JOB NO.: TCS01271/22

CEDD SERVICE CONTRACT NO. EDO 8/2022 ENVIRONMENTAL TEAM FOR DEVELOPMENT OF ANDERSON ROAD QUARRY SITE – SITE FORMATION AND ASSOCIATED INFRASTRUCTURE WORKS

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT REPORT (February 2023)

PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	Reference No.	Prepared By	Certified By
23 March 2023	TCS00864/16/600/R0629v1	Nicola Hon (Environmental Consultant)	Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	23 March 2023	First submission
2	24 March 2023	Amended As Per IEC's comment

ANEWR

Civil Engineering and Development Department
East Development Office
8/F, South Tower, West Kowloon Government Offices
11 Hoi Ting Road
Yau Ma Tei
Kowloon

Your reference:

Our reference: HKCEDD10/50/108689

Date: 27 March 2023

Attention: Mr Leung Chi Foon

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 (February 2023)

We refer to the emails of 23 and 24 March 2023 from Action-United Environmental Services and Consulting attaching a Monthly Environmental Monitoring and Audit Report (February 2023) 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 Frankie Yuen on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

James Choi
Independent Environmental Checker

CPSJ/LCCR/YCFF/lsmt

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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. NTE/07/2016 Environmental Team for Development of Anderson Road Quarry Site – Site Formation and Associated Infrastructure Works (hereinafter called "the Service Contract") on 15 December 2016. The commencement date of the Service Contract is from December 2016 and the Contract Period is 70 months. The above Contract No. NTE/07/2016 was completed in late September 2022 and current EM&A works would be covered by new Contract No. EDO 8/2022 from 22 September 2020 for the Contract Period of 12 months.

ES02 The Services under the Service Contract is to provide environmental monitoring and audit (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 Anderson Road Quarry and other relevant statutory requirements.

ES03 To facilitate the project management and implementation, the Service Contract has been divided to three CEDD contracts including Contract NE/2016/01 (Contract 1), Contract NE/2016/05 (Contract 2) and Contract NE/2017/03 (Contract 3). As advised by the Resident Engineer (RE), the commencement date of Contract 1 was 21 December 2016 and the major construction works has been commenced on 12 April 2017. The commencement date of Contract 2 was 31 March 2017 and the major construction activities have been commenced on 2 May 2017. Furthermore, Contract 3 was commenced on 31 May 2018 and the major construction activities works was commenced in November 2018. The EM&A programme under the Project was commenced on 12 April 2017 pursuant to the requirement under the EM&A manual. In addition, variation order for extend service scope to E5, E6, E7 and C10 under Contract ED/2019/02 (Contract 5) was issued by AECOM. The commencement date of Contract 5 was on 30 March 2021. Moreover, variation order for extend service under Contract ED/2020/02 (Contract 4) was issued by AECOM. The commencement date of Contract 4 was on 27 September 2021.

ES04 This is the **71st** monthly EM&A report presenting the monitoring results and inspection findings for the period from **1 to 28 February 2023** (hereinafter 'the Reporting Period').

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES05 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**	**105**
	24-hour TSP	**4**	**16**
Construction Noise	$L_{eq(30min)}$ Daytime for Contract NE/2016/01	**8**	**32**
	$L_{eq(30min)}$ Daytime for Contract NE/2017/03	**1**	**4**

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES06 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

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

ES07 In the reporting period, no environmental complaint was received.

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES08 No environmental summons or successful prosecutions for the Project were recorded in the Reporting Period.

REPORTING CHANGE

ES09 1-hour TSP monitoring for AMS4 and noise monitoring NMS1 at Maryknool Secondary School were implemented from January 2023.

SITE INSPECTION

ES10 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 1*** were carried out by the RE, ET and Contractor on **9, 14, 21 and 28 February 2023** in which IEC joined the site inspection with SSEMC on **9 February 2023**. No non-compliance was noted during the site inspection.

ES11 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 2*** were carried out by the RE, ET and Contractor on **1, 8, 15, 22 and 28 February 2023** in which IEC joined the site inspection on **28 February 2023**. No non-compliance was noted during the 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 **3, 10, 17 and 24 February 2023** in which IEC joined the site inspection with SSEMC on **17 February 2023.** 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 **1, 8, 16 and 22 February 2023** in which IEC joined the site inspection with SSEMC on **16 February 2023**. 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 **2, 9, 16 and 22 February 2023** in which IEC joined the site inspection on **22 February 2023.** No non-compliance was noted during the site inspection.

FUTURE KEY ISSUES

ES15 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.

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

1.1 PROJECT BACKGROUND

1.1.1 Action-United Environmental Services & Consulting (hereinafter referred as "AUES") has been awarded the CEDD Service Contract No. NTE/07/2016 Environmental Team for Development of Anderson Road Quarry Site – Site Formation and Associated Infrastructure Works (hereinafter called "the Service Contract") on 15 December 2016. The commencement date of the Service Contract was December 2016 and the Contract Period is 70 months. The above Contract No. NTE/07/2016 was completed in late September 2022 and current EM&A works would be covered by new Contract No. EDO 8/2022 from 22 September 2020 for the Contract Period of 12 months.

1.1.2 The Services under the Service Contract is to provide environmental monitoring and audit (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.

1.1.3 Development of Anderson Road Quarry is to provide land and the associated infrastructures for the proposed land used at the existing Anderson Road Quarry Site at the North-eastern of East Kowloon according to the final Recommended Outline Development Plan (hereinafter named as the Project Works).

1.1.4 To facilitate the project management and implementation, the Service Contract has been divided to three CEDD contracts including Contract NE/2016/01 (Contract 1), Contract NE/2016/05 (Contract 2) and Contract NE/2017/03 (Contract 3). As advised by the Resident Engineer (RE), the commencement date of Contract 1 was 21 December 2016 and the major construction works has been commenced on 12 April 2017. The commencement date of Contract 2 was 31 March 2017 and the major construction activities have been commenced on 2 May 2017. Furthermore, Contract 3 was commenced on 31 May 2018 and the major construction activities works was commenced in November 2018. The EM&A programme under the Project was commenced on 12 April 2017 pursuant to the requirement under the EM&A manual. In addition, variation order for extend service scope to E5, E6, E7 and C10 under Contract ED/2019/02 (Contract 5) was issued by AECOM. The commencement date of Contract 5 was on 30 March 2021. Moreover, variation order for extend service under Contract ED/2020/02 (Contract 4) was issued by AECOM. The commencement date of Contract 4 was on 27 September 2021.

1.1.5 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.

1.1.6 This is the **71st** monthly EM&A report presenting the monitoring results and inspection findings for the period from **1 to 28 February 2023 (**hereinafter referred as "Reporting Period").

1.2 1.2 REPORT STRUCTURE

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

Section 1 *Introduction*
Section 2 *Project Organization and Construction Progress*
Section 3 *Summary of Impact Monitoring Requirements*

Section 4 *Air Quality Monitoring*
Section 5 *Construction Noise Monitoring*
Section 6 *Waste Management*
Section 7 *Site Inspections*
Section 8 *Environmental Complaints and Non-Compliance*
Section 9 *Implementation Status of Mitigation Measures*
Section 10 *Conclusions and Recommendations*

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 tentative completion date 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 an 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 tentative completion date in January 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, life towers with associate 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 1, 2, 3, 4 and 5 are shown in ***Appendix B***.

2.3 CONSTRUCTION PROGRESS

2.3.2 The 3-month rolling construction programme for Contracts 1, 2, 3, 4 and 5 are shown in ***Appendix C***. The major construction activities conducted in the Reporting Period are summarized in below.

Contract 1 (NE/2016/01)

Underpass Tunnel

- Construction of Berm at Slope A3
- Cut and fill slope and construction at Slope A5
- Drilling dowel bar hole for downpipe support at Slope A3

East Portal Area

- Rock filling works for slope feature
- Construction rigid barrier BBA1 Bay 7 to Bay 9

- Construction mass concrete wall

PC System A
- Concrete pavement laying work
- External and internal ABWF works
- Metal works
- Lift installation and installation of outdoor louvre

Site G2
- Formation and excavation works

Ventilation Building
- External and internal ABWF works

Water Pumping Station, Retaining Wall RWA13 and RWA14
- A13 Slope excavation and u-channel construction
- Excavation work and construction work of Boundary Fence Footing
- Drainage works and u-channel works inside boundary of Pumping Station

Water Reservoir
- Installation of extension key and steel staircase for WSD downpipe maintenance
- Reclaim water pipe laying at the back of Reservoir

Artificial Flood Attenuation Lake
- The floating bridge installation

Contract 2 (NE/2016/05)
- Temporary Traffic Arrangement (TTA)
- Mass Concrete Construction
- Formwork and Falsework installation and dismantling
- Lift Installation and lift Tower Construction
- Rebar fixing

Contract 3 (NE/2017/03)

Pedestrian Connectivity Facility E8 (PC-E8)
- Touch-up outstanding works and additional works are in progress.

Pedestrian Connectivity Facility E11 (PC-E11)
- PC-E11 was commenced to public on 31 December 2022. Touch-up to outstanding works/carry-out additional works is on-going.

Pedestrian Connectivity Facilities Systems A (PC-SYA)
- ABWF works and E&M works at LT1, LT2 & ST1 are in-progress.
- T&C to lifts at LT1 are in-progress.
- RC works at footbridge are in-progress.

Pedestrian Connectivity Facilities Systems B (PC-SYB)
- RC works at SyB-LT1 & ST1 is in-progress.
- Erect footbridge steel frame is in-progress.
- RC works at Pier 1 is in-progress.
- Preparation 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 Retaining Wall (Portion 6, 8, 12)
- Construction of Planter at Portion 8, 12
- Slope works at Portion 10, Portion 17
- Preparation works for Construction of bridge at Portion 13b
- Modification works at RWA10 at Portion 13b
- Modification works at RWA9 at Portion 13b
- Road works at G2-Site at Portion 13b

Contract 5 (ED/2019/02)

Portion 1
- Construction of Pier at E5-PC1 (2 pour)
- Piling Work at E5-PC2
- Excavation of Plie Cap E5-PC2
- Construction of Plie Cap E5-PC2
- Laying of no-fine concrete below E5-PC3 Pipe Cap
- Construction of Pile Cap at E5-PC3 & abutment

Portion 2
- Construction of Pier at E6-PC1 (2 pour)
- Construction of Pier at E6-PC2 (1 pour)
- Construction of abutment at E6-PC3

Portion 3
- Install mini-plie at +69mPD Platform
- Construction of footing at E7-F2
- Installation of ELS and excavation at E7-F2

Portion 4
- Construction of footing E10-F1
- Construction of 1st Pour of Lift Tower

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

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

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. 411762	NA	NA	Valid
	Form NB – Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 412730	NA	NA	Valid
2	Chemical Waste Producer Registration	Registration no. WPN 5213-292-C4115-01	15 Feb 17	End of project	Valid
3	Water Pollution Control Ordinance – Discharge License	WT00041620-2022	30 May 22	31 May 27	Valid
4	Waste Disposal Regulation – Billing	Account no. 7026925	20 Jan 17	End of project	Valid

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
	Account for Disposal of Construction Waste				
5	Construction Noise Permit	GW-RE0058-23	19 Jan 23	18 Apr 23	Valid

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 312173	NA	NA	Valid
2	Chemical Waste Producer Registration	Registration no. WPN 5213-294-K2890-08	7 Jul 17	End of Project	Valid
3	Construction Noise Permit	GW-RE0033-22	20/1/2023	28/2/2023	Valid
		GW-RE0120-23	10/2/2023	28/2/2023	Valid
4	Water Pollution Control Ordinance – Discharge License	Case no. 485699	In Progress		
5	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no.7027548	12 Apr 17	End of project	Valid

Table 2-3 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	**For Area R1W3 (E11)** Registration no. WPN : 5213-294-C4239-04	6-Aug-18	End of Project	Valid
		For Area System A Registration no. WPN: 5213-293-C4239-05	6-Aug-18	End of Project	Valid
		For Area System B Registration no. WPN 5213-294-C4239-03	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 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)** WT00032742-2018	18-Jan-19	31-Jan-24	Valid
		For Area System A WT00033223-2019	31-Jan-19	31-Jan-24	Valid
		For Area System B WT00033229-2019	24-Jun-19	30-Jun-24	Valid
		For Area E8 WT00033224-2019	21-Mar-19	31-Mar-24	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no.7031075	20-Jun-18	End of project	Valid
5	Construction Noise Permit	GW-RE1155-22	1 Nov 22	30 Apr 23	Valid
		GW-RE1377-22	22 Dec 22	28 Feb 23	Valid
		GW-RE0796-22	30 Dec 22	28 Feb 23	Valid

Table 2-4 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 August 2021	NA	Valid
2	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no. 7041336	6 September 2021	NA	Valid
3	Chemical Waste Producer Registration	Registration no. WPN 5213-296-C1206-12	14 September 21	End of project	Valid
4	Water Pollution Control Ordinance – Discharge License	WT00043000-2023	30 Jan 23	31 Jan 28	Valid

Table 2-5 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	EPD ref. no. 466255	NA	NA	Valid

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
	(Construction Dust) Regulation				
2	Chemical Waste Producer Registration	Registration no. WPN 5298-293-W3611-01	12 May 21	End of project	Valid
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

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	• 1-hour TSP by Real-Time Portable Dust Meter; and • 24-hour TSP by High Volume Air Sampler
Noise	• 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 L_{10} and L_{90} 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	Active

ID	ASR ID in EIA	Location in the EM&A Manual	Identified Location during Site Visit	Status
			project site	
AMS-6	DARE-17	Block 9, Site E	Main roof of Hau Tat House of On Tat Estate facing the project site	Active
AMS-7	AMYT-04	Ma Yau Tong Village	Balcony at 2nd 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 Maryknool 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

ID	NSR ID in EIA	Location	Status
NMS-8^	No. 3-4 Ma Yau Tong Village	1m from the exterior of the building façade and facing the construction site	Active

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	NL-31, NL-52
Calibrator	NC-75
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.) A pump to draw sample aerosol through the optic chamber where TSP is measured;

(b.) A sheath air system to isolate the aerosol in the chamber to keep the optics clean for maximum reliability; and

(c.) 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 0.6m^3/min and 1.7m^3/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 m^3/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 d 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 (μg /m^3)		Limit Level (μg/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

Monitoring Station	Action Level (μg /m^3)		Limit Level (μg/m^3)	
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
AMS-4	315	165	500	260
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

4.2.1 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 Maryknool Secondary School of AMS-4 for installation of monitoring equipment at rooftop is in progress.

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

4.3 RESULTS OF AIR QUALITY MONITORING

4.3.1 In the Reporting Period, a total of ***105*** events of 1-hour TSP monitoring and ***16*** 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 (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
6-Feb-23	15	1-Feb-23	9:08	63	60	59
11-Feb-23	71	7-Feb-23	13:28	67	63	68
17-Feb-23	33	13-Feb-23	13:29	58	60	62
23-Feb-23	26	18-Feb-23	10:00	62	64	61
--	--	24-Feb-23	13:14	67	68	65
Average (Range)	**36 (15 - 71)**	Average (Range)		**63 (58 - 68)**		

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

1-hour TSP (μg/m³)				
Date	Start Time	1st reading	2nd reading	3rd reading
1-Feb-23	9:36	66	63	65
7-Feb-23	9:00	68	71	67
13-Feb-23	9:18	57	60	56
18-Feb-23	9:00	60	61	59
24-Feb-23	9:23	79	68	71
Average (Range)		**65 (56 – 79)**		

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

1-hour TSP (μg/m³)				
Date	Start Time	1st reading	2nd reading	3rd reading
1-Feb-23	13:11	70	68	71
7-Feb-23	9:12	68	73	70
13-Feb-23	9:29	53	57	55
18-Feb-23	9:20	64	58	53
24-Feb-23	9:11	68	70	68
Average (Range)		**64 (53 – 73)**		

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

1-hour TSP (μg/m³)				
Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
1-Feb-23	13:28	80	78	83
7-Feb-23	9:05	83	80	86
13-Feb-23	13:00	65	68	69
17-Feb-23	9:10	78	76	75
24-Feb-23	13:10	80	78	82
Average (Range)		**77 (65 – 86)**		

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

Date	**24-hour TSP (μg/m³)**	**1-hour TSP (μg/m³)**				
		Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
6-Feb-23	25	1-Feb-23	9:00	70	73	75
11-Feb-23	14	7-Feb-23	10:30	68	71	72
17-Feb-23	50	13-Feb-23	9:07	60	59	57
23-Feb-23	24	18-Feb-23	13:00	69	70	67
--	--	24-Feb-23	9:18	76	73	77
Average (Range)	**28 (14 – 50)**	Average (Range)		**69 (57 – 77)**		

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

Date	**24-hour TSP (μg/m³)**	**1-hour TSP (μg/m³)**				
		Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
6-Feb-23	12	1-Feb-23	9:10	65	66	63
11-Feb-23	14	7-Feb-23	10:22	62	64	65
17-Feb-23	44	13-Feb-23	8:55	59	56	55
23-Feb-23	19	18-Feb-23	13:10	67	68	65
--	--	24-Feb-23	9:00	68	79	72
Average (Range)	**22 (12 – 44)**	Average (Range)		**65 (55 – 79)**		

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

Date	**24-hour TSP (μg/m³)**	**1-hour TSP (μg/m³)**				
		Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
6-Feb-23	25	1-Feb-23	13:00	69	66	70
11-Feb-23	25	7-Feb-23	14:03	75	72	78
17-Feb-23	27	13-Feb-23	14:06	62	66	65
23-Feb-23	40	18-Feb-23	13:45	70	71	74
--	--	24-Feb-23	13:49	77	80	78
Average (Range)	**29 (25 – 40)**	Average (Range)		**72 （62 – 80）**		

4.3.2 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.

4.3.3 The meteorological data during the impact monitoring days are summarized in ***Appendix J***.

5. CONSTRUCTION NOISE MONITORING

5.1 GENERAL

5.2.1 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.

5.2.2 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.

5.2.3 The noise monitoring schedule is presented in ***Appendix G*** and the monitoring results are summarized in the following sub-sections.

5.3 NOISE MONITORING RESULTS IN REPORTING MONTH

5.3.1 In the Reporting Period, a total of **32** 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**
1-Feb-23	70	57	62	65	64	65	60	57
7-Feb-23	68	63	61	68	63	64	60	62
13-Feb-23	69	53	62	64	63	64	60	57
24-Feb-23	69	62	58	67	64	61	62	59
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;

5.3.2 For the additional noise monitoring under Contract 3, a total of **4** 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**
1-Feb-23	66
7-Feb-23	65
13-Feb-23	62
24-Feb-23	63
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.

5.3.3 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

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

6.3 RECORDS OF WASTE QUANTITIES

6.3.1 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.

6.3.2 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 1		Contract 2		Contract 3		Contract 4		Contract 5	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Total generated Inert C&D Materials ('000m^3) (#)	2.831	-	0.01	-	1.518	-	1.260	-	0.010	-
Hard Rock and Large Broken Concrete ('000m^3)	0	-	0	-	0	-	0	-	0.008	-
Reused in this Contract (Inert) ('000m^3)	0	-	0	-	0.390	-	0	-	0.002	-
Reused in other Projects (Inert) ('000m^3)	1.618	*	0	-	0.712	-	0	-	0	-
Disposal as Public Fill (Inert) ('000m^3)	1.213	-	0.01	TKO 137	0.415	TKO 137	1.260	TKO 137	0.008	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 1		Contract 2		Contract 3		Contract 4		Contract 5	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Recycled Metal ('000kg)	0.003	-	0	-	0	Licensed collector	0	-	0	-
Recycled Paper / Cardboard Packing ('000kg)	0	-	0	-	0	Licensed collector	0	-	0	-
Recycled Plastic ('000kg)	0.005	-	0	-	0	Licensed collector	0	-	0	-
Chemical Wastes ('000kg)	0	-	0	-	0	-	0	-	0	-
General Refuses ('000m^3)	0.071	SENT	0.08	SENT	0.040	SENT	0	-	0.067	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 1

7.2.1 In the Reporting Period, joint site inspections for Contract 1 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **9, 14, 21 and 28 February 2023** in which IEC joined the site inspection with SSEMC on **9 February 2023**. No non-compliance was noted. The findings / deficiencies of ***Contract 1*** that observed during the weekly site inspection are listed in ***Table 7-1***.

Table 7-1 Site Observations of Contract 1

Date	Findings / Deficiencies	Follow-Up Status
9 February 2023	• The Contractor was advised to place oil drum inside drip tray at reservoir. • The Contractor was reminded to spray water regularly at exposed work area at G2.	• Oil drum was removed from site area. • Reminder only.
14 February 2023	• Material storage should be set back from the existing tree. (Hiking trail)	• Materials near tree protection zone was removed.
21 February 2023	• The Contractor was reminded to maintain the u-channel regularly at platform 175. • The Contractor was reminded to spray water regularly at exposed work area within site.	• Reminder only. • Reminder only.
28 February 2023	• The Contractor was advised to maintain the u-channel at platform 175 in good condition. • The Contractor was reminded to dispose construction waste at pump station regularly.	• U-Channel was cleaned by Contractor. • Reminder only.

Contract 2

7.2.2 In the Reporting Period, joint site inspections for Contract 2 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **1, 8, 15, 22 and 28 February 2023** in which IEC joined the site inspection with SSEMC on **28 February 2023**. No non-compliance was noted. The findings / deficiencies of ***Contract 2*** that observed during the weekly site inspection are listed in ***Table 7-2***.

Table 7-2 Site Observations of Contract 2

Date	Findings / Deficiencies	Follow-Up Status
1 February 2023	• The Contractor should cover the stockpile cement properly. • The Contractor was reminded to enhance housekeeping.	• The Contractor was removing the stockpile cement properly. • Reminder only.

Date	Findings / Deficiencies	Follow-Up Status
8 February 2023	• The Contractor should disposed empty cement bags properly. (Portion 2) • The Contractor should cover the cement bags properly. (Portion 2) • The Contractor was reminded to improve house-keeping.	• The Contractor was remove the empty bags. • The Contractor was covered the cement bags properly. • Reminder only.
15 February 2023	• The Contractor should cover or remove the empty bags. • The Contractor was reminded to cover the cement bags properly.	• Empty cement bags within site area were disposed regularly. • Reminder only.
22 February 2023	• The Contractor was advised to dispose of cumulated construction waste regularly at Portion 2 near site office.	• Proper storage area was provided within site area.
28 February 2023	• The Contractor was advised to place chemical containers inside drip tray at Portion 3. • The Contractor was advised to provide NRMM label for excavator at Portion 2. • The Contractor was reminded to enhance house-keeping within site area.	• The Contractor was covering the chemical containers. • The Contractor was disposing the NRMM label properly. • Reminder only.

Contract 3

7.2.3 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 **3, 10, 17 and 24 February 2023** in which IEC joined the site inspection with SSEMC on **17 February 2023**. No non-compliance was noted. The findings / deficiencies of ***Contract 3*** that observed during the weekly site inspection are listed in ***Table 7-3.***

Table 7-3 Site Observations of Contract 3

Date	Findings / Deficiencies	Follow-Up Status
3 February 2023	• The Contractor was reminded to maintain u-channel in good condition at system B.	• Reminder only
10 February 2023	• No adverse environmental issue was observed during site inspection.	• NA
17 February 2023	• No adverse environmental issue was observed during site inspection.	• NA
24 February 2023	• The Contractor was reminded to dispose empty cement bags properly at System A.	• Reminder only

Contract 4

7.2.4 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 **1, 8, 16 and 22 February 2023** in which IEC joined the site inspection with SSEMC on **16 February 2023**. No non-compliance was noted. The findings / deficiencies of ***Contract 4*** that observed during the

weekly site inspection are listed in ***Table 7-4.***

Table 7-4 Site Observations of Contract 4

Date	Findings / Deficiencies	Follow-Up Status
1 February 2023	• The Contractor was reminded to enhance housekeeping. • The Contractor was reminded to provide water spraying during dry season to reduce dust generation.	• Reminder only • Reminder only
8 February 2023	• The Contractor was advised NRMM label should be displayed properly for NRMM using on-site. (Portion 12) • The Contractor should be cover or remove the empty cement bags. (Portion 2a) • The Contractor was reminded to cover sandy stockpile with tarpaulin or remove to reduce dust impact. • The Contractor was reminded to improve house-keeping.	• The Contractor was display the NRMM label properly. • The Contractor was removing the empty cement bags. • Reminder only • Reminder only
16 February 2023	• The Contractor was reminded to remove or cover the sandy stockpile with tarpaulin.	• Reminder only
22 February 2023	• The Contractor was reminded to remove or cover the sandy stockpile properly. (Portion 13)	• Reminder only

Contract 5

7.2.5 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 **2, 9, 16 and 22 February 2023** in which IEC joined the site inspection on **22 February 2023**. No non-compliance was noted. The findings / deficiencies of ***Contract 5*** that observed during the weekly site inspection are listed in ***Table 7-5***

Table 7-5 Site Observations of Contract 5

Date	Findings / Deficiencies	Follow-Up Status
2 February 2023	• The Contractor was reminded to remove stagnant water inside drip tray	• Reminder only
9 February 2023	• The Contractor reminded to remove stagnant water inside drip tray. (Portion 2 E6)	• The Contractor was removed the stagnant water.
16 February 2023	• The Contractor was reminded to remove the dead-wood from tree protection zone at E10.	• Reminder only
22 February 2023	• No adverse environmental issue was observed during site inspection.	• NA

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.1.1 In the Reporting Period, no 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
1 Apr 2017 – 31 January 2023	1	0	**63**	Dust, Noise, Water and light nuisance
21 Mar 2017 – 31 January 2023	2	0	**10**	Noise
31 May 2018 – 31 January 2023	3	0	**8**	Waste Management, Noise, Water Quality
27 Sep 2021 – 31 January 2023	4	0	**4**	Water Quality/Air Quality
30 Mar 2021 – 31 January 2023	5	0	**0**	NA
1 – 28 February 2023	1	0	**63**	NA
	2	0	**10**	NA
	3	0	**8**	NA
	4	0	**4**	NA
	5	0	**0**	NA

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Contract no.	Environmental Summons Statistics		
		Frequency	Cumulative	Summons Nature
1 Apr 2017 – 31 January 2023	1	0	0	NA
21 Mar 2017 – 31 January 2023	2	0	0	NA
31 May 2018 – 31 January 2023	3	0	0	NA
27 Sep 2021 – 31 January 2023	4	0	0	NA
30 Mar 2021 – 31 January 2023	5	0	0	NA
1 – 28 February 2023	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
1 Apr 2017 – 31 January 2023	1	0	0	NA

Reporting Period	Contract no.	Environmental Prosecution Statistics		
		Frequency	Cumulative	Prosecution Nature
21 Mar 2017 – 31 January 2023	2	0	0	NA
31 May 2018 – 31 January 2023	3	0	0	NA
27 Sep 2021 – 31 January 2023	4	0	0	NA
30 Mar 2021 – 31 January 2023	5	0	0	NA
1 – 28 February 2023	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	• Wastewater to be treated by filtration system; such as, silt curtain or sedimentation tank before discharge. • Replace silt curtain materials if necessary
Air Quality	• 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	• 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	• 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	• The site was generally kept tidy and clean.

9.2 Tentative Construction Activities in the Coming Month

Contract 1 (NE/2016/01)

Underpass Tunnel
- Construction of Berm at Slope A3

East Portal Area
- Rock filling works for slope feature
- Construction rigid barrier BBA1 Bay 7 to Bay 9
- Construction mass concrete wall

PC System A
- Concrete pavement laying work
- External and internal ABWF works
- Metal works
- Lift installation and installation of outdoor louvre

Site G2
- Formation and excavation works

Ventilation Building
- External and internal ABWF works

Water Pumping Station, Retaining Wall RWA13 and RWA14
- A13 Slope excavation and u-channel construction
- Excavation work and construction work of Boundary Fence Footing
- Drainage works and u-channel works inside boundary of Pumping Station

Water Reservoir
- Installation of extension key and steel staircase for WSD downpipe maintenance
- Reclaim water pipe laying at the back of Reservoir

Artificial Flood Attenuation Lake
- The floating bridge installation

Contract 2 (NE/2016/05)
- Temporary Traffic Arrangement (TTA)
- Mass Concrete Construction
- Formwork and Falsework installation and dismantling
- Lift Installation and lift Tower Construction
- Rebar fixing

Contract 3 (NE/2017/03)

Pedestrian Connectivity Facility E8 (PC-E8)
- Touch-up outstanding works and addition works are in progress.

Pedestrian Connectivity Facility E11 (PC-E11)
- The footbridge of PC-E11 was commenced to public on 31 December 2022. Touch-up to outstanding works/carry-out additional works is on-going.

Pedestrian Connectivity Facilities Systems A (PC-SYA)
- ABWF works and E&M works at LT1, LT2 & ST1 are in-progress.
- T&C to lifts at LT1 are in-progress.
- RC works at footbridge are in-progress.

Pedestrian Connectivity Facilities Systems B (PC-SYB)
- RC works at SyB-LT1 & ST1 is in-progress.
- Erect footbridge steel frame is in-progress.
- RC works at Pier 1 is in-progress.
- Preparation 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 Retaining Wall (Portion 6, 8, 12)
- Construction of Planter at Portion 8,12
- Slope works at Portion 10, Portion 17
- Preparation works for Construction of bridge at Portion 13b
- Modification works at REA10 at Portion 13b
- Modification works at RWA9 at Portion 13b
- Road works at G2-Site at Portion 13b

Contract 5 (ED/2019/02)

Portion 1
- Construction of Pier at E5-PC1 2nd pour

- Backfill of pile cap at E5-PC1
- Eroction scaffolding for Pier Head & Escalator Trough
- Construction of Pier Head at E5-PC1
- Excavation of Pile Cap E5-PC2
- Construction of Pile Cap E5-PC2
- Construction of Pier at E5-PC2 (1 pour)
- Backfill the pile cap E5-PC2
- Construction of Pile Cap at E5-PC3 & abutment
- Eroot scaffolding system from E5-PC3 to E5-PC2

Portion 2

- Construction of Pier at E6-PC1 2nd pour
- Backfill & croct falsework at E6-PC1
- Construction of Pier Head at E6-P1
- Installation of Bearing at E6-P1
- Backfill & croct falsework at E6-PC2
- Construction of Pier Head at E6-PC2
- Construction of abutment at E6-PC3
- Backfill at Abutment at R6-PC3
- Construction of Escalator Trough from E6-PC3 to PC1
- Construction of Escalator Trough from E6-PC3 to PC2

Portion 3

- Install mini-pile at +69mPD Platform
- Pile Loading Test
- Excavation of pile cap at E7-PC1
- Construction of Pile Cap E7-PC1
- Construction of footing at E7-F2
- Construction of Pier at E7-P1 (3 pours)

Portion 4

- Construction of 1st Pour of Lift Tower
- Backfill no-fine concrete and fill material up to ground level
- Construction of 2nd Pour of Lift Tower
- Construction of 3rd Pour of Lift Tower

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 During dry season, 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 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 **71st** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **28 February 2023**.

10.1.2 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.

10.1.3 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.

10.1.4 In the Reporting Period, no environmental complaint was received.

10.1.5 No notification of summons or successful prosecution was received under the Project.

10.1.6 During the Reporting Period, weekly joint site inspection by the RE, ET with the relevant Main-contractor was carried out for Contracts 1, 2, 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.

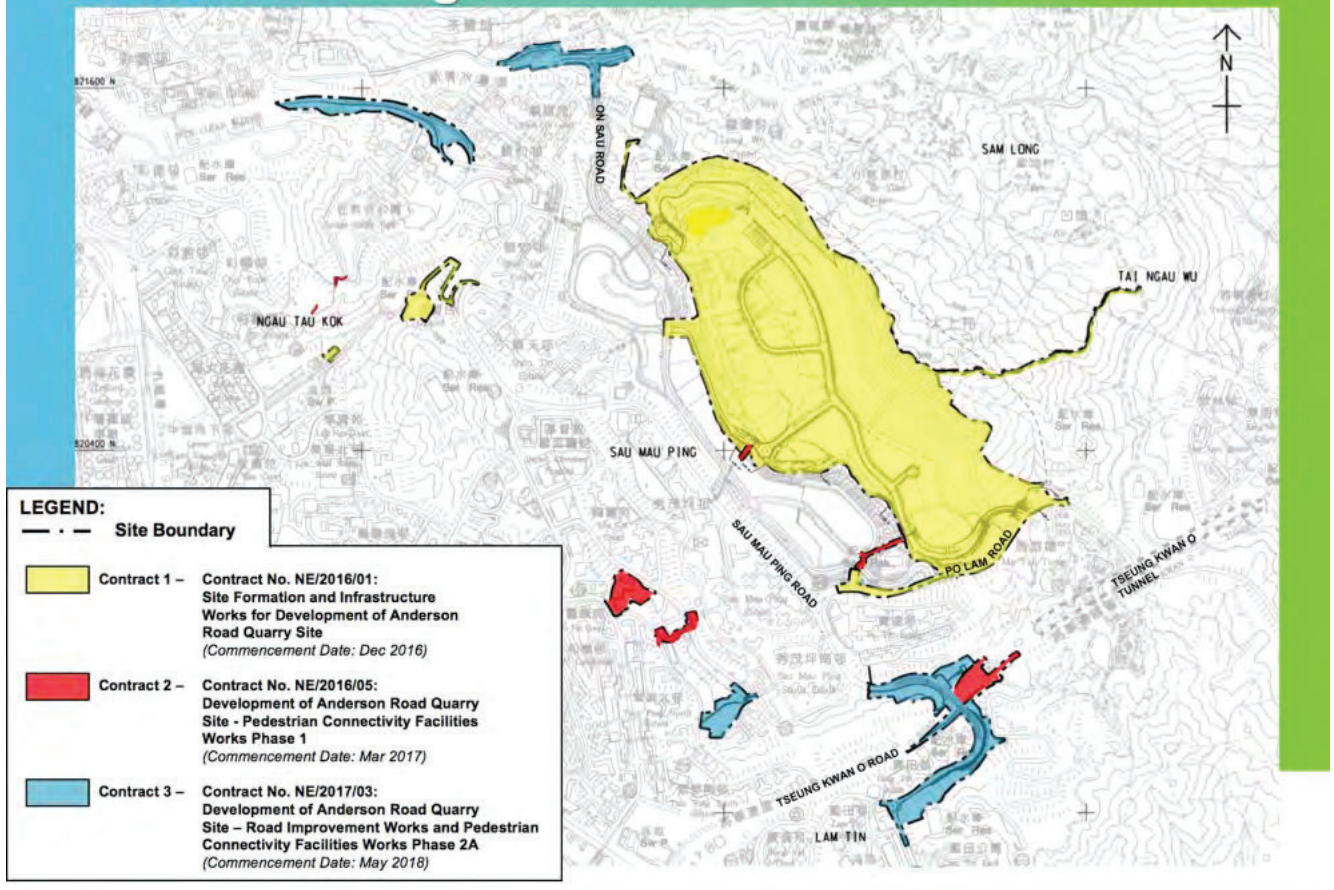
10.2.4 In addition, the Contractors should ensure all effluent discharge shall be fulfilled the Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or relevant discharge license requirement.

10.2.5 Mosquito control measures should be continued to prevent mosquito breeding on site.

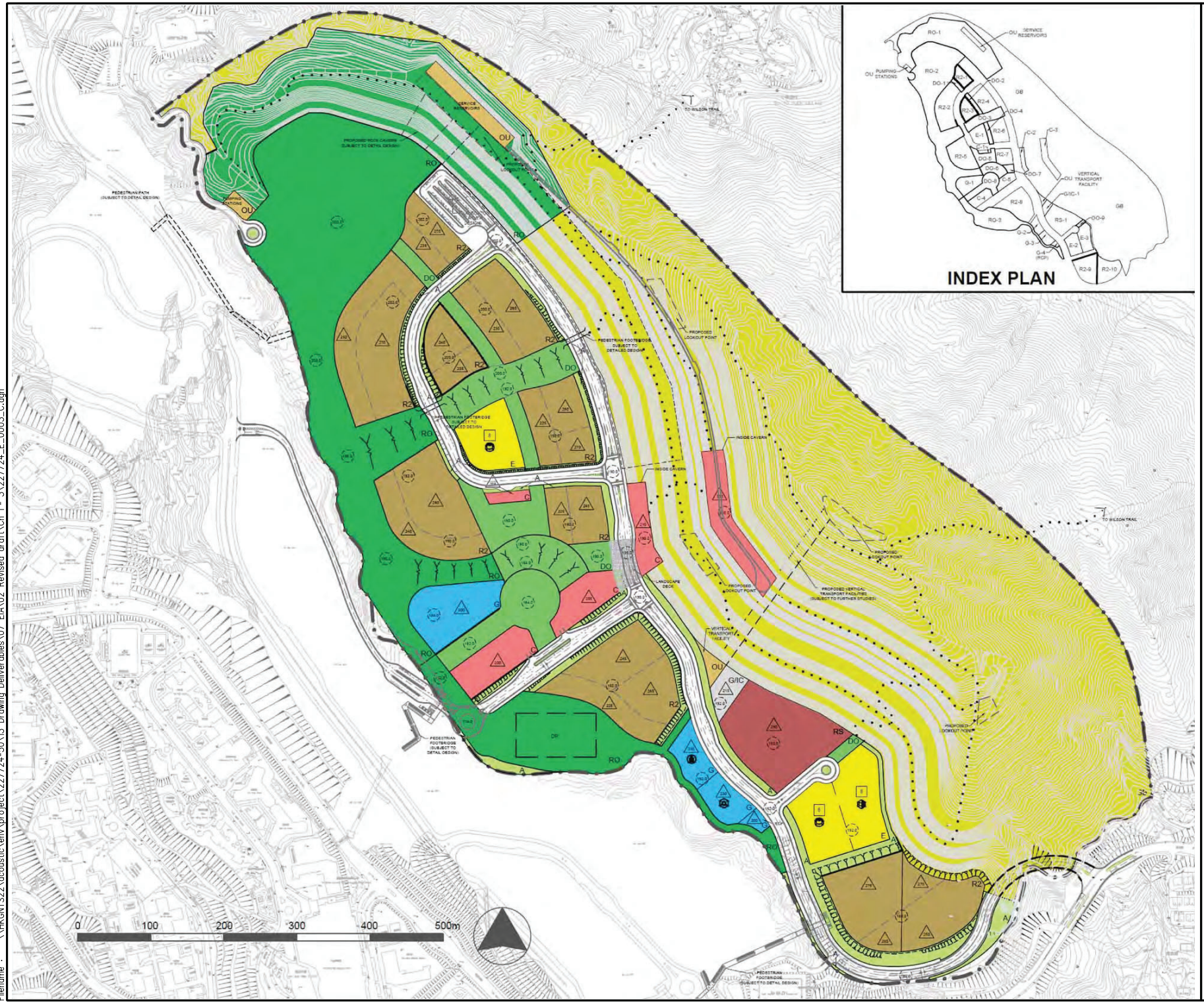
Appendix A

Layout plan of the Project

Contract Packages



Layout plan of Contract 1 (N/2016/01)



Rev	Description	By	Date
C	THIRD ISSUE	GL	03/14
B	SECOND ISSUE	GL	01/14
A	FIRST ISSUE	GL	10/13

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Recommended Outline Development Plan

Drawing no.	Rev.
227724/E/0003	C

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: AS SHOWN

Status: PRELIMINARY

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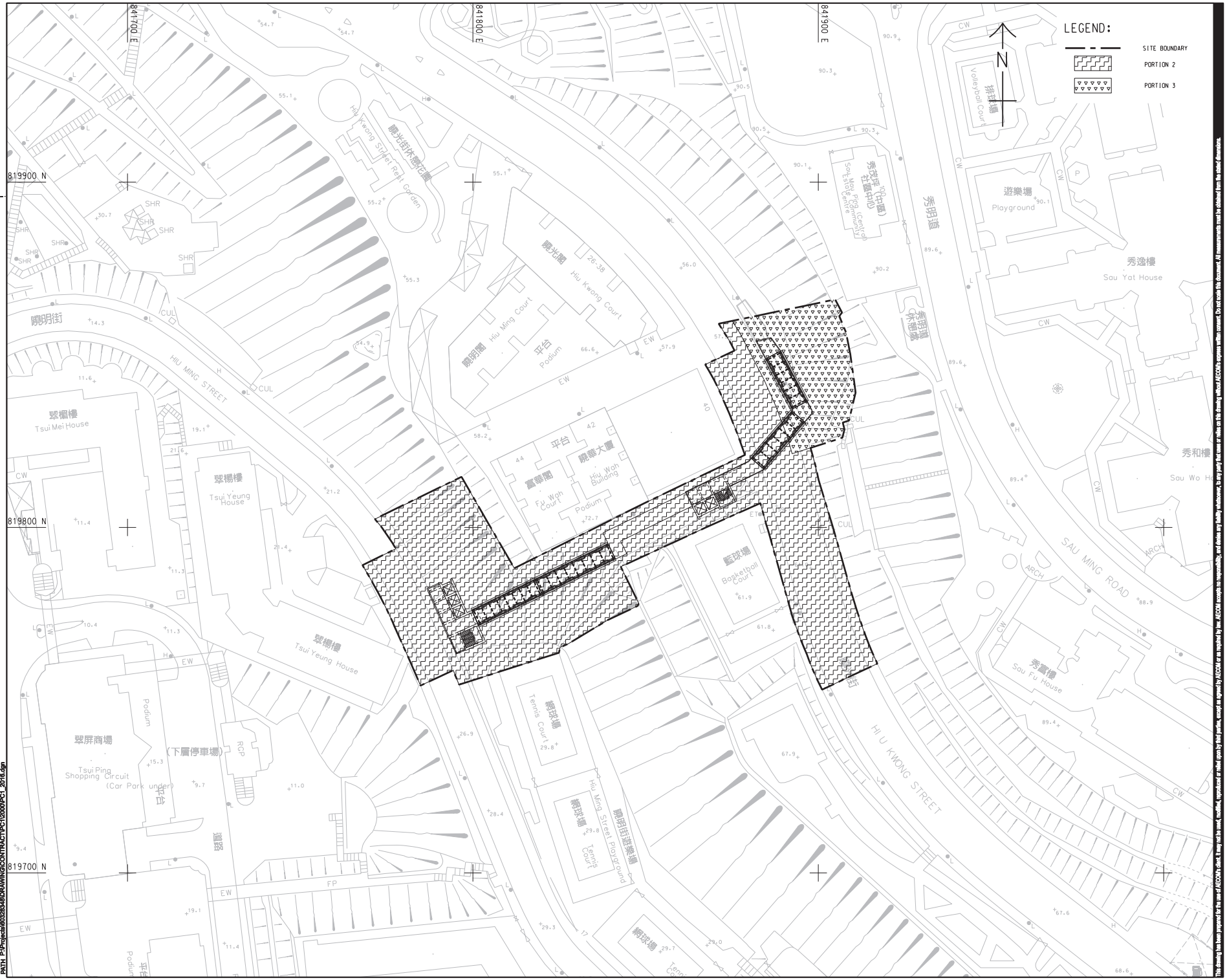
Filename : \\HKGNTS22\acoustic\env\project\227724-50\13 Drawing Deliverables\07 EIA\02 Revised draft\Ch 1 - 3\227724_E_0003_C.dgn

Layout plan of Contract 2 (NE/2016/05)



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AECOM

PROJECT
DEVELOPMENT OF ANDERSON ROAD QUARRY SITE - INVESTIGATION, DESIGN AND CONSTRUCTION
CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

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

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VR	DATE	DESCRIPTION	CHK
-	OCT. 16	TENDER DRAWING	AC

STATUS

SCALE A1 1 : 500
DIMENSION UNIT METRES

KEY PLAN A1 1 : 60000

PROJECT NO. 60328348
CONTRACT NO. NE/2016/05

SHEET TITLE
E2-C1-E3 - PORTION OF SITE

SHEET NUMBER
60328348/PC1/2016

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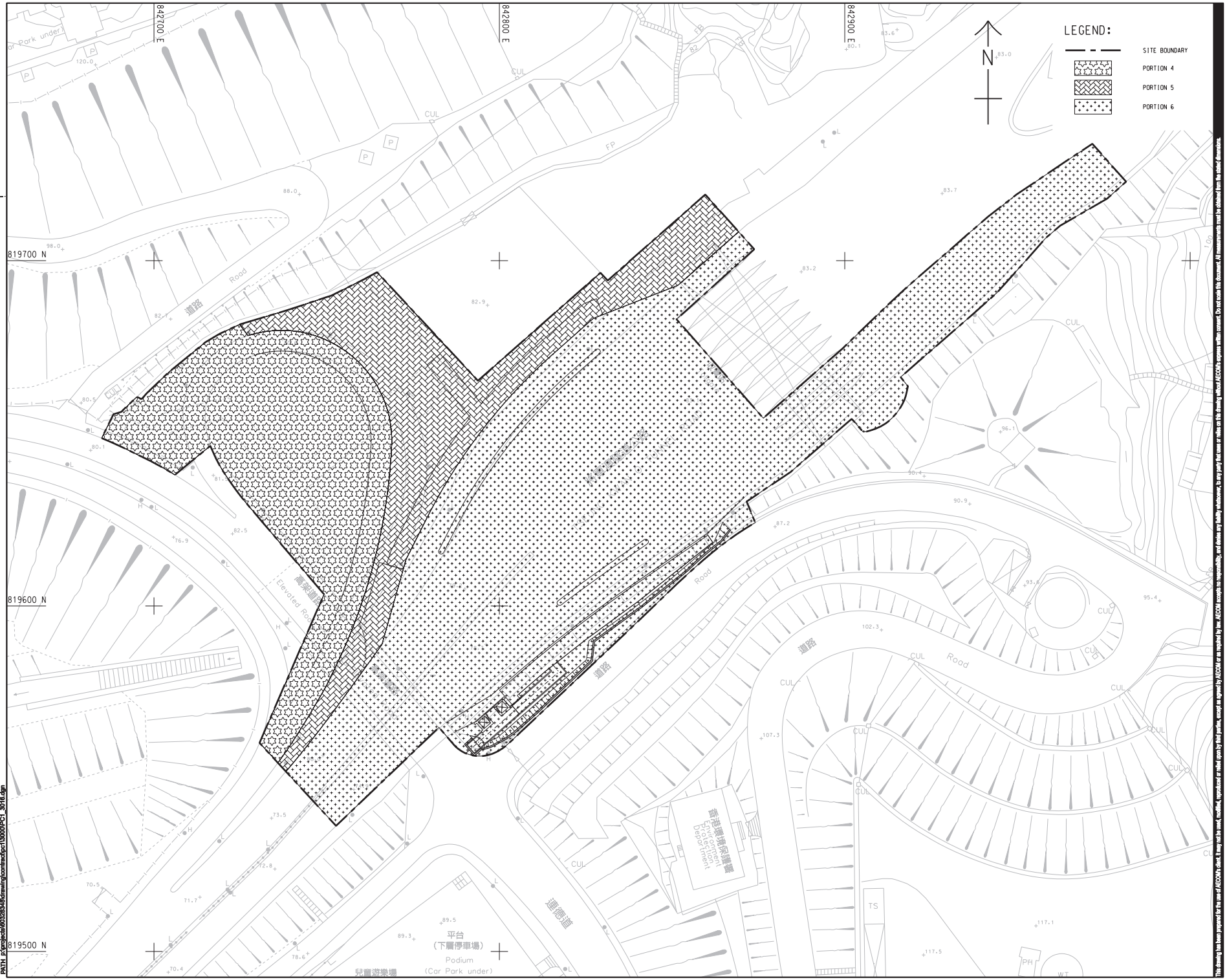

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PROJECT
項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY
FACILITIES WORKS PHASE 1

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-	OCT. 16	TENDER DRAWING	AC

STATUS
階段

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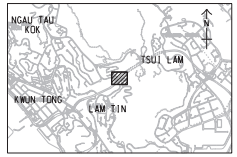
DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 A1 1 : 60000



PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

SHEET TITLE 圖紙名稱
E12 AND BBI - PORTION OF SITE

SHEET NUMBER 圖紙編號
60328348/PC1/3016

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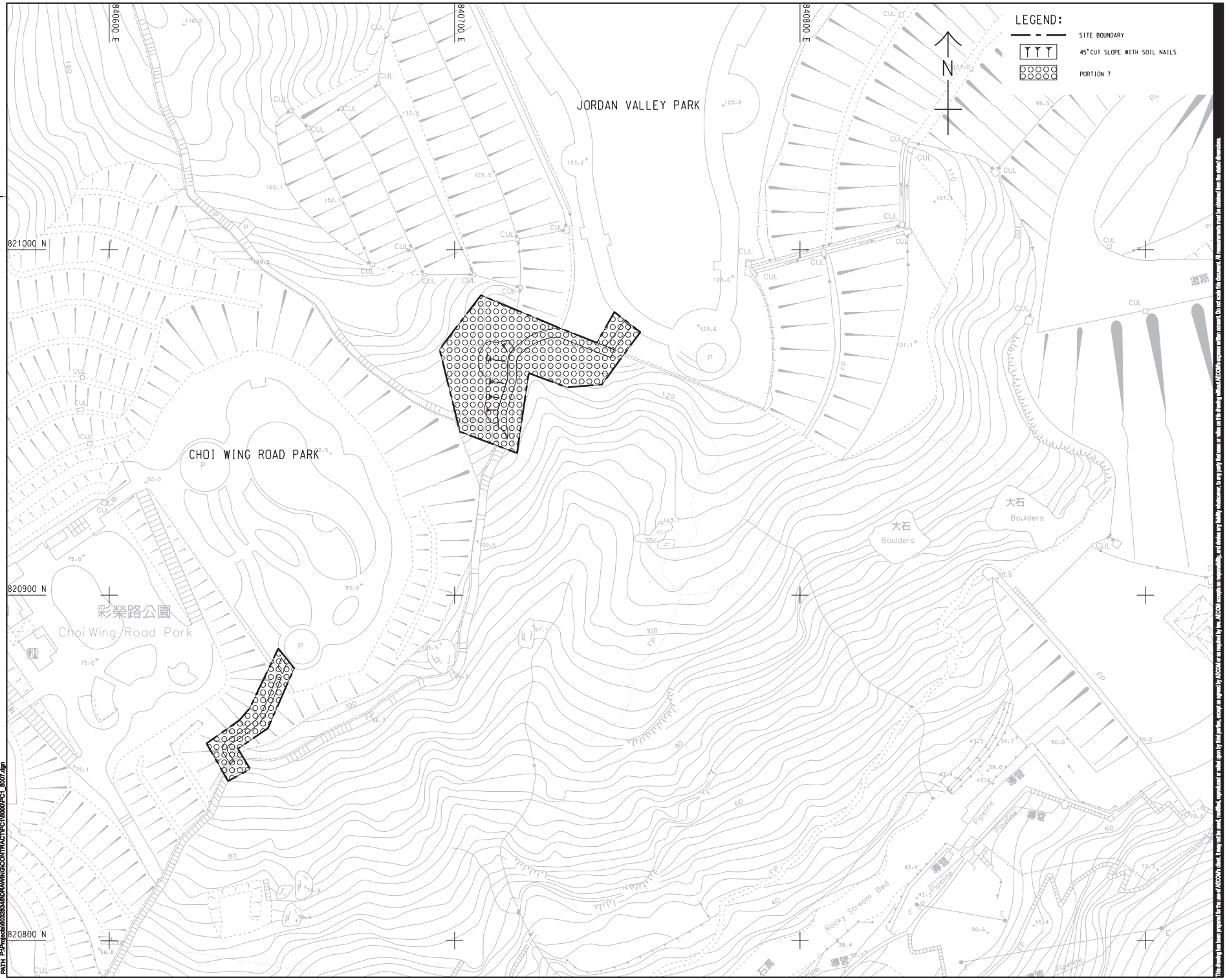

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Plot File by: WANGGLW 2016/10/26
PATH P:\Projects\60328348\DRAWING\CONTRACT\PC1\5000\PC1_5007.dgn

AECOM

PROJECT
項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

CLIENT
業主

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

CONSULTANT
工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS
分判工程顧問公司

ISSUE/REVISION
修訂

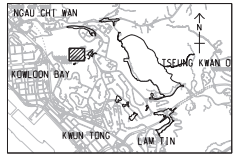
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 檢核
-	OCT. 16	TENDER DRAWING	AC

STATUS
階段

SCALE 比例: A1 1 : 500

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖 A1 1 : 60000



PROJECT NO. 項目編號: 60328348

CONTRACT NO. 合同編號: NE/2016/05

SHEET TITLE
圖紙名稱

GREEN ROUTE - PORTION OF SITE

SHEET NUMBER
圖紙編號

60328348/PC1/5007

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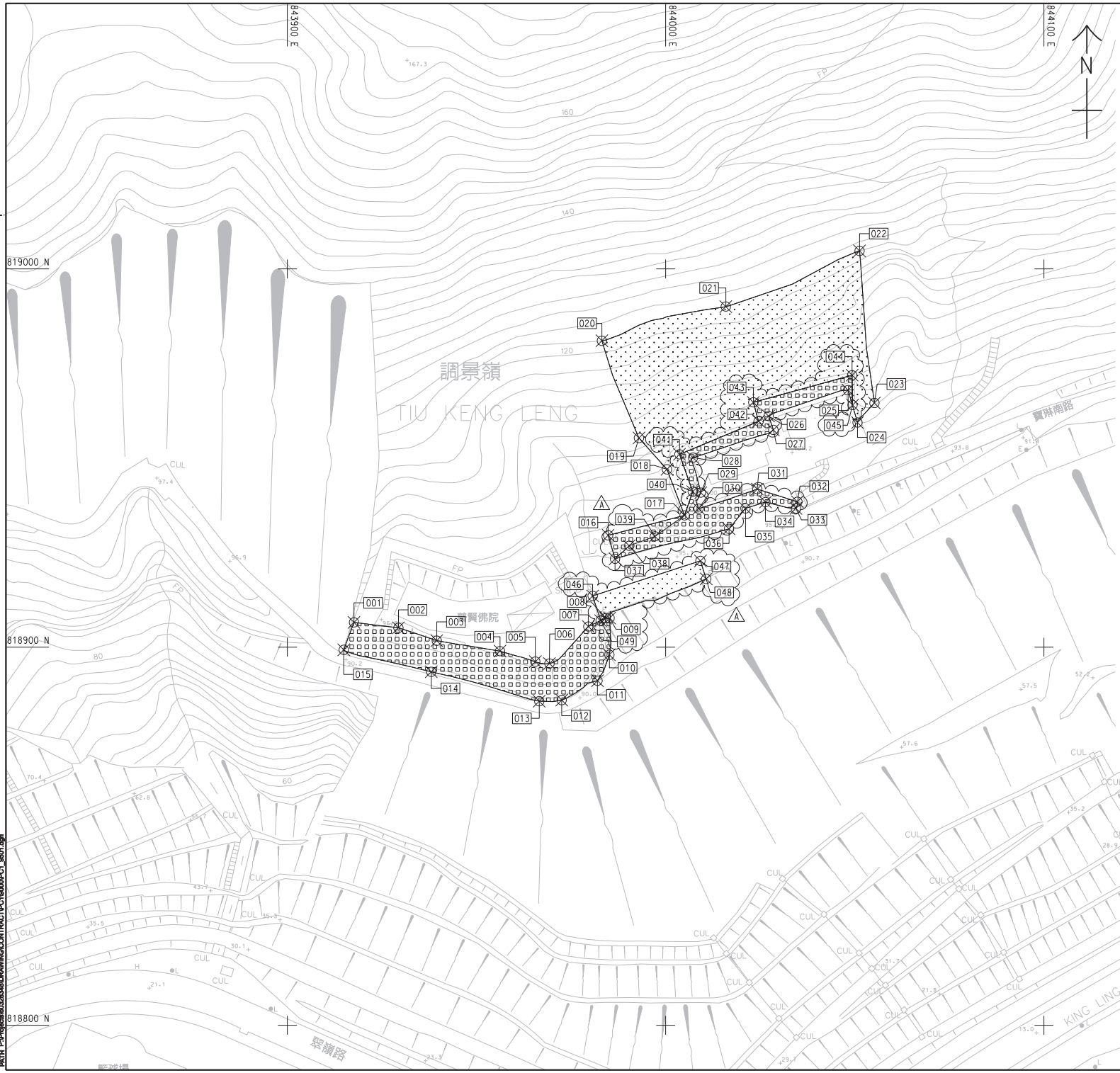

LEGEND:

PORTION 8

PORTION 9

SETTING OUT POINTS

POINTS	EASTING	NORTHING
001	843917.587	818906.541
002	843929.342	818905.094
003	843939.483	818901.709
004	843956.219	818898.942
005	843965.528	818896.168
006	843969.261	818895.667
007	843979.545	818905.452
008	843984.131	818907.650
009	843985.175	818907.685
010	843985.110	818897.974
011	843981.962	818891.121
012	843972.510	818885.990
013	843966.562	818885.703
014	843938.026	818893.479
015	843914.8936	818899.2916
016	843917.5873	818906.5418
017	844004.9983	818934.8475
018	844000.3294	818947.0185
019	843992.9288	818955.3047
020	843983.1315	818980.9995
021	844015.8829	818990.0481
022	844051.2430	819004.7564
023	844055.1790	818964.5518
024	844050.7010	818959.3870
025	844048.1970	818967.9590
026	844027.1930	818961.0890
027	844028.4560	818957.440
028	844007.2170	818950.1120
029	844009.2850	818940.8450
030	844008.6995	818936.6258
031	844024.2060	818941.7840
032	844034.8059	818938.4355
033	844034.4315	818936.6727
034	844026.3820	818938.3480
035	844021.0980	818936.6740
036	844016.7340	818931.2790
037	843986.6120	818923.3580
038	843990.360	818926.797
039	843997.172	818929.287
040	844007.154	818941.102
041	844003.647	818950.980
042	844024.555	818959.707
043	844023.162	818964.725
044	844049.278	818971.887
045	844049.396	818964.017
046	843980.693	818913.535
047	844009.179	818922.804
048	844010.709	818918.044
049	843982.791	818907.077

AECOM

PROJECT

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

CLIENT

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT

AECOM Asia Company Ltd.
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ISSUE/REVISION

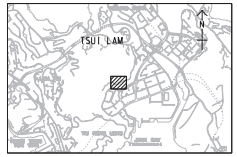
A	NOV. 16	TENDER ADDENDUM NO. 1	AC
-	OCT. 16	TENDER DRAWING	AC
VR	DATE	DESCRIPTION	CHK

STATUS

SCALE A1 1 : 500

DIMENSION UNIT METRES

KEY PLAN A1 1 : 60000



PROJECT NO. 60328348

CONTRACT NO. NE/2016/05

SHEET TITLE

INFRASTRUCTURAL WORKS AT PO LAM ROAD SOUTH TIU KENG LENG – PORTION OF SITE

SHEET NUMBER

60328348/PC1/9501A

Project Management Initials: Designer: PDTK Checked: AC Approved: BWOW ISO A1 594mm x 841mm

Plot File by: WANGGLW 2016/11/16
PATH: P:\Projects\60328348\DRAWING\CONTRACT\PC1\60000\PC1_9501.dgn

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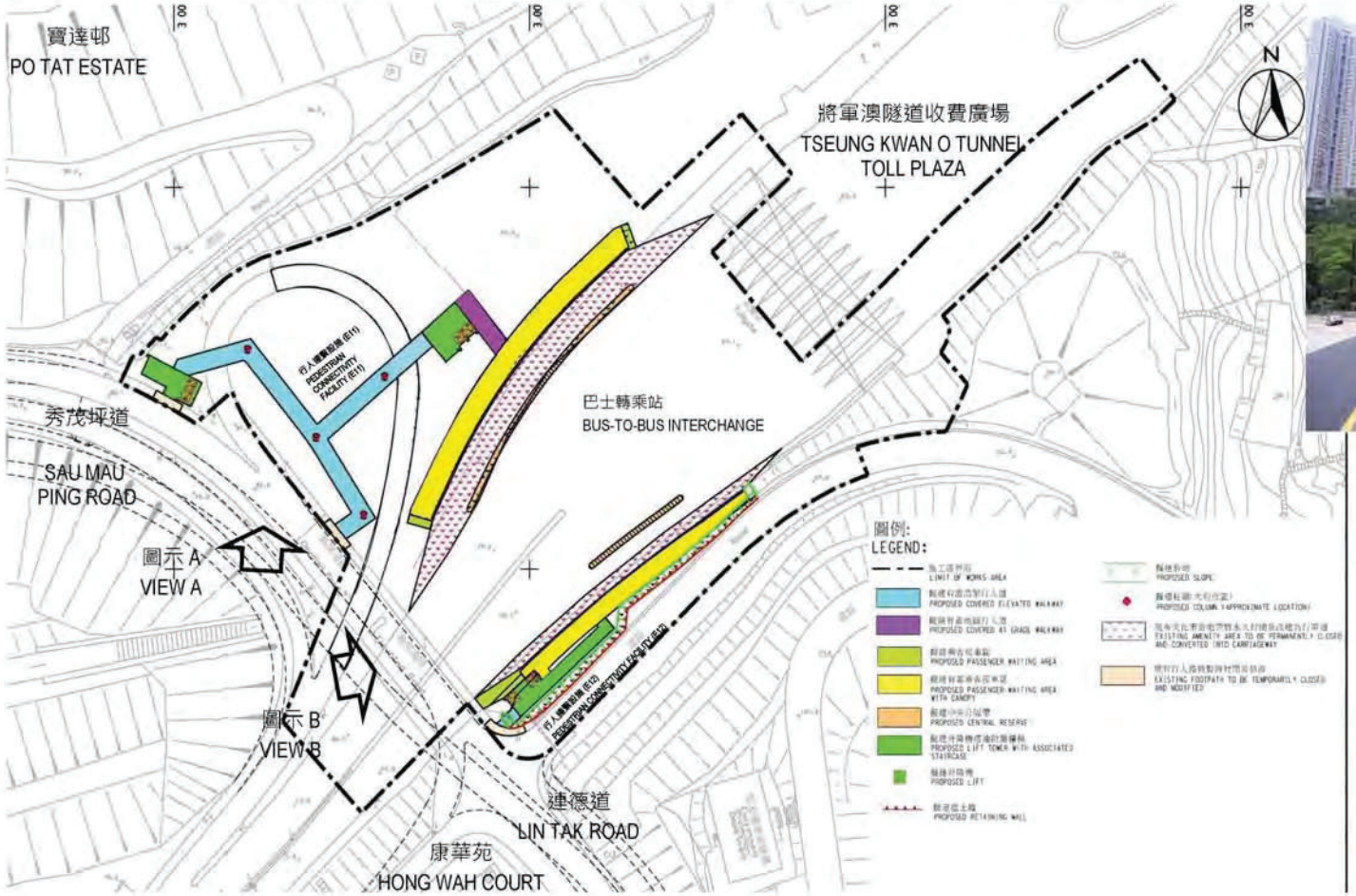
Layout plan of Contract 3 (NE/2017/03) (Non-Designated Area)





圖示 A VIEW A



圖示 B VIEW B

圖則名稱 Drawing Title

行人連繫設施(巴士轉乘站、E11及E12) - 平面圖及構思圖

Pedestrian Connectivity Facilities (Bus-to-Bus Interchange, E11 and E12) - Layout Plan and Artist's Impression

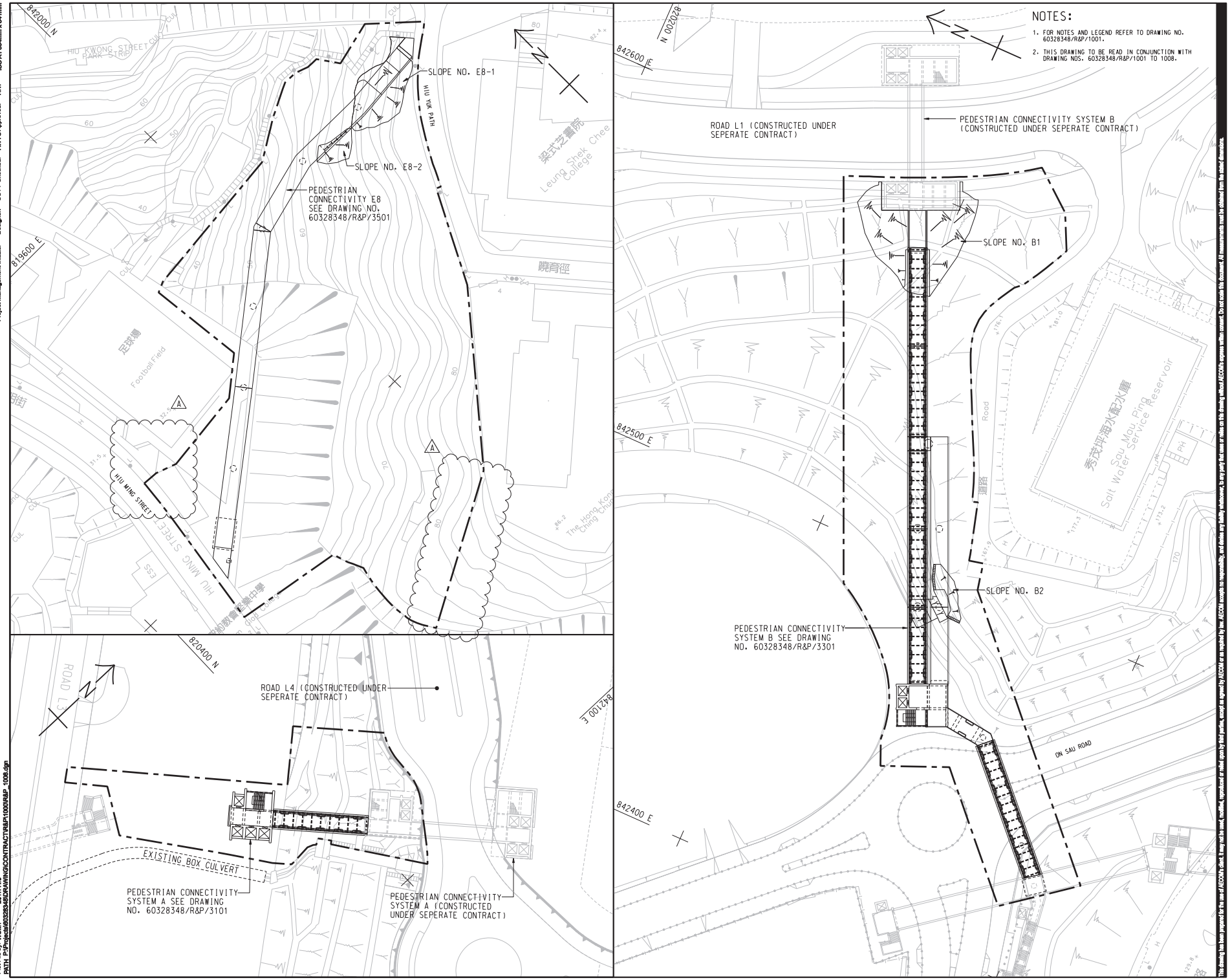
項目編號 Item No.
765CL

比例 Scale

圖則編號 Drawing No.
附件五 Appendix 5

辦事處 Office
新界東拓展處
NEW TERRITORIES EAST DEVELOPMENT OFFICE

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT



Project Management Initials: Designer: CCYT Checked: AWYC Approved: HKT ISO A1 594mm x 841mm

Plot File by: WUMT 2017/11/9
PATH: P:\Projects\60328348\DRAWING\CONTRACT\R&P\1000\R&P_1008.dgn

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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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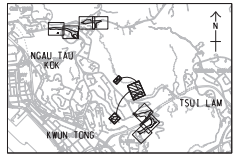
-	OCT. 17	TENDER DRAWING	AWYC

STATUS

SCALE A1 1 : 500

DIMENSION UNIT METRES

KEY PLAN A1 1 : 60000



PROJECT NO. 60328348

CONTRACT NO. NE/2017/03

SHEET TITLE

GENERAL LAYOUT

SHEET 8 OF 8

SHEET NUMBER

60328348/R&P/1008A

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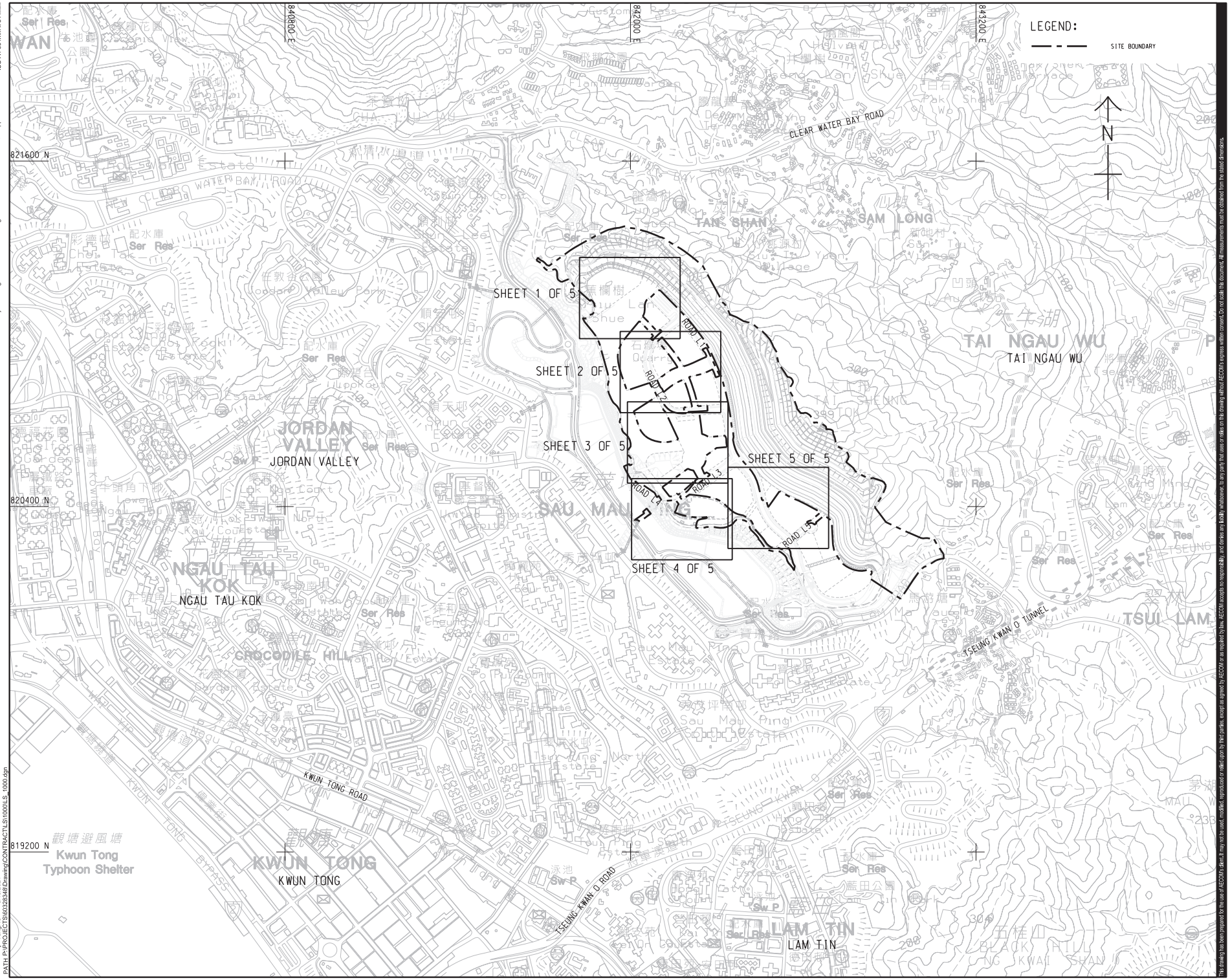
Layout plan of Contract 4 (ED/2020/02)



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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Civil Engineering and Development Department

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I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核對
			YC
-	MAR. 21	TENDER DRAWING	AWYC

STATUS
階段

SCALE 比例
A1 1 : 8000

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

SHEET TITLE
圖紙名稱
KEY PLAN

SHEET NUMBER
圖紙編號
60328348/LS/1000

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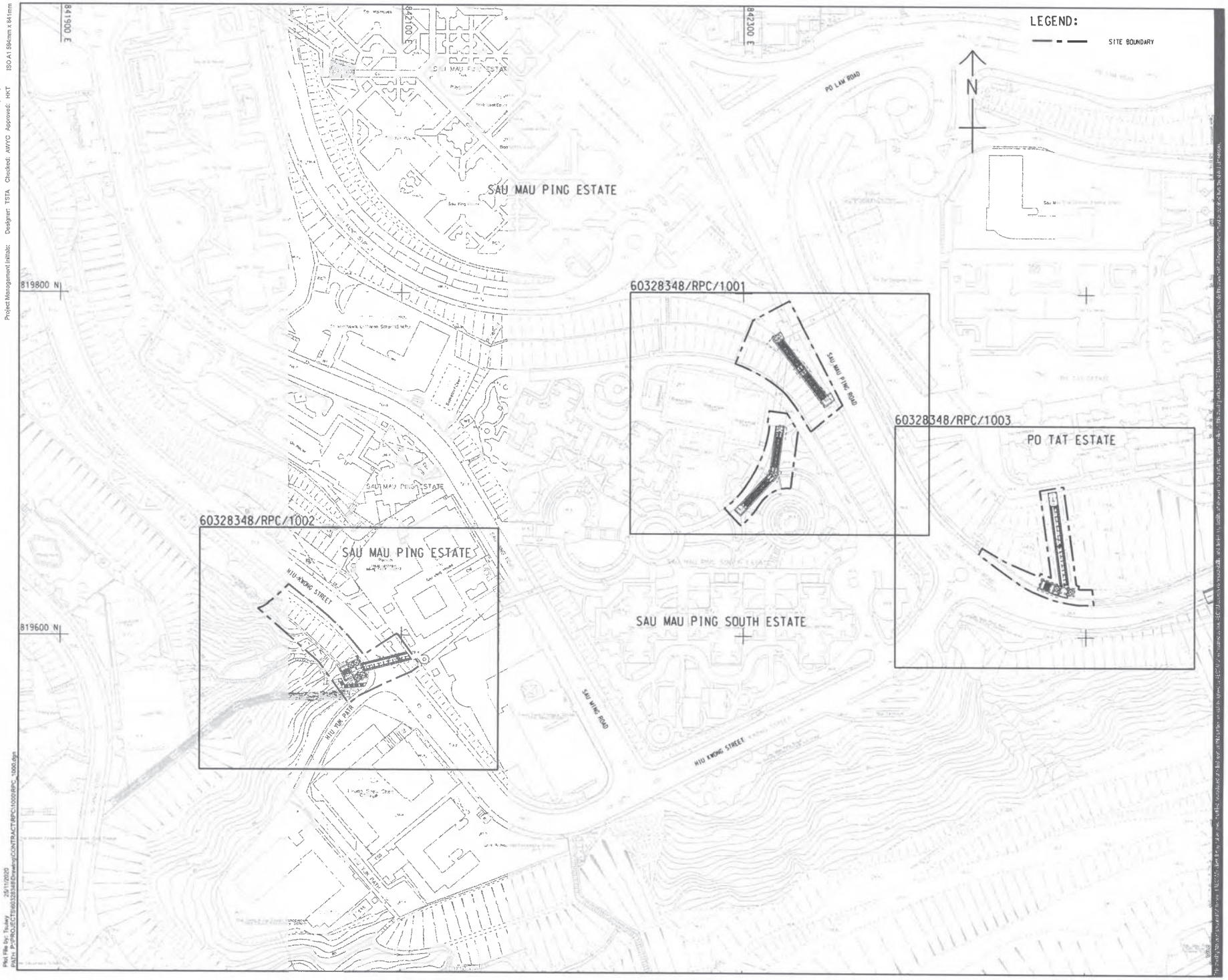
Project Management Initials: YC
Designers: DKMW Checked: AWYC Approved: HKT
ISO A1 594mm x 841mm
Plot File by: YangRO 3/19/2021
PATH: P:\PROJECTS\60323348\Drawing\CONTRACT\LS\1000\LS_1000.dgn

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



Project Management Initials: Designer: TSTA Checked: AWYC Approved: HKT ISO A1 594mm x 841mm

Plot File by: Tsuiwy 25/11/2020
Path: P:\PROJECTS\60328348\Drawing\CONTRACT\RPC\1000\RPC_1000.dgn

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

CONSULTANT
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I/R	DATE	DESCRIPTION	CHK.
-	NOV. 20	TENDER DRAWING	AWYC

STATUS

SCALE
A1 1 : 1000

DIMENSION UNIT
METRES

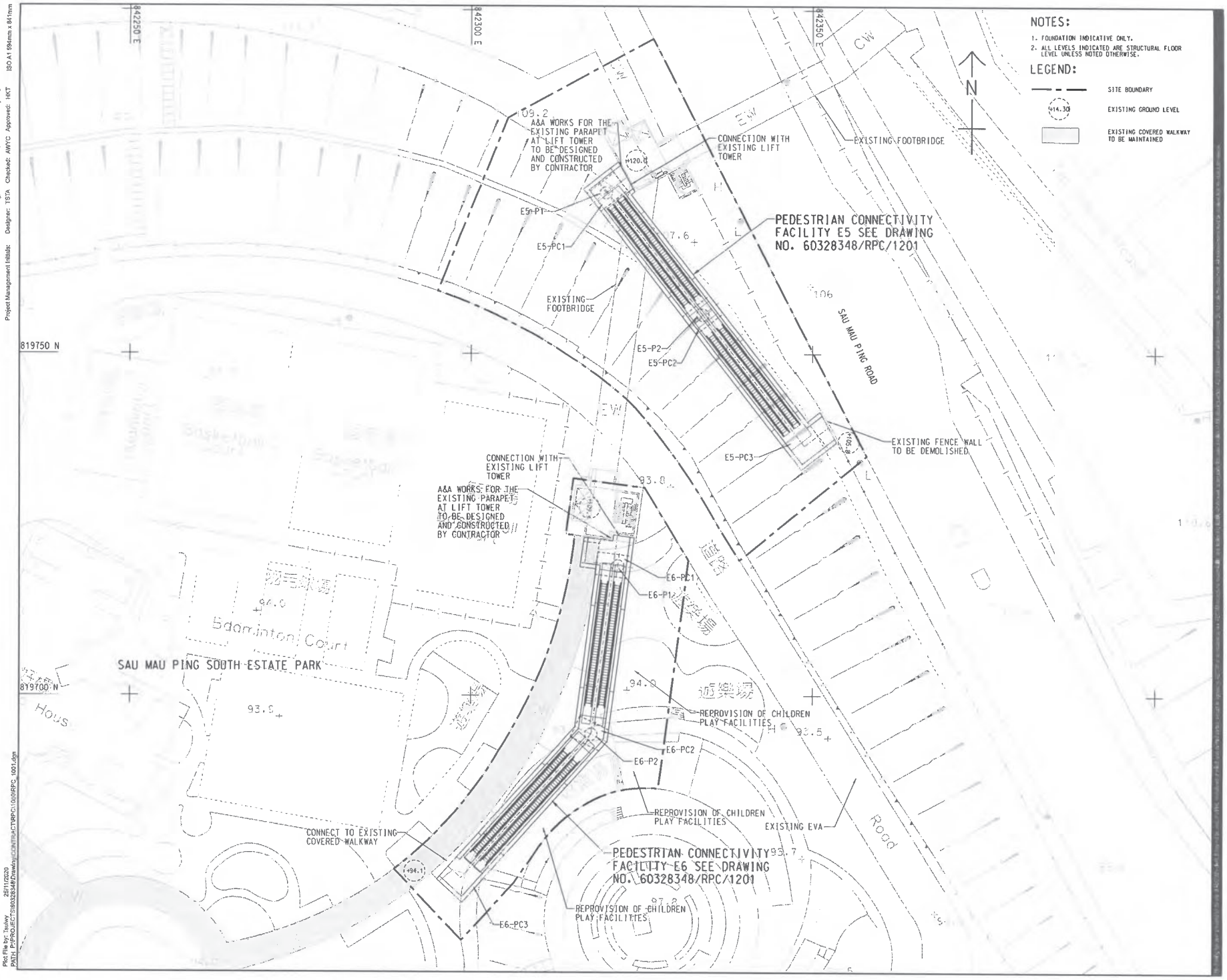
KEY PLAN

PROJECT NO.
60328348

CONTRACT NO.
ED/2019/02

SHEET TITLE
KEY PLAN

SHEET NUMBER
60328348/RPC/1000



Project Management Initials: Designed: TSTA Checked: AWYC Approved: HKT ISO A1 594mm x 841mm

Plot File by: tsuiwy 25/11/2020
PATH P:\PROJECT\60328348\Drawing\CONTRACT\RPC\1001\RPC_1001.dgn

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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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CEDD Civil Engineering and Development Department

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STATUS

SCALE A1 1 : 250

DIMENSION UNIT METRES

KEY PLAN A1 1 : 5000



PROJECT NO. 60328348

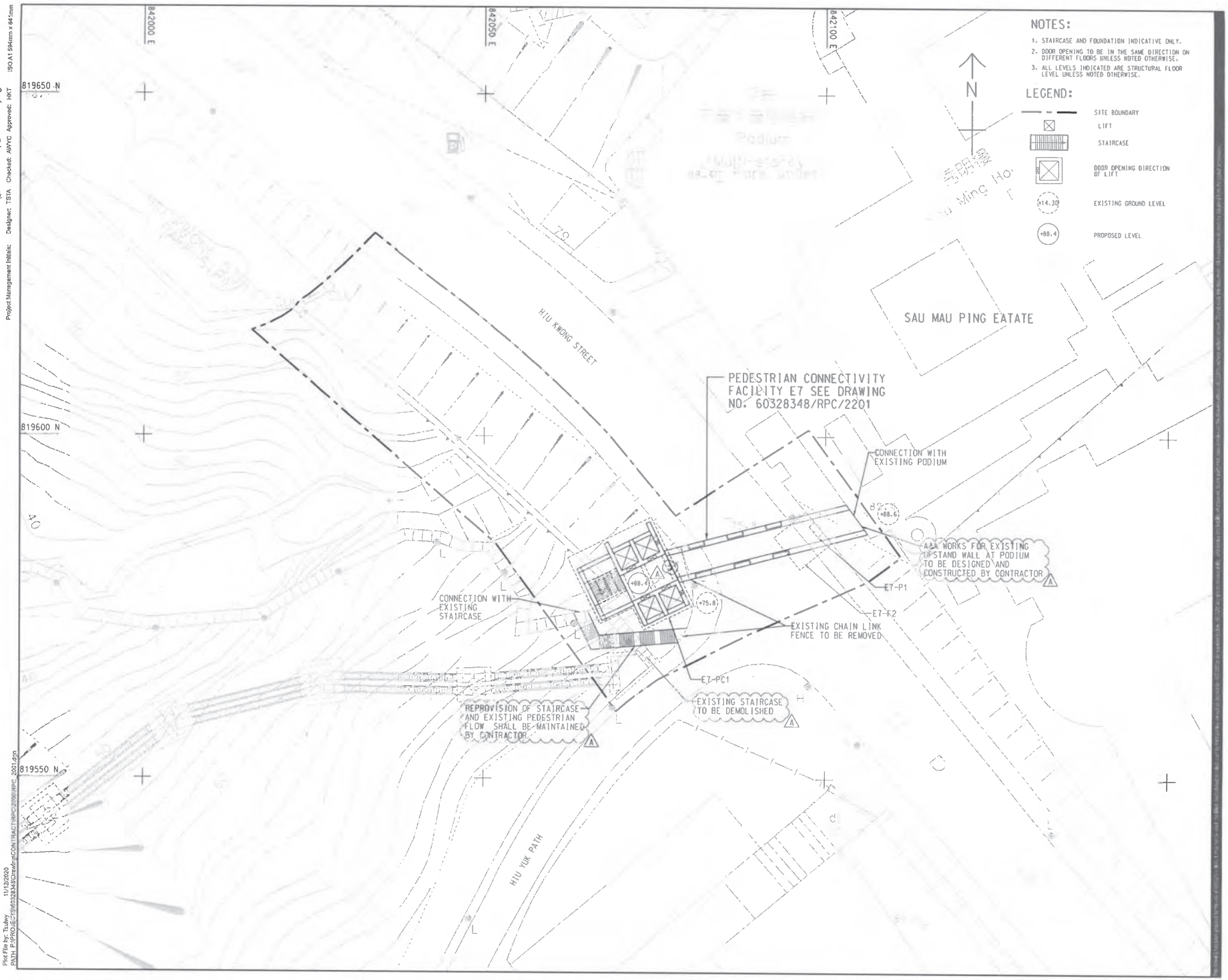
CONTRACT NO. ED/2019/02

SHEET TITLE

GENERAL LAYOUT - E5 & E6

SHEET NUMBER

60328348/RPC/1001



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Plot File by: Tuiwy 11/12/2020
PATH: P:\PROJECTS\60328348\Drawing\CONTRACT\RPC\2000\RPC_2001.dgn

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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

CLIENT
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CONSULTANT
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-	NOV. 20	TENDER DRAWING	AWYC
R	DATE	DESCRIPTION	CHK.

STATUS

SCALE
A1 1 : 250

DIMENSION UNIT
METRES

KEY PLAN A1 1 : 5000

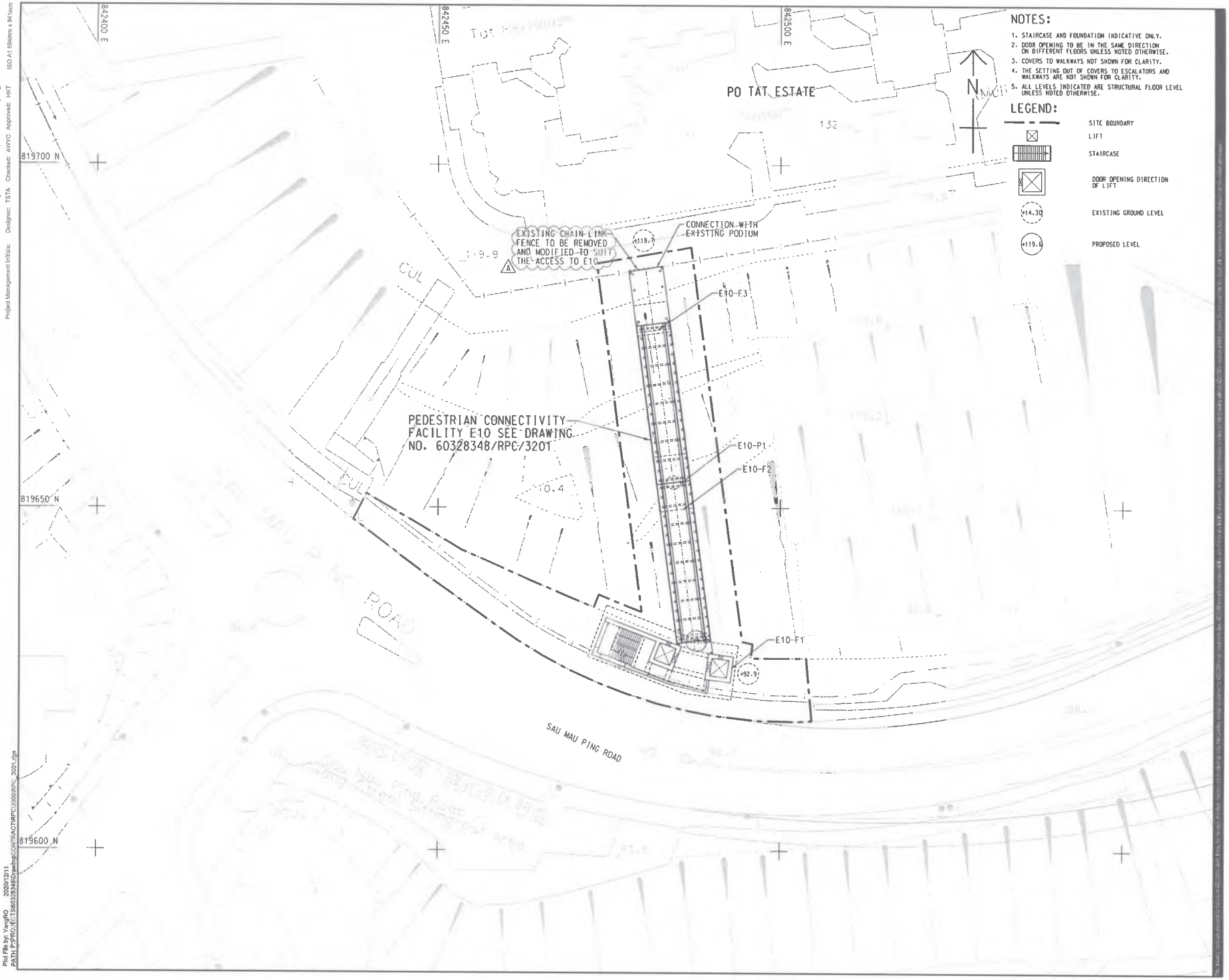


PROJECT NO.
60328348

CONTRACT NO.
ED/2019/02

SHEET TITLE
GENERAL LAYOUT - E7

SHEET NUMBER
60328348/RPC/2001A



Project Management Initials: Designed: TSTA Checked: AWYC Approved: HKT ISO A1 594mm x 841mm

Plot File by: YangRO 2020/12/11
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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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CONSULTANT
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ISSUE/REVISION

BR	DATE	DESCRIPTION	CHK.
A	DEC. 20	TENDER ADDENDUM NO.1	AWYC
-	NOV. 20	TENDER DRAWING	AWYC

STATUS

SCALE: A1 1 : 250
DIMENSION UNIT: METRES

KEY PLAN A1 1 : 5000



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

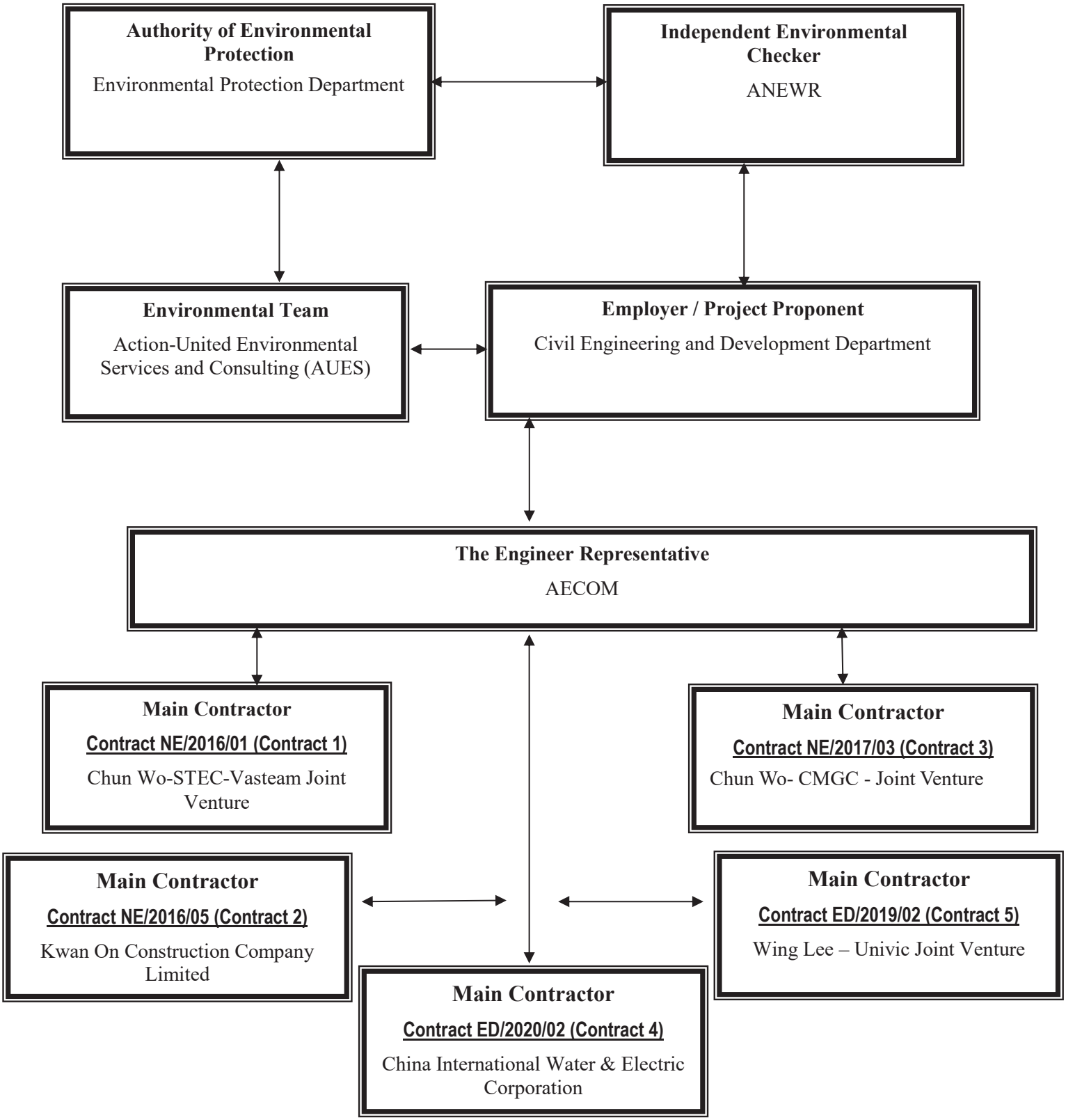
SHEET TITLE
GENERAL LAYOUT - E10

SHEET NUMBER
60328348/RPC/3001A

Appendix B

Project Organization Structure

Project Organization Structure



Contact Details of Key Personnel for Contract 1 – NE/2016/01

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
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CSVJV	Project Manager	William Leung	2638 7181	2744 6937
CSVJV	Site Agent	TY Leung	2638 7181	2744 6937
CSVJV	Project Environmental Manager	Jimmy Cheng	2638 7181	2744 6937
CSVJV	Environmental Officer	Ken Chu	2638 7181	2744 6937
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.

CSVJV (Main Contractor) – Chun Wo-STEC-Vasteam Joint Venture

ANEWR (IEC) –ANewR Consulting Limited

AUES (ET) – Action-United Environmental Services & Consulting

Contact Details of Key Personnel for Contract 2 – NE/2016/05

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	Bill Hon	5599 1466	2473 3221
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
KOCCL	Project Director	Micheal Chung	9109 9510	2558 6900
KOCCL	Site Agent	Mr. Albert PK Ng	9150 1523	2558 6900
KOCCL	Safety and Environmental Manager	Joly C K Kwong	6111 5711	2558 6900
KOCCL	Environmental Officer	Ken Tam	9555 9958	2558 6900
KOCCL	Environmental Supervisor	Kenny Chan	5542 4335	2558 6900
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.

KOCCL (Main Contractor) –Kwan On Construction Company Limited

ANEWR (IEC) –ANewR Consulting Limited

AUES (ET) – Action-United Environmental Services & Consulting

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
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CW – CMGC - JV	Construction Manager	Ko, Wing Nin Ken	9845 4251	3965 9900
CW – CMGC - JV	Site Agent	Tung Kar Ming, David	9680 4586	3965 9900
CW – CMGC - JV	Environmental Officer	King Lam	9570 6187	3965 9900
CW – CMGC - JV	Environmental Supervisor	Anna Tsang	9333 8499	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

ANEWR (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
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CIWEC	Project Director	Kevin, Chan Ka Shing	6159 9750	2508 0987
CIWEC	Site Agent	Raymond Leung	9778 1007	2508 0987
CIWEC	Environmental Officer	Leung King On	9034 2130	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

ANEWR (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
ANEWR	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 – Univic Joint Venture

ANEWR (IEC) –ANewR Consulting Limited

AUES (ET) – Action-United Environmental Services & Consulting

Appendix C

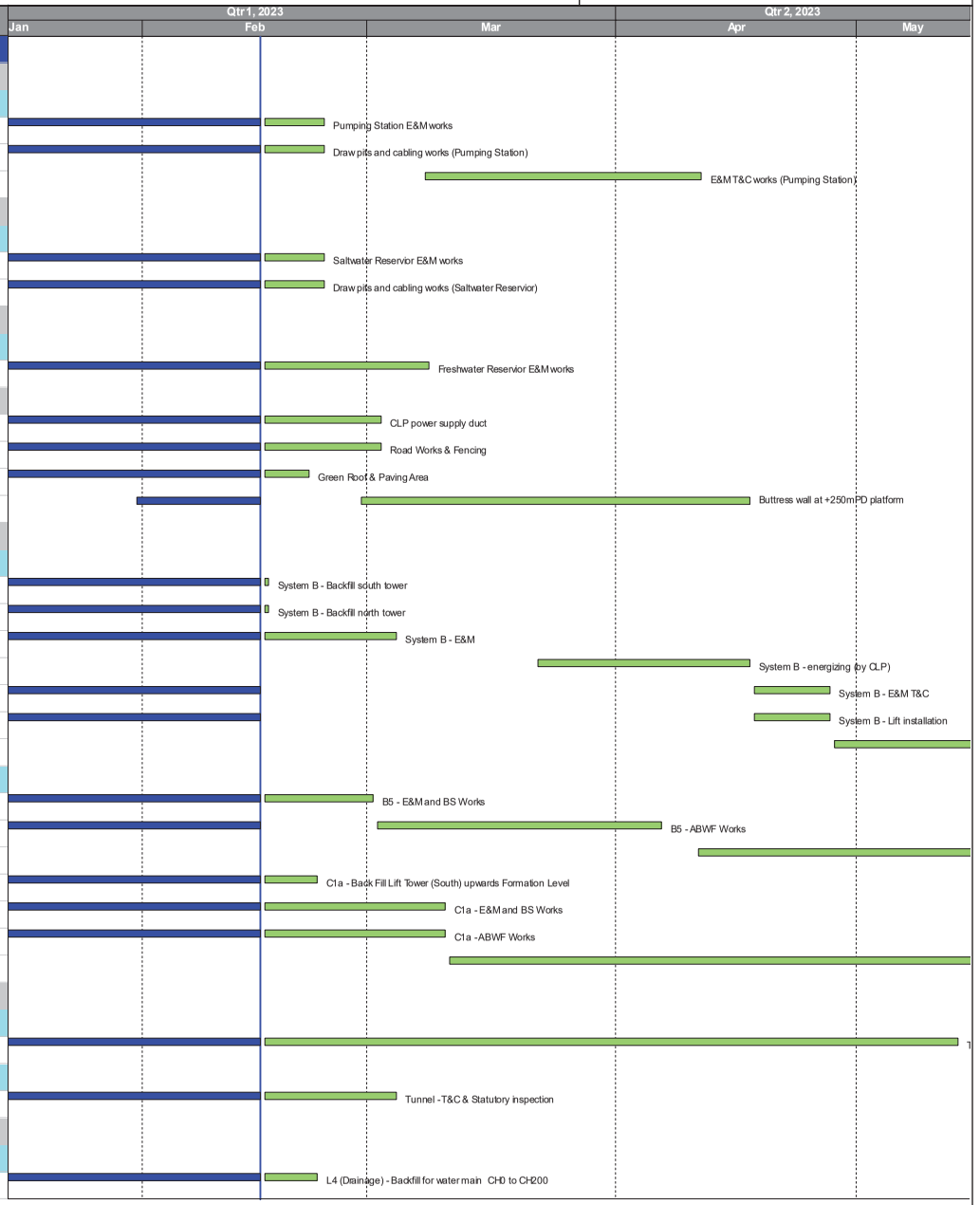
Construction Programme

(a) Contract 1 (NE/2016/01)
(b) Contract 2 (NE/2016/05)
(c) Contract 3 (NE/2017/03)
(d) Contract 4 (ED/2020/02)
(e) Contract 5 (ED/2019/02)

Contract 1 (NE/2016/01)

CONTRACT NO.NE/2016/01 SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT OF ANDERSON ROAD QUARRY SITE
3-MONTH ROLLING PROGRAMME

Activity ID	Activity Name	BL Project Duration	BL Project Start	BL Project Finish	At Completion Duration	Start	Finish
Anderson Rd Sub-programme (January 2023 _0) _ccn _230209							
Fresh Water Pumping Station							
Stage 5 - ABWF, Finishing & E&M							
FWP-1320	Pumping Station E&M works	590	29-Jun-20	23-Jun-22	791	29-Jun-20 A	23-Feb-23
FWP-1322	Draw pits and cabling works (Pumping Station)	523	16-Sep-20	23-Jun-22	724	16-Sep-20 A	23-Feb-23
FWP-1330	E&M T&C works (Pumping Station)	26	07-Jul-22	05-Aug-22	26	08-Mar-23	11-Apr-23
Salt Water Reservoir							
ABWF, Finishing & E&M							
SWR-1420	Saltwater Reservior E&M works	615	29-May-20	23-Jun-22	816	29-May-20 A	23-Feb-23
SWR-1422	Draw pits and cabling works (Saltwater Reservior)	523	16-Sep-20	23-Jun-22	724	16-Sep-20 A	23-Feb-23
Fresh Water Reservoir							
ABWF, Finishing & E&M							
FWR-2000	Freshwater Reservior E&M works	514	12-Oct-20	07-Jul-22	715	12-Oct-20 A	08-Mar-23
RWS Access Road & External Works							
FWP-1430	CLP power supply duct	524	16-Sep-20	24-Jun-22	730	16-Sep-20 A	02-Mar-23
FWP-1440	Road Works & Fencing	103	25-Jun-22	27-Oct-22	176	01-Aug-22 A	02-Mar-23
FWP-1450	Green Roof & Paving Area	88	20-Jul-22	02-Nov-22	127	19-Sep-22 A	21-Feb-23
FWP-1460	Buttress wall at +250mPD platform	0			62	31-Jan-23 A	17-Apr-23
Pedestrian Connection System A & B							
PC system B							
PCB-1090	System B - Backfill south tower	691	16-Feb-20	16-Jun-22	892	16-Feb-20 A	16-Feb-23
PCB-1100	System B - Backfill north tower	691	16-Feb-20	16-Jun-22	892	16-Feb-20 A	16-Feb-23
PCB-1120	System B - E&M	617	05-Jun-20	04-Jul-22	818	05-Jun-20 A	04-Mar-23
PCB-1122	System B - energizing (by CLP)	19	21-Jul-22	11-Aug-22	19	22-Mar-23	17-Apr-23
PCB-1130	System B - E&M T&C	436	02-Mar-21	18-Aug-22	640	02-Mar-21 A	27-Apr-23
PCB-1140	System B - Lift installation	436	02-Mar-21	18-Aug-22	640	02-Mar-21 A	27-Apr-23
PCB-1150	System B - Lift T&C	27	19-Aug-22	20-Sep-22	27	28-Apr-23	31-May-23
PC system A							
PCA-1060	B5 - E&M and BS Works	296	02-Jul-21	29-Jun-22	497	02-Jul-21 A	01-Mar-23
PCA-1070	B5 - ABWF Works	183	20-Dec-21	04-Aug-22	384	20-Dec-21 A	06-Apr-23
PCA-1080	B5 - Testing & Commissioning	90	05-Aug-22	21-Nov-22	90	11-Apr-23	28-Jul-23
PCA-1160	C1a - Back Fill Lift Tower (South) upwards Formation Level	201	18-Oct-21	22-Jun-22	402	18-Oct-21 A	22-Feb-23
PCA-1170	C1a - E&M and BS Works	185	22-Nov-21	09-Jul-22	386	22-Nov-21 A	10-Mar-23
PCA-1180	C1a - ABWF Works	152	03-Jan-22	09-Jul-22	353	03-Jan-22 A	10-Mar-23
PCA-1190	C1a - Testing & Commissioning	90	11-Jul-22	26-Oct-22	90	11-Mar-23	03-Jul-23
Underpass Tunnel							
East Portal							
TUN-3620	Tunnel - backfill to east portal	114	01-Apr-22	19-Aug-22	330	01-Apr-22 A	13-May-23
VE Panels, Road Works, E&M							
TUN-3590	Tunnel - T&C & Statutory inspection	24	16-Jul-22	12-Aug-22	98	05-Nov-22 A	04-Mar-23
Road L4 (RWA18, Noise Barrier, RWA12, Utilities & Road Works)							
Road Works - Drainage							
L4-4260	L4 (Drainage) - Backfill for water main CH0 to CH200	388	02-Mar-21	22-Jun-22	589	02-Mar-21 A	22-Feb-23



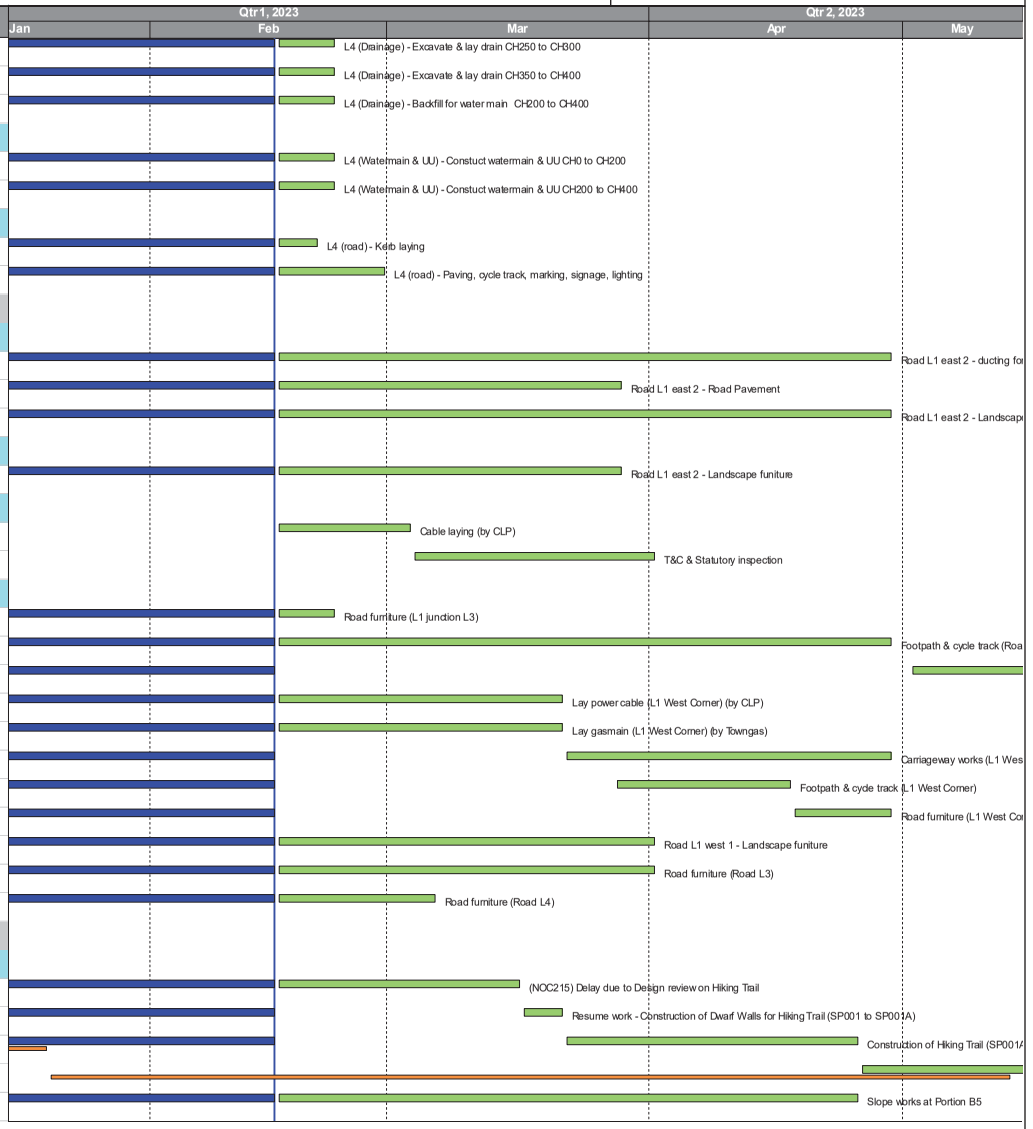
Planned Bar (WP) ◇ Planned Milestone (WP)
Actual Bar ◆ Milestone
Forecast Bar

3-month Rolling Programme
Anderson Rd Sub-programme
15-Feb-23

Date	Revision	Checked	Approved
15-Feb-23	C1-MPU202302		

CONTRACT NO.NE/2016/01 SITE FORMATION AND INFRASTRUCTURE WORKS FOR DEVELOPMENT OF ANDERSON ROAD QUARRY SITE
3-MONTH ROLLING PROGRAMME

Activity ID	Activity Name	BL Project Duration	BL Project Start	BL Project Finish	At Completion Duration	Start	Finish
L4-4280	L4 (Drainage) - Excavate & lay drain CH250 to CH300	388	02-Mar-21	22-Jun-22	589	02-Mar-21 A	22-Feb-23
L4-4300	L4 (Drainage) - Excavate & lay drain CH350 to CH400	388	02-Mar-21	22-Jun-22	589	02-Mar-21 A	22-Feb-23
L4-4310	L4 (Drainage) - Backfill for water main CH200 to CH400	165	29-Nov-21	22-Jun-22	366	29-Nov-21 A	22-Feb-23
Watermain & Utilities							
L4-4320	L4 (Watermain & UU) - Constuct watermain & UU CH0 to CH200	151	15-Dec-21	22-Jun-22	352	15-Dec-21 A	22-Feb-23
L4-4330	L4 (Watermain & UU) - Constuct watermain & UU CH200 to CH400	151	15-Dec-21	22-Jun-22	352	15-Dec-21 A	22-Feb-23
Road Formation							
L4-4410	L4 (road) - Kerb laying	98	19-Feb-22	20-Jun-22	299	19-Feb-22 A	20-Feb-23
L4-4420	L4 (road) - Paving, cycle track, marking, signage, lighting	85	15-Mar-22	28-Jun-22	286	15-Mar-22 A	28-Feb-23
Road Works L5,L1 east (between Junction L3 & L5)							
Road L1 east part 2 (L5 toward PC system B)							
RL1b-1040	Road L1 east 2 - ducting for Street Lighting	738	19-Dec-19	18-Jun-22	995	19-Dec-19 A	29-Apr-23
RL1b-1050	Road L1 east 2 - Road Pavement	645	17-Apr-20	18-Jun-22	878	17-Apr-20 A	28-Mar-23
RL1b-1060	Road L1 east 2 - Landscape funiture	635	13-Jun-20	02-Aug-22	855	13-Jun-20 A	29-Apr-23
Road L1 east part 3 (Junction L3 toward L5)							
RL1c-1060	Road L1 east 2 - Landscape funiture	635	13-Jun-20	02-Aug-22	831	13-Jun-20 A	28-Mar-23
Works for USRT							
USRT10030	Cable laying (by CLP)	14	16-Jun-22	02-Jul-22	14	16-Feb-23	03-Mar-23
USRT10050	T&C & Statutory inspection	25	04-Jul-22	01-Aug-22	25	04-Mar-23	01-Apr-23
Road Works							
RL1-2050	Road furniture (L1 junction L3)	27	03-Oct-22	03-Nov-22	333	10-Jan-22 A	22-Feb-23
RL1-2090	Footpath & cycle track (Road L2 & L3)	52	01-Sep-22	03-Nov-22	394	30-Dec-21 A	29-Apr-23
RL1-2110	Road furniture (Road L2 & L3)	25	04-Nov-22	02-Dec-22	394	17-Jan-22 A	17-May-23
RL1-2130	Lay power cable (L1 West Corner) (by CLP)	77	15-Apr-22	20-Jul-22	278	15-Apr-22 A	21-Mar-23
RL1-2150	Lay gasmain (L1 West Corner) (by Towngas)	77	15-Apr-22	20-Jul-22	278	15-Apr-22 A	21-Mar-23
RL1-2170	Carriageway works (L1 West Corner)	50	21-Jul-22	17-Sep-22	394	30-Dec-21 A	29-Apr-23
RL1-2190	Footpath & cycle track (L1 West Corner)	50	19-Aug-22	19-Oct-22	383	30-Dec-21 A	17-Apr-23
RL1-2210	Road furniture (L1 West Corner)	27	20-Oct-22	19-Nov-22	353	21-Feb-22 A	29-Apr-23
RL1c-1140	Road L1 west 1 - Landscape funiture	333	21-Jun-21	02-Aug-22	114	15-Nov-22 A	01-Apr-23
RL3-2050	Road furniture (Road L3)	25	04-Nov-22	02-Dec-22	164	15-Sep-22 A	01-Apr-23
RL4-2050	Road furniture (Road L4)	25	04-Nov-22	02-Dec-22	99	05-Nov-22 A	06-Mar-23
Hiking Trail Connecting to Wison Trail (Portion B5)							
Construction works at Hiking Trail							
HIK10130	(NOC215) Delay due to Design review on Hiking Trail	306	06-Jul-21	15-Jul-22	507	06-Jul-21 A	16-Mar-23
HIK10150	Resume work - Construction of Dwarf Walls for Hiking Trail (SP001 to SP001A)	78	16-Jul-22	18-Oct-22	151	19-Sep-22 A	21-Mar-23
HIK10170	Construction of Hiking Trail (SP001A to SP011) with Guard Railing and Feature Finish	78	19-Oct-22	19-Jan-23	155	17-Oct-22 A	25-Apr-23
HIK10190	Construction of for Hiking Trail (SP001 to SP001A) with Guard Railing and Feature Finish	90	20-Jan-23	13-May-23	90	26-Apr-23	12-Aug-23
HIK10250	Slope works at Portion B5	420	14-Jun-21	09-Nov-22	554	14-Jun-21 A	25-Apr-23



Planned Bar (WP) ◇ Planned Milestone (WP)
Actual Bar ◆ Milestone
Forecast Bar

3-month Rolling Programme

Anderson Rd Sub-programme
15-Feb-23

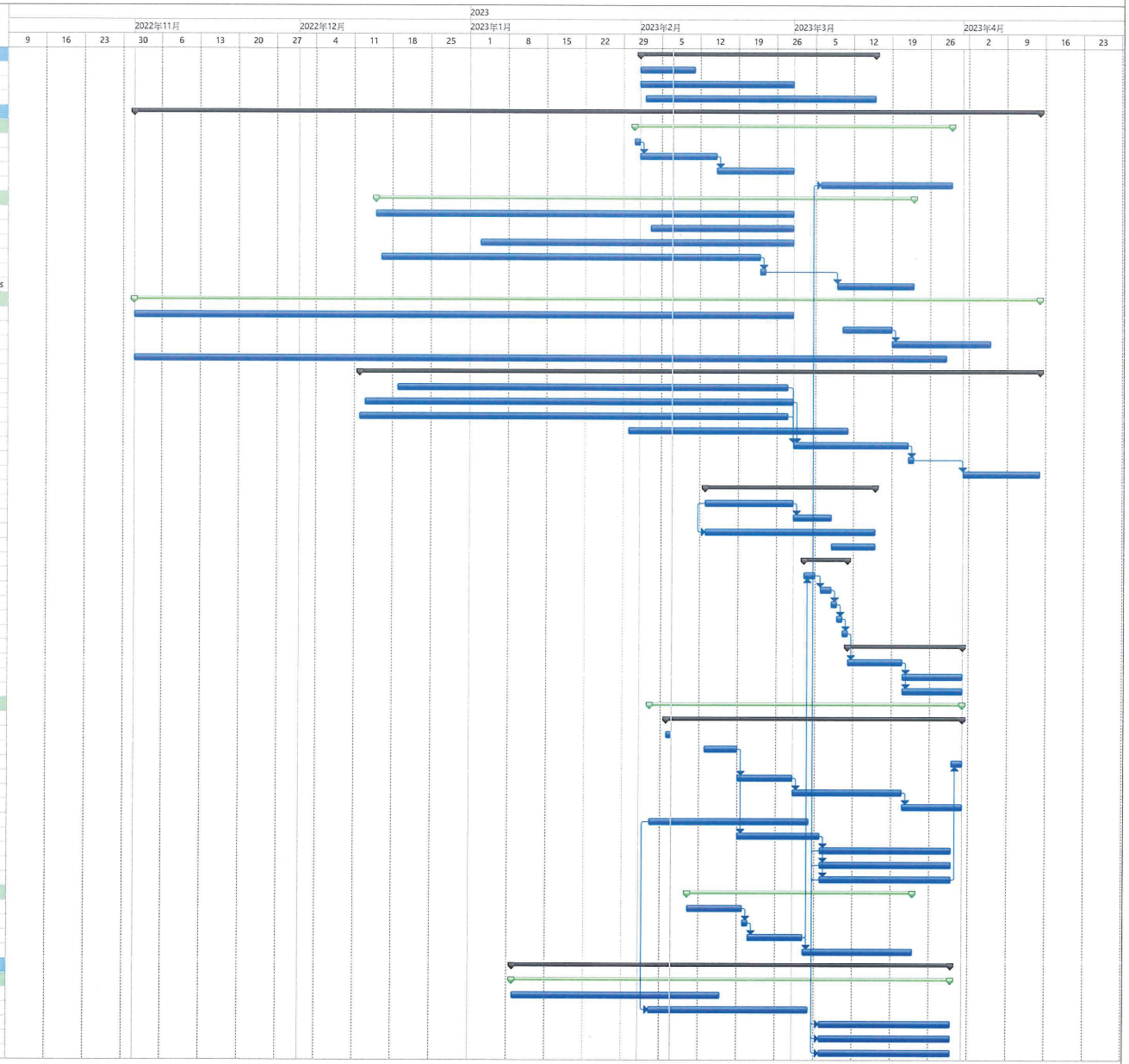
Date	Revision	Checked	Approved
15-Feb-23	C1-MPU202302		

Contract 2 (NE/2016/05)

Kwan On Construction Limited

Project : Development of Anderson Road Quarry Site - Connection of Pedestrian Facilities Works Phase 1 - Section A Portion 1,2,3
Detailed programme for PCF E3 (incl. E2-LT1 and E3-LT1)

标识号	Task Name	工期	开始时间	完成时间	Man power	前置任务
1	**Portion 1**	**43 days**	**2023年2月1日**	**2023年3月15日**		
2	Remaining works at Sau Mau Ping Memorial Park	10 days	2023年2月1日	2023年2月10日		
3	Remaining works at LCSD Rest Garden	28 days	2023年2月1日	2023年2月28日		
4	Install additional Railing along hiking trail on slope feature (PMI No. 379)	42 days	2023年2月2日	2023年3月15日		
5	**Portion 2**	**165 days**	**2022年11月1日**	**2023年4月14日**		
6	**C1 covered walkway**	**58 days**	**2023年1月31日**	**2023年3月29日**		
7	Delivery of steel structure of C1 covered walkway	1 day	2023年1月31日	2023年1月31日		
8	Installation of structural steel	14 days	2023年2月1日	2023年2月14日		7
9	Installation of roof corrugated sheet, gutter and remaining works	14 days	2023年2月15日	2023年2月28日		8
10	Installation Fall Arrest System	24 days	2023年3月6日	2023年3月29日		5BSS
11	**E2-LT1 Lift Tower**	**98 days**	**2022年12月15日**	**2023年3月22日**		
12	Remaining finishing, tiling & external works	76 days	2022年12月15日	2023年2月28日	2	
13	Construction of staircase landing slab	26 days	2023年2月3日	2023年2月28日		
14	Drainage works	57 days	2023年1月3日	2023年2月28日		
15	Lift testing (Self test & T&C)	69 days	2022年12月16日	2023年2月22日		
16	LE5 Submission to EMSD	1 day	2023年2月23日	2023年2月23日		15
17	Use permit granted by EMSD	14 days	2023年3月9日	2023年3月22日		16FS+13 days
18	**E3-LT1 Lift Tower**	**165 days**	**2022年11月1日**	**2023年4月14日**		
19	Finishing & painting works	120 days	2022年11月1日	2023年2月28日	8	
20	Dismantle of scaffolding	9 days	2023年3月10日	2023年3月18日		
21	External works (drainage, pavement, etc.)	18 days	2023年3月19日	2023年4月5日		20
22	E&M works	148 days	2022年11月1日	2023年3月28日		
23	**Lift installation**	**124 days**	**2022年12月12日**	**2023年4月14日**		
24	LT1	71 days	2022年12月19日	2023年2月27日		
25	LT2	78 days	2022年12月13日	2023年2月28日		
26	LT3	78 days	2022年12月12日	2023年2月27日		
27	Equipments at Lift machine room	40 days	2023年1月30日	2023年3月10日		
28	T&C of E3 Lifts	21 days	2023年3月1日	2023年3月21日		24,25,26
29	LE5 Submission to EMSD	1 day	2023年3月22日	2023年3月22日		28
30	Use permit granted by EMSD	14 days	2023年4月1日	2023年4月14日		29FS+9 days
31	**Backfill concrete between E3-LT1 & slope (Not affect the application of LE5)**	**31 days**	**2023年2月13日**	**2023年3月15日**		
32	Painting works (facing slope side)	16 days	2023年2月13日	2023年2月28日		
33	Dismantle of scaffolding (facing slope side)	7 days	2023年3月1日	2023年3月7日		32
34	Installation Miradrain 6000 drainage system	31 days	2023年2月13日	2023年3月15日		32SS
35	Concreting between E3-LT1 & slope	8 days	2023年3月8日	2023年3月15日		
36	**Dismantle of roof top crane**	**8 days**	**2023年3月3日**	**2023年3月10日**		
37	Erection of derrick crane DK1 (10") by use of roof top crane RC1	2 days	2023年3月3日	2023年3月4日		62
38	Dismantle of roof top crane RC1 by use of derrick crane DK1 (10")	2 days	2023年3月6日	2023年3月7日		37FS+1 day
39	Erection of derrick crane DK2 (6") by use of derrick crane DK1 (10")	1 day	2023年3月8日	2023年3月8日		38
40	Dismantle derrick crane DK1 (10") by use of derrick crane DK2(6")	1 day	2023年3月9日	2023年3月9日		39
41	Dismantle of derrick crane DK2 (6") by manual handling	1 day	2023年3月10日	2023年3月10日		40
42	**Roofing works (Not affect the application of LE5)**	**21 days**	**2023年3月11日**	**2023年3月31日**		
43	Waterproof	10 days	2023年3月11日	2023年3月20日		41
44	Precast concrete roof tile	11 days	2023年3月21日	2023年3月31日		43
45	Fall Arrest System	11 days	2023年3月21日	2023年3月31日		43
46	**E2-FB1 Footbridge**	**57 days**	**2023年2月3日**	**2023年3月31日**		
47	**Truss-out Scaffold at E2-FB1(Part 2) across Hiu Kwong Street**	**54 days**	**2023年2月6日**	**2023年3月31日**		
48	Site Trial for steel wire rope	1 day	2023年2月6日	2023年2月6日		
49	Erection of Truss-out Scaffold	6 days	2023年2月13日	2023年2月18日		
50	Dismantle of Truss-out Scaffold	2 days	2023年3月30日	2023年3月31日		58
51	Construction of concrete slab (Part 2)	10 days	2023年2月19日	2023年2月28日		49
52	Construction of RC Parapet & Planter (Part 2)	20 days	2023年3月1日	2023年3月20日		51
53	Floor tiling (Part 1-2)	11 days	2023年3月21日	2023年3月31日		52
54	Installation of Railing (Part 1-2)	29 days	2023年2月3日	2023年3月3日		
55	Installation of Corrugated Roof Panel & Gutter (Part 2)	15 days	2023年2月19日	2023年3月5日		49
56	Installation of E&M Works incl. Unistruct & Lighting (Part 1-2)	24 days	2023年3月6日	2023年3月29日		55
57	Installation of GRP Feature (Part 1-2)	24 days	2023年3月6日	2023年3月29日		55
58	Installation Fall Arrest System (Part 1-2)	24 days	2023年3月6日	2023年3月29日		55
59	**E3-FB1 Footbridge**	**41 days**	**2023年2月10日**	**2023年3月22日**		
60	Dismantle of 610 I-beam temporary works	10 days	2023年2月10日	2023年2月19日		
61	Dismantle of working platform at E3-P2	1 day	2023年2月20日	2023年2月20日		60
62	No-fine concrete at E3-P2	10 days	2023年2月21日	2023年3月2日		61
63	Reinstate slope berm works (Catchpits, U-channel, Handrail, etc.)	20 days	2023年3月3日	2023年3月22日		62
64	**Portion 3**	**80 days**	**2023年1月9日**	**2023年3月29日**		
65	**E2-FB1 Footbridge (Part 3-5)**	**80 days**	**2023年1月9日**	**2023年3月29日**		
66	Floor tiling (Part 3-5)	38 days	2023年1月9日	2023年2月15日		
67	Installation of Railing (Part 3-5)	29 days	2023年2月3日	2023年3月3日		54SS
68	Installation of E&M Works incl. Unistruct & Lighting (Part 3-5)	24 days	2023年3月6日	2023年3月29日		56SS
69	Installation of GRP Feature (Part 3-5)	24 days	2023年3月6日	2023年3月29日		57SS
70	Installation Fall Arrest System (Part 3-5)	24 days	2023年3月6日	2023年3月29日		58SS

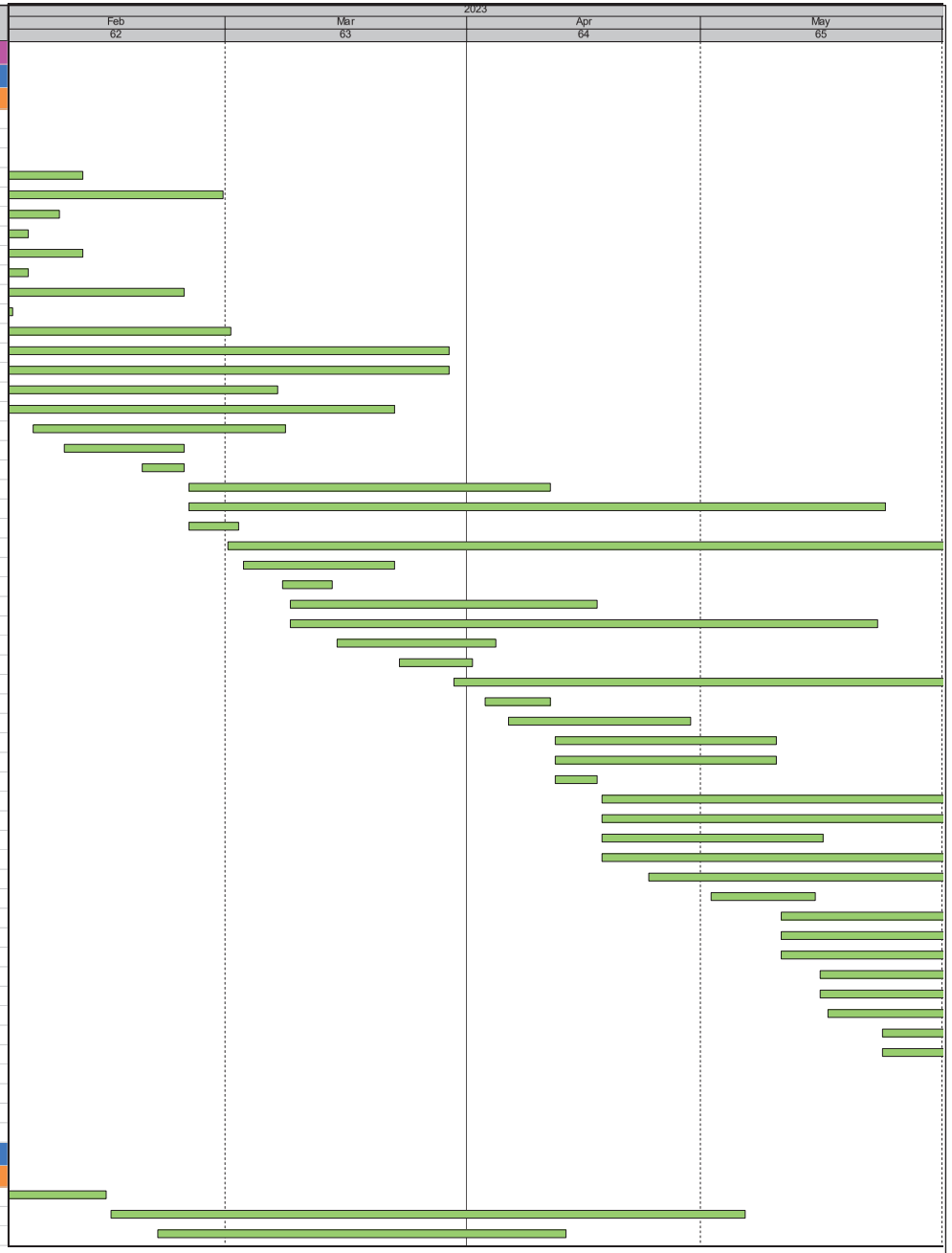


Revision: D
Date: 07 February 2023

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | 非活动任务 | 非活动里程碑 | 非活动摘要 | 手动任务 | 仅工期 | 手动摘要总成 | 手动摘要 | 仅开始时间 | 仅完成时间 | Progress | Deadline

Contract 3 (NE/2017/03)

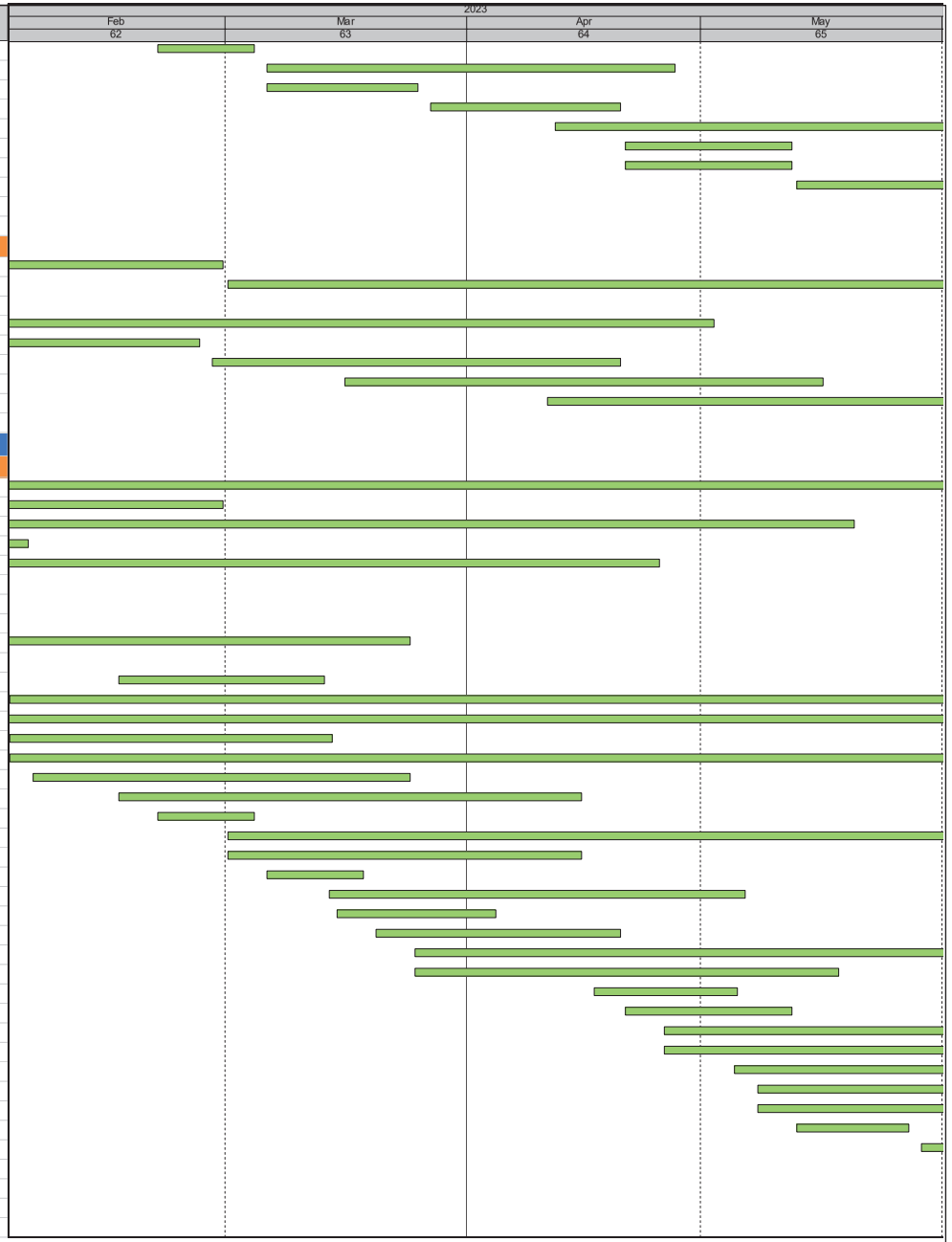
Activity ID	Activity Name	Duration	Start	Finish
NE2017/03 - ARQ PHASE 2A - Monthly Programme Update (202301)-0 _230127		1696	21-Jun-21 A	16-Dec-25
Road Improvement Works Location 1 (RIW1)		745	21-Jun-21 A	20-Apr-24
Construction Works		745	21-Jun-21 A	20-Apr-24
CON12110	Drainage & utilities works (RWC2 type 4, 6, 7, 8)	60	21-Jun-21 A	14-Nov-23
CON12130	Road works (RWC2 type 4, 6, 7, 8)	60	26-Jul-21 A	19-Dec-23
CON12134	Install stone facing for wall (RWC2 type 4, 6, 7, 8)	72	02-Aug-21 A	09-Feb-24
CON10750	Construct socket H-pile works (RWC2 type 3; 400nos, 3d/no, 4 teams)	300	13-Oct-21 A	10-Feb-23
CON11328C	CSD reviewing at CT5	252	18-Jan-22 A	28-Feb-23
CON11550A	Gas Main Diversion Works (by Towngas)	29	11-Aug-22 A	07-Feb-23
CON10231E	(CE358) Watermain diversion due to unforeseen ground condition (by WSD &	30	17-Aug-22 A	03-Feb-23
CON10271	Further ELS to RWC2 type 5 due to unforeseen ground utilities	54	31-Aug-22 A	10-Feb-23
CON12690	Modification existing TTA, Site formation works, construct temporaty road, pre-(	96	08-Oct-22 A	03-Feb-23
CON107501	(NCE239) Tolerance issue of installed socketed H-piles at RWC2 Type 3	78	18-Nov-22 A	23-Feb-23
CON10330	upgrading works at Feature No. 11NEA/F60 (by pip-by-pit method) - Stage 2	48	01-Dec-22 A	01-Feb-23
CON10350	upgrading works at Feature No. 11NEA/F60 (by pip-by-pit method) - Stage 3	48	31-Dec-22 A	01-Mar-23
CON12450	Construct lift shaft (KS27 east side)	66	09-Jan-23 A	29-Mar-23
CON12430	Construct subway wall and soffit (KS27 east side)	66	09-Jan-23 A	29-Mar-23
CON126967	(CE579 / PMI507 / PMN579) Subletting works - drainage diversion works (Ret	36	21-Jan-23	07-Mar-23
CON10450	upgrading works at Feature No. 11NEA/F60 (by pip-by-pit method) - Stage 4	48	26-Jan-23	22-Mar-23
CON10240	Existing sewage drainage pipe diversion (lower stream)	28	04-Feb-23	08-Mar-23
CON11552	Install sheet pile for pile cap construction (FE1-PC1b, 32m, 1m/d)	14	08-Feb-23	23-Feb-23
CON10750A1	(NCE186) disruption by HyD interface contractor affected to RWC3 socket H v	5	18-Feb-23	23-Feb-23
CON11554	ELS works for pile cap construction (FE1-PC1b, 32m, 1m/d)	36	24-Feb-23	11-Apr-23
CON10752	Install sheet pile & ELS to RW pile cap (RWC2 type 3, stage 1), 1 team	72	24-Feb-23	24-May-23
CON10750C	(NCE202) Inclement weather (21/6/2022 to 20/7/2022) affected to RWC3 soc	6	24-Feb-23	02-Mar-23
CON11330	Construct CT5 piling foundation (12nos, 6d/no, 1 team + setup)	90	01-Mar-23	20-Jun-23
CON10750E	(NCE210) Inclement weather (21/7/2022 to 20/8/2022) affected to RWC3 soc	17	03-Mar-23	22-Mar-23
CON126969	(CE579 / PMI507 / PMN579) PM review & acceptance on drainage diversion s	6	08-Mar-23	14-Mar-23
CON10272	Cut slope works (RWC2 Bay 48 to Bay 47)	30	09-Mar-23	17-Apr-23
CON10274	Cut slope works (RWC2 type 4 Bay 45 to Bay 38)	60	09-Mar-23	23-May-23
CON126971	(CE579 / PMI507 / PMN579) JV prepare works submission for drainage divers	18	15-Mar-23	04-Apr-23
CON10750G	(NCE216) Inclement weather (21/8/2022 to 20/9/2022) affected to RWC3 soc	9	23-Mar-23	01-Apr-23
CON12490	At grade works (KS27 east side)	60	30-Mar-23	14-Jun-23
CON10750I	(NCE222) Inclement weather (21/9/2022 to 20/10/2022) affected to RWC3 so	4	03-Apr-23	11-Apr-23
CON126973	(CE579 / PMI507 / PMN579) PM review & acceptance works submission for d	18	06-Apr-23	29-Apr-23
CON12330	Construct subway footing (KS27 west side, bay 1)	24	12-Apr-23	10-May-23
CON11650	Construct NB RC pile cap (FE1-PC1b, 32m, 1m/d, 1 team)	24	12-Apr-23	10-May-23
CON10750K	(NCE232) Inclement weather (21/10/2022 to 20/11/2022) affected to RWC3 s	5	12-Apr-23	17-Apr-23
CON10390	Construct pile cap (RWC2 type 5 [bay 46])	48	18-Apr-23	14-Jun-23
CON10751	(CE267) Great depth varying encountered on RH level for socket H for on RW	300	18-Apr-23	20-Apr-24
CON10412	Construct RW footing (RWC2 type 6 [bay 48 to bay 47])	24	18-Apr-23	16-May-23
CON10651	Construct RW wall (RWC2 type 1a [Bay 2])	60	18-Apr-23	29-Jun-23
CON10754	Construct RW pile cap / footing (RWC2 type 3, stage 1), 1 team	72	24-Apr-23	20-Jul-23
CON126975	(CE579 / PMI507 / PMN579) Drainage diversion works - mobilization	12	02-May-23	15-May-23
CON11670	Construct NB RC wall (FE1-PC1b, 32m 0.75m/d, 1 team)	30	11-May-23	15-Jun-23
CON12350	Construct subway wall and soffit (KS27 west side, bay 1)	36	11-May-23	23-Jun-23
CON12362	Construct RC lift shaft (KS27 west side)	65	11-May-23	28-Jul-23
CON115561	Existing storm drain near FE1- F6b & FE1-F7b diversion (stage 1)	30	16-May-23	20-Jun-23
CON115563	Existing sewage drain near FE1- F6b & FE1-F7b diversion (stage 1)	30	16-May-23	20-Jun-23
CON10414	Construct RW wall (RWC2 type 6 [bay 48 to bay 47])	24	17-May-23	14-Jun-23
CON10432	Construct RW footing (RWC2 type 4 [bay 45 to bay 38])	42	24-May-23	14-Jul-23
CON10452A	ELS to retaining wall footing (RWC2 type 3a Bay 37 to Bay 31)	72	24-May-23	18-Aug-23
CON12510	Install steel frame, canopy, glass panels, louver & PMMA at lift tower (KS27 eas	54	15-Jun-23	18-Aug-23
CON12530	ABWF works (KS27 east side)	54	15-Jun-23	18-Aug-23
CON12550	E&M works (KS27 east side)	54	15-Jun-23	18-Aug-23
CON10430	Construct RW wall (RWC2 type 5 [bay 46])	54	15-Jun-23	18-Aug-23
Road Improvement Works Location 2 (RIW2)		466	09-Jun-22 A	22-Aug-23
Construction Works in Slope C3 (Portion B)		405	09-Jun-22 A	18-Jul-23
CON20810	Construct RW bay 9 to bay 13 wall (L=30m) (due to unforeseen ground condi	138	09-Jun-22 A	13-Feb-23
CON20770	Fill slope at 11NE-B/F56 (Zone 7)	66	14-Feb-23	06-May-23
CON20850A	Remaining works for junction at RWC3 C & B	42	20-Feb-23	13-Apr-23



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

Activity ID	Activity Name	Duration	Start	Finish
CON20992A	Reinstate existing utilities works at Portion B (bay 1 to bay 16)	12	20-Feb-23	04-Mar-23
CON20990	Utilities & drainage works at Portion B (bay 9 to bay 13)	42	06-Mar-23	27-Apr-23
CON21010	Utilities & drainage works at Portion B (bay 3 to bay 8)	18	06-Mar-23	25-Mar-23
CON21030	Utilities & drainage works at Portion B (bay 1 to bay 2)	18	27-Mar-23	20-Apr-23
CON20170	Fabrication of NB steel post - along slope side	70	12-Apr-23	20-Jun-23
CON21050	Utilities & drainage works at Portion B (bay 14 to bay 16)	18	21-Apr-23	12-May-23
CON20774A	Soil nail works at RW3b (remaining area)	18	21-Apr-23	12-May-23
CON21070	Road works at Portion B (bay 1 to bay 16)	24	13-May-23	10-Jun-23
CON21130	T&C and Statutory Inspection _Slope C3	30	12-Jun-23	18-Jul-23
CON21112	Traffic diversion (Traffic to Sai Kung)	18	12-Jun-23	04-Jul-23
Construction Noise Semi-Enclosure SE2 (Portion C)		379	23-Aug-22 A	22-Aug-23
CON219671A	(NCE208) Excavation & Install additional sheet pile for exposed 132kV cable p	60	23-Aug-22 A	28-Feb-23
CON21968	(NCE208) Construct piling fdn SE2 Bay13 to Bay21 (95nos, 2d/no. 1 team + s	200	30-Aug-22 A	22-Aug-23
CON21776	ELS works at CT4 (12nos. strut, 0.25no/d, 1 team + setup)	48	19-Nov-22 A	21-Jan-23
CON21690	Excavate & install lateral support (SE2 Bay4 to Bay12; L=110m)	125	25-Nov-22 A	02-May-23
CON21778	Construct NB pile cap (CT4 Bay1 to Bay3; L=30m)	27	26-Jan-23	25-Feb-23
CON21780	Construct NB RC L-shaped wall (CT4 Bay1 to Bay3; L=30m)	42	27-Feb-23	20-Apr-23
CON21710	Construct NB pile cap (SE2 Bay4 to Bay12; L=110m)	48	16-Mar-23	16-May-23
CON21730	Construct NB RC L-shaped wall (SE2 Bay4 to Bay12; L=110m)	48	11-Apr-23	07-Jun-23
CON21750	Backfilling, construct road drainage & road paving (CT4, SE2 Bay4 to Bay12;	48	06-Jun-23	02-Aug-23
Road Improvement Works Location 3 (RIW3)		1373	19-Jul-21 A	16-Dec-25
Construction Works		1373	19-Jul-21 A	16-Dec-25
CON31130	Cut slope works (CH115 to CH200) (L=85m, 13007m3, 10m3/d)	1300	19-Jul-21 A	30-Aug-25
CON30170	Slope works & fill no-fine concrete at slope D1 (Level 1/4, 400m3)	72	19-Aug-21 A	28-Feb-23
CON31212	Rock slope mapping (Stage 2)	180	03-Oct-22 A	20-May-23
CON32770	(CE497) Construct wall of RWD2 bay8 & bay9	60	20-Oct-22 A	03-Feb-23
CON31170	Soil nail works (11NE-D/F246, stage 2)	150	21-Oct-22 A	25-Apr-23
CON31708E	Coordition with UU parties for conformation & removal unchart RC structure	60	24-Oct-22 A	31-Jan-23
CON30670	Application of TTA/ discussion with WSD for fresh watermain B and salt waterr	60	08-Nov-22 A	31-Jan-23
CON30412E	Construct mini pile at RWD1 (bay 14b) (10nos, 3.0d/no, 1 team)	30	25-Nov-22 A	28-Jan-23
CON31530	Cut slope, Construct trial nails (2nos 10m depth, 3.5d/no) (Slope D4)	60	06-Dec-22 A	24-Mar-23
CON32430	Construct SE1 bay7 (lower-pour) retaining wall	12	17-Dec-22 A	21-Jan-23
CON30656	Lay twin DN600 watermain at RW RWD1a Bay10 - Bay13 (FW CH290 to CH	20	19-Dec-22 A	13-Mar-23
CON31710	Construct footing, pier & pier head F1-4	144	20-Dec-22 A	26-Jul-23
CON31214	PM review & acceptance and slope stabilization measures (Stage 2)	180	20-Jan-23 A	29-Aug-23
CON32436	Backfilling to watermain's level (NB SE1 Bay7 to Bay9)	36	01-Feb-23	14-Mar-23
CON32432	Backfilling to watermain's level (NB SE1 Bay1 to Bay6)	102	01-Feb-23	06-Jun-23
CON32790	Drainage & utilities works (RWD2 remaining)	42	04-Feb-23	24-Mar-23
CON30394	Backfill RWD1 (bay6 to bay10)	48	15-Feb-23	15-Apr-23
CON30430	Construct pile cap (Bay 14b)	12	20-Feb-23	04-Mar-23
CON30190	Excavation, find-out rock-head & ELS works (Level 1/4)	126	01-Mar-23	03-Aug-23
CON30396	Gasmain laying (by Towngas)	36	01-Mar-23	15-Apr-23
CON30430A	Plate load test (Bay 15 to Bay 16)	12	06-Mar-23	18-Mar-23
CON30490	Drainage & utilities works (bay 8 to bay 14)	42	14-Mar-23	06-May-23
CON30662	Lay twin DN600 watermain at SE1 Bay7 - Bay9 (FW CH140 to CH170)	18	15-Mar-23	04-Apr-23
CON30430B	Construct RC stem wall (Bay 14a to Bay 14b)	24	20-Mar-23	20-Apr-23
CON31550	Construct soil nails (55nos 10m depth, 3.5d/no, 3 teams) (Slope D4)	60	25-Mar-23	09-Jun-23
CON32810	Road works (RWD2 remaining)	42	25-Mar-23	18-May-23
CON30660	Lay twin DN600 watermain at RW RWD1a Bay6 - Bay10 (FW CH250 to CH2	16	17-Apr-23	05-May-23
CON30430C	Construct RC footing (Bay 15 to Bay 16)	18	21-Apr-23	12-May-23
CON31290	Reinstatment works & fill no-fine concrete works	90	26-Apr-23	12-Aug-23
CON31190	Erect working platform for soil nail works (Slope D3, stage 2)	42	26-Apr-23	15-Jun-23
CON31570	Utilities works & drainage works (Slope D4)	60	05-May-23	17-Jul-23
CON30530	Drainage & utilities works (bay 1 to bay 7)	42	08-May-23	27-Jun-23
CON30510	Road works (bay 8 to bay 14)	42	08-May-23	27-Jun-23
CON30450	Construct RC stem wall (Bay 15 to Bay 16)	12	13-May-23	27-May-23
CON30570	Drainage & utilities works (Type 4 RW)	42	29-May-23	18-Jul-23
CON30664	Lay twin DN600 watermain at SE1 Bay1 - Bay6 (FW CH100 to CH140)	16	07-Jun-23	26-Jun-23
CON32438	Backfilling to watermain's level (NB SE1 Bay10 to Bay13)	30	07-Jun-23	13-Jul-23
CON31590	Road works (Slope D4)	60	10-Jun-23	21-Aug-23
CON31552	Cut slope works (Slope D3) (CH430 to CH330) (L=100m, 7500m3, 10m3/d)	750	10-Jun-23	16-Dec-25



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

Activity ID	Activity Name	Duration	Start	Finish
CON31210	Soil nail works (11NE-D/C190, stage 2)	135	16-Jun-23	25-Nov-23
Pedestrian Connectivity Facility (PC-E11)		407	03-Jan-23 A	02-Mar-24
Construction Works		60	03-Jan-23 A	03-Mar-23
CON43690	(SUPN012) Outstanding works & additional works at PC-E11	60	03-Jan-23 A	03-Mar-23
Works Under Section 6A		365	04-Mar-23	02-Mar-24
CON43030	Establishment Works for Landscape Softworks in Section 6 (Portion E and FII)	365	04-Mar-23	02-Mar-24
Pedestrian Connectivity Facility (PC-E8)		500	26-Oct-22 A	03-Apr-24
Construction Works		110	26-Oct-22 A	04-Apr-23
CON43610	Design review by ArchSD / LCSD	36	26-Oct-22 A	07-Feb-23
CON43550	Outstanding works (lower portion)	12	12-Jan-23 A	11-Feb-23
CON43630	Demolish existing planter and re-construct new planter	36	08-Feb-23	21-Mar-23
CON43650	Lay watermain for new water point	24	08-Feb-23	07-Mar-23
CON43570	(NCE218) Reinstatement of planter wall, U-channel & surface run-off (lower pc	24	13-Feb-23	11-Mar-23
CON43670	Install new water point	24	08-Mar-23	04-Apr-23
Works Under Section 7A		365	05-Apr-23	03-Apr-24
CON41970	Establishment Works for Landscape Softworks in Section 7 (Portion G)	365	05-Apr-23	03-Apr-24
Pedestrian Connectivity Facility System A (SYA)		614	09-Jul-22 A	13-Mar-24
Construction Works		204	09-Jul-22 A	14-Mar-23
CON50496	E&M works (Open area for lift tower & staircase)	120	09-Jul-22 A	27-Jan-23
CON50310	Construct deck slab, planter wall and roofing for SYA	51	05-Sep-22 A	07-Feb-23
CON50350	ABWF works (footbridge)	24	17-Nov-22 A	21-Feb-23
CON50450	T&C to lift, submit LE5 and EMSD inspection (4nos lift) _SYA	24	03-Dec-22 A	17-Feb-23
CON50530	T&C and Statutory Inspection _SYA	18	22-Feb-23	14-Mar-23
Construction Works in Section 8A		365	15-Mar-23	13-Mar-24
CON50550	Establishment Works for Landscape Softworks in Section 8 (Portion H and I)	365	15-Mar-23	13-Mar-24
Pedestrian Connectivity Facility System B (SYB)		469	16-May-22 A	08-Dec-23
Construction Works		469	16-May-22 A	08-Dec-23
CON53330	PM review & accept design for additional temporary road near PC3	90	16-May-22 A	28-Feb-23
CON51932	Construct pier SYB-P4 pier head	54	19-Dec-22 A	25-Feb-23
CON52112	Construct pier SYB-P3 pier head	54	19-Dec-22 A	25-Feb-23
CON52152	Construct pier SYB-P5 pier head	36	19-Dec-22 A	27-Feb-23
CON52170C	(NCE210) Inclement weather (21/7/2022 to 20/8/2022) on SYB-LT1	17	20-Jan-23 A	11-Feb-23
CON52170D	(NCE216) Inclement weather (21/8/2022 to 20/9/2022) on SYB-LT1	9	13-Feb-23	22-Feb-23
CON52170E	(NCE222) Inclement weather (21/9/2022 to 20/10/2022) on SYB-LT1	4	23-Feb-23	27-Feb-23
CON52530	Construct escalator pit P4 to P7	48	27-Feb-23	27-Apr-23
CON51952	Construct pier SYB-P6 pier head	36	27-Feb-23	13-Apr-23
CON52170F	(NCE232) Inclement weather (21/10/2022 to 20/11/2022) on SYB-LT1	5	28-Feb-23	04-Mar-23
CON53350	Mobilisation & set up	7	01-Mar-23	08-Mar-23
CON52171	Construct superstructure SYB-LT1 (2nd part, excluding part of support to esca	78	06-Mar-23	10-Jun-23
CON53370	Cut-slope works & installation of temporary soil nail	36	09-Mar-23	24-Apr-23
CON53230	Application for power supply & energization (SYB)	90	14-Apr-23	01-Aug-23
CON53390	Form temporary road	24	25-Apr-23	23-May-23
CON52550	Construct escalator pit P3 to P4	48	28-Apr-23	26-Jun-23
CON52290	Erect footbridge steel frame PC2 to PC1 (P2 to P1)	24	29-Apr-23	29-May-23
CON52590	Install steel roof (steel frame) P4 to P7	18	29-Apr-23	20-May-23
CON52250	Erect footbridge steel frame PC8 to PC7 (P8 to P7)	12	29-Apr-23	13-May-23
CON52230	Erect footbridge steel frame SYB-A1 to PC8 (A1 to P8)	12	15-May-23	29-May-23
CON52390	Construct deck slab, planter wall and roofing PC8 to PC7 (P8 to P7)	30	15-May-23	19-Jun-23
CON52790	ABWF works @ escalator pit P7 to P4	60	22-May-23	02-Aug-23
CON52172	Construct superstructure SYB-LT1 (remaining works, support of escalator)	36	24-May-23	07-Jul-23
CON52270	Erect footbridge steel frame PC7 to PC6 (P7 to P6)	12	30-May-23	12-Jun-23
CON52370	Construct deck slab, planter wall and roofing SYB-A1 to PC8 (A1 to P8)	30	30-May-23	05-Jul-23
CON52310	Erect footbridge steel frame PC1 to existing footbridge (P1)	18	30-May-23	19-Jun-23
CON51170	Install glass & window @SYB-LT1	42	12-Jun-23	01-Aug-23
CON52510	Construct above ground drainage pipe	150	12-Jun-23	08-Dec-23
CON52330	Erect footbridge steel frame PC6 to PC4 (P6 to P5)	12	13-Jun-23	27-Jun-23
CON52410	Construct deck slab, planter wall and roofing PC7 to PC6 (P7 to P6)	30	13-Jun-23	19-Jul-23
CON52670	ABWF works @ steel frame footbridge P8 to P7	72	20-Jun-23	13-Sep-23
CON53090	E&M works @ escalator pit P7 to P4	60	20-Jun-23	30-Aug-23
CON52430	Construct deck slab, planter wall and roofing PC2 to PC1 (P2 to P1)	30	20-Jun-23	26-Jul-23



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

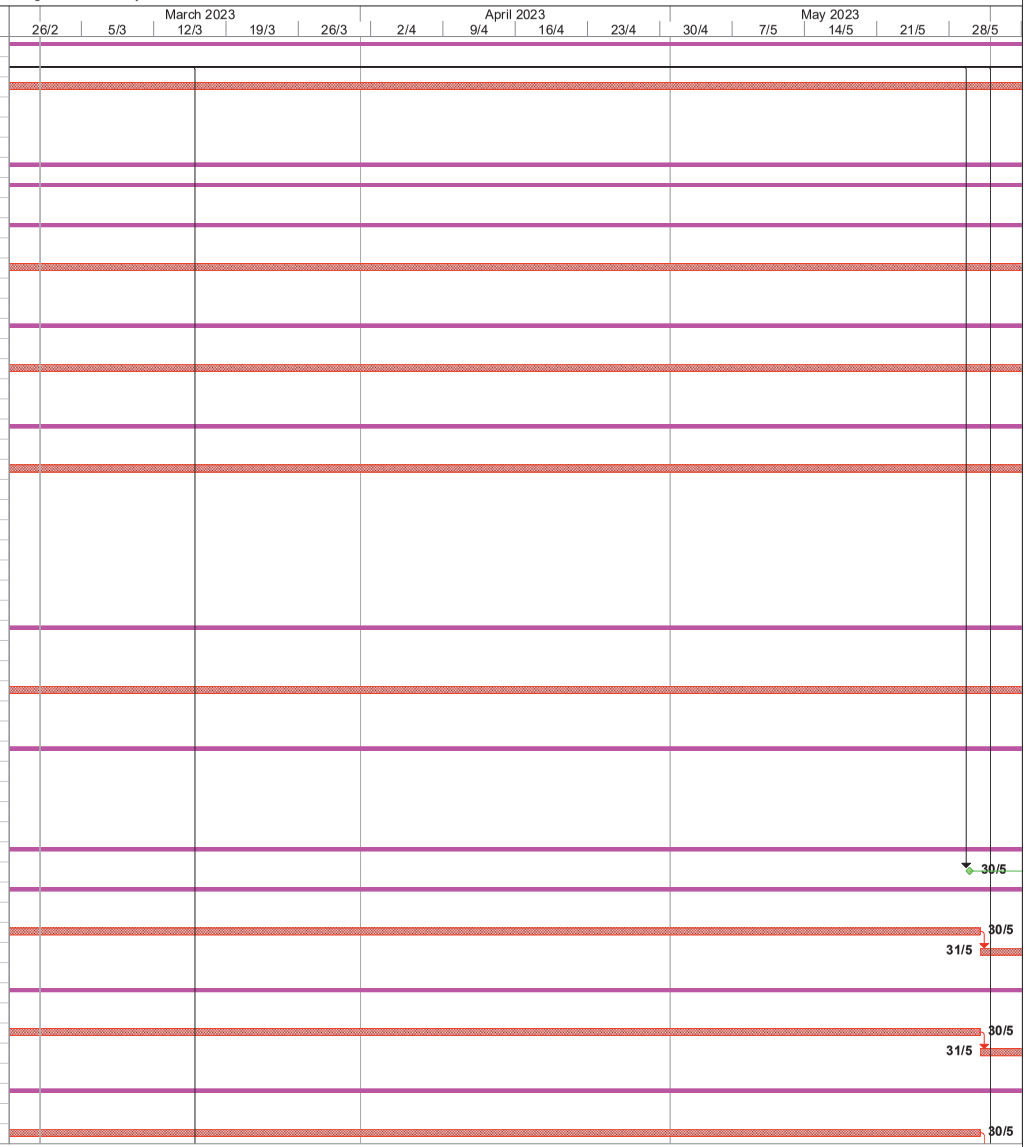
Contract 4 (ED/2020/02)

China International Water & Electric Corp.

CEDD Contract No. ED/2020/02
Development of Anderson Road Quarry Site - Infrastructure, Greening and Landscape Works
Revised Works Programme : January 2023

Updated on 16 Jan 2023

ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
1	**Contract Period**	**1471 days**	**Fri 30/7/21**	**Fri 8/8/25**		**0%**
2	Contract Starting Date [Contract Award Date 21 Jul 2021]	0 days	Fri 30/7/21	Fri 30/7/21		0%
3	Contract Duration	1248 days	Fri 30/7/21	Sat 28/12/24	2SS	0%
4	Original Completion Date	0 days	Sat 28/12/24	Sat 28/12/24	3	0%
5	Potential EOT due to CEs and Inclement weather	223 days	Sun 29/12/24	Fri 8/8/25	4	0%
6	Completion of the Whole of the Works	0 days	Fri 8/8/25	Fri 8/8/25	29,40,67,84,101,118,12	0%
7	**Section of Works and Relevant Portions of Work**	**1471 days**	**Fri 30/7/21**	**Fri 8/8/25**		**0%**
8	**Section of Works 1 - Portions 1a, 2a & 2b**	**1075 days**	**Mon 30/8/21**	**Thu 8/8/24**		**0%**
9	Original Completion Date	0 days	Wed 13/12/23	Wed 13/12/23	2FS+867 days	0%
10	**Portion 1a**	**833 days**	**Fri 29/4/22**	**Thu 8/8/24**		**0%**
11	Access date	0 days	Fri 29/4/22	Fri 29/4/22	2FS+273 days	0%
12	Construction Duration	594 days	Fri 29/4/22	Wed 13/12/23	11SS	0%
13	Potential EOT due to Inclement weather and CEs	239 days	Thu 14/12/23	Thu 8/8/24	12	0%
14	Completion Date	0 days	Thu 8/8/24	Thu 8/8/24	13	0%
15	**Portion 2a**	**1075 days**	**Mon 30/8/21**	**Thu 8/8/24**		**0%**
16	Access date	0 days	Mon 30/8/21	Mon 30/8/21	2FS+31 days	0%
17	Construction Duration	836 days	Mon 30/8/21	Wed 13/12/23	16SS	0%
18	Potential EOT due to Inclement weather and CEs	239 days	Thu 14/12/23	Thu 8/8/24	17	0%
19	Completion Date	0 days	Thu 8/8/24	Thu 8/8/24	449FF,453FF,454FF,4	0%
20	**Portion 2b**	**969 days**	**Tue 14/12/21**	**Thu 8/8/24**		**0%**
21	Access date	0 days	Tue 14/12/21	Tue 14/12/21	2FS+137 days	0%
22	Construction Duration	730 days	Tue 14/12/21	Wed 13/12/23	21SS	0%
23	Potential EOT due to Inclement weather and CEs	239 days	Thu 14/12/23	Thu 8/8/24	22	0%
24	Completion Date	0 days	Tue 11/6/24	Tue 11/6/24	494,497,498	0%
25	**Section of Works 1A - Establishment Works for all Landscape Softworks in Section 1 of the Works**	**365 days**	**Fri 9/8/24**	**Fri 8/8/25**		**0%**
26	Original Completion Date	0 days	Thu 12/12/24	Thu 12/12/24	9FS+365 days	0%
27	Commencement of Establishment Work for Section 1	0 days	Fri 9/8/24	Fri 9/8/24	28SS	0%
28	Establishment Work Duration for Section 1	365 days	Fri 9/8/24	Fri 8/8/25	14,19,24	0%
29	Completion of Works in Section 1	0 days	Fri 8/8/25	Fri 8/8/25	28FF	0%
30	**Section of Works 2 - Portion 8**	**897 days**	**Fri 30/7/21**	**Fri 12/1/24**		**0%**
31	Original Completion Date	0 days	Sat 29/7/23	Sat 29/7/23		0%
32	Access date for Portion 8	0 days	Fri 30/7/21	Fri 30/7/21	2	0%
33	Construction Duration for Portion 8	730 days	Fri 30/7/21	Sat 29/7/23	32	0%
34	Potential EOT due to Inclement weather and CEs	167 days	Sun 30/7/23	Fri 12/1/24	33	0%
35	Completion of Works in Portion 8	0 days	Fri 12/1/24	Fri 12/1/24	34FF	0%
36	**Section of Works 2A - Establishment Works for all Landscape Softworks in Section 2 of the Works**	**1262 days**	**Fri 30/7/21**	**Sat 11/1/25**		**0%**
37	Original Completion Date	0 days	Fri 30/7/21	Fri 30/7/21		0%
38	Commencement of Establishment Work for Section 2	0 days	Sat 13/1/24	Sat 13/1/24	39SS	0%
39	Establishment Work Duration for Section 2	365 days	Sat 13/1/24	Sat 11/1/25	35	0%
40	Completion of Works in Section 2	0 days	Sat 11/1/25	Sat 11/1/25	39FF	0%
41	**Section of Works 3 - Portions 1b, 3, 4, 5**	**838 days**	**Fri 30/7/21**	**Tue 14/11/23**		**0%**
42	Original Completion Date	0 days	Tue 30/5/23	Tue 30/5/23	2FS+669 days	0%
43	**Portion 1b**	**351 days**	**Tue 29/11/22**	**Tue 14/11/23**		**0%**
44	Access date	0 days	Tue 29/11/22	Tue 29/11/22	2FS+487 days	0%
45	Construction Duration	183 days	Tue 29/11/22	Tue 30/5/23	44	0%
46	Potential EOT due to Inclement weather and CEs	168 days	Wed 31/5/23	Tue 14/11/23	45	0%
47	Completion date	0 days	Tue 14/11/23	Tue 14/11/23	578,577,571,46	0%
48	**Portion 3**	**777 days**	**Wed 29/9/21**	**Tue 14/11/23**		**0%**
49	Access date	0 days	Wed 29/9/21	Wed 29/9/21	2FS+61 days	0%
50	Construction Duration	609 days	Wed 29/9/21	Tue 30/5/23	49	0%
51	Potential EOT due to Inclement weather and CEs	168 days	Wed 31/5/23	Tue 14/11/23	50	0%
52	Completion date	0 days	Tue 14/11/23	Tue 14/11/23	51	0%
53	**Portion 4**	**838 days**	**Fri 30/7/21**	**Tue 14/11/23**		**0%**
54	Access date	0 days	Fri 30/7/21	Fri 30/7/21	2	0%
55	Construction Duration	670 days	Fri 30/7/21	Tue 30/5/23	54	0%

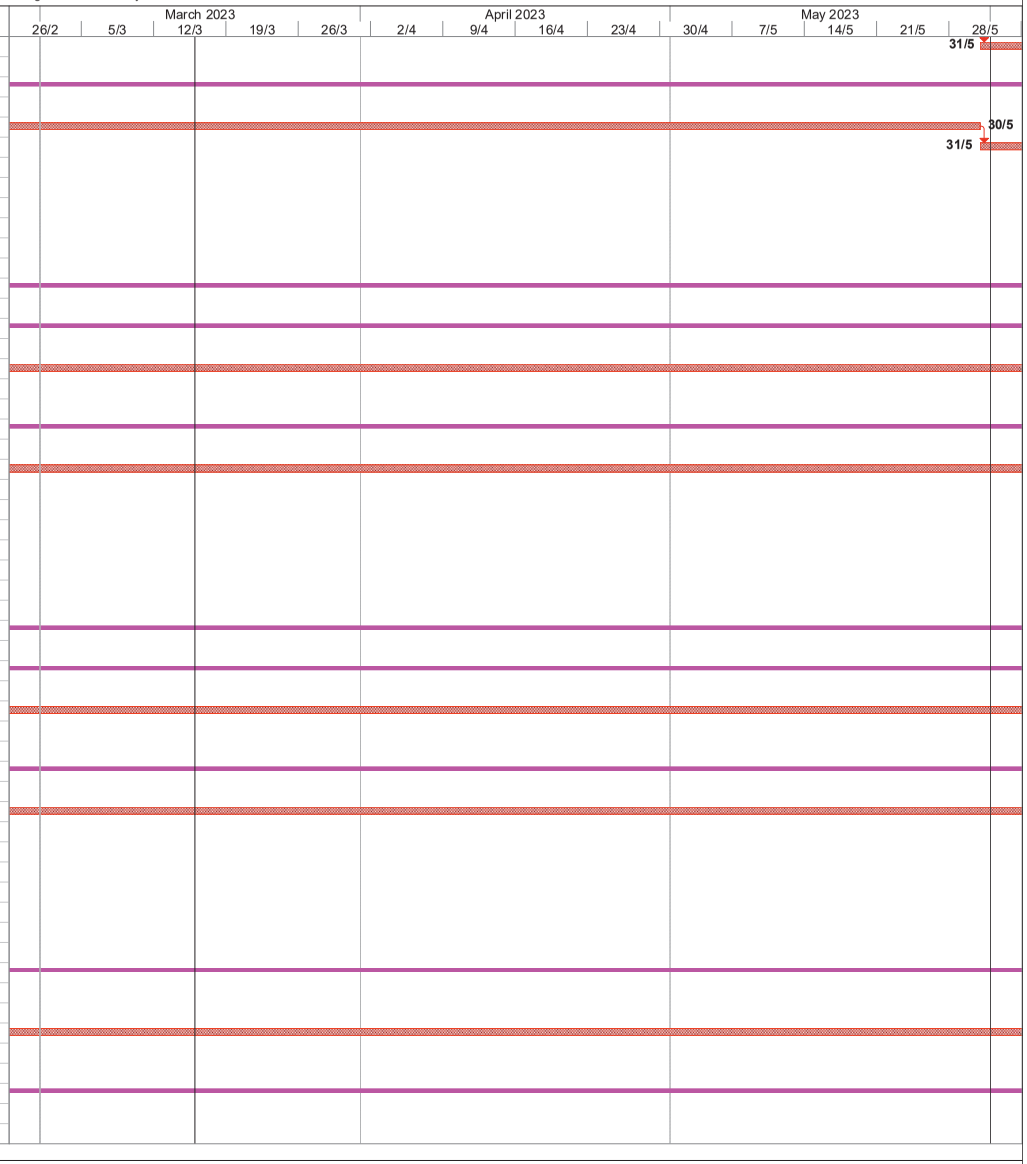


China International Water Electric Corp.

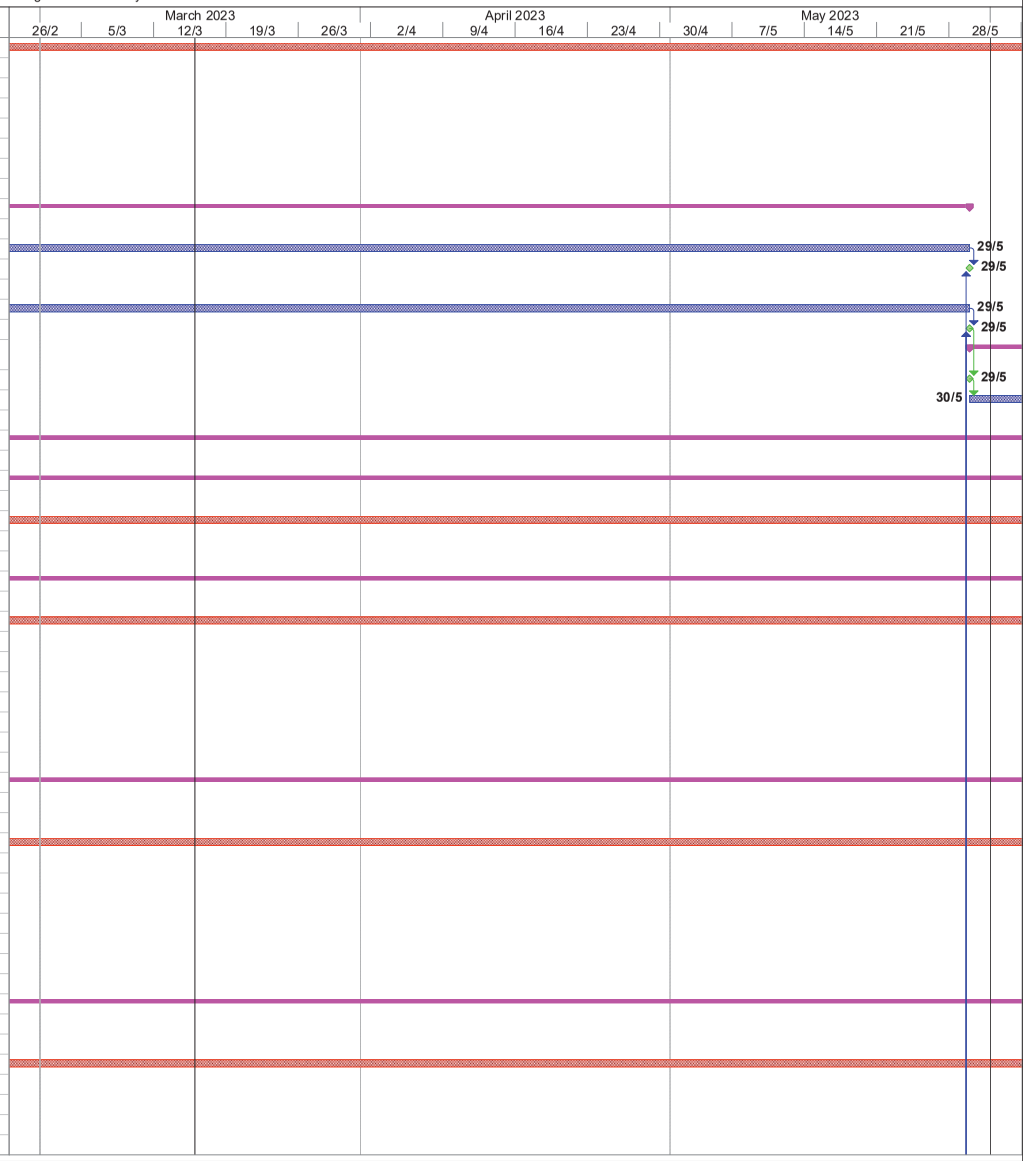
Task | Critical Task | Milestone | Summary

* Provisional subject to confirmation by PM

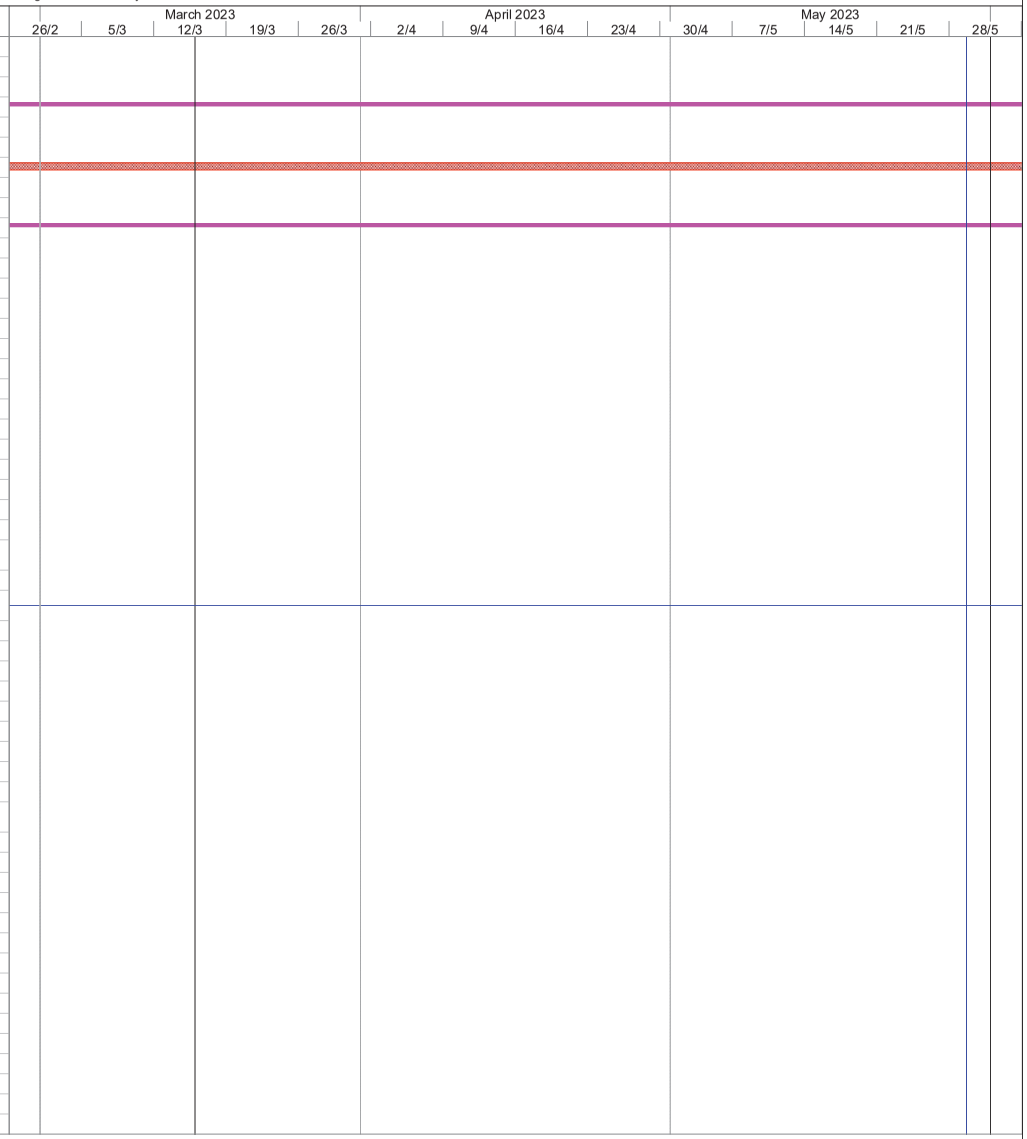
ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
56	Potential EOT due to Inclement weather and CEs	168 days	Wed 31/5/23	Tue 14/11/23	55	0%
57	Completion date	0 days	Tue 14/11/23	Tue 14/11/23	56	0%
58	**Portion 5**	**626 days**	**Sun 27/2/22**	**Tue 14/11/23**		**0%**
59	Access date for Portion 5	0 days	Sun 27/2/22	Sun 27/2/22	2	0%
60	Construction Duration for Portion 5	458 days	Sun 27/2/22	Tue 30/5/23	59	0%
61	Potential EOT due to Inclement weather and CEs	168 days	Wed 31/5/23	Tue 14/11/23	60	0%
62	Completion of Works in Portion 5	0 days	Tue 14/11/23	Tue 14/11/23	61	0%
63	**Section of Works 3A - Establishment Works for all Landscape Softworks in Section 3 of the Works**	**365 days**	**Wed 15/11/23**	**Wed 13/11/24**		**0%**
64	Original Completion Date	0 days	Tue 28/5/24	Tue 28/5/24	42FS+365 days	0%
65	Commencement of Establishment Work for Section 3	0 days	Wed 15/11/23	Wed 15/11/23	66SS	0%
66	Establishment Work Duration for Section 3	365 days	Wed 15/11/23	Wed 13/11/24	52,47,57,62	0%
67	Completion of Works in Section 3	0 days	Wed 13/11/24	Wed 13/11/24	66FF	0%
68	**Section of Works 4 - Portions 6, 12**	**944 days**	**Fri 30/7/21**	**Wed 28/2/24**		**0%**
69	Original Completion Date	0 days	Tue 13/6/23	Tue 13/6/23	2FS+683 days	0%
70	**Portion 6**	**761 days**	**Sat 29/1/22**	**Wed 28/2/24**		**0%**
71	Access date	0 days	Sat 29/1/22	Sat 29/1/22	2FS+183 days	0%
72	Construction Duration	501 days	Sat 29/1/22	Tue 13/6/23	71	0%
73	Potential EOT due to Inclement weather and CEs	260 days	Wed 14/6/23	Wed 28/2/24	72	0%
74	Completion date	0 days	Wed 28/2/24	Wed 28/2/24	73FF	0%
75	**Portion 12**	**944 days**	**Fri 30/7/21**	**Wed 28/2/24**		**0%**
76	Access date	0 days	Fri 30/7/21	Fri 30/7/21	2	0%
77	Construction Duration	684 days	Fri 30/7/21	Tue 13/6/23	76	0%
78	Potential EOT due to Inclement weather and CEs	260 days	Wed 14/6/23	Wed 28/2/24	77	0%
79	Completion date	0 days	Wed 28/2/24	Wed 28/2/24	78FF	0%
80	**Section of Works 4A - Establishment Works for all Landscape Softworks in Section 4 of the Works**	**365 days**	**Thu 29/2/24**	**Thu 27/2/25**		**0%**
81	Original Completion Date	0 days	Wed 12/6/24	Wed 12/6/24	69FS+365 days	0%
82	Commencement of Establishment Work for Section 4	0 days	Thu 29/2/24	Thu 29/2/24	83SS	0%
83	Establishment Work Duration for Section 4	365 days	Thu 29/2/24	Thu 27/2/25	74,79	0%
84	Completion of Works in Section 4	0 days	Thu 27/2/25	Thu 27/2/25	83FF	0%
85	**Section of Works 5A - Portions 9, 10**	**806 days**	**Fri 30/7/21**	**Fri 13/10/23**		**0%**
86	Original Completion Date	0 days	Wed 28/6/23	Wed 28/6/23	2FS+698 days	0%
87	**Porion 9**	**745 days**	**Wed 29/9/21**	**Fri 13/10/23**		**0%**
88	Access date for Portion 9	0 days	Wed 29/9/21	Wed 29/9/21	2FS+61 days	0%
89	Construction Duration for Portion 9	638 days	Wed 29/9/21	Wed 28/6/23	88	0%
90	Potential EOT due to Inclement weather and CEs	107 days	Thu 29/6/23	Fri 13/10/23	89	0%
91	Completion of Works in Portion 9	0 days	Fri 13/10/23	Fri 13/10/23	702,90	0%
92	**Portion 10**	**806 days**	**Fri 30/7/21**	**Fri 13/10/23**		**0%**
93	Access date for Portion 10	0 days	Fri 30/7/21	Fri 30/7/21	2	0%
94	Construction Duration for Portion 10	699 days	Fri 30/7/21	Wed 28/6/23	93	0%
95	Potential EOT due to Inclement weather and CEs	107 days	Thu 29/6/23	Fri 13/10/23	94	0%
96	Completion of Works in Portion 10	0 days	Fri 13/10/23	Fri 13/10/23	817,758,740,736,726,90	0%
97	**Section of Works 5AI - Establishment Works for all Landscape Softworks in Section 5A of the Works**	**365 days**	**Sat 14/10/23**	**Sat 12/10/24**		**0%**
98	Original Completion Date	0 days	Wed 26/6/24	Wed 26/6/24	86FS+365 days	0%
99	Commencement of Establishment Work for Section 5A	0 days	Sat 14/10/23	Sat 14/10/23	100SS	0%
100	Establishment Work Duration for Section 5A	365 days	Sat 14/10/23	Sat 12/10/24	91,96	0%
101	Completion of Works in Section 5A	0 days	Sat 12/10/24	Sat 12/10/24	100FF	0%
102	**Section of Works 5B - Portion 11**	**594 days**	**Sun 27/2/22**	**Fri 13/10/23**		**0%**
103	Original Completion Date	0 days	Tue 27/6/23	Tue 27/6/23	2FS+697 days	0%
104	Access date for Portion 11	0 days	Sun 27/2/22	Sun 27/2/22	2FS+211 days	0%
105	Construction Duration for Portion 11	487 days	Sun 27/2/22	Wed 28/6/23	104SS	0%
106	Potential EOT due to Inclement weather and CEs	107 days	Thu 29/6/23	Fri 13/10/23	105	0%
107	Completion of Works in Portion 11	0 days	Fri 13/10/23	Fri 13/10/23	826,106	0%
108	**Section of Works 6 - Portion 7**	**455 days**	**Tue 29/11/22**	**Mon 26/2/24**		**0%**
109	Original Completion Date	0 days	Tue 28/11/23	Tue 28/11/23	2FS+851 days	0%
110	Access date for Portion 7	0 days	Tue 29/11/22	Tue 29/11/22	2FS+487 days	0%



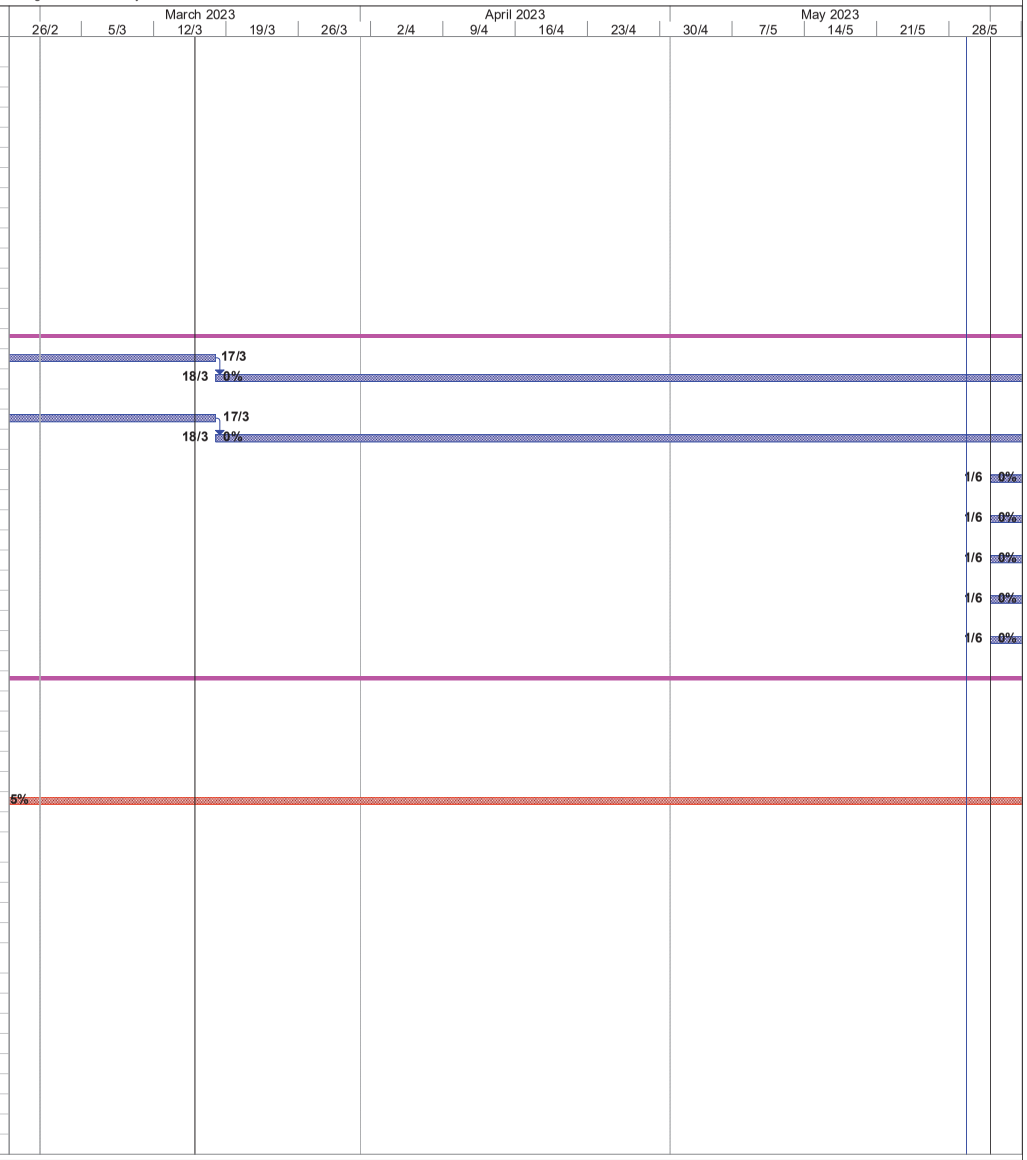
ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
111	Construction Duration for Portion 7	365 days	Tue 29/11/22	Tue 28/11/23	110	0%
112	Deferred possession (CE 067)	90 days	Wed 29/11/23	Mon 26/2/24	111	0%
113	Completion of Works in Portion 7	0 days	Mon 26/2/24	Mon 26/2/24	112FF	0%
114	**Section of Works 6A - Establishment Works for all Landscape Softworks in Section 6 of the Works**	**365 days**	**Tue 27/2/24**	**Tue 25/2/25**		**0%**
115	Original Completion Date	0 days	Wed 27/11/24	Wed 27/11/24	109FS+365 days	0%
116	Commencement of Establishment Work for Section 6	0 days	Tue 27/2/24	Tue 27/2/24	117SS	0%
117	Establishment Work Duration for Section 6	365 days	Tue 27/2/24	Tue 25/2/25	113	0%
118	Completion of Works in Section 6	0 days	Tue 25/2/25	Tue 25/2/25	117FF	0%
119	Section of Works 7A - Portions 13a, 14 (DELETED)	**669 days**	**Fri 30/7/21**	**Mon 29/5/23**		**0%**
120	Access date for Portion 13a	0 days	Sat 29/1/22	Sat 29/1/22	2	0%
121	Construction Duration for Portion 13a	486 days	Sat 29/1/22	Mon 29/5/23	120	0%
122	Completion of Works in Portion 13a	0 days	Mon 29/5/23	Mon 29/5/23	121,857	0%
123	Access date for Portion 14	0 days	Fri 30/7/21	Fri 30/7/21	2	0%
124	Construction Duration for Portion 14	669 days	Fri 30/7/21	Mon 29/5/23	123	0%
125	Completion of Works in Portion 14	0 days	Mon 29/5/23	Mon 29/5/23	124,869,868	0%
126	Section of Works 7AI - Establishment Works for all Landscape Softworks in Section 7A of the Works (DELETED)	**365 days**	**Mon 29/5/23**	**Tue 28/5/24**		**0%**
127	Commencement of Establishment Work for Section 7A	0 days	Mon 29/5/23	Mon 29/5/23	125	0%
128	Establishment Work Duration for Section 7A	365 days	Tue 30/5/23	Tue 28/5/24	127	0%
129	Completion of Works in Section 7A	0 days	Tue 28/5/24	Tue 28/5/24	128,874	0%
130	**Section of Works 7B - Portions 13b, 15**	**817 days**	**Sat 26/2/22**	**Wed 22/5/24**		**0%**
131	Original Completion Date	0 days	Fri 29/12/23	Fri 29/12/23	2FS+882 days	0%
132	**Portion 13b**	**817 days**	**Sat 26/2/22**	**Wed 22/5/24**		**0%**
133	Access date for Portion 13b	0 days	Sat 26/2/22	Sat 26/2/22	2FS+211 days	0%
134	Construction Duration for Portion 13b	671 days	Sun 27/2/22	Fri 29/12/23		0%
135	Potential EOT due to Inclement weather and CEs	145 days	Sat 30/12/23	Wed 22/5/24	134	0%
136	Completion of Works in Portion 13b	0 days	Wed 22/5/24	Wed 22/5/24	135	0%
137	**Portion 15**	**816 days**	**Sun 27/2/22**	**Wed 22/5/24**		**0%**
138	Access date for Portion 15	0 days	Sun 27/2/22	Sun 27/2/22	2	0%
139	Construction Duration for Portion 15	671 days	Sun 27/2/22	Fri 29/12/23	138	0%
140	Potential EOT due to Inclement weather and CEs	145 days	Sat 30/12/23	Wed 22/5/24	139	0%
141	Completion of Works in Portion 15	0 days	Wed 22/5/24	Wed 22/5/24	140	0%
142	**Section of Works 7BI - Establishment Works for all Landscape Softworks in Section 7B of the Works**	**365 days**	**Thu 23/5/24**	**Thu 22/5/25**		**0%**
143	Original Completion Date	0 days	Fri 27/12/24	Fri 27/12/24	131FS+365 days	0%
144	Commencement of Establishment Work for Section 7B	0 days	Thu 23/5/24	Thu 23/5/24	145SS	0%
145	Establishment Work Duration for Section 7B	365 days	Thu 23/5/24	Thu 22/5/25	136,141	0%
146	Completion of Works in Section 7B	0 days	Thu 22/5/25	Thu 22/5/25	145FF	0%
147	**Section of Works 8 - Portion 16**	**735 days**	**Thu 16/6/22**	**Wed 19/6/24**		**0%**
148	Original Completion Date	0 days	Wed 28/6/23	Wed 28/6/23	2FS+698 days	0%
149	Access date for Portion 16	0 days	Thu 16/6/22	Thu 16/6/22	2FS+321 days	0%
150	Construction Duration for Portion 16	378 days	Thu 16/6/22	Wed 28/6/23	149	0%
151	Potential EOT due to Inclement weather and CEs	357 days	Thu 29/6/23	Wed 19/6/24	150	0%
152	Completion of Works in Portion 16	0 days	Wed 19/6/24	Wed 19/6/24	151	0%
153	**Section of Works 8A - Establishment Works for all Landscape Softworks in Section 8 of the Works**	**365 days**	**Thu 20/6/24**	**Thu 19/6/25**		**0%**
154	Original Completion Date	0 days	Thu 27/6/24	Thu 27/6/24	148FS+365 days	0%
155	Commencement of Establishment Work for Section 8	0 days	Thu 20/6/24	Thu 20/6/24	156SS	0%
156	Establishment Work Duration for Section 8	365 days	Thu 20/6/24	Thu 19/6/25	152	0%
157	Completion of Works in Section 8	0 days	Thu 19/6/25	Thu 19/6/25	156FF	0%
158	**Section of Works 9 - Portion 17**	**794 days**	**Sun 27/2/22**	**Tue 30/4/24**		**0%**
159	Original Completion Date	0 days	Fri 29/12/23	Fri 29/12/23	2FS+882 days	0%
160	Access date for Portion 17	0 days	Sun 27/2/22	Sun 27/2/22	2FS+212 days	0%
161	Construction Duration for Portion 17	671 days	Sun 27/2/22	Fri 29/12/23	160	0%
162	Potential EOT due to Inclement weather and CEs	123 days	Sat 30/12/23	Tue 30/4/24	161	0%
163	Completion of Works in Portion 17	0 days	Tue 30/4/24	Tue 30/4/24	162FF	0%
164	**Section of Works 9A - Establishment Works for all Landscape Softworks in Section 9 of the Works**	**365 days**	**Tue 30/4/24**	**Wed 30/4/25**		**0%**
165	Original Completion Date	0 days	Sat 28/12/24	Sat 28/12/24	159FS+365 days	0%



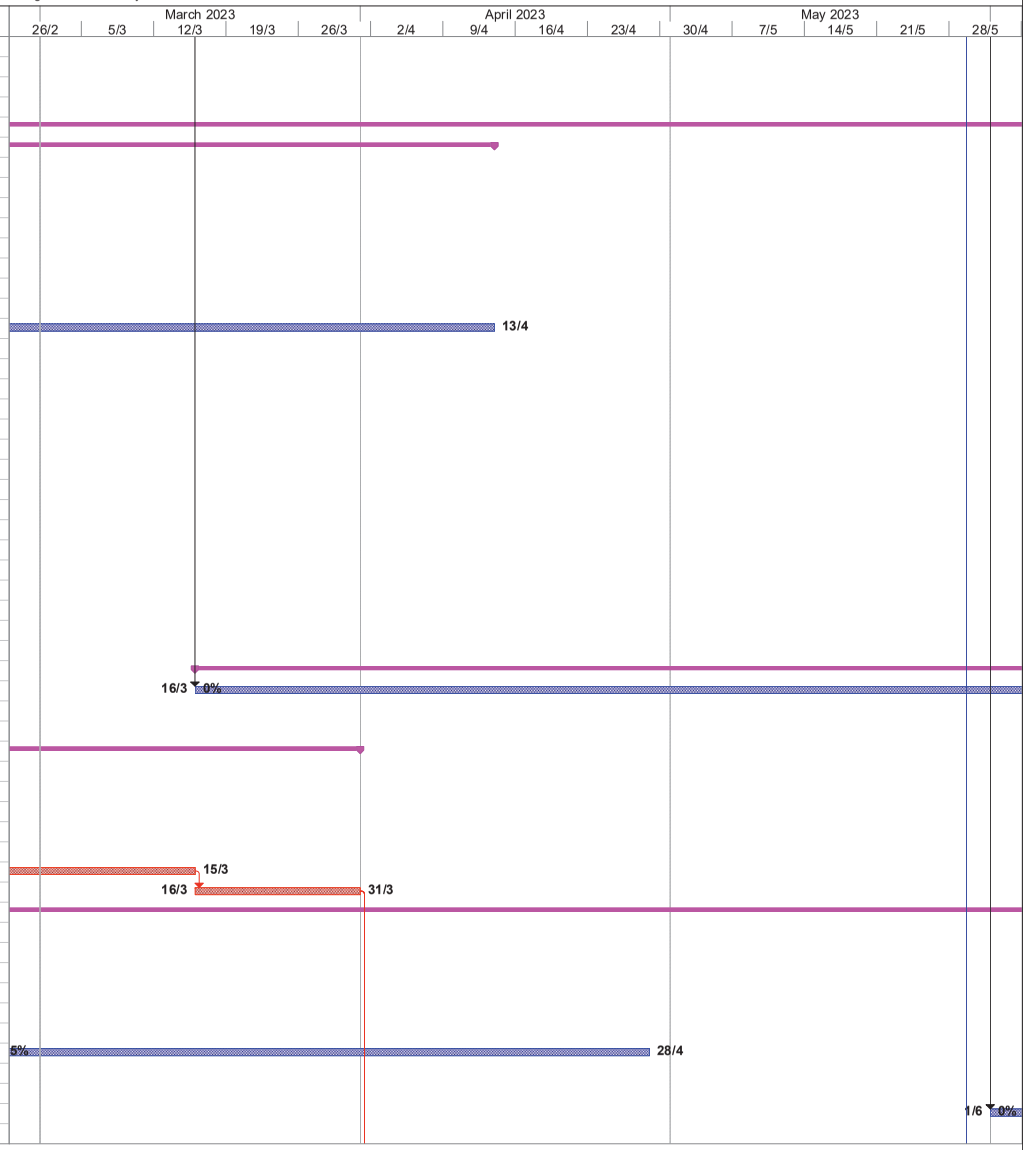
ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
166	Commencement of Establishment Work for Section 9	0 days	Tue 30/4/24	Tue 30/4/24	163SS	0%
167	Establishment Work Duration for Section 9	365 days	Wed 1/5/24	Wed 30/4/25	163	0%
168	Completion of Works in Section 9	0 days	Tue 30/4/24	Tue 30/4/24	163FF	0%
169	**Section of Works 10 - All Tree Protection and Preservation Works**	**1106 days**	**Fri 30/7/21**	**Thu 8/8/24**		**0%**
170	Original Completion Date	0 days	Fri 29/12/23	Fri 29/12/23	131FF	0%
171	Commencement of All Tree Protection and Preservation Work	0 days	Fri 30/7/21	Fri 30/7/21	2	0%
172	All Tree Protection and Preservation Work	883 days	Fri 30/7/21	Fri 29/12/23	171	0%
173	Potential EOT due to Inclement weather and CE	223 days	Sat 30/12/23	Thu 8/8/24	172	0%
174	Completion of All Tree Protection and Preservation Work	0 days	Thu 8/8/24	Thu 8/8/24	173,985FF	0%
175	**Preliminaries**	**1471 days**	**Fri 30/7/21**	**Fri 8/8/25**		**0%**
176	**Establishment of Commercial/Organization**	**226 days**	**Fri 30/7/21**	**Sat 12/3/22**		**0%**
177	Inform Contractor of the name and delegated authorities of the PMD (ER)	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
178	Confirmation and arrangement of the method of payment	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
179	Issue forms to CIC& PCFB	14 days	Fri 30/7/21	Thu 12/8/21	2	100%
180	Submission of MPF form to MPFSA	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
181	Notification to Labour Department/Marine Department of the commencement date and other details of the contra	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
182	Submission of Summary Details of Contract to the Departmental Safety and Environmental	21 days	Fri 30/7/21	Thu 19/8/21	2	100%
183	Nominate a Labour Officer	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
184	Set up Site Liaison Group (SLG)	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
185	Professional video production company and a competent video director	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
186	Surveyor, Key People	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
187	Traffic Consultant, Traffic Engineer	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
188	Particulars of Independent service provider for Digital Works Supervision System	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
189	Contractor's Management Team	14 days	Fri 30/7/21	Thu 12/8/21	2	100%
190	BIM team	14 days	Fri 30/7/21	Thu 12/8/21	2	100%
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	100%
192	Content of Contract Webpage (Monthly update afterwards)	21 days	Fri 30/7/21	Thu 19/8/21	2	0%
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	100%
194	Details of Geotechnical monitoring team	21 days	Fri 30/7/21	Thu 19/8/21	2	100%
195	Design of the CRE Site Office certified by an accepted ICE	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
196	Design Architect	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
197	Specially required staff	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
198	Public Relation Officer	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
199	Site Safety Committee (SSC) Meeting (monthly afterwards)	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
200	Meeting of the SSMC (monthly afterwards)	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
201	Professional Indemnity Insurance in respect of Contractor's Design	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
202	Proposed gasket material for waterworks	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
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	100%
204	2 Engineering Graduates 3 Technician apprentices	90 days	Fri 30/7/21	Wed 27/10/21	2	20%
205	Commissioning of DWSS	90 days	Fri 30/7/21	Wed 27/10/21	2	100%
206	Agree on the content and presentation of the dashboard of DWSS	90 days	Fri 30/7/21	Wed 27/10/21	2	100%
207	Monthly collaboration and information exchange of BIM	90 days	Fri 30/7/21	Wed 27/10/21	2	100%
208	Combined Services Drawing (CSD) and CBWD generated from BIM model	90 days	Fri 30/7/21	Wed 27/10/21	2	100%
209	Video script for Project Video Film	180 days	Fri 30/7/21	Tue 25/1/22	2	100%
210	Employment of Construction Industry Council's Graduates (min. 4 graduates)	180 days	Fri 30/7/21	Tue 25/1/22	2	0%
211	Nomination of Treatment process specialist, Design Engineer, and Independent Checking Engineer (ICE)	34 days	Fri 1/7/22	Wed 3/8/22	293SS	100%
212	**Plan & Proposals**	**60 days**	**Fri 30/7/21**	**Mon 27/9/21**		**100%**
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	100%
214	Preparation and submission of Waste Management Plan (WMP)	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
215	Preparation and submission of Draft Construction Health and Safety Plan (3 copies)	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
216	Preparation and submission of Quality Policy statement and quality plan	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
217	Preparation and submission of Draft Environmental Management Plan (EMP) 3 copies	4 days	Fri 30/7/21	Mon 2/8/21	2	100%
218	Tender requirements for suppliers of Plant and Materials, Equipment and Insurance Proposal	14 days	Fri 30/7/21	Thu 12/8/21	2	100%



ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
219	Preparation of Proposal for arrangement for placement of storage compartments/ drinking water facilities/ toilet/ hand-wash facilities/ showering/ rubbish bin/ working shelter on Site	14 days	Fri 30/7/21	Thu 12/8/21	2	100%
220	Preparation Proposal for security system	14 days	Fri 30/7/21	Thu 12/8/21	2	100%
221	Preparation and submission of DWSS proposal	21 days	Fri 30/7/21	Thu 19/8/21	2	100%
222	Preparation and submission of Subcontractor Management Plan (SMP)	21 days	Fri 30/7/21	Thu 19/8/21	2	100%
223	Preparation and submission of Construction Health and Safety Plan (6 copies)	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
224	Weather protection scheme	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
225	Proposal of COBie information requirements	30 days	Fri 30/7/21	Sat 28/8/21	2	0%
226	Preparation and submission of Final Environmental Management Plan (EMP) 3 copies	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
227	Preparation of Proposed Plans for submission of each Release of construction and Project Video Films	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
228	Preparation and submission of Site Traffic Safety Management Plan (STSMP), (monthly update)	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
229	Preparation and submission of Site Management Plan for TTS	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
230	Preparation and submission of BIM Execution Plan accordance with the PSA 1.14D	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
231	Public Relation (PR) Company, PR plan	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
232	Preparation and submission of Temporary drainage management plan	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
233	**Procurements of Major Materials**	**300 days**	**Wed 1/2/23**	**Mon 27/11/23**		**0%**
234	Procurement & material submission of bearing for elevated walkway	45 days	Wed 1/2/23	Fri 17/3/23		0%
235	Design, manufacturing and FAT of bearing for elevated walkway	105 days	Sat 18/3/23	Fri 30/6/23	234	10%
236	Deliveries and site inspection of bearing for elevated walkway etc.	30 days	Sat 1/7/23	Sun 30/7/23	235	0%
237	Procurement & material submission of movement joinst for elevated walkway	45 days	Wed 1/2/23	Fri 17/3/23		0%
238	Design, manufacturing and FAT of movement joinst for elevated walkway	105 days	Sat 18/3/23	Fri 30/6/23	237	0%
239	Deliveries and site inspection of movement joinst for elevated walkway etc.	30 days	Sat 1/7/23	Sun 30/7/23	238	0%
240	Procurement of Raise Planter Type A&B	90 days	Thu 1/6/23	Tue 29/8/23		0%
241	Manufacturing, FAT & delivery of Raise Planter Type A&B	90 days	Wed 30/8/23	Mon 27/11/23	240	0%
242	Procurement of Balustrade Wall BW1-2	90 days	Thu 1/6/23	Tue 29/8/23		0%
243	Manufacturing, FAT & delivery of Balustrade Wall BW1-2	90 days	Wed 30/8/23	Mon 27/11/23	242	0%
244	Procurement of Children Play Areas & water play area Park Facilities	90 days	Thu 1/6/23	Tue 29/8/23		0%
245	Design, Manufacturing, FAT & delivery of Children Play Areas & water play area Park Facilities	90 days	Wed 30/8/23	Mon 27/11/23	244	0%
246	Procurement of Adult fitness Area Park Facilities	90 days	Thu 1/6/23	Tue 29/8/23		0%
247	Design Manufacturing, FAT & delivery of Adult fitness Area Park Facilities	90 days	Wed 30/8/23	Mon 27/11/23	246	0%
248	Procurement of Elderly fitness Area Park Facilities	90 days	Thu 1/6/23	Tue 29/8/23		0%
249	Design, Manufacturing, FAT & delivery of Elderly fitness Area Park Facilities	90 days	Wed 30/8/23	Mon 27/11/23	248	0%
250	**Programme**	**1471 days**	**Fri 30/7/21**	**Fri 8/8/25**		**0%**
251	Preparation & Submission of First Works Program	6 days	Fri 30/7/21	Wed 4/8/21	2	100%
252	Preparation & Submission of Three Months Rolling Program	14 days	Fri 30/7/21	Thu 12/8/21	2	100%
253	Program Review and Acceptance of First Program	14 days	Thu 5/8/21	Wed 18/8/21	251	100%
254	Preparation and Submission of Detailed Works Program	60 days	Thu 19/8/21	Sun 17/10/21	253,252	100%
255	Program Review and Acceptance of Works Program	14 days	Mon 18/10/21	Sun 31/10/21	254	100%
256	Implementation of Programme Management and Monthly Reporting	1377 days	Mon 1/11/21	Fri 8/8/25	255	55%
257	**Permit and Licences**	**60 days**	**Fri 30/7/21**	**Mon 27/9/21**		**100%**
258	Detailed construction sequences with associated traffic diversion schemes and obtain endorsement in principle from the relevant authorities and the Supervisor	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
259	Risk Assessment for slope works	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
260	Welfare facilities for workers in accordance with requirements in PS Clause 1.69B	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
261	UU detection equipment brand/model	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
262	Certified calibration certificates	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
263	Contract Computer Facilities, Electronic Document Management System, Site Record Information System, Digital Works Supervision System and other software	6 days	Fri 30/7/21	Wed 4/8/21	2	100%
264	Name of the designated bank and all related arrangement details for payment of wages to all the Site Workers	6 days	Fri 30/7/21	Wed 4/8/21	2	100%
265	Site Cleanliness and Tidiness	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
266	3 sets of coloured record photos in SR size (recording existing building/ street furniture.....)	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
267	Contract Cars	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
268	Design of uniform for site workers	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
269	Survey Equipment for Initial survey	7 days	Fri 30/7/21	Thu 5/8/21	2	100%
270	Inclinometer access tubes - suppliers, material specification and samples of the tubes and couplings	14 days	Fri 30/7/21	Thu 12/8/21	2	100%
271	Payment of Wages System for Site Workers	14 days	Fri 30/7/21	Thu 12/8/21	2	100%
272	Tree survey record	14 days	Fri 30/7/21	Thu 12/8/21	2	100%



ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
273	Supply of Survey Equipment for PM use	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
274	Complete setting up and begin to operate the Security System	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
275	Initial Survey	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
276	Assessment for the risk resulting from working in hot weather	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
277	**Contractor's Design**	**408 days**	**Fri 1/7/22**	**Sat 12/8/23**		**0%**
278	**Architectural & Structural**	**287 days**	**Fri 1/7/22**	**Thu 13/4/23**		**0%**
279	Prepare & Submission	31 days	Fri 1/7/22	Sun 31/7/22	2	100%
280	Internal Review & Submission	15 days	Mon 1/8/22	Mon 15/8/22	279	100%
281	PM Review & AIP	16 days	Tue 16/8/22	Wed 31/8/22	280	100%
282	Re-submission	30 days	Thu 1/9/22	Fri 30/9/22	281	100%
283	Design Checker Review & Endorsement	7 days	Sat 1/10/22	Fri 7/10/22	282	100%
284	DDA Submission (circulation to Government Authorities)	8 days	Sat 8/10/22	Sat 15/10/22	283	100%
285	Time risk allowance for DDA processing	7 days	Sun 16/10/22	Sat 22/10/22	284	100%
286	Vetting Process and Approval by Government Authorities and PM	69 days	Sun 23/10/22	Fri 30/12/22	285	100%
287	Design Checker issue certificate of Approved Design	104 days	Sat 31/12/22	Thu 13/4/23	286	15%
288	**Toilet , Management office & Store room**	**183 days**	**Fri 1/7/22**	**Fri 30/12/22**		**100%**
289	Prepare	31 days	Fri 1/7/22	Sun 31/7/22	2	100%
290	Internal review, ICE, CSD and submission	121 days	Mon 1/8/22	Tue 29/11/22	289	100%
291	AIP	31 days	Wed 30/11/22	Fri 30/12/22	290	100%
292	**Underground Water Treatment Plant**	**183 days**	**Fri 1/7/22**	**Fri 30/12/22**		**100%**
293	Prepare	31 days	Fri 1/7/22	Sun 31/7/22	2	100%
294	Internal review, ICE, CSD and submission	121 days	Mon 1/8/22	Tue 29/11/22	293	100%
295	AIP	31 days	Wed 30/11/22	Fri 30/12/22	294	100%
296	**Entry Portal, Shelters, Signage, Solar Panels & Associated System etc.**	**183 days**	**Fri 1/7/22**	**Fri 30/12/22**		**100%**
297	Prepare	31 days	Fri 1/7/22	Sun 31/7/22	2	100%
298	Internal review, ICE, CSD and submission	121 days	Mon 1/8/22	Tue 29/11/22	297	100%
299	AIP	31 days	Wed 30/11/22	Fri 30/12/22	298	100%
300	**Park lighting, irrigation system, smart system etc.**	**183 days**	**Fri 1/7/22**	**Fri 30/12/22**		**0%**
301	Prepare	31 days	Fri 1/7/22	Sun 31/7/22	2	0%
302	Internal review, ICE, CSD and submission	31 days	Mon 1/8/22	Wed 31/8/22	301	0%
303	AIP	121 days	Thu 1/9/22	Fri 30/12/22	302	0%
304	**Covered walkway**	**150 days**	**Thu 16/3/23**	**Sat 12/8/23**		**0%**
305	Prepare	90 days	Thu 16/3/23	Tue 13/6/23	2	0%
306	Internal review, ICE, CSD and submission	30 days	Wed 14/6/23	Thu 13/7/23	305	0%
307	AIP	30 days	Fri 14/7/23	Sat 12/8/23	306	0%
308	**Contractor's Design [Enhancement on Architectural Design & Associated Works]**	**424 days**	**Tue 1/2/22**	**Fri 31/3/23**		**0%**
309	Proposal of proposed architects firm & quotation for acceptance of the Project Manager	120 days	Tue 1/2/22	Tue 31/5/22		100%
310	Prepare & Submission Preliminary Arch., Design	61 days	Wed 1/6/22	Sun 31/7/22	309	100%
311	PM Review & AIP Preliminary Architectural Design	15 days	Mon 1/8/22	Mon 15/8/22	310	100%
312	Vetting of design through public engagement activities	124 days	Tue 16/8/22	Thu 22/12/22	311	0%
313	Submission of design to DSD, LCSD and other authorities for vetting and acceptance	4 days	Fri 23/12/22	Mon 26/12/22	312	100%
314	Preparation & submission of detailed design for approval	79 days	Tue 27/12/22	Wed 15/3/23	313	26%
315	Approval of detailed design	16 days	Thu 16/3/23	Fri 31/3/23	314	0%
316	**Method Statements & Temporary Works**	**731 days**	**Fri 30/7/21**	**Sun 30/7/23**		**0%**
317	Prepartion & submission of generic method statement for site formation work	60 days	Tue 1/11/22	Fri 30/12/22	2	100%
318	Preparation & submission of generic method statement for earth slope works	60 days	Tue 1/11/22	Fri 30/12/22	2	100%
319	Preparation & submission of generic method statement for retaining wall construction	60 days	Wed 1/6/22	Sat 30/7/22	2	100%
320	Preparation & submission of generic method statement for G.I works	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
321	Preparation & Submission of generic method statement for drainage works	60 days	Fri 30/7/21	Mon 27/9/21	2	100%
322	Preparation and submission of generic method statement of road works	60 days	Tue 1/11/22	Fri 30/12/22	2	100%
323	Preparation & submission of generic method statement of elevated walkway construciton	240 days	Thu 1/9/22	Fri 28/4/23		55%
324	Temporary Work for cut/fill slope works	60 days	Tue 1/11/22	Fri 30/12/22	2	100%
325	Temporary Work for retaining wall construction	60 days	Wed 1/6/22	Sat 30/7/22	2	100%
326	Temporary Work for elevated walkway construction	60 days	Thu 1/6/23	Sun 30/7/23	2	0%
327	Temporary Work for road and drainage works	60 days	Fri 30/7/21	Mon 27/9/21	2	100%

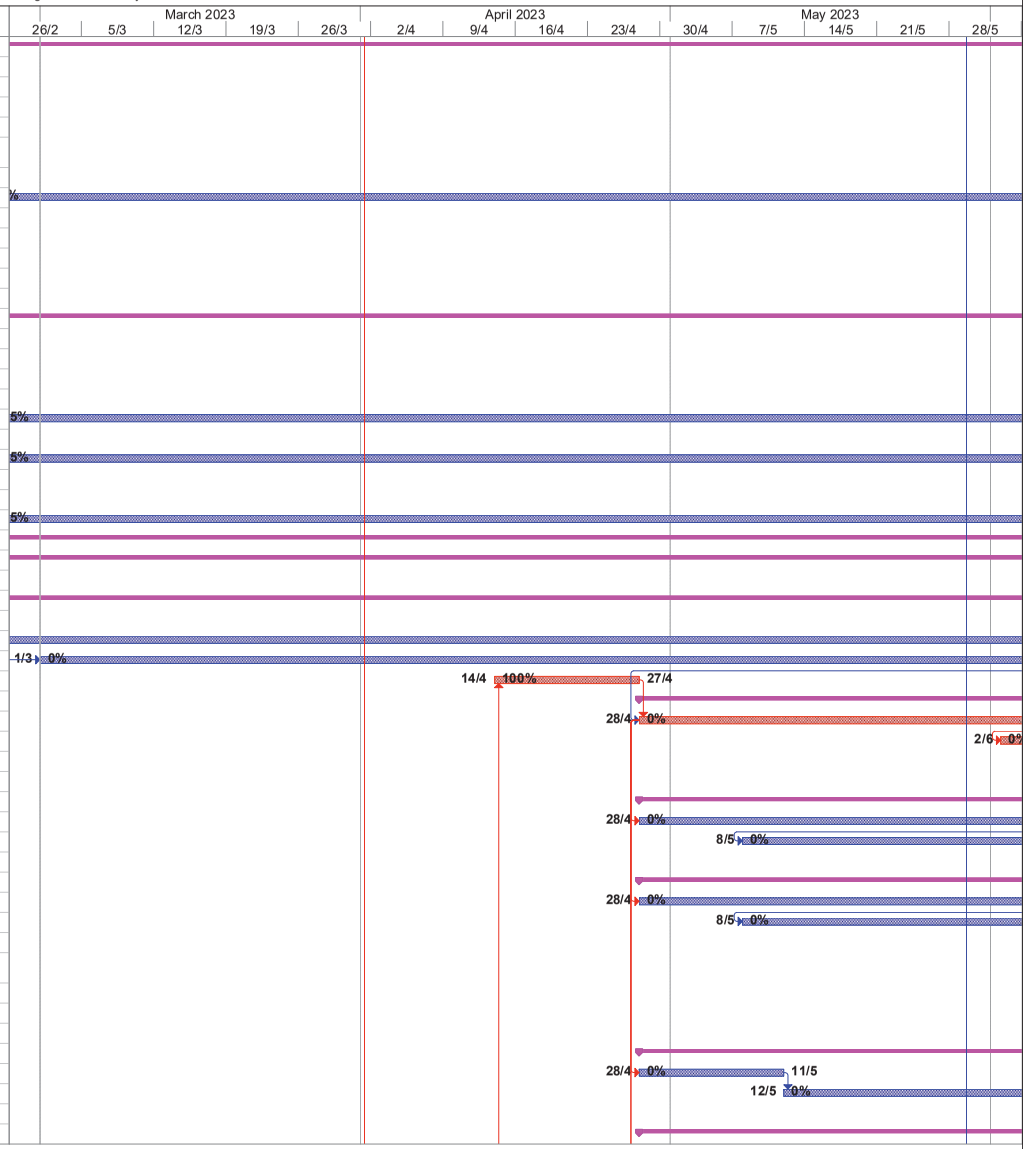


China International Water Electric Corp.

Task | Critical Task | Milestone | Summary

* Provisional subject to confirmation by PM

ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
328	**BIM Deliverable**	**1471 days**	**Fri 30/7/21**	**Fri 8/8/25**		**0%**
329	Submission of COBie Information Requirements for Asset Management	30 days	Fri 30/7/21	Sat 28/8/21	2	100%
330	Submission of BIM Execution Plan in accordance with the PS Appendix 1.14D	60 days	Fri 30/7/21	Mon 27/9/21	2,329FF+30 days	100%
331	Submission of Combined Services Drawings	90 days	Fri 30/7/21	Wed 27/10/21	2	100%
332	Submission of proposal for BIM training plan	90 days	Fri 30/7/21	Wed 27/10/21	2	100%
333	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	2	100%
334	Collaboration and Model Sharing	60 days	Thu 28/10/21	Sun 26/12/21	330FS+30 days	100%
335	Monthly Coordination meeting& Submission of monthly BIM progress reports & Submission of 4D Simulation	1321 days	Mon 27/12/21	Fri 8/8/25	334	0%
336	Submission of COBie data deliverables	30 days	Tue 10/6/25	Wed 9/7/25	335FS-60 days	0%
337	Submission of a Fully Coordinated BIM Model with field verified in LOD 500	30 days	Sat 28/6/25	Sun 27/7/25	335FS-42 days	0%
338	Submission of O&M Manuals, Product Catalogues and Operating Data	30 days	Sat 28/6/25	Sun 27/7/25	335FS-42 days	0%
339	Submission of As-built drawings	30 days	Sat 28/6/25	Sun 27/7/25	335FS-42 days	0%
340	Submission of Asset Data	30 days	Sat 28/6/25	Sun 27/7/25	335FS-42 days	0%
341	**Work Area**	**1471 days**	**Fri 30/7/21**	**Fri 8/8/25**		**0%**
342	CRE Site Office Design & ICE Endorsement	30 days	Fri 30/7/21	Sat 28/8/21		100%
343	CRE Site office Design Review and Acceptance	30 days	Sun 29/8/21	Mon 27/9/21	342	100%
344	CRE Site office Construction Works	90 days	Tue 28/9/21	Sun 26/12/21	343	100%
345	Completion of CRE Site office Construction Works	0 days	Mon 24/1/22	Mon 24/1/22	344	0%
346	CRE Site office Mobilization & Maintenance	1293 days	Mon 24/1/22	Fri 8/8/25	344,345	0%
347	Access for Works Area	0 days	Fri 30/7/21	Fri 30/7/21		0%
348	Maintenance Duration for Works Area	1470 days	Sat 31/7/21	Fri 8/8/25	347FS+1 day	35%
349	Vacate / Handover Works Area	0 days	Fri 8/8/25	Fri 8/8/25	348,346,351	0%
350	Setting up Contractor's Project office	90 days	Tue 28/9/21	Sun 26/12/21	2	100%
351	Contractor Site office Maintenance	1293 days	Mon 24/1/22	Fri 8/8/25	350	0%
352	**Construction Works**	**1550 days**	**Thu 29/4/21**	**Fri 8/8/25**		**0%**
353	**Section of Works 1 - Portions 1a, 2a, 2b**	**1185 days**	**Thu 29/4/21**	**Thu 8/8/24**		**0%**
354	Engagement of Design Architectural Firm (CE 005)	0 days	Fri 14/1/22	Fri 14/1/22		0%
355	**Portion 1a**	**1185 days**	**Thu 29/4/21**	**Thu 8/8/24**		**0%**
356	Provision of site access [273 days after starting date as per Contract]	0 days	Thu 29/4/21	Thu 29/4/21	11SS	100%
357	Preparation& submission of MS, Temp works, associated plans & docs	210 days	Wed 1/2/23	Tue 29/8/23	354,356	0%
358	Engineer's AIP of MS, Temp works, plans & associated docs	210 days	Wed 1/3/23	Tue 26/9/23	357SS+28 days	0%
359	Mobilization & Site Clearance	14 days	Fri 14/4/23	Thu 27/4/23	444	100%
360	**Drainage pipe and manhole**	**200 days**	**Fri 28/4/23**	**Mon 13/11/23**		**0%**
361	Excavation	150 days	Fri 28/4/23	Sun 24/9/23	359,358FS-210 days	0%
362	Pipe laying	150 days	Fri 2/6/23	Sun 29/10/23	361FS-115 days	0%
363	CCTV inspection, testing and commissioning	15 days	Mon 30/10/23	Mon 13/11/23	362	0%
364	Time Risk Allowance	14 days	Tue 14/11/23	Mon 27/11/23	363	0%
365	**Watermain**	**114 days**	**Fri 28/4/23**	**Sat 19/8/23**		**0%**
366	Excavation	108 days	Fri 28/4/23	Sun 13/8/23	361SS	0%
367	Pipe laying	90 days	Mon 8/5/23	Sat 5/8/23	366FS-98 days	0%
368	Testing and commissioning	14 days	Sun 6/8/23	Sat 19/8/23	367	0%
369	**Sewage**	**114 days**	**Fri 28/4/23**	**Sat 19/8/23**		**0%**
370	Excavation	108 days	Fri 28/4/23	Sun 13/8/23	361SS	0%
371	Pipe laying	90 days	Mon 8/5/23	Sat 5/8/23	370FS-98 days	0%
372	Testing and commissioning	14 days	Sun 6/8/23	Sat 19/8/23	371	0%
373	Backfilling and compaction of materials, landscape wall, edge, soil placement, U channel & catch pit, shelters, stairs, seat, railing and pavement installation etc.	165 days	Tue 28/11/23	Fri 10/5/24	364,368,372,380,383	0%
374	Construction of wetland	60 days	Tue 12/3/24	Fri 10/5/24	373FF	0%
375	Drainage system for urban forest	60 days	Tue 12/3/24	Fri 10/5/24	374FF	0%
376	Soft landscaping works	90 days	Sat 11/5/24	Thu 8/8/24	401FF,375	0%
377	**Irrigation system**	**134 days**	**Fri 28/4/23**	**Fri 8/9/23**		**0%**
378	Application for water supply	14 days	Fri 28/4/23	Thu 11/5/23	361SS	0%
379	Approval	30 days	Fri 12/5/23	Sat 10/6/23	378	0%
380	Installation	90 days	Sun 11/6/23	Fri 8/9/23	379	0%
381	**Lighting system**	**180 days**	**Fri 28/4/23**	**Tue 24/10/23**		**0%**

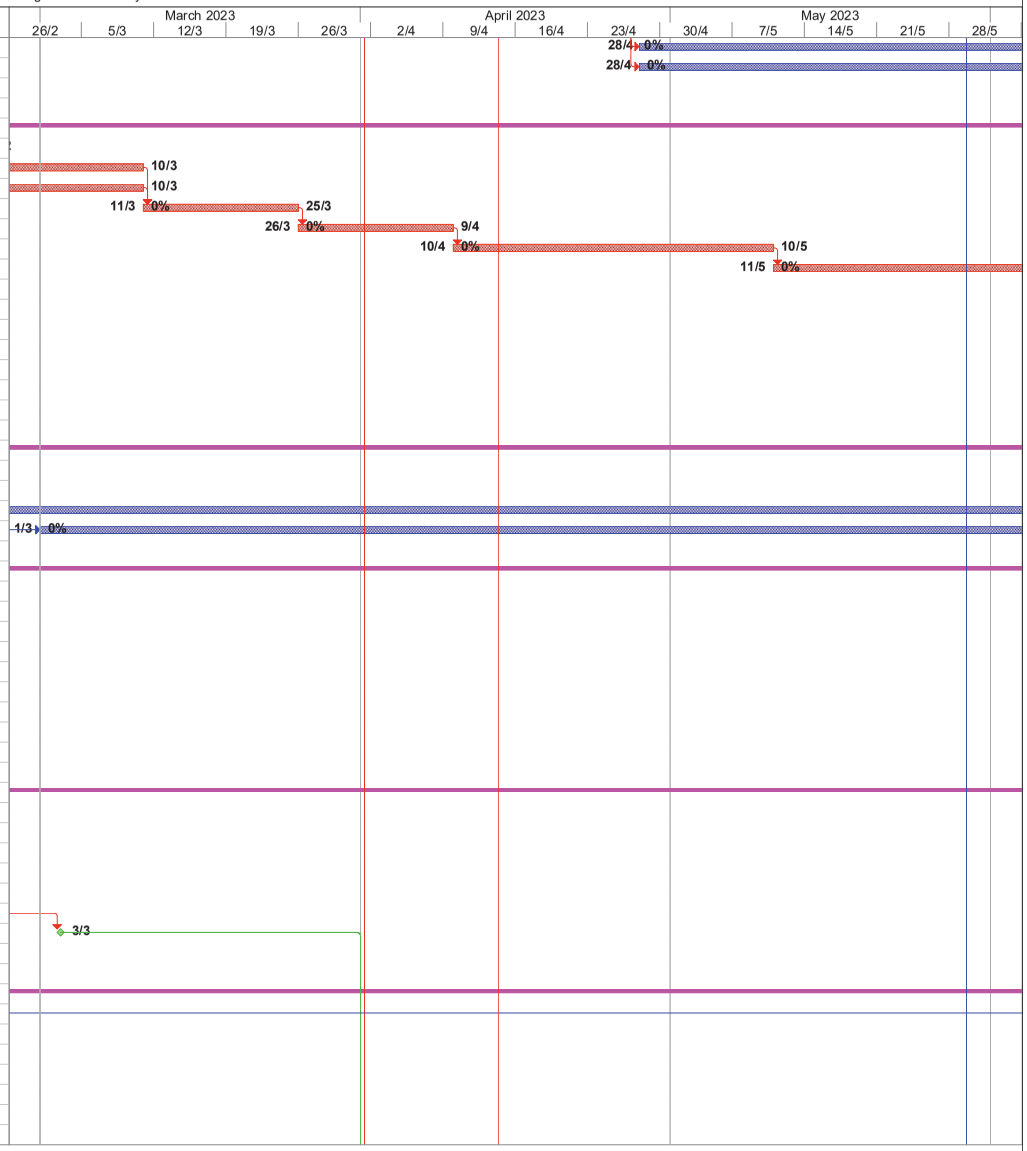


China International Water Electric Corp.

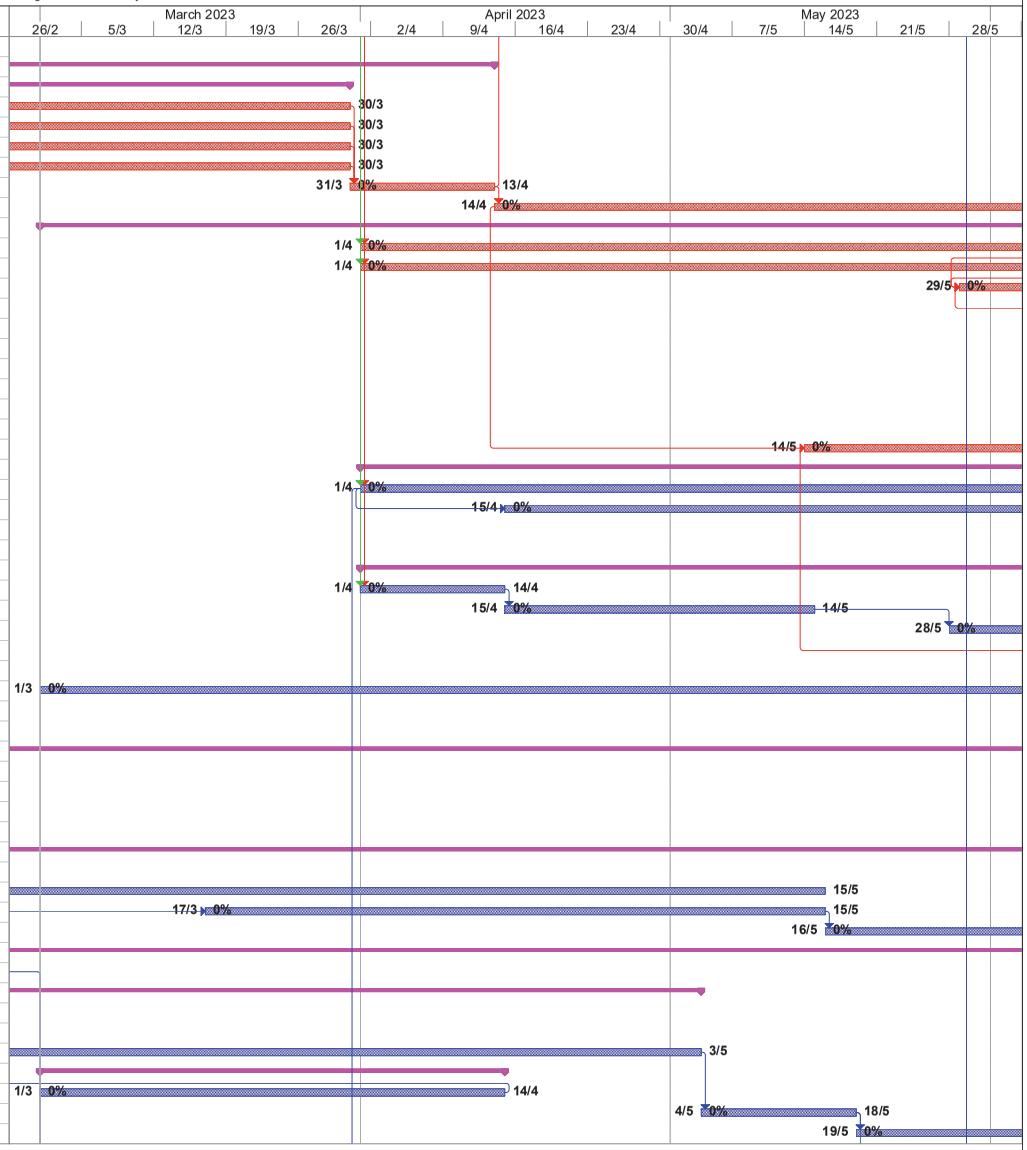
Task | Critical Task | Milestone | Summary

* Provisional subject to confirmation by PM

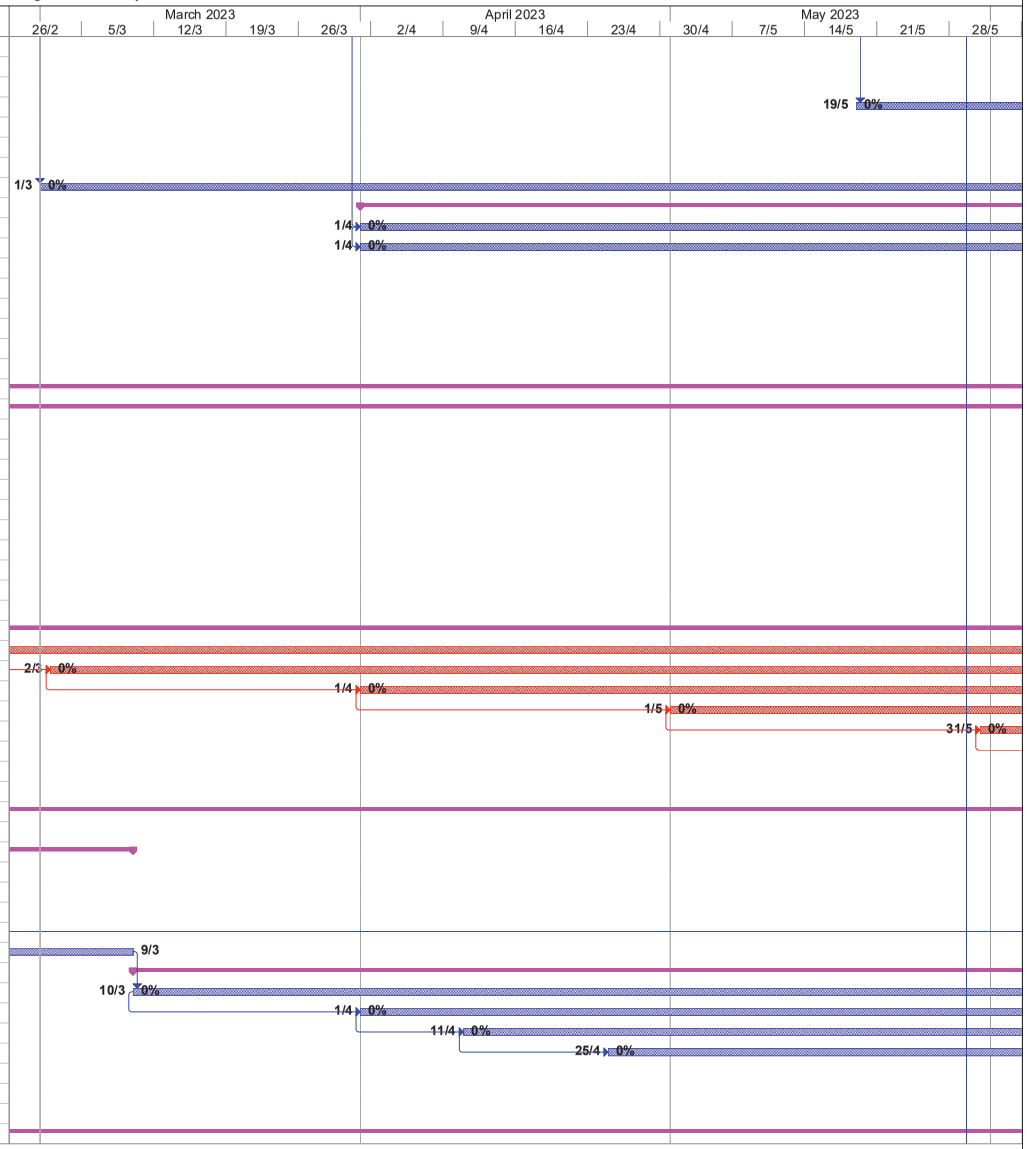
ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
382	Application for electricity power supply	120 days	Fri 28/4/23	Fri 25/8/23	361SS	0%
383	Installation including ducting and draw pit	150 days	Fri 28/4/23	Sun 24/9/23	361SS	0%
384	Energization	15 days	Mon 25/9/23	Mon 9/10/23	383	0%
385	Testing and Commissioning of lighting	15 days	Tue 10/10/23	Tue 24/10/23	384	0%
386	DOS - Play Area Design (cum PR Enhancement)	555 days	Wed 1/2/23	Thu 8/8/24		0%
387	DOS Play Area Design Proposal	22 days	Wed 1/2/23	Wed 22/2/23		0%
388	Play Area Enhancement Design	31 days	Wed 8/2/23	Fri 10/3/23	387FS-15 days	0%
389	Engagement of Park Facilities Supplier/Specialist	31 days	Wed 8/2/23	Fri 10/3/23	387FS-15 days	0%
390	Submission of Play Area Proposal to LCSD	15 days	Sat 11/3/23	Sat 25/3/23	389,388	0%
391	Submisiion of Play Area Engagement/PR Event Proposal	15 days	Sun 26/3/23	Sun 9/4/23	390	0%
392	Vetting by Departments	31 days	Mon 10/4/23	Wed 10/5/23	391	0%
393	Preparation of Events	30 days	Thu 11/5/23	Fri 9/6/23	392	0%
394	Engagement/PR Events	31 days	Sat 10/6/23	Mon 10/7/23	393	0%
395	Finalization of DOS Play Area Design	31 days	Tue 11/7/23	Thu 10/8/23	394	0%
396	LCSD Endorsement	14 days	Fri 11/8/23	Thu 24/8/23	395	0%
397	Shop Drawing	14 days	Fri 25/8/23	Thu 7/9/23	396	0%
398	Order & Production of Play Equipment	182 days	Fri 25/8/23	Thu 22/2/24	396	0%
399	DOS - Construction - Civil Work and hard landscape	184 days	Fri 8/9/23	Sat 9/3/24	397	0%
400	Installation of Safety Mat & Play Equipment	122 days	Sun 10/3/24	Tue 9/7/24	399,358FS-210 days	0%
401	Certification & Handover	30 days	Wed 10/7/24	Thu 8/8/24	400	0%
402	**Portion 2a**	**1075 days**	**Mon 30/8/21**	**Thu 8/8/24**		**0%**
403	Provision of site access [31 days after starting date as per Contract]	8 days	Mon 30/8/21	Mon 6/9/21	16SS	100%
404	Mobilization & Site Clearance	14 days	Tue 7/9/21	Mon 20/9/21	403	100%
405	Preparation & submission of MS, Temp.works, associated plans & docs	210 days	Wed 1/2/23	Tue 29/8/23	354	0%
406	Engineer's AIP of MS, Temp works, plans & associated docs	210 days	Wed 1/3/23	Tue 26/9/23	405SS+28 days	0%
407	Time Risk Allowance	24 days	Tue 21/9/21	Thu 14/10/21	404	100%
408	**Lake Park - Enhancement Design**	**770 da...**	**Fri 1/7/22**	**Thu 8/8/24**		**0%**
409	**Schematic Landscape Master (LMP)**	**77 days**	**Fri 1/7/22**	**Thu 15/9/2**		**100%**
410	Draft 1 -LMP with building footprint	7 days	Fri 1/7/22	Thu 7/7/22	407,354	100%
411	Draft 2 - LMP with building layout, EVA, Schedule of Accommocation (SOA)	8 days	Fri 8/7/22	Fri 15/7/22	410	100%
412	Draft 3 - LMP with landscape features (fence wall, shether, furniture, railing, view deck with BFA ramp	8 days	Sat 16/7/22	Sat 23/7/22	411	100%
413	Final Draft - LMP with Water Play design, Prelim MEP	8 days	Sun 24/7/22	Sun 31/7/22	412	100%
414	Revision of Urban forest Layout	8 days	Sat 16/7/22	Sat 23/7/22		100%
415	Finalization - Urban Forest Layout	8 days	Sun 24/7/22	Sun 31/7/22	414	100%
416	Review by CEDD	24 days	Fri 8/7/22	Sun 31/7/22	413FF,415FF	100%
417	Circlation LMP to DSD for comment	15 days	Mon 1/8/22	Mon 15/8/22	416	100%
418	LMP Finalzation	46 days	Mon 1/8/22	Thu 15/9/22	416,424FF	100%
419	**Design AIP, GBP & Approval**	**609 da...**	**Mon 1/8/22**	**Sun 31/3/2**		**0%**
420	Design Package 1 - Building Design	46 days	Mon 1/8/22	Thu 15/9/22	416,424FF	100%
421	Design Package 2 - Shelter, Fence Wall, Railing, decking	46 days	Mon 1/8/22	Thu 15/9/22	416,424FF	100%
422	Design Package 3 - Structural	46 days	Mon 1/8/22	Thu 15/9/22	416,424FF	100%
423	Design Package 4 - MEP	46 days	Mon 1/8/22	Thu 15/9/22	416,424FF	100%
424	Bi-weekly Review by CEDD	40 days	Sun 7/8/22	Thu 15/9/22	416	100%
425	Aip/Circulation to DSD for comment	23 days	Thu 1/9/22	Fri 23/9/22	424FS-15 days	100%
426	Obstaining AIP from DSD	0 days	Fri 3/3/23	Fri 3/3/23	425	0%
427	GBP Preparation & Submission	45 days	Thu 1/9/22	Sat 15/10/22	424FS-15 days	100%
428	ICE Approval	46 days	Sun 16/10/22	Wed 30/11/22	427	100%
429	**FSD GBP**	**527 da...**	**Sat 22/10/22**	**Sun 31/3/24**	**427**	**0%**
430	First submission	62 days	Sat 22/10/22	Thu 22/12/22	427	100%
431	Final amendment	31 days	Fri 1/12/23	Sun 31/12/23	430	0%
432	FSI inspection	33 days	Wed 28/2/24	Sun 31/3/24	431	0%
433	**DD (first batch, for cost estimation)**	**90 days**	**Tue 1/11/22**	**Sun 29/1/23**		**0%**
434	Architectural (layout)	60 days	Tue 1/11/22	Fri 30/12/22	428FS-30 days	100%
435	Structural (layout)	30 days	Thu 1/12/22	Fri 30/12/22	428	100%
436	E & M	60 days	Thu 1/12/22	Sun 29/1/23	428	75%



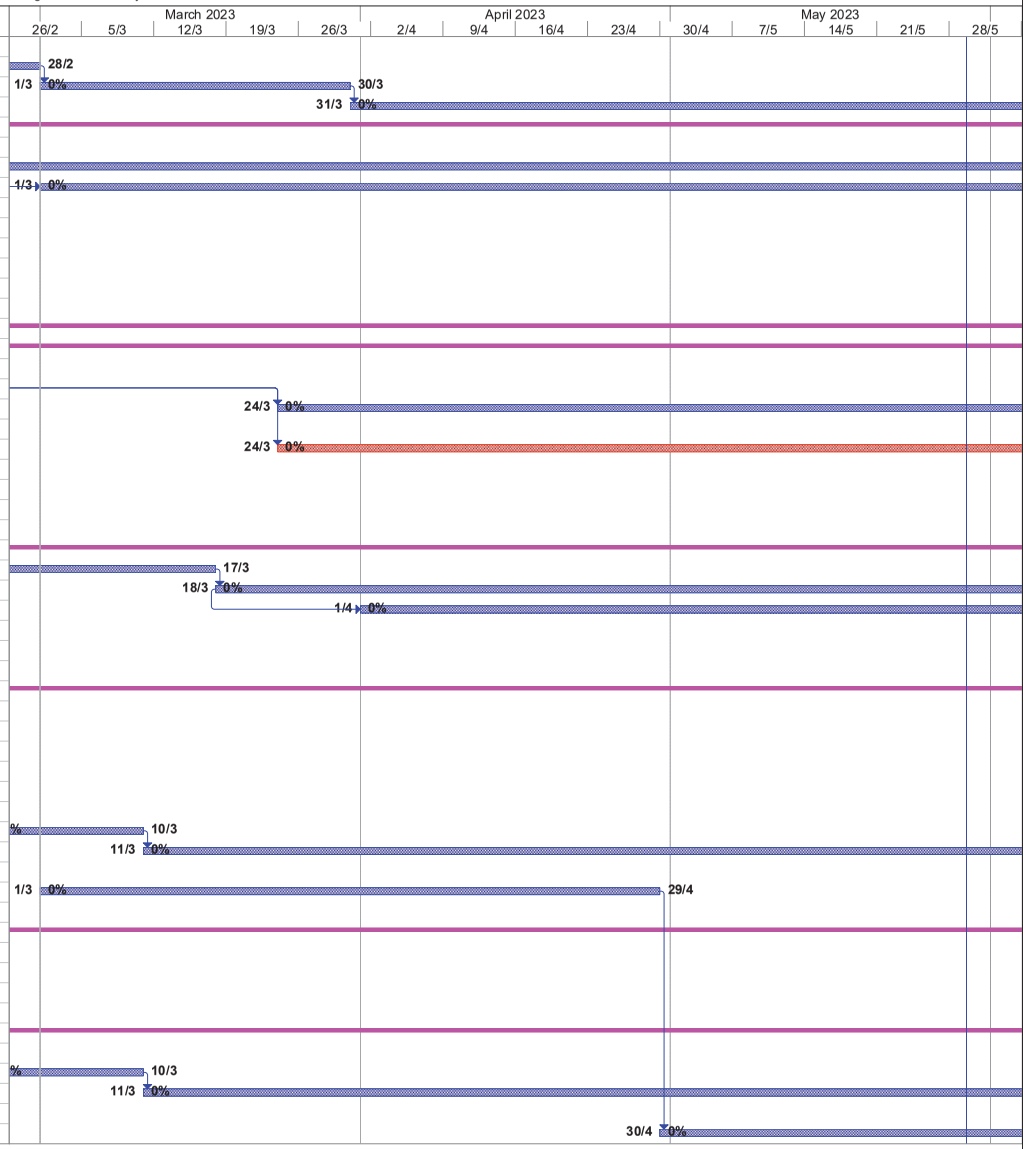
ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
437	Lighting	60 days	Thu 1/12/22	Sun 29/1/23	428	0%
438	**DD (second batch, for construction)**	**104 da...**	**Sat 31/12/22**	**Thu 13/4/23**		**0%**
439	**Preparation and submission**	**90 days**	**Sat 31/12/22**	**Thu 30/3/23**		**0%**
440	Architectural (details)	90 days	Sat 31/12/22	Thu 30/3/23	434	15%
441	Structural (details)	90 days	Sat 31/12/22	Thu 30/3/23	435	15%
442	E & M (revision on cm)	60 days	Mon 30/1/23	Thu 30/3/23	436	0%
443	Lighting (revision on cm)	60 days	Mon 30/1/23	Thu 30/3/23	437	0%
444	Approval	14 days	Fri 31/3/23	Thu 13/4/23	443,440,441,442	0%
445	Material submission	181 days	Fri 14/4/23	Wed 11/10/23	444	0%
446	**Construction**	**527 da...**	**Wed 1/3/23**	**Thu 8/8/24**		**0%**
447	Footing & foundation (buildings,shelters, fence wall & viewing deck)	181 days	Sat 1/4/23	Thu 28/9/23	315,426	0%
448	Laying of UU & Civil Works	181 days	Sat 1/4/23	Thu 28/9/23	315,426	0%
449	Super structure (Entry Portal, Water Treatment Plant, Function Rm, Toilets)	438 days	Mon 29/5/23	Thu 8/8/24	447FS-123 days,448FS	0%
450	Building Facade (Entry Portal, Water Treatment Plant, Function Rm, Toilets)	214 days	Tue 26/9/23	Fri 26/4/24	449SS+120 days	0%
451	Shethers	184 days	Fri 29/9/23	Sat 30/3/24	447,448	0%
452	Boundary fence wall	184 days	Fri 29/9/23	Sat 30/3/24	447,448	0%
453	MEP (details to be submitted separately)	302 days	Thu 12/10/23	Thu 8/8/24	447,448,449FF	0%
454	Water Play installation	183 days	Thu 8/2/24	Thu 8/8/24	449FF	0%
455	Interior	183 days	Thu 8/2/24	Thu 8/8/24	449FF	0%
456	T & C	183 days	Thu 8/2/24	Thu 8/8/24	449FF	0%
457	Hard Landscape (Planter ,bioswale, boardwalk, wetland, soil cell, paving, etc)	427 days	Sun 14/5/23	Sat 13/7/24	445SS+30 days	0%
458	**Lighting system**	**194 da...**	**Sat 1/4/23**	**Wed 11/10/23**		**0%**
459	Application for electricity power supply	120 days	Sat 1/4/23	Sat 29/7/23	315,426	0%
460	Installation	150 days	Sat 15/4/23	Mon 11/9/23	459SS+14 days	0%
461	Energization	15 days	Tue 12/9/23	Tue 26/9/23	460	0%
462	Testing and commissioning	15 days	Wed 27/9/23	Wed 11/10/23	461	0%
463	**Irrigation system**	**147 da...**	**Sat 1/4/23**	**Fri 25/8/23**		**0%**
464	Application for water supply	14 days	Sat 1/4/23	Fri 14/4/23	315,426	0%
465	Approval	30 days	Sat 15/4/23	Sun 14/5/23	464	0%
466	Installation	90 days	Sun 28/5/23	Fri 25/8/23	465	0%
467	Soft Landscape (Lake Island, Lake side and riparian planting) (In planting seasons)	61 days	Fri 1/3/24	Tue 30/4/24	457SS+292 days	0%
468	Soft Landscape (Trees and "flower sea") (In planting seasons)	60 days	Mon 10/6/24	Thu 8/8/24	457FS-34 days,469	0%
469	Nursery for Trees and Flower sea"	467 days	Wed 1/3/23	Sun 9/6/24		0%
470	Preparation of O&M Manual	184 days	Tue 11/7/23	Wed 10/1/24		0%
471	As-built drg/model	182 days	Fri 9/2/24	Thu 8/8/24	449FF,453FF,454FF,4	0%
472	**Portion 2b**	**911 days**	**Tue 14/12/21**	**Tue 11/6/24**		**0%**
473	Provision of site access [137 days after starting date as per Contract]	7 days	Tue 14/12/21	Mon 20/12/21	21SS	100%
474	Mobilization & Site Clearance	16 days	Tue 21/12/21	Wed 5/1/22	473	100%
475	Preparation & submission of MS, Temp works, associated plans & docs	240 days	Wed 5/1/22	Thu 1/9/22	474	100%
476	Engineer's AIP of MS, Temp., works, plans & associated docs	240 days	Wed 2/2/22	Thu 29/9/22	475SS+28 days	100%
477	**Artificial Lake Island**	**318 days**	**Mon 1/8/22**	**Wed 14/6/23**		**0%**
478	Gabion wall	80 days	Mon 1/8/22	Wed 19/10/22	476FS-60 days	100%
479	Placement of boulder	166 days	Thu 1/12/22	Mon 15/5/23	483	25%
480	Soil Placement	60 days	Fri 17/3/23	Mon 15/5/23	479SS+106 days	0%
481	Soft landscaping	30 days	Tue 16/5/23	Wed 14/6/23	480	0%
482	**Artificial lake**	**620 days**	**Sat 1/10/22**	**Tue 11/6/24**		**0%**
483	Water leakage test within the lake by others	42 days	Thu 20/10/22	Wed 30/11/22	478	100%
484	**Granite stone facing**	**215 days**	**Sat 1/10/22**	**Wed 3/5/23**		**0%**
485	Mock up	15 days	Sat 1/10/22	Sat 15/10/22		100%
486	Late delivery of granite stone due to COVID 19	0 days	Mon 5/12/22	Mon 5/12/22	485	0%
487	Installation	150 days	Mon 5/12/22	Wed 3/5/23	483,486,489FS-131 da	1%
488	**Enhancement works for lake base and mass concrete wall (PMI 051)**	**45 days**	**Wed 1/3/23**	**Fri 14/4/23**		**0%**
489	Installation of stainless steel angle	45 days	Wed 1/3/23	Fri 14/4/23		0%
490	Time Risk Allowance	15 days	Thu 4/5/23	Thu 18/5/23	487	0%
491	Construction of pavers for viewing steps	110 days	Fri 19/5/23	Tue 5/9/23	490	0%



ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
492	Construction of pavers for viewing deck A	110 days	Wed 6/9/23	Sun 24/12/23	491	0%
493	Construction of pavers for viewing deck B	95 days	Mon 25/12/23	Thu 28/3/24	492	0%
494	Construction of pavers for timber decking	55 days	Fri 29/3/24	Wed 22/5/24	493	0%
495	Soft landscaping works (soil placement and planting works) for Riparian zone A	80 days	Fri 19/5/23	Sun 6/8/23	490	0%
496	Soft landscaping works (soil placement and planting works) for Riparian zone B	120 days	Mon 7/8/23	Mon 4/12/23	495	0%
497	Soft landscaping works (soil placement and planting works) for Riparian zone C	120 days	Tue 5/12/23	Tue 2/4/24	496	0%
498	Soft landscaping works (other works) for Riparian zone C	70 days	Wed 3/4/24	Tue 11/6/24	496,497	0%
499	Nursery for Plantings	365 days	Wed 1/3/23	Wed 28/2/24	483	0%
500	**Lighting system**	**180 days**	**Sat 1/4/23**	**Wed 27/9/23**		**0%**
501	Application for electricity power supply	120 days	Sat 1/4/23	Sat 29/7/23	459SS	0%
502	Installation including ducting	150 days	Sat 1/4/23	Mon 28/8/23	501SS	0%
503	Energization	15 days	Tue 29/8/23	Tue 12/9/23	502	0%
504	Testing and Commissioning of lighting	15 days	Wed 13/9/23	Wed 27/9/23	503	0%
505	**Section of Works 1A - Establishment Works for all Landscape Softworks in Section 1 of the Works**	**365 days**	**Thu 8/8/24**	**Fri 8/8/25**		**0%**
506	Commencement of Establishment Work for Section 1	0 days	Thu 8/8/24	Thu 8/8/24	24,495,376,401,471	0%
507	Establishment Work Duration for Section 1	365 days	Fri 9/8/24	Fri 8/8/25	506	0%
508	Completion of Works in Section 1	0 days	Fri 8/8/25	Fri 8/8/25	507	0%
509	**Section of Works 2 - Portion 8**	**897 days**	**Fri 30/7/21**	**Fri 12/1/24**		**0%**
510	**Portion 8**	**897 days**	**Fri 30/7/21**	**Fri 12/1/24**		**0%**
511	Provision of site access [on starting date as per Contract]	7 days	Fri 30/7/21	Thu 5/8/21	32SS	0%
512	Mobilization& Site Clearance	14 days	Fri 6/8/21	Thu 19/8/21	511	0%
513	Preparation & submission of MS, Temp works, associated plans & docs	52 days	Fri 20/8/21	Sun 10/10/21	512	**100%**
514	Engineer's AIP of MS, Temp works, plans& associated docs	22 days	Mon 11/10/21	Mon 1/11/21	513	100%
515	**Drainage pipe and manhole**	**424 days**	**Tue 2/11/21**	**Fri 30/12/22**		**100%**
516	Excavation	350 days	Tue 2/11/21	Mon 17/10/22	514	100%
517	Pipe laying	330 days	Tue 7/12/21	Tue 1/11/22	516SS+35 days	100%
518	CCTV inspection, testing and commissioning	15 days	Wed 2/11/22	Wed 16/11/22	517	100%
519	Time Risk Allowance	14 days	Thu 17/11/22	Wed 30/11/22	518	100%
520	Backfilling	30 days	Thu 1/12/22	Fri 30/12/22	519	100%
521	**Hard landscape**	**377 days**	**Sun 1/1/23**	**Fri 12/1/24**		**0%**
522	Landscape wall	210 days	Sun 1/1/23	Sat 29/7/23	520	5%
523	Soil replacement	180 days	Thu 2/3/23	Mon 28/8/23	522SS+60 days	0%
524	U channel and catchpit	180 days	Sat 1/4/23	Wed 27/9/23	523SS+30 days	0%
525	Shelter, staricase, seat and railing	180 days	Mon 1/5/23	Fri 27/10/23	524SS+30 days	0%
526	edging	170 days	Wed 31/5/23	Thu 16/11/23	525SS+30 days	0%
527	Pavement	166 days	Mon 31/7/23	Fri 12/1/24	526SS+30 days,529FF	0%
528	Installation of park facilities	60 days	Tue 14/11/23	Fri 12/1/24	529FF	0%
529	Soft landscaping works	120 days	Fri 15/9/23	Fri 12/1/24	543FS-48 days	0%
530	**Retainning Wall**	**373 days**	**Tue 30/8/22**	**Wed 6/9/23**		**0%**
531	Issuance of site sketch for retaining wall (Letter M45/420/400708)	0 days	Tue 30/8/22	Tue 30/8/22		0%
532	**Stage 1 (RWA21, CH15 to CH51.5)**	**151 days**	**Mon 10/10/22**	**Thu 9/3/23**		**0%**
533	Excavation	60 days	Mon 10/10/22	Thu 8/12/22	531	100%
534	Blinding layer	60 days	Tue 1/11/22	Fri 30/12/22	533SS+22 days	100%
535	Base slab	60 days	Fri 11/11/22	Mon 9/1/23	534SS+10 days	100%
536	Wall stem	60 days	Fri 25/11/22	Mon 23/1/23	535SS+14 days	100%
537	Backfilling	45 days	Tue 24/1/23	Thu 9/3/23	536	0%
538	**Stage 2 (Remaining portion)**	**181 days**	**Fri 10/3/23**	**Wed 6/9/23**		**0%**
539	Excavation	90 days	Fri 10/3/23	Wed 7/6/23	537	0%
540	Blinding layer	90 days	Sat 1/4/23	Thu 29/6/23	539SS+22 days	0%
541	Base slab	90 days	Tue 11/4/23	Sun 9/7/23	540SS+10 days	0%
542	Wall stem	90 days	Tue 25/4/23	Sun 23/7/23	541SS+14 days	0%
543	Backfilling	45 days	Mon 24/7/23	Wed 6/9/23	542	0%
544	RC staicase at retaining wall	21 days	Thu 7/9/23	Wed 27/9/23	536,543	0%
545	Handrailing	30 days	Thu 28/9/23	Fri 27/10/23	544	0%
546	**Irrigation system**	**239 days**	**Sun 1/1/23**	**Sun 27/8/23**		**0%**



ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
547	Contractor's design	45 days	Sun 1/1/23	Tue 14/2/23		30%
548	Application for water supply	14 days	Wed 15/2/23	Tue 28/2/23	547	0%
549	Approval	30 days	Wed 1/3/23	Thu 30/3/23	548	0%
550	Installation	150 days	Fri 31/3/23	Sun 27/8/23	549	0%
551	**Lighting system**	**239 days**	**Sun 1/1/23**	**Sun 27/8/23**		**0%**
552	Contractor's design	45 days	Sun 1/1/23	Tue 14/2/23		30%
553	Application for electricity power supply	120 days	Wed 15/2/23	Wed 14/6/23	552	0%
554	Installation including ducting and draw pit	150 days	Wed 1/3/23	Fri 28/7/23	553SS+14 days	0%
555	Energization	15 days	Sat 29/7/23	Sat 12/8/23	554,553	0%
556	Testing and Commissioning of lighting	15 days	Sun 13/8/23	Sun 27/8/23	555	0%
557	**Section of Works 2A - Establishment Works for all Landscape Softworks in Section 2 of the Works**	**365 days**	**Sat 13/1/24**	**Sat 11/1/25**		**0%**
558	Commencement of Establishment Work for Section 2	0 days	Sat 13/1/24	Sat 13/1/24	559SS	0%
559	Establishment Work Duration for Section 2	365 days	Sat 13/1/24	Sat 11/1/25	527	0%
560	Completion of Works in Section 2	0 days	Sat 11/1/25	Sat 11/1/25	559	0%
561	**Section of Works 3 - Portions 1b, 3, 4, 5**	**838 days**	**Fri 30/7/21**	**Tue 14/11/23**		**0%**
562	**Portion 1b**	**351 days**	**Tue 29/11/22**	**Tue 14/11/23**		**0%**
563	Provision of site access [487 days after starting date as per Contract]	7 days	Tue 29/11/22	Mon 5/12/22	44SS	0%
564	Mobilization& Site Clearance	14 days	Tue 6/12/22	Mon 19/12/22	563	0%
565	Excavation and Construction of Sewerage line	120 days	Fri 24/3/23	Fri 21/7/23	564	0%
566	CCTV inspection, testing and commissioning of sewerage Line	14 days	Sat 8/7/23	Fri 21/7/23	565FF	0%
567	Excavation and Construction of Waterlines for treated water & flushing water	125 days	Fri 24/3/23	Wed 26/7/23	564	0%
568	Testing and Commissioning of Waterlines for treated water and flushing water	14 days	Thu 27/7/23	Wed 9/8/23	567	0%
569	Time Risk Allowance	7 days	Thu 10/8/23	Wed 16/8/23	568	0%
570	Backfilling and compaction of materials	30 days	Thu 17/8/23	Fri 15/9/23	568,569	0%
571	Construction of pavers	60 days	Sat 16/9/23	Tue 14/11/23	570	0%
572	**Llighting**	**179 days**	**Wed 1/2/23**	**Sat 29/7/23**		**0%**
573	Contractor's design	45 days	Wed 1/2/23	Fri 17/3/23		30%
574	Application for electricity power supply	120 days	Sat 18/3/23	Sat 15/7/23	573	0%
575	Installation including ducting and draw pit	90 days	Sat 1/4/23	Thu 29/6/23	574SS+14 days	0%
576	Energization	15 days	Fri 30/6/23	Fri 14/7/23	575	0%
577	Testing and Commissioning	15 days	Sat 15/7/23	Sat 29/7/23	576	0%
578	Soft landscape works (installation of pot planters)	50 days	Tue 26/9/23	Tue 14/11/23	571FF	0%
579	**Portion 3**	**738 days**	**Wed 29/9/21**	**Fri 6/10/23**		**0%**
580	Access date	0 days	Wed 29/9/21	Wed 29/9/21	49SS	0%
581	Deferred possession (CE 004 & 006)	61 days	Wed 29/9/21	Sun 28/11/21		100%
582	Provision of site access	7 days	Mon 29/11/21	Sun 5/12/21	581	100%
583	Mobilization& Site Clearance	14 days	Mon 6/12/21	Sun 19/12/21	582	100%
584	Preparation& submission of MS, Temp works, associated plans & docs	52 days	Mon 20/12/21	Wed 9/2/22	583	100%
585	Engineer AIP of MS, Temp works, plans& associated docs	21 days	Thu 10/2/22	Wed 2/3/22	584	100%
586	Provision of temporary drainage system	373 days	Thu 3/3/22	Fri 10/3/23	585	0%
587	Ground Cleaning, Scarifying, Ripping, Cultivation and Soil Replacement	120 days	Sat 11/3/23	Sat 8/7/23	586	0%
588	Soft landscaping works - Hydroseeding planting	90 days	Sun 9/7/23	Fri 6/10/23	587	0%
589	Installation of chain link fencing	60 days	Wed 1/3/23	Sat 29/4/23		0%
590	GI works (PMI 006)	7 days	Mon 3/10/22	Sun 9/10/22		0%
591	**Portion 4**	**799 days**	**Fri 30/7/21**	**Fri 6/10/23**		**0%**
592	Provision of site access [on starting date as per Contract]	7 days	Fri 30/7/21	Thu 5/8/21	54SS	0%
593	Remove AHM, Ground Cleaning, Scarifying, Ripping, Cultivation and Soil Replacement	60 days	Sun 9/7/23	Wed 6/9/23	587	0%
594	Soft landscaping works - Hydroseeding planting	30 days	Thu 7/9/23	Fri 6/10/23	593	0%
595	GI works (PMI 006)	10 days	Mon 10/10/22	Wed 19/10/22	590	0%
596	**Portion 5**	**557 days**	**Sun 27/2/22**	**Wed 6/9/23**		**0%**
597	Provision of site access [212 days after starting date as per Contract]	7 days	Sun 27/2/22	Sat 5/3/22	59SS	0%
598	Provision of temporary drainage system	370 days	Sun 6/3/22	Fri 10/3/23	597	0%
599	Ground Cleaning, Scarifying, Ripping, Cultivation and Soil Replacement	90 days	Sat 11/3/23	Thu 8/6/23	598	0%
600	Soft landscaping works - Hydroseeding planting	90 days	Fri 9/6/23	Wed 6/9/23	599	0%
601	Installation of chain link fencing	60 days	Sun 30/4/23	Wed 28/6/23	589	0%



China International Water Electric Corp.

Task | Critical Task | Milestone | Summary

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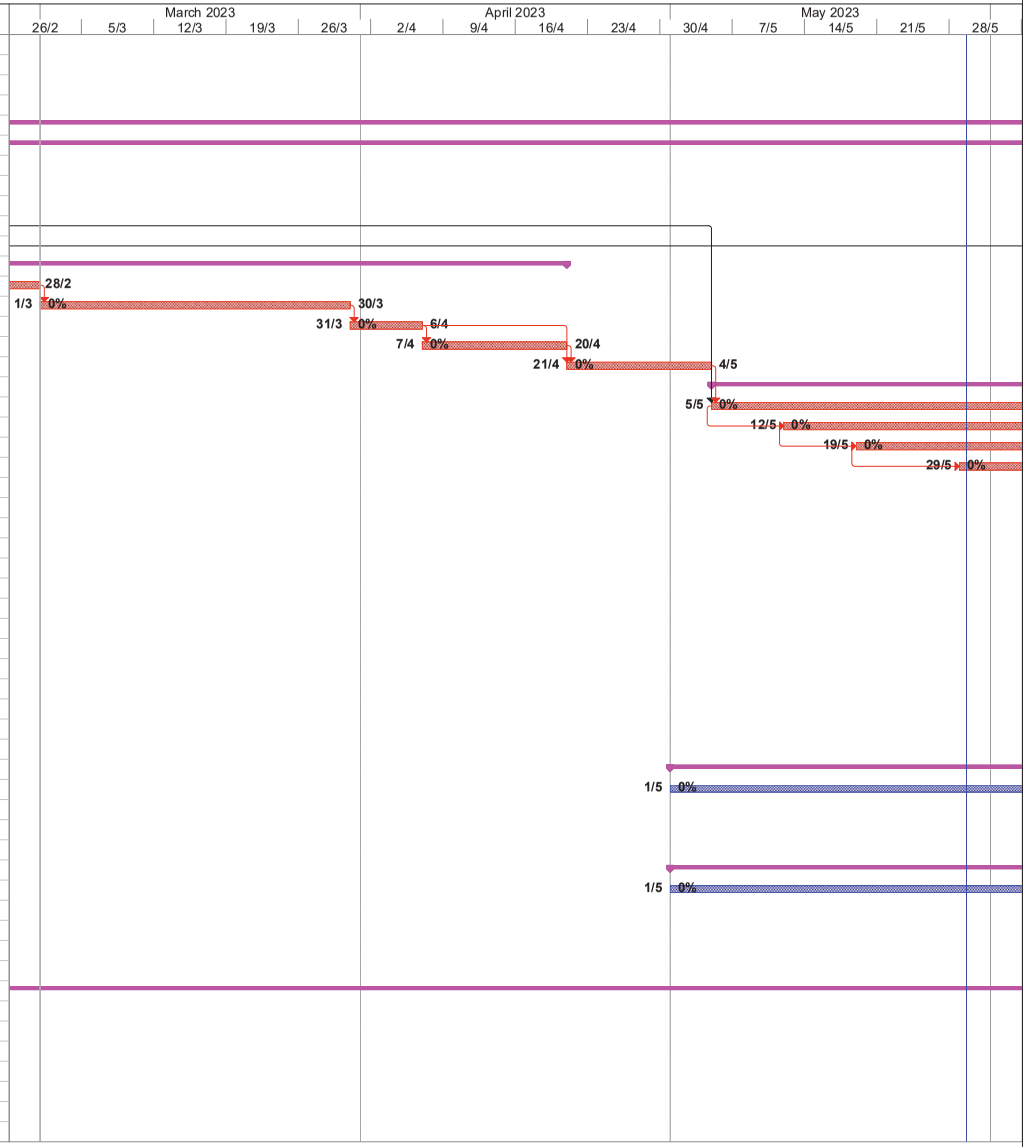
ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
602	**Section of Works 3A - Establishment Works for all Landscape Softworks in Section 3 of the Works**	**365 days**	**Wed 15/11/23**	**Wed 13/11/24**		**0%**
603	Commencement of Establishment Work for Section 3	0 days	Wed 15/11/23	Wed 15/11/23	604SS	0%
604	Establishment Work Duration for Section 3	365 days	Wed 15/11/23	Wed 13/11/24	571,588,594,600	0%
605	Completion of Works in Section 3	0 days	Wed 13/11/24	Wed 13/11/24	604	0%
606	**Section of Works 4 - Portions 6, 12**	**944 days**	**Fri 30/7/21**	**Wed 28/2/24**		**0%**
607	**Portion 6**	**761 days**	**Sat 29/1/22**	**Wed 28/2/24**		**0%**
608	Provision of site access [183 days after starting date as per Contract]	0 days	Sat 29/1/22	Sat 29/1/22	71SS	0%
609	Deferred possession	81 days	Sat 29/1/22	Tue 19/4/22	608	100%
610	Mobilization& Site Clearance	14 days	Wed 20/4/22	Tue 3/5/22	609	100%
611	Issuance of site sketch for retaining wall (Letter C10/500/400739)	0 days	Wed 14/9/22	Wed 14/9/22	610	0%
612	Drainage works under PMQP 004	0 days	Fri 14/10/22	Fri 14/10/22	610	0%
613	**Drainage pipe and manhole below the base slab of retaining wall**	**123 days**	**Mon 19/12/22**	**Thu 20/4/23**		**0%**
614	Excavation	72 days	Mon 19/12/22	Tue 28/2/23	612	40%
615	Pipe laying and manhole	30 days	Wed 1/3/23	Thu 30/3/23	614	0%
616	CCTV inspection, testing and commissioning	7 days	Fri 31/3/23	Thu 6/4/23	615	0%
617	Backfilling	14 days	Fri 7/4/23	Thu 20/4/23	616	0%
618	Time Risk Allowance	14 days	Fri 21/4/23	Thu 4/5/23	616,617	0%
619	**Retaining wall**	**128 days**	**Fri 5/5/23**	**Sat 9/9/23**		**0%**
620	Excavation	60 days	Fri 5/5/23	Mon 3/7/23	618,611	0%
621	Blinding layer	60 days	Fri 12/5/23	Mon 10/7/23	620SS+7 days	0%
622	Base slab	60 days	Fri 19/5/23	Mon 17/7/23	621SS+7 days	0%
623	Wall stem	60 days	Mon 29/5/23	Thu 27/7/23	622SS+10 days	0%
624	Backfilling	14 days	Fri 28/7/23	Thu 10/8/23	623	0%
625	Handrailing	30 days	Fri 11/8/23	Sat 9/9/23	624	0%
626	**Drainage pipe and manhole above the base slab of retaining wall**	**51 days**	**Fri 11/8/23**	**Sat 30/9/23**		**0%**
627	Pipe laying and manhole	30 days	Fri 11/8/23	Sat 9/9/23	624,612	0%
628	CCTV inspection, testing and commissioning	7 days	Sun 10/9/23	Sat 16/9/23	627	0%
629	Backfilling	14 days	Sun 17/9/23	Sat 30/9/23	628	0%
630	**Hard landscape**	**151 days**	**Sun 1/10/23**	**Wed 28/2/24**		**0%**
631	Landscape wall	60 days	Sun 1/10/23	Wed 29/11/23	629	0%
632	Soil replacement	60 days	Tue 31/10/23	Fri 29/12/23	631SS+30 days	0%
633	U channel and catchpit	60 days	Mon 20/11/23	Thu 18/1/24	632SS+20 days	0%
634	Shelter, staricase, seat and railing	60 days	Sun 10/12/23	Wed 7/2/24	633SS+20 days	0%
635	edging	50 days	Sat 30/12/23	Sat 17/2/24	634SS+20 days	0%
636	Pavement	40 days	Sat 20/1/24	Wed 28/2/24	635SS+20 days,637FF	0%
637	Soft landscaping works	90 days	Fri 1/12/23	Wed 28/2/24		0%
638	**Irrigation system**	**239 days**	**Mon 1/5/23**	**Mon 25/12/23**		**0%**
639	Contractor's design	45 days	Mon 1/5/23	Wed 14/6/23		0%
640	Application for water supply	14 days	Thu 15/6/23	Wed 28/6/23	639	0%
641	Approval	30 days	Thu 29/6/23	Fri 28/7/23	640	0%
642	Installation	150 days	Sat 29/7/23	Mon 25/12/23	641	0%
643	**Lighting system**	**239 days**	**Mon 1/5/23**	**Mon 25/12/23**		**0%**
644	Contractor's design	45 days	Mon 1/5/23	Wed 14/6/23		0%
645	Application for electricity power supply	120 days	Thu 15/6/23	Thu 12/10/23	644	0%
646	Installation including ducting and draw pit	150 days	Thu 29/6/23	Sat 25/11/23	645SS+14 days	0%
647	Energization	15 days	Sun 26/11/23	Sun 10/12/23	646	0%
648	Testing and Commissioning of lighting	15 days	Mon 11/12/23	Mon 25/12/23	647	0%
649	**Portion 12**	**944 days**	**Fri 30/7/21**	**Wed 28/2/24**		**0%**
650	Provision of site access [on starting date as per Contract]	7 days	Fri 30/7/21	Thu 5/8/21	76SS	100%
651	Mobilization& Site Clearance	14 days	Fri 6/8/21	Thu 19/8/21	650	100%
652	Preparation& submission of MS, Temp works, associated plans & docs	52 days	Fri 20/8/21	Sun 10/10/21	651	100%
653	Engineer's AIP of MS, Temp works, plans& associated docs	22 days	Mon 11/10/21	Mon 1/11/21	652	100%
654	**Drainage pipe and manhole**	**424 days**	**Tue 2/11/21**	**Fri 30/12/22**		**100%**
655	Excavation	364 days	Tue 2/11/21	Mon 31/10/22	653	100%
656	Pipe laying	245 days	Wed 16/3/22	Tue 15/11/22	655FS-230 days	100%



China International Water Electric Corp.

Task | Critical Task | Milestone | Summary

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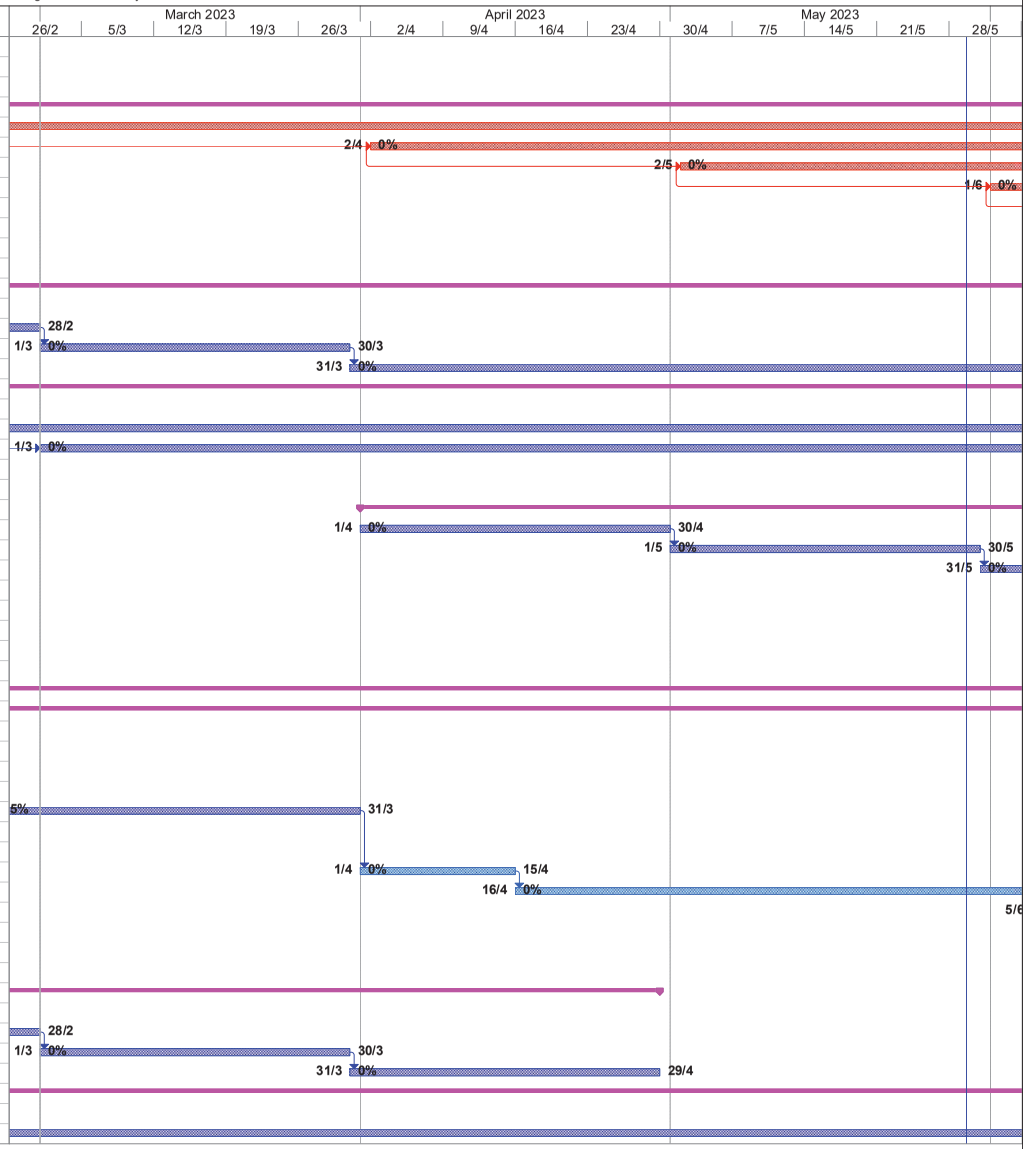
ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
657	CCTV inspection, testing and commissioning	15 days	Wed 16/11/22	Wed 30/11/22	656	100%
658	Time Risk Allowance	14 days	Thu 1/12/22	Wed 14/12/22	657	100%
659	Backfilling	16 days	Thu 15/12/22	Fri 30/12/22	658	100%
660	**Hard landscape**	**393 days**	**Wed 1/2/23**	**Wed 28/2/24**		**0%**
661	Landscape wall	240 days	Wed 1/2/23	Thu 28/9/23	659	0%
662	Soil replacement	210 days	Sun 2/4/23	Sat 28/10/23	661SS+60 days	0%
663	U channel and catchpit	210 days	Tue 2/5/23	Mon 27/11/23	662SS+30 days	0%
664	Shelter, staricase, seat and railing	210 days	Thu 1/6/23	Wed 27/12/23	663SS+30 days	0%
665	edging	210 days	Sat 1/7/23	Fri 26/1/24	664SS+30 days	0%
666	Pavement	213 days	Mon 31/7/23	Wed 28/2/24	665SS+30 days,668FF	0%
667	Installation of park facilities	60 days	Sun 31/12/23	Wed 28/2/24	668FF	0%
668	Soft landscaping work i.e. trees, shrubs greening works	120 days	Wed 1/11/23	Wed 28/2/24		0%
669	**Irrigation system**	**239 days**	**Sun 1/1/23**	**Sun 27/8/23**		**0%**
670	Contractor's design	45 days	Sun 1/1/23	Tue 14/2/23		30%
671	Application for water supply	14 days	Wed 15/2/23	Tue 28/2/23	670	0%
672	Approval	30 days	Wed 1/3/23	Thu 30/3/23	671	0%
673	Installation	150 days	Fri 31/3/23	Sun 27/8/23	672	0%
674	**Lighting system**	**224 days**	**Sun 1/1/23**	**Sat 12/8/23**		**0%**
675	Contractor's design	45 days	Sun 1/1/23	Tue 14/2/23		30%
676	Application for water supply	120 days	Wed 15/2/23	Wed 14/6/23	675	0%
677	Installation	150 days	Wed 1/3/23	Fri 28/7/23	676SS+14 days	0%
678	Testing and Commissioning of lighting	15 days	Sat 29/7/23	Sat 12/8/23	677	0%
679	Additional GI at Portion 12 (PMI 005)	15 days	Sun 13/8/23	Sun 27/8/23	678	0%
680	**Watermain**	**104 days**	**Sat 1/4/23**	**Thu 13/7/23**		**0%**
681	Excavation	30 days	Sat 1/4/23	Sun 30/4/23		0%
682	Pipe laying	30 days	Mon 1/5/23	Tue 30/5/23	681	0%
683	Water connection	30 days	Wed 31/5/23	Thu 29/6/23	682	0%
684	Testing and commissioning	14 days	Fri 30/6/23	Thu 13/7/23	683	0%
685	**Section of Works 4A - Establishment Works for all Landscape Softworks in Section 4 of the Works**	**365 days**	**Wed 28/2/24**	**Thu 27/2/25**		**0%**
686	Commencement of Establishment Work for Section 4	0 days	Wed 28/2/24	Wed 28/2/24	79,668,637	0%
687	Establishment Work Duration for Section 4	365 days	Thu 29/2/24	Thu 27/2/25	686	0%
688	Completion of Works in Section 4	0 days	Thu 27/2/25	Thu 27/2/25	687	0%
689	**Section of Works 5A - Portions 9, 10**	**806 days**	**Fri 30/7/21**	**Fri 13/10/23**		**0%**
690	**Portion 9 [Sitting Out Area C & R2-1 Footpath]**	**739 days**	**Wed 29/9/21**	**Sat 7/10/23**		**0%**
691	Provision of site access [61 days after starting date as per Contract]	8 days	Wed 29/9/21	Wed 6/10/21	88SS	100%
692	Mobilization& Site Clearance	15 days	Thu 7/10/21	Thu 21/10/21	691	100%
693	Preparation& submission of MS, Temp works, associated plans & docs	75 days	Tue 1/2/22	Sat 16/4/22	692	100%
694	Engineer AIP of MS, Temp works, plans& associated docs	60 days	Sun 17/4/22	Wed 15/6/22	693	100%
695	Construction of U channel and catchpit	289 days	Thu 16/6/22	Fri 31/3/23	694,696FS-65 days,69	0%
696	Modification of existing surface drain at slope toe (PMI 032)	0 days	Fri 19/8/22	Fri 19/8/22		0%
697	Modification of existing surface drain at slope toe (PMI 050)	0 days	Wed 28/9/22	Wed 28/9/22	696	0%
698	Time Risk Allowance	15 days	Sat 1/4/23	Sat 15/4/23	695	0%
699	Backfilling and compaction of road materials	50 days	Sun 16/4/23	Sun 4/6/23	698	0%
700	Installation of E1 kerbs	21 days	Mon 5/6/23	Sun 25/6/23	699	0%
701	Construction of porous pavement footpath	44 days	Mon 26/6/23	Tue 8/8/23	700	0%
702	Installation of street furniture, traffic signs, bollards and road markings	30 days	Wed 9/8/23	Thu 7/9/23	701	0%
703	Landscaping works	60 days	Wed 9/8/23	Sat 7/10/23	700FS+10 days	0%
704	**Irrigation system**	**119 days**	**Sun 1/1/23**	**Sat 29/4/23**		**0%**
705	Contractor's design	45 days	Sun 1/1/23	Tue 14/2/23		30%
706	Application for water supply	14 days	Wed 15/2/23	Tue 28/2/23	705	0%
707	Approval	30 days	Wed 1/3/23	Thu 30/3/23	706	0%
708	Installation	30 days	Fri 31/3/23	Sat 29/4/23	707	0%
709	**Lighting system**	**165 days**	**Sun 1/1/23**	**Wed 14/6/23**		**0%**
710	Contractor's design	45 days	Sun 1/1/23	Tue 14/2/23		30%
711	Application for electricity power supply	120 days	Wed 15/2/23	Wed 14/6/23	710	0%

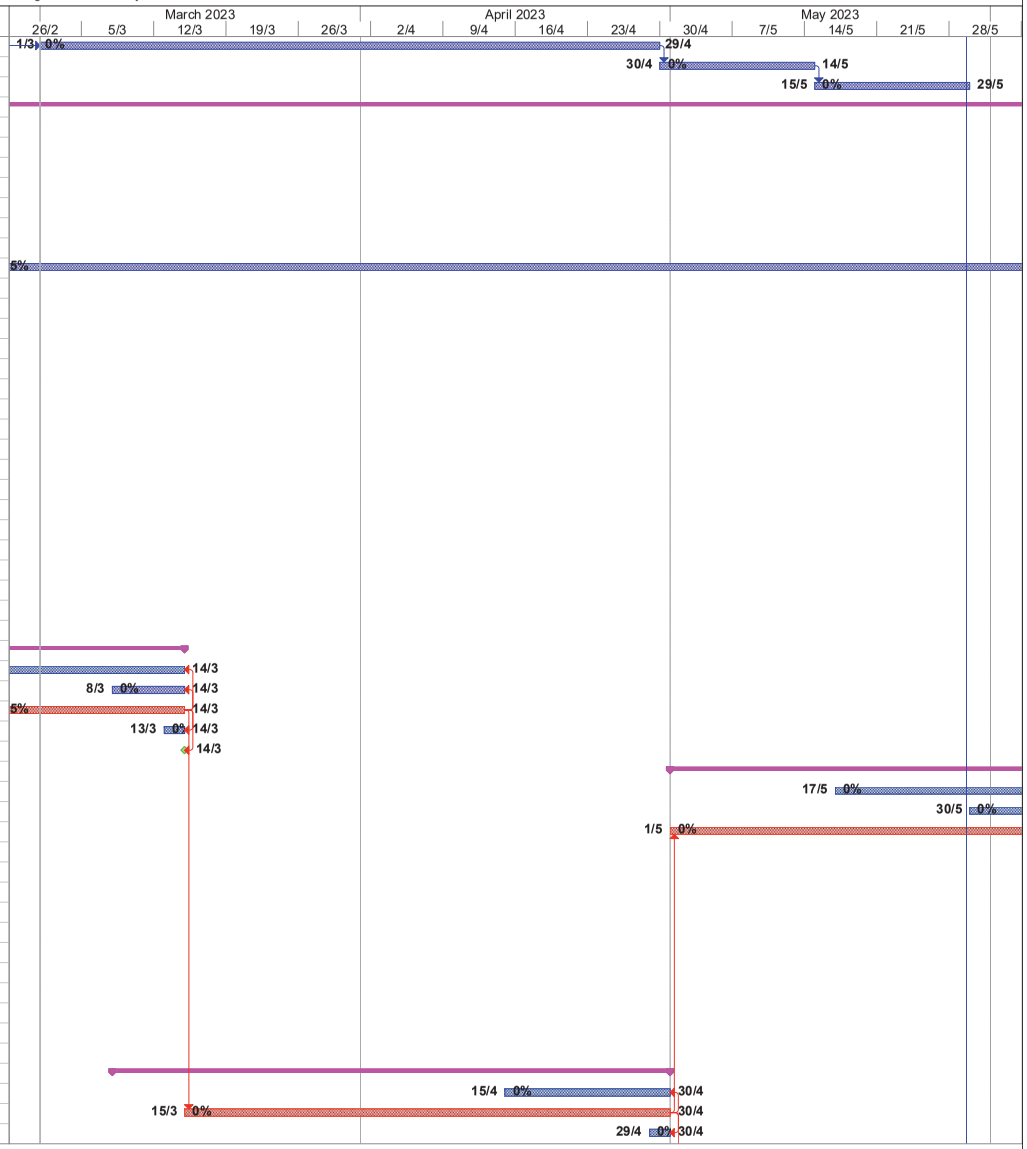


China International Water Electric Corp.

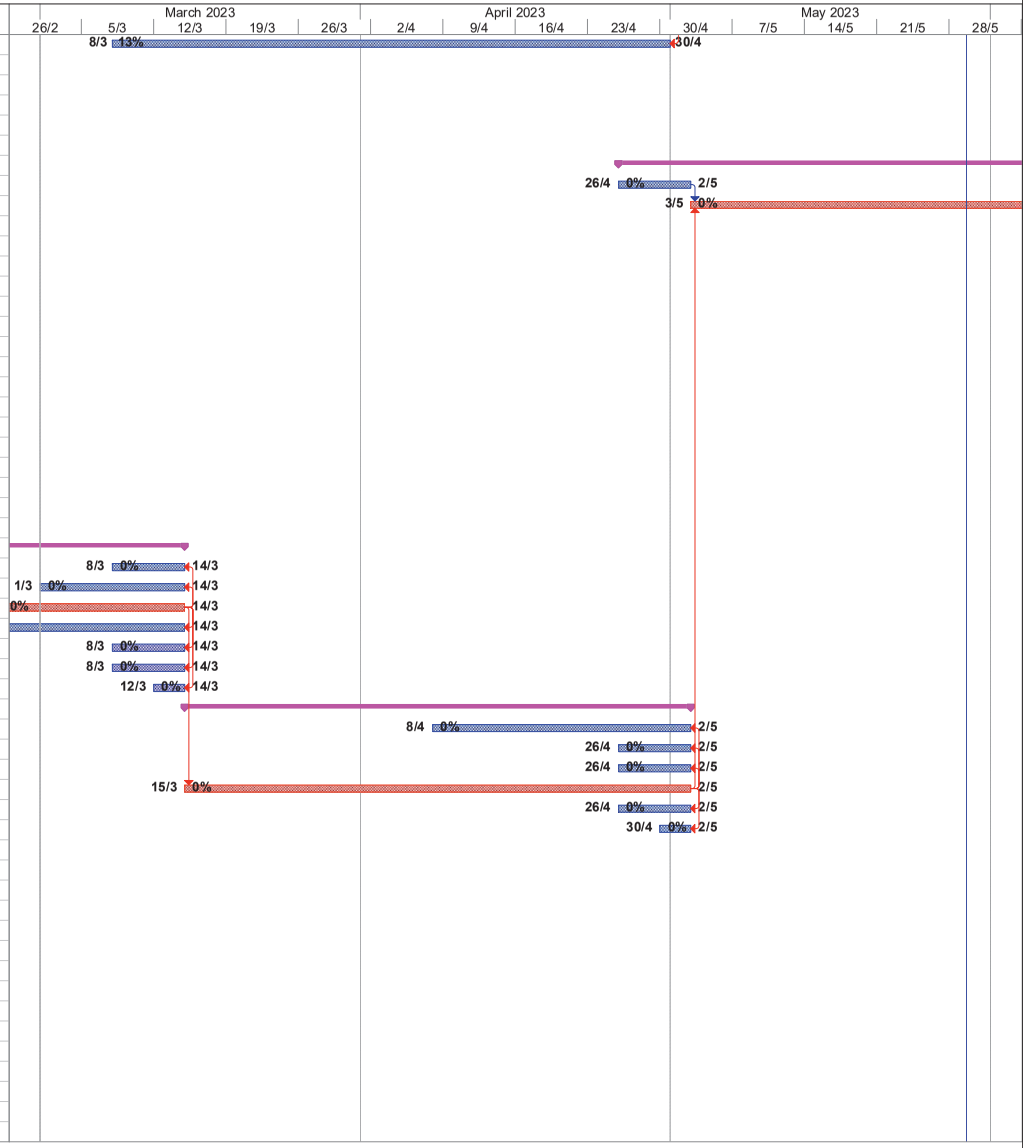
Task | Critical Task | Milestone | Summary

* Provisional subject to confirmation by PM

ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
712	Installation including ducting and draw pit	60 days	Wed 1/3/23	Sat 29/4/23	711SS+14 days	0%
713	Energization	15 days	Sun 30/4/23	Sun 14/5/23	712	0%
714	Testing and Commissioning	15 days	Mon 15/5/23	Mon 29/5/23	713	0%
715	**Portion 10**	**806 days**	**Fri 30/7/21**	**Fri 13/10/23**		**0%**
716	Provision of site access [on starting date as per Contract]	7 days	Fri 30/7/21	Thu 5/8/21	93SS	100%
717	Slope inspection & assessment work	50 days	Fri 6/8/21	Fri 24/9/21	716	100%
718	Mobilization, access arrangements, logistic plan & Site Clearance	52 days	Sat 25/9/21	Mon 15/11/21	717	100%
719	Preparation & submission of MS, Temp works, associated plans & docs	37 days	Tue 16/11/21	Wed 22/12/21	718	100%
720	Time Risk Allowance	16 days	Thu 23/12/21	Fri 7/1/22	719	100%
721	Engineer's AIP of MS, Temp.works, plans & associated docs	21 days	Sat 8/1/22	Fri 28/1/22	720	100%
722	Demolition and removal of disused water pipe and sprinkler system	160 days	Sat 29/1/22	Thu 7/7/22	721	100%
723	Reinstatement of joint sealant at drainage channel	393 days	Fri 16/9/22	Fri 13/10/23	725FF,722	25%
724	**Slope Works at Feature No. 11NE-D/C998 (409m)**	**50 days**	**Fri 25/8/23**	**Fri 13/10/23**		**0%**
725	Construction of concrete maintenance staircase with hand railings	50 days	Fri 25/8/23	Fri 13/10/23	739FS-16 days	0%
726	Installation of display sign for slope registration no. x2	7 days	Sat 7/10/23	Fri 13/10/23	725FF	0%
727	**Slope Works at Feature No. 11NE-D/FR657 (63m)**	**30 days**	**Fri 16/6/23**	**Sat 15/7/23**		**0%**
728	Filling of void with cement soil	8 days	Sat 8/7/23	Sat 15/7/23	729FF	0%
729	Construction of concrete berm	30 days	Fri 16/6/23	Sat 15/7/23	751	0%
730	Installation of hand railings	15 days	Sat 1/7/23	Sat 15/7/23	729FF	0%
731	Installation of display sign for slope registration no. x1	3 days	Thu 13/7/23	Sat 15/7/23	729FF	0%
732	Repainting of handrailing	7 days	Sun 9/7/23	Sat 15/7/23	729FF	100%
733	**Slope Works at Feature No. 11NE-D/C1003 (265m)**	**35 days**	**Sun 16/7/23**	**Sat 19/8/23**		**0%**
734	Construction of concrete berm	35 days	Sun 16/7/23	Sat 19/8/23	730	0%
735	Installation of hand railings	8 days	Sat 12/8/23	Sat 19/8/23	734FF	0%
736	Installation of display sign for slope registration no. x1	3 days	Thu 17/8/23	Sat 19/8/23	734FF	0%
737	**Slope Works at Feature No. 11NE-D/C1006 (60m)**	**21 days**	**Sun 20/8/23**	**Sat 9/9/23**		**0%**
738	Construction of concrete berm (~30m)	21 days	Sun 20/8/23	Sat 9/9/23	734	0%
739	Installation of hand railings (~30m)	7 days	Sun 3/9/23	Sat 9/9/23	738FF	0%
740	Installation of display sign for slope registration no. x1	3 days	Thu 7/9/23	Sat 9/9/23	738FF	0%
741	Repainting of handrailing	7 days	Sun 3/9/23	Sat 9/9/23	738FF	100%
742	**Slope Works at Feature No. 11NE-D/C987 (90m)**	**250 days**	**Fri 8/7/22**	**Tue 14/3/23**		**0%**
743	Construction of concrete berm	21 days	Wed 22/2/23	Tue 14/3/23	745FF	0%
744	Installation of hand railings	7 days	Wed 8/3/23	Tue 14/3/23	745FF	0%
745	Installation of non-biodegradable erosion control mat with hydroseeding	250 days	Fri 8/7/22	Tue 14/3/23	722	75%
746	Installation of display sign for slope registration no. x1	2 days	Mon 13/3/23	Tue 14/3/23	745FF	0%
747	Repainting of handrailing	0 days	Tue 14/3/23	Tue 14/3/23	745FF	100%
748	**Slope Works at Feature No. 11NE-D/C980 (55m)**	**46 days**	**Mon 1/5/23**	**Thu 15/6/23**		**0%**
749	Construction of concrete berm	30 days	Wed 17/5/23	Thu 15/6/23	751FF	0%
750	Installation of hand railings	17 days	Tue 30/5/23	Thu 15/6/23	751FF	0%
751	Installation of non-biodegradable erosion control mat with hydroseeding*	46 days	Mon 1/5/23	Thu 15/6/23	765	0%
752	Installation of display sign for slope registration no. x1	2 days	Wed 14/6/23	Thu 15/6/23	751FF	0%
753	Repainting of handrailing	7 days	Fri 9/6/23	Thu 15/6/23	751FF	100%
754	**Slope Works at Feature No. 11NE-D/C174 (70m)**	**7 days**	**Sun 16/7/23**	**Sat 22/7/23**		**0%**
755	Installation of display sign for slope registration no. x1	3 days	Thu 20/7/23	Sat 22/7/23	756FF	0%
756	Reinstatement of sprayed concrete	7 days	Sun 16/7/23	Sat 22/7/23	728	0%
757	**Slope Works at Feature No. 11NE-D/C688 (167m)**	**37 days**	**Thu 17/8/23**	**Fri 22/9/23**		**0%**
758	Installation of display sign for slope registration no. x1	9 days	Thu 14/9/23	Fri 22/9/23	760FF	0%
759	Construction of tree rings x9	7 days	Sat 16/9/23	Fri 22/9/23	760FF	0%
760	Reinstatement of sprayed concrete	37 days	Thu 17/8/23	Fri 22/9/23	756	0%
761	**Slope Works at Feature No. 11NE-D/C999 (250m)**	**3 days**	**Sat 23/9/23**	**Mon 25/9/23**		**0%**
762	Installation of display sign for slope registration no. x2	3 days	Sat 23/9/23	Mon 25/9/23	760	0%
763	**Slope Works at Feature No. 11NE-D/C1026 (60m)**	**54 days**	**Wed 8/3/23**	**Sun 30/4/23**		**0%**
764	Filling of void with cement soil	16 days	Sat 15/4/23	Sun 30/4/23	765FF	0%
765	Installation of non-biodegradable erosion control mat with hydroseeding	47 days	Wed 15/3/23	Sun 30/4/23	745	0%
766	Installation of display sign for slope registration no. x1	2 days	Sat 29/4/23	Sun 30/4/23	765FF	0%



ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
767	Repainting of handrailing	54 days	Wed 8/3/23	Sun 30/4/23	765FF	0%
768	**Slope Works at Feature No. 11NE-D/C979 (45m)**	**14 days**	**Sun 17/9/23**	**Sat 30/9/23**		**0%**
769	Construction of concrete berm	14 days	Sun 17/9/23	Sat 30/9/23	813	0%
770	Installation of hand railings	7 days	Sun 24/9/23	Sat 30/9/23	769FF	0%
771	Installation of display sign for slope registration no. x1	2 days	Fri 29/9/23	Sat 30/9/23	769FF	0%
772	Repainting of handrailing	7 days	Sun 24/9/23	Sat 30/9/23	769FF	100%
773	**Slope Works at Feature No. 11NE-D/C947 (420m)**	**71 days**	**Wed 26/4/23**	**Wed 5/7/23**		**0%**
774	Filling of void with cement soil	7 days	Wed 26/4/23	Tue 2/5/23		0%
775	Removal of damaged wire mesh and construction of new wire mesh	64 days	Wed 3/5/23	Wed 5/7/23	804,774	0%
776	Installation of hand railings	14 days	Thu 22/6/23	Wed 5/7/23	775FF	0%
777	Installation of display sign for slope registration no. x2	3 days	Mon 3/7/23	Wed 5/7/23	775FF	0%
778	Reinstatement of concrete berm	7 days	Thu 29/6/23	Wed 5/7/23	775FF	0%
779	Repainting of handrailing	7 days	Thu 29/6/23	Wed 5/7/23	775FF	0%
780	**Slope Works at Feature No. 11NE-D/C977 (300m)**	**50 days**	**Thu 6/7/23**	**Thu 24/8/23**		**0%**
781	Construction of 450 mm U-channel (~175m)	29 days	Thu 27/7/23	Thu 24/8/23	782FF	0%
782	Construction of wire mesh	50 days	Thu 6/7/23	Thu 24/8/23	775	0%
783	Installation of display sign for slope registration no. x2	2 days	Wed 23/8/23	Thu 24/8/23	782FF	0%
784	Construction of handrailing	7 days	Fri 18/8/23	Thu 24/8/23	782FF	0%
785	Repainting of handrailing	7 days	Fri 18/8/23	Thu 24/8/23	782FF	0%
786	**Slope Works at Feature No. 11NE-D/C986 (190m)**	**104 days**	**Sun 2/7/23**	**Fri 13/10/23**		**0%**
787	Filling of void with cement soil	7 days	Sun 2/7/23	Sat 8/7/23		0%
788	Construction of concrete berm	20 days	Sun 9/7/23	Fri 28/7/23	787	0%
789	Installation of hand railings	6 days	Sun 23/7/23	Fri 28/7/23	788FF	0%
790	Construction of wire mesh	50 days	Fri 25/8/23	Fri 13/10/23	782	0%
791	Installation of display sign for slope registration no. x2	3 days	Wed 11/10/23	Fri 13/10/23	790FF	0%
792	**Slope Works at Feature No. 11NE-D/C871 (260m)**	**250 days**	**Fri 8/7/22**	**Tue 14/3/23**		**0%**
793	Construction of lockable gate	7 days	Wed 8/3/23	Tue 14/3/23	795FF	0%
794	Removal of existing damaged hand railings	14 days	Wed 1/3/23	Tue 14/3/23	795FF	0%
795	Installation of hand railings	250 days	Fri 8/7/22	Tue 14/3/23	722	40%
796	Installation of non-biodegradable erosion control mat with hydroseeding*	24 days	Sun 19/2/23	Tue 14/3/23	795FF	0%
797	Reinstatement of concrete berm	7 days	Wed 8/3/23	Tue 14/3/23	795FF	0%
798	Repainting of handrailing	7 days	Wed 8/3/23	Tue 14/3/23	795FF	0%
799	Installation of display sign for slope registration no. x2	3 days	Sun 12/3/23	Tue 14/3/23	795FF	0%
800	**Slope Works at Feature No. 11NE-D/C976 (185m)**	**49 days**	**Wed 15/3/23**	**Tue 2/5/23**		**0%**
801	Construction of concrete berm	25 days	Sat 8/4/23	Tue 2/5/23	804FF	0%
802	Installation of hand railings	7 days	Wed 26/4/23	Tue 2/5/23	804FF	0%
803	Repainting of existing steel maintenance staircase	7 days	Wed 26/4/23	Tue 2/5/23	804FF	0%
804	Construction of wire mesh	49 days	Wed 15/3/23	Tue 2/5/23	795	0%
805	Removal of existing handrailing and steel landing plates and re-construction	7 days	Wed 26/4/23	Tue 2/5/23	804FF	0%
806	Installation of display sign for slope registration no. x2	3 days	Sun 30/4/23	Tue 2/5/23	804FF	0%
807	**Slope Works at Feature No. 11NE-D/C978 (350m)**	**25 days**	**Sat 29/7/23**	**Tue 22/8/23**		**0%**
808	Construction of concrete berm	25 days	Sat 29/7/23	Tue 22/8/23	788	0%
809	Installation of hand railings	16 days	Mon 7/8/23	Tue 22/8/23	808FF	0%
810	Repainting of existing steel maintenance staircase	7 days	Wed 16/8/23	Tue 22/8/23	808FF	0%
811	Installation of display sign for slope registration no. x2	2 days	Mon 21/8/23	Tue 22/8/23	808FF	0%
812	**Slope Works at Feature No. 11NE-D/C988 (370m)**	**25 days**	**Wed 23/8/23**	**Sat 16/9/23**		**0%**
813	Construction of concrete berm	25 days	Wed 23/8/23	Sat 16/9/23	808	0%
814	Installation of hand railings	15 days	Sat 2/9/23	Sat 16/9/23	813FF	0%
815	Installation of display sign for slope registration no. x2	2 days	Fri 15/9/23	Sat 16/9/23	813FF	0%
816	**Slope Works at Feature No. 11NE-D/C1004 (375m)**	**7 days**	**Sun 1/10/23**	**Sat 7/10/23**		**0%**
817	Installation of display sign for slope registration no. x2	3 days	Thu 5/10/23	Sat 7/10/23	818FF	0%
818	Repainting of handrailing	7 days	Sun 1/10/23	Sat 7/10/23	769	0%
819	**Section of Works 5AI - Establishment Works for all Landscape Softworks in Section 5A of the Works**	**365 days**	**Fri 13/10/23**	**Sat 12/10/24**		**0%**
820	Commencement of Establishment Work for Section 5A	0 days	Fri 13/10/23	Fri 13/10/23	96,725,193	0%
821	Establishment Work Duration for Section 5A	365 days	Sat 14/10/23	Sat 12/10/24	820	0%



China International Water Electric Corp.

Task | Critical Task | Milestone | Summary

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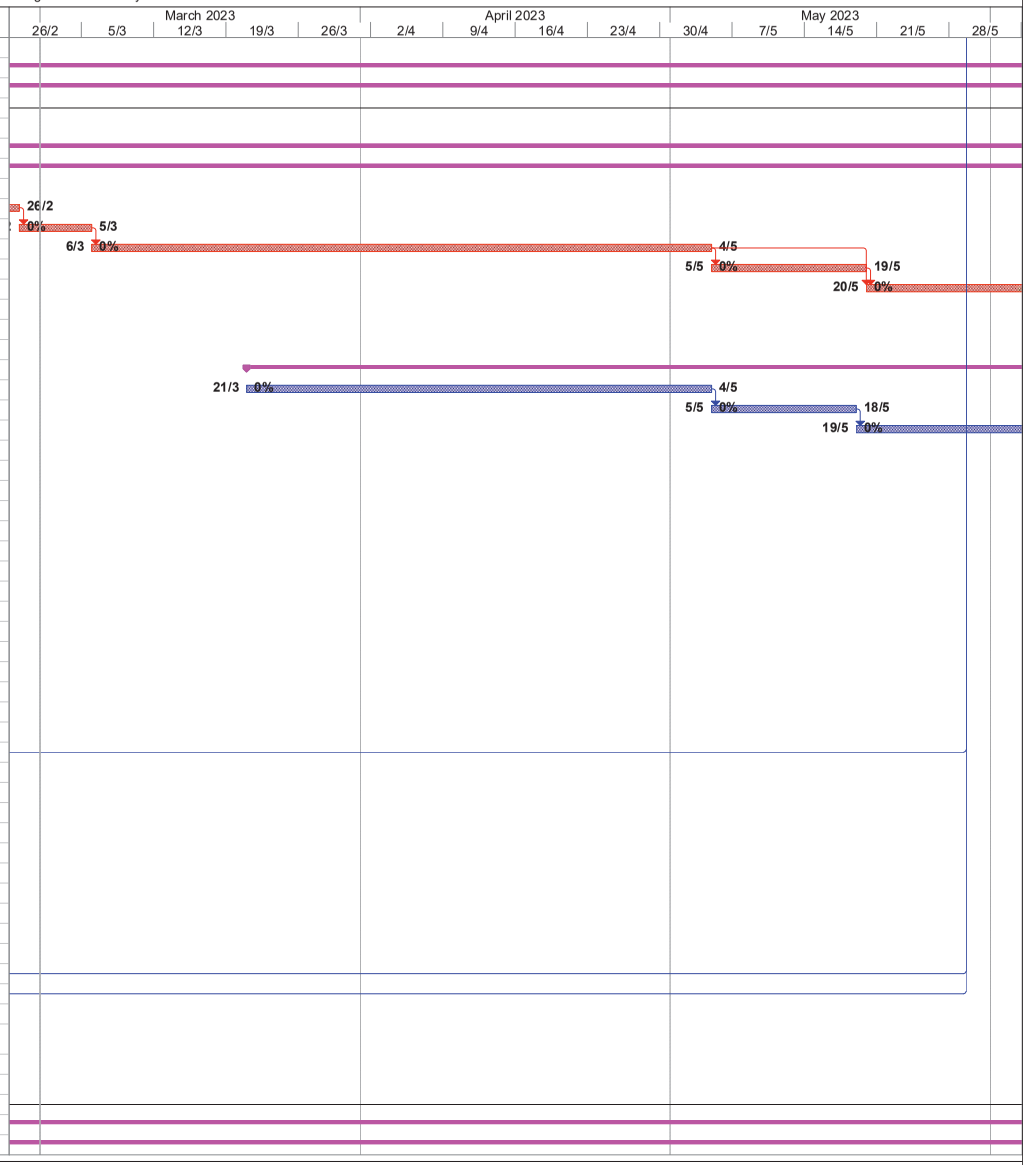
ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
822	Completion of Works in Section 5A	0 days	Sat 12/10/24	Sat 12/10/24	821	0%
823	**Section of Works 5B - Portion 11**	**594 days**	**Sun 27/2/22**	**Fri 13/10/23**		**0%**
824	Portion 11	594 days	**Sun 27/2/22**	**Fri 13/10/23**		**0%**
825	Provision of site access [212 days after starting date as per Contract]	0 days	Sun 27/2/22	Sun 27/2/22	104SS	0%
826	Road marking& miscellaneous work	29 days	Fri 15/9/23	Fri 13/10/23	825	0%
827	**Section of Works 6 - Portion 7**	**455 days**	**Tue 29/11/22**	**Mon 26/2/24**		**0%**
828	**Portion 7**	**455 days**	**Tue 29/11/22**	**Mon 26/2/24**		**0%**
829	Access date [487 days after starting date as per Contract]	0 days	Tue 29/11/22	Tue 29/11/22	110SS	0%
830	Deferred possession (PMI 58)	90 days	Tue 29/11/22	Sun 26/2/23	829	65%
831	Provision of site access	7 days	Mon 27/2/23	Sun 5/3/23	830	0%
832	Mobilization& Site Clearance	60 days	Mon 6/3/23	Thu 4/5/23	831	0%
833	Time Risk Allowance	15 days	Fri 5/5/23	Fri 19/5/23	832	0%
834	Excavation/backfilling and compaction of material	90 days	Sat 20/5/23	Thu 17/8/23	832,833	0%
835	Construction of U-channels with cover and catchpits	63 days	Fri 18/8/23	Thu 19/10/23	834	0%
836	Road Paving work and assocociates street furniture	70 days	Fri 20/10/23	Thu 28/12/23	835	0%
837	Soft landscaping works	60 days	Fri 29/12/23	Mon 26/2/24	836	0%
838	**Irrigation system**	**119 days**	**Tue 21/3/23**	**Mon 17/7/23**		**0%**
839	Contractor's design	45 days	Tue 21/3/23	Thu 4/5/23		0%
840	Application for water supply	14 days	Fri 5/5/23	Thu 18/5/23	839	0%
841	Approval	30 days	Fri 19/5/23	Sat 17/6/23	840	0%
842	Installation	30 days	Sun 18/6/23	Mon 17/7/23	841	0%
843	**Section of Works 6A - Establishment Works for all Landscape Softworks in Section 6 of the Works**	**365 days**	**Tue 27/2/24**	**Tue 25/2/25**		**0%**
844	Commencement of Establishment Work for Section 6	0 days	Tue 27/2/24	Tue 27/2/24	845SS	0%
845	Establishment Work Duration for Section 6	365 days	Tue 27/2/24	Tue 25/2/25	837	0%
846	Completion of Works in Section 6	0 days	Tue 25/2/25	Tue 25/2/25	845FF	0%
847	Section of Works 7A - Portions 13a, 14 (DELETED)	**479 days**	**Fri 30/7/21**	**Sun 20/11/22**		**0%**
848	**Portion 13a**	**479 days**	**Fri 30/7/21**	**Sun 20/11/22**		**0%**
849	Provision of site access [183 days after starting date as per Contract]	9 days	Fri 30/7/21	Sat 7/8/21		0%
850	Mobilization& Site Clearance	14 days	Fri 30/7/21	Thu 12/8/21		0%
851	(G.I Works) Geotechnical Instrumentation Installation	72 days	Fri 30/7/21	Sat 9/10/21		0%
852	Time Risk Allowance	21 days	Fri 30/7/21	Thu 19/8/21		0%
853	Bulk excavation of cut slope {Access path& Site G-2}	72 days	Sat 10/9/22	Sun 20/11/22		0%
854	Cutting & filling of slopes to formation level {Access path & Site G-2}	109 days	Fri 30/7/21	Mon 15/11/21		0%
855	Construction of drainage system with cover and catchpits {Access path & Site G-2}	84 days	Fri 30/7/21	Thu 21/10/21		0%
856	CCTV, testing & commissioning of drainage works	32 days	Fri 30/7/21	Mon 30/8/21		0%
857	Construction of footpath, pavements, road furniture& road marking etc.	73 days	Fri 30/7/21	Sun 10/10/21		0%
858	**Portion 14**	**186 days**	**Fri 30/7/21**	**Mon 31/1/22**		**0%**
859	Provision of site access [on starting date as per Contract]	7 days	Fri 30/7/21	Thu 5/8/21		0%
860	Mobilization& Site Clearance	14 days	Fri 30/7/21	Thu 12/8/21		0%
861	Preparation& submission of MS, Temp works, associated plans & docs	52 days	Fri 30/7/21	Sun 19/9/21		0%
862	Engineer's AIP of MS, Temp works, plans & associated docs	22 days	Fri 30/7/21	Fri 20/8/21		0%
863	Time Risk Allowance	35 days	Fri 30/7/21	Thu 2/9/21		0%
864	Cutting& filling of slopes to formation level {Site G-2}	108 days	Fri 30/7/21	Sun 14/11/21		0%
865	Excavation and Construction of Waterlines for fresh water & flushing water	74 days	Fri 30/7/21	Mon 11/10/21		0%
866	Application for (WW0046: Part IV & V)	30 days	Fri 30/7/21	Sat 28/8/21		0%
867	Testing and Commissioning of Waterlines for fresh water and flushing water	36 days	Fri 30/7/21	Fri 3/9/21		0%
868	Construction of pavement footpath	109 days	Fri 30/7/21	Mon 15/11/21		0%
869	Construction of miscellaneous work	35 days	Fri 30/7/21	Thu 2/9/21		0%
870	PMI 001 : Additional GI at Portion 14	109 days	Fri 15/10/21	Mon 31/1/22		0%
871	Section of Works 7AI - Establishment Works for all Landscape Softworks in Section 7A of the Works (DELETED)	**365 days**	**Fri 30/7/21**	**Fri 29/7/22**		**0%**
872	Commencement of Establishment Work for Section 7A	0 days	Fri 30/7/21	Fri 30/7/21		0%
873	Establishment Work Duration for Section 7A	365 days	Fri 30/7/21	Fri 29/7/22		0%
874	Completion of Works in Section 7A	0 days	Fri 29/7/22	Fri 29/7/22	873	0%
875	**Section of Works 7B - Portions 13b, 15**	**817 days**	**Sat 26/2/22**	**Wed 22/5/24**		**0%**
876	Portion 13b & 15	817 days	**Sat 26/2/22**	**Wed 22/5/24**		**0%**

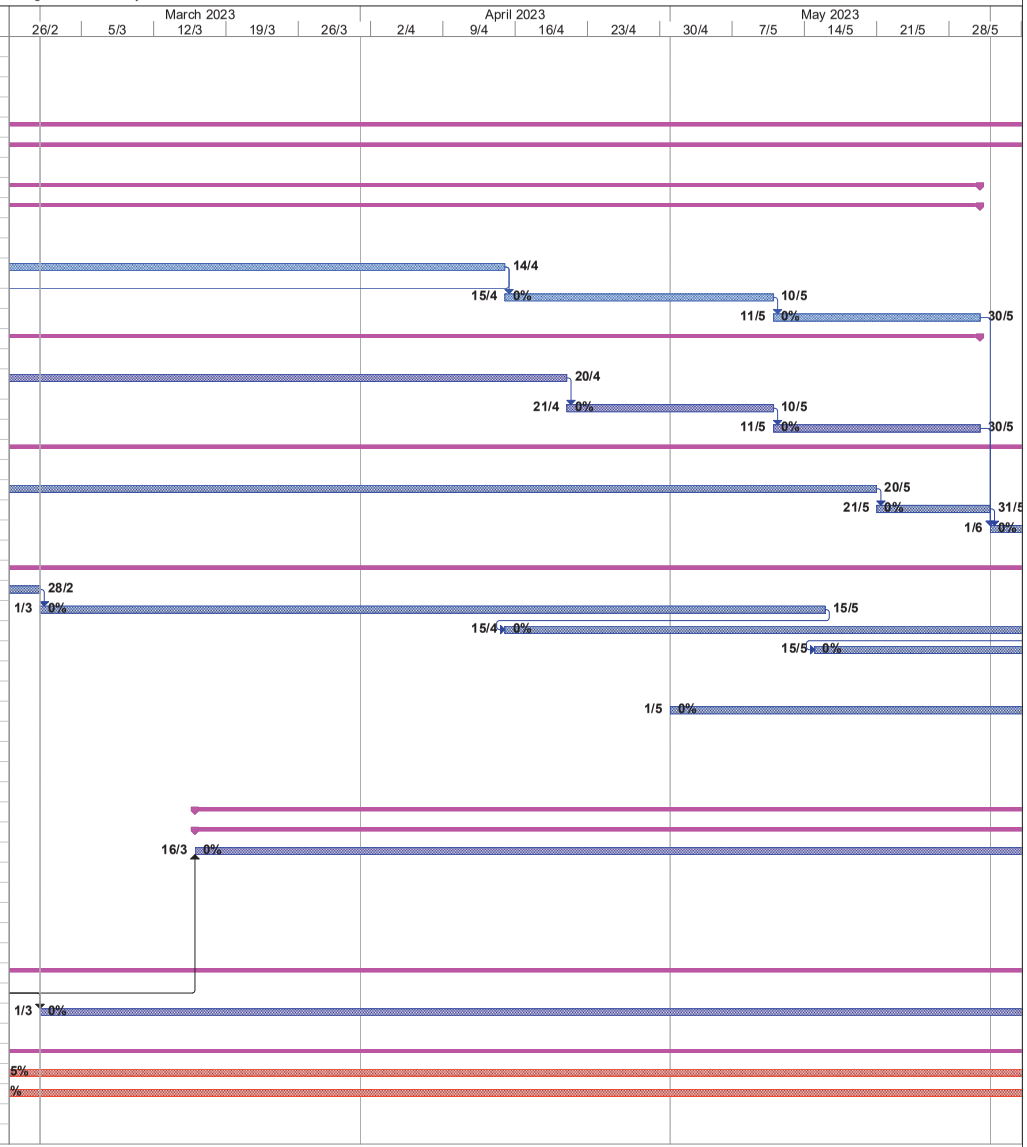


China International Water Electric Corp.

Task | Critical Task | Milestone | Summary

* Provisional subject to confirmation by PM

ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
877	Provision of site access [212 days after starting date as per Contract]	7 days	Sun 27/2/22	Sat 5/3/22	133	100%
878	Deferred possession	52 days	Sat 26/2/22	Mon 18/4/22	133SS	100%
879	Mobilization& Site Clearance	21 days	Tue 19/4/22	Mon 9/5/22	878	100%
880	Time Risk Allowance	15 days	Tue 10/5/22	Tue 24/5/22	879,319	100%
881	**Portion 13b**	**729 days**	**Wed 25/5/22**	**Wed 22/5/24**	**880**	**0%**
882	**Elevated walkway**	**645 days**	**Wed 25/5/22**	**Wed 28/2/24**		**0%**
883	Modification of existing retaining wall RWA10 (PMI 033)	60 days	Wed 25/5/22	Sat 23/7/22	879,319	100%
884	**Modification of existing retaining wall RWA9 & 10**	**311 days**	**Sun 24/7/22**	**Tue 30/5/23**	**879,319,880,883**	**0%**
885	**Wall RWA10**	**311 days**	**Sun 24/7/22**	**Tue 30/5/23**		**0%**
886	Excavation	100 days	Sun 24/7/22	Mon 31/10/22	883	100%
887	Cutting away existing coping by wire sawing machine	75 days	Tue 1/11/22	Sat 14/1/23	886	100%
888	Hacking away existing wall stem by hydraulic breaker (existing vertical bar to be retained for further connection)	90 days	Sun 15/1/23	Fri 14/4/23	887	0%
889	Construction of new RC wall stem	26 days	Sat 15/4/23	Wed 10/5/23	888	0%
890	Backfilling	20 days	Thu 11/5/23	Tue 30/5/23	889	0%
891	**Wall RWA9**	**105 days**	**Wed 15/2/23**	**Tue 30/5/23**		**0%**
892	Excavation	5 days	Wed 15/2/23	Sun 19/2/23	888FS-61 days	0%
893	Hacking away existing wall stem by hydraulic breaker (existing vertical bar to be retained for further connection)	60 days	Mon 20/2/23	Thu 20/4/23	892	0%
894	Construction of new RC wall stem	20 days	Fri 21/4/23	Wed 10/5/23	893	0%
895	Backfilling	20 days	Thu 11/5/23	Tue 30/5/23	894	0%
896	**Bearing**	**172 days**	**Mon 2/1/23**	**Thu 22/6/23**		**0%**
897	Material submission for appproval	30 days	Mon 2/1/23	Tue 31/1/23		34%
898	Fabrication	109 days	Wed 1/2/23	Sat 20/5/23	897	0%
899	Testing	11 days	Sun 21/5/23	Wed 31/5/23	898	0%
900	Installation	7 days	Thu 1/6/23	Wed 7/6/23	899,890,895	0%
901	Grouting to bearing bases and curing	15 days	Thu 8/6/23	Thu 22/6/23	900	0%
902	**Precast beams**	**156 days**	**Wed 15/2/23**	**Thu 20/7/23**		**0%**
903	Submission for appproval	14 days	Wed 15/2/23	Tue 28/2/23		0%
904	Fabrication	76 days	Wed 1/3/23	Mon 15/5/23	903	0%
905	Post-tensioning and grouting	57 days	Sat 15/4/23	Sat 10/6/23	904FS-31 days	0%
906	Capping ends	39 days	Mon 15/5/23	Thu 22/6/23	905FS-27 days	0%
907	Installation	13 days	Fri 23/6/23	Wed 5/7/23	906,901	0%
908	Grouting to bearing tops and curing	15 days	Thu 6/7/23	Thu 20/7/23	907	0%
909	Fabrication of permanent formwork	76 days	Mon 1/5/23	Sat 15/7/23		0%
910	Installation of permanent formwork	31 days	Fri 21/7/23	Sun 20/8/23	909	0%
911	Casting of in-situ tie beams	26 days	Fri 21/7/23	Tue 15/8/23	908	0%
912	Casting of in-situ topping slab	16 days	Wed 16/8/23	Thu 31/8/23	911	0%
913	Finishing and landscaping works	181 days	Fri 1/9/23	Wed 28/2/24	911,912	0%
914	**Covered Walkway under PMQP 004**	**420 days**	**Thu 16/3/23**	**Wed 8/5/24**		**0%**
915	**Contractor Design**	**150 days**	**Thu 16/3/23**	**Sat 12/8/23**		**0%**
916	Submission	90 days	Thu 16/3/23	Tue 13/6/23	923	0%
917	Approval	60 days	Wed 14/6/23	Sat 12/8/23	916	0%
918	**Construction**	**210 days**	**Sun 13/8/23**	**Sat 9/3/24**		**0%**
919	Footing	60 days	Sun 13/8/23	Wed 11/10/23	917	0%
920	Superstructure	150 days	Thu 12/10/23	Sat 9/3/24	919	0%
921	Lighting system	60 days	Sun 10/3/24	Wed 8/5/24	920,966	0%
922	**Additional works under PMQP 004**	**577 days**	**Mon 24/10/22**	**Wed 22/5/24**		**0%**
923	Issuance of PMQP 004	0 days	Mon 24/10/22	Mon 24/10/22		0%
924	Hoarding and gate around Site G2	107 days	Wed 1/3/23	Thu 15/6/23	923	0%
925	Greywater drainage pipes and manholes at Portion 12	60 days	Fri 16/6/23	Mon 14/8/23	924	0%
926	**Revised slope works including U-channel & catchpit**	**465 days**	**Mon 24/10/22**	**Wed 31/1/24**		**0%**
927	Late handover of site by others	235 days	Mon 24/10/22	Thu 15/6/23	923SS	35%
928	Installation of monitoring instruments	465 days	Mon 24/10/22	Wed 31/1/24	923SS	0%
929	Excavatoin of slope B3	45 days	Mon 9/10/23	Wed 22/11/23	932	0%
930	Construction of slope B3	70 days	Thu 23/11/23	Wed 31/1/24	929,928FF	0%

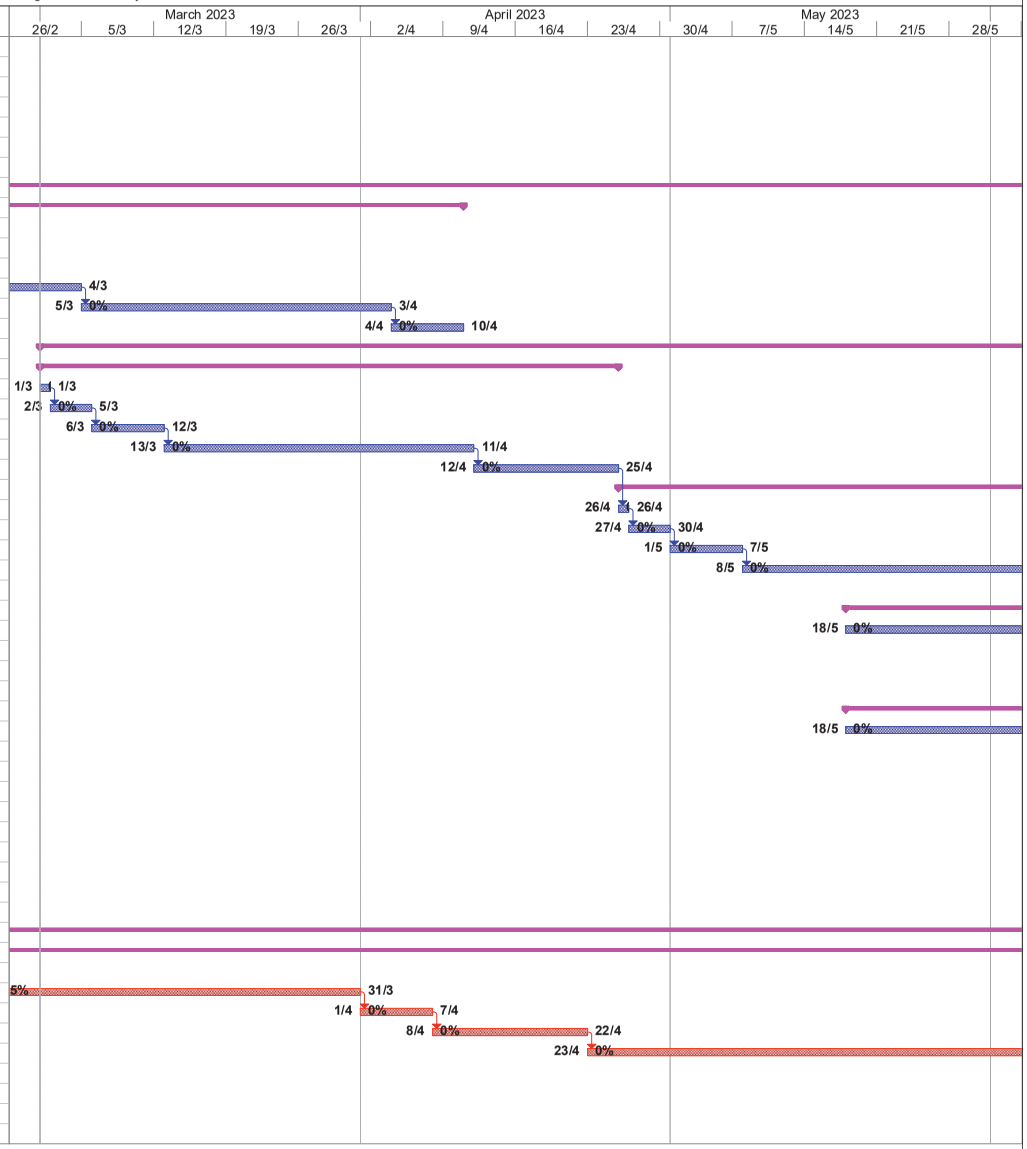


China International Water Electric Corp.

Task | Critical Task | Milestone | Summary

* Provisional subject to confirmation by PM

ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
931	Excavatoin of slope B4	45 days	Fri 16/6/23	Sun 30/7/23	927	0%
932	Construction of slope B4	70 days	Mon 31/7/23	Sun 8/10/23	931	0%
933	**Revised access road including roundabout, drainage, sewerage and water mains**	**112 days**	**Thu 1/2/24**	**Wed 22/5/24**		**0%**
934	Drainage, sewerage and water mains	70 days	Thu 1/2/24	Wed 10/4/24	930	0%
935	UU installation in footpath	30 days	Tue 12/3/24	Wed 10/4/24	934FF	0%
936	Access road	28 days	Thu 11/4/24	Wed 8/5/24	935	0%
937	Road furniture& road marking etc.	14 days	Thu 9/5/24	Wed 22/5/24	936	0%
938	**Watermains connection, sewerage pipes and manholes connection**	**191 days**	**Mon 12/12/22**	**Tue 20/6/23**		**0%**
939	**Existing footpath**	**120 days**	**Mon 12/12/22**	**Mon 10/4/23**		**0%**
940	Implementation of TTA	1 day	Mon 12/12/22	Mon 12/12/22	923	0%
941	UU Detection	7 days	Tue 13/12/22	Mon 19/12/22	940	0%
942	Trial pit	45 days	Tue 20/12/22	Thu 2/2/23	941	100%
943	UU lowering, relocation of hydrant and lamp post	30 days	Fri 3/2/23	Sat 4/3/23	942	0%
944	Construction	30 days	Sun 5/3/23	Mon 3/4/23	943	0%
945	Reinstatement	7 days	Tue 4/4/23	Mon 10/4/23	944	0%
946	**Portion 15**	**112 days**	**Wed 1/3/23**	**Tue 20/6/23**		**0%**
947	**Existing uphill lane**	**56 days**	**Wed 1/3/23**	**Tue 25/4/23**		**0%**
948	Implementation of TTA	1 day	Wed 1/3/23	Wed 1/3/23		0%
949	UU Detection	4 days	Thu 2/3/23	Sun 5/3/23	948	0%
950	Trial pit	7 days	Mon 6/3/23	Sun 12/3/23	949	0%
951	Construction	30 days	Mon 13/3/23	Tue 11/4/23	950	0%
952	Reinstatement	14 days	Wed 12/4/23	Tue 25/4/23	951	0%
953	**Existing downhill lane**	**56 days**	**Wed 26/4/23**	**Tue 20/6/23**		**0%**
954	Implementation of TTA	1 day	Wed 26/4/23	Wed 26/4/23	952	0%
955	UU Detection	4 days	Thu 27/4/23	Sun 30/4/23	954	0%
956	Trial pit	7 days	Mon 1/5/23	Sun 7/5/23	955	0%
957	Construction	30 days	Mon 8/5/23	Tue 6/6/23	956	0%
958	Reinstatement	14 days	Wed 7/6/23	Tue 20/6/23	957	0%
959	**Irrigation system**	**315 days**	**Thu 18/5/23**	**Wed 27/3/24**		**0%**
960	Contractor's design	75 days	Thu 18/5/23	Mon 31/7/23		0%
961	Application for water supply	30 days	Tue 1/8/23	Wed 30/8/23	960	0%
962	Approval	60 days	Thu 31/8/23	Sun 29/10/23	961	0%
963	Installation	150 days	Mon 30/10/23	Wed 27/3/24	962	0%
964	**Lighting system**	**285 days**	**Thu 18/5/23**	**Mon 26/2/24**		**0%**
965	Contractor's design	75 days	Thu 18/5/23	Mon 31/7/23		0%
966	Application for electricity power supply	30 days	Tue 1/8/23	Wed 30/8/23	965	0%
967	Installation including ducting and draw pit	150 days	Thu 31/8/23	Sat 27/1/24	966	0%
968	Energization	15 days	Sun 28/1/24	Sun 11/2/24	967	0%
969	Testing and Commissioning	15 days	Mon 12/2/24	Mon 26/2/24	968	0%
970	Soil placement, woodland greening work and soft landscape works	150 days	Mon 25/12/23	Wed 22/5/24	913FF,937FF	0%
971	**Section of Works 7BI - Establishment Works for all Landscape Softworks in Section 7B of the Works**	**365 days**	**Thu 23/5/24**	**Thu 22/5/25**		**0%**
972	Commencement of Establishment Work for Section 7B	0 days	Thu 23/5/24	Thu 23/5/24	973SS	0%
973	Establishment Work Duration for Section 7B	365 days	Thu 23/5/24	Thu 22/5/25	913,937	0%
974	Completion of Works in Section 7B	0 days	Thu 22/5/25	Thu 22/5/25	973	0%
975	**Section of Works 8 - Portion 16**	**1100 days**	**Thu 16/6/22**	**Thu 19/6/25**		**0%**
976	Portion 16	735 days	**Thu 16/6/22**	**Wed 19/6/24**		**0%**
977	Ssite access date [321 days after starting date as per Contract]	0 days	Thu 16/6/22	Thu 16/6/22	149SS	0%
978	Late handover of site by others	289 days	Thu 16/6/22	Fri 31/3/23	977SS	75%
979	Provisional of site access	7 days	Sat 1/4/23	Fri 7/4/23	978	0%
980	Mobilization& Site Clearance	15 days	Sat 8/4/23	Sat 22/4/23	979	0%
981	Construction of fill slope A7	180 days	Sun 23/4/23	Thu 19/10/23	980	0%
982	Construction of fill slope A8	150 days	Sat 22/7/23	Mon 18/12/23	981FS-90 days	0%
983	Time Risk Allowance	24 days	Tue 19/12/23	Thu 11/1/24	982	0%
984	Construction of slope surface drainage system	100 days	Fri 12/1/24	Sat 20/4/24	981,983	0%
985	Soft landscaping work, soil placement work, hydroseeding and miscellaneous work	60 days	Sun 21/4/24	Wed 19/6/24	984	0%

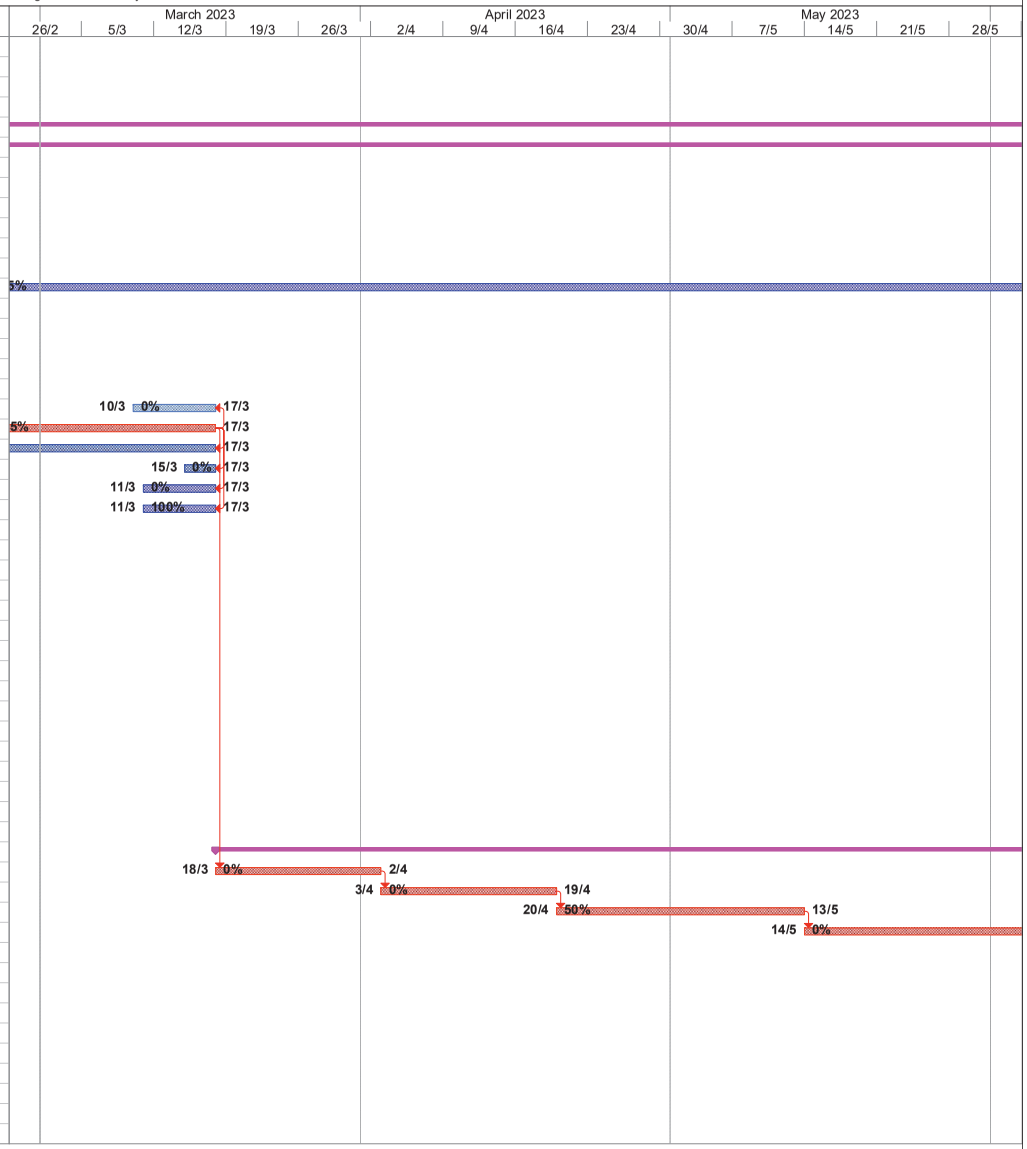


China International Water Electric Corp.

Task | Critical Task | Milestone | Summary

* Provisional subject to confirmation by PM

ID	Task Name	Duration	Start	Finish	Predecessors	% Work Complete
986	**Section of Works 8A - Establishment Works for all Landscape Softworks in Section 8 of the Works**	**365 days**	**Thu 20/6/24**	**Thu 19/6/25**		**0%**
987	Commencement of Establishment Work for Section 8	0 days	Thu 20/6/24	Thu 20/6/24	988SS	0%
988	Establishment Work Duration for Section 8	365 days	Thu 20/6/24	Thu 19/6/25	985	0%
989	Completion of Works in Section 8	0 days	Thu 19/6/25	Thu 19/6/25	988FF	0%
990	**Section of Works 9 - Portion 17**	**794 days**	**Sun 27/2/22**	**Tue 30/4/24**		**0%**
991	**Portion 17**	**794 days**	**Sun 27/2/22**	**Tue 30/4/24**		**0%**
992	Provision of site access [212 days after starting date as per Contract]	0 days	Sun 27/2/22	Sun 27/2/22	160SS	0%
993	Deferred possession	30 days	Sun 27/2/22	Mon 28/3/22	992	100%
994	Slope inspection & assessment work & Tree Survey	23 days	Tue 29/3/22	Wed 20/4/22	993	100%
995	Mobilization, access & Site Clearance	15 days	Thu 21/4/22	Thu 5/5/22	994	100%
996	Time Risk Allowance	14 days	Fri 6/5/22	Thu 19/5/22	994,995	100%
997	Demolition and removal of disused water pipe and sprinkler system	50 days	Fri 20/5/22	Fri 8/7/22	996	100%
998	Reinstatement of joint sealant at drainage channel	593 days	Fri 16/9/22	Tue 30/4/24	997	25%
999	**Slope Works at Feature No. 11NE-D/C982 (235m)**	**3 days**	**Fri 26/4/24**	**Sun 28/4/24**		**0%**
1000	Installation of display sign for slope registration no. x2	3 days	Fri 26/4/24	Sun 28/4/24	1036	0%
1001	**Slope Works at Feature No. 11NE-D/C1005 (230m)**	**2 days**	**Mon 29/4/24**	**Tue 30/4/24**		**0%**
1002	Installation of display sign for slope registration no. x2	2 days	Mon 29/4/24	Tue 30/4/24	1000	0%
1003	**Slope Works at Feature No. 11NE-D/C872 (250m)**	**210 days**	**Sat 9/7/22**	**Fri 3/2/23**		**0%**
1004	Filling of void with concrete	8 days	Fri 10/3/23	Fri 17/3/23	1005FF	0%
1005	Installation of hand railings	252 days	Sat 9/7/22	Fri 17/3/23	997	75%
1006	Installation of non-biodegradable erosion control mat with hydroseeding*	44 days	Thu 2/2/23	Fri 17/3/23	1005FF	0%
1007	Installation of display sign for slope registration no. x2	3 days	Wed 15/3/23	Fri 17/3/23	1005FF	0%
1008	Reinstatement of concrete berm	7 days	Sat 11/3/23	Fri 17/3/23	1005FF	0%
1009	Repainting of handrailing	7 days	Sat 11/3/23	Fri 17/3/23	1005FF	100%
1010	**Slope Works at Feature No. 11NE-D/C948 (310m)**	**66 days**	**Wed 21/6/23**	**Fri 25/8/23**		**0%**
1011	Construction of concrete berm	14 days	Wed 21/6/23	Tue 4/7/23	1032	0%
1012	Repainting of existing steel maintenance staircase	8 days	Fri 18/8/23	Fri 25/8/23	1013FF	0%
1013	Construction of wire mesh	52 days	Wed 5/7/23	Fri 25/8/23	1011	0%
1014	Installation of display sign for slope registration no. x2	2 days	Thu 24/8/23	Fri 25/8/23	1013FF	0%
1015	**Slope Works at Feature No. 11NE-D/C981 (390m)**	**84 days**	**Sat 26/8/23**	**Fri 17/11/23**		**0%**
1016	Construction of concrete berm	16 days	Sat 26/8/23	Sun 10/9/23	1014	0%
1017	Installation of hand railings	16 days	Mon 11/9/23	Tue 26/9/23	1016	0%
1018	Construction of wire mesh	52 days	Wed 27/9/23	Fri 17/11/23	1017	0%
1019	Installation of display sign for slope registration no. x2	2 days	Thu 16/11/23	Fri 17/11/23	1018FF	0%
1020	**Slope Works at Feature No. 11NE-D/C949 (603m)**	**90 days**	**Sat 18/11/23**	**Thu 15/2/24**		**0%**
1021	Filling of voids with concrete	15 days	Sat 18/11/23	Sat 2/12/23	1018	0%
1022	Construction of concrete berm	25 days	Sun 3/12/23	Wed 27/12/23	1021	0%
1023	Installation of hand railings	15 days	Wed 13/12/23	Wed 27/12/23	1022FF	0%
1024	Construction of wire mesh	50 days	Thu 28/12/23	Thu 15/2/24	1023	0%
1025	Installation of display sign for slope registration no. x2	2 days	Wed 14/2/24	Thu 15/2/24	1024FF	0%
1026	**Slope Works at Feature No. 11NE-B/C899 (280m)**	**95 days**	**Sat 18/3/23**	**Tue 20/6/23**		**0%**
1027	Filling of voids with concrete	16 days	Sat 18/3/23	Sun 2/4/23	1005	0%
1028	Construction of concrete berm	17 days	Mon 3/4/23	Wed 19/4/23	1027	0%
1029	Installation of hand railings	24 days	Thu 20/4/23	Sat 13/5/23	1028	50%
1030	Installation of non-biodegradable erosion control mat with hydroseeding*	38 days	Sun 14/5/23	Tue 20/6/23	1029	0%
1031	Installation of display sign for slope registration no. x2	2 days	Mon 19/6/23	Tue 20/6/23	1030FF	0%
1032	Repainting of handrailing	7 days	Wed 14/6/23	Tue 20/6/23	1030FF	100%
1033	**Slope Works at Feature No. 11NE-D/C1000 (80m)**	**2 days**	**Sun 21/4/24**	**Mon 22/4/24**		**0%**
1034	Installation of display sign for slope registration no. x1	2 days	Sun 21/4/24	Mon 22/4/24	1039	0%
1035	**Slope Works at Feature No. 11NE-D/C989 (270m)**	**3 days**	**Tue 23/4/24**	**Thu 25/4/24**		**0%**
1036	Installation of display sign for slope registration no. x2	3 days	Tue 23/4/24	Thu 25/4/24	1034	0%
1037	**Slope Works at Feature No. 11NE-D/C983 (215m)**	**14 days**	**Sun 7/4/24**	**Sat 20/4/24**		**0%**
1038	Construction of concrete berm	7 days	Sun 7/4/24	Sat 13/4/24	1045	0%
1039	Installation of hand railings	7 days	Sun 14/4/24	Sat 20/4/24	1038	0%
1040	Installation of display sign for slope registration no. x2	2 days	Fri 19/4/24	Sat 20/4/24	1039FF	0%



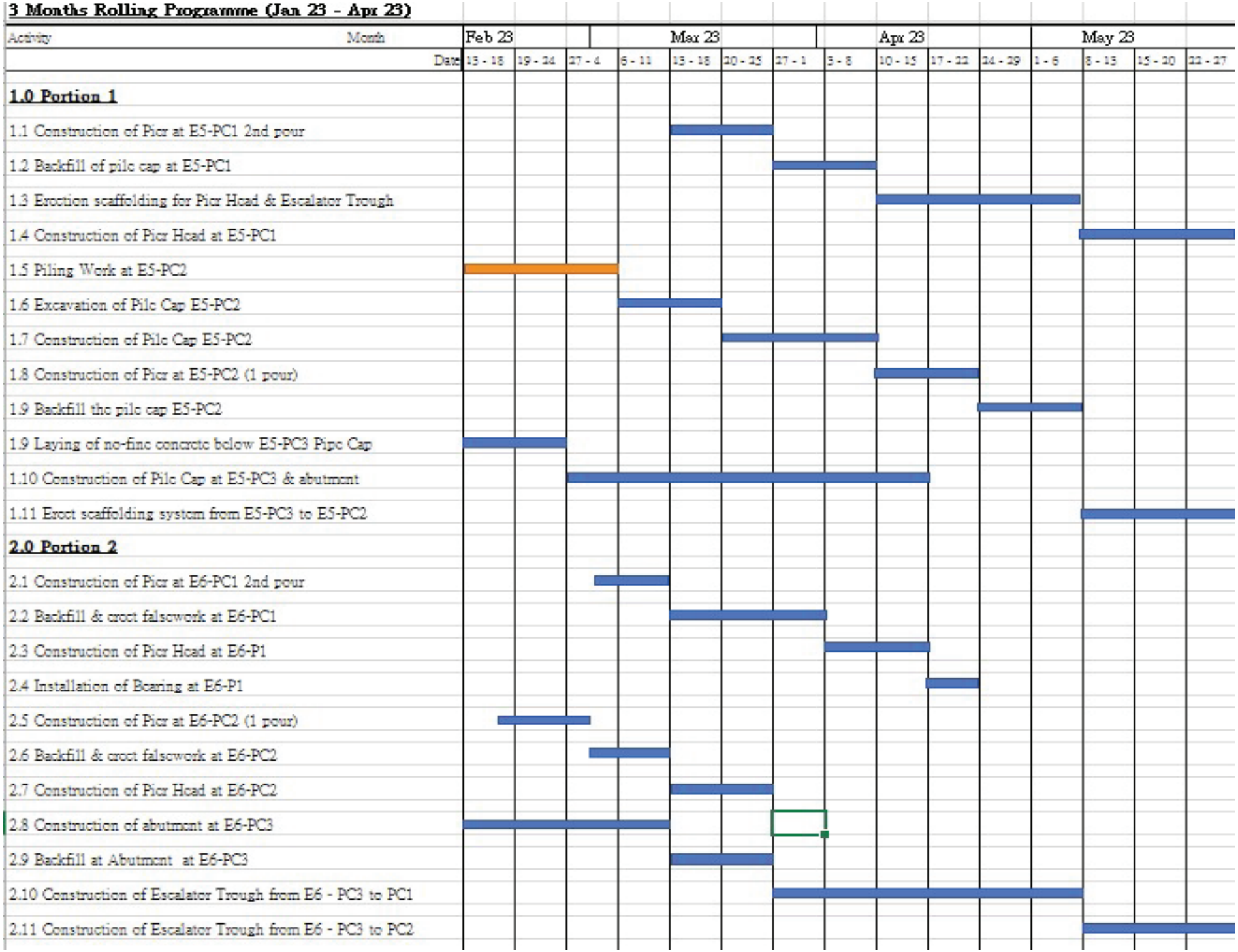
China International Water Electric Corp.

Task | Critical Task | Milestone | Summary

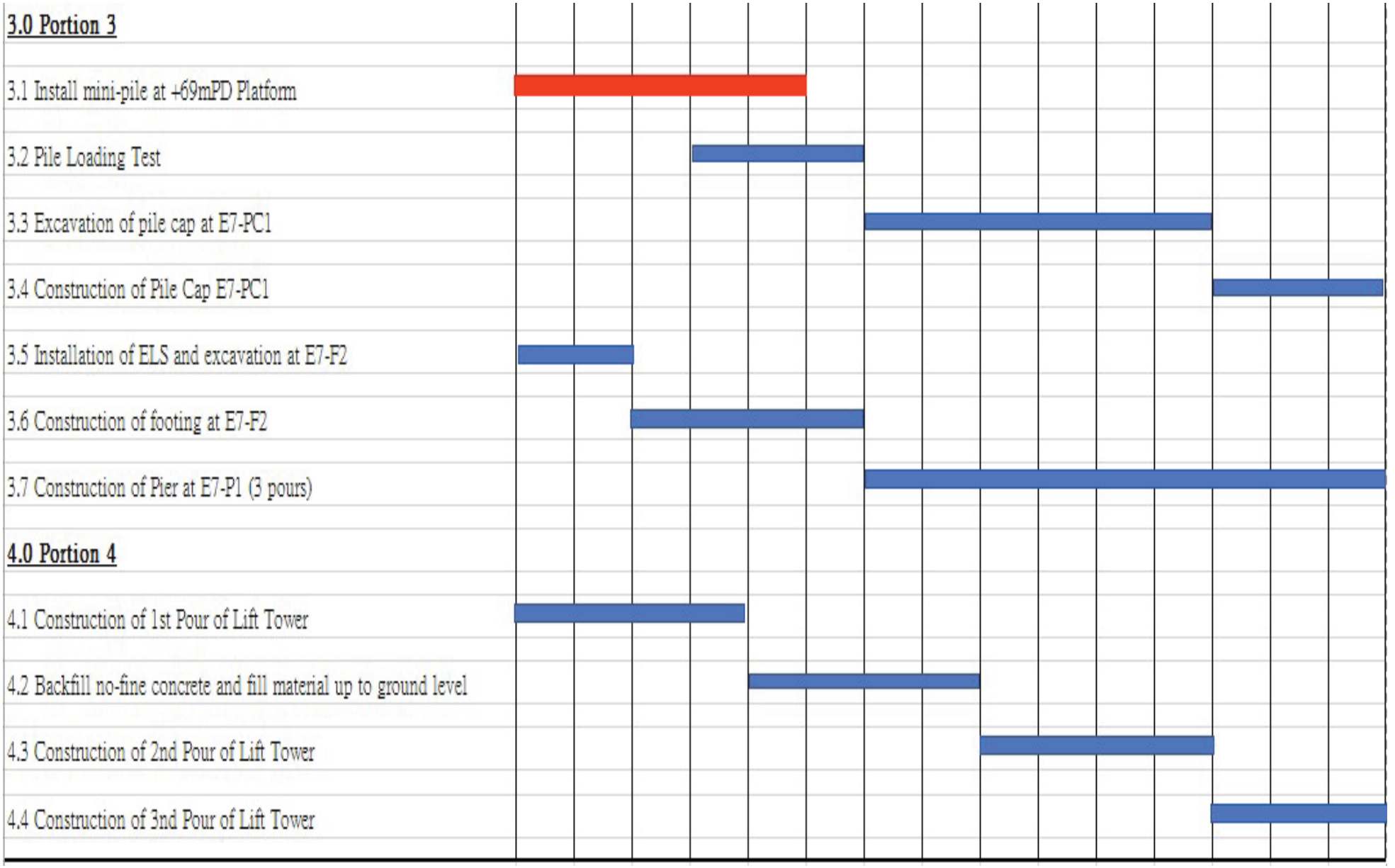
* Provisional subject to confirmation by PM

Contract 5 (NE/2019/02)

Major Activities in Coming 3 Months



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







AMS-1

AMS-1a

AMS-2

AMS-3

SERVICE RESERVOIRS

PROPOSED ROCK CAVERN (SUBJECT TO DETAIL DESIGN)

PEDESTRIAN PATH (SUBJECT TO DETAIL DESIGN)

PARKING STATIONS

PROPOSED LOOKOUT POINT

PEDESTRIAN FOOTBRIDGE SUBJECT TO DETAILED DESIGN

INDUSTRIAL CAVERN

OU

RO

R2

Legend

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

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

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

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METRES
1 : 5000

Printed by : 4/8/2014
Filename : G:\env\project\227724-50\13 Drawing Deliverables\08 EM&A\02 Revised draft\Air\227724_E_1045_B - Locations of Construction Dust Monitoring (Sheet 1 of 3).dgn

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AMS-3

AMS-4

AMS-5

AMS-6





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

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

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	Date	Checked	Approved
GL	03/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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0 25 50 75 100 125 METRES

1 : 5000

Printed by : 4/8/2014
Filename : G:\env\project\227724-50\13 Drawing Deliverables\08 EM&A\02 Revised draft\Air\227724_E_1046_B - Locations of Construction Dust Monitoring (Sheet 2 of 3).dgn

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HVS in AMS-1 for 24-Hour TSP







AMS-1

AMS-1a

AMS-2

AMS-3

SERVICE RESERVOIRS

PROPOSED ROCK CAVERN (SUBJECT TO DETAIL DESIGN)

PEDESTRIAN PATH (SUBJECT TO DETAIL DESIGN)

PARKING STATIONS

PROPOSED LOOKOUT POINT

PEDESTRIAN FOOTBRIDGE SUBJECT TO DETAILED DESIGN

INDUSTRIAL CAVERN

OU

RO

R2

Legend

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

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

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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0 25 50 75 100 125
METRES
1 : 5000

Printed by : 4/8/2014
Filename : G:\env\project\227724-50\13 Drawing Deliverables\08 EM&A\02 Revised draft\Air\227724_E_1045_B - Locations of Construction Dust Monitoring (Sheet 1 of 3).dgn

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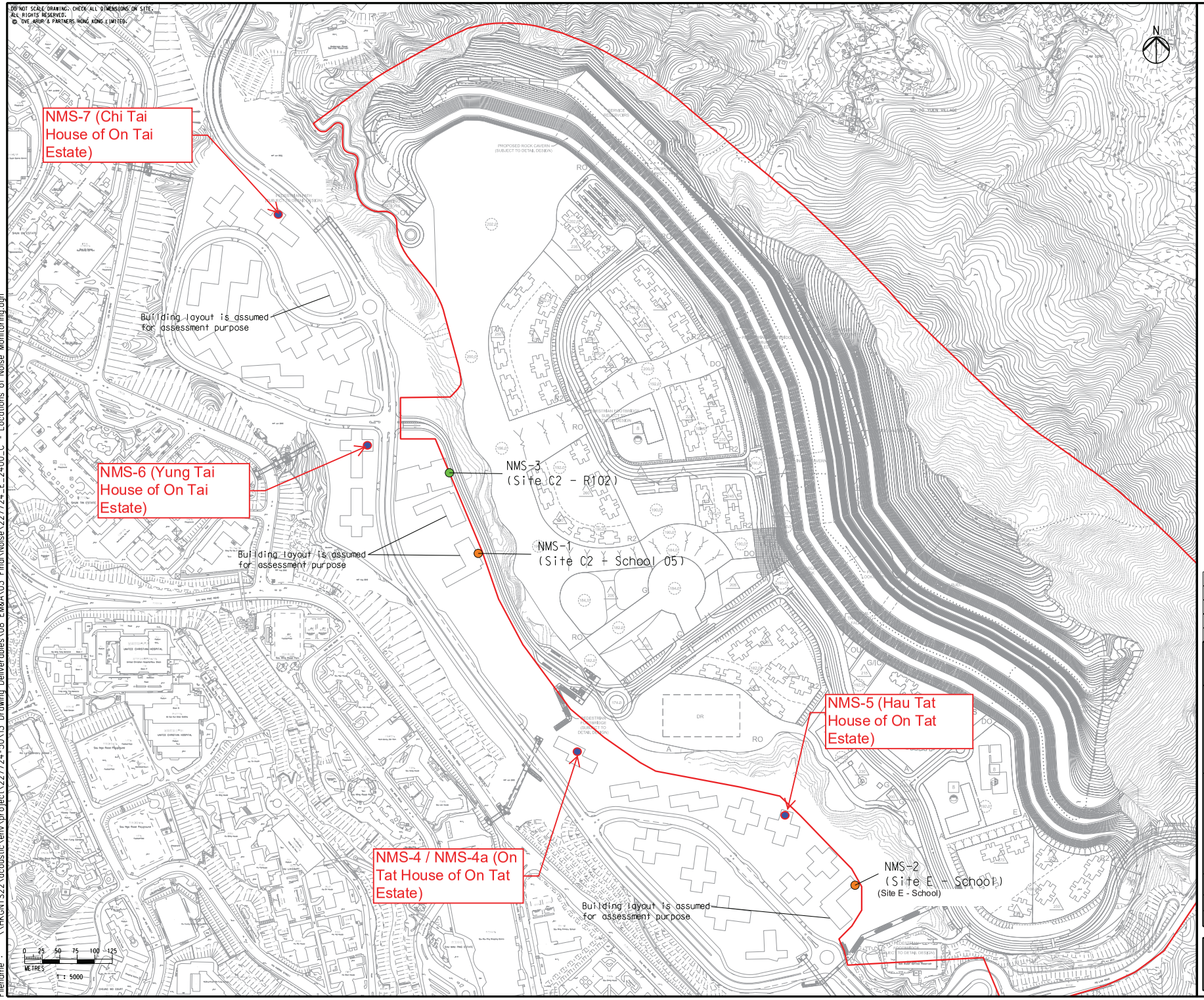

Legend

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

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

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.	Rev.
227724/E/2400	C

Drawn	Date	Checked	Approved
GL	05/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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Printed by : 6/3/2014
Filename : \\HKGNTS22\acoustic\env\project\227724-50\13 Drawing Deliverables\08 EM&A\03 Final\Noise\227724_E_2400_C - Locations of Noise Monitoring.dgn

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AMS-3

AMS-4

AMS-5

AMS-6





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

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

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	Date	Checked	Approved
GL	03/14	TC	ST

Scale: 1:5000 @A3

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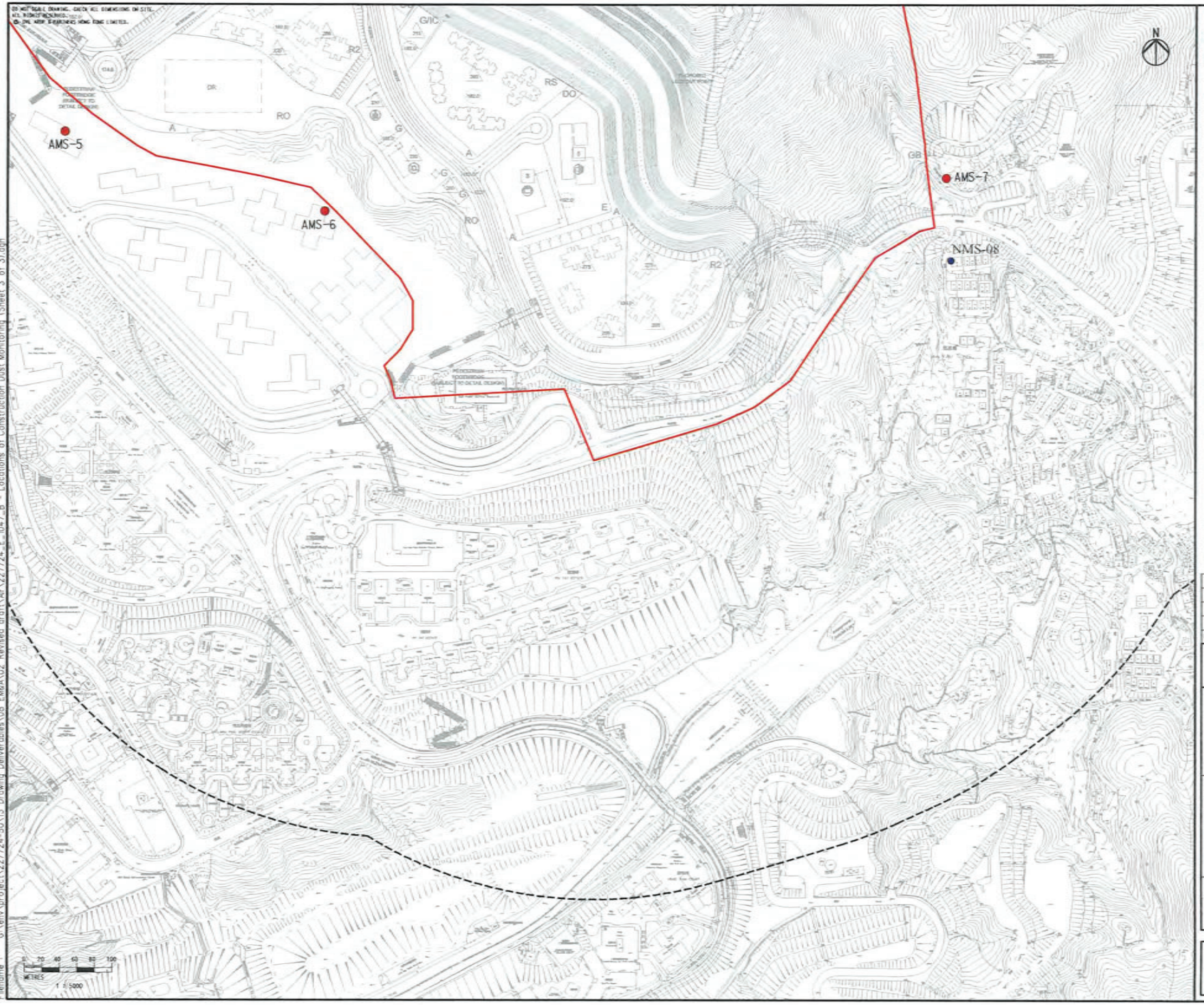
0 25 50 75 100 125 METRES

1 : 5000

Printed by : 4/8/2014
Filename : G:\env\project\227724-50\13 Drawing Deliverables\08 EM&A\02 Revised draft\Air\227724_E_1046_B - Locations of Construction Dust Monitoring (Sheet 2 of 3).dgn



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

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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Filename : G:\env\project\227724-50\13 Drawing Deliverables\08 EM&A\02 Revised draft\Air\227724_E_1047_B - Locations of Construction Dust Monitoring (Sheet 3 of 3).dgn

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

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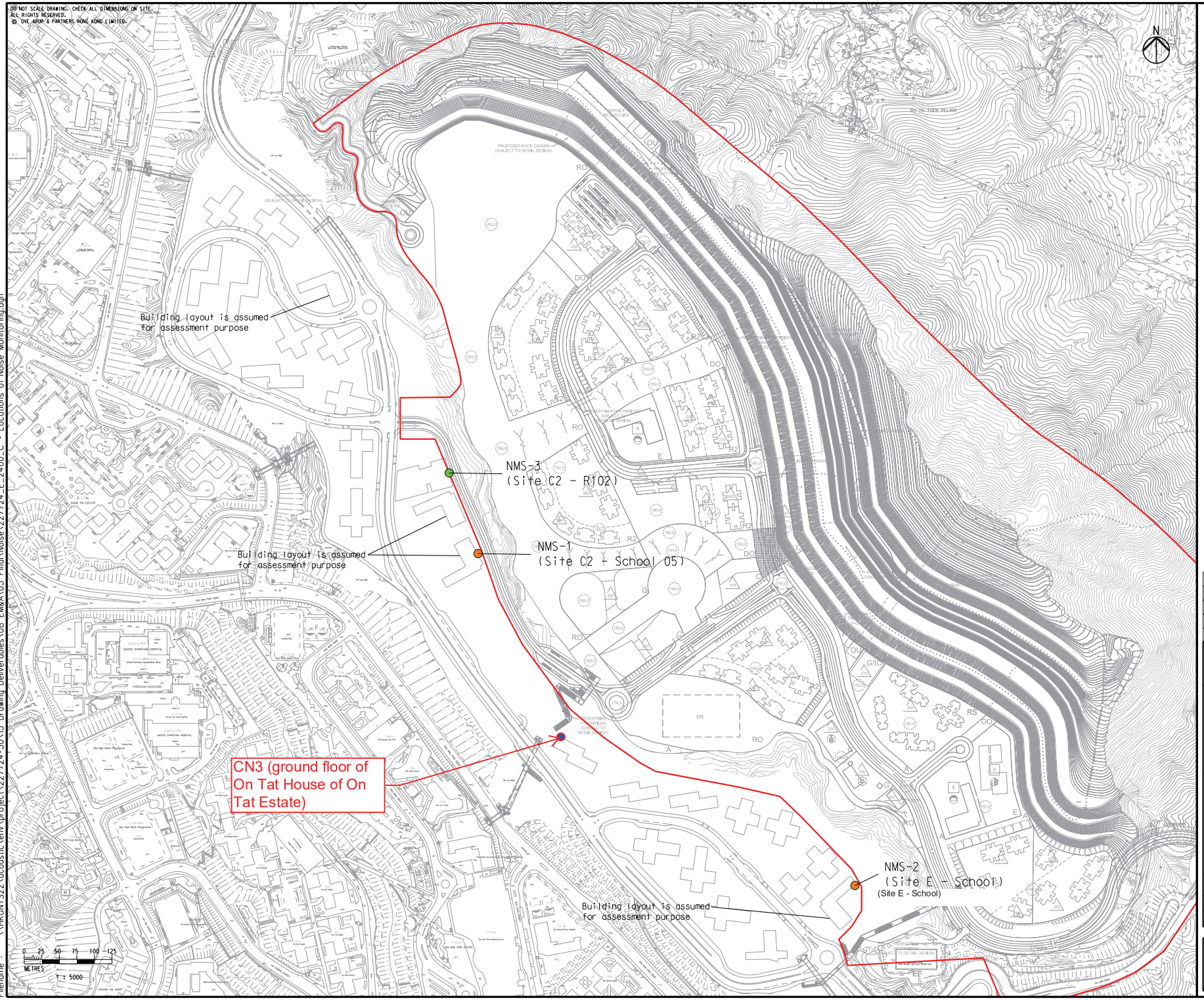

Legend

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

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

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.	Rev.
227724/E/2400	C

Drawn	Date	Checked	Approved
GL	05/14	TC	ST

Scale 1:5000 @A3

Status PRELIMINARY

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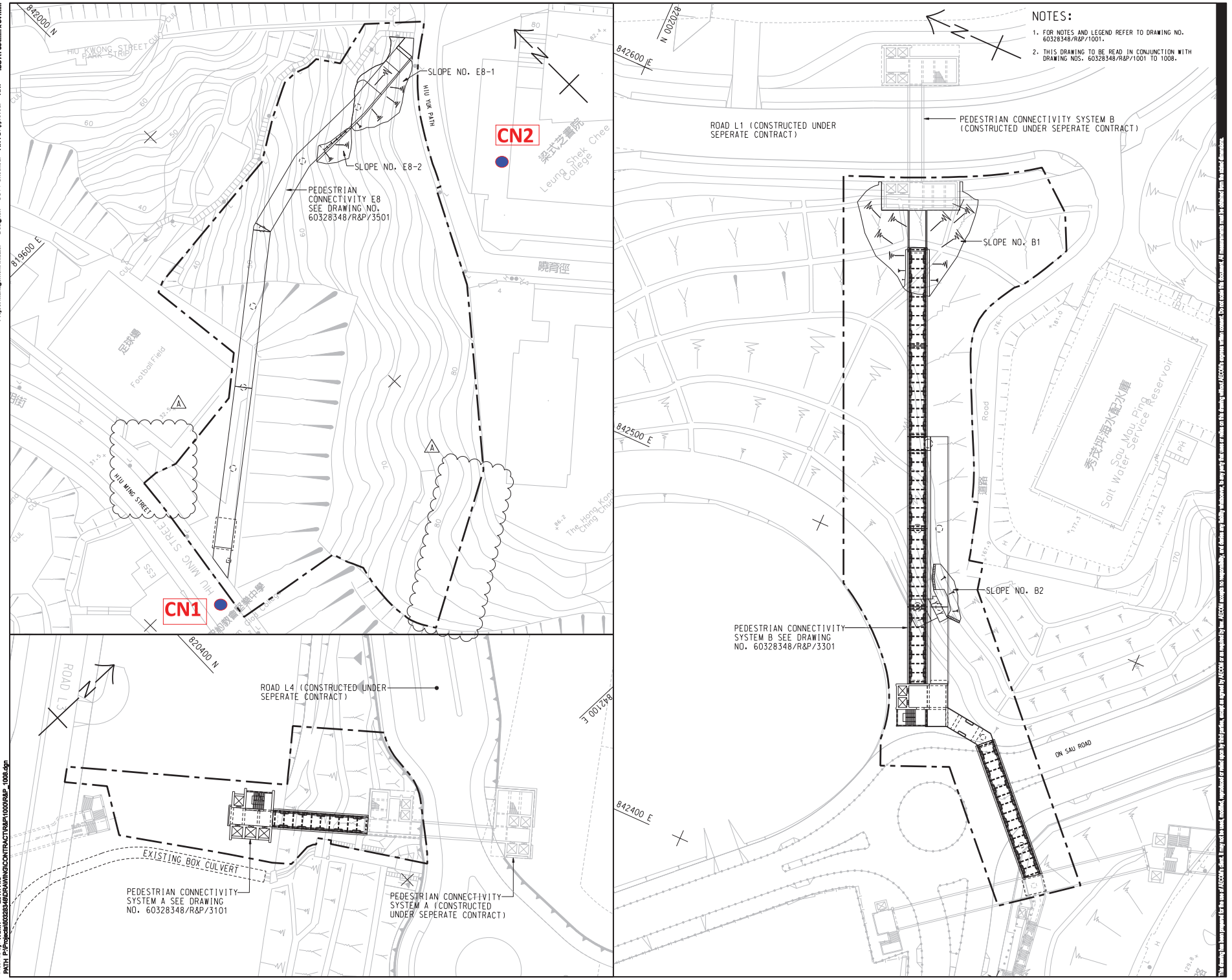
Filename : \\HKGNTS22\acoustic\env\project\227724-50\13 Drawing Deliverables\08 EM&A\03 Final\Noise\227724_E_2400_C - Locations of Noise Monitoring.dgn



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.

noise monitoring location

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

CLIENT

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

ISSUE/REVISION

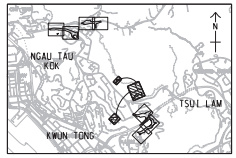
MR	DATE	DESCRIPTION	CHK
A	NOV. 17	TENDER ADDENDUM NO. 1	AWYC
-	OCT. 17	TENDER DRAWING	AWYC

STATUS

SCALE A1 1 : 500

DIMENSION UNIT METRES

KEY PLAN A1 1 : 60000



PROJECT NO. 60328348

CONTRACT NO. NE/2017/03

SHEET TITLE

GENERAL LAYOUT

SHEET 8 OF 8

SHEET NUMBER

60328348/R&P/1008A

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Project Management Initials: Designer: CCYT Checked: AWYC Approved: HKT ISO A1 594mm x 841mm

Plot File by: WUMT 2017/11/9
PATH: P:\Projects\60328348\DRAWING\CONTRACT\R&P\1000R&P_1008.dgn

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: 31-Dec-22
Location ID : AMS1a — Next Calibration Date: 28-Feb-23
Model:TISCH High Volume Air Sampler TE-5170 — Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1024.7	Corrected Pressure (mm Hg)	768.525
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

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

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.724	51	52.12	Slope = 37.4819
13	5.2	5.2	10.4	1.580	43	43.95	Intercept = -14.0807
10	4	4	8	1.388	36	36.79	Corr. coeff. = 0.9960
7	2.5	2.5	5	1.101	27	27.59	
5	1.5	1.5	3	0.857	18	18.40	

Calculations :

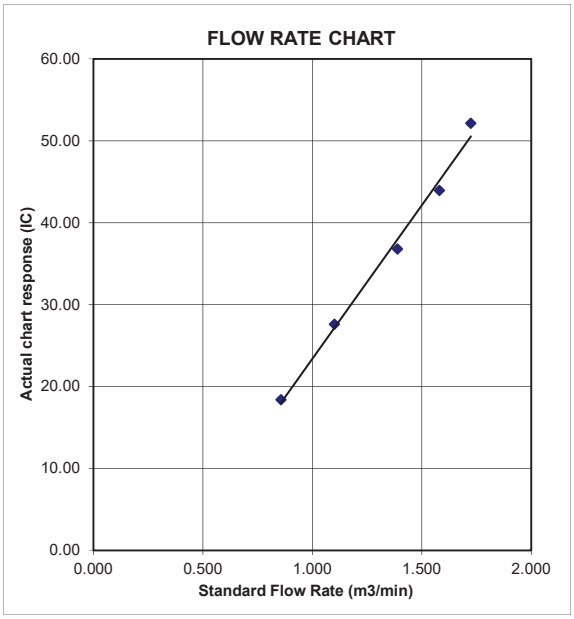
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/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 :	Oi Tat House	Date of Calibration:	31-Dec-22
Location ID :	AMS 5	Next Calibration Date:	28-Feb-23
Model:TISCH High Volume Air Sampler TE-5170		Technician: Mr. Fai So	

CONDITIONS

Sea Level Pressure (hPa)	1024.7	Corrected Pressure (mm Hg)	768.525
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

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

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.724	55	56.21	Slope = 45.2588
13	5.2	5.2	10.4	1.580	47	48.03	Intercept = -23.1371
10	4.1	4.1	8.2	1.405	38	38.84	Corr. coeff. = 0.9975
7	2.6	2.6	5.2	1.123	27	27.59	
5	1.5	1.5	3	0.857	16	16.35	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

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)[Sqrt(298/Tav)(Pav/760)]-b)

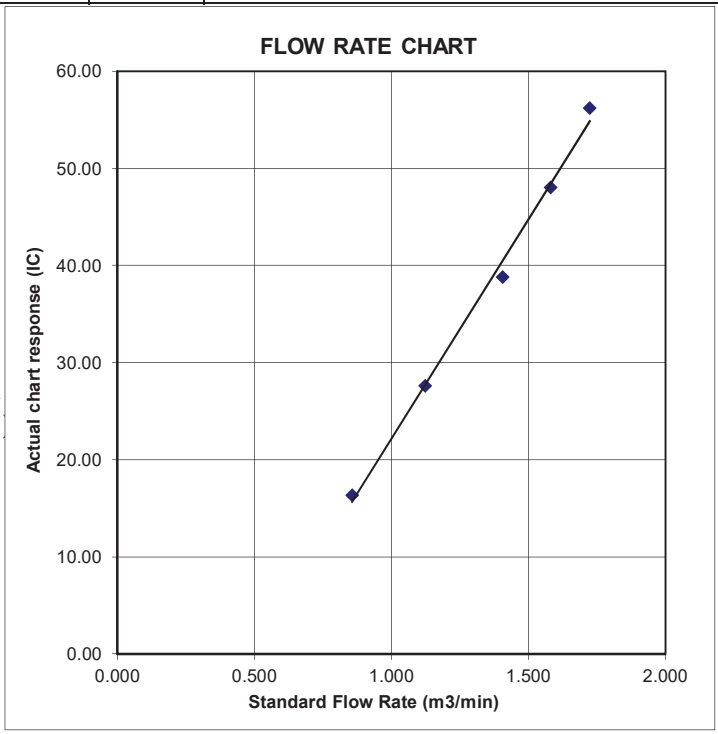
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Hau Tat House
Location ID : AMS 6
Model:TISCH High Volume Air Sampler TE-5170

Date of Calibration: 31-Dec-22
Next Calibration Date: 28-Feb-23
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1024.7	Corrected Pressure (mm Hg)	768.525
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

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

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.3	6.3	12.6	1.737	54	55.19	Slope = 45.9365
13	5.2	5.2	10.4	1.580	44	46.00	Intercept = -25.4199
10	3.6	3.6	7.2	1.318	34	34.75	Corr. coeff. = 0.9979
7	2.4	2.4	4.8	1.079	25	25.55	
5	1.5	1.5	3	0.857	13	13.29	

Calculations :

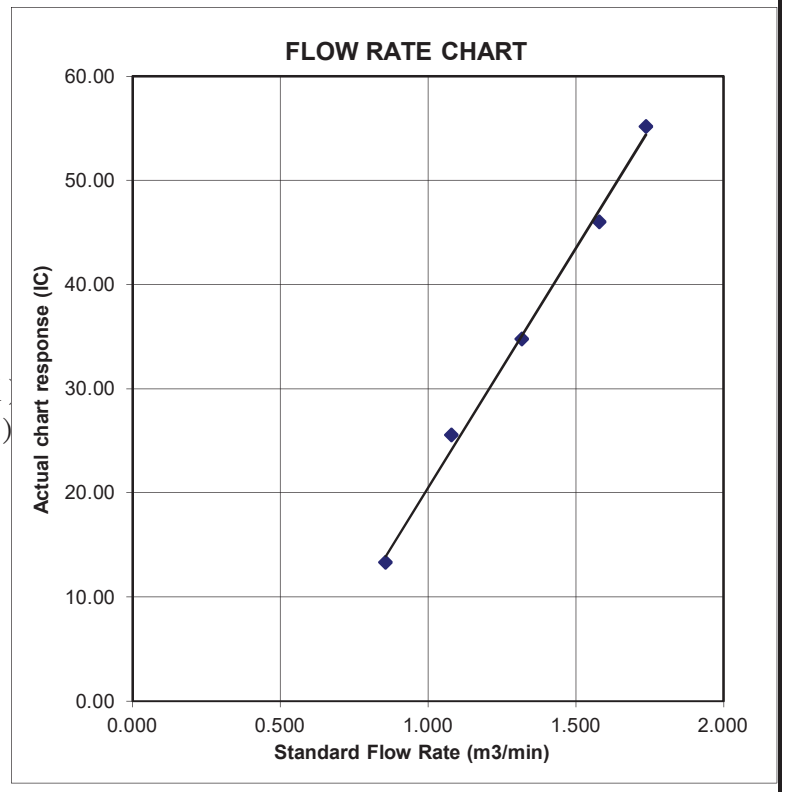
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/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
Location ID : AMS 7
Model:TISCH High Volume Air Sampler TE-5170

Date of Calibration: 31-Dec-22
Next Calibration Date: 28-Feb-23
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1024.7	Corrected Pressure (mm Hg)	768.525
Temperature (°C)	15.5	Temperature (K)	289

CALIBRATION ORIFICE

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

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.3	6.3	12.6	1.737	56	57.23	Slope = 47.0647
13	5.4	5.4	10.8	1.610	47	48.03	Intercept = -25.8773
10	3.6	3.6	7.2	1.318	36	36.79	Corr. coeff. = 0.9969
7	2.8	2.8	5.6	1.164	28	28.62	
5	1.8	1.8	3.6	0.937	18	18.40	

Calculations :

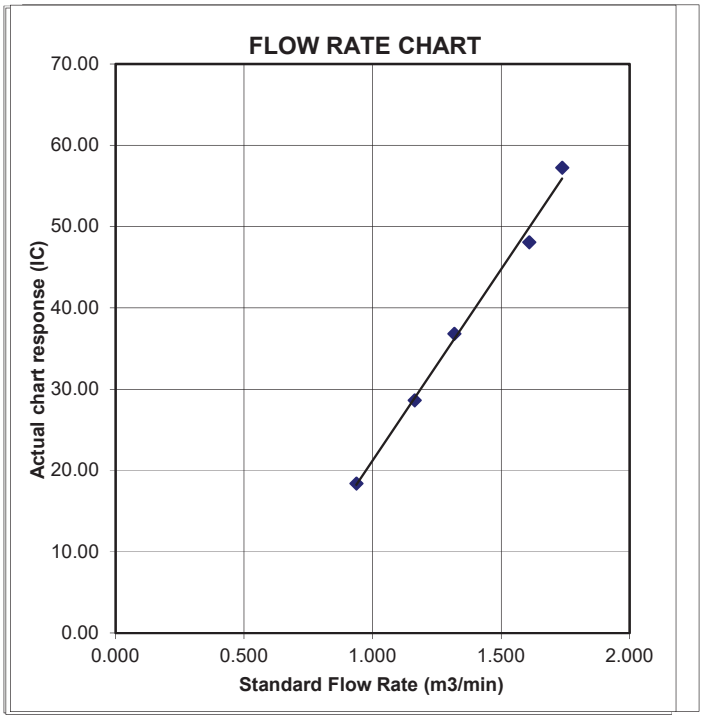
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/760)]-b)

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



TISCH Environmental

RECALIBRATION DUE DATE:
December 15, 2023

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 15, 2022	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 748.0	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **4064**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4430	3.2	2.00
2	3	4	1	1.0210	6.4	4.00
3	5	6	1	0.9170	7.9	5.00
4	7	8	1	0.8730	8.8	5.50
5	9	10	1	0.7210	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9900	0.6861	1.4101	0.9957	0.6900	0.8881
0.9858	0.9655	1.9943	0.9914	0.9711	1.2560
0.9838	1.0728	2.2296	0.9894	1.0790	1.4042
0.9826	1.1255	2.3385	0.9882	1.1320	1.4728
0.9772	1.3554	2.8203	0.9829	1.3632	1.7762
QSTD	**m=**	**2.10977**	**QA**	**m=**	**1.32110**
	b=	**-0.03782**		**b=**	**-0.02382**
	r=	**0.99998**		**r=**	**0.99998**

Calculations

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

For subsequent flow rate calculations:

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

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

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg
Key	
ΔH: calibrator manometer reading (in H2O)	
ΔP: rootsmeter manometer reading (mm Hg)	
Ta: actual absolute temperature (°K)	
Pa: actual barometric pressure (mm Hg)	
b: intercept	
m: slope	

RECALIBRATION

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

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	:	HK2212658
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	:	8-APR-2022
		DATE OF ISSUE	:	14-APR-2022
PROJECT	: ----	NO. OF SAMPLES	:	1
		CLIENT ORDER	:	---

General Comments

- **Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **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 is the Final Report and supersedes any preliminary report with this batch 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	: HK2212658
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.
HK2212658-001	S/N: 456659	AIR	08-Apr-2022	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 & HVS 019
Last Calibration Date:	22 February 2022

Equipment Verification Results:

Verification Date: 1 & 7 March 2022

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-22	2hr01mins	09:17 ~ 11:18	22.5	1010.6	26.4	1742	14.4
7-Mar-22	2hr01mins	11:24 ~ 13:25	22.5	1010.6	34.8	1547	12.8
7-Mar-22	2hr01mins	13:30 ~ 15:31	22.5	1010.6	40.3	1994	16.5
1-Mar-22	30mins	10:03 ~ 10:33	22	1016.9	123.1	1677	55.9
1-Mar-22	31mins	10:39 ~ 11:10	22	1016.9	93.9	1578	51.6

(*) Suspended particle was added into calibration room of HVS019 for high concentration test.

Sensitivity Adjustment Scale Setting (Before Calibration) 726 (CPM)

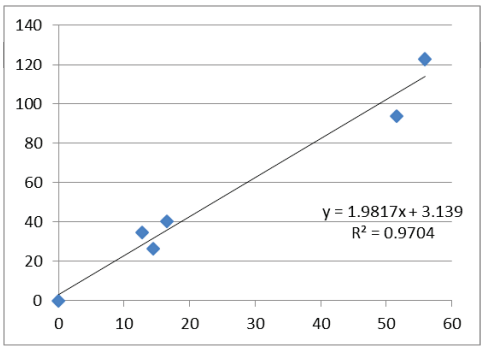
Sensitivity Adjustment Scale Setting (After Calibration) 719 (CPM)

Linear Regression of Y or X

Slope (K-factor): 1.9817 (µg/m^3)/CPM

Correlation Coefficient (R) 0.9851

Date of Issue 26 March 2022



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 1.9817 (µg/m^3)/CPM should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 26 March 2022

QC Reviewer : Ben Tam Signature : Date : 26 March 2022

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.713	54	54.13	Slope = 27.3242
13	4.7	4.7	9.4	1.543	49	49.12	Intercept = 7.2177
10	3.6	3.6	7.2	1.351	44	44.11	Corr. coeff. = 0.9997
8	2.3	2.3	4.6	1.080	37	37.09	
5	1.4	1.4	2.8	0.844	30	30.07	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

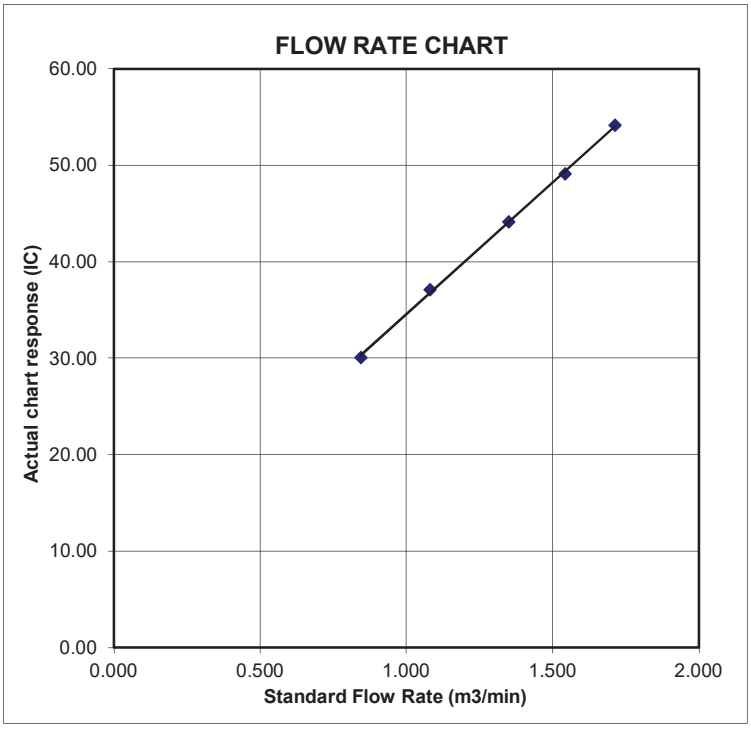
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/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 :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.771	52	52.13	Slope = 34.6002
13	4.9	4.9	9.8	1.575	44	44.11	Intercept = -9.1434
10	3.8	3.8	7.6	1.387	40	40.10	Corr. coeff. = 0.9958
8	2.4	2.4	4.8	1.104	30	30.07	
5	1.5	1.5	3.0	0.873	20	20.05	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

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)[Sqrt(298/Tav)(Pav/760)]-b)

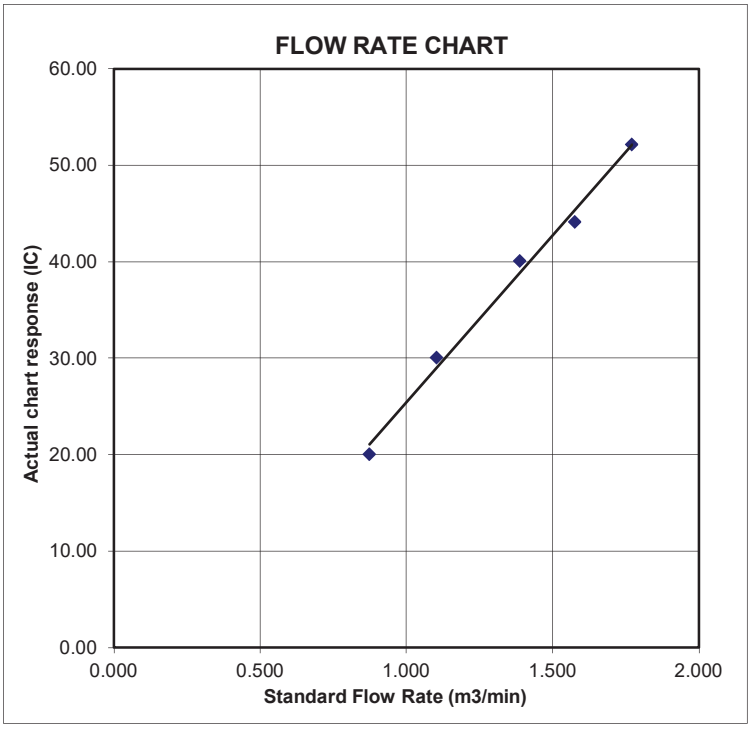
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
December 27, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 27, 2021	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 740.4	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3890	3.2	2.00
2	3	4	1	0.9760	6.4	4.00
3	5	6	1	0.8740	7.9	5.00
4	7	8	1	0.8320	8.8	5.50
5	9	10	1	0.6870	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9799	0.7055	1.4029	0.9957	0.7168	0.8927
0.9756	0.9996	1.9841	0.9914	1.0157	1.2624
0.9736	1.1140	2.2183	0.9893	1.1320	1.4114
0.9724	1.1688	2.3265	0.9881	1.1876	1.4803
0.9673	1.4079	2.8059	0.9828	1.4306	1.7853
QSTD	**m=**	**1.99838**	**QA**	**m=**	**1.25135**
	b=	**-0.00903**		**b=**	**-0.00574**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

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

For subsequent flow rate calculations:

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

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

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

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

RECALIBRATION

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

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK2212657**
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	: 8-APR-2022
		DATE OF ISSUE	: 14-APR-2022
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ---

General Comments

- **Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **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 is the Final Report and supersedes any preliminary report with this batch 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	:	HK2212657
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.
HK2212657-001	S/N: 456658	AIR	08-Apr-2022	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 & HVS 019
Last Calibration Date:	22 February 2022

Equipment Verification Results:

Verification Date: 1 & 7 March 2022

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-22	2hr01mins	09:17 ~ 11:18	22.5	1010.6	26.4	1004	8.3
7-Mar-22	2hr01mins	11:24 ~ 13:25	22.5	1010.6	34.8	1674	13.8
7-Mar-22	2hr01mins	13:30 ~ 15:31	22.5	1010.6	40.3	1709	14.2
1-Mar-22	30mins	10:03 ~ 10:33	22	1016.9	123.1	1799	60.0
1-Mar-22	31mins	10:39 ~ 11:10	22	1016.9	93.9	1208	39.5

(*) Suspended particle was added into calibration room of HVS019 for high concentration test.

Sensitivity Adjustment Scale Setting (Before Calibration) 702 (CPM)

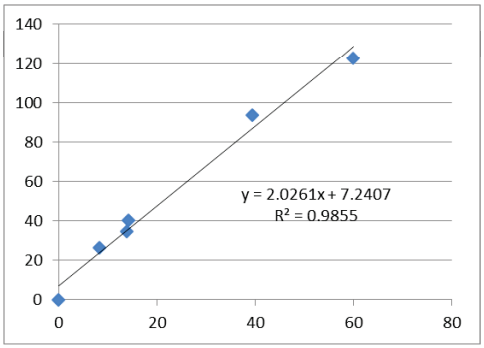
Sensitivity Adjustment Scale Setting (After Calibration) 711 (CPM)

Linear Regression of Y or X

Slope (K-factor): 2.0261 (μg/m^3)/CPM

Correlation Coefficient (R) 0.9927

Date of Issue 26 March 2022



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 2.0261 (μg/m^3)/CPM should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 26 March 2022

QC Reviewer : Ben Tam Signature : Date : 26 March 2022

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.713	54	54.13	Slope = 27.3242
13	4.7	4.7	9.4	1.543	49	49.12	Intercept = 7.2177
10	3.6	3.6	7.2	1.351	44	44.11	Corr. coeff. = 0.9997
8	2.3	2.3	4.6	1.080	37	37.09	
5	1.4	1.4	2.8	0.844	30	30.07	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

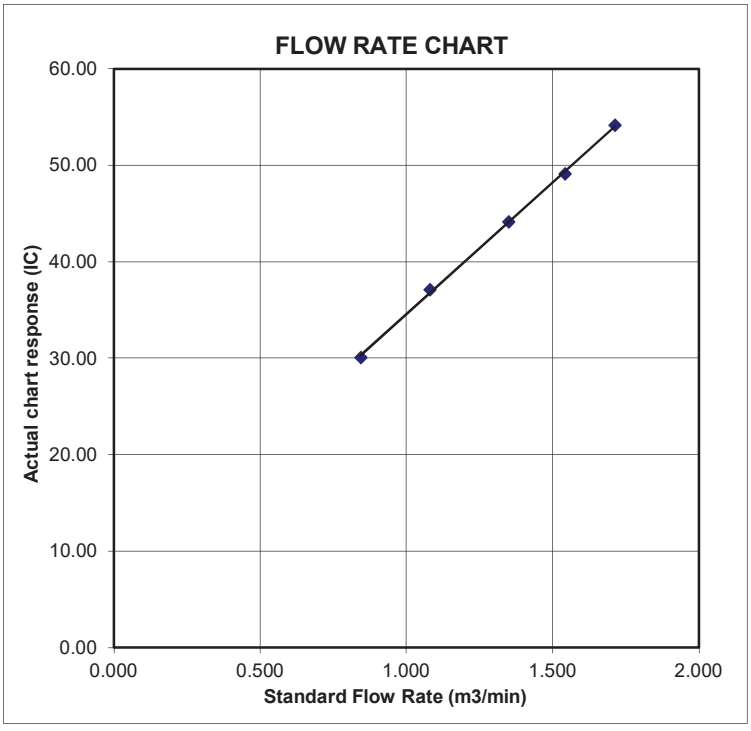
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/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 :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.771	52	52.13	Slope = 34.6002
13	4.9	4.9	9.8	1.575	44	44.11	Intercept = -9.1434
10	3.8	3.8	7.6	1.387	40	40.10	Corr. coeff. = 0.9958
8	2.4	2.4	4.8	1.104	30	30.07	
5	1.5	1.5	3.0	0.873	20	20.05	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

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)[Sqrt(298/Tav)(Pav/760)]-b)

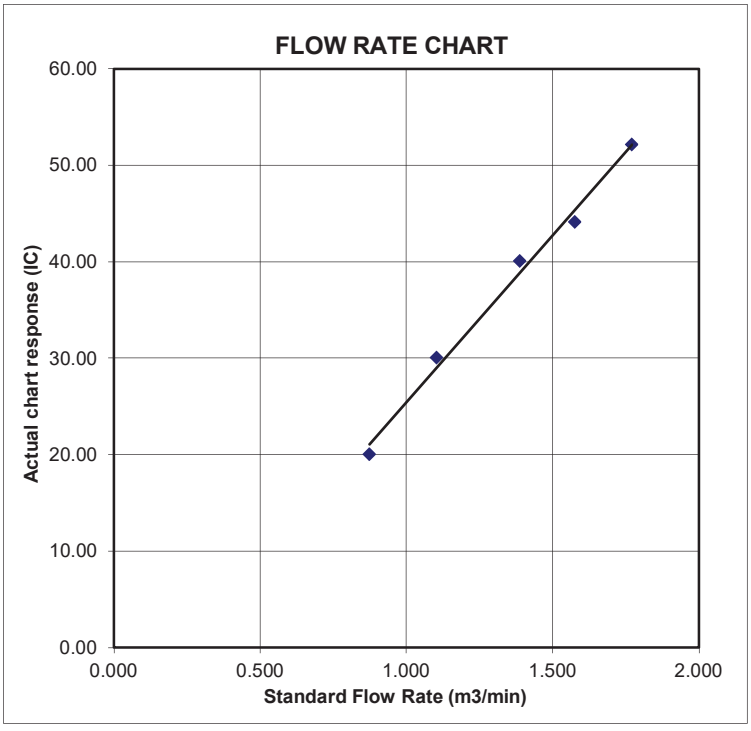
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
December 27, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 27, 2021	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 740.4	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3890	3.2	2.00
2	3	4	1	0.9760	6.4	4.00
3	5	6	1	0.8740	7.9	5.00
4	7	8	1	0.8320	8.8	5.50
5	9	10	1	0.6870	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9799	0.7055	1.4029	0.9957	0.7168	0.8927
0.9756	0.9996	1.9841	0.9914	1.0157	1.2624
0.9736	1.1140	2.2183	0.9893	1.1320	1.4114
0.9724	1.1688	2.3265	0.9881	1.1876	1.4803
0.9673	1.4079	2.8059	0.9828	1.4306	1.7853
QSTD	**m=**	**1.99838**	**QA**	**m=**	**1.25135**
	b=	**-0.00903**		**b=**	**-0.00574**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

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

For subsequent flow rate calculations:

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

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

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

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

RECALIBRATION

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

Tisch Environmental, Inc.
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ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK2212162**
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	: 8-APR-2022
		DATE OF ISSUE	: 14-APR-2022
PROJECT	: ----	NO. OF SAMPLES	: 1
		CLIENT ORDER	: ---

General Comments

- **Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **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 is the Final Report and supersedes any preliminary report with this batch 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
58TB. 62I2+10I1044 Fax. +852 2610 2021 wwwaTsgTobaTcomll

WORK ORDER	:	HK2212152
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.
HK2212152-001	S/N: 3Y6505	AIR	08-Apr-2022	S/N: 3Y6505

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6505
Equipment Ref:	EQ114

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018 & HVS 019
Last Calibration Date:	22 February 2022

Equipment Verification Results:

Verification Date: 1 & 7 March 2022

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-22	2hr01mins	09:17 ~ 11:18	22.5	1010.6	26.4	783	6.5
7-Mar-22	2hr01mins	11:24 ~ 13:25	22.5	1010.6	34.8	1104	9.1
7-Mar-22	2hr01mins	13:30 ~ 15:31	22.5	1010.6	40.3	2134	17.7
1-Mar-22	30mins	10:03 ~ 10:33	22	1016.9	123.1	1599	53.3
1-Mar-22	31mins	10:39 ~ 11:10	22	1016.9	93.9	1397	45.7

(*) Suspended particle was added into calibration room of HVS019 for high concentration test.

Sensitivity Adjustment Scale Setting (Before Calibration) 591 (CPM)

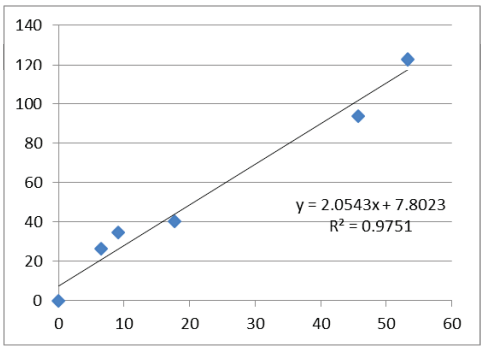
Sensitivity Adjustment Scale Setting (After Calibration) 588 (CPM)

Linear Regression of Y or X

Slope (K-factor): 2.0543 (µg/m^3)/CPM

Correlation Coefficient (R) 0.9875

Date of Issue 26 March 2022



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 2.0543 (µg/m^3)/CPM should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 26 March 2022

QC Reviewer : Ben Tam Signature : Date : 26 March 2022

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.713	54	54.13	Slope = 27.3242
13	4.7	4.7	9.4	1.543	49	49.12	Intercept = 7.2177
10	3.6	3.6	7.2	1.351	44	44.11	Corr. coeff. = 0.9997
8	2.3	2.3	4.6	1.080	37	37.09	
5	1.4	1.4	2.8	0.844	30	30.07	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

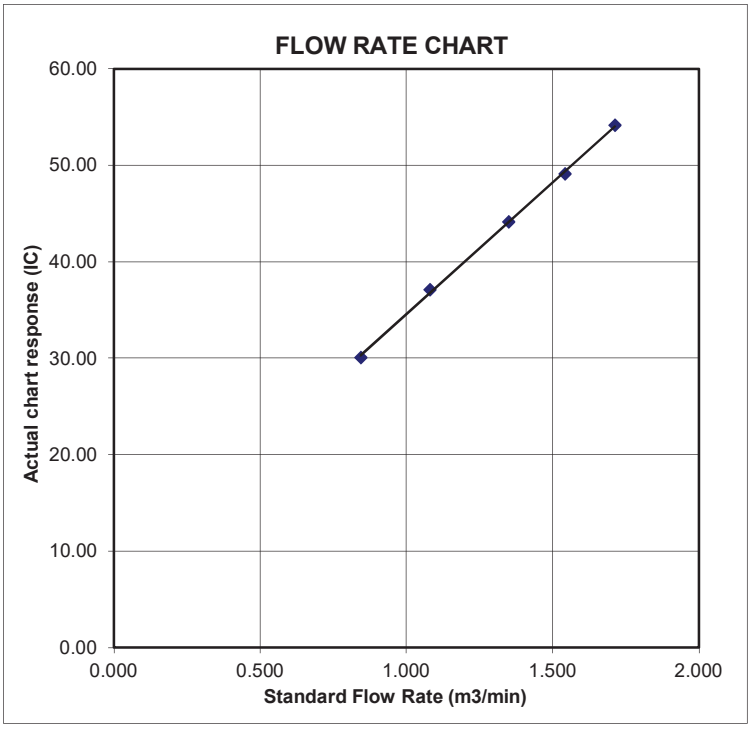
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/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 :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.771	52	52.13	Slope = 34.6002
13	4.9	4.9	9.8	1.575	44	44.11	Intercept = -9.1434
10	3.8	3.8	7.6	1.387	40	40.10	Corr. coeff. = 0.9958
8	2.4	2.4	4.8	1.104	30	30.07	
5	1.5	1.5	3.0	0.873	20	20.05	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

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)[Sqrt(298/Tav)(Pav/760)]-b)

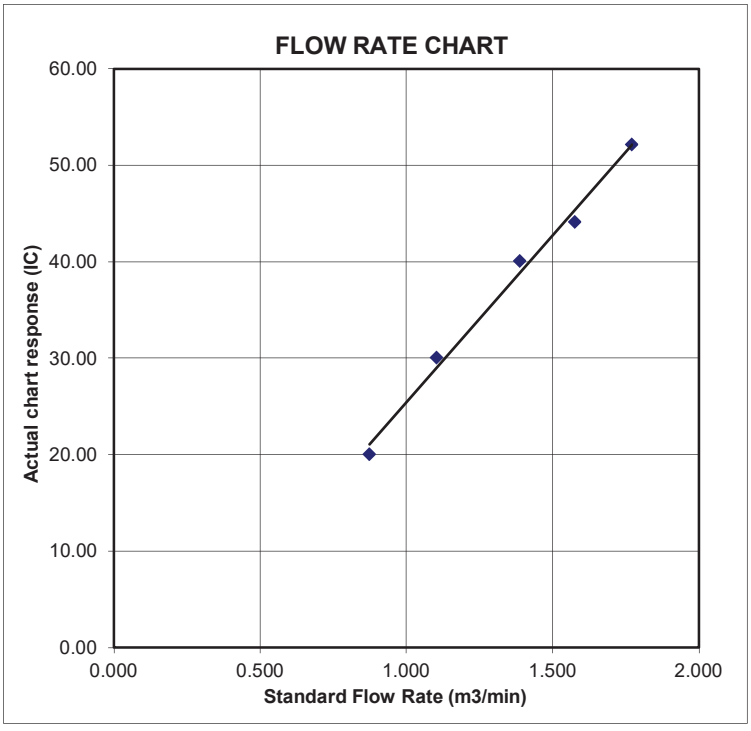
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
December 27, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 27, 2021	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 740.4	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3890	3.2	2.00
2	3	4	1	0.9760	6.4	4.00
3	5	6	1	0.8740	7.9	5.00
4	7	8	1	0.8320	8.8	5.50
5	9	10	1	0.6870	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9799	0.7055	1.4029	0.9957	0.7168	0.8927
0.9756	0.9996	1.9841	0.9914	1.0157	1.2624
0.9736	1.1140	2.2183	0.9893	1.1320	1.4114
0.9724	1.1688	2.3265	0.9881	1.1876	1.4803
0.9673	1.4079	2.8059	0.9828	1.4306	1.7853
QSTD	**m=**	**1.99838**	**QA**	**m=**	**1.25135**
	b=	**-0.00903**		**b=**	**-0.00574**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

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

For subsequent flow rate calculations:

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

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

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

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

RECALIBRATION

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

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

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	:	**HK2216567**
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	:	12-APR-2022
		DATE OF ISSUE	:	29-APR-2022
PROJECT	: ----	NO. OF SAMPLES	:	1
		CLIENT ORDER	:	---

General Comments

- **Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **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 is the Final Report and supersedes any preliminary report with this batch 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. +872 2014 1466 Fax. +852 2610 2021 **www.alsglobal.com**

WORK ORDER	:	HK2214745
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.
HK2214745-001	S/N: 3Y6502	AIR	12-Apr-2022	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 & HVS 019
Last Calibration Date:	22 February 2022

Equipment Verification Results:

Verification Date: 1 & 7 March 2022

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-22	2hr01mins	09:17 ~ 11:18	22.5	1010.6	26.4	947	7.9
7-Mar-22	2hr01mins	11:24 ~ 13:25	22.5	1010.6	34.8	1449	12.0
7-Mar-22	2hr01mins	13:30 ~ 15:31	22.5	1010.6	40.3	1874	15.5
1-Mar-22	30mins	10:03 ~ 10:33	22	1016.9	123.1	1709	57.0
1-Mar-22	31mins	10:39 ~ 11:10	22	1016.9	93.9	1401	45.8

(*) Suspended particle was added into calibration room of HVS019 for high concentration test.

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

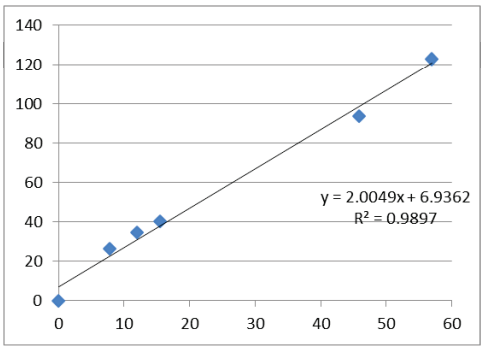
Sensitivity Adjustment Scale Setting (After Calibration) 661 (CPM)

Linear Regression of Y or X

Slope (K-factor): 2.0049 (µg/m^3)/CPM

Correlation Coefficient (R) 0.9948

Date of Issue 26 March 2022



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 2.0049 (µg/m^3)/CPM should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 26 March 2022

QC Reviewer : Ben Tam Signature : Date : 26 March 2022

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.8	5.8	11.6	1.713	54	54.13	Slope = 27.3242
13	4.7	4.7	9.4	1.543	49	49.12	Intercept = 7.2177
10	3.6	3.6	7.2	1.351	44	44.11	Corr. coeff. = 0.9997
8	2.3	2.3	4.6	1.080	37	37.09	
5	1.4	1.4	2.8	0.844	30	30.07	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

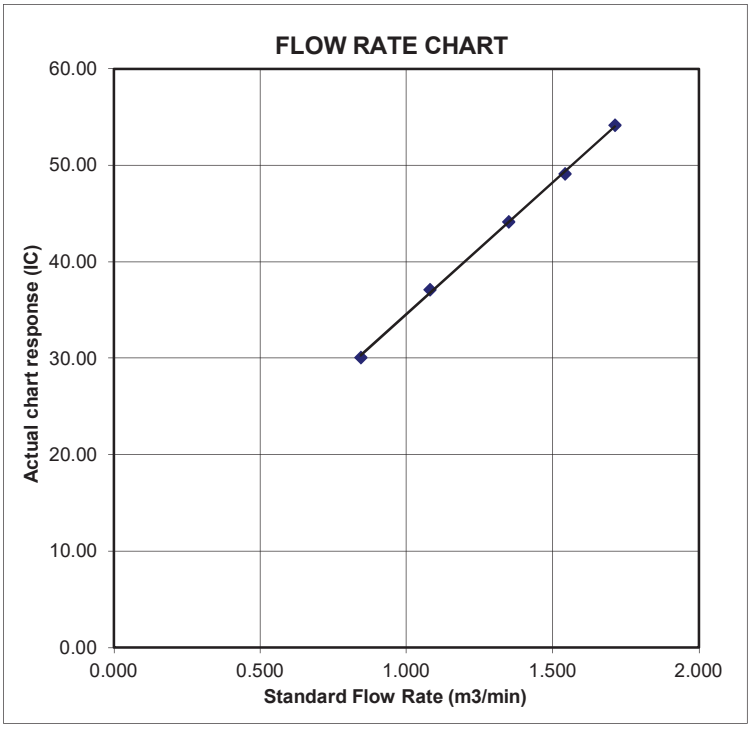
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate
IC = corrected chart respones
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)[Sqrt(298/Tav)(Pav/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 :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	22-Feb-22
Location ID :	Calibration Room	Next Calibration Date:	22-May-22

CONDITIONS

Sea Level Pressure (hPa)	1010.8	Corrected Pressure (mm Hg)	758.1
Temperature (°C)	22.8	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	1.99838
Model->	5025A	Qstd Intercept ->	-0.00903
Calibration Date->	27-Dec-21	Expiry Date->	27-Dec-22

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.771	52	52.13	Slope = 34.6002
13	4.9	4.9	9.8	1.575	44	44.11	Intercept = -9.1434
10	3.8	3.8	7.6	1.387	40	40.10	Corr. coeff. = 0.9958
8	2.4	2.4	4.8	1.104	30	30.07	
5	1.5	1.5	3.0	0.873	20	20.05	

Calculations :

Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]

IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

Qstd = standard flow rate

IC = corrected chart respones

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)[Sqrt(298/Tav)(Pav/760)]-b)

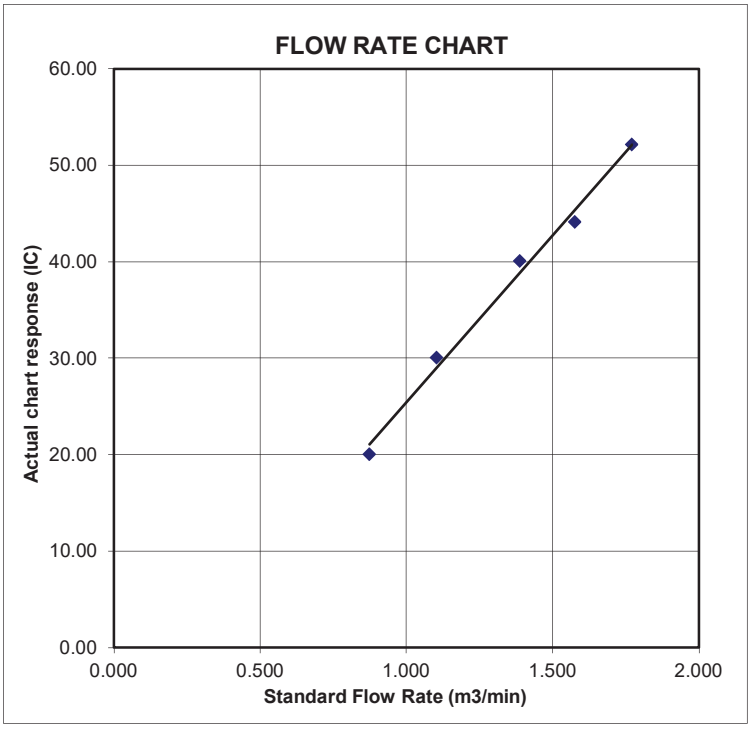
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
December 27, 2022

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	December 27, 2021	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 740.4	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3890	3.2	2.00
2	3	4	1	0.9760	6.4	4.00
3	5	6	1	0.8740	7.9	5.00
4	7	8	1	0.8320	8.8	5.50
5	9	10	1	0.6870	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9799	0.7055	1.4029	0.9957	0.7168	0.8927
0.9756	0.9996	1.9841	0.9914	1.0157	1.2624
0.9736	1.1140	2.2183	0.9893	1.1320	1.4114
0.9724	1.1688	2.3265	0.9881	1.1876	1.4803
0.9673	1.4079	2.8059	0.9828	1.4306	1.7853
QSTD	**m=**	**1.99838**	**QA**	**m=**	**1.25135**
	b=	**-0.00903**		**b=**	**-0.00574**
	r=	**0.99999**		**r=**	**0.99999**

Calculations

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

For subsequent flow rate calculations:

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

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

Standard Conditions	
Tstd:	298.15 °K
Pstd:	760 mm Hg

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

RECALIBRATION

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

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

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

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C221362
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-0258) Date of Receipt / 收件日期 : 14 February 2022

Description / 儀器名稱	:	Sound Calibrator (EQ089)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NC-75
Serial No. / 編號	:	34680623
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 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 12 March 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Fluke Everett Service Center, USA
- Agilent Technologies / Keysight Technologies

Tested By 測試 : K C Lee, Engineer

Certified By 核證 : H C Chan, Engineer

Date of Issue 簽發日期 : 16 March 2022

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。

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 - 校正及檢測實驗所
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. : C221362
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 :

Equipment ID	Description	Certificate No.
CL130	Universal Counter	C213954
CL281	Multifunction Acoustic Calibrator	AV210017
TST150A	Measuring Amplifier	C201309

4. Test procedure : MA100N.

5. 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	94.0	± 0.25	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.000 0	1 kHz ± 0.1 %	± 0.1

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.

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 - 校正及檢測實驗所
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

輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C221363
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-0258) Date of Receipt / 收件日期 : 14 February 2022

Description / 儀器名稱 : Sound Level Meter (EQ067)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-31
Serial No. / 編號 : 00410221
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 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 12 March 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Fluke Everett Service Center, USA
- Agilent Technologies / Keysight Technologies

Tested By 測試 : K C Lee
Engineer

Certified By 核證 : H C Chan
Engineer

Date of Issue 簽發日期 : 16 March 2022

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。

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 - 校正及檢測實驗所
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. : C221363
證書編號

1. 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.

2. Self-calibration was performed before the test.

3. 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	C220381
CL281	Multifunction Acoustic Calibrator	AV210017

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.8	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 120	L_A	A	Fast	94.00	1	93.8 (Ref.)
				104.00		103.8
				114.00		113.7

IEC 61672 Class 1 Spec. : ± 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 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	93.8	Ref.
			Slow			93.7	± 0.3

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。

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Certificate of Calibration
校正證書

Certificate No. : C221363
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	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	90.5	-3.2 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	95.0	+1.2 ± 1.6
					4 kHz	94.9	+1.0 ± 1.6
					8 kHz	92.7	-1.1 (+2.1 ; -3.1)
					16 kHz	87.4	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_C	C	Fast	94.00	63 Hz	92.8	-0.8 ± 1.5
					125 Hz	93.5	-0.2 ± 1.5
					250 Hz	93.7	0.0 ± 1.4
					500 Hz	93.8	0.0 ± 1.4
					1 kHz	93.7	Ref.
					2 kHz	93.6	-0.2 ± 1.6
					4 kHz	93.1	-0.8 ± 1.6
					8 kHz	90.8	-3.0 (+2.1 ; -3.1)
					16 kHz	85.4	-8.5 (+3.5 ; -17.0)

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Certificate of Calibration
校正證書

Certificate No. : C221363
證書編號

Remarks : - UUT Microphone Model No. : UC-53A & S/N : 322551

- Mfr's Spec. : 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.
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C221365
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC22-0258) Date of Receipt / 收件日期 : 14 February 2022

Description / 儀器名稱	:	Sound Level Meter (EQ018)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NL-52
Serial No. / 編號	:	00809405
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 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 12 March 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
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
- Fluke Everett Service Center, USA
- Agilent Technologies / Keysight Technologies

Tested By 測試 : K C Lee, Engineer

Certified By 核證 : H C Chan, Engineer

Date of Issue 簽發日期 : 16 March 2022

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。

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Certificate of Calibration
校正證書

Certificate No. : C221365
證書編號

1. 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.

2. Self-calibration was performed before the test.

3. 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	C220381
CL281	Multifunction Acoustic Calibrator	AV210017

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	± 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	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

IEC 61672 Class 1 Spec. : ± 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 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	94.0	Ref.
			Slow			94.0	± 0.3

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. : C221365
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.5
					250 Hz	85.4	-8.6 ± 1.4
					500 Hz	90.8	-3.2 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	95.0	+1.2 ± 1.6
					4 kHz	94.7	+1.0 ± 1.6
					8 kHz	92.9	-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 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.5
					250 Hz	94.0	0.0 ± 1.4
					500 Hz	94.1	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.6	-0.2 ± 1.6
					4 kHz	92.9	-0.8 ± 1.6
					8 kHz	91.0	-3.0 (+2.1 ; -3.1)
					16 kHz	83.5	-8.5 (+3.5 ; -17.0)

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Certificate of Calibration
校正證書

Certificate No. : C221365
證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 16463

- Mfr's Spec. : 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 :
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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

11/F, Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, New Territories, Hong Kong
香港新界葵涌永業街1-3號忠信針織中心11樓

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 (see joint IAF-ILAC-ISO Communiqué).
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)。

The common seal of HKAS is affixed hereto by the authority of the HKAS Executive
現經香港認可處執行機關授權在此蓋上香港認可處的印章

SHUM Wai-leung, Executive Administrator
執行幹事 沈偉良
Issue Date : 28 February 2020
簽發日期：二零二零年二月二十八日

Registration Number : HOKLAS 066
註冊號碼：

Date of First Registration : 15 September 1995
首次註冊日期：一九九五年九月十五日

This certificate is issued subject to the terms and conditions laid down by HKAS
本證書按照香港認可處訂立的條款及條件發出

L001934

Appendix F

Event and Action Plan

Event / Action Plan for construction dust

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Action Level exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, ER and Contractor; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Notify Contractor.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Rectify any unacceptable practice and implement remedial measures; and 3. Amend working methods agreed with ER if appropriate.
Action Level exceedance for two or more consecutive samples	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, ER and Contractor; 3. Advise the ER and Contractor on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC, ER and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 3. Implement the agreed proposals; and 4. Amend proposal if appropriate.
Limit Level exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor, IEC and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; and 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ER and ET on the effectiveness of the proposed remedial measures; and 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. 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	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.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise and ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control; 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	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.	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.	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.	1. Submit noise mitigation proposals to IEC and ER; and 2. Implement noise mitigation proposals.
Limit Level Exceedance	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.	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.	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.	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
Wed	1-Feb-23	✓	✓	
Thu	2-Feb-23			
Fri	3-Feb-23			
Sat	4-Feb-23			
Sun	5-Feb-23			
Mon	6-Feb-23			✓
Tue	7-Feb-23	✓	✓	
Wed	8-Feb-23			
Thu	9-Feb-23			
Fri	10-Feb-23			
Sat	11-Feb-23			✓
Sun	12-Feb-23			
Mon	13-Feb-23	✓	✓	
Tue	14-Feb-23			
Wed	15-Feb-23			
Thu	16-Feb-23			
Fri	17-Feb-23			✓
Sat	18-Feb-23		✓	
Sun	19-Feb-23			
Mon	20-Feb-23			
Tue	21-Feb-23			
Wed	22-Feb-23			
Thu	23-Feb-23			✓
Fri	24-Feb-23	✓	✓	
Sat	25-Feb-23			
Sun	26-Feb-23			
Mon	27-Feb-23			
Tue	28-Feb-23			

✓	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-Mar-23			✓
Thu	2-Mar-23	✓	✓	
Fri	3-Mar-23			
Sat	4-Mar-23			
Sun	5-Mar-23			
Mon	6-Mar-23			
Tue	7-Mar-23			✓
Wed	8-Mar-23	✓	✓	
Thu	9-Mar-23			
Fri	10-Mar-23			
Sat	11-Mar-23			
Sun	12-Mar-23			
Mon	13-Mar-23			✓
Tue	14-Mar-23	✓	✓	
Wed	15-Mar-23			
Thu	16-Mar-23			
Fri	17-Mar-23			
Sat	18-Mar-23			✓
Sun	19-Mar-23			
Mon	20-Mar-23	✓	✓	
Tue	21-Mar-23			
Wed	22-Mar-23			
Thu	23-Mar-23			
Fri	24-Mar-23			✓
Sat	25-Mar-23		✓	
Sun	26-Mar-23			
Mon	27-Mar-23			
Tue	28-Mar-23			
Wed	29-Mar-23			
Thu	30-Mar-23			✓
Fri	31-Mar-23	✓	✓	

✓	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
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
6-Feb-23	29035	25801.87	25825.87	1440.00	42	43	42.5	19.2	1014.6	1.52	2191	2.7359	2.7686	0.0327	15
11-Feb-23	29034	25825.87	25849.87	1440.00	42	43	42.5	18.7	1014.6	1.52	2192	2.732	2.8876	0.1556	71
17-Feb-23	28976	25849.87	25873.87	1440.00	42	43	42.5	17.1	1018.7	1.53	2200	2.8151	2.8876	0.0725	33
23-Feb-23	29137	25873.87	25897.87	1440.00	42	43	42.5	18.2	1018.7	1.53	2197	2.7484	2.8057	0.0573	26

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
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
6-Feb-23	28997	13353.84	13377.84	1440.00	38	39	38.5	21.4	1014.6	1.37	1969	2.8325	2.8818	0.0493	25
11-Feb-23	29156	13377.84	13401.84	1440.00	38	39	38.5	18.7	1014.6	1.37	1975	2.7554	2.7830	0.0276	14
17-Feb-23	29133	13401.84	13425.84	1440.00	38	39	38.5	17.1	1018.7	1.38	1981	2.7424	2.8417	0.0993	50
23-Feb-23	29135	13425.84	13449.84	1440.00	38	39	38.5	18.2	1013.6	1.37	1975	2.7415	2.7891	0.0476	24

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
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
6-Feb-23	28999	18676.69	18700.69	1440.00	40	41	40.5	21.4	1014.6	1.44	2075	2.8331	2.8576	0.0245	12
11-Feb-23	29157	18700.69	18724.69	1440.00	40	41	40.5	18.7	1014.6	1.45	2081	2.7584	2.7880	0.0296	14
17-Feb-23	29134	18724.69	18748.69	1440.00	40	41	40.5	17.1	1021.2	1.45	2089	2.7393	2.8306	0.0913	44
23-Feb-23	29166	18748.69	18772.69	1440.00	40	41	40.5	18.2	1013.6	1.45	2081	2.7434	2.7820	0.0386	19

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
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
6-Feb-23	28998	13530.72	13554.72	1440.00	39	40	39.5	19.2	1014.6	1.40	2031	2.8390	2.8907	0.0517	25
11-Feb-23	29036	13554.72	13578.72	1440.00	40	40	40.0	18.7	1014.6	1.41	2051	2.7345	2.7859	0.0514	25
17-Feb-23	29111	13578.72	13602.72	1440.00	40	40	40.0	17.1	1018.7	1.41	2035	2.7326	2.7880	0.0554	27
23-Feb-23	29136	13602.72	13626.72	1440.00	40	40	40.0	18.2	1013.6	1.41	2028	2.7434	2.8240	0.0806	40

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)		
1-Feb-23	13:30	68.6	70.5	65.0	69.5	71.0	65.0	71.6	74.5	63.0	70.8	73.0	63.0	68.8	72.5	62.5	69.2	73.0	63.0	70	70
7-Feb-23	13:11	68.1	72.0	59.0	68.6	72.4	59.0	71.0	75.1	60.9	67.2	71.1	56.4	68.2	73.8	55.9	64.8	68.4	56.1	68	70
13-Feb-23	13:05	69.1	71.4	64.2	69.9	74.1	64.7	68.4	72.5	59.2	69.5	73.1	61.2	68.3	72.3	61.7	70.2	74.1	60.9	69	70
24-Feb-23	13:10	69.5	73.0	64.5	67.8	71.5	63.0	68.6	72.0	63.0	71.2	75.0	63.0	66.4	70.0	62.0	65.6	68.5	61.0	69	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)		
1-Feb-23	13:12	56.7	60	53	60.2	65	55	55.8	60	52.5	56.3	58	53	50.5	55	52.5	55.6	58	52	57	70
7-Feb-23	14:20	62.5	65	60	61.8	64.5	59.5	63.7	65	60	62.6	65	60.5	63.4	65.5	60.5	60.7	65	59.5	63	70
13-Feb-23	10:25	54.6	57.7	50.5	53.1	54.8	50.5	52.7	54.4	50.1	51.7	52.6	51	53.3	54	50.3	52.4	53.7	50.9	53	70
24-Feb-23	10:08	62.4	65	60	61.8	64.5	59.5	63.3	65	60	62.2	65	59	61.7	65	59	62.3	65	59.5	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)		
1-Feb-23	14:18	62.2	64.5	59.0	61.8	64.0	59.0	61.5	63.5	58.5	60.8	65.0	69.0	61.7	64.5	58.5	60.9	63.5	58.0	62	75
7-Feb-23	9:12	62.4	65.0	60.0	61.2	63.0	59.0	61.8	63.0	60.0	60.2	62.5	59.5	60.8	62.5	59.0	61.2	63.0	59.5	61	75
13-Feb-23	9:20	60.8	63.0	58.5	61.5	63.0	59.0	61.2	63.0	58.5	62.3	64.0	59.5	62.5	64.0	59.5	61.7	63.5	59.0	62	75
24-Feb-23	11:09	60.9	63.5	53.2	54.1	56.2	51.5	55.3	58.0	52.2	57.2	59.5	53.8	60.3	59.5	53.7	56.6	59.8	51.6	58	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)			Leq30m in, 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)		
1-Feb-23	9:12	63	65.1	59.9	63.4	65.8	59.7	66.7	68.5	64.3	67	69	64.4	64.6	66.3	62.6	62.7	65.4	59.6	65	75
7-Feb-23	10:34	64.5	67.8	62.1	65.4	68.2	61.7	67.8	70.3	65	70.2	72.3	68.5	67.5	69	62.2	67.5	71.8	64.7	68	75
13-Feb-23	9:08	62.4	64.1	60	64.7	66	63.4	65.8	66.6	64.2	63.1	64.7	59.8	63.8	64.6	62.7	65.1	66.1	63.4	64	75
24-Feb-23	9:20	67.2	69	65.5	66.8	69	65.5	68.2	70	67	66.5	69	65	67.2	70	66	68.4	70	66	67	75

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)		
1-Feb-23	11:15	60.3	61.9	58.2	60.8	62.4	57.7	61.6	64.4	57.1	68.4	65.1	56.4	62.9	65.5	59.5	62.1	64.5	55	64	75
7-Feb-23	14:02	61.6	63.8	57.3	60.8	64.4	57.3	60.6	62.5	58.2	65.3	67.4	61.8	63.6	66.4	61.3	64.7	65.9	55.6	63	75
13-Feb-23	11:10	61.7	62.8	59.8	63.7	65.1	61.7	63.5	64.8	61.8	63.1	64.1	61.8	63.6	64.6	62.6	63.3	64.8	61.5	63	75
24-Feb-23	10:28	63.8	64.5	61	63.5	64	61	64.6	66.5	62	63.7	64.5	61	62.8	64	61	63.2	64	61	64	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)		
1-Feb-23	10:40	65.5	66.5	62	63.8	65	60	65.2	66.5	62	66.2	67	62	63.7	65	60	63.5	65	60.5	65	75
7-Feb-23	10:02	63.6	66.5	62	64.5	67	62	65.2	68	63	65.5	68	63	63.7	67	61.5	62.8	66.5	61	64	75
13-Feb-23	10:21	63.5	65.5	61.5	63.8	66	62	62.7	65	60.5	63.6	66.5	62	64.3	66.5	62.5	65.2	67	63	64	75
24-Feb-23	10:24	61.4	63.6	59.3	60.8	62.4	58.4	61.1	63.3	58.8	60.5	61.7	59.1	60.9	63.1	58.5	60.3	61.7	58.8	61	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)		
1-Feb-23	9:52	60.8	63	56	58.9	62.5	55.5	61.2	63.5	56	59.5	62	55.5	60.3	62.5	56	60.5	63	56	60	75
7-Feb-23	11:00	60.5	63	55.5	58.9	62.5	55	60.2	62.5	55	60.8	63.5	57	59.2	63	56.5	60.2	63	57	60	75
13-Feb-23	11:19	60.5	62.5	56	61.4	63	56.5	60.3	62.5	55.5	59.7	61.5	55.5	60.3	62	56	60.6	62	56	60	75
24-Feb-23	9:38	61.7	64.3	53.8	61.8	62.6	58.7	60.7	63.1	57.8	62	65.2	56.8	60	63	56.4	63.4	65.1	59.3	62	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)		
1-Feb-23	13:05	56.1	59.8	47.9	58	61.1	51.8	57.8	61.9	46.4	57.1	60	45.9	55.5	59.1	46.9	59.3	61.3	56.4	57	75
7-Feb-23	9:14	58.2	61.7	53.5	60.4	62.8	56.3	60	62.5	59.7	65.4	68.3	62	62.1	65.5	61.4	58.9	61.4	54.8	62	75
13-Feb-23	14:10	58.3	60	50	57	59.5	50	56.6	59.5	49.5	56.8	59	49.5	57	59	56	56.5	59	49.5	57	75
24-Feb-23	14:02	57.9	58.5	48.1	57.5	59.6	53.9	62.2	64.6	53.1	56.9	59.9	49.5	56.5	60	46.1	59.3	62.1	46.5	59	75

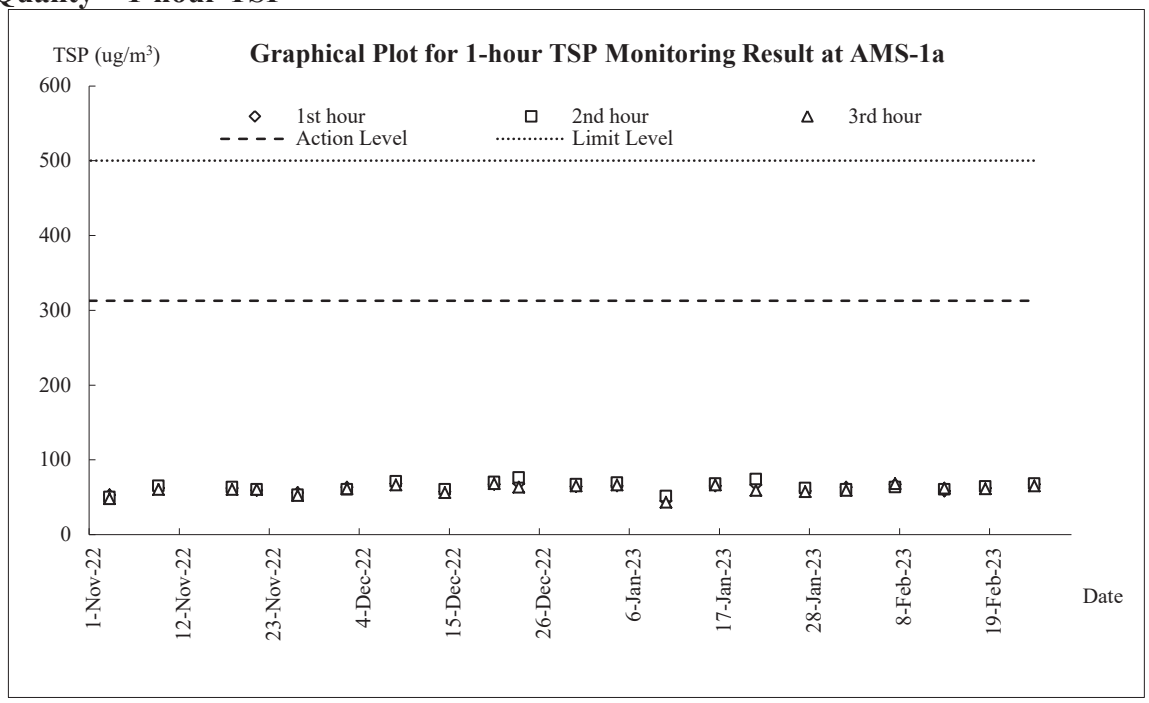
NOISE MONITORING RESULT DATABASE FOR CONTRACT 3

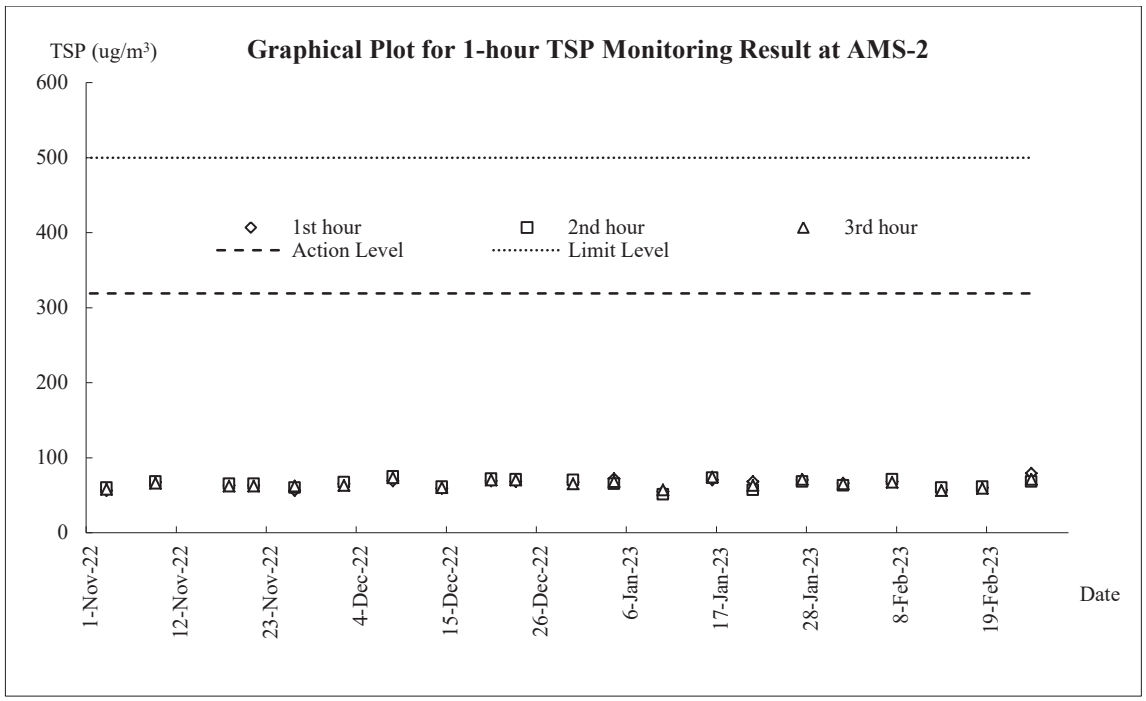
Noise Measurement Results (dB) of CN3																				
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, 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)		
1-Feb-23	9:50	65.8	68.5	61.1	64.9	67.7	56	63.2	66	56.2	65	67	56.6	67.8	72.1	59	65.8	68.5	61.1	66	75
7-Feb-23	11:20	68.4	71.9	61.1	63.8	67.1	60.3	66.7	69.6	62.3	63.4	67.4	62.4	61.6	64.9	57.2	61.4	64.4	57.3	65	75
13-Feb-23	9:45	64.6	66.9	61.2	61.9	63.9	59.3	62.2	63.7	60.3	61.8	64	59.8	62.4	64.5	59.7	60.6	62.6	59	62	75
24-Feb-23	14:00	62.5	65	57	61.6	64	56.5	60.7	63.5	56.5	65.6	68	57.5	63.8	67.5	57	63.2	67.5	56.5	63	75

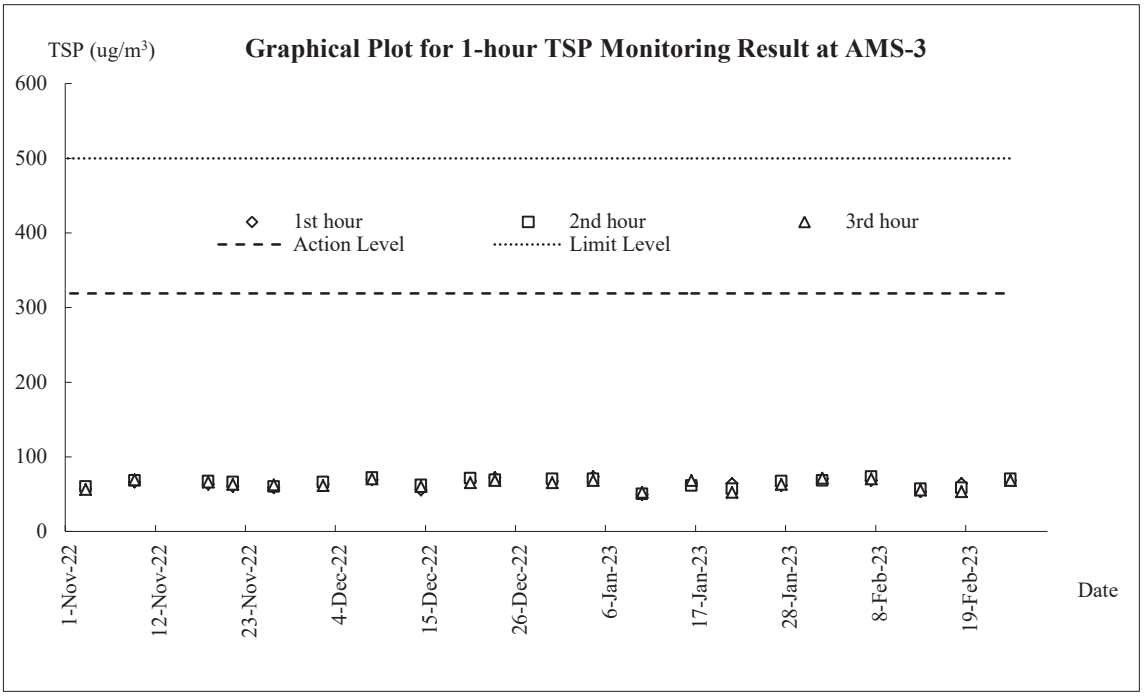
Appendix I

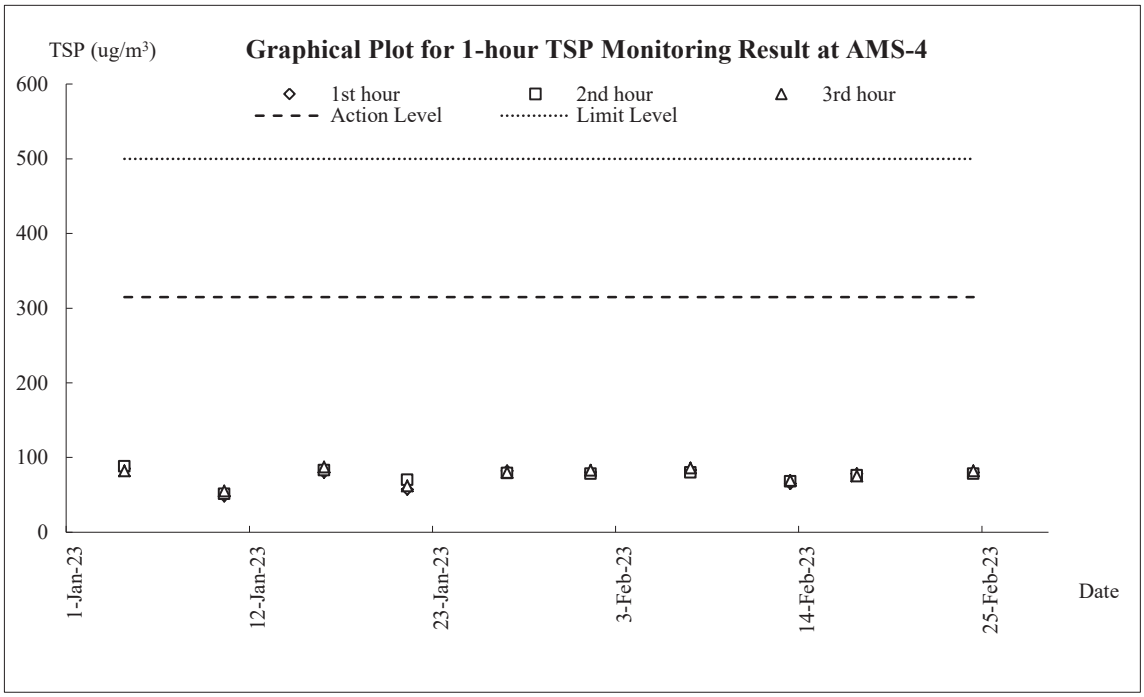
Graphical Plots for Monitoring Result

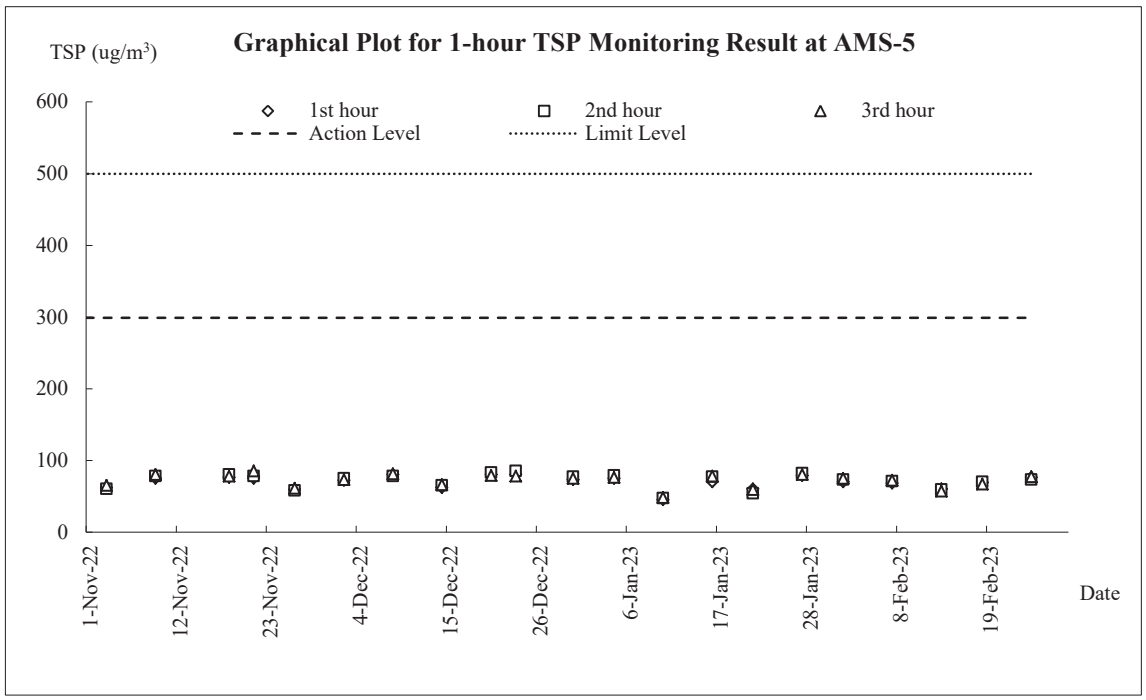
Air Quality – 1-hour TSP

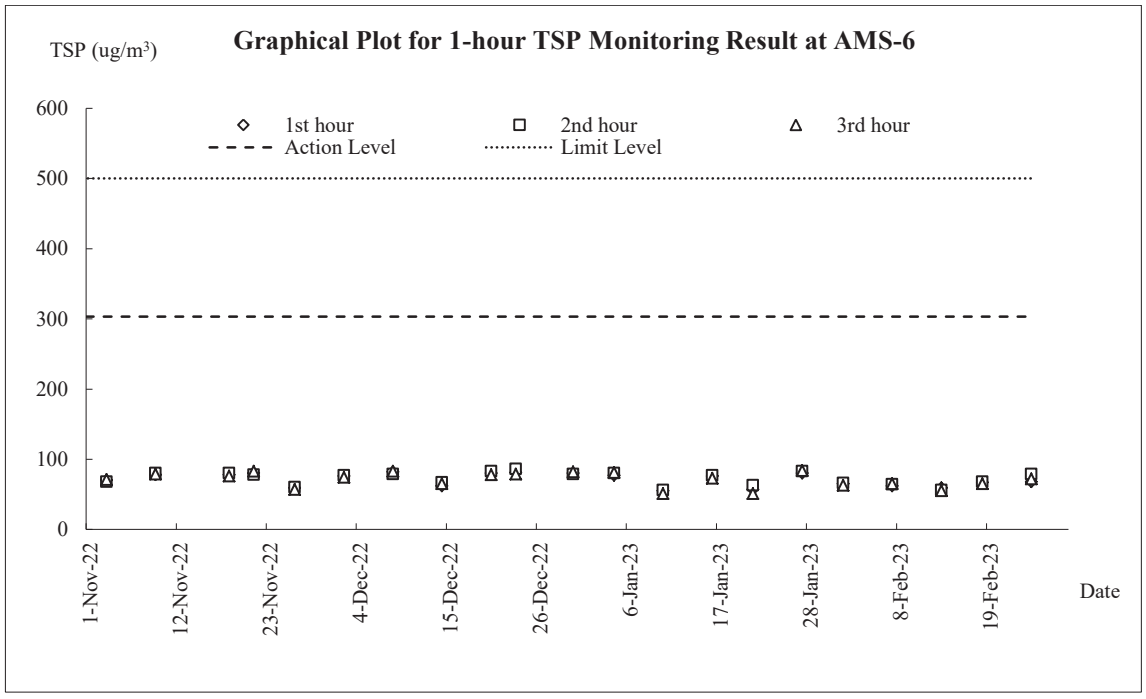


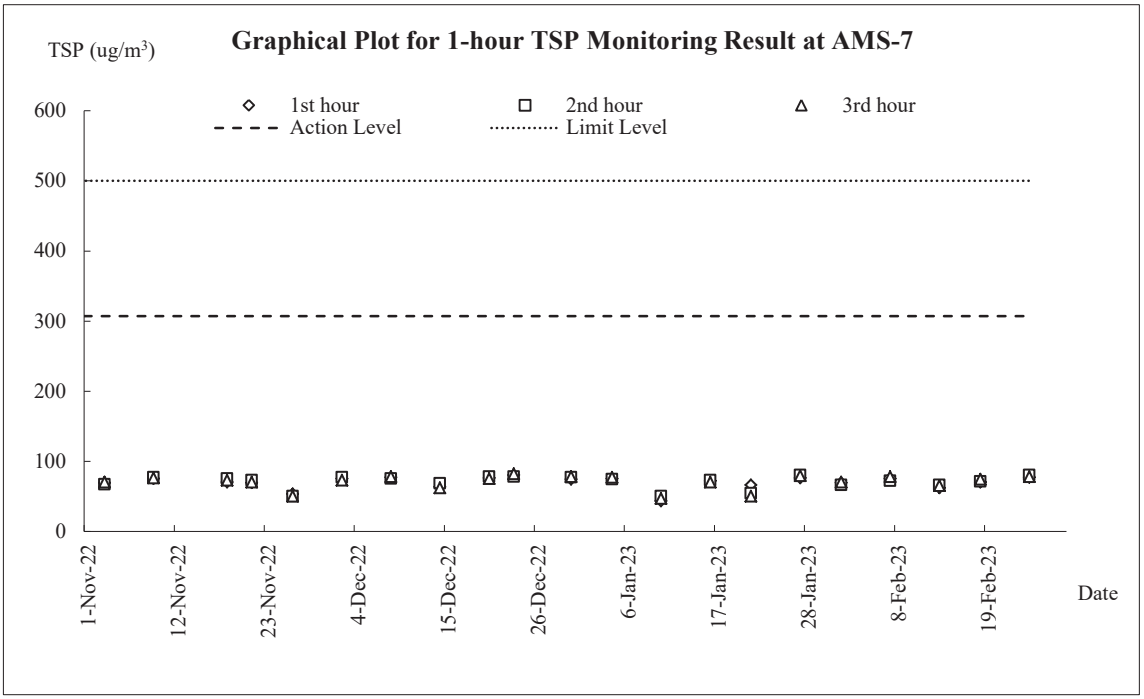



TSP (ug/m³)
Graphical Plot for 1-hour TSP Monitoring Result at AMS-3
600
500
400
300
200
100
0
1st hour
2nd hour
3rd hour
Action Level
Limit Level
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23
Date

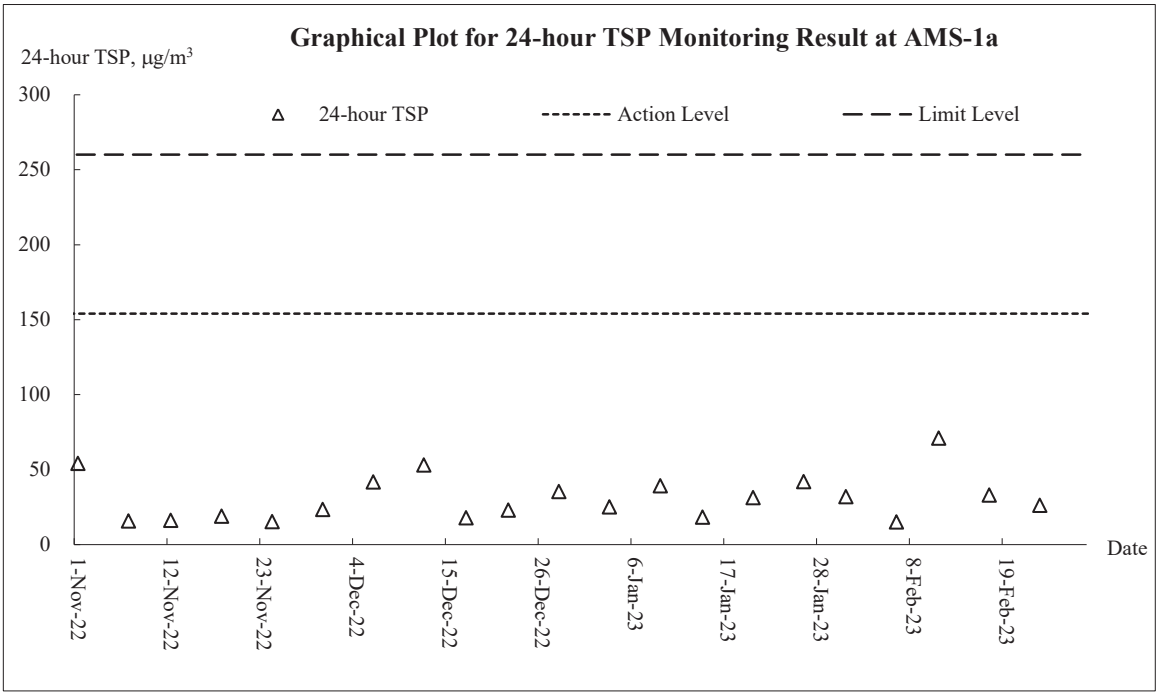

TSP (ug/m³)
Graphical Plot for 1-hour TSP Monitoring Result at AMS-4
600
500
400
300
200
100
0
1st hour
2nd hour
3rd hour
Action Level
Limit Level
1-Jan-23
12-Jan-23
23-Jan-23
3-Feb-23
14-Feb-23
25-Feb-23
Date

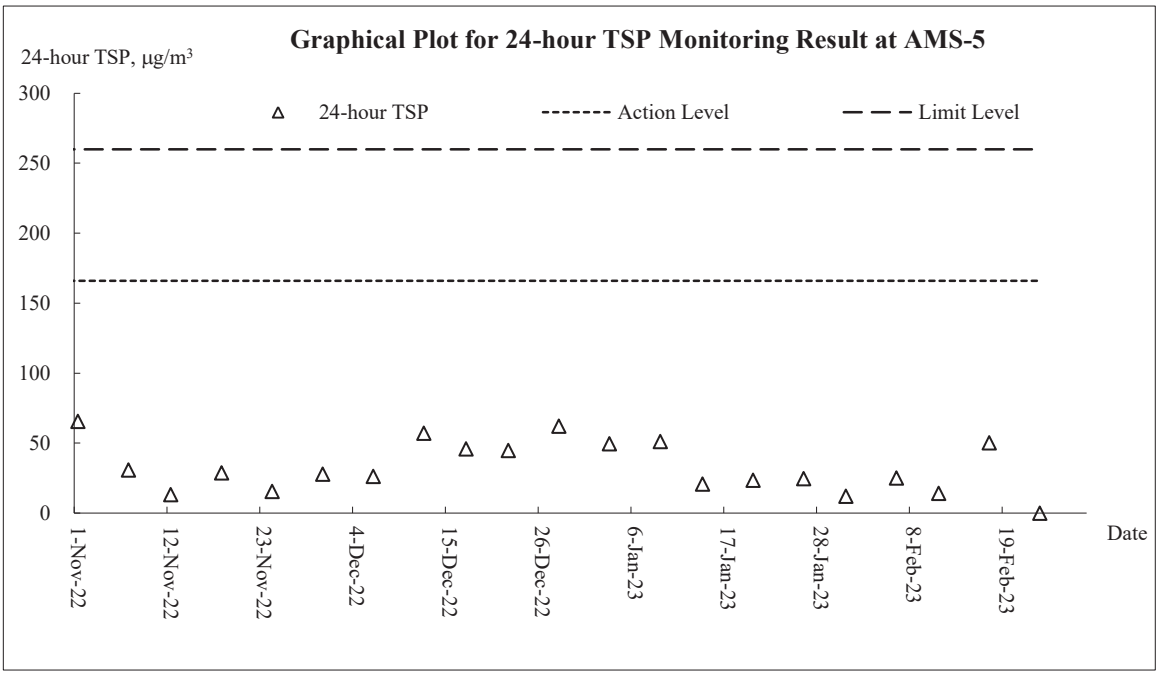

Graphical Plot for 1-hour TSP Monitoring Result at AMS-5
TSP (ug/m3)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23
Date

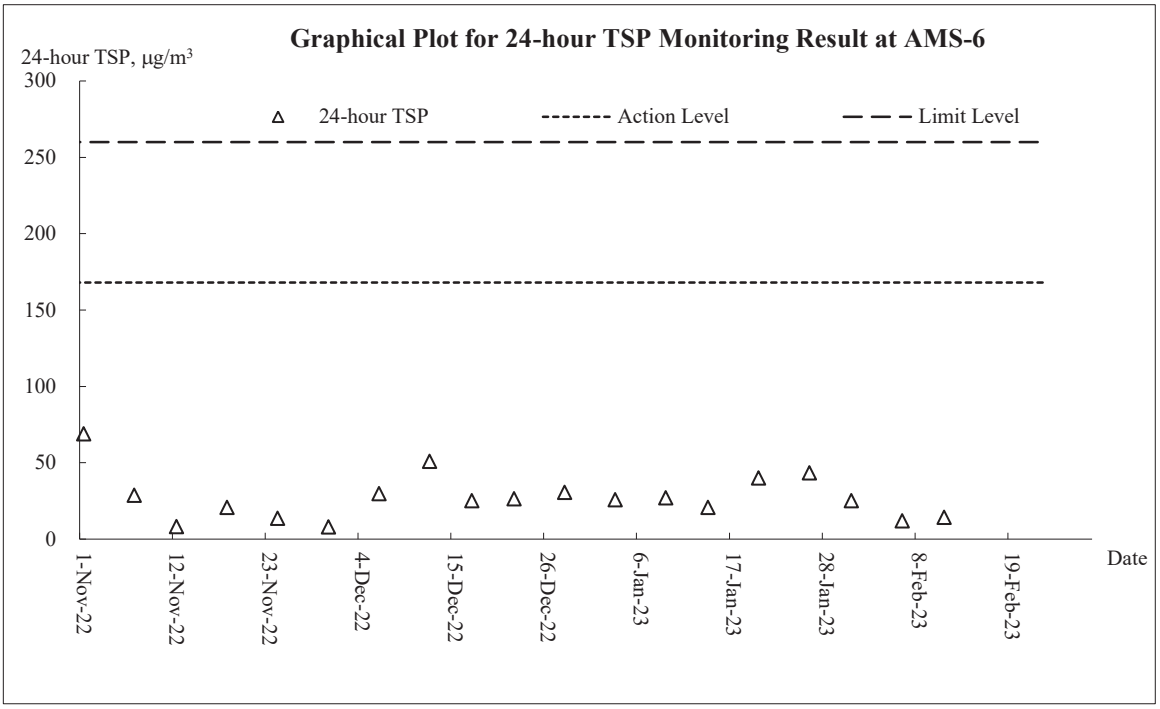

Graphical Plot for 1-hour TSP Monitoring Result at AMS-6
TSP (ug/m3)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23
Date

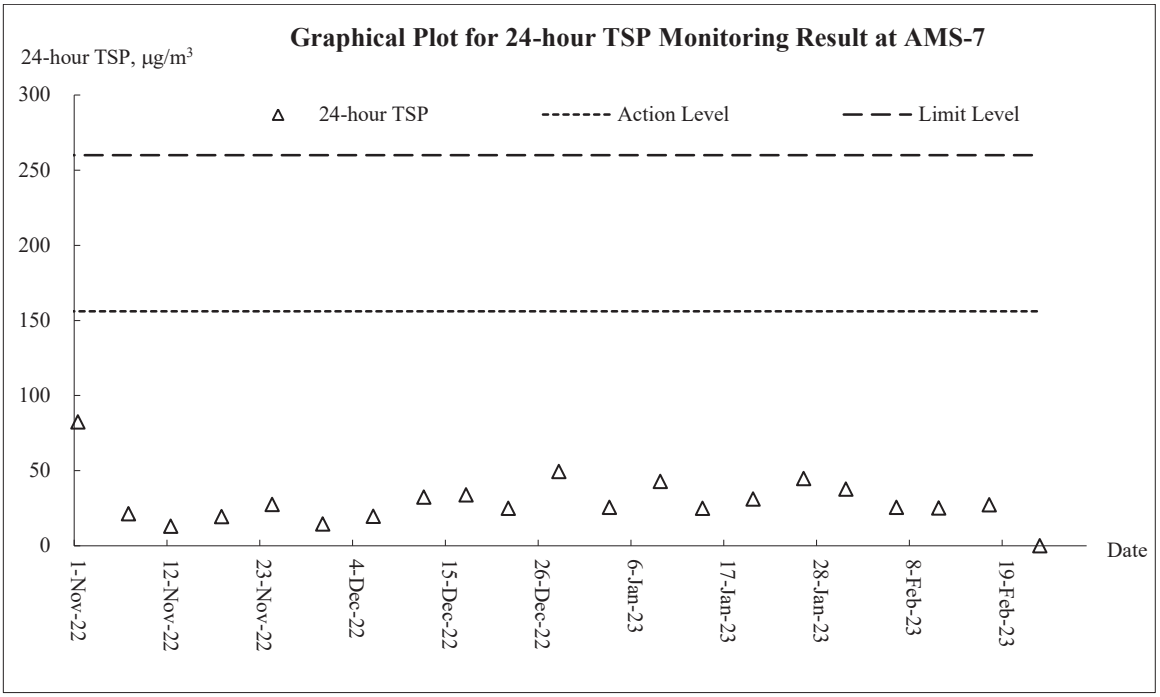

Graphical Plot for 1-hour TSP Monitoring Result at AMS-7
TSP (ug/m3)
1st hour
2nd hour
3rd hour
Action Level
Limit Level
600
500
400
300
200
100
0
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23
Date

Air Quality – 24-hour TSP

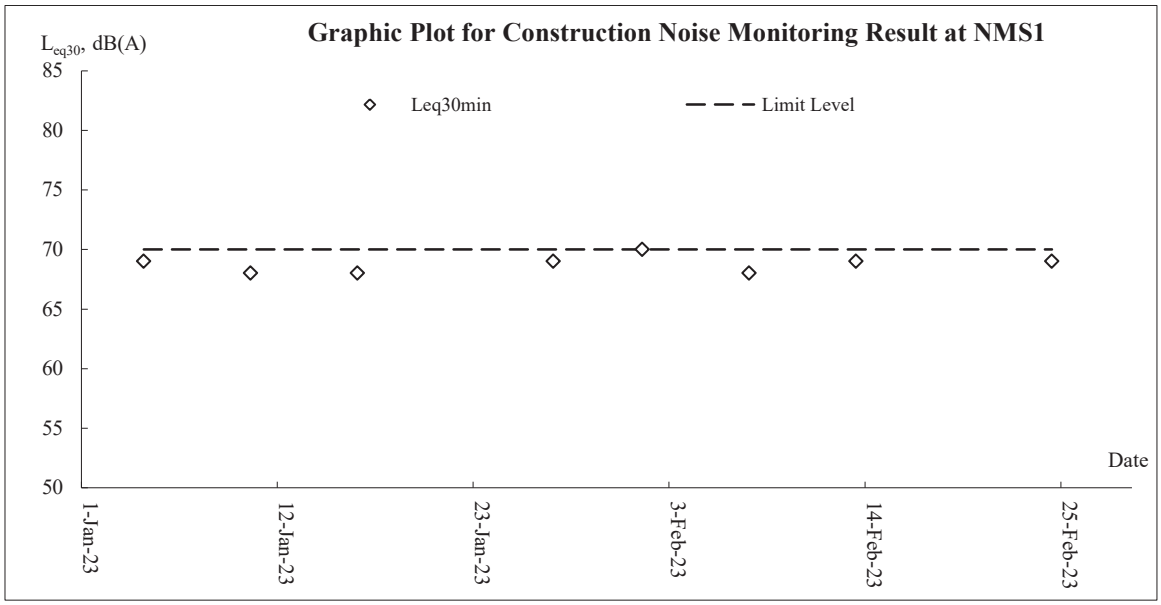


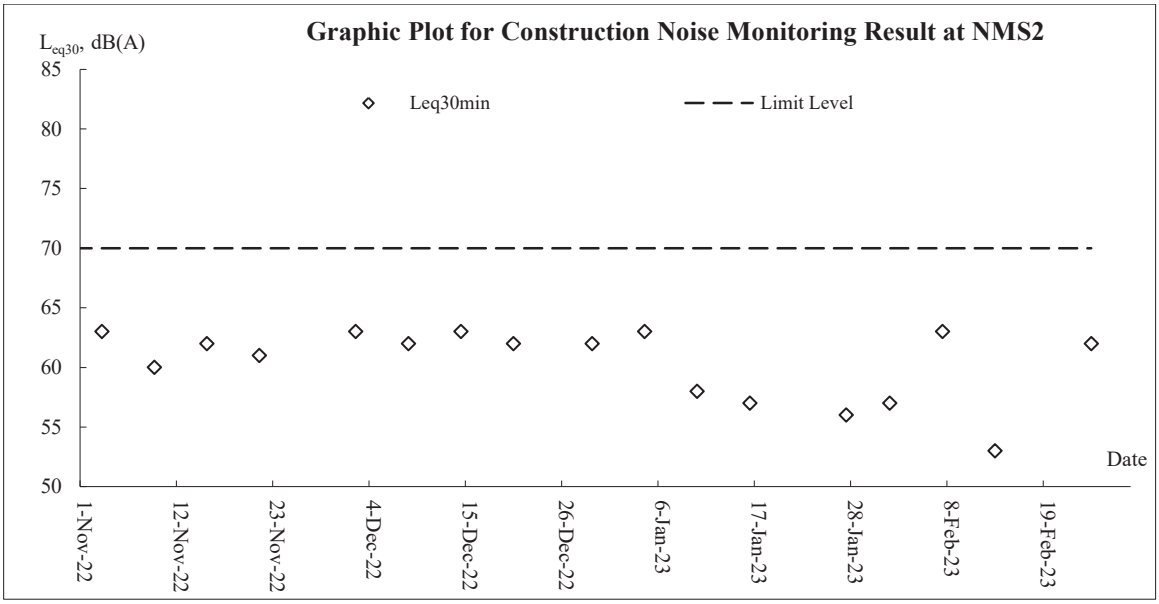


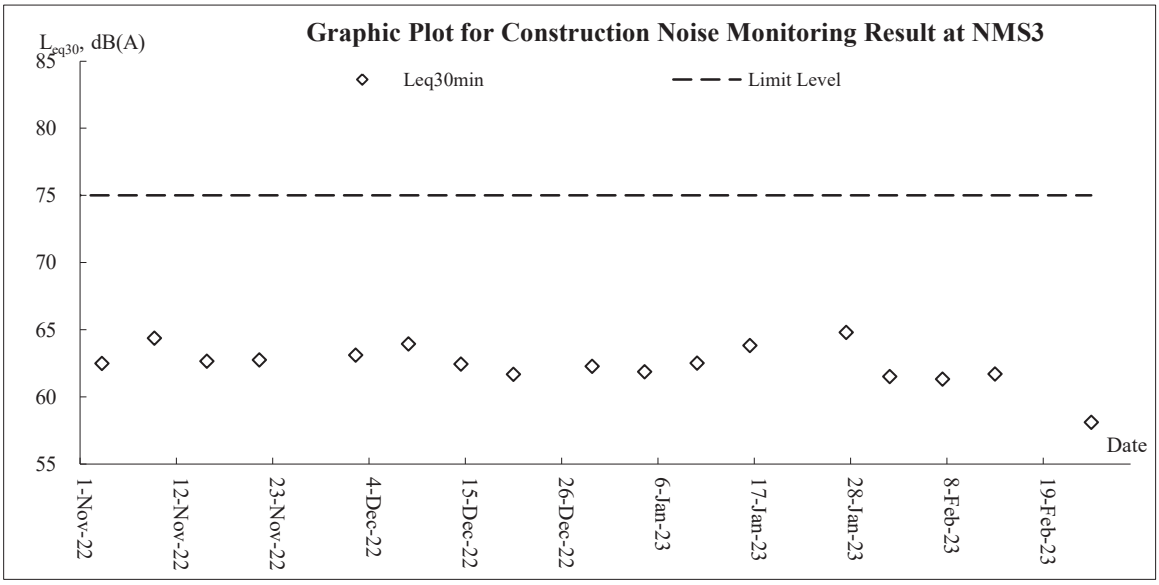

Graphical Plot for 24-hour TSP Monitoring Result at AMS-6
24-hour TSP, μg/m³
300
250
200
150
100
50
0
24-hour TSP
Action Level
Limit Level
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23
Date

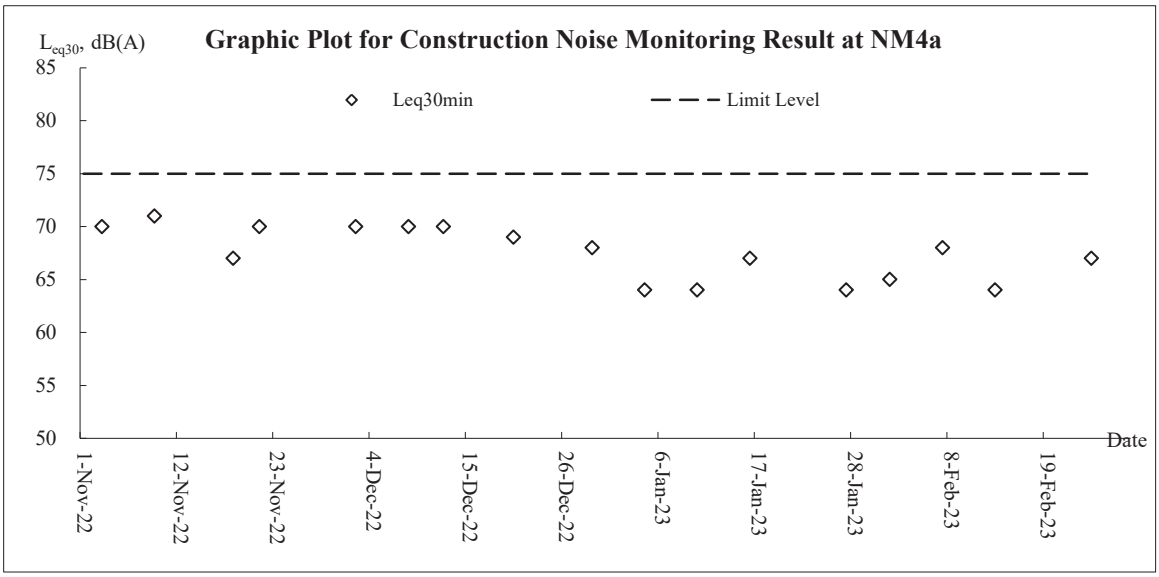

Graphical Plot for 24-hour TSP Monitoring Result at AMS-7
24-hour TSP, μg/m³
300
250
200
150
100
50
0
24-hour TSP
Action Level
Limit Level
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23
Date

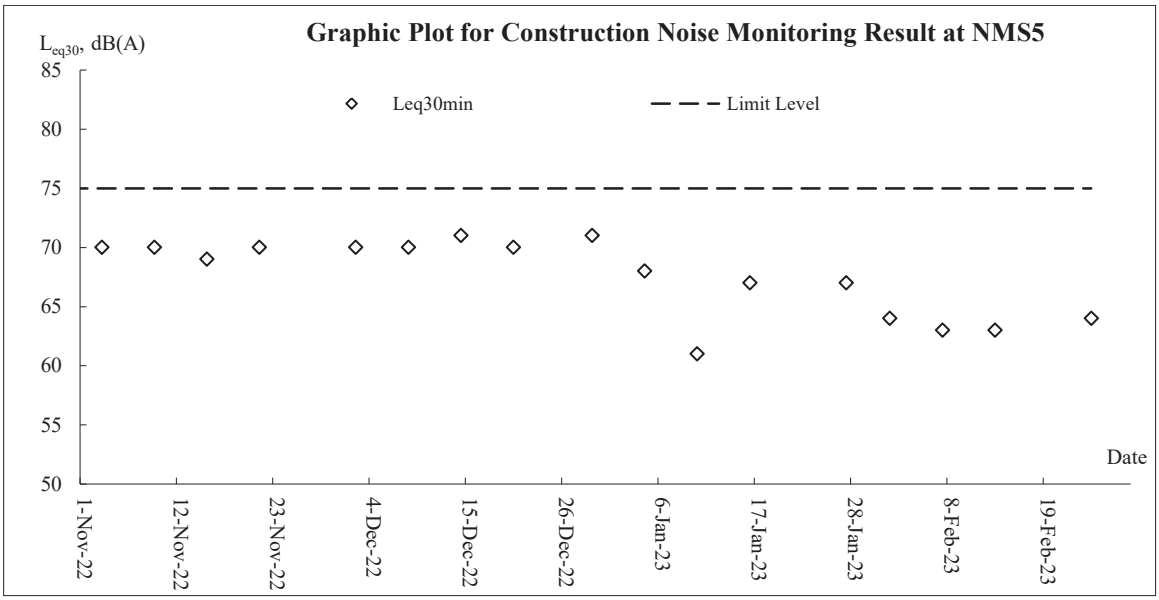
Noise

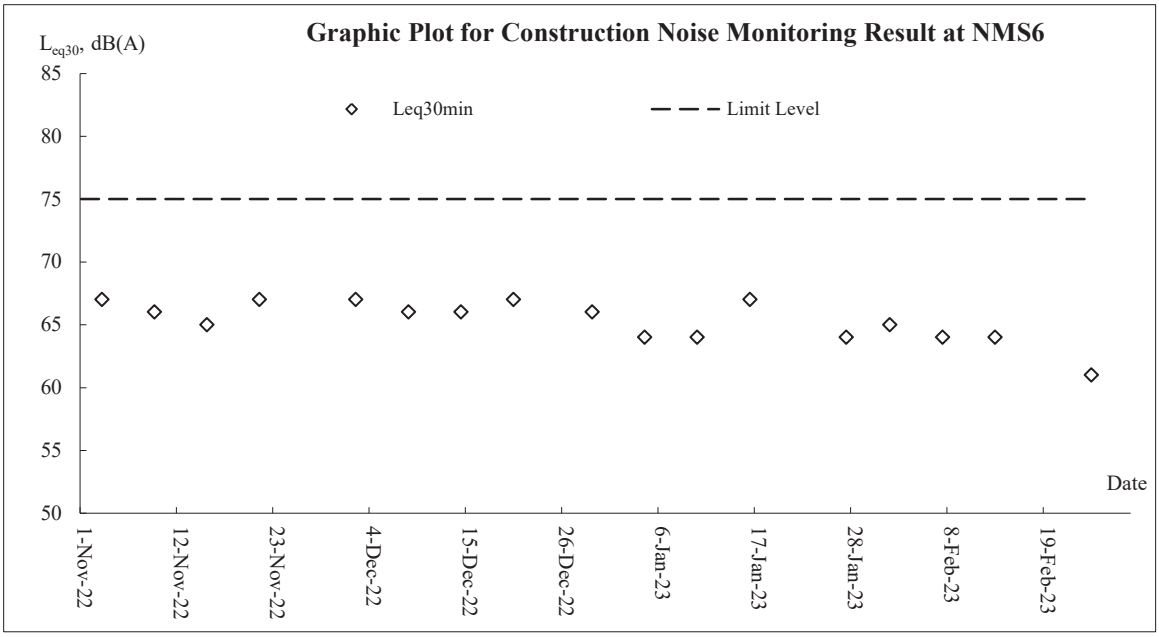

Graphic Plot for Construction Noise Monitoring Result at NMS1
Leq30, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Jan-23
12-Jan-23
23-Jan-23
3-Feb-23
14-Feb-23
25-Feb-23

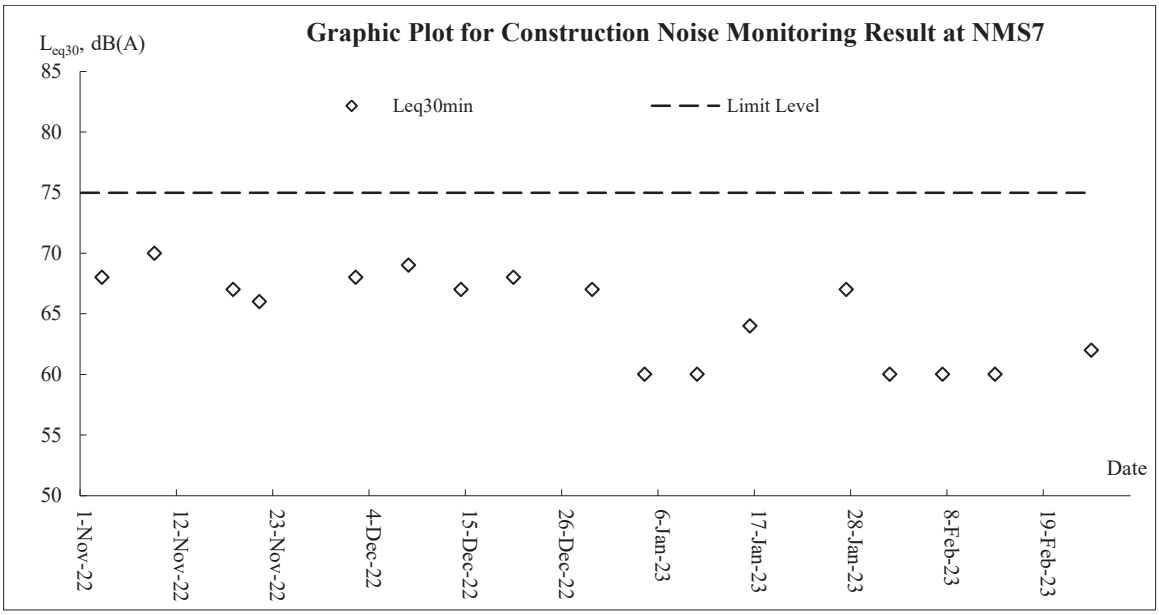

Graphic Plot for Construction Noise Monitoring Result at NMS2
Leq30, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23

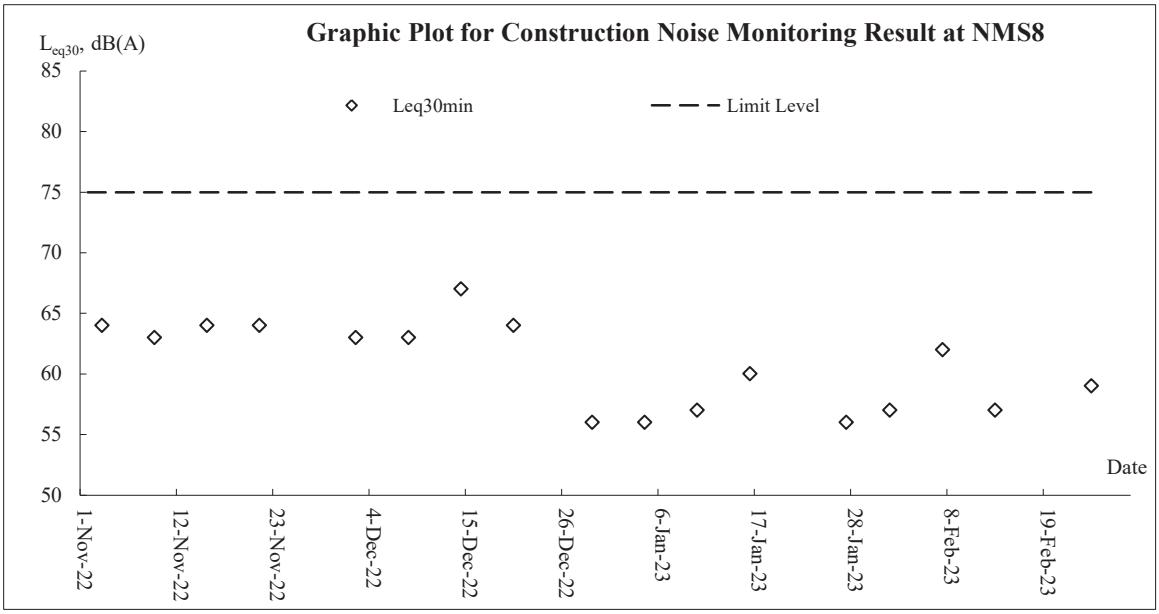

Graphic Plot for Construction Noise Monitoring Result at NMS3
Leq30, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
Date
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23

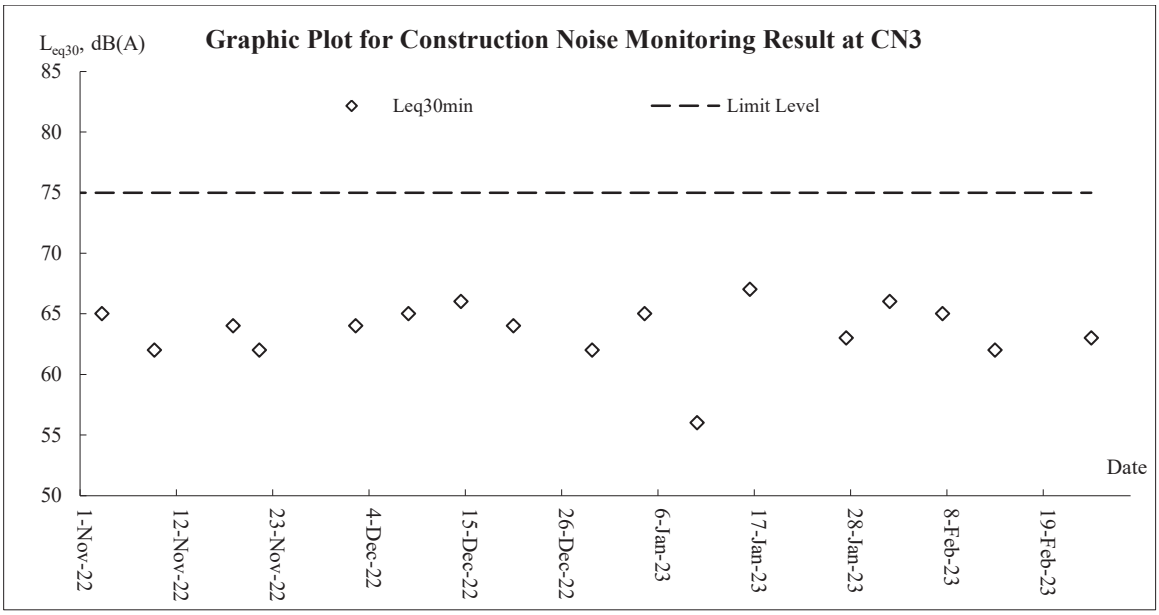

Graphic Plot for Construction Noise Monitoring Result at NM4a
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23


Graphic Plot for Construction Noise Monitoring Result at NMS5
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23


Graphic Plot for Construction Noise Monitoring Result at NMS6
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23


Graphic Plot for Construction Noise Monitoring Result at NMS7
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23


Graphic Plot for Construction Noise Monitoring Result at NMS8
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23


Graphic Plot for Construction Noise Monitoring Result at CN3
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Nov-22
12-Nov-22
23-Nov-22
4-Dec-22
15-Dec-22
26-Dec-22
6-Jan-23
17-Jan-23
28-Jan-23
8-Feb-23
19-Feb-23

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-Feb-23	Wed	Sunny periods. Mainly cloudy tonight.	0	E	20.8	9.5	S/SE
2-Feb-23	Thu	Moderate easterly winds.	0	E/SE	18.5	17.5	E/SE
3-Feb-23	Fri	Cloudy with a few rain patches	0	E/SE	17.6	15	E/SE
4-Feb-23	Sat	Moderate to fresh easterly winds	0.4	E/SE	16.7	15	E/SE
5-Feb-23	Sun	Mainly cloudy Light to moderate easterly winds.	Trace	E/SE	17.1	10	S/SE
6-Feb-23	Mon	Coastal mist in the morning and at night.	0.1	E/SE	18.4	11.5	SE
7-Feb-23	Tue	Mainly cloudy. Visibility rather low in some areas.	Trace	SE	21.7	9.5	SE
8-Feb-23	Wed	Mainly cloudy with one or two light rain patches.	Trace	E	17.1	13.7	E/SE
9-Feb-23	Thu	Mainly cloudy. Misty with one or two light rain	0.1	E/SE	19.7	11.5	SE
10-Feb-23	Fri	Misty with one or two light rain patches.	0.1	E/SE	21.8	9.5	S/SE
11-Feb-23	Sat	Warm with sunny intervals	0.9	E/SE	17.7	13.5	E/SE
12-Feb-23	Sun	Light to moderate easterly winds.	Trace	E/SE	19.4	9	S/SE
13-Feb-23	Mon	Mainly cloudy and foggy with one or two rain patches.	Trace	E/SE	22.9	11.2	S/SE
14-Feb-23	Tue	Fine and dry.	0	N	17.9	7.5	W/SW
15-Feb-23	Wed	Moderate to fresh north to northeasterly winds,	0	N/NE	14.8	9.2	E/NE
16-Feb-23	Thu	Mainly fine. Dry during the day.	0	E/SE	15.9	13	E/SE
17-Feb-23	Fri	Moderate to fresh easterly winds.	0	E/SE	19.8	13.2	E/SE
18-Feb-23	Sat	Dry with sunny periods.	0	N/NE	20.4	13.7	E/SE
19-Feb-23	Sun	Moderate northeasterly winds	Trace	N/NE	23.5	13.7	W/NW
20-Feb-23	Mon	Fine and dry.	0	N/NE	19.8	11.7	E/SE
21-Feb-23	Tue	Fine and dry. Cool in the morning.	0	E/SE	16.9	18.5	E/SE
22-Feb-23	Wed	Fine. Dry in the afternoon.	0	E/SE	15.8	16.2	E/SE
23-Feb-23	Thu	Moderate easterly winds.	0	E/SE	17.7	15.7	E/SE
24-Feb-23	Fri	Mainly fine. Dry during the day.	0	N	19.9	7.7	SE
25-Feb-23	Sat	Moderate to fresh easterly winds.	0	N/NE	15.8	10.5	E/SE
26-Feb-23	Sun	Fine and dry.	0	E/SE	16.5	14	E/SE
27-Feb-23	Mon	Moderate to fresh easterly winds	0	E/SE	15.3	17.5	E/SE
28-Feb-23	Tue	Moderate easterly winds, fresh at first.	0	E/SE	17.4	19.2	SE

Appendix K

Waste Flow Table

Monthly Summary Waste Flow Table for 2023 (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 8)	Disposed as Public Fill	Imported Fill	Metals (see Note 9)	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	8.993	0.000	0.000	8.124	0.869	0.000	0.000	0.000	0.000	0.000	0.047
Feb	2.831	0.000	0.000	1.618	1.213	0.000	0.003	0.000	0.005	0.000	0.071
Mar	0.000										
Apr	0.000										
May	0.000										
Jun	0.000										
Sub-total	11.825	0.000	0.000	9.742	2.083	0.000	0.003	0.000	0.005	0.000	0.118
Jul	0.000										
Aug	0.000										
Sep	0.000										
Oct	0.000										
Nov	0.000										
Dec	0.000										
Total	11.825	0.000	0.000	9.742	2.083	0.000	0.003	0.000	0.005	0.000	0.118

Notes:

(1) The performance targets are given in PS Clause 1.119 (14).

(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material and waste will be collected by recycler for recycling.

(4) Use the conversion factor, density of general refuse (1 t/m^3) and inert C&D materials (2 t/m^3).

(5) Use the conversion factor for chemical waste (0.88kg/L).

(6) Assume a dump truck delivers 7.5 m^3 material in 1 trip.

(7) The cut-off date of this summary is 20th of each month.

(8) The Inert C&D materials of reused in other Projects including glass materials.

(9) The C&D waste generation of metal including rechargable battery recycling.

Remarks: refer to Rock and AHM Record (Z:\04 SUPPORT WORK FOLDERS\F. ENVIRONMENTAL\4 - Implementation and Operation\4.4 - Documentation and its Control\11 - WFT, ULSD & Timber\Waste Flow Table\2017-07)

Name of Department : CEDD

Contract No. : NE/2016/05

Monthly Summary Waste Flow Table for 2022 (year)

[PS Clause 1.129]

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes 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 3)	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	0.01	0	0	0	0.01	0	0	0	0	0	0.15
Feb	0.01	0	0	0	0.01	0	0	0	0	0	0.08
Mar											
Apr											
May											
June											
Sub-total											
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total											

Notes:
(1) The performance targets are given in PS Clause 6.14
(2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.
(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works. Together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m^3.

Monthly Summary Waste Flow Table for 2023 (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	1.318	0.000	0.105	0.707	0.506	0.000	0.006	0.120	0.232	0.000	0.026
Feb	1.518	0.000	0.390	0.712	0.415	0.000	0.000	0.000	0.000	0.000	0.040
Mar											
Apr											
May											
Jun											
Sub-total	2.836	0.000	0.495	1.420	0.921	0.000	0.006	0.120	0.232	0.000	0.066
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	2.836	0.000	0.495	1.420	0.921	0.000	0.006	0.120	0.232	0.000	0.066

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/m^3) and inert C&D materials (2 t/m^3).

(5) Use the conversion factor for chemical waste (0.88kg/L).

(6) Assume a dump truck delivers 7.5 m^3 material in 1 trip.

Contract No.: ED/2020/02

APPENDIX 2

Monthly Summary Waste Flow Table for 2023

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	1.106	0.000	0.000	0.000	1.106	0.000	0.000	0.000	0.000	0.000	0.000
Feb	1.260	0.000	0.000	0.000	1.260	0.000	0.000	0.000	0.000	0.000	0.000
Mar	**0.300#**				**0.300#**						
Apr											
May											
June											
July											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	**2.366**	**0.000**	**0.000**	**0.000**	**2.366**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**

Notes: * Conversion factor for general refuse, 1 tonne = $2m^3$

Estimation for next month

Name of Department : CEDD

Contract No. : ED/2019/02

Monthly Summary Waste Flow Table for 2023 (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	0.063	0.063	0	0	0.063	0	0	0	0	0	0.016
Feb	0.010	0.008	0.002	0	0.008	0	0	0	0	0	0.067
Mar	---	---	---	---	---	---	---	---	---	---	---
Apr	---	---	---	---	---	---	---	---	---	---	---
May	---	---	---	---	---	---	---	---	---	---	---
June	---	---	---	---	---	---	---	---	---	---	---
Sub-total	0.073	0.071	0.002	0	0.071	0	0	0	0	0	0.083
July	---	---	---	---	---	---	---	---	---	---	---
Aug	---	---	---	---	---	---	---	---	---	---	---
Sept	---	---	---	---	---	---	---	---	---	---	---
Oct	---	---	---	---	---	---	---	---	---	---	---
Nov	---	---	---	---	---	---	---	---	---	---	---
Dec	---	---	---	---	---	---	---	---	---	---	---
Total	0.073	0.071	0.002	0	0.071	0	0	0	0	0	0.083

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: • 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
	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. • 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: • 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	Construction Runoff In accordance with the Practice Note for Professional Persons on Construction ion Site Drainage, Environmental Protect ion Department , 1994 (ProPECC PN 1/94), best management practices should be implemented as far as practicable as below: • 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 m^3 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
	• The dikes or embankments for flood protect ion 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 t rap. The silt /sediment t raps should be incorporated in the permanent drainage channels to enhance deposit ion 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 ion. • 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 sect ions 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 ion 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
	prevent the washing away of construction ion materials, soil, silt or debris into any drainage system. • Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction 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 ***ProPECC PN 1/94***. Particular attention should be paid to the control of silty surface runoff during storm events. • All vehicles and plant should be cleaned before leaving a construction 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
	• All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bun ds 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. Not ices 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> • 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 ion phase of the Project . Regular environmental audit on the construction ion 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	Accidental Spillage 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 an d 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	Groundwater from Contaminated Area 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
	discharged into the foul sewers. 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 Sect ion 2.3 of TM-DSS. The baseline groundwater quality shall be determined prior to the select ion 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.								
	Waste Management (Contraction Phase)								
S8.5.2	<u>Good Site Practice</u> The following good site practices are recommended throughout the construction ion activities: • nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collect ion 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 collect ion 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 ***ETWB TC(W) No. 19/2005*** 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	Waste Reduction Measures Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction: • segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling 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	Storage of Waste The following recommendation should be implemented to minimize the impacts: • 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	Collection and Transportation of Waste 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
	• 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	Excavated and C&D Material 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: • 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: • 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	Contaminated Soil As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to minimize any potential exposure to contaminated soils or groundwater. The details of mitigation measures to minimize the potential environmental implications arising from the handling of contaminated materials refer to Land Contamination Section.	Remediate contaminated soil	Contractor	All construction sites where applicable	V	V	N/A	N/A	N/A
S8.5.17	Chemical Waste	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
	• If chemical wastes are produced at the construction ion 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 Cent re, 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	General Waste • General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. • Preferably enclosed and covered areas should be provided for general refuse collect ion 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	Sewage • The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities. • Regularly collect ion 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	Construction phase in situ mitigation measures to minimize impacts on hydrological condition and water quality of hillside watercourses include: • 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 bot tom 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 format ion works, followed, where appropriate, by covering with biodegradable geotextile blanket for erosion control purposes; • Where appropriate, earth-bunding 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 probably 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
	minimised via the following in descending order: reuse, recycling and treatment ; • 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	Implement an emergency contingency plan during the construction phase and the plan will include, but not be limited to, the following: • Potential emergency situations; • Chemicals or hazardous materials used on-site (and their location); • Emergency response team; • Emergency response procedures; • List of emergency telephone 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 project 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 **LAO GN No. 7/2007**, ***ETWB TCW No. 29/2004*** and ***10/2013***. 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
Overall Total	**81**	**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 construciton 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 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

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									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/0002 3986-17)	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/0002 4557-17)	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/0003 1074-17)	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, On 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 monring 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. 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
12	3-Oct-17	13-Oct-17	Chun Tat House, On 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			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

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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 開始傳出機器不停掾石的噪音(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

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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揼鐵噪音。	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 Mau 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

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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/00029489-17)	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/F01117
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/F01118
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

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								到場視察。			
21	28-Dec-17	10-Jan-18	Sau Yee House	Resident of 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. Moroever, 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

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								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

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									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

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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掾石仔噪音滋擾, 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 believe 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

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									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

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29	25-Jun-18	19-Jul-18	Pedestrian Connectively 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

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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 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. Ann 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 ChingTat House(referredby 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. Hiu 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. Hiu 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

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
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 immediate 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 protection the watercourse at downstream of the construction site, CWSTVJV has some enhancement measures.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0248a
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/F0249a
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 alterative 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/F0251a

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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.erway by ET.	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. Alterative 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/F0301a
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/F0292b

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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 Hiu 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/F0310a

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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/F0326a
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/F0332a

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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/F0333a
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/F0337

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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 on Tai Estate Ancillary Facilities Building on On Sau Road	Mr. Wong (resident of Yung Tai House of On Tai Estate)	Noise	1823	ref. 2-5976303183	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/F0338a

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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/F0357a

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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-5PM 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/F0359a
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/F0360a

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								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.	concerned Lin Tak Road was satisfactory. It is considered that the complaint was unlikely due to the project.		
56	17-Mar-20	19-Mar-20	Anderson Road Quarry Site	Resident of Yan Tat House	Noise	Project hotline	NA	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	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.	no comment by IEC on 11 May 2020	TCS00864/16/300/F0361a

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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	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。 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	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.	no comment by IEC on 7 May 2020	TCS00864/16/300/F0366a

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								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

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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

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								(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/F04 24
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/F04 34
62	3-Dec-20	7-Dec-20	Ma Yau Tong	Undisclosed	Noise and dust	1823 & EPD	3-65741 41017	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

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			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/F0441

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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

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								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 Tai 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

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
								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/F0485b
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	

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
								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 byC1 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		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	

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								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		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		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/	25/May/	Anderson	DSD	Water	DSD		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		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		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		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		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		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		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		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
									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. 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.		
81	18/Oct/2022	20/Oct/2022	Anderson Road Quarry (ARQ) Site	DSD	Dust Quality	Referred by 1823 to EPD		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	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	Sent to EPD on 3 November 2022	TCS00864/16/300/F596

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								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.		

Appendix N

Implementation Status for Water Quality Mitigation Measures

Water Quality Mitigation Measure



Paving for exposed slope to reduce dust dispersion & mitigate the silty runoff generation at Q1.



Impermeable cover for slope at System A.



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



Q4. Wastewater treatment facility Temporary Water Reservoir 150 cu.m + AquaSed of 60 cu.m per hour



Q6: Wastewater treatment facility 24 cu. m.



Q7. Wastewater treatment facility 30 cu.m Sedimentation Tank + AquaSed of 60 cu.m per hour



Q9. Two nos. of 30 cu.m Sedimentation Tank + AquaSed of 60 cu.m per hour