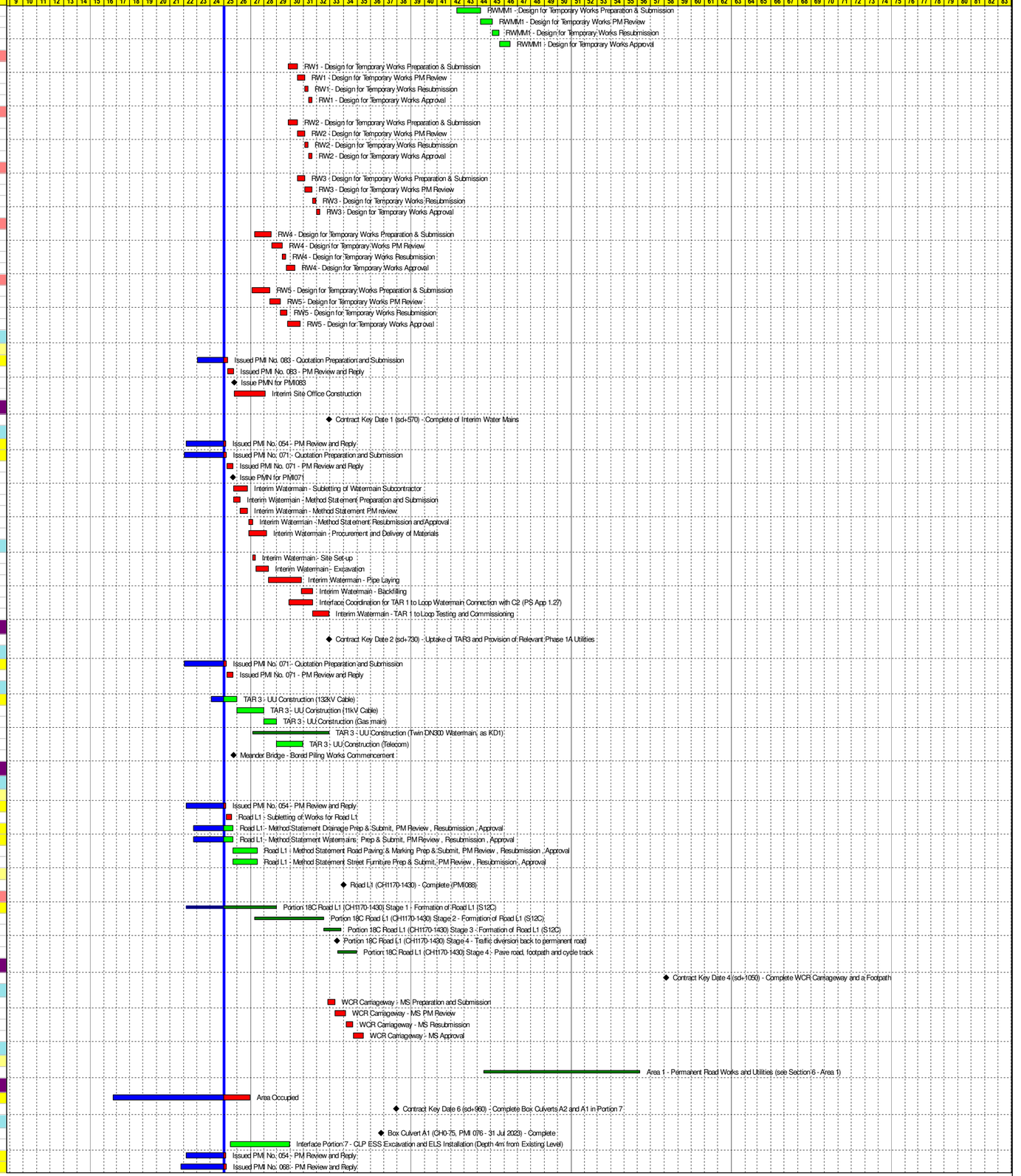
Detailed Programme

Date	Revision	Checked	Approved
24-Oct-22	Rev. 12		
21-Sep-22	Rev. 11		
21-Sep-22	Rev. 10		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Suspend Date
KD3-900	RWMM1 - Design for Temporary Works Preparation & Submission	45	15-Apr-24	07-Jun-24	12-Aug-24	04-Oct-24	98	
KD3-905	RWMM1 - Design for Temporary Works PM Review	21	08-Jun-24	04-Jul-24	05-Oct-24	30-Oct-24	98	
KD3-910	RWMM1 - Design for Temporary Works Resubmission	14	05-Jul-24	20-Jul-24	31-Oct-24	15-Nov-24	98	
KD3-915	RWMM1 - Design for Temporary Works Approval	21	22-Jul-24	14-Aug-24	16-Nov-24	10-Dec-24	98	
RW1		42	28-Mar-23	20-May-23	21-Feb-22	11-Apr-22	-325	
RW-140	RW1 - Design for Temporary Works Preparation & Submission	14	28-Mar-23	17-Apr-23	21-Feb-22	08-Mar-22	-325	
RW-150	RW1 - Design for Temporary Works PM Review	14	18-Apr-23	04-May-23	09-Mar-22	24-Mar-22	-325	
RW-160	RW1 - Design for Temporary Works Resubmission	7	05-May-23	12-May-23	25-Mar-22	01-Apr-22	-325	
RW-170	RW1 - Design for Temporary Works Approval	7	13-May-23	20-May-23	02-Apr-22	11-Apr-22	-325	
RW2		42	28-Mar-23	20-May-23	24-Feb-22	14-Apr-22	-322	
RW-200	RW2 - Design for Temporary Works Preparation & Submission	14	28-Mar-23	17-Apr-23	24-Feb-22	11-Mar-22	-322	
RW-210	RW2 - Design for Temporary Works PM Review	14	18-Apr-23	04-May-23	12-Mar-22	28-Mar-22	-322	
RW-220	RW2 - Design for Temporary Works Resubmission	7	05-May-23	12-May-23	29-Mar-22	06-Apr-22	-322	
RW-230	RW2 - Design for Temporary Works Approval	7	13-May-23	20-May-23	07-Apr-22	14-Apr-22	-322	
RW3		42	18-Apr-23	07-Jun-23	12-Mar-22	05-May-22	-322	
RW-300	RW3 - Design for Temporary Works Preparation & Submission	14	18-Apr-23	04-May-23	12-Mar-22	28-Mar-22	-322	
RW-310	RW3 - Design for Temporary Works PM Review	14	05-May-23	20-May-23	29-Mar-22	14-Apr-22	-322	
RW-320	RW3 - Design for Temporary Works Resubmission	7	22-May-23	30-May-23	19-Apr-22	26-Apr-22	-322	
RW-330	RW3 - Design for Temporary Works Approval	7	31-May-23	07-Jun-23	27-Apr-22	05-May-22	-322	
RW4		72	10-Jan-23	12-Apr-23	27-Apr-22	23-Jul-22	-211	
RW-400	RW4 - Design for Temporary Works Preparation & Submission	30	10-Jan-23	17-Feb-23	27-Apr-22	02-Jun-22	-211	
RW-410	RW4 - Design for Temporary Works PM Review	21	18-Feb-23	14-Mar-23	04-Jun-22	28-Jun-22	-211	
RW-420	RW4 - Design for Temporary Works Resubmission	7	15-Mar-23	22-Mar-23	29-Jun-22	07-Jul-22	-211	
RW-430	RW4 - Design for Temporary Works Approval	14	23-Mar-23	12-Apr-23	08-Jul-22	23-Jul-22	-211	
RW5		86	05-Jan-23	24-Apr-23	24-Jan-22	16-May-22	-278	
RW-500	RW5 - Design for Temporary Works Preparation & Submission	30	05-Jan-23	13-Feb-23	24-Jan-22	04-Mar-22	-278	
RW-510	RW5 - Design for Temporary Works PM Review	21	14-Feb-23	09-Mar-23	05-Mar-22	29-Mar-22	-278	
RW-520	RW5 - Design for Temporary Works Resubmission	14	10-Mar-23	25-Mar-23	30-Mar-22	19-Apr-22	-278	
RW-530	RW5 - Design for Temporary Works Approval	21	27-Mar-23	24-Apr-23	20-Apr-22	16-May-22	-278	
Site Office and Innohub		57	02-Sep-22 A	03-Feb-23	05-Oct-22	31-Dec-22	-13	
Interim Site Office for Contractor's Staff and Part of RSS Team		57	02-Sep-22 A	03-Feb-23	05-Oct-22	31-Dec-22	-13	
SO-1475	Issued PMI No. 083 - Quotation Preparation and Submission	21	02-Sep-22 A	09-Nov-22	05-Oct-22	13-Oct-22	-27	
SO-1485	Issued PMI No. 083 - PM Review and Reply	14	10-Nov-22	23-Nov-22	14-Oct-22	27-Oct-22	-27	
SO-1486	Issue PMN for PMI083	0		24-Nov-22		27-Oct-22	-24	
SO-1495	Interim Site Office Construction	54	25-Nov-22	03-Feb-23*	28-Oct-22	31-Dec-22	-24	
Key Date KD1 - Interim Watermain		124	03-Aug-22 A	28-Jun-23	15-Jun-22	05-Feb-23	-56	
KD1-PC	Contract Key Date 1 (sd+570) - Complete of Interim Water Mains	0		28-Jun-23		05-Feb-23	-143	
KD1 - Submissions		69	03-Aug-22 A	06-Feb-23	15-Jun-22	17-Sep-22	-53	
KD1-0902	Issued PMI No. 054 - PM Review and Reply	30	08-Aug-22 A	05-Nov-22	30-Jun-22	06-Jul-22	-102	
KD1-0907	Issued PMI No. 071 - Quotation Preparation and Submission	40	03-Aug-22 A	07-Nov-22	15-Jun-22	21-Jun-22	-139	
KD1-0908	Issued PMI No. 071 - PM Review and Reply	14	08-Nov-22	21-Nov-22	23-Jun-22	06-Jul-22	-138	
KD1-0909	Issue PMN for PMI071	0		22-Nov-22		06-Jul-22	-116	
KD1-1000	Interim Watermain - Subletting of Watermain Subcontractor	28	23-Nov-22	24-Dec-22	07-Jul-22	08-Aug-22	-116	
KD1-1005	Interim Watermain - Method Statement Preparation and Submission	14	23-Nov-22	08-Dec-22	07-Jul-22	22-Jul-22	-116	
KD1-1010	Interim Watermain - Method Statement PM review	14	09-Dec-22	24-Dec-22	23-Jul-22	08-Aug-22	-116	
KD1-1015	Interim Watermain - Method Statement Resubmission and Approval	7	28-Dec-22	05-Jan-23	09-Aug-22	16-Aug-22	-116	
KD1-1020	Interim Watermain - Procurement and Delivery of Materials	30	28-Dec-22	06-Feb-23	13-Aug-22	17-Sep-22	-112	
KD1 - Construction		138	06-Jan-23	28-Jun-23	17-Aug-22	04-Feb-23	-116	
KD1-1025	Interim Watermain - Site Set-up	6	06-Jan-23	12-Jan-23	17-Aug-22	23-Aug-22	-116	
KD1-1030	Interim Watermain - Excavation	21	13-Jan-23	10-Feb-23	24-Aug-22	17-Sep-22	-116	
KD1-1035	Interim Watermain - Pipe Laying	60	11-Feb-23	26-Apr-23	19-Sep-22	29-Nov-22	-116	
KD1-1045	Interim Watermain - Backfilling	21	27-Apr-23	22-May-23	30-Nov-22	23-Dec-22	-116	
KD1-1050	Interface Coordination for TAR 1 to Loop Watermain Connection with C2 (PS App 1.27)	42	29-Mar-23	22-May-23	05-Nov-22	23-Dec-22	-116	
KD1-1065	Interim Watermain - TAR 1 to Loop Testing and Commissioning	30	23-May-23	28-Jun-23	24-Dec-22	04-Feb-23	-116	
Key Date KD2 - TAR 3		124	03-Aug-22 A	28-Jun-23	17-Jun-22	15-Jul-23	7	
KD2-PC	Contract Key Date 2 (sd+730) - Uptake of TAR3 and Provision of Relevant Phase 1A Utilities	0		28-Jun-23		15-Jul-23	17	
KD2 - Submission and Coordination		111	03-Aug-22 A	21-Nov-22	17-Jun-22	05-Jul-22	-139	
KD2-1110	Issued PMI No. 071 - Quotation Preparation and Submission	40	03-Aug-22 A	07-Nov-22	17-Jun-22	21-Jun-22	-139	
KD2-1120	Issued PMI No. 071 - PM Review and Reply	14	08-Nov-22	21-Nov-22	22-Jun-22	05-Jul-22	-139	
KD2 - Construction		216	03-Oct-22 A	28-Jun-23	21-Jun-22	15-Jul-23	14	
KD2-1051	TAR 3 - UU Construction (132kV Cable)	50	03-Oct-22 A	30-Nov-22	16-Jan-23	18-Feb-23	62	
KD2-1060	TAR 3 - UU Construction (11kV Cable)	46	01-Dec-22	31-Jan-23	20-Feb-23	18-Apr-23	62	
KD2-1070	TAR 3 - UU Construction (Gas main)	24	01-Feb-23	28-Feb-23	19-Apr-23	17-May-23	62	
KD2-1080	TAR 3 - UU Construction (Twin DN300 Watermain, as KD1)	138	06-Jan-23	28-Jun-23	17-Aug-22	04-Feb-23	-116	
KD2-1090	TAR 3 - UU Construction (Telecom)	48	01-Mar-23	29-Apr-23	18-May-23	15-Jul-23	62	
KD2-1190	Meander Bridge - Bored Piling Works Commencement	0	23-Nov-22		21-Jun-22		-129	
Key Date KD3 - Road D1 and L1		315	08-Aug-22 A	30-Aug-23	30-Jun-22	31-Jul-23	-26	
KD3 - ROAD L1 Construction		315	08-Aug-22 A	30-Aug-23	30-Jun-22	31-Jul-23	-26	
KD3 - L1 - Submissions		133	08-Aug-22 A	16-Jan-23	30-Jun-22	28-Jun-23	129	
KD3-0102	Issued PMI No. 054 - PM Review and Reply	30	08-Aug-22 A	05-Nov-22	30-Jun-22	06-Jul-22	-102	
KD3-1170	Road L1 - Subletting of Works for Road L1	12	07-Nov-22	19-Nov-22	26-Jul-22	08-Aug-22	-86	
KD3-1180	Road L1 - Method Statement Drainage Prep & Submit, PM Review , Resubmission , Approval	45	24-Aug-22 A	21-Nov-22	23-Mar-23	17-Apr-23	115	
KD3-1185	Road L1 - Method Statement Watermains Prep & Submit, PM Review , Resubmission , Approval	45	24-Aug-22 A	21-Nov-22	23-Mar-23	17-Apr-23	115	
KD3-1190	Road L1 - Method Statement Road Paving & Marking Prep & Submit, PM Review , Resubmission , Approval	45	22-Nov-22	16-Jan-23	05-May-23	28-Jun-23	129	
KD3-1195	Road L1 - Method Statement Street Furniture Prep & Submit, PM Review , Resubmission , Approval	45	22-Nov-22	16-Jan-23	05-May-23	28-Jun-23	129	
KD3 - L1 - Construction		252	08-Aug-22 A	30-Aug-23	11-Jul-22	31-Jul-23	-26	
KD3-5360	Road L1 (CH1170-1430) - Complete (PMI088)	0		31-Jul-23*		31-Jul-23	0	
KD3 - Road L1 Stage 1 (Portion 18C, Next to Portion 17B Hammerhead) 260m		252	08-Aug-22 A	30-Aug-23	11-Jul-22	31-Jul-23	-26	
KD3-5305	Portion 18C Road L1 (CH1170-1430) Stage 1 - Formation of Road L1 (S12C)	92	08-Aug-22 A	01-Mar-23	11-Jul-22	18-Jan-23	-32	
KD3-5315	Portion 18C Road L1 (CH1170-1430) Stage 2 - Formation of Road L1 (S12C)	126	10-Jan-23	16-Jun-23	09-Aug-22	09-Jan-23	-126	
KD3-5325	Portion 18C Road L1 (CH1170-1430) Stage 3 - Formation of Road L1 (S12C)	31	17-Jun-23	25-Jul-23	10-Jan-23	18-Feb-23	-126	
KD3-5340	Portion 18C Road L1 (CH1170-1430) Stage 4 - Traffic diversion back to permanent road	0		17-Jul-23		27-Mar-23	-88	
KD3-5350	Portion 18C Road L1 (CH1170-1430) Stage 4 - Pave road, footpath and cycle track	38	18-Jul-23	30-Aug-23	21-Feb-23	31-Jul-23	-26	
Key Date KD4 - WCR Carriageway + 1 Footpath		300	26-Jun-23	04-Aug-25	20-Apr-22	30-May-24	-168	
KD4-PC	Contract Key Date 4 (sd+1050) - Complete WCR Carriageway and a Footpath	0		04-Aug-25		30-May-24	-431	
KD4 - Submissions		70	26-Jun-23	15-Sep-23	20-Apr-22	14-Jul-22	-349	
KD4-1000	WCR Carriageway - MS Preparation and Submission	14	26-Jun-23	12-Jul-23	20-Apr-22	06-May-22	-349	
KD4-1005	WCR Carriageway - MS PM Review	21	13-Jul-23	05-Aug-23	07-May-22	01-Jun-22	-349	
KD4-1010	WCR Carriageway - MS Resubmission	14	07-Aug-23	22-Aug-23	02-Jun-22	18-Jun-22	-349	
KD4-1015	WCR Carriageway - MS Approval	21	23-Aug-23	15-Sep-23	20-Jun-22	14-Jul-22	-349	
KD4 - Construction		192	15-Jun-24	06-Jun-25	06-Apr-23	30-May-24	-204	
Stage 1: Road D1 to WCR CH 1900		192	15-Jun-24	06-Jun-25	06-Apr-23	30-May-24	-204	
S6-5590	Area 1 - Permanent Road Works and Utilities (see Section 6 - Area 1)	192	15-Jun-24	06-Jun-25	06-Apr-23	30-May-24	-204	
Key Date KD6 - Box Culverts A2 and A1 in Portion 7		244	07-Feb-22 A	28-Nov-23	23-Jan-22	01-Mar-24	37	
KD6-0400	Area Occupied	282	22-Feb-22 A	31-Dec-22	23-Jan-22	24-Mar-22	-282	
KD6-pc	Contract Key Date 6 (sd+960) - Complete Box Culverts A2 and A1 in Portion 7	0		28-Nov-23		01-Mar-24	94	
KD6 - Box Culvert A1 (Portion7, CH 0-75) 75m (CSD Scheme)		172	27-Jul-22 A	25-Oct-23	30-Jun-22	01-Mar-24	50	
KD6-5100	Box Culvert A1 (CH0-75, PMI 076 - 31 Jul 2023) - Complete	0		25-Oct-23*		31-Jul-23	-71	
KD6-5105	Interface Portion 7 - CLP ESS Excavation and ELS Installation (Depth 4m from Existing Level)	110	16-Nov-22*	31-Mar-23	17-Oct-23	01-Mar-24	270	
KD6-5245	Issued PMI No. 054 - PM Review and Reply	30	08-Aug-22 A	05-Nov-22	30-Jun-22	06-Jul-22	-102	
KD6-5248	Issued PMI No. 068 - PM Review and Reply	14	27-Jul-22 A	07-Nov-22	26-Aug-22	01-Sep-22	-67	



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

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Project ID : d.YL13-2211x0
Layout : YL202001 AppA Detailed Programme
Date : 24-Oct-22/ Page 3 of 8

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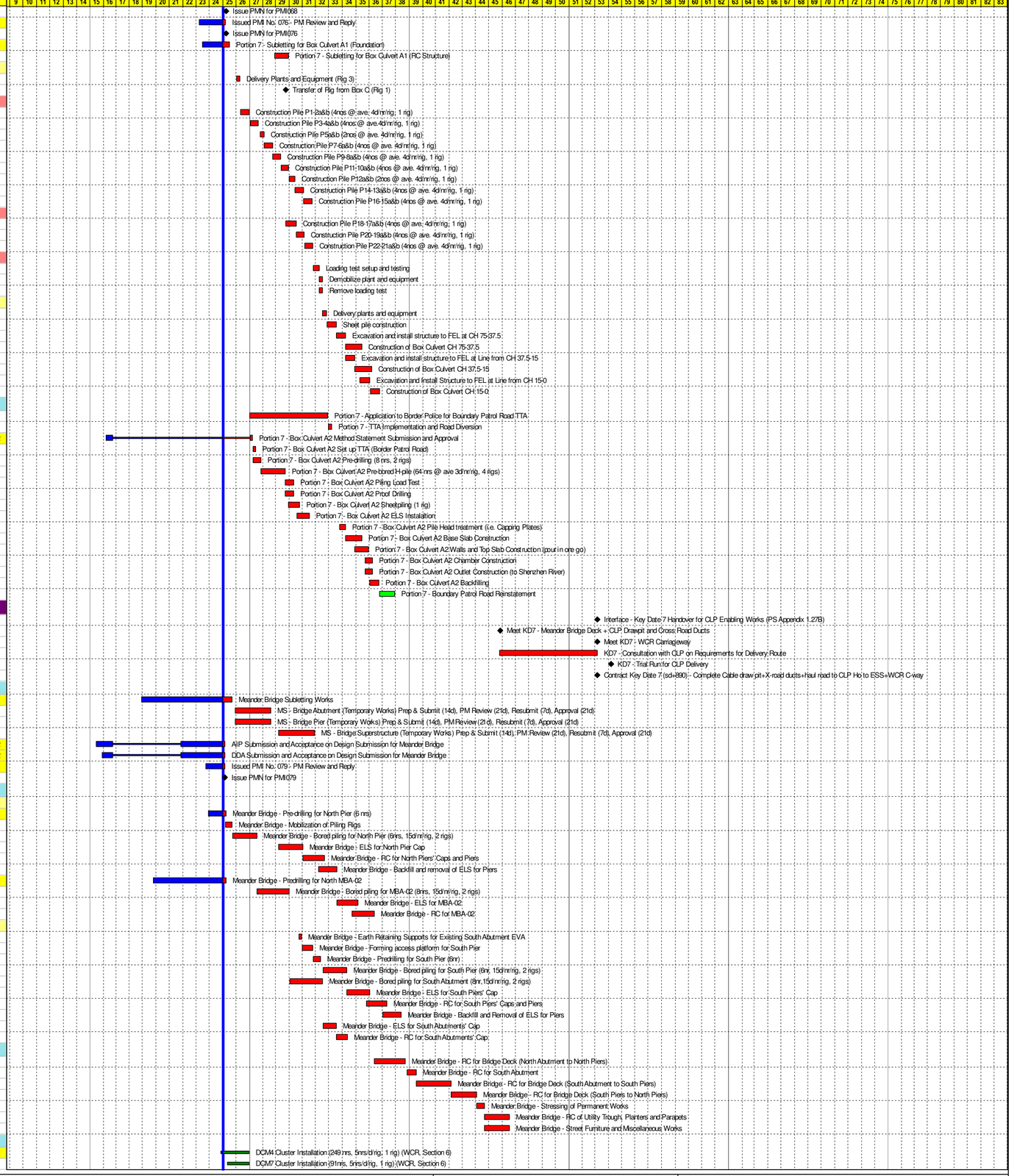
Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Suspend Date
KD6-5248A	Issue PMN for PMI068	0		08-Nov-22		02-Sep-22	-54	
KD6-5252	Issued PMI No. 076 - PM Review and Reply	14	08-Sep-22 A	07-Nov-22	27-Aug-22	02-Sep-22	-66	
KD6-5254	Issue PMN for PMI076	0		08-Nov-22		02-Sep-22	-54	
KD6-5300	Portion 7 - Subletting for Box Culvert A1 (Foundation)	24	16-Sep-22 A	15-Nov-22	03-Sep-22	09-Sep-22	-54	
KD6-5580	Portion 7 - Subletting for Box Culvert A1 (RC Structure)	28	28-Feb-23	31-Mar-23	29-Nov-22	03-Jan-23	-71	
Box Culvert A1 (CH 0-75) Foundation (CSD)		155	03-Dec-22	16-Jun-23	10-Sep-22	18-Mar-23	-71	
KD6-5310	Delivery Plants and Equipment (Rig 3)	7	03-Dec-22	10-Dec-22	10-Sep-22	19-Sep-22	-69	
KD6-5584	Transfer of Rig from Box C (Rig 1)	0		24-Mar-23		23-Dec-22	-71	
Box Culvert A1 (CH 0-75) Workfront 1		128	12-Dec-22	23-May-23	20-Sep-22	25-Feb-23	-69	
KD6-5320	Construction Pile P1-2a&b (4nos @ ave. 4d/m²/rig, 1 rig)	16	12-Dec-22	31-Dec-22	20-Sep-22	10-Oct-22	-69	
KD6-5340	Construction Pile P3-4a&b (4nos @ ave.4d/m²/rig, 1 rig)	16	03-Jan-23	20-Jan-23	11-Oct-22	28-Oct-22	-69	
KD6-5345	Construction Pile P5a&b (2nos @ ave. 4d/m²/rig, 1 rig)	8	26-Jan-23	03-Feb-23	29-Oct-22	07-Nov-22	-69	
KD6-5346	Construction Pile P7-6a&b (4nos @ ave. 4d/m²/rig, 1 rig)	16	04-Feb-23	22-Feb-23	08-Nov-22	25-Nov-22	-69	
KD6-5348	Construction Pile P9-8a&b (4nos @ ave. 4d/m²/rig, 1 rig)	16	23-Feb-23	13-Mar-23	26-Nov-22	14-Dec-22	-69	
KD6-5350	Construction Pile P11-10a&b (4nos @ ave. 4d/m²/rig, 1 rig)	16	14-Mar-23	31-Mar-23	15-Dec-22	05-Jan-23	-69	
KD6-5352	Construction Pile P12a&b (2nos @ ave. 4d/m²/rig, 1 rig)	8	01-Apr-23	14-Apr-23	06-Jan-23	14-Jan-23	-69	
KD6-5354	Construction Pile P14-13a&b (4nos @ ave. 4d/m²/rig, 1 rig)	16	15-Apr-23	04-May-23	16-Jan-23	07-Feb-23	-69	
KD6-5390	Construction Pile P16-15a&b (4nos @ ave. 4d/m²/rig, 1 rig)	16	05-May-23	23-May-23	08-Feb-23	25-Feb-23	-69	
Box Culvert A1 (CH 0-75) Workfront 2		48	25-Mar-23	25-May-23	24-Dec-22	25-Feb-23	-71	
KD6-5370	Construction Pile P18-17a&b (4nos @ ave. 4d/m²/rig, 1 rig)	16	25-Mar-23	17-Apr-23	24-Dec-22	14-Jan-23	-71	
KD6-5380	Construction Pile P20-19a&b (4nos @ ave. 4d/m²/rig, 1 rig)	16	18-Apr-23	06-May-23	16-Jan-23	07-Feb-23	-71	
KD6-5395	Construction Pile P22-21a&b (4nos @ ave. 4d/m²/rig, 1 rig)	16	08-May-23	25-May-23	08-Feb-23	25-Feb-23	-71	
Box Culvert A1 (CH 0-75) Loading Test		18	27-May-23	16-Jun-23	27-Feb-23	18-Mar-23	-71	
KD6-5440	Loading test setup and testing	12	27-May-23	09-Jun-23	27-Feb-23	11-Mar-23	-71	
KD6-5560	Demobilize plant and equipment	6	10-Jun-23	16-Jun-23	13-Mar-23	18-Mar-23	-71	
KD6-5570	Remove loading test	6	10-Jun-23	16-Jun-23	13-Mar-23	18-Mar-23	-71	
Box Culvert A1 (CH 0-75) ELS Installation and Structure Construction		107	17-Jun-23	25-Oct-23	20-Mar-23	31-Jul-23	-71	
KD6-5450	Delivery plants and equipment	7	17-Jun-23	26-Jun-23	20-Mar-23	27-Mar-23	-71	
KD6-5460	Sheet pile construction	18	27-Jun-23	18-Jul-23	28-Mar-23	21-Apr-23	-71	
KD6-5470	Excavation and install structure to FEL at CH 75-37.5	18	19-Jul-23	08-Aug-23	22-Apr-23	13-May-23	-71	
KD6-5480	Construction of Box Culvert CH 75-37.5	32	09-Aug-23	14-Sep-23	15-May-23	21-Jun-23	-71	
KD6-5490	Excavation and install structure to FEL at Line from CH 37.5-15	18	09-Aug-23	29-Aug-23	15-May-23	05-Jun-23	-71	
KD6-5500	Construction of Box Culvert CH 37.5-15	32	30-Aug-23	07-Oct-23	06-Jun-23	14-Jul-23	-71	
KD6-5510	Excavation and Install Structure to FEL at Line from CH 15-0	18	11-Sep-23	03-Oct-23	17-Jun-23	10-Jul-23	-71	
KD6-5520	Construction of Box Culvert CH 15-0	18	04-Oct-23	25-Oct-23	11-Jul-23	31-Jul-23	-71	
KD6 - Box Culvert A2 (Including Border Patrol Road & Portion 7)		244	07-Feb-22 A	28-Nov-23	25-Mar-22	01-Mar-24	37	
KD6-0500	Portion 7 - Application to Border Police for Boundary Patrol Road TTA	180	01-Jan-23	29-Jun-23	03-Jun-22	29-Nov-22	-212	
KD6-0550	Portion 7 - TTA Implementation and Road Diversion	6	30-Jun-23	07-Jul-23	30-Nov-22	06-Dec-22	-168	
KD6-1005	Portion 7 - Box Culvert A2 Method Statement Submission and Approval	18	07-Feb-22 A	07-Jan-23	25-Mar-22	30-Mar-22	-229	22-Feb-22
KD6-1010	Portion 7 - Box Culvert A2 Set up TTA (Border Patrol Road)	6	09-Jan-23	14-Jan-23	31-Mar-22	07-Apr-22	-229	
KD6-1015	Portion 7 - Box Culvert A2 Pre-drilling (8 nrs, 2 rigs)	12	09-Jan-23	26-Jan-23	31-Mar-22	14-Apr-22	-229	
KD6-1020	Portion 7 - Box Culvert A2 Pre-bored H-pile (64 nrs @ ave 3d/m²/rig, 4 rigs)	48	27-Jan-23	23-Mar-23	19-Apr-22	16-Jun-22	-229	
KD6-1025	Portion 7 - Box Culvert A2 Piling Load Test	12	24-Mar-23	11-Apr-23	24-Aug-22	06-Sep-22	-172	
KD6-1030	Portion 7 - Box Culvert A2 Proof Drilling	12	24-Mar-23	11-Apr-23	24-Aug-22	06-Sep-22	-172	
KD6-1035	Portion 7 - Box Culvert A2 Sheetpiling (1 rig)	18	31-Mar-23	25-Apr-23	31-Aug-22	21-Sep-22	-172	
KD6-1040	Portion 7 - Box Culvert A2 ELS Installation	24	19-Apr-23	17-May-23	15-Sep-22	14-Oct-22	-172	
KD6-1042	Portion 7 - Box Culvert A2 Pile Head treatment (i.e. Capping Plates)	12	26-Jul-23	08-Aug-23	08-Oct-22	21-Oct-22	-234	
KD6-1045	Portion 7 - Box Culvert A2 Base Slab Construction	33	09-Aug-23	15-Sep-23	22-Oct-22	29-Nov-22	-234	
KD6-1046	Portion 7 - Box Culvert A2 Walls and Top Slab Construction (pour in one go)	28	29-Aug-23	29-Sep-23	07-Dec-22	11-Jan-23	-212	
KD6-1050	Portion 7 - Box Culvert A2 Chamber Construction	12	23-Sep-23	09-Oct-23	07-Dec-22	20-Dec-22	-234	
KD6-1055	Portion 7 - Box Culvert A2 Outlet Construction (to Shenzhen River)	12	23-Sep-23	09-Oct-23	07-Dec-22	20-Dec-22	-234	
KD6-1060	Portion 7 - Box Culvert A2 Backfilling	18	03-Oct-23	24-Oct-23	14-Dec-22	06-Jan-23	-234	
KD6-1066	Portion 7 - Boundary Patrol Road Reinstatement	30	25-Oct-23	28-Nov-23	23-Jan-24	01-Mar-24	74	
Key Date KD7 - Meander Bridge and CLP Transformer Delivery		444	15-Jan-22 A	07-Apr-25	26-Jul-21	11-Nov-26	228	
KD7-1000	Interface - Key Date 7 Handover for CLP Enabling Works (PS Appendix 1.27B)	0		06-Mar-25		22-Dec-23	-440	
KD7-1100	Meet KD7 - Meander Bridge Deck + CLP Drawpit and Cross Road Ducts	0		27-Jul-24		22-Dec-23	-218	
KD7-2460	Meet KD7 - WCR Carriageway	0		06-Mar-25		22-Dec-23	-440	
KD7-2480	KD7 - Consultation with CLP on Requirements for Delivery Route	182	26-Jul-24	06-Mar-25	21-Mar-23	31-Oct-23	-397	
KD7-2490	KD7 - Trial Run for CLP Delivery	0		07-Apr-25		11-Nov-26	474	
KD7-PC	Contract Key Date 7 (sd+890) - Complete Cable draw pit+X-road ducts+haul road to CLP Ho to ESS+WCR C-way	0		06-Mar-25		22-Dec-23	-440	
KD7 - Submissions		180	15-Jan-22 A	29-May-23	14-Jan-22	23-Nov-22	-72	
KD7-1010	Meander Bridge Subletting Works	107	29-Apr-22 A	22-Nov-22	19-Jan-22	09-Feb-22	-234	
KD7-1175	MS - Bridge Abutment (Temporary Works) Prep & Submit (14d), PM Review (21d), Resubmit (7d), Approval (21d)	64	29-Nov-22	18-Feb-23	14-Jun-22	27-Aug-22	-140	
KD7-1180	MS - Bridge Pier (Temporary Works) Prep & Submit (14d), PM Review (21d), Resubmit (7d), Approval (21d)	64	29-Nov-22	18-Feb-23	27-Jan-22	21-Apr-22	-246	
KD7-1185	MS - Bridge Superstructure (Temporary Works) Prep & Submit (14d), PM Review (21d), Resubmit (7d), Approval (21d)	64	09-Mar-23	29-May-23	07-Sep-22	23-Nov-22	-147	
KD7-2025	AIP Submission and Acceptance on Design Submission for Meander Bridge	51	15-Jan-22 A	05-Nov-22	29-Jan-22	09-Feb-22	-220	22-Feb-22
KD7-2035	DDA Submission and Acceptance on Design Submission for Meander Bridge	33	29-Jan-22 A	05-Nov-22	29-Jan-22	09-Feb-22	-220	22-Feb-22
KD7-2075	Issued PMI No. 079 - PM Review and Reply	14	23-Sep-22 A	05-Nov-22	14-Jan-22	18-Jan-22	-291	
KD7-2076	Issue PMN for PMI079	0		05-Nov-22		18-Jan-22	-234	
KD7 - Substructure		463	26-May-22 A	13-Dec-23	19-Jan-22	02-Mar-23	-234	
Meander Bridge North Side		412	26-May-22 A	13-Oct-23	19-Jan-22	23-Nov-22	-261	
KD7-1350	Meander Bridge - Pre-drilling for North Pier (6 nrs)	21	29-Sep-22 A	08-Nov-22	27-Jan-22	09-Feb-22	-222	
KD7-1360	Meander Bridge - Mobilization of Piling Rigs	14	07-Nov-22	22-Nov-22	19-Jan-22	09-Feb-22	-234	
KD7-2240	Meander Bridge - Bored piling for North Pier (6nrs, 15d/m²/rig, 2 rigs)	45	23-Nov-22	17-Jan-23	10-Feb-22	02-Apr-22	-234	
KD7-2250	Meander Bridge - ELS for North Pier Cap	42	09-Mar-23	02-May-23	22-Apr-22	13-Jun-22	-261	
KD7-2260	Meander Bridge - RC for North Piers' Caps and Piers	42	03-May-23	21-Jun-23	14-Jun-22	02-Aug-22	-261	
KD7-2265	Meander Bridge - Backfill and removal of ELS for Piers	34	08-Jun-23	19-Jul-23	20-Jul-22	27-Aug-22	-261	
KD7-2280	Meander Bridge - Predrilling for North MBA-02	21	26-May-22 A	08-Nov-22	26-Mar-22	02-Apr-22	-177	
KD7-2290	Meander Bridge - Bored piling for MBA-02 (8nrs, 15d/m²/rig, 2 rigs)	60	18-Jan-23	01-Apr-23	04-Apr-22	20-Jun-22	-234	
KD7-2300	Meander Bridge - ELS for MBA-02	42	20-Jul-23	06-Sep-23	29-Aug-22	19-Oct-22	-261	
KD7-2310	Meander Bridge - RC for MBA-02	42	24-Aug-23	13-Oct-23	06-Oct-22	23-Nov-22	-261	
Meander Bridge South Side		208	03-Apr-23	13-Dec-23	21-Jun-22	02-Mar-23	-234	
KD7-2070	Meander Bridge - Earth Retaining Supports for Existing South Abutment EVA	6	24-Apr-23	29-Apr-23	14-Jul-22	20-Jul-22	-229	
KD7-2090	Meander Bridge - Forming access platform for South Pier	21	02-May-23	25-May-23	21-Jul-22	13-Aug-22	-229	
KD7-2110	Meander Bridge - Predrilling for South Pier (6nr)	14	27-May-23	12-Jun-23	15-Aug-22	30-Aug-22	-229	
KD7-2120	Meander Bridge - Bored piling for South Pier (6nr, 15d/m²/rig, 2 rigs)	45	19-Jun-23	11-Aug-23	31-Aug-22	25-Oct-22	-234	
KD7-2130	Meander Bridge - Bored piling for South Abutment (8nr,15d/m²/rig, 2 rigs)	60	03-Apr-23	17-Jun-23	21-Jun-22	30-Aug-22	-234	
KD7-2140	Meander Bridge - ELS for South Piers' Cap	43	12-Aug-23	03-Oct-23	26-Oct-22	14-Dec-22	-234	
KD7-2150	Meander Bridge - RC for South Piers' Caps and Piers	38	26-Sep-23	11-Nov-23	09-Dec-22	30-Jan-23	-234	
KD7-2160	Meander Bridge - Backfill and Removal of ELS for Piers	36	02-Nov-23	13-Dec-23	16-Jan-23	02-Mar-23	-234	
KD7-2170	Meander Bridge - ELS for South Abutments' Cap	24	19-Jun-23	18-Jul-23	10-Dec-22	10-Jan-23	-150	
KD7-2180	Meander Bridge - RC for South Abutments' Cap	22	19-Jul-23	12-Aug-23	11-Jan-23	09-Feb-23	-150	
KD7 - Superstructure		249	14-Oct-23	17-Aug-24	24-Nov-22	22-Mar-24	-119	
KD7-2325	Meander Bridge - RC for Bridge Deck (North Abutment to North Piers)	60	14-Oct-23	23-Dec-23	24-Nov-22	09-Feb-23	-261	
KD7-2330	Meander Bridge - RC for South Abutment	18	27-Dec-23	17-Jan-24	10-Feb-23	02-Mar-23	-261	
KD7-2340	Meander Bridge - RC for Bridge Deck (South Abutment to South Piers)	60	18-Jan-24	05-Apr-24	03-Mar-23	17-May-23	-261	
KD7-2370	Meander Bridge - RC for Bridge Deck (South Piers to North Piers)	48	06-Apr-24	03-Jun-24	18-May-23	15-Jul-23	-261	
KD7-2380	Meander Bridge - Stressing of Permanent Works	15	04-Jun-24	21-Jun-24	01-Nov-23	17-Nov-23	-172	
KD7-2390	Meander Bridge - RC of Utility Trough, Planters and Parapets	48	22-Jun-24	17-Aug-24	23-Jan-24	22-Mar-24	-119	
KD7-2400	Meander Bridge - Street Furniture and Miscellaneous Works	48	22-Jun-24	17-Aug-24	23-Jan-24	22-Mar-24	-119	
KD7 - DCM		60	27-Oct-22 A	28-Jan-23	26-Jul-21	13-Oct-21	-378	
KD7-2440	DCM4 Cluster Installation (249 nrs, 5nrs/d/rig, 1 rig) (WCR, Section 6)	54	27-Oct-22 A	30-Dec-22	26-Jul-21	17-Sep-21	-378	
KD7-2445	DCM7 Cluster Installation (91nrs, 5nrs/d/rig, 1 rig) (WCR, Section 6)	40	12-Nov-22	30-Dec-22	03-Aug-21	17-Sep-21	-378	



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

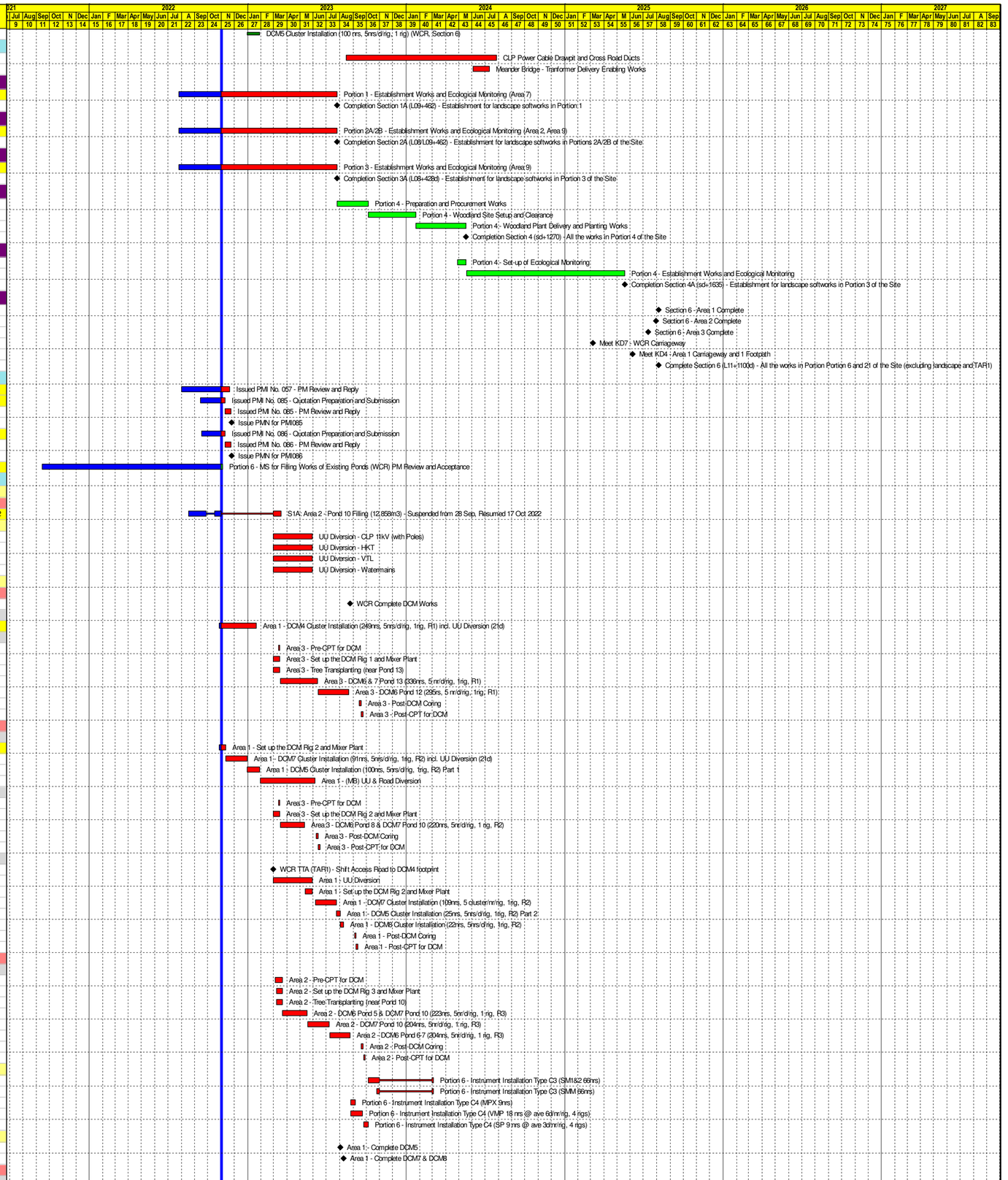
Detailed Programme

Project ID : d.YL13-2211x0
Layout : YL202001 AppA Detailed Programme
Date : 24-Oct-22/ Page 4 of 8

Detailed Programme

Date	Revision	Checked	Approved
24-Oct-22	Rev. 12		
21-Sep-22	Rev. 11		
21-Sep-22	Rev. 10		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Suspend Date
KD7-2450	DCM5 Cluster Installation (100 nrs, 5nrs/d'rig, 1 rig) (WCR, Section 6)	20	31-Dec-22	28-Jan-23	18-Sep-21	13-Oct-21	-378	
KD7 - CLP Transformer Delivery Enabling Works		280	16-Aug-23	27-Jul-24	13-Jan-23	22-Dec-23	-172	
KD7-1005	CLP Power Cable Drawpit and Cross Road Ducts	280	16-Aug-23	27-Jul-24	13-Jan-23	22-Dec-23	-172	
KD7-2015	Meander Bridge - Tranformer Delivery Enabling Works	30	04-Jun-24	10-Jul-24	18-Nov-23	22-Dec-23	-157	
Section 1A - Wetland Compensation Establishment Works at Portion 1		365	26-Jul-22 A	25-Jul-23	04-Feb-22	28-Oct-22	-270	
S1A-2000	Portion 1 - Establishment Works and Ecological Monitoring (Area 7)	365	26-Jul-22 A	25-Jul-23	04-Feb-22	28-Oct-22	-270	
S1A-PC	Completion Section 1A (L09+462) - Establishment for landscape softworks in Portion 1	0		25-Jul-23		28-Oct-22	-270	
Section 2A - Wetland Compensation Establishment Works at Portion 2A/2B		365	26-Jul-22 A	25-Jul-23	04-Feb-22	28-Oct-22	-270	
S2A-2000	Portion 2A/2B - Establishment Works and Ecological Monitoring (Area 2, Area 9)	365	26-Jul-22 A	25-Jul-23	04-Feb-22	28-Oct-22	-270	
S2A-PC	Completion Section 2A (L08/L09+462) - Establishment for landscape softworks in Portions 2A/2B of the Site	0		25-Jul-23		28-Oct-22	-270	
Section 3A - Wetland Compensation Establishment Works at Portion 3		365	26-Jul-22 A	25-Jul-23	04-Feb-22	28-Oct-22	-270	
S3A-2000	Portion 3 - Establishment Works and Ecological Monitoring (Area 9)	365	26-Jul-22 A	25-Jul-23	04-Feb-22	28-Oct-22	-270	
S3A-PC	Completion Section 3A (L08+428d) - Establishment for landscape softworks in Portion 3 of the Site	0		25-Jul-23		28-Oct-22	-270	
Section 4 - Woodland Compensation Works at Portion 4		116	26-Jul-23	18-May-24	15-Mar-24	05-Jan-25	90	
S4-1000	Portion 4 - Preparation and Procurement Works	60	26-Jul-23	05-Oct-23	15-Mar-24	30-May-24	190	
S4-1005	Portion 4 - Woodland Site Setup and Clearance	90	06-Oct-23	23-Jan-24	31-May-24	14-Sep-24	190	
S4-1010	Portion 4 - Woodland Plant Delivery and Planting Works	90	24-Jan-24	18-May-24	16-Sep-24	04-Jan-25	190	
S4-PC	Completion Section 4 (sd+1270) - All the works in Portion 4 of the Site	0		18-May-24		05-Jan-25	232	
Section 4A - Woodland Compensation Establishment Works at Portion 4		386	28-Apr-24	18-May-25	16-Dec-24	05-Jan-26	232	
S4A-1000	Portion 4 - Set-up of Ecological Monitoring	21	28-Apr-24	18-May-24	16-Dec-24	05-Jan-25	232	
S4A-2000	Portion 4 - Establishment Works and Ecological Monitoring	365	19-May-24	18-May-25	06-Jan-25	05-Jan-26	232	
S4A-PC	Completion Section 4A (sd+1635) - Establishment for landscape softworks in Portion 3 of the Site	0		18-May-25		05-Jan-26	232	
Section 6 - Western Connection Road (WCR)		535	14-Sep-21 A	04-Aug-25	22-Jul-21	11-Nov-26	181	
S6-3241	Section 6 - Area 1 Complete	0		04-Aug-25		19-Jul-24	-381	
S6-3242	Section 6 - Area 2 Complete	0		29-Jul-25		19-Jul-24	-375	
S6-3243	Section 6 - Area 3 Complete	0		11-Jul-25		19-Jul-24	-357	
S6-3244	Meet KD7 - WCR Carriageway	0		06-Mar-25		22-Dec-23	-440	
S6-3245	Meet KD4 - Area 1 Carriageway and 1 Footpath	0		06-Jun-25		30-May-24	-372	
S6-PC	Complete Section 6 (L11+1100d) - All the works in Portion Portion 6 and 21 of the Site (excluding landscape and TAR1)	0		04-Aug-25		19-Jul-24	-381	
S6 WCR Submission		152	14-Sep-21 A	24-Nov-22	22-Jul-21	11-Nov-26	564	
S6-1015C	Issued PMI No. 057 - PM Review and Reply	31	02-Aug-22 A	20-Nov-22	22-Jul-21	10-Aug-21	-467	
S6-1016B	Issued PMI No. 085 - Quotation Preparation and Submission	21	14-Sep-22 A	09-Nov-22	26-Aug-21	03-Sep-21	-432	
S6-1016C	Issued PMI No. 085 - PM Review and Reply	14	10-Nov-22	23-Nov-22	04-Sep-21	17-Sep-21	-432	
S6-1016D	Issue PMN for PMI085	0		24-Nov-22		17-Sep-21	-349	
S6-1017B	Issued PMI No. 086 - Quotation Preparation and Submission	21	17-Sep-22 A	09-Nov-22	20-Jul-22	28-Jul-22	-104	
S6-1017C	Issued PMI No. 086 - PM Review and Reply	14	10-Nov-22	23-Nov-22	29-Jul-22	11-Aug-22	-104	
S6-1017D	Issue PMN for PMI086	0		24-Nov-22		11-Aug-22	-87	
S6-9197	Portion 6 - MS for Filling Works of Existing Ponds (WCR) PM Review and Acceptance	21	14-Sep-21 A	04-Nov-22	07-Nov-26	11-Nov-26	1187	
S6 WCR Works		417	18-Aug-22 A	04-Aug-25	22-Jul-21	31-Oct-26	177	
S6 WCR: Pond Filling		49	18-Aug-22 A	18-Mar-23	25-Oct-21	11-Mar-22	-205	
Pond Filling Work Front 2		49	18-Aug-22 A	18-Mar-23	25-Oct-21	11-Mar-22	-205	
S6-5106	S1A: Area 2 - Pond 10 Filling (12,858m3) - Suspended from 28 Sep, Resumed 17 Oct 2022	49	18-Aug-22 A	18-Mar-23	25-Oct-21	11-Mar-22	-205	28-Sep-22
S6 WCR: UU Diversion		72	01-Mar-23	30-May-23	12-Aug-22	07-Mar-23	-66	
S6-9037	UU Diversion - CLP 11kV (with Poles)	72	01-Mar-23	30-May-23	12-Aug-22	07-Mar-23	-66	
S6-9047	UU Diversion - HKT	72	01-Mar-23	30-May-23	12-Aug-22	07-Mar-23	-66	
S6-9057	UU Diversion - VTL	72	01-Mar-23	30-May-23	12-Aug-22	07-Mar-23	-66	
S6-9067	UU Diversion - Watermains	72	01-Mar-23	30-May-23	12-Aug-22	07-Mar-23	-66	
S6 WCR: DCM Works		130	27-Oct-22 A	28-Sep-23	22-Jul-21	07-Mar-23	-80	
DCM Works - Rig 1		129	27-Oct-22 A	23-Sep-23	26-Jul-21	07-Mar-23	-78	
S6-8897	WCR Complete DCM Works	0		25-Aug-23		07-Mar-23	-139	
Area 1 - DCM 4 (at MB)		71	27-Oct-22 A	20-Jan-23	26-Jul-21	13-Oct-21	-375	
S6-5176	Area 1 - DCM4 Cluster Installation (249nrs, 5nrs/d'rig, 1rig, R1) incl. UU Diversion (21d)	71	27-Oct-22 A	20-Jan-23	26-Jul-21	13-Oct-21	-375	
Area 3 - DCM 6 & 7 at Pond 12-13		81	01-Mar-23	23-Sep-23	15-Oct-21	28-Oct-22	-128	
S6-7531	Area 3 - Pre-CPT for DCM	4	13-Mar-23	16-Mar-23	14-Mar-22	17-Mar-22	-198	
S6-7532	Area 3 - Set up the DCM Rig 1 and Mixer Plant	14	01-Mar-23	16-Mar-23	15-Oct-21	30-Oct-21	-213	
S6-7533	Area 3 - Tree Transplanting (near Pond 13)	14	01-Mar-23	16-Mar-23	02-Mar-22	17-Mar-22	-198	
S6-7534	Area 3 - DCM6 & 7 Pond 13 (336nrs, 5 nr/d'rig, 1rig, R1)	68	17-Mar-23	10-Jun-23	18-Mar-22	13-Jun-22	-198	
S6-7535	Area 3 - DCM6 Pond 12 (295rs, 5 nr/d'rig, 1rig, R1)	59	12-Jun-23	21-Aug-23	15-Jul-22	22-Sep-22	-268	
S6-8957	Area 3 - Post-DCM Coring	4	15-Sep-23	19-Sep-23	20-Oct-22	24-Oct-22	-172	
S6-8967	Area 3 - Post-CPT for DCM	4	20-Sep-23	23-Sep-23	25-Oct-22	28-Oct-22	-172	
DCM Works - Rig 2		124	27-Oct-22 A	12-Sep-23	22-Jul-21	20-Oct-22	-126	
Area 1 - DCM7 (at MB) and DCM5		177	27-Oct-22 A	05-Jun-23	22-Jul-21	28-Mar-22	-348	
S6-5174	Area 1 - Set up the DCM Rig 2 and Mixer Plant	14	27-Oct-22 A	11-Nov-22	22-Jul-21	02-Aug-21	-378	
S6-5178	Area 1 - DCM7 Cluster Installation (91nrs, 5nrs/d'rig, 1rig, R2) incl. UU Diversion (21d)	40	12-Nov-22	30-Dec-22	03-Aug-21	17-Sep-21	-378	
S6-5180	Area 1 - DCM5 Cluster Installation (100nrs, 5nrs/d'rig, 1rig, R2) Part 1	20	31-Dec-22	28-Jan-23	18-Sep-21	13-Oct-21	-378	
S6-5182	Area 1 - (MB) UU & Road Diversion	103	30-Jan-23	05-Jun-23	19-Nov-21	28-Mar-22	-348	
Area 3 - DCM 6 & 7 Pond 8 & 10		42	01-Mar-23	16-Jun-23	15-Oct-21	20-Oct-22	-92	
S6-7623	Area 3 - Pre-CPT for DCM	4	13-Mar-23	16-Mar-23	27-Oct-21	30-Oct-21	-213	
S6-7624	Area 3 - Set up the DCM Rig 2 and Mixer Plant	14	01-Mar-23	16-Mar-23	15-Oct-21	30-Oct-21	-213	
S6-7625	Area 3 - DCM6 Pond 8 & DCM7 Pond 10 (220nrs, 5nr/d'rig, 1 rig, R2)	44	17-Mar-23	12-May-23	14-Jan-22	11-Mar-22	-343	
S6-8997	Area 3 - Post-DCM Coring	4	08-Jun-23	12-Jun-23	12-Oct-22	15-Oct-22	-96	
S6-9007	Area 3 - Post-CPT for DCM	4	13-Jun-23	16-Jun-23	17-Oct-22	20-Oct-22	-96	
Area 1 - DCM5, DCM7, DCM8		76	01-Mar-23	12-Sep-23	30-Oct-21	28-Sep-22	-134	
S6-7502	WCR TTA (TAR1) - Shift Access Road to DCM4 footprint	0	01-Mar-23		30-Oct-21		-199	
S6-7503	Area 1 - UU Diversion	72	01-Mar-23	30-May-23	28-Dec-21	28-Mar-22	-343	
S6-7504	Area 1 - Set up the DCM Rig 2 and Mixer Plant	14	13-May-23	30-May-23	12-Mar-22	28-Mar-22	-247	
S6-7505	Area 1 - DCM7 Cluster Installation (109nrs, 5 cluster/nr/rig, 1rig, R2)	40	06-Jun-23	24-Jul-23	29-Mar-22	20-May-22	-348	
S6-7525	Area 1 - DCM5 Cluster Installation (25nrs, 5nrs/d'rig, 1rig, R2) Part 2	8	25-Jul-23	02-Aug-23	21-May-22	30-May-22	-348	
S6-7526	Area 1 - DCM8 Cluster Installation (22nrs, 5nrs/d'rig, 1rig, R2)	6	03-Aug-23	09-Aug-23	31-May-22	07-Jun-22	-348	
S6-8977	Area 1 - Post-DCM Coring	4	04-Sep-23	07-Sep-23	20-Sep-22	23-Sep-22	-186	
S6-8987	Area 1 - Post-CPT for DCM	4	08-Sep-23	12-Sep-23	24-Sep-22	28-Sep-22	-186	
DCM Works - Rig 3		170	06-Mar-23	28-Sep-23	27-Oct-21	20-Oct-22	-183	
Area 2 - DCM at Pond 5,6,7 & 10		170	06-Mar-23	28-Sep-23	27-Oct-21	20-Oct-22	-183	
S6-7562	Area 2 - Pre-CPT for DCM	14	06-Mar-23	21-Mar-23	27-Oct-21	11-Mar-22	-207	
S6-7563	Area 2 - Set up the DCM Rig 3 and Mixer Plant	12	08-Mar-23	21-Mar-23	29-Oct-21	11-Mar-22	-207	
S6-7564	Area 2 - Tree Transplanting (near Pond 10)	12	08-Mar-23	21-Mar-23	29-Oct-21	11-Mar-22	-207	
S6-7565	Area 2 - DCM6 Pond 5 & DCM7 Pond 10 (223nrs, 5nr/d'rig, 1 rig, R3)	45	22-Mar-23	18-May-23	12-Mar-22	10-May-22	-207	
S6-7615	Area 2 - DCM7 Pond 10 (204nrs, 5nr/d'rig, 1 rig, R3)	41	19-May-23	08-Jul-23	09-Jun-22	27-Jul-22	-183	
S6-7805	Area 2 - DCM6 Pond 6-7 (204nrs, 5nr/d'rig, 1 rig, R3)	41	10-Jul-23	25-Aug-23	28-Jul-22	14-Sep-22	-183	
S6-9017	Area 2 - Post-DCM Coring	4	20-Sep-23	23-Sep-23	12-Oct-22	15-Oct-22	-183	
S6-9027	Area 2 - Post-CPT for DCM	4	25-Sep-23	28-Sep-23	17-Oct-22	20-Oct-22	-183	
S6 WCR: Instrumentation		57	25-Aug-23	04-Mar-24	08-Mar-23	04-Apr-23	-172	
S6-1040	Portion 6 - Instrument Installation Type C3 (SM1&2 66nrs)	24	06-Oct-23	04-Mar-24	08-Mar-23	04-Apr-23	-172	
S6-1060	Portion 6 - Instrument Installation Type C3 (SMM 66nrs)	8	26-Oct-23	04-Mar-24	27-Mar-23	04-Apr-23	-172	
S6-1110	Portion 6 - Instrument Installation Type C4 (MPX 9nrs)	9	26-Aug-23	05-Sep-23*	08-Mar-23	17-Mar-23	-139	
S6-1120	Portion 6 - Instrument Installation Type C4 (VMP 18 nrs @ ave 6d/nr/rig, 4 rigs)	24	26-Aug-23	22-Sep-23	08-Mar-23	04-Apr-23	-139	
S6-1130	Portion 6 - Instrument Installation Type C4 (SP 9 nrs @ ave 3d/nr/rig, 4 rigs)	8	25-Sep-23	05-Oct-23	27-Mar-23	04-Apr-23	-148	
Area 1 (Road D1 to CH 1900)		285	02-Aug-23	04-Aug-25	07-Jun-22	30-May-24	-168	
S6-9158	Area 1 - Complete DCM5	0		02-Aug-23		07-Jun-22	-246	
S6-9159	Area 1 - Complete DCM7 & DCM8	0		09-Aug-23		07-Jun-22	-252	
Area 1 - Retaining Walls		119	10-Aug-23	08-Jun-24	17-Jun-22	04-Apr-23	-168	
Area 1 - Pipe Pile Wall PW1		88	10-Aug-23	21-Mar-24	17-Jun-22	22-Oct-22	-200	



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

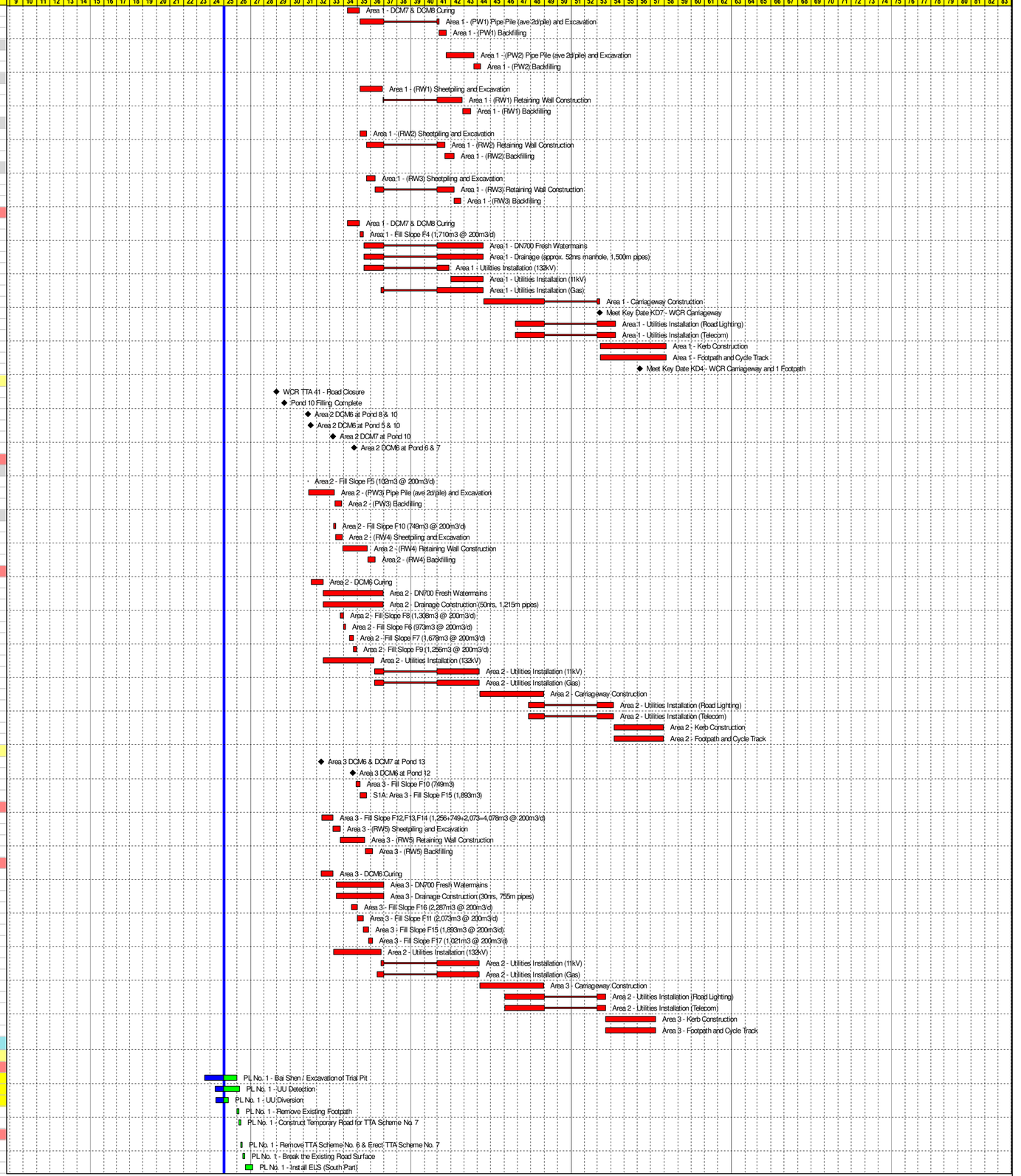
Detailed Programme

Project ID : d.YL13-2211x0
Layout : YL202001 AppA Detailed Programme
Date : 24-Oct-22/ Page 5 of 8

Detailed Programme

Date	Revision	Checked	Approved
24-Oct-22	Rev. 12		
21-Sep-22	Rev. 11		
21-Sep-22	Rev. 10		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Suspend Date
S6-5289	Area 1 - DCM7 & DCM8 Curing	28	10-Aug-23	06-Sep-23	17-Jun-22	14-Jul-22	-419	
S6-6245	Area 1 - (PW1) Pipe Pile (ave 2d/pile) and Excavation	48	07-Sep-23	05-Mar-24	08-Aug-22	06-Oct-22	-225	
S6-6395	Area 1 - (PW1) Backfilling	14	06-Mar-24	21-Mar-24	06-Oct-22	22-Oct-22	-225	
Area 1 - Pipe Pile Wall PW2		62	22-Mar-24	08-Jun-24	22-Oct-22	06-Jan-23	-418	
S6-6275	Area 1 - (PW2) Pipe Pile (ave 2d/pile) and Excavation	48	22-Mar-24	23-May-24	22-Oct-22	17-Dec-22	-418	
S6-6375	Area 1 - (PW2) Backfilling	14	24-May-24	08-Jun-24	17-Dec-22	06-Jan-23	-418	
Area 1 - Retaining Wall RW1		99	07-Sep-23	16-May-24	03-Aug-22	04-Apr-23	-159	
S6-6285	Area 1 - (RW1) Sheetpiling and Excavation	42	07-Sep-23	28-Oct-23	03-Aug-22	21-Sep-22	-229	
S6-6295	Area 1 - (RW1) Retaining Wall Construction	48	30-Oct-23	27-Apr-24	22-Sep-22	18-Mar-23	-229	
S6-6305	Area 1 - (RW1) Backfilling	14	29-Apr-24	16-May-24	20-Mar-23	04-Apr-23	-326	
Area 1 - Retaining Wall RW2		73	07-Sep-23	08-Apr-24	06-Aug-22	02-Mar-23	-226	
S6-5190	Area 1 - (RW2) Sheetpiling and Excavation	14	07-Sep-23	22-Sep-23	06-Aug-22	22-Aug-22	-226	
S6-5200	Area 1 - (RW2) Retaining Wall Construction	45	23-Sep-23	18-Mar-24	23-Aug-22	17-Oct-22	-226	
S6-5210	Area 1 - (RW2) Backfilling	14	19-Mar-24	08-Apr-24	18-Oct-22	02-Mar-23	-226	
Area 1 - Retaining Wall RW3		73	23-Sep-23	24-Apr-24	23-Aug-22	18-Mar-23	-226	
S6-5220	Area 1 - (RW3) Sheetpiling and Excavation	14	23-Sep-23	11-Oct-23	23-Aug-22	07-Sep-22	-226	
S6-5230	Area 1 - (RW3) Retaining Wall Construction	45	12-Oct-23	08-Apr-24	08-Sep-22	02-Mar-23	-226	
S6-5240	Area 1 - (RW3) Backfilling	14	09-Apr-24	24-Apr-24	03-Mar-23	18-Mar-23	-226	
Area 1 - UU & Road Construction		283	10-Aug-23	04-Aug-25	08-Jun-22	30-May-24	-168	
S6-9072	Area 1 - DCM7 & DCM8 Curing	28	10-Aug-23	06-Sep-23	08-Jun-22	05-Jul-22	-428	
S6-9074	Area 1 - Fill Slope F4 (1,710m3 @ 200m3/d)	8	07-Sep-23	15-Sep-23	06-Jul-22	14-Jul-22	-253	
S6-9077	Area 1 - DN700 Fresh Watermains	120	16-Sep-23	14-Jun-24	15-Jul-22	04-Apr-23	-253	
S6-9087	Area 1 - Drainage (approx. 52nrs manhole, 1,500m pipes)	120	16-Sep-23	14-Jun-24	15-Jul-22	04-Apr-23	-253	
S6-9128	Area 1 - Utilities Installation (132kV)	60	16-Sep-23	28-Mar-24	15-Jul-22	23-Sep-22	-253	
S6-9130	Area 1 - Utilities Installation (11kV)	60	02-Apr-24	14-Jun-24	24-Sep-22	04-Apr-23	-253	
S6-9132	Area 1 - Utilities Installation (Gas)	90	25-Oct-23	14-Jun-24	19-Aug-22	04-Apr-23	-253	
S6-9133	Area 1 - Carriageway Construction	120	15-Jun-24	06-Mar-25	06-Apr-23	31-Aug-23	-253	
S6-9134	Meet Key Date KD7 - WCR Carriageway	0		06-Mar-25		31-Oct-23	-204	
S6-9136	Area 1 - Utilities Installation (Road Lighting)	90	26-Aug-24	11-Apr-25	21-Jun-23	07-Oct-23	-253	
S6-9137	Area 1 - Utilities Installation (Telecom)	90	26-Aug-24	11-Apr-25	21-Jun-23	07-Oct-23	-253	
S6-9138	Area 1 - Kerb Construction	120	08-Mar-25	04-Aug-25	02-Sep-23	30-May-24	-253	
S6-9140	Area 1 - Footpath and Cycle Track	120	08-Mar-25	04-Aug-25	02-Sep-23	30-May-24	-253	
S6-9142	Meet Key Date KD4 - WCR Carriageway and 1 Footpath	0		06-Jun-25		30-May-24	-204	
Area 2 (CH 1900 to CH 1650)		344	01-Mar-23	29-Jul-25	11-Mar-22	19-Jul-24	-146	
S6-6195	WCR TTA 41 - Road Closure	0	01-Mar-23*		11-Mar-22		-189	
S6-6315	Pond 10 Filling Complete	0		18-Mar-23		11-Mar-22	-205	
S6-8855	Area 2 DCM6 at Pond 8 & 10	0		12-May-23		07-May-22	-203	
S6-8856	Area 2 DCM6 at Pond 5 & 10	0		18-May-23		10-May-22	-207	
S6-8857	Area 2 DCM7 at Pond 10	0		08-Jul-23		18-Oct-22	-115	
S6-8867	Area 2 DCM6 at Pond 6 & 7	0		25-Aug-23		20-Oct-22	-154	
Area 2 - Retaining Walls		60	12-May-23	12-Oct-23	07-May-22	25-May-23	-55	
Area 2 - Pipe Pile Wall PW3		30	12-May-23	27-Jul-23	07-May-22	08-Mar-23	-55	
S6-6612	Area 2 - Fill Slope F5 (102m3 @ 200m3/d)	1	12-May-23	12-May-23	07-May-22	07-May-22	-203	
S6-6615	Area 2 - (PW3) Pipe Pile (ave 2d/pile) and Excavation	48	13-May-23	11-Jul-23	10-May-22	06-Jul-22	-203	
S6-6635	Area 2 - (PW3) Backfilling	14	12-Jul-23	27-Jul-23	21-Feb-23	08-Mar-23	-113	
Area 2 - Retaining Wall RW4		37	10-Jul-23	12-Oct-23	19-Oct-22	25-May-23	-55	
S6-7364	Area 2 - Fill Slope F10 (749m3 @ 200m3/d)	4	10-Jul-23	13-Jul-23	19-Oct-22	22-Oct-22	-115	
S6-7365	Area 2 - (RW4) Sheetpiling and Excavation	14	14-Jul-23	29-Jul-23	24-Oct-22	08-Mar-23	-115	
S6-7375	Area 2 - (RW4) Retaining Wall Construction	48	31-Jul-23	23-Sep-23	09-Mar-23	09-May-23	-115	
S6-7385	Area 2 - (RW4) Backfilling	14	25-Sep-23	12-Oct-23	10-May-23	25-May-23	-115	
Area 2 - UU & Road Construction		313	19-May-23	29-Jul-25	11-May-22	19-Jul-24	-146	
S6-6322	Area 2 - DCM6 Curing	28	19-May-23	15-Jun-23	11-May-22	07-Jun-22	-373	
S6-6325	Area 2 - DN700 Fresh Watermains	112	16-Jun-23	30-Oct-23	08-Jun-22	20-Oct-22	-207	
S6-6655	Area 2 - Drainage Construction (50nrs, 1,215m pipes)	112	16-Jun-23	30-Oct-23	08-Jun-22	20-Oct-22	-207	
S6-6659	Area 2 - Fill Slope F8 (1,308m3 @ 200m3/d)	7	24-Jul-23	31-Jul-23	04-Aug-22	11-Aug-22	-189	
S6-6660	Area 2 - Fill Slope F6 (973m3 @ 200m3/d)	5	01-Aug-23	05-Aug-23	12-Aug-22	17-Aug-22	-189	
S6-6662	Area 2 - Fill Slope F7 (1,678m3 @ 200m3/d)	9	14-Aug-23	23-Aug-23	25-Aug-22	03-Sep-22	-189	
S6-6664	Area 2 - Fill Slope F9 (1,256m3 @ 200m3/d)	7	24-Aug-23	31-Aug-23	05-Sep-22	13-Sep-22	-189	
S6-6670	Area 2 - Utilities Installation (132kV)	95	16-Jun-23	09-Oct-23	08-Jun-22	28-Sep-22	-207	
S6-6672	Area 2 - Utilities Installation (11kV)	95	10-Oct-23	05-Jun-24	29-Sep-22	25-May-23	-207	
S6-6674	Area 2 - Utilities Installation (Gas)	95	10-Oct-23	05-Jun-24	29-Sep-22	25-May-23	-207	
S6-6705	Area 2 - Carriageway Construction	120	06-Jun-24	29-Oct-24	27-May-23	18-Oct-23	-207	
S6-6708	Area 2 - Utilities Installation (Road Lighting)	60	26-Sep-24	07-Apr-25	15-Sep-23	27-Mar-24	-207	
S6-6710	Area 2 - Utilities Installation (Telecom)	60	26-Sep-24	07-Apr-25	15-Sep-23	27-Mar-24	-207	
S6-6715	Area 2 - Kerb Construction	90	08-Apr-25	29-Jul-25	28-Mar-24	19-Jul-24	-207	
S6-6725	Area 2 - Footpath and Cycle Track	90	08-Apr-25	29-Jul-25	28-Mar-24	19-Jul-24	-207	
Area 3 (CH 1650 to CH 1350)		297	10-Jun-23	11-Jul-25	13-Jun-22	31-Oct-26	186	
S6-8877	Area 3 DCM6 & DCM7 at Pond 13	0		10-Jun-23		13-Jun-22	-198	
S6-8887	Area 3 DCM6 at Pond 12	0		21-Aug-23		31-Oct-26	656	
S6-8890	Area 3 - Fill Slope F10 (749m3)	9	29-Aug-23	07-Sep-23	06-Oct-22	15-Oct-22	-169	
S6-8891	S1A: Area 3 - Fill Slope F15 (1,893m3)	13	08-Sep-23	22-Sep-23	17-Oct-22	31-Oct-22	-169	
Area 3 - Retaining Wall RW5		46	12-Jun-23	06-Oct-23	04-Jul-22	27-Oct-22	-133	
S6-7393	Area 3 - Fill Slope F12,F13,F14 (1,256+749+2,073=4,078m3 @ 200m3/d)	21	12-Jun-23	07-Jul-23	04-Jul-22	27-Jul-22	-182	
S6-7395	Area 3 - (RW5) Sheetpiling and Excavation	14	08-Jul-23	24-Jul-23	28-Jul-22	12-Aug-22	-182	
S6-7405	Area 3 - (RW5) Retaining Wall Construction	48	25-Jul-23	18-Sep-23	13-Aug-22	11-Oct-22	-182	
S6-7415	Area 3 - (RW5) Backfilling	14	19-Sep-23	06-Oct-23	12-Oct-22	27-Oct-22	-278	
Area 3 - UU & Road Construction		297	11-Jun-23	11-Jul-25	14-Jun-22	19-Jul-24	-139	
S6-8906	Area 3 - DCM6 Curing	28	11-Jun-23	08-Jul-23	14-Jun-22	11-Jul-22	-362	
S6-8907	Area 3 - DN700 Fresh Watermains	90	15-Jul-23	31-Oct-23	16-Aug-22	31-Mar-23	-172	
S6-8917	Area 3 - Drainage Construction (30nrs, 755m pipes)	90	15-Jul-23	31-Oct-23	19-Aug-22	04-Apr-23	-169	
S6-8918	Area 3 - Fill Slope F16 (2,287m3 @ 200m3/d)	12	19-Aug-23	01-Sep-23	21-Sep-22	06-Oct-22	-172	
S6-8920	Area 3 - Fill Slope F11 (2,073m3 @ 200m3/d)	11	02-Sep-23	14-Sep-23	07-Oct-22	19-Oct-22	-172	
S6-8922	Area 3 - Fill Slope F15 (1,893m3 @ 200m3/d)	10	15-Sep-23	26-Sep-23	20-Oct-22	31-Oct-22	-172	
S6-8924	Area 3 - Fill Slope F17 (1,021m3 @ 200m3/d)	6	27-Sep-23	05-Oct-23	01-Mar-23	07-Mar-23	-172	
S6-8926	Area 2 - Utilities Installation (132kV)	90	10-Jul-23	25-Oct-23	12-Jul-22	27-Oct-22	-197	
S6-8928	Area 2 - Utilities Installation (11kV)	82	26-Oct-23	05-Jun-24	28-Oct-22	07-Jun-23	-197	
S6-8930	Area 2 - Utilities Installation (Gas)	90	16-Oct-23	05-Jun-24	19-Oct-22	07-Jun-23	-197	
S6-8934	Area 3 - Carriageway Construction	120	06-Jun-24	29-Oct-24	08-Jun-23	31-Oct-23	-197	
S6-8935	Area 2 - Utilities Installation (Road Lighting)	90	03-Aug-24	19-Mar-25	11-Aug-23	27-Mar-24	-192	
S6-8936	Area 2 - Utilities Installation (Telecom)	90	03-Aug-24	19-Mar-25	11-Aug-23	27-Mar-24	-192	
S6-8937	Area 3 - Kerb Construction	90	20-Mar-25	11-Jul-25	28-Mar-24	19-Jul-24	-192	
S6-8947	Area 3 - Footpath and Cycle Track	90	20-Mar-25	11-Jul-25	28-Mar-24	19-Jul-24	-192	
S6 WCR Pai Lau		256	19-Sep-22 A	02-Aug-23	18-Oct-23	19-Jul-24	284	
Pai Lau No.1 Construction (Location 15, LMC Road)		256	19-Sep-22 A	02-Aug-23	18-Oct-23	19-Jul-24	284	
PL No.1 - Preparation Works		69	19-Sep-22 A	09-Dec-22	18-Oct-23	13-Dec-23	298	
S6-3665	PL No. 1 - Bai Shen / Excavation of Trial Pit	61	19-Sep-22 A	30-Nov-22	18-Oct-23	17-Nov-23	284	
S6-5646	PL No. 1 - UU Detection	48	13-Oct-22 A	07-Dec-22	07-Nov-23	13-Dec-23	300	
S6-5656	PL No. 1 - UU Diversion	25	14-Oct-22 A	11-Nov-22	07-Nov-23	17-Nov-23	300	
S6-5666	PL No. 1 - Remove Existing Footpath	4	01-Dec-22	05-Dec-22	18-Nov-23	22-Nov-23	284	
S6-5686	PL No. 1 - Construct Temporary Road for TTA Scheme No. 7	4	06-Dec-22	09-Dec-22	23-Nov-23	27-Nov-23	284	
PL No.1 - Foundation		92	10-Dec-22	04-Apr-23	28-Nov-23	21-Mar-24	284	
S6-3625	PL No. 1 - Remove TTA Scheme No. 6 & Erect TTA Scheme No. 7	3	10-Dec-22	13-Dec-22	28-Nov-23	30-Nov-23	284	
S6-3675	PL No. 1 - Break the Existing Road Surface	5	14-Dec-22	19-Dec-22	01-Dec-23	06-Dec-23	284	
S6-3685	PL No. 1 - Install ELS (South Part)	13	20-Dec-22	06-Jan-23	07-Dec-23	21-Dec-23	284	



CRCC - Kwan Lee - Paul Y. JV

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Actual Level of Effort
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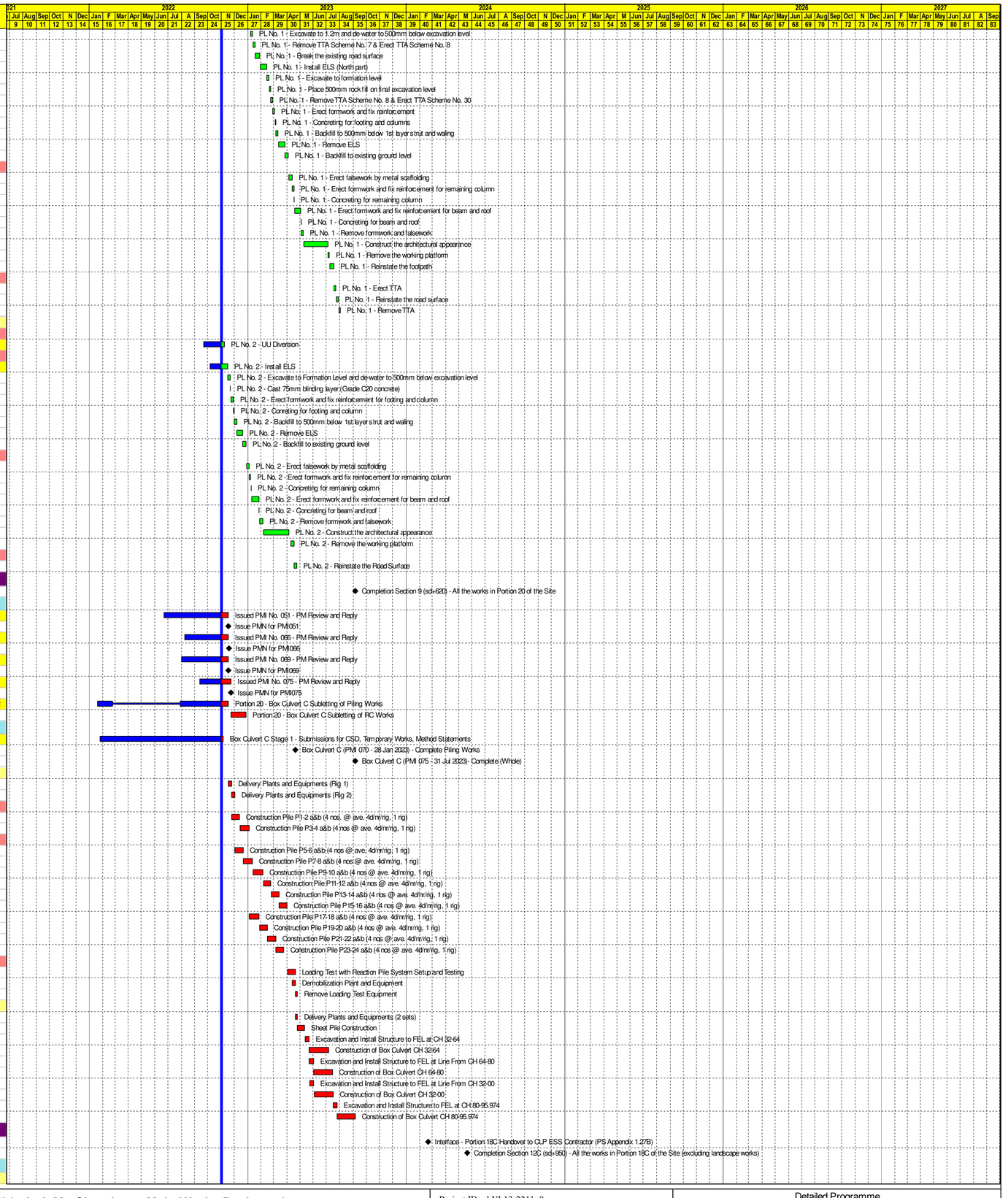
Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1

Detailed Programme

Project ID : d.YL13-2211x0
Layout : YL202001 AppA Detailed Programme
Date : 24-Oct-22/ Page 6 of 8

Detailed Programme			
Date	Revision	Checked	Approved
24-Oct-22	Rev. 12		
21-Sep-22	Rev. 11		
21-Sep-22	Rev. 10		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Suspend Date
S6-3695	PL No. 1 - Excavate to 1.2m and de-water to 500mm below excavation level	5	07-Jan-23	12-Jan-23	22-Dec-23	29-Dec-23	284	
S6-5696	PL No. 1 - Remove TTA Scheme No. 7 & Erect TTA Scheme No. 8	4	13-Jan-23	17-Jan-23	30-Dec-23	04-Jan-24	284	
S6-5706	PL No. 1 - Break the existing road surface	6	18-Jan-23	28-Jan-23	05-Jan-24	11-Jan-24	284	
S6-5716	PL No. 1 - Install ELS (North part)	13	30-Jan-23	13-Feb-23	12-Jan-24	26-Jan-24	284	
S6-5726	PL No. 1 - Excavate to formation level	5	14-Feb-23	18-Feb-23	27-Jan-24	01-Feb-24	284	
S6-5736	PL No. 1 - Place 500mm rock fill on final excavation level	3	20-Feb-23	22-Feb-23	02-Feb-24	05-Feb-24	284	
S6-5746	PL No. 1 - Remove TTA Scheme No. 8 & Erect TTA Scheme No. 30	4	23-Feb-23	27-Feb-23	06-Feb-24	09-Feb-24	284	
S6-5756	PL No. 1 - Erect formwork and fix reinforcement	5	28-Feb-23	04-Mar-23	15-Feb-24	20-Feb-24	284	
S6-5766	PL No. 1 - Concreting for footing and columns	1	06-Mar-23	06-Mar-23	21-Feb-24	21-Feb-24	284	
S6-5776	PL No. 1 - Backfill to 500mm below 1st layer strut and waling	5	07-Mar-23	11-Mar-23	22-Feb-24	27-Feb-24	284	
S6-5786	PL No. 1 - Remove ELS	13	13-Mar-23	27-Mar-23	28-Feb-24	13-Mar-24	284	
S6-5796	PL No. 1 - Backfill to existing ground level	7	28-Mar-23	04-Apr-23	14-Mar-24	21-Mar-24	284	
PL No.1 - Superstructure		82	06-Apr-23	18-Jul-23	22-Mar-24	04-Jul-24	284	
S6-3635	PL No. 1 - Erect falsework by metal scaffolding	4	06-Apr-23	13-Apr-23	22-Mar-24	26-Mar-24	284	
S6-3705	PL No. 1 - Erect formwork and fix reinforcement for remaining column	3	14-Apr-23	17-Apr-23	27-Mar-24	02-Apr-24	284	
S6-3715	PL No. 1 - Concreting for remaining column	1	18-Apr-23	18-Apr-23	03-Apr-24	03-Apr-24	284	
S6-3725	PL No. 1 - Erect formwork and fix reinforcement for beam and roof	12	19-Apr-23	03-May-23	05-Apr-24	18-Apr-24	284	
S6-3735	PL No. 1 - Concreting for beam and roof	1	04-May-23	04-May-23	19-Apr-24	19-Apr-24	284	
S6-3745	PL No. 1 - Remove formwork and falsework	4	05-May-23	09-May-23	20-Apr-24	24-Apr-24	284	
S6-3755	PL No. 1 - Construct the architectural appearance	45	10-May-23	04-Jul-23	25-Apr-24	19-Jun-24	284	
S6-3765	PL No. 1 - Remove the working platform	4	05-Jul-23	08-Jul-23	20-Jun-24	24-Jun-24	284	
S6-3775	PL No. 1 - Reinstate the footpath	8	10-Jul-23	18-Jul-23	25-Jun-24	04-Jul-24	284	
PL No.1 - Reinstatement for LMC Road		13	19-Jul-23	02-Aug-23	05-Jul-24	19-Jul-24	284	
S6-3645	PL No. 1 - Erect TTA	4	19-Jul-23	22-Jul-23	05-Jul-24	09-Jul-24	284	
S6-3655	PL No. 1 - Reinstate the road surface	6	24-Jul-23	29-Jul-23	10-Jul-24	16-Jul-24	284	
S6-3815	PL No. 1 - Remove TTA	3	31-Jul-23	02-Aug-23	17-Jul-24	19-Jul-24	284	
Pai Lau No. 2 Construction (Location 11, HWT Road)		171	22-Sep-22 A	24-Apr-23	26-Jan-24	19-Jul-24	366	
PL No.2 - Preparation Works		39	22-Sep-22 A	08-Nov-22	26-Jan-24	02-Feb-24	366	
S6-5846	PL No. 2 - UU Diversion	39	22-Sep-22 A	08-Nov-22	26-Jan-24	02-Feb-24	366	
PL No.2 - Foundation		69	07-Oct-22 A	28-Dec-22	26-Jan-24	26-Mar-24	366	
S6-2110	PL No. 2 - Install ELS	34	07-Oct-22 A	15-Nov-22	26-Jan-24	09-Feb-24	366	
S6-5876	PL No. 2 - Excavate to Formation Level and de-water to 500mm below excavation level	5	16-Nov-22	21-Nov-22	15-Feb-24	20-Feb-24	366	
S6-5886	PL No. 2 - Cast 75mm blinding layer (Grade C20 concrete)	1	22-Nov-22	22-Nov-22	21-Feb-24	21-Feb-24	366	
S6-5896	PL No. 2 - Erect formwork and fix reinforcement for footing and column	6	23-Nov-22	29-Nov-22	22-Feb-24	28-Feb-24	366	
S6-5906	PL No. 2 - Concreting for footing and column	1	30-Nov-22	30-Nov-22	29-Feb-24	29-Feb-24	366	
S6-5916	PL No. 2 - Backfill to 500mm below 1st layer strut and waling	5	01-Dec-22	06-Dec-22	01-Mar-24	06-Mar-24	366	
S6-5926	PL No. 2 - Remove ELS	12	07-Dec-22	20-Dec-22	07-Mar-24	20-Mar-24	366	
S6-5936	PL No. 2 - Backfill to existing ground level	5	21-Dec-22	28-Dec-22	21-Mar-24	26-Mar-24	366	
PL No.2 - Superstructure		65	29-Dec-22	17-Apr-23	27-Mar-24	12-Jul-24	366	
S6-2100	PL No. 2 - Erect falsework by metal scaffolding	5	29-Dec-22	04-Jan-23	27-Mar-24	05-Apr-24	366	
S6-5946	PL No. 2 - Erect formwork and fix reinforcement for remaining column	3	05-Jan-23	07-Jan-23	06-Apr-24	09-Apr-24	366	
S6-5956	PL No. 2 - Concreting for remaining column	1	09-Jan-23	09-Jan-23	10-Apr-24	10-Apr-24	366	
S6-5966	PL No. 2 - Erect formwork and fix reinforcement for beam and roof	11	10-Jan-23	26-Jan-23	11-Apr-24	23-Apr-24	366	
S6-5976	PL No. 2 - Concreting for beam and roof	1	27-Jan-23	27-Jan-23	24-Apr-24	24-Apr-24	366	
S6-5986	PL No. 2 - Remove formwork and falsework	7	28-Jan-23	04-Feb-23	25-Apr-24	03-May-24	366	
S6-5996	PL No. 2 - Construct the architectural appearance	51	06-Feb-23	06-Apr-23	04-May-24	05-Jul-24	366	
S6-6006	PL No. 2 - Remove the working platform	6	11-Apr-23	17-Apr-23	06-Jul-24	12-Jul-24	366	
PL No.2 - Reinstatement of HWT Road		6	18-Apr-23	24-Apr-23	13-Jul-24	19-Jul-24	366	
S6-5806	PL No. 2 - Reinstate the Road Surface	6	18-Apr-23	24-Apr-23	13-Jul-24	19-Jul-24	366	
Section 9 - Box Culvert Construction at Portion 20		216	20-Jan-22 A	05-Sep-23	05-Jan-22	31-Jul-23	-14	
S9-PC	Completion Section 9 (sd+620) - All the works in Portion 20 of the Site	0		05-Sep-23		27-Mar-23	-162	
S9 - Submission		119	20-Jan-22 A	28-Dec-22	06-Jan-22	27-Jun-22	-65	
S9-5373	Issued PMI No. 051 - PM Review and Reply	14	22-Jun-22 A	17-Nov-22	07-Jan-22	23-Jan-22	-298	
S9-5374	Issue PMN for PMI051	0		17-Nov-22		23-Jan-22	-298	
S9-5377	Issued PMI No. 066 - PM Review and Reply	28	09-Aug-22 A	17-Nov-22	06-Jan-22	22-Jan-22	-299	
S9-5377A	Issue PMN for PMI066	0		18-Nov-22		24-May-22	-148	
S9-5380	Issued PMI No. 069 - PM Review and Reply	14	02-Aug-22 A	17-Nov-22	06-Jan-22	22-Jan-22	-299	
S9-5381	Issue PMN for PMI069	0		17-Nov-22		24-May-22	-147	
S9-5410	Issued PMI No. 075 - PM Review and Reply	14	12-Sep-22 A	23-Nov-22	20-Jan-22	11-Feb-22	-285	
S9-5412	Issue PMN for PMI075	0		23-Nov-22		24-May-22	-152	
S9-5679	Portion 20 - Box Culvert C Subletting of Piling Works	28	20-Jan-22 A	17-Nov-22	08-Jan-22	22-Jan-22	-240	24-Feb-22
S9-5680	Portion 20 - Box Culvert C Subletting of RC Works	28	24-Nov-22	28-Dec-22	25-May-22	27-Jun-22	-152	
S9 Box Culvert C - (CSD Scheme)		474	25-Jan-22 A	05-Sep-23	08-Jan-22	31-Jul-23	-31	
S9-5000	Box Culvert C Stage 1 - Submissions for CSD, Temporary Works, Method Statements	21	25-Jan-22 A	05-Nov-22	08-Jan-22	13-Jan-22	-238	
S9-5368	Box Culvert C (PMI 070 - 28 Jan 2023) - Complete Piling Works	0		20-Apr-23*		28-Jan-23	-66	
S9-5370	Box Culvert C (PMI 075 - 31 Jul 2023)- Complete (Whole)	0		05-Sep-23*		31-Jul-23	-31	
S9 Box Culvert C - Foundation Works (CSD)		125	18-Nov-22	25-Apr-23	24-Jan-22	02-Jul-22	-240	
S9-5420	Delivery Plants and Equipments (Rig 1)	6	18-Nov-22	24-Nov-22	24-Jan-22	29-Jan-22	-240	
S9-5690	Delivery Plants and Equipments (Rig 2)	7	25-Nov-22	02-Dec-22	31-Jan-22	12-Feb-22	-240	
Box C - Piles P1-P4 (Footprint inside Road L1)		32	25-Nov-22	04-Jan-23	12-Feb-22	21-Mar-22	-234	
S9-5430	Construction Pile P1-2 a&b (4 nos. @ ave. 4d/m/rig, 1 rig)	16	25-Nov-22	13-Dec-22	12-Feb-22	02-Mar-22	-234	
S9-5460	Construction Pile P3-4 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	14-Dec-22	04-Jan-23	03-Mar-22	21-Mar-22	-234	
Box C - Piles P5-P24 (outside Road L1)		96	03-Dec-22	01-Apr-23	14-Feb-22	13-Jun-22	-240	
S9-5440	Construction Pile P5-6 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	03-Dec-22	21-Dec-22	14-Feb-22	03-Mar-22	-240	
S9-5450	Construction Pile P7-8 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	22-Dec-22	12-Jan-23	04-Mar-22	22-Mar-22	-240	
S9-5470	Construction Pile P9-10 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	13-Jan-23	04-Feb-23	23-Mar-22	11-Apr-22	-240	
S9-5480	Construction Pile P11-12 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	06-Feb-23	23-Feb-23	12-Apr-22	04-May-22	-240	
S9-5490	Construction Pile P13-14 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	24-Feb-23	14-Mar-23	05-May-22	24-May-22	-240	
S9-5500	Construction Pile P15-16 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	15-Mar-23	01-Apr-23	25-May-22	13-Jun-22	-240	
S9-5510	Construction Pile P17-18 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	05-Jan-23	27-Jan-23	22-Mar-22	09-Apr-22	-234	
S9-5520	Construction Pile P19-20 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	28-Jan-23	15-Feb-23	11-Apr-22	03-May-22	-234	
S9-5530	Construction Pile P21-22 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	16-Feb-23	06-Mar-23	04-May-22	23-May-22	-234	
S9-5540	Construction Pile P23-24 a&b (4 nos @ ave. 4d/m/rig, 1 rig)	16	07-Mar-23	24-Mar-23	24-May-22	11-Jun-22	-234	
Box C - Loading Test		16	03-Apr-23	25-Apr-23	14-Jun-22	02-Jul-22	-240	
S9-5550	Loading Test with Reaction Pile System Setup and Testing	12	03-Apr-23	20-Apr-23*	14-Jun-22	27-Jun-22	-240	
S9-5560	Demobilization Plant and Equipment	6	14-Apr-23	20-Apr-23	21-Jun-22	27-Jun-22	-240	
S9-5570	Remove Loading Test Equipment	4	21-Apr-23	25-Apr-23	28-Jun-22	02-Jul-22	-240	
S9 Box Culvert C - ELS Installation & Structure Construction		114	21-Apr-23	05-Sep-23	28-Jun-22	27-Mar-23	-131	
S9-5580	Delivery Plants and Equipments (2 sets)	4	21-Apr-23	25-Apr-23	28-Jun-22	02-Jul-22	-240	
S9-5590	Sheet Pile Construction	14	26-Apr-23	12-May-23	11-Nov-22	26-Nov-22	-131	
S9-5600	Excavation and Install Structure to FEL at CH 32-64	8	13-May-23	22-May-23	28-Nov-22	06-Dec-22	-131	
S9-5610	Construction of Box Culvert CH 32-64	36	23-May-23	06-Jul-23	16-Dec-22	03-Feb-23	-123	
S9-5620	Excavation and Install Structure to FEL at Line From CH 64-80	8	23-May-23	01-Jun-23	07-Dec-22	15-Dec-22	-131	
S9-5630	Construction of Box Culvert CH 64-80	36	02-Jun-23	15-Jul-23	16-Dec-22	03-Feb-23	-131	
S9-5640	Excavation and Install Structure to FEL at Line From CH 32-00	8	24-May-23	02-Jun-23	16-Dec-22	24-Dec-22	-124	
S9-5650	Construction of Box Culvert CH 32-00	36	03-Jun-23	17-Jul-23	14-Feb-23	27-Mar-23	-88	
S9-5660	Excavation and Install Structure to FEL at CH 80-95.974	8	17-Jul-23	25-Jul-23	04-Feb-23	13-Feb-23	-131	
S9-5670	Construction of Box Culvert CH 80-95.974	36	26-Jul-23	05-Sep-23	14-Feb-23	27-Mar-23	-131	
Section 12C - Road L1 and Box Culvert A1 at Portion 18C		255	20-Jul-22 A	20-May-24	04-Jun-22	20-Feb-24	-35	
S12C-1090	Interface - Portion 18C Handover to CLP ESS Contractor (PS Appendix 1.27B)	0		20-Feb-24*		20-Feb-24	0	
S12C-PC	Completion Section 12C (sd+950) - All the works in Portion 18C of the Site (excluding landscape works)	0		20-May-24		20-Feb-24	-90	
Section 12C - Construction		181	20-Jul-22 A	11-Nov-23	04-Jun-22	20-Feb-24	39	
Section 12C - Road L1 - Portion18C (CH 1170 to 1430) 260m		181	20-Jul-22 A	11-Nov-23	04-Jun-22	20-Feb-24	39	



CRCC - Kwan Lee - Paul Y. JV

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

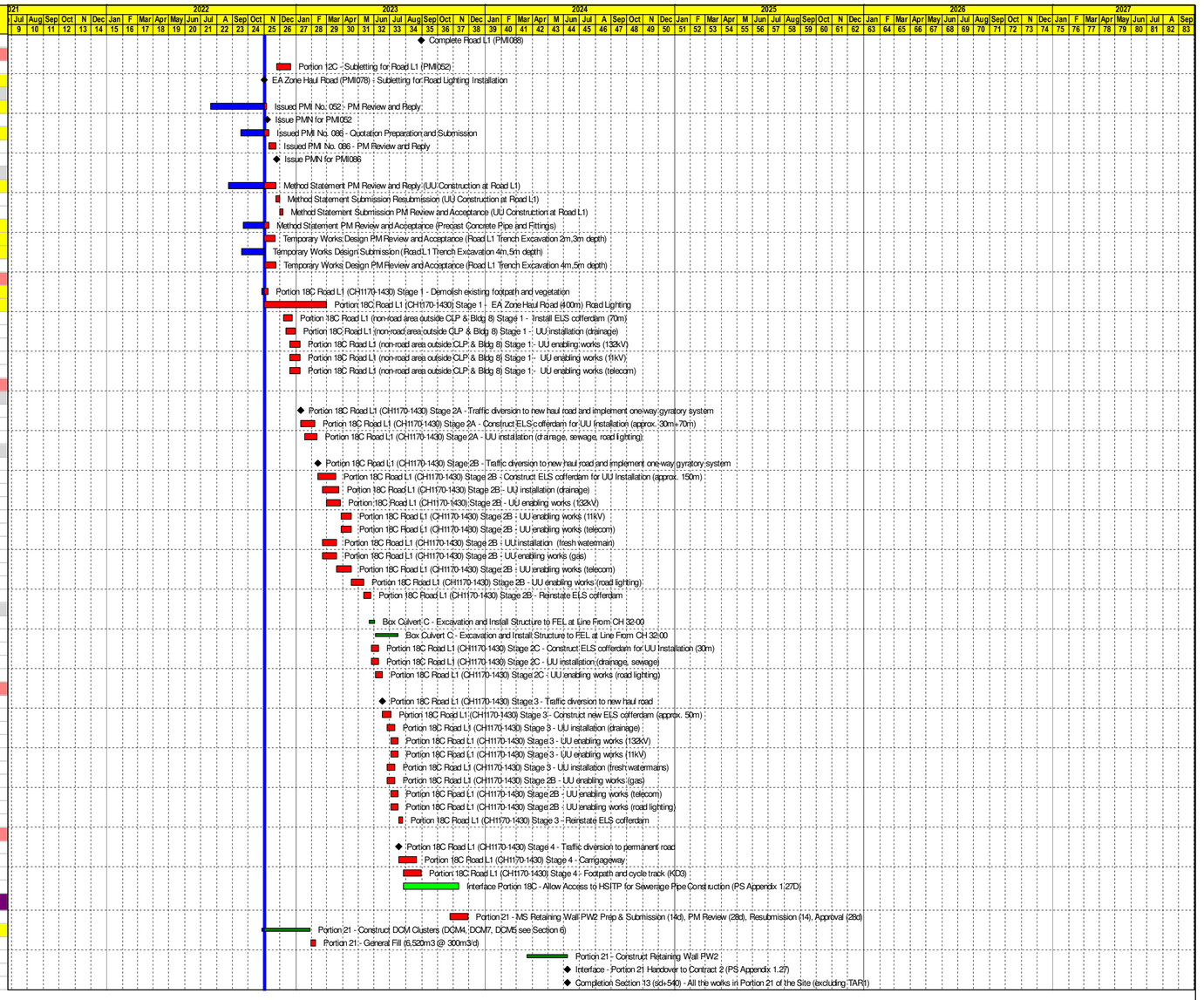
Contract YL/2020/01 - Lok Ma Chau Loop Main Works Package 1

Detailed Programme

Project ID : d.YL13-2211x0
Layout : YL202001 AppA Detailed Programme
Date : 24-Oct-22/ Page 7 of 8

Detailed Programme			
Date	Revision	Checked	Approved
24-Oct-22	Rev. 12		
21-Sep-22	Rev. 11		
21-Sep-22	Rev. 10		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	Suspend Date
S12C-PC10	Complete Road L1 (PMI088)	0		30-Aug-23*		31-Jul-23	-30	
S12C Road L1 - Submissions		55	20-Jul-22 A	22-Dec-22	04-Jun-22	21-Sep-22	-34	
S12C-1032	Portion 12C - Subletting for Road L1 (PMI052)	28	25-Nov-22	22-Dec-22	12-Jul-22	08-Aug-22	-136	
S12C-1045	EA Zone Haul Road (PMI078) - Subletting for Road Lighting Installation	0		01-Nov-22		21-Sep-22	-32	
Road L1 - PMIs		45	20-Jul-22 A	24-Nov-22	25-Jun-22	11-Jul-22	-47	
S12C-1013	Issued PMI No. 052 - PM Review and Reply	24	20-Jul-22 A	05-Nov-22	02-Jul-22	06-Jul-22	-122	
S12C-1014	Issue PMN for PMI052	0		06-Nov-22		11-Jul-22	-118	
S12C-1020	Issued PMI No. 086 - Quotation Preparation and Submission	21	17-Sep-22 A	09-Nov-22	25-Jun-22	26-Jun-22	-136	
S12C-1022	Issued PMI No. 086 - PM Review and Reply	14	10-Nov-22	23-Nov-22	27-Jun-22	10-Jul-22	-136	
S12C-1023	Issue PMN for PMI086	0		24-Nov-22		11-Jul-22	-114	
Road L1 - Design and Method Statement		106	24-Aug-22 A	07-Dec-22	04-Jun-22	14-Jul-22	-146	
S12C-1036	Method Statement PM Review and Reply (UU Construction at Road L1)	21	24-Aug-22 A	23-Nov-22	04-Jun-22	26-Jun-22	-150	
S12C-1037	Method Statement Submission Resubmission (UU Construction at Road L1)	7	24-Nov-22	30-Nov-22	27-Jun-22	03-Jul-22	-150	
S12C-1038	Method Statement Submission PM Review and Acceptance (UU Construction at Road L1)	7	01-Dec-22	07-Dec-22	04-Jul-22	10-Jul-22	-150	
S12C-5690	Method Statement PM Review and Acceptance (Precast Concrete Pipe and Fittings)	21	21-Sep-22 A	10-Nov-22	05-Jul-22	14-Jul-22	-119	
S12C-5710	Temporary Works Design PM Review and Acceptance (Road L1 Trench Excavation 2m,3m depth)	21	01-Nov-22	21-Nov-22	20-Jun-22	10-Jul-22	-134	
S12C-5720	Temporary Works Design Submission (Road L1 Trench Excavation 4m,5m depth)	15	19-Sep-22 A	02-Nov-22	18-Jun-22	19-Jun-22	-136	
S12C-5730	Temporary Works Design PM Review and Acceptance (Road L1 Trench Excavation 4m,5m depth)	21	03-Nov-22	23-Nov-22	20-Jun-22	10-Jul-22	-136	
S12C Road L1 - Stage 1 Preparation Works (CH 1170 to 1430) 260m		100	28-Oct-22 A	01-Mar-23	02-Jul-22	18-Jan-23	-32	
S12C-5000	Portion 18C Road L1 (CH1170-1430) Stage 1 - Demolish existing footpath and vegetation	10	28-Oct-22 A	08-Nov-22	02-Jul-22	09-Jul-22	-101	
S12C-5014	Portion 18C Road L1 (CH1170-1430) Stage 1 - EA Zone Haul Road (400m) Road Lighting	97	01-Nov-22	01-Mar-23*	22-Sep-22	18-Jan-23	-32	
S12C-5030	Portion 18C Road L1 (non-road area outside CLP & Bldg 8) Stage 1 - Install ELS cofferdam (70m)	15	08-Dec-22	24-Dec-22	11-Jul-22	27-Jul-22	-126	
S12C-5640	Portion 18C Road L1 (non-road area outside CLP & Bldg 8) Stage 1 - UU installation (drainage)	15	13-Dec-22	31-Dec-22	15-Jul-22	01-Aug-22	-126	
S12C-5650	Portion 18C Road L1 (non-road area outside CLP & Bldg 8) Stage 1 - UU enabling works (132kV)	15	20-Dec-22	09-Jan-23	22-Jul-22	08-Aug-22	-126	
S12C-5660	Portion 18C Road L1 (non-road area outside CLP & Bldg 8) Stage 1 - UU enabling works (11kV)	15	20-Dec-22	09-Jan-23	22-Jul-22	08-Aug-22	-126	
S12C-5670	Portion 18C Road L1 (non-road area outside CLP & Bldg 8) Stage 1 - UU enabling works (telecom)	15	20-Dec-22	09-Jan-23	22-Jul-22	08-Aug-22	-126	
S12C Road L1 - Stage 2 Building 11 & 12 Side (except Box C Junction)		150	10-Jan-23	17-Jul-23	09-Aug-22	27-Mar-23	-88	
S12C Road L1 - Stage 2A		25	10-Jan-23	11-Feb-23	09-Aug-22	06-Sep-22	-126	
S12C-5050	Portion 18C Road L1 (CH1170-1430) Stage 2A - Traffic diversion to new haul road and implement one-way gyratory system	0	10-Jan-23		09-Aug-22		-126	
S12C-5054	Portion 18C Road L1 (CH1170-1430) Stage 2A - Construct ELS cofferdam for UU Installation (approx. 30m+70m)	20	10-Jan-23	06-Feb-23	09-Aug-22	31-Aug-22	-126	
S12C-5060	Portion 18C Road L1 (CH1170-1430) Stage 2A - UU installation (drainage, sewage, road lighting)	18	18-Jan-23	11-Feb-23	17-Aug-22	06-Sep-22	-126	
S12C Road L1 - Stage 2B		83	13-Feb-23	25-May-23	07-Sep-22	15-Dec-22	-126	
S12C-5058	Portion 18C Road L1 (CH1170-1430) Stage 2B - Traffic diversion to new haul road and implement one-way gyratory system	0	13-Feb-23		07-Sep-22		-126	
S12C-5059	Portion 18C Road L1 (CH1170-1430) Stage 2B - Construct ELS cofferdam for UU Installation (approx. 150m)	30	13-Feb-23	18-Mar-23	07-Sep-22	14-Oct-22	-126	
S12C-5062	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU installation (drainage)	28	21-Feb-23	24-Mar-23	11-Oct-22	11-Nov-22	-107	
S12C-5065	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU enabling works (132kV)	24	01-Mar-23	28-Mar-23	19-Oct-22	15-Nov-22	-107	
S12C-5067	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU enabling works (11kV)	14	29-Mar-23	18-Apr-23	16-Nov-22	01-Dec-22	-107	
S12C-5068	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU enabling works (telecom)	14	29-Mar-23	18-Apr-23	16-Nov-22	01-Dec-22	-107	
S12C-5069	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU installation (fresh watermain)	24	21-Feb-23	20-Mar-23	16-Sep-22	15-Oct-22	-126	
S12C-5070	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU enabling works (gas)	24	21-Feb-23	20-Mar-23	16-Sep-22	15-Oct-22	-126	
S12C-5071	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU enabling works (telecom)	20	21-Mar-23	17-Apr-23	17-Oct-22	08-Nov-22	-126	
S12C-5072	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU enabling works (road lighting)	20	18-Apr-23	11-May-23	09-Nov-22	01-Dec-22	-126	
S12C-5075	Portion 18C Road L1 (CH1170-1430) Stage 2B - Reinstate ELS cofferdam	12	12-May-23	25-May-23	02-Dec-22	15-Dec-22	-126	
S12C Road L1 - Stage 2C		45	23-May-23	17-Jul-23	07-Dec-22	27-Mar-23	-88	
S12C-5590	Box Culvert C - Excavation and Install Structure to FEL at Line From CH 32-00	9	23-May-23	02-Jun-23	07-Dec-22	24-Dec-22	-124	
S12C-5592	Box Culvert C - Excavation and Install Structure to FEL at Line From CH 32-00	36	03-Jun-23	17-Jul-23	28-Dec-22	27-Mar-23	-88	
S12C-5600	Portion 18C Road L1 (CH1170-1430) Stage 2C - Construct ELS cofferdam for UU Installation (30m)	12	27-May-23	09-Jun-23	16-Dec-22	31-Dec-22	-126	
S12C-5610	Portion 18C Road L1 (CH1170-1430) Stage 2C - UU installation (drainage, sewage)	12	27-May-23	09-Jun-23	16-Dec-22	31-Dec-22	-126	
S12C-5620	Portion 18C Road L1 (CH1170-1430) Stage 2C - UU enabling works (road lighting)	12	03-Jun-23	16-Jun-23	23-Dec-22	09-Jan-23	-126	
S12C Road L1 - Stage 3 Building 8 & 9 Side and Box C Junction (CH 1170 to 1430) 260m		31	17-Jun-23	25-Jul-23	10-Jan-23	18-Feb-23	-126	
S12C-5095	Portion 18C Road L1 (CH1170-1430) Stage 3 - Traffic diversion to new haul road	0	17-Jun-23		10-Jan-23		-126	
S12C-5105	Portion 18C Road L1 (CH1170-1430) Stage 3 - Construct new ELS cofferdam (approx. 50m)	12	17-Jun-23	03-Jul-23	10-Jan-23	27-Jan-23	-126	
S12C-5115	Portion 18C Road L1 (CH1170-1430) Stage 3 - UU installation (drainage)	12	26-Jun-23	10-Jul-23	17-Jan-23	03-Feb-23	-126	
S12C-5116	Portion 18C Road L1 (CH1170-1430) Stage 3 - UU enabling works (132kV)	12	04-Jul-23	17-Jul-23	28-Jan-23	10-Feb-23	-126	
S12C-5117	Portion 18C Road L1 (CH1170-1430) Stage 3 - UU enabling works (11kV)	12	04-Jul-23	17-Jul-23	28-Jan-23	10-Feb-23	-126	
S12C-5120	Portion 18C Road L1 (CH1170-1430) Stage 3 - UU installation (fresh watermains)	12	26-Jun-23	10-Jul-23	17-Jan-23	03-Feb-23	-126	
S12C-5121	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU enabling works (gas)	12	26-Jun-23	10-Jul-23	17-Jan-23	03-Feb-23	-126	
S12C-5122	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU enabling works (telecom)	12	04-Jul-23	17-Jul-23	28-Jan-23	10-Feb-23	-126	
S12C-5123	Portion 18C Road L1 (CH1170-1430) Stage 2B - UU enabling works (road lighting)	12	04-Jul-23	17-Jul-23	28-Jan-23	10-Feb-23	-126	
S12C-5125	Portion 18C Road L1 (CH1170-1430) Stage 3 - Reinstate ELS cofferdam	7	18-Jul-23	25-Jul-23	11-Feb-23	18-Feb-23	-126	
S12C Road L1 - Stage 4 (CH 1170 to 1430) 260m		98	18-Jul-23	11-Nov-23	21-Feb-23	20-Feb-24	79	
S12C-5380	Portion 18C Road L1 (CH1170-1430) Stage 4 - Traffic diversion to permanent road	0		18-Jul-23		27-Mar-23	-89	
S12C-5382	Portion 18C Road L1 (CH1170-1430) Stage 4 - Carrigageway	30	18-Jul-23	21-Aug-23	21-Feb-23	27-Mar-23	-118	
S12C-5385	Portion 18C Road L1 (CH1170-1430) Stage 4 - Footpath and cycle track (KD3)	30	27-Jul-23	30-Aug-23	21-Feb-23	27-Mar-23	-126	
S12C-5390	Interface Portion 18C - Allow Access to HSITP for Sewerage Pipe Construction (PS Appendix 1.27D)	90	27-Jul-23	11-Nov-23	31-Oct-23	20-Feb-24	79	
Section 13 - Ground Treatment Works and Site Formation at Portion 21		223	27-Oct-22 A	08-Jun-24	26-Jul-21	06-Jan-23	-203	
S13-1030	Portion 21 - MS Retaining Wall PW2 Prep & Submission (14d), PM Review (28d), Resubmission (14), Approval (28d)	30	26-Oct-23	29-Nov-23	30-May-22	06-Jul-22	-418	
S13-1060	Portion 21 - Construct DCM Clusters (DCM4, DCM7, DCM5 see Section 6)	74	27-Oct-22 A	28-Jan-23	26-Jul-21	13-Oct-22	-86	
S13-1070	Portion 21 - General Fill (6,520m3 @ 300m3/d)	8	30-Jan-23	07-Feb-23	13-Oct-22	22-Oct-22	-86	
S13-1080	Portion 21 - Construct Retaining Wall PW2	62	22-Mar-24	08-Jun-24	22-Oct-22	06-Jan-23	-418	
S13-1090	Interface - Portion 21 Handover to Contract 2 (PS Appendix 1.27)	0		08-Jun-24		06-Jan-23	-520	
S13-PC	Completion Section 13 (sd+540) - All the works in Portion 21 of the Site (excluding TAR1)	0		08-Jun-24		06-Jan-23	-520	



CRCC - Kwan Lee - Paul Y. JV

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

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

Detailed Programme

Project ID : d.YL13-2211x0
Layout : YL202001 AppA Detailed Programme
Date : 24-Oct-22/ Page 8 of 8

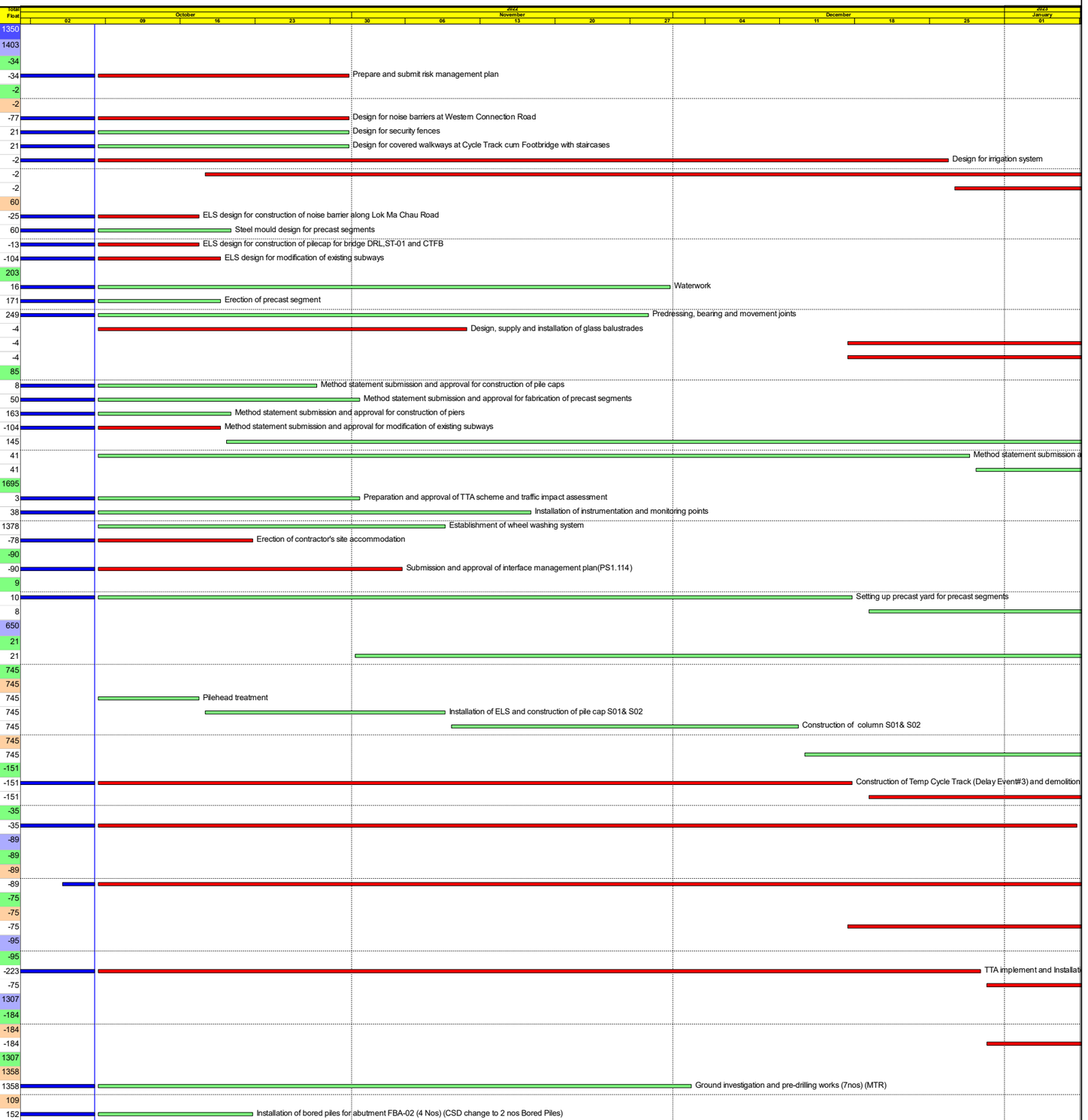
Detailed Programme

Date	Revision	Checked	Approved
24-Oct-22	Rev. 12		
21-Sep-22	Rev. 11		
21-Sep-22	Rev. 10		

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		388	386	15-Sep-21 A	28-Oct-23	1350
General Submission,Preliminaries, Contractor's Design,Method Statement Submission and Approval		388	333	15-Sep-21 A	05-Sep-23	1403
General Submission		333	20	15-Sep-21 A	31-Oct-22	-34
GSS1150	Prepare and submit risk management plan	333	20	15-Sep-21 A	31-Oct-22	-34
Contractor's Design Submission and Approval		295	188	29-Oct-21 A	15-May-23	-2
Major Permanent Works Design		295	188	29-Oct-21 A	15-May-23	-2
MPW1010	Design for noise barriers at Western Connection Road	295	20	29-Oct-21 A	31-Oct-22	-77
MPW1015	Design for security fences	256	20	14-Dec-21 A	31-Oct-22	21
MPW1020	Design for covered walkways at Cycle Track cum Footbridge with staircases	225	20	19-Jan-22 A	31-Oct-22	21
MPW1025	Design for irrigation system	140	68	28-Apr-22 A	26-Dec-22	-2
MPW1035	Design for road lighting system	0	120	18-Oct-22	06-Mar-23	-2
MPW1045	Design for interim water main along temporary access road TAR1	0	120	27-Dec-22	15-May-23	-2
Major Temporary Works Design		273	11	24-Nov-21 A	20-Oct-22	60
MTW1030	ELS design for construction of noise barrier along Lok Ma Chau Road	273	8	24-Nov-21 A	17-Oct-22	-25
MTW1055	Steel mould design for precast segments	238	11	04-Jan-22 A	20-Oct-22	60
MTW1080	ELS design for construction of pilecap for bridge DRL,ST-01 and CTFB	244	8	28-Dec-21 A	17-Oct-22	-13
MTW1100	ELS design for modification of existing subways	204	10	12-Feb-22 A	19-Oct-22	-104
Subcontracting		207	90	09-Feb-22 A	20-Jan-23	203
MTW3280	Waterwork	191	46	28-Feb-22 A	30-Nov-22	16
MTW3300	Erection of precast segment	207	10	09-Feb-22 A	19-Oct-22	171
MTW3320	Predressing, bearing and movement joints	147	44	20-Apr-22 A	28-Nov-22	249
MTW3340	Design, supply and installation of glass balustrades	0	30	08-Oct-22	11-Nov-22	-4
MTW3380	Design, supply and installation of steelworks and noise barrier panels and covered walkway	0	30	17-Dec-22	20-Jan-23	-4
MTW3400	Design, supply and installation of lighting system	0	30	17-Dec-22	20-Jan-23	-4
Method Statement Submission and Approval for Major Construction Works		273	140	24-Nov-21 A	20-Mar-23	85
MSS1060	Method statement submission and approval for construction of pile caps	273	18	24-Nov-21 A	28-Oct-22	8
MSS1065	Method statement submission and approval for fabrication of precast segments	243	21	29-Dec-21 A	01-Nov-22	50
MSS1070	Method statement submission and approval for construction of piers	253	11	17-Dec-21 A	20-Oct-22	163
MSS1090	Method statement submission and approval for modification of existing subways	163	10	01-Apr-22 A	19-Oct-22	-104
MSS2010	Method statement submission and approval for erection of precast segments for ST01	0	70	20-Oct-22	09-Jan-23	145
MSS2020	Method statement submission and approval for construction of deck for the cycle track cum footbridge	0	70	08-Oct-22	28-Dec-22	41
MSS2035	Method statement submission and approval for erection of precast segments for Direct Road Link	0	70	29-Dec-22	20-Mar-23	41
Preliminaries		339	41	03-Nov-21 A	17-Nov-22	1695
PRE1020	Preparation and approval of TTA scheme and traffic impact assessment	339	25	03-Nov-21 A	01-Nov-22	3
PRE1040	Installation of instrumentation and monitoring points	228	35	29-Dec-21 A	17-Nov-22	38
PRE1050	Establishment of wheel washing system	0	28	08-Oct-22	09-Nov-22	1378
PRE1060	Erection of contractor's site accommodation	274	13	03-Nov-21 A	22-Oct-22	-78
Interface Management Plan		313	25	15-Sep-21 A	05-Nov-22	-90
PRE1070	Submission and approval of interface management plan(PS1.114)	313	25	15-Sep-21 A	05-Nov-22	-90
Prefabrication of Precast Units		117	333	13-Jun-22 A	05-Sep-23	9
FPS1000	Setting up precast yard for precast segments	101	61	13-Jun-22 A	17-Dec-22	10
FPS1010	Fabrication of precast segments	0	210	19-Dec-22	05-Sep-23	8
Section 1 of the Works- Completion of the Works within Portion 1,2A,2B,3,5,7,8,9&10 of the Site		161	196	22-Mar-22 A	07-Jun-23	650
Laying of Interim Water Main along TAR1 in Portion 2A and 2B		0	121	01-Nov-22	28-Mar-23	21
S010240	Laying of interim water main CHA80 to CHA262.834 along TAR1 including testing in Portion 2B	0	121	01-Nov-22	28-Mar-23	21
Staircase for CTFB		0	101	08-Oct-22	09-Feb-23	745
Pile Cap and Column		0	56	08-Oct-22	12-Dec-22	745
S011010	Pilehead treatment	0	8	08-Oct-22	17-Oct-22	745
S011015	Installation of ELS and construction of pile cap S01& S02	0	20	18-Oct-22	09-Nov-22	745
S011020	Construction of column S01& S02	0	28	10-Nov-22	12-Dec-22	745
Staircase Structure		0	45	13-Dec-22	09-Feb-23	745
S011025	Construction of staircase structure	0	45	13-Dec-22	09-Feb-23	745
Existing Cycle Track Subway Modification		68	196	18-Jul-22 A	07-Jun-23	-151
S011035	Construction of Temp Cycle Track (Delay Event#3) and demolition of existing cycle track ramp (Bay ST12 to Bay ST14)	68	61	18-Jul-22 A	17-Dec-22	-151
S011040	Construction of cycle track subway and backfilling	0	135	19-Dec-22	07-Jun-23	-151
Retaining Walls		161	76	22-Mar-22 A	07-Jan-23	-35
S011060	Preparation and Construction of Retaining Wall RW9(16 bays) and backfilling	161	76	22-Mar-22 A	07-Jan-23	-35
Section 2A of the Works-Completion of the Works at Lok Ma Chau Road within Portion 1,5 and 8		3	314	05-Oct-22 A	28-Oct-23	-89
Retaining Walls		3	314	05-Oct-22 A	28-Oct-23	-89
Retaining Wall BP1		3	314	05-Oct-22 A	28-Oct-23	-89
S02A725	Installation of bored piles (44 nos)	3	314	05-Oct-22 A	28-Oct-23	-89
Noise Barriers		0	80	17-Dec-22	27-Mar-23	-75
Permanent Noise Barrier		0	80	17-Dec-22	27-Mar-23	-75
S02A330	Noise barrier NB13(1bay 12m) and NB14(68m)	0	80	17-Dec-22	27-Mar-23	-75
Section 2B of the Works-Completion of the Works at Junction of Castle Peak Road and Lok Ma Chau Road		185	123	06-Apr-22 A	07-Feb-23	-95
Box Culvert Modification Works within Portion 10		185	123	06-Apr-22 A	07-Feb-23	-95
S02B110	TTA implement and Installation of ELS and construction of box culvert from CHA 0 to CHA13.715	149	69	06-Apr-22 A	29-Dec-22	-223
S02B120	Construction of temporary drainage channel and diversion of the existing drainage	0	30	30-Dec-22*	07-Feb-23	-75
Section 2C of the Works- Completion of Substructure and Piling Works of ST01 and CTFB		204	99	27-Jan-22 A	07-Feb-23	1307
Substructure and Piling Works for Bridge ST01		0	16	30-Dec-22	18-Jan-23	-184
Preparation Works		0	16	30-Dec-22	18-Jan-23	-184
S02C115	Modification of existing channel to facilitate ST01-B01 piling works	0	16	30-Dec-22	18-Jan-23	-184
Substructure and Piling Works for CTFB		204	99	27-Jan-22 A	07-Feb-23	1307
G.I and Pre-drilling		204	48	27-Jan-22 A	02-Dec-22	1358
S02C650	Ground investigation and pre-drilling works (7nos) (MTR)	204	48	27-Jan-22 A	02-Dec-22	1358
Piling Works		44	76	15-Aug-22 A	07-Jan-23	109
S02C664.10	Installation of bored piles for abutment FBA-02 (4 Nos) (CSD change to 2 nos Bored Piles)	44	13	15-Aug-22 A	22-Oct-22	152



Actual Work
Remaining Work
Critical Remaining Work
Milestone

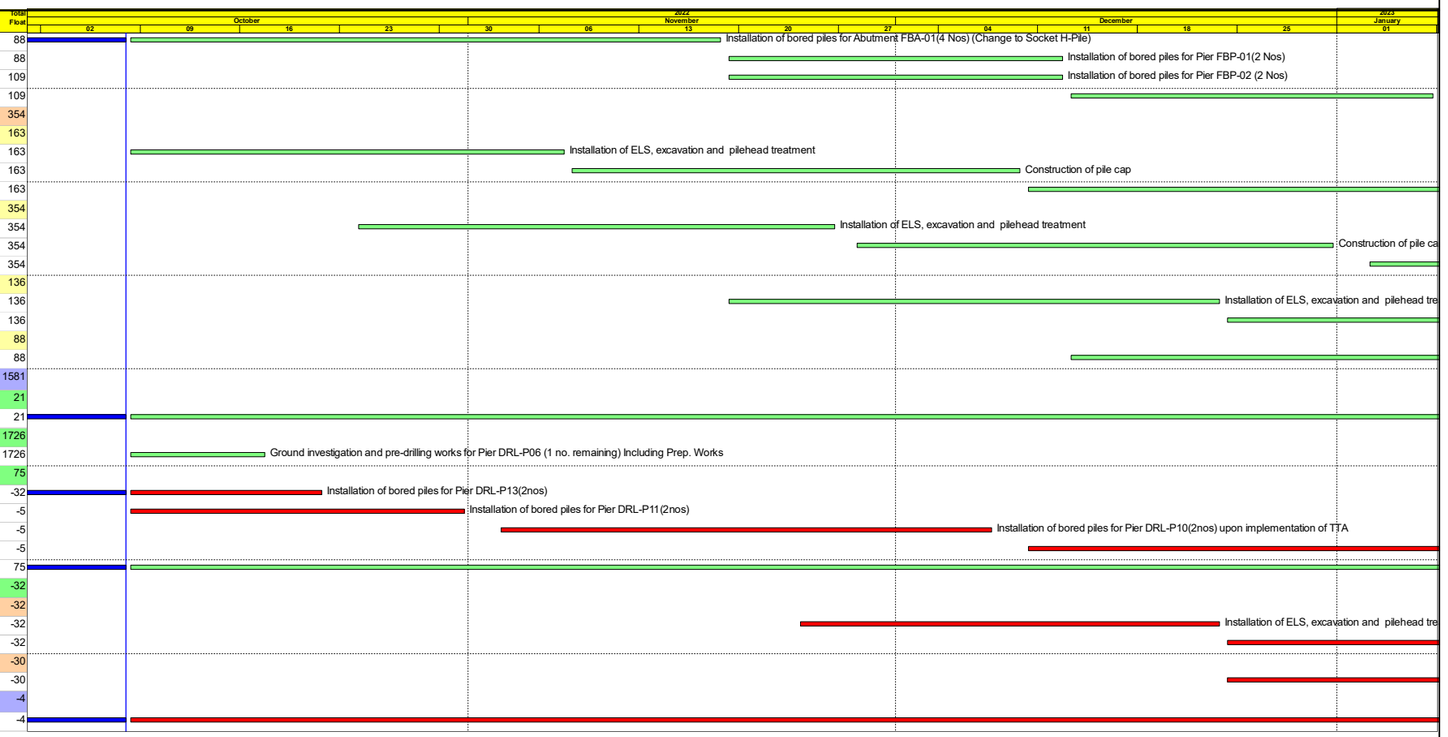
中國路橋工程有限責任公司
CHINA ROAD AND BRIDGE CORPORATION

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

Date	Revision	Checked	Approved
08-Oct-22	3 Months Rolling Prog...	DML	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
S02C682	Installation of bored piles for Abutment FBA-01(4 Nos) (Change to Socket H-Pile)	41	36	18-Aug-22 A	18-Nov-22	88
S02C684	Installation of bored piles for Pier FBP-01(2 Nos)	0	20	19-Nov-22	12-Dec-22	88
S02C686	Installation of bored piles for Pier FBP-02 (2 Nos)	0	20	19-Nov-22	12-Dec-22	109
S02C688	Installation of bored piles for Pier FBP-03 (2 Nos)	0	20	13-Dec-22	07-Jan-23	109
Pilehead Treatment,Pile Cap and Pier/Abutment Construction		0	99	08-Oct-22	07-Feb-23	354
At Pier FBP-06		0	82	08-Oct-22	14-Jan-23	163
S02C748	Installation of ELS, excavation and pilehead treatment	0	26	08-Oct-22	07-Nov-22	163
S02C750	Construction of pile cap	0	28	08-Nov-22	09-Dec-22	163
S02C752	Construction of pier FBP-06	0	28	10-Dec-22	14-Jan-23	163
At Abutment FBA-02		0	86	24-Oct-22	07-Feb-23	354
S02C1160	Installation of ELS, excavation and pilehead treatment	0	30	24-Oct-22	26-Nov-22	354
S02C1170	Construction of pile cap	0	28	28-Nov-22	31-Dec-22	354
S02C1180	Construction of pier FBA-02	0	28	03-Jan-23	07-Feb-23	354
At Abutment FBA-01		0	58	19-Nov-22	01-Feb-23	136
S02C1060	Installation of ELS, excavation and pilehead treatment	0	30	19-Nov-22	23-Dec-22	136
S02C1070	Construction of pile cap	0	28	24-Dec-22	01-Feb-23	136
At Pier FBP-01		0	26	13-Dec-22	14-Jan-23	88
S02C760	Installation of ELS, excavation and pilehead treatment	0	26	13-Dec-22	14-Jan-23	88
Section 3 of the Works- Completion of the works of Direct Road Link within Portion 1,2A,2B, 5 and 9		52	155	17-Aug-22 A	11-Mar-23	1581
Preparation Works		12	150	26-Sep-22 A	06-Mar-23	21
S033170	Preparation works for DRL-P07 (Permit from DSD, Temp Works Design & Approval + Construction of Working Platform)	12	150	26-Sep-22 A	06-Mar-23	21
G.I and Pre-drilling		0	10	08-Oct-22	17-Oct-22	1726
S033130.1	Ground investigation and pre-drilling works for Pier DRL-P06 (1 no. remaining) Including Prep. Works	0	10	08-Oct-22	17-Oct-22	1726
Piling Works		42	127	17-Aug-22 A	11-Mar-23	75
S033220	Installation of bored piles for Pier DRL-P13(2nos)	42	12	17-Aug-22 A	21-Oct-22	-32
S033260	Installation of bored piles for Pier DRL-P11(2nos)	0	20	08-Oct-22	31-Oct-22	-5
S033280	Installation of bored piles for Pier DRL-P10(2nos) upon implementation of TTA	0	30	03-Nov-22	07-Dec-22	-5
S033300	Installation of bored piles for Pier DRL-P9(2nos) upon implementation of TTA	0	30	10-Dec-22	17-Jan-23	-5
S033480	Installation of bored piles for approach ramp AP04 (9 nos) (changed to Socket H-Piles 28 nos)	15	127	19-Sep-22 A	11-Mar-23	75
Pilehead Treatment and Construction of Pile Cap		0	54	24-Nov-22	01-Feb-23	-32
At Pier DRL P-13		0	54	24-Nov-22	01-Feb-23	-32
S033500	Installation of ELS, excavation and pilehead treatment	0	26	24-Nov-22	23-Dec-22	-32
S033520	Construction of pile cap	0	28	24-Dec-22	01-Feb-23	-32
At Pier DRL P-12		0	26	24-Dec-22	30-Jan-23	-30
S033540	Installation of ELS, excavation and pilehead treatment	0	26	24-Dec-22	30-Jan-23	-30
Section 5 of the Works- Completion of the works within Portion 6 of the Site		30	133	31-Aug-22 A	18-Mar-23	-4
S050100	Construction of Pai Lau	30	133	31-Aug-22 A	18-Mar-23	-4



Actual Work
Remaining Work
Critical Remaining Work
Milestone

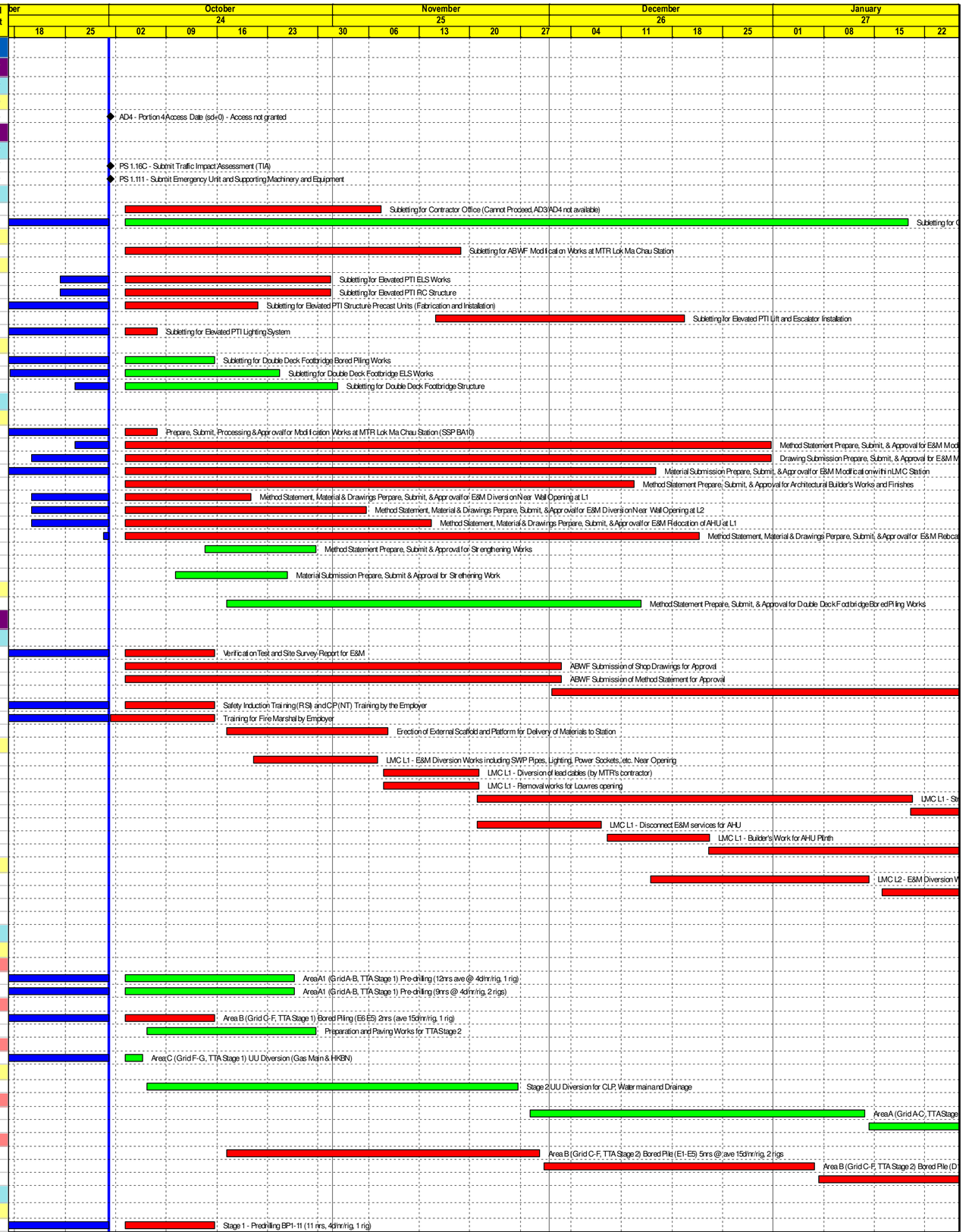
中國路橋工程有限責任公司
CHINA ROAD AND BRIDGE CORPORATION

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

Date	Revision	Checked	Approved
08-Oct-22	3 Months Rolling Prog...	DML	RS

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

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
Contract No. YL/2021/01 - Contract 3 - Updated Programme (Sc		437	16-May-22 A	03-Jul-25	28-Feb-22	28-May-25	-14
Contract Data Part 1		0	01-Oct-22	01-Oct-22	28-Feb-22	28-Feb-22	-215
Planned Completion Dates		0	01-Oct-22	01-Oct-22	28-Feb-22	28-Feb-22	-215
Access Dates to Part of the Site		0	01-Oct-22	01-Oct-22	28-Feb-22	28-Feb-22	-215
PAD4	AD4 - Portion 4 Access Date (sd+0) - Access not granted	0	01-Oct-22*		28-Feb-22		-215
Submissions and Preparation		105	16-May-22 A	03-Mar-23	07-Mar-22	29-Mar-25	295
Preliminary Submissions		0	01-Oct-22	01-Oct-22	07-Mar-22	14-Mar-22	-200
PRE-340	PS 1.16C - Submit Traffic Impact Assessment (TIA)	0		01-Oct-22*		07-Mar-22	-207
PRE-460	PS 1.111 - Submit Emergency Unit and Supporting Machinery and Equipment	0		01-Oct-22*		14-Mar-22	-200
Subletting		182	16-May-22 A	19-Jan-23	24-Sep-22	29-Mar-25	646
PRE-770	Subletting for Contractor Office (Cannot Proceed, AD3/AD4 not available)	30	03-Oct-22	07-Nov-22*	24-Sep-22	31-Oct-22	-6
PRE-900	Subletting for Other Sub-contractors, Consultants, Service Providers	120	16-May-22 A	19-Jan-23	07-Dec-24	29-Mar-25	646
Modification Works at MTR Lok Ma Chau Station		40	03-Oct-22	18-Nov-22	03-Oct-22	18-Nov-22	0
PRE-255	Subletting for ABWF Modification Works at MTR Lok Ma Chau Station	40	03-Oct-22	18-Nov-22	03-Oct-22	18-Nov-22	0
Elevated PTI		92	31-Aug-22 A	19-Dec-22	03-Oct-22	19-Dec-22	0
PRE-270	Subletting for Elevated PTI ELS Works	30	24-Sep-22 A	31-Oct-22	03-Oct-22	31-Oct-22	0
PRE-280	Subletting for Elevated PTI RC Structure	30	24-Sep-22 A	31-Oct-22	03-Oct-22	31-Oct-22	0
PRE-285	Subletting for Elevated PTI Structure Precast Units (Fabrication and Installation)	30	15-Sep-22 A	21-Oct-22	03-Oct-22	21-Oct-22	0
PRE-295	Subletting for Elevated PTI Lift and Escalator Installation	30	15-Nov-22	19-Dec-22	15-Nov-22	19-Dec-22	0
PRE-950	Subletting for Elevated PTI Lighting System	30	31-Aug-22 A	07-Oct-22*	03-Oct-22	07-Oct-22	0
Double Deck Footbridge		44	08-Sep-22 A	01-Nov-22	08-Oct-22	05-Nov-22	4
PRE-310	Subletting for Double Deck Footbridge Bored Piling Works	30	08-Sep-22 A	15-Oct-22	08-Oct-22	20-Oct-22	4
PRE-320	Subletting for Double Deck Footbridge ELS Works	30	17-Sep-22 A	24-Oct-22	08-Oct-22	28-Oct-22	4
PRE-330	Subletting for Double Deck Footbridge Structure	30	26-Sep-22 A	01-Nov-22	08-Oct-22	05-Nov-22	4
Design/ MS/ Temporary Works Submissions		151	09-Sep-22 A	03-Mar-23	03-Oct-22	15-Mar-23	10
Modification Works at MTR Lok Ma Chau Station		151	09-Sep-22 A	03-Mar-23	03-Oct-22	15-Mar-23	10
PRE-220	Prepare, Submit, Processing & Approval for Modification Works at MTR Lok Ma Chau Station (SSP BA10)	22	09-Sep-22 A	07-Oct-22	03-Oct-22	07-Oct-22	0
PRE-721	Method Statement Prepare, Submit, & Approval for E&M Modification within LMC Station	80	26-Sep-22 A	31-Dec-22*	03-Oct-22	31-Dec-22	0
PRE-722	Drawing Submission Prepare, Submit, & Approval for E&M Modification within LMC Station	85	20-Sep-22 A	31-Dec-22*	03-Oct-22	31-Dec-22	0
PRE-725	Material Submission Prepare, Submit, & Approval for E&M Modification within LMC Station	77	15-Sep-22 A	15-Dec-22*	03-Oct-22	15-Dec-22	0
PRE-735	Method Statement Prepare, Submit, & Approval for Architectural Builder's Works and Finishes	60	03-Oct-22	12-Dec-22	03-Oct-22	12-Dec-22	0
PRE-801	Method Statement, Material & Drawings Perpare, Submit, & Approval for E&M Diversion Near Wall Opening at L1	25	20-Sep-22 A	20-Oct-22	03-Oct-22	20-Oct-22	0
PRE-802	Method Statement, Material & Drawings Perpare, Submit, & Approval for E&M Diversion Near Wall Opening at L2	39	20-Sep-22 A	05-Nov-22	03-Oct-22	05-Nov-22	0
PRE-803	Method Statement, Material & Drawings Perpare, Submit, & Approval for E&M Relocation of AHU at L1	46	20-Sep-22 A	14-Nov-22	03-Oct-22	14-Nov-22	0
PRE-804	Method Statement, Material & Drawings Perpare, Submit, & Approval for E&M Relocation of AHU at L2	69	30-Sep-22 A	21-Dec-22	03-Oct-22	21-Dec-22	0
PRE-960	Method Statement Prepare, Submit & Approval for Strengthening Works	14	14-Oct-22	29-Oct-22	04-Nov-22	19-Nov-22	18
PRE-970	Method Statement Prepare, Submit & Approval for Hoarding Installation at Main Corridor (Stage2)	28	31-Jan-23*	03-Mar-23	11-Feb-23	15-Mar-23	10
PRE-990	Material Submission Prepare, Submit & Approval for Strehening Work	14	10-Oct-22*	25-Oct-22	31-Oct-22	15-Nov-22	18
Double Deck Footbridge		50	17-Oct-22	13-Dec-22	07-Nov-22	06-Jan-23	18
PRE-515	Method Statement Prepare, Submit, & Approval for Double Deck Footbridge Bored Piling Works	50	17-Oct-22	13-Dec-22	07-Nov-22	06-Jan-23	18
Construction		102	22-Jun-22 A	30-Mar-23	08-Sep-22	30-Mar-23	0
Modification Works at MTR Lok Ma Chau Station		102	22-Jun-22 A	30-Mar-23	01-Oct-22	30-Mar-23	0
LMC-105	Verification Test and Site Survey Report for E&M	38	29-Aug-22 A	15-Oct-22	03-Oct-22	15-Oct-22	0
LMC-108	ABWF Submission of Shop Drawings for Approval	52	03-Oct-22	02-Dec-22	03-Oct-22	02-Dec-22	0
LMC-109	ABWF Submission of Method Statement for Approval	52	03-Oct-22	02-Dec-22	03-Oct-22	02-Dec-22	0
LMC-120	Submission of FSI 314	69	01-Dec-22	27-Feb-23*	01-Dec-22	27-Feb-23	0
LMC-125	Safety Induction Training (RSI) and CP (NT) Training by the Employer	96	22-Jun-22 A	15-Oct-22*	03-Oct-22	15-Oct-22	0
LMC-135	Training for Fire Marshal by Employer	53	24-Aug-22 A	15-Oct-22*	01-Oct-22	15-Oct-22	0
LMC-150	Erection of External Scaffold and Platform for Delivery of Materials to Station	20	17-Oct-22	08-Nov-22	17-Oct-22	08-Nov-22	0
Level 1 + 1M (Mezzanine)		113	21-Oct-22	09-Mar-23	21-Oct-22	09-Mar-23	0
LMC-255	LMC L1 - E&M Diversion Works including SWP Pipes, Lighting, Power Sockets, etc. Near Opening	15	21-Oct-22	07-Nov-22	21-Oct-22	07-Nov-22	0
LMC-270	LMC L1 - Diversion of lead cables (by MTR's contractor)	12	08-Nov-22	21-Nov-22	08-Nov-22	21-Nov-22	0
LMC-280	LMC L1 - Removal works for Louvres opening	12	08-Nov-22	21-Nov-22	08-Nov-22	21-Nov-22	0
LMC-290	LMC L1 - Strengthening with facade A&A works for opening	50	21-Nov-22	20-Jan-23	21-Nov-22	20-Jan-23	0
LMC-300	LMC L1 - Enlargement of wall opening (below louvre)	16	20-Jan-23	11-Feb-23	20-Jan-23	11-Feb-23	0
LMC-320	LMC L1 - Disconnect E&M services for AHU	16	21-Nov-22	08-Dec-22	21-Nov-22	08-Dec-22	0
LMC-340	LMC L1 - Builder's Work for AHU Plinth	13	09-Dec-22	23-Dec-22	09-Dec-22	23-Dec-22	0
LMC-350	LMC L1 - Re-position of AHU Unit and reconnection of E&M services to AHU	59	23-Dec-22	09-Mar-23	23-Dec-22	09-Mar-23	0
Level 2 + 2M (Mezzanine)		84	15-Dec-22	30-Mar-23	15-Dec-22	30-Mar-23	0
LMC-265	LMC L2 - E&M Diversion Works Near Wall Opening (Relocation of Lighting, Air Ducts, Refrigerant Pipes, PCU-186, PCU-187)	24	15-Dec-22	14-Jan-23	15-Dec-22	14-Jan-23	0
LMC-420	LMC L2 - Removal works for Louvres opening	9	16-Jan-23	30-Jan-23	16-Jan-23	30-Jan-23	0
LMC-430	LMC L2 - Strengthening with facade A&A works for opening	51	30-Jan-23	29-Mar-23	30-Jan-23	29-Mar-23	0
LMC-460	LMC L2 - Disconnect E&M services for AHU and relocate air ducts, chilled water pipes, condensate pipes, cables connectio	52	30-Jan-23	30-Mar-23	30-Jan-23	30-Mar-23	0
Elevated Public Transport Interchange (EPTI)		154	26-Aug-22 A	04-Mar-23	19-Sep-22	08-Mar-23	3
EPTI - TTA Stage 1		53	26-Aug-22 A	29-Oct-22	19-Sep-22	01-Dec-22	28
EPTI - Area A (Grid A-C)		42	05-Sep-22 A	26-Oct-22	09-Nov-22	01-Dec-22	31
EPTI-4780	Area A1 (Grid A-B, TTA Stage 1) Pre-drilling (12nos ave @ 4d/nr/rig, 1 rig)	42	05-Sep-22 A	26-Oct-22	09-Nov-22	01-Dec-22	31
EPTI-4800	Area A1 (Grid A-B, TTA Stage 1) Pre-drilling (9nrs @ 4d/nr/rig, 2 rigs)	42	05-Sep-22 A	26-Oct-22	09-Nov-22	01-Dec-22	31
EPTI - Area B (Grid C-F)		53	26-Aug-22 A	29-Oct-22	19-Sep-22	16-Nov-22	15
EPTI-4810	Area B (Grid C-F, TTA Stage 1) Bored Piling (E6 E5) 2nrs (ave 15d/nr/rig, 1 rig)	30	26-Aug-22 A	15-Oct-22	19-Sep-22	30-Sep-22	-11
EPTI-4830	Preparation and Paving Works for TTA Stage 2	21	06-Oct-22	29-Oct-22	24-Oct-22	16-Nov-22	15
EPTI - Area C (Grid F-G)		30	29-Aug-22 A	05-Oct-22	08-Oct-22	10-Oct-22	4
EPTI-4840	Area C (Grid F-G, TTA Stage 1) UU Diversion (Gas Main & HKBN)	30	29-Aug-22 A	05-Oct-22	08-Oct-22	10-Oct-22	4
EPTI - TTA Stage 2 (Nov 2022 - Apr 2023)		122	06-Oct-22	04-Mar-23	03-Oct-22	08-Mar-23	3
EPTI-5730	Stage 2 UU Diversion for CLP, Water main and Drainage	45	06-Oct-22	26-Nov-22	11-Oct-22	01-Dec-22	4
EPTI - Area A (Grid A-C)		76	28-Nov-22	03-Mar-23	02-Dec-22	08-Mar-23	4
EPTI-4860	Area A (Grid A-C, TTA Stage 2) Bored Pile (A1-A5) 5nrs @ ave 15d/nr/rig, 2 rigs	38	28-Nov-22	13-Jan-23	02-Dec-22	18-Jan-23	4
EPTI-4870	Area A (Grid A-C, TTA Stage 2) Bored Pile (B1-B5) 5nrs @ ave 15d/nr/rig, 2 rigs	38	14-Jan-23	03-Mar-23	19-Jan-23	08-Mar-23	4
EPTI - Area B (Grid C-F)		113	17-Oct-22	04-Mar-23	03-Oct-22	20-Feb-23	-11
EPTI-4910	Area B (Grid C-F, TTA Stage 2) Bored Pile (E1-E5) 5nrs @ ave 15d/nr/rig, 2 rigs	38	17-Oct-22	29-Nov-22	03-Oct-22	16-Nov-22	-11
EPTI-4920	Area B (Grid C-F, TTA Stage 2) Bored Pile (D1-D4) 4nrs @ ave 15d/nr/rig, 2 rigs	30	30-Nov-22	06-Jan-23	17-Nov-22	21-Dec-22	-11
EPTI-4930	Area B (Grid C-F, TTA Stage 2) Bored Pile (E5-E10) 6nrs @ ave 15d/nr/rig, 2 rigs	45	07-Jan-23	04-Mar-23	22-Dec-22	20-Feb-23	-11
Double Deck Footbridge		157	22-Jul-22 A	01-Feb-23	08-Sep-22	05-Jan-23	-19
DDF - Stage 1		85	22-Jul-22 A	01-Nov-22	08-Sep-22	10-Oct-22	-19
DDF-1010	Stage 1 - Predrilling BP1-11 (11 nrs, 4d/nr/rig, 1 rig)	44	22-Jul-22 A	15-Oct-22	08-Sep-22	21-Sep-22	-19



Paul Y. – Chun Wo – CRCC JV

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

Contract YL/2021/01 - Lok Ma Chau Loop Main Works Package 1 - Contract 3

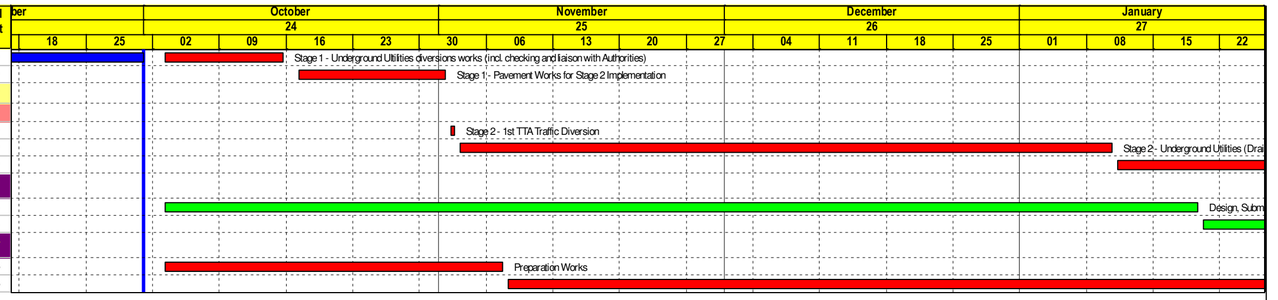
Three Month Rolling Programme

Project ID : YLC3-UPD08
Layout : YL202101 C3 MPR App B-3MRP
Date : 07-Oct-22/ Page 1 of 2

Three Month Rolling Programme

Date	Revision	Checked	Approved
07-Oct-22	MPR No. 8		

Activity ID	Activity Name	Orig Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float
DDF-1020	Stage 1 - Underground Utilities diversions works (incl. checking and liaison with Authorities)	52	22-Jul-22 A	15-Oct-22	08-Sep-22	21-Sep-22	-19
DDF-1030	Stage 1 - Pavement Works for Stage 2 Implementation	14	17-Oct-22	01-Nov-22	22-Sep-22	10-Oct-22	-19
DDF - Stage 2		72	02-Nov-22	01-Feb-23	11-Oct-22	05-Jan-23	-19
DDF - Stage 2 Piling Works		72	02-Nov-22	01-Feb-23	11-Oct-22	05-Jan-23	-19
DDF-1040	Stage 2 - 1st TTA Traffic Diversion	1	02-Nov-22	02-Nov-22	11-Oct-22	11-Oct-22	-19
DDF-1050	Stage 2 - Underground Utilities (Drainage) Diversion & Road Lighting Diversion (Stage 2)	56	03-Nov-22	10-Jan-23	12-Oct-22	15-Dec-22	-19
DDF-1055	Stage 2 - Piling Works for BP1 (1 nr @ approx 45m, 15dp/pile/rig, 1rig)	15	11-Jan-23	01-Feb-23	16-Dec-22	05-Jan-23	-19
Portion 3		135	03-Oct-22	17-Mar-23	07-Dec-24	28-May-25	646
P3-105	Design, Submission and Approval	90	03-Oct-22	19-Jan-23	07-Dec-24	29-Mar-25	646
P3-110	Coordination with C1 and Site Clearance	45	20-Jan-23	17-Mar-23	31-Mar-25	28-May-25	646
Portion 4		810	03-Oct-22	03-Jul-25	01-Mar-22	23-Nov-24	-175
P4-105	Preparation Works	30	03-Oct-22	07-Nov-22	01-Mar-22	04-Apr-22	-175
P4-110	Upkeeping and Maintenance of Completed Works at Portion 4	780	08-Nov-22	03-Jul-25	06-Apr-22	23-Nov-24	-175



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. WMA21009/04/0009

Station DMS-2A - Village House along Lok Ma Chau Road
Operator: CH
Date: 16-Sep-22
Next Due Date: 15-Nov-22
Equipment No.: WA-12-04
Serial No. 1659

Ambient Condition			
Temperature, Ta (K)	308	Pressure, Pa (mmHg)	754.7

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	12.1	3.41	58.21	7.2	2.63
2	10.3	3.15	53.72	6.1	2.42
3	8.9	2.92	49.95	5.4	2.28
4	6.2	2.44	41.72	4.0	1.96
5	3.5	1.83	31.39	2.3	1.49

By Linear Regression of Y on X

Slope , mw = 0.0420 **Intercept, bw =** 0.1823

Correlation coefficient* = 0.9993

*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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ 4.11

Remarks:

Conducted by: Ho Ka Chu Signature: Date: 16/9/2022
Checked by: Chu Man Hei Signature: Date: 16/9/2022

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High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

File No. WMA21009/24/0009

Station DMS-3 - Village House along Old Border Road
Operator: CH
Date: 16-Sep-22
Next Due Date: 15-Nov-22
Equipment No.: WA-12-24
Serial No. 10576

Ambient Condition			
Temperature, Ta (K)	307.5	Pressure, Pa (mmHg)	754.6

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	3.50	59.68	7.7	2.72
2	10.5	3.18	54.28	6.5	2.50
3	8.1	2.79	47.69	5.1	2.22
4	6.6	2.52	43.07	4.1	1.99
5	4.3	2.03	34.80	2.7	1.61

By Linear Regression of Y on X

Slope , mw = 0.0449 **Intercept, bw =** 0.0576

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; $W = (mw \times Qstd + bw)^2 \times (760 / Pa) \times (Ta / 298) =$ **4.10**

Remarks:

Conducted by: Ho Ka Ho Signature: Date: 16/9/2022
Checked by: Ho MAN HEI Signature: Date: 16/9/2022

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High-Volume TSP Sampler
5-POINT CALIBRATION DATA SHEET

File No. WMA21009/07/0009

Station: DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill
Operator: CH
Date: 16-Sep-22
Next Due Date: 15-Nov-22
Equipment No.: WA-12-07
Serial No. 1801

Ambient Condition			
Temperature, Ta (K)	306.8	Pressure, Pa (mmHg)	754.1

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	12.4	3.46	59.02	7.3	2.65
2	10.6	3.20	54.58	6.2	2.44
3	8.5	2.86	48.89	5.0	2.20
4	7.0	2.60	44.39	4.5	2.08
5	3.6	1.86	31.88	2.3	1.49

By Linear Regression of Y on X

Slope , mw = 0.0421 **Intercept, bw =** 0.1623

Correlation coefficient* = 0.9975

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

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

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

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

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

Remarks:

Conducted by: Ho Ka Chu Signature: Date: 16/9/2022
Checked by: Ng Man Hei Signature: Date: 16/9/2022

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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WELLAB LIMITED
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.:	37140
Date of Issue:	2022-09-13
Date Received:	2022-09-10
Date Tested:	2022-09-10
Date Completed:	2022-09-13
Next Due Date:	2022-11-12
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for Calibration:

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X23807
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-01

Test Conditions:

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

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF)	1.089

****

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

PATRICK TSE
General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter)
Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-01	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23807	2203
Calibration Date:	10-Sep-22	10-Sep-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	**Dust Meter**	**HVS**
	Mass Concentration ($\mu g/m^3$) **X-axis**	Mass concentration ($\mu g/m^3$) **Y-axis**
1	34	38
2	52	59
3	66	71
4	77	84
5	93	98
Average	**64.3**	**70.0**

By Linear Regression of Y on X

Slope , mw = **1.0099** **Intercept, bw =** **5.0648**

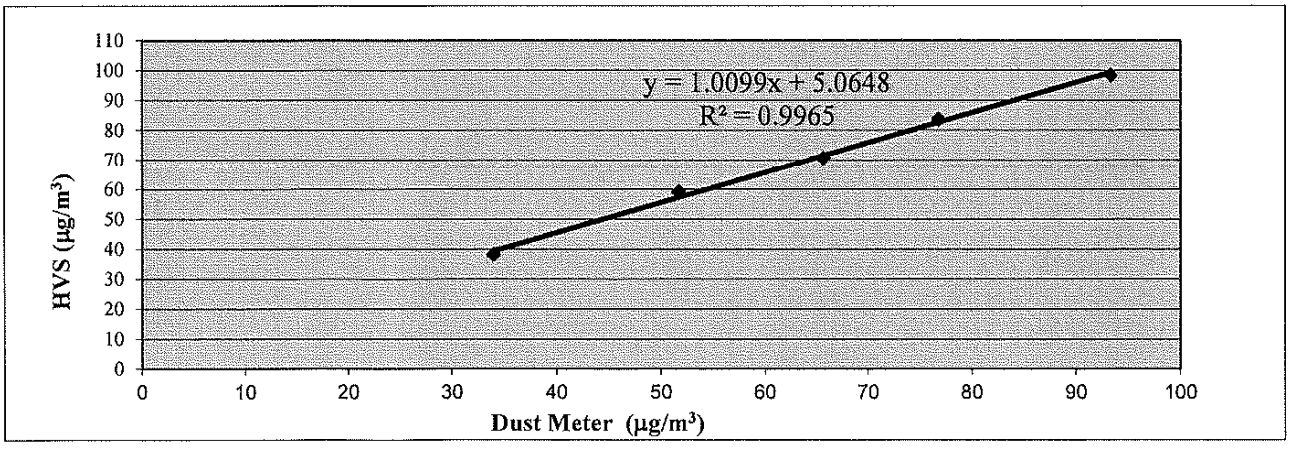
Correlation coefficient* = **0.9983**

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler ($\mu g/m^3$)	70.0
Particaulate Concentration by Dust Meter ($\mu g/m^3$)	64.3
Measureing time, (min)	60

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, ($\mu g/m^3$)] **1.089**



QC Reviewer: Chi Man Hui Signature: Date: 13/9/2022

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WELLAB LIMITED
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.:	37140B
Date of Issue:	2022-09-13
Date Received:	2022-09-10
Date Tested:	2022-09-10
Date Completed:	2022-09-13
Next Due Date:	2022-11-12
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for Calibration:

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X23809
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-03

Test Conditions:

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

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF)	1.091

****

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

PATRICK TSE
General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter)
Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-03	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23809	2203
Calibration Date:	10-Sep-22	10-Sep-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	Dust Meter	HVS
	Mass Concentration (µg/m^3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	34	38
2	53	59
3	65	71
4	76	84
5	93	98
Average	**64.2**	**70.0**

By Linear Regression of Y on X

Slope , mw = **1.0256** **Intercept, bw =** **4.1954**

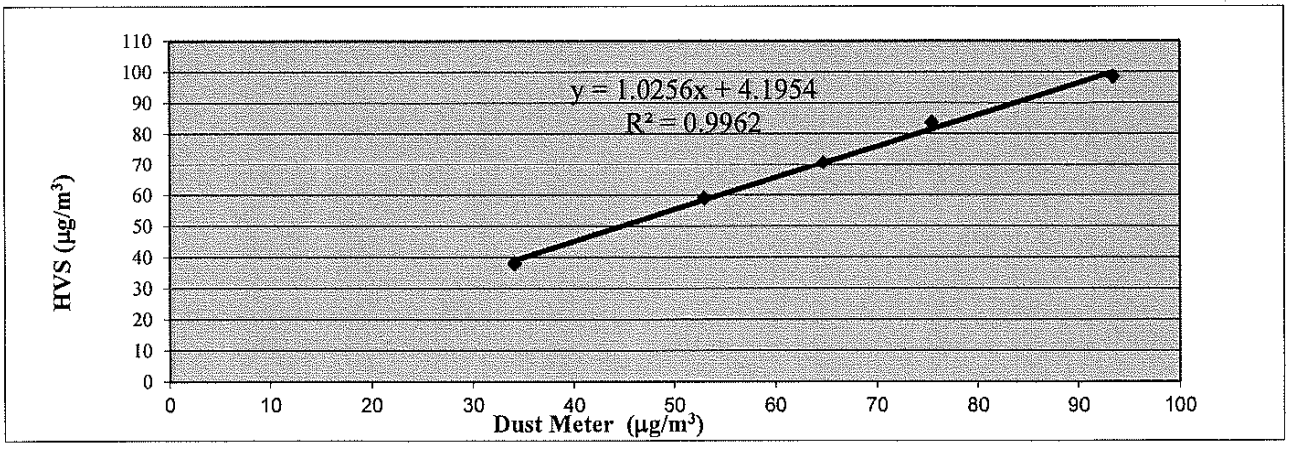
Correlation coefficient* = **0.9981**

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	70.0
Particaulate Concentration by Dust Meter (µg/m^3)	64.2
Measureing time, (min)	60

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, (µg/m^3)] **1.091**



QC Reviewer: LLL MAN HRL Signature: hi Date: 13/9/22

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WELLAB LIMITED
Room 1714, Technology Park
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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.:	37140C
Date of Issue:	2022-09-13
Date Received:	2022-09-10
Date Tested:	2022-09-10
Date Completed:	2022-09-13
Next Due Date:	2022-11-12
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for Calibration:

Description	: Dust Monitor
Manufacturer	: Met One Instruments
Model No.	: AEROCET-831
Serial No.	: X23810
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-04

Test Conditions:

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

Test Specifications & Methodology:

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

Results:

Correlation Factor (CF)	1.076

****

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

PATRICK TSE
General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter)
Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-04	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X23810	2203
Calibration Date:	10-Sep-22	10-Sep-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	**Dust Meter**	**HVS**
	Mass Concentration (µg/m^3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	33	38
2	56	59
3	67	71
4	78	84
5	91	98
Average	**65.1**	**70.0**

By Linear Regression of Y on X

Slope , mw = 1.0437 **Intercept, bw =** 2.0787

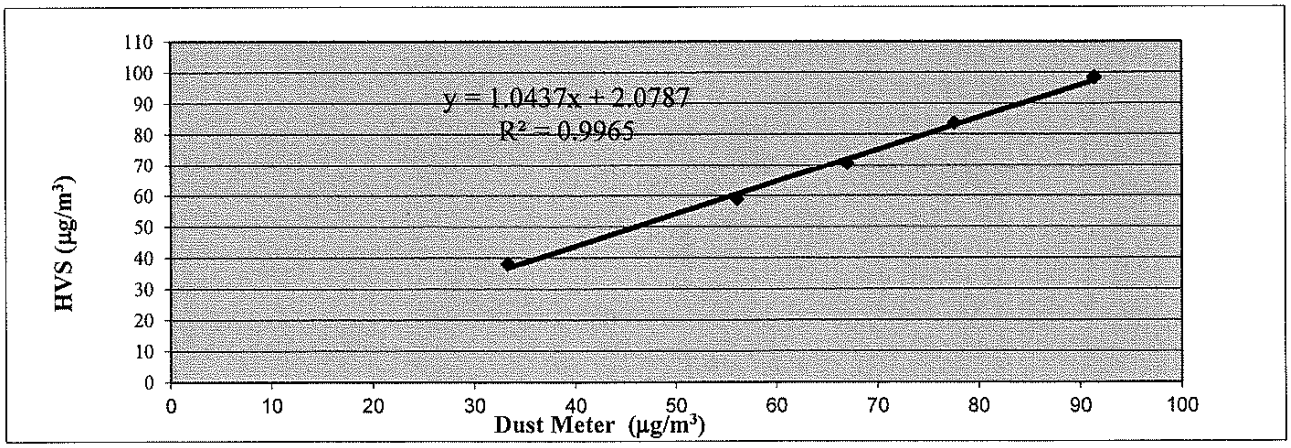
Correlation coefficient* = 0.9982

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	70.0
Particaulate Concentration by Dust Meter (µg/m^3)	65.1
Measureing time, (min)	60

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, (µg/m^3)] 1.076



QC Reviewer: LEE MAN HEE Signature: Date: 13/9/2022

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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.:	37019B
Date of Issue:	2022-08-29
Date Received:	2022-08-26
Date Tested:	2022-08-26
Date Completed:	2022-08-29
Next Due Date:	2022-10-28
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)	1.085

****

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

PATRICK TSE
General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter)
Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-08	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24479	2203
Calibration Date:	26-Aug-22	26-Aug-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	**Dust Meter**	**HVS**
	Mass Concentration (µg/m^3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	30	34
2	45	50
3	56	63
4	73	75
5	85	91
Average	**57.7**	**62.6**

By Linear Regression of Y on X

Slope , mw = **1.0084** **Intercept, bw =** **4.4176**

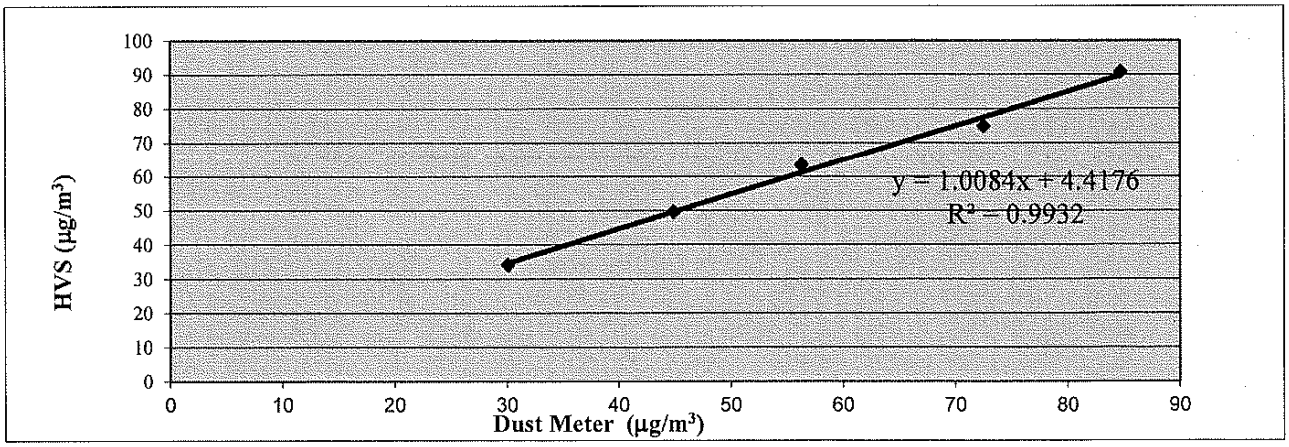
Correlation coefficient* = **0.9966**

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	62.6
Particaulate Concentration by Dust Meter (µg/m^3)	57.7
Measureing time, (min)	60

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, (µg/m^3)] **1.085**



QC Reviewer: LH MAN HEV Signature: hei Date: 26/8/2022

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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.:	37019D
Date of Issue:	2022-08-29
Date Received:	2022-08-26
Date Tested:	2022-08-26
Date Completed:	2022-08-29
Next Due Date:	2022-10-28
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.	: X24478
Flow rate	: 0.1 cfm
Zero Count Test	: 0 count per 1 minute
Equipment No.	: WA-01-10

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)	1.113

****

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

PATRICK TSE
General Manager

TSP - Total Suspended Particulates (1 hr Dust Meter)
Calibration Report

Dust Meter	Dust Meter	High Volume Sampler
Equipment No.:	WA-01-10	WA-12-09
Model No. :	AEROCET-831	TE-5170
Serial No.	X24478	2203
Calibration Date:	26-Aug-22	26-Aug-22
Location:	Wellab Office (Calibration Room)	

Calibration of 1 hr TSP		
Calibration Point	**Dust Meter**	**HVS**
	Mass Concentration (µg/m^3) **X-axis**	Mass concentration (µg/m^3) **Y-axis**
1	26	34
2	43	50
3	55	63
4	70	75
5	88	91
Average	**56.2**	**62.6**

By Linear Regression of Y on X

Slope , mw = **0.9034** **Intercept, bw =** **11.7912**

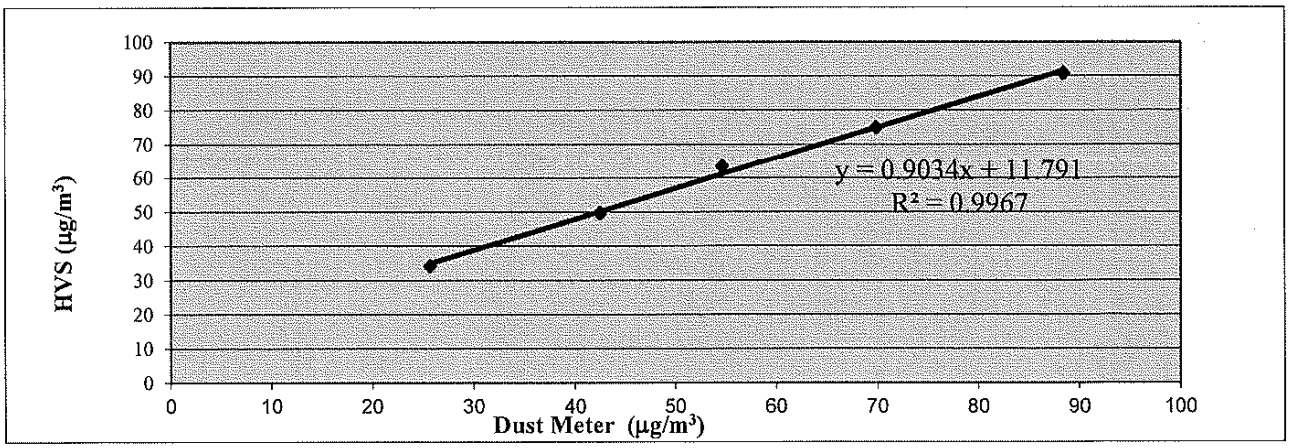
Correlation coefficient* = **0.9983**

*If Correlation Coefficient < 0.90, check and recalibrate.

Set Correlation Factor	
Particaulate Concentration by High Volume Sampler (µg/m^3)	62.6
Particaulate Concentration by Dust Meter (µg/m^3)	56.2
Measureing time, (min)	60

Set Correlation Factor , SCF

SCF = [K=High Volume Sampler / Dust Meter, (µg/m^3)] **1.113**



QC Reviewer: MAN LEE Signature: Date: 26/8/2022

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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.:	36405A
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2023-03-06
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for calibration:

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 580004
Equipment No.	: WN-01-02

Test conditions:

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

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

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

PATRICK TSE
General Manager

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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.:	36405E
Date of Issue:	2022-03-07
Date Received:	2022-03-04
Date Tested:	2022-03-04
Date Completed:	2022-03-07
Next Due Date:	2023-03-06
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for calibration:

Description	: Sound Level Meter
Manufacturer	: BSWA
Model No.	: BSWA 308
Serial No.	: 580008
Equipment No.	: WN-01-06

Test conditions:

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

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

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

PATRICK TSE
General Manager

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

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

Test Report No.:	36481B
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.	: 580017
Equipment No.	: WN-01-10

Test conditions:

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

Test Specifications:

Performance checking at 94 and 114 dB

Methodology:

In-house method, according to manufacturer instruction manual

Results:

Reference Set Point, dB	Instrument Readings, dB
94	94.0
114	114.0

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

PATRICK TSE
General Manager

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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.:	37163
Date of Issue:	2022-10-02
Date Received:	2022-09-30
Date Tested:	2022-10-02
Date Completed:	2022-10-02
Next Due Date:	2023-10-01
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 24803
Equipment No.	: N-09-03

Test conditions:

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

Methodology:

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

Results:

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

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

Patrick Tse
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

Test Report No.:	37018A
Date of Issue:	2022-08-22
Date Received:	2022-08-19
Date Tested:	2022-08-19
Date Completed:	2022-08-22
Next Due Date:	2023-08-21
Page:	1 of 1

ATTN: **Ms. Meiling Tang**

Certificate of Calibration

Item for calibration:

Description	: Acoustical Calibrator
Manufacturer	: SVANTEK
Model No.	: SV30A
Serial No.	: 24791
Equipment No.	: N-09-04

Test conditions:

Room 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 ± 0.1 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:
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.:	37018C
		Date of Issue:	2022-07-18
		Date Received:	2022-07-15
		Date Tested:	2022-07-15
		Date Completed:	2022-07-18
		Next Due Date:	2023-01-17
ATTN:	**Ms. Meiling Tang**	Page:	1 of 2

Certificate of Calibration

Item for calibration:

Description	: Weather Stations, Vantage Pro2
Manufacturer	: Davis Instruments
Model No.	: 6152CUK
Serial No.	: AK130520006

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
Laboratory Manager

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WELLAB LIMITED
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18 On Lai Street, Shatin
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TEST REPORT

Test Report No.:	37018C
Date of Issue:	2022-07-18
Date Received:	2022-07-15
Date Tested:	2022-07-15
Date Completed:	2022-07-18
Next Due Date:	2023-01-17
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
135.2	135	0.2
180	180	0
225.1	225	0.1
270.1	270	0.1
315	315	0
360	360	0

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

WELLAB LIMITED
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Website: www.wellab.com.hk

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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.:	37139B
Date of Issue:	2022-09-25
Date Received:	2022-09-24
Date Tested:	2022-09-24 to 2022-09-25
Date Completed:	2022-09-25

ATTN: **Miss Mei Ling Tang**

Certificate of Calibration

Item for calibration:

YSI EXO1 Multiparameter Sondes	Equipment No.: SW-08-108	
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	17B100681
- EXO Optical DO Sensor, Ti	599100-01	16J100992
- EXO conductivity/Temperature Sensor, Ti	599870	17H103451
- EXO Turbidity Sensor, Ti	599101-01	20J103612
- EXO pH Sensor Assembly, Guarded, Ti	599701	17B103616

Test conditions:

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

Test Specifications:

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

Methodology:

According to manufacturer instruction manual, APHA 20e 4500-O C

****

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

PATRICK TSE
General Manager

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18 On Lai Street, Shatin,
N.T., Hong Kong.
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Website: www.wellab.com.hk

TEST REPORT

Test Report No.:	37139B
Date of Issue:	2022-09-25
Date Received:	2022-09-24
Date Tested:	2022-09-24 to 2022-09-25
Date Completed:	2022-09-25

Certificate of Calibration

Results:

Conductivity performance checking

	Instrument Readings (µS/cm)	Accetance Criteria	Comment
KCl stock solution (12890 µS/cm)	12700	12246-13534	Pass

Temperature performance checking

Reference thermometer-E431 Readings (℃)	Instrument Readings (℃)	Correction (℃)	Comment
20.0	19.999	+0.001	N/A

pH performance checking

	Instrument Readings (pH unit)	Accetance Criteria	Comment
pH QC buffer 4.00	3.99	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.83	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.15	9.18 ± 0.10	Pass

D.O. performance checking

	Instrument Readings (mg/L)	Accetance Criteria	Comment
Zero DO soultion	0.05	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Accetance Criteria	Comment
8.16	7.98	Difference between Titration value and instrument reading <0.2mg/L	Pass

Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Accetance Criteria	Comment
10 NTU	9.67	9.0-11.0	Pass
50 NTU	48.93	45.0-55.0	Pass
100 NTU	97.6	90.0-110.0	Pass

Depth performance checking

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

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

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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.:	37139C
Date of Issue:	2022-09-25
Date Received:	2022-09-24
Date Tested:	2022-09-24 to 2022-09-25
Date Completed:	2022-09-25

ATTN: **Miss Mei Ling Tang**

Page: 1 of 2

Certificate of Calibration

Item for calibration:

YSI EXO1 Multiparameter Sondes	Equipment No.: SW-08-121	
Manufacturer:	YSI Incorporated, a Xylem brand	
Description:	Model No.	Serial No.
- EXO1 Sonde, 100 meter Depth, 4 Sensor ports	599502-24	17B101447
- EXO Optical DO Sensor, Ti	599100-01	16J101001
- EXO conductivity/Temperature Sensor, Ti	599870	17B100798
- EXO Turbidity Sensor, Ti	599101-01	17B102266
- EXO pH Sensor Assembly, Guarded, Ti	599701	17B100250

Test conditions:

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

Test Specifications:

Performance checking for Conductivity, Temperature, pH, Dissolved oxygen (D.O.) and Turbidity

Methodology:

According to manufacturer instruction manual, APHA 20e 4500-O C

****

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

PATRICK TSE
General Manager

WELLAB LIMITED
Room 1714, Technology Park
18 On Lai Street, Shatin,
N.T., Hong Kong.
Tel: 2898 7388 Fax: 2898 7076
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TEST REPORT

Test Report No.:	37139C
Date of Issue:	2022-09-25
Date Received:	2022-09-24
Date Tested:	2022-09-24 to 2022-09-25
Date Completed:	2022-09-25

Certificate of Calibration

Results:

Conductivity performance checking

	Instrument Readings (µS/cm)	Accetance Criteria	Comment
KCl stock solution (12890 µS/cm)	12900	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	4.00	4.00 ± 0.10	Pass
pH QC buffer 6.86	6.87	6.86 ± 0.10	Pass
pH QC buffer 9.18	9.17	9.18 ± 0.10	Pass

D.O. performance checking

	Instrument Readings (mg/L)	Accetance Criteria	Comment
Zero DO soultion	0.09	<0.1mg/L	Pass

Winkler Titration value (mg/L)	Instrument Readings (mg/L)	Accetance Criteria	Comment
8.16	8.00	Difference between Titration value and instrument reading <0.2mg/L	Pass

Turbidity performance checking

Turbidity stock solution	Instrument Readings (NTU)	Accetance Criteria	Comment
10 NTU	10.11	9.0-11.0	Pass
50 NTU	50.07	45.0-55.0	Pass
100 NTU	100.8	90.0-110.0	Pass

Depth performance checking

Water Depth	Instrument Readings (m)	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 (October 2022)

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

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 Hil

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

Service Contract No. WD/04/2020

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

Tentative Impact Monitoring Schedule (November 2022)

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

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 Hil

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 ($\mu g/m^3$)
3-Oct-22	8:00	Sunny	87.5
3-Oct-22	9:00	Sunny	107.3
3-Oct-22	10:00	Sunny	111.1
7-Oct-22	9:00	Sunny	61.3
7-Oct-22	10:00	Sunny	57.9
7-Oct-22	11:00	Sunny	48.3
13-Oct-22	9:00	Sunny	109.6
13-Oct-22	10:00	Sunny	148.3
13-Oct-22	11:00	Sunny	130.0
19-Oct-22	8:30	Cloudy	102.5
19-Oct-22	9:30	Cloudy	71.7
19-Oct-22	10:30	Cloudy	87.7
25-Oct-22	8:30	Sunny	101.8
25-Oct-22	9:30	Sunny	125.6
25-Oct-22	10:30	Sunny	98.6
31-Oct-22	9:00	Sunny	108.4
31-Oct-22	10:00	Sunny	117.6
31-Oct-22	11:00	Sunny	113.8
		Minimum	48.3
		Maximum	148.3
		Average	99.4

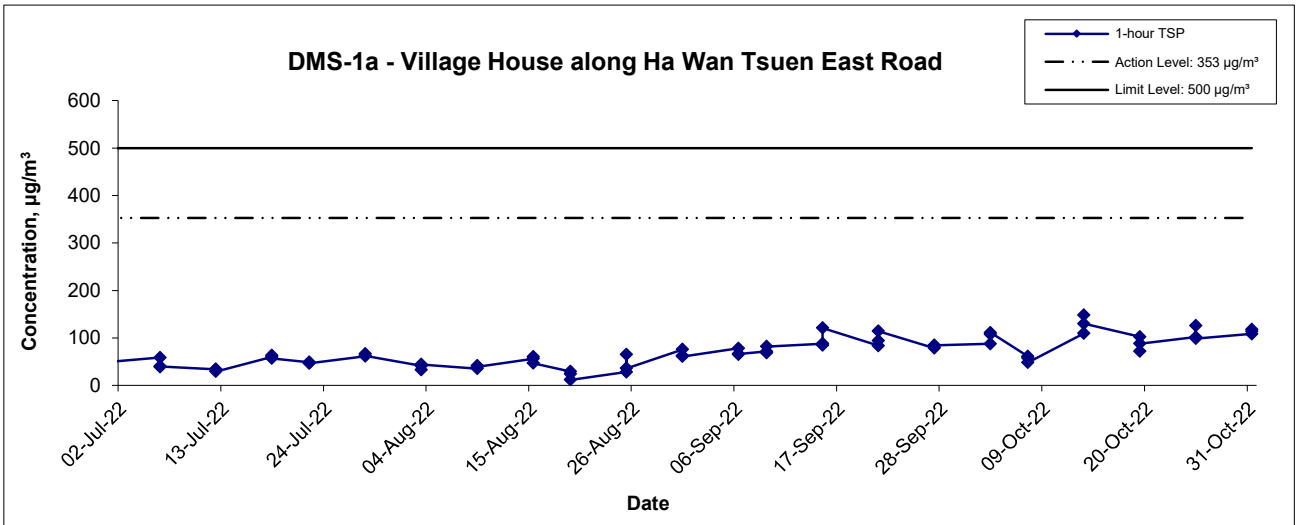
Location DMS-2A - Village House along Lok Ma Chau Road			
Date	Time	Weather	Particulate Concentration ($\mu g/m^3$)
3-Oct-22	8:15	Sunny	124.2
3-Oct-22	9:15	Sunny	107.7
3-Oct-22	10:15	Sunny	107.2
7-Oct-22	9:00	Sunny	49.5
7-Oct-22	10:00	Sunny	51.8
7-Oct-22	11:00	Sunny	50.6
13-Oct-22	13:00	Sunny	94.2
13-Oct-22	14:00	Sunny	100.3
13-Oct-22	15:00	Sunny	93.0
19-Oct-22	8:55	Cloudy	94.4
19-Oct-22	9:55	Cloudy	105.0
19-Oct-22	10:55	Cloudy	84.1
25-Oct-22	8:45	Sunny	111.4
25-Oct-22	9:45	Sunny	116.4
25-Oct-22	10:45	Sunny	109.5
31-Oct-22	8:25	Sunny	149.8
31-Oct-22	9:25	Sunny	140.7
31-Oct-22	10:25	Sunny	138.7
		Minimum	49.5
		Maximum	149.8
		Average	101.6

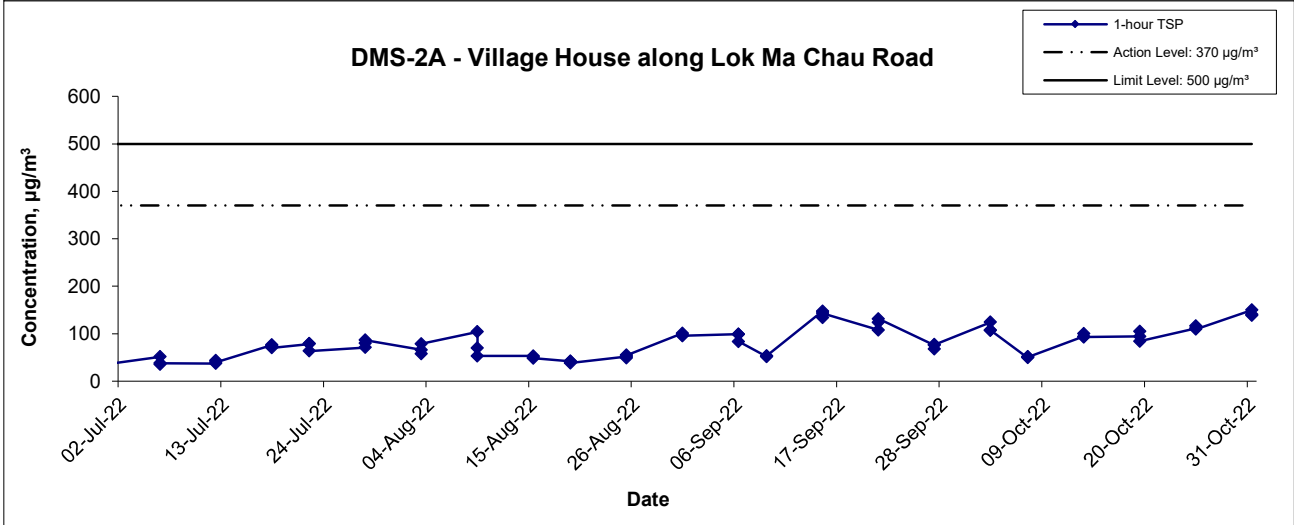
Appendix E - 1-hour TSP Monitoring Results

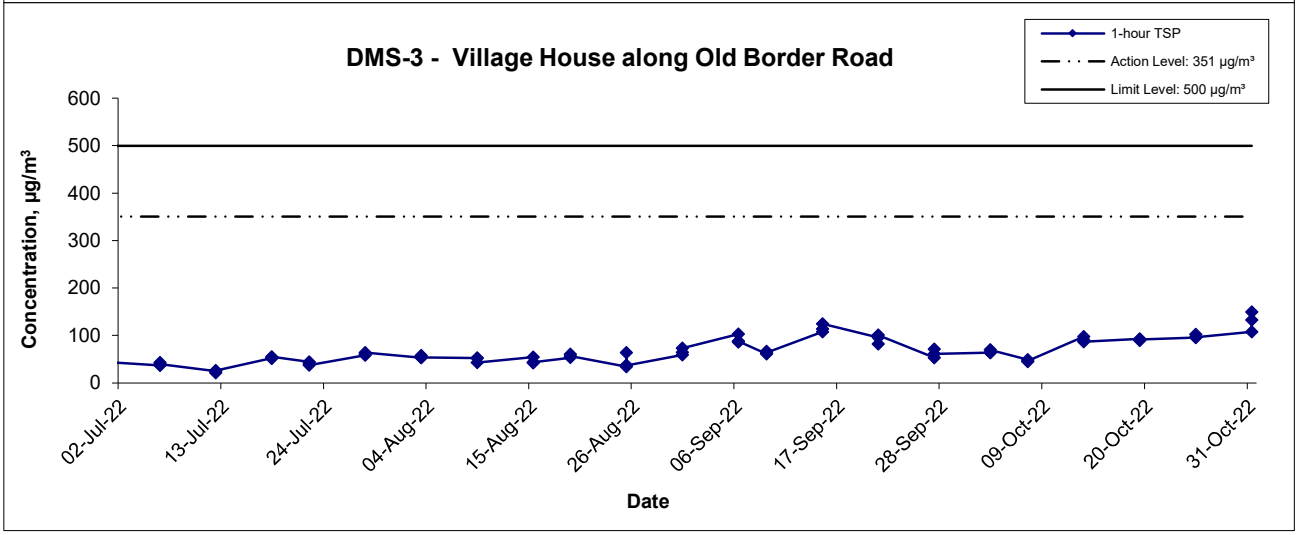
Location DMS-3 - Village House along Old Border Road			
Date	Time	Weather	Particulate Concentration ($\mu g/m^3$)
3-Oct-22	13:00	Sunny	63.7
3-Oct-22	14:00	Sunny	63.5
3-Oct-22	15:00	Sunny	69.5
7-Oct-22	13:00	Sunny	48.7
7-Oct-22	14:00	Sunny	44.6
7-Oct-22	15:00	Sunny	46.1
13-Oct-22	13:00	Sunny	97.4
13-Oct-22	14:00	Sunny	90.6
13-Oct-22	15:00	Sunny	86.9
19-Oct-22	8:30	Cloudy	92.6
19-Oct-22	9:30	Cloudy	89.3
19-Oct-22	10:30	Cloudy	91.6
25-Oct-22	9:00	Sunny	95.6
25-Oct-22	10:00	Sunny	102.2
25-Oct-22	11:00	Sunny	96.4
31-Oct-22	13:00	Sunny	107.5
31-Oct-22	14:00	Sunny	132.4
31-Oct-22	15:00	Sunny	149.6
		Minimum	44.6
		Maximum	149.6
		Average	87.1

Location DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill			
Date	Time	Weather	Particulate Concentration ($\mu g/m^3$)
3-Oct-22	13:30	Sunny	74.1
3-Oct-22	14:30	Sunny	81.7
3-Oct-22	15:30	Sunny	75.9
7-Oct-22	13:00	Sunny	42.8
7-Oct-22	14:00	Sunny	45.4
7-Oct-22	15:00	Sunny	45.0
13-Oct-22	13:00	Sunny	91.6
13-Oct-22	14:00	Sunny	78.4
13-Oct-22	15:00	Sunny	81.4
19-Oct-22	9:00	Fine	97.2
19-Oct-22	10:00	Fine	81.7
19-Oct-22	11:00	Fine	98.3
25-Oct-22	8:20	Sunny	101.0
25-Oct-22	9:20	Sunny	102.7
25-Oct-22	10:20	Sunny	96.6
31-Oct-22	13:20	Sunny	107.3
31-Oct-22	14:20	Sunny	105.9
31-Oct-22	15:20	Sunny	119.8
		Minimum	42.8
		Maximum	119.8
		Average	84.8

1-hour TSP Concentration Levels

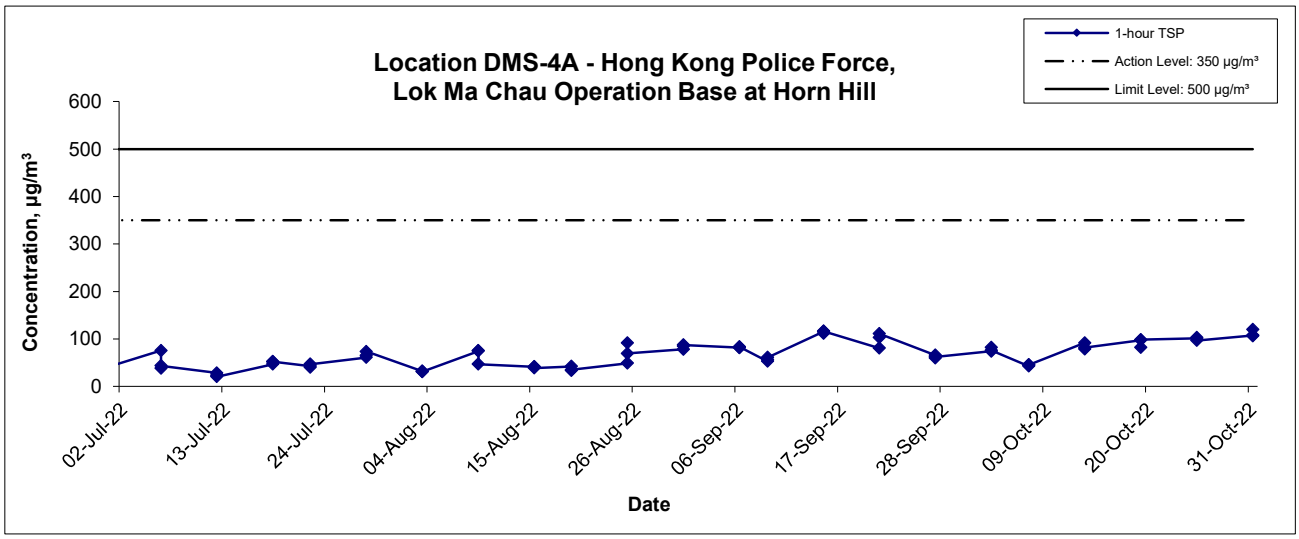






Title: Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of 1-hour TSP Monitoring Results	Scale: N.T.S	Project No.: WMA21009	WELLAB 匯力 consulting . testing . research
	Date: Oct 22	Appendix: E	

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	Project No. WMA21009	WELLAB 匯力 consulting . testing . research
		Date Oct 22	Appendix E	

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 ($\mu g/m^3$)
6-Oct-22	9:00	Sunny	46.2
12-Oct-22	9:00	Sunny	97.8
18-Oct-22	9:00	Windy	94.4
24-Oct-22	8:30	Sunny	112.9
28-Oct-22	9:00	Sunny	74.1
		Minimum	46.2
		Maximum	112.9
		Average	85.1

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			
6-Oct-22	Sunny	301.0	764.0	2.8490	2.9837	0.1347	2109.7	2133.7	24.0	1.238	1.239	1.238	1783.2	75.5
12-Oct-22	Sunny	292.8	764.6	2.9397	3.0698	0.1301	2133.7	2157.7	24.0	1.259	1.256	1.258	1811.3	71.8
18-Oct-22	Windy	294.7	762.4	2.9626	3.1851	0.2225	2157.7	2181.7	24.0	1.238	1.265	1.251	1802.1	123.5
24-Oct-22	Sunny	297.0	765.1	2.9292	3.1134	0.1842	2181.7	2205.7	24.0	1.247	1.250	1.248	1797.6	102.5
28-Oct-22	Sunny	296.7	764.4	2.9639	3.1281	0.1642	2205.7	2229.7	24.0	1.249	1.248	1.248	1797.8	91.3
													Min	71.8
													Max	123.5
													Average	92.9

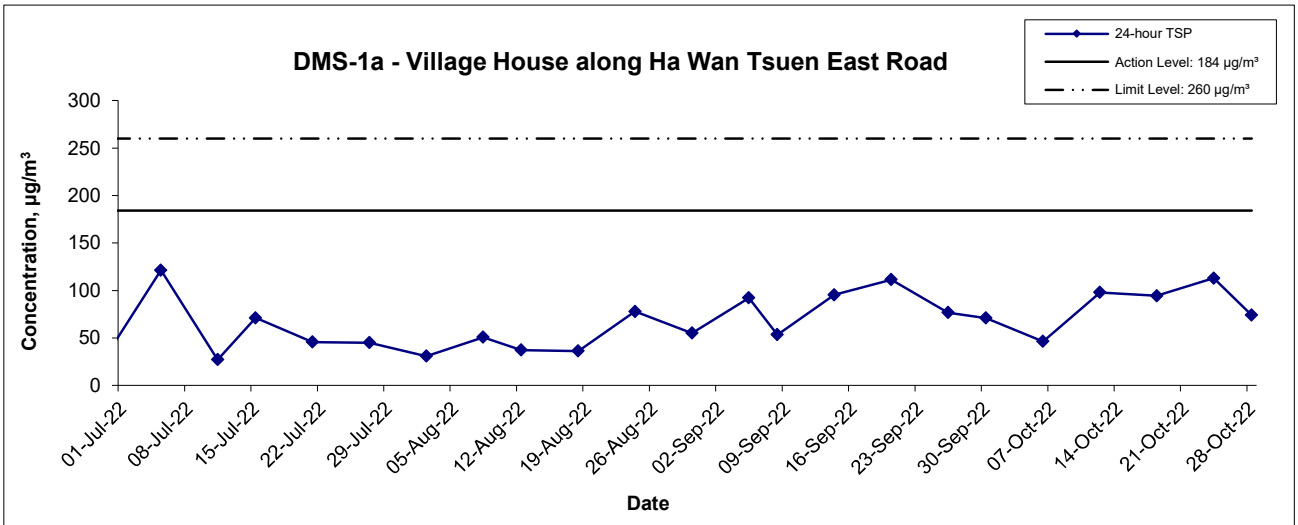
Location DMS-3 - Village House along Old Border Road

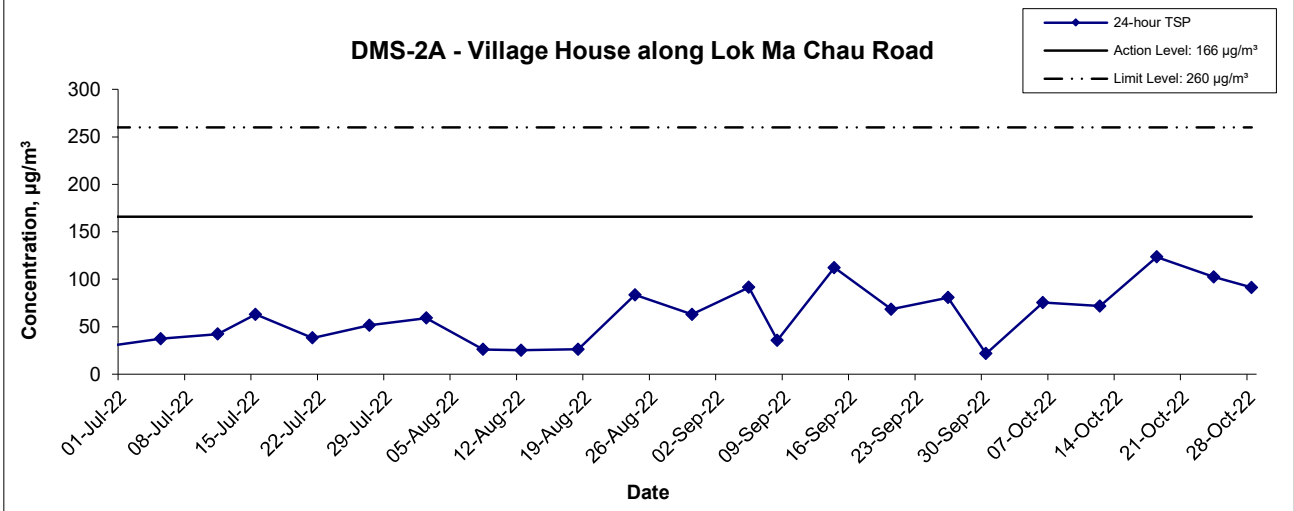
Start Date	Weather Condition	Air Temp. (K)	Atmospheric Pressure, Pa (mmHg)	Filter Weight (g)		Particulate weight (g)	Elapse Time		Sampling Time(hrs.)	Flow Rate (m^3/min.)		Av. flow (m^3/min)	Total vol. (m^3)	Conc. ($\mu g/m^3$)
				Initial	Final		Initial	Final		Initial	Final			
6-Oct-22	Sunny	301.0	764.0	2.9515	3.0066	0.0551	3032.6	3056.6	24.0	1.237	1.237	1.237	1781.2	30.9
12-Oct-22	Sunny	292.8	764.6	2.9689	3.0781	0.1092	3056.6	3080.6	24.0	1.256	1.254	1.255	1807.5	60.4
18-Oct-22	Windy	294.7	762.4	2.8824	3.0054	0.1230	3080.6	3104.6	24.0	1.237	1.261	1.249	1798.9	68.4
24-Oct-22	Sunny	297.0	765.1	2.9464	3.0572	0.1108	3104.6	3128.6	24.0	1.245	1.247	1.246	1794.7	61.7
28-Oct-22	Sunny	296.7	764.4	2.9658	3.0754	0.1096	3128.6	3152.6	24.0	1.246	1.246	1.246	1794.9	61.1
													Min	30.9
													Max	68.4
													Average	56.5

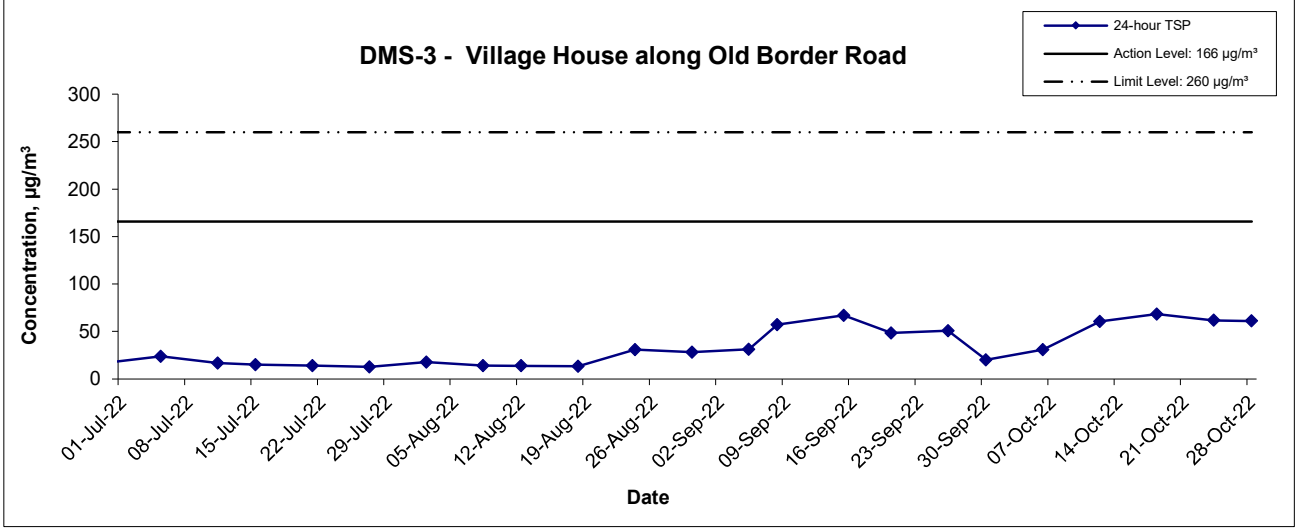
Location DMS-4A - Hong Kong Police Force, Lok Ma Chau Operation Base at Horn Hill

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			
6-Oct-22	Sunny	301.0	764.0	2.9264	2.9902	0.0638	32593.4	32617.4	24.0	1.232	1.232	1.232	1774.3	36.0
12-Oct-22	Sunny	292.8	764.6	2.9299	3.0394	0.1095	32617.4	32641.4	24.0	1.253	1.250	1.251	1802.0	60.8
18-Oct-22	Windy	294.7	762.4	2.9449	3.0994	0.1545	32641.4	32665.4	24.0	1.232	1.258	1.245	1793.0	86.2
24-Oct-22	Sunny	297.0	765.1	2.9202	3.0326	0.1124	32665.4	32689.4	24.0	1.241	1.243	1.242	1787.8	62.9
28-Oct-22	Sunny	296.7	764.4	2.9160	3.0008	0.0848	32689.4	32713.4	24.0	1.242	1.242	1.242	1788.7	47.4
													Min	36.0
													Max	86.2
													Average	58.6

24-hour TSP Concentration Levels

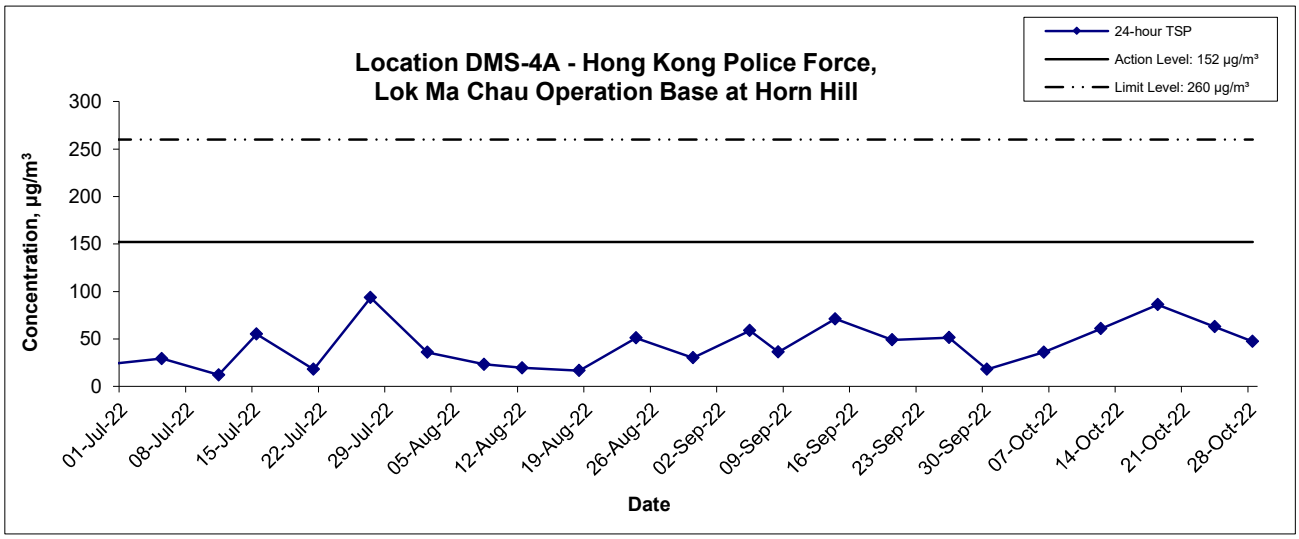






Title: Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of 24-hour TSP Monitoring Results	Scale: N.T.S	Project No.: WMA21009	WELLAB 匯力 consulting . testing . research
	Date: Oct 22	Appendix: F	

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: Oct 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}
7-Oct-22	Sunny	13:45	63.4	64.6	62.3	63.5	47.3
		13:50	63.5	64.2	62.6		
		13:55	63.0	63.7	62.2		
		14:00	63.7	64.8	62.5		
		14:05	63.5	64.1	62.7		
		14:10	64.0	65.6	62.6		
13-Oct-22	Sunny	15:00	67.4	68.5	65.9	66.5	
		15:05	66.3	67.2	65.4		
		15:10	65.6	66.4	64.8		
		15:15	67.0	68.1	66.0		
		15:20	66.4	67.1	65.6		
		15:25	66.0	66.8	65.3		
19-Oct-22	Cloudy	10:30	67.8	68.6	66.1	66.9	
		10:35	66.7	67.6	65.1		
		10:40	66.9	67.6	66.3		
		10:45	67.2	67.8	66.4		
		10:50	67.0	67.6	66.3		
		10:55	65.5	67.3	63.4		
25-Oct-22	Sunny	11:05	65.0	65.9	64.0	65.1	
		11:10	64.5	65.1	63.9		
		11:15	65.6	67.3	64.0		
		11:20	65.5	66.6	64.3		
		11:25	65.1	65.9	64.2		
		11:30	64.8	65.5	63.9		
31-Oct-22	Sunny	10:30	69.4	69.9	68.7	68.9	
		10:35	68.9	69.5	68.3		
		10:40	69.1	69.9	68.3		
		10:45	69.3	70.1	68.4		
		10:50	68.1	68.8	67.3		
		10:55	68.2	72.3	65.0		

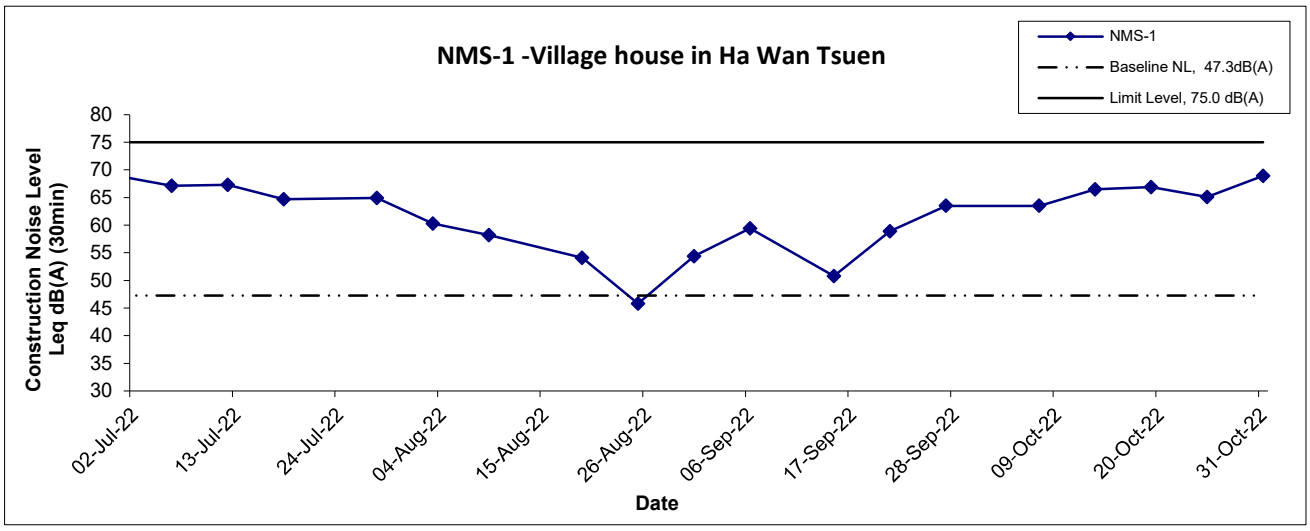
Location NMS-2 - Village house along existing Ha Wan Tsuen East Road							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
7-Oct-22	Sunny	09:20	68.4	72.3	56.0	69.5	68.4
		09:25	70.5	75.2	58.0		
		09:30	70.5	74.0	57.1		
		09:35	69.4	73.0	56.5		
		09:40	70.7	73.4	55.8		
		09:45	65.8	69.7	55.4		
13-Oct-22	Sunny	13:10	73.6	73.8	56.6	70.6	
		13:15	67.2	69.2	58.0		
		13:20	69.6	70.3	57.5		
		13:25	69.2	72.0	56.0		
		13:30	69.4	71.6	57.8		
		13:35	71.5	75.1	59.1		
19-Oct-22	Sunny	09:00	67.1	70.8	53.0	64.8	
		09:05	64.8	68.4	50.7		
		09:10	66.4	67.3	49.7		
		09:15	62.4	65.7	49.8		
		09:20	62.7	66.3	48.4		
		09:25	63.2	66.9	48.2		
25-Oct-22	Sunny	09:00	70.5	73.5	64.5	70.8	
		09:05	71.8	75.1	64.2		
		09:10	71.8	74.5	64.8		
		09:15	68.0	70.7	64.8		
		09:20	71.2	76.8	64.3		
		09:25	70.3	73.2	65.1		
31-Oct-22	Sunny	08:30	66.6	70.0	52.0	68.6	
		08:35	66.2	70.6	51.3		
		08:40	66.5	69.6	50.9		
		08:45	66.7	70.3	50.9		
		08:50	69.3	71.8	53.4		
		08:55	72.3	77.0	52.3		

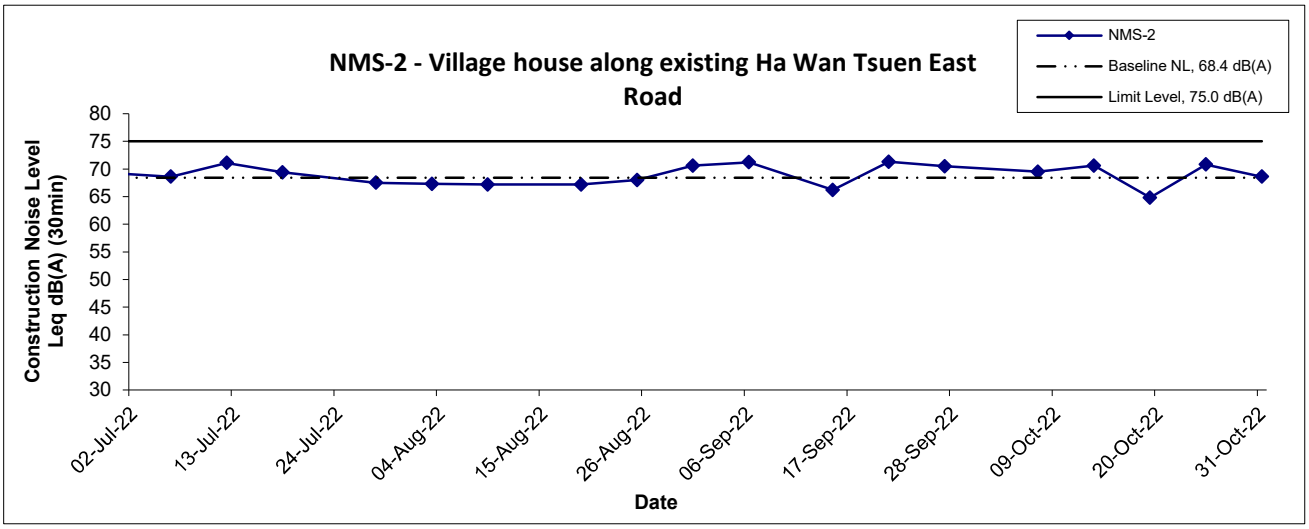
Appendix G - Noise Monitoring Results

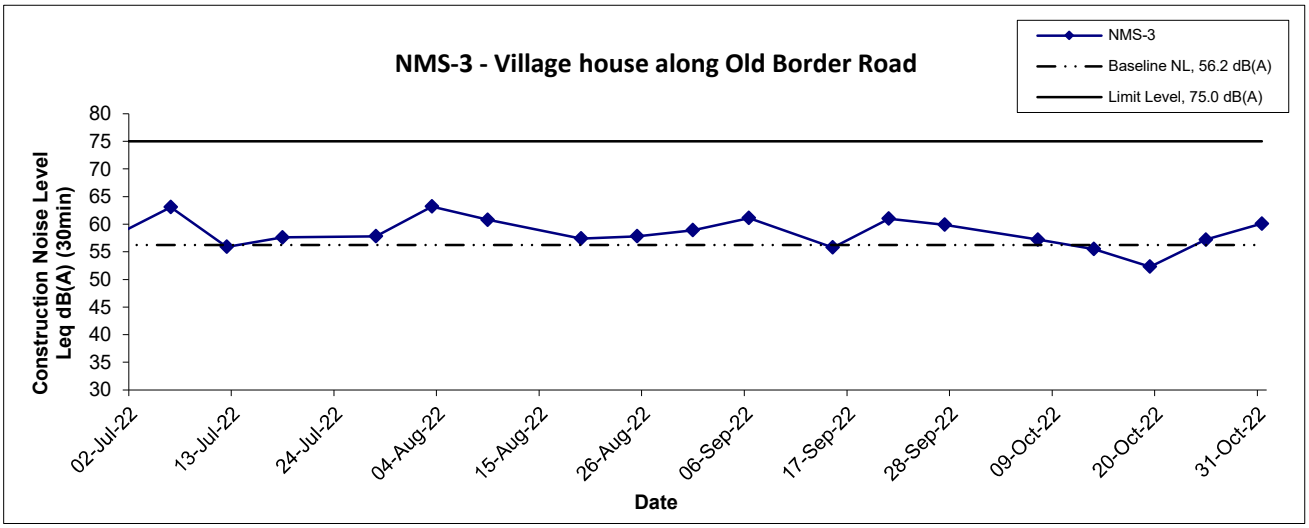
Location NMS-3 - Village house along Old Border Road							
Date	Weather	Time	Unit: dB (A) (5-min)			Average	Baseline Level
			L_{eq}	L_{10}	L_{90}	L_{eq}	L_{eq}
7-Oct-22	Sunny	10:15	57.6	58.1	57.0	57.2	56.2
		10:20	57.1	57.8	56.3		
		10:25	57.1	57.7	56.2		
		10:30	57.0	57.4	56.0		
		10:35	56.9	57.4	56.4		
		10:40	57.2	57.8	56.3		
13-Oct-22	Sunny	13:50	55.2	56.1	54.4	55.5	
		13:55	55.5	56.0	54.5		
		14:00	55.1	55.6	54.6		
		14:05	55.3	56.0	54.6		
		14:10	55.8	56.2	54.7		
		14:15	55.8	56.8	54.5		
19-Oct-22	Cloudy	11:25	52.1	52.8	48.5	52.3	
		11:30	50.6	51.2	48.8		
		11:35	49.9	50.9	48.0		
		11:40	53.8	57.7	49.1		
		11:45	51.2	52.2	49.0		
		11:50	54.3	58.4	49.0		
25-Oct-22	Sunny	09:20	56.4	57.9	52.8	57.2	
		09:25	54.5	55.8	53.0		
		09:30	54.5	55.6	52.9		
		09:35	54.9	56.5	52.7		
		09:40	56.9	58.5	53.1		
		09:45	61.2	63.8	53.4		
31-Oct-22	Sunny	13:15	61.1	63.3	58.9	60.1	
		13:20	61.4	63.2	59.1		
		13:25	60.4	61.8	58.7		
		13:30	56.9	62.7	58.3		
		13:35	60.0	61.6	58.3		
		13:40	59.7	61.4	58.2		

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}
7-Oct-22	Sunny	11:10	54.1	56.1	52.5	53.3	52.5
		11:15	53.6	55.0	52.4		
		11:20	53.2	54.3	52.2		
		11:25	52.9	53.5	52.3		
		11:30	53.0	53.6	52.3		
		11:35	53.0	53.7	52.2		
13-Oct-22	Sunny	13:00	44.9	45.7	43.7	47.1	
		13:05	46.4	49.0	42.7		
		13:10	51.6	55.6	43.6		
		13:15	44.3	44.9	43.7		
		13:20	44.6	45.4	43.7		
		13:25	45.5	45.7	43.5		
19-Oct-22	Sunny	09:00	51.6	52.9	48.9	53.9	
		09:05	51.0	52.1	48.6		
		09:10	53.5	54.8	49.1		
		09:15	52.5	53.4	49.8		
		09:20	56.9	57.5	50.5		
		09:25	55.1	56.5	50.4		
25-Oct-22	Sunny	10:10	56.7	57.0	52.7	55.8	
		10:15	52.8	53.5	52.7		
		10:20	54.1	54.1	52.3		
		10:25	56.7	57.3	52.4		
		10:30	58.4	58.5	52.2		
		10:35	53.3	54.2	52.1		
31-Oct-22	Sunny	15:00	57.8	59.8	53.7	56.7	
		15:05	55.4	56.2	53.8		
		15:10	56.9	58.7	54.3		
		15:15	57.5	58.4	54.0		
		15:20	56.2	57.8	53.6		
		15:25	55.7	57.8	53.6		

Noise Levels

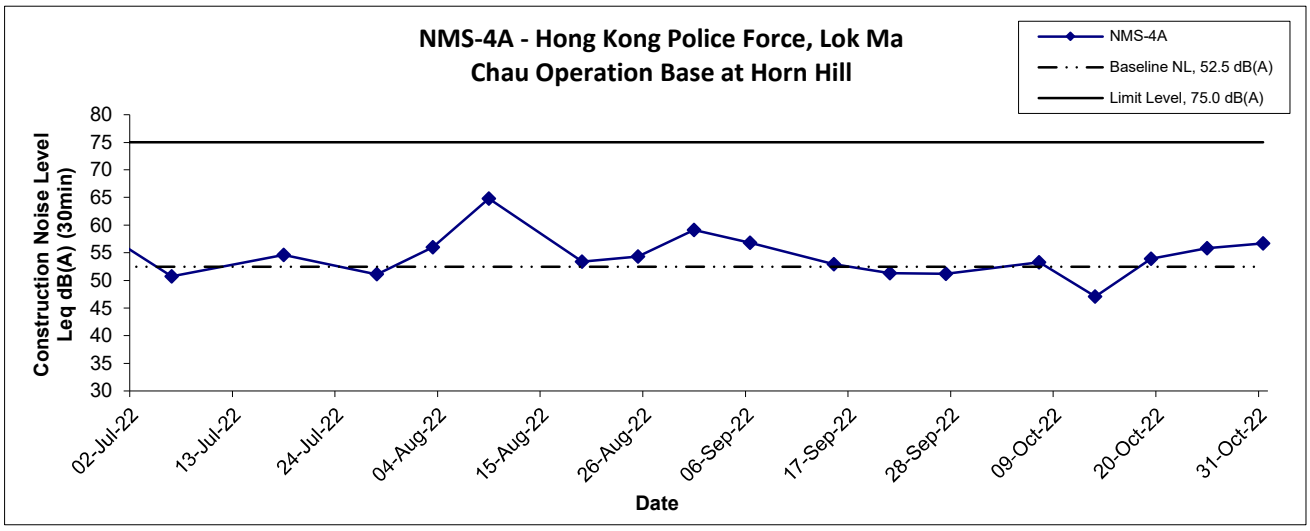






Title: Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Construction Noise Monitoring Results	Scale: N.T.S Date: Oct 22	Project No.: WMA21009 Appendix: G	WELLAB 匯力 consulting . testing . research

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 Oct 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
3-Oct-22	Sunny	Calm	10:54	Middle	0.5	28.2 28.2	28.2	7.1 7.1	7.1	0.8 0.8	0.8	70.1 70.1	70.1	5.5 5.5	5.5	8.4 8.6	8.5	20 21	20.5
5-Oct-22	Sunny	Calm	11:15	Middle	0.5	30.9 30.9	30.9	8.9 9.0	9.0	1.7 1.7	1.7	83.2 83.0	83.1	6.1 6.1	6.1	9.1 8.6	8.9	14 14	14.0
7-Oct-22	Sunny	Calm	12:28	Middle	0.5	33.4 33.3	33.4	7.3 7.3	7.3	1.6 1.6	1.6	71.2 70.5	70.9	5.0 5.0	5.0	7.6 7.9	7.8	18 15	16.5
10-Oct-22	Sunny	Calm	11:30	Middle	0.3	28.7 28.7	28.7	7.6 7.6	7.6	1.6 1.6	1.6	79.8 79.8	79.8	6.1 6.1	6.1	4.9 4.9	4.9	14 14	14.0
12-Oct-22	Sunny	Calm	10:30	Middle	0.5	30.5 30.5	30.5	7.6 7.6	7.6	1.8 1.8	1.8	95.0 95.0	95.0	7.1 7.1	7.1	7.9 7.9	7.9	18 20	19.0
14-Oct-22	Fine	Calm	13:44	Middle	0.5	31.4 31.4	31.4	7.4 7.5	7.5	2.1 2.1	2.1	80.8 80.9	80.9	5.9 5.9	5.9	12.2 11.3	11.8	19 18	18.5
17-Oct-22	Cloudy	Calm	15:46	Middle	0.3	26.0 26.0	26.0	7.4 7.4	7.4	2.6 2.6	2.6	60.4 60.4	60.4	4.8 4.8	4.8	7.7 7.7	7.7	14 14	14.0
19-Oct-22	Sunny	Calm	11:22	Middle	0.2	21.9 21.9	21.9	7.8 7.8	7.8	1.2 1.2	1.2	92.1 92.1	92.1	8.0 8.0	8.0	16.5 16.6	16.6	21 19	20.0
21-Oct-22	Sunny	Calm	11:09	Middle	0.3	25.3 25.3	25.3	8.3 8.3	8.3	2.9 2.9	2.9	127.1 127.3	127.2	10.3 10.3	10.3	10.4 10.3	10.4	19 17	18.0
24-Oct-22	Sunny	Calm	11:18	Middle	0.5	27.0 27.0	27.0	7.8 7.8	7.8	4.5 4.5	4.5	92.7 92.4	92.6	7.2 7.2	7.2	6.6 6.5	6.6	16 18	17.0
26-Oct-22	Sunny	Calm	13:14	Middle	0.6	29.7 29.7	29.7	7.9 7.8	7.9	5.4 5.4	5.4	84.5 84.5	84.5	6.2 6.2	6.2	11.0 10.9	11.0	10 10	10.0
28-Oct-22	Sunny	Calm	11:07	Middle	0.5	27.1 27.1	27.1	7.4 7.4	7.4	5.7 5.7	5.7	79.1 79.1	79.1	6.1 6.1	6.1	8.0 7.8	7.9	12 13	12.5
31-Oct-22	Cloudy	Calm	11:13	Middle	0.4	23.8 23.8	23.8	7.2 7.2	7.2	1.2 1.2	1.2	91.2 91.0	91.1	7.7 7.6	7.7	18.3 18.4	18.4	20 22	21.0

Remarks: *DA: Depth-Averaged

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

Water Quality Monitoring Results at 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
3-Oct-22	Sunny	Calm	09:39	Middle	0.1	29.8 29.8	29.8	7.7 7.7	7.7	0.4 0.4	0.4	93.0 93.1	93.1	7.0 7.1	7.1	2.4 2.3	2.4	5 5	5.0
5-Oct-22	Sunny	Calm	10:17	Middle	0.3	29.7 29.7	29.7	10.2 10.2	10.2	0.5 0.5	0.5	98.9 98.9	98.9	7.5 7.5	7.5	6.6 6.9	6.8	15 16	15.5
7-Oct-22	Sunny	Calm	14:27	Middle	0.1	33.5 33.5	33.5	8.9 8.9	8.9	0.6 0.6	0.6	141.0 141.0	141.0	10.0 10.0	10.0	2.1 2.1	2.1	5 5	5.0
10-Oct-22	Sunny	Calm	10:36	Middle	0.4	26.6 26.6	26.6	7.6 7.6	7.6	0.5 0.5	0.5	74.3 74.7	74.5	6.0 6.0	6.0	21.4 21.5	21.5	66 73	69.5
12-Oct-22	Sunny	Calm	09:32	Middle	0.1	23.3 23.3	23.3	7.7 7.7	7.7	0.5 0.5	0.5	92.0 91.9	92.0	7.8 7.8	7.8	6.4 6.5	6.5	9 9	9.0
14-Oct-22	Fine	Calm	12:49	Middle	0.4	27.8 27.9	27.9	7.5 7.5	7.5	1.8 1.8	1.8	76.9 76.8	76.9	6.0 6.0	6.0	48.0 50.1	49.1	62 68	65.0
17-Oct-22	Cloudy	Calm	14:57	Middle	0.1	26.2 26.2	26.2	8.0 8.0	8.0	0.5 0.5	0.5	97.5 97.5	97.5	7.9 7.9	7.9	13.9 13.9	13.9	14 13	13.5
19-Oct-22	Sunny	Calm	10:27	Middle	0.2	21.7 21.7	21.7	7.6 7.6	7.6	1.1 1.1	1.1	87.2 87.2	87.2	7.6 7.6	7.6	5.6 5.6	5.6	10 9	9.5
21-Oct-22	Sunny	Calm	10:01	Middle	0.1	23.9 23.9	23.9	7.7 7.7	7.7	2.3 2.3	2.3	71.9 71.4	71.7	6.0 6.0	6.0	6.9 6.9	6.9	4 4	4.0
24-Oct-22	Sunny	Calm	10:34	Middle	0.4	28.3 28.4	28.4	7.4 7.4	7.4	5.0 5.0	5.0	83.9 83.5	83.7	6.4 6.3	6.4	14.8 14.9	14.9	20 20	20.0
26-Oct-22	Sunny	Calm	13:58	Middle	0.2	26.7 26.7	26.7	7.8 7.8	7.8	1.6 1.6	1.6	100.7 100.7	100.7	8.0 8.0	8.0	8.9 8.8	8.9	19 19	19.0
28-Oct-22	Sunny	Calm	10:05	Middle	0.1	25.6 25.6	25.6	7.7 7.6	7.7	0.9 0.9	0.9	108.7 108.9	108.8	8.8 8.9	8.9	19.2 19.4	19.3	26 22	24.0
31-Oct-22	Cloudy	Calm	10:36	Middle	0.1	23.9 23.8	23.9	7.6 7.6	7.6	1.1 1.1	1.1	106.0 106.5	106.3	8.9 8.9	8.9	5.0 5.1	5.1	3 4	3.5

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
3-Oct-22	Sunny	Calm	10:27	Middle	0.5	27.5 27.4	27.5	6.9 6.9	6.9	0.6 0.6	0.6	93.0 91.5	92.3	7.3 7.2	7.3	7.9 8.4	8.2	17 17	17.0
5-Oct-22	Sunny	Calm	10:54	Middle	0.4	27.7 27.8	27.8	10.1 9.9	10.0	0.3 0.3	0.3	100.9 98.7	99.8	7.9 7.7	7.8	14.8 13.1	14.0	17 16	16.5
7-Oct-22	Sunny	Calm	12:09	Middle	0.5	28.5 28.5	28.5	6.8 6.8	6.8	0.6 0.6	0.6	96.1 95.7	95.9	7.4 7.4	7.4	9.1 9.2	9.2	21 24	22.5
10-Oct-22	Sunny	Calm	11:18	Middle	0.3	24.9 24.9	24.9	7.2 7.2	7.2	1.0 1.0	1.0	86.8 86.4	86.6	7.1 7.1	7.1	9.3 9.5	9.4	17 16	16.5
12-Oct-22	Sunny	Calm	10:01	Middle	0.5	23.2 23.2	23.2	7.1 7.1	7.1	1.7 1.7	1.7	90.4 90.4	90.4	7.7 7.7	7.7	9.6 9.5	9.6	16 18	17.0
14-Oct-22	Fine	Calm	13:25	Middle	0.5	26.0 25.9	26.0	7.1 7.1	7.1	1.3 1.4	1.4	89.9 90.2	90.1	7.2 7.3	7.3	6.9 6.8	6.9	14 12	13.0
17-Oct-22	Cloudy	Calm	15:58	Middle	0.4	25.3 25.3	25.3	7.4 7.4	7.4	1.9 1.9	1.9	88.5 88.2	88.4	7.2 7.2	7.2	10.0 10.0	10.0	11 12	11.5
19-Oct-22	Sunny	Calm	11:41	Middle	0.5	21.8 21.8	21.8	7.6 7.6	7.6	0.9 0.9	0.9	86.9 86.7	86.8	7.6 7.6	7.6	13.6 13.7	13.7	16 20	18.0
21-Oct-22	Sunny	Calm	11:32	Middle	0.4	24.6 24.6	24.6	8.3 8.3	8.3	1.3 1.3	1.3	94.2 94.2	94.2	7.8 7.8	7.8	11.1 11.1	11.1	21 26	23.5
24-Oct-22	Sunny	Calm	10:59	Middle	0.5	27.1 27.2	27.2	7.4 7.4	7.4	5.6 5.6	5.6	98.1 98.0	98.1	7.6 7.6	7.6	6.1 6.3	6.2	20 24	22.0
26-Oct-22	Sunny	Calm	12:49	Middle	0.5	27.3 27.4	27.4	7.3 7.4	7.4	7.1 7.2	7.2	95.6 95.6	95.6	7.3 7.3	7.3	6.5 6.4	6.5	9 10	9.5
28-Oct-22	Sunny	Calm	10:42	Middle	0.5	25.8 25.8	25.8	7.3 7.3	7.3	6.1 6.1	6.1	94.0 94.9	94.5	7.4 7.5	7.5	6.6 6.6	6.6	14 13	13.5
31-Oct-22	Cloudy	Calm	11:36	Middle	0.4	23.4 23.4	23.4	6.8 6.8	6.8	5.7 5.7	5.7	93.5 93.3	93.4	7.7 7.7	7.7	6.8 6.8	6.8	14 14	14.0

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
3-Oct-22	Sunny	Calm	09:18	Middle	0.1	29.7 29.7	29.7	7.3 7.3	7.3	2.5 2.5	2.5	78.9 78.7	78.8	5.9 5.9	5.9	10.4 9.9	10.2	21 18	19.5
5-Oct-22	Sunny	Calm	09:59	Middle	0.2	30.4 30.4	30.4	9.3 9.3	9.3	2.7 2.7	2.7	87.9 86.7	87.3	6.5 6.4	6.5	9.4 9.6	9.5	17 20	18.5
7-Oct-22	Sunny	Calm	14:01	Middle	0.1	31.8 31.8	31.8	7.9 7.9	7.9	3.0 3.0	3.0	113.4 113.6	113.5	8.2 8.2	8.2	13.7 13.7	13.7	21 25	23.0
10-Oct-22	Sunny	Calm	10:18	Middle	0.2	27.9 28.0	28.0	7.3 7.3	7.3	4.2 4.2	4.2	80.7 80.8	80.8	6.2 6.2	6.2	28.3 29.4	28.9	36 38	37.0
12-Oct-22	Sunny	Calm	09:20	Middle	0.1	24.6 24.5	24.6	7.5 7.5	7.5	2.9 2.9	2.9	98.2 98.3	98.3	8.1 8.1	8.1	14.4 14.5	14.5	20 22	21.0
14-Oct-22	Fine	Calm	13:01	Middle	0.2	27.3 27.3	27.3	7.5 7.5	7.5	0.5 0.5	0.5	69.9 69.5	69.7	5.5 5.5	5.5	33.4 33.4	33.4	33 42	37.5
17-Oct-22	Cloudy	Calm	15:13	Middle	0.1	26.7 26.7	26.7	7.6 7.6	7.6	2.0 2.0	2.0	87.4 87.2	87.3	6.9 6.9	6.9	18.9 18.9	18.9	19 21	20.0
19-Oct-22	Sunny	Calm	10:42	Middle	0.1	22.5 22.5	22.5	7.4 7.4	7.4	6.9 6.9	6.9	81.2 81.0	81.1	6.8 6.8	6.8	12.4 12.2	12.3	16 14	15.0
21-Oct-22	Sunny	Calm	10:22	Middle	0.1	25.2 25.2	25.2	7.6 7.6	7.6	6.5 6.5	6.5	82.0 81.8	81.9	6.5 6.5	6.5	9.5 9.5	9.5	13 13	13.0
24-Oct-22	Sunny	Calm	10:21	Middle	0.1	26.4 26.4	26.4	7.2 7.2	7.2	0.7 0.7	0.7	87.0 86.9	87.0	7.0 7.0	7.0	15.8 15.7	15.8	28 25	26.5
26-Oct-22	Sunny	Calm	13:45	Middle	0.1	27.4 27.4	27.4	8.1 8.1	8.1	7.1 7.1	7.1	98.3 98.4	98.4	7.5 7.5	7.5	25.1 24.7	24.9	34 35	34.5
28-Oct-22	Sunny	Calm	09:51	Middle	0.1	25.6 25.6	25.6	7.5 7.6	7.6	7.6 7.6	7.6	98.3 98.3	98.3	7.7 7.7	7.7	20.3 20.4	20.4	23 23	23.0
31-Oct-22	Cloudy	Calm	10:48	Middle	0.1	24.4 24.4	24.4	7.3 7.3	7.3	6.1 6.1	6.1	86.9 86.8	86.9	7.0 7.0	7.0	12.8 12.6	12.7	14 16	15.0

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

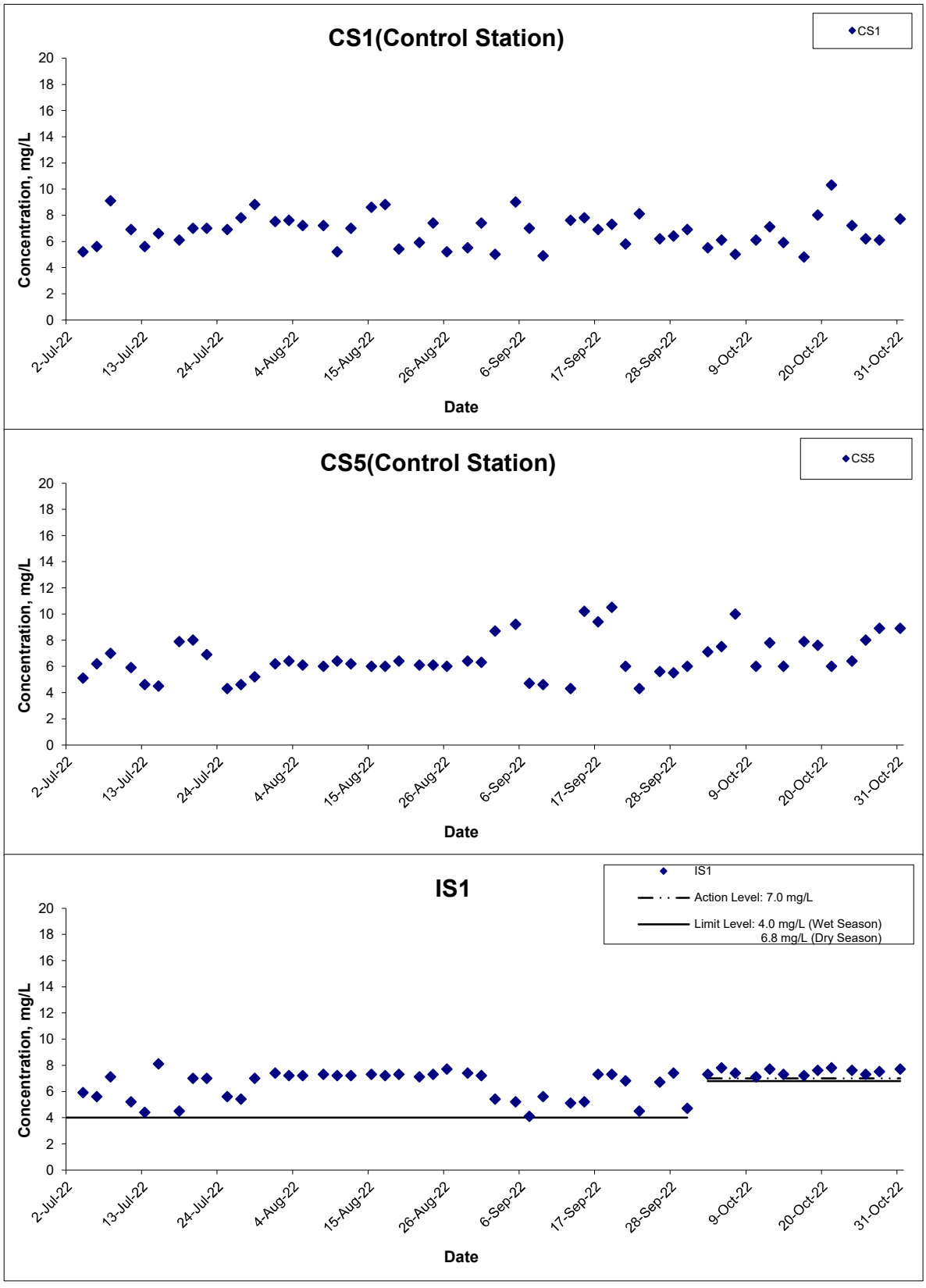
Water Quality Monitoring Results at IS4

Date	Weather Condition	Sea Condition**	Sampling Time	Depth (m)		Temperature (°C)		pH		Salinity ppt		DO Saturation (%)		Dissolved Oxygen (mg/L)		Turbidity(NTU)		Suspended Solids (mg/L)	
						Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average	Value	Average
3-Oct-22	Sunny	Calm	10:08	Middle	0.1	26.8 26.8	26.8	6.9 6.9	6.9	0.1 0.1	0.1	53.4 53.4	53.4	4.3 4.3	4.3	22.1 22.6	22.4	40 37	38.5
5-Oct-22	Sunny	Calm	10:36	Middle	0.2	27.4 27.4	27.4	10.5 10.5	10.5	0.1 0.1	0.1	52.5 52.8	52.7	4.2 4.2	4.2	20.1 19.5	19.8	44 49	46.5
7-Oct-22	Sunny	Calm	12:50	Middle	0.1	28.8 28.9	28.9	7.1 7.1	7.1	0.1 0.1	0.1	63.4 63.3	63.4	4.9 4.9	4.9	14.8 14.9	14.9	9 10	9.5
10-Oct-22	Sunny	Calm	10:54	Middle	0.2	25.1 25.2	25.2	7.2 7.2	7.2	0.1 0.1	0.1	57.2 55.5	56.4	4.7 4.6	4.7	13.7 13.6	13.7	25 29	27.0
12-Oct-22	Sunny	Calm	09:50	Middle	0.1	24.7 24.8	24.8	7.0 7.0	7.0	0.1 0.1	0.1	51.5 50.8	51.2	4.3 4.2	4.3	13.4 13.7	13.6	44 45	44.5
14-Oct-22	Fine	Calm	13:15	Middle	0.1	26.4 26.5	26.5	7.2 7.2	7.2	0.1 0.1	0.1	52.6 52.9	52.8	4.2 4.3	4.3	15.6 15.2	15.4	58 64	61.0
17-Oct-22	Cloudy	Calm	15:26	Middle	0.1	24.4 24.4	24.4	7.3 7.3	7.3	0.1 0.1	0.1	55.0 54.3	54.7	4.6 4.5	4.6	10.4 10.4	10.4	9 9	9.0
19-Oct-22	Sunny	Calm	11:01	Middle	0.1	21.9 21.9	21.9	7.4 7.4	7.4	0.2 0.2	0.2	50.2 50.0	50.1	4.4 4.4	4.4	5.5 5.6	5.6	10 12	11.0
21-Oct-22	Sunny	Calm	10:37	Middle	0.1	22.9 22.9	22.9	7.5 7.5	7.5	0.1 0.1	0.1	55.9 55.8	55.9	4.8 4.8	4.8	12.9 13.0	13.0	23 21	22.0
24-Oct-22	Sunny	Calm	10:45	Middle	0.1	24.2 24.2	24.2	7.4 7.4	7.4	0.1 0.1	0.1	51.2 50.9	51.1	4.3 4.3	4.3	12.5 12.3	12.4	7 8	7.5
26-Oct-22	Sunny	Calm	12:31	Middle	0.1	25.4 25.4	25.4	7.6 7.5	7.6	0.1 0.1	0.1	51.3 51.1	51.2	4.2 4.2	4.2	11.0 10.8	10.9	13 13	13.0
28-Oct-22	Sunny	Calm	10:26	Middle	0.1	23.8 23.8	23.8	7.1 7.1	7.1	0.1 0.1	0.1	55.5 55.4	55.5	4.7 4.7	4.7	14.0 13.9	14.0	10 10	10.0
31-Oct-22	Cloudy	Calm	11:01	Middle	0.1	22.1 22.1	22.1	7.7 7.7	7.7	0.2 0.2	0.2	52.5 52.3	52.4	4.6 4.6	4.6	9.1 9.1	9.1	8 9	8.5

Remarks: *DA: Depth-Averaged

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

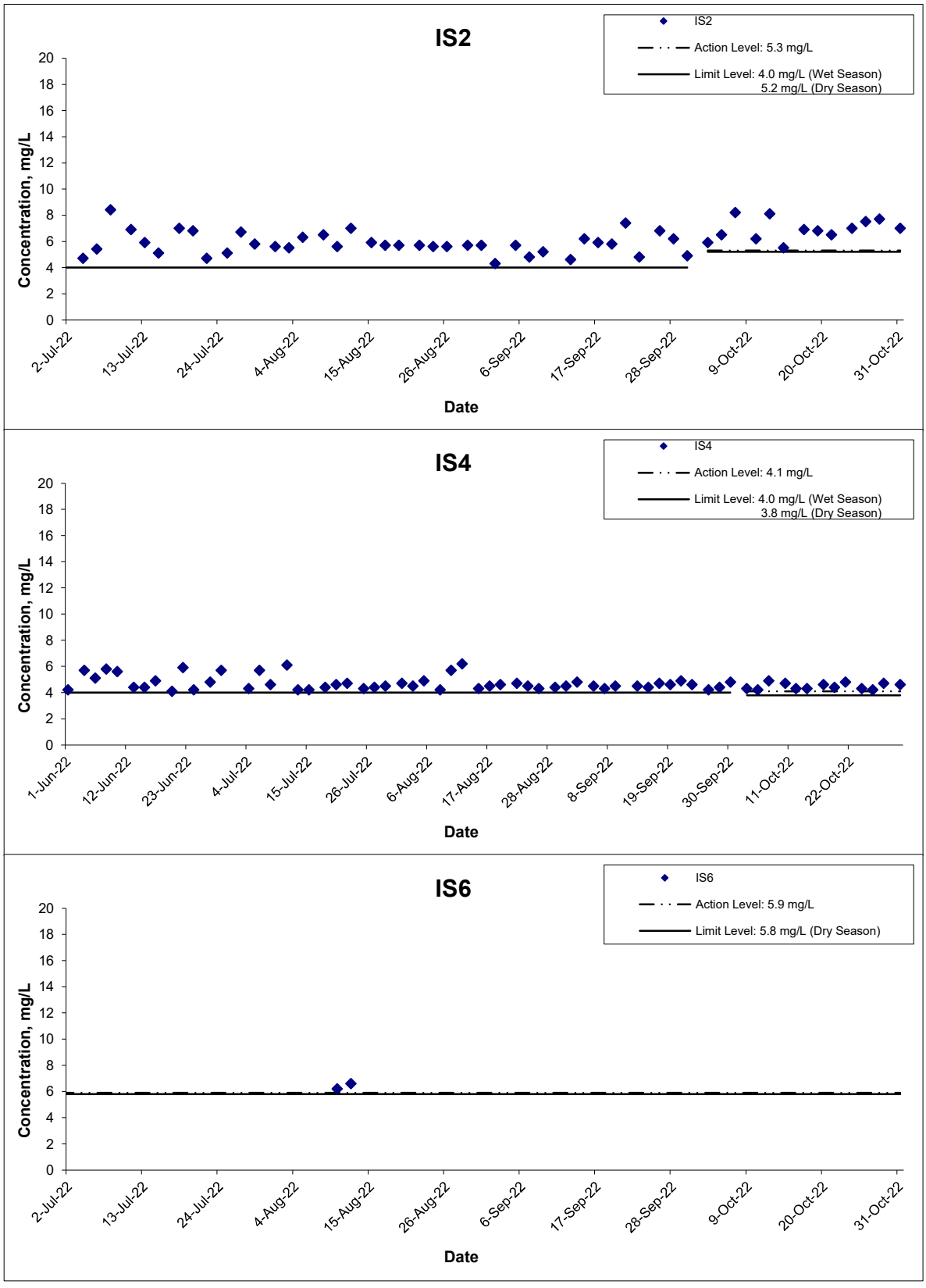
Dissolved Oxygen



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

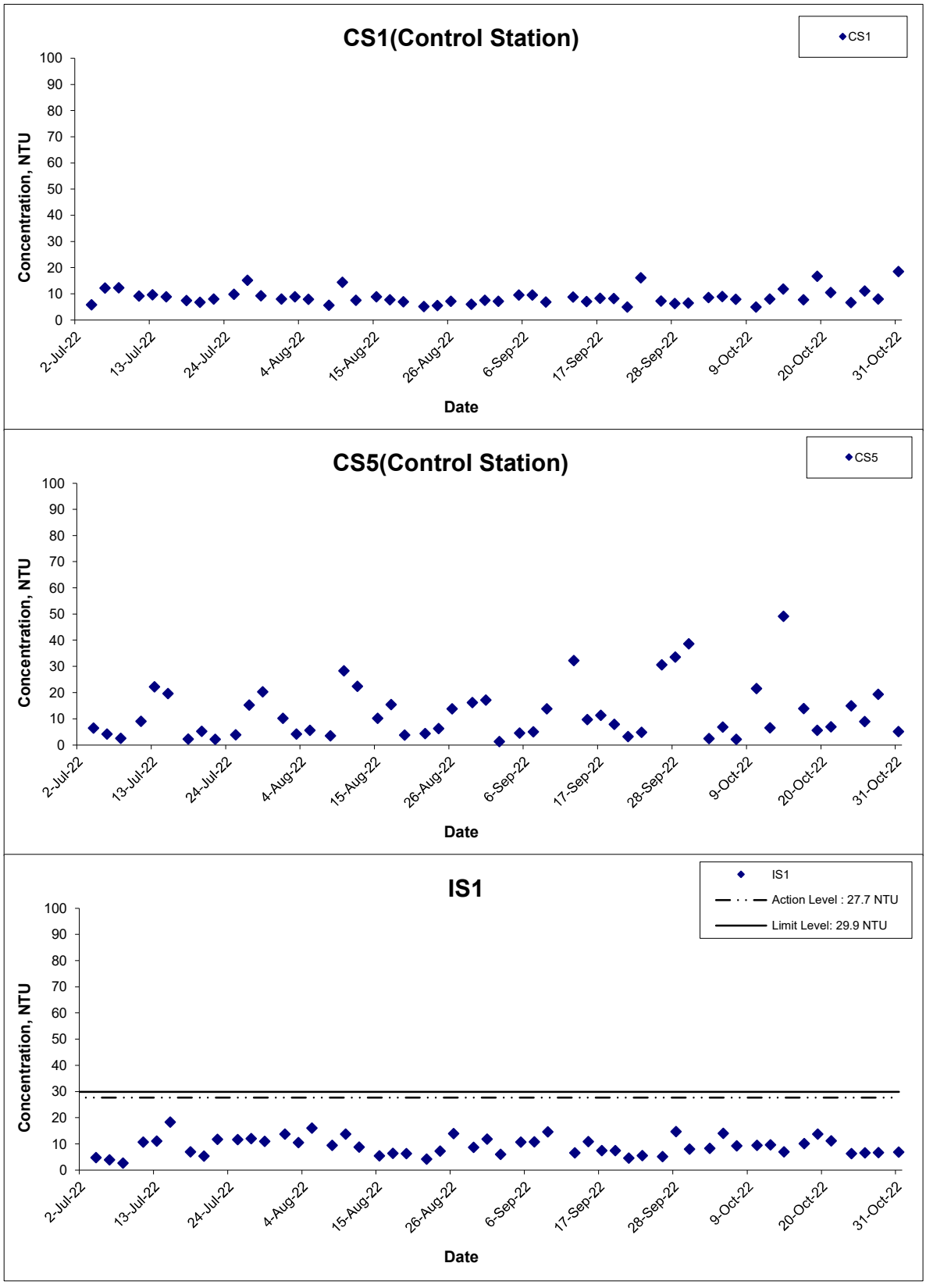
WELLAB 匯力 consulting . testing . research

Dissolved Oxygen



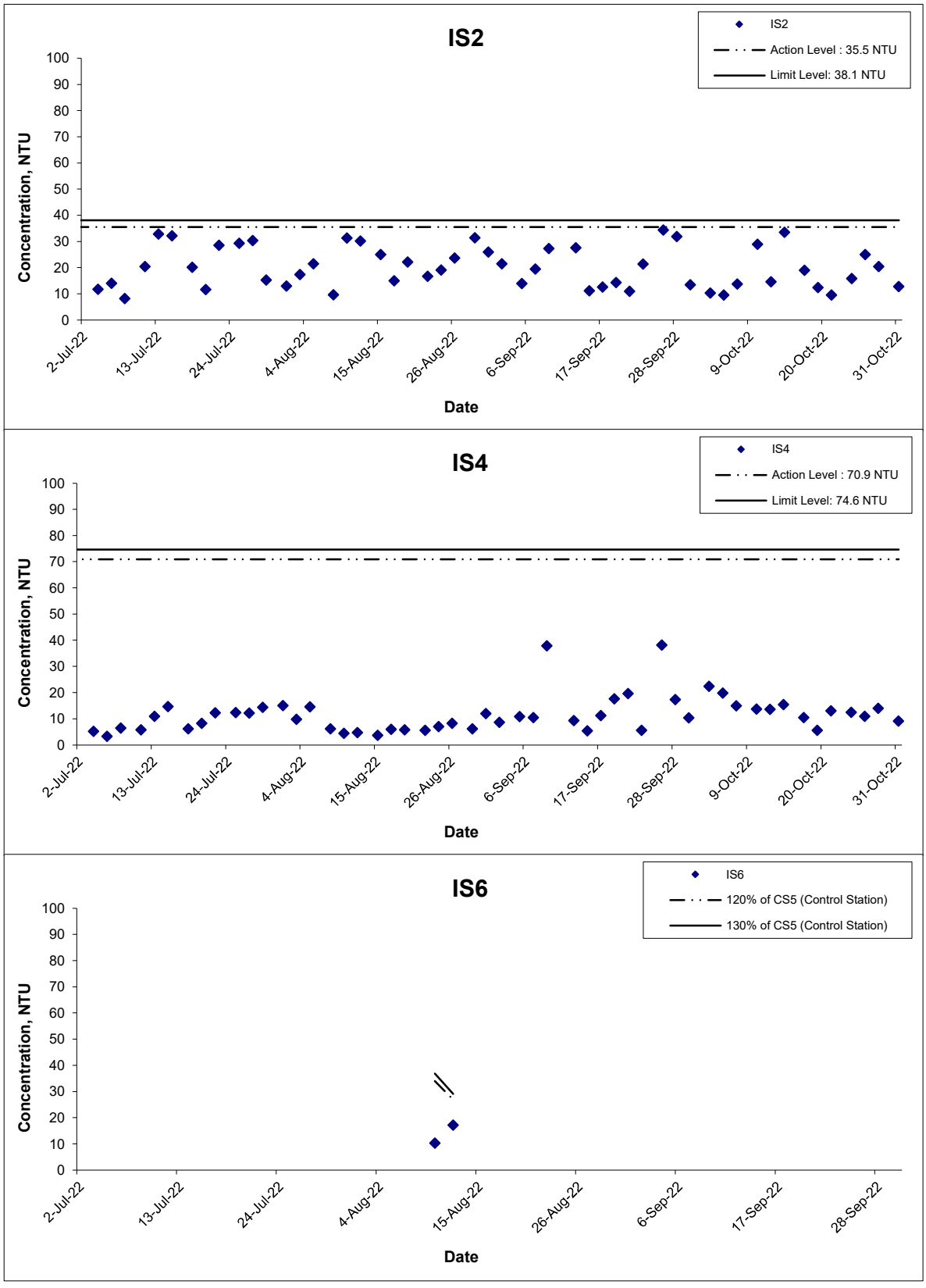
Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: WMA21009	WELLAB 匯力 consulting . testing . research
		Date: Oct 22	Appendix: H	

Turbidity



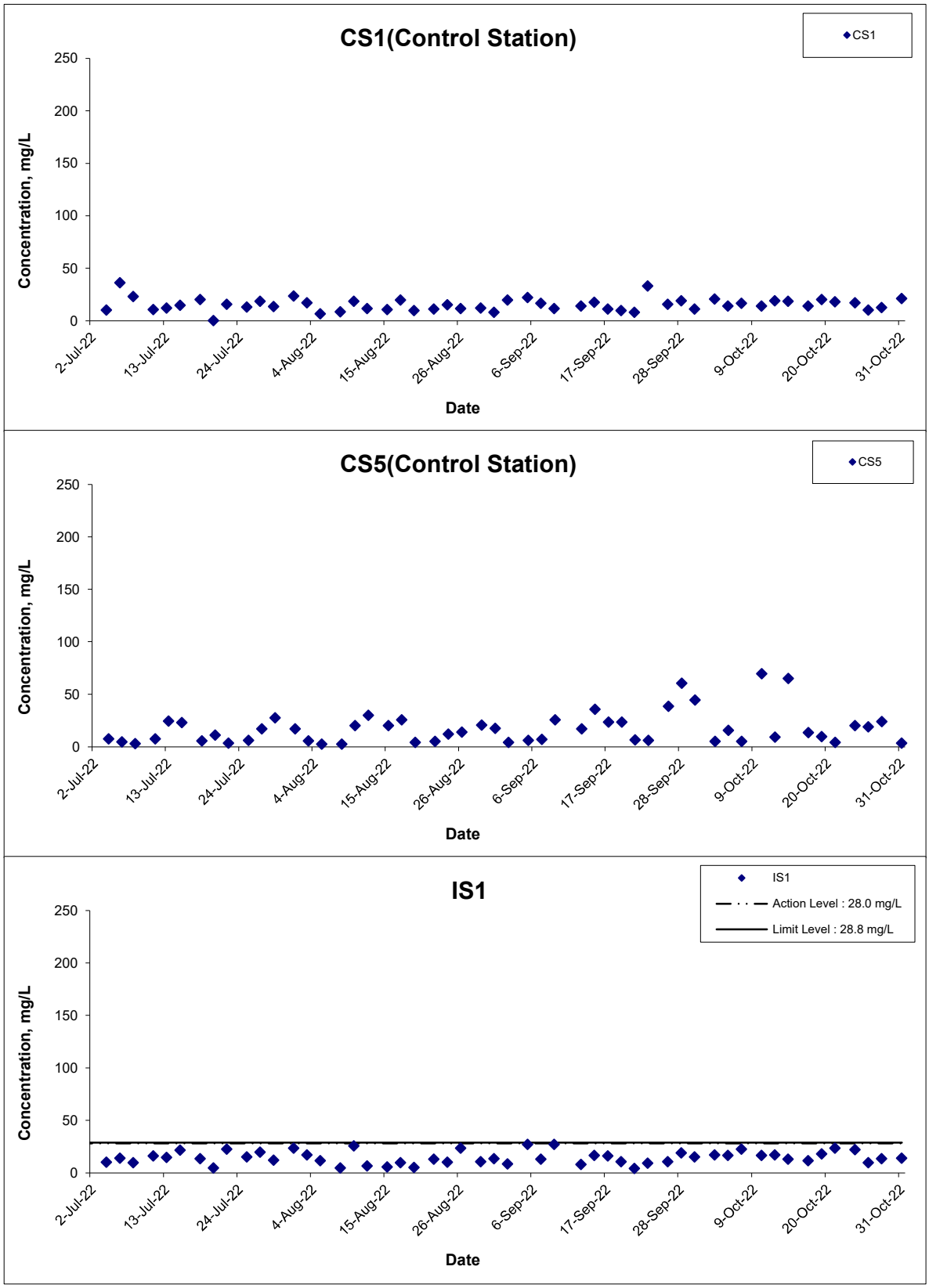
Title	Service Contract No. WD/04/2020 Development of Lok Ma Chau Loop: Main Works Package 1 - Environmental Team Graphical Presentation of Water Quality Monitoring Results	Scale: N.T.S	Project No.: WMA21009	WELLAB 匯力 consulting . testing . research
		Date: Oct 22	Appendix: H	

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 Oct 22	Appendix H	

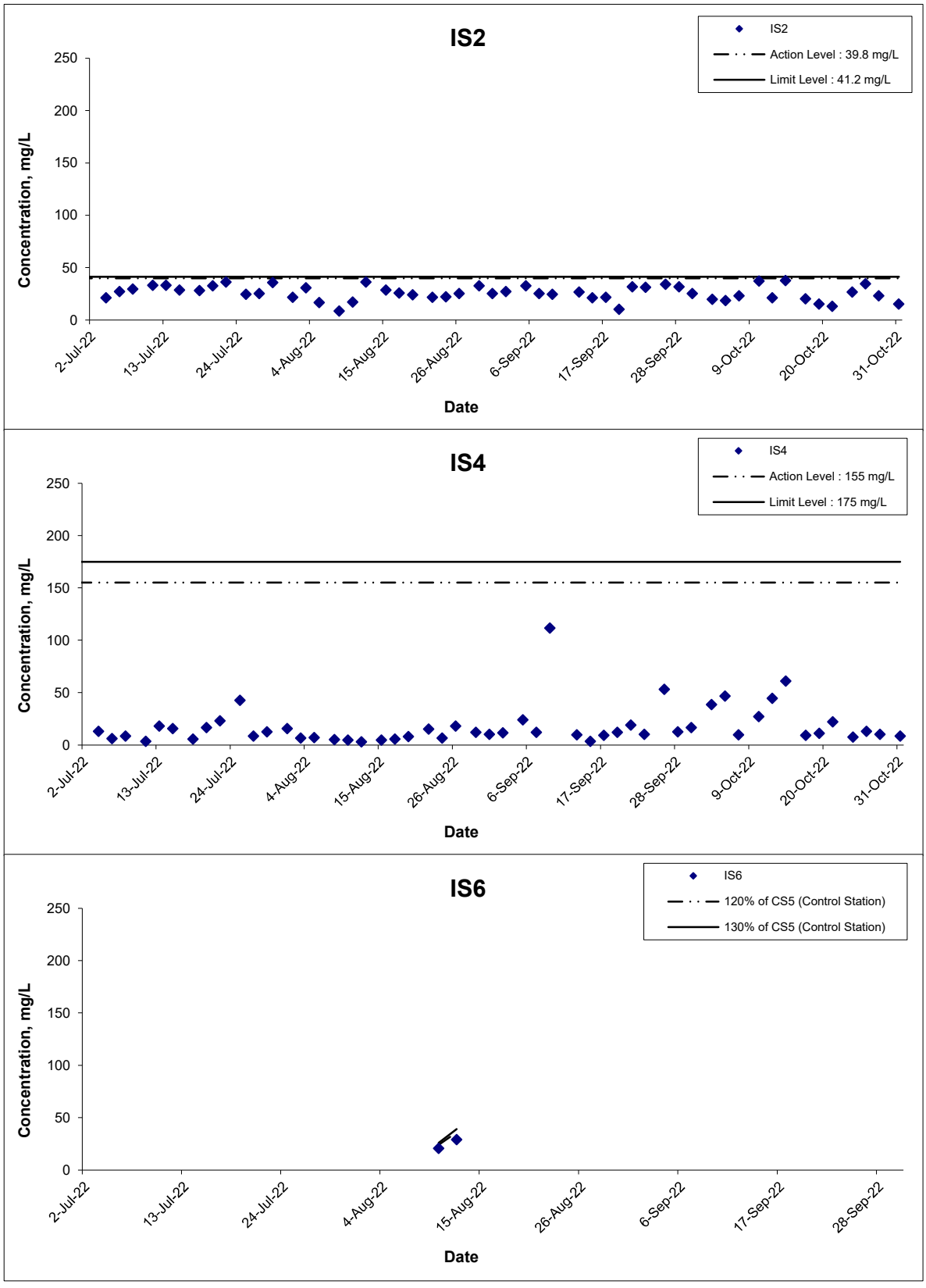
Suspended Solids



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

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

Suspended Solids



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: Oct 22	Appendix: H	

APPENDIX I
WEATHER CONDITION

APPENDIX I –
GENERAL WEATHER CONDITIONS DURING THE MONITORING PERIOD

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
1 October 2022	27.7	86	2.6
2 October 2022	28.9	81	Trace
3 October 2022	29.5	76	-
4 October 2022	29.4	76	-
5 October 2022	29.1	75	Trace
6 October 2022	28.9	74	Trace
7 October 2022	28.3	77	22.8
8 October 2022	27.7	71	Trace
9 October 2022	27.1	71	4.8
10 October 2022	24	51	-
11 October 2022	24.1	48	-
12 October 2022	25.2	50	-
13 October 2022	26	60	-
14 October 2022	26.9	66	-
15 October 2022	27.5	53	-
16 October 2022	28.3	46	-

Date	Mean Air Temperature (°C)	Mean Relative Humidity (%)	Precipitation (mm)
17 October 2022	27.2	45	Trace
18 October 2022	20.9	67	19.7
19 October 2022	23	54	-
20 October 2022	24.3	64	-
21 October 2022	25.2	68	-
22 October 2022	26.6	67	Trace
23 October 2022	26.5	71	-
24 October 2022	25.2	68	-
25 October 2022	23.8	63	-
26 October 2022	23.9	66	-
27 October 2022	24.6	70	-
28 October 2022	25.5	68	-
29 October 2022	25.7	65	-
30 October 2022	25.4	57	-
31 October 2022	25.4	50	-

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

Appendix I - Wind Data

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

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)	1*	0	0	0

* The complaint case (EPD File Ref.: N06/RN/00023772-22) is under investigation.

(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

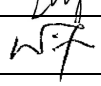
Contract No. YL/2020/01 - Development of Lok Ma Chau Loop: Main Works Package 1 – Contract 1 Site Formation and Infrastructure Works inside Lok Ma Chau Loop and Western Connection Road Phase 1

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	221005
Date	5 October 2022 (Wednesday)
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.: 220928), no environmental deficiencies was identified during site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		5 October 2022
Checked by	Dr. Priscilla Choy		5 October 2022

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	221012
Date	12 October 2022 (Wednesday)
Time	09:30-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
221012-R01	• To check the silt curtain regularly for meander bridge.	D 22
	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	
221012-R02	• To repair/replace the damaged olive green fence at near EA zone.	H 2
	I. Fisheries	
	• No environmental deficiency was identified during site inspection.	
	J. Permits/Licences	
	• No environmental deficiency was identified during site inspection.	
	K. Others	
	Follow-up on previous audit section (Ref. No.: 221005), no environmental deficiencies was identified during site inspection.	

	Name	Signature	Date
Recorded by	Adrian Lam		15 October 2022
Checked by	Dr. Priscilla Choy		15 October 2022

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	221021
Date	21 October 2022 (Friday)
Time	16:00-17:00

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.: 221012), all major environmental deficiency was rectified/improved by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		21 October 2022
Checked by	Dr. Priscilla Choy		21 October 2022

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	221026
Date	26 October 2022 (Wednesday)
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.: 221021), no major environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		26 October 2022
Checked by	Dr. Priscilla Choy		26 October 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	221005
Date	5 October 2022 (Wednesday)
Time	09:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
221005-R01	• The exposed slope at near the nullah at LCS should be covered with tarpaulin sheet.	D9
	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.: 220928), no major environmental deficiency was observed/identified during site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		5 October 2022
Checked by	Dr. Priscilla Choy		5 October 2022

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	221012
Date	12 October 2022 (Wednesday)
Time	14:00 – 15:15

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	
221012-R01	• To provide soil berm along the slopes of RW9.	D 4
	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.: 221005), all major environmental deficiency was rectified/improved by the contractor.	

	Name	Signature	Date
Recorded by	Adrian Lam		15 October 2022
Checked by	Dr. Priscilla Choy		15 October 2022

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	221021
Date	21 October 2022 (Friday)
Time	15:00 – 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.: 221012), all major environmental deficiency was rectified/improved by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		21 October 2022
Checked by	Dr. Priscilla Choy		21 October 2022

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	221026
Date	26 October 2022 (Wednesday)
Time	9:30 – 11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
221026-R01	• The tarpaulin sheet should be provided at underneath of the vibrating clamp to avoid oil leakage during the maintenance works (RW9).	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.: 221021), no major environmental deficiency was identified during site inspection.	

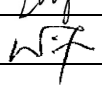
	Name	Signature	Date
Recorded by	Ivy Tam		26 October 2022
Checked by	Dr. Priscilla Choy		26 October 2022

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

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	221003
Date	3 October 2022 (Monday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• No environmental deficiency was identified during site inspection.	
	E. Waste / Chemical Management	
	• 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.: 220926), no major environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		3 October 2022
Checked by	Dr. Priscilla Choy		3 October 2022

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	221010
Date	10 October 2022 (Monday)
Time	14:00 – 15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
221010-R01	• To enhance the water mitigation measures around the gully near EEAA.	D11
	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.: 221003), no major environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Him Ng		11 October 2022
Checked by	Dr. Priscilla Choy		11 October 2022

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	221017
Date	17 October 2022 (Monday)
Time	14:00 – 15:00

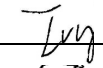
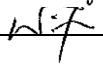
Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
221017-R01	• Provide water quality mitigation measures to avoid the mud and silt directly going into the perimeter drainage channels.	D4
	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.: 221010), all major environmental deficiency was rectified/improved by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		17 October 2022
Checked by	Dr. Priscilla Choy		17 October 2022

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	221025
Date	25 October 2022 (Tuesday)
Time	9:30 – 10:30

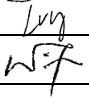
Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	**Remarks/Observations**	**Related Item No.**
	B. Air Quality	
	• No environmental deficiency was identified during site inspection.	
	C. Noise	
	• No environmental deficiency was identified during site inspection.	
	D. Water Quality	
	• 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.: 221017), all major environmental deficiency was rectified/improved by the contractor.	

	Name	Signature	Date
Recorded by	Ivy Tam		25 October 2022
Checked by	Dr. Priscilla Choy		25 October 2022

Weekly Site Inspection Record Summary
Inspection Information

Checklist Reference Number	221031
Date	31 October 2022 (Monday)
Time	9:00 – 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.: 221025), no major environmental deficiency was identified during site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		31 October 2022
Checked by	Dr. Priscilla Choy		31 October 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-DP 1/DP2/ DP3	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road is proposed to achieve dust removal efficiency of 92.1%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.6 L/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-DP 1/DP2/ DP3	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-DP 1/DP2/ DP3	• 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/DP3	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected representative dust monitoring station	Construction stage	^
Construction Noise Impact							
S4.8	N-CP1-DP1/DP2/DP3	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/DP3	Install temporary site hoarding (approx 2.4m high) located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	Construction phase	^
S4.8	N-CP3-DP1/DP2/DP3	Install movable noise barriers and full enclosure, screen the noisy plants including air compressor and generator.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction phase	^
S4.8	N-CP4-DP1/DP2/DP3	Use of “Quiet” Plant and Working Methods	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction phase	^
S4.8	N-CP5-DP1/DP2/DP3	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction phase	^
S4.8	N-CP6-DP2	Setting the concrete lorry mixer at around 25m away from the existing NSRs along Ha Wan Tsuen Road and Lok Ma Chau Road	Reduce the noise levels from concrete lorry mixer	Contractor	Sections with NSRs along Ha Wan Tsuen Road and Lok	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
					Ma Chau Road		
S4.8	N-CP8-DP2	Provide temporary noise barrier during construction phase.	Control airborne noise from construction access road traffic	Contractor	Refer to Figure 4-8 of the EIA report	Construction phase	^
S4.8	N-CP7-DP2/N-CP6-DP1/N-CP6-DP3	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction phase	^
Water Quality Impact (Construction Phase)							
S5.7	W1-CP-DP1/DP2/DP3	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.	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
		• Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipments in order to avoid or minimize polluted runoff. Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 m3 capacities, are recommended as a general mitigation measure which can be used for settling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped. • The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt/sediment trap. The silt/sediment traps should be incorporated in the permanent drainage channels to enhance deposition rates. • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction. • Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed					^ ^ ^ ^

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
		slope surfaces should be covered by tarpaulin or other means. • 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.					* ^ ^ * ^ ^

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 vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient backfall toward the wheelwash bay to prevent vehicle tracking of soil and silty water to public roads and drains. • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. • Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. • All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. • Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Notices should be posted at conspicuous locations to remind the workers not to discharge any					^ ^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		sewage or wastewater into the meander, wetlands and fish ponds.					
S5.7	W3-CP-DP1/DP2/DP3	*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/DP3	*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	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
		portable toilets to cater 0.15m3/day/employed populations and be responsible for appropriate disposal and maintenance. • Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. • Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site.					^ ^
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	Minimize water quality impact from bio-remediation of Shenzhen River	Contractor	Shenzhen River where practicable	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
		implemented as necessary.					
S5.7	W4-CP-DP3	*Construction of Viaduct across Reedbed in LMC Station* As a precautionary measures, three options are recommended to ensure the compliance of No Net Increase in Pollution Load in Deep Bay for further consideration. They include: • On-site compensate the same area of the occupied reedbed; • Provide pilot plant during construction; or • Increase the hydraulic retention time of the proposed Loop STW. Details of these measures will be subject to further liaison with MTRC and a separate VEP application.	Minimize water quality impact from of viaduct on reedbed	Contractor	Construction sites across reedbed in LMC Station	Construction phase	N/A
S5.7	W5-CP-DP2/DP3	*Construction of Bridge Crossing* • Good site management as stipulated in ProPECC PN1/94 should be fully implemented to avoid polluted liquid or solid wastes from falling into the WSRs. • All the fishponds will be drained and no fishpond will be affected by bridge crossing. • In the meander, cofferdam or diaphragm walls should be deployed for protecting fish ponds or nearby rivers during bridge pier construction and or road widening work at fishponds. • For the low level viaducts crossing the small streams at Ma Tso Lung, Ping Hang and channel near Lung Hau Road, precast structures will be used such that there will be no construction work in the water streams, and thus, to avoid direct water quality impacts.	Minimize water quality impact from construction of bridge crossing	Contractor	Construction sites for bridge crossing where practicable	Construction phase	N/A N/A N/A 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
Waste Management (Construction Waste)							
S7.6	WM1-DP1/DP2/DP3	<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 (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.	Reduce waste generation	Contractor	All construction sites where practicable	Construction phase	^ ^ ^ ^ ^
S7.6	WM2-DP1/DP2/DP3	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/DP3	<u>*Good Site Practice*</u> 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	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
		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;					^ ^ ^ ^
S7.6	WM4-DP1/DP2/DP3	*Storage of Waste* The following recommendation should be implemented to minimize the impacts: • Waste such as soil should be handled and stored well to 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;	Minimize waste generation during construction	Contractor	All construction sites	Construction phase	^ ^ ^
S7.6	WM5-DP1/DP2/DP3	*Collection and Transportation of Waste* The following recommendation should be implemented to minimize the impacts: • Remove waste in timely manner; • Employ the trucks with cover or enclosed containers for	Minimize waste impact from storage	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
		waste transportation; • Obtain relevant waste disposal permits from the appropriate authorities; and • Disposal of waste should be done at licensed waste disposal facilities.					^ ^
S7.6	WM6-DP1/DP2/DP3	<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 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.	Minimize waste impacts from excavated and C&D material	Contractor	All construction sites	Construction phase	^ ^ ^ ^ ^ ^ ^ ^
S7.6	WM7-D	<u>*Contaminated Soil*</u> As a precaution, it is recommended that standard good site	Remediate contaminated	Contractor	All construction	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
	P1/DP2 /DP3	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.	soil		sites where applicable	phase	N/A
S7.6	WM8-D P1/DP2 /DP3	*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 accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction phase	^
S7.6	WM9-D P1/DP2 /DP3	*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.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	^ ^ ^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• A reputable waste collector should be employed to remove general refuse on a daily basis.					
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 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	Minimize waste impacts from sediment	Contractor	All construction sites	Construction phase	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
		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.					
Land Contamination							
S8.7	LC1-D P2/DP3	<u>*Remediation of arsenic-contaminated soil*</u> • "Solidification/Stabilization" (S/S) treatment method was proposed for the remediation of arsenic-contaminated soil. Toxicity Characteristic Leaching Procedure (TCLP) test should be undertaken after S/S in order to ensure that the contaminant will not leach to the environment. Unconfined Compressive Strength (UCS) test should be conducted, and not less than 1MPa should be met prior to the backfilling or stockpiled for future reuse within the study area. Off-site disposal or reuse of the solidified material is not allowed.	To remediate arsenic-contaminated soil	Project Proponent/ Contractor	LMC Loop, contaminated area	Prior to commencement of construction works within the contaminated area	N/A
S8.7	LC1-D P1/DP2 /DP3	<u>*Excavation and Transportation*</u> • 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	To minimise the potential environmental impacts arising from the handling of contaminated materials	Contractor	Contaminated area		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
		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 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 N/A N/A N/A N/A
S8.7	LC3-DP1/DP2/DP3	*Solidification/Stabilization* • The loading, unloading, handling, transfer or storage of cement should be carried out in an enclosed system;	To minimize the potential environmental impacts arising from the handling	Contractor	Contaminated area	The course of remediation	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• 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) 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.	of contaminated materials				N/A N/A N/A N/A N/A N/A N/A
S8.7	LC4-D P3	<u>Safety Measures</u> • Set up a list of safety measures for site workers;	To minimize the potential adverse effects on health	Contractor	Contaminated area	The course of remediation	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• Provide written information and training on safety for site workers; • Keep a log-book and plan showing the contaminated zones and clean zones; • Maintain a hygienic working environment; • Avoid dust generation; • Provide face and respiratory protection gear to site workers if necessary; • Provide personal protective clothing (e.g. chemical resistant jackboot, liquid tight gloves) to site workers, if necessary; • Provide first aid training and materials to site worker; • Bulk earth moving equipment should be utilized as much as possible to minimize workers' handling and contact of the contaminated materials; and • Eating, drinking and smoking should not be allowed in contaminated areas to avoid inadvertent ingestion of contaminant.	and safety of construction workers				
S8.8	LC5-DP3	Re-appraisal on the entire contamination assessment area for associated infrastructure in the adjacent areas in Hong Kong outside LMC Loop.	Ensure any potential contamination activities from land use changes after the approval of this land contamination assessment study	Project Proponent /Detailed design consultant	Entire contamination assessment area for associated infrastructure in	After land resumption	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
					the adjacent areas in Hong Kong outside LMC Loop		
Landscape and Visual Impact (Construction Phase)							
S11.5.4 Table11.5 .9	L-CP1-DP1/DP3	<u>*Preservation and Protection of Existing Trees (Good Site Practice)*</u> • 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 retained and shall be protected by means of fencing during	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
		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/DP3	*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/DP3	*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 roadside planting and amenity areas.	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
	L-CP4-DP1/DP2/DP3	*Transplantation of Existing Trees* • 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-DP1/D	*Creation of Wetland and Landscape Buffer* • The existing reedbed acquired for development areas for	Compensation of the loss of landscape resources	Project Proponent/	The whole project area	Detailed design, construction and	^

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
	P2	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.		Detailed design consultant/ Contractor/ Operator	where applicable	operational phases	^ ^ ^
	V-CP5-DP1/DP2/DP3	*Coordination with Concurrent Projects* • Coordinated implementation programme with concurrent projects to minimise impacts and where possible reduce	Minimize landscape impacts	Contractor	The whole project area where	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
		the period of disturbance.			applicable		
S11.6.5 Table 11.6.3	V-CP1-DP3	*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. • The preservation of existing tree shall provide instant greening and screening effect for proposed works.	Minimise visual impact	Detailed design consultant / Contractor	The whole project area where applicable	Detailed design and construction phase	^
	V-CP2-DP3	*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. • Hoarding designed with recessive colour shall be set up around the construction site providing screening effect for the construction works. • The site office or temporary above-ground structures shall	Minimise visual impact	Contractor	The whole project area where applicable	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		be sited at less visual prominent locations.					
	V-CP3-DP3	*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 roadside planting and amenity areas.	Minimise visual impact and advance mitigation planting for screening purpose.	Detailed design consultant / Contractor	The whole project area where applicable	Detailed design and construction phases	N/A
	V-CP5-DP3	*Coordination with Concurrent Projects* • Coordinated implementation programme with concurrent projects to minimise impacts and where possible reduce the period of disturbance.	Minimize visual impacts	Contractor	The whole project area where applicable	Construction phase	^
Ecology (Construction Phase)							
S12.7	E1-DP1	*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*	On the disturbance to fish ponds at HHW	Detailed design consultant/ Contractor	Fish ponds at HHW and LMC	Detailed design, construction phase	N/A N/A N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• Erection of a 3m high, dull green site boundary fence to minimise disturbance to wetland habitats caused by human activity in LMC Loop.					*
S12.7	E2-DP1 /DP3	<u>*Construction run-off*</u> • Temporary sewerage and drainage will be designed and installed to collect wastewater and prevent it from entering nearby water bodies; • Proper locations well away from nearby water bodies will be used for temporary storage of materials (i.e. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction debris and spoil, and these will be identified before commencement of works; • To prevent muddy water entering nearby water bodies, work sites close to nearby water bodies will be isolated, using such items as sandbags or silt curtains with lead edge at bottom and properly supported props. Other protective measures will also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the work site; • If temporary access along a riverbed is unavoidable, this will be kept to the minimum in width and length. Temporary river crossings will be supported on stilts above the river bed; • Stockpiling of construction materials, if necessary, will be	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
		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 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					^ ^ ^ ^ ^ ^

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
		considered.					
S12.7	E3-DP1 /DP2/D P3	*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	^
S12.7	E4-DP1 /DP2/D P3	• 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:	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
		• 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 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					^ ^ ^ ^ ^

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
		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/D P3	• Minimize loss of natural vegetation along LMC Meander, and suitable replacement planting with possible installation of otter holts and the provision of potential feeding area and spraint locations for otters in the stabilized bank subject to detailed design. • No significant change to velocity of water flow, water level or water quality. • No direct lighting on Meander. • 3m high, dull green site boundary fence for all developments associated with the project. • Pre-construction surveys for otter holts or natal dens will be conducted in LMC Loop before the commencement of construction works. Work in the area of any otter holt found to cease pending examination by experienced Ecologist. If in use for breeding, works in the area will temporarily stop until end of breeding activity. • No construction activities within 100m of LMC Meander	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
		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	^
S12.7	E10-DP 1	• Preserve undisturbed, semi-natural habitat conditions of LMC Meander and adjacent areas of LMC Loop up to approximately 150m in width in order to avoid disturbance to core part of flight line corridor. • This area to comprise an Ecological Area largely constituting reed marsh and a 50m wide buffer zone densely planted with shrubs and trees. Small number of low buildings (max 14mPD high, except the building height of on-site STW is 15mPD high) allowed in inner 25m of this area at a plot ratio of 0.1. • At Ha Wan Tsuen entry point for many birds to LMC Loop area provide a wider Ecological Area to minimize disturbance from nearby buildings.	Minimize impacts on flight line corridor from LMC Loop development	Developer / Detailed design consultant/ Contractor/ Operator	Within project site	Detailed design, construction and operation phases	^ ^ ^

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
		• 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.					N/A
S12.7	E11-DP 1	• 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	^ ^
S12.7	E12-DP 1/DP2/ DP3	• Minimal night-time lighting • No direct light on Meander	Minimize impacts on LMC Meander	Contractor/ Operator	All	Construction and operation phases	^ ^
S12.7	E13-DP 2	• 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	E13-DP	• Use of viaduct alignment to minimize wetland loss.	Minmize wetland loss	Project	Within project	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
	3	Compensatory wetland habitat elsewhere.		Proponent / Detailed design consultant / Contractor /	site	and construction phases	
S12.7	E16-DP 1	• Provision of compensatory reed marsh in the Ecological Area will provide habitat suitable for Common Evening Hawker. • Measures designed to protect other fauna and water quality will generally benefit odonata.	Protect Odonata	Project Proponent/ Detailed design consultant/ Contractor Operator	Ecological area	EA established prior to construction and manage at all phases	^ ^
S12.7	E14-DP 2	• Replacement planting of native tree species relevant to Deep Bay area and the area impacted. Planting to occur in tandem with that required for woodland loss arising	Minimize the ecological impacts	Contractor	Woodland and shrubland habitat along Ha Wan Tsuen Road	Construction phase	^
S12.7	E15-DP 2	• Use noise/visual barriers to minimise disturbance. • Construction activities should not be carried out before 0900h or after 1700h in order to minimise disturbance to the flight line corridor (and to mammals).	Minimize impacts on flight line corridor from Western Connection Road	Contractor	Construction site from Western Connection Road	Construction phase	^ ^
S12.7	E16-DP 2	• Use of opaque visual/noise barriers and roadside planting of trees and shrubs to minimize disturbance impacts.	Minimize impacts on flight line corridor from	Project Proponent/	Construction site from	Detailed design, construction and	^

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
			Western Connection Road	Detailed design consultant/ Contractor Operator	Western Connection Road	operation phases	
S12.9	EG2-DP3	All generic mitigation measures proposed in Tables 12.82a and 12.82b in the EIA report.	Avoid, minimize and mitigate overall ecological impact.	Project proponent / contractor / detailed design consultant / developer / operator	All areas.	All phases	^
Fisheries (Construction Phase)							
S13.7	F4-	• 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

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
S13.7	F4-DP3	During the construction phase, a layer of sheet pile wall will be erected along the site boundary adjacent to fish ponds after commencement of site works. The sheet pile wall will be constructed by silent piling method (Press-in method) which induces minimal vibration. Therefore the stability of the fish pond bund will not be influenced by the construction of the sheet pile wall, subsequent construction works and the loading from the road during operational phase. In addition, the sheet pile wall will have grouting or a grout curtain to avoid water seepage from the fish pond to the excavation area. With these measures, significant impacts are not anticipated.	Bund stability	Contractor	Fish ponds	Construction phase	N/A
S13.7	F5-DP3	Temporary traffic arrangements will be instigated to maintain or provide alternative access to fish ponds during construction phase.	Prevent Blockage of Access Roads to Fish Ponds	Contractor	Fish ponds	Construction phase	^
S13.7	F6-DP3	Standard mitigation measures to control site runoff and other pollutants caused by construction activities and good site practices will be implemented during the construction phase of the Project. Excavated material and other inert construction wastes produced will be transferred to proper recipients (i.e. landfill) (see Waste Management Section). Sewage from the proposed development will be dealt with via a sewerage system and will not be discharged directly to surrounding water bodies.	Avoid water quality impact	Contractor	Fish ponds	Construction phase	^
S13.7	F7-DP3	*Dust Minimization* • During all excavation works, good site practice should be adopted to minimize impacts on fisheries. The below site practices should be adopted during this time. • Any excavated or stockpile of dusty material should be	Dust minimization	Contractor	Fish ponds	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		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; • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies; • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; • In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; • Supply of suitable clean backfill material after excavation, if required; • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or					

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		contaminated run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet season; • Speed control for the trucks carrying contaminated materials should be enforced; and • Vehicle wheel washing facilities at the site's exit points should be established and used.					
S13.7	F8-DP3	*Contingency plan* The contractor should prepare an emergency contingency plan for actions to be taken if significant impacts, such as accidental spillage of chemicals, water seepage from fish ponds, damaged/ destabilized pond bunds, pond water contamination by site runoff, on fish ponds occur. The contractor should submit the emergency contingency plan dealing with, but not limited to, the aforementioned potential impacts to the engineer for review, comment and approval. The fish pond operators will also be consulted for the details of the contingency plan, which will also be submitted to AFCD for review and comment. The plan should include, but not limited to, the following: • 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;	Deal with any accidental spillage event	Contractor / Operator	Fish ponds	Construction and operational phases	N/A

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• Training plan and testing for effectiveness.					
Food Safety (Construction Phase)							
S15	F1-DP3	*Contingency plan* The contractor should have effective communication with Food and Environmental Hygiene Department (FEHD) / Centre of Food Safety (CFS), on food surveillance and food incidents. Food Surveillance Programme (http://www.cfs.gov.hk/english/programme/programme_fs/programme_fs.html). is undertaken by CFS to inspect food safety in Hong Kong, with a three-tier surveillance strategy (consisting of routine food surveillance, targeted food surveillance and seasonal food surveillance). Under this programme, aquatic products (including pond fish) at import, wholesale and retail levels are sampled for microbiological (i.e. bacteria and viruses), chemical (i.e. natural toxins, food additives and contaminants) and radiation testings. All food safety surveillance results of by a monthly "Food Safety Report" in press releases and also presented in CFS website. If pond fish samples do not comply with food safety standards and they are verified to be from fish ponds of concerned under this study through "food tracing", fish selling shall be stopped as instructed by CFS.	Minimize significant impacts on fish ponds	Contractor	Fish pond within project site	Construction phase	N/A
S15	F2-DP3	*Dust Minimization* • During all excavation works, good site practice should be adopted to minimize the release of TSP, impact of land contamination and the associated food safety implications. The below site practices should be adopted during excavation works.	Dust minimization	Contractor	Fish pond within project site	Construction phase	^

EIA Ref.	EM&A Log Ref	Recommended Mitigation Measures	Objectives of the recommended Measures & Main Concerns to address	Who to implement the measures?	Location of the measures	When to Implement the measures?	Implementation Status
		• 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; • Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies; • Excavation profiles must be properly designed and executed with attention to the relevant requirements for environment, health and safety; • In case the soil to be excavated is situated beneath the groundwater table, it may be necessary to lower the groundwater table by installing well points or similar means; • Supply of suitable clean backfill material after excavation, if required; • Vehicles containing any excavated materials should be					

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
		suitably covered to limit potential dust emissions or contaminated run-off, and truck bodies and tailgates should be sealed to prevent any discharge during transport or during wet season; • Speed control for the trucks carrying contaminated materials should be enforced; and • Vehicle wheel washing facilities at the site's exit points should be established and used.					

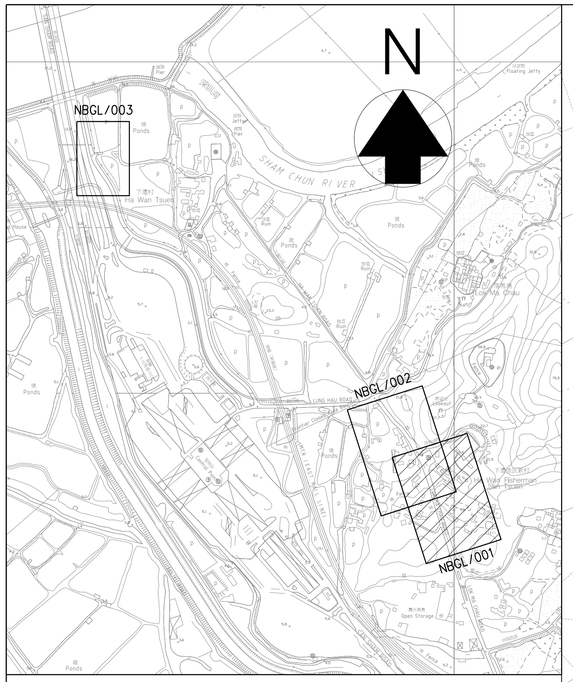
Remarks: ^ Compliance of mitigation measure

* 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.

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

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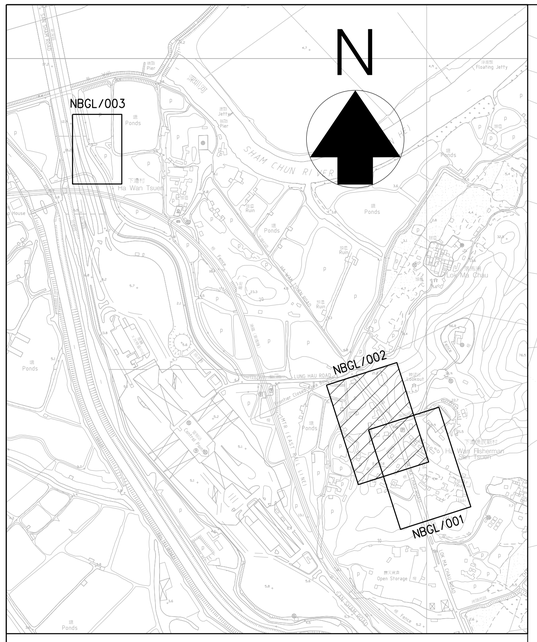


LOCATION PLAN
N.T.S.

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
	–

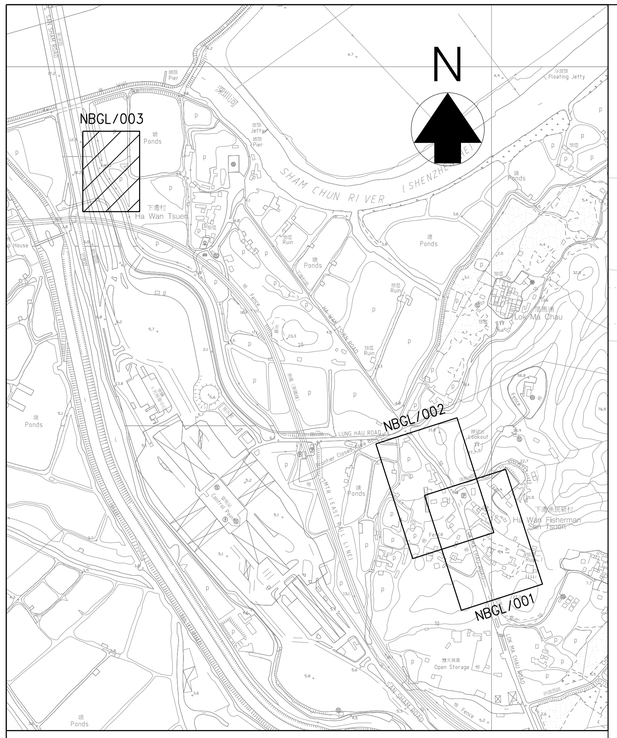
比例 Scale A1 1 : 300
A3 1 : 600

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.

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)

825500 E

841800 N

825400 E

TNB1

TNB15

LOK MA CHAU ROAD

新深路

Nullah

渠

排水口

Outfall

TS

PO

CUL

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

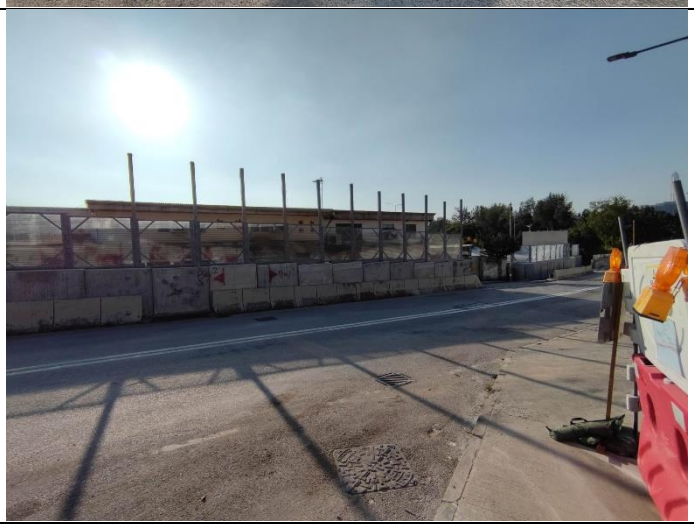
TNB ID	Photo
TNB9	
TNB10	
TNB13	

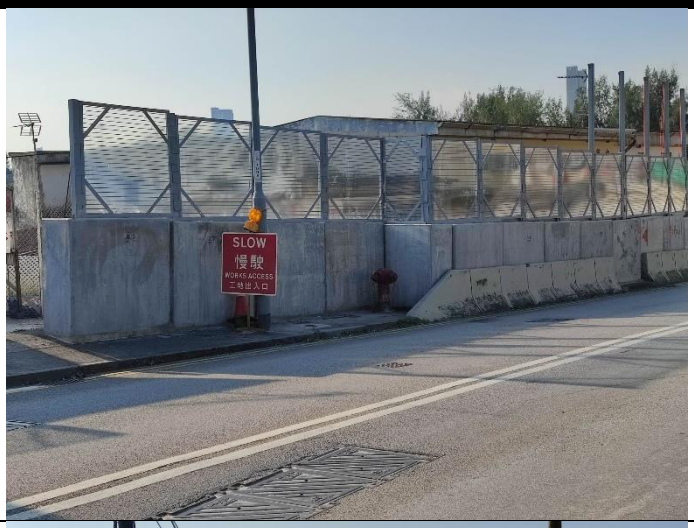
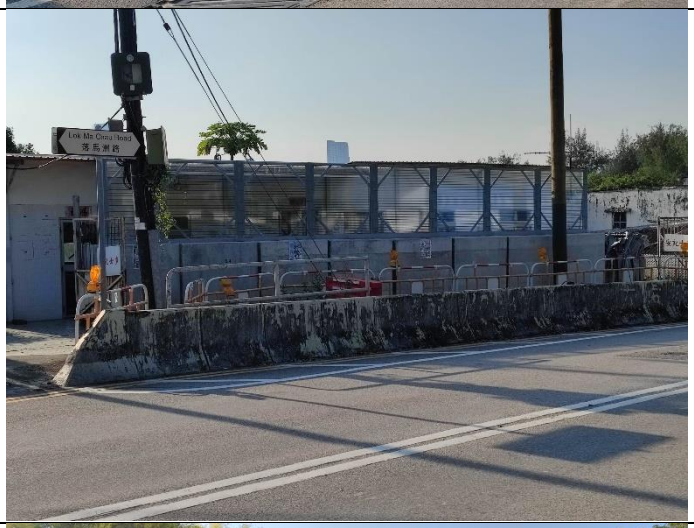
YL/2017/03
Development of Lok Ma Chau Loop – Land Decontamination and Advance Engineering Works
Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road

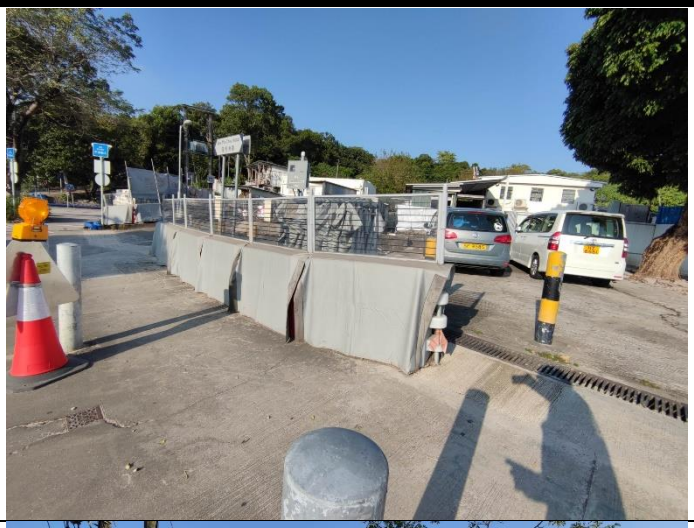
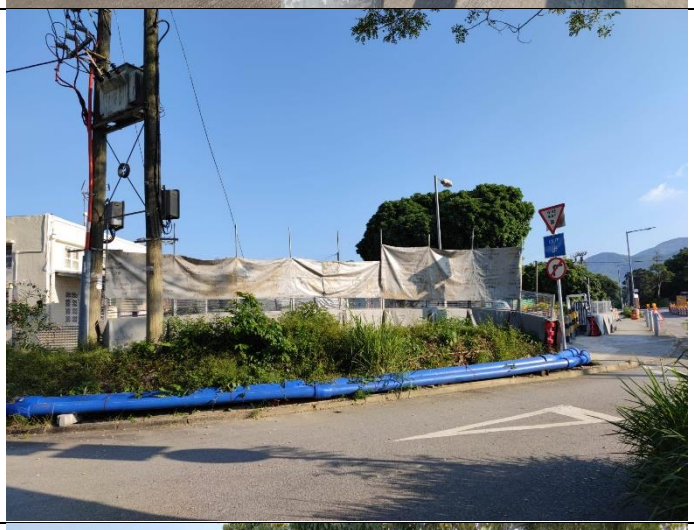
TNB ID	Photo
TNB14	
TNB15	

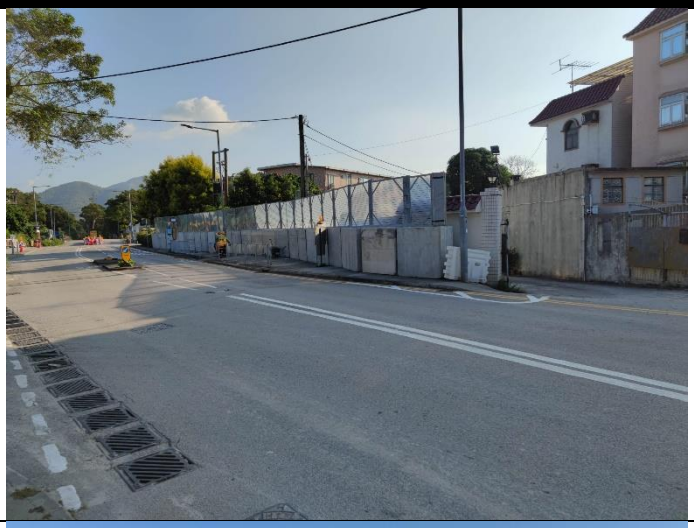
YL/2020/02 – Western Connection Road Phase 2, Connection Roads to Fanling/San Tin Highway and Direct Road Link Phase 1

Record Photographs for Temporary Noise Barriers at Lok Ma Chau Road in October 2022

TNB ID	Photo	Construction Status
2		Completed
3		Completed
4		Completed
5		Completed

TNB ID	Photo	Construction Status
6		Completed
7		Completed
8		Completed

TNB ID	Photo	Construction Status
9		Completed
10		Completed
11		Completed

TNB ID	Photo	Construction Status
12		Completed
13	 	Completed

TNB ID	Photo	Construction Status
14		Completed
17		Completed

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	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	0.022	0.000	0.000	0.000	0.022	0.000	0.001	0.000	0.010	13.630	0.000	0.021
Jun-22	0.004	0.000	0.000	0.000	0.004	0.000	0.008	0.000	0.019	0.000	0.000	0.023
Sub-total	1.930	0.000	1.472	0.000	0.458	0.000	9.159	0.000	0.030	113.940	0.000	2.411
Jul-22	0.000	0.000	0.000	0.000	0.000	3.016	0.000	0.201	0.018	0.000	0.000	0.140
Aug-22	0.004	0.000	0.000	0.000	0.004	6.415	0.003	0.352	0.054	0.000	0.000	0.160
Sep-22	0.000	0.000	0.000	0.000	0.000	14.335	0.000	0.130	0.000	0.000	0.000	0.109
Oct-22	0.000	0.000	0.000	0.000	0.000	20.067	0.006	0.107	0.003	0.000	0.000	0.075
Nov-22												
Dec-22												
Total	1.934	0.000	1.472	0.000	0.462	43.833	9.168	0.790	0.105	113.940	0.000	2.894

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	0.018	0.000	0.000	0.000	0.000	0.000	0.184
Jun	0.000	0.000	0.000	0.000	0.167	0.000	0.000	0.000	0.000	0.000	0.576
Sub-total	0.000	0.000	0.000	0.000	0.248	0.503	0.000	0.000	0.000	0.000	1.173
Jul	0.000	0.000	0.000	0.000	0.090	0.000	0.000	0.000	0.000	0.000	0.175
Aug	0.000	0.000	0.000	0.000	0.518	0.243	0.000	0.000	0.000	0.000	0.512
Sep	0.000	0.000	0.000	0.000	0.252	0.000	0.000	0.000	0.000	0.000	0.324
Oct	0.000	0.000	0.000	0.000	0.563	0.000	0.000	0.000	0.000	0.000	0.231
Nov	-	-	-	-	-	-	-	-	-	-	-
Dec	-	-	-	-	-	-	-	-	-	-	-
Total	0.000	0.000	0.000	0.000	1.670	0.746	0.000	0.000	0.000	0.000	2.415

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.

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

Monthly Summary Waste Flow Table for 2022 (year)

Name of Person completing the record:

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

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly					
	Total Quantity Generated (a)= (b)+(c)+(d)+(e)	Hard Rock and Large Broken Concrete (b)	*Reused in the Contract (c)	Reused in other Projects (d)	Disposed as Public Fill (e)	Imported Fill	Metals	Paper/ cardboard packaging/	Plastics (see Note 3)	Yard Waste	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan-22												
Feb-22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar-22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr-22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May-22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.002
Jun-22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.010	0.000	0.002
Jul-22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug-22	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
Sep-22	0.005	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct-22	0.960	0.000	0.000	0.000	0.960	0.000	0.007	0.000	0.000	0.000	0.000	0.003
Nov-22												
Dec-22												
Total	0.965	0.000	0.000	0.000	0.965	0.000	0.007	0.000	0.000	0.010	0.000	0.008

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

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

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

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
COM-2021-10-01	11 October 2021	EPD	EPD File Ref.: N07/RN/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 Finding	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 Finding	Status
					Further preventive measures, establishment of the automatic water spray system along the haul road and increasing the amount of the mist spray machine to enhance the efficiency of the dust suppression measures will also be provided.	
COM-2022-01-01	2 January 2022	EPD	EPD File Ref.: N06/RN/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 Finding	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 Finding	Status
COM-2022-08-01	1 August 2022	EPD	EPD File Ref.: N06/RN/00015561-22	The complainant concerned about the muddy water discharged by a piling contractor "德運建築鑽探有限公司" on 20th July 2022	Contract No.: YL/2020/01 德運建築鑽探有限公司 is not related to the Contract No. YL/2020/01. After checking on site, the complaint was referred to other party.	Interim report was submitted to EPD on 18 Aug 2022
COM-2022-08-02	4 August 2022	EPD	EPD File Ref.: N06/RN/00015953-22	The complainant concerned about the muddy water discharging to the public area from a construction site near Fu Tai Car Park.	Contract No.: YL/2020/02 Joint site investigation with RSS was carried out on 5 Aug 2022 near Fu Tai Carpark. There were no construction works carried out near Fu Tai Carpark and no muddy water was noted. Preventive measures (sand bag bund) had been provided.	Interim report was submitted to EPD on 18 Aug 2022
COM-2022-10-02	14 October 2022	EPD	EPD File Ref.: N06/RN/00022308-	The complainant concerned about the noise arising from piling works carried out at 6am in the morning and around 11pm at night at the construction site adjacent to the existing Lok Ma Chau MTR Station.	Under Investigation	
COM-2022-10-03	14 October 2022	EPD	EPD File Ref.: N06/RN/00022342-2222	The complainant concerned about the noise arising from piling works carried out before 7am and at around 11pm at the construction site adjacent to the existing Lok Ma Chau MTR Station.	Under Investigation	
COM-2022-10-04	28 October 2022	EPD	EPD File Ref.: N06/RN/00	The complainant concerned about the noise arising from percussive piling works	Under Investigation	

Log Ref.	Date of Complaint	Complaint Route	Reference No.	Details of Complaint	Investigation Finding	Status
			023772-22	carried out in Lok Ma Chau Loop (at a work site near "落馬州河套區創科園地盤")		

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	5th October 2022
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Black-collared Starling	*Gracupica nigricollis*	黑領椋鳥	R		3	2
Black Drongo	*Dicrurus macrocercus*	黑卷尾	Sv		1	
Chinese Bulbul	*Pycnonotus sinensis*	白頭鵐	R		2	2
Chinese Pond Heron	*Ardeola bacchus*	池鷺	R	PRC(RC)		2
Common Kingfisher	*Alcedo atthis*	普通翠鳥	R		1	
Crested Myna	*Acridotheres cristatellus*	八哥	R		1	5
Great Cormorant	*Phalacrocorax carbo*	普通鸕鷀	CWV	PRC	1	
Grey Heron	*Ardea cinerea*	蒼鷺	WV	PRC	1	1
Little Egret	*Egretta garzetta*	小白鷺	R	PRC(RC)	1	1
Oriental Magpie-Robin	*Copsychus saularis*	鵲鴝	R		1	1
Plain Prinia	*Prinia inornata*	純色鷦鶯	R			1
Red-whiskered Bulbul	*Pycnonotus jocosus*	紅耳鵐	R			2
Scaly-breasted Munia	*Lonchura punctulata*	斑文鳥	R			10
Spotted Dove	*Streptopelia chinensis*	珠頸斑鳩	R			2
White-throated Kingfisher	*Halcyon smyrnensis*	白胸翡翠	R		1	1

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	5th October 2022
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Total No. of Species					10	12
No. of Birds Recorded					13	30

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	12th October 2022
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Black Kite	*Milvus migrans*	黑鳶	R, WV			1
Black-collared Starling	*Gracupica nigricollis*	黑領椋鳥	R		1	2
Chinese Bulbul	*Pycnonotus sinensis*	白頭鵐	R		1	4
Chinese Pond Heron	*Ardeola bacchus*	池鷺	R	PRC(RC)	1	2
Crested Myna	*Acridotheres cristatellus*	八哥	R		2	3
Greater Coucal	*Centropus sinensis*	褐翅鴉鵑	R	(VU)	1	1
Great Cormorant	*Phalacrocorax carbo*	普通鸕鷀	CWV	PRC	2	3
Great Egret	*Ardea alba*	大白鷺	R, WV	PRC(RC)	1	1
Red-whiskered Bulbul	*Pycnonotus jocosus*	紅耳鵐	R		3	5
Scaly-breasted Munia	*Lonchura punctulata*	斑文鳥	R			5
Spotted Dove	*Streptopelia chinensis*	珠頸斑鳩	R		1	3
White-throated Kingfisher	*Halcyon smyrnensis*	白胸翡翠	R		1	1
Total No. of Species					**10**	**12**
No. of Birds Recorded					**14**	**31**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	19th October 2022
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Black-collared Starling	*Gracupica nigricollis*	黑領椋鳥	R		2	2
Black-crowned Night Heron	*Nycticorax nycticorax*	夜鷺	R, WV	LC		1
Chinese Bulbul	*Pycnonotus sinensis*	白頭鵐	R		2	1
Chinese Pond Heron	*Ardeola bacchus*	池鷺	R	PRC(RC)		1
Great Cormorant	*Phalacrocorax carbo*	普通鸕鷀	CWV	PRC	3	4
Grey Heron	*Ardea cinerea*	蒼鷺	WV	PRC		1
Grey Wagtail	*Motacilla cinerea*	灰鶺鴒	WV			1
Little Egret	*Egretta garzetta*	小白鷺	R	PRC(RC)		1
Red-whiskered Bulbul	*Pycnonotus jocosus*	紅耳鵐	R			3
Scaly-breasted Munia	*Lonchura punctulata*	斑文鳥	R			4
Spotted Dove	*Streptopelia chinensis*	珠頸斑鳩	R			2
White-throated Kingfisher	*Halcyon smyrnensis*	白胸翡翠	R		1	1
White Wagtail	*Motacilla alba*	白鶺鴒	PM, WV			2
Yellow-bellied Prinia	*Prinia flaviventris*	黃腹鷦鶯	R			1
Total No. of Species					**4**	**14**
No. of Birds Recorded					**8**	**25**

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	26th October 2022
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Black-collared Starling	*Gracupica nigricollis*	黑領椋鳥	R		1	
Black-winged Kite	*Elanus caeruleus*	黑翅鳶	OV	LC, (VU)		1
Chinese Bulbul	*Pycnonotus sinensis*	白頭鵐	R			2
Chinese Pond Heron	*Ardeola bacchus*	池鷺	R	PRC(RC)		2
Common Sandpiper	*Actitis hypoleucos*	磯鷸	WV, PM			2
Crested Myna	*Acridotheres cristatellus*	八哥	R		1	6
Greater Coucal	*Centropus sinensis*	褐翅鴉鵑	R	(VU)	1	2
Great Cormorant	*Phalacrocorax carbo*	普通鸕鷀	CWV	PRC	4	5
Grey Heron	*Ardea cinerea*	蒼鷺	WV	PRC	1	2
Grey Wagtail	*Motacilla cinerea*	灰鶺鴒	WV			2
Long-tailed Shrike	*Lanius schach*	棕背伯勞	R		1	
Oriental Magpie-Robin	*Copsychus saularis*	鵲鴝	R		1	1
Pied Kingfisher	*Ceryle rudis*	斑魚狗	UR	(LC)		1
Purple Heron	*Ardea purpurea*	草鷺	R	RC		1
Red-whiskered Bulbul	*Pycnonotus jocosus*	紅耳鵐	R		2	2

Common Name	Species Name	Chinese Name	Hong Kong Status	Conservation Status	Date	26th October 2022
					Weather Condition	Sunny
					Abundance	
					Maximum count of bird species recorded (Point Count – 15 mins interval)	
					Before Construction	During Construction
Scaly-breasted Munia	*Lonchura punctulata*	斑文鳥	R		40	30
Spotted Dove	*Streptopelia chinensis*	珠頸斑鳩	R		1	
White-breasted Waterhen	*Amaurornis phoenicurus*	白胸苦惡鳥	R			1
White-throated Kingfisher	*Halcyon smyrnensis*	白胸翡翠	R		1	1
White Wagtail	*Motacilla alba*	白鶺鴒	PM, WV			1
Yellow-bellied Prinia	*Prinia flaviventris*	黃腹鷦鶯	R			1
Total No. of Species					**11**	**18**
No. of Birds Recorded					**54**	**63**

Note:

R – Resident; WV – Winter visitor; PM – Passage migrant; CPM - Common Passage Migrant; UPM – Uncommon passage migrant; CaM - Common autumn migrant; USV - Uncommon Summer visitor; SpM – Spring migrant; Sv – Summer Visitor; UR – Uncommon resident; SWV – Scarce winter visitor; CWV - Common Winter Visitor; M - Spring and Autumn Migrant; OV - Occasional visitor

Status was decided according to AFCD biodiversity website (www.hkbiodiversity.net)

Cap. 170: All bird species are under protection of Wild Animals Protection Ordinance

Cap.586 : Endangered Species of Animals and Plants Ordinance (Cap.586)

CR: Rare in China Red Data Book Status

VU: Vulnerable in IUCN Red List Status

(VU): Vulnerable in China Red Data Book Status

EN: Endangered in IUCN Red List Status

(EN): Endangered in China Red Data Book Status

NT: Near Threatened in IUCN Red List Status

CR: Critically Endangered in IUCN Red List Status

RC=Regional Concern; LC=Local Concern; PRC=Potential Regional Concern; GC=Global Concern; PGC=Potential Global Concern. Letters in parentheses indicate that the assessment is on the basis of restrictedness in breeding and/or roosting sites rather than in general occurrence (Fellowes et al. (2002)

Appendix R2 – Herpetofauna (Chinese Bullfrog) Survey Results

Common Name	Species Name	Chinese Name	Date: 20th October 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	0	0	0

WAL – Wet Agricultural Land, AFP – Abandoned Fishpond

Appendix R3 – Aquatic Fauna (Rose Bitterling) Survey Results

Common Name	**Species Name**	**Chinese Name**	**Date: 26th October 2022**							
			Weather Condition: Rainy							
			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	1	0	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 07-Oct-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	10:01	29.5 29.5	29.5	7.1 7.1	7.1	0.1 0.1	0.1	26.9 26.3	26.6	2.1 2.0	2.1	3.8 3.8	3.8
A2	Sunny	09:51	29.7 29.7	29.7	7.1 7.1	7.1	0.1 0.1	0.1	32.3 32.0	32.2	2.5 2.4	2.5	4.7 4.7	4.7
B1	Sunny	09:46	29.6 29.6	29.6	7.4 7.5	7.5	0.1 0.1	0.1	109.9 110.3	110.1	8.4 8.4	8.4	10.2 9.9	10.1
B2	Sunny	09:44	29.5 29.5	29.5	7.3 7.3	7.3	0.1 0.1	0.1	97.5 97.5	97.5	7.4 7.4	7.4	13.7 13.8	13.8
S1	Sunny	10:05	28.9 28.9	28.9	6.9 6.9	6.9	0.1 0.1	0.1	17.3 17.1	17.2	1.3 1.3	1.3	13.5 13.6	13.6
S2	Sunny	09:57	29.6 29.6	29.6	7.2 7.2	7.2	0.1 0.1	0.1	61.6 61.4	61.5	4.7 4.7	4.7	0.6 0.6	0.6
S3	Sunny	09:34	29.7 29.7	29.7	7.3 7.3	7.3	0.1 0.1	0.1	52.1 51.7	51.9	4.0 3.9	4.0	1.8 1.7	1.8
S4	Sunny	09:39	29.3 29.3	29.3	7.4 7.3	7.4	0.1 0.1	0.1	56.0 55.7	55.9	4.3 4.3	4.3	1.7 1.6	1.7

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 11-Oct-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	13:12	27.0 27.0	27.0	7.3 7.3	7.3	0.1 0.1	0.1	55.4 55.0	55.2	4.4 4.4	4.4	3.5 3.4	3.5
A2	Sunny	12:59	26.9 26.9	26.9	7.4 7.4	7.4	0.1 0.1	0.1	49.0 48.9	49.0	3.9 3.9	3.9	3.0 3.1	3.1
B1	Sunny	12:53	26.2 26.2	26.2	9.4 9.4	9.4	0.1 0.1	0.1	149.3 149.7	149.5	12.1 12.1	12.1	11.1 11.2	11.2
B2	Sunny	12:47	26.7 26.7	26.7	9.2 9.2	9.2	0.1 0.1	0.1	144.1 144.4	144.3	11.6 11.6	11.6	14.4 14.4	14.4
S1	Sunny	13:17	26.7 26.7	26.7	6.9 6.9	6.9	0.1 0.1	0.1	26.3 26.2	26.3	2.1 2.1	2.1	19.3 19.6	19.5
S2	Sunny	13:07	28.2 28.2	28.2	7.4 7.3	7.4	0.1 0.1	0.1	70.9 70.6	70.8	5.5 5.5	5.5	0.2 0.2	0.2
S3	Sunny	12:37	27.6 27.7	27.7	7.3 7.3	7.3	0.1 0.1	0.1	67.6 67.4	67.5	5.3 5.3	5.3	1.0 1.0	1.0
S4	Sunny	12:42	27.7 27.7	27.7	7.4 7.4	7.4	0.1 0.1	0.1	65.9 65.5	65.7	5.2 5.2	5.2	2.6 2.7	2.7

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 20-Oct-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	10:19	22.5 22.5	22.5	7.3 7.3	7.3	0.1 0.1	0.1	39.2 38.4	38.8	3.4 3.3	3.4	4.2 4.1	4.2
A2	Sunny	10:02	22.3 22.3	22.3	7.3 7.3	7.3	0.1 0.1	0.1	44.2 43.8	44.0	3.8 3.8	3.8	4.5 4.5	4.5
B1	Sunny	09:55	21.8 21.8	21.8	7.6 7.5	7.6	0.1 0.1	0.1	83.6 81.9	82.8	7.3 7.2	7.3	13.3 13.2	13.3
B2	Sunny	09:49	22.0 22.0	22.0	7.5 7.5	7.5	0.1 0.1	0.1	84.1 83.7	83.9	7.4 7.3	7.4	14.8 14.7	14.8
S1	Sunny	10:26	23.3 23.3	23.3	7.2 7.2	7.2	0.1 0.1	0.1	42.4 41.5	42.0	3.6 3.5	3.6	5.3 5.2	5.3
S2	Sunny	10:13	26.1 26.1	26.1	7.3 7.3	7.3	0.1 0.1	0.1	55.8 55.2	55.5	4.5 4.5	4.5	2.3 2.1	2.2
S3	Sunny	09:36	25.3 25.3	25.3	7.2 7.2	7.2	0.1 0.1	0.1	49.9 49.3	49.6	4.1 4.1	4.1	2.1 2.1	2.1
S4	Sunny	09:43	25.0 25.0	25.0	7.3 7.3	7.3	0.1 0.1	0.1	53.3 48.6	51.0	4.4 4.0	4.2	3.9 3.9	3.9

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 26-Oct-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	16:31	27.0 27.0	27.0	7.4 7.4	7.4	0.1 0.1	0.1	59.1 58.3	58.7	4.7 4.6	4.7	3.8 3.7	3.8
A2	Sunny	16:15	27.3 27.3	27.3	7.8 7.8	7.8	0.1 0.1	0.1	61.6 60.8	61.2	4.9 4.8	4.9	4.3 3.8	4.1
B1	Sunny	16:09	28.1 28.1	28.1	9.4 9.4	9.4	0.1 0.1	0.1	152.6 154.1	153.4	11.9 12.1	12.0	11.1 10.9	11.0
B2	Sunny	16:07	28.2 28.1	28.2	9.1 9.1	9.1	0.1 0.1	0.1	139.7 140.3	140.0	10.9 11.0	11.0	9.9 10.0	10.0
S1	Sunny	16:38	26.5 26.5	26.5	7.2 7.2	7.2	0.1 0.1	0.1	34.1 33.1	33.6	2.7 2.7	2.7	11.7 11.8	11.8
S2	Sunny	16:25	27.5 27.5	27.5	7.6 7.6	7.6	0.1 0.1	0.1	72.4 72.0	72.2	5.7 5.7	5.7	1.5 1.5	1.5
S3	Sunny	15:54	27.2 27.2	27.2	7.4 7.4	7.4	0.1 0.1	0.1	68.6 68.0	68.3	5.4 5.4	5.4	1.3 1.4	1.4
S4	Sunny	16:01	26.5 26.5	26.5	7.4 7.4	7.4	0.1 0.1	0.1	52.7 51.5	52.1	4.2 4.1	4.2	5.5 5.8	5.7

Service Contract No. WD/04/2020
Development of Lok Ma Chau Loop: Main Works Package 1 – Environmental Team
Water Quality Monitoring Results on 31-Oct-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	12:06	24.5 24.5	24.5	7.3 7.3	7.3	0.1 0.1	0.1	37.3 36.9	37.1	3.1 3.1	3.1	4.5 4.3	4.4
A2	Sunny	11:49	24.0 24.0	24.0	7.4 7.4	7.4	0.1 0.1	0.1	54.8 54.0	54.4	4.6 4.6	4.6	3.8 3.8	3.8
B1	Sunny	11:41	24.0 24.0	24.0	7.6 7.6	7.6	0.1 0.1	0.1	86.8 86.3	86.6	7.3 7.3	7.3	17.5 16.8	17.2
B2	Sunny	11:35	23.9 23.9	23.9	7.7 7.7	7.7	0.1 0.1	0.1	93.9 94.0	94.0	7.9 7.9	7.9	15.9 16.1	16.0
S1	Sunny	12:15	24.4 24.4	24.4	7.0 7.0	7.0	0.1 0.1	0.1	52.1 52.1	52.1	4.4 4.4	4.4	23.7 23.2	23.5
S2	Sunny	11:59	26.3 26.3	26.3	7.3 7.3	7.3	0.1 0.1	0.1	63.9 63.3	3.0	5.2 5.1	5.2	7.2 7.1	7.2
S3	Sunny	11:20	25.9 25.9	25.9	7.3 7.3	7.3	0.1 0.1	0.1	50.0 49.9	50.0	4.1 4.1	4.1	1.2 1.1	1.2
S4	Sunny	11:27	25.0 25.0	25.0	7.4 7.4	7.4	0.1 0.1	0.1	53.5 52.9	53.2	4.4 4.4	4.4	3.8 4.2	4.0