



JOB No.: TCS01321/23

**CEDD SERVICE CONTRACT No. EDO 12/2023
ENVIRONMENTAL TEAM FOR DEVELOPMENT OF
ANDERSON ROAD QUARRY SITE – SITE FORMATION
AND ASSOCIATED INFRASTRUCTURE WORKS**

**MONTHLY ENVIRONMENTAL MONITORING AND AUDIT
REPORT (APRIL 2024)**

**PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
(CEDD)**

Date	Reference No.	Prepared By	Certified By
24 May 2024	TCS01321/23/600/R0700v2		
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Version	Date	Remarks
1	14 May 2024	First submission
2	24 May 2024	Amended As Per IEC's comments



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East Development Office
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11 Hoi Ting Road
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Your reference:

Our reference: HKCEDD10/50/109792

Date: 27 May 2024

Attention: Mr Lee Ming Keung

BY POST

Dear Sirs

Agreement No.: NTE 08/2016
Independent Environmental Checker for Development of Anderson Road Quarry Site
– Site Formation and Associated Infrastructure Works
Monthly Environmental Monitoring and Audit Report (April 2024)

We refer to the email of 24 May 2024 from Action-United Environmental Services and Consulting attaching a Monthly Environmental Monitoring and Audit Report (April 2024) for the captioned project.

We have no further comment and hereby verify the captioned report.

Should you have any queries, please do not hesitate to contact the undersigned or our Mr Chris Ip on 2618 2831.

Yours faithfully
ANewR CONSULTING LIMITED

James Choi
Independent Environmental Checker

CPSJ/LCCR/ICHC/csym

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EXECUTIVE SUMMARY

- ES01 Action-United Environmental Services & Consulting (AUES) has been awarded the Civil Engineering and Development Department (CEDD) Service Contract No. EDO 8/2022 - Environmental Team for Development of Anderson Road Quarry Site – Site Formation and Associated Infrastructure Works (hereinafter called “the Service Contract”) on 15 September 2023. As notified by AECOM Asia Company Limited (Engineer’s Representative) subsequently, the commencement date of the Service Contract is on 22 September 2023 for the Contract Period of 22 months.
- ES02 The previous service contract nos. NTE/07/2016 and EDO 8/2022, covering the environmental monitoring and audit (EM&A) service for the Development of Anderson Road Quarry Site (ARQ) for Contracts 1, 2, 3, 4 and 5 was completed in September 2022 and September 2023 respectively.
- ES03 The Services under the Service Contract is to provide EM&A services for the Works Contracts pursuant to the requirement of Environmental Team (ET) under the EM&A manual to ensure that the environmental performance of the Works Contracts comply with the requirement specified in the EM&A Manual and EIA Report of Development of ARQ and other relevant statutory requirements.
- ES04 To facilitate the project management and implementation, the ARQ project involved five major infrastructure works CEDD contracts, the commencement date and anticipated completion date of the five works contracts are summarized in below table.

Contract	Commencement date	Anticipated completion date
NE/2016/01 (Contract 1)	December 2016	September 2023
NE/2016/05 (Contract 2)	March 2017	September 2023
NE/2017/03 (Contract 3)	May 2018	December 2024
ED/2020/02 (Contract 4)	July 2021	March 2025
ED/2019/02 (Contract 5)	March 2021	September 2024

- ES05 As notified by AECOM, the certificate of completion of the last section of the works have been issued for Contract 1 and Contract 2 on 30 June 2023 and 15 May 2023 respectively. In view of the completion of major construction works, the EM&A service for Contract 1 and Contract 2 under service contract no. EDO 8/2022 was ceased in late September 2023 and the relevant monitoring stations have been handover to current contract no. EDO 8/2022.
- ES06 This is the monthly EM&A report presenting the monitoring results and inspection findings for Contracts 3, 4 and 5 for the period from **1 to 30 April 2024** (hereinafter ‘the Reporting Period’).

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

- ES07 Environmental monitoring activities under the EM&A programme in the Reporting Period are summarized in the following table.

Environmental Aspect	Environmental Monitoring Parameters / Inspection	Reporting Period	
		Number of Active Monitoring Locations	Total Occasions
Air Quality	1-hour TSP	7	126
	24-hour TSP	4	20
Construction Noise	$L_{eq(30min)}$ Daytime for Contract NE/2016/01	8	40
	$L_{eq(30min)}$ Daytime for Contract NE/2017/03	1	5

BREACH OF ACTION AND LIMIT (A/L) LEVELS

- ES08 No exceedance of air quality was recorded in the Reporting Period. For construction noise monitoring, no Limit Level exceedance was recorded and no noise complaint (which triggered Action Level) was received in the reporting period. The environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation	Corrective Actions
Air Quality	1-hour TSP	0	0	0	NA	NA
	24-hour TSP	0	0	0	NA	NA
Construction Noise	$L_{eq(30min)}$ Daytime	0	0	0	NA	NA

ENVIRONMENTAL COMPLAINT

- ES09 In the reporting period, one (1) environmental complaint was recorded in the Reporting Period.

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

- ES10 No environmental summons or successful prosecutions for the Project were recorded in the Reporting Period.

REPORTING CHANGE

- ES11 There is no reporting change in the Reporting Period.

SITE INSPECTION

- ES12 In this Reporting Period, joint site inspections to evaluate the site environmental performance for **Contract 3** were carried out by the RE, ET and Contractor on **5, 12, 19 and 26 April 2024** in which IEC joined the site inspection with SSEMC on **12 April 2024**. No non-compliance was noted during the site inspection.
- ES13 In this Reporting Period, joint site inspections to evaluate the site environmental performance for **Contract 4** were carried out by the RE, ET and Contractor on **3, 10, 18 and 26 April 2024** in which IEC joined the site inspection with SSEMC on **18 April 2024**. No non-compliance was noted during the site inspection.
- ES14 In this Reporting Period, joint site inspections to evaluate the site environmental performance for **Contract 5** were carried out by the RE, ET and Contractor on **3, 11, 18 and 23 April 2024** in which IEC joined the site inspection on **23 April 2024**. No non-compliance was noted during the site inspection.

FUTURE KEY ISSUES

- ES15 The Contractor are reminded to pay special attention on water quality mitigation measures and should fully implement the measures as recommended in the EM&A Manual, in particular to prevent muddy water or other water pollutants from site surface overflow to public area should be properly maintained.
- ES16 Since construction site is highly visible to the resident at nearby estates, the Contractors should pay special attention on potential environmental impact generated by the site activities and adhere implement adequate air quality and noise mitigation measures as far as practicable to reduce the impact to the public.
- ES17 Construction noise is one of the key environmental issues during construction work of the Project. Noise mitigation measures such as using quiet plants and noise barriers shall be implemented where practicable according to the EM&A manual.

- ES18 In addition, the Contractors should ensure all effluent discharge shall be fulfilled the Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or relevant discharge license requirement.

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1. INTRODUCTION

PROJECT BACKGROUND

- 1.1.1 Development of Anderson Road Quarry (ARQ) is to provide land and the associated infrastructures for the proposed land used at the existing ARQ Site at the North-eastern of East Kowloon according to the final Recommended Outline Development Plan (hereinafter named as the Project Works).
- 1.1.2 To facilitate the project management and implementation, the ARQ project involved five major infrastructure works CEDD contracts, the commencement date and anticipated completion date of the five works contracts are summarized in below table.

Contract	Commencement date	Anticipated completion date
NE/2016/01 (Contract 1)	December 2016	September 2023
NE/2016/05 (Contract 2)	March 2017	September 2023
NE/2017/03 (Contract 3)	May 2018	December 2024
ED/2020/02 (Contract 4)	July 2021	March 2025
ED/2019/02 (Contract 5)	March 2021	September 2024

- 1.1.3 Action-United Environmental Services & Consulting (AUES) has been awarded the Civil Engineering and Development Department (CEDD) Service Contract No. EDO 8/2022 - Environmental Team for Development of Anderson Road Quarry Site – Site Formation and Associated Infrastructure Works (hereinafter called “the Service Contract”) on 15 September 2023. As notifying by AECOM Asia Company Limited (Engineer’s Representative) subsequently, the commencement date of the Service Contract is on 22 September 2023 for the Contract Period of 22 months.
- 1.1.4 The Services under the Service Contract is to provide EM&A services for the Works Contracts pursuant to the requirement of Environmental Team (ET) under the EM&A manual to ensure that the environmental performance of the Works Contracts comply with the requirement specified in the EM&A Manual and Environmental Impact Assessment (EIA) Report of Development of Anderson Road Quarry and other relevant statutory requirements.
- 1.1.5 The previous service contract nos. NTE/07/2016 and EDO 8/2022, covering the EM&A services for the Development of ARQ site for Contracts 1, 2, 3, 4 and 5 was completed in September 2022 and September 2023 respectively.
- 1.1.6 As notified by AECOM, the certificate of completion of the last section of the works have been issued for Contract 1 and Contract 2 on 30 June 2023 and 15 May 2023 respectively. In view of the completion of major construction works, the EM&A service for Contract 1 and Contract 2 under service contract no. EDO 8/2022 was ceased in late September 2023 and the relevant monitoring stations have been handover to current contract no. EDO 8/2022.
- 1.1.7 According to the Approved EM&A Manual, air quality and noise monitoring are required to be monitored during the construction phase of the Project. As part of the EM&A program, baseline monitoring is required to determine the ambient environmental conditions. Baseline monitoring including air quality and noise conducted between *January* and *April 2019* at all designated monitoring locations were before construction work commencement. Furthermore, the Baseline Monitoring Report which verified by the Independent Environmental Checker (hereinafter referred as “the IEC”) has been submitted to Environmental Protection Department (EPD) on *9 May 2017* for endorsement.
- 1.1.8 This is the monthly EM&A report presenting the monitoring results and inspection findings for Contracts 3, 4 and 5 for the period from **1 to 30 April 2024** (hereinafter ‘the Reporting Period’).

REPORT STRUCTURE

1.2.1 The monthly EM&A Report is structured into the following sections:-

Section 1	<i>Introduction</i>
Section 2	<i>Project Organization and Construction Progress</i>
Section 3	<i>Summary of Impact Monitoring Requirements</i>
Section 4	<i>Air Quality Monitoring</i>
Section 5	<i>Construction Noise Monitoring</i>
Section 6	<i>Waste Management</i>
Section 7	<i>Site Inspections</i>
Section 8	<i>Environmental Complaints and Non-Compliance</i>
Section 9	<i>Implementation Status of Mitigation Measures</i>
Section 10	<i>Conclusions and Recommendations</i>

2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

2.1 CONSTRUCTION CONTRACT PACKAGING

- 2.1.1 To facilitate the project management and implementation, the Project was divided by 5 works contracts as described in following. The details of each contract are summarized below and the delineation of each contract is shown in [Appendix A](#).

Contract 1 (Contract No. NE/2016/01)

- 2.1.2 Commencement date of Contract 1 was in late December 2016 and the major construction work was completed in June 2023. The major scope of work of Contract 1 is listed below:

- Formation of about 40 hectares (ha) of land platforms at the ARQ site and the associated geotechnical works;
- Road works including construction of approximately 3-kilometer long vehicular roads, footpaths, cycle tracks, an approximately 130-meter long underpass at the southern end and a public transport terminus at the northern end at the ARQ site;
- Provision of and improvement to water supply, drainage and sewerage systems as well as landscaping works; and
- Construction of proposed subway structures and lift tower structures of pedestrian connectivity facilities.

Contract 2 (Contract No. NE/2016/05)

- 2.1.3 Commencement date of Contract 2 was in March 2017 and the major construction work was completed in May 2023. The major Scope of Work of the Contract 2 is listed below:

- (i) Construction of the following pedestrian connectivity facilities with covered elevated walkways, covered at grad walkways, escalators, lift towers with associated staircase and lifts:-
 - (a) Linking Hiu Kwong street with Hiu Ming Street (E1)
 - (b) Linking the proposed “Footbridge Link at Sau Ming Road” with Hiu Ming Street (E2, C1 and E3)
 - (c) Linking the proposed bus-to-bus interchange at Tseung Kwan O Tunnel Toll Plaza with Lin Tak Road (E12)
- (ii) Construction of bus-to-bus interchange (BBI) at Tseung Kwan O Tunnel Toll Plaza;
- (iii) Associated landscape works

Contract 3 (Contract No. NE/2017/03)

- 2.1.4 The commencement date of Contract 3 was in May 2018 and the tentative completion date in September 2023. The major Scope of Work of the Contract 3 is listed below:

- (i) Site formation and road works in the following sections:-
 - (a) at junction of Clear Water Bay Road (CWBR) and On Sau Road constructed under the Development at Anderson Road (DAR) project including the provision of U-turn facility and noise mitigation measures (RIW1);
 - (b) at New Clear Water Bay Road (NCWBR) near Shun Lee Tsuen Road including the road widening works at NCWBR, modification of existing subway structure and provision of noise mitigation measures (RIW2); and
 - (c) at the junction of Lin Tak Road and Sau Mau Ping Road, construction of flyover above Tseung Kwan O Road, provision of loading and unloading bays along Lin Tak Road and noise mitigation measures (RIW3).
- (ii) construction of the following pedestrian connectivity facilities with covered elevated walkways, escalators and lift towers with associated staircases and lifts:-
 - (a) linking Anderson Road Quarry site with the DAR Site (except the works covered under Contract 1) (System A and System B);
 - (b) linking Hiu Ming Street with Hiu Yuk Path (E8); and

- (c) linking the proposed bus-bus interchange at Tseung Kwan O Tunnel Toll Plaza with Sau Mau Ping Road (E11).
- (iii) Associated landscape works.

Contract 4 (Contract No. ED/2020/02)

- 2.1.5 The commencement date of Contract 4 is in July 2021 and tentative completion date in December 2023. The major Scope of Work of the Contract 4 is listed below:
- Hard landscaping and other ancillary works (e.g. paver footpath, planter walls, benches, lighting etc.)
 - Soft landscaping works; landscape deck, emergency vehicular access, access road:
 - Park lighting system;
 - Electrical and mechanical engineering works for underground water treatment facilities and pumping system for Artificial Flood Attenuation Lake; and
 - Potential slope enhancement requested by GEO.

Contract 5 (Contract No. ED/2019/02)

- 2.1.6 The commencement date of Contract 5 in March 2021 and tentative completion data in April 2024. The major Scope of Work of the Contract 5 is listed below:
- Construction pedestrian connectivity facility with covered elevated walkway, covered at grade walkway and escalators linking Sau Mau Ping Road with the existing covered elevated walkway to Po Tat Estate (E5);
 - Construction a pedestrian connectivity facility with covered elevated walkway, covered at grade walkway and escalators linking Sau Mau Ping South Estate with the existing covered walkway to Sau Mau Ping Road (E6);
 - Construction a pedestrian connectivity facility with covered elevated walkway, elevated walkway, lift tower with associated staircase and lifts linking Hiu Kwong Street with podium of Sau Ming House, Sau Mau Ping Estate, provision of at grade staircase (E7)'
 - Construction a pedestrian connectivity facility with covered elevated walkway, lift tower with associated staircase and lifts linking podium of Po Tat Estate to Sau Mau Ping Road (E10); and
 - Ancillary works including electrical and mechanical, slope stabilization, drainage, utilities and landscaping works.

2.2 PROJECT ORGANIZATION

- 2.2.1 The project organization and contact details for Contracts 3, 4 and 5 are shown in [Appendix B](#).

2.3 CONSTRUCTION PROGRESS

- 2.3.1 The 3-month rolling construction programme for Contracts 3, 4 and 5 are shown in [Appendix C](#). The major construction activities conducted in the Reporting Period are summarized in below.

Contract 3 (NE/2017/03)

Pedestrian Connectivity Facilities Systems B (PC-SYB)

- RC works at SyB-LT1 & ST1 is in-progress.
- Welding works for footbridge steel frame erection
- E&M works at SyB-LT1
- ABWF works at SyB-FB2
- E&M works at SyB-FB2
- Install lifts at SyB-LT1
- Install escalators & steel roof erection at System B Escalator pit E4 to E6
- Works for watermain diversion near PC1 is in-progress.

Contract 4 (ED/2020/02)

- Excavation work for Drainage Works at Portion 2a, 6, 8, 9 & 12
- Drainage works at Portion 2a, 6, 8, 9 & 12
- Construction of building structure at portion 1a, 1b
- Construction of Retaining Wall and staircase at Portion 6, 12
- Construction of Planter at Portion 8, 12
- Preparation works for Construction of bridge at Portion 13b
- Modification works at RWA10 and RWA9 at Portion 13b
- Construction of precast beam for elevated walkway
- Road works at G2-Site at Portion 13b
- Slope works at G2-Site B4 Slope at Portion 13b
- Construction of concrete berm at Portion 10 and Portion 17
- Installation of rock mesh at Portion 10 and Portion 17
- Repair works at Portion 10 and Portion 17

Contract 5 (ED/2019/02)

Portion 1

- ABWF Work
- Escalator T&C
- PMMA Railing Installation

Portion 2

- PMMA Railing Installation
- ABWF Works

Portion 3

- Assembly of footbridge
- Construction of E7 Lift Tower (6th Pour)
- Construction of E7 Lift Tower (7th Pour)

Portion 4

- Pillar box construction
- Erect footbridge
- E10-P1 construction

2.3.2 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project of contracts 3, 4 and 5 are presented in **Tables 2-1, 2-2 and 2-3**.

Table 2-1 Status of Environmental Licenses and Permits of the Contract 3

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air Pollution Control (Construction Dust) Regulation	EPD ref. no. 434186	31-May-18	NA	Valid
2	Chemical Waste Producer Registration	<u>For Area R1W3 (E11)</u> Registration no. WPN : 5213-294-C4239-04	6-Aug-18	End of Project	Valid
		<u>For Area System A</u> Registration no. WPN: 5213-293-C4239-05	6-Aug-18	End of Project	Valid

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
		For Area System B Registration no. WPN 5213-294-C4239-03	6-Aug-18	End of Project	Valid
		For Area E8 Registration no. WPN 5213-292-C4239-06	6-Aug-18	End of Project	Valid
3	Water Pollution Control Ordinance – Discharge License	For Area R1W3 (E11) WT10002261-2023	31-Jan-24	31-Jan-29	Valid
		For Area System B WT00033229-2019	24-Jun-19	30-Jun-24	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no.7031075	20-Jun-18	End of project	Valid

Table 2-2 Status of Environmental Licenses and Permits of the Contract 4

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air Pollution Control (Construction Dust) Regulation	EPD ref. no. 470496	19-Aug-21	NA	Valid
2	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no. 7041336	6-Sep-21	NA	Valid
3	Chemical Waste Producer Registration	Registration no. WPN 5213-296-C1206-12	14-Sep-21	End of project	Valid
4	Water Pollution Control Ordinance – Discharge License	WT00043000-2003	30-Jan-23	31-Jan-28	Valid

Table 2-3 Status of Environmental Licenses and Permits of the Contract 5

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air Pollution Control (Construction Dust) Regulation	EPD ref. no. 466255	NA	NA	Valid
2	Chemical Waste Producer	Registration no. WPN 5298-293-W3611-0	12-May-21	End of project	Valid

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
	Registration	1			
3	Water Pollution Control Ordinance – Discharge License	WT00039694-2021	16-Nov-21	30-Nov-26	Valid
		WT00040919-2022	5-May-22	31-May-27	Valid
		WT00041457-2022	30-June-22	30-June-27	Valid
		WT00040670-2022	28-Mar-22	31-Mar-27	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no. 7040359	3-May-21	NA	Valid
5	Construction Noise Permit	GW-RE0313-24	22-Mar-24	20-Apr-24	Valid
		GW-RE0484-24	20-Apr-24	19-May-24	Valid
		GW-RE0485-24	28-Apr-24	26-May-24	Valid

3. SUMMARY OF IMPACT MONITORING REQUIREMENTS

3.1 GENERAL

3.1.1 The Environmental Monitoring and Audit requirements are set out in the Approved EM&A manual. Environmental issues such as air quality, construction noise and water quality were identified as the key issues during the construction phase of the Project.

3.1.2 A summary of construction phase EM&A requirements are presented in the sub-sections below.

3.2 MONITORING PARAMETERS

3.2.1 The EM&A program of construction phase monitoring shall cover the following environmental issues:

- Air quality; and
- Construction noise

3.2.2 A summary of the monitoring parameters is presented in *Table 3-1*.

Table 3-1 Summary of EM&A Requirements

Environmental Issue	Parameters
Air Quality	<ul style="list-style-type: none"> • 1-hour TSP by Real-Time Portable Dust Meter; and • 24-hour TSP by High Volume Air Sampler
Noise	<ul style="list-style-type: none"> • Leq(30min) in normal working days (Monday to Saturday) 07:00-19:00 except public holiday • Supplementary information for data auditing, statistical results such as L₁₀ and L₉₀ shall also be obtained for reference.

3.3 MONITORING LOCATIONS

3.3.1 According to the EM&A Manual Section 4.6, seven (7) most representative and affected air sensitive receivers (ASR) were selected as air monitoring stations (AQM). During site visit at the subject site before the baseline monitoring, it was noted that some planned ASRs identified in the EM&A Manual are still under construction/ has not yet constructed and there were no suitable location to set up the high volume sampler to carry out the baseline 24-hour TSP monitoring. Therefore, a proposed change for the baseline monitoring programme was submitted and agreed by EPD before the baseline monitoring. The impact air quality monitoring locations are listed in *Table 3-2* and illustrated in *Appendix D*.

Table 3-2 Impact Monitoring Stations – Air Quality

ID	ASR ID in EIA	Location in the EM&A Manual	Identified Location during Site Visit	Status
AMS-1	ACYC-01	Chi Yum Ching She	Ground of Chi Yum Ching facing the project site	Replaced by AMS-1a
AMS-1a (*)	ACYC-01	Tan Shan Village No. 5 - 6	Ground of Tan Shan Village No. 5 - 6 facing the project site	Active
AMS-2 (#)	DARB-13	Block 8, Site B	Ground of Fung Tai House of On Tai Estate	Active
AMS-3 (:)	DARC-16	Planned Clinic and Community Centre, Site C2	Ground of Planned Clinic and Community Centre facing Anderson Road (Ancillary Facilities Building)	Active
AMS-4 (:)	DARC-26	Planned School, Site C2 ^{Note 1}	Ground of Active	Active
AMS-5	DARE-06	Block 5, DAR Site E	Main roof of Oi Tat House of On Tat Estate facing the project site	Active
AMS-6	DARE-17	Block 9, Site E	Main roof of Hau Tat House of	Active

ID	ASR ID in EIA	Location in the EM&A Manual	Identified Location during Site Visit	Status
			On Tat Estate facing the project site	
AMS-7	AMYT-04	Ma Yau Tong Village	Balcony at 2 nd floor of Village House Anderson Road No. 1 facing the project site	Active

Note 1: The ASR is under construction.

(#) AMS-2 was activated on 26 November 2018 since Fung Tai House became an air sensitive receiver. 1-hour TSP monitoring was commenced on 26 November 2018 while installation of HVS for 24-hour TSP was pending approval from Housing Authority.

() 24-hour TSP monitoring at AMS1 was abandoned since May 2019 due to lack of power supply and the landlord was unreachable. The alternation location of AMS1a was activated on 15 June 2019 for 1-hour and 24-hour TSP monitoring. The proposal was agreed by EPD on 9 Aug 2019.*

(-) AMS-3 was effective on 3 December 2019 and AMS-4 was effective on 4 January 2023

Construction Noise

- 3.3.2 According to the EM&A Manual Section 5.5, three (3) most representative and affected noise sensitive receivers (NSR) were selected as monitoring stations. As recommended by the RE and agreed by IEC, one (1) additional noise monitoring location is proposed to add in Oi Tat House of On Tat Estate (hereafter “NMS-4”) to oversee the possible noise impact pose to the resident in On Tat Estate, which is an existing NSR close to the major works activities. Moreover, review of impact monitoring location was proposed to IEC in view of the current site condition and it was agreed by all parties. The details of noise monitoring location are listed in **Table 3-3** and illustrated in **Appendix D**.

Table 3-3 Impact Monitoring Stations – Construction Noise

ID	NSR ID in EIA	Location	Status
NMS-1(:)	Site C2 – School 05 ^{Note 1}	Ground of Maryknoll Secondary School	Active
NMS-2(:)	Site E – School	Rooftop of S.K.H. St. John’s Tsang Shiu Tim Primary School, where 1m from the exterior of the building facing the project site	Active
NMS-3(:)	Site C2 – R102–	Ground of Ancillary Facilities Building facing the project site	Active
NMS-4*	Oi Tat House	1m from the exterior of ground floor façade of Oi Tat House of On Tat Estate facing the project site	Suspended
NMS-4a#	Oi Tat House	Rooftop of Oi Tat House where 1m from the exterior of Oi Tat House facing the project site	Active
NMS-5#	Hau Tat House	22/F, refuge floor of Hau Tat House where 1m from the exterior of Hau Tat House facing the project site.	Active
NMS-6~	Yung Tai House of On Tai Estate	Rooftop of Yung Tai House where 1m from the exterior of the building facing the project site)	Active
NMS-7~	Chi Tai House of On Tai Estate	Rooftop of Chi Tai House where 1m from the exterior of the building facing the project site	Active
NMS-8^	No. 3-4 Ma Yau Tong Village	1m from the exterior of the building façade and facing the construction site	Active

ID	NSR ID in EIA	Location	Status
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Note 1: Construction of the NSR is not yet commenced.

- (*) Additional noise monitoring location was recommended by RE and agreed by IEC. It was temporary suspended and the monitoring location is relocated to NMS4a with effective on 15 Nov 2017.
- (:) NMS-2 was effective on 15 November 2019, NMS-3 was effective on 3 December 2019 and NMS-1 was effective on 4 January 2023.
- (#) Review of noise monitoring locations was proposed by ET and NMS-5 was effective on 15 November 2017.
- (^) Review of noise monitoring locations was proposed by ET and NMS-6 and NMS-7 were effective on 28 Feb 2018.
- (^) Review of noise monitoring locations was proposed by ET and NMS-8 was effective on 18 April 2018. Noise monitoring at NMS-8 was started on 3 May 2018 upon commencement of construction at relevant section.

Addition Construction Noise Monitoring Location

- 3.3.3 A Work Instruction was issued from AECOM to AUES in November 2018 for installing three additional noise monitoring stations under Contract 3. According to the Work Instruction, one noise monitoring station was proposed to install at System A Area and two station monitoring points were proposed to install at E8 Area. The noise monitoring locations are shown in **Table 3-4** below and illustrated in **Appendix D**.

Table 3-4 Additional Impact Monitoring Stations – Construction Noise

ID	Location	Description
CN1*	Holm Glad College	Ground floor of Holm Glad College, where 1m from the exterior of the building facing E8
CN2*	Leung Shek Chee College	Ground floor of Leung Shek Chee College, where 1m from the exterior of the building facing E8
CN3	Oi Tat House of On Tat Estate	Ground floor of Oi Tat House of On Tat Estate, where 1m from the exterior of the building facing System A

Note 1: Construction of the NSR is not yet commenced.

- (*) Additional noise monitoring location was terminated by RE as the construction work at E8 was completed in September 2022. The last monitoring for CN1&CN2 was on 15 September 2022.

3.4 MONITORING FREQUENCY AND PERIOD

- 3.4.1 The requirements of impact monitoring in the approved *EM&A Manual* and presented as follows.

Air Quality Monitoring

- 3.4.2 Frequency of impact air quality monitoring is as follows:

- 1-hour TSP 3 times every six days during course of works throughout the construction period
- 24-hour TSP Once every 6 days during course of works throughout the construction period

Noise Monitoring

- 3.4.3 Noise monitoring will be to conduct at the all available designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities are underway:

- one set of $Leq_{(30min)}$ measurements between 07:00 and 19:00 hours on normal weekdays

3.5 MONITORING EQUIPMENT

Air Quality Monitoring

- 3.5.1 The 24-hour and 1-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the *Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B*. If the ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, it shall submit sufficient information to the IEC to prove that the instrument is capable of achieving a comparable results to the HVS. The instrument should be calibrated regularly, and the 1-hour sampling shall be determined on yearly basis by the HVS to check the validity and accuracy of the results measured by direct reading method. The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.

- 3.5.2 All equipment to be used for air quality monitoring is listed in **Table 3-5**.

Table 3-5 Air Quality Monitoring Equipment

Equipment		Model
24-hour TSP	High Volume Air Sampler	TISCH High Volume Air Sampler, HVS Model TE-5170
	Calibration Kit	TISCH Model TE-5025A
1- hour TSP	Portable Dust Meter	Sibata LD-3B Laser Dust Monitor

Noise Monitoring

- 3.5.3 Sound level meter in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. The sound level meter shall be checked using an acoustic calibrator. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in ms-1.

- 3.5.4 Noise equipment as perform for construction phase monitoring is listed in **Table 3-6**.

Table 3-6 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	Bruel & Kjaer 2238, Rion NL-52
Calibrator	NC-73, NC-74
Portable Wind Speed Indicator	Anemometer AZ Instrument 8908

3.6 MONITORING METHODOLOGY

1-hour TSP

- 3.6.1 The 1-hour TSP monitor was a brand named “Sibata LD-3 Laser Dust monitor Particle Mass Profiler & Counter” which is a portable, battery-operated laser photometer. The 1-hour TSP meter provides a real time 1-hour TSP measurement based on 90° light scattering. The 1-hour TSP monitor consists of the following:
- A pump to draw sample aerosol through the optic chamber where TSP is measured;
 - A sheath air system to isolate the aerosol in the chamber to keep the optics clean for maximum reliability; and
 - A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.
- 3.6.2 The 1-hour TSP meter to be used will be within the valid period, calibrated by the manufacturer prior to purchasing. Zero response of the instrument will be checked before and after each monitoring event.

24-hour TSP

- 3.6.3 The equipment used for 24-hour TSP measurement is Thermo Andersen Model GS2310 TSP

high volume air sampling system, which complied with *EPA Code of Federal Regulation, Appendix B to Part 50*. The High Volume Air Sampler (HVS) consists of the following:

- (a.) An anodized aluminum shelter;
- (b.) A 8"x10" stainless steel filter holder;
- (c.) A blower motor assembly;
- (d.) A continuous flow/pressure recorder;
- (e.) A motor speed-voltage control/elapsed time indicator;
- (f.) A 7-day mechanical timer, and
- (g.) A power supply of 220v/50 Hz

3.6.4 For HVS for 24-hour TSP monitoring, the HVS is mounted in a metallic cage with a top for protection and also it is sat on the existing ground or the roof of building. The flow rate of the HVS between 0.6m³/min and 1.7m³/min will be properly set in accordance with the manufacturer's instruction to within the range recommended in *EPA Code of Federal Regulation, Appendix B to Part 50*. Glass Fiber Filter 8" x 10" of TE-653 will be used for 24-Hour TSP monitoring and would be supplied by laboratory. The general procedures of sampling are described as below:-

- A horizontal platform with appropriate support to secure the samples against gusty wind should be provided;
- No two samplers should be placed less than 2 meters apart;
- The distance between the sampler and an obstacle, such as building, must be at least twice the height that the obstacle protrudes above the sample;
- A minimum of 2 meters of separation from any supporting structure, measured horizontally is required;
- Before placing any filter media at the HVS, the power supply will be checked to ensure the sampler work properly;
- The filter paper will be set to align on the screen of HVS to ensure that the gasket formed an air tight seal on the outer edges of the filter. Then filter holder frame will be tightened to the filter hold with swing bolts. The holding pressure should be sufficient to avoid air leakage at the edge;
- The mechanical timer will be set for a sampling period of 24 hours (00:00 mid-night to 00:00 mid-night next day). Information will be recorded on the field data sheet, which would be included the sampling data, starting time, the weather condition at current and the filter paper ID with the initial weight;
- After sampling, the filter paper will be collected and transfer from the filter holder of the HVS to a sealed envelope and sent to a local HOKLAS accredited laboratory for quantifying.

3.6.5 All the sampled 24-hour TSP filters will be kept in normal air conditioned room conditions, i.e. 70% HR (Relative Humidity) and 25°C, for six months prior to disposal.

3.6.6 The HVS used for 24-hour TSP monitoring will be calibrated before the commencement for sampling, and after in two months interval for 1 point checking of maintenance and six months interval for five points calibrate in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A) to establish a relationship between the follow recorder meter reading in cfm (cubic feet per minute) and the standard flow rate, Qstd, in m³/min. Motor brushes of HVS will be regularly replaced of about five hundred hours per time. The calibration certificates of all monitoring equipment used for the impact monitoring program in the Reporting Period and the HOKLAS accredited certificate of laboratory are attached in [Appendix E](#).

Noise Monitoring

3.6.7 As referred to in the Technical Memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979

(Type 1) and 804:1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

- 3.6.8 All noise measurements will be performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq). Leq_(30 min) in six consecutive Leq_(5 min) measurements will be used as the monitoring parameter for the time period between 07:00-19:00 hours on weekdays throughout the construction period.
- 3.6.9 The sound level meter will be mounted on a tripod at a height of 1.2 m and placed at the assessment point and oriented such that the microphone is pointed to the site with the microphone facing perpendicular to the line of sight. The windshield will be fitted for all measurements. Where a measurement is to be carried out at a building, the assessment point would normally be at a position 1 m from the exterior of the building façade. Where a measurement is to be made for noise being received at a place other than a building, the assessment point would be at a position 1.2 m above the ground in a free-field situation, i.e. at least 3.5 m away from reflective surfaces such as adjacent buildings or walls.
- 3.6.10 Immediately prior to and following each noise measurement the accuracy of the sound level meter will be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements will be accepted as valid only if the calibration level from before and after the noise measurement agrees to within 1.0 dB.
- 3.6.11 Noise measurements will not be made in fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed will be checked with a portable wind speed meter capable of measuring the wind speed in m/s.
- 3.6.12 The sound level meter and calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis. The calibration certificates of all monitoring equipment used for the impact monitoring program in the Reporting Period is attached in [Appendix E](#).

Meteorological Information

- 3.6.13 The meteorological information including wind direction, wind speed, humidity, rainfall, air pressure and temperature etc. during baseline monitoring is extracted from the closest Hong Kong Observatory Station. To obtain the most appropriate meteorological information where available, the data of temperature is extracted from the Kwun Tong Observatory Station; the data of wind speed and wind direction are extracted from Kai Tak Observatory Station and the data of humidity is extracted from King's Park Station.

3.7 DERIVATION OF ACTION/LIMIT (A/L) LEVELS

- 3.7.1 The baseline results form the basis for determining the environmental acceptance criteria for the impact monitoring. According to the approved Environmental Monitoring and Audit Manual, the air quality, construction noise were set up, namely Action and Limit levels are listed in **Tables 3-7 and 3-8**.

Table 3-7 Action and Limit Levels for Air Quality Monitoring

Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)		Limit Level ($\mu\text{g}/\text{m}^3$)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
AMS-1	313	154	500	260
AMS-1a(*)	313	154	500	260
AMS-2	319	165	500	260
AMS-3	319	165	500	260
AMS-4	315	165	500	260

Monitoring Station	Action Level ($\mu\text{g}/\text{m}^3$)		Limit Level ($\mu\text{g}/\text{m}^3$)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
AMS-5	299	166	500	260
AMS-6	303	168	500	260
AMS-7	307	156	500	260

(*) 24-hour TSP monitoring at AMS1 was abandoned since May 2019 due to lack of power supply and the landlord was unreachable. The alternation location of AMS1a was activated on 15 June 2019 for 1-hour and 24-hour TSP monitoring. The proposal was agreed by EPD on 9 Aug 2019.

Table 3-8 Action and Limit Levels for Construction Noise

Monitoring Location	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
NMS-1	When one or more documented complaints are received	70 dB(A) ^{Note 1} / 65 dB(A) ^{Note 1}
NMS-2(@)		
NMS-3(:)		75 dB(A)
NMS-4*		75 dB(A)
NMS-4a#		75 dB(A)
NMS-5#		75 dB(A)
NMS-6~		75 dB(A)
NMS-7~		75 dB(A)
NMS-8^		75 dB(A)
CN1+		70 dB(A) ^{Note 1} / 65 dB(A) ^{Note 1}
CN2+		70 dB(A) ^{Note 1} / 65 dB(A) ^{Note 1}
CN3+		75 dB(A)

Note 1: Noise Limit Levels for school is 70dB(A) and should be reduced to 65dB(A) during examination period.

Note: 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.

Remark: (*) Additional noise monitoring location was recommended by RE and agreed by IEC. It was temporary suspended and the monitoring location is relocated to NMS4a with effective on 15 Nov 2017.

(@) NMS-2 was effective on 15 November 2019.

(:) NMS-3 was effective on 3 December 2019

(#) Review of noise monitoring locations was proposed by ET and NMS-5 was effective on 15 Nov 2017.

(~) Review of noise monitoring locations was proposed by ET and NMS-6 and NMS-7 were effective on 28 Feb 2018.

(^) Review of noise monitoring locations was proposed by ET and NMS-8 was effective on 18 April 2018. Noise monitoring at NMS-8 was started on 3 May 2018 upon commencement of construction at relevant section.

(+) Additional noise monitoring locations as instructed by AECOM which effective in Dec 18.

- 3.7.2 Should non-compliance of the environmental quality criteria occurs, remedial actions will be triggered according to the Event and Action Plan which presented in [Appendix F](#).

3.8 DATA MANAGEMENT AND DATA QA/QC CONTROL

- 3.8.1 All monitoring data will be handled by the ET's in-house data recording and management system. The monitoring data recorded in the equipment will be downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data will input into a computerized database properly maintained by the ET. The laboratory results will be input directly into the computerized database and checked by personnel other than those who input the data.

- 3.8.2 For monitoring parameters that require laboratory analysis, the local laboratory shall follow the QA/QC requirements as set out under the HOKLAS scheme for the relevant laboratory tests.

4 AIR QUALITY MONITORING

4.1 GENERAL

4.1.1 In the Reporting Period, air quality monitoring was performed at the active designated monitoring locations AMS-1a, AMS-2, AMS-3, AMS-4, AMS-5, AMS-6 and AMS-7. Since installation of HVS for 24-hour TSP at AMS-2, AMS-3 and AMS-4 were pending approval from relevant departments, only 1-hour TSP monitoring was conducted at AMS-2, AMS-3 and AMS-4. Liaise with the Maryknoll Secondary School of AMS-4 for installation of monitoring equipment at rooftop is in progress.

4.1.2 The air quality monitoring schedule is presented in *Appendix G* and the monitoring results are summarized in the following sub-sections.

4.2 RESULTS OF AIR QUALITY MONITORING

4.2.1 In the Reporting Period, a total of **126** events of 1-hour TSP monitoring and **20** events of 24-hours TSP were carried out and the monitoring results are summarized in *Tables 4-1 to 4-5*. The detailed 24-hour TSP monitoring data are presented in *Appendix H* and the relevant graphical plots are shown in *Appendix I*.

Table 4-1 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-1a)

Date	24-hour TSP ($\mu\text{g}/\text{m}^3$)	1-hour TSP ($\mu\text{g}/\text{m}^3$)				
		Date	Start Time	1 st reading	2 nd reading	3 rd reading
3-Apr-24	37	2-Apr-24	14:05	58	60	56
9-Apr-24	29	6-Apr-24	13:55	62	59	67
15-Apr-24	31	12-Apr-24	13:30	61	58	63
20-Apr-24	30	17-Apr-24	8:00	58	45	49
26-Apr-24	46	25-Apr-24	14:25	48	50	53
--	--	30-Apr-24	8:30	61	58	63
Average (Range)	34 (29 – 46)	Average (Range)		57 (45 – 67)		

Table 4-2 Summary of 1-hour TSP Monitoring Results (AMS-2)

1-hour TSP ($\mu\text{g}/\text{m}^3$)				
Date	Start Time	1 st reading	2 nd reading	3 rd reading
2-Apr-24	9:08	72	68	65
6-Apr-24	9:20	68	69	62
12-Apr-24	9:00	62	65	59
17-Apr-24	9:00	86	72	98
25-Apr-24	8:40	75	80	69
30-Apr-24	8:00	74	66	60
Average (Range)		71 (48 – 70)		

Table 4-3 Summary of 1-hour TSP Monitoring Results (AMS-3)

1-hour TSP ($\mu\text{g}/\text{m}^3$)				
Date	Start Time	1 st reading	2 nd reading	3 rd reading
2-Apr-24	8:55	56	63	60
6-Apr-24	9:05	67	70	61
12-Apr-24	8:30	63	58	60
17-Apr-24	13:45	49	57	65
25-Apr-24	9:00	54	48	52
30-Apr-24	13:40	60	70	65
Average (Range)		60 (48 – 70)		

Table 4-4 Summary of 1-hour TSP Monitoring Results (AMS-4)

1-hour TSP ($\mu\text{g}/\text{m}^3$)				
Date	Start Time	1 st reading	2 nd reading	3 rd reading
2-Apr-24	13:10	62	67	65
6-Apr-24	13:00	64	67	63
12-Apr-24	13:30	75	69	70
17-Apr-24	13:05	60	65	63
25-Apr-24	13:10	53	57	54
29-Apr-24	13:30	76	60	54
Average (Range)		64 (53 – 76)		

Table 4-5 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-5)

Date	24-hour TSP ($\mu\text{g}/\text{m}^3$)	1-hour TSP ($\mu\text{g}/\text{m}^3$)				
		Date	Start Time	1 st reading	2 nd reading	3 rd reading
3-Apr-24	29	2-Apr-24	9:10	53	55	58
9-Apr-24	41	6-Apr-24	9:00	57	60	55
15-Apr-24	38	12-Apr-24	9:05	54	50	61
20-Apr-24	34	17-Apr-24	9:05	56	59	60
26-Apr-24	28	25-Apr-24	9:10	52	57	55
--	--	29-Apr-24	8:30	63	60	67
Average (Range)	34 (28 – 41)	Average (Range)		57 (50 – 67)		

Table 4-6 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-6)

Date	24-hour TSP ($\mu\text{g}/\text{m}^3$)	1-hour TSP ($\mu\text{g}/\text{m}^3$)				
		Date	Start Time	1 st reading	2 nd reading	3 rd reading
3-Apr-24	39	2-Apr-24	9:50	54	57	59
9-Apr-24	27	6-Apr-24	9:40	54	56	53
15-Apr-24	26	12-Apr-24	9:50	49	53	58
20-Apr-24	6	17-Apr-24	9:45	62	58	64
26-Apr-24	21	25-Apr-24	9:50	50	54	56
--	--	29-Apr-24	9:20	72	84	98
Average (Range)	24 (6 – 39)	Average (Range)		61 (49 – 98)		

Table 4-7 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-7)

Date	24-hour TSP ($\mu\text{g}/\text{m}^3$)	1-hour TSP ($\mu\text{g}/\text{m}^3$)				
		Date	Start Time	1 st reading	2 nd reading	3 rd reading
3-Apr-24	20	2-Apr-24	13:00	78	71	80
9-Apr-24	33	6-Apr-24	13:00	65	72	66
15-Apr-24	24	12-Apr-24	13:00	72	69	75
20-Apr-24	31	17-Apr-24	13:00	55	46	52
26-Apr-24	45	25-Apr-24	13:05	69	74	63
--	--	30-Apr-24	14:00	72	69	75
Average (Range)	31 (20 – 45)	Average (Range)		68 (46 – 80)		

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- 4.2.2 As shown in *Tables 4-1 to 4-6*, all the 1-hour TSP and 24-hour TSP monitoring results in the Reporting Period were below the Action and Limit Levels. No Notification of Exceedance (NOE) was issued in this Reporting Period.
- 4.2.3 The meteorological data during the impact monitoring days are summarized in *Appendix J*.

5 CONSTRUCTION NOISE MONITORING

5.1 GENERAL

- 5.1.1 In the Reporting Period, noise monitoring was performed at designated monitoring locations NMS1, NMS2 and NMS3 and the additional monitoring locations NMS4a, NMS5, NMS6, NMS7 and NMS8.
- 5.1.2 In addition, a Work Instruction was issued from AECOM to AUES in November 2018 for installing three additional noise monitoring stations, i.e., CN1, CN2 and CN3 for Contract 3. Impact noise monitoring was performed at the three additional noise monitoring locations since December 2018. Additional noise monitoring location was terminated by RE as the construction work at E8 was completed in September 2022. The last monitoring for CN1 & CN2 was on 15 September 2022.
- 5.1.3 The noise monitoring schedule is presented in *Appendix G* and the monitoring results are summarized in the following sub-sections.

5.2 NOISE MONITORING RESULTS IN REPORTING MONTH

- 5.2.1 In the Reporting Period, a total of **40** events noise measurements were carried out at the designated locations under Contract 1. The noise monitoring results at the designated locations are summarized in *Tables 5-1*. The detailed noise monitoring data are presented in *Appendix H* and the relevant graphical plots are shown in *Appendix I*.

Table 5-1 Summary of Construction Noise Monitoring Results for Contract 1

Construction Noise Level ($L_{eq30min}$), dB(A)								
Date	NMS1	NMS2	NMS3	NMS4a	NMS5	NMS6	NMS7	NMS8
2-Apr-24	71	56	59	62	61	54	62	60
12-Apr-24	70	60	62	62	61	62	59	62
17-Apr-24	72	62	65	67	62	67	67	69
25-Apr-24	71	61	62	65	65	64	62	63
29-Apr-24	68	62	64	66	61	64	59	63
Limit Level	70 dB(A) / 65 dB(A)^{Note 1}		75 dB(A)					

Note 1: Noise Limit Levels for school is 70dB(A) and should be reduced to 65dB(A) during examination period

- 5.2.2 As shown in above table, the noise measurement result at NMS1 on 2, 17 and 25 April 2024 was 71, 72 and 71dB(A), which exceeded the Limit Level. The baseline noise level measured at NMS1 was 69.0 dB(A), and baseline noise correction should be applied to the impact monitoring result, where exceedance occurred. With reference to the baseline, the corrected construction noise level at NMS1 on 2, 17 and 25 April 2024 is 66.7, 69.0 and 66.7dB(A), which fall within the Limit Level.
- 5.2.3 For the additional noise monitoring under Contract 3, a total of **5** events noise measurements were performed for the Contract. The noise monitoring results are summarized in *Tables 5-2*. The detailed noise monitoring data are presented in *Appendix H* and the relevant graphical plots are shown in *Appendix I*.

Table 5-2 Summary of Construction Noise Monitoring Results for Contract 3

Construction Noise Level ($L_{eq30min}$), dB(A)	
Date	CN3
2-Apr-24	62
12-Apr-24	61
17-Apr-24	60
25-Apr-24	62

Construction Noise Level ($L_{eq30min}$), dB(A)	
Date	CN3
29-Apr-24	61
Limit Level	75 dB(A)

Note 1: Noise Limit Levels for school is 70dB(A) and should be reduced to 65dB(A) during examination period.

- 5.2.4 As shown in **Tables 5-1 and 5-2**, no Limit Level exceedance was recorded in this Reporting Period. No noise complaint (which triggered Action level exceedance) was received under the Project.

6 WASTE MANAGEMENT

6.1 GENERAL WASTE MANAGEMENT

6.1.1 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time.

6.2 RECORDS OF WASTE QUANTITIES

6.2.1 All types of waste arising from the construction work are classified into the following:

- Construction & Demolition (C&D) Material;
- Chemical Waste;
- General Refuse; and
- Excavated Soil.

6.2.2 The quantities of waste for disposal in this Reporting Period are summarized in **Tables 6-1** and **6-2** and the Monthly Summary Waste Flow Table is shown in **Appendix K**. Whenever possible, materials were reused on-site as far as practicable.

Table 6-1 Summary of Quantities of Inert C&D Materials

Type of Waste	Contract 3		Contract 4		Contract 5	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Total generated Inert C&D Materials ('000m ³) (#)	2.498	-	0.539	-	0.007	-
Hard Rock and Large Broken Concrete ('000m ³)	0	-	0	-	0.006	-
Reused in this Contract (Inert) ('000m ³)	0	-	0	-	0.001	-
Reused in other Projects (Inert) ('000m ³)	0.425	-	0	-	0	-
Disposal as Public Fill (Inert) ('000m ³)	2.073	TKO 137	0.539	TKO 137	0.006	TKO 137

Remark (#): The total generated inert C&D materials will not take account for the hard rock and large broken concrete.

() Approved alternative disposal ground.*

Table 6-2 Summary of Quantities of C&D Wastes

Type of Waste	Contract 3		Contract 4		Contract 5	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Recycled Metal ('000kg)	0	Licensed collector	0	-	0	-
Recycled Paper / Cardboard Packing ('000kg)	0	Licensed collector	0	-	0	-
Recycled Plastic ('000kg)	0	Licensed collector	0	-	0	-
Chemical Wastes ('000kg)	0	-	0	-	0	-
General Refuses ('000m ³)	0.039	SENT	0.074	-	0.064	SENT

7 SITE INSPECTION**7.1 REQUIREMENTS**

- 7.1.1 According to the approved EM&A Manual, the environmental site inspection shall be formulation by ET Leader. Weekly environmental site inspections should be carried out to confirm the environmental performance.

7.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH**Contract 3**

- 7.2.1 In the Reporting Period, joint site inspections for Contract 3 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **5, 12, 19 and 26 April 2024** in which IEC joined the site inspection with SSEMC on **12 April 2024**. No non-compliance was noted. The findings / deficiencies of **Contract 3** that observed during the weekly site inspection are listed in **Table 7-1**.

Table 7-1 Site Observations of Contract 3

Date	Findings / Deficiencies	Follow-Up Status
5 April 2024	<ul style="list-style-type: none"> No environmental issue was observed during site inspection. 	<ul style="list-style-type: none"> NA
12 April 2024	<ul style="list-style-type: none"> No environmental issue was observed during site inspection. 	<ul style="list-style-type: none"> NA
19 April 2024	<ul style="list-style-type: none"> The Contractor was reminded to remove stagnant water inside drainage system. The Contractor was reminded to cover opened cement bag with tarpaulin sheet. 	<ul style="list-style-type: none"> Reminder only. Reminder only.
26 April 2024	<ul style="list-style-type: none"> The Contractor was reminded to provide mitigation measure to prevent muddy water overflow and mosquito breeding. 	<ul style="list-style-type: none"> Reminder only.

Contract 4

- 7.2.2 In the Reporting Period, joint site inspections for Contract 4 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **3, 10, 18 and 23 April 2024** in which IEC joined the site inspection with SSEMC on **18 April 2024**. No non-compliance was noted. The findings / deficiencies of **Contract 4** that observed during the weekly site inspection are listed in **Table 7-2**.

Table 7-2 Site Observations of Contract 4

Date	Findings / Deficiencies	Follow-Up Status
3 April 2024	<ul style="list-style-type: none"> The Contractor was reminded to spray water at haul road to reduce dust impact. 	<ul style="list-style-type: none"> Reminder only.
10 April 2024	<ul style="list-style-type: none"> The Contractor was reminded to clear stagnant water after rainy. 	<ul style="list-style-type: none"> Reminder only.
18 April 2024	<ul style="list-style-type: none"> The Contractor was reminded to remove stagnant water. The Contractor was reminded to maintain wastewater treatment system functioning properly. 	<ul style="list-style-type: none"> Reminder only. Reminder only.
23 April 2024	<ul style="list-style-type: none"> The Contractor was reminded to remove stagnant water regularly to prevent muddy water and mosquito breeding. 	<ul style="list-style-type: none"> Reminder only.

Contract 5

- 7.2.3 In the Reporting Period, joint site inspections for Contract 5 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **3, 11, 18 and 23 April 2024** in which IEC joined the site inspection on **23 April 2024**. No non-compliance was noted. The findings / deficiencies of **Contract 5** that observed during the weekly site inspection are listed in **Table 7-3**.

Table 7-3 Site Observations of Contract 5

Date	Findings / Deficiencies	Follow-Up Status
3 April 2024	<ul style="list-style-type: none"> Chemical container should be removed or placed inside drip tray. (E10) The Contractor was reminded to cover cement bag storage with tarpaulin sheet. 	<ul style="list-style-type: none"> Chemical container was removed. Reminder only.
11 April 2024	<ul style="list-style-type: none"> The Contractor should dispose refuse regularly. (E10) The Contractor was reminded to remove or cover opened cement bags with tarpaulin sheet. 	<ul style="list-style-type: none"> Refuse was removed. Reminder only.
18 April 2024	<ul style="list-style-type: none"> Pipe should be fixed. (E10) The Contractor was reminded to remove stagnant water inside drainage system. 	<ul style="list-style-type: none"> Pipe was fixed. Reminder only.
23 April 2024	<ul style="list-style-type: none"> The Contractor was reminded to clear stagnant water after rainy. 	<ul style="list-style-type: none"> Reminder only.

8 ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE**8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION**

8.1.1 In the Reporting Period, one (1) environmental complaint was received. Besides, no summons and prosecution under the EM&A Programme was lodged for the project.

8.1.2 The complaint log is shown in [Appendix M](#).

8.1.3 The statistical summary table of environmental complaint, summons and prosecution is presented in **Tables 8-1, 8-2 and 8-3**.

Table 8-1 Statistical Summary of Environmental Complaints

Reporting Period	Contract no.	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
31 May 2018 – 31 March 2024	3	0	8	NA
27 Sep 2021 – 31 March 2024	4	0	7	NA
30 Mar 2021 – 31 March 2024	5	0	0	NA
1 – 30 April 2024	1	0	65	NA
	2	0	10	NA
	3	0	8	NA
	4	1	8	Water Quality
	5	0	0	NA

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Contract no.	Environmental Summons Statistics		
		Frequency	Cumulative	Summons Nature
31 May 2018 – 31 March 2024	3	0	0	NA
27 Sep 2021 – 31 March 2024	4	0	0	NA
30 Mar 2021 – 31 March 2024	5	0	0	NA
1 – 30 April 2024	1	0	0	NA
	2	0	0	NA
	3	0	0	NA
	4	0	0	NA
	5	0	0	NA

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Contract no.	Environmental Prosecution Statistics		
		Frequency	Cumulative	Prosecution Nature
31 May 2018 – 31 March 2024	3	0	0	NA
27 Sep 2021 – 31 March 2024	4	0	0	NA
30 Mar 2021 – 31 March 2024	5	0	0	NA
1 – 30 April 2024	1	0	0	NA
	2	0	0	NA
	3	0	0	NA
	4	0	0	NA
	5	0	0	NA

9 IMPLEMENTATION STATUS OF MITIGATION MEASURES

9.1 GENERAL REQUIREMENTS

- 9.1.1 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the approved EM&A Manual covered the issues of dust, noise, water and waste and they are summarized presented in [Appendix L](#).
- 9.1.2 All contracts under the Project shall be implementing the required environmental mitigation measures according to the approved EM&A Manual as subject to the site condition. Environmental mitigation measures generally implemented in this Reporting Period are summarized in **Table 9-1**.

Table 9-1 Environmental Mitigation Measures

Issues	Environmental Mitigation Measures
Water Quality	<ul style="list-style-type: none"> Wastewater to be treated by filtration system; such as, silt curtain or sedimentation tank before discharge. Replace silt curtain materials if necessary
Air Quality	<ul style="list-style-type: none"> Maintain damp / wet surface on access road Keep slow speed in the sites All vehicles must use wheel washing facility before off site All vehicles must use wheel washing facility before off site Sprayed water during breaking works
Noise	<ul style="list-style-type: none"> Restrain operation time of plants from 07:00 to 19:00 on any working day except for Public Holiday and Sunday. Keep good maintenance of plants Place noisy plants away from residence or school Provide noise barriers or hoarding to enclose the noisy plants or works Shut down the plants when not in used.
Waste and Chemical Management	<ul style="list-style-type: none"> On-site sorting prior to disposal Follow requirements and procedures of the “Trip-ticket System” Predict required quantity of concrete accurately Collect the unused fresh concrete at designated locations in the sites for subsequent disposal
General	<ul style="list-style-type: none"> The site was generally kept tidy and clean.

9.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

Contract 3 (NE/2017/03)

Pedestrian Connectivity Facility System B (PC-SYB)

- RC works at SyB-LT1 & ST1 is in-progress.
- Welding works for footbridge steel frame erection
- E&M works at SyB-LT1
- ABWF works at SyB-FB2
- E&M works at SyB-FB2
- Install lifts at SyB-LT1
- Install escalators & steel roof erection at System B Escalator pit E4 to E6

Contract 4 (ED/2020/02)

- Excavation work for Drainage Works at Portion 2a, 6 ,8, 9 & 12
- Drainage works at Portion 2a, 6 ,8, 9 & 12
- Construction of building structure at Portion 1a,1b
- Construction of Retaining Wall and staircase at Portion 6, 12
- Construction of Planter at Portion 8,12
- Preparation works for Construction of bridge at Portion 13b

- Modification works at RWA10 and RWA9 at Portion 13b
- Construction of precast beam for elevated walkway
- Road works at G2-Site at Portion 13b
- Slope works at G2-Site B4 Slope at Portion 13b
- Construction of concrete berm at Portion 10 and Portion 17
- Installation of rock mesh at Portion 10 and Portion 17
- Repair works at Portion 10 and Portion 17

Contract 5 (ED/2019/02)

Portion 1

- Cladding Installation
- Cable Laying & Meter Installation
- Catch Pit, Kerb and U-Channel Construction & No-Fine Laying

Portion 2

- Escalator T&C

Portion 3

- Construction of E7 Lift Tower (6th Pour)
- Construction of E7 Lift Tower (7th Pour)

Portion 4

- Erect footbridge (Lift Tower – Pier head)
- E10-P1 construction
- Fabrication of side truss for upper bridge.

9.3 KEY ISSUES FOR THE COMING MONTH

- 9.3.1 Key issues to be considered in the coming month include:
- Implementation of dust suppression measures at all times;
 - Potential wastewater quality impact due to surface runoff;
 - Potential fugitive dust quality impact due from the dry/loose/exposure soil surface/dusty material;
 - Disposal of empty engine oil containers within site area;
 - Ensure dust suppression measures are implemented properly;
 - Sediment catch-pits and silt removal facilities should be regularly maintained;
 - Management of chemical wastes;
 - Discharge of site effluent to the nearby wetland, stockpiling or disposal of materials, and any dredging or construction area at this area are prohibited;
 - Follow-up of improvement on general waste management issues; and
 - Implementation of construction noise preventative control measures
- 9.3.2 The Contractor should fully implement air quality mitigation measures to reduce construction dust emission as far as practicable. Furthermore, since construction site is highly visible to the resident at nearby estates, noise mitigation measures such as using of quiet plants should be implemented in accordance with the EM&A requirement.
- 9.3.3 During wet season, the Contractors should pay special attention on water quality mitigation measures and fully implement according to the ISEMM of the EM&A Manual, in particular to prevent muddy water or other water pollutants from site surface overflow to public area should be properly maintained. The implementation of water quality mitigation measures conducted by the Contractor is shown in [Appendix N](#).

10 CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

- 10.1.1 This is 85th monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from 1 to 30 April 2024.
- 10.1.2 The previous service contractor nos. NTE/07/2016 and EDO 8/2022, covering the EM&A service for the Development ARQ for Contracts 1, 2, 3, 4 and 5 was completed in September 2022 and September 2023 respectively. In view of the completion of major construction works, the EM&A service for Contract 1 and Contract 2 under service contract no. EDO 8/2022 was ceased in late September 2023 and the relevant monitoring stations have been handover to current contract no. EDO 8/2022.
- 10.1.3 No 24-hour or 1-hour TSP monitoring and noise monitoring results that triggered the Action or Limit Levels were recorded. No NOEs or the associated corrective actions were therefore issued.
- 10.1.4 In the Reporting Period, no exceedance was recorded and no Notification of Exceedance was issued. Moreover, no noise complaints (which triggered Action Level) were received for the Project.
- 10.1.5 In the Reporting Period, one (1) environmental complaint was received in this reporting period.
- 10.1.6 No notification of summons or successful prosecution was received under the Project.
- 10.1.7 During the Reporting Period, weekly joint site inspection by the RE, ET with the relevant Main-contractor was carried out for Contracts 3, 4 and 5 in accordance with the EM&A Manual stipulation whereas IEC performed monthly site inspection for both contracts. No non-compliance observed during the site inspection.

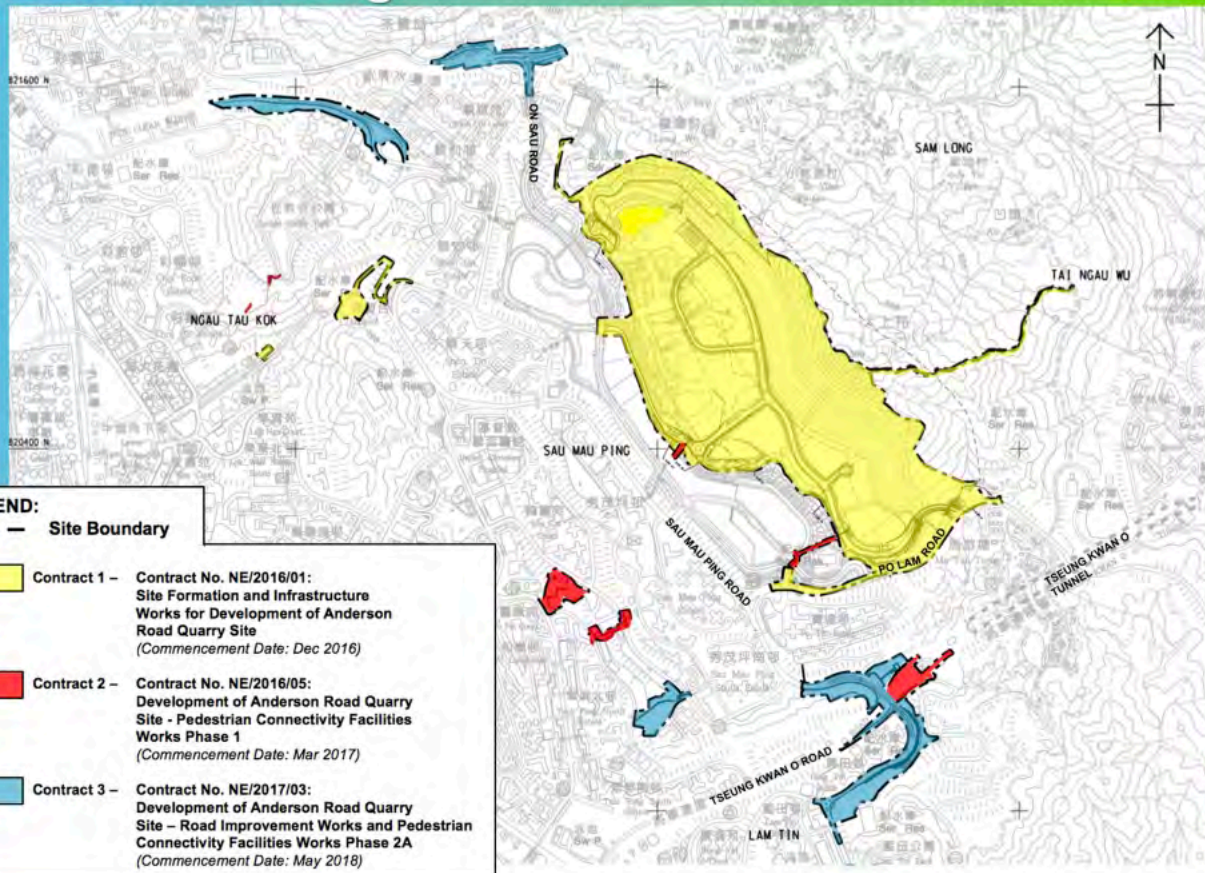
10.2 RECOMMENDATIONS

- 10.2.1 The Contractors are reminded to pay special attention on water quality mitigation measures and should fully implement the measures as recommended in the EM&A Manual, in particular to prevent muddy water or other water pollutants from site surface overflow to public area should be properly maintained.
- 10.2.2 Since construction site is highly visible to the resident at nearby estates, the Contractors should pay special attention on potential environmental impact generated by the site activities and adhere implement adequate air quality and noise mitigation measures as far as practicable to reduce the impact to the public.
- 10.2.3 Construction noise is one of the key environmental issues during construction work of the Project. Noise mitigation measures such as using quiet plants and noise barriers shall be implemented where practicable according to the EM&A manual.
- 10.2.4 In addition, the Contractors should ensure all effluent discharge shall be fulfilled the Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or relevant discharge license requirement.
- 10.2.5 Mosquito control measures should be continued to prevent mosquito breeding on site.

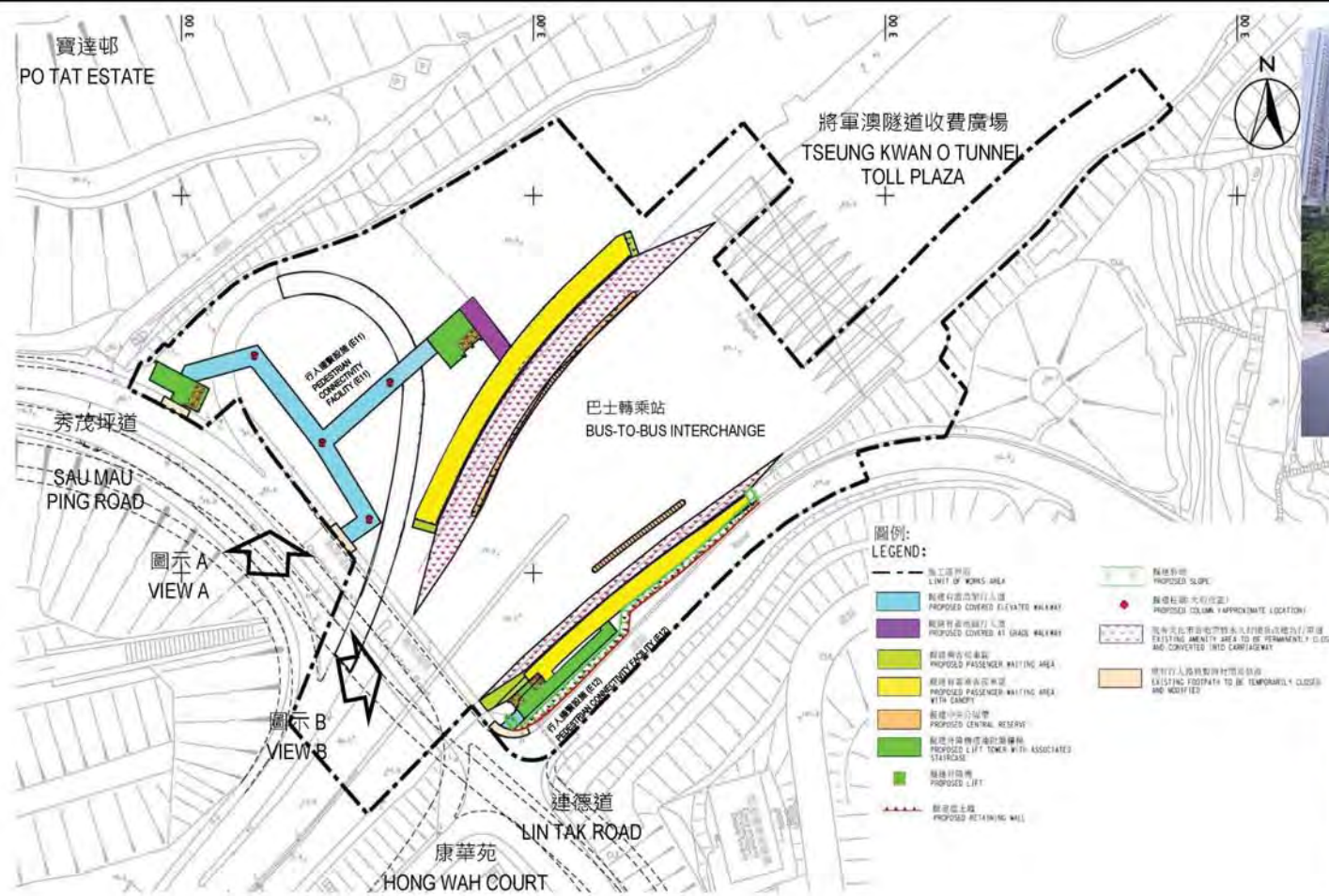
Appendix A

Layout plan of the Project

Contract Packages




**Layout plan of Contract 3 (NE/2017/03)
(Non-Designated Area)**

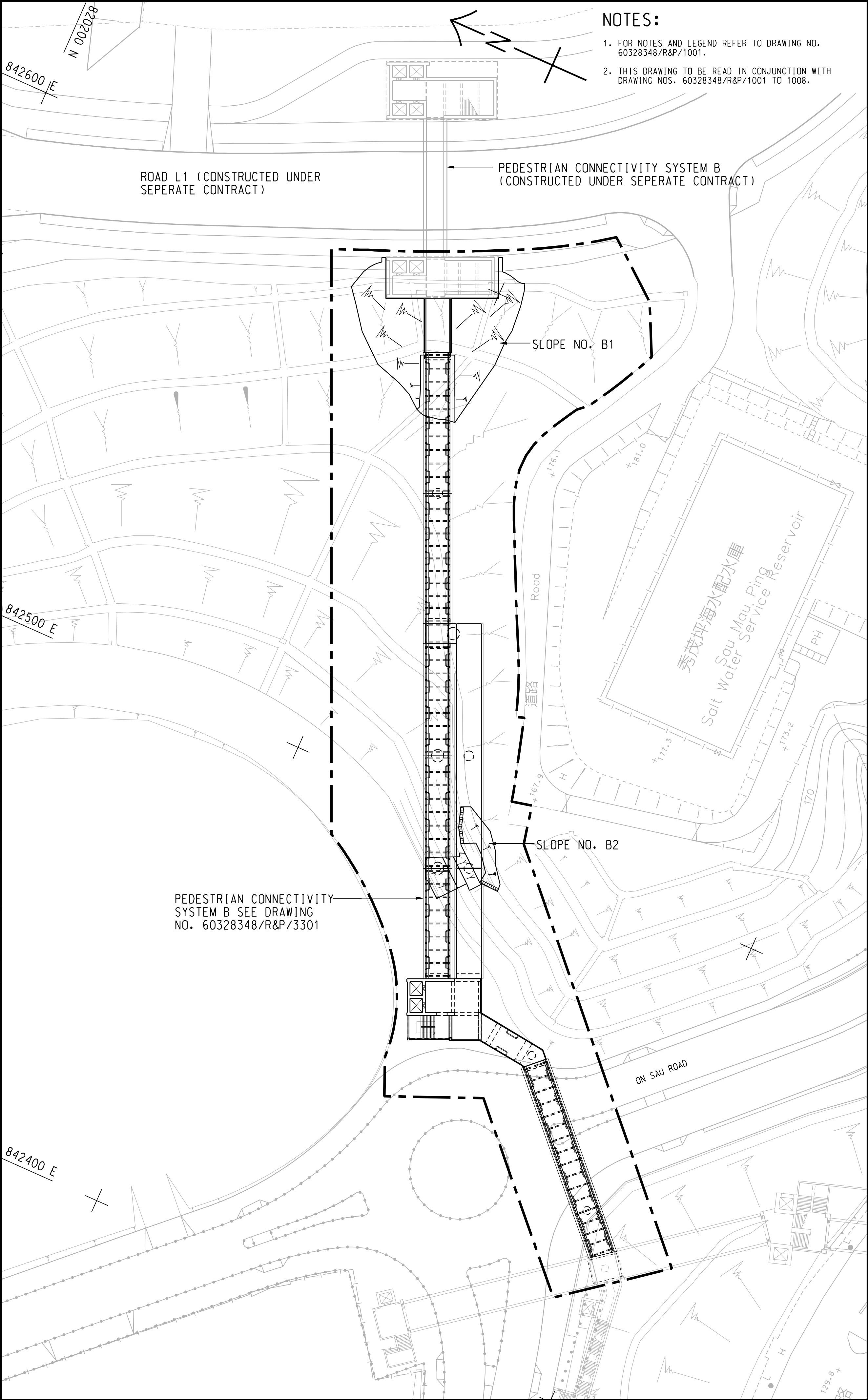
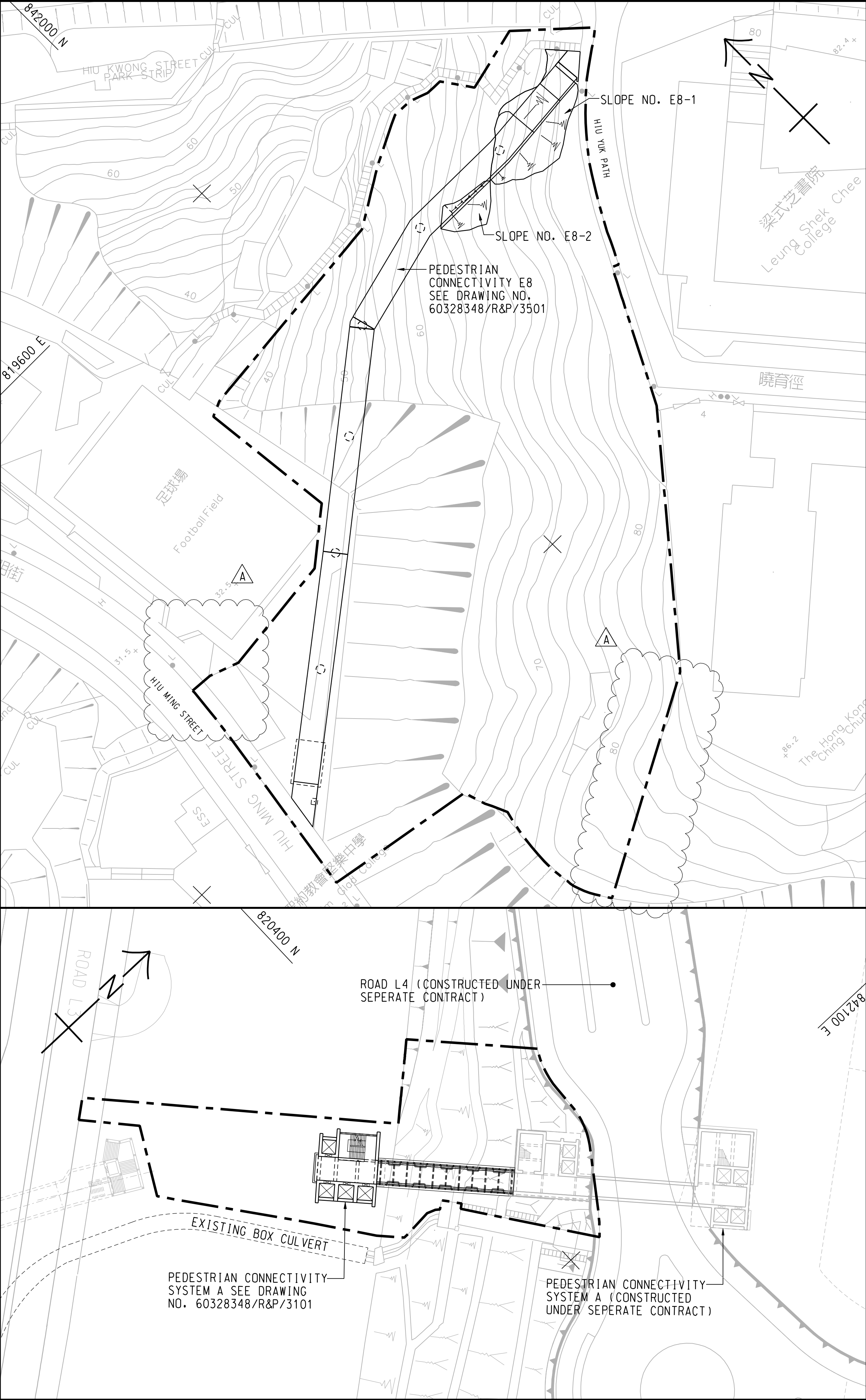


圖示 A VIEW A



圖示 B VIEW B

<p>圖則名稱 Drawing Title</p> <p>行人連繫設施(巴士轉乘站、E11及E12) - 平面圖及構思圖</p> <p>Pedestrian Connectivity Facilities (Bus-to-Bus Interchange, E11 and E12)</p> <p>- Layout Plan and Artist's Impression</p>	<p>項目編號 Item No.</p> <p>765CL</p>	<p>辦事處 Office</p> <p>新界東拓展處</p> <p>NEW TERRITORIES EAST DEVELOPMENT OFFICE</p>
	<p>比例 Scale</p>	
	<p>圖則編號 Drawing No.</p> <p>附件五 Appendix 5</p>	<p>土木工程拓展署</p> <p>CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT</p> 



NOTES:

1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60328348/R&P/1001.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60328348/R&P/1001 TO 1008.

AECOM

PROJECT

DEVELOPMENT OF
ANDERSON ROAD
QUARRY SITE - INVESTIGATION,
DESIGN AND CONSTRUCTION

CONTRACT TITLE
DEVELOPMENT OF ANDERSON ROAD
QUARRY SITE - ROAD IMPROVEMENT
WORKS AND PEDESTRIAN CONNECTIVITY
FACILITIES WORKS PHASE 2A

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-	OCT. 17	TENDER DRAWING	AWYC

STATUS

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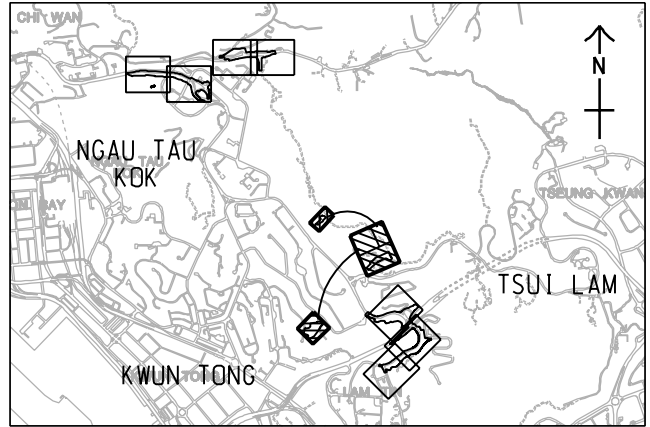
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METRES

KEY PLAN

索引圖

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PROJECT NO.

項目編號

60328348

CONTRACT NO.

合約編號

NE/2017/03

SHEET TITLE

圖紙名稱

GENERAL LAYOUT

SHEET NUMBER

圖紙編號

60328348/R&P/1008A

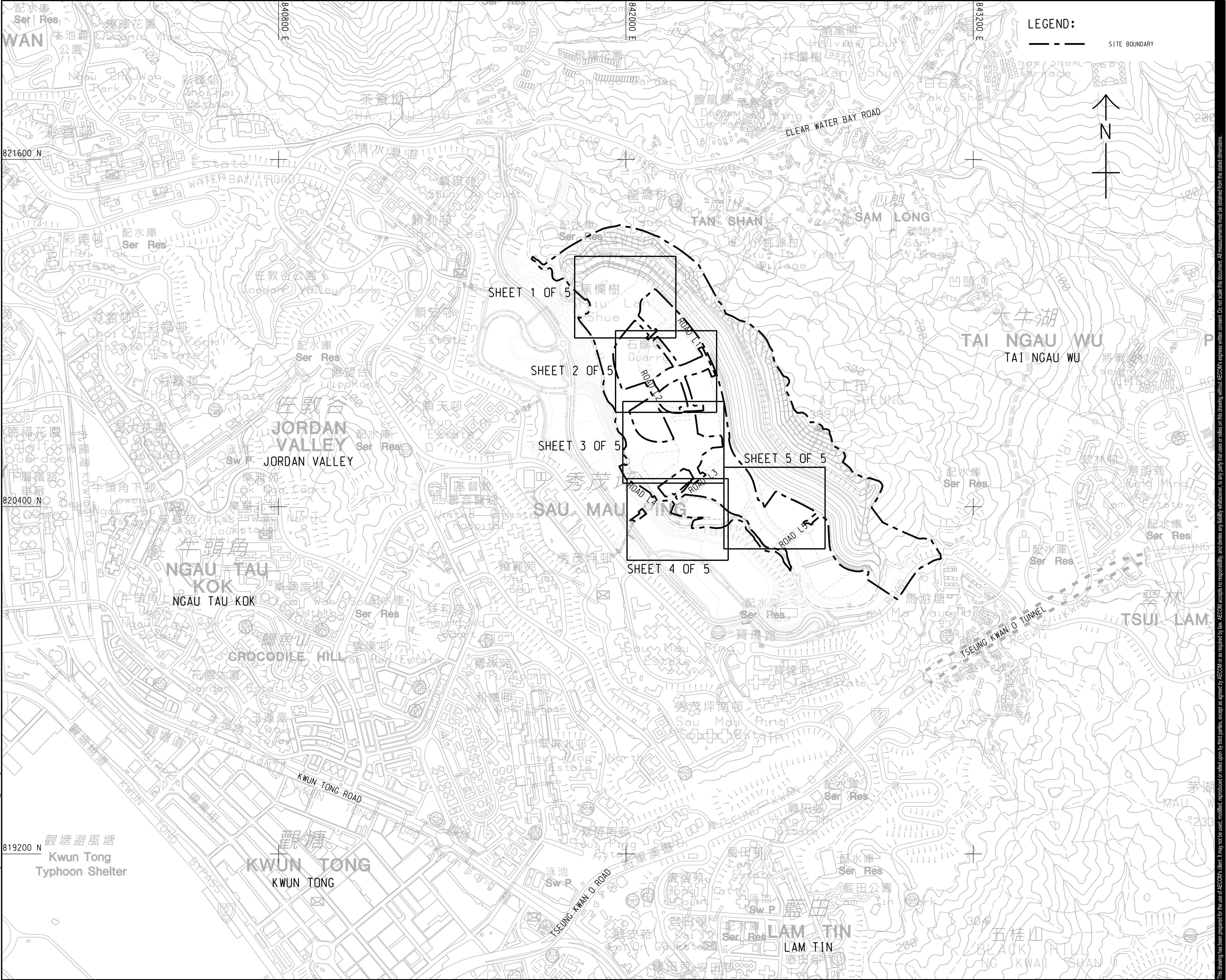
SHEET 8 OF 8

Layout plan of Contract 4 (ED/2020/02)

Plot File by: YangRO 3/19/2021
PATH P:\PROJECT\1560328348\Drawing\CONTRACT\LS1000\LS_1000.dgn

Project Management Initials: Designer: DKMW Checked: AWYC Approved: HKT

ISO A1 594mm x 841mm




AECOM

PROJECT
項目

DEVELOPMENT OF
ANDERSON ROAD
QUARRY SITE - INVESTIGATION,
DESIGN AND CONSTRUCTION

CONTRACT TITLE
DEVELOPMENT OF ANDERSON ROAD
QUARRY SITE - INFRASTRUCTURE,
GREENING AND LANDSCAPE WORKS

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修訂	日期	內容簡要

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階段

SCALE
比例

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DIMENSION UNIT
尺寸單位

METRES

KEY PLAN
索引圖

PROJECT NO.
項目編號

60328348

CONTRACT NO.
合約編號

ED/2020/02

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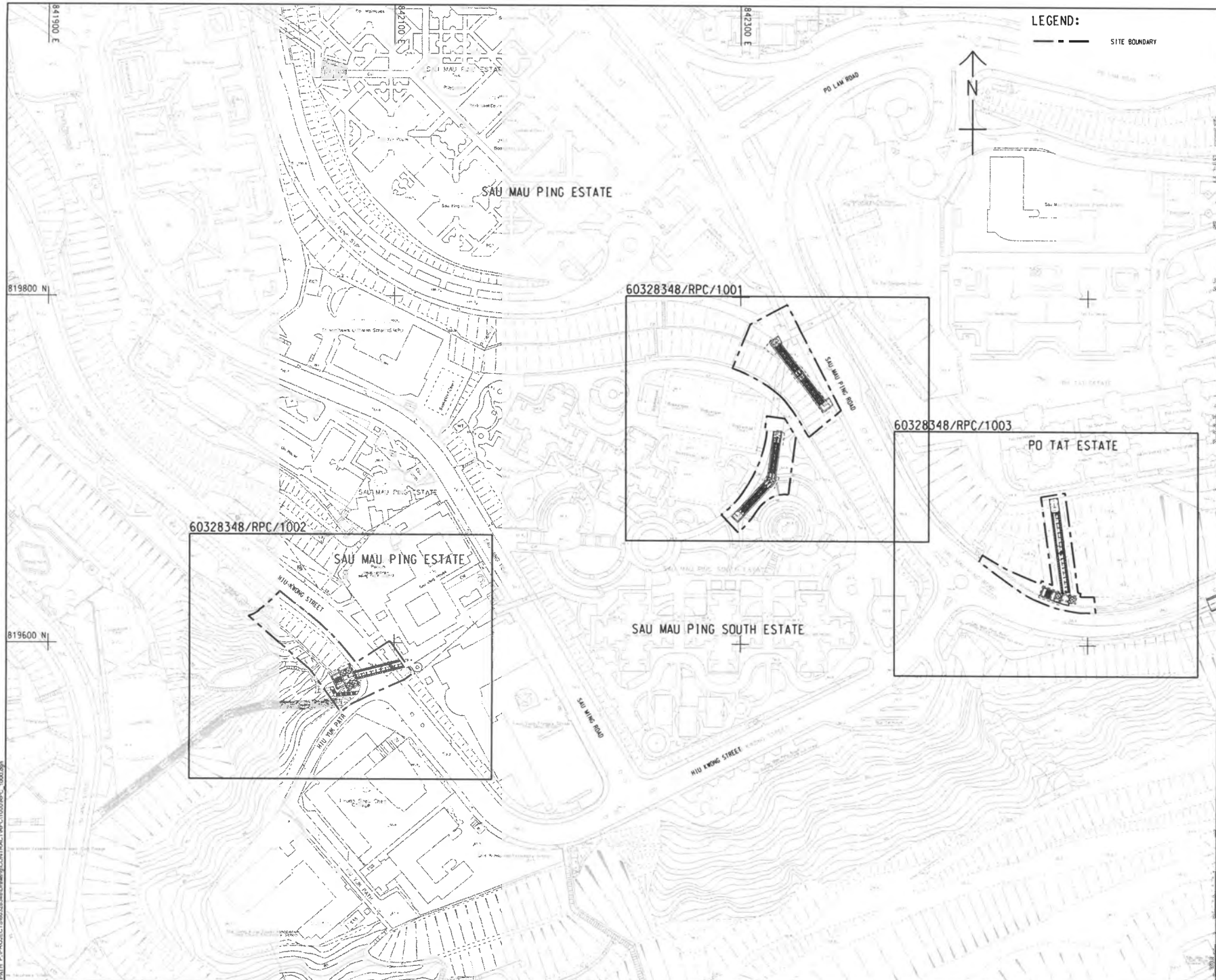
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SHEET NUMBER
圖紙編號

60328348/LS/1000

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Layout plan of Contract 5 (ED/2019/02)



LEGEND:
 --- SITE BOUNDARY

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PROJECT
 DEVELOPMENT OF
 ANDERSON ROAD
 QUARRY SITE - INVESTIGATION,
 DESIGN AND CONSTRUCTION

CONTRACT TITLE
 DEVELOPMENT OF ANDERSON ROAD
 QUARRY SITE - REMAINING PEDESTRIAN
 CONNECTIVITY FACILITIES WORKS

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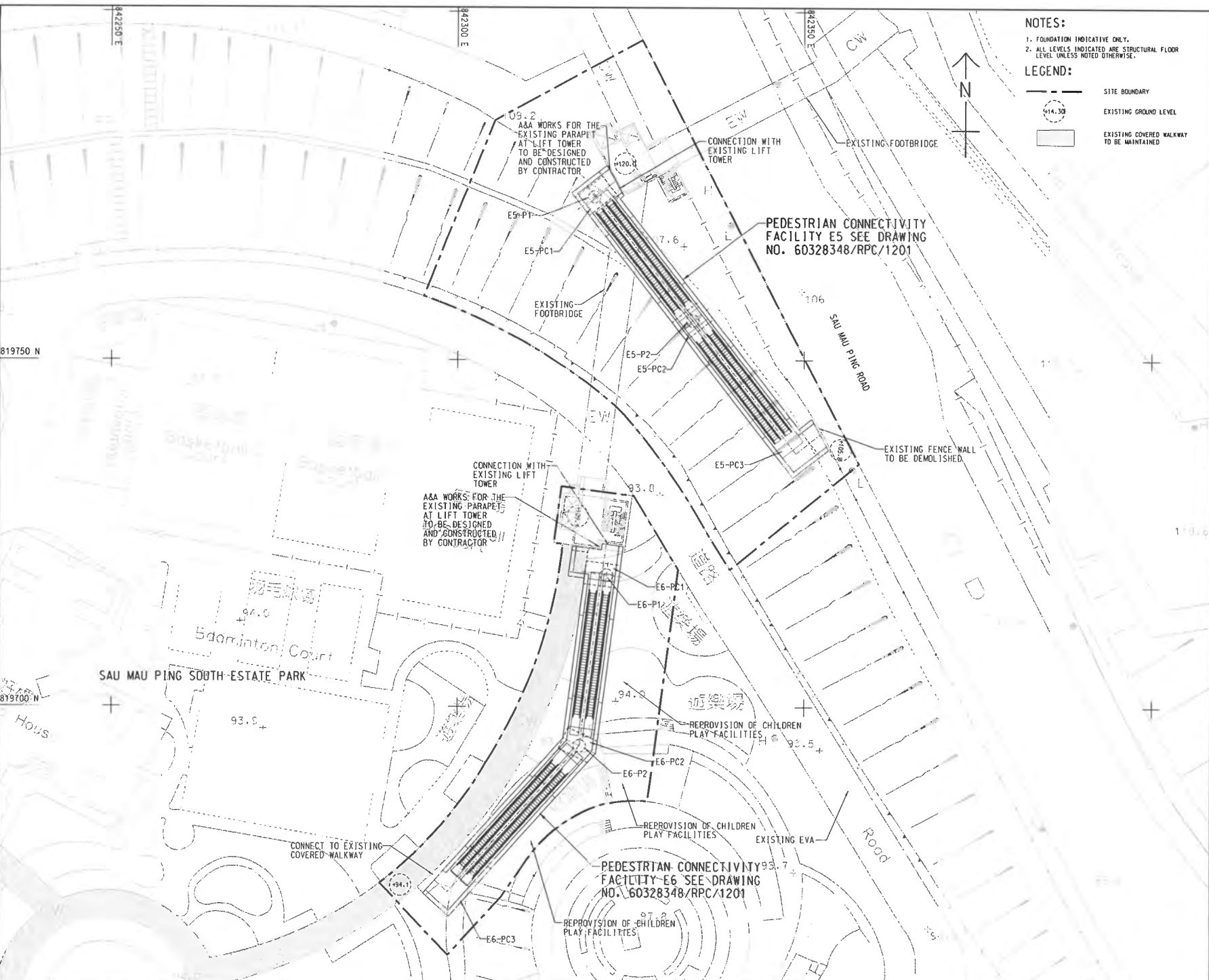
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PROJECT NO.
 60328348
 CONTRACT NO.
 ED/2019/02

SHEET TITLE
 KEY PLAN

SHEET NUMBER
 60328348/RPC/1000

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Project Management Initials: Designer: TSYA Checked: AMYC Approved: HKT
28/11/2020
PLOT 12 OF 13, 60328348/RPC/1001
SAU MAU PING SOUTH ESTATE PARK



- NOTES:**
1. FOUNDATION INDICATIVE ONLY.
 2. ALL LEVELS INDICATED ARE STRUCTURAL FLOOR LEVEL UNLESS NOTED OTHERWISE.
- LEGEND:**
- SITE BOUNDARY
 - - - EXISTING GROUND LEVEL
 - ▭ EXISTING COVERED WALKWAY TO BE MAINTAINED

AECOM

PROJECT
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INVESTIGATION, DESIGN AND CONSTRUCTION

CONTRACT TITLE
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - REMAINING PEDESTRIAN CONNECTIVITY FACILITIES WORKS

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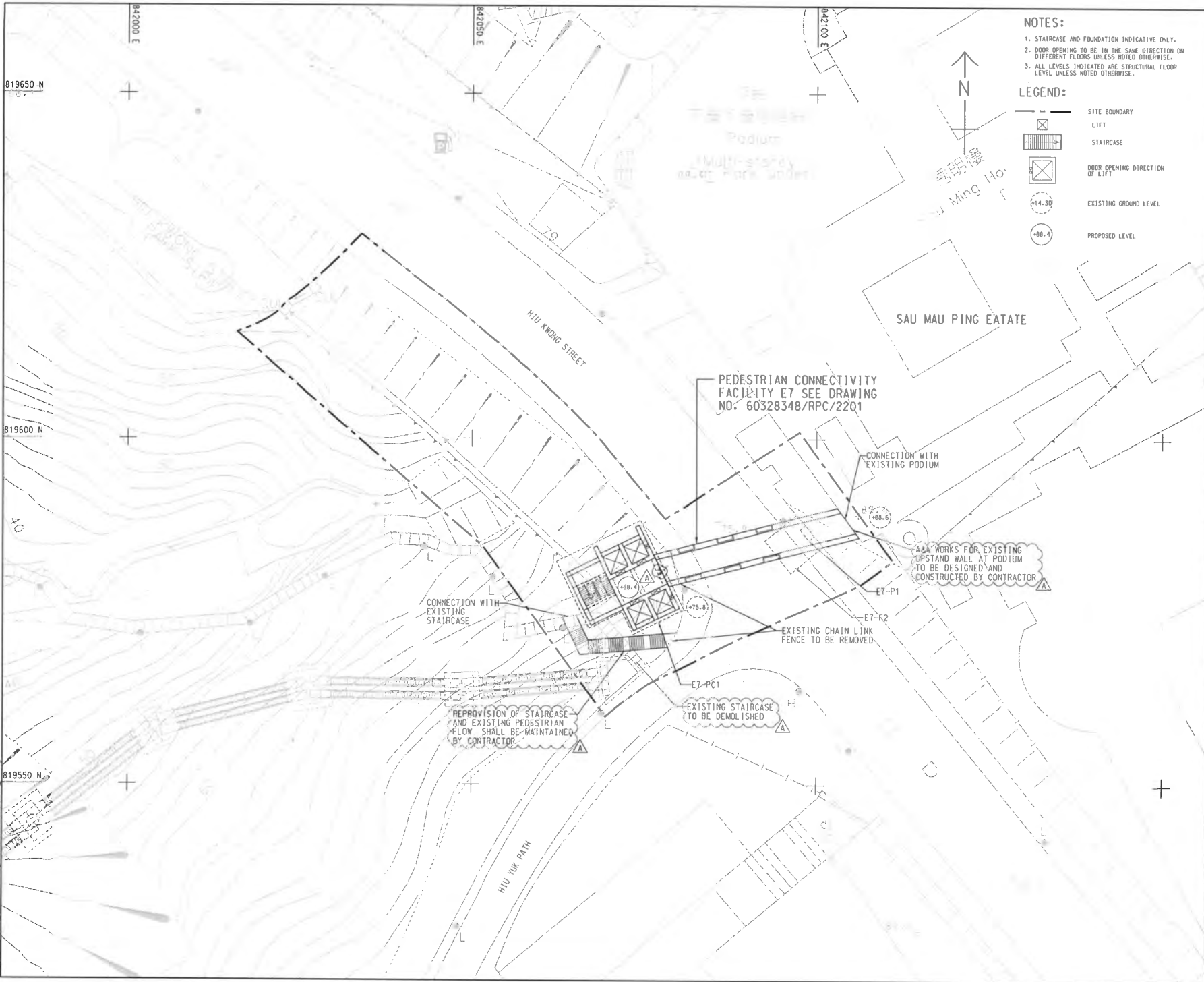
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PROJECT NO.
60328348

CONTRACT NO.
ED/2019/02

SHEET TITLE
GENERAL LAYOUT - E5 & E6

SHEET NUMBER
60328348/RPC/1001



NOTES:

1. STAIRCASE AND FOUNDATION INDICATIVE ONLY.
2. DOOR OPENING TO BE IN THE SAME DIRECTION ON DIFFERENT FLOORS UNLESS NOTED OTHERWISE.
3. ALL LEVELS INDICATED ARE STRUCTURAL FLOOR LEVEL UNLESS NOTED OTHERWISE.

LEGEND:

- SITE BOUNDARY
- LIFT
- STAIRCASE
- DOOR OPENING DIRECTION OF LIFT
- EXISTING GROUND LEVEL
- PROPOSED LEVEL

AECOM

PROJECT
 DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INVESTIGATION, DESIGN AND CONSTRUCTION

CONTRACT TITLE
 DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - REMAINING PEDESTRIAN CONNECTIVITY FACILITIES WORKS

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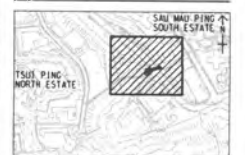
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3	11/12/20	REVISED	AWYC

STATUS

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KEY PLAN
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PROJECT NO.
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 CONTRACT NO.
 ED/2019/02

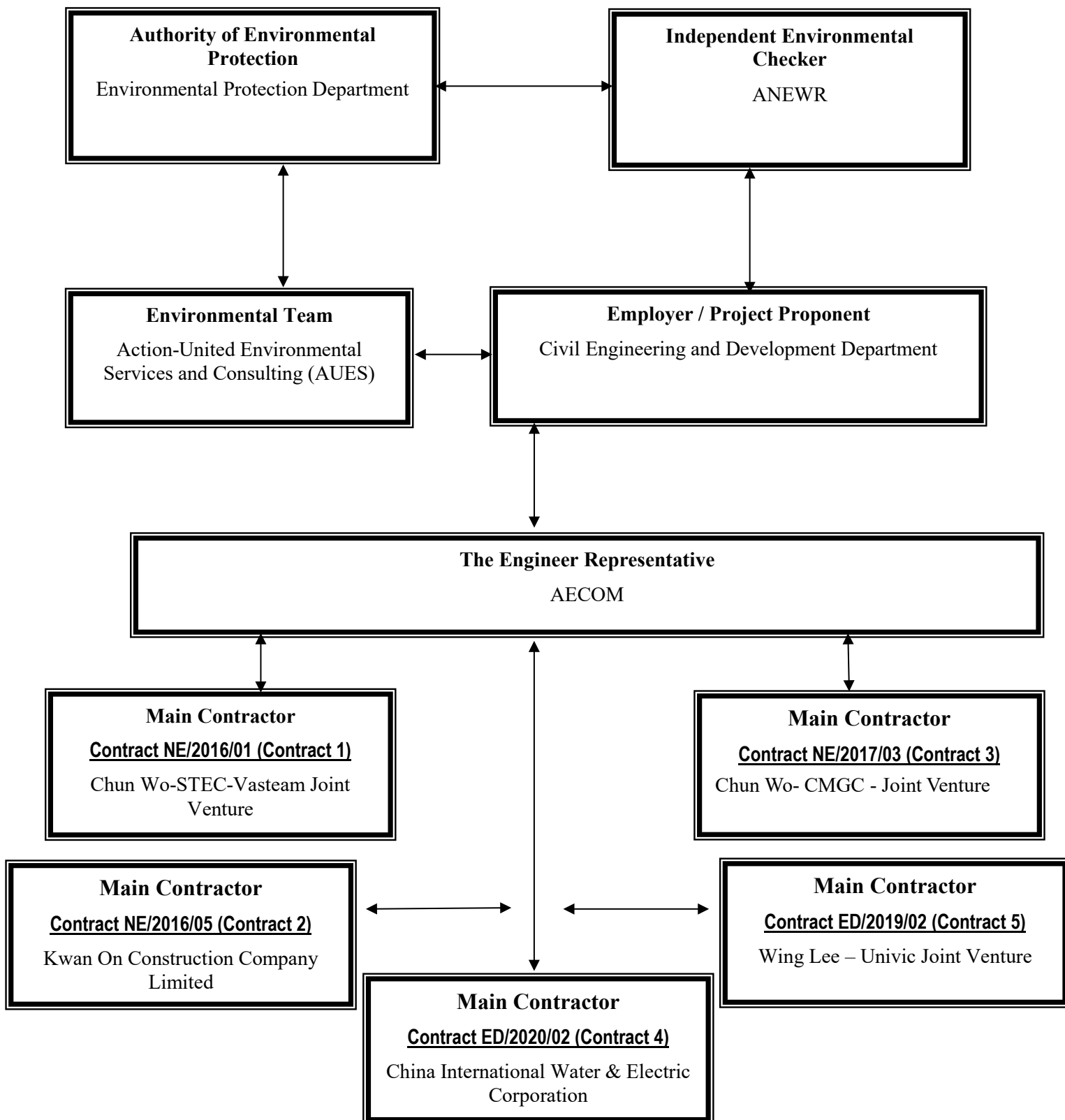
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SHEET NUMBER
 60328348/RPC/2001A

60328348/RPC/3001A

Appendix B

Project Organization Structure

Project Organization Structure

Contact Details of Key Personnel for Contract 3 –NE/2017/03

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	Mr Leung Chi Foon	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Brad Chan	5506 0068	2473 3221
ANWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CW – CMGC - JV	Construction Manager	Lau Kwai Ming	9845 4251	3965 9900
CW – CMGC - JV	Site Agent	Leung, Tak Yu	9026 3897	3965 9900
CW – CMGC - JV	Environmental Officer	Chris Cheng	9487 8108	3965 9900
CW – CMGC - JV	Environmental Supervisor	Zero Choi	5300 3643	3965 9900
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:*CEDD (Employer) – Civil Engineering and Development Department**AECOM (Engineer) – AECOM Asia Co. Ltd.**CW – CMGC - JV (Main Contractor) – Chun Wo- CMGC - Joint Venture**ANWR (IEC) –ANewR Consulting Limited**AUES (ET) – Action-United Environmental Services & Consulting*

Contact Details of Key Personnel for Contract 4 –ED/2020/02

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	Mr Leung Chi Foon	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Li, Ling Tommy	9389 8792	2473 3221
ANWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CIWEC	Project Director	Kevin, Chan Ka Shing	6159 9750	2508 0987
CIWEC	Site Agent	John Dan	9463 3062	2508 0987
CIWEC	Environmental Officer	Man Chun Ning	6299 8850	2508 0987
CIWEC	Environmental Supervisor	Chloe Ching	6728 2805	2508 0987
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:*CEDD (Employer) – Civil Engineering and Development Department**AECOM (Engineer) – AECOM Asia Co. Ltd.**CIWEC (Main Contractor) –China International Water & Electric Corporation**ANWR (IEC) –ANewR Consulting Limited**AUES (ET) – Action-United Environmental Services & Consulting*

Contact Details of Key Personnel for Contract 5 –ED/2019/02

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	Mr Leung Chi Foon	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	9824 7016	2473 3221
AECOM	Senior Resident Engineer	Bill Hon	5599 1486	2473 3221
ANWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
WL-UJV	Construction Manager	PH Ho	9464 1392	2983 6640
WL-UJV	Site Agent	Lee Chi Wai	9255 7014	2983 6640
WL-UJV	Environmental Officer	Guo Liming	5723 9883	2983 6640
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:*CEDD (Employer) – Civil Engineering and Development Department**AECOM (Engineer) – AECOM Asia Co. Ltd.**WL –UJV (Main Contractor) – Wing Lee – Univac Joint Venture**ANWR (IEC) –ANewR Consulting Limited**AUES (ET) – Action-United Environmental Services & Consulting*

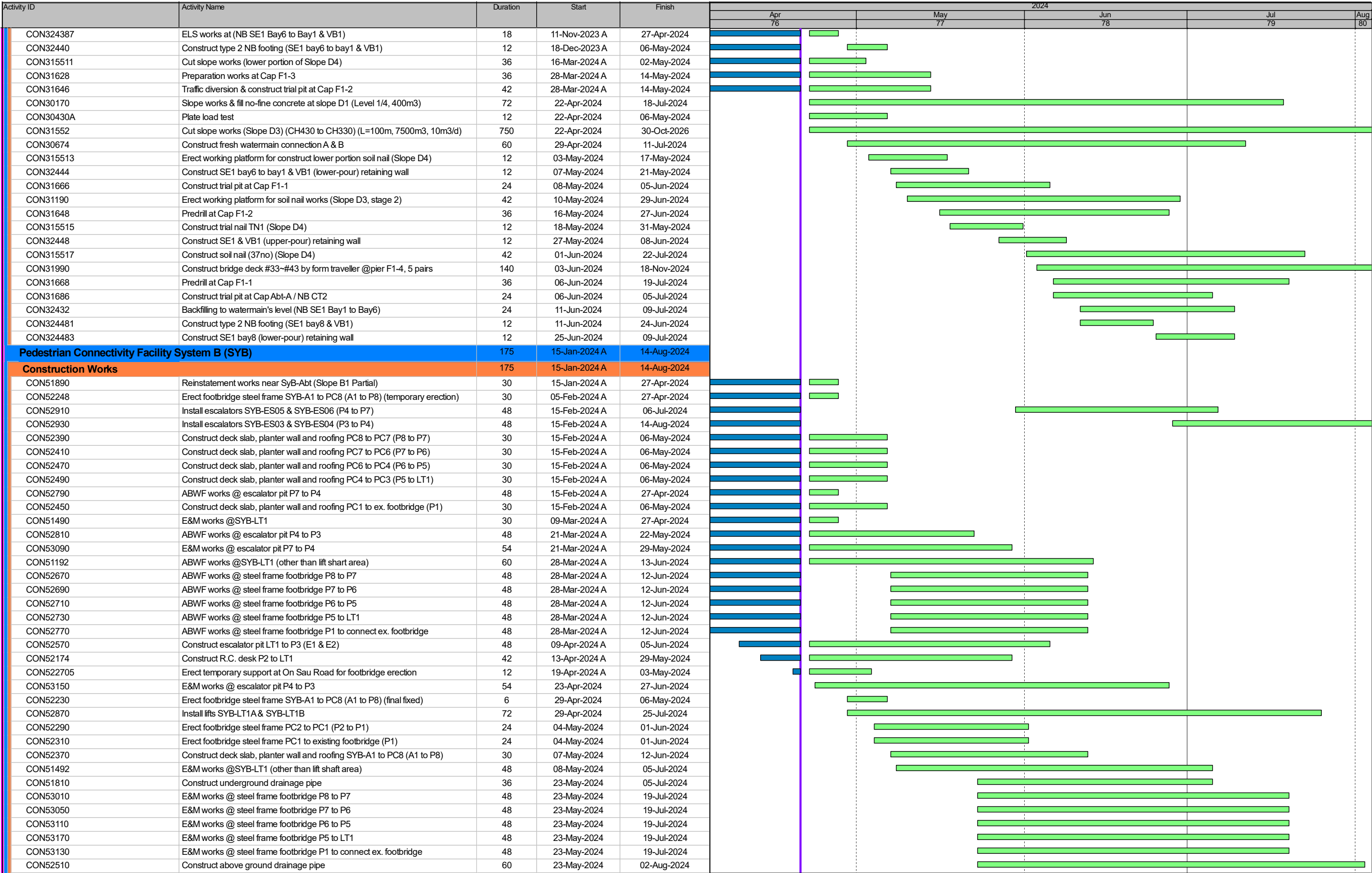
Appendix C

Construction Programme

- (a) Contract 3 (NE/2017/03)**
- (b) Contract 4 (ED/2020/02)**
- (c) Contract 5 (ED/2019/02)**

Contract 3 (NE/2017/03)

Activity ID	Activity Name	Duration	Start	Finish	2024					
					Apr	May	Jun	Jul	Aug	
					76	77	78	79	80	
NE2017/03 - ARQ PHASE 2A - Monthly Programme Update (202404)-0_240429		1810	21-Jun-2021 A	30-Oct-2026						
Road Improvement Works Location 1 (RIW1)		527	21-Jun-2021 A	05-Nov-2024						
Construction Works		527	21-Jun-2021 A	05-Nov-2024						
CON12110	Drainage, utilities works & backfilling (RWC2 type 4, 6, 7, 8)	60	21-Jun-2021 A	09-Aug-2024						
CON12130	Road works (RWC2 type 4, 6, 7, 8)	60	26-Jul-2021 A	13-Sep-2024						
CON12134	Install stone facing for wall (RWC2 type 4, 6, 7, 8)	72	02-Aug-2021 A	05-Nov-2024						
CON10770	Install sheet pile & ELS to RW pile cap (RWC2 type 3, stage 2), 1 team	72	02-Jan-2024 A	27-Apr-2024						
CON11328D	Subletting works - socketed H-pile at CT5	36	15-Jan-2024 A	27-Apr-2024						
CON115743	Construct NB RC footing (FE1-F6b to FE1-F7b, 30m, 1.0m/d, 1 team)	18	20-Feb-2024 A	27-Apr-2024						
CON12488	Install lift (KS27 west side)	42	21-Feb-2024 A	29-Apr-2024						
CON12554	Install lift (KS27 east side)	36	21-Feb-2024 A	22-Apr-2024						
CON125561	Backfilling works & hard-landscaping works (KS27 east side)	36	22-Feb-2024 A	27-Apr-2024						
CON10616	ELS works (RWC2 bay6 to bay14)	36	22-Feb-2024 A	27-Apr-2024						
CON10430	Construct RW wall (RWC2 type 5 [bay 46])	36	29-Feb-2024 A	02-May-2024						
CON124891	Backfilling works & hard-landscaping works (KS27 west side)	36	07-Mar-2024 A	06-May-2024						
CON11530	Construct piling foundation on CT6 Type 1 (18nos, 2d/no, 1 team) + 2d for 1st	38	21-Mar-2024 A	09-May-2024						
CON10512	Construct RW footing (RWC2 type 3a Bay 37 to Bay 31)	84	02-Apr-2024 A	30-Jul-2024						
CON11330	Construct CT5 piling foundation (15nos, 6d/no, 1 team + setup)	90	29-Apr-2024	15-Aug-2024						
CON12210	Drainage, utilities works & backfilling (RWC2 type 5)	36	03-May-2024	15-Jun-2024						
CON12570	T&C to lift, submit LE5 and EMSD inspection (KS27 east side)	6	04-May-2024	10-May-2024						
CON10790	Construct RW pile cap / footing (RWC2 type 3, stage 2), 1 team	42	04-May-2024	24-Jun-2024						
CON10652	Construct RW footing (RWC2 bay6 to bay14)	36	04-May-2024	17-Jun-2024						
CON115763	Construct NB RC wall (FE1-F6b to FE1-F7b, 30m, 0.85m/d, 1 team)	24	04-May-2024	01-Jun-2024						
CON12492	T&C to lift, submit LE5 and EMSD inspection (KS27 west side)	1	07-May-2024	07-May-2024						
CON10412	Construct RW footing (RWC2 type 6 [bay 48 to bay 47])	24	08-May-2024	05-Jun-2024						
CON12590	T&C and Statutory Inspection _KS27	30	11-May-2024	17-Jun-2024						
CON11532	Construct piling foundation on CT6 Type 2 (21nos, 2d/no, 1 team)	42	16-May-2024	05-Jul-2024						
CON10514	Construct RW footing (RWC2 type 3a Bay 37 to Bay 31)	84	25-May-2024	02-Sep-2024						
CON11710	Drainage, utilities works, backfilling & road paving (FE1-F4b to FE1-F7b & FE1-	30	03-Jun-2024	09-Jul-2024						
CON10414	Construct RW wall (RWC2 type 6 [bay 48 to bay 47])	24	06-Jun-2024	05-Jul-2024						
CON12230	Road works (RWC2 type 5)	36	17-Jun-2024	29-Jul-2024						
CON10654	Construct RW wall (RWC2 type 2)	48	18-Jun-2024	13-Aug-2024						
CON10810	Construct RW wall (RWC2 type 3, stage 2), 1 team	60	25-Jun-2024	03-Sep-2024						
Road Improvement Works Location 2 (RIW2)		436	26-Nov-2023 A	05-Mar-2025						
Construction Works in Slope C3 (Portion B)		358	26-Nov-2023 A	17-Dec-2024						
CON20250	Fabrication of NB steel post - central median along new clean water bay road 1	182	26-Nov-2023 A	25-May-2024						
CON20330	Fabrication of NB Acoustic panels - central median near junction at on sau roa	105	15-Feb-2024 A	25-May-2024						
CON21116B	(NCE255) Road works at new U-turn bay (Remaining part)	30	28-Feb-2024 A	04-May-2024						
CON21150	Construct hard landscape works at Portion B (Part 1)	60	10-May-2024	22-Jul-2024						
CON21170	Construct hard landscape works at Portion B (Part 2)	60	10-May-2024	22-Jul-2024						
CON21190	Construct hard landscape works at Portion B (Part 3)	60	10-May-2024	22-Jul-2024						
CON20270	Steel post along new clean water bay road to kowloon delivery	24	26-May-2024	18-Jun-2024						
CON20350	Acoustic panels near on sau road left turn to kowloon side delivery	24	26-May-2024	18-Jun-2024						
CON20370	Fabrication of NB Acoustic panels - central median along new clean water bay	182	19-Jun-2024	17-Dec-2024						
Construction Noise Semi-Enclosure SE2 (Portion C)		298	08-Mar-2024 A	05-Mar-2025						
CON22070	Construct NB RC L-shaped wall (SE2 Bay13 to Bay21; L=85m)	54	08-Mar-2024 A	16-May-2024						
CON22590	Road lighting, irrigation system & utilities works	240	17-May-2024	05-Mar-2025						
CON21750	Backfilling, construct road drainage & road paving (CT4, SE2 Bay4 to Bay12; l	60	17-May-2024	27-Jul-2024						
CON22090	Backfilling, construct road drainage & road paving (SE2 Bay13 to Bay21; L=85	54	17-May-2024	20-Jul-2024						
CON22570	Slope improvement Works (pit-by-pit method) (CT4 & SE2 fount part, 250nos p	120	17-May-2024	08-Oct-2024						
CON22610	Application for power supply & energization (RIW2)	156	17-May-2024	20-Nov-2024						
Road Improvement Works Location 3 (RIW3)		1467	19-Jul-2021 A	30-Oct-2026						
Construction Works		1467	19-Jul-2021 A	30-Oct-2026						
CON31130	(NCE215) (CE595) Cut slope works (CH115 to CH200) (L=85m, 13007m3, 11	1300	19-Jul-2021 A	15-Oct-2025						
CON31212	Rock slope mapping (Stage 2)	180	03-Oct-2022 A	21-May-2024						
CON31170	Soil nail works & further construct RWD3 (11NE-D/F246, stage 2)	150	21-Oct-2022 A	09-May-2024						
CON31710	Construct footing, pier & pier head F1-4	144	20-Dec-2022 A	28-May-2024						
CON31214	PM review & acceptance and slope stabilization measures (Stage 2)	180	20-Jan-2023 A	26-Sep-2024						
CON32810	Road works (RWD2 remaining)	42	05-Jun-2023 A	06-May-2024						
CON31290	Reinstatment works & fill no-fine concrete works	90	09-Jun-2023 A	14-Jun-2024						
CON30673	TTA application at SMPR for fresh watermain connection A & B	60	26-Aug-2023 A	27-Apr-2024						
<div><div></div> Actual Work</div> <div><div></div> Remaining Work</div> <div><div></div> Milestone</div>		NE/2017/03 Development of Anderson Road Quarry Site - Investigation Design & Construction Development of Anderson Road Quarry Site Road - Improvement Works & Pedestrian Connectivity Facilities Works Phase 2A 3-Month Rolling Programme							Page 1 of 3	



 Actual Work

 Remaining Work

 Milestone

Activity ID	Activity Name	Duration	Start	Finish	2024				
					Apr 76	May 77	Jun 78	Jul 79	Aug 80
CON52210	Install steel roof P2 to LT1	48	30-May-2024	26-Jul-2024					
CON52630	Install steel roof (steel frame) LT1 to P3	18	03-Jun-2024	24-Jun-2024					
CON52430	Construct deck slab, planter wall and roofing PC2 to PC1 (P2 to P1)	30	03-Jun-2024	09-Jul-2024					
CON52650	ABWF works @ steel frame footbridge A1 to P8	48	13-Jun-2024	08-Aug-2024					
CON52830	ABWF works @ escalator pit P3 to LT1	36	25-Jun-2024	06-Aug-2024					

Actual Work

Remaining Work

Milestone

NE/2017/03 Development of Anderson Road Quarry Site - Investigation Design & Construction

Development of Anderson Road Quarry Site Road - Improvement Works & Pedestrian Connectivity Facilities Works Phase 2A

3-Month Rolling Programme

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Contract 4 (ED/2020/02)

ID	Task Name	Duration	Start	Finish	Predecessors	28/4	5/5	May 2024	12/5	19/5	26/5	2/6	June 2024	9/6	16/6	23/6	30/6	7/7	July 2024	14/7	21/7	28/7
1	Contract Period	1567 days	Fri 30/7/21	Wed 12/11/25																		
2	Contract Starting Date [Contract Award Date 21 Jul 2021]	0 days	Fri 30/7/21	Fri 30/7/21																		
3	Contract Duration	1248 days	Fri 30/7/21	Sat 28/12/24	2SS																	
4	Original Completion Date	0 days	Sat 28/12/24	Sat 28/12/24	3																	
5	Potential EOT due to CEs and Inclement weather	319 days	Sun 29/12/24	Wed 12/11/25	4																	
6	Anticipated Completion of the Whole of the Works	0 days	Wed 12/11/25	Wed 12/11/25	25FF,5																	
7	Section of Works and Relevant Portions of Work	1731 days	Fri 30/7/21	Thu 14/5/26																		
8	Section of Works 1 - Portions 1a, 2a & 2b	1171 days	Mon 30/8/21	Tue 12/11/24																		
9	Original Completion Date	0 days	Wed 13/12/23	Wed 13/12/23	2FS+867 days																	
10	Portion 1a	929 days	Fri 29/4/22	Tue 12/11/24																		
11	Access date	0 days	Fri 29/4/22	Fri 29/4/22	2FS+273 days																	
12	Construction Duration	563 days	Fri 29/4/22	Sun 12/11/23	11SS																	
13	Potential EOT due to Inclement weather and CEs	335 days	Mon 13/11/23	Sat 12/10/24	12																	
14	Anticipated Completion Date	0 days	Tue 12/11/24	Tue 12/11/24	404FF,13																	
15	Portion 2a	1171 days	Mon 30/8/21	Tue 12/11/24																		
16	Access date	0 days	Mon 30/8/21	Mon 30/8/21	2FS+31 days																	
17	Construction Duration	836 days	Mon 30/8/21	Wed 13/12/23	16SS																	
18	Potential EOT due to Inclement weather and CEs	335 days	Thu 14/12/23	Tue 12/11/24	17																	
19	Anticipated Completion Date	0 days	Tue 12/11/24	Tue 12/11/24	438FF																	
20	Portion 2b	1065 days	Tue 14/12/21	Tue 12/11/24																		
21	Access date	0 days	Tue 14/12/21	Tue 14/12/21	2FS+137 days																	
22	Construction Duration	730 days	Tue 14/12/21	Wed 13/12/23	21SS																	
23	Potential EOT due to Inclement weather and CEs	292 days	Thu 14/12/23	Mon 30/9/24	22																	
24	Anticipated Completion Date	0 days	Tue 12/11/24	Tue 12/11/24	510FF,23																	
25	Section of Works 1A - Establishment Works for all Landscape Softworks in Section 1 of the Works	365 days	Wed 13/11/24	Wed 12/11/25																		
26	Original Completion Date	0 days	Thu 12/12/24	Thu 12/12/24	9FS+365 days																	
27	Commencement of Establishment Work	0 days	Wed 13/11/24	Wed 13/11/24	28SS																	
28	Establishment Work Duration	365 days	Wed 13/11/24	Wed 12/11/25	14,19,24																	
29	Anticipated Completion Date	0 days	Wed 12/11/25	Wed 12/11/25	28FF																	
30	Section of Works 2 - Portion 8	1251 days	Fri 30/7/21	Tue 31/12/24																		
31	Original Completion Date	0 days	Sat 29/7/23	Sat 29/7/23																		
32	Access date	0 days	Fri 30/7/21	Fri 30/7/21	2																	
33	Construction Duration	730 days	Fri 30/7/21	Sat 29/7/23	32																	
34	Potential EOT due to Inclement weather and CEs up to Jan 2023	385 days	Sun 30/7/23	Sat 17/8/24	33																	
35	Anticipated Completion Date	0 days	Tue 31/12/24	Tue 31/12/24	544FF,34																	
36	Section of Works 2A - Establishment Works for all Landscape Softworks in Section 2 of the Works	1616 days	Fri 30/7/21	Wed 31/12/25																		
37	Original Completion Date	0 days	Fri 30/7/21	Fri 30/7/21																		
38	Commencement of Establishment Work	0 days	Wed 1/1/25	Wed 1/1/25	39SS																	
39	Establishment Work Duration	365 days	Wed 1/1/25	Wed 31/12/25	35																	
40	Anticipated Completion Date	0 days	Wed 31/12/25	Wed 31/12/25	39FF																	
41	Section of Works 3 - Portions 1b, 3, 4, 5	763 days	Fri 30/7/21	Thu 31/8/23																		
42	Original Completion Date	0 days	Tue 30/5/23	Tue 30/5/23	2FS+669 days																	
43	Portion 1b	276 days	Tue 29/11/22	Thu 31/8/23																		
44	Access date	0 days	Tue 29/11/22	Tue 29/11/22	2FS+487 days																	
45	Construction Duration	183 days	Tue 29/11/22	Tue 30/5/23	44																	
46	Potential EOT due to Inclement weather and CEs	93 days	Wed 31/5/23	Thu 31/8/23	45																	
47	Anticipated Completion Date	0 days	Thu 31/8/23	Thu 31/8/23	685FF,46																	
48	Portion 3	702 days	Wed 29/9/21	Thu 31/8/23																		
49	Access date	0 days	Wed 29/9/21	Wed 29/9/21	2FS+61 days																	
50	Construction Duration	609 days	Wed 29/9/21	Tue 30/5/23	49																	
51	Potential EOT due to Inclement weather and CEs	93 days	Wed 31/5/23	Thu 31/8/23	50																	
52	Anticipated Completion Date	0 days	Thu 31/8/23	Thu 31/8/23	697FF,51																	
53	Portion 4	763 days	Fri 30/7/21	Thu 31/8/23																		
54	Access date	0 days	Fri 30/7/21	Fri 30/7/21	2																	
55	Construction Duration	670 days	Fri 30/7/21	Tue 30/5/23	54																	
56	Potential EOT due to Inclement weather and CEs	93 days	Wed 31/5/23	Thu 31/8/23	55																	

ID	Task Name	Duration	Start	Finish	Predecessors	28/4	5/5	May 2024	12/5	19/5	26/5	2/6	June 2024	9/6	16/6	23/6	30/6	7/7	July 2024	14/7	21/7	28/7
57	Anticipated Completion Date	0 days	Thu 31/8/23	Thu 31/8/23	708FF,56																	
58	Portion 5	551 days	Sun 27/2/22	Thu 31/8/23																		
59	Access date	0 days	Sun 27/2/22	Sun 27/2/22	2																	
60	Construction Duration	458 days	Sun 27/2/22	Tue 30/5/23	59																	
61	Potential EOT due to Inclement weather and CEs	93 days	Wed 31/5/23	Thu 31/8/23	60																	
62	Anticipated Completion Date	0 days	Thu 31/8/23	Thu 31/8/23	712FF,61																	
63	Section of Works 3A - Establishment Works for all Landscape Softworks in Section 3 of the Works	365 days	Fri 1/9/23	Fri 30/8/24																		
64	Original Completion Date	0 days	Tue 28/5/24	Tue 28/5/24	42FS+365 days																	
65	Commencement of Establishment Work	0 days	Fri 1/9/23	Fri 1/9/23	66SS																	
66	Establishment Work Duration	365 days	Fri 1/9/23	Fri 30/8/24	52,47,57,62																	
67	Anticipated Completion Date	0 days	Fri 30/8/24	Fri 30/8/24	66FF																	
68	Section of Works 4 - Portions 6, 12	1155 days	Fri 30/7/21	Thu 26/9/24																		
69	Original Completion Date	0 days	Tue 13/6/23	Tue 13/6/23	2FS+683 days																	
70	Portion 6	972 days	Sat 29/1/22	Thu 26/9/24																		
71	Access date	0 days	Sat 29/1/22	Sat 29/1/22	2FS+183 days																	
72	Construction Duration	501 days	Sat 29/1/22	Tue 13/6/23	71																	
73	Potential EOT due to Inclement weather and CEs	471 days	Wed 14/6/23	Thu 26/9/24	72																	
74	Anticipated Completion Date	0 days	Thu 26/9/24	Thu 26/9/24	721FF,73																	
75	Portion 12	1155 days	Fri 30/7/21	Thu 26/9/24																		
76	Access date	0 days	Fri 30/7/21	Fri 30/7/21	2																	
77	Construction Duration	684 days	Fri 30/7/21	Tue 13/6/23	76																	
78	Potential EOT due to Inclement weather and CEs	471 days	Wed 14/6/23	Thu 26/9/24	77																	
79	Anticipated Completion Date	0 days	Thu 26/9/24	Thu 26/9/24	78,720FF																	
80	Section of Works 4A - Establishment Works for all Landscape Softworks in Section 4 of the Works	471 days	Wed 12/6/24	Fri 26/9/25																		
81	Original Completion Date	0 days	Wed 12/6/24	Wed 12/6/24	69FS+365 days																	
82	Commencement of Establishment Work	0 days	Fri 27/9/24	Fri 27/9/24	83SS																	
83	Establishment Work Duration	365 days	Fri 27/9/24	Fri 26/9/25	74,79																	
84	Anticipated Completion Date	0 days	Fri 26/9/25	Fri 26/9/25	83FF																	
85	Section of Works 5A - Portions 9, 10	1308 days	Fri 30/7/21	Wed 26/2/25																		
86	Original Completion Date	0 days	Wed 28/6/23	Wed 28/6/23	2FS+698 days																	
87	Portion 9	1247 days	Wed 29/9/21	Wed 26/2/25																		
88	Access date	0 days	Wed 29/9/21	Wed 29/9/21	2FS+61 days																	
89	Construction Duration	638 days	Wed 29/9/21	Wed 28/6/23	88																	
90	Potential EOT due to Inclement weather and CEs	460 days	Thu 29/6/23	Mon 30/9/24	89																	
91	Anticipated Completion Date	0 days	Wed 26/2/25	Wed 26/2/25	90,807FF																	
92	Portion 10	1205 days	Fri 30/7/21	Fri 15/11/24																		
93	Access date for Portion	0 days	Fri 30/7/21	Fri 30/7/21	2																	
94	Construction Duration for Portion	699 days	Fri 30/7/21	Wed 28/6/23	93																	
95	Potential EOT due to Inclement weather and CEs	460 days	Thu 29/6/23	Mon 30/9/24	94																	
96	Anticipated Completion Date	0 days	Fri 15/11/24	Fri 15/11/24	837FF,95																	
97	Section of Works 5AII - Establishment Works for all Landscape Softworks in Section 5A of the Works	610 days	Wed 26/6/24	Sat 7/3/26																		
98	Original Completion Date	0 days	Wed 26/6/24	Wed 26/6/24	86FS+365 days																	
99	Commencement of Establishment Work	0 days	Thu 27/2/25	Thu 27/2/25	100SS																	
100	Establishment Work Duration	365 days	Thu 27/2/25	Sat 7/3/26	91,96																	
101	Anticipated Completion Date	0 days	Sat 7/3/26	Sat 7/3/26	100FF																	
102	Section of Works 5B - Portion 11	973 days	Sun 27/2/22	Sat 26/10/24																		
103	Original Completion Date	0 days	Tue 27/6/23	Tue 27/6/23	2FS+697 days																	
104	Access date	0 days	Sun 27/2/22	Sun 27/2/22	2FS+211 days																	
105	Construction Duration	487 days	Sun 27/2/22	Wed 28/6/23	104SS																	
106	Potential EOT due to Inclement weather and CEs	460 days	Thu 29/6/23	Mon 30/9/24	105																	
107	Anticipated Completion Date	0 days	Sat 26/10/24	Sat 26/10/24	106,931FF																	
108	Section of Works 6 - Portion 7	519 days	Tue 29/11/22	Tue 30/4/24																		
109	Original Completion Date	0 days	Tue 28/11/23	Tue 28/11/23	2FS+851 days																	
110	Access date	0 days	Tue 29/11/22	Tue 29/11/22	2FS+487 days																	
111	Construction Duration	365 days	Tue 29/11/22	Tue 28/11/23	110																	

ID	Task Name	Duration	Start	Finish	Predecessors	28/4	5/5	12/5	19/5	26/5	2/6	9/6	16/6	23/6	30/6	7/7	14/7	21/7	28/7
112	Deferred possession (CE 067)	90 days	Wed 29/11/23	Mon 26/2/24	111														
113	Anticipated Completion Date	0 days	Tue 30/4/24	Tue 30/4/24	938FF,112														
114	Section of Works 6A - Establishment Works for all Landscape Softworks in Section 6 of the Works	365 days	Wed 1/5/24	Wed 30/4/25															
115	Original Completion Date	0 days	Wed 27/11/24	Wed 27/11/24	109FS+365 days														
116	Commencement of Establishment Work	0 days	Wed 1/5/24	Wed 1/5/24	117SS														
117	Establishment Work Duration	365 days	Wed 1/5/24	Wed 30/4/25	113														
118	Anticipated Completion Date	0 days	Wed 30/4/25	Wed 30/4/25	117FF														
119	Section of Works 7A - Portions 13a, 14 (DELETED)	1264 days	Fri 30/7/21	Mon 13/1/25															
120	Access date for Portion 13a	0 days	Sat 29/1/22	Sat 29/1/22	2														
121	Construction Duration for Portion 13a	486 days	Sat 29/1/22	Mon 29/5/23	120														
122	Completion of Works in Portion 13a	0 days	Sun 8/12/24	Sun 8/12/24	121,968														
123	Access date for Portion 14	0 days	Fri 30/7/21	Fri 30/7/21	2														
124	Construction Duration for Portion 14	669 days	Fri 30/7/21	Mon 29/5/23	123														
125	Completion of Works in Portion 14	0 days	Mon 13/1/25	Mon 13/1/25	124,980,979														
126	Section of Works 7A1 - Establishment Works for all Landscape Softworks in Section 7A of the Works (DELETED)	365 days	Mon 13/1/25	Thu 15/1/26															
127	Commencement of Establishment Work for Section 7A	0 days	Mon 13/1/25	Mon 13/1/25	125														
128	Establishment Work Duration for Section 7A	365 days	Tue 14/1/25	Thu 15/1/26	127														
129	Completion of Works in Section 7A	0 days	Thu 15/1/26	Thu 15/1/26	128,985														
130	Section of Works 7B - Portions 13b, 15	1155 days	Sat 26/2/22	Fri 25/4/25															
131	Original Completion Date	0 days	Fri 29/12/23	Fri 29/12/23	2FS+882 days														
132	Portion 13b	1155 days	Sat 26/2/22	Fri 25/4/25															
133	Access date	0 days	Sat 26/2/22	Sat 26/2/22	2FS+211 days														
134	Construction Duration	671 days	Sun 27/2/22	Fri 29/12/23															
135	Potential EOT due to Inclement weather and CEs up to Jan 2023	300 days	Sat 30/12/23	Thu 24/10/24	134														
136	Anticipated Completion Date	0 days	Fri 25/4/25	Fri 25/4/25	986FF														
137	Portion 15	1154 days	Sun 27/2/22	Fri 25/4/25															
138	Access date	0 days	Sun 27/2/22	Sun 27/2/22	2														
139	Construction Duration	671 days	Sun 27/2/22	Fri 29/12/23	138														
140	Potential EOT due to Inclement weather and CEs	300 days	Sat 30/12/23	Thu 24/10/24	139														
141	Anticipated Completion Date	0 days	Fri 25/4/25	Fri 25/4/25	986FF														
142	Section of Works 7B1 - Establishment Works for all Landscape Softworks in Section 7B of the Works	484 days	Fri 27/12/24	Thu 14/5/26															
143	Original Completion Date	0 days	Fri 27/12/24	Fri 27/12/24	131FS+365 days														
144	Commencement of Establishment Work	0 days	Sat 26/4/25	Sat 26/4/25	145SS														
145	Establishment Work Duration	365 days	Sat 26/4/25	Thu 14/5/26	136,141														
146	Anticipated Completion Date	0 days	Thu 14/5/26	Thu 14/5/26	145FF														
147	Section of Works 8 - Portion 16	809 days	Thu 16/6/22	Sun 1/9/24															
148	Original Completion Date	0 days	Wed 28/6/23	Wed 28/6/23	2FS+698 days														
149	Access date	0 days	Thu 16/6/22	Thu 16/6/22	2FS+321 days														
150	Construction Duration	378 days	Thu 16/6/22	Wed 28/6/23	149														
151	Potential EOT due to Inclement weather and CEs	186 days	Thu 29/6/23	Sun 31/12/23	150														
152	Anticipated Completion Date	0 days	Sun 1/9/24	Sun 1/9/24	151,1110FF														
153	Section of Works 8A - Establishment Works for all Landscape Softworks in Section 8 of the Works	431 days	Thu 27/6/24	Mon 1/9/25															
154	Original Completion Date	0 days	Thu 27/6/24	Thu 27/6/24	148FS+365 days														
155	Commencement of Establishment Work	0 days	Mon 2/9/24	Mon 2/9/24	156SS														
156	Establishment Work Duration	365 days	Mon 2/9/24	Mon 1/9/25	152														
157	Anticipated Completion Date	0 days	Mon 1/9/25	Mon 1/9/25	156FF														
158	Section of Works 9 - Portion 17	977 days	Sun 27/2/22	Wed 30/10/24															
159	Original Completion Date	0 days	Fri 29/12/23	Fri 29/12/23	2FS+882 days														
160	Access date	0 days	Sun 27/2/22	Sun 27/2/22	2FS+212 days														
161	Construction Duration	671 days	Sun 27/2/22	Fri 29/12/23	160														
162	Potential EOT due to Inclement weather and CEs	306 days	Sat 30/12/23	Wed 30/10/24	161														
163	Anticipated Completion Date	0 days	Wed 30/10/24	Wed 30/10/24	162,1128FF														
164	Section of Works 9A - Establishment Works for all Landscape Softworks in Section 9 of the Works	365 days	Wed 30/10/24	Thu 30/10/25															
165	Original Completion Date	0 days	Sat 28/12/24	Sat 28/12/24	159FS+365 days														
166	Commencement of Establishment Work	0 days	Wed 30/10/24	Wed 30/10/24	163SS														

ID	Task Name	Duration	Start	Finish	Predecessors	28/4	5/5	12/5	19/5	26/5	2/6	9/6	16/6	23/6	30/6	7/7	14/7	21/7	28/7
167	Establishment Work Duration	365 days	Thu 31/10/24	Thu 30/10/25	163														
168	Anticipated Completion Date	0 days	Wed 30/10/24	Wed 30/10/24	163FF														
169	Section of Works 10 - All Tree Protection and Preservation Works	1202 days	Fri 30/7/21	Tue 12/11/24															
170	Original Completion Date	0 days	Fri 29/12/23	Fri 29/12/23	131FF														
171	Commencement of All Tree Protection and Preservation Work	0 days	Fri 30/7/21	Fri 30/7/21	2														
172	All Tree Protection and Preservation Work	883 days	Fri 30/7/21	Fri 29/12/23	171														
173	Potential EOT due to Inclement weather and CE	319 days	Sat 30/12/23	Tue 12/11/24	172														
174	Completion of All Tree Protection and Preservation Work	0 days	Tue 12/11/24	Tue 12/11/24	173,1208FF														
175	Preliminaries	1567 days	Fri 30/7/21	Wed 12/11/25															
176	Establishment of Commercial/Organization	370 days	Fri 30/7/21	Wed 3/8/22															
177	Inform Contractor of the name and delegated authorities of the PMD (ER)	7 days	Fri 30/7/21	Thu 5/8/21	2														
178	Confirmation and arrangement of the method of payment	7 days	Fri 30/7/21	Thu 5/8/21	2														
179	Issue forms to CIC& PCFB	14 days	Fri 30/7/21	Thu 12/8/21	2														
180	Submission of MPF form to MPFSA	7 days	Fri 30/7/21	Thu 5/8/21	2														
181	Notification to Labour Department/Marine Department of the commencement date and other details of the contract	7 days	Fri 30/7/21	Thu 5/8/21	2														
182	Submission of Summary Details of Contract to the Departmental Safety and Environmental	21 days	Fri 30/7/21	Thu 19/8/21	2														
183	Nominate a Labour Officer	7 days	Fri 30/7/21	Thu 5/8/21	2														
184	Set up Site Liaison Group (SLG)	7 days	Fri 30/7/21	Thu 5/8/21	2														
185	Professional video production company and a competent video director	7 days	Fri 30/7/21	Thu 5/8/21	2														
186	Surveyor, Key People	7 days	Fri 30/7/21	Thu 5/8/21	2														
187	Traffic Consultant, Traffic Engineer	7 days	Fri 30/7/21	Thu 5/8/21	2														
188	Particulars of Independent service provider for Digital Works Supervision System	7 days	Fri 30/7/21	Thu 5/8/21	2														
189	Contractor's Management Team	14 days	Fri 30/7/21	Thu 12/8/21	2														
190	BIM team	14 days	Fri 30/7/21	Thu 12/8/21	2														
191	Competent member of the sites supervisory staff to oversee and supervise tree works related to arboricultural operations and preservation of trees within the Site	21 days	Fri 30/7/21	Thu 19/8/21	2														
192	Content of Contract Webpage (Monthly update afterwards)	21 days	Fri 30/7/21	Thu 19/8/21	2														
193	Particulars of the assigned person (competent member with arboriculture knowledge of the site supervisory for tree preservation)	21 days	Fri 30/7/21	Thu 19/8/21	2														
194	Details of Geotechnical monitoring team	21 days	Fri 30/7/21	Thu 19/8/21	2														
195	Design of the CRE Site Office certified by an accepted ICE	30 days	Fri 30/7/21	Sat 28/8/21	2														
196	Design Architect	30 days	Fri 30/7/21	Sat 28/8/21	2														
197	Specially required staff	30 days	Fri 30/7/21	Sat 28/8/21	2														
198	Public Relation Officer	30 days	Fri 30/7/21	Sat 28/8/21	2														
199	Site Safety Committee (SSC) Meeting (monthly afterwards)	30 days	Fri 30/7/21	Sat 28/8/21	2														
200	Meeting of the SSMC (monthly afterwards)	30 days	Fri 30/7/21	Sat 28/8/21	2														
201	Professional Indemnity Insurance in respect of Contractor's Design	60 days	Fri 30/7/21	Mon 27/9/21	2														
202	Proposed gasket material for waterworks	60 days	Fri 30/7/21	Mon 27/9/21	2														
203	7 days advance notice of the date on which workers begin to wear Site uniform; Provide uniforms within 5 days after the design is accepted by PM	60 days	Fri 30/7/21	Mon 27/9/21	2														
204	2 Engineering Graduates & 3 Technician apprentices	90 days	Fri 30/7/21	Wed 27/10/21	2														
205	Commissioning of DWSS	90 days	Fri 30/7/21	Wed 27/10/21	2														
206	Agree on the content and presentation of the dashboard of DWSS	90 days	Fri 30/7/21	Wed 27/10/21	2														
207	Monthly collaboration and information exchange of BIM	90 days	Fri 30/7/21	Wed 27/10/21	2														
208	Combined Services Drawing (CSD) and CBWD generated from BIM model	90 days	Fri 30/7/21	Wed 27/10/21	2														
209	Video script for Project Video Film	180 days	Fri 30/7/21	Tue 25/1/22	2														
210	Employment of Construction Industry Council's Graduates (min. 4 graduates)	180 days	Fri 30/7/21	Tue 25/1/22	2														
211	Nomination of Treatment process specialist, Design Engineer, and Independent Checking Engineer (ICE)	34 days	Fri 1/7/22	Wed 3/8/22															
212	Plan & Proposals	60 days	Fri 30/7/21	Mon 27/9/21															
213	Preparation and submission of Noise Mitigation Plan (3 hard copies, 2 electronic copies)	30 days	Fri 30/7/21	Sat 28/8/21	2														
214	Preparation and submission of Waste Management Plan (WMP)	30 days	Fri 30/7/21	Sat 28/8/21	2														
215	Preparation and submission of Draft Construction Health and Safety Plan (3 copies)	7 days	Fri 30/7/21	Thu 5/8/21	2														
216	Preparation and submission of Quality Policy statement and quality plan	7 days	Fri 30/7/21	Thu 5/8/21	2														
217	Preparation and submission of Draft Environmental Management Plan (EMP) 3 copies	4 days	Fri 30/7/21	Mon 2/8/21	2														
218	Tender requirements for suppliers of Plant and Materials, Equipment and Insurance Proposal	14 days	Fri 30/7/21	Thu 12/8/21	2														
219	Preparation of Proposal for arrangement for placement of storage compartments/ drinking water facilities/ toilet/ hand-wash facilities/ showering/ rubbishbin/ working shelter on Site	14 days	Fri 30/7/21	Thu 12/8/21	2														

Task Critical Task Milestone Summary Progress

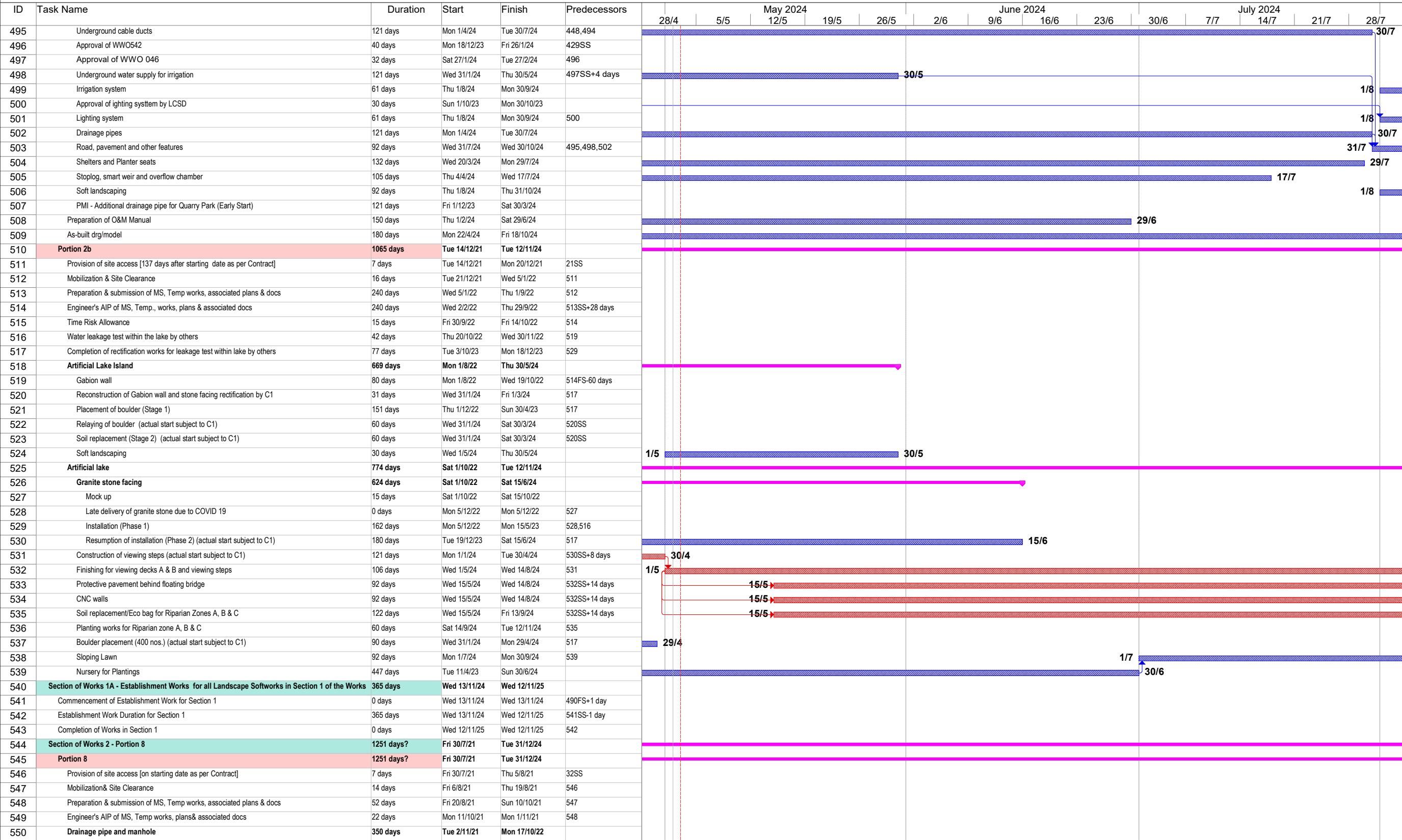
ID	Task Name	Duration	Start	Finish	Predecessors	May 2024					June 2024					July 2024				
						28/4	5/5	12/5	19/5	26/5	2/6	9/6	16/6	23/6	30/6	7/7	14/7	21/7	28/7	
274	Complete setting up and begin to operate the Security System	60 days	Fri 30/7/21	Mon 27/9/21	2															
275	Initial Survey	60 days	Fri 30/7/21	Mon 27/9/21	2															
276	Assessment for the risk resulting from working in hot weather	60 days	Fri 30/7/21	Mon 27/9/21	2															
277	Contractor's Design	653 days	Fri 1/7/22	Sat 13/4/24																
278	Architectural & Structural	183 days	Fri 1/7/22	Fri 30/12/22																
279	Prepare & Submission	31 days	Fri 1/7/22	Sun 31/7/22	2															
280	Internal Review & Submission	15 days	Mon 1/8/22	Mon 15/8/22	279															
281	PM Review & AIP	16 days	Tue 16/8/22	Wed 31/8/22	280															
282	Re-submission	30 days	Thu 1/9/22	Fri 30/9/22	281															
283	Design Checker Review & Endorsement	7 days	Sat 1/10/22	Fri 7/10/22	282															
284	DDA Submission (circulation to Government Authorities)	8 days	Sat 8/10/22	Sat 15/10/22	283															
285	Time risk allowance for DDA processing	7 days	Sun 16/10/22	Sat 22/10/22	284															
286	Vetting Process and Approval by Government Authorities and PM	69 days	Sun 23/10/22	Fri 30/12/22	285															
287	Park lighting, irrigation system, smart system etc.	341 days	Mon 14/11/22	Fri 20/10/23																
288	Covered walkway	150 days	Thu 16/11/23	Sat 13/4/24																
289	Prepare	90 days	Thu 16/11/23	Tue 13/2/24	2															
290	Internal review, ICE, CSD and submission	30 days	Wed 14/2/24	Thu 14/3/24	289															
291	AIP	30 days	Fri 15/3/24	Sat 13/4/24	290															
292	Contractor's Design [Enhancement on Architectural Design & Associated Works]	1036 days	Fri 14/1/22	Thu 14/11/24																
293	Engagement of Design Architectural Firm (CE 005)	0 days	Fri 14/1/22	Fri 14/1/22																
294	Enhancement on Architectual Design & Associated Works at Portions 1a, 2a and 2b (Quarry Lake) (CE 070)	0 days	Tue 4/4/23	Tue 4/4/23	293															
295	AIP and approvals	275 days	Fri 1/7/22	Sat 1/4/23																
296	Schematic Landscape Master Plan (LMP), Design AIP, GBP approval	153 days	Fri 1/7/22	Wed 30/11/22	293															
297	Production of AIP Drawings	92 days	Sat 31/12/22	Sat 1/4/23	296															
298	DSD's AIP approval	0 days	Sat 1/4/23	Sat 1/4/23	297															
299	Detailed Design Submission Schedule	473 days	Mon 31/7/23	Thu 14/11/24																
300	Statutory submission	92 days	Wed 30/8/23	Thu 30/11/23	298															
301	FSD submission for GBP	0 days	Thu 30/11/23	Thu 30/11/23																
302	WVO542 document	0 days	Wed 30/8/23	Wed 30/8/23																
303	Civil	46 days	Wed 30/8/23	Sun 15/10/23	298															
304	Underground rain water drainage	0 days	Sun 15/10/23	Sun 15/10/23																
305	Underground watermain	0 days	Wed 30/8/23	Wed 30/8/23																
306	Undergroud sewerage	0 days	Sat 30/9/23	Sat 30/9/23																
307	Irrigation	0 days	Wed 30/8/23	Wed 30/8/23																
308	Landscape and Miscellaneous	101 days	Mon 21/8/23	Thu 30/11/23	298															
309	Landscape	56 days	Mon 21/8/23	Sun 15/10/23																
310	Smart weir system	0 days	Mon 30/10/23	Mon 30/10/23																
311	Flood warning system	0 days	Thu 30/11/23	Thu 30/11/23																
312	Building	473 days	Mon 31/7/23	Thu 14/11/24																
313	A1: Lavatories	473 days	Mon 31/7/23	Thu 14/11/24																
314	Architecture	32 days	Mon 31/7/23	Thu 31/8/23																
315	Structure	150 days	Sat 7/10/23	Mon 4/3/24																
316	E& M	316 days	Thu 4/1/24	Thu 14/11/24																
317	A2: Management Office Building	458 days	Tue 15/8/23	Thu 14/11/24																
318	Architecture	17 days	Tue 15/8/23	Thu 31/8/23																
319	Structure	220 days	Sat 14/10/23	Mon 20/5/24																
320	E& M	214 days	Mon 15/4/24	Thu 14/11/24																
321	B1: Multi-Purpose Building	458 days	Tue 15/8/23	Thu 14/11/24																
322	Architecture	17 days	Tue 15/8/23	Thu 31/8/23																
323	Structure	224 days	Sat 28/10/23	Fri 7/6/24																
324	E& M	251 days	Sat 9/3/24	Thu 14/11/24																
325	B2: TX Room/Lavatories	458 days	Tue 15/8/23	Thu 14/11/24																
326	Architecture	29 days	Tue 15/8/23	Tue 12/9/23																
327	Structure	199 days	Thu 21/12/23	Sat 6/7/24																
328	E& M	263 days	Mon 26/2/24	Thu 14/11/24																

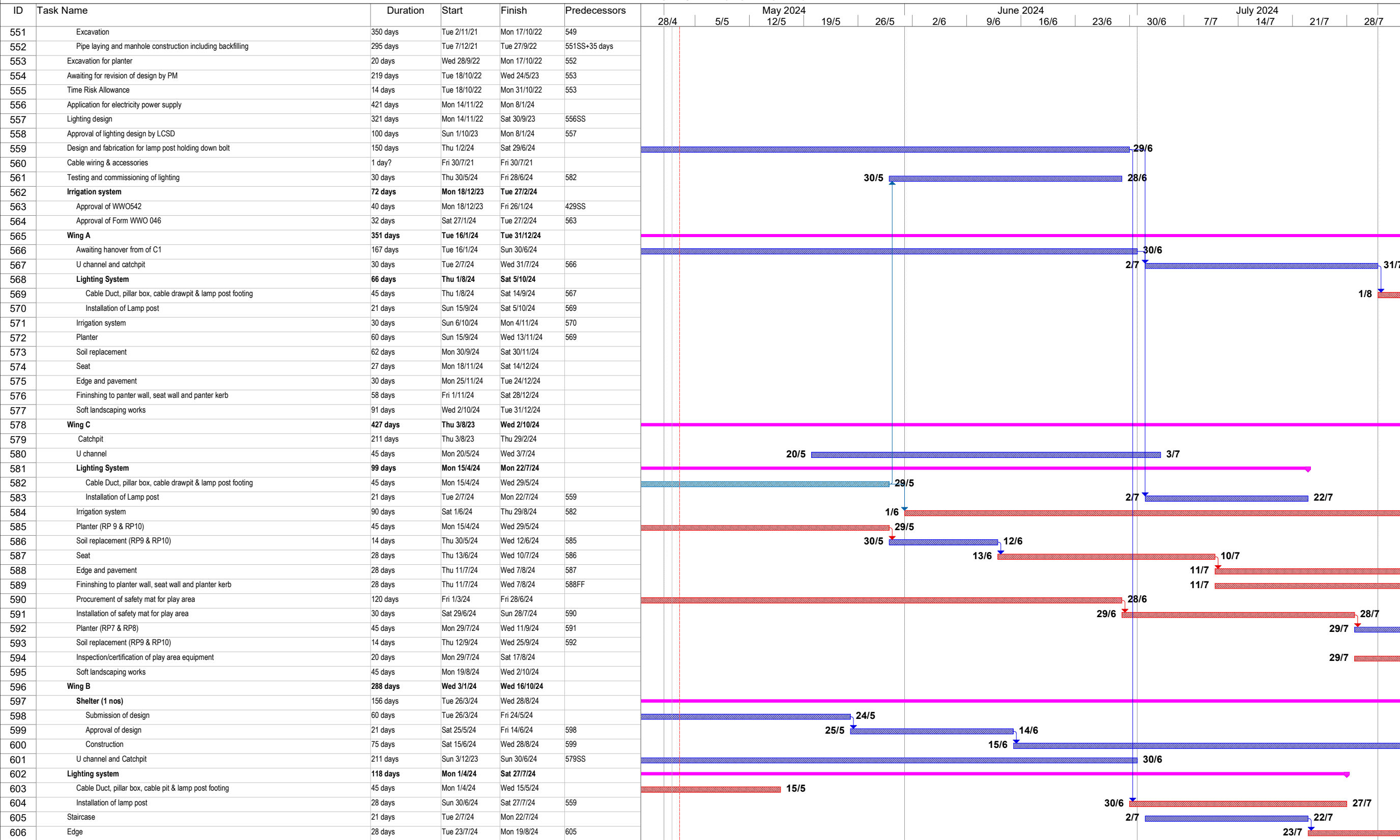
ID	Task Name	Duration	Start	Finish	Predecessors	28/4	5/5	12/5	19/5	26/5	2/6	9/6	16/6	23/6	30/6	7/7	14/7	21/7	28/7
329	C1: Storeroom/Lavatories	473 days	Mon 31/7/23	Thu 14/11/24															
330	Architecture	32 days	Mon 31/7/23	Thu 31/8/23															
331	Structure	269 days	Tue 15/8/23	Thu 9/5/24															
332	E& M	280 days	Fri 9/2/24	Thu 14/11/24															
333	C2: Water Treatment Plant Room	458 days	Tue 15/8/23	Thu 14/11/24															
334	Architecture	17 days	Tue 15/8/23	Thu 31/8/23															
335	Structure	271 days	Sat 7/10/23	Wed 3/7/24															
336	E& M	196 days	Fri 3/5/24	Thu 14/11/24															
337	Schedule of Accommodation (SoA) Submission	141 days	Sun 2/4/23	Mon 21/8/23	298														
338	Stage 1	56 days	Sun 2/4/23	Sat 27/5/23															
339	Agree SoA with DSD	14 days	Sun 2/4/23	Sat 15/4/23															
340	Workshop	8 days	Sun 16/4/23	Sun 23/4/23	339														
341	GPA submission and approval	34 days	Mon 24/4/23	Sat 27/5/23	340														
342	Stage 2	63 days	Mon 19/6/23	Mon 21/8/23	341														
343	Submission	0 days	Mon 19/6/23	Mon 19/6/23															
344	approval	0 days	Mon 21/8/23	Mon 21/8/23	343														
345	DSD's VCAB submission	183 days	Fri 7/4/23	Fri 6/10/23															
346	Stage 1 - AIP	28 days	Fri 7/4/23	Thu 4/5/23															
347	Submission and presentation	8 days	Fri 7/4/23	Fri 14/4/23															
348	Approval	20 days	Sat 15/4/23	Thu 4/5/23	347														
349	Stage 2 - Detailed design	67 days	Tue 1/8/23	Fri 6/10/23	348														
350	Submission and presentation	0 days	Tue 1/8/23	Tue 1/8/23															
351	VCAB meeting	0 days	Thu 7/9/23	Thu 7/9/23	350														
352	Approval	30 days	Thu 7/9/23	Fri 6/10/23	351														
353	Sub-letting (Cost Trimming Scheme)	211 days	Wed 1/3/23	Wed 27/9/23															
354	Drawings for cost estimation	30 days	Wed 1/3/23	Thu 30/3/23	298FS-32 days														
355	Tender approval	11 days	Fri 31/3/23	Mon 10/4/23	354														
356	Tender addendum	8 days	Mon 17/4/23	Mon 24/4/23	355														
357	Sub-letting Period	25 days	Tue 4/4/23	Fri 28/4/23	356FS-21 days														
358	Tender Assessment & approval	12 days	Sat 29/4/23	Wed 10/5/23	357														
359	PMI preparation	58 days	Thu 11/5/23	Fri 7/7/23	358														
360	Recost trimming by DSD	21 days	Sat 8/7/23	Fri 28/7/23	359														
361	Resubmission of detailed design	30 days	Tue 8/8/23	Wed 6/9/23	360														
362	Retendering	21 days	Thu 7/9/23	Wed 27/9/23	361														
363	Material submission	181 days	Thu 28/9/23	Tue 26/3/24	362														
364	Method Statements & Temporary Works	792 days	Fri 30/7/21	Fri 29/9/23															
365	Preparation & submission of generic method statement for site formation work	60 days	Tue 1/11/22	Fri 30/12/22															
366	Preparation & submission of generic method statement for earth slope works	60 days	Tue 1/11/22	Fri 30/12/22															
367	Preparation & submission of generic method statement for retaining wall construction	60 days	Wed 1/6/22	Sat 30/7/22															
368	Preparation & submission of generic method statement for G.I works	60 days	Fri 30/7/21	Mon 27/9/21															
369	Preparation & Submission of generic method statement for drainage works	60 days	Fri 30/7/21	Mon 27/9/21															
370	Preparation and submission of generic method statement of road works	60 days	Tue 1/11/22	Fri 30/12/22															
371	Preparation & submission of generic method statement of elevated walkway construction	60 days	Thu 1/6/23	Sun 30/7/23															
372	Temporary Work for cut/fill slope works	60 days	Tue 1/11/22	Fri 30/12/22															
373	Temporary Work for retaining wall construction	60 days	Wed 1/6/22	Sat 30/7/22															
374	Temporary Work for elevated walkway construction	60 days	Tue 1/8/23	Fri 29/9/23															
375	Temporary Work for road and drainage works	60 days	Fri 30/7/21	Mon 27/9/21															
376	BIM Deliverable	1567 days	Fri 30/7/21	Wed 12/11/25															
377	Submission of COBie Information Requirements for Asset Management	30 days	Fri 30/7/21	Sat 28/8/21															
378	Submission of BIM Execution Plan in accordance with the PS Appendix 1.14D	60 days	Fri 30/7/21	Mon 27/9/21															
379	Submission of Combined Services Drawings	90 days	Fri 30/7/21	Wed 27/10/21															
380	Submission of proposal for BIM training plan	90 days	Fri 30/7/21	Wed 27/10/21															
381	Nomination of staff or subcontractor to attend BIM skill training courses under the pre approved list of the CITF managed by the CIC	120 days	Fri 30/7/21	Fri 26/11/21															
382	Collaboration and Model Sharing	60 days	Thu 28/10/21	Sun 26/12/21	378FS+30 days														
383	Monthly Coordination meeting& Submission of monthly BIM progress reports & Submission of 4D Simula	1417 days	Mon 27/12/21	Wed 12/11/25	382														

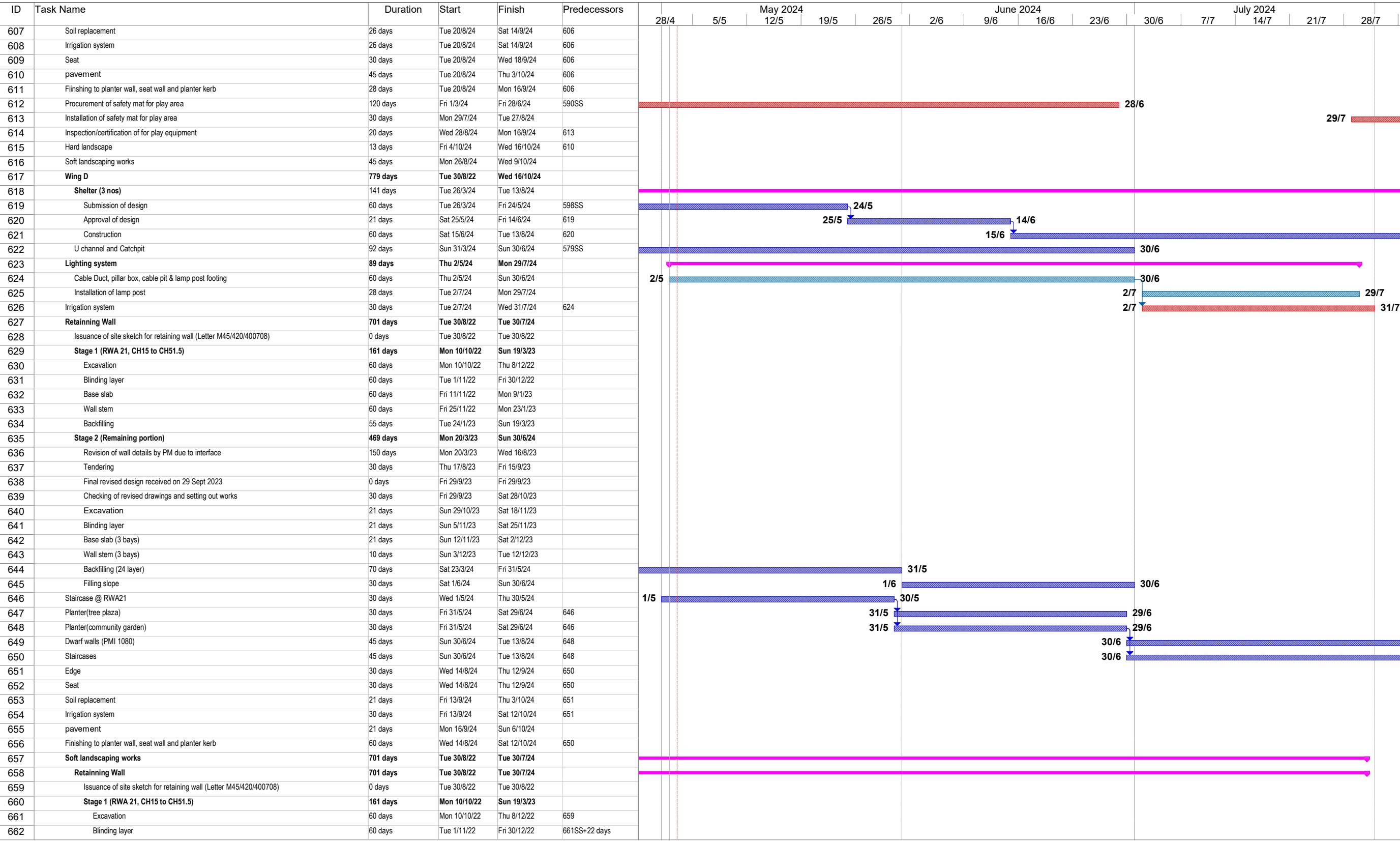
Task Critical Task Milestone Summary Progress

ID	Task Name	Duration	Start	Finish	Predecessors	28/4	5/5	May 2024	12/5	19/5	26/5	2/6	June 2024	9/6	16/6	23/6	30/6	7/7	July 2024	14/7	21/7	28/7
384	Submission of COBie data deliverables	30 days	Sun 14/9/25	Mon 13/10/25	383FS-60 days																	
385	Submission of a Fully Coordinated BIM Model with field verified in LOD 500	30 days	Thu 2/10/25	Fri 31/10/25	383FS-42 days																	
386	Submission of O&M Manuals, Product Catalogues and Operating Data	30 days	Thu 2/10/25	Fri 31/10/25	383FS-42 days																	
387	Submission of As-built drawings	30 days	Thu 2/10/25	Fri 31/10/25	383FS-42 days																	
388	Submission of Asset Data	30 days	Thu 2/10/25	Fri 31/10/25	383FS-42 days																	
389	Work Area	1572 days	Fri 30/7/21	Mon 17/11/25																		
390	CRE Site Office Design & ICE Endorsement	30 days	Fri 30/7/21	Sat 28/8/21																		
391	CRE Site office Design Review and Acceptance	30 days	Sun 29/8/21	Mon 27/9/21	390																	
392	CRE Site office Construction Works	90 days	Tue 28/9/21	Sun 26/12/21	391																	
393	Completion of CRE Site office Construction Works	0 days	Mon 24/1/22	Mon 24/1/22	392																	
394	CRE Site office Mobilization & Maintenance	1394 days	Mon 24/1/22	Mon 17/11/25	392,393																	
395	Access for Works Area	0 days	Fri 30/7/21	Fri 30/7/21																		
396	Maintenance Duration for Works Area	1566 days	Sat 31/7/21	Wed 12/11/25	395FS+1 day																	
397	Vacate / Handover Works Area	0 days	Wed 12/11/25	Wed 12/11/25																		
398	Setting up Contractor's Project office	90 days	Tue 28/9/21	Sun 26/12/21	2																	
399	Contractor Site office Maintenance	1389 days	Mon 24/1/22	Wed 12/11/25	398																	
400	Construction Works	1619 days?	Fri 30/7/21	Sat 3/1/26																		
401	Section of Works 1 - Portions 1a, 2a, 2b	1202 days	Fri 30/7/21	Tue 12/11/24																		
402	Engagement of Design Architectural Firm (CE 005)	0 days	Fri 14/1/22	Fri 14/1/22																		
403	Enhancement on Architectual Design & Associated Works at Portions 1a, 2a and 2b (Quarry Lake) (CE 070)	0 days	Fri 30/7/21	Fri 30/7/21																		
404	Portion 1a	929 days	Fri 29/4/22	Tue 12/11/24																		
405	Provision of site access [273 days after starting date as per Contract]	0 days	Fri 29/4/22	Fri 29/4/22	11SS																	
406	Preparation& submission of MS, Temp works, associated plans & docs	210 days	Wed 1/2/23	Tue 29/8/23	402,405																	
407	Engineer's AIP of MS, Temp works, plans & associated docs	210 days	Wed 1/3/23	Tue 26/9/23	406SS+28 days																	
408	Mobilization & Site Clearance	14 days	Fri 14/4/23	Thu 27/4/23	405																	
409	Time Risk Allowance	14 days	Fri 28/4/23	Thu 11/5/23	408																	
410	Urban Forest	602 days	Wed 22/3/23	Tue 12/11/24																		
411	North Portion (Sloping)	602 days	Wed 22/3/23	Tue 12/11/24																		
412	Watermain	63 days	Fri 1/12/23	Thu 1/2/24																		
413	Site formation	90 days	Fri 2/2/24	Wed 1/5/24	412																	
414	Soil replacement & bioswale system	135 days	Thu 2/5/24	Fri 13/9/24	413																	
415	Landscape wall and seat	135 days	Thu 2/5/24	Fri 13/9/24	413																	
416	U channel, edge and pavement	135 days	Thu 2/5/24	Fri 13/9/24	413																	
417	Tree transplanting from nursery	60 days	Sat 14/9/24	Tue 12/11/24	418FF																	
418	Soft landscaping works	60 days	Sat 14/9/24	Tue 12/11/24	414,415,416,437																	
419	Boardwalk	145 days	Thu 1/2/24	Mon 24/6/24																		
420	Structure	100 days	Thu 1/2/24	Fri 10/5/24																		
421	Finishes	45 days	Sat 11/5/24	Mon 24/6/24	420																	
422	Application for electricity power supply	224 days	Wed 22/3/23	Tue 31/10/23																		
423	Lighting design	210 days	Wed 22/3/23	Tue 17/10/23	422SS																	
424	Underground cable ducts	90 days	Wed 18/10/23	Mon 15/1/24	423																	
425	Application for water supply	138 days	Mon 26/6/23	Fri 10/11/23																		
426	Underground water supply for irrigation	90 days	Sat 11/11/23	Thu 8/2/24	425																	
427	Lighting system	92 days	Thu 1/8/24	Thu 31/10/24	424																	
428	Irrigation system	92 days	Thu 1/8/24	Thu 31/10/24	426																	
429	Approval of WWO542	30 days	Wed 1/11/23	Thu 30/11/23																		
430	Approval of WWO 046	21 days	Fri 1/12/23	Thu 21/12/23	429																	
431	Underground water supply for irrigation	90 days	Fri 22/12/23	Wed 20/3/24	430SS+4 days																	
432	South Portion	150 days	Mon 1/4/24	Wed 28/8/24																		
433	Construction of wetland	150 days	Mon 1/4/24	Wed 28/8/24																		
434	Boardwalk	90 days	Mon 1/4/24	Sat 29/6/24																		
435	Structure	60 days	Mon 1/4/24	Thu 30/5/24																		
436	Finishes	30 days	Fri 31/5/24	Sat 29/6/24	435																	
437	U channel, edge and pavement	122 days	Mon 1/4/24	Wed 31/7/24																		
438	Portion 2a	1171 days	Mon 30/8/21	Tue 12/11/24																		

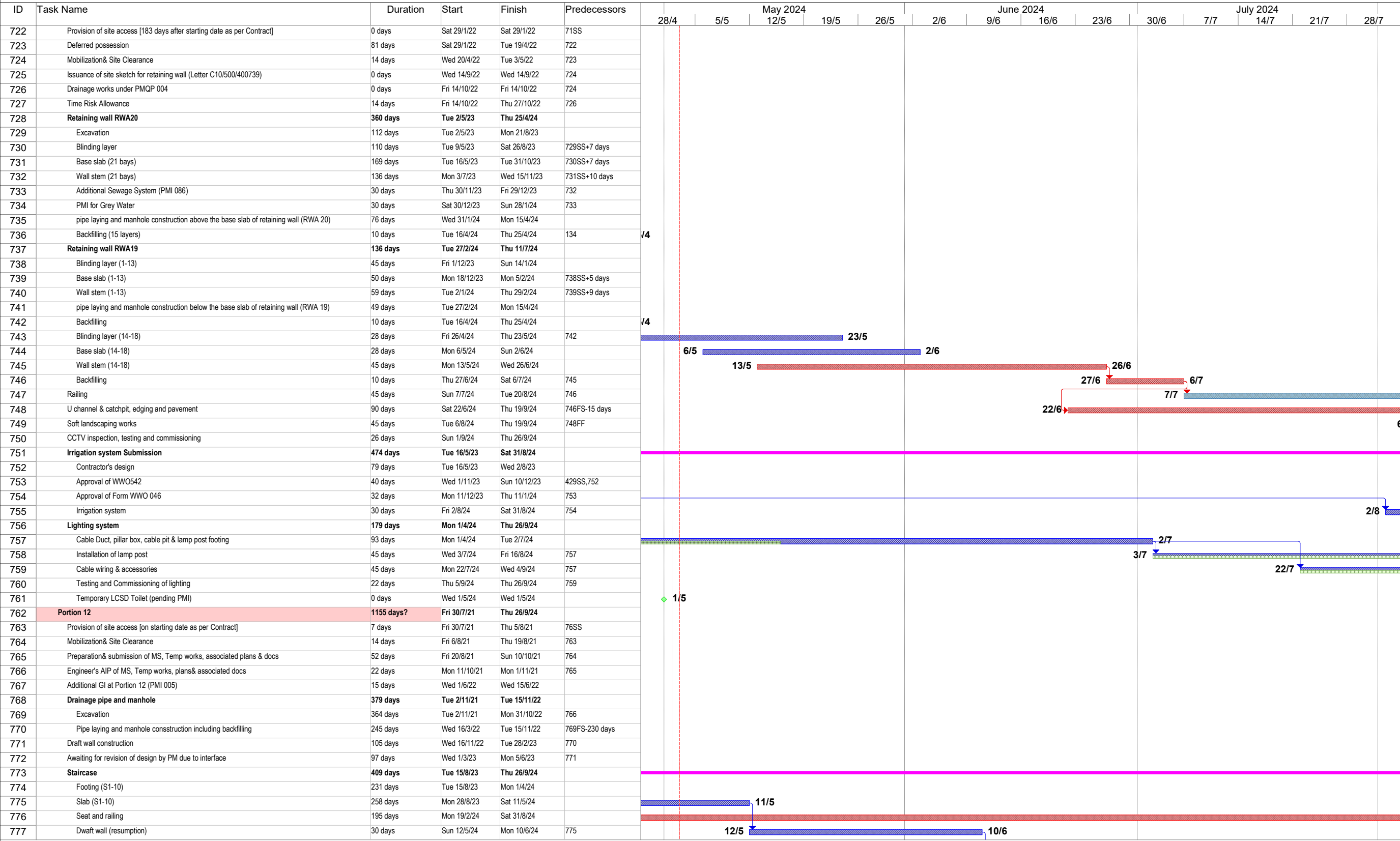
ID	Task Name	Duration	Start	Finish	Predecessors	28/4	5/5	May 2024	12/5	19/5	26/5	2/6	June 2024	9/6	16/6	23/6	30/6	7/7	July 2024	14/7	21/7	28/7
439	Provision of site access [31 days after starting date as per Contract]	8 days	Mon 30/8/21	Mon 6/9/21	16SS																	
440	Mobilization & Site Clearance	14 days	Tue 7/9/21	Mon 20/9/21	439																	
441	Preparation & submission of MS, Temp.works, associated plans & docs	210 days	Wed 1/2/23	Tue 29/8/23	402																	
442	Engineer's AIP of MS, Temp works, plans & associated docs	210 days	Wed 1/3/23	Tue 26/9/23	441SS+28 days																	
443	Time Risk Allowance	24 days	Tue 21/9/21	Thu 14/10/21	440																	
444	Lake side	590 days	Wed 22/3/23	Thu 31/10/24																		
445	Pool edge, paving and finishing	150 days	Thu 1/2/24	Sat 29/6/24													29/6					
446	Application for electricity power supply	210 days	Wed 22/3/23	Tue 17/10/23																		
447	Lighting design	150 days	Wed 22/3/23	Fri 18/8/23	446SS																	
448	Underground cable ducts	60 days	Thu 1/2/24	Sun 31/3/24	447																	
449	Application for water supply	128 days	Mon 26/6/23	Tue 31/10/23																		
450	Underground water supply for irrigation	60 days	Thu 1/2/24	Sun 31/3/24	449																	
451	Drainage pipes	60 days	Thu 1/2/24	Sun 31/3/24																		
452	Emergency vehicular access	136 days	Mon 1/4/24	Wed 14/8/24	451																	
453	Outstanding works by NE/2016/01	91 days	Fri 1/9/23	Thu 30/11/23																		
454	Subsoil drains and backfilling by C1	30 days	Fri 1/12/23	Sat 30/12/23	453																	
455	Bioswale near slope	92 days	Fri 1/12/23	Fri 1/3/24	453																	
456	Lighting system	61 days	Thu 1/8/24	Mon 30/9/24	448																1/8	
457	Irrigation system	141 days	Wed 1/11/23	Wed 20/3/24																		
458	Approval of WWO542	30 days	Wed 1/11/23	Thu 30/11/23	449,429SS																	
459	Approval of WWO 046	21 days	Fri 1/12/23	Thu 21/12/23	458																	
460	Underground water supply for irrigation	90 days	Fri 22/12/23	Wed 20/3/24	459SS+4 days																	
461	Soft landscaping works	92 days	Thu 1/8/24	Thu 31/10/24	455																1/8	
462	Buildings	463 days	Tue 8/8/23	Tue 12/11/24																		
463	Detailed designing	214 days	Tue 8/8/23	Fri 8/3/24	361SS																	
464	A1: Lavatories	403 days	Sat 7/10/23	Tue 12/11/24																		
465	Structural works	151 days	Sat 7/10/23	Tue 5/3/24	352																	
466	Finishing and E&M works/Fire services	150 days	Wed 6/3/24	Fri 2/8/24	465																	2
467	T& C	28 days	Wed 16/10/24	Tue 12/11/24	466,481SS																	
468	A2: Management Office Building	403 days	Sat 7/10/23	Tue 12/11/24																		
469	Structural works	189 days	Sat 7/10/23	Fri 12/4/24	352																	
470	Finishing and E&M works/Fire services	150 days	Sat 13/4/24	Mon 9/9/24	469																	
471	T& C	28 days	Wed 16/10/24	Tue 12/11/24	470,481SS																	
472	B1: Multi-Purpose Building	389 days	Sat 21/10/23	Tue 12/11/24																		
473	Structural works	191 days	Sat 21/10/23	Sun 28/4/24	352	28/4																
474	Finishing and E&M works/Fire services	135 days	Mon 29/4/24	Tue 10/9/24	473																	
475	T& C	28 days	Wed 16/10/24	Tue 12/11/24	474,481SS																	
476	B2: TX Room/Lavatories	375 days	Sat 4/11/23	Tue 12/11/24																		
477	Structural works	219 days	Sat 4/11/23	Sun 9/6/24	352								9/6									
478	Finishing and E&M works/Fire services	113 days	Sun 31/3/24	Sun 21/7/24	477FS-71 days															21/7		
479	Hand-over of Transformer Room	10 days	Mon 22/7/24	Wed 31/7/24	478															22/7		31/7
480	CLP installation and energisation	76 days	Thu 1/8/24	Tue 15/10/24	479																1/8	
481	T& C	28 days	Wed 16/10/24	Tue 12/11/24	480																	
482	C1: Storeroom/Lavatories	340 days	Sat 9/12/23	Tue 12/11/24																		
483	Structural works	124 days	Sat 9/12/23	Wed 10/4/24	352																	
484	Finishing and E&M works/Fire services	150 days	Thu 4/4/24	Sat 31/8/24	483FS-7 days																	
485	T& C	28 days	Wed 16/10/24	Tue 12/11/24	484,481SS																	
486	C2: Water Treatment Plant Room	403 days	Sat 7/10/23	Tue 12/11/24																		
487	Modification to existing structure	230 days	Sat 7/10/23	Thu 23/5/24	352								23/5									
488	Structural works	132 days	Wed 10/4/24	Mon 19/8/24	487FS-44 days																	
489	Finishing work, E&M installation & Fire service and T & C	102 days	Sat 6/7/24	Tue 15/10/24	488FS-45 days															6/7		
490	Final T&C with permanent supply	28 days	Wed 16/10/24	Tue 12/11/24	489,480																	
491	Water play installation at A2	90 days	Mon 3/6/24	Sat 31/8/24								3/6										
492	External works	590 days	Wed 22/3/23	Thu 31/10/24																		
493	Application for electricity power supply	224 days	Wed 22/3/23	Tue 31/10/23	422SS																	
494	Lighting design (1/12/2023)	285 days	Wed 22/3/23	Sun 31/12/23	493SS																	

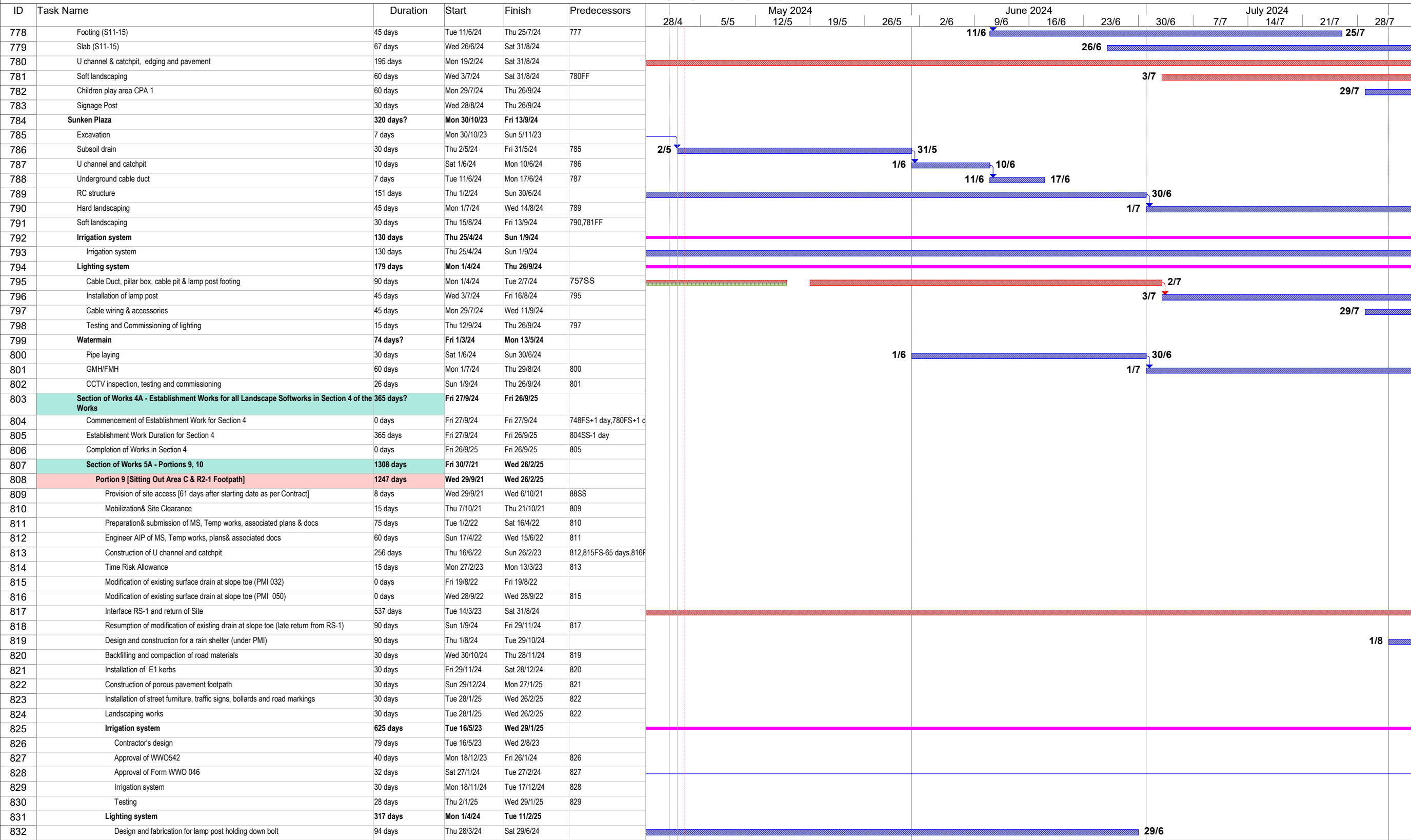




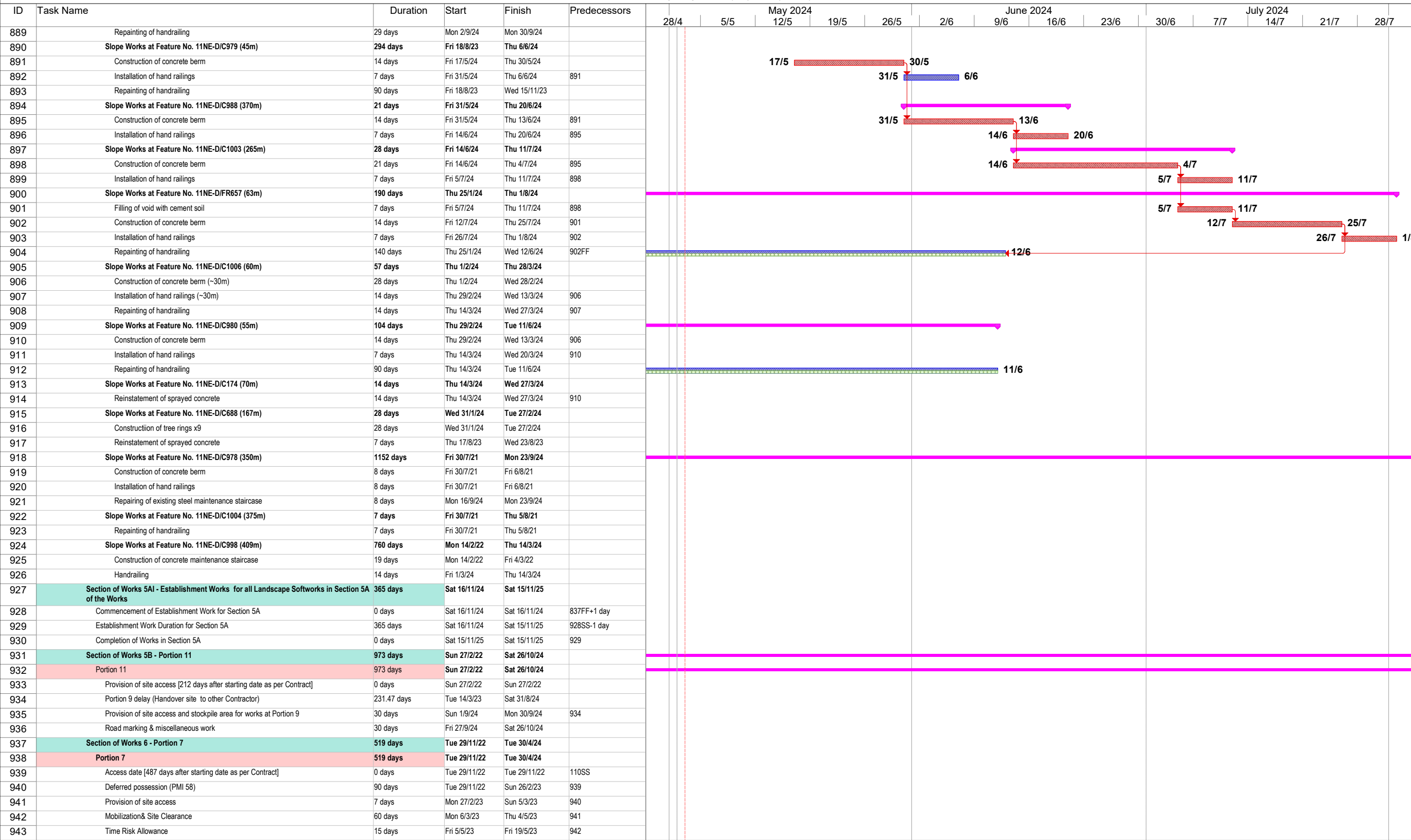


ID	Task Name	Duration	Start	Finish	Predecessors	28/4	5/5	12/5	19/5	26/5	2/6	9/6	16/6	23/6	30/6	7/7	14/7	21/7	28/7
663	Base slab	60 days	Fri 11/11/22	Mon 9/1/23	662SS+10 days														
664	Wall stem	60 days	Fri 25/11/22	Mon 23/1/23	663SS+14 days														
665	Backfilling	55 days	Tue 24/1/23	Sun 19/3/23	664														
666	Stage 2 (Remaining portion)	469 days	Mon 20/3/23	Sun 30/6/24															
667	Revision of wall details by PM due to interface	150 days	Mon 20/3/23	Wed 16/8/23	665														
668	Tendering	30 days	Thu 17/8/23	Fri 15/9/23	667														
669	Final revised design received on 29 Sept 2023	0 days	Fri 29/9/23	Fri 29/9/23	668														
670	Checking of revised drawings and setting out works	30 days	Fri 29/9/23	Sat 28/10/23	669														
671	Excavation	21 days	Sun 29/10/23	Sat 18/11/23	670														
672	Blinding layer	21 days	Sun 5/11/23	Sat 25/11/23	671SS+7 days														
673	Base slab (3 bays)	21 days	Sun 12/11/23	Sat 2/12/23	672SS+7 days														
674	Wall stem (3 bays)	10 days	Sun 3/12/23	Tue 12/12/23	673														
675	Backfilling (10 layer)	70 days	Sat 23/3/24	Fri 31/5/24	674														
676	Filling slope	30 days	Sat 1/6/24	Sun 30/6/24	675														
677	Finishing works	30 days	Mon 1/7/24	Tue 30/7/24	676														
678	RC staircase at retaining wall	45 days	Sat 1/6/24	Mon 15/7/24	675														
679	Railing/fence and signage	72 days	Tue 6/8/24	Wed 16/10/24	678														
680	Section of Works 2A - Establishment Works for all Landscape Softworks in Section 2 of the Works	365 days	Thu 17/10/24	Thu 16/10/25															
681	Commencement of Establishment Work for Section 2	0 days	Thu 17/10/24	Thu 17/10/24	617FF+1 day														
682	Establishment Work Duration for Section 2	365 days	Thu 17/10/24	Thu 16/10/25	681SS-1 day														
683	Completion of Works in Section 2	0 days	Thu 16/10/25	Thu 16/10/25	682														
684	Section of Works 3 - Portions 1b, 3, 4, 5	763 days	Fri 30/7/21	Thu 31/8/23															
685	Portion 1b	276 days	Tue 29/11/22	Thu 31/8/23															
686	Provision of site access [487 days after starting date as per Contract]	7 days	Tue 29/11/22	Mon 5/12/22	44SS														
687	Mobilization& Site Clearance	14 days	Tue 6/12/22	Mon 19/12/22	686														
688	Time Risk Allowance	7 days	Tue 20/12/22	Mon 26/12/22	687														
689	PMI 066	50 days	Thu 13/7/23	Thu 31/8/23															
690	Sewerage pipes and manholes	50 days	Thu 13/7/23	Thu 31/8/23	688														
691	Greywater pipes and manholes	50 days	Thu 13/7/23	Thu 31/8/23	690SS														
692	Laying of 75mm thick milled asphalt chips	7 days	Fri 25/8/23	Thu 31/8/23	691FF														
693	Lighting	163 days	Wed 22/3/23	Thu 31/8/23															
694	Application for electricity power supply	83 days	Wed 22/3/23	Mon 12/6/23															
695	Lighting design	140 days	Wed 22/3/23	Tue 8/8/23	694SS														
696	Installation including ducting, draw pit and lighting	23 days	Wed 9/8/23	Thu 31/8/23	695,691FF														
697	Portion 3	702 days	Wed 29/9/21	Thu 31/8/23															
698	Access date	0 days	Wed 29/9/21	Wed 29/9/21	49SS														
699	Deferred possession (CE 004 & 006)	61 days	Wed 29/9/21	Sun 28/11/21															
700	Provision of site access	7 days	Mon 29/11/21	Sun 5/12/21	699														
701	Mobilization& Site Clearance	14 days	Mon 6/12/21	Sun 19/12/21	700														
702	Preparation& submission of MS, Temp works, associated plans & docs	52 days	Mon 20/12/21	Wed 9/2/22	701														
703	Engineer AIP of MS, Temp works, plans& associated docs	21 days	Thu 10/2/22	Wed 2/3/22	702														
704	Installation of chain link fencing	92 days	Thu 1/6/23	Thu 31/8/23	703														
705	Soft landscaping works - hydroseeding	30 days	Wed 2/8/23	Thu 31/8/23															
706	GI works (PMI 006)	7 days	Mon 3/10/22	Sun 9/10/22															
707	Additional drainage works (PMI 075)	30 days	Wed 2/8/23	Thu 31/8/23	704FF,705FF														
708	Portion 4	763 days	Fri 30/7/21	Thu 31/8/23															
709	Provision of site access [on starting date as per Contract]	7 days	Fri 30/7/21	Thu 5/8/21	54SS														
710	Soft landscaping works - hydroseeding	30 days	Wed 2/8/23	Thu 31/8/23	705FF,714FF														
711	GI works (PMI 006)	10 days	Mon 10/10/22	Wed 19/10/22	706														
712	Portion 5	551 days	Sun 27/2/22	Thu 31/8/23															
713	Provision of site access [212 days after starting date as per Contract]	7 days	Sun 27/2/22	Sat 5/3/22	59SS														
714	Soft landscaping works - hydroseeding	30 days	Wed 2/8/23	Thu 31/8/23															
715	Installation of chain link fencing	31 days	Tue 1/8/23	Thu 31/8/23	714FF														
716	Section of Works 3A - Establishment Works for all Landscape Softworks in Section 3 of the Works	365 days	Fri 1/9/23	Fri 30/8/24															
720	Section of Works 4 - Portions 6, 12	1155 days?	Fri 30/7/21	Thu 26/9/24															
721	Portion 6	972 days	Sat 29/1/22	Thu 26/9/24															









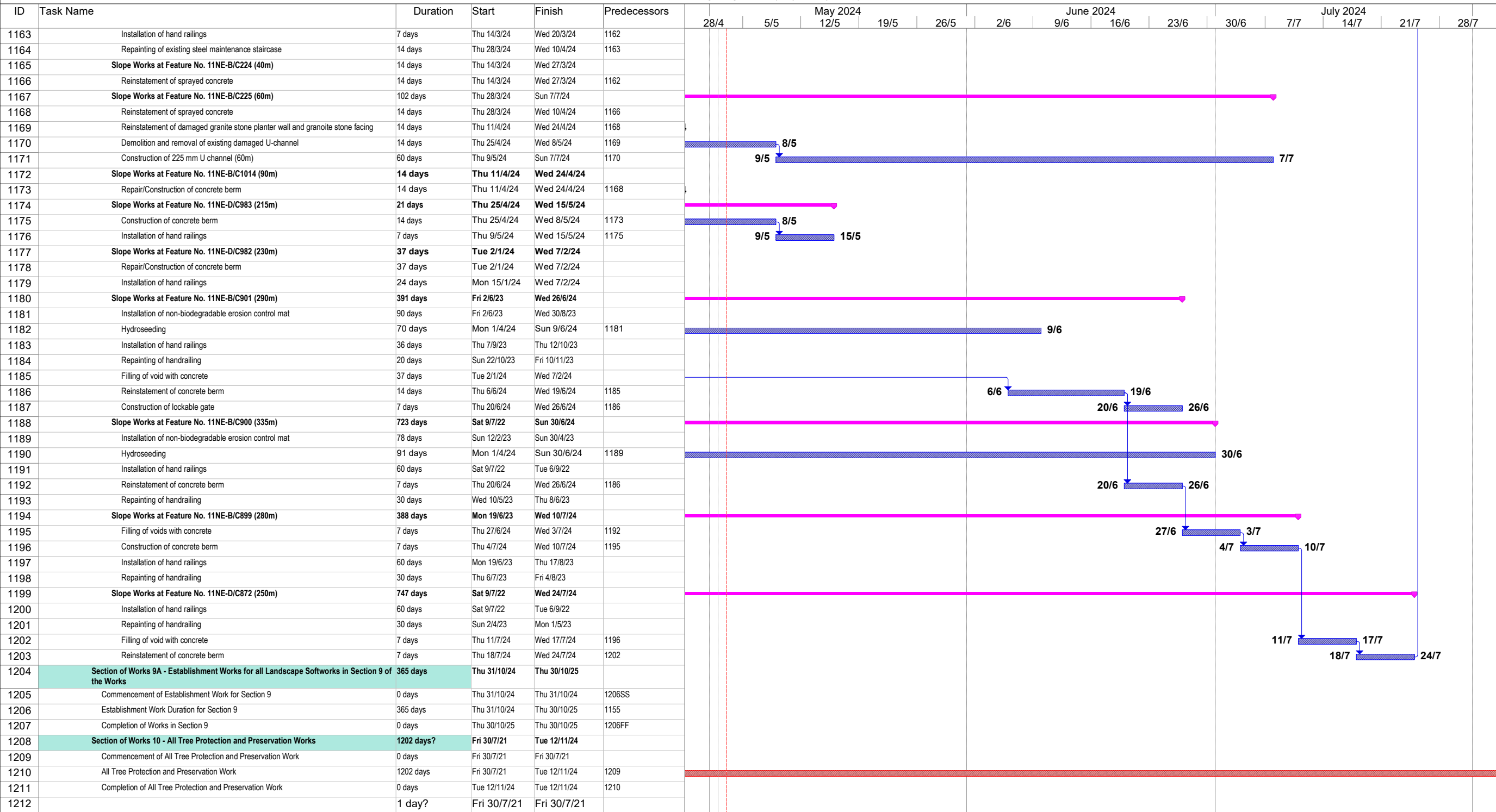
ID	Task Name	Duration	Start	Finish	Predecessors	28/4	5/5	May 2024	12/5	19/5	26/5	2/6	June 2024	9/6	16/6	23/6	30/6	7/7	July 2024	14/7	21/7	28/7
944	Excavation/backfilling and compaction of material	30 days	Fri 1/12/23	Sat 30/12/23	942,943																	
945	Construction of U-channels with cover and catchpits	30 days	Sun 31/12/23	Mon 29/1/24	944																	
946	Road Paving work and associates street furniture	28 days	Tue 19/3/24	Mon 15/4/24	945																	
947	Soft landscaping works	30 days	Mon 1/4/24	Tue 30/4/24	946FF																	
948	Irrigation system	228 days	Sat 16/9/23	Tue 30/4/24																		
949	Contractor's design	45 days	Sat 16/9/23	Mon 30/10/23																		
950	Approval of WWO542	30 days	Wed 1/11/23	Thu 30/11/23	949																	
951	Approval of Form WWO 046	21 days	Fri 1/12/23	Thu 21/12/23	950																	
952	Underground water supply for irrigation	10 days	Fri 22/12/23	Sun 31/12/23	951																	
953	Irrigation system	10 days	Sun 21/4/24	Tue 30/4/24	947SS																	
954	Section of Works 6A - Establishment Works for all Landscape Softworks in Section 6 of the Works	365 days	Fri 27/9/24	Fri 26/9/25																		
955	Commencement of Establishment Work for Section 6	0 days	Fri 27/9/24	Fri 27/9/24	956SS																	
956	Establishment Work Duration for Section 6	365 days	Fri 27/9/24	Fri 26/9/25	947																	
957	Completion of Works in Section 6	0 days	Fri 26/9/25	Fri 26/9/25	956FF																	
958	Section of Works 7A - Portions 13a, 14 (DELETED)	109 days	Fri 27/9/24	Mon 13/1/25																		
959	Portion 13a	109 days	Fri 27/9/24	Mon 13/1/25																		
960	Provision of site access [183 days after starting date as per Contract]	9 days	Fri 27/9/24	Sat 5/10/24																		
961	Mobilization& Site Clearance	14 days	Fri 27/9/24	Thu 10/10/24																		
962	(G.I Works) Geotechnical Instrumentation Installation	72 days	Fri 27/9/24	Sat 7/12/24																		
963	Time Risk Allowance	21 days	Fri 27/9/24	Thu 17/10/24																		
964	Bulk excavation of cut slope {Access path& Site G-2}	72 days	Fri 27/9/24	Sat 7/12/24																		
965	Cutting & filling of slopes to formation level {Access path & Site G-2}	109 days	Fri 27/9/24	Mon 13/1/25																		
966	Construction of drainage system with cover and catchpits {Access path & Site G-2}	84 days	Fri 27/9/24	Thu 19/12/24																		
967	CCTV, testing & commissioning of drainage works	32 days	Fri 27/9/24	Mon 28/10/24																		
968	Construction of footpath, pavements, road furniture& road marking etc.	73 days	Fri 27/9/24	Sun 8/12/24																		
969	Portion 14	109 days	Fri 27/9/24	Mon 13/1/25																		
970	Provision of site access [on starting date as per Contract]	7 days	Fri 27/9/24	Thu 3/10/24																		
971	Mobilization& Site Clearance	14 days	Fri 27/9/24	Thu 10/10/24																		
972	Preparation& submission of MS, Temp works, associated plans & docs	52 days	Fri 27/9/24	Sun 17/11/24																		
973	Engineer's AIP of MS, Temp works, plans & associated docs	22 days	Fri 27/9/24	Fri 18/10/24																		
974	Time Risk Allowance	35 days	Fri 27/9/24	Thu 31/10/24																		
975	Cutting& filling of slopes to formation level {Site G-2}	108 days	Fri 27/9/24	Sun 12/1/25																		
976	Excavation and Construction of Waterlines for fresh water & flushing water	74 days	Fri 27/9/24	Mon 9/12/24																		
977	Application for (WW0046: Part IV & V)	30 days	Fri 27/9/24	Sat 26/10/24																		
978	Testing and Commissioning of Waterlines for fresh water and flushing water	36 days	Fri 27/9/24	Fri 1/11/24																		
979	Construction of pavement footpath	109 days	Fri 27/9/24	Mon 13/1/25																		
980	Construction of miscellaneous work	35 days	Fri 27/9/24	Thu 31/10/24																		
981	PMI 001 : Additional GI at Portion 14	109 days	Fri 27/9/24	Mon 13/1/25																		
982	Section of Works 7AI - Establishment Works for all Landscape Softworks in Section 7A of the Works (DELETED)	365 days	Fri 27/9/24	Fri 26/9/25																		
983	Commencement of Establishment Work for Section 7A	0 days	Fri 27/9/24	Fri 27/9/24																		
984	Establishment Work Duration for Section 7A	365 days	Fri 27/9/24	Fri 26/9/25																		
985	Completion of Works in Section 7A	0 days	Fri 26/9/25	Fri 26/9/25	984																	
986	Section of Works 7B - Portions 13b, 15	1155 days?	Sat 26/2/22	Fri 25/4/25																		
987	Portion 13b & 15	1155 days?	Sat 26/2/22	Fri 25/4/25																		
988	Provision of site access [212 days after starting date as per Contract]	7 days	Sun 27/2/22	Sat 5/3/22	133																	
989	Deferred possession	52 days	Sat 26/2/22	Mon 18/4/22	133SS																	
990	Mobilization& Site Clearance	21 days	Tue 19/4/22	Mon 9/5/22	989																	
991	Time Risk Allowance	15 days	Tue 10/5/22	Tue 24/5/22	990,367																	
992	Portion 13b	1067 days?	Wed 25/5/22	Fri 25/4/25	991																	
993	Elevated walkway	914 days	Wed 25/5/22	Sat 23/11/24																		
994	Modification of existing retaining wall RWA10 (PMI 033)	60 days	Wed 25/5/22	Sat 23/7/22	990,367																	
995	Modification of existing retaining wall RWA9 & 10	447 days	Sun 24/7/22	Fri 13/10/23	990,367,991,994																	
996	Wall RWA10	447 days	Sun 24/7/22	Fri 13/10/23																		
997	Excavation	100 days	Sun 24/7/22	Mon 31/10/22	994																	
998	Cutting away existing coping by wire sawing machine	75 days	Tue 1/11/22	Sat 14/1/23	997																	

ID	Task Name	Duration	Start	Finish	Predecessors	28/4	5/5	12/5	19/5	26/5	2/6	9/6	16/6	23/6	30/6	7/7	14/7	21/7	28/7
999	Hacking away existing wall stem by hydraulic breaker (existing vertical bar to be retained for further connection)	45 days	Sun 15/1/23	Tue 28/2/23	998														
1000	Construction of new RC wall stem	86 days	Mon 17/7/23	Tue 10/10/23	999														
1001	Backfilling	4 days	Tue 10/10/23	Fri 13/10/23															
1002	Wall RWA9	165 days	Thu 16/3/23	Sun 27/8/23															
1003	Excavation	15 days	Thu 16/3/23	Thu 30/3/23	999FS+15 days														
1004	Hacking away existing wall stem by hydraulic breaker (existing vertical bar to be retained for further connection)	60 days	Fri 31/3/23	Mon 29/5/23	1003														
1005	Construction of new RC wall stem	75 days	Sat 10/6/23	Wed 23/8/23	1004														
1006	Backfilling	4 days	Thu 24/8/23	Sun 27/8/23	1005														
1007	Bearing	252 days	Thu 16/3/23	Wed 22/11/23															
1008	Material submission for approval	30 days	Thu 16/3/23	Fri 14/4/23															
1009	Fabrication	106 days	Sat 15/4/23	Sat 29/7/23	1008														
1010	Testing	29 days	Sun 30/7/23	Sun 27/8/23	1009														
1011	Installation	7 days	Wed 1/11/23	Tue 7/11/23	1010,1001,1006														
1012	Grouting to bearing bases and curing	15 days	Wed 8/11/23	Wed 22/11/23	1011														
1013	Precast beams	536 days	Wed 7/6/23	Sat 23/11/24															
1014	Submission for approval	78 days	Wed 7/6/23	Wed 23/8/23															
1015	Fabrication	58 days	Wed 4/10/23	Thu 30/11/23	1014														
1016	Post-tensioning and grouting	59 days	Tue 31/10/23	Thu 28/12/23	1015FS-31 days														
1017	Capping ends	3 days	Fri 29/12/23	Sun 31/12/23	1016														
1018	Installation	10 days	Mon 15/1/24	Wed 24/1/24	1017,1012														
1019	Grouting to bearing tops and curing	15 days	Thu 25/1/24	Thu 8/2/24	1018														
1020	Fabrication of permanent formwork	30 days	Fri 1/3/24	Sat 30/3/24															
1021	Installation of permanent formwork (stage 1)	31 days	Sun 31/3/24	Tue 30/4/24	1020	1/5	30/4												
1022	Casting of in-situ tie beams & slab (Stage 1)	15 days	Wed 1/5/24	Wed 15/5/24	1021		16/5	15/5											
1023	Removal of Formwork (Stage 1)	7 days	Thu 16/5/24	Wed 22/5/24	1022			23/5	22/5										
1024	Edge beam painting	3 days	Thu 23/5/24	Sat 25/5/24	1023				25/5										
1025	Stage 2 TTA & Falsework	13 days	Mon 27/5/24	Sat 8/6/24	1024				27/5	8/6									
1026	Installation of permanent formwork (stage 2)	30 days	Mon 10/6/24	Tue 9/7/24	1025						10/6								
1027	Casting of in-situ tie beams & slab (Stage 2)	34 days	Mon 10/6/24	Sat 13/7/24							10/6								
1028	Removal of Formwork (Stage 2)	4 days	Sat 27/7/24	Tue 30/7/24															
1029	Removal of Falsework and TTA	7 days	Wed 31/7/24	Tue 6/8/24															
1030	Finishing and landscaping works	109 days	Wed 7/8/24	Sat 23/11/24	1022,1029														
1031	Covered Walkway under PMQP 004	386 days	Thu 5/10/23	Thu 24/10/24															
1032	Awaiting finished level from PM due to interfacing party	138 days	Thu 5/10/23	Mon 19/2/24															
1033	Contractor Design	84 days	Tue 20/2/24	Mon 13/5/24															
1034	Submission	50 days	Tue 20/2/24	Tue 9/4/24	1032														
1035	Approval	34 days	Wed 10/4/24	Mon 13/5/24	1034														
1036	Construction	164 days	Tue 14/5/24	Thu 24/10/24															
1037	Footing	44 days	Tue 14/5/24	Wed 26/6/24	1035														
1038	Superstructure	120 days	Thu 27/6/24	Thu 24/10/24	1037														
1039	Lighting system	60 days	Tue 14/5/24	Fri 12/7/24	1037SS														
1040	Additional works under PMQP 004	732 days?	Mon 24/10/22	Thu 24/10/24															
1041	Issuance of PMQP 004	0 days	Mon 24/10/22	Mon 24/10/22															
1042	Hoarding and gate around Site G2	153 days	Wed 1/3/23	Mon 31/7/23	1041														
1043	Greywater drainage pipes and manholes at Portion 12	60 days	Thu 1/2/24	Sun 31/3/24															
1044	Revised slope works including U-channel & catchpit	884 days	Wed 25/5/22	Thu 24/10/24															
1045	Late handover of site by others	195 days	Mon 24/10/22	Sat 6/5/23	1041SS														
1046	Installation of monitoring instruments	14 days	Sun 17/12/23	Sat 30/12/23	1045														
1047	Slope B3	305 days	Mon 15/4/24	Thu 13/2/25															
1048	Works area handed over by others	46 days	Fri 1/3/24	Mon 15/4/24	1046														
1049	Excavatoion of slope B3	200 days	Tue 7/5/24	Fri 22/11/24		7/5													
1050	Construction of slope B3	83 days	Sat 23/11/24	Thu 13/2/25	1049														
1051	Slope B4	306 days	Fri 1/12/23	Tue 1/10/24															
1052	Preparation of Slope details	23 days	Tue 2/1/24	Wed 24/1/24															
1053	Form slope formation	17 days	Tue 20/2/24	Thu 7/3/24															

Task Critical Task Milestone Summary Progress

Task  Critical Task  Milestone  Summary  Progress 

Task Critical Task Milestone Summary Progress



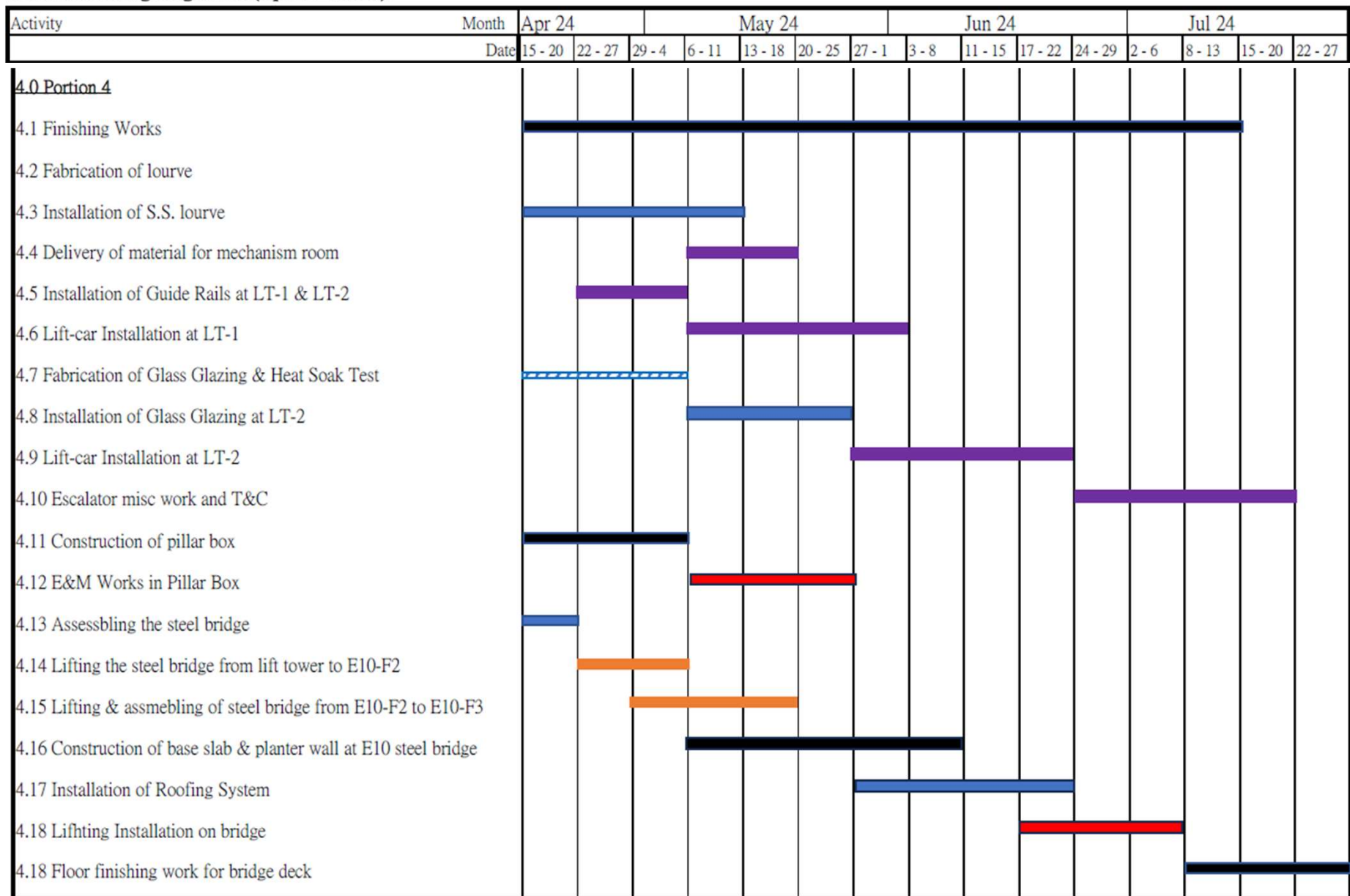
Contract 5 (NE/2019/02)

Major Activities in Coming 3 Months

3 Months Rolling Programme (Apr 24 - Jul 24)

Activity	Month	Apr 24				May 24				Jun 24				Jul 24			
	Date	15 - 20	22 - 27	29 - 4	6 - 11	13 - 18	20 - 25	27 - 1	3 - 8	11 - 15	17 - 22	24 - 29	2 - 6	8 - 13	15 - 20	22 - 27	
1.0 Portion 1																	
1.1 Escalator misc work and T&C (PC1 - PC2)																	
1.2 PMMA balustrade installation (PC1 - PC2)																	
1.3 Submit LE5 and obtain Use Permit																	
2.0 Portion 2																	
2.1 M.J. Installation (PC1 - PC2)																	
2.2 Floor finishing work (PC1 - PC2)																	
2.3 Submit LE5 and obtain Use Permit																	
3.0 Portion 3																	
3.1 Construct 7th pour of E7 Lift Tower up to +88.40mPD																	
3.2 Construct 8th pour of E7 Lift Tower up to +91.7mPD																	
3.3 Construct 9th pour of E7 Lift Tower up to +91.7mPD																	
3.4 Installation of Glass Glazing & Louve																	
3.5 Ventilation & E&M Works																	
3.6 Lift Installation																	
3.7 Finihing Works																	
3.8 Lifting of steel bridge on corbel & pier																	
3.9 Construction the slab & planter walll on steel bridge																	
3.10 Installation of Roofing System																	
3.11 Lifhting Installation on bridge																	

Major Activities in Coming 3 Months



Appendix D

Monitoring Locations for Impact Monitoring

**Monitoring Locations
for
Contract 1 (NE/2016/01)**

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HVS in AMS-1 for 24-Hour TSP



- Legend
- Study Area
 - 500m Assessment Area
 - Dust Monitoring Locations



B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13
Rev	Description	By	Date

Consultant
ARUP

Contract No. and Title
Agreement No. CE 18/2012(CE)
Development of Anderson Road Quarry - Investigation




Drawing title
Locations of Construction Dust Monitoring (Sheet 1 of 3)

Drawing no.	227724/E/1045	Rev.	B
Drawn	Date	Checked	Approved
GL	03/14	TC	ST
Scale	1:5000	Status	PRELIMINARY

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Civil Engineering and Development Department

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Legend

-  Study Area
-  500m Assessment Area
-  Dust Monitoring Locations



AMS-3

AMS-4

AMS-5

AMS-6



HVS in AMS-5 for 24-Hour TSP



HVS in AMS-6 for 24-Hour TSP



B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13
Rev	Description	By	Date

Consultant
ARUP

Contract No. and Title
Agreement No. CE 18/2012(CE)
Development of
Anderson Road Quarry -
Investigation

Drawing title
Locations of Construction
Dust Monitoring
(Sheet 2 of 3)

Drawing no.	227724/E/1046	Rev.	B
Drawn	Date	Checked	Approved
GL	03/14	TC	ST
Scale	1:5000 (A3)	Status	PRELIMINARY

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HVS in AMS-1 for 24-Hour TSP



- Legend
- Study Area
 - 500m Assessment Area
 - Dust Monitoring Locations

B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13
Rev	Description	By	Date
Consultant			
ARUP			
Contract No. and Title			
Agreement No. CE 18/2012(CE)			
Development of Anderson Road Quarry - Investigation			
Drawing title			
Locations of Construction Dust Monitoring (Sheet 1 of 3)			
Drawing no.		Rev.	
227724/E/1045		B	
Drawn GL	Date 03/14	Checked TC	Approved ST
Scale 1:5000 @A3		Status PRELIMINARY	
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NMS-7 (Chi Tai House of On Tai Estate)

Building layout is assumed for assessment purpose

NMS-6 (Yung Tai House of On Tai Estate)

Building layout is assumed for assessment purpose

NMS-3 (Site C2 - R102)

NMS-1 (Site C2 + School 05)

NMS-5 (Hau Tat House of On Tat Estate)

NMS-4 / NMS-4a (On Tat House of On Tat Estate)

Building layout is assumed for assessment purpose

NMS-2 (Site E - School)
(Site E - School)

Legend

- Study Area
- Construction Noise Monitoring Location
- Construction and Operational Road Traffic Noise Monitoring Location
- Review Noise monitoring Location

C	THIRD ISSUE	GL	05/14
B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13
Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of
Anderson Road Quarry -
Investigation

Drawing title

Locations of Noise
Monitoring

Drawing no.	227724/E/2400	Rev.	C
Drawn	Date	Checked	Approved
GL	05/14	TC	ST
Scale	1:5000	Status	PRELIMINARY

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Legend

-  Study Area
-  500m Assessment Area
-  Dust Monitoring Locations

B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13
Rev	Description	By	Date
Consultant			
ARUP			
Contract No. and Title			
Agreement No. CE 18/2012(CE)			
Development of Anderson Road Quarry - Investigation			
Drawing title			
Locations of Construction Dust Monitoring (Sheet 2 of 3)			
Drawing no.		Rev.	
227724/E/1046		B	
Drawn GL	Date 03/14	Checked TC	Approved ST
Scale 1:5000 @A3		Status PRELIMINARY	



HVS in AMS-5 for 24-Hour TSP



HVS in AMS-6 for 24-Hour TSP





- Legend**
- Study Area
 - 500m Assessment Area
 - Dust Monitoring Locations
 - Noise Monitoring Location

B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13
Rev	Description	By	Date

Consultant

Contract No. and Title

Agreement No. CE 18/2012(CE)

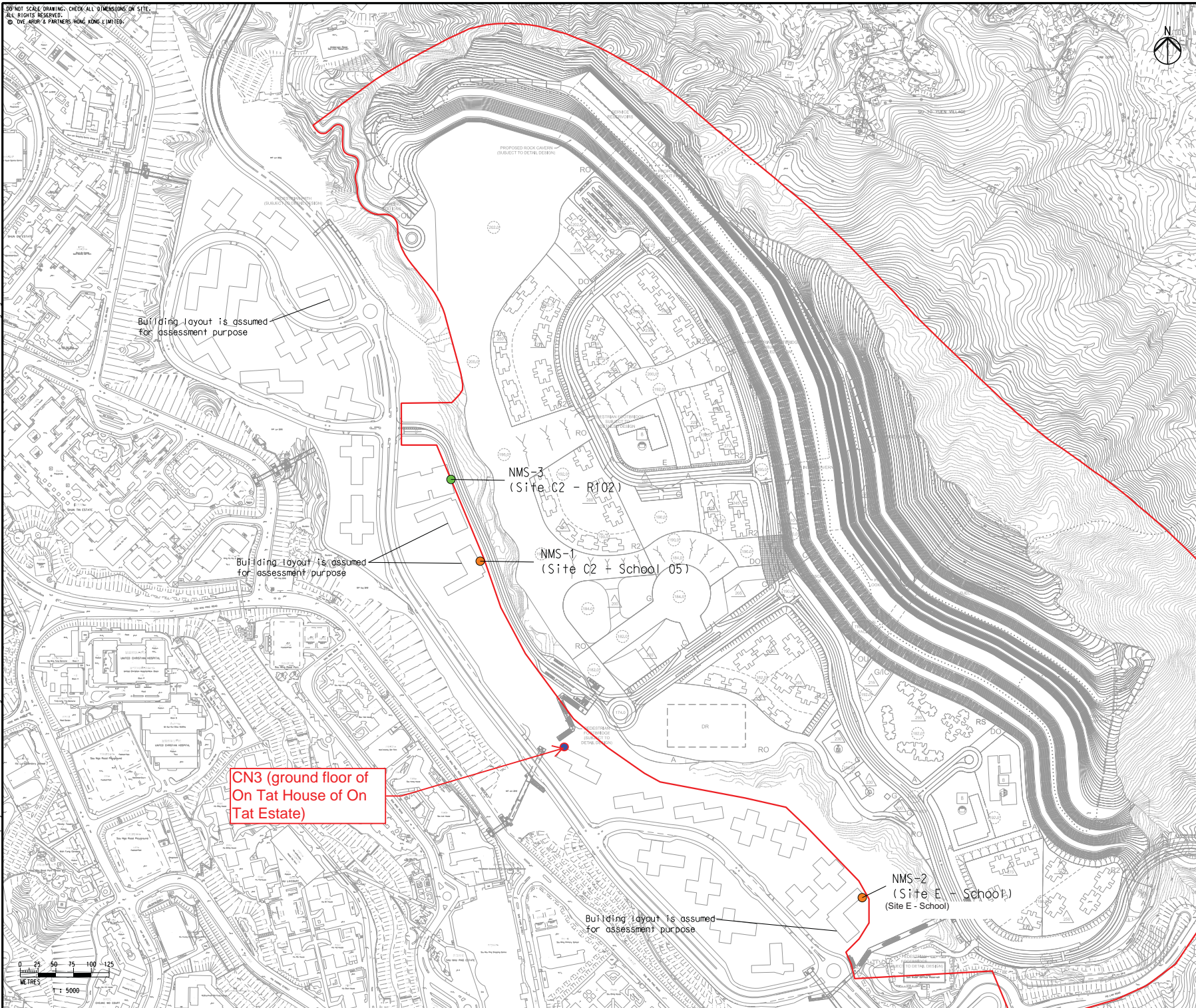
Development of
Anderson Road Quarry -
Investigation

Drawing Title
Locations of Construction Dust
and Noise Monitoring

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**Monitoring Locations
for
Contract 3 (NE/2017/03)**

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Legend

- Study Area
- Construction Noise Monitoring Location
- Construction and Operational Road Traffic Noise Monitoring Location
- Noise monitoring Location

C	THIRD ISSUE	GL	05/14
B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13
Rev	Description	By	Date

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of
Anderson Road Quarry -
Investigation

Drawing title

Locations of Noise
Monitoring

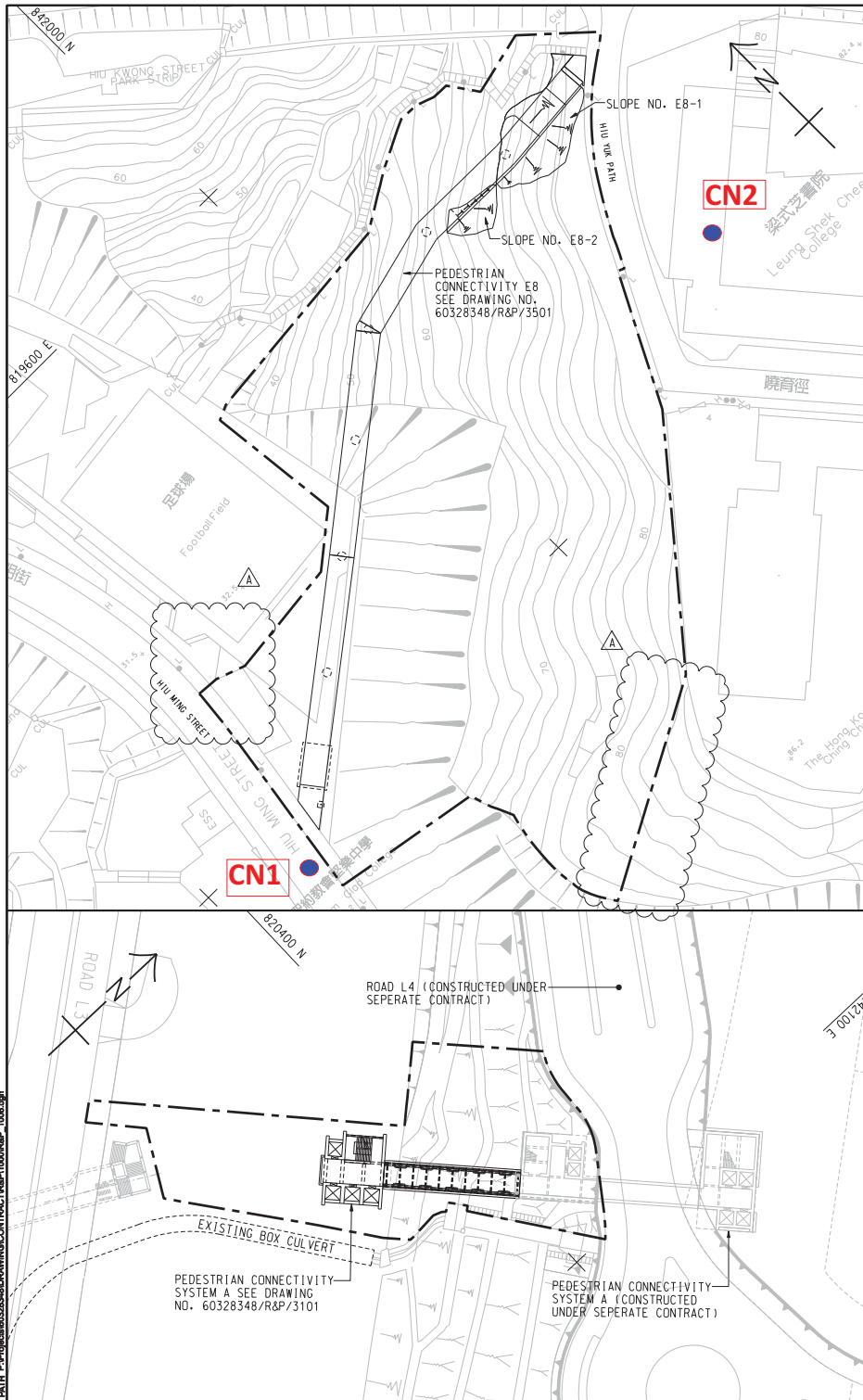
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GL	05/14	TC	ST
Scale	1:5000	Status	PRELIMINARY

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NOTES:
1. FOR NOTES AND LEGEND REFER TO DRAWING NO. 60328348/R&P/1001.
2. THIS DRAWING TO BE READ IN CONJUNCTION WITH DRAWING NOS. 60328348/R&P/1001 TO 1008.

AECOM
PROJECT NO. 60328348
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INVESTIGATION, DESIGN AND CONSTRUCTION
CONTRACT TITLE
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - ROAD IMPROVEMENT WORKS AND PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 2A
CLIENT
土庫工程拓展署
Civil Engineering and Development Department
CONSULTANT
AECOM Asia Company Ltd.
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SUB-CONSULTANTS
PRELIMINARY
ISSUE/REVISION
A NOV. 17 TENDER ADDENDUM NO. 1 AWYC
OCT. 17 TENDER DRAWING AWYC
MR. DATE DESCRIPTION CHK.
STATUS
SCALE
A1: 500 METRES
DIMENSION UNIT
METRES
KEY PLAN
A1: 60000
PROJECT NO. 60328348
CONTRACT NO. NE/2017/03
SHEET TITLE
GENERAL LAYOUT
SHEET NUMBER
60328348/R&P/1008A
SHEET 6 OF 8

Appendix E

Calibration Certificate of Monitoring Equipment and HOKLAS-accreditation Certificate of the Testing Laboratory

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Tan Shan Village No. 5 - 6				Date of Calibration: 28-Feb-24			
Location ID : AMS1a				Next Calibration Date: 28-Apr-24			
Model: TISCH High Volume Air Sampler TE-5170				Technician: Martin			
CONDITIONS							
Sea Level Pressure (hPa)		<div style="border: 1px solid black; width: 50px; text-align: center;">1024</div>		Corrected Pressure (mm Hg)		<div style="border: 1px solid black; width: 50px; text-align: center;">768</div>	
Temperature (°C)		<div style="border: 1px solid black; width: 50px; text-align: center;">17.8</div>		Temperature (K)		<div style="border: 1px solid black; width: 50px; text-align: center;">291</div>	
CALIBRATION ORIFICE							
Make->		<div style="border: 1px solid black; width: 50px; text-align: center;">TISCH</div>		Qstd Slope ->		<div style="border: 1px solid black; width: 50px; text-align: center;">2.10977</div>	
Model->		<div style="border: 1px solid black; width: 50px; text-align: center;">TE-5025A</div>		Qstd Intercept ->		<div style="border: 1px solid black; width: 50px; text-align: center;">-0.03782</div>	
Serial # ->		<div style="border: 1px solid black; width: 50px; text-align: center;">4064</div>					
CALIBRATION							
Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.661	48	48.85	Slope = 40.9042 Intercept = -19.8517 Corr. coeff. = 0.9972
13	5.4	5.4	10.8	1.603	45	45.79	
10	4.4	4.4	8.8	1.449	38	38.67	
7	2.8	2.8	5.6	1.159	26	26.46	
5	1.9	1.9	3.8	0.958	20	20.35	
<p>Calculations :</p> <p>$Q_{std} = 1/m[\sqrt{H2O(Pa/P_{std})(T_{std}/T_a)} - b]$</p> <p>$IC = I[\sqrt{Pa/P_{std})(T_{std}/T_a)}]$</p> <p>Qstd = standard flow rate IC = corrected chart responses I = actual chart response m = calibrator Qstd slope b = calibrator Qstd intercept Ta = actual temperature during calibration (deg K) Pstd = actual pressure during calibration (mm Hg)</p> <p>For subsequent calculation of sampler flow:</p> <p>$1/m((I) [\sqrt{298/T_{av}}(P_{av}/760)] - b)$</p> <p>m = sampler slope b = sampler intercept I = chart response Tav = daily average temperature Pav = daily average pressure</p>							

FLOW RATE CHART

Standard Flow Rate (m3/min)	Actual chart response (IC)
0.958	20.35
1.159	26.46
1.449	38.67
1.603	45.79
1.661	48.85

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Oi Tat House	Date of Calibration: 28-Feb-24
Location ID : AMS 5	Next Calibration Date: 28-Apr-24
Model: TISCH High Volume Air Sampler TE-5170	Technician: Martin

CONDITIONS

Sea Level Pressure (hPa)	1024	Corrected Pressure (mm Hg)	768
Temperature (°C)	17.8	Temperature (K)	291

CALIBRATION ORIFICE

Make-> TISCH	Qstd Slope -> 2.10977
Model-> TE-5025A	Qstd Intercept -> -0.03782
Serial # -> 4064	

CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.716	53	53.93	Slope = 48.1185 Intercept = -29.3655 Corr. coeff. = 0.9986
13	5.5	5.5	11	1.618	47	47.83	
10	4.4	4.4	8.8	1.449	39	39.69	
7	2.8	2.8	5.6	1.159	27	27.48	
5	1.9	1.9	3.8	0.958	16	16.28	

Calculations :

$$Qstd = 1/m[\text{Sqrt}(H20(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K

Pstd = actual pressure during calibration (mm Hg

For subsequent calculation of sampler flow:

$$1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

m = sampler slope

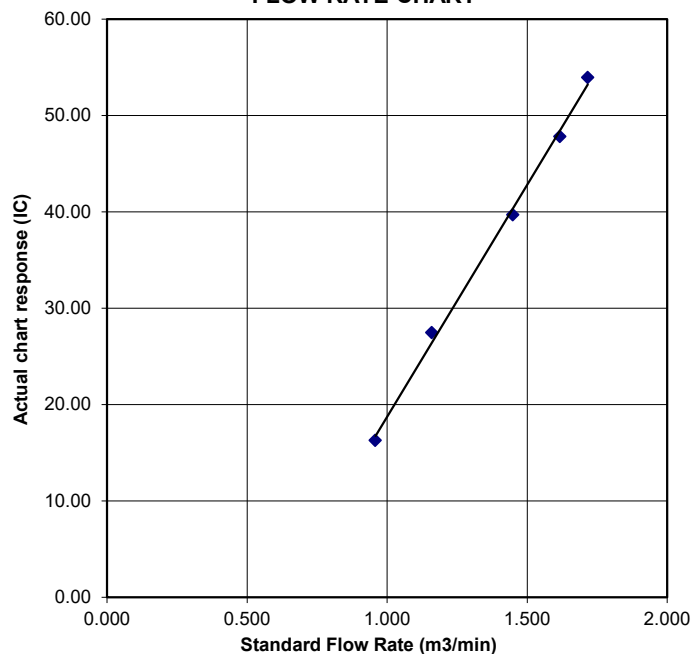
b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure

FLOW RATE CHART



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Hau Tat House

Date of Calibration: 28-Feb-24

Location ID : AMS 6

Next Calibration Date: 28-Apr-24

Model:TISCH High Volume Air Sampler TE-5170

Technician: Martin

CONDITIONS

Sea Level Pressure (hPa)

1024

Temperature (°C)

17.8

Corrected Pressure (mm Hg)

768

Temperature (K)

291

CALIBRATION ORIFICE

Make->TISCH

TISCH

Model->TE-5025A

TE-5025A

Serial # -> 4064

4064

Qstd Slope ->

2.10977

Qstd Intercept ->

-0.03782

CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.3	6.3	12.6	1.730	54	54.95	Slope = 46.2652
13	5.2	5.2	10.4	1.573	46	46.00	Intercept = -25.7889
10	3.5	3.5	7	1.294	34	34.60	Corr. coeff. = 0.9990
7	2.5	2.5	5	1.096	24	24.42	
5	1.6	1.6	3.2	0.881	15	15.26	

Calculations :

$$Q_{std} = 1/m[\text{Sqrt}(H_{20}(P_a/P_{std})(T_{std}/T_a)) - b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

 $m = \text{calibrator Qstd slope}$

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K

Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

$$1/m((I)[\text{Sqrt}(298/T_{av})(P_{av}/760)]-b)$$

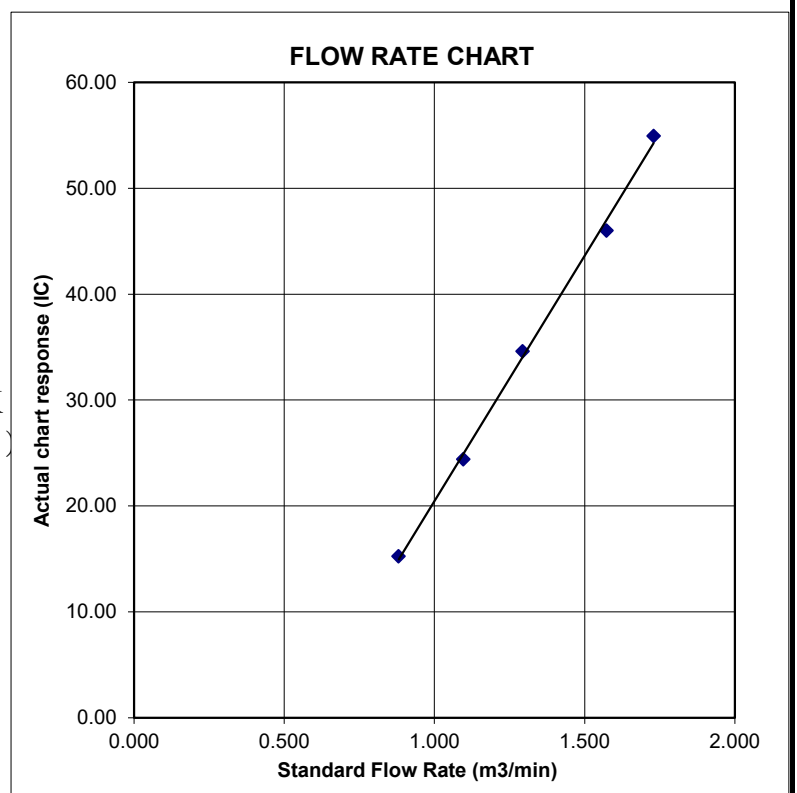
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ma Yau Tong Village

Date of Calibration: 28-Feb-24

Location ID : AMS 7

Next Calibration Date: 28-Apr-24

Model: TISCH High Volume Air Sampler TE-5170

Technician: Martin

CONDITIONS

Sea Level Pressure (hPa)

1024

Corrected Pressure (mm Hg)

768

Temperature (°C)

17.8

Temperature (K)

291

CALIBRATION ORIFICE

Make-> TISCH

Qstd Slope ->

2.10977

Model-> TE-5025A

Qstd Intercept ->

-0.03782

Serial # -> 4064

CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.4	6.4	12.8	1.744	54	54.95	Slope = 42.5258
13	5.3	5.3	10.6	1.588	47	47.83	Intercept = -19.5528
10	4.1	4.1	8.2	1.399	39	39.69	Corr. coeff. = 0.9998
7	2.8	2.8	5.6	1.159	29	29.51	
5	1.7	1.7	3.4	0.907	19	19.33	

Calculations :

$$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$$

$$IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$$

Qstd = standard flow rate

IC = corrected chart responses

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

$$1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$$

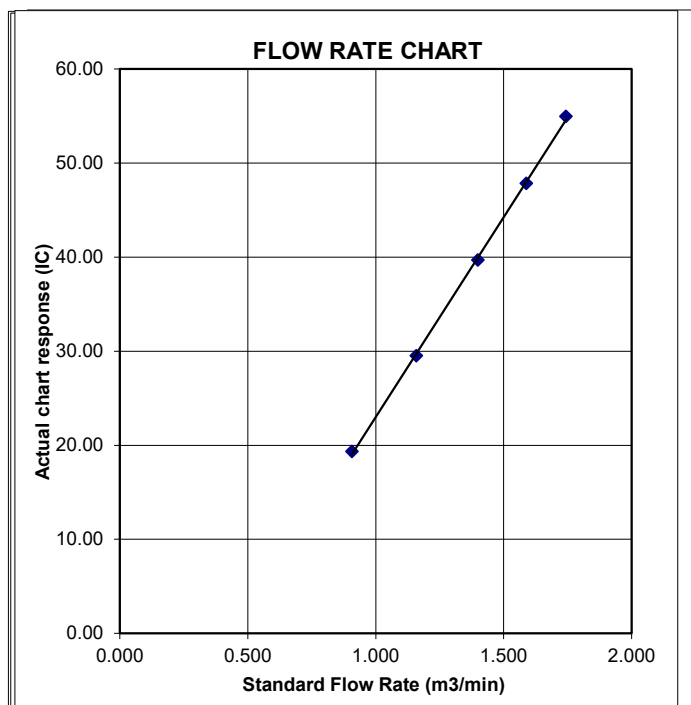
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure





SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: HK2410654
CLIENT	: ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 14-MAR-2024
		DATE OF ISSUE	: 21-MAR-2024
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
- Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
- Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.
- Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.

Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories

Position

Richard Fung

Managing Director

This report supersedes any previous report(s) with the same work order number.

All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd
Part of the **ALS Laboratory Group**

WORK ORDER : HK2410654
SUB-BATCH : 1
CLIENT : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING
PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2410654-001	S/N: 3Y6502	AIR	14-Mar-2024	S/N: 3Y6502

Equipment Verification Report (TSP)

Equipment Calibrated:

Type: Laser Dust monitor
Manufacturer: Sibata LD-3B
Serial No. 3Y6502
Equipment Ref: EQ113

Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)
Location & Location ID: AUES office (calibration room)
Equipment Ref: HVS 018
Last Calibration Date: 16 February 2024

Equipment Verification Results:

Verification Date: 7 & 8 March 2024

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
7-Mar-24	2hr01mins	09:26 ~ 11:27	18.7	1016.6	49.9	3166	26.1
7-Mar-24	2hr02mins	11:34 ~ 13:36	18.7	1016.6	41.2	2647	21.6
7-Mar-24	2hr02mins	13:45 ~ 15:47	18.7	1016.6	53.1	3057	25.0
8-Mar-24	2hr01mins	10:22 ~ 12:23	18.8	1018.8	34.3	2198	18.2
8-Mar-24	2hr14mins	12:44 ~ 14:58	18.8	1018.8	49.1	3106	23.1

Sensitivity Adjustment Scale Setting (Before Calibration) 655 (CPM)

Sensitivity Adjustment Scale Setting (After Calibration) 658 (CPM)

Linear Regression of Y or X

Slope (K-factor): 2.0206 (µg/m³)/CPM

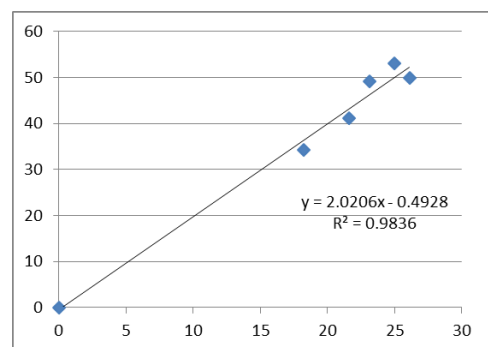
Correlation Coefficient (R) 0.9918

Date of Issue 13 March 2024

Remarks:

- Strong** Correlation ($R > 0.8$)
- Factor 2.0206 (µg/m³)/CPM should be apply for TSP monitoring

*If $R < 0.5$, repair or re-verification is required for the equipment



Operator : Martin Li Signature : [Signature] Date : 13 March 2024

QC Reviewer : Ben Tam Signature : [Signature] Date : 13 March 2024

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai Chung Date of Calibration: 16-Feb-24
 Location ID : Calibration Room - TISCH Higher Volume Sampler (Model TE-5170) S/N:1260 (HVS 018) Next Calibration Date: 16-May-24

CONDITIONS

Sea Level Pressure (hPa)	1019	Corrected Pressure (mm Hg)	764.25
Temperature (°C)	20.4	Temperature (K)	293

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Calibration Date->	15-Dec-23	Expiry Date->	15-Dec-24

CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.631	54	54.57	Slope = 31.3860 Intercept = 2.3377 Corr. coeff. = 0.9976
13	4.7	4.7	9.4	1.470	47	47.50	
10	3.6	3.6	7.2	1.289	42	42.45	
8	2.4	2.4	4.8	1.055	35	35.37	
5	1.2	1.2	2.4	0.751	26	26.28	

Calculations :

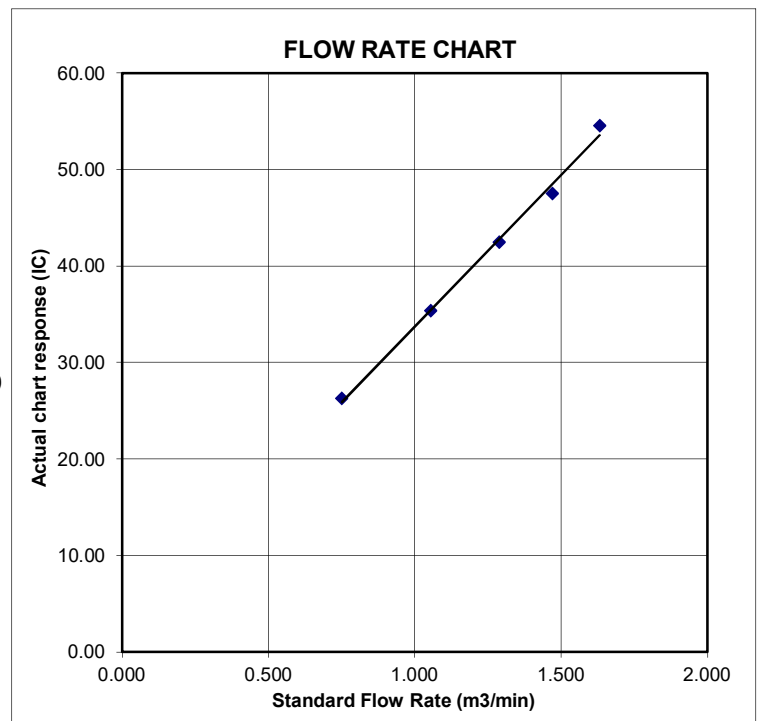
$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$
 $IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$

Qstd = standard flow rate
 IC = corrected chart responses
 I = actual chart response
 m = calibrator Qstd slope
 b = calibrator Qstd intercept
 Ta = actual temperature during calibration (deg K)
 Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

$1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$

m = sampler slope
 b = sampler intercept
 I = chart response
 Tav = daily average temperature
 Pav = daily average pressure





RECALIBRATION

DUE DATE:

December 15, 2024

Certificate of Calibration

Calibration Certification Information

Cal. Date: December 15, 2023 Rootsmeter S/N: 438320 Ta: 295 °K
Operator: Jim Tisch Pa: 748.5 mm Hg
Calibration Model #: TE-5025A Calibrator S/N: 1941

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	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)	$\sqrt{\Delta H (Ta/Pa)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
QSTD	m=	2.13163	QA	m=	1.33479
	b=	-0.03523		b=	-0.02217
	r=	0.99999		r=	0.99999

Calculations

Vstd=	$\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va=	$\Delta Vol((Pa-\Delta P)/Pa)$
Qstd=	$Vstd/\Delta Time$	Qa=	$Va/\Delta Time$
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= $1/m \left(\left(\sqrt{\Delta H (Ta/Pa)} \right) - b \right)$	

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



SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: HK2410656
CLIENT	: ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 14-MAR-2024
		DATE OF ISSUE	: 21-MAR-2024
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
- Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
- Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.
- Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.

Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories

Position

Richard Fung

Managing Director

This report supersedes any previous report(s) with the same work order number.

All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd
Part of the **ALS Laboratory Group**

11/F, Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong
Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER : HK2410656

SUB-BATCH : 1

CLIENT : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING

PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2410656-001	S/N: 456658	AIR	14-Mar-2024	S/N: 456658

Equipment Verification Report (TSP)

Equipment Calibrated:

Type: Laser Dust monitor
Manufacturer: Sibata LD-3B
Serial No. 456658
Equipment Ref: EQ115

Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)
Location & Location ID: AUES office (calibration room)
Equipment Ref: HVS 018
Last Calibration Date: 16 February 2024

Equipment Verification Results:

Verification Date: 7 & 8 March 2024

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
7-Mar-24	2hr01mins	09:26 ~ 11:27	18.7	1016.6	49.9	3121	25.8
7-Mar-24	2hr02mins	11:34 ~ 13:36	18.7	1016.6	41.2	2694	22.0
7-Mar-24	2hr02mins	13:45 ~ 15:47	18.7	1016.6	53.1	3242	26.5
8-Mar-24	2hr01mins	10:22 ~ 12:23	18.8	1018.8	34.3	2101	17.4
8-Mar-24	2hr14mins	12:44 ~ 14:58	18.8	1018.8	49.1	3151	23.4

Sensitivity Adjustment Scale Setting (Before Calibration) 703 (CPM)

Sensitivity Adjustment Scale Setting (After Calibration) 705 (CPM)

Linear Regression of Y or X

Slope (K-factor): 1.9842 (ug/m³)/CPM

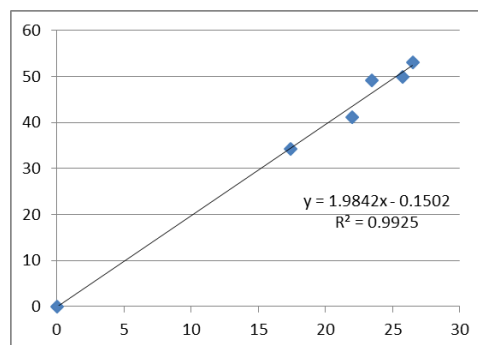
Correlation Coefficient (R) 0.9962

Date of Issue 13 March 2024

Remarks:

- Strong** Correlation ($R > 0.8$)
- Factor 1.9842 (ug/m³)/CPM should be apply for TSP monitoring

*If $R < 0.5$, repair or re-verification is required for the equipment



Operator : Martin Li Signature : [Signature] Date : 13 March 2024

QC Reviewer : Ben Tam Signature : [Signature] Date : 13 March 2024

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai Chung Date of Calibration: 16-Feb-24
 Location ID : Calibration Room - TISCH Higher Volume Sampler (Model TE-5170) S/N:1260 (HVS 018) Next Calibration Date: 16-May-24

CONDITIONS

Sea Level Pressure (hPa)	1019	Corrected Pressure (mm Hg)	764.25
Temperature (°C)	20.4	Temperature (K)	293

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Calibration Date->	15-Dec-23	Expiry Date->	15-Dec-24

CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.631	54	54.57	Slope = 31.3860 Intercept = 2.3377 Corr. coeff. = 0.9976
13	4.7	4.7	9.4	1.470	47	47.50	
10	3.6	3.6	7.2	1.289	42	42.45	
8	2.4	2.4	4.8	1.055	35	35.37	
5	1.2	1.2	2.4	0.751	26	26.28	

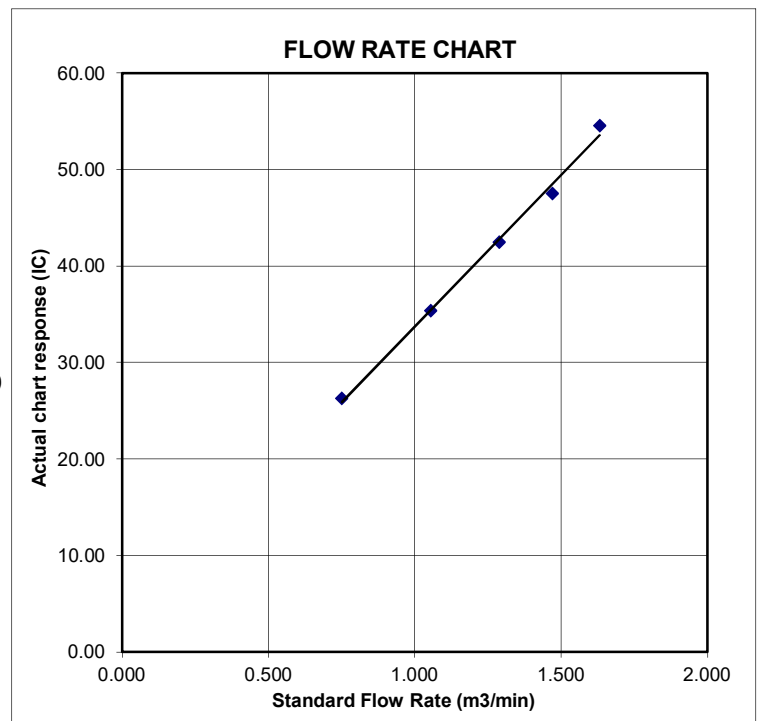
Calculations :

$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$
 $IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$

Qstd = standard flow rate
 IC = corrected chart responses
 I = actual chart response
 m = calibrator Qstd slope
 b = calibrator Qstd intercept
 Ta = actual temperature during calibration (deg K)
 Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

$1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$
 m = sampler slope
 b = sampler intercept
 I = chart response
 Tav = daily average temperature
 Pav = daily average pressure





RECALIBRATION

DUE DATE:

December 15, 2024

Certificate of Calibration

Calibration Certification Information

Cal. Date: December 15, 2023 Rootsmeter S/N: 438320 Ta: 295 °K
Operator: Jim Tisch Pa: 748.5 mm Hg
Calibration Model #: TE-5025A Calibrator S/N: 1941

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	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)	$\sqrt{\Delta H (Ta/Pa)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
QSTD	m=	2.13163	QA	m=	1.33479
	b=	-0.03523		b=	-0.02217
	r=	0.99999		r=	0.99999

Calculations

Vstd=	$\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va=	$\Delta Vol((Pa-\Delta P)/Pa)$
Qstd=	$Vstd/\Delta Time$	Qa=	$Va/\Delta Time$
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= $1/m \left(\left(\sqrt{\Delta H (Ta/Pa)} \right) - b \right)$	

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



SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: HK2410657
CLIENT	: ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 14-MAR-2024
		DATE OF ISSUE	: 21-MAR-2024
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
- Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
- Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.
- Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.

Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories

Position

Richard Fung

Managing Director

This report supersedes any previous report(s) with the same work order number.

All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd
Part of the **ALS Laboratory Group**

11/F, Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong
Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER : HK2410657

SUB-BATCH : 1

CLIENT : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING

PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2410657-001	S/N: 456659	AIR	14-Mar-2024	S/N: 456659

Equipment Verification Report (TSP)

Equipment Calibrated:

Type: Laser Dust monitor
Manufacturer: Sibata LD-3B
Serial No. 456659
Equipment Ref: EQ116

Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)
Location & Location ID: AUES office (calibration room)
Equipment Ref: HVS 018
Last Calibration Date: 16 February 2024

Equipment Verification Results:

Verification Date: 7 & 8 March 2024

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in $\mu\text{g}/\text{m}^3$ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
7-Mar-24	2hr01mins	09:26 ~ 11:27	18.7	1016.6	49.9	2804	23.1
7-Mar-24	2hr02mins	11:34 ~ 13:36	18.7	1016.6	41.2	2532	20.7
7-Mar-24	2hr02mins	13:45 ~ 15:47	18.7	1016.6	53.1	3342	27.3
8-Mar-24	2hr01mins	10:22 ~ 12:23	18.8	1018.8	34.3	1951	16.2
8-Mar-24	2hr14mins	12:44 ~ 14:58	18.8	1018.8	49.1	2998	22.3

Sensitivity Adjustment Scale Setting (Before Calibration) 725 (CPM)

Sensitivity Adjustment Scale Setting (After Calibration) 727 (CPM)

Linear Regression of Y or X

Slope (K-factor): $2.0366 (\mu\text{g}/\text{m}^3)/\text{CPM}$

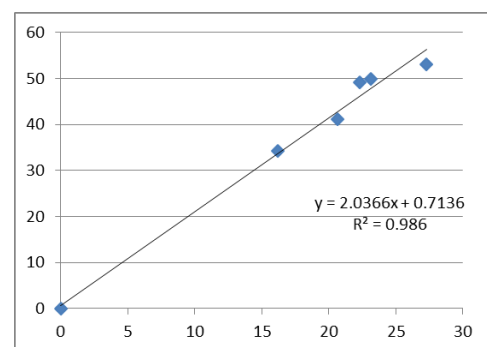
Correlation Coefficient (R) 0.9929

Date of Issue 13 March 2024

Remarks:

- Strong** Correlation ($R > 0.8$)
- Factor $2.0366 (\mu\text{g}/\text{m}^3)/\text{CPM}$ should be apply for TSP monitoring

*If $R < 0.5$, repair or re-verification is required for the equipment



Operator : Martin Li Signature : [Signature] Date : 13 March 2024

QC Reviewer : Ben Tam Signature : [Signature] Date : 13 March 2024

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai Chung Date of Calibration: 16-Feb-24
 Location ID : Calibration Room - TISCH Higher Volume Sampler (Model TE-5170) S/N:1260 (HVS 018) Next Calibration Date: 16-May-24

CONDITIONS

Sea Level Pressure (hPa)	1019	Corrected Pressure (mm Hg)	764.25
Temperature (°C)	20.4	Temperature (K)	293

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Calibration Date->	15-Dec-23	Expiry Date->	15-Dec-24

CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.631	54	54.57	Slope = 31.3860 Intercept = 2.3377 Corr. coeff. = 0.9976
13	4.7	4.7	9.4	1.470	47	47.50	
10	3.6	3.6	7.2	1.289	42	42.45	
8	2.4	2.4	4.8	1.055	35	35.37	
5	1.2	1.2	2.4	0.751	26	26.28	

Calculations :

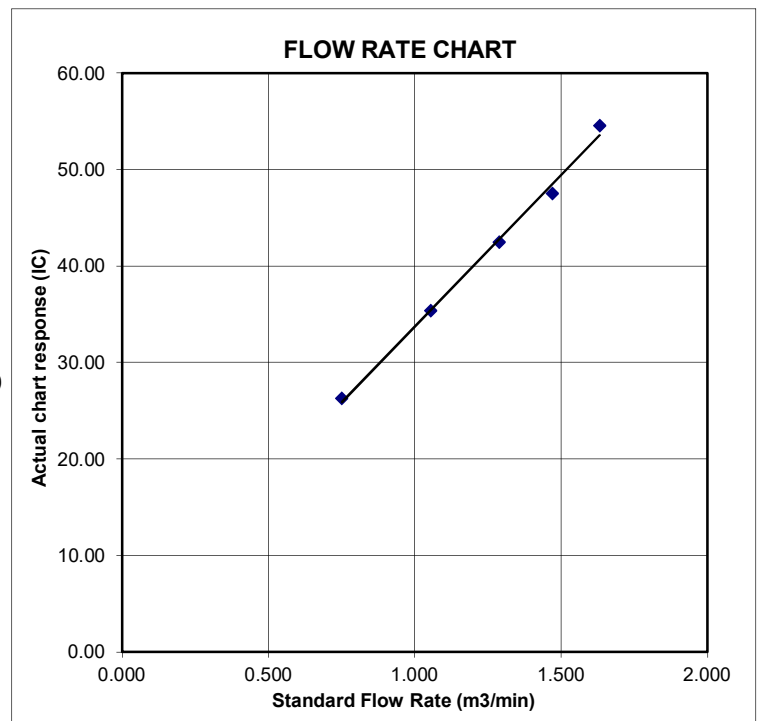
$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$
 $IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$

Qstd = standard flow rate
 IC = corrected chart responses
 I = actual chart response
 m = calibrator Qstd slope
 b = calibrator Qstd intercept
 Ta = actual temperature during calibration (deg K)
 Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

$1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$

m = sampler slope
 b = sampler intercept
 I = chart response
 Tav = daily average temperature
 Pav = daily average pressure





RECALIBRATION

DUE DATE:

December 15, 2024

Certificate of Calibration

Calibration Certification Information

Cal. Date: December 15, 2023 Rootsmeter S/N: 438320 Ta: 295 °K
Operator: Jim Tisch Pa: 748.5 mm Hg
Calibration Model #: TE-5025A Calibrator S/N: **1941**

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	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)	$\sqrt{\Delta H (Ta/Pa)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
QSTD	m=	2.13163	QA	m=	1.33479
	b=	-0.03523		b=	-0.02217
	r=	0.99999		r=	0.99999

Calculations

Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
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= $1/m \left(\left(\sqrt{\Delta H (Ta/Pa)} \right) - b \right)$

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



SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: HK2410658
CLIENT	: ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING		
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T.	SUB-BATCH	: 1
		DATE RECEIVED	: 14-MAR-2024
		DATE OF ISSUE	: 21-MAR-2024
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ----

General Comments

- Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.
- Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified. The result(s) is/are related only to the item(s) tested.
- Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.
- Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition.

Signatories

This document has been signed by those names that appear on this report and are the authorised signatories

Signatories

Position

Richard Fung

Managing Director

This report supersedes any previous report(s) with the same work order number.

All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd
Part of the **ALS Laboratory Group**

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Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER : HK2410658

SUB-BATCH : 1

CLIENT : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING

PROJECT : ----



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2410658-001	S/N: 456660	AIR	14-Mar-2024	S/N: 456660

Equipment Verification Report (TSP)

Equipment Calibrated:

Type: Laser Dust monitor
Manufacturer: Sibata LD-3B
Serial No. 456660
Equipment Ref: EQ117

Standard Equipment:

Standard Equipment: Higher Volume Sampler (TSP)
Location & Location ID: AUES office (calibration room)
Equipment Ref: HVS 018
Last Calibration Date: 16 February 2024

Equipment Verification Results:

Verification Date: 7 & 8 March 2024

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
7-Mar-24	2hr01mins	09:26 ~ 11:27	18.7	1016.6	49.9	3161	26.1
7-Mar-24	2hr02mins	11:34 ~ 13:36	18.7	1016.6	41.2	2638	21.6
7-Mar-24	2hr02mins	13:45 ~ 15:47	18.7	1016.6	53.1	3266	26.7
8-Mar-24	2hr01mins	10:22 ~ 12:23	18.8	1018.8	34.3	1989	16.5
8-Mar-24	2hr14mins	12:44 ~ 14:58	18.8	1018.8	49.1	3050	22.7

Sensitivity Adjustment Scale Setting (Before Calibration) 610 (CPM)

Sensitivity Adjustment Scale Setting (After Calibration) 609 (CPM)

Linear Regression of Y or X

Slope (K-factor): 1.9737 (µg/m³)/CPM

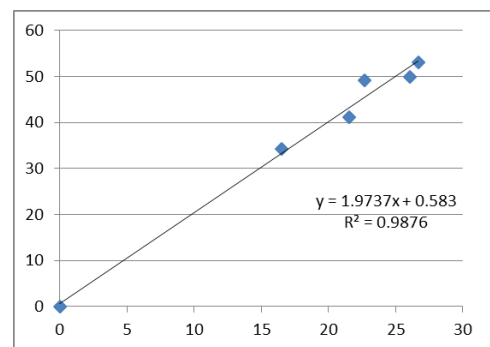
Correlation Coefficient (R) 0.9937

Date of Issue 13 March 2024

Remarks:

- Strong** Correlation ($R > 0.8$)
- Factor 1.9737 (µg/m³)/CPM should be apply for TSP monitoring

*If $R < 0.5$, repair or re-verification is required for the equipment



Operator : Martin Li Signature : [Signature] Date : 13 March 2024

QC Reviewer : Ben Tam Signature : [Signature] Date : 13 March 2024

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Gold King Industrial Building, Kwai Chung Date of Calibration: 16-Feb-24
 Location ID : Calibration Room - TISCH Higher Volume Sampler (Model TE-5170) S/N:1260 (HVS 018) Next Calibration Date: 16-May-24

CONDITIONS

Sea Level Pressure (hPa)	1019	Corrected Pressure (mm Hg)	764.25
Temperature (°C)	20.4	Temperature (K)	293

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.13163
Model->	5025A	Qstd Intercept ->	-0.03523
Calibration Date->	15-Dec-23	Expiry Date->	15-Dec-24

CALIBRATION

Plate No.	H2O (L) (in)	H2O (R) (in)	H2O (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.631	54	54.57	Slope = 31.3860 Intercept = 2.3377 Corr. coeff. = 0.9976
13	4.7	4.7	9.4	1.470	47	47.50	
10	3.6	3.6	7.2	1.289	42	42.45	
8	2.4	2.4	4.8	1.055	35	35.37	
5	1.2	1.2	2.4	0.751	26	26.28	

Calculations :

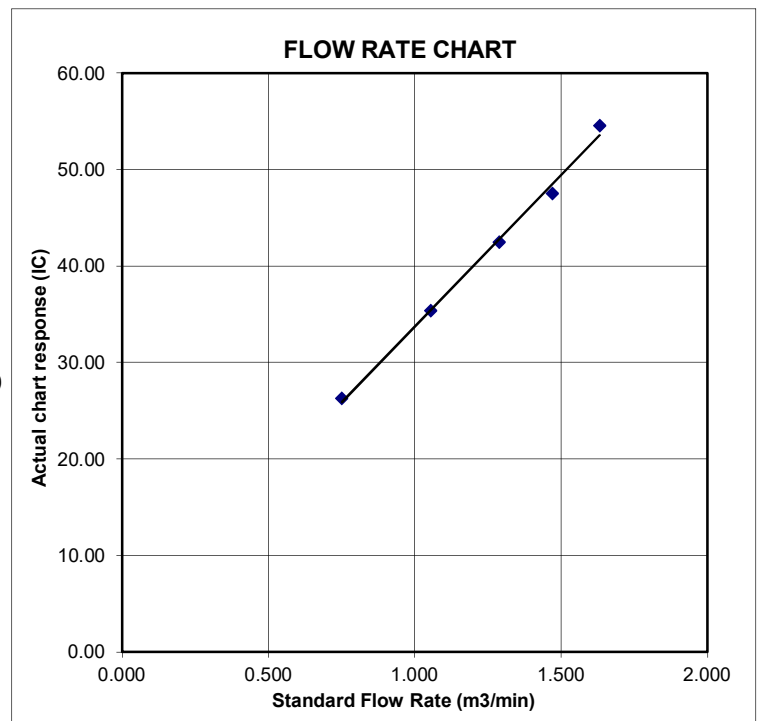
$Qstd = 1/m[\text{Sqrt}(H2O(Pa/Pstd)(Tstd/Ta))-b]$
 $IC = I[\text{Sqrt}(Pa/Pstd)(Tstd/Ta)]$

Qstd = standard flow rate
 IC = corrected chart responses
 I = actual chart response
 m = calibrator Qstd slope
 b = calibrator Qstd intercept
 Ta = actual temperature during calibration (deg K)
 Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

$1/m((I)[\text{Sqrt}(298/Tav)(Pav/760)]-b)$

m = sampler slope
 b = sampler intercept
 I = chart response
 Tav = daily average temperature
 Pav = daily average pressure





RECALIBRATION

DUE DATE:

December 15, 2024

Certificate of Calibration

Calibration Certification Information

Cal. Date: December 15, 2023 Rootsmeter S/N: 438320 Ta: 295 °K
Operator: Jim Tisch Pa: 748.5 mm Hg
Calibration Model #: TE-5025A Calibrator S/N: 1941

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
QSTD	m=	2.13163	QA	m=	1.33479
	b=	-0.03523		b=	-0.02217
	r=	0.99999		r=	0.99999

Calculations

Vstd =	$\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va =	$\Delta Vol((Pa-\Delta P)/Pa)$
Qstd =	$Vstd/\Delta Time$	Qa =	$Va/\Delta Time$
For subsequent flow rate calculations:			
Qstd = $1/m \left(\left(\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)} \right) - b \right)$		Qa = $1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$	

Standard Conditions

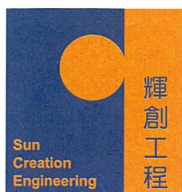
Tstd: 298.15 °K
Pstd: 760 mm Hg

Key

ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30



輝創工程有限公司

Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration

校正證書

Certificate No. : C235334

證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號: IC23-1813)

Date of Receipt / 收件日期: 31 August 2023

Description / 儀器名稱 : Integrating Sound Level Meter (EQ009)

Manufacturer / 製造商 : Brüel & Kjær

Model No. / 型號 : 2238

Serial No. / 編號 : 2285722

Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$

Relative Humidity / 相對濕度 : $(50 \pm 25)\%$

Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 15 September 2023

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

The results do not exceed specified limits.

These limits refer to manufacturer's published tolerances as requested by the customer.

The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By

測試

C K Lo

Project Engineer

Certified By

核證

K C Lee

Engineer

Date of Issue

簽發日期

15 September 2023

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Sun Creation Engineering Limited – Calibration & Testing Laboratory

c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 - 校正及檢測實驗室

c/o 香港新界屯門興安里一號四樓

Tel/電話: (852) 2927 2606

Fax/傳真: (852) 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com

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Certificate No. : C235334
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- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.
- The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C230306
CL281	Multifunction Acoustic Calibrator	CDK2302738

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
52 - 132	L _{AFP}	A	F	94.00	1	94.2

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Limit (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
52 - 132	L _{AFP}	A	F	94.00	1	94.0	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
52 - 132	L _{AFP}	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		113.9

IEC 60651 Type 1 Limit : ± 0.4 dB per 10 dB step and ± 0.7 dB for overall different.

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate of Calibration

校正證書

Certificate No. : C235334
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6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Limit (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
52 - 132	L _{AFP}	A	F	94.00	1	94.0	Ref.
	L _{ASP}		S			94.0	± 0.1
	L _{AIP}		I			94.0	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Limit (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
32 - 112	L _{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L _{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L _{ASP}	S	Continuous		106.0	Ref.	
	L _{ASMax}		500 ms		102.0	-4.1 ± 1.0	

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Limit (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
52 - 132	L _{AFP}	A	F	94.00	31.5 Hz	54.5	-39.4 ± 1.5
					63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.8	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate of Calibration

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Certificate No. : C235334
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Limit (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
52 - 132	L _{CFP}	C	F	94.00	31.5 Hz	90.9	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.1	-0.8 ± 1.0
					8 kHz	90.9	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Limit (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
32 - 112	L _{Acq}	A	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
								90	89.9	± 0.5
			60 sec.					80	79.3	± 1.0
			5 min.					70	69.2	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812706

- Mfr's Limit : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value : 94 dB : 31.5 Hz - 125 Hz : ± 0.35 dB
 250 Hz - 500 Hz : ± 0.30 dB
 1 kHz : ± 0.20 dB
 2 kHz - 4 kHz : ± 0.35 dB
 8 kHz : ± 0.45 dB
 12.5 kHz : ± 0.70 dB
 104 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)
 114 dB : 1 kHz : ± 0.10 dB (Ref. 94 dB)
 Burst equivalent level : ± 0.2 dB (Ref. 110 dB continuous sound level)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate of Calibration

校正證書

Certificate No. : C236945
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC23-2369) Date of Receipt / 收件日期 : 23 November 2023

Description / 儀器名稱 : Sound Level Meter (EQ013)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 00921191
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(50 \pm 25)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範


Calibration check

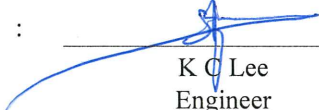
DATE OF TEST / 測試日期 : 3 December 2023

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed specified limits.
These limits refer to manufacturer's published tolerances as requested by the customer.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By : 
測試 H T Wong
Assistant Engineer

Certified By : 
核證 K C Lee
Engineer

Date of Issue : 4 December 2023
簽發日期

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate of Calibration

校正證書

Certificate No. : C236945

證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- Self-calibration was performed before the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C230306
CL281	Multifunction Acoustic Calibrator	CDK2302738

- Test procedure : MA101N.

- Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L _A	A	Fast	94.00	1	93.8	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L _A	A	Fast	94.00	1	93.8 (Ref.)
				104.00		103.8
				114.00		113.8

IEC 61672 Class 1 Limit : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L _A	A	Fast	94.00	1	93.8	Ref.
			Slow			93.8	± 0.3

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6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Class 1 Limit (dB)
30 - 130	L _A	A	Fast	94.00	63 Hz	67.5	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.1	-8.6 ± 1.4
					500 Hz	90.6	-3.2 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	95.0	+1.2 ± 1.6
					4 kHz	94.8	+1.0 ± 1.6
					8 kHz	92.8	-1.1 (+2.1 ; -3.1)
					16 kHz	85.8	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT	IEC 61672
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.	Reading (dB)	Class 1 Limit (dB)
30 - 130	L _C	C	Fast	94.00	63 Hz	92.9	-0.8 ± 1.5
					125 Hz	93.6	-0.2 ± 1.5
					250 Hz	93.8	0.0 ± 1.4
					500 Hz	93.8	0.0 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	93.7	-0.2 ± 1.6
					4 kHz	93.0	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					16 kHz	83.9	-8.5 (+3.5 ; -17.0)

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Sun Creation Engineering Limited

Calibration & Testing Laboratory

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Certificate No. : C236945

證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 12910

- Mfr's Limit : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	: ± 0.35 dB
	250 Hz - 500 Hz	: ± 0.30 dB
	1 kHz	: ± 0.20 dB
	2 kHz - 4 kHz	: ± 0.35 dB
	8 kHz	: ± 0.45 dB
	16 kHz	: ± 0.70 dB
104 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB	: 1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

Sun Creation Engineering Limited – Calibration & Testing Laboratory

c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 - 校正及檢測實驗室

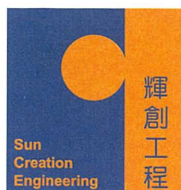
c/o 香港新界屯門興安里一號四樓

Tel/電話: (852) 2927 2606

Fax/傳真: (852) 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com



Certificate of Calibration

校正證書

Certificate No. : C236949
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC23-2369) Date of Receipt / 收件日期 : 23 November 2023

Description / 儀器名稱 : Sound Level Meter (EQ016)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-52
Serial No. / 編號 : 00464681
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(50 \pm 25)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

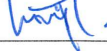
Calibration check

DATE OF TEST / 測試日期 : 3 December 2023

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed specified limits.
These limits refer to manufacturer's published tolerances as requested by the customer.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By : 
測試 H T Wong
Assistant Engineer

Certified By : 
核證 K C Lee
Engineer

Date of Issue : 4 December 2023
簽發日期

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗室書面批准。

Certificate of Calibration

校正證書

Certificate No. : C236949
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- Self-calibration was performed before the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C230306
CL281	Multifunction Acoustic Calibrator	CDK2302738

- Test procedure : MA101N.

- Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L _A	A	Fast	94.00	1	93.4	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L _A	A	Fast	94.00	1	93.4 (Ref.)
				104.00		103.4
				114.00		113.4

IEC 61672 Class 1 Limit : ± 0.6 dB per 10 dB step and ± 1.1 dB for overall different.

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L _A	A	Fast	94.00	1	93.4	Ref.
			Slow			93.4	± 0.3

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輝創工程有限公司 - 校正及檢測實驗室

c/o 香港新界屯門興安里一號四樓

Tel/電話: (852) 2927 2606

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E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com

Certificate of Calibration

校正證書

Certificate No. : C236949
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L _A	A	Fast	94.00	63 Hz	67.2	-26.2 ± 1.5
					125 Hz	77.2	-16.1 ± 1.5
					250 Hz	84.8	-8.6 ± 1.4
					500 Hz	90.2	-3.2 ± 1.4
					1 kHz	93.4	Ref.
					2 kHz	94.6	+1.2 ± 1.6
					4 kHz	94.4	+1.0 ± 1.6
					8 kHz	92.4	-1.1 (+2.1 ; -3.1)
					16 kHz	85.5	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Limit (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L _C	C	Fast	94.00	63 Hz	92.5	-0.8 ± 1.5
					125 Hz	93.2	-0.2 ± 1.5
					250 Hz	93.4	0.0 ± 1.4
					500 Hz	93.5	0.0 ± 1.4
					1 kHz	93.4	Ref.
					2 kHz	93.3	-0.2 ± 1.6
					4 kHz	92.6	-0.8 ± 1.6
					8 kHz	90.5	-3.0 (+2.1 ; -3.1)
					16 kHz	83.5	-8.5 (+3.5 ; -17.0)

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate of Calibration

校正證書

Certificate No. : C236949

證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 17434

- Mfr's Limit : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB : 63 Hz - 125 Hz	: ± 0.35 dB
250 Hz - 500 Hz	: ± 0.30 dB
1 kHz	: ± 0.20 dB
2 kHz - 4 kHz	: ± 0.35 dB
8 kHz	: ± 0.45 dB
16 kHz	: ± 0.70 dB
104 dB : 1 kHz	: ± 0.10 dB (Ref. 94 dB)
114 dB : 1 kHz	: ± 0.10 dB (Ref. 94 dB)

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

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c/o 香港新界屯門興安里一號四樓

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Fax/傳真: (852) 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com



Certificate of Calibration 校正證書

Certificate No. : C235367
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC23-1813) Date of Receipt / 收件日期 : 31 August 2023

Description / 儀器名稱 : Sound Level Calibrator (EQ085)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-73
Serial No. / 編號 : 10655561
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(50 \pm 25)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

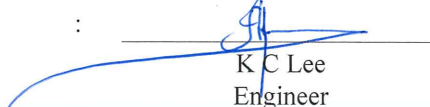
DATE OF TEST / 測試日期 : 13 September 2023

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed specified limits.
These limits refer to manufacturer's published or user's specified tolerances as requested by the customer.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By : 
測試 K C Lee
Engineer

Certified By : 
核證 K K Wong
Engineer

Date of Issue : 17 September 2023
簽發日期

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.
本證書所載校正用之測試器材均可溯源至國際標準。局部複印本證書需先獲本實驗所書面批准。

Certificate of Calibration

校正證書

Certificate No. : C235367
證書編號

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.
- Test equipment :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C233799
CL281	Multifunction Acoustic Calibrator	CDK2302738
TST150A	Measuring Amplifier	C221750

- Test procedure : MA100N.
- Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.00	± 0.5	± 0.20

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	User's Spec.	Uncertainty of Measured Value (Hz)
1	0.951	1 kHz $\pm 6\%$	± 1

Remarks : - The user's specified acceptance criteria (user's spec.) is a customer pre-defined operating tolerance of the UUT, suitable for one's own intended use.

- The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

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Sun Creation Engineering Limited – Calibration & Testing Laboratory

c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong

輝創工程有限公司 - 校正及檢測實驗室

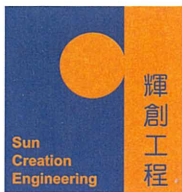
c/o 香港新界屯門興安里一號四樓

Tel/電話: (852) 2927 2606

Fax/傳真: (852) 2744 8986

E-mail/電郵: callab@suncreation.com

Website/網址: www.suncreation.com



Certificate of Calibration 校正證書

Certificate No. : C236946
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC23-2369) Date of Receipt / 收件日期 : 23 November 2023

Description / 儀器名稱 : Sound Calibrator (EQ086)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-74
Serial No. / 編號 : 34657230
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(50 \pm 25)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範


Calibration check

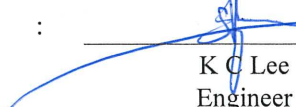
DATE OF TEST / 測試日期 : 3 December 2023

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed specified limits.
These limits refer to manufacturer's published tolerances as requested by the customer.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By : 
測試 H T Wong
Assistant Engineer

Certified By : 
核證 K C Lee
Engineer

Date of Issue : 4 December 2023
簽發日期

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.

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Certificate of Calibration

校正證書

Certificate No. : C236946
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
2. The results presented are the mean of 3 measurements at each calibration point.
3. Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL130	Universal Counter	C233799
CL281	Multifunction Acoustic Calibrator	CDK2302738
TST150A	Measuring Amplifier	C221750

4. Test procedure : MA100N.

5. Results :

- 5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Limit (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.10	± 0.3	± 0.20

- 5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Limit	Uncertainty of Measured Value (Hz)
1	1.002	1 kHz $\pm 1\%$	± 1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :

Only the original copy or the laboratory's certified true copy is valid.

The values given in this Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environment changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Sun Creation Engineering Limited shall not be liable for any loss or damage resulting from the use of the equipment.



Certificate of Calibration 校正證書

Certificate No. : C236948
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC23-2369) Date of Receipt / 收件日期 : 23 November 2023

Description / 儀器名稱 : Sound Calibrator (EQ087)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-74
Serial No. / 編號 : 34657231
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : $(23 \pm 2)^{\circ}\text{C}$ Relative Humidity / 相對濕度 : $(50 \pm 25)\%$
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

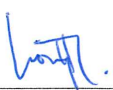
Calibration check


DATE OF TEST / 測試日期 : 3 December 2023

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed specified limits.
These limits refer to manufacturer's published tolerances as requested by the customer.
The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Hottinger Brüel & Kjær Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By : 
測試 H T Wong
Assistant Engineer

Certified By : 
核證 K C Lee
Engineer

Date of Issue : 4 December 2023
簽發日期

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Certificate of Calibration

校正證書

Certificate No. : C236948
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.
2. The results presented are the mean of 3 measurements at each calibration point.
3. Test equipment :

<u>Equipment ID</u>	<u>Description</u>	<u>Certificate No.</u>
CL130	Universal Counter	C233799
CL281	Multifunction Acoustic Calibrator	CDK2302738
TST150A	Measuring Amplifier	C221750

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Limit (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.10	± 0.3	± 0.20

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Limit	Uncertainty of Measured Value (Hz)
1	1.001	1 kHz $\pm 1\%$	± 1

Remark : The uncertainties are for a confidence probability of not less than 95 %.

Note :

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RECALIBRATION

DUE DATE:

December 15, 2024

Certificate of Calibration

Calibration Certification Information

Cal. Date: December 15, 2023 Rootsmeter S/N: 438320 Ta: 295 °K
Operator: Jim Tisch Pa: 748.5 mm Hg
Calibration Model #: TE-5025A Calibrator S/N: 1941

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4590	3.2	2.00
2	3	4	1	1.0360	6.4	4.00
3	5	6	1	0.9260	8.0	5.00
4	7	8	1	0.8840	8.9	5.50
5	9	10	1	0.7290	12.9	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)}$ (y-axis)
0.9907	0.6790	1.4106	0.9957	0.6825	0.8878
0.9864	0.9522	1.9949	0.9914	0.9570	1.2556
0.9843	1.0630	2.2304	0.9893	1.0684	1.4037
0.9831	1.1121	2.3393	0.9881	1.1178	1.4723
0.9778	1.3413	2.8213	0.9828	1.3481	1.7756
QSTD	m=	2.13163	QA	m=	1.33479
	b=	-0.03523		b=	-0.02217
	r=	0.99999		r=	0.99999

Calculations

Vstd= $\Delta Vol((Pa-\Delta P)/Pstd)(Tstd/Ta)$	Va= $\Delta Vol((Pa-\Delta P)/Pa)$
Qstd= $Vstd/\Delta Time$	Qa= $Va/\Delta Time$
For subsequent flow rate calculations:	
Qstd= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Pa}{Pstd} \right) \left(\frac{Tstd}{Ta} \right)} \right) - b \right)$	Qa= $1/m \left(\left(\sqrt{\Delta H \left(\frac{Ta}{Pa} \right)} \right) - b \right)$

Standard Conditions

Tstd: 298.15 °K
Pstd: 760 mm Hg

Key

ΔH: calibrator manometer reading (in H2O)
ΔP: rootsmeter manometer reading (mm Hg)
Ta: actual absolute temperature (°K)
Pa: actual barometric pressure (mm Hg)
b: intercept
m: slope

RECALIBRATION

US EPA recommends annual recalibration per 1998 40 Code of Federal Regulations Part 50 to 51, Appendix B to Part 50, Reference Method for the Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30



Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

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*is accredited by the Hong Kong Accreditation Service (HKAS) to ISO/IEC 17025:2017
for performing specific laboratory activities as listed in the scope of accreditation within the test category of*
獲香港認可處根據ISO/IEC 17025:2017認可
進行載於認可範圍內下述測試類別中的指定實驗所活動

Environmental Testing
環境測試

*This accreditation to ISO/IEC 17025:2017 demonstrates technical competence for a defined scope and
the implementation of a management system relevant to laboratory operation
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此項 ISO/IEC 17025:2017 的認可資格證明此實驗所具備指定範疇內所須的技術能力並
實施一套與實驗所運作相關的管理體系
(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

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SHUM Wai-leung, Executive Administrator
執行幹事 沈偉良
Issue Date : 28 February 2020
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Appendix F

Event and Action Plan

Event / Action Plan for construction dust

Event	Action			
	ET	IEC	ER	Contractor
Action Level exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, ER and Contractor; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures. 	<ol style="list-style-type: none"> 1. Notify Contractor. 	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Rectify any unacceptable practice and implement remedial measures; and 3. Amend working methods agreed with ER if appropriate.
Action Level exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, ER and Contractor; 3. Advise the ER and Contractor on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC, ER and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise Implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 3. Implement the agreed proposals; and 4. Amend proposal if appropriate.
Limit Level exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor, IEC and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; and 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ER and ET on the effectiveness of the proposed remedial measures; and 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented. 	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. 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.
Limit Level exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC, Contractor and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss 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. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise and ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. 	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control; and 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Construction Noise

Event	Action			
	ET	IEC	ER	Contractor
Action Level Exceedance	<ol style="list-style-type: none"> 1. Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; and 5. Increase monitoring frequency to check mitigation effectiveness. 	<ol style="list-style-type: none"> 1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; and 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Submit noise mitigation proposals to IEC and ER; and 2. Implement noise mitigation proposals.
Limit Level Exceedance	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 3. Supervise the implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; 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. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; and 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix G

Impact Monitoring Schedule

Impact Monitoring Schedule for the Reporting Period

Date		NOISE MONITORING (0700 – 1900)	AIR QUALITY MONITORING	
			1-HOUR TSP	24-HOUR TSP
Mon	1-Apr-24			
Tue	2-Apr-24	✓	✓	
Wed	3-Apr-24			✓
Thu	4-Apr-24			
Fri	5-Apr-24			
Sat	6-Apr-24		✓	
Sun	7-Apr-24			
Mon	8-Apr-24			
Tue	9-Apr-24			✓
Wed	10-Apr-24			
Thu	11-Apr-24			
Fri	12-Apr-24	✓	✓	
Sat	13-Apr-24			
Sun	14-Apr-24			
Mon	15-Apr-24			✓
Tue	16-Apr-24			
Wed	17-Apr-24	✓	✓	
Thu	18-Apr-24			
Fri	19-Apr-24			
Sat	20-Apr-24			✓
Sun	21-Apr-24			
Mon	22-Apr-24			
Tue	23-Apr-24			
Wed	24-Apr-24			
Thu	25-Apr-24	✓	✓	
Fri	26-Apr-24			✓
Sat	27-Apr-24			
Sun	28-Apr-24			
Mon	29-Apr-24	✓	✓	
Tue	30-Apr-24			

✓	Monitoring Day
	Sunday or Public Holiday

Impact Monitoring Schedule for next Reporting Period

Date		NOISE MONITORING (0700 – 1900)	AIR QUALITY MONITORING	
			1-HOUR TSP	24-HOUR TSP
Wed	1-May-24			
Thu	2-May-24			✓
Fri	3-May-24			
Sat	4-May-24			
Sun	5-May-24			
Mon	6-May-24			
Tue	7-May-24			
Wed	8-May-24			✓
Thu	9-May-24			
Fri	10-May-24	✓	✓	
Sat	11-May-24			
Sun	12-May-24			
Mon	13-May-24			
Tue	14-May-24			✓
Wed	15-May-24			
Thu	16-May-24	✓	✓	
Fri	17-May-24			
Sat	18-May-24			
Sun	19-May-24			
Mon	20-May-24			✓
Tue	21-May-24			
Wed	22-May-24	✓	✓	
Thu	23-May-24			
Fri	24-May-24			
Sat	25-May-24			✓
Sun	26-May-24			
Mon	27-May-24			
Tue	28-May-24	✓	✓	
Wed	29-May-24			
Thu	30-May-24			
Fri	31-May-24			✓

✓	Monitoring Day
	Sunday or Public Holiday

Appendix H

Database of Monitoring Result

24-HOUR TSP MONITORING RESULT DATABASE

24-hour TSP Monitoring Data for AMS1a															
DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP (µg/m ³)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m ³ /min)	(std m ³)	INITIAL	FINAL	(g)	
3-Apr-24	20024	27311.96	27335.96	1440	41	41	41	27.3	1010.1	1.48	2134	2.7866	2.8654	0.0788	37
9-Apr-24	20211	27335.96	27359.96	1440	41	41	41	22.9	1015.8	1.49	2149	2.7603	2.8217	0.0614	29
15-Apr-24	20285	27359.96	27383.96	1440	41	41	41	28	1024.6	1.49	2143	2.7632	2.8292	0.066	31
20-Apr-24	20204	27383.96	27407.96	1440	41	41	41	23	1023.6	1.50	2154	2.7607	2.8255	0.0648	30
26-Apr-24	20297	27407.96	27431.96	1440	41	4	22.5	27.3	1004.3	1.03	1484	2.7764	2.8443	0.0679	46
24-hour TSP Monitoring Data for AMS-5															
DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP (µg/m ³)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m ³ /min)	(std m ³)	INITIAL	FINAL	(g)	
3-Apr-24	20166	15381.03	15405.03	1440.00	39	39	39.0	27.3	1010.1	1.42	2040	2.7761	2.8361	0.0600	29
9-Apr-24	20208	15405.03	15429.03	1440.00	39	39	39.0	22.9	1015.8	1.42	2051	2.7702	2.8552	0.0850	41
15-Apr-24	20235	15429.03	15453.03	1440.00	39	39	39.0	27.7	1013	1.42	2040	2.7571	2.8340	0.0769	38
20-Apr-24	20168	15453.03	15477.03	1440.00	39	39	39.0	27.4	1008	1.42	2038	2.7759	2.8452	0.0693	34
26-Apr-24	20192	15477.03	15501.03	1440.00	39	39	39.0	27.4	1008	1.42	2038	2.7684	2.8245	0.0561	28
24-hour TSP Monitoring Data for AMS-6															
DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP (µg/m ³)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m ³ /min)	(std m ³)	INITIAL	FINAL	(g)	
3-Apr-24	20165	20468.10	20492.10	1440.00	40	40	40.0	27.3	1010.1	1.42	2041	2.7701	2.8494	0.0793	39
9-Apr-24	20167	20492.10	20516.10	1440.00	40	40	40.0	22.9	1015.8	1.43	2054	2.7659	2.8219	0.0560	27
15-Apr-24	20234	20516.10	20540.10	1440.00	40	40	40.0	27.7	1013	1.42	2042	2.7622	2.8156	0.0534	26
20-Apr-24	20169	20540.10	20564.10	1440.00	40	40	40.0	27.4	1008	1.42	2039	2.7685	2.7803	0.0118	6
26-Apr-24	20193	20564.10	20588.10	1440.00	40	40	40.0	27.4	1008	1.42	2039	2.7703	2.8127	0.0424	21
24-hour TSP Monitoring Data for AMS-7															
DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP (µg/m ³)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m ³ /min)	(std m ³)	INITIAL	FINAL	(g)	
3-Apr-24	20023	15251.32	15275.32	1440.00	41	41	41.0	27.3	1010.1	1.42	2005	2.7636	2.8038	0.0402	20
9-Apr-24	20210	15275.32	15299.32	1440.00	41	41	41.0	22.9	1015.8	1.43	2057	2.7578	2.8256	0.0678	33
15-Apr-24	20251	15299.32	15323.32	1440.00	41	41	41.0	28	1024.6	1.42	2051	2.7844	2.8328	0.0484	24
20-Apr-24	20283	15323.32	15347.32	1440.00	41	41	41.0	23	1017.5	1.43	2058	2.7742	2.8380	0.0638	31
26-Apr-24	20351	15347.32	15371.32	1440.00	41	41	41.0	26	1014.9	1.42	2058	2.7923	2.8848	0.0925	45

NOISE MONITORING RESULT DATABASE FOR CONTRACT 1

Noise Measurement Results (dB) of NMS1																					
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30 min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
2-Apr-24	13:10	70.7	71.5	63.0	72.1	75.0	64.5	69.7	74.5	60.5	71.4	75.5	61.5	72.6	76.5	62.5	70.8	74.5	63.5	71	70
12-Apr-24	13:30	70.7	72.9	63.4	71.2	74.3	63.9	69.8	72.5	63.0	69.5	72.1	63.5	70.6	73.4	64.0	69.9	73.0	64.0	70	70
17-Apr-24	13:05	70.8	74.5	59.0	71.3	75.0	59.5	72.1	75.5	55.5	73.4	77.0	57.5	72.6	76.5	59.5	71.9	75.5	60.5	72	70
25-Apr-24	13:10	72.8	74.5	63.5	68.6	72.5	61.5	70.1	73.5	63.5	71.4	74.0	62.5	69.8	73.5	61.5	70.7	74.5	63.0	71	70
29-Apr-24	11:55	70.9	70.1	65.1	66.7	66.7	64.7	66.5	67.9	64.8	66.2	68.5	63.9	65.5	67.1	63.9	67.1	67.1	63.3	68	70

Noise Measurement Results (dB) of NMS2																					
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30 min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
2-Apr-24	10:40	55.7	58.5	53.0	58.7	61.5	52.5	55.9	59.5	52.0	54.3	56.5	52.5	53.6	55.5	51.5	52.8	55.0	52.0	56	70
12-Apr-24	10:35	59.6	60.6	55.8	59.2	60.2	55.9	58.8	60.4	55.3	58.0	59.9	55.8	58.7	60.6	55.4	61.8	64.4	56.2	60	70
17-Apr-24	10:35	62.9	65.0	59.5	61.6	64.5	60.0	63.3	65.5	61.5	62.7	66.0	59.5	61.8	64.0	60.5	60.4	63.5	59.0	62	70
25-Apr-24	10:40	60.3	63.5	57.5	61.7	64.5	58.0	61.1	64.0	58.5	62.8	65.5	59.5	60.9	64.5	58.5	59.6	63.0	57.5	61	70
29-Apr-24	10:50	60.5	61.6	58.6	60.2	61.3	59.0	59.9	61.0	58.7	61.7	63.2	59.4	63.1	64.2	61.6	63.6	64.8	61.3	62	70

Noise Measurement Results (dB) of NMS3																					
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
2-Apr-24	11:12	57.4	61.3	51.4	56.2	59.7	51.9	58.2	60.6	50.7	57.0	60.2	50.8	60.3	64.3	53.1	62.2	64.3	56.9	59	75
12-Apr-24	9:40	61.5	64.4	54.1	61.9	64.8	55.7	64.1	64.9	57.8	61.4	64.2	55.4	65.0	55.7	65.3	55.8	57.1	50.2	62	75
17-Apr-24	9:20	68.0	68.3	54.9	66.6	69.7	54.8	62.2	64.8	55.8	62.3	65.0	58.3	62.5	65.0	59.1	64.7	66.7	51.5	65	75
25-Apr-24	9:00	59.0	62.5	55.3	61.8	64.8	55.7	62.9	65.3	56.0	59.7	62.4	55.2	63.4	66.2	55.8	62.9	64.1	56.4	62	75
29-Apr-24	11:50	62.9	66.8	58.7	64.9	65.6	59.2	61.5	62.7	56.3	68.3	59.7	55.5	62.6	57.3	50.8	61.9	65.5	56.7	64	75

Noise Measurement Results (dB) of NMS4a																					
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
2-Apr-24	9:10	62.3	66.5	58.5	60.7	63.5	57.5	63.9	67.5	59.0	61.3	64.5	57.0	62.7	65.5	56.5	60.2	63.5	57.5	62	75
12-Apr-24	9:05	62.9	66.5	56.5	63.6	66.5	56.6	62.0	64.8	56.5	58.5	60.9	56.0	60.2	62.0	56.2	60.5	62.8	57.0	62	75
17-Apr-24	9:05	65.7	67.5	62.0	67.4	69.0	64.5	68.8	70.5	63.5	65.9	68.0	63.0	66.6	68.5	62.5	68.1	70.5	65.0	67	75
25-Apr-24	9:10	65.8	68.5	60.5	64.3	67.5	60.0	66.5	69.5	62.5	64.9	67.0	61.5	65.3	68.0	61.0	65.7	68.5	62.5	65	75

29-Apr-24	8:30	69.6	72.1	65.7	65.7	66.6	64.3	65.2	66.1	63.6	65.0	66.3	63.3	64.0	64.9	63.0	64.8	66.4	63.4	66	75
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Noise Measurement Results (dB) of NMS5

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
2-Apr-24	10:00	62.9	64.5	56.5	60.1	63.5	57.5	61.3	64.0	56.5	58.5	61.5	55.5	60.7	64.5	56.0	59.4	64.0	56.5	61	75
12-Apr-24	9:55	59.5	60.6	55.1	59.6	60.4	55.4	60.5	61.6	57.5	59.5	61.7	57.0	61.2	63.3	57.5	62.8	63.8	57.0	61	75
17-Apr-24	9:55	62.1	65.5	57.5	60.3	64.5	56.5	61.8	65.0	57.0	60.4	63.5	56.0	61.7	65.5	57.5	62.4	66.5	56.5	62	75
25-Apr-24	10:00	66.4	68.5	62.5	65.9	67.5	63.0	65.5	67.0	62.5	64.8	66.5	61.5	63.4	65.5	60.5	64.6	67.0	62.0	65	75
29-Apr-24	10:00	60.2	63.5	53.7	61.3	64.7	53.4	60.7	63.6	54.4	60.4	64.1	52.8	59.8	62.8	53.2	61.2	63.4	52.4	61	75

Noise Measurement Results (dB) of NMS6

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
2-Apr-24	10:30	55.0	56.2	53.2	54.0	55.4	52.6	53.4	54.3	52.3	53.5	54.8	52.1	55.0	56.1	52.9	53.9	55.2	52.1	54	75
12-Apr-24	10:30	67.9	69.1	54.2	57.2	59.5	53.1	58.1	60.4	54.7	57.5	59.9	54.4	57.7	60.7	53.1	57.1	60.0	52.6	62	75
17-Apr-24	10:10	63.7	67.4	62.0	63.5	66.0	59.2	70.8	75.3	64.2	68.0	70.0	61.5	66.5	69.9	61.0	63.1	64.7	59.7	67	75
25-Apr-24	9:45	65.2	69.6	59.8	66.1	70.8	59.9	63.8	67.5	59.5	59.1	62.5	56.3	60.7	63.6	57.5	63.3	65.9	57.8	64	75
29-Apr-24	9:30	68.7	70.3	65.2	66.9	68.5	58.3	59.3	61.4	55.2	59.5	62.6	56.7	57.5	54.4	58.2	58.6	60.7	62.2	64	75

Noise Measurement Results (dB) of NMS7

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
2-Apr-24	9:15	64.1	65.2	60.6	61.5	63.3	57.1	61.4	63.1	59.0	61.3	63.1	57.7	61.1	63.1	58.1	58.8	61.9	52.0	62	75
12-Apr-24	11:20	60.1	62.1	53.4	59.2	59.9	58.6	59.5	60.2	58.7	59.3	59.9	58.6	59.0	59.9	57.1	54.8	56.6	53.2	59	75
17-Apr-24	11:00	64.5	66.7	58.3	71.1	75.6	68.5	61.6	65.7	52.6	67.0	69.7	57.6	64.4	67.4	59.9	64.0	66.1	61.4	67	75
25-Apr-24	10:45	63.9	66.4	53.6	62.2	65.8	53.5	60.9	64.0	54.3	59.6	62.2	54.0	63.8	66.9	57.2	59.8	62.3	56.9	62	75
29-Apr-24	10:30	60.8	64.3	55.9	59.7	59.9	62.3	59.5	66.3	58.8	57.2	59.6	58.2	60.6	58.4	57.2	56.3	57.5	52.1	59	75

Noise Measurement Results (dB) of NMS8

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
2-Apr-24	13:16	59.6	62.5	53.0	60.7	63.6	53.5	56.9	60.2	52.0	60.1	62.9	54.2	61.0	63.3	52.8	59.1	61.9	53.3	60	75
12-Apr-24	8:30	63.7	63.2	53.7	59.1	61.4	52.4	61.5	61.8	52.1	60.2	60.9	53.7	61.7	63.9	54.0	64.6	62.4	52.2	62	75
17-Apr-24	8:30	68.5	70.3	62.8	67.6	72.4	61.0	72.8	69.4	62.3	61.0	64.3	55.6	68.7	71.2	62.5	69.6	71.7	64.2	69	75

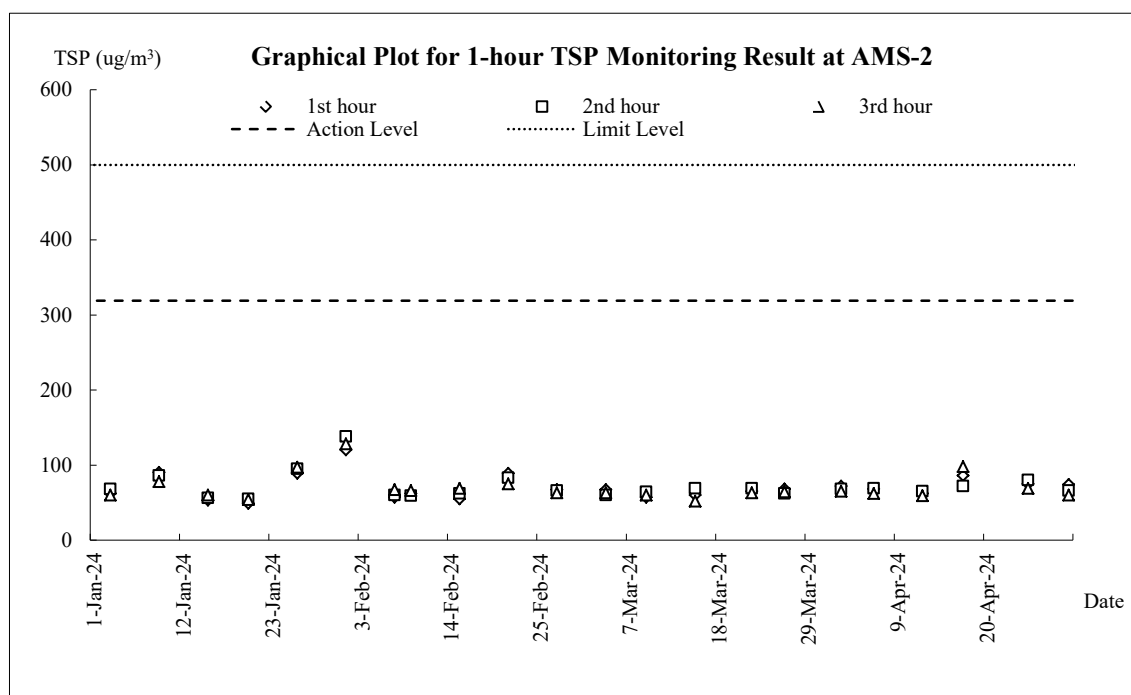
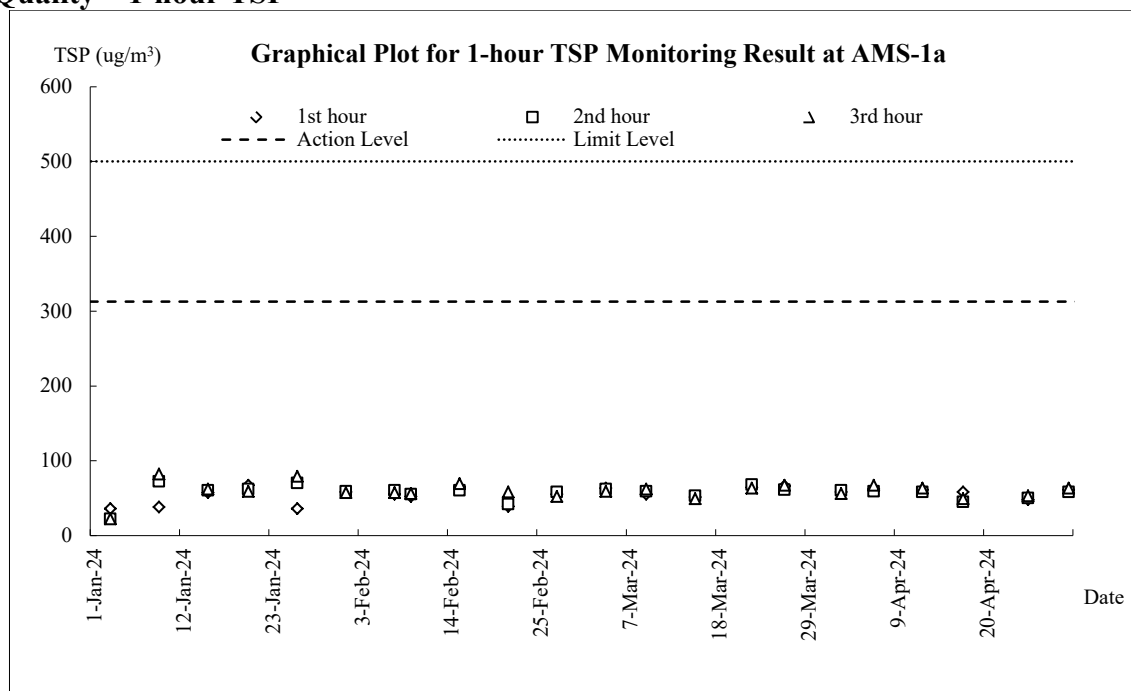
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29-Apr-24	8:30	65.8	70.3	68.4	62.6	68.5	59.1	60.5	64.7	57.2	62.5	65.3	52.2	60.0	58.4	53.7	65.6	68.9	58.2	63	75

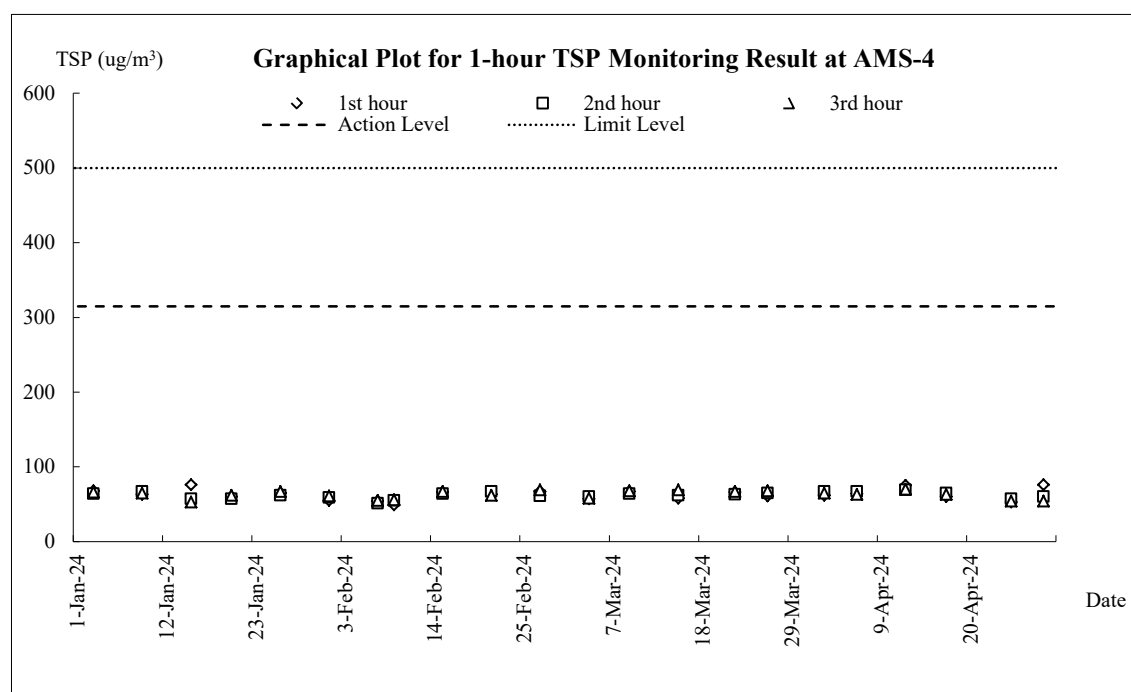
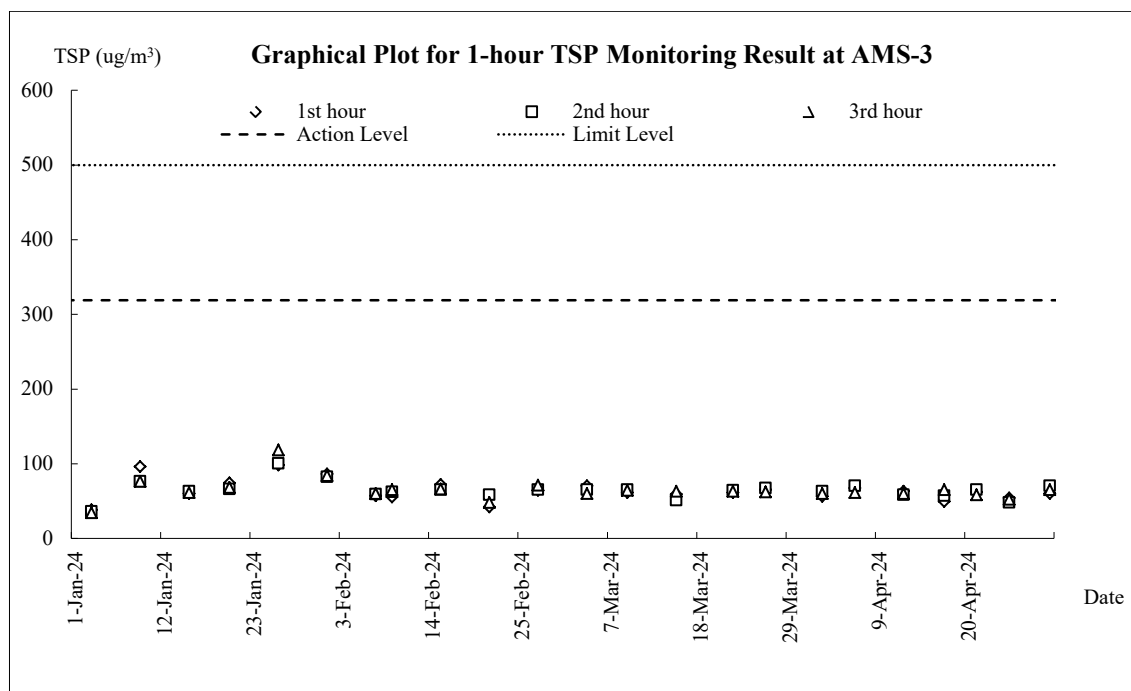
NOISE MONITORING RESULT DATABASE FOR CONTRACT 3**Noise Measurement Results (dB) of CN3**

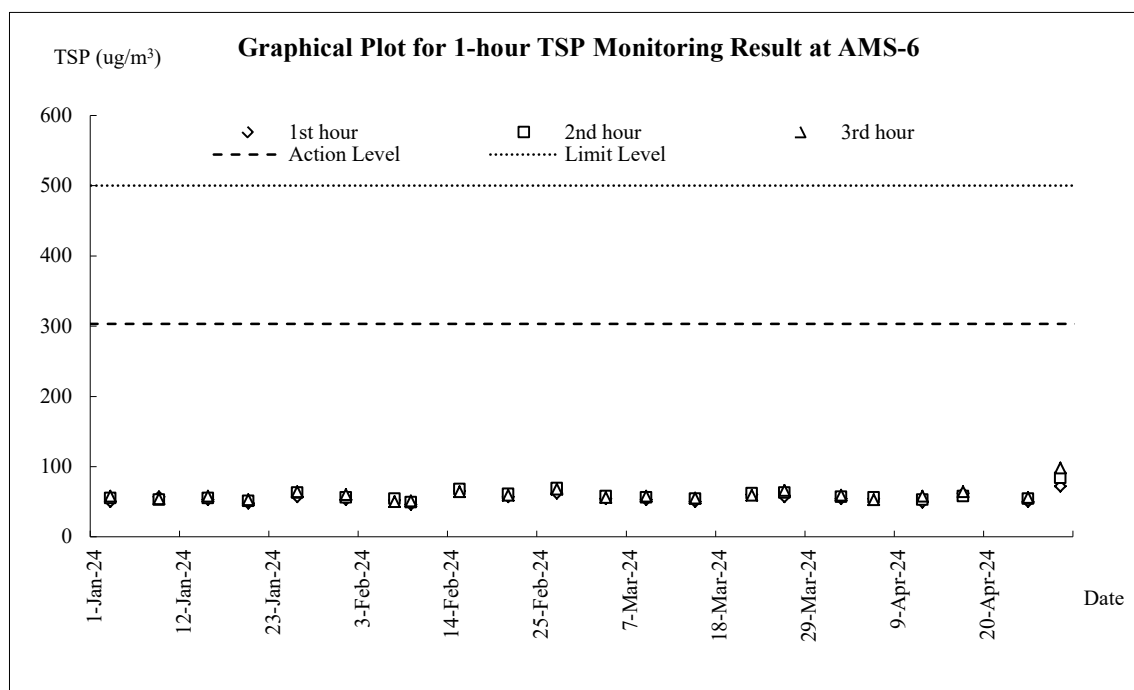
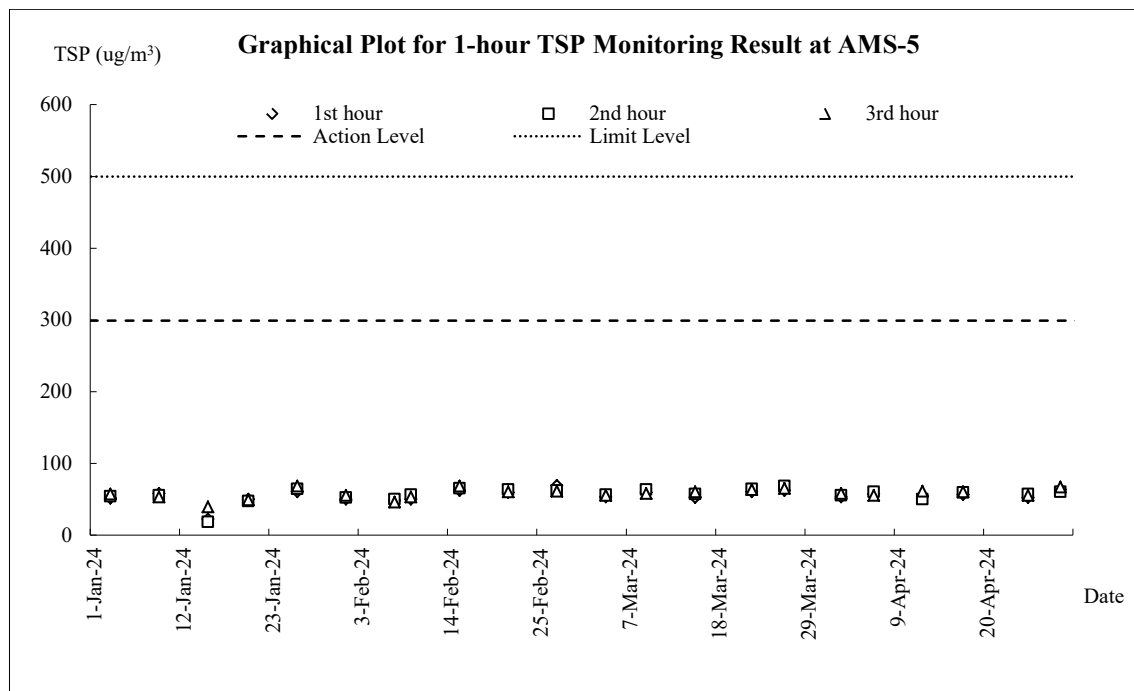
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
2-Apr-24	11:30	62.8	64.5	56.5	61.3	65.5	57.5	63.6	65.0	58.5	62.4	65.5	57.0	61.9	64.5	58.0	62.2	65.5	57.5	62	75
12-Apr-24	11:25	62.5	64.5	55.7	60.2	62.8	55.7	60.1	62.4	55.3	59.8	61.6	55.0	61.9	63.5	55.5	58.6	60.4	55.0	61	75
17-Apr-24	11:25	60.3	64.5	56.5	58.7	60.5	54.5	61.2	65.0	55.5	60.9	63.5	56.0	61.4	64.0	58.5	59.6	64.5	56.0	60	75
25-Apr-24	11:30	61.9	65.5	57.5	60.7	64.5	56.5	62.3	65.0	58.5	60.8	63.5	57.0	61.9	65.0	57.5	61.5	65.5	58.0	62	75
29-Apr-24	9:15	60.2	63.5	53.7	61.3	64.7	53.4	60.7	63.6	54.4	60.4	64.1	52.8	59.8	62.8	53.2	61.2	63.4	52.4	61	75

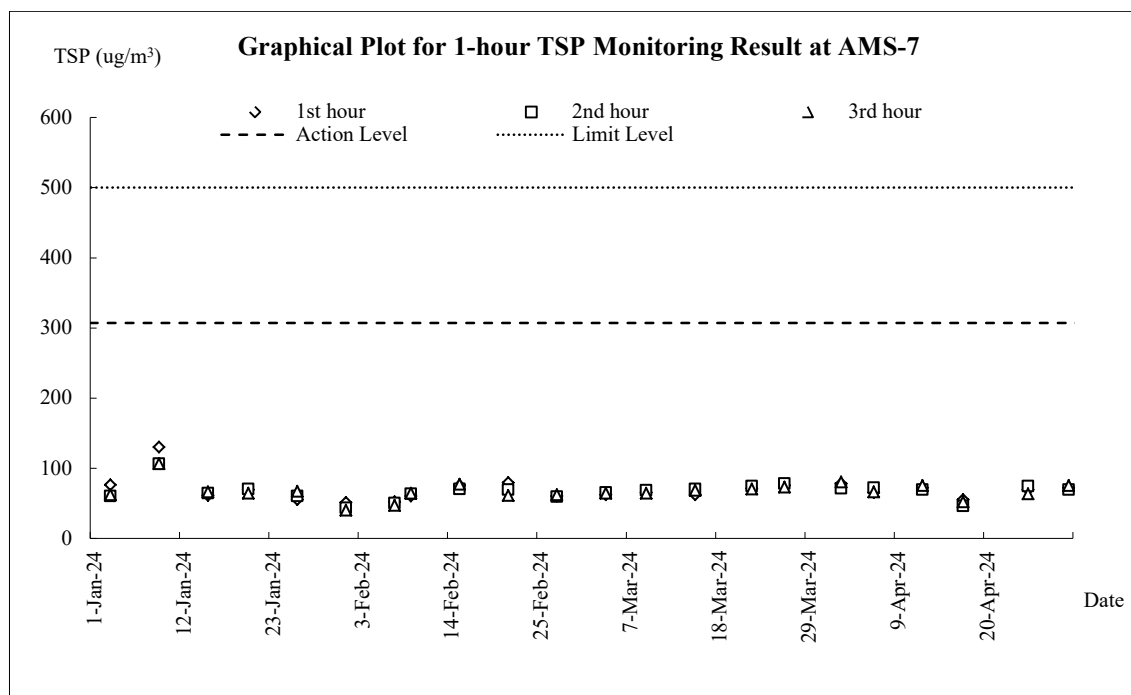
Appendix I

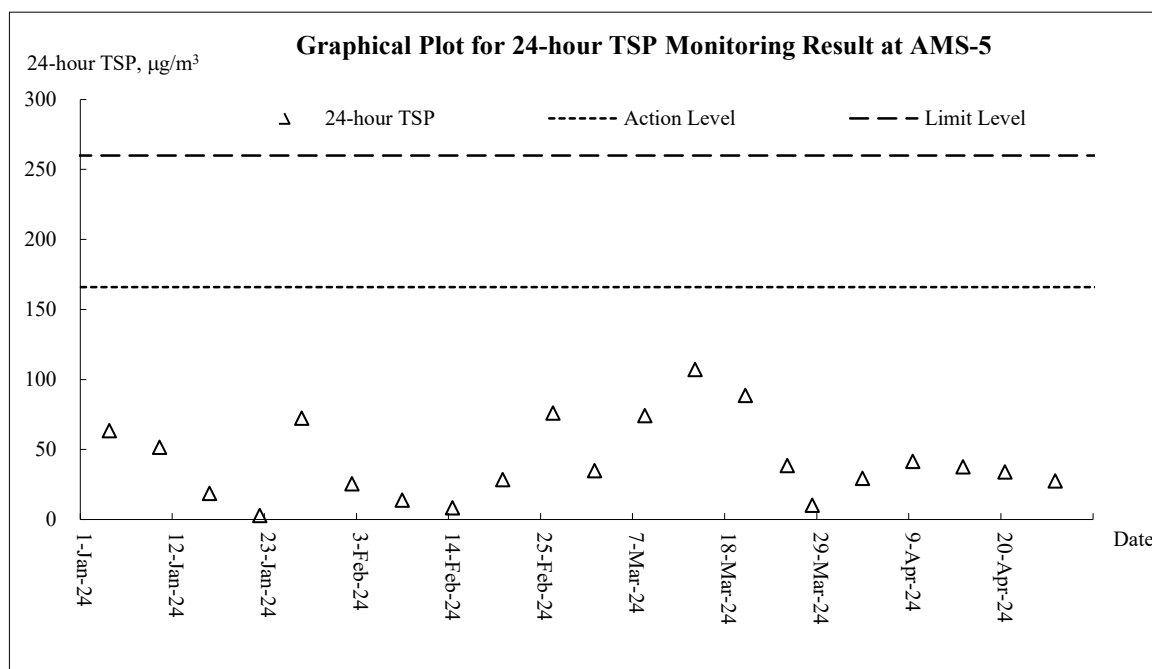
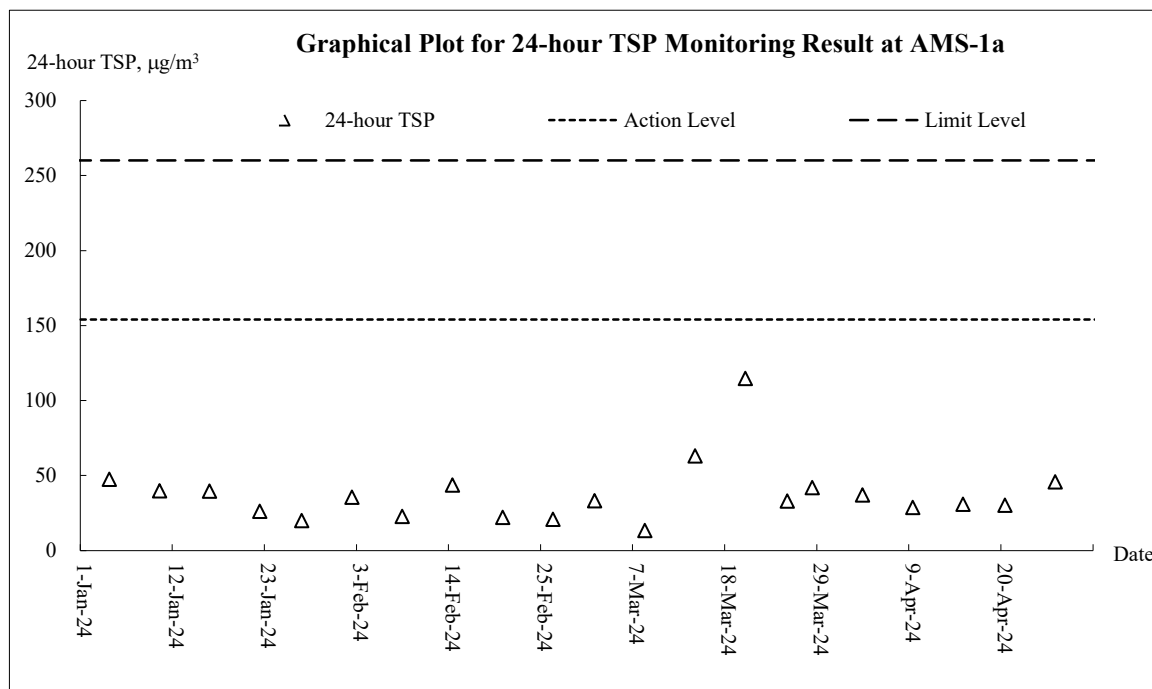
Graphical Plots for Monitoring Result

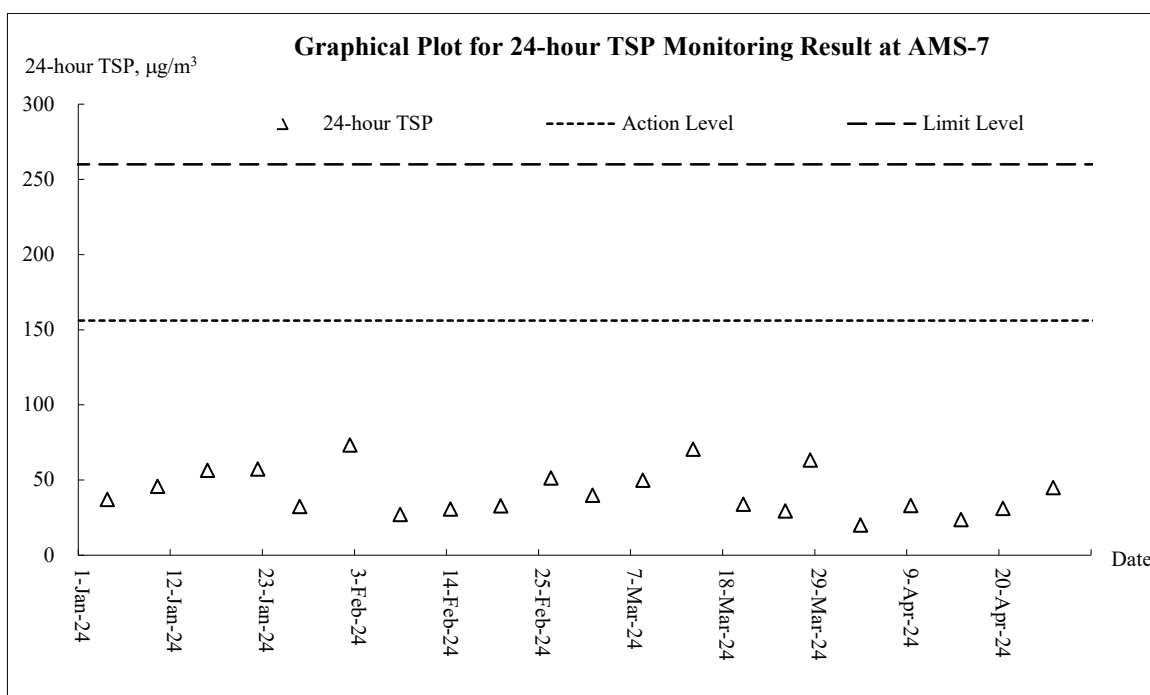
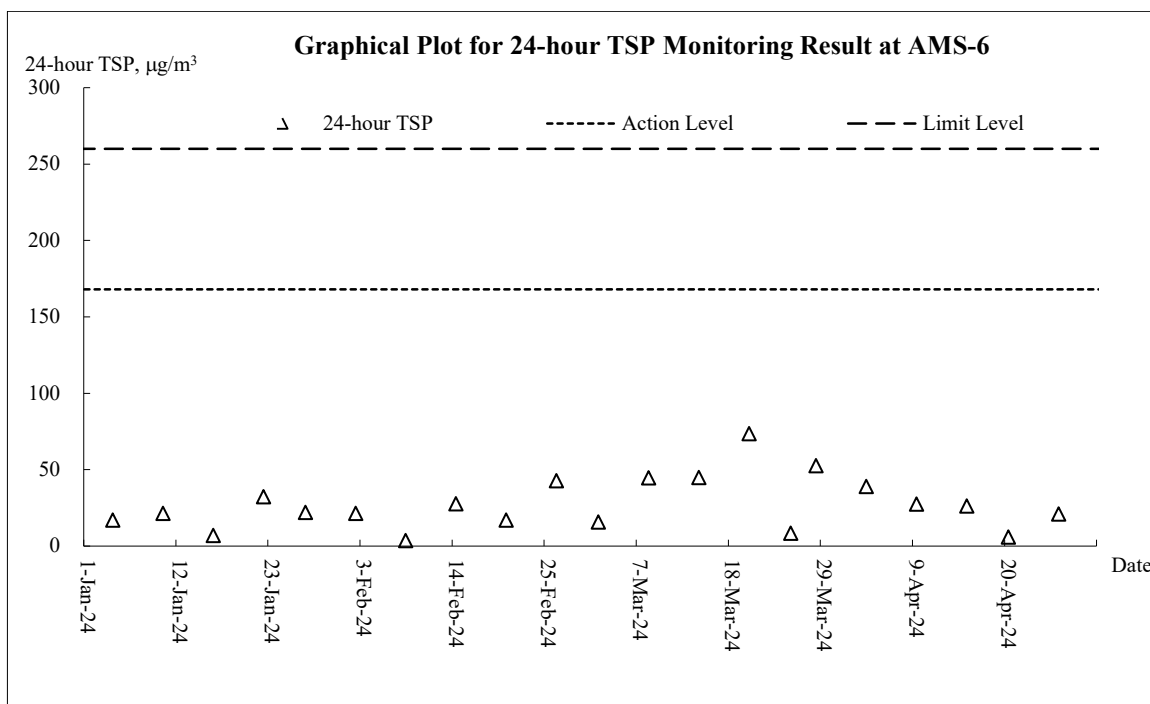
Air Quality – 1-hour TSP

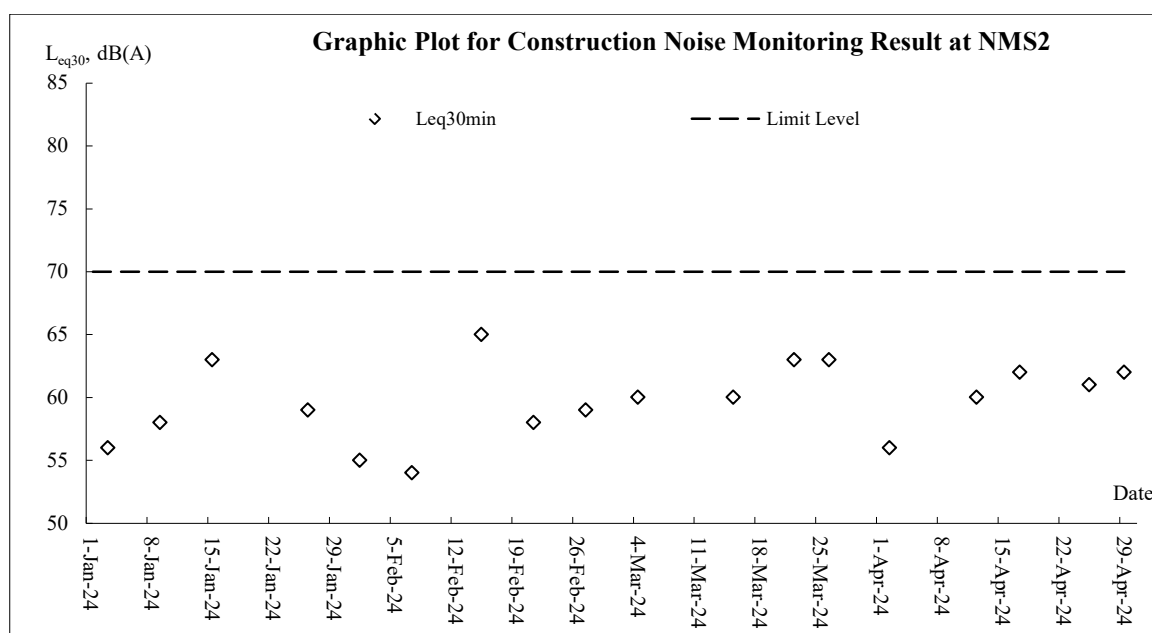
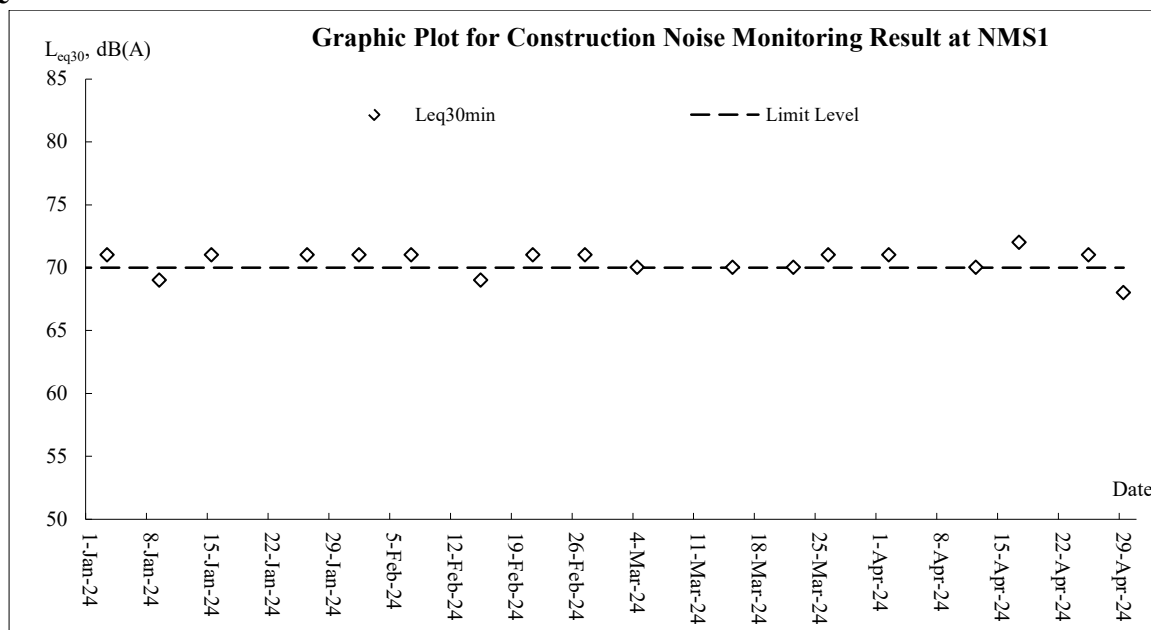


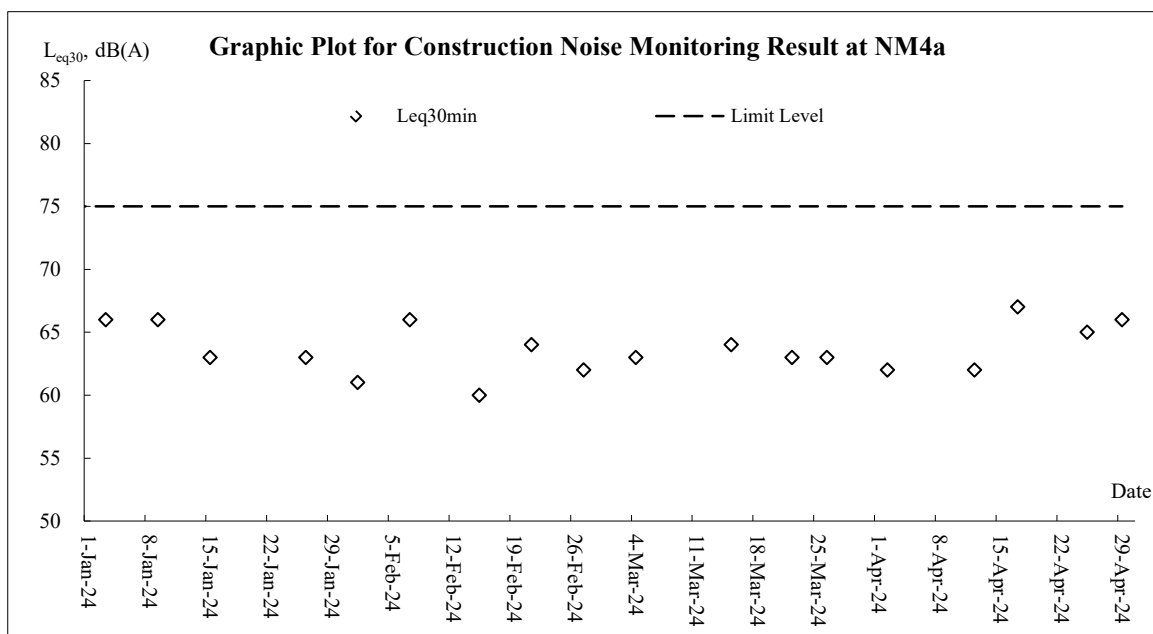
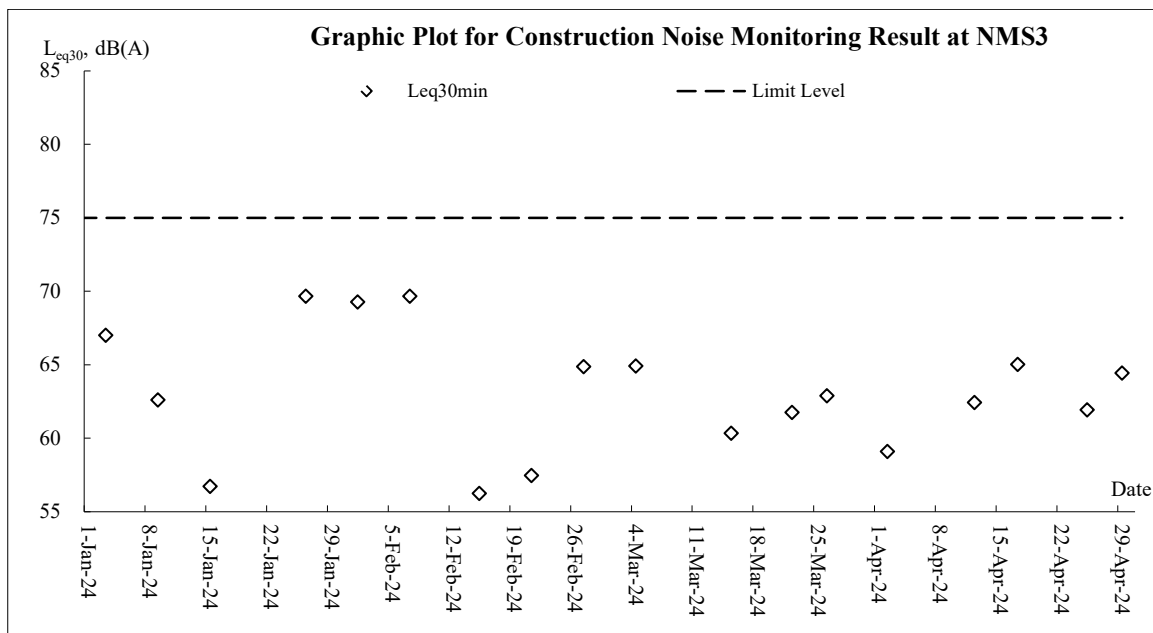


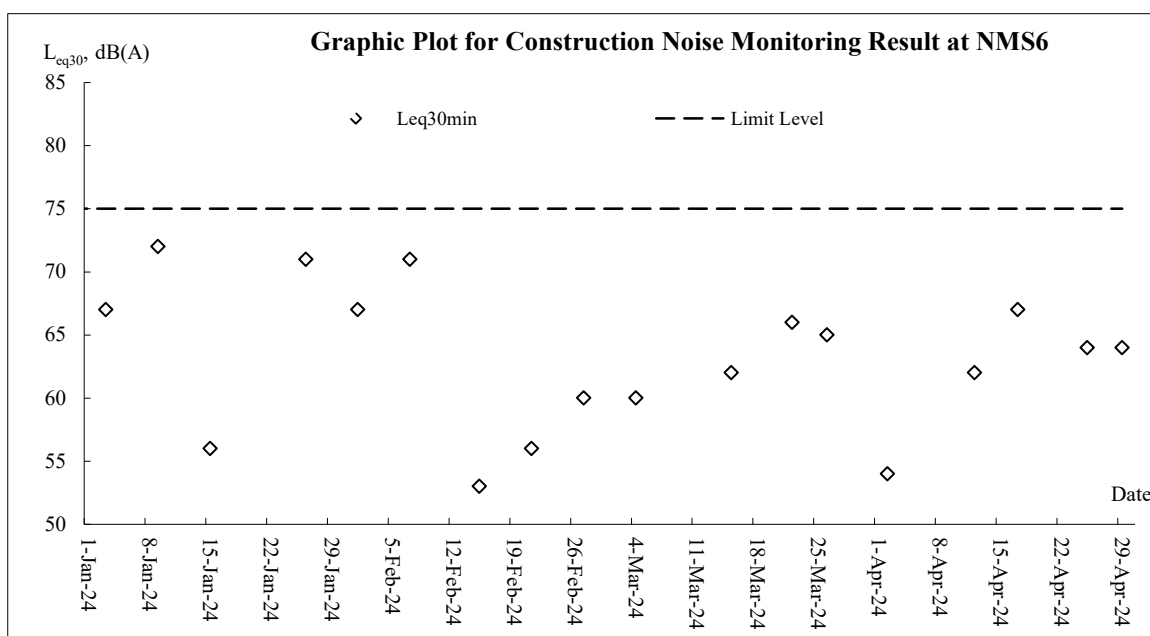
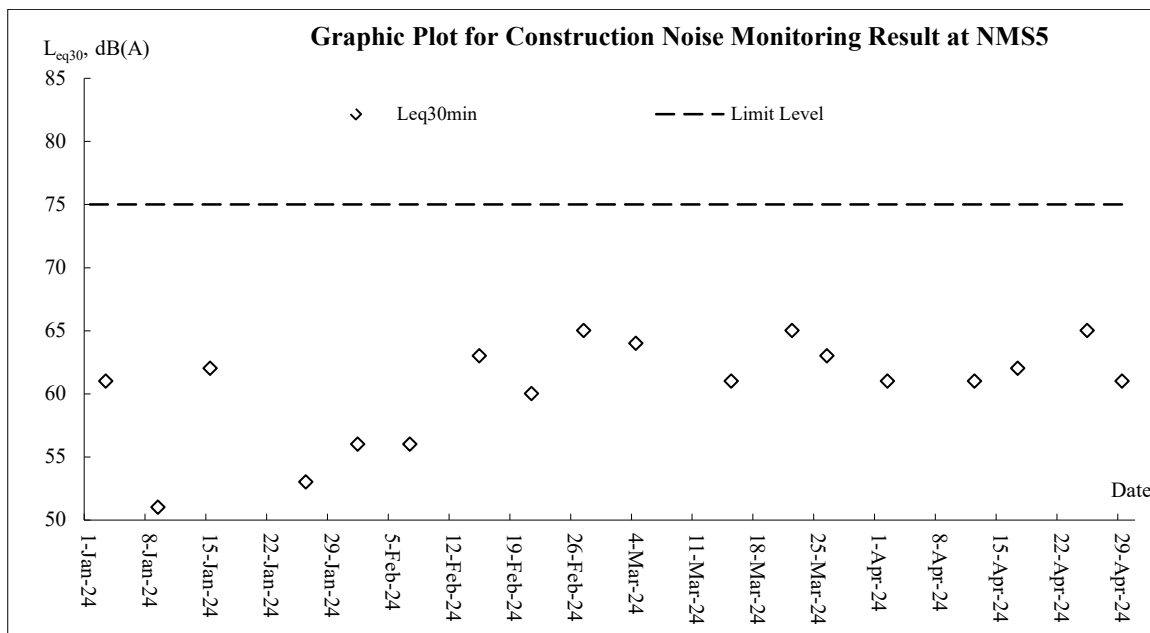


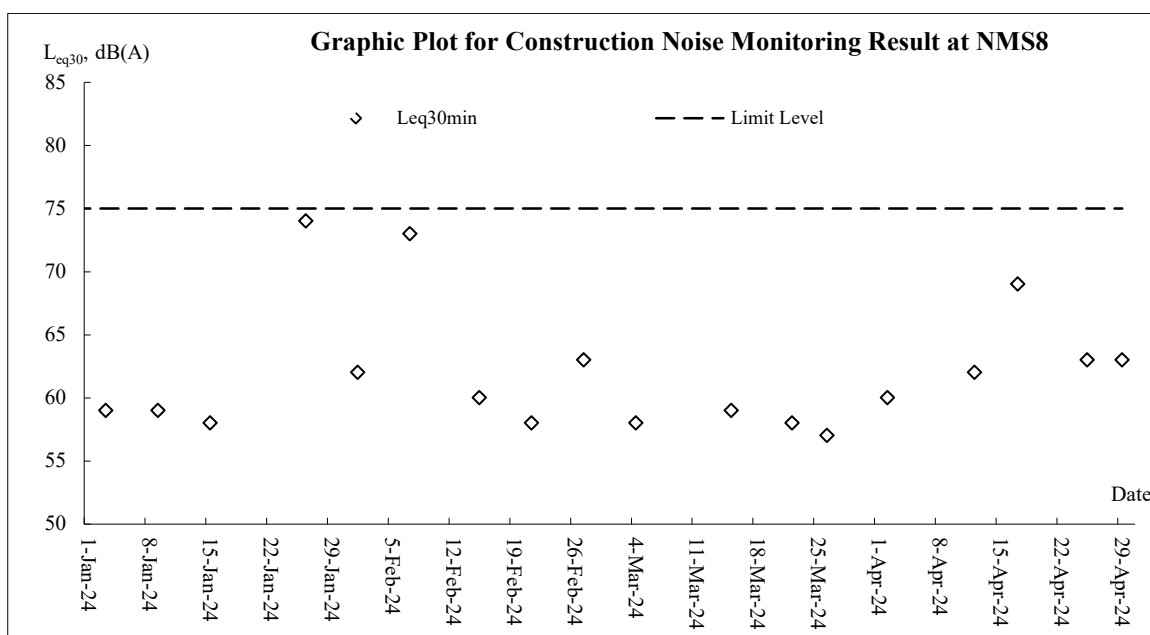
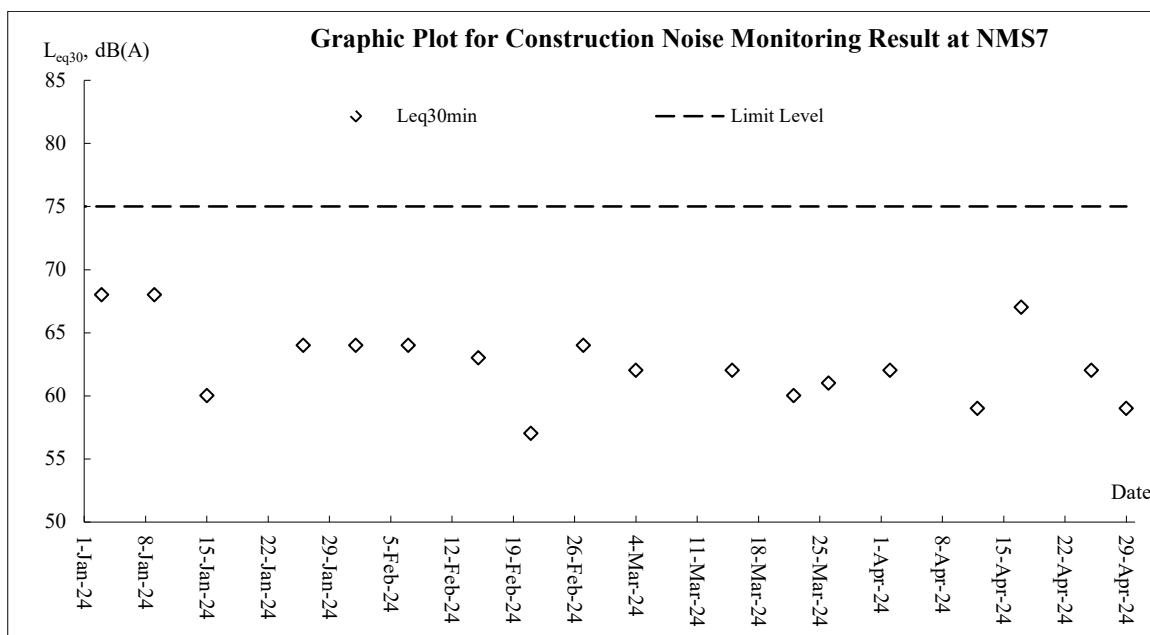
Air Quality – 24-hour TSP

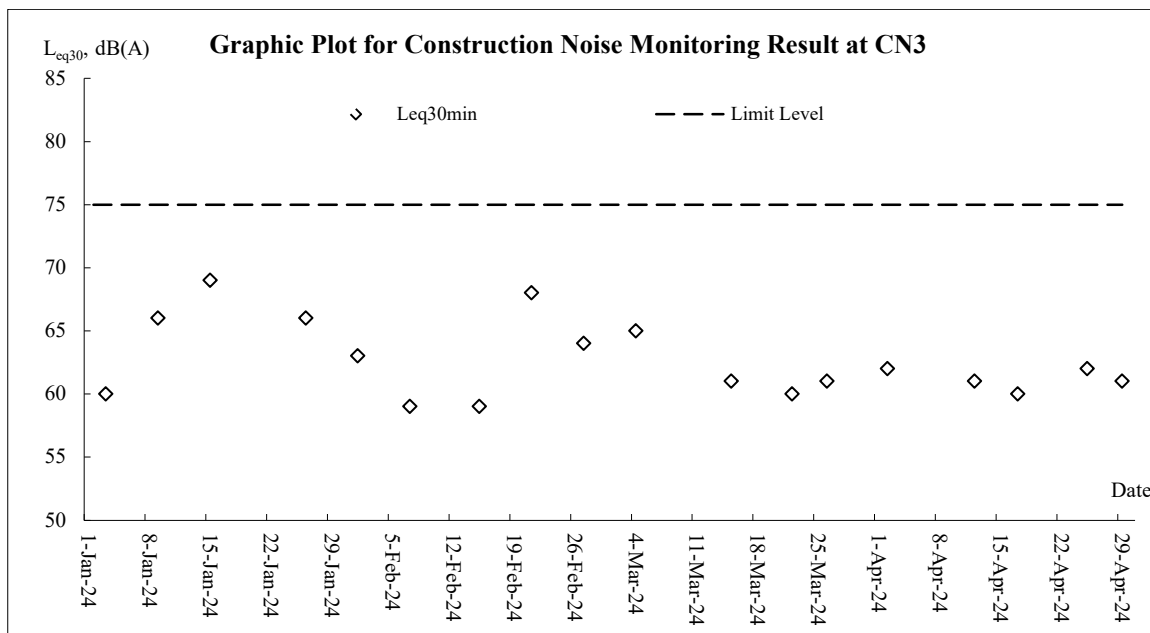


Noise









Appendix J

Meteorological Data

Date		Weather	Total Rainfall (mm)	Kwun Tong Station	Kai Tak Station		King's Park Station
				Mean Air Temp. (°C)	Wind Speed (km/h)	Wind Direction	Mean Relative Humidity (%)
1-Apr-24	Mon	Hot with sunny periods during the day.	Trace	27.1	7.5	S/SE	78
2-Apr-24	Tue	Moderate to fresh southerly winds	0	26.5	9	S/SE	79.7
3-Apr-24	Wed	Mainly cloudy with a few showers.	Trace	27.6	7.5	S/SE	76.5
4-Apr-24	Thu	Isolated thunderstorms at first.	Trace	27.5	10	SE	79.7
5-Apr-24	Fri	Moderate to fresh east to southeasterly winds	0.3	25.1	18	SE	80.5
6-Apr-24	Sat	Mainly cloudy with a few showers.	2.7	23.1	16	SE	92.2
7-Apr-24	Sun	Isolated thunderstorms in the afternoon.	0.9	25.2	9.5	S/SE	83.2
8-Apr-24	Mon	Light winds. Becoming moderate northerlies tonight.	0	26.1	10	SE	81.7
9-Apr-24	Tue	Dry with sunny periods in the afternoon.	Trace	21.6	11.2	SE	80
10-Apr-24	Wed	Mainly cloudy tonight. Moderate to fresh easterly winds	0	22.8	16.5	E/SE	62.5
11-Apr-24	Thu	Hot with sunny periods in the afternoon.	0	23.8	12.5	E/SE	73.2
12-Apr-24	Fri	Mainly fine and hot.	0	25.7	6.7	S/SE	76.5
13-Apr-24	Sat	Light to moderate southeasterly winds.	0	27.2	6.2	SE	73.5
14-Apr-24	Sun	Mainly fine and hot in the afternoon.	0	27.8	8.7	S/SE	73
15-Apr-24	Mon	Light to moderate southerly winds.	0	28.1	5	S/SE	75.7
16-Apr-24	Tue	Hot with sunny periods in the afternoon.	0	27.4	6.7	S	75
17-Apr-24	Wed	Mainly fine and hot.	0	28.1	8.7	SE	74.2
18-Apr-24	Thu	Light to moderate southeasterly winds.	8.6	26.7	13.5	SE	80.2
19-Apr-24	Fri	Mainly fine and hot in the afternoon.	2.2	26.4	11.7	S/SE	77.5
20-Apr-24	Sat	Moderate south to southeasterly winds.	42.2	25.4	14.2	S	85
21-Apr-24	Sun	Cloudy with showers.	81.6	23.2	14	NW	87.5
22-Apr-24	Mon	Showers will be heavy at times with severe squally thunderstorms.	13.2	24.9	7.5	S/SE	86.2
23-Apr-24	Tue	Moderate southerly winds.	40	24.8	9	S/SE	90
24-Apr-24	Wed	Moderate to fresh south to southwesterly winds. Outlook:	Trace	25.7	6.2	S/SE	85.2
25-Apr-24	Thu	Showers will ease off later.	5.7	26.2	11.2	W/NW	82.5
26-Apr-24	Fri	Heavy showers and a few squally thunderstorms at first in the afternoon.	25	25.3	15	W/SW	90
27-Apr-24	Sat	Mainly cloudy.	0.8	27.8	8.7	W/SW	85.5
28-Apr-24	Sun	Mainly cloudy with one or two showers.	12.2	24.7	15.0	E/SE	92
29-Apr-24	Mon	Hot with sunny periods in the afternoon.	0	26.9	8.7	SE	85
30-Apr-24	Tue	Mainly cloudy with one or two showers.	21.7	25.4	9.7	W/SW	78.7

Appendix K

Waste Flow Table

Contract No.: NE/2017/03

Development of Anderson Road Quarry Site – Road Improvement Works and Pedestrian Connectivity Facilities Works Phase 2A

Monthly Summary Waste Flow Table for 2024 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract (see Note 6)	Reused in other Projects (see Note 6)	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	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 '000m ³)
Jan	2.305	0.000	0.000	0.401	1.904	0.000	0.000	0.000	0.000	0.000	0.030
Feb	1.356	0.000	0.000	0.241	1.115	0.000	0.001	0.090	0.004	0.000	0.024
Mar	2.656	0.000	0.000	0.331	2.325	0.000	0.000	0.000	0.000	0.000	0.050
Apr	2.498	0.000	0.000	0.425	2.073	0.000	0.000	0.000	0.000	0.000	0.039
May											
Jun											
Sub-total											
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Notes:

- (1) The performance targets are given in PS Clause 1.129 (4).
- (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and waste will be collected by recycler for recycling.
- (4) Use the conversion factor, density of general refuse (1 t/m³) and inert C&D materials (2 t/m³).
- (5) Use the conversion factor for chemical waste (0.88kg/L).
- (6) Assume a dump truck delivers 7.5 m³ material in 1 trip.

Monthly Summary Waste Flow Table for 2024

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity of Materials Generated	Hard Rock, Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in '000 m ³)	(in '000 m ³)	(in '000 m ³)	(in '000 m ³)	(in '000 m ³)**	(in '000 m ³)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 m ³)*
Jan	0.765	0.000	0.000	0.000	0.765	0.000	0.000	0.000	0.000	0.000	0.007
Feb	0.281	0.000	0.000	0.000	0.281	0.000	0.000	0.000	0.000	0.000	0.048
Mar	0.251	0.000	0.000	0.000	0.251	0.000	0.000	0.000	0.000	0.000	0.041
Apr	0.539	0.000	0.000	0.000	0.539	0.000	0.000	0.000	0.000	0.000	0.074
May											
June											
July											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	1.836	0.000	0.000	0.000	1.836	0.000	0.000	0.000	0.000	0.000	0.170

Notes: * Conversion factor for general refuse, 1 tonne = 2m³** Conversion factor for general fill, 2 tonne = 1m³

Estimation for next month

Wing Lee – Univic Joint Venture ED/2019/02 - Environmental Management Plan Appendices - Appendix 13	Rev. No.	37
	Issue Date	30-Apr-2024

Name of Department : CEDD

Contract No. : ED/2019/02

Monthly Summary Waste Flow Table for 2024 (year)

Month	Annual Quantities of Inert C&D Materials Generated Monthly						Annual Quantities of C&D Materials Generated Monthly				
	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemicals Waste	Others, e.g. general refuse
	(in '000 m ³)	(in '000 m ³)	(in '000 m ³)	(in '000 m ³)	(in '000 m ³)	(in '000 m ³)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 m ³)
Jan	0.076	0.074	0.002	0	0.074	0	0	0	0	0	0.069
Feb	0.026	0.024	0.002	0	0.024	0	0	0	0	0	0.084
Mar	0.028	0.026	0.002	0	0.026	0	0	0	0	0	0.073
Apr	0.007	0.006	0.001	0	0.006	0	0	0	0	0	0.064
May	---	---	---	---	---	---	---	---	---	---	---
June	---	---	---	---	---	---	---	---	---	---	---
Sub-total	0.137	0.130	0.007	0	0.130	0	0	0	0	0	0.290
July	---	---	---	---	---	---	---	---	---	---	---
Aug	---	---	---	---	---	---	---	---	---	---	---
Sept	---	---	---	---	---	---	---	---	---	---	---
Oct	---	---	---	---	---	---	---	---	---	---	---
Nov	---	---	---	---	---	---	---	---	---	---	---
Dec	---	---	---	---	---	---	---	---	---	---	---
Total	0.137	0.130	0.007	0	0.130	0	0	0	0	0	0.290

- Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

Appendix L

Implementation Schedule for Environmental Mitigation Measures

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
Dust Impact (Contraction Phase)									
S4.7.2 to S4.7.5	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 91.7%. 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 1.75 L/m ² to achieve the respective dust removal efficiencies.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	V	V	V	V	V
S4.7.6	The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction ion Dust) Regulation.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	V	V	V	V	V
S4.7.6	Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction phase: <ul style="list-style-type: none">Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading;Any dusty materials remaining after a stockpile is removed should be wet ted 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 ion site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from 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 sect ion between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;When there are open excavation and reinstatement	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	@	@	@	@	@

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	<p>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 ion period.</p> <ul style="list-style-type: none"> • The port ion of any road leading only to construction ion 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 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 fit ted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; and • Exposed earth should be properly treated by compact ion, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, 								

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	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.								
S4.7.7	Implement regular dust monitoring under EM&A programme during the Construction phase.	Control construction airborne noise	Selected Representative dust monitoring station	All construction sites where practicable	V	N/A	V	N/A	N/A
Noise Impact (Contraction Phase)									
S5.6.9	Implement the following good site management practices: <ul style="list-style-type: none"> only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction ion 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 direct ion, where possible, be orientated so that the noise is directed away from nearby NSRs; silencers or mufflers on construction ion equipment should be properly fit ted and maintained during the construction ion works; mobile plant should be sited as far away from NSRs as possible and practicable; and material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities. 	Control construction ion airborne noise	Contractor	All construction sites where practicable	@	V	V	@	@
S5.6.11 to S5.6.13	Use of “Quiet” Plant and Working Methods.	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	V	N/A	N/A	N/A	N/A
S5.6.14	Install temporary site hoarding (approx 2.5m 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 ion noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	V	V	V	V	V
S5.6.15 to S5.6.18	Install movable noise barriers, full enclosure and acoustic mat, screen the noisy plants including air compressor and generator.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction ion sites where practicable	V	V	N/A	V	N/A
S5.6.19	Sequencing operation of construction plants equipment.	Operate sequentially	Contractor	All construction	V	V	N/A	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
		within the same work site to reduce the construction airborne noise		ion sites where practicable					
S5.6.34	Implement temporary noise barrier along Road L4.	Further reduce the construction ion airborne noise	Contractor	Road L4 of ARQ	N/A	N/A	N/A	N/A	N/A
S5.6.35	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected Representative Noise monitoring stations	V	N/A	V	N/A	N/A
B		Water Quality Impact (Contraction Phase)							
S6.6.3	<u>Construction Runoff</u> In accordance with the Practice Note for Professional Persons on Construction ion Site Drainage, Environmental Protection Department, 1994 (ProPECC PN 1/94), best management practices should be implemented as far as practicable as below: <ul style="list-style-type: none"> At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works. 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. Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipment in order to avoid or minimize polluted runoff. Sediment at ion tanks with sufficient capacity, constructed from preformed individual cells of approximately 6 to 8 m³ capacities, are recommended as a general mitigation measure which can be used for set t ling 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. 	Control construction runoff	Contractor	All construction sites	@	@	@	@	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	<ul style="list-style-type: none"> The dikes or embankments for flood protection should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt /sediment trap. The silt /sediment traps should be incorporated in the permanent drainage channels to enhance deposition rates. The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction. Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. 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 								

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	<p>prevent the washing away of construction ion materials, soil, silt or debris into any drainage system.</p> <ul style="list-style-type: none"> Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction ion 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, act ions to be taken when a rainstorm is imminent or forecasted, and act ions to be taken during or after rainstorms are summarized in Appendix A2 of <i>ProPECC PN 1/94</i>. Particular attention should be paid to the control of silty surface runoff during storm events. All vehicles and plant should be cleaned before leaving a construction ion 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 ion 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 sect ion of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient back all toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and rains. 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 ion solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. 								

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	<ul style="list-style-type: none"> All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby. Regular environmental audit on the construction site should be carried out in order to prevent any malpractices. Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the rivers. 								
S6.6.6 and 6.6.7	<u>Sewage from Workforce</u> <ul style="list-style-type: none"> Portable chemical toilets should be provided for handling the construction sewage generated by the workforce. Assume that the capacity of the chemical toilets would be 0.4m³ and suck up twice a day under normal practices, around 45 chemical toilets would be required for the whole site at peak hour. And it should be noted that under normal construction periods, less chemical toilets would be needed. In addition, the total number of the chemical toilets would be subject to later detailed design, the capacity of the chemical toilets, and contractor's site practices. Nevertheless, a licensed contractor should be employed to provide appropriate and adequate portable toilets to cater around 37.5 m³/day sewage and be responsible for appropriate disposal and maintenance. Since portable chemical toilets will be provided, no adverse water quality impact from the workforce sewage is anticipated. Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the Project. Regular environmental audit on the construction site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause 	Handling of site sewage	Contractor	All construction sites	V	V	V	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	water quality impact after undertaking all required measure								
S6.6.8 and 6.6.9	<u>Accidental Spillage</u> To prevent accidental spillage of chemicals, proper storage and handling facilities should be provided. All the tanks, containers and storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and storm drains. The Contractor is required to register as a chemical waste producer if chemical wastes would be generated from the construction ion activities. Storage of chemical waste arising from the construction ion activities should be well managed with suitable labels and warnings while disposal of those chemical wastes should be comply with the requirement states in Waste Disposal Ordinance (Cap 354) as well as Waste Disposal (Chemical Waste) (General) Regulations.	Prevention of accidental spillage	Contractor	All construction sites	@	V	V	V	V
S6.6.11- S6.6.14	<u>Groundwater from Contaminated Area</u> The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater discharge. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed during the process of discharge license application. The compliancy to the TM-DSS and the existence of prohibited substance should be confirmed after further SI. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated in compliance with TMDSS or properly recharged into the ground. If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. Petroleum Carbon Ranges (PCRs)). All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be	Minimize contaminated groundwater impacts	Contractor	All construction sites	N/A	N/A	N/A	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	<p>discharged into the foul sewers.</p> <p>If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Section 2.3 of TM-DSS. The baseline groundwater quality shall be determined prior to the selection of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as PCRs should be removed as necessary by installing the petrol interceptor.</p>								
Waste Management (Contraction Phase)									
S8.5.2	<p><u>Good Site Practice</u></p> <p>The following good site practices are recommended throughout the construction activities:</p> <ul style="list-style-type: none"> • nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site; • training of site personnel in site cleanliness, appropriate waste management procedures and concepts of waste reduction, reuse and recycling; • provision of sufficient waste disposal points and regular collection for disposal; • appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; 	Minimize waste generation during construction	Contractor	All construction sites	V	@	V	@	V
S8.5.2 (6)	The contractor should submit a Waste Management Plan	Minimize waste	Contractor	All construction	V	V	V	女	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	(WMP) as part of the Environmental Management Plan (EMP) in accordance with the <i>ETWB TC(W) No. 19/2005</i> for construction ion phase. The EMP should be submit ted to the Engineer for approval. Mitigation measures proposed in the EIA Report and the EM&A Manual should be adopted.	generation during construction		sites					
S8.5.3	<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: <ul style="list-style-type: none"> segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling o materials and their proper disposal; proper storage and site practices to minimize the potential for damage and contamination of construction ion materials; plan and stock construction ion 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 port ions (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	V	V	V	V	V
S8.5.5	<u>Storage of Waste</u> The following recommendation should be implemented to minimize the impacts: <ul style="list-style-type: none"> waste such as soil should be handled and stored well to ensure secure containment ; stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; different locations should be designated to stockpile each material to enhance reuse; 	Minimize waste impacts from storage	Contractor Contractor	All construction sites	V	V	V	V	V
S8.5.6	<u>Collection and Transportation of Waste</u> The following recommendation should be implemented to minimize the impacts:	Minimize waste impacts from storage	Contractor	All construction sites	V	@	V	@	@

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	<ul style="list-style-type: none"> remove waste in timely manner; employ the trucks with cover or enclosed containers for waste transportation; obtain relevant waste disposal permits from the appropriate authorities; and disposal of waste should be done at licensed waste disposal facilities. 								
S8.5.8	<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 filling areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials: <ul style="list-style-type: none"> 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; implement a recording system for the amount of waste generated, recycled and disposed of for checking; The recommended C&D materials handling should include: <ul style="list-style-type: none"> On-site sorting of C&D materials Reuse of C&D materials Use of Standard Formwork and Planning of Construction Materials purchasing Provision of wheel wash facilities 	Minimize waste impacts from excavated and C&D materials	Contractor	All construction sites	V	V	V	V	V
S8.5.15	<u>Contaminated Soil</u> As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to minimize any potential exposure to contaminated soils or groundwater. The details of mitigation measures to minimize the potential environmental implications arising from the handling of contaminated materials refer to Land Contamination Section.	Remediate contaminated soil	Contractor	All construction sites where applicable	V	V	N/A	N/A	N/A
S8.5.17	<u>Chemical Waste</u>	Control the chemical	Contractor	All construction	V	V	V	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	<ul style="list-style-type: none"> If chemical wastes are produced at the construction site, the Contractors should register with EPD as chemical waste producer. 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. 	waste and ensure proper storage, handling and disposal.		sites					
S8.5.18	<u>General Waste</u> <ul style="list-style-type: none"> General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. Preferably enclosed and covered areas should be provided for general refuse collection and routine cleaning for these areas should also be implemented to keep areas clean. A reputable waste collector should be employed to remove general refuse on a daily basis. 	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	@	V	V	V	@
S8.5.19	<u>Sewage</u> <ul style="list-style-type: none"> The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities. Regularly collection by licensed collectors should be arranged to minimize potential environmental impacts. 	Minimize production of sewage impacts	Contractor	All construction sites	V	V	V	V	V
Ecology (Contraction Phase)									
S. 10.7.2 to 10.7.6	Re-provision of Wooded Area for ecological function at the future Quarry Park.	Compensate for the loss of three woodland patches of a total area of about 1.13ha.	Contractor/ Detailed Design Consultant (qualified botanist / horticulturist / Certified Arborist to supervise the planting).	Northern part of the proposed Quarry Park.	N/A	N/A	N/A	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
.10.7.10	<p>Construction phase in situ mitigation measures to minimize impacts on hydrological condition and water quality of hillside watercourses include:</p> <ul style="list-style-type: none"> • Temporary sewerage and drainage will be designed and installed to collect wastewater and prevent it from entering nearby watercourses; • Proper locations well away from nearby watercourses will be used for temporary storage of materials (i.e. equipment, fill 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 watercourses, work sites close to nearby watercourses 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 works site; • Stockpiling of construction materials, if necessary, will be properly covered and located away from nearby watercourses; • Erection of temporary geotextile silt fences will be carried out around earth-moving works to trap any sediments and prevent them from entering watercourses; • Construction debris and spoil will be covered and/or properly disposed as soon as possible to avoid being washed into nearby watercourses; • Exposed soil will be covered as quickly as possible following formation works, followed, where appropriate, by covering with biodegradable geotextile blanket for erosion control purposes; • Where appropriate, earth-bundling will be carried out of areas where soils have been disturbed or where vegetation has been cleared, to ensure that surface runoff will not move soils off-site; • Construction ion effluent, site run-off and sewage will be properly collected and/or treated. Wastewater from any construction ion site will be 	Minimize impacts on Hydrological condition and water quality of hillside watercourses.	Contractor	All construction sites	V	N/A	V	V	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
	<p>minimised via the following in descending order: reuse, recycling and treatment ;</p> <ul style="list-style-type: none"> • Proper locations for discharge out lets of wastewater treatment facilities well away from sensitive receivers will be identified and used; • Silt traps will be installed at points where drainage from the site enters local watercourses; • Appropriate sanitary facilities for on-site workers will be provided; • The site boundary will be clearly marked and any works beyond the boundary strictly prohibited, and • Regular water monitoring and site audit will be carried out at suitable points. If the monitoring and audit results show that pollution occurs, adequate measures including temporary cessation of works will be considered. 								
S.10.7.11	<p>Implement an emergency contingency plan during the construction phase and the plan will include, but not be limited to, the following:</p> <ul style="list-style-type: none"> • Potential emergency situations; • Chemicals or hazardous materials used on-site (and their location); • Emergency response team; • Emergency response procedures; • List of emergency telephone hot lines; • Locations and types of emergency response equipment , and • Training plan and testing for effectiveness. 	Minimize impacts on Hydrological condition and water quality of hillside watercourses.	Contractor	All construction sites	N/A	N/A	N/A	N/A	N/A
Landscape and visual (Contraction Phase)									
S11.14.23, Table 11.9, CM1 [4]	All existing trees to be retained shall be carefully protected during construction.	Avoid disturbance and protection of the existing trees	Detailed Design Consultant /	The whole area where applicable	V	V	@	V	@
S11.14.23, Table 11.9, CM2 [3]	Tree Transplantation - Should removal of trees be unavoidable due to construction impacts, trees will be transplanted or felled. Detailed transplanting proposal will be submit ted to relevant government departments for approval in accordance with <u>LAO GN No. 7/2007</u> , <u>ETWB TCW No. 29/2004</u> and <u>10/2013</u> . Final locations of transplanted trees shall be agreed prior to commencement of the work.	Minimize landscape impact and retention of landscape resources	Detailed Design Consultant /	Onsite where possible. Otherwise consider offsite locations	*	N/A	N/A	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status				
					Contract 1	Contract 2	Contract 3	Contract 4	Contract 5
S11.14.23, Table 11.9, CM3 [4]	Control of operation night -time glare with well-planned lighting operation system to minimize potential glare impact to adjacent VSRs	Minimize glare impact to adjacent VSRs	Contractor/ CEDD	The whole project area where applicable	V	V	@	V	N/A
S11.14.23, Table 11.9, CM [4]	Erection of decorative screen hoarding.	Minimize visual impact	Contractor/ CEDD	The whole project area where applicable	N/A	N/A	N/A	N/A	N/A
S11.14.23, Table 11.9, CM5 [2]	Minimise disturbance and limitation of run-off – temporary structures and construction works should be planned with care to minimize disturbance to adjacent landscape, vegetation, natural stream habitats.	Minimize visual impact	Contractor/ CEDD	The whole project area where applicable	V	V	V	V	N/A

Legend: V = implemented; x = not implemented; @ = partially implemented; * = pending to be implemented; N/A = not applicable

Appendix M

Complaint Log

Appendix M1

Cumulative Complaint and Summons/ prosecution

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/ Prosecution in Reporting Month
March 2017	1	0
April 2017	0	0
May 2017	0	0
June 2017	2	0
July 2017	3	0
August 2017	3	0
September 2017	4	0
October 2017	2	0
November 2017	3	0
December 2017	3	0
January 2018	1	0
February 2018	4	0
March 2018	0	0
April 2018	2	0
May 2018	1	0
June 2018	1	0
July 2018	0	0
August 2018	1	0
September 2018	1	0
October 2018	1	0
November 2018	3	0
December 2018	2	0
January 2019	2	0
February 2019	3	0
March 2019	1	0
April 2019	0	0
May 2019	0	0
June 2019	1	0
July 2019	1	0
August 2019	1	0
September 2019	0	0
October 2019	1	0
November 2019	4	0
December 2019	0	0
January 2020	0	0
February 2020	0	0
March 2020	4	0
April 2020	1	0
May 2020	1	0
June 2020	1	0
July 2020	0	0
August 2020	0	0
September 2020	0	0
October 2020	0	0
November 2020	1	0
December 2020	2	0
January 2021	1	0
February 2021	0	0
March 2021	2	0

April 2021	1	0
May 2021	0	0
June 2021	1	0
July 2021	1	0
August 2021	0	0
September 2021	2	0
October 2021	0	0
November 2021	0	0
December 2021	0	0
January 2022	0	0
February 2022	0	0
March 2022	1	0
April 2022	1	0
May 2022	3	0
June 2022	2	0
July 2022	0	0
August 2022	2	0
September 2022	1	0
October 2022	1	0
November 2022	0	0
December 2022	0	0
January 2023	0	0
February 2023	0	0
March 2023	0	0
April 2023	0	0
May 2023	1	0
June 2023	0	0
July 2023	1	0
August 2023	0	0
September 2023	0	0
October 2023	0	0
November 2023	0	0
December 2023	0	0
January 2024	1	0
February 2024	0	0
March 2024	0	0
April 2024	1	0
Overall Total	85	0

Appendix M2 Complaint Log

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
1	23-Mar-17	8-Jun-17	On Tat Estate	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	A resident living in On Tat House reported that some night works with noise and flashing caused nuisance to nearby resident after 11:00 pm on 23 March 2017.	According the incident report conducted by the CWSTVJV, demobilization of crawler crane was undertaken on 23 March 2017 11pm and it is TD requirement to carry out demobilization of heavy machine at nighttime. It is considered this complaint was a single incident and would not be happened again in future.	no comment by IEC on 11 Oct 2017	TCS00864/16/300/F0087
2	28-Jul-17	28-Jul-17	38/F of Yin Tat House (賢達樓), On Tat Estate	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu received a complaint from a resident living in the flat on 38/F of Yin Tat House (賢達樓), On Tat Estate. The resident complained about the noise level of our works during daytime.	Noise monitoring by Contractor was conducted in Yin Tat House, On Tat Estate, at around 2 pm on 28-Jul-2017. Another noise monitoring was carried out by ET (AUES) and representatives of AECOM and JV in the presence of the complainant in her flat at 10 am on 1-Aug-2017 and was witnessed by Mr. Hsu. No exceedance of noise was recorded. The complainant was satisfied about the monitoring results.	no comment by IEC on 9 Aug 2017	TCS00864/16/300/F0060
3	29-Aug-17	29-Aug-17	Shing Tat House 24/F	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu Yau Wai (Tel no.9519 5663) reported that he received complaint from a resident (Ms Cheng) living at Shing Tat House 24/F Room 22 about the noise generated from our site this week. The noise heard was mainly rock breaking noise from our	Noise monitoring was carried out by ET (AUES) and representatives of AECOM and JV in the presence of the complainant in her flat at 3pm on 30-Aug-2017. No exceedance of noise was recorded. The complainant was satisfied about the monitoring results.	no comment by IEC on 8 Sep 2017	TCS00864/16/300/F0081

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								site.			
4	21-Jun-17	29-Aug-17	Tat Yan House, Po Tat Estate	Resident of Po Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00019373-17)	day time construction noise of breakers (8am to 6pm)	Since these two complaints were forwarded by CEDD to ET on 31 August 2017 which way after the complaint dates. Investigation would be conducted based on the site information by the Contractor of Contract 1 - NE/2016/01 (CWSTVJV) as well as the observation during weekly site inspection carried out by ET during June 2017. In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident and the working hour 08:00 to 18:00 did not breach any legal requirement. To eliminate the inconvenience caused to the nearby resident CWSTVJV was advised to further enhance the noise mitigation measures as appropriately.	no comment by IEC on 3 Nov 2017	TCS00864/16/300/F0093
5	22-Jun-17	29-Aug-17	Tat Yan House, Po Tat Estate	Resident of Po Tat Estate	Dust & Construction noise	EPD	EPD (ref. N08/RE/00019428-17)	Day time construction noise of breakers (8AM to 6PM). Requested to delay the operating hour of breakers to 10AM or 11AM			TCS00864/16/300/F0093
6	15-Jul-17	29-Aug-17	Tat Yi House, Po Tat Estate	Resident of Po Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00022479-17)	Construction noise	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident and the working hour 08:00 to 18:00 did not breach any legal requirement. To	no comment by IEC on 3 Nov 2017	TCS00864/16/300/F0094

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
									eliminate the inconvenience caused to the nearby resident, CWSTVJV was advised to further enhance the noise mitigation measures as appropriately.		
7	28-Jul-17	29-Aug-17	Anderson Road	unknown	Dust	EPD	EPD (ref.N08/RE/00023986-17)	Poor control on dust emission at Anderson Road Construction Site	CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident and status of the implementation of dust mitigation measures was considered effective based on the site observation.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0097
8	2-Aug-17	29-Aug-17	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00024557-17)	Day time construction noise of breakers (8AM to 6PM)	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in August 2017, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should further enhance the noise mitigation measures as appropriately. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0098

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
9	19-Sep-17	19-Sep-17	Sau Mau Ping Estate Sau Nga House	Resident of Sau Mau Ping Estate	Construction noise	SPRO hotline	NA	The complainant is living at Sau Mau Ping Estate Sau Nga House (秀雅樓) 38/F. He complained about the noise nuisance recently from August to September especially during night time after 12:00 am, even in Saturdays and Sundays. The noise nuisance caused a great disturbance to him. He made a request to conduct investigation about the source of the noise during night time.	ET has conducted an ad-hoc noise measurement for Leq (30min) on the rooftop of 秀雅樓 and 秀義樓 in the afternoon of 22 September 2017. (Photo 1 & 2) During the course of noise measurement, construction activities such as excavation and breaking were conducted in the Quarry Site. The measurement results taken at both 秀雅樓 and 秀義樓 were 63dB(A) which below the Limit Level under the EM&A Programme.	no comment by IEC on 18 Oct 2017	TCS00864/16/300/F0088
10	21-Sep-17	13-Oct-17	Sau Mau Ping Estate Sau Nga House and Sau Yee House	Resident of Sau Mau Ping Estate	Construction noise	EPD	EPD (ref.N08/RE/00031074-17)	On 21 September 2017, the same complaint further reported that the noise can be heard at both Sau Yee House and Sau Nga House even in daytime and he strongly requested the Contractor to follow up the case immediately.	ET has conducted an ad-hoc noise measurement for Leq (30min) on the rooftop of 秀雅樓 and 秀義樓 in the afternoon of 22 September 2017. (Photo 1 & 2) During the course of noise measurement, construction activities such as excavation and breaking were conducted in the Quarry Site. The measurement results taken at both 秀雅樓 and 秀義樓 were 63dB(A) which below the Limit Level under the EM&A Programme.		TCS00864/16/300/F0088

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
11	27-Sep-17	13-Oct-17	Chun Tat House, Tat Estate	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00029489-17)	The complainant questioned why there were 6 to 7 breakers operating in the morning but only 1 operating in the afternoon. He requested to shift the operation of the breakers to afternoon.	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in September and October 2017, there were no breaches of EM&A requirement.		TCS00864/16/300/F0106
12	3-Oct-17	13-Oct-17	Chun Tat House, Tat Estate	Resident of On Tat Estate	Construction noise	EPD	EPD (ref. N08/RE/00032407-17)	Day time construction noise, the complainant requested using less breaker at one time, erecting taller noise barrier to cover the equipment. In addition, the complainant would like to know the construction schedule whether there will be more breaking activities in near future	However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 30 Nov 2017	TCS00864/16/300/F0106
13	25-Oct-17	26-Oct-17	Tat Kwai House, Po Tat Estate	Resident of Po Tat Estate	Dust	EPD	NA	投訴安達臣道地盤的泥車落泥，令他達貴樓的住所受到大塵影響，要求跟進及回覆	Investigation revealed that CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. Nevertheless, based on the observation during site inspection on 31 October 2017, CWSTVJV was advised to enhance the dust mitigation measures particularly during dry season.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0100

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
14	6-Nov-17	7-Nov-17	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Noise	EPD	NA	安達邨俊達樓居民投訴石礦場地盤又再於早上07:45 開始傳出機器不停搽石的噪音(幾乎每日在08:00-19:00 進行工程), 已持續一年, 他全家人受到滋擾。	Ad-hoc noise measurement was conducted by ET at rooftop of Chun Tat House in the morning of 20 November 2017 and measurement result was below the Limit Level under the EM&A Programme. CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 30 Nov 2017	TCS00864/16/300/F0109
15	13-Nov-17	14-Nov-17	Chi Tai House, On Tai Estate	Mr. Lam Wai	light pollution and noise	SPRO hotline	NA	1. 智泰樓面向安達臣地盤方向, 有照射燈深夜時分仍然常開, 影響居民正常睡眠質素, 照成一定的精神壓力。 2. 隔音布未固定, 大風吹過發出極大的聲浪	To ease the concern by the complaint, CWSTVJV has adjusted the lights to the orientation pointing the ground and that to minimise the nuisance. For the maintenance of noise barrier, CWSTVJV has immediately fixed the noise barrier nearest to On Tai Estate and prolonged the cover area of the noise barrier to reduce the noise impact to the public.	no comment by IEC on 24 Nov 2017	TCS00864/16/300/F0104

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
16	1-Nov-17	14-Nov-17	Shing Tat House, On Tat Estate	Resident of Po Tat Estate	Noise	EPD	NA	居住於安達邨誠達樓高層的投訴人投訴由早上八時半至下午六時聽到搽鐵噪音。	As advised by the Contractor, the works that most likely induced the iron hammering noise to Shing Tat House shall be the rock breaking works to the hard rock of the Southeastern side of the Underground Stormwater Retention Tank. CWSTVJV had already deployed the acoustic mat as noise barrier at the site boundary near Shing Tat House. To enhance the noise mitigation measures, CWSTVJV deployed an acoustic mat as noise barrier for the breaking work in order to reduce construction noise affecting the upper floor of On Tat Estate. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 13 Dec 2017	TCS00864/16/300/F0110
17	25-Aug-17	26-Oct-17	Sau Yee House, Sau Ping Estate	Resident of Sau Mau Ping Estate	Construction Noise	EPD	EPD (ref.N08/RE/00027738-17)	Night time construction noise of hammering (around 12AM)	As advised by CWSTVJV, there was a CNP (GW-RE0763-17) in force for the subject site for operation of generator and electric submersible water pump for the wastewater treatment plant and it is considered that abovementioned PMEs should not generate significant noise. Moreover, it is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out after 19:00 at the subject site. Therefore, the complaint about noise nuisance during night time should not be related to the Project.	no comment by IEC on 14 Dec 2017	TCS00864/16/300/F0114

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
18	12-Sep-17	26-Oct-17	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction Noise	EPD	EPD (ref. N08/RE/0002948 9-17)	Day time construction noise of breakers (8AM to 5PM)	Noise mitigation measures were implemented to reduce the noise impact to the nearby resident. According to the impact noise monitoring result in September 2017, there were no breaches of EM&A requirement. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 10 Jan 2018	TCS00864/16/300/F0117
19	15-Dec-17	21-Dec-17	Sau Yee House	Resident of Sau Mau Ping Estate	Construction Noise	EPD	NA	Resident of Sau Yee House complained suspected construction noise from Anderson Construction Site at restricted hour (7pm to 7am).	It is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out after 19:00 at the subject site. Therefore, the complaint about noise nuisance during night time should not be related to the Project.	no comment by IEC on 10 Jan 2018	TCS00864/16/300/F0118
20	20-Dec-17	21-Dec-17	On Tat Estate	Resident of On Tat Estate	Dust	EPD	NA	Resident of On Tat Estate complained that the traffic of construction vehicles generated dust problem and arouse air pollution to On Tat Estate. 投訴安達臣道信和地盤水車已經壞了十多天，一直無灑水，四周非常大塵。投訴人住於安達邨，投訴安達臣道石礦場有大地盤，地盤大車工作時間不停出入揚起沙塵，吹到安達邨，影響空氣環境，要求部門	CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. It is considered that the complaint was an isolated case due to malfunction of water tanker and CWSTVJV has promptly rectified the deficiency. As advised by CWSTVJV, another water tanker will be deployed in mid-January 2018 to enhance the dust suppression measures throughout the construction site.	no comment by IEC on 25 Jan 2018	TCS00864/16/300/F0121

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								到場視察。			
21	28-Dec-17	10-Jan-18	Sau House	Yee Sau Mau Ping Estate	Construction Noise	CE's office	NA	日間及凌晨均聽到轟隆聲的噪音及震動，懷疑是由附近工程引起 * Thomas 先生表示居於秀茂坪邨秀義樓，指附近的安達臣道一個由土木工程拓展署管轄的石礦場不時於非允許時段(即晚上七時後至翌日早上)發出疑似打地基的轟轟聲巨響，最近一次就是今早(28/12)凌晨五時多再次聽到石礦場傳來聲響，將 Thomas 先生吵醒，懷疑有人刻意在無人監管下施工，更表示曾向環保署及土木工程署作出投訴，但環保署表示巡查後無發現在非允許時段有工程進行，而土木工程署則表示晚上七時後不會再進行工程。 Thomas 指石礦場經常在晚上八至	ET has conducted an ad-hoc noise measurement for Leq (30min) in the complainant's flat in the monitoring of 17 January 2018. It was noted that the complainant's flat is not in direct line of sight to the Anderson Road Quarry Site. The measurement noise result was below the Limit Level under the EM&A Programme. Moreover, it is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out during restricted hour at the subject site. Therefore, the complaint about noise nuisance during restricted hour should not be related to the Project.	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0129

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								十二時，或凌晨時份發出巨響，對附近居民已造成很大的滋擾，要求相關部門儘快作出跟進及回覆。			
22	15-Jan-18	15-Jan-18	Chun Tat House	Resident of Chun Tat House of On Tat Estate, 40/F	Construction Noise	SPRO mobile	NA	She is irritated by the construction noise of breaking rock for a long time and strongly requested to know exactly when will be the completion date of the breaking rock part of works opposite to Chun Tat House. She said we should do more on the mitigation measures because our site is very close to the residents nearby.	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in January 2018, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0130
23	1-Feb-18	2-Feb-18	Chi Tai House of On Tai Estate	Resident of On Tai Estate (referred by Mr. Lam Wai)	Construction Noise	SPRO hotline	NA	"智泰對出，白天噪音過大，可否加裝隔音板？高層受影響"	the Environmental Team has conducted an ad-hoc noise measurement for Leq(30min) at the corridor of 22/F of Chi Tai House on 2 February 2018 facing the construction site. The measurement noise result was 65dB(A) which below the Limit Level under the EM&A Programme. In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in January	no comment by IEC on 22 Feb 2018	TCS00864/16/300/F0137

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
									2018, there were no breaches of EM&A requirement.		
24	1-Feb-18	2-Feb-18	Shing Tat House of On Tat Estate	Resident of Shing Tat House (referred by Mr. Hsu Yau Wai)	Construction Noise	SPRO hotline	NA	Mr. Hsu reported that some disturbing noise was heard after 6:00 pm from the site near Shing Tat House of On Tat Estate.	AECOM has liaised with Mr. Hsu on 2 February 2018 for the complaint matter and he reported to AECOM that the noise was generated until 7:00 pm on 1 February 2018. 3. As advised by Contractor of Contract 1, breaking works at USRT area which opposite to Shing Tat House was only carried out from 8:00 to 18:00. However, rock breaking at System A was extended to 19:00 on 1 February 2018. As noise mitigation measures, noise barriers were erected for the works area. Further to the complaint case, CWSTVJV would seek for other quiet work method such as using drilling machine to reduce noise level and speed up the rock breaking process, so that to reduce the noise intensity level and the duration of exposure.	no comment by IEC on 28 Feb 2018	TCS00864/16/300/F0140

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
25	28-Feb-18	28-Feb-18	Shing Tat House of On Tat Estate	Resident of Shing Tat House	Construction Noise	EPD	NA	安達邨誠達樓居民, 投訴人是返夜班, 一年半以來長期受對出地盤日間揀石仔噪音滋擾, 由於單位與地盤太近, 堅持環保署跟進及回覆如何處理及減低噪音, 他亦要求知道何日完工.	Breaking works at Underground Stormwater Retention Tank area which opposite to Shing Tat House was carried out from 8:00 to 18:00. The Contractor has implemented noise mitigation measures to reduce the noise impact to the nearby resident. It was advised that the rock breaking works shall tentatively be completed by end of April and it is believed that the noise impact should be minimized. Since the works were carried out within the non-restricted hours and noise monitoring noise were within acceptable level, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 19 Mar 2018	TCS00864/16/300/F0143
26	11-Apr-18	12-Apr-18	Him Tat House of On Tat Estate	Resident of Him Tat House	Construction Noise	SPRO mobile	NA	Mr. Hui Yau Wai reported that the noise irritation was becoming more severe recently and asked about the completion date of the works close to Him Tat House. The resident suspected that the noise comes from piling works nearby.	In our investigation, since construction noise was generating from other construction site next to Him Tat House, it is considered that the complaint is due to cumulative noise generated by both construction sites. However, CWSTVJV should properly provide the noise mitigation measures at works area in System B to minimize the noise impact to the resident nearby. As advised by CWSTVJV on 20 April 2018, noise barrier was being erected at works area in System B as noise mitigation measures. According to the site photo, it is considered that the coverage of noise barrier is not sufficient and CWSTVJV should enhance the measure as far as	no comment by IEC on 7 May 2018	TCS00864/16/300/F0160b

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
									practicable. The implementation of noise mitigation measures will be kept in view in subsequent site inspection.		
27	25-Apr-18	7-May-18	Junction of Hiu Kwong Street and Hiu Ming Street	A school but name of school not disclosed	Construction Noise	EPD	NA	This case is considered as an enquiry and no investigation is required under the EM&A Programme.			
28	18-May-18	24-May-18	Anderson Road Quarry Site	Undisclosed	Construction Noise	EPD	NA	投訴人指安達臣道石礦場地盤 (NE/2016/01) 在入夜 19:00 後仍見到有長臂喉工程車在運作, 及持續產生大噪音及閃燈, 非常擾民。	As advised by CWSTVJV and confirmed by RE/AECOM, there were no construction activities carried out after 19:00 and concreting was completed before 19:00. It is concluded that the retracting process is not a general construction work using Powered Mechanical Equipment and complaint was an isolated case due to misunderstanding of the site operation. To prevent similar incidents in future, CWSTVJV has recommended several mitigation measures.	no comment by IEC on 30 July 2018	TCS00864/16/300/F0174b

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
29	25-Jun-18	19-Jul-18	Pedestrian Connectivity E8 under Contract 3	Kwun Tong DC member Ms. So Lai-chun	Waste Management	CEDD	NA	A public complaint was referred from CEDD on 4 July 2018 regarding accumulation of dead leaves and branches found at slope (GLA-TNK 2458) near Hiu Yuk Path on 25 June 2018. The complainant requested the relevant department to clear the leaves and branch asap	CW-CMGC-JV has immediately clear the dead leaves and maintain the site cleanliness. Since the construction work has not yet commenced and the dead leaves and overgrown branches were not related project works, it is considered that the complaint is not valid the project.	no comment by IEC on 24 Sep 2018	TCS00864/16/300/F0189b
30	22-Aug-18	29-Aug-18	Hong Wah Court	Resident of Hong Wah Court	Construction Noise	1823 Hotline	NA	吳先生於2018年8月22日致電1823熱線投訴，指馬游塘區堆填區往將軍澳方向行車入口因配合項目需要而進行移除山坡工程，但其鑽地鑿石的噪音嚴重影響藍田康雅苑*居民，要求有關部門跟進。*註：投訴人於2018年8月27日更正指受影響屋苑應為藍田康華苑。	to reduce the inconvenience caused to the nearby resident, Kwan On should properly maintain the noise mitigation measures as appropriate, such as maintain good site practice including intermittent use of machine and plant and Sequencing operation of construction plant equipment. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 7 Sep 2018	TCS00864/16/300/F0196a

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
31	28-Aug-18	31-Jul-18	Anderson Road Quarry Site	Undisclosed	Construction Noise	EPD	NA	安達邨誠達樓後面地盤，2月26日晚，晚上7時後，還在落石屎，相片拍攝時間大概晚上9時半，一直至晚上十一時五十分還有工程車在地盤行駛。影響居民休息。	According to the site diary which countersigned by RE, there was no concreting work carried out after 18:00 and the construction activities conducted during restricted hours with valid CNP were completed at 23:00. It is considered that the complaint was not valid to the Project. Nevertheless, CWSTVJV was reminded that in case of any work activities need to be carried out during restricted hours, CWSTVJV should strictly follow the requirements specified in the valid CNP.	no comment by IEC on 10 Oct 2018	TCS00864/16/300/F0197a
32	6-Sep-18	7-Sep-18	Tsui Yeung House	Resident of Tsui Yeung House	Construction Noise	Verbal	NA	Mr. CHENG Keung-fung complained that the contractor has conducted the noisy works such as rock excavation beyond the normal hours.	Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. As advised by Kwan On, the rock breaking works shall tentatively be completed by end of December 2018 and the mitigation measures will be implemented continuously during slope construction work and the slope construction will be carried out within the working hours at Portion 2. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 22 Oct 2018	TCS00864/16/300/F0201

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33	24-Oct-18	25-Oct-18	E3	Kwun Tong DC member Ms. So Lai-chun	Construction Noise	WhatsApp Message	NA	KTDC member, Ms. Anna So, complaining the noise of the breaker at E3	As advised by the Contractor, the acoustic material wrapped on the breaker was worn-out on 24 October 2018 and replacement of new acoustic materials has been installed on the breaker immediately on 25 October 2018. The rock breaking works shall tentatively be completed to the road level in the middle of November 2018 and the mitigation measures will implemented continuously during slope construction work and the slope construction will be carried out within the working hours at Portion 2. It is considered the complaint was an isolate case.	no comment by IEC on 23 Nov 2018	TCS00864/16/300/F0209a
34	12-Nov-18	13-Nov-18	Anderson Road Quarry Site	Resident of Ching Tat House (referred by Mr. Hui Yau Wai)	Construction Noise	SPRO Hotline	NA	Mr. Hui reported that he received complaint from a resident living in Ching Tat House about noise nuisance recently. Mr. Hui asked if project team can arrange some noise monitoring to check the noise level at the concerned flat or the same level at Ching Tat House.	The SPRO contacted Mr. Hui and explained to him about the purpose and benefits of the tunnel to the residents nearby and the expected date of completion of the tunnel will be earlier than 2020. Moreover, the noise mitigation measures had implemented to reduce the noise level effectively and the work progress will be closely updated to nearby stakeholders to enhance communication. Mr. Hui satisfied with the reply from SPRO and he agreed that the proposed noise monitoring in Ching Tat House was not needed. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no breaches of legislative requirement.	no comment by IEC on 12 Dec 2018	TCS00864/16/300/F0222a

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35	14-Nov-18	14-Nov-18	Anderson Road Quarry Site	Undisclosed	Light and Noise	EPD	NA	凌晨 1 時，地盤仍有大光燈正射民居和機器移動聲音，影響附近居民睡眠及違反環保條例。	CWSTVJV immediately adjusted the angle and brightness of the lighting to minimize the nuisance to the resident nearby. In response to the complaint, CWSTVJV immediately carried out remedial action to minimize the nuisance to the public. It was considered that complaint for noise generated by machine moving was an isolated case. CWSTVJV was reminded to closely monitor the plant use and sequence of night work and do not to violate CNP conditions.	no comment by IEC on 3 Jan 2019	TCS00864/16/300/F0223a
36	13-Nov-18	14-Nov-18	Anderson Road Quarry Site	Undisclosed	Noise and dust	1823	NA	Complainant requested to postpone the starting time of construction work at project site and also to solve the problem of construction noise and dust.	In our investigation, acoustic barrier and site hoarding were in place along the works area. No noticeable noise and dust impact was observed during the site inspection. As advised by CWSTVJV, the normal working hour of the construction site is 8am to 6pm and there were no violation of the relevant regulations. The senior public relation officer contacted the complainant Ms. Ma on 26 November 2018 to explain the site situation and she was satisfied with the reply. Investigation Report has been completed by ET without comment from IEC.	no comment by IEC on 18 Feb 2019	TCS00864/16/300/F0224

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37	9-Dec-18	12-Dec-18	Anderson Road Quarry Site	Undisclosed	Construction noise	1823	2-4927907305	1823 has referred a case to CEDD on 10 December 2018, which the complainant complained that construction noise was generated from project site on Sunday and was affecting the resident at Hau Tat House, On Tat Estate. The complainant requested follow up action from related department as soon as possible.	In our investigation based on the information provided by CWSTVJV, there was no site activities undertaken at site access road as concerned by the complainant. The construction work carried out on Sunday was fully compliance with the CNP requirement. In response to the complaint, CWSTVJV was reminded to closely monitor the plant use and sequence of night work and do not to violate CNP conditions.	no comment by IEC on 10 Jan 2019	TCS00864/16/300/F0230a
38	19-Dec-18	27-Dec-18	Anderson Road Quarry Site	Undisclosed	Construction noise	1823	2-4948074127	1823 has referred a case to CEDD on 27 December 2018, which the complainant complained that noise barriers near the round-about at On Sau Road were not enough, and construction noise generated from the project site was affecting the resident at Ming Tai House, On Tai Estate. The complainant requested follow up actions from related department as soon as possible.	Joint site inspection was carried out on 3 January 2019 the status of implemented mitigation measures provided by CWSTVJV was inspected. It was observed that noise mitigation measures including temporary noise barrier, acoustic mat and wrapped by acoustic materials are implemented on site. However, CWSTVJV was advised to extend the coverage of noise barrier as far as practicable and fully enclose the concerned works area which has been completed on 15 January 2019. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 31 Jan 2019	TCS00864/16/300/F0237a

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39	24-Jan-19	29-Jan-19	Anderson Road Quarry Site	Undisclosed	wastewater	Referred from DSD	NA	DSD has referred a case to CEDD on 24 January 2019 regarding suspended illegal discharge of cementitious slurry from construction site of Development of ARQ Site to nearby Public Stormwater Drainage System.	In our investigation, the concerned catchpit and U-channel mainly received the runoff from Po Lam Road as well as the discharge from the Anderson Road Quarry Site. It is suspected that the mud and silt found on the downstream has been accumulated over time particularly by rainstorm as well as routine discharge from construction site. As remedial action, CWSTVJV immediately clean the affected area where accessible. Nevertheless, in order to protect the watercourse at downstream of the construction site, CWSTVJV has some enhancement measures.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F02 48a
40	30-Jan-19	30-Jan-19	Anderson Road Quarry Site	Undisclosed	noise	SPRO hotline	NA	A public complaint was received by SPRO hotline on 30 January 2019 regarding the construction noise near Ma Yau Tong Village and requested to add noise barrier as soon as possible.	In our investigation, CWSTVJV had provided the noise mitigation measures to minimize the noise impact to the resident nearby. The impact monitoring result obtained at Ma Yau Tong Village revealed that the construction noise were within acceptable level. Since the works were conducted within approved normal hours with implementation of noise and dust mitigation measures, there were no breaches of legislative requirement.	no comment by IEC on 15 Mar 2019	TCS00864/16/300/F02 49a
41	15-Feb-19	25-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	1823	2-49480 74127	1823 has referred a case to CEDD on 15 February 2019, which the complainant complained about the construction	In response to the complainant, CWSTVJV has proposed alternative quiet work method to alleviate the noise impact to the public. They will schedule the noisy activities to be carried	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F02 51a

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								noise generated from the CEDD site near 法源寺 (Ma Yau Tong Village). The complainant requested for the details of works and the completion date, the complainant also requested CEDD to use other construction methods in order to re	out after 10am as far as practicable to minimize the impact to resident nearby, given that not affecting the site progress. Moreover, the coverage of acoustic barriers will be extended in view of the works programme.		
42	21-Feb-19	25-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	EPD	NA	The resident from Sau Hong House complained that the noise from the Anderson Road Quarry construction site has gotten worse. In addition, sometimes even after midnight there are noise coming from the site. With the echo produces from the environment, this is not helping at all. Really a big disturbance to the residence in the area. The complainant suspecting the sound proof measure has lessen as time goes. Follow action is requested.	In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate, such as maintain good site practices such as intermittent use of machine and plant and Sequencing operation of construction plant equipment. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 28 Mar 2019	TCS00864/16/300/F0250

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43	21-Feb-19	26-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	received by DEVB and referred to CEDD	NA	A public complaint was received by DEVB and referred to CEDD on 25 February 2019 regarding on the noise generated from the construction works of the Anderson Road Quarry Site affecting a local resident residing at the Anderson Road Squatter Area	Additional acoustic mat has been erected in front of the Squatter Area to minimize the noise impact. Noise mitigation measures such as acoustic barriers erected along the works area and breaker head wrapped with acoustic material were implemented continually. Alternative quiet work method was adopted such as drilling the hard rock before the breaking work to reduce the breaking duration. In our investigation, CWSTVJV had enhanced the noise mitigation measures to ease the complainant's concerns. CWSTVJV will continually implement the noise mitigation measures to reduce to noise impact to the public.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0252a
44	1-Mar-19	26-Feb-19	E3 of Contract 2	Undisclosed	noise	CEDD	NA	A complaint is forwarded by CEDD which was received by KTDC member Mr CHENG Keung Fung from the residents of Tsui Yeung House(翠楊樓) about the noise nuisance generated and the working time up to 7:00 pm from the rock excavation of E3 lift tower. Follow up action is requested.	The representative of the engineering team explained to Mr. Cheng about the project's details and concerned site was being constructed for the future pedestrian connection facilities. The related stone drilling process is expected to be completed in mid-April to end of April 2019. Mr. Cheng was satisfied with the rapid response from CEDD and the engineering team. In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not	no comment by IEC on 6 May 2019	TCS00864/16/300/F0264

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									breach the Noise Control Ordinance.		
45	16-Jun-19	18-Jun-19	Anderson Road Quarry Site	Undisclosed	noise	EPD	NA	EPD referred a case to CEDD on 17 June 2019 regarding the construction noise heard at On Tat Estate on Sunday.	The Contractor explained that general cleaning by water jet was carried out in the construction site on the concerned day. Since the work did not involve the use of Powered Mechanical Equipment (PME), it would not violate the noise control ordinance. The Investigation report is underway by ET.	no comment by IEC on 21 August 2019	TCS00864/16/300/F03 01a
46	12-Jul-19	15-Jul-19	Anderson Road Quarry Site	Undisclosed	dust	EPD	NA	On 12 July 2019, a complaint was received by EPD regarding the dust impact to the residents at Po Tat Estate and On Tat Estate due to the dust emission at Anderson Road Quarry site.	In our investigation, CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident and status of implementation of dust mitigation measures was considered effective based on the site observation. Moreover, there was mostly rainy day throughout June and July 2019 in typical rainy season in Hong Kong and the dust impact was considered not significant in	no comment by IEC on 12 August 2019	TCS00864/16/300/F02 92b

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									addition to the dust mitigation measures implemented provided by the Contractor. Nevertheless, the ET will closely monitor the environmental performance and dust mitigation measures in subsequent site inspection. The IR is under reviewed by IEC.		
47	6-Aug-19	14-Aug-19	Work Area Portion 2 E3 (Slope of Hui Ming Street opposite of Tsui Yeung House)	翠屏(北)邨物業服務辦事處	Noise	1823	NA	A public complaint was received by 1823 on 6 August 2019 relating to the noise generated from construction work at the lift tower site (Slope E3) at Hui Ming Street from the residents of Tsui Yeung House. The complainant expressed that the construction works has been undertaken for 2 years and generated construction noise from 8am every day, which causing serious nuisance to the nearby residents.	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. It is concluded that the complaint was valid to the contract. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance.	no comment by IEC on 16 Sep 2019	TCS00864/16/300/F03 10a

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48	15-Oct-19	18-Oct-19	Work Area Portion 6 (Tseung Kwan O Tunnel Bus-Bus Interchange Pedestrian Connectivity Facilities E12)	Mr. Ng	Noise	1823	NA	A public complaint was received by 1823 on 15 October 2019 relating to the noise generated from construction work at Tseung Kwan O Tunnel Bus to Bus Interchange Pedestrian Connectivity Facilities E12. The complainant expressed that the construction noise was generated from breaking work at 8:20 am without noise mitigation measure, which causing nuisance to the nearby residents.	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 13 Nov 2019	TCS00864/16/300/F03 26a
49	5-Nov-19	11-Nov-19	Work Area Portion 2&3 (lift tower construction work at Hiu Kwong Street)	NA	Noise	EPD	NA	A public complaint was received by EPD relating to the noise generated from breaking work of lift tower construction work at Hiu Kwong Street (Portion 2&3).	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 27 Dec 2019	TCS00864/16/300/F03 32a

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50	7-Nov-19	11-Nov-19	Work Area Portion 6	Mr. Cheng	Noise	EPD	NA	寶達邨居民鄭先生，表示將軍澳隧道出口工程，日間噪音嚴重，8:30-17:00，幾部幾同時開動，而且無防音欄，之前是有，現要求環保署向對方反映改善	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 27 Dec 2019	TCS00864/16/300/F03 33a
51	10-Nov-19	12-Nov-19	Underpass	Undisclosed	Noise	EPD	NA	On 10 November 2019 投訴人為馬游塘村居民，自本年初寶林路開展掘隧道工程，每天噪音不斷，由 8 至 6，由於欠缺遮擋，聲音直向 4 至 22 號村屋，將來通車，相信噪音不只 8-6，現懇請環保署為本村居民正式評估，並向政府提出村民困擾，考慮盡快設置隔音屏。 On 11 November 2019 寶琳路近馬游塘村開掘	In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement. For the complainant's concern on the operation noise after commencement of the project, it is out of the scope of the EM&A programme and the relevant department will follow up the concern.	no comment by IEC on 30 Dec 2019	TCS00864/16/300/F03 37

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								隧道的工程地盤每日 8am-6pm 發出噪音，欠缺遮擋，聲音影響馬游塘村 4-22 號村屋。希望政府部門 1.調查地盤有否違規 2.實施減音措施以減低對附近居民的滋擾			
52	11-Nov-19	20-Nov-19	Construction site near Estate Ancillary Facilities Building on On Tai Road	Mr. Wong (resident of Yung Tai House of On Tai Estate)	Noise	1823	ref. 2-59763 03183	黃先生投訴安秀道安泰邨服務設施大樓附近掘路工程已持續數年還未完成，並投訴其經常發出噪音滋擾，要求部門跟進。 On 22 November 2019, the project hotline received a call from the same complainant reported on the noise nuisance near On Sau Road and On Yan Street. He suggested to speed up the noise making works by intensely concentrate the excavation works during day time. No	In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. However, in response to the complaint, the Contractor was advised to enhance the performance of the temporary noise barriers such as increase the coverage of the noise barrier. Since the works were conducted within normal working hours with implementation of noise mitigation measures, there were no breaches of legislative requirement.	no comment by IEC on 27 Dec 2019	TCS00864/16/300/F03 38a

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								intermittence is suggested in order to speed up the works and to avoid waste of manpower.			
53	5-Mar-20	6-Mar-20	Tunnel work of Anderson Road Quarry Site (the Underpass)	Resident of On Tat Estate	Noise	EPD	NA	本人是安達邨居民，隧道工程在安達臣的工程，施工至今嘈音間中改善，最近又有嘈音出現，仲係重低音，希望能加裝隔音設備，工程不知何時將嘈音減至最低。1. A public complaint was received by EPD on 5 March 2020 regarding the construction noise generated from the tunnel work of the subject site. The complainant mentioned that the noise from construction was improved before but it became serious recently.	In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. In response to the complaint, CWSTVJV had immediately installed a layer of acoustic mat at boundary of System A. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement.	no comment by IEC on 1 Apr 2020	TCS00864/16/300/F03 57a

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54	4-Mar-20	17-Mar-20	Near Hiu Ming Street Playground (E8)	Undisclosed	Noise	1823	ref. 3-62832 37171	投訴人投訴有關秀茂坪邨秀安樓附近有兩個地盤，地盤由星期一至五，每天早上約 9AM-5 PM 持續不斷發出強烈的嘈音，投訴人表示地盤是在曉明街藍球場旁邊的位置(投訴人未能告知確實街號)，因此要求部門盡快回覆及告知有關情況。A public complaint was received by 1823 on 4 March 2020 regarding the construction noise. The complainant mentioned that there were two construction sites near Hiu Ming Street Playground generated construction noise continuously during 9AM to 5PM on weekdays.	In our investigation, CW-CMGCJV had implemented the noise mitigation measures for the works at upper section of E8 near Hiu Yuk Path and no noise impact was observed and anticipated in Hiu Ming Street based on the site activities and our inspection record. It is considered that the complaint is likely related to another construction site located near Hiu Ming Street Playground and not caused by the works under the Project. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement.	no comment by IEC on 15 Apr 2020	TCS00864/16/300/F03 59a
55	23-Mar-20	23-Mar-20	Near Lin Tak Road (E11)	Undisclosed	Water Quality	Project hotline	NA	藍田居民梁先生反映在將軍澳道往連德道天橋的大彎位，其中有一個車輛出入口每日早上八時左右不時有泥水從地盤流出路面，估計泥水是清洗工程車輛所致，令梁先生的車輛每次駛經時被	In our investigation, the wheel washing facilities at site exit of E11 is one of the dust quality mitigation measures conducted by CW-CMGCJV and corresponding measure was implemented to prevent overflow of wastewater out of the site. In our recent site inspection, no outflow of muddy water from the site was observed and the condition of	no comment by IEC on 15 Apr 2020	TCS00864/16/300/F03 60a

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								<p>濺濕及弄污，請問有何措施改善問題？ A public complaint was received by project hotline on 23 March 2020 regarding overflow of muddy water from the construction site. The complainant mentioned that muddy water came out from site entrance, which spotted on his car, at 8am every morning.</p>	<p>concerned Lin Tak Road was satisfactory. It is considered that the complaint was unlikely due to the project.</p>		
56	17-Mar-20	19-Mar-20	Anderson Road Quarry Site	Resident of Yan Tat House	Noise	Project hotline	NA	<p>許有為區議員接獲安達邨仁達樓 2613 室居民反映，安達臣道石礦場發展用地工程噪音持續兩年，要求工程團隊下周派員到有關單位視察，並採取可行的噪音緩解措施。許有為區議員要求陪同視察。 A public complaint was received by hotline on 17 March 2020 regarding the construction noise generated from the Anderson Road Quarry Site. The complainant mentioned that the construction noise</p>	<p>In our investigation, CW-CMGCJV has implemented noise mitigation measures to reduce the noise impact and nuisance to the public. However, to eliminate the inconvenience caused to the nearby residents, CW-CMGCJV was advised to further adopt good practices on mitigating construction noise to reduce the noise impact to the nearby residents. 5. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, CW-CMGCJV was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.</p>	no comment by IEC on 11 May 2020	TCS00864/16/300/F03 61a

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								generated from the Anderson Road Quarry Site had been continued for two years.			
57	1-Apr-20	20-Apr-20	Work Area Portion 2	Undisclosed	Noise	1823	NA	<p>觀塘秀茂坪紀念公園傍及曉明街的地盤，共兩個地盤，是地政總署管轄的。投訴人表示已被工程噪音滋擾了兩年多；另外投訴人得知完工時間要到 2021 年，投訴人不明白為何工程頭尾要 3 年多時間。要求地政總署直接以電郵回覆工程長的原因及有沒有措施解決地盤發出的噪音。</p> <p>A public complaint was received by 1823 on 1 April 2020 and subsequently transmitted to Environmental Team (ET) on 20 April 2020, regarding the noise nuisance generated from the construction site in Hui Ming Street. The complainant concerned about the slow progress</p>	<p>In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. It is concluded that the complaint was valid to the contract. However, as the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.</p>	no comment by IEC on 7 May 2020	TCS00864/16/300/F0366a

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								and implementation of noise mitigation measures to alleviate the noise impact arising from the construction work.			
58	11-May-20	12-May-20	Work Area Portion 2	Undisclosed	Noise	Project hotline	NA	陳先生住於翠楊樓 17 樓，投訴對面鑽石工程產生噪音對母親健康構成影響，現查詢完工日期、噪音監控標準及措施。 A public complaint was received by Project Hotline on 11 May 2020 regarding the noise generated from rock breaking work from a construction site opposite to Tsui Yeung House, which affecting his mother's health. The complainant enquired about the completion date of construction work, construction noise level standard and implementation of noise mitigation measures on site.	In our investigation, Kwan On has enhanced the noise mitigation measures to reduce the noise impact to the nearby resident. Based on the noise measurement result, the construction noise was reduced to acceptable level after the additional noise mitigation measures in place. Nevertheless, Kwan On was reminded to continually implement the noise mitigation measures as far as practicable in the remaining work. The performance of noise mitigation measures will keep in view by ET in subsequent site inspection	no comment by IEC on 28 May 2020	TCS00864/16/300/F0370a

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
59	18-Jun-20	23-Jun-20	Anderson Road Quarry Site, System B	Undisclosed	Noise	EPD	NA	A public complaint was received by EPD on 18 June 2020 regarding the noise generated from rock breaking by machinery before 7pm from construction site near Hau Tat House. The complainant understood that the Contractor could carry out construction works, other than percussive piling, before 7pm under the CNP and hoped that the Contractor could arrange the noisy construction works to be carried out before 6pm. According to the information provided by the complainant, it is suspected complaint location would be Anderson Road Quarry Site, System B.	In our investigation, the Contractor has implemented noise mitigation measures to reduce the noise impact and nuisance to the public. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, the Contractor was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme	no comment by IEC on 17 July 2020	TCS00864/16/300/F0391a
59#	23-Jul-20	24-Jul-20	Anderson Road Quarry Site near On Tat Estate	Undisclosed	Noise	EPD	NA	A public complaint was received by EPD on 23 July 2020 regarding the construction noise generated from the use of PME at Anderson Road Quarry Site near On Tat Estate at 6:30am	In our investigation, CWSTVJV had restricted the use of PME before 7am. There was no construction work and use of PME during the restricted hours. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of	no comment by IEC on 25 August 2020	TCS00864/16/300/F0401

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								(restricted hours). He/she requested relevant department to follow up.	legislative requirement. Nevertheless, as the construction site is close to the residential area, CWSTVJV was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme		
60	14-Nov-20	18-Nov-20	Near Hiu Ming Street Playground (E8)	Undisclosed	Noise	1823	NA	A public complaint was received by 1823 on 14 November 2020 regarding the construction noise. The complainant mentioned that there was piling works at Hiu Ming Street Playground, generating huge noise during 9AM to 10AM on 14 November 2020. He/she requested relevant department to follow up	In our investigation, there was no noise impact was observed and anticipated in Hiu Ming Street based on the site activities and our inspection record. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement	no comment by IEC on 4 January 2021	TCS00864/16/300/F0424
61	4-Dec-20	7-Dec-20	Opposite to On Tai Estate – lower portion of Road L4	Undisclosed	Dust	EPD	NA	A public complaint was received by EPD on 4 December 2020 regarding the dust impact. The complainant mentioned that the construction site opposite to On Tai Estate had dust emission problem due to lack of water spraying. He/she requested relevant department to follow up	In our investigation, CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. In view of the potential traffic dust impact and implementation of dust mitigation measures, it is considered that the complaint was not valid to the Project	no comment by IEC on 4 January 2021	TCS00864/16/300/F0434
62	3-Dec-20	7-Dec-20	Ma Yau Tong	Undisclosed	Noise and dust	1823 & EPD	3-6574141017	A public complaint was received by 1823 and	In our investigation, CWSTVJV had provided the dust and noise mitigation	no comment	TCS00864/16/300/F04

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
			Village (East Portal)					EPD on 14 November 2020 regarding the construction dust and noise impact arising from the project. There were acoustic mats erected on the slope of East Portal, however, the complainant enquired about effectiveness of the noise barriers with dozens of 15 cm "X"-shaped cuts. Moreover, there was lack of water sprinkling on the site and fugitive dust was blowing to the village	measures to minimize the dust and noise impact to the resident nearby. To response the concern from the complainant, as enhancement noise measure, the Contractor extended the noise barrier to encircle noisy activity. Since the works were conducted within approved normal hours with implementation of noise and dust mitigation measures, there were no breaches of legislative requirement	by IEC on 4 January 2021	35
63	7-Jan-21	7-Jan-21	System B	Resident of Yan Tat House	Noise	Project hotline	NA	A public complaint was referred by district Councillor Mr. HSU Yau-wai and received by project hotline on 7 January 2021 regarding the construction noise. The complainant mentioned that the construction site next to SKH St. John's Tsang Shiu Tim Primary School generated noise problem and she requested relevant department to follow up.	In our investigation, the Contractor has implemented noise mitigation measures to reduce the noise impact and nuisance to the public.6. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, the Contractor was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 19 July 2021	TCS00864/16/300/F04 41

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
64	18-Mar-21	18-Mar-21	Anderson Road Quarry Site (between On Tat Estate and On Tai Estate)	Undisclosed	Noise	1823 & EPD	NA	A public complaint was received by 1823 and referred by EPD on 18 March 2021 regarding the construction noise generated from construction works at Anderson Road Quarry Site between On Tat Estate and On Tai Estate. The complainant expressed that construction works of the site started from 6:45am everyday which causing noise disturbance to the nearby resident and he/she requested relevant department to follow up	In our investigation, CWSTVJV had restricted the use of PME before 7am. There was no construction work and use of PME during the restricted hours and there should not be any non-compliance of Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, CWSTVJV was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme	no comment by IEC on 1 April 2021	TCS00864/16/300/F0454
65	1-Apr-21	1-Apr-21	Construction site near SKH St. John's Tsang Shiu Tim Primary School (System B under Contract 3)	Undisclosed	Noise	EPD	NA	A complaint was received by EPD and referred to CEDD on 1 April 2021 regarding the construction noise. The complainant mentioned that piling work was conducted at construction site near SKH St. John's Tsang Shiu Tim Primary School in recent week which generated noise problem. Moreover, there were no noise mitigation measures	In our investigation, the Contractor has implemented noise mitigation measures to reduce the noise impact and nuisance to the public. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Moreover, the Contractor has adopted noise mitigation measures to minimise noise impact to the public. Since the construction site is close to the residential area, the Contractor was reminded to implement the mitigation	no comment by IEC on 19 July 2021	TCS00864/16/300/F0458a

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								provided in the construction site	measures as far as practicable as recommended in the EM&A Programme		
66	28-Mar-21	30-Mar-21	Anderson Road Quarry Site (between On Tat Estate and On Tai Estate)	Resident of Fung House of On Tai Estate	Noise	EPD	K13/RE/00007086-21	A public complaint was received by EPD on 28 March 2021 regarding the construction noise generated from construction works at Anderson Road Quarry Site until 9pm on Monday to Saturday. Moreover, the complaint concerned about the construction noise heard on 28 March 2021 which was a Sunday.	In our investigation, CWSTVJV had followed that CNP for work during restricted hour and there should not be any non-compliance of Noise Control Ordinance. Nevertheless, some site areas had been handed over to other contract and construction noise generated from others is not controlled by the project. As a reminder, CWSTVJV should implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 22 April 2021	TCS00864/16/300/F0459
67	11-Jun-21	11-Jun-21	Anderson Road Quarry Site	Resident of Chi Tat House, On Tai Estate	Noise	EPD	EPD Ref.: 13208-21	A public complaint was received by EPD on 11 June 2021 and complained about noise nuisance from multiple construction sites on Anderson Road Quarry Site. The complainant stated that there were noise nuisances from different construction sites from 0800 am to 1800 pm from Monday to	6. In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. In response to the complaint, CWSTVJV had immediately installed a layer of acoustic barrier at boundary of concern works area. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement.	no comment by IEC on 19 July 2021	TCS00864/16/300/F0478a

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								Saturday without adequate noise mitigation measures. On 17 June 2021, the complainant added that the noise was generated from rock breaking works in front of Chi Tai House (not from the housing sites near the Tai Sheung Tok slope) and no mitigation measure was implemented for the rock breaking works.			
68	20&21/June/21	23-Jul-21	Anderson Road Quarry Site	DSD	Water Quality	EPD	EPD Ref.: 13208-21	EPD received complaints from DSD on 20 and 21 July 2021 concerning about discharge of muddy water as found on Po Lam Road and at the drainage facility near Tin Hau temple.	In our investigation, CWSTVJV had implemented the water quality mitigation measures to minimise the impact arising from the construction site. In view of the site condition and inclement weather condition on the complaint days, it is considered that the complaints raised by DSD were unlikely due to the C1 Project. Nevertheless, CWSTVJV was advised to closely monitor the discharge quality to avoid non-compliance of water quality happened in the construction site. Moreover, to cope with the adverse weather condition in wet season, CWSTVJV should regularly review the drainage plan as needed.	no comment by IEC on 6 August 2021	TCS00864/16/300/F04 85b
69	14&16/Sep/21	15-Sep-21	Anderson Road Quarry Site	DSD	Water Quality	EPD	NA	EPD received complaints from DSD on 14 Sep	In our investigation, CWSTVJV had implemented the water quality mitigation measures to minimise the impact arising	no comment by IEC on	

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								2021 and 16 Sep 2021 concerning about discharge of muddy water as found at the catchpit SCH4003250 near Po Lam Road and catchpit SSH4001400 near Po Tat Tin Hau Temple.	from the construction site. However, there were incidents of seepage of silty water at Q2 and Q3 and rectified actions were undertaken immediately. Having investigated, the incidents were considered very short term and would not generate large amount of muddy water. In view of the inclement weather condition and there were other major sources, it is considered that the complaints raised by DSD were not fully contributed by C1 Project. Nevertheless, CWSTVJV was advised to closely monitor the discharge quality to avoid non-compliance of water quality happened in the construction site. Moreover, to cope with the adverse weather condition in wet season, CWSTVJV should regularly review the drainage plan as needed.	6 October 2021	
70	23/Sep/21	29-Sep-21	Anderson Road Quarry Site	CEDD & EPD	Noise	CEDD & EPD	NA	A public complaint was referred by 1823 to both CEDD and EPD on 23 September 2021. The complainant stated that the construction works at Anderson Road Quarry Site started before 7am, which generated construction noise and affecting the upper floor	Our investigation revealed that there was no construction works under the Project undertaken during the concerned period by the complainant, and there were other concurrent contracts on Anderson Road Quarry Site and the contribution noise may be related to others. Therefore, it is considered that the noise complaint was unlikely to be related to the works under the Project. Nevertheless,	No comment by IEC on 15 November 2021	

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								resident of On Tat Estate. EPD have contacted the complainant and clarify that the concerned about construction dust and daytime construction noise after 7am.	CWSTVJV was reminded to properly maintain the noise mitigation measures as far as practicable considering the construction site is relatively close to residential area.		
71	30/Mar/22	12/Apr/22	Anderson Road Quarry Site	DSD	Water Quality	DSD	NA	EPD received complaint from DSD on 28 March 2022 concerning about siltation and discharge of muddy water observed at the public drainage system at catchpit SSH4001400 near Tin Hau Temple and the site discharge points at Po Lam Road on 28 March 2022	In our investigation, the Contractor had implemented the water quality mitigation measures to minimise the impact arising from the construction site. Based on the investigation findings, it is considered that the complaint was likely caused by the interfacing contractors under rainy days and not due to the works under the Project.	No comment by IEC on 19 April 2022	TCS00864/16/300/F0540
72	14/Apr/22	25/Apr/22	Anderson Road Quarry Site	DSD	Water Quality	DSD	NA	DSD carried out site inspection at site discharge point at Po Lam Road on 12 April 2022 and observed discharge of muddy water at public drainage system. The case was then referred to CEDD and EPD to investigate the source of the muddy water discharge.	In our investigation, the Contractor had implemented the water quality mitigation measures to minimise the impact arising from the construction site. Based on the investigation findings, it is considered that the complaint was likely caused by the interfacing contractors and not due to the works under the Project.	No comment by IEC on 16 May 2022	TCS00864/16/300/F0541
73	11/May/22	25/May/22	Anderson Road Quarry Site	DSD	Water Quality	DSD	NA	EPD received complaint	Based on the above findings and	No	TCS00864/

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
	2022	2022	Road Quarry Site		Quality			from DSD on 11 May 2022 concerning about muddy water observed entering Tsui Ping River, with similar situation observed at Tin Hau Temple and Po Lam Road.	successive heavy rainstorm on 11 to 13 May 2022, it is considered the muddy water found in the concerned catchpit SSH4001400 near Tin Hau Temple and Po Lam Road on 11 to 13 May 2022 were likely caused by impact of rainstorm and partially contributed by the interfacing contractors at Sites R2-9 & R2-10.	comment by IEC on 13 June 2022	16/300/F559
74	17/May/2022	30/May/2022	Anderson Road Quarry Site	DSD	Water Quality	DSD	NA	EPD received complaint from DSD on 14 and 16 May 2022 concerning about muddy water observed entering Tsui Ping River.	Heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. Besides, there were several construction sites at upstream of Tsui Ping River. It is considered that complaint mainly related to the interfacing contractor(s) and unlikely to have been caused by the project.	No comment by IEC on 13 June 2022	TCS00864/16/300/F562a
75	27/May/2022	9/Jun/2022	Anderson Road Quarry Site	DSD	Water Quality	DSD	NA	EPD received complaint from DSD on 27 May 2022 concerning about muddy water observed entering Tsui Ping River, with similar situation observed at Tin Hau Temple and Po Lam Road.	Heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. Besides, there were several construction sites at upstream of Tsui Ping River. It is considered that complaint mainly related to the interfacing contractor(s) and unlikely to have been caused by the project.	No comment by IEC on 13 June 2022	TCS00864/16/300/F563
76	6, 7, 8/Jun/2022	7, 8, 9/Jun/2022	Anderson Road Quarry Site	DSD	Water Quality	DSD	NA	On 6 June 2022, DSD informed that dirty water with bad odour was	As a matter of fact, heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system,	Sent to EPD on 21 June 2022	TCS00864/16/300/F565

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								observed entering Tsui Ping River this morning at the upstream near junction of Kai Lim Road and Tsui Ping Road. The situation has persisted over 50 mins. Furthermore, muddy water was observed entering Tsui Ping River, with similar situation at Tin Hau Temple and Po Lam Road (山渠) on 6, 7 and 8 June 2022.	which deteriorated the water quality in the drainage system. Besides, there were several construction sites at upstream of Tsui Ping River. It is considered that complaint mainly related to the interfacing contractor(s) and unlikely to have been caused by the project.		
77	14/Jun/2022	15/Jun/2022	Anderson Road Quarry Site	DSD	Water Quality	DSD	NA	DSD concerning muddy water discharge found at Tin Hau Temple and Po Lam Road on 14 June pm.	As a matter of fact, heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. Besides, there were several construction sites at upstream of Tsui Ping River. It is considered that complaint mainly related to the interfacing contractor(s) and unlikely to have been caused by the project.	Sent to EPD on 29 June 2022	TCS00864/16/300/F566
78	8/Aug/2022	8/Aug/2022	Anderson Road Quarry Site	DSD	Water Quality	DSD	NA	DSD advised EPD that muddy water was observed entering Tsui Ping River in the morning of 8 August 2022, with similar situation at Tin Hau Temple and Po Lam	As a matter of fact, heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. No muddy water discharge was evident in the morning or afternoon of 8 August 2022.	No comment by IEC on 19 September 2022	TCS00864/16/300/F580

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								Road	It is therefore considered that the muddy water discharge observed by DSD in the morning of 8 August 2022 was unlikely to have been caused by the ARQ contracts of C1 or C4.		
79	12/Aug/2022	12/Aug/2022	Anderson Road Quarry Site	DSD	Water Quality	DSD	NA	DSD advised EPD that muddy water was observed entering Tsui Ping River in the morning of 12 August 2022, with similar situation at Tin Hau Temple and Po Lam Road (山渠).	As a matter of fact, heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. No muddy water discharge was evident in the morning of 12 August 2022. It is therefore considered that the muddy water discharge observed by DSD in the morning of 12 August 2022 was unlikely to have been caused by the ARQ contracts of C1 or C4.	No comment by IEC on 19 September 2022	TCS00864/16/300/F581
80	29&30/Sep/2022	29/Sep/2022 & 3 Oct 2022	Anderson Road Quarry (ARQ) Site	DSD	Water Quality	DSD	NA	DSD's complaint was made to EPD who requested CEDD in the same respective mornings to handle and investigate in accordance with the procedure in EM&A Manual.	As a matter of fact, heavy rain led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. No muddy water discharge from ARQ Site was evident in the morning of 29 and 30 September 2022. It is therefore considered that the muddy water discharge observed by DSD in the morning of 29 and 30 September was unlikely to have been caused by the ARQ contracts of C1 or C4.	Sent to EPD on 18 October 2022	TCS00864/16/300/F593

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
									<p>During wet season, the Contractor was strongly reminded to implement adequate water quality mitigation measures to minimise the impact arising from the construction site. The Contractor should closely monitor the discharge quality from the Site to avoid non-compliance. The ET will pay special attention on water quality mitigation measures implementation on site through regular site inspection, and give advice on remedial action when necessary.</p> <p>Incidentally, it is noted that Site R2-9 has kept discharging muddy water to downstream manhole D310. Record photos of the manhole dated 6, 7 and 8 October 2022 are enclosed for reference.</p>		
81	18/Oct/2022	20/Oct/2022	Anderson Road Quarry (ARQ) Site	DSD	Dust Quality	Referred by 1823 to EPD	NA	<p>A public complaint was referred by 1823 to EPD on 18 October 2022, regarding the dust problem generated from the construction site in Anderson Road near On Tai Estate due to typhoon signal no. 3. EPD contacted the complainant who was a resident of Shing Tai House, On Tai Estate. The complainant</p>	<p>In our investigation, both the Contractors had implemented dust mitigation measures to reduce to potential impact to the public. However, in particular during dry season, Contract 4 was reminded to enhance the dust suppressive measures as far as practicable. As there were no air monitoring results exceeding the limit level, it is considered that the dust mitigation measures implemented were effective in suppressing the fugitive dust. Nevertheless, as the construction site is close to the residential area, both the</p>	Sent to EPD on 3 November 2022	TCS00864/16/300/F596

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								expressed concern about the construction dust generated from Anderson Road Quarry (ARQ) site and requested the site to step up dust suppression measures.	Contractors were reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.		
82	17/May/2023	19/May/2023	Anderson Road Quarry (ARQ) Site	DSD	Water Quality	DSD	NA	<p>EPD received complaint from DSD concerning muddy water was observed entering Tsui Ping River from the upstream in the afternoon of 17th May 2023, with similar situation at Po Lam Road (山渠)。</p> <p>The case was then referred from EPD to CEDD for follow-up. Environmental Team (ET) initiated the handing procedure in accordance with the Environmental Monitoring & Audit Manual to investigate whether it is related to the Project of Development of Anderson Road Quarry (ARQ) Site.</p>	<p>As a matter of fact, the heavy rains led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. There was no evident muddy water discharge from ARQ Site in the afternoon of 17th May 2023. Therefore, it is considered unlikely that the muddy water discharge observed by DSD in the afternoon of 17 May 2023 was caused by the ARQ contracts of Contract 1 or Contract 4.</p> <p>During the wet season, the Contractor was strongly reminded to implement adequate water quality mitigation measures to minimise the impact arising from the construction site. The Contractor should closely monitor the quality if the discharge from the Site to avoid non-compliance. The ET will pay special attention to the implementation of water quality mitigation measures on site through regular site inspections, and</p>	Sent to EPD on 29 May 2023	TCS00864/16/300/F64 3

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
									provide advice on remedial action when necessary.		
83	4 July 2023	4 July 2023	Anderson Road Quarry (ARQ) Site	DSD	Water Quality	DSD	NA	<p>EPD received complaint from DSD concerning muddy water was observed entering Tsui Ping River from the upstream in the morning of 4 July 2023, with similar situation at Po Lam Road (山渠).</p>	<p>The case was then referred from EPD to CEDD for follow-up. Environmental Team (ET) initiated the handling procedure in accordance with the Environmental Monitoring & Audit Manual to investigate whether it is related to the Project of Development of Anderson Road Quarry (ARQ) Site.</p> <p>As a matter of fact, the heavy rains led to large amount of storm runoff from roads and landscape into the public drainage system, which deteriorated the water quality in the drainage system. There was no evident muddy water discharge from ARQ Site in the morning of 4 July 2023. Therefore, it is considered unlikely that the muddy water discharge observed by DSD in the morning of 4 July 2023 was caused by the ARQ contracts of Contract 1 or Contract 4.</p> <p>During the wet season, the Contractor was strongly reminded to implement adequate water quality mitigation measures to minimise the impact arising from the construction site. The Contractor should closely monitor the quality of the discharge from the Site to avoid non-compliance. The ET will pay special attention to the implementation of water quality mitigation measures on site through regular site inspections, and provide advice on</p>	Sent to EPD on 18 July 2023	TCS00864/16/300/F653

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
									remedial action when necessary.		
84	19 Jan 2024	23 Jan 2024	On Kin Road, Anderson Road Quarry	KTDC member Mr. Hsu Yau-wai	Noise Quality	EPD	NA	A public complaint was received by EPD Regional Office (East) on 19 January 2024 regarding the construction noise generated from construction works at On Kin Road, Anderson Road Quarry (CEDD Contract No. ED/2020/02) at night from 10pm to 6am.	As advised by the RE of Contract 4, under CEDD Contract No. ED/2020/02, the Contractor was required to lift 9 precast beams of an elevated walkway. The works was carried out over for four consecutive nights starting from 16 January 2024 and has already completed. The Contractor possessed a valid Construction Noise Permit (CNP) (GW-RE0030-24) from 15 to 24 January 2024. The Contractor also confirmed that lift beams work was undertaken on On Kin Road between 16 to 20 January 2024. These works were conducted from 23:00 to 02:00 and involve the use of a crane as the only PEM, which complied with the relevant CNP (GW-RE0030-24). To mitigation noise impact on the public during nighttime, a series of acoustic mats were erected around the work area.	Sent to EPD on 29 January 2024	TCS00864/16/300/F684a
85	23 and 26 Apr 2024	23 and 26 Apr 2024	Anderson Road Quarry (ARQ) Site	DSD	Water Quality	EPD	NA	EPD received complaint from DSD concerning muddy water was observed entering Tsui Ping River from the upstream on 23 and 26	The case was then referred from EPD to CEDD for follow-up. Environmental Team (ET) initiated the handling procedure in accordance with the Environmental Monitoring & Audit Manual to investigate whether it is	Sent to EPD on 6 May 2024	TCS00864/16/300/F698a

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
								<p>April 2024, with similar situation at the catchpit at Tin Hau Temple.</p> <p>related to the Project of Development of Anderson Road Quarry (ARQ) Site.</p> <p>According to the weather information from the Hong Kong Observatory, heavy rainfall of 40mm and 25mm was recorded on 23 and 26 April 2024 respectively. This intense rainfall caused a significant amount of storm runoff from roads and landscape being flushed into the public drainage system and deteriorated the water quality in the drainage system.</p> <p>According to the site photos provided by the Resident Site Staff (RSS) the discharge water at discharge point Qz off Po Lam Road at 23 and 26 April 2024 were clear despite the base colour of the stepped channel thereat.</p> <p>As advised by the RSS and the Contractor of Contract 1, the majority of the Contract 1 area has been handed over to other contracts on ARQ Site (such as building contract). Each of these interfacing contractors should have been granted a licence for discharge under the Water Pollution Control Ordinance. The discharge points of ARQ Site were located at Q2 and catchpit at Po Lam Road. The wastewater drainage layout plan in the</p>			

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Log ref.	Date of Complaint
									<p>ARQ Site is shown in Figure 1. The remaining area under Contract 1 were some hard paved roads within the ARQ Site. There were no water quality impact anticipated for Contract 1 in the remaining works.</p> <p>Joint site inspection among the RSS, Contractor of Contract 4 and ET was carried out on weekly basis to audit the environmental performance. The implementation of mitigation measures were summarized below:-</p> <p>(a) The wastewater treatment facilities were implemented and properly functioned.</p> <p>(b) To minimize the generation of muddy water, the exposed areas were covered either with an impervious sheet or through hydroseeding.</p> <p>(c) Sump pits were constructed at the lowest point of the work area to store continuous rainfall, which helps prevent overload of wastewater treatment facilities were and ensures wastewater was properly treated before discharge to the designated discharge points.</p>		

Appendix N

Implementation Status for Water Quality Mitigation Measures

Water Quality Mitigation Measure



Q1. Wastewater treatment facility 30 cu.m Sedimentation Tank + AquaSed of 15 cu.m per hour + WETSEP



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