JOB NO.: TCS00864/16

CEDD SERVICE CONTRACT NO. NTE/07/2016 ENVIRONMENTAL TEAM FOR DEVELOPMENT OF ANDERSON ROAD QUARRY SITE – SITE FORMATION AND ASSOCIATED INFRASTRUCTURE WORKS

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT REPORT (JULY 2020)

PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	Reference No.	Prepared By	Certified By
18 August 2020	TCS00864/16/600/R0398v2	Nicola Hon (Environmental Consultant)	Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	7 August 2020	First Submission
2	18 August 2020	Amended according to the IEC's comments on 13 August 2020

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: HKCEDD10/50/106714

Date: 19 August 2020

Attention: Mr Leung Siu Kau, Kelvin

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 (July 2020)

We refer to the emails of 7 and 18 August 2020 from Action-United Environmental Services and Consulting attaching a Monthly Environmental Monitoring and Audit Report (July 2020) 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 Ricky Lau on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

Adi Lee
Independent Environmental Checker

LYMA/LCCR/lhmh

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ISO 9001 : 2015
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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.

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.

ES04 This is the **40th** monthly EM&A report presenting the monitoring results and inspection findings for the period from **1 to 31 July 2020** (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	**6**	**90**
	24-hour TSP	**4**	**24**
Construction Noise	$L_{eq(30min)}$ Daytime for Contract NE/2016/01	**7**	**35**
	$L_{eq(30min)}$ Daytime for Contract NE/2017/03	**3**	**15**

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 but one noise complaint (which triggered Action Level) was received in the reporting period. The environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

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

ENVIRONMENTAL COMPLAINT

ES07 In the Reporting Period, there was one noise complaint received for Contract 1. Investigation had undertaken by ET upon receipt of the complaint. The environmental complaints received in the reporting period and the statuses are summarized in Section 8.

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 No reporting change was made in the Reporting Period.

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 **9th, 14th, 21st and 28th July 2020** in which IEC joined the site inspection with SSEMC on **9th July 2020**. 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 **2nd, 8th, 15th, 22nd and 29th July 2020** in which IEC joined the site inspection with SSEMC on **15th July 2020**. 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 **3rd, 10th, 17th, 24th and 31st July 2020** in which IEC joined the site inspection with SSEMC on **10th July 2020.** No non-compliance was noted during the site inspection.

FUTURE KEY ISSUES

ES13 During wet season, preventive measures for muddy water or other water pollutants from site surface overflow to public area should be properly maintained. The Contractors should paid special attention on water quality mitigation measures and fully implement according ISEMM of the EM&A Manual.

ES14 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.

ES15 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.

ES16 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.

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.

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 **40th** monthly EM&A report presenting the monitoring results and inspection findings for the period from **1 to 31 July 2020 (**hereinafter referred as "Reporting Period").

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 3 works contracts as described in following. The details of each contract are summarized below and the delineation of each contract is shown in ***Appendix A***.

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

2.1.2 Commencement date of Contract 1 was in late December 2016 and the major 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 31 March 2017 and 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;

(iv) Construction of green routes connecting to Jordan Valley Park and Choi Wing Road; and

(v) Slope improvement works in the vicinity of Po Lam Road South and other associated works.

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

2.1.4 The commencement date of Contract 3 is on 31 May 2018 and 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.

2.2 PROJECT ORGANIZATION

2.1.1 The project organization and contact details for Contracts 1, 2 and 3 are shown in ***Appendix B***.

2.3 CONSTRUCTION PROGRESS

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

Contract 1 (NE/2016/01)

Temporary Traffic Arrangement (TTA) at On Sau Road:
- Implementation of TTA at the junction between On Sau Road and Road L4 for road improvement works to continue

Pedestrian Connectivity System B:
- PC system B substructure backfill work to continue.

Construction of Internal Road L1:
- Excavation and laying of watermain to continue.
- Road work at L1 east was in progress.
- Gullies and upper drainage construction for road L1 west to continue.

Box Culvert BC1 at Internal Road L1:
- Dia.1500mm drainage pipes installation at BC1 bay1 in progress.
- Defect rectification work is in progress

Construction of Internal Road L2
- Site formation works to continue.
- Drainage pipe lower level completed, middle and upper level in progress.
- Watermain works and UU laying in progress

Retaining Wall RWA9 at Road L3
- Wall construction of RWA9 Bay 8,10, 17 &19 to continue
- Lower level drainage in progress.
- Construction of manhole SMH1, TM26a &TM26 to continue

Retaining Wall RWA10 at Road L3
- RWA10 Bay 3 to 6 base slab work commenced
- RWA10 Bay 7-16 wall construction to continue.

Box Culvert BC2 at Internal Road L3:
- Backfilling at Bay 17 chamber structure to continue.

Construction of Internal Road L5:
- Concrete kerb construction and road base, base course laying to continue.

Water Pumping Station including Retaining Wall RWA13 and RWA14:
- Backfill at retaining wall RWA13 & RWA14 (Bay 15) to continue.
- To commence the watermain works outside Water Pumping Station.

- To continue with Metal Works (i.e.: steel door & window, etc).
- To commence ABWF Works.

Water Reservoir
- To continue the water tightness test for Fresh Water Reservoir.
- To continue rock breaking to formation level.
- To commence excavation works for drainage.

Artificial Flood Attenuation Lake
- Backfilling of retaining wall to continue.
- Laying granular bed at lake bottom to commence.
- To continue sub soil drain laying work at bottom of Lake.
- To continue the drainage laying works.
- Construction of water retaining wall (Type C2) to continue.
- To continue setup works for Water Test (Jet Method) and to commence the Water Test.
- Backfilling for Construction of Treatment Plant wall to continue.

Underground Stormwater Retention Tank (USRT)
- Backfill around USRT in progress.
- Backfill around Ventilation Duct area to continue.

Internal Road L4, Pedestrian Connectivity System A, Noise Barrier, RWA12 and RWA18:
- RWA12 Bays 23 to 27 wall to continue.
- RWA18 Sewerage manhole B223 to B225a to continue.
- System A south & north tower piling work to continue.
- Excavation and pipe laying for DN300 fresh watermain and NS125 salt watermain to continue.

PTT
- Rock breaking at Row A to continue.
- Drainage work at Row B & C, C&D, D&E is in progress.

Slope Stabilization at Portion B1:
- Continue to carry out stabilization works at Feature 11NE-D/C998, 11NE-D/C1005, Slope A15b,, 11NE-D/C947, 11NE-D/C949, 11NE-D/C976, 11NE-D/C977 and 11NE-D/C947.
- Continue to carry out slope cleaning works of outstanding features.

Slope Stabilization at Portion B5
- Continue to erect inspection scaffolds from 2th to 8th berm
- Continue to carry out stabilization works at 11NE-D/C949 and 11NE-D/C948

Establishment Works of the Planting Medium on the Existing Slope Berms in Portion B1 and B5:
- Establishment works on slopes in Portion B1 for 30-month establishment works for landscape softworks under establishment schedule no.3 to continue

Road Improvement Works at Po Lam Road:
- Construction of permanent footpath and surface drainage system to continue

MEP Works:
- Submission of designs and materials related to MEP works to continue.
- E&M installation works at PTT to continue.
- E&M installation works at Pump Hall of Fresh Water Pumping Station to commence.
- E&M installation works at Pedestrian Connectivity System B to commence

Site Formation Work at Portion B7 & B15:
- Backfilling and proof rolling at Portion B7 & B15 in progress.

Site Formation Work at Portion B3:
- Excavation at Portion B3 in progress
- UC construction at Portion B3 (R2-7) to continue

Site Formation Work at Portion B14:
- Backfilling and proof rolling at Portion B14 in progress.
- Excavation for UC at slope toe to continue

Site Formation Work at Portion E2&E3:
- Excavation for UC at slope toe to continue.
- Excavation for UC construction at slope toe to continue
- Excavation 1m depth for SRT at fill zone to continue

Site Formation Work at Portion A1 (land parcel R2-8):
- Backfilling and proof rolling at Portion A1 (R2-8) to continue

Site Formation Work at Portion A-1 (land parcel G-1):
- Backfilling and proof rolling at Portion A1 (G-1) to continued
- UC construction at Portion A1 (G-1) to continue

Cavern (Portion B5):
- Topsoil removal on existing berm chainage Ch.0– Ch. 40 complete
- Rock Mapping on level ~+208mPD - 211mPD at chainage Ch. 35-248.793 to continue
- Rock breaking on level ~+206mPD - 208mPD at chainage Ch. 140-248.793 to continue

Contract 2 (NE/2016/05)

1. Portion 1:
   - Continue Piling works for Pile Cap E1 –PC4 and E1-PC5; and
   - Backfilling with no-fines concrete around pile cap E1-RS1, E1-PC1 and E1-PC2.
2. Portion 2: Rock breaking for E3-F1.
3. Portion 3: Relocation of existing pedestrian crossing
4. Portion 4: Rectification of defects
5. Portion 5:
   - Footing construction of the covered walkway footing BBI-NB-F2,F1a, F1b.
   - Footing construction for Northern and Southern High Mast footings
   - Drainage Works
6. Portion 6:
   -Rock breaking for rock cut slope and BBI Footing.
   -Fixing formwork, reinforcement and place concrete for RWE12.

Contract 3 (NE/2017/03)

Works in Road Improvement Works 1 (RIW1)
- Earth works (such as temporary soil nail, form working platform etc) at RWC2 in-progress; No fine concrete construction at RWC2 area is in progress;
- RC works at KS27 subway extension is in progress;
- RC works at FE1 was completed;
- Gasmain laying (by Towngas company) works is in-progress

Works in Road Improvement Works 2 (RIW2)
- Retaining wall construction, RC works at Slope C3 type 3C was in progress;
- Preparation works for RC works at Slope C3 type 3A and 3D were in progress;

- Socket-H piles work at CT4 was in-progress;
- Modify existing pedestrian crossing facilities and remove existing central median works at junction On Sau Road / Clean Water Bay Road and On Sau Road were in-progress;

Works in Road Improvement Works 3 (RIW3)
- Mini-pile construction at RWD1 along Sau Mau Ping Road is in progress.
- Water-main works for new Public Toilet at Sau Mau Ping Road is in progress;
- ELS works and construction pile cap for temporary platform were in-progress.
- Rock excavation works using drill and split method at Slope D3 along Lin Tak Road was in-progress;
- Retaining wall construction at slope crest of Slope D3 was in-progress;
- No-fines concrete construction at slope crest of Slope D3 is in progress;
- Inspection Pit for UU at Sau Mau Ping Road.
- Rock-fall fence for Lin Tak Road (Stage 2) was in-progress.

Pedestrian Connectivity Facility E8 (PC-E8)
- RC works for escalator pit E7/E8 and E11/E12 were in-progress;
- ELS works for construction F8 abutment was in-progress.

Pedestrian Connectivity Facility E11 (PC-E11)
- ELS works at PC1 was in-progress;
- Construction of RC structure at PC6 was in-progress;
- Preparation works for steel-frame fabrication at off-site fabrication yard is on-going.

Pedestrian Connectivity Facilities Systems A (PC-SYA)
- RC construction works for sub-structure was completed;
- Backfilling to ground level and preparation works for construct above-ground structure were in-progress;

Pedestrian Connectivity Facilities Systems B (PC-SYB)
- Construction of RC pile cap at SYB-A1 is completed;
- Construction of socket H pile at PC7 and PC8 were completed. Site formation for pile cap for PC7 & 8 in progress;
- Site clearance, UU Detection and Trial pit inspection at PC1 in progress for later cable shifting works.

Tseung Kwan O Bus-Bus Interchange New Public Toilet (BBI-Toilet)
- Carry-out outstanding works.

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

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	15 Feb 17	End of project	valid

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
		5213-292-C4115-01			
3	Water Pollution Control Ordinance – Discharge License	WT00028050-2017	29 May 17	31 May 22	valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no. 7026925	20 Jan 17	End of project	valid
5	Construction Noise Permit	GW-RE0354-20	14 May 20	13 Nov 20	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	3 Jul 17	End of Project	Valid
3	Water Pollution Control Ordinance – Discharge License	WT00028685-2017	02 Aug 17	31 Aug 22	Valid
		WT00028686-2017	02 Aug 17	31 Aug 22	Valid
		WT00028687-2017	02 Aug 17	31 Aug 22	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no.7027548	12 Apr 17	End of project	Valid
5	Construction Noise Permit	GW-RE0268-20	21 Apr 20	17 Jul 20	Valid
		GW-RE0587-20	13 Jul 20	25 Nov 20	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	Notification to EPD on 29 May 2018.			
2	Chemical Waste Producer Registration	**<u>For Area R1W3 (E11)</u>** Registration no. WPN : 5213-294-C4239-04	6-Aug-18	End of Project	Valid
		<u>For Area System A</u> Registration no. WPN: 5213-293-C4239-05	6-Aug-18	End of Project	Valid

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
		For Area System B Registration no. WPN 5213-294-C4239-03	6-Aug-18	End of Project	Valid
		For Area E8 Registration no. WPN 5213-292-C4239-06	6-Aug-18	End of Project	Valid
3	Water Pollution Control Ordinance – Discharge License	**For Area R1W3 (E11)** 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 July 2018	End of project	Valid
5	CNP for loading and unloading of construction material at RIW3	GW-RE0389-20	22-May-20	30-Sep-20	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 Planned School facing Anderson Road	Not yet commenced
AMS-5	DARE-06	Block 5, DAR Site E	Main roof of Oi Tat House of On Tat Estate facing the project site	Active
AMS-6	DARE-17	Block 9, Site E	Main roof of Hau Tat House of 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-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.

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 planned school at DAR facing the project site	Not yet commenced
NMS-2 (@)	Site E – School	Rooftop of S.K.H. St. John's Tsang Shiu Tim Primary School, where 1m from the exterior of the building facing the project site	Active
NMS-3(:)	Site C2 – R102–	Ground of Ancillary Facilities Building facing the project site	Active
NMS-4*	Oi Tat House	1m from the exterior of ground floor façade of Oi Tat House of On Tat Estate facing the project site	Suspended
NMS-4a#	Oi Tat House	Rooftop of Oi Tat House where 1m from the exterior of Oi Tat House facing the project site	Active
NMS-5#	Hau Tat House	22/F, refuge floor of Hau Tat House where 1m from the exterior of Hau Tat House facing the project site.	Active
NMS-6~	Yung Tai House of On Tai Estate	Rooftop of Yung Tai House where 1m from the exterior of the building facing the project site)	Active
NMS-7~	Chi Tai House of On Tai Estate	Rooftop of Chi Tai House where 1m from the exterior of the building facing the project site	Active
NMS-8^	No. 3-4 Ma Yau Tong Village	1m from the exterior of the building façade and facing the construction site	Active

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

(#) 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

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	B&K-2238
Calibrator	Rion NC-74, Rion NC-75 & B&K-4231
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^{o} 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^{o}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 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
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	***70*** dB(A)[Note 1]/ ***65*** dB(A)[Note 1]

Monitoring Location	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
NMS-2(@)	complaints are received	
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 3December 2019

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

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

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

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

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

3.8 DATA MANAGEMENT AND DATA QA/QC CONTROL

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

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

4. AIR QUALITY MONITORING

4.1 GENERAL

4.1.1 In the Reporting Period, air quality monitoring was performed at the active designated monitoring locations AMS-1a, AMS-2, AMS-3, AMS-5, AMS-6 and AMS-7. Since installation of HVS for 24-hour TSP at AMS-2 and AMS-3 were pending approval from relevant departments, only 1-hour TSP monitoring was conducted at AMS-2 and AMS-3. No monitoring was conducted at AMS-4 since they are planned ASR which are still under construction/ not yet constructed.

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

4.2 RESULTS OF AIR QUALITY MONITORING

4.2.1 In the Reporting Period, a total of ***90*** events of 1-hour TSP monitoring and ***24*** 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
2-Jul-20	17	3-Jul-20	9:04	37	40	34
8-Jul-20	27	9-Jul-20	9:16	44	46	41
14-Jul-20	25	15-Jul-20	13:38	61	55	52
20-Jul-20	13	21-Jul-20	9:10	46	49	43
25-Jul-20	15	27-Jul-20	9:17	59	62	57
31-Jul-20	17	-	-	-	-	-
Average (Range)	**19 (13 – 27)**	Average (Range)		**48 (34 – 62)**		

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**
3-Jul-20	13:40	42	47	52
9-Jul-20	9:45	44	49	47
15-Jul-20	9:10	75	81	82
21-Jul-20	9:38	52	54	50
27-Jul-20	9:36	64	67	70
Average (Range)		**58 (42 – 82)**		

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**
3-Jul-20	9:37	46	49	44
9-Jul-20	9:26	74	80	71
15-Jul-20	12:40	87	82	83
21-Jul-20	9:18	77	76	73
27-Jul-20	9:20	80	76	70
Average (Range)		**71 (44 – 87)**		

Table 4-4 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
2-Jul-20	15	3-Jul-20	13:56	44	49	54
8-Jul-20	32	9-Jul-20	10:18	79	75	70
14-Jul-20	30	15-Jul-20	9:31	88	81	83
20-Jul-20	28	21-Jul-20	9:33	79	76	82
25-Jul-20	34	27-Jul-20	9:41	67	71	72
31-Jul-20	10	-	-	-	-	-
Average (Range)	**25 (10 – 34)**	Average (Range)		**71 (44 – 88)**		

Table 4-5 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
2-Jul-20	12	3-Jul-20	13:21	48	51	55
8-Jul-20	20	9-Jul-20	13:10	78	74	76
14-Jul-20	53	15-Jul-20	9:58	84	80	79
20-Jul-20	14	21-Jul-20	12:44	74	78	71
25-Jul-20	20	27-Jul-20	12:45	65	66	71
31-Jul-20	17	-	-	-	-	-
Average (Range)	**23 (12 – 53)**	Average (Range)		**70 (48 – 84)**		

Table 4-6 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
2-Jul-20	19	3-Jul-20	13:21	46	48	53
8-Jul-20	33	9-Jul-20	13:54	52	55	58
14-Jul-20	13	15-Jul-20	13:08	73	79	80
20-Jul-20	16	21-Jul-20	13:43	48	51	55
25-Jul-20	11	27-Jul-20	13:27	66	70	75
31-Jul-20	21	-	-	-	-	-
Average (Range)	**19 (11 – 33)**	Average (Range)		**61 (46 – 80)**		

4.2.2 As shown in ***Tables 4-1 to 4-6***, all the 1-hour TSP and 24-hour TSP monitoring results in the Reporting Period were below the Action and Limit Levels. No Notification of Exceedance (NOE) was issued in this Reporting Period.

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

5. CONSTRUCTION NOISE MONITORING

5.1 GENERAL

5.1.1 In the Reporting Period, noise monitoring was performed at designated monitoring locations NMS2 and NMS3 and the additional monitoring locations NMS4a, NMS5, NMS6, NMS7 and NMS8. No monitoring was conducted at the designated monitoring locations NMS1 since they are the planned NSR and still under the construction.

5.1.2 In addition, a Work Instruction was issued from AECOM to AUES in November 2018 for installing three additional noise monitoring stations, i.e., CN1, CN2 and CN3 for Contract 3. Impact noise monitoring was performed at the three additional noise monitoring locations since December 2018.

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

5.2 NOISE MONITORING RESULTS IN REPORTING MONTH

5.2.1 In the Reporting Period, a total of **35** 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	**NMS2**	**NMS3**	**NMS4a**	**NMS5**	**NMS6**	**NMS7**
3-Jul-20	59	61	68	69	67	65
9-Jul-20	63	65	70	65	64	65
15-Jul-20	59	63	69	71	65	66
21-Jul-20	61	61	70	68	65	66
27-Jul-20	59	63	64	62	66	71
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;

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

Construction Noise Level ($L_{eq30min}$), dB(A)	
Date	**NMS8**
3-Jul-20	63
8-Jul-20	59
14-Jul-20	64
21-Jul-20	63
27-Jul-20	58
Limit Level	**75 dB(A)**

5.2.2 For the additional noise monitoring under Contract 3, a total of **15** 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	**CN1**	**CN2**	**CN3**
3-Jul-20	65	64	60
8-Jul-20	66	62	65
14-Jul-20	66	61	64

20-Jul-20	61	64	61
31-Jul-20	62	60	64
Limit Level	***70*** dB(A) / ***65*** dB(A)[Note 1]	***70*** dB(A)[Note 1] / ***65*** dB(A)[Note 1]	**75 dB(A)**

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

5.2.3 As shown in ***Tables 5-1 and 5-2,*** no Limit Level exceedance was recorded in this Reporting Period. Moreover, one noise complaint (which triggered Action level exceedance) was received under the Project. The investigation for the noise complaint is included in Section 8 of the report.

6. WASTE MANAGEMENT

6.1 GENERAL WASTE MANAGEMENT

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

6.2 RECORDS OF WASTE QUANTITIES

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

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

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

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

Type of Waste	Contract 1		Contract 2		Contract 3	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Total generated Inert C&D Materials ('000m^3) (#)	40.087	-	0.24	-	2.107	-
Hard Rock and Large Broken Concrete ('000m^3)	0.735	-	0	-	0	-
Reused in this Contract (Inert) ('000m^3)	27.864	-	0.03	-	0.938	-
Reused in other Projects (Inert) ('000m^3)	11.584	*	0	-	1.575	*
Disposal as Public Fill (Inert) ('000m^3)	0.639	TKO 137	0.1	TKO 137	1.169	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	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Recycled Metal ('000kg)	0.023	Licensed collector	0	-	0	-
Recycled Paper / Cardboard Packing ('000kg)	0.529	Licensed collector	0	-	0	-
Recycled Plastic ('000kg)	0.019	Licensed collector	0	-	0	-
Chemical Wastes ('000kg)	0	-	0	-	0	-
General Refuses ('000m^3)	0.23	SENT	0.11	SENT	0.011	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 **9th, 14th 21st and 28th July 2020** in which IEC joined the site inspection with SSEMC on **9th July 2020**. 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 July 2020	• Proper dust mitigation measures should be provided for breaking or drilling works to reduce dust impact. (Cavern) • Drip tray should be provided for generator using on-site. (Cavern) • Three side plus top shelter should be provided for shotcrete works to reduce dust impact. (Layby)	• Water spraying was provided. • Generator was removed. • Reminder only.
14 July 2020	• Drip tray should be provided for the chemical containers to prevent land contamination. (L3) • The Contractor was reminded to provide water spraying during breaking works. (Cavern) • The Contractor was reminded to increase the water spraying frequency as possible during hot and dry season to reduce dust impact on the main haul road. (general)	• Chemical containers were removed. • Reminder only. • Reminder only.
21 July 2020	• Proper NRMM label should be provided for the excavator at West Portal. • Water spraying should be provided at System B and West Portal to minimize dust impact.	• Proper NRMM label was provided for the excavator • Reminder only.
28 July 2020	• The Contractor should remove free standing chemical container at PTT • The Contractor was reminded to provide water spraying to reduce dust impact. (General)	• To be followed up. • 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 **2nd, 8th, 15th, 22nd and 29th July 2020** in which IEC joined the site inspection with SSEMC on **15th July 2020**. 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
10 June 2020 (Last Reporting Period)	• Accumulated of stagnant water at drip tray under Air compressor was observed at portion 3. The Contractor was advised to clean stagnant water and disposed as chemical waste	• Stagnant water at drip tray was cleaned and disposed as chemical waste.
17 June 2020 (Last Reporting Period)	• The Contractor should clean the sediment at public U-channel at Portion 1. • Drip tray should be provided for the free standing oil drum at Portion 1. • The Contractor should provide proper NRMM label for air compressor at Portion 1.	• Sludge at the public u-channel was cleaned. • Proper mitigation measure was provided for oil drum at portion 1. • Proper NRMM label was provided for air compressor at portion 1.
24 June 2020 (Last Reporting Period)	• Free standing chemical containers were observed at Portion 2. The Contractor was advised to provide proper mitigation measure to avoid land contamination.	• Free standing chemical containers were removed from site area.
2 July 2020	• Cement mixing without covering was observed at portion 2 next to site office. The Contractor was advised to provide proper sheltered area for cement mixing activity. • Wetsep was observed out of work at portion 1. The Contractor was advised to maintain the waste water treatment system properly. • The Contractor was reminded to maintain the wastewater treatment system a portion 3. • The Contractor was reminded to clean stagnant water within site area after raining. • The Contractor was reminded to replace broken sandbags at entrance of portion 1.	• Proper sheltered area was provided for cement mixing. • Wetsep was function properly at portion 1. • Reminder only. • Reminder only. • Reminder only.
8 July 2020	• Accumulation of construction waste was observed on the ground at portion 1&2. The Contractor was advised to dispose it regularly. • The Contractor was reminded to clear stagnant water inside drip tray after raining within site area	• Construction waste was disposed regularly • Reminder only.
15 July 2020	• The Contractor was reminded to review the capacity of sedimentation tank at portion 3. • The Contractor was reminded to provide proper covering exposed slope at portion 1.	• Reminder only. • Reminder only.
22 July 2020	• Surface runoff into gully was observed at portion 6. The Contractor was advised to avoid direct discharge of waste water. • Generator without NRMM label was observed at portion 6. The Contractor was advised to provide NRMM label for generator used within	• No surface runoff was observed at portion 6 • NRMM label was provided for generator at

Date	Findings / Deficiencies	Follow-Up Status
	site area. • The Contractor was reminded to dispose construction waste regularly at portion 1.	portion 6. • Reminder only.
29 July 2020	• The Contractor was reminded to review the wastewater treatment system at portion 2&3. • The Contractor was reminded to provide proper covering on exposed slope of portion 1.	• Reminder only. • 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 **3rd, 10th, 17th, 24th and 31st July 2020** in which IEC joined the site inspection with SSEMC on **10th July 2020**. 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 July 2020	• No adverse environmental issue was observed.	• NA
10 July 2020	• The Contractor was reminded to provide water spraying at System A. • The Contractor was reminded to provide proper mitigation measure for the stagnant water at System A.	• Reminder only. • Reminder only.
17 July 2020	• Excavator mount breaker without NRMM label was observed at E8. The Contractor was advised to provide proper NRMM label for excavator used within site area.	• NRMM label was provided for excavator mount breaker.
24 July 2020	• The Contractor was reminded to dispose wastes regularly.	• Reminder only.
31 July 2020	• No adverse environmental issue was observed.	• NA.

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.1.1 In the Reporting Period, one environmental complaint was received for Contract 1 in relation to the construction noise.

Complaint received for Contract 1

(a) 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 (restricted hours). 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. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of 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.

8.1.2 Besides, no summons and prosecution under the EM&A Programme was lodged for the project. Investigation for the complaint was undertaken by the ET and presented in following sections.

8.1.3 The complaint log and Investigation Reports issued in the Reporting Period are shown in ***Appendix M.***

8.1.4 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 – 30 June 2020	1	0	**43**	**Dust, Noise and light nuisance**
21 Mar 2017 – 30 June 2020	2	0	**10**	**Noise**
31 May 2018 –30 June 2020	3	0	**5**	**Waste Management, Noise, Water Quality**
1 – 31 July 2020	1	**1**	**44**	**Noise**
	2	0	**10**	NA
	3	0	**5**	NA

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Contract no.	Environmental Summons Statistics		
		Frequency	Cumulative	Summons Nature
1 Apr 2017 – 30 June 2020	1	0	0	NA
21 Mar 2017 – 30 June 2020	2	0	0	NA
31 May 2018 –30 June 2020	3	0	0	NA
1 – 31 July 2020	1	0	0	NA
	2	0	0	NA
	3	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 – 30 June 2020	1	0	0	NA
21 Mar 2017 – 30 June 2020	2	0	0	NA

31 May 2018 –30 June 2020	3	0	0	NA
1 – 31 July 2020	1	0	0	NA
	2	0	0	NA
	3	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

9.2.1 Construction activities for Contract 1 in the coming month are listed below:

Temporary Traffic Arrangement (TTA) at On Sau Road:

- Implementation of TTA at the junction between On Sau Road and Road L4 for road improvement works to continue

Pedestrian Connectivity System B:

- PC system B substructure backfill work to continue.
- Bamboo Scaffold Erection for external ABWF works.

Construction of Internal Road L1:

- Excavation and laying of watermain to continue.
- Road work at L1 east was in progress.
- Gullies and upper drainage construction for road L1 west to continue.

Box Culvert BC1 at Internal Road L1:

- Dia.1500mm drainage pipes installation at BC1 bay1 in progress.
- Defect rectification work is in progress

Construction of Internal Road L2
- Site formation works to continue.
- Drainage pipe lower level completed, middle and upper level in progress.
- Watermain works and UU laying in progress

Retaining Wall RWA9 at Road L3
- Backfilling and SRT of RWA9 Bay 1- Bay10 in progress
- Backfilling to formation level at bored piles RW9-P1 & RW9-P2 in progress
- Wall construction of RWA9 Bay 8,10, 17 &19 to continue
- Lower level drainage in progress.
- Construction of manhole SMH1, TM26a &TM26 to continue

Retaining Wall RWA10 at Road L3
- RWA10 Bay 3 to 6 base slab work commenced
- RWA10 Bay 7-16 wall construction to continue.

Box Culvert BC2 at Internal Road L3:
- Backfilling at Bay 17 chamber structure to continue.

Construction of Internal Road L5:
- Concrete kerb construction and road base, base course laying to continue.

Water Pumping Station including Retaining Wall RWA13 and RWA14:
- Backfill at retaining wall RWA13 & RWA14 (Bay 15) to continue.
- To commence the watermain works outside Water Pumping Station.
- To continue with Metal Works (i.e.: steel door & window, etc).
- To commence ABWF Works.
- To commence the A13 slope works (i.e.: mapping and additional mass concrete on slope).

Water Reservoir
- To continue the water tightness test for Fresh Water Reservoir.
- To continue the water tightness test for Fresh Water Reservoir (Compartment C).
- To continue soil excavation to formation level .
- To commence excavation works for drainage.
- To commence drainage works.

Artificial Flood Attenuation Lake
- To continue laying granular bed, HDPE membrane and concrete lining works at lake bottom.
- To continue sub soil drain laying work at bottom of Lake.
- To continue with drainage works.
- To continue with backfilling for Construction of Treatment Plant wall

Underground Stormwater Retention Tank (USRT)
- Backfill around USRT in progress.
- Backfill around Ventilation Duct area to continue.

Internal Road L4, Pedestrian Connectivity System A, Noise Barrier, RWA12 and RWA18:
- RWA12 Bays 22 to 27 wall to continue.
- RWA18 Sewerage manhole B223 to B225a to continue.
- System A south piling work to continue. Pile loading test to continue Excavation and pipe laying for DN300 fresh watermain and NS125 salt watermain to continue.

PTT
- Rock breaking at Row A to continue.
- Drainage work at Row B & C, C&D, D&E is in progress.

Slope Stabilization at Portion B1:

- Continue to carry out stabilization works at Feature No. 11NE-D/C1004, 11NE-D/C1005, Slope A15b, 11NE-D/C947, 11NE-D/C949, 11NE-D/C976 and 11NE-D/C977.

Slope Stabilization at Portion B5

- Continue to erect inspection scaffolds from 2th to 8th berm
- Continue to carry out stabilization works at 11NE-D/C949 and 11NE-D/C948

Road Improvement Works at Po Lam Road

- Construction of permanent footpath and surface drainage system to continue

MEP Works:

- Submission of designs and materials related to MEP works to continue.
- E&M installation works at PTT to continue.
- E&M installation works at Pump Hall of Fresh Water Pumping Station to commence.
- E&M installation works at Pedestrian Connectivity System B to commence

Site Formation Work at Portion B7 & B15:

- Backfilling and proof rolling at Portion B7 & B15 in progress.

Site Formation Work at Portion B3:

- Excavation at Portion B3 in progress
- 450 UC construction at Portion B3 (R2-7) to continue

Site Formation Work at Portion B14:

- Backfilling and proof rolling at Portion B14 in progress.

Site Formation Work at Portion E2&E3:

- UC & catchpit construction at E2 to continue.
- Backfilling & SRT of fill slope zone of Portion E2 & E3 to continue

Site Formation Work at Portion A1 (land parcel R2-8):

- Backfilling and proof rolling at Portion A1 (R2-8) to continue

Site Formation Work at Portion A-1 (land parcel G-1):

- Backfilling and proof rolling at Portion A1 (G-1) to continued
- Chainlink fence erection at Portion A1 (G-1) to continue

Site Formation Work at Portion G3, G4, G5 & Slope A6:

- Excavation to formation level at Portion G3, G4, G5 to continue
- UC construction on slope crest of slope A6 to continue

Cavern (Portion B5):

- Rock breaking and rock mapping on level ~+206mPD - 208mPD at chainage Ch. 40 -248.793 to continue
- Excavation for additional planter wall construction at chainage Ch.248.793 to continue

Underpass, East and West Portal:

- Box Culvert BC 3 Bay L at East Portal – structure works to continue
- Box Culvert BC3 Bay 11 &12, Excavation work in progress
- Safety precaution measure completed for site formation works at East Portal.
- Site Formation works at East Portal in progress.
- West Portal Structure works in progress.

9.2.2 Construction activities for Contract 2 in the coming month are listed below:

- Portion 1: Continue grouting works for piles at Pile Cap E1 –PC3.
  Construction for pile cap E1 –PC3 & E1 –PC5.
  Construction of Pier E1-P1.
  Backfilling with no-fines concrete around pile cap E1-PC6.
- Portion 2: Continue rock Excavation for E3-F1.
  Existing lighting removal.
  Installation of rock dowel and shotcreting.
- Portion 3: Rock Excavation for E2-F3 and E2-F4.
  Tree branch pruning of Tree No. P-T00967.
- Portion 6:
  - Drainage work
  - Cable diversion.
  - Fixing formwork, reinforcement and place concrete for RWE12

9.2.3 Construction activities for Contract 3 in the coming month are listed below:

<u>Road Improvement Works 1 (RIW1)</u>

- Site formation and temporary soil nail installation at RWC2 Type 1 & 1a and 2;
- Site formation and temporary soil nail installation for RIW2 Type 6,7 & 8;
- Gasmain redirection at Slip Road 2;
- RC base slab construction at KS27; and
- Construction at FE1 Footing.

<u>Road Improvement Works 2 (RIW2)</u>

- ELS at Zone 6 & 7;
- Retaining wall construction for Bay 2 to 8;
- Removal of Lamp posts and erect temporary lamp posts at Central Median for later road diversion;
- Piling construction at CT4;
- Predrilling works at SE.

<u>Road Improvement Works 3 (RIW3)</u>

- Mini-pile installation works at RWD1;
- ELS construction for Noise Barrier Footing SE1;
- Mini-pile and ELS construction at Slope D2;
- Plate Load Test at Bay 3 of Retaining Wall RWD2 at Slope D2;
- Construction of Retaining Wall RWD2 at Slope D2;
- Stage 1 rock excavation at Slope D3; and
- Retaining wall construction at Slope D3;
- No-fines concrete construction at Slope D3;
- Rock-fall Fence (Stage 2) along Lin Tak Road.
- Watermain works at Sau Mau Ping Road

<u>Pedestrian Connectivity Facility E8 (PC-E8)</u>

- Construction of Deck at P3/P4;
- Escalator installation for E1/E2; and
- ELS construction for F8

<u>Pedestrian Connectivity Facility E11 (PC-E11)</u>

- Construction of ELS for PC1
- Diversion of Dia. 900mm Concrete Pipe and Construction of Manhole at PC1;
- Construction of lift tower LT2 &ST2 at PC6.

<u>Pedestrian Connectivity Facility System A (PC-SYA)</u>

- Backfilling to existing ground level and erection formworks for above ground structure construction.

Pedestrian Connectivity Facility System A (PC-SYB)

- Site formation works for pile cap construction for PC7 & 8; and
- Site coordination with Towngas and gasmain diversion works at PC2 (On Sau Roa d).

Tseung Kwan O Bus-Bus Interchange New Public Toilet (BBI-Toilet)

- E&M works;
- ABWF;
- Drainage and sewage installation works;
- Laying of lighting cable; and
- Watermain laying work

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 wet season, the Contractors should pay special attention on water quality mitigation measures and fully implement according to the ISEMM of the EM&A Manual, in particular to prevent muddy water or other water pollutants from site surface overflow to public area should be properly maintained. The implementation of water quality mitigation measures conducted by the Contractor is shown in ***Appendix N***.

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

10.1.1 This is **40th** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **31 July 2020**.

10.1.2 No 24-hour or 1-hour TSP monitoring results that triggered the Action or Limit Levels were recorded. No NOEs or the associated corrective actions were therefore issued.

10.1.3 For construction noise, no Limit Level exceedance was recorded and no Notification of Exceedance was issued during this Reporting Period. However, one noise complaint (which triggered Action Level exceedance) was received under the project. Investigation for the complaint was undertaken by the ET (refer to S10.1.4).

10.1.4 In the Reporting Period, there was one noise complaint received for Contract 1. Investigation had undertaken by ET upon receipt of the complaint. In our investigation, 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 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.

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 and 3 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 During wet season, preventive measures for muddy water or other water pollutants from site surface overflow to public area should be properly maintained. The Contractors should paid special attention on water quality mitigation measures and fully implement according ISEMM of the EM&A Manual.

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.

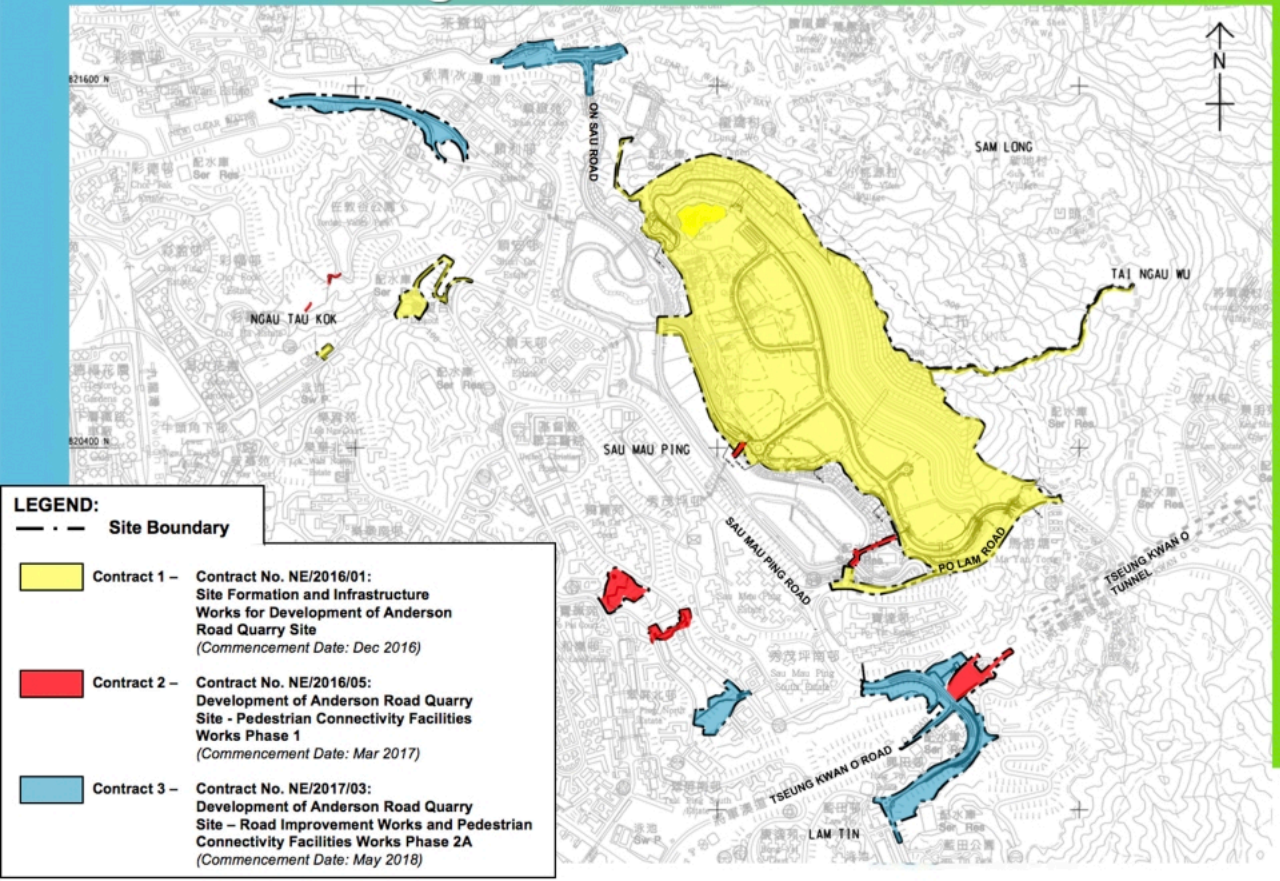
10.2.4 In addition, the Contractors should ensure all effluent discharge shall be fulfilled the Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or relevant discharge license requirement.

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

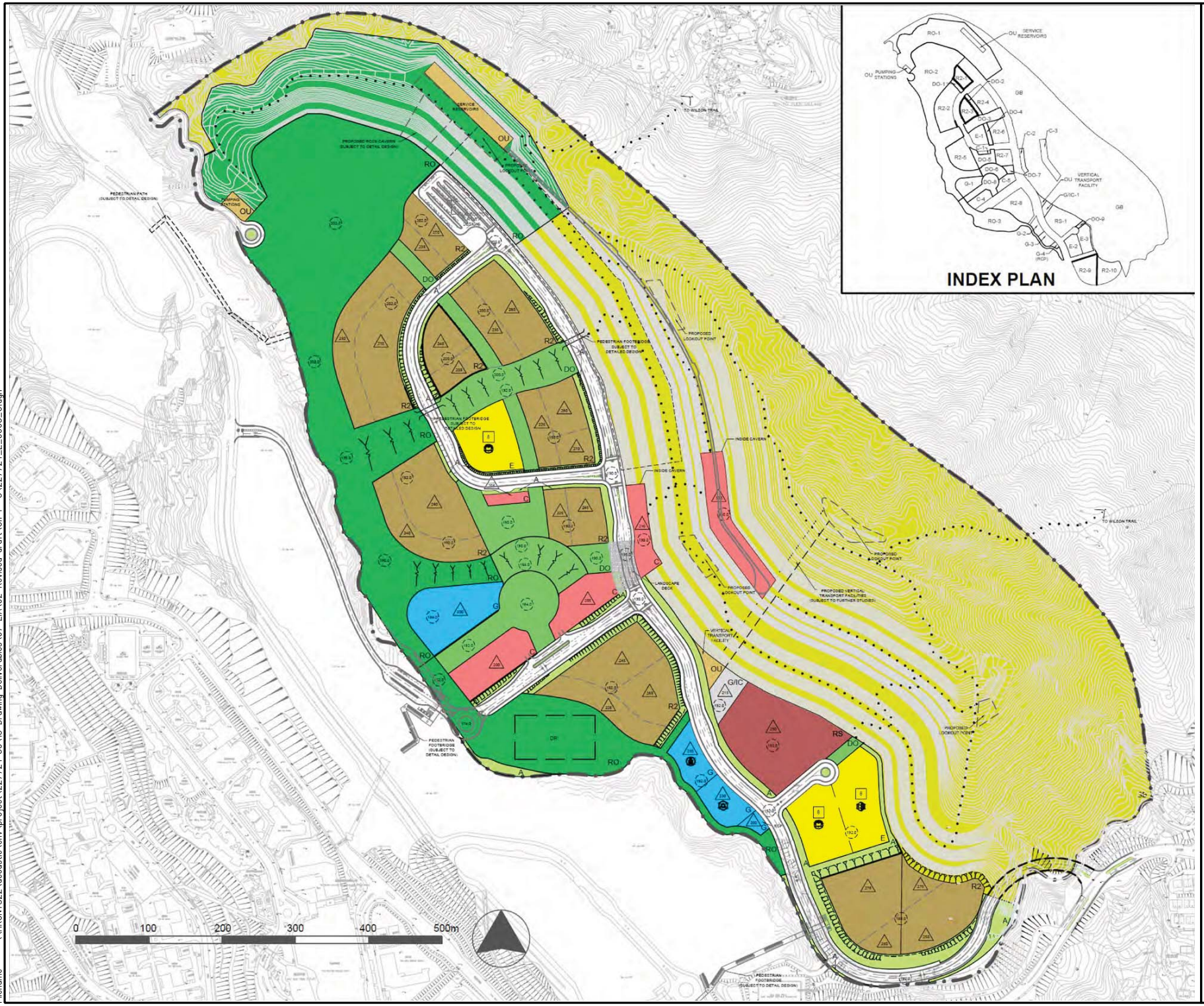
Appendix A

Layout plan of the Project

Contract Packages



Layout plan of Contract 1 (NE/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

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

Printed by : 3/31/2014
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)

LEGEND:

SITE BOUNDARY

PORTION 1

N

841600 E

841700 E

841800 E

820000 N

819900 N

819800 N

曉光街

HIU KWONG STREET

曉和閣
Hiu Wo House

曉順閣
Hiu Shun House

遊樂場

道路
Road

新生命教育協會呂郭碧鳳中學
NLSI Lui Kwok Pat Fung College

觀塘瑪利諾書院
Kwun Tong Maryknoll College

天主教
耶穌復活堂
Resurrection Parish

TSUI PING ROAD
彩道

寶珮街

寶瑛閣
Po Ying House

Playground

PO PUI STREET

寶珊閣
Po Wu House

寶珮苑
PO PUI COURT

寶珊閣
Po Shan House

翠楣樓
Tsui Mei House

翠楊樓
Tsui Yeung House

HIU MING STREET

曉明閣
Hiu Ming Court

曉光閣
Hiu Kwong Court

平台
Podium

曉華大廈
Hiu Wah Building

富華閣
Fu Wah Court

曉光街休憩花園
Hiu Kwong Street Rest Garden

RCP

CUL

SHR

CW

EW

NGAU TAU KOK

TSUI LAM

KWUN TONG

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

土木工程拓展署
Civil Engineering and
Development Department

CONSULTANT
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ISSUE/REVISION
修訂

I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 複核
-	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. 合約編號
NE/2016/05

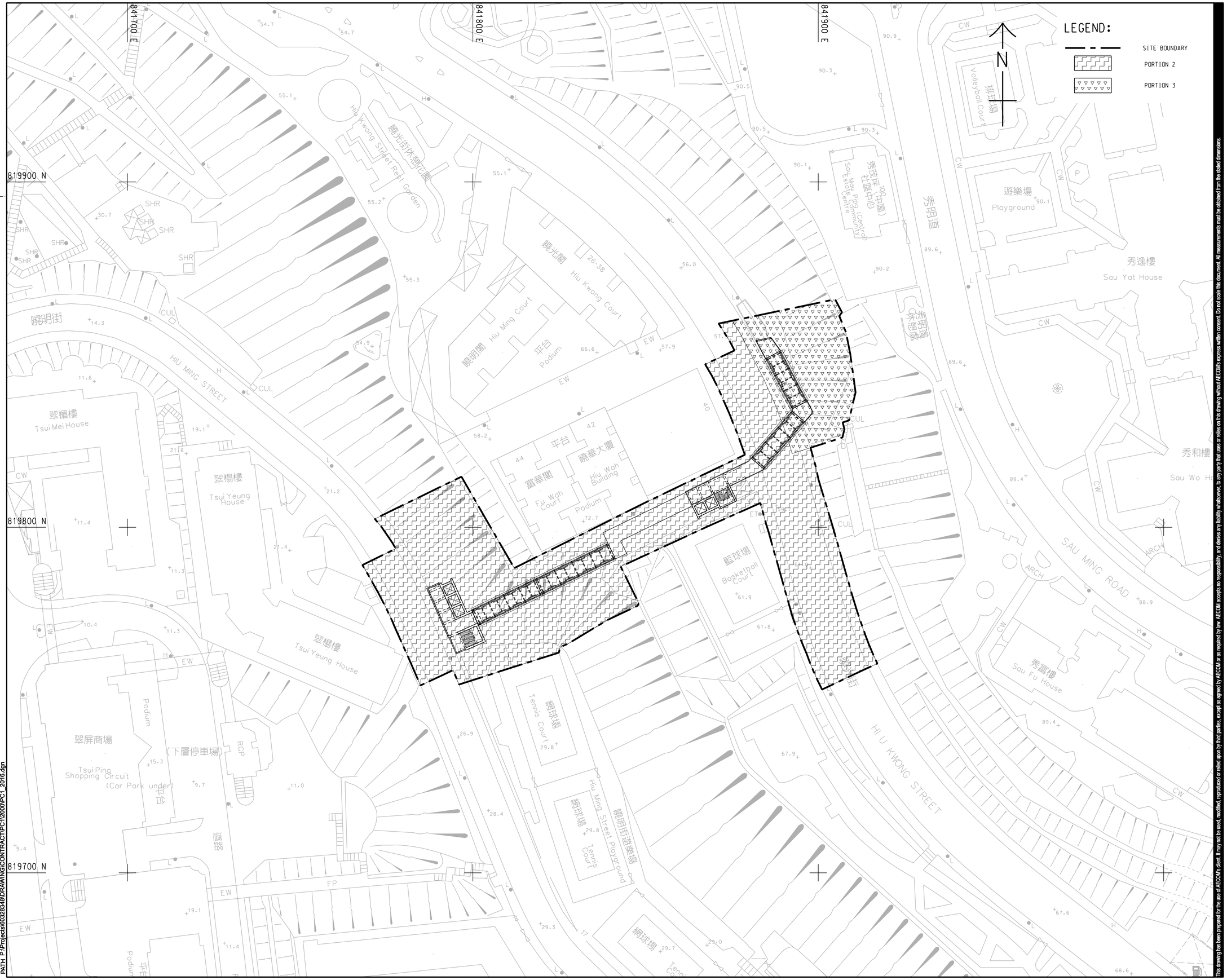
SHEET TITLE
圖紙名稱
E1 - PORTION OF SITE

SHEET NUMBER
圖紙編號
60328348/PC1/1016

Project Management Initials: Designer: PCTK Checked: AC Approved: BWCW ISO A1 594mm x 841mm

Plot File by: CHENHK 2016/10/24
PATH: P:\Projects\60328348\DRAWING\CONTRACT\PC1\1\1000\PC1_1016.dgn

Project Management Initials: Designer: PC/TK Checked: AC Approved: BWCW ISO A1 594mm x 841mm



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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

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT 工程顧問公司

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ISSUE/REVISION 修訂

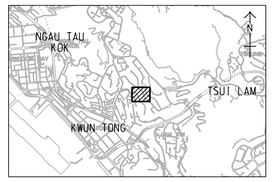
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核
-	OCT. 16	TENDER DRAWING	AC

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. 合約編號
NE/2016/05

SHEET TITLE 圖紙名稱
E2-C1-E3 - PORTION OF SITE

SHEET NUMBER 圖紙編號
60328348/PC1/2016

Project Management Initials: | Designer: PCTK | Checked: AC | Approved: BWCW | ISO A1 594mm x 841mm

842700 E | 842800 E | 842900 E

819700 N

819600 N

819500 N

LEGEND:

- SITE BOUNDARY
- PORTION 4
- PORTION 5
- PORTION 6

N

Road | 道路 | Elevated Road | 高架道路 | 連德道 | 兒童遊樂場 | 平台 (下層停車場) Podium (Car Park under) | 香港環境保護署 Environmental Protection Department | CUL | FP | TS | PH | WT

Plot File by: WANGGLW 2016/10/25
PATH: P:\projects\60328348\drawing\contract\pc1\3000\PC1_3016.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

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

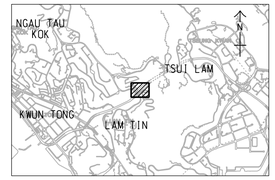
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核
-	OCT. 16	TENDER DRAWING	AC

STATUS 階段

SCALE 比例
A1 1 : 500

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 A1 1 : 60000



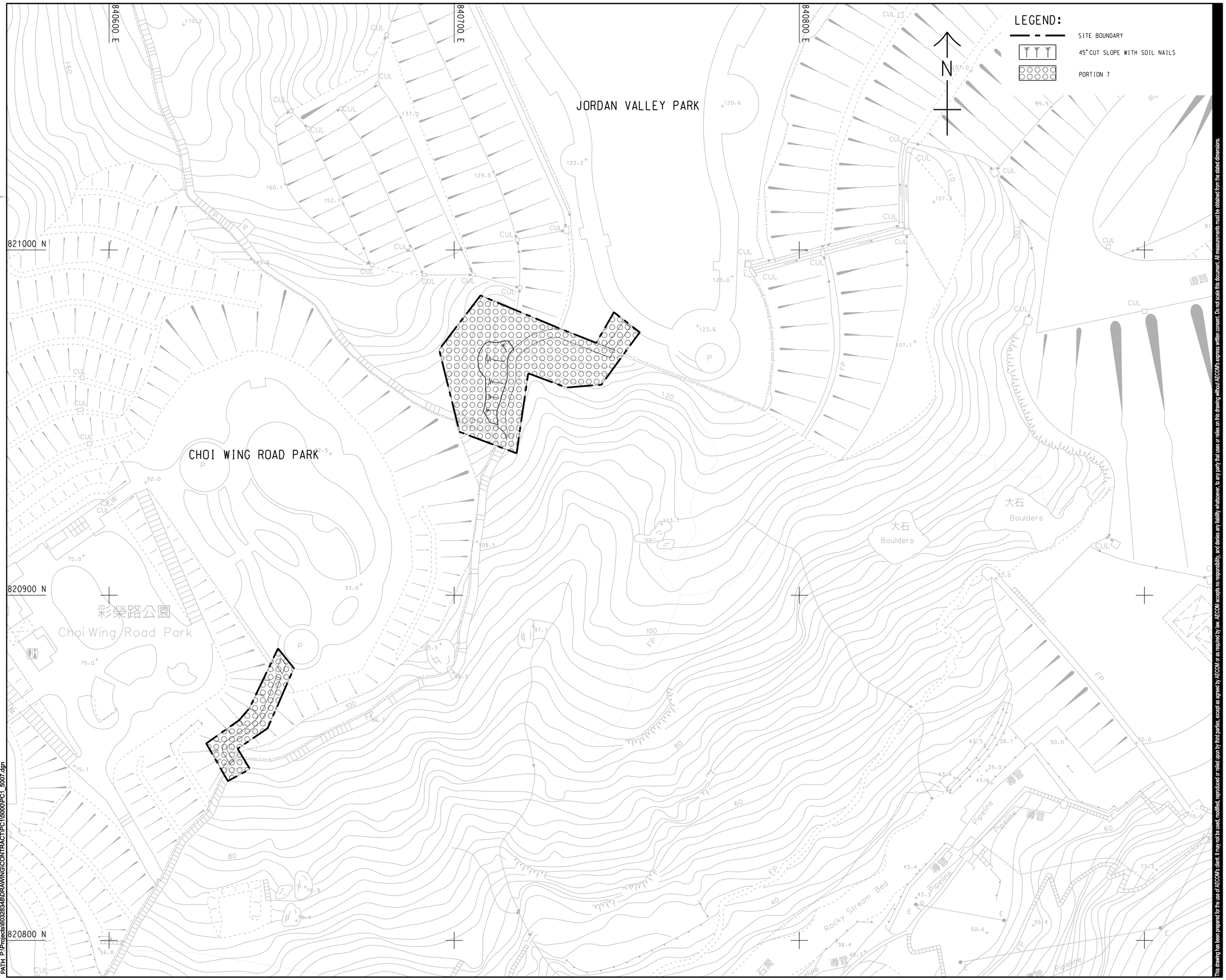
PROJECT NO. 項目編號
60328348

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

Project Management Initials: | Designer: PCTK | Checked: AC | Approved: BWCW | ISO A1 594mm x 841mm



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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

土木工程拓展署
Civil Engineering and Development Department

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ISSUE/REVISION 修訂

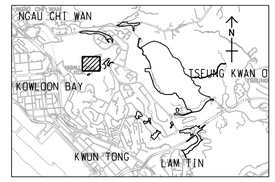
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核
-	OCT. 16	TENDER DRAWING	AC

STATUS 階段

SCALE 比例
A1 1 : 500

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 A1 1 : 60000



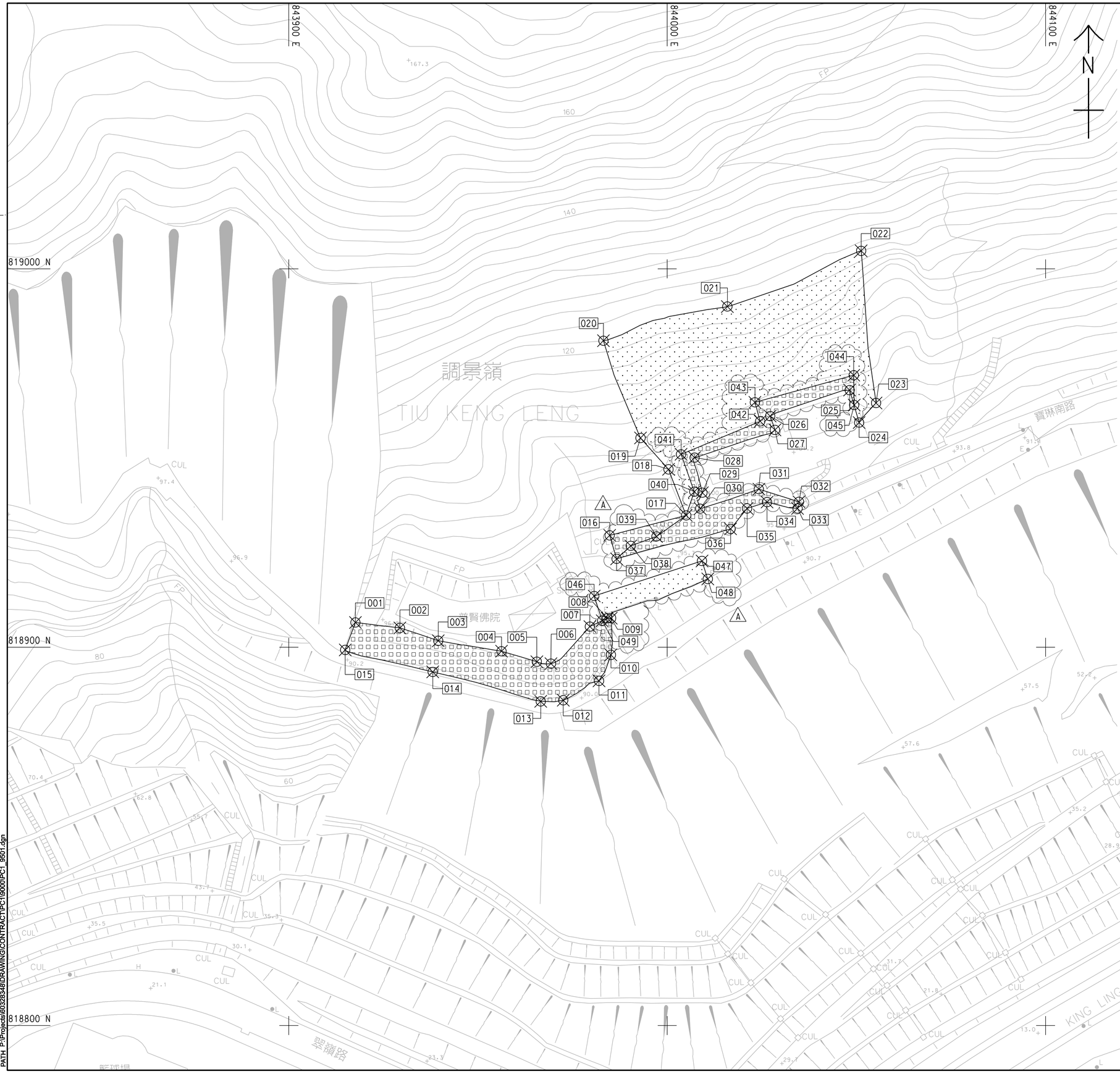
PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

SHEET TITLE 圖紙名稱
GREEN ROUTE - PORTION OF SITE

SHEET NUMBER 圖紙編號
60328348/PC1/5007

Project Management Initials: | Designer: PC/TK | Checked: AC | Approved: BWCW | ISO A1 594mm x 841mm



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
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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

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT 工程顧問公司

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SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

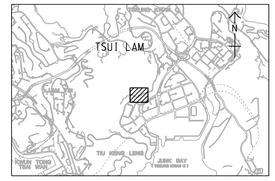
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核
A	NOV. 16	TENDER ADDENDUM NO. 1	AC
-	OCT. 16	TENDER DRAWING	AC

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. 合約編號
NE/2016/05

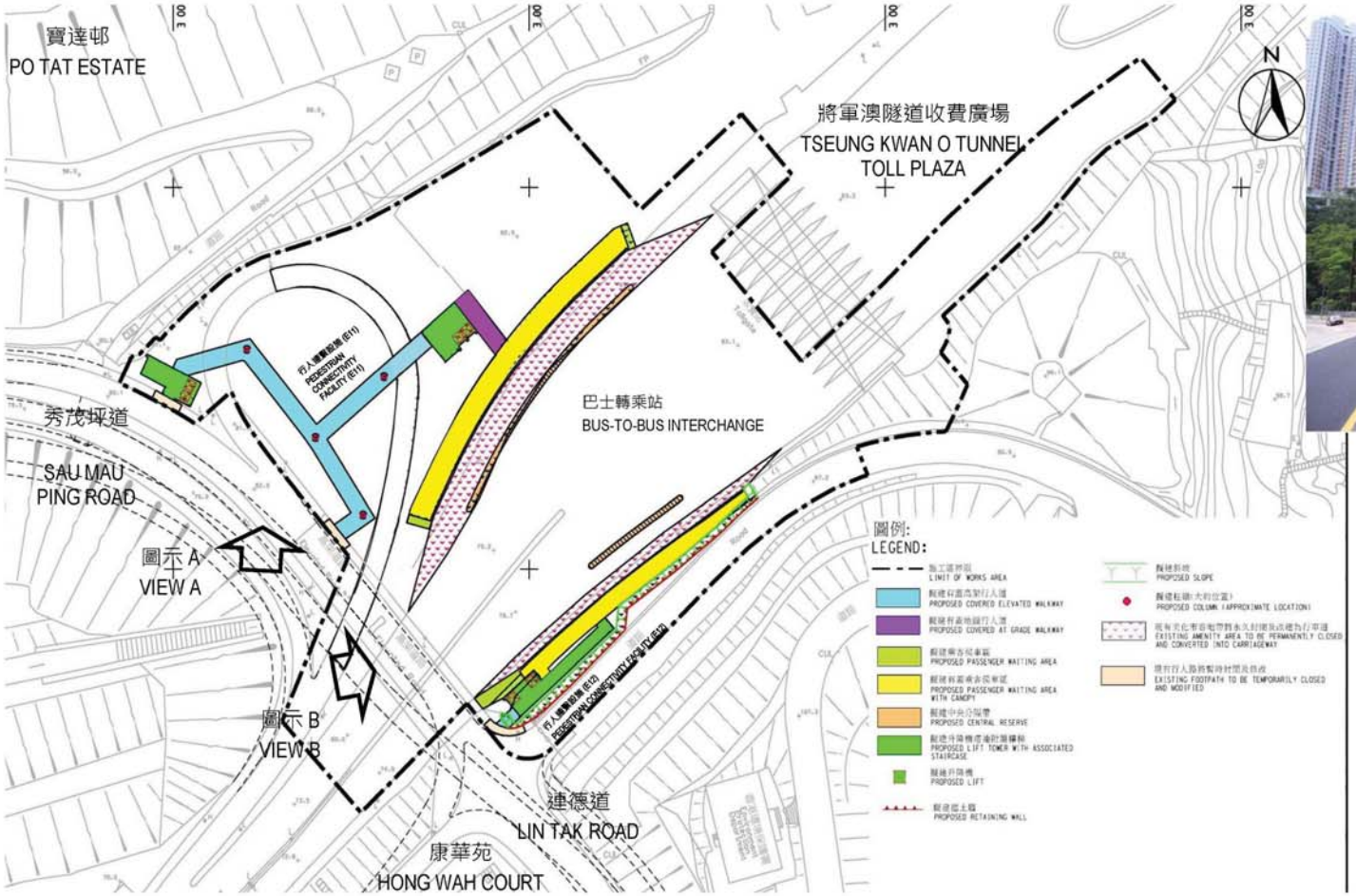
SHEET TITLE 圖紙名稱

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

SHEET NUMBER 圖紙編號

60328348/PC1/9501A

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

842000 N
819600 E
820400 N
820200 N
842600 E
842500 E
842100 E
842400 E

SLOPE NO. E8-1
SLOPE NO. E8-2
PEDESTRIAN CONNECTIVITY E8 SEE DRAWING NO. 60328348/R&P/3501
HIU YUK PATH
HIU MING STREET
HIU KWONG STREET
PARK STRIP
梁式芝書院 Leung Shek Chee College
曉育徑
足球場 Football Field
The Hong Kong Ching Chung Hau Po Woon Primary School
ROAD L4 (CONSTRUCTED UNDER SEPERATE CONTRACT)
EXISTING BOX CULVERT
PEDESTRIAN CONNECTIVITY SYSTEM A SEE DRAWING NO. 60328348/R&P/3101
PEDESTRIAN CONNECTIVITY SYSTEM A (CONSTRUCTED UNDER SEPERATE CONTRACT)
ROAD L1 (CONSTRUCTED UNDER SEPERATE CONTRACT)
PEDESTRIAN CONNECTIVITY SYSTEM B (CONSTRUCTED UNDER SEPERATE CONTRACT)
SLOPE NO. B1
SLOPE NO. B2
PEDESTRIAN CONNECTIVITY SYSTEM B SEE DRAWING NO. 60328348/R&P/3301
ON SAU ROAD
秀茂坪淨水配水庫 Sau Mau Ping Salt Water Service Reservoir

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.

Plot File by: WUMT 2017/11/9
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AECOM

PROJECT 項目

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 業主

土木工程拓展署
Civil Engineering and Development Department

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
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SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

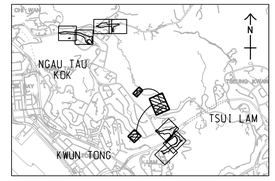
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核
			yc
A	NOV. 17	TENDER ADDENDUM NO. 1	AWYC
-	OCT. 17	TENDER DRAWING	AWYC

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. 合約編號
NE/2017/03

SHEET TITLE 圖紙名稱
GENERAL LAYOUT

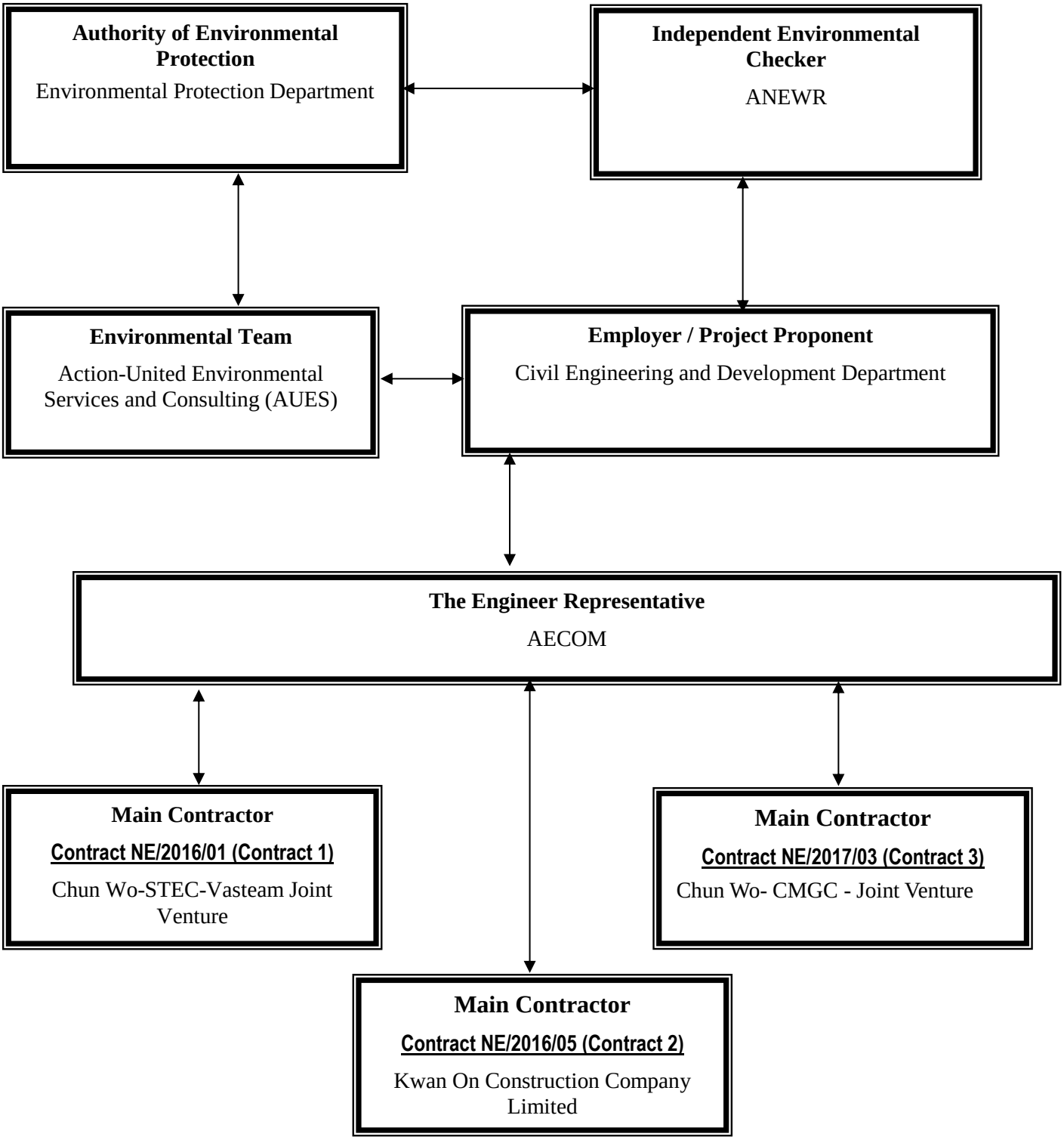
SHEET 8 OF 8

SHEET NUMBER 圖紙編號
60328348/R&P/1008A

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	Leung Siu Kau, Kelvin	2301 1383	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	Adi Lee	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	Shelton Chan	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	Leung Siu Kau, Kelvin	2301 1383	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Vincent Yuen	5599 1466	2473 3221
ANEWR	Independent Environmental Checker	Adi Lee	2618 2836	3007 8648
KOCCL	Project Director	Ambrose Kwong	2889 2675	2558 6900
KOCCL	Site Agent	Yung, Shui Heng	6012 4284	2558 6900
KOCCL	Safety and Environmental Manager	Joly C K Kwong	6111 5711	2558 6900
KOCCL	Environmental Officer	Leung Ka Kui	6671 0383	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	Leung Siu Kau, Kelvin	2301 1383	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	Adi Lee	2618 2836	3007 8648
CW – CMGC - JV	Construction Manager	William Leung	9464 1392	3965 9900
CW – CMGC - JV	Site Agent	Chris Lam	9801 9974	3965 9900
CW – CMGC - JV	Environmental Officer	King Lam	9570 6187	3965 9900
CW – CMGC - JV	Environmental Supervisor	Belle Mak	6094 1580	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

Appendix C

Construction Programme

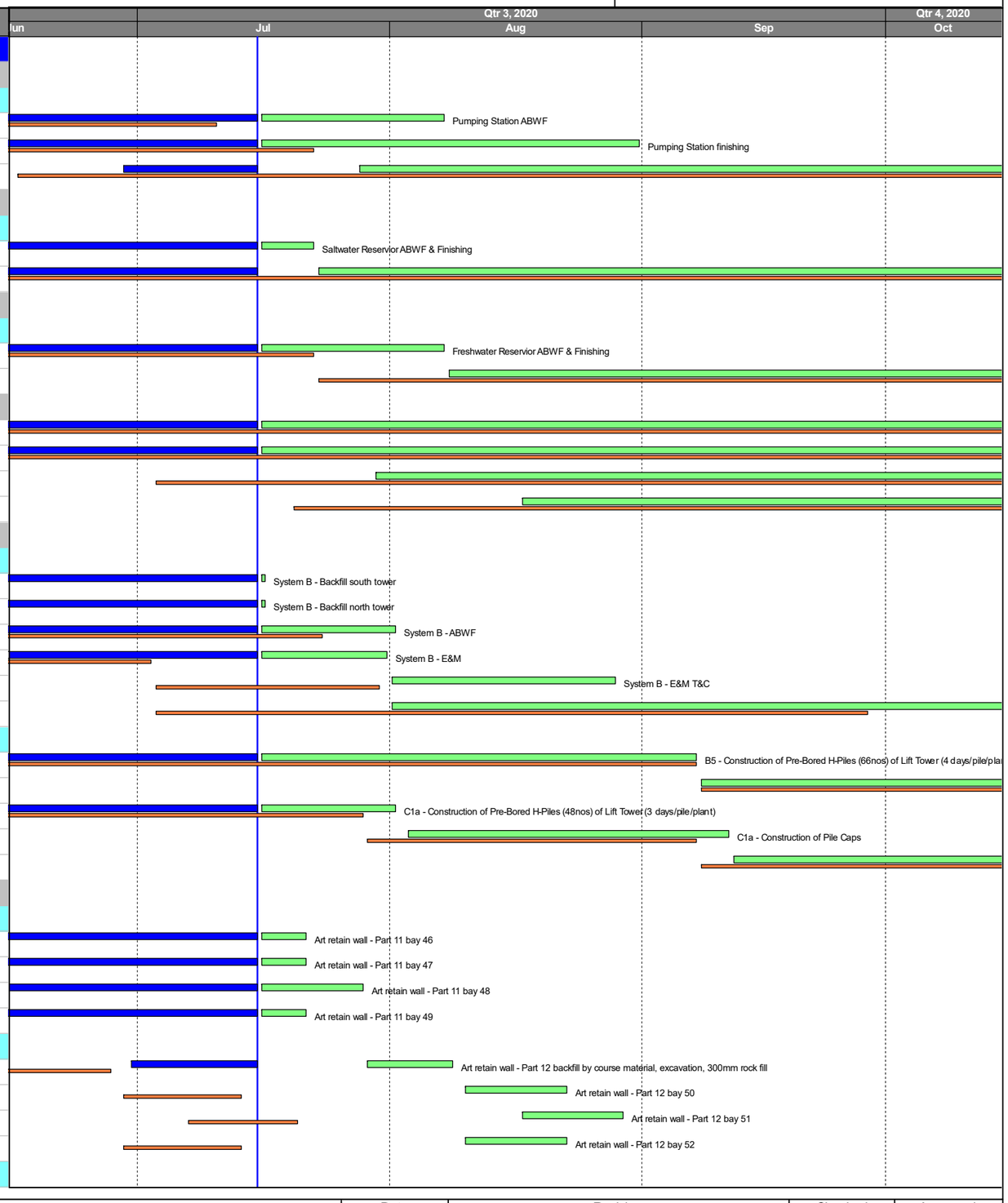
- (a) Contract 1 (NE/2016/01)
- (b) Contract 2 (NE/2016/05)
- (c) Contract 3 (NE/2017/03)

Contract 1 (NE/2016/01)

俊和－上隧－浩隆聯營
CHUN WO – STEC – VASTEAM JOINT VENTURE

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 (Jul 2020) _ccn _200713							
Fresh Water Pumping Station							
Stage 5 -ABWF, Finishing & E&M							
FWP-1300	Pumping Station ABWF	154	31-Dec-19	10-Jul-20	178	31-Dec-19 A	07-Aug-20
FWP-1310	Pumping Station finishing	120	25-Feb-20	22-Jul-20	154	25-Feb-20 A	31-Aug-20
FWP-1320	Pumping Station E&M works	207	16-Jun-20	24-Feb-21	212	29-Jun-20 A	13-Mar-21
Salt Water Reservoir							
ABWF, Finishing & E&M							
SWR-1410	Saltwater Reservior ABWF & Finishing	81	18-Feb-20	28-May-20	126	18-Feb-20 A	22-Jul-20
SWR-1420	Saltwater Reservior E&M works	200	29-May-20	26-Jan-21	208	29-May-20 A	04-Feb-21
Fresh Water Reservoir							
ABWF, Finishing & E&M							
FWR-1990	Freshwater Reservior ABWF & Finishing	114	03-Mar-20	22-Jul-20	128	03-Mar-20 A	07-Aug-20
FWR-2000	Freshwater Reservior E&M works	240	23-Jul-20	13-May-21	240	08-Aug-20	31-May-21
RWS Access Road & External Works							
FWP-1400	Formation & Slope RWA13 works	154	16-Apr-20	19-Oct-20	158	16-May-20 A	21-Nov-20
FWP-1410	Watermain (DN600 & DN450) & Irrigation System along WSA access road	172	16-Apr-20	10-Nov-20	176	16-May-20 A	12-Dec-20
FWP-1420	Drainage (sewerage & surface) along WSA access road	109	03-Jul-20	10-Nov-20	109	30-Jul-20	07-Dec-20
FWP-1430	CLP power supply duct	95	20-Jul-20	10-Nov-20	95	17-Aug-20	08-Dec-20
Pedestrian Connection System A & B							
PC system B							
PCB-1090	System B - Backfill south tower	72	16-Feb-20	16-May-20	122	16-Feb-20 A	16-Jul-20
PCB-1100	System B - Backfill north tower	72	16-Feb-20	16-May-20	122	16-Feb-20 A	16-Jul-20
PCB-1110	System B - ABWF	81	16-Apr-20	23-Jul-20	89	16-Apr-20 A	01-Aug-20
PCB-1120	System B - E&M	22	05-Jun-20	02-Jul-20	47	05-Jun-20 A	31-Jul-20
PCB-1130	System B - E&M T&C	24	03-Jul-20	30-Jul-20	24	01-Aug-20	28-Aug-20
PCB-1140	System B - Lift installation	75	03-Jul-20	28-Sep-20	75	01-Aug-20	30-Oct-20
PC system A							
PCA-1010	B5 - Construction of Pre-Bored H-Piles (66nos) of Lift Tower (4 days/pile/plant by 2 plants)	131	30-Mar-20	07-Sep-20	131	30-Mar-20 A	07-Sep-20
PCA-1020	B5 - Construction of Pile Caps	40	08-Sep-20	27-Oct-20	40	08-Sep-20	27-Oct-20
PCA-1110	C1a - Construction of Pre-Bored H-Piles (48nos) of Lift Tower (3 days/pile/plant)	138	10-Feb-20	28-Jul-20	142	10-Feb-20 A	01-Aug-20
PCA-1120	C1a - Construction of Pile Caps	35	29-Jul-20	07-Sep-20	35	03-Aug-20	11-Sep-20
PCA-1130	C1a - Construction of Sub-Structure of Lift Tower (+166 to +175mPD)	60	08-Sep-20	19-Nov-20	60	12-Sep-20	24-Nov-20
Artificial Flood Attenuation Lake							
Retaining wall Part 11 Bay 47-49)							
ART-1480	Art retain wall - Part 11 bay 46	12	21-May-20	03-Jun-20	36	08-Jun-20 A	21-Jul-20
ART-1490	Art retain wall - Part 11 bay 47	12	21-May-20	03-Jun-20	36	08-Jun-20 A	21-Jul-20
ART-1500	Art retain wall - Part 11 bay 48	12	28-May-20	10-Jun-20	36	15-Jun-20 A	28-Jul-20
ART-1510	Art retain wall - Part 11 bay 49	12	21-May-20	03-Jun-20	36	08-Jun-20 A	21-Jul-20
Retaining wall Part 12 Bay 50-52)							
ART-1520	Art retain wall - Part 12 backfill by course material, excavation, 300mm rock fill	14	11-Jun-20	27-Jun-20	34	30-Jun-20 A	08-Aug-20
ART-1530	Art retain wall - Part 12 bay 50	12	29-Jun-20	13-Jul-20	12	10-Aug-20	22-Aug-20
ART-1540	Art retain wall - Part 12 bay 51	12	07-Jul-20	20-Jul-20	12	17-Aug-20	29-Aug-20
ART-1550	Art retain wall - Part 12 bay 52	12	29-Jun-20	13-Jul-20	12	10-Aug-20	22-Aug-20
Backfill at back of retaining wall							



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

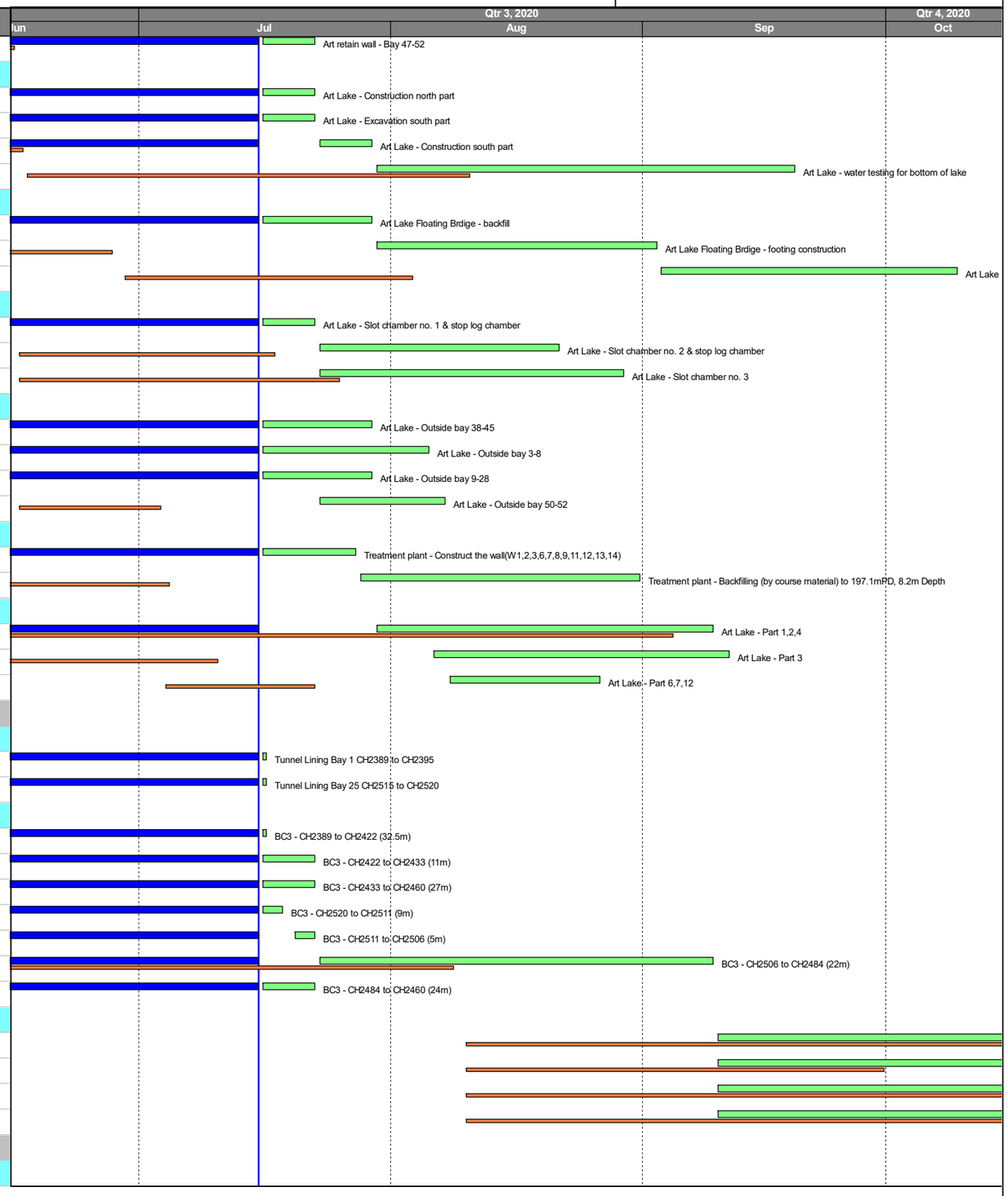
3-month Rolling Programme
Anderson Rd Sub-programme (July 20)
15-Jul-20

Date	Revision	Checked	Approved
15-Jul-20	C1-MPU202007		

俊和－上隧－浩隆聯營
CHUN WO – STEC – VASTEAM JOINT VENTURE

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
ART-1940	Art retain wall - Bay 47-52	30	12-May-20	15-Jun-20	56	16-May-20 A	22-Jul-20
Construction of lake bottom							
ART-1960	Art Lake - Construction north part	36	16-Apr-20	29-May-20	80	16-Apr-20 A	22-Jul-20
ART-1970	Art Lake - Excavation south part	43	10-Mar-20	05-May-20	108	10-Mar-20 A	22-Jul-20
ART-1980	Art Lake - Construction south part	36	06-May-20	16-Jun-20	56	23-May-20 A	29-Jul-20
ART-1990	Art Lake - water testing for bottom of lake	45	17-Jun-20	10-Aug-20	45	30-Jul-20	19-Sep-20
Construction of Floating Bridge							
ART-2050	Art Lake Floating Brdige - backfill	30	16-Apr-20	22-May-20	62	16-May-20 A	29-Jul-20
ART-2060	Art Lake Floating Brdige - footing construction	30	23-May-20	27-Jun-20	30	30-Jul-20	02-Sep-20
ART-2070	Art Lake Floating Brdige - installation bridge	30	29-Jun-20	03-Aug-20	30	03-Sep-20	09-Oct-20
Slot Chamber							
ART-2080	Art Lake - Slot chamber no. 1 & stop log chamber	18	06-May-20	26-May-20	56	16-May-20 A	22-Jul-20
ART-2090	Art Lake - Slot chamber no. 2 & stop log chamber	26	16-Jun-20	17-Jul-20	26	23-Jul-20	21-Aug-20
ART-2100	Art Lake - Slot chamber no. 3	33	16-Jun-20	25-Jul-20	33	23-Jul-20	29-Aug-20
Drainage							
ART-2110	Art Lake - Outside bay 38-45	68	02-Mar-20	26-May-20	121	02-Mar-20 A	29-Jul-20
ART-2120	Art Lake - Outside bay 3-8	28	28-Apr-20	01-Jun-20	68	16-May-20 A	05-Aug-20
ART-2130	Art Lake - Outside bay 9-28	51	07-Apr-20	10-Jun-20	91	07-Apr-20 A	29-Jul-20
ART-2140	Art Lake - Outside bay 50-52	14	16-Jun-20	03-Jul-20	14	23-Jul-20	07-Aug-20
Treatment Plant							
ART-1620	Treatment plant - Construct the wall(W1,2,3,6,7,8,9,11,12,13,14)	14	13-May-20	28-May-20	38	11-Jun-20 A	27-Jul-20
ART-1630	Treatment plant - Backfilling (by course material) to 197.1mPD, 8.2m Depth	30	29-May-20	04-Jul-20	30	28-Jul-20	31-Aug-20
Bioretention System							
ART-2150	Art Lake - Part 1,2,4	72	11-Jun-20	04-Sep-20	74	13-Jun-20 A	09-Sep-20
ART-2160	Art Lake - Part 3	32	02-Jun-20	10-Jul-20	32	06-Aug-20	11-Sep-20
ART-2170	Art Lake - Part 6,7,12	16	04-Jul-20	22-Jul-20	16	08-Aug-20	26-Aug-20
Underpass Tunnel							
Tunnel Permanent Lining							
TUN-3010	Tunnel Lining Bay 1 CH2389 to CH2395	104	16-Dec-19	25-Apr-20	170	16-Dec-19 A	16-Jul-20
TUN-3230	Tunnel Lining Bay 25 CH2515 to CH2520	36	10-Mar-20	24-Apr-20	103	10-Mar-20 A	16-Jul-20
Box Culvert BC3							
TUN-3310	BC3 - CH2389 to CH2422 (32.5m)	113	27-Nov-19	17-Apr-20	186	27-Nov-19 A	16-Jul-20
TUN-3320	BC3 - CH2422 to CH2433 (11m)	38	16-Mar-20	05-May-20	103	16-Mar-20 A	22-Jul-20
TUN-3330	BC3 - CH2433 to CH2460 (27m)	73	03-Mar-20	02-Jun-20	114	03-Mar-20 A	22-Jul-20
TUN-3340	BC3 - CH2520 to CH2511 (9m)	107	09-Dec-19	22-Apr-20	178	09-Dec-19 A	18-Jul-20
TUN-3350	BC3 - CH2511 to CH2506 (5m)	19	23-Apr-20	16-May-20	53	20-May-20 A	22-Jul-20
TUN-3360	BC3 - CH2506 to CH2484 (22m)	70	18-May-20	08-Aug-20	76	11-Jun-20 A	09-Sep-20
TUN-3370	BC3 - CH2484 to CH2460 (24m)	49	01-Apr-20	03-Jun-20	89	01-Apr-20 A	22-Jul-20
VE Panels, Road Works, E&M							
TUN-3510	Install VE Panels (Frame & Panels)	90	10-Aug-20	25-Nov-20	90	10-Sep-20	29-Dec-20
TUN-3520	Tunnel - E&M 1st Fix (Bracket, Tracking & Cabling)	45	10-Aug-20	30-Sep-20	45	10-Sep-20	04-Nov-20
TUN-3530	Sub-base for Underpass road L1	75	10-Aug-20	07-Nov-20	75	10-Sep-20	09-Dec-20
TUN-3540	Tunnel - FS main, Socket & AFA equipment	60	10-Aug-20	20-Oct-20	60	10-Sep-20	21-Nov-20
Road L4 (RWA18, Noise Barrier, RWA12, Utilities & Road Works)							
Retaining Wall RWA12							



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

3-month Rolling Programme

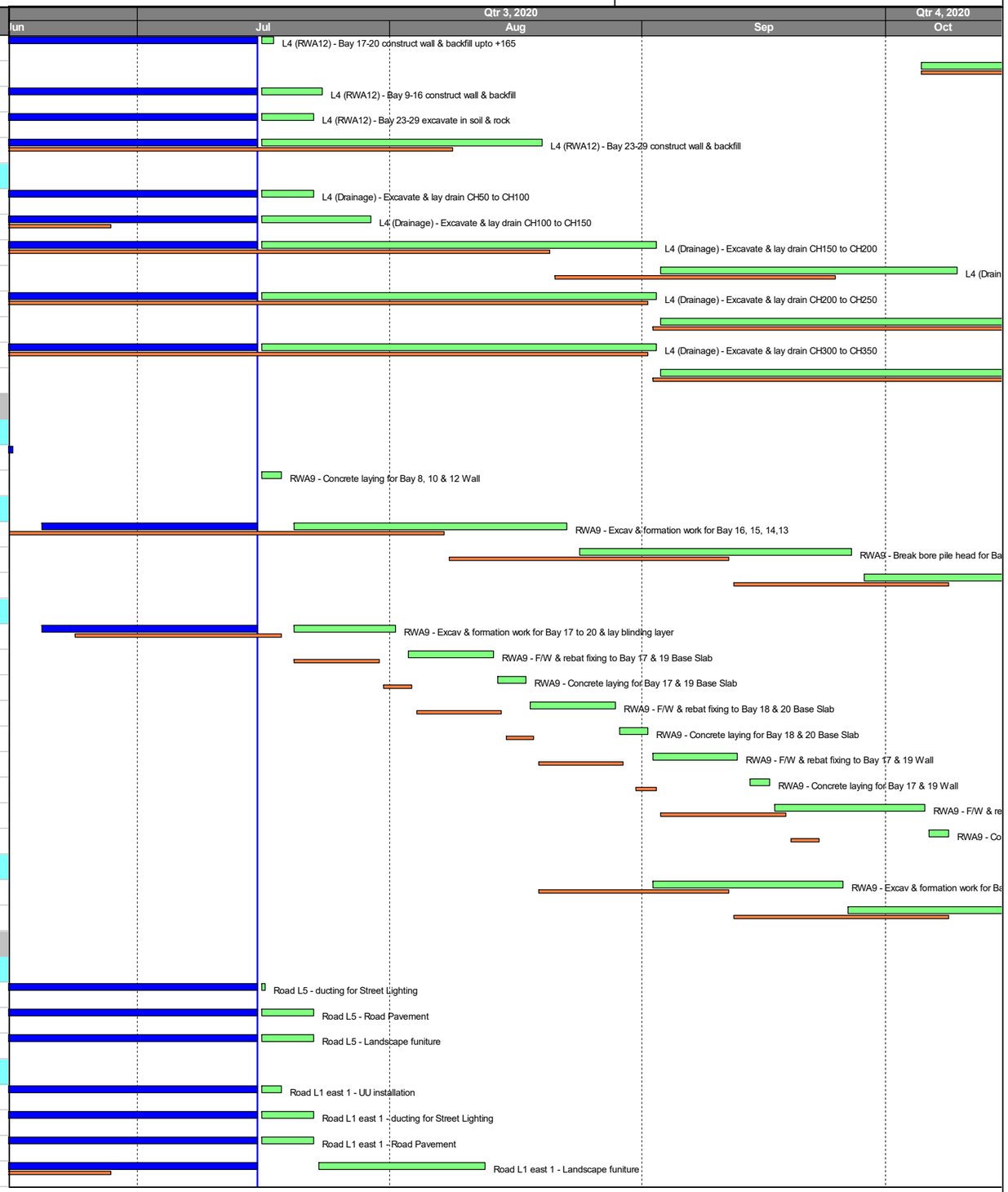
Anderson Rd Sub-programme (July 20)
15-Jul-20

Date	Revision	Checked	Approved
15-Jul-20	C1-MPU202007		

俊和－上隧－浩隆聯營
CHUN WO – STEC – VASTEAM JOINT VENTURE

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
L4-3440	L4 (RWA12) - Bay 17-20 construct wall & backfill upto +165	153	15-Oct-19	21-Apr-20	224	15-Oct-19 A	17-Jul-20
L4-3450	L4 (RWA12) - Bay 17-20 construct wall & backfill upto +170 (after system A sub-way)	85	05-Oct-20	15-Jan-21	85	05-Oct-20*	15-Jan-21
L4-3670	L4 (RWA12) - Bay 9-16 construct wall & backfill	220	05-Aug-19	04-May-20	287	05-Aug-19 A	23-Jul-20
L4-3690	L4 (RWA12) - Bay 23-29 excavate in soil & rock	36	12-Mar-20	27-Apr-20	106	12-Mar-20 A	22-Jul-20
L4-3700	L4 (RWA12) - Bay 23-29 construct wall & backfill	103	02-Apr-20	08-Aug-20	112	02-Apr-20 A	19-Aug-20
Road Works - Drainage							
L4-4230	L4 (Drainage) - Excavate & lay drain CH50 to CH100	65	01-Mar-20	22-May-20	115	01-Mar-20 A	22-Jul-20
L4-4240	L4 (Drainage) - Excavate & lay drain CH100 to CH150	83	16-Mar-20	27-Jun-20	109	16-Mar-20 A	29-Jul-20
L4-4250	L4 (Drainage) - Excavate & lay drain CH150 to CH200	80	18-May-20	20-Aug-20	91	18-May-20 A	02-Sep-20
L4-4260	L4 (Drainage) - Backfill for water main CH0 to CH200	30	21-Aug-20	24-Sep-20	30	03-Sep-20	09-Oct-20
L4-4270	L4 (Drainage) - Excavate & lay drain CH200 to CH250	80	29-May-20	01-Sep-20	81	29-May-20 A	02-Sep-20
L4-4280	L4 (Drainage) - Excavate & lay drain CH250 to CH300	80	02-Sep-20	07-Dec-20	80	03-Sep-20	08-Dec-20
L4-4290	L4 (Drainage) - Excavate & lay drain CH300 to CH350	80	29-May-20	01-Sep-20	81	29-May-20 A	02-Sep-20
L4-4300	L4 (Drainage) - Excavate & lay drain CH350 to CH400	80	02-Sep-20	07-Dec-20	80	03-Sep-20	08-Dec-20
Retaining Wall RWA9 at Road L3							
RWA9 Bay 7 to Bay 12							
RWA9-1160	RWA9 - F/W & rebat fixing to Bay 8, 10 & 12 Wall	14	26-May-20	10-Jun-20	14	30-May-20 A	15-Jun-20 A
RWA9-1170	RWA9 - Concrete laying for Bay 8, 10 & 12 Wall	3	11-Jun-20	13-Jun-20	3	16-Jul-20	18-Jul-20
RWA9 Bay 13 to Bay 16							
RWA9-1180	RWA9 - Excav & formation work for Bay 16, 15, 14,13	45	15-Jun-20	07-Aug-20	54	19-Jun-20 A	22-Aug-20
RWA9-1190	RWA9 - Break bore pile head for Bay 16 & lay blinding layer	30	08-Aug-20	11-Sep-20	30	24-Aug-20	26-Sep-20
RWA9-1200	RWA9 - F/W & rebat fixing to Bay 16 Base Slab	21	12-Sep-20	08-Oct-20	21	28-Sep-20	23-Oct-20
RWA9 Bay 17 to Bay 20							
RWA9-1280	RWA9 - Excav & formation work for Bay 17 to 20 & lay blinding layer	21	23-Jun-20	18-Jul-20	36	19-Jun-20 A	01-Aug-20
RWA9-1290	RWA9 - F/W & rebat fixing to Bay 17 & 19 Base Slab	10	20-Jul-20	30-Jul-20	10	03-Aug-20	13-Aug-20
RWA9-1300	RWA9 - Concrete laying for Bay 17 & 19 Base Slab	3	31-Jul-20	03-Aug-20	3	14-Aug-20	17-Aug-20
RWA9-1310	RWA9 - F/W & rebat fixing to Bay 18 & 20 Base Slab	10	04-Aug-20	14-Aug-20	10	18-Aug-20	28-Aug-20
RWA9-1320	RWA9 - Concrete laying for Bay 18 & 20 Base Slab	3	15-Aug-20	18-Aug-20	3	29-Aug-20	01-Sep-20
RWA9-1330	RWA9 - F/W & rebat fixing to Bay 17 & 19 Wall	10	19-Aug-20	29-Aug-20	10	02-Sep-20	12-Sep-20
RWA9-1340	RWA9 - Concrete laying for Bay 17 & 19 Wall	3	31-Aug-20	02-Sep-20	3	14-Sep-20	16-Sep-20
RWA9-1350	RWA9 - F/W & rebat fixing to Bay 18 & 20 Wall	14	03-Sep-20	18-Sep-20	14	17-Sep-20	05-Oct-20
RWA9-1360	RWA9 - Concrete laying for Bay 18 & 20 Wall	3	19-Sep-20	22-Sep-20	3	06-Oct-20	08-Oct-20
RWA9 Bay 21 & Bay 22							
RWA9-1370	RWA9 - Excav & formation work for Bay 20 to 21 & lay blinding layer	21	19-Aug-20	11-Sep-20	21	02-Sep-20	25-Sep-20
RWA9-1380	RWA9 - F/W & rebat fixing to Bay 21 & 22 Base Slab	21	12-Sep-20	08-Oct-20	21	26-Sep-20	22-Oct-20
Road Works L5,L1 east (between Junction L3 & L5)							
Road L5							
RL5-1040	Road L5 - ducting for Street Lighting	111	02-Dec-19	20-Apr-20	182	02-Dec-19 A	16-Jul-20
RL5-1050	Road L5 - Road Pavement	119	04-Dec-19	04-May-20	185	04-Dec-19 A	22-Jul-20
RL5-1060	Road L5 - Landscape funiture	37	18-Apr-20	02-Jun-20	56	16-May-20 A	22-Jul-20
Road L1 east part 1 (L5 toward L3 Junction)							
RL1a-1030	Road L1 east 1 - UU installation	117	28-Nov-19	23-Apr-20	187	28-Nov-19 A	18-Jul-20
RL1a-1040	Road L1 east 1 - ducting for Street Lighting	68	10-Feb-20	05-May-20	133	10-Feb-20 A	22-Jul-20
RL1a-1050	Road L1 east 1 - Road Pavement	116	09-Dec-19	05-May-20	181	09-Dec-19 A	22-Jul-20
RL1a-1060	Road L1 east 1 - Landscape funiture	45	06-May-20	27-Jun-20	67	25-May-20 A	12-Aug-20



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

3-month Rolling Programme

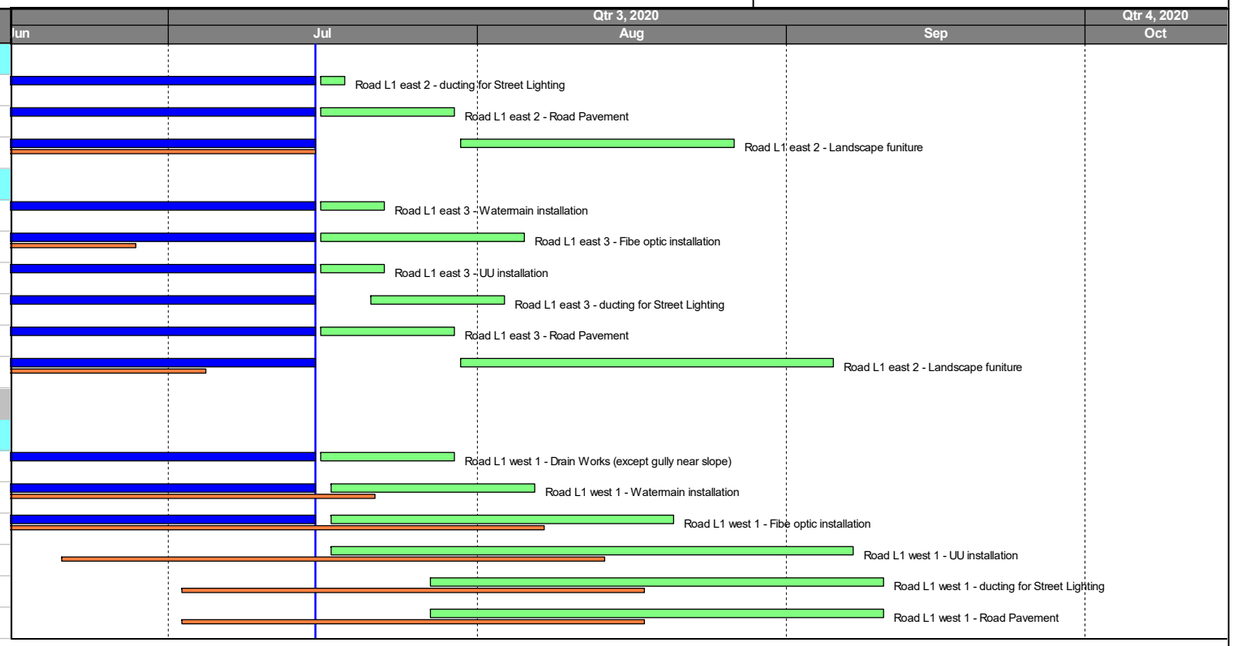
Anderson Rd Sub-programme (July 20)
15-Jul-20

Date	Revision	Checked	Approved
15-Jul-20	C1-MPU202007		

俊和－上隧－浩隆聯營
CHUN WO – STEC – VASTEAM JOINT VENTURE

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
Road L1 east part 2 (L5 toward PC system B)							
RL1b-1040	Road L1 east 2 - ducting for Street Lighting	99	19-Dec-19	23-Apr-20	169	19-Dec-19 A	18-Jul-20
RL1b-1050	Road L1 east 2 - Road Pavement	28	17-Apr-20	21-May-20	85	17-Apr-20 A	29-Jul-20
RL1b-1060	Road L1 east 2 - Landscape funiture	45	22-May-20	15-Jul-20	62	13-Jun-20 A	26-Aug-20
Road L1 east part 3 (Junction L3 toward L5)							
RL1c-1020	Road L1 east 3 - Watermain installation	62	11-Feb-20	27-Apr-20	132	11-Feb-20 A	22-Jul-20
RL1c-1023	Road L1 east 3 - Fibe optic installation	60	16-Apr-20	27-Jun-20	92	16-Apr-20 A	05-Aug-20
RL1c-1030	Road L1 east 3 - UU installation	96	06-Jan-20	06-May-20	160	06-Jan-20 A	22-Jul-20
RL1c-1040	Road L1 east 3 - ducting for Street Lighting	35	16-Apr-20	28-May-20	90	16-Apr-20 A	03-Aug-20
RL1c-1050	Road L1 east 3 - Road Pavement	30	16-Apr-20	22-May-20	86	16-Apr-20 A	29-Jul-20
RL1c-1060	Road L1 east 2 - Landscape funiture	35	23-May-20	04-Jul-20	71	13-Jun-20 A	05-Sep-20
Road Works PTT, L1 west (between Junction L3 & PTT)							
Road L1 west part 1 (Box culvert BC1)							
RL1c-1070	Road L1 west 1 - Drain Works (except gully near slope)	170	11-Nov-19	09-Jun-20	211	11-Nov-19 A	29-Jul-20
RL1c-1090	Road L1 west 1 - Watermain installation	45	28-May-20	21-Jul-20	59	28-May-20 A	06-Aug-20
RL1c-1100	Road L1 west 1 - Fibe optic installation	60	28-May-20	07-Aug-20	71	28-May-20 A	20-Aug-20
RL1c-1110	Road L1 west 1 - UU installation	45	20-Jun-20	13-Aug-20	45	17-Jul-20	07-Sep-20
RL1c-1120	Road L1 west 1 - ducting for Street Lighting	40	02-Jul-20	17-Aug-20	40	27-Jul-20	10-Sep-20
RL1c-1130	Road L1 west 1 - Road Pavement	40	02-Jul-20	17-Aug-20	40	27-Jul-20	10-Sep-20



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

3-month Rolling Programme
Anderson Rd Sub-programme (July 20)
15-Jul-20

Date	Revision	Checked	Approved
15-Jul-20	C1-MPU202007		

Contract 2 (NE/2016/05)

Kwan On Construction Co. Ltd. 均安建築有限公司	Contract No. NE/2016/05 Development of Anderson Road Quarry Site Pedestrian Connectivity Facilities Works Phase 1

CONTRACTOR SUBMISSION FORM

Your Ref. No. :	
Submission Ref. No. :	**NE/2016/05 – 4274**
Date of Submission :	2 July 2020
Title of Submission :	Monthly programme for section A Portion 1-3 (June 2020)
Specification Reference :	PS 1.08

Description of Content:

I enclosed herewith an updated monthly programme for section A Portion 1-3 for your acceptance.

Purpose of Submission :

☑ **For Acceptance** ☐ **For Information** ☐ **For Record Purpose**

From: Kwan On Construction Co., Ltd.	Signature:
Name: Albert Ng	
Title: Site Agent	

Response:

cc. The Supervisor –Ivan Tsang, AECOM **Additional Sheet ☐**

Status;	☐ **Accepted** ☐ **Not Accepted** ☐ **Acceptance not Required** ☐ **Accepted subject to condition(s) as stated / further required information as stated.** ☐ **Others:** _____ **(please specify)**

The *Supervisor*'s Delegate	**Date:**

Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - Accepted Programme
Section A Portions 1, 2, 3 May 2020

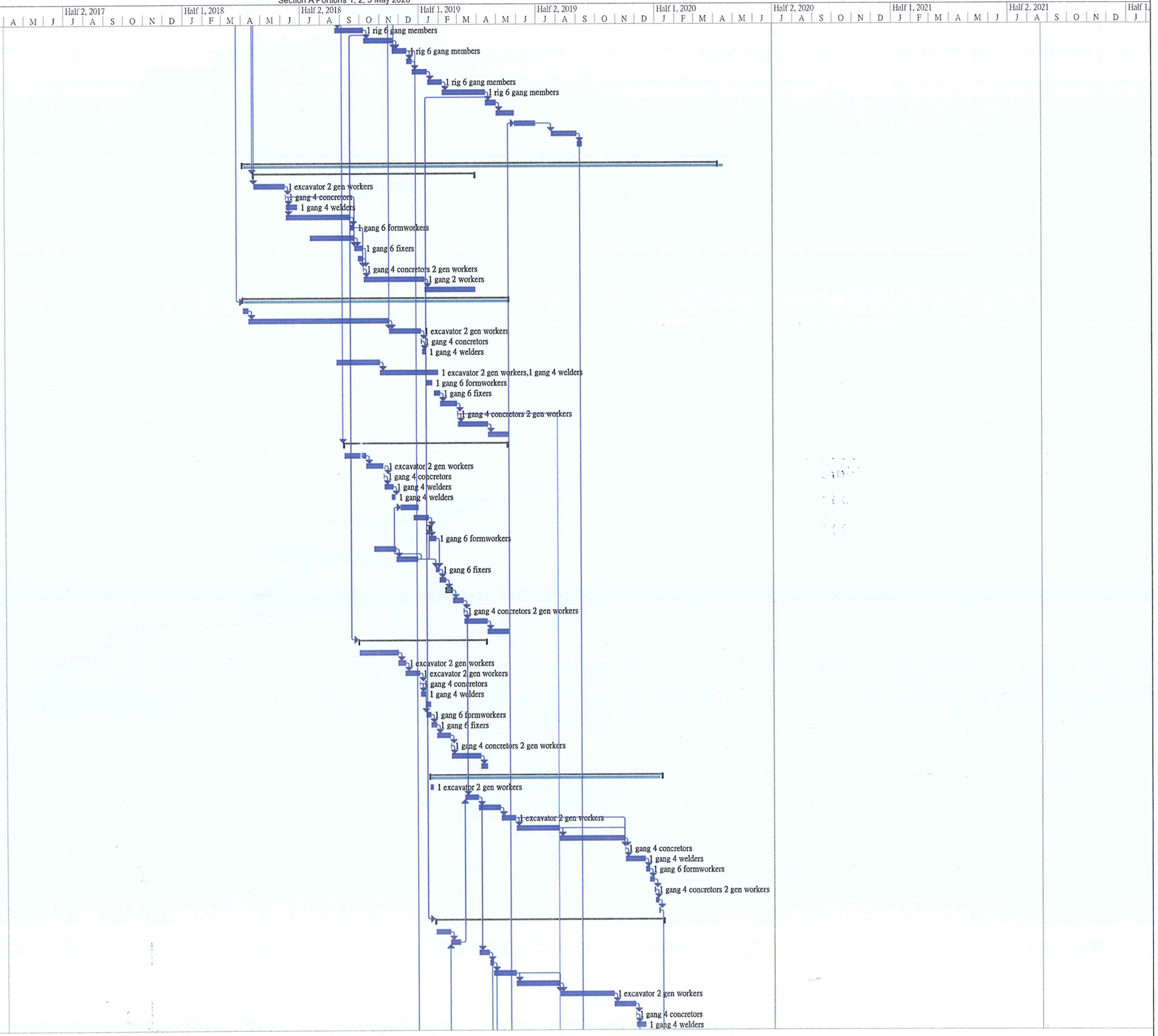
ID	Task Name	Duration	Start	Finish
1	**Section A Portions 1, 2, 3**			
2	**Revised Contract Period**	**1203 days**	**Sat 4/1/17**	**Tue 12/8/20**
3	Contract Commencement Period (Addendum No.2)	978 days	Sat 4/1/17	Tue 3/31/20
4	Public Holidays since 1 April 2017	173 days	Tue 3/31/20	Sat 10/10/20
5	**Granted EOT from CE**	**199 days**		
6	CE124 - 5days exam	5 days		
7	CE 051 - 7days exam	6 days		
8	CE113 - 5days exam	5 days		Fri 5/15/20
9	CE 058 - 1days inclement weather March 2018	1 day		
10	CE 078 - 4days inclement weather May 2018	4 days		
11	CE102 - 11days inclement weather June 2018	11 days		
12	CE109 - 7days inclement weather July 2018	7 days		
13	CE149 & CE151 20days exam Jan & Feb 2019	20 days		
14	PMI-159 - 1day exam	1 day		
15	CE171 10 days exam Mar & April 2019	14 days		
16	CE174 3 days inclement weather Feb 2019	3 days		
17	3.5days inclement weather Mar 2019	3.5 days		
18	CE193 2.5 day inclement weather April 2019	2.5 days		
19	1 day school graduation May 2019	1 day		
20	1 day inclement weather May 2019	1 day		
21	1 day inclement weather June 2019	1 day		
22	4 day inclement weather July 2019	4 days		
23	14 days TownGas at Portion 3	14 days		
24	12 days exam June 2019	12 days		
25	11 days exam Jan 2020	11 days		
26	10 days exam Feb 2020	10 days		
27	2 days exam Mar 2020	2 days		
28	6 days exam April 2020	6 days		
29	COVID-19 Event Jan 31 to Mar 18, 2020	52 days		
30	5 days exam May 2020	5 days	Thu 12/3/20	Tue 12/8/20
31				
32	**Submissions**	**788 days**	**Thu 5/4/17**	**Thu 10/3/19**
33	MS socket H pile for RS1 and PC1 (3 revisions)	189 days	Thu 5/4/17	Fri 12/1/17
34	**Submissions**	**139 days**	**Tue 5/9/17**	**Wed 10/11/17**
35	MS for Weld test	30 days	Tue 5/9/17	Sat 6/10/17
36	MS Tree felling	30 days	Wed 5/31/17	Mon 7/3/17
37	MS Tree protection	30 days	Thu 6/15/17	Tue 7/18/17
38	MS site entrance	30 days	Fri 7/7/17	Wed 8/9/17
39	MS hoarding	30 days	Fri 8/11/17	Wed 9/13/17
40	MS GI	30 days	Thu 9/7/17	Tue 10/10/17
41	Approval of MS	161 days	Tue 10/10/17	Mon 4/9/18
42	**Pile cap submissions**	**211 days**	**Mon 4/9/18**	**Fri 11/30/18**
43	MS pilecap	30 days	Mon 4/9/18	Fri 5/11/18
44	MS pile load test PC1 (3 revisions)	23 days	Sat 4/21/18	Wed 5/16/18
45	Approval of Load Test	23 days	Thu 5/17/18	Mon 6/11/18
46	MS dismantle load test	30 days	Tue 6/12/18	Sat 7/14/18
47	MS ELS (2 revisions)	182 days	Fri 4/27/18	Fri 11/16/18
48	MS Piling PC3 to PC5 (3 revisions)	189 days	Thu 5/3/18	Fri 11/30/18
49	Approval of MS	90 days	Fri 11/30/18	Mon 3/11/19
50	**Superstructure submissions**	**256 days**	**Wed 8/15/18**	**Tue 5/28/19**
51	MS Pier formwork (4 revisions)	141 days	Wed 8/15/18	Sat 1/19/19
52	MS Deck	45 days	Sat 1/19/19	Mon 3/11/19
53	Approval of MS	70 days	Mon 3/11/19	Tue 5/28/19
54	Civil works liaison with CLP, PCCW, HKT	120 days	Wed 5/22/19	Thu 10/3/19
55	**Section A, Portion 1 - Escalator (E1)**	**979 days**	**Fri 3/31/17**	**Tue 3/31/20**
56	Setting out of site boundary	4 days	Wed 4/5/17	Sat 4/8/17
57	Setting out of predrill coordinates / Site clearance	14 days	Mon 4/10/17	Tue 4/25/17
58	Inspection pits	3 days	Sat 4/22/17	Wed 4/26/17
59	UU Detection	3 days	Fri 4/14/17	Mon 4/17/17
60	Contractor's office	2 days	Tue 4/25/17	Wed 4/26/17
61	**Predrilling Works**	**95 days**	**Sat 4/29/17**	**Sun 8/13/17**
62	Predrilling PD/E1/01	0 days	Sat 4/29/17	Fri 5/5/17
63	Predrill PD/E1/03	4 days	Fri 5/5/17	Wed 5/10/17
64	Predrill PD/E1/04	4 days	Wed 5/10/17	Mon 5/15/17
65	Predrill PD/E1/10	4 days	Mon 5/15/17	Fri 5/19/17
66	Predrill PD/E1/09	4 days	Sat 5/20/17	Wed 5/24/17
67	Predrill PD/E1/07	4 days	Thu 5/25/17	Mon 5/29/17
68	Predrill PD/E1/08	5 days	Mon 5/29/17	Fri 6/2/17
69	Predrill PD/E1/06	6 days	Sat 6/3/17	Fri 6/9/17
70	Predrill PD/E1/05	4 days	Fri 6/9/17	Wed 6/14/17
71	Predrill PD/E1/02	5 days	Wed 6/14/17	Tue 6/20/17
72	Additional Predrilling at PD/E1/06	12 days	Tue 6/20/17	Mon 7/3/17
73	Additional Predrilling for PM1003	7 days	Tue 7/4/17	Tue 7/11/17
74	**PreConstruction Works**	**309 days**	**Thu 5/4/17**	**Sat 4/14/18**
75	Hoarding	60 days	Thu 5/4/17	Mon 7/10/17
76	Temp Site Entrance	7 days	Fri 8/4/17	Fri 8/11/17
77	Trees	218 days	Fri 8/4/17	Thu 4/5/18
78	Demolish manhole PMI 015	20 days	Mon 8/21/17	Tue 9/12/17
79	Drawf wall	9 days	Mon 9/18/17	Wed 9/27/17
80	Sheetpile Site Entrance near E1-PC5	15 days	Fri 9/29/17	Mon 10/16/17
81	Sheetpiling E1-PC1	5 days	Mon 10/16/17	Sat 10/21/17
82	**Haul Road**	**457 days**	**Mon 10/1/18**	**Tue 2/25/20**
83	MS Haul Road (6 revisions)	67 days	Mon 10/8/18	Fri 12/21/18
84	Haul Road approval	29 days	Mon 10/1/18	Fri 11/2/18
85	Haul Road to PC1 & PC2	10 days	Fri 11/2/18	Wed 11/14/18
86	Haul Road to PC3	3 days	Wed 11/14/18	Sat 11/17/18
87	Approval for Haul Road to PC5	30 days	Sat 11/17/18	Thu 12/20/18
88	Haul Road to PC5	4 days	Fri 12/21/18	Tue 12/25/18
89	Haul Road to PC4	15 days	Fri 12/21/18	Mon 1/7/19
90	Haul Road to PC1	10 days	Fri 2/14/20	Tue 2/25/20
91	**Drilling Works**	**613 days**	**Sat 10/28/17**	**Mon 9/16/19**
92	Boring Machine deployment and set up(2nrs)	14 days	Sat 10/28/17	Tue 11/14/17
93	Drill and grout H-Piles E1-PC1 (12nrs)	67 days	Tue 11/14/17	Sat 1/27/18
94	Drill and grout H-Piles RS1 (22nrs)	114 days	Fri 11/17/17	Sat 3/24/18
95	MS Approval and Setup for E1-PC6	40 days	Tue 2/27/18	Thu 4/12/18
96	Drill and grout E1-PC6 with revision PMI 057	92 days	Thu 4/12/18	Tue 7/24/18
97	MS approval and Setup for E1-PC2	26 days	Wed 7/25/18	Thu 8/23/18

Project: Accepted Programme Portio

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Critical | Critical Split | Progress

Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - Accepted Programme
Section A Portions 1, 2, 3 May 2020

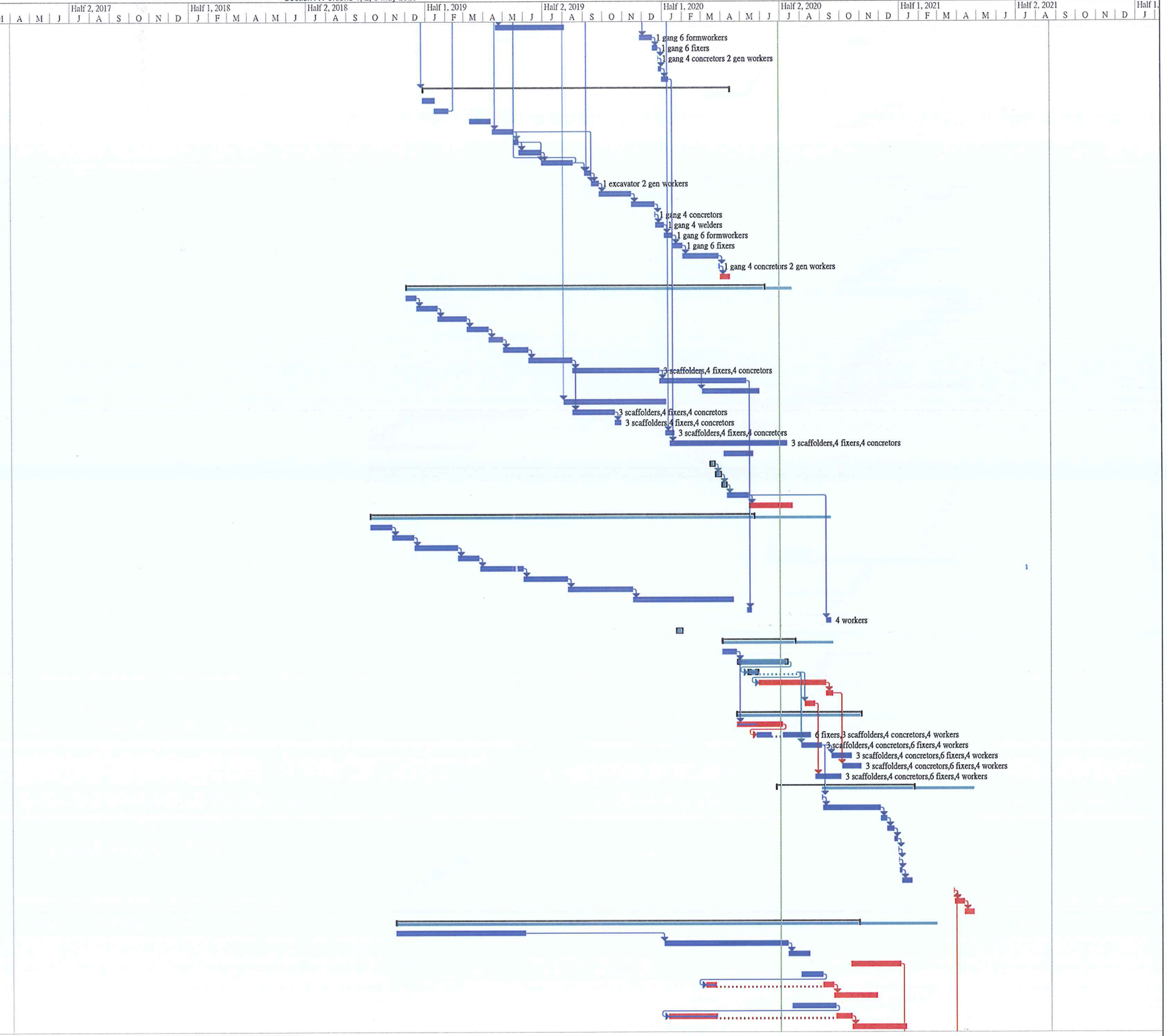
ID	Task Name	Duration	Start	Finish
98	Drill and grout E1-PC2 (12 nrs) with revision PMI 056	40 days	Thu 8/23/18	Sat 10/6/18
99	MS approval and Rig Setup for E1-PC3	40 days	Sun 10/7/18	Wed 11/21/18
100	Drill and grout E1-PC3 (16 nrs) incomplete	20 days	Tue 11/20/18	Wed 12/12/18
101	MS approval and Setup rig to PC5	8 days	Wed 12/12/18	Thu 12/20/18
102	Near Miss Incident	21 days	Fri 12/21/18	Sat 1/12/19
103	Drill and grout E1-PC5 (12 nrs)	20 days	Mon 1/14/19	Tue 2/5/19
104	Drill and grout E1-PC4 (16 nrs)	60 days	Tue 2/5/19	Fri 4/12/19
105	Drill and grout E1-PC3 (5 nrs)	14 days	Sat 4/13/19	Mon 4/29/19
106	Inclement weather Knock-out to Haul Road	25 days	Mon 4/29/19	Mon 5/27/19
107	Subcontractor Everwin Termination Effect	30 days	Mon 5/27/19	Sat 6/29/19
108	Drill and grout E1-PC3 staircase (8 nrs)	36 days	Tue 7/23/19	Sat 8/31/19
109	Additional Predrill PC3 Staircase	7 days	Mon 9/2/19	Mon 9/9/19
110				
111	**ELS & Pile Cap works**	**657 days**	**Mon 4/2/18**	**Mon 4/6/20**
112	**E1-PC1**	**306 days**	**Thu 4/19/18**	**Wed 3/27/19**
113	Excavate E1-PC1	43 days	Thu 4/19/18	Wed 6/6/18
114	Blinding E1-PC1	1 day	Thu 6/7/18	Thu 6/7/18
115	Pile Head Welding	15 days	Fri 6/8/18	Mon 6/25/18
116	MS formwork (3 revisions)	89 days	Fri 6/8/18	Sat 9/15/18
117	Formwork E1-PC1	5 days	Sat 9/15/18	Fri 9/21/18
118	BBS Approval	61 days	Sun 7/15/18	Fri 9/21/18
119	Rebar fix E1-PC1	11 days	Fri 9/21/18	Thu 10/4/18
120	MS concrete	7 days	Thu 9/27/18	Thu 10/4/18
121	Concrete E1-PC1	1 day	Fri 10/5/18	Fri 10/5/18
122	Waterproofing PMI 112	84 days	Sat 10/6/18	Tue 1/8/19
123	Backfill no-fines	70 days	Tue 1/8/19	Wed 3/27/19
124	**E1-PC6**	**368 days**	**Mon 4/2/18**	**Sat 5/18/19**
125	MS Piling E1-PC6 (2 revisions)	8 days	Mon 4/2/18	Tue 4/10/18
126	MS Approval	194 days	Tue 4/10/18	Tue 11/13/18
127	Excavate E1-PC6	44 days	Wed 11/14/18	Wed 1/2/19
128	Blinding E1-PC6	1 day	Wed 1/2/19	Thu 1/3/19
129	Pile Head Welding	5 days	Fri 1/4/19	Wed 1/9/19
130	BBS Approval	60 days	Fri 8/24/18	Tue 10/30/18
131	ELS	80 days	Tue 10/30/18	Mon 1/28/19
132	Formwork E1-PC6	9 days	Thu 1/10/19	Sat 1/19/19
133	Rebar Fix E1-PC6	9 days	Tue 1/22/19	Thu 1/31/19
134	Surface Geometric Testing	23 days	Thu 1/31/19	Tue 2/26/19
135	Concrete E1-PC6 footing	1 day	Wed 2/27/19	Wed 2/27/19
136	Waterproofing PMI 112	41 days	Thu 2/28/19	Mon 4/15/19
137	Backfill no-fines	30 days	Mon 4/15/19	Sat 5/18/19
138	**RS1**	**227 days**	**Wed 9/5/18**	**Thu 5/16/19**
139	Sheetpiling	30 days	Wed 9/5/18	Mon 10/8/18
140	Piling RSI	24 days	Tue 10/9/18	Tue 11/6/18
141	Blinding RS1	1 day	Mon 11/5/18	Mon 11/5/18
142	ELS	12 days	Tue 11/6/18	Mon 11/19/18
143	Pile Head Welding	5 days	Sat 11/17/18	Thu 11/22/18
144	ELS as-built approval	25 days	Fri 11/30/18	Fri 12/28/18
145	Near Miss Incident	21 days	Fri 12/21/18	Sat 1/12/19
146	Remove Waling	3 days	Mon 1/14/19	Wed 1/16/19
147	Formwork RS1	10 days	Mon 1/14/19	Thu 1/24/19
148	Revised Rebars PMI 148	30 days	Sat 10/20/18	Fri 11/23/18
149	BBS Approval	30 days	Sat 11/24/18	Thu 12/27/18
150	Rebar Fix RS1	5 days	Thu 1/24/19	Tue 1/29/19
151	CNY PH	9 days	Tue 1/29/19	Fri 2/8/19
152	Continue Rebar Fix RS1	9 days	Fri 2/8/19	Mon 2/18/19
153	Surface Geometric Testing	15 days	Tue 2/19/19	Thu 3/7/19
154	Concrete RS1	1 day	Thu 3/7/19	Fri 3/8/19
155	Waterproofing PMI 112	32 days	Fri 3/8/19	Sat 4/13/19
156	Backfill no-fines	30 days	Sat 4/13/19	Thu 5/16/19
157	**E1-PC2**	**177 days**	**Thu 9/27/18**	**Fri 4/12/19**
158	MS ELS PC2 (4 revisions)	54 days	Thu 9/27/18	Mon 11/26/18
159	Sheetpiling E1-PC2	11 days	Mon 11/26/18	Fri 12/7/18
160	Piling PC2	20 days	Fri 12/7/18	Sat 12/29/18
161	Blinding PC2	1 day	Sat 12/29/18	Sat 12/29/18
162	Pile Head Welding	7 days	Mon 12/31/18	Mon 1/7/19
163	BBS Approval	7 days	Mon 1/7/19	Tue 1/15/19
164	Formwork PC2	7 days	Tue 1/8/19	Tue 1/15/19
165	Rebar Fix PC2	8 days	Wed 1/16/19	Thu 1/24/19
166	Surface Geometric Testing	19 days	Thu 1/24/19	Thu 2/14/19
167	Concrete PC2	1 day	Fri 2/15/19	Fri 2/15/19
168	Waterproofing PMI 112	40 days	Sat 2/16/19	Tue 4/2/19
169	Backfill no-fines	10 days	Tue 4/2/19	Fri 4/12/19
170	**E1-PC5**	**322 days**	**Mon 1/14/19**	**Thu 1/9/20**
171	Sheetpile Site Entrance near E1-PC5	5 days	Mon 1/14/19	Fri 1/18/19
172	Piling E1-PC5	19 days	Fri 3/8/19	Fri 3/29/19
173	Sheetpile remaining works E1-PC5	30 days	Fri 3/29/19	Thu 5/2/19
174	Excavate E1-PC5	20 days	Sat 5/4/19	Sat 5/25/19
175	Subcontractor Everwin Termination Effect	60 days	Mon 5/27/19	Thu 8/1/19
176	Continue excavate E1-PC5	90 days	Thu 8/1/19	Sat 11/9/19
177	Blinding E1-PC5	1 day	Mon 11/11/19	Mon 11/11/19
178	Pile Head Welding	28 days	Tue 11/12/19	Thu 12/12/19
179	Formwork E1-PC5	6 days	Fri 12/13/19	Thu 12/19/19
180	Rebar fix E1-PC5	6 days	Thu 12/19/19	Thu 12/26/19
181	Concrete E1-PC5	2 days	Thu 12/26/19	Sat 12/28/19
182	Waterproofing PMI 112	4 days	Sat 12/28/19	Thu 1/2/20
183	Backfill no-fines	2 days	Thu 1/2/20	Sat 1/4/20
184	**E1-PC4**	**317 days**	**Tue 1/22/19**	**Sat 1/11/20**
185	Sheetpiling	20 days	Tue 1/22/19	Wed 2/13/19
186	Drilling 5nos piles	14 days	Wed 2/13/19	Thu 2/28/19
187	Redrill piles	14 days	Fri 3/29/19	Sat 4/13/19
188	Grout piles	6 days	Mon 4/15/19	Sat 4/20/19
189	Sheetpile remaining works E1-PC4	31 days	Sat 4/20/19	Sat 5/25/19
190	Subcontractor Everwin Termination Effect	60 days	Sat 5/25/19	Thu 8/1/19
191	Excavate E1-PC4	75 days	Thu 8/1/19	Thu 10/24/19
192	Temp soil storage	30 days	Thu 10/24/19	Tue 11/26/19
193	Blinding E1-PC4	1 day	Wed 11/27/19	Wed 11/27/19
194	Pile Head Welding	13 days	Thu 11/28/19	Thu 12/12/19



Project: Accepted Programme Portio

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Critical | Critical Split | Progress

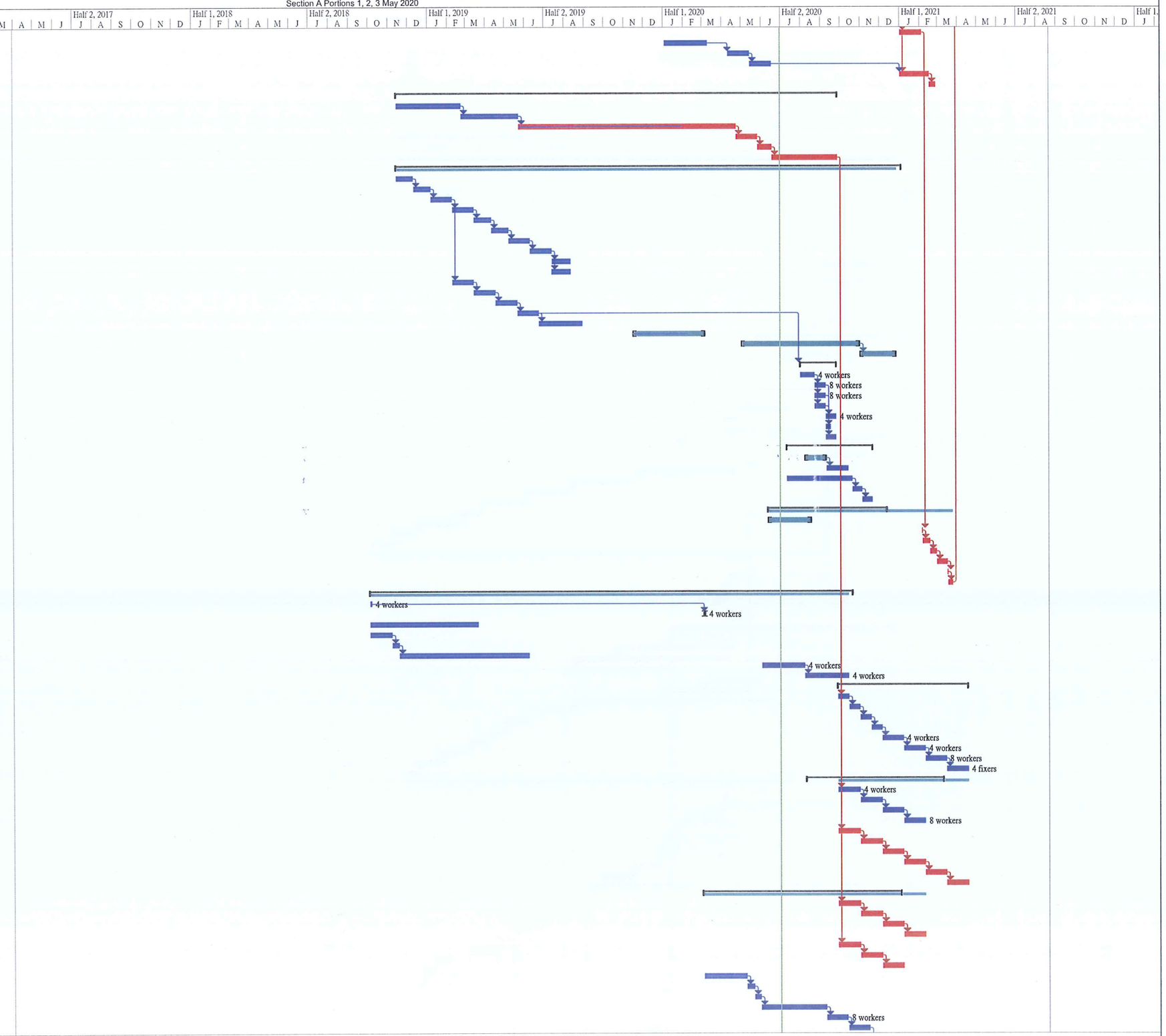
ID	Task Name	Duration	Start	Finish
195	BBS Approval	94 days	Sat 4/20/19	Sat 8/3/19
196	Formwork E1-PC4	17 days	Thu 11/28/19	Tue 12/17/19
197	Rebar Fix E1-PC4	8 days	Tue 12/17/19	Wed 12/25/19
198	Concrete E1-PC4	1 day	Thu 12/26/19	Thu 12/26/19
199	Waterproofing PMI 112	4 days	Fri 12/27/19	Tue 12/31/19
200	Backfill no-fines	10 days	Tue 12/31/19	Sat 1/11/20
201	**E1-PC3 & RC staircase**	**423 days**	**Fri 12/28/18**	**Tue 4/14/20**
202	MS ELS (2 revisions)	17 days	Fri 12/28/18	Wed 1/16/19
203	Drilling 5nos piles	20 days	Tue 1/15/19	Wed 2/6/19
204	BBS Approval	30 days	Mon 3/11/19	Fri 4/12/19
205	Continue drilling 11nos piles	30 days	Mon 4/15/19	Fri 5/17/19
206	Demobilize Everwin drilling rig	7 days	Sat 5/18/19	Sat 5/25/19
207	Subcontractor Everwin Termination Effect	31 days	Sat 5/25/19	Sat 6/29/19
208	Mobilize Ping On drilling rig to PC3 staircase	43 days	Sat 6/29/19	Fri 8/16/19
209	Sheetpile PC3 & RC Staircase	10 days	Tue 9/3/19	Fri 9/13/19
210	Excavate PC3 & Staircase	10 days	Fri 9/13/19	Wed 9/25/19
211	Removal of backfill material	45 days	Wed 9/25/19	Thu 11/14/19
212	ELS	32 days	Thu 11/14/19	Fri 12/20/19
213	Blinding PC3 & staircase	1 day	Fri 12/20/19	Sat 12/21/19
214	Pile Head Welding	12 days	Sat 12/21/19	Fri 1/3/20
215	Formwork PC3 & Staircase pilecaps	12 days	Fri 1/3/20	Fri 1/17/20
216	Rebar Fix PC3 & staircase pilecaps	14 days	Fri 1/17/20	Sat 2/1/20
217	COVID-19 Event Jan 31 to Mar 18, 2020	50 days	Sat 2/1/20	Sat 3/28/20
218	Concrete PC3 & Staircase pilecaps	1 day	Sat 3/28/20	Mon 3/30/20
219	Backfill no-fines	14 days	Mon 3/30/20	Tue 4/14/20
220	**Superstructure**	**495 days**	**Sat 12/1/18**	**Sun 6/7/20**
221	Submission of Temp Work design and MS for Piers	14 days	Sat 12/1/18	Mon 12/17/18
222	Approval of Temp Work design and MS for Piers	30 days	Mon 12/17/18	Sat 1/19/19
223	Submission of Temp Work design and MS for Piers(Rev 2,3)	40 days	Sat 1/19/19	Tue 3/5/19
224	Approval of Temp Work design and MS for Piers (Rev 3)	30 days	Tue 3/5/19	Mon 4/8/19
225	Submission of Temp Work design and MS for Piers (Rev 4)	20 days	Mon 4/8/19	Tue 4/30/19
226	Approval of Temp Work design and MS for Piers (Rev 4)	35 days	Tue 4/30/19	Sat 6/8/19
227	Subcontractor Everwin Termination Effect	60 days	Sat 6/8/19	Wed 8/14/19
228	Construction of Cap (E1-PC6) with drill and grout	120 days	Wed 8/14/19	Thu 12/26/19
229	Construction of E1-PC6 RC Abutment walls	120 days	Fri 12/27/19	Sat 5/9/20
230	PC6 Backfill & remove waling	80 days	Sun 3/1/20	Fri 5/29/20
231	Construction of Ramp (E1-RS1)	141 days	Thu 8/1/19	Mon 1/6/20
232	Construction of Pier P1	58 days	Wed 8/14/19	Fri 10/18/19
233	Construction of Pier P2	9 days	Fri 10/18/19	Mon 10/28/19
234	Construction of Pier P5	13 days	Sat 1/4/20	Sat 1/18/20
235	Construction of Pier P4	162 days	Sat 1/11/20	Fri 7/10/20
236	Construction of Pier/P3 Staircase	40 days	Sat 4/4/20	Tue 5/19/20
237	Construction of Pier Head P1	8 days	Fri 3/13/20	Sat 3/21/20
238	Construction of Pier Head P2	8 days	Sat 3/21/20	Tue 3/31/20
239	Construction of Pier Head P5	8 days	Tue 3/31/20	Wed 4/8/20
240	Construction of Pier Head P3	30 days	Thu 4/9/20	Tue 5/12/20
241	Construction of Pier Head P4	60.5 days	Wed 5/13/20	Sat 7/18/20
242	**Construction of Bearings and Movement Joints**	**529 days**	**Sat 10/6/18**	**Wed 5/20/20**
243	Proposal of Bridge Bearing Specialist	30 days	Sat 10/6/18	Thu 11/8/18
244	Approval of Bridge Bearing Specialist	30 days	Thu 11/8/18	Wed 12/12/18
245	Design submission of Bridge Bearing	60 days	Thu 12/13/18	Mon 2/18/19
246	Approval of Design submission of Bridge Bearing	30 days	Mon 2/18/19	Sat 3/23/19
247	Material Submission for Bridge Bearing	60 days	Mon 3/25/19	Thu 5/30/19
248	Approval of Material Submission for Bridge Bearing	60 days	Thu 5/30/19	Tue 8/6/19
249	Testing and result submission of Bridge Bearings	90 days	Tue 8/6/19	Thu 11/14/19
250	Procurement to delivery of Bridge Bearing	140 days	Thu 11/14/19	Sat 4/18/20
251	Installation of Bridge Bearings for PC6	7 days	Sat 5/9/20	Sat 5/16/20
252	Installation of Bridge Bearings for PC3	7 days	Tue 9/8/20	Tue 9/15/20
253	TTA for Detouring Pedestrians aat Memorial Park	10 days	Mon 1/20/20	Thu 1/30/20
254	**Site formation for scaffolding**	**101 days**	**Wed 4/1/20**	**Wed 7/22/20**
255	RS1-PC1	20 days	Wed 4/1/20	Thu 4/23/20
256	P5 to P6	70.63 days	Thu 4/23/20	Fri 7/10/20
257	P4 to P5	15 days	Sat 5/9/20	Fri 7/24/20
258	P3 to P4	92.88 days	Wed 5/27/20	Mon 9/7/20
259	P2 to P3	10.38 days	Tue 9/8/20	Fri 9/18/20
260	P1 to P2	14.63 days	Thu 8/6/20	Fri 8/21/20
261	**Construction of esclator trough with cast-in items**	**172 days**	**Thu 4/23/20**	**Sat 10/31/20**
262	Deck RS1 to P1	63.25 days	Thu 4/23/20	Thu 7/2/20
263	Deck P5 to P6	58.75 days	Sat 5/23/20	Fri 8/14/20
264	Deck P4 to P5	28 days	Fri 7/31/20	Mon 8/31/20
265	Deck P3 to P4	28 days	Wed 9/16/20	Fri 10/16/20
266	Deck P2 to P3	27 days	Fri 10/2/20	Sat 10/31/20
267	Deck P1 to P2	35.5 days	Sat 8/22/20	Wed 9/30/20
268	**Escalators Installation**	**190 days**	**Tue 6/23/20**	**Thu 1/21/21**
269	Plumbing & measuring of escalator pit	2 days	Tue 9/1/20	Wed 9/2/20
270	Delivery, hoisting and positioning of escalator truss	79.25 days	Thu 9/3/20	Mon 11/30/20
271	Drive/ step chain, step and guiderail tracks installation	9 days	Tue 12/1/20	Thu 12/10/20
272	Balustrade, handrail, skirting and deflector device works	9 days	Thu 12/10/20	Mon 12/21/20
273	Electrical works and escalator pits installation	6 days	Mon 12/21/20	Sat 12/26/20
274	Permenant power energization for escalator	1 day	Mon 12/28/20	Mon 12/28/20
275	Inspection(low) speed running testing of escalator operation	1 day	Tue 12/29/20	Tue 12/29/20
276	Final tuning and adjusting of escalator equipment / devices (drive	4 days	Wed 12/30/20	Sat 1/2/21
277	Normal (fast) speed running and safety testing of escalator operation	13 days	Sat 1/2/21	Mon 1/18/21
278	Submission of Form LE5 to EMSD	1 day	Wed 3/24/21	Wed 3/24/21
279	Anticipate EMSD inspection	14 days	Thu 3/25/21	Fri 4/9/21
280	Anticipate Use Permit issue date	14 days	Fri 4/9/21	Sat 4/24/21
281	**Parapet and Roofing**	**639 days**	**Tue 11/13/18**	**Wed 10/28/20**
282	Proposal of off-site fabrication of steelworks	180 days	Tue 11/13/18	Sat 6/1/19
283	Approval of off site fabrication of steelworks	171.75 days	Wed 1/1/20	Fri 7/10/20
284	Fabrication of steelworks off-site	30 days	Sat 7/11/20	Thu 8/13/20
285	Erection of steelworks	68.75 days	Fri 10/16/20	Thu 12/31/20
286	Material submission of fall arrest system	30 days	Fri 7/31/20	Wed 9/2/20
287	Approval of material for fall arrest system	30 days	Thu 3/5/20	Sat 9/19/20
288	Procurement of fall arrest system	60 days	Sat 9/19/20	Wed 11/25/20
289	Material submission of corrugated steel roof	60 days	Fri 7/17/20	Tue 9/22/20
290	Approval of material for corrugated steel roof	90 days	Tue 1/7/20	Sat 10/17/20
291	Procurement of corrugated steel roof	75 days	Sat 10/17/20	Sat 1/9/21



Project: Accepted Programme Portio

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Critical | Critical Split | Progress

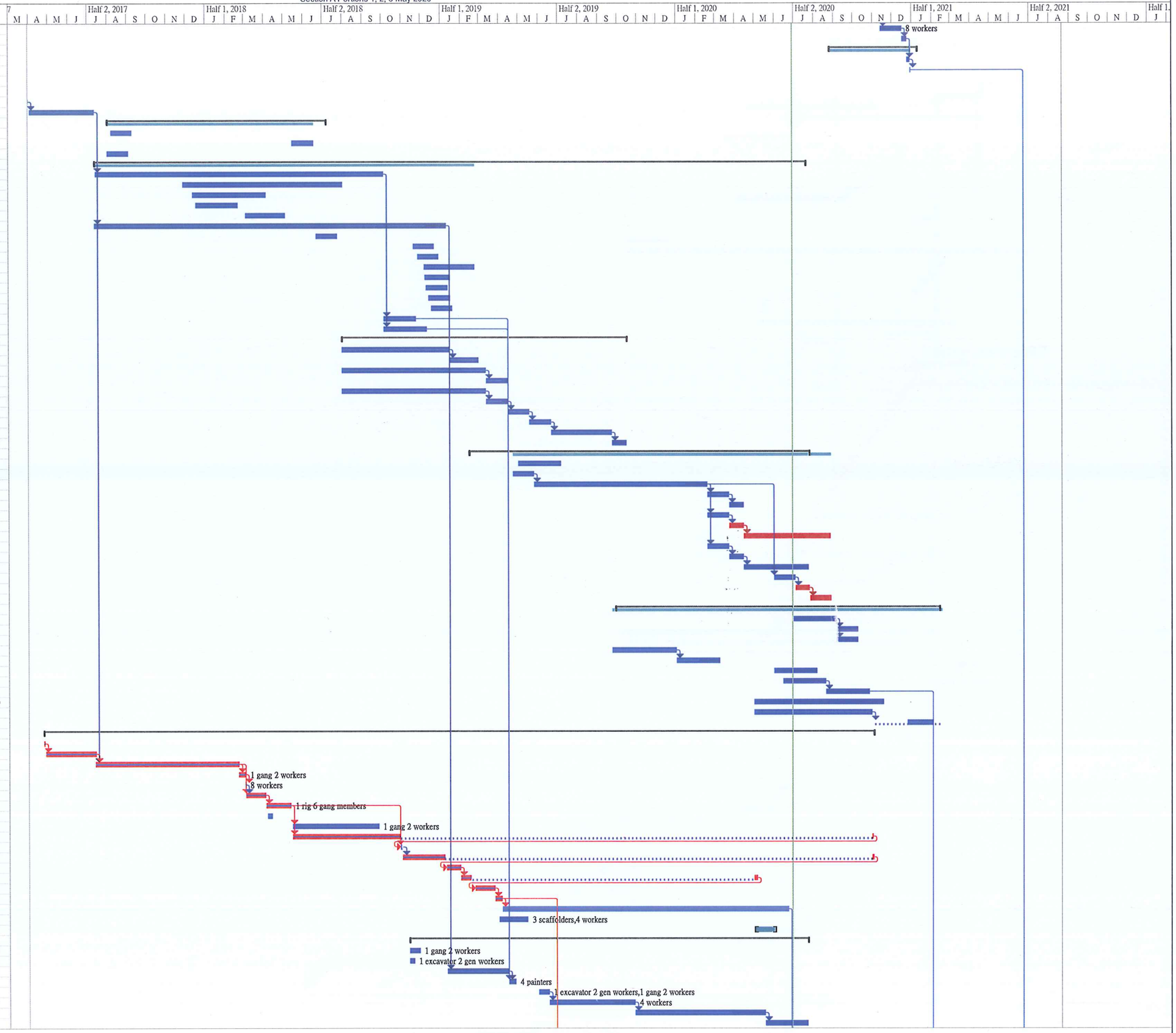
ID	Task Name	Duration	Start	Finish
292	Erection of roof system, gutter and fall arrest system	30 days	Fri 1/1/21	Wed 2/3/21
293	Material submission of Plexiglass	60 days	Thu 1/2/20	Mon 3/9/20
294	Approval of material Plexiglass	30 days	Fri 4/10/20	Wed 5/13/20
295	Procurement to delivery of Plexiglass	30 days	Thu 5/14/20	Tue 6/16/20
296	Construction of Plexiglass parapet	40 days	Fri 1/1/21	Mon 2/15/21
297	Decking construction connecting to existing footpath	10 days	Mon 2/15/21	Thu 2/25/21
298	**Drainage Works Construction**	**611 days**	**Tue 11/13/18**	**Sat 9/26/20**
299	Application of XP for carriageway for Hiu Ming Street	90 days	Tue 11/13/18	Thu 2/21/19
300	TTA Application for drainage works at Hiu Ming Street	80 days	Thu 2/21/19	Wed 5/22/19
301	Road Works Advice	300 days	Wed 5/22/19	Wed 4/22/20
302	Implementation of TTA	30 days	Wed 4/22/20	Mon 5/25/20
303	Procurement to delivery of material for Drainage	20 days	Tue 5/26/20	Wed 6/17/20
304	Construction of Drainage PMI 016	91 days	Wed 6/17/20	Sat 9/26/20
305	**E & M Lighting Works**	**699 days**	**Tue 11/13/18**	**Sun 1/3/21**
306	Proposal of Specialist for E&M Works	24 days	Tue 11/13/18	Sat 12/8/18
307	Approval of Specialist for E&M Works	24 days	Mon 12/10/18	Sat 1/5/19
308	Material Submission of cable tray	30 days	Sat 1/5/19	Thu 2/7/19
309	Approval of material cable tray	30 days	Fri 2/8/19	Wed 3/13/19
310	Material submission of cables, conduits, fittings	24 days	Wed 3/13/19	Tue 4/9/19
311	Approval of material for cables conduits fittings	24 days	Tue 4/9/19	Mon 5/6/19
312	Material submission of lightings	30 days	Mon 5/6/19	Sat 6/8/19
313	Approval of material submission of Lightings	30 days	Sat 6/8/19	Fri 7/12/19
314	Material submission of Pillar Box c/w accessories	26 days	Fri 7/12/19	Sat 8/10/19
315	Approval of material submission of Pillar Box c/w accessories	27 days	Fri 7/12/19	Sat 8/10/19
316	Material submission of MCB distribution board	30 days	Fri 2/8/19	Wed 3/13/19
317	Approval of MCB distribution board	30 days	Wed 3/13/19	Tue 4/16/19
318	Material submission of communication cables	30 days	Tue 4/16/19	Mon 5/20/19
319	Approval of communication cables	30 days	Mon 5/20/19	Sat 6/22/19
320	Application of Power supply	60 days	Sat 6/22/19	Wed 8/28/19
321	Application of telemetry (Chubb)	100 days	Fri 11/15/19	Thu 3/5/20
322	Application of E1 XP for telemetry by AECOM	164 days	Fri 5/1/20	Sat 10/31/20
323	Completion of Telemetry Civil & E&M Works	50 days	Sat 10/31/20	Sat 12/26/20
324	**Construction and Installation works for pillar box**	**50 days**	**Fri 7/31/20**	**Thu 9/24/20**
325	Positioning and construction of Pillar Box	20 days	Fri 7/31/20	Sat 8/22/20
326	Trenching works and laying of ducts and power cables	15 days	Sat 8/22/20	Tue 9/8/20
327	Trenching works and laying of telecommunication cables	15 days	Sat 8/22/20	Tue 9/8/20
328	Installation of E&M Component inside Pillar Box	15 days	Sat 8/22/20	Tue 9/8/20
329	Instalation and Connection of Telemetry system	15 days	Tue 9/8/20	Thu 9/24/20
330	Installation of Electricity Meter	7 days	Tue 9/8/20	Wed 9/16/20
331	T&C of E&M works inside pillar box	15 days	Tue 9/8/20	Thu 9/24/20
332	**Sump pit and pumps**	**118 days**	**Fri 7/10/20**	**Thu 11/19/20**
333	Construction of Sump pit	30 days	Fri 8/7/20	Wed 9/9/20
334	Trenches and ductings for sump pit to existing manhole	30 days	Wed 9/9/20	Tue 10/13/20
335	Procurement to delivery of Sump Pump, Piping and Associated	90 days	Fri 7/10/20	Mon 10/19/20
336	Installation of Sump Pump (by Wing Luen)	14 days	Mon 10/19/20	Tue 11/3/20
337	T&C of Sump Pump System	14 days	Tue 11/3/20	Thu 11/19/20
338	**Installation of Lighting for escalator**	**164 days**	**Thu 6/11/20**	**Fri 12/11/20**
339	Procurement & Delivery of Lighting and accessories	60 days	Thu 6/11/20	Mon 8/17/20
340	Handover of escalator cover walkway to E&M	1 day	Wed 2/3/21	Thu 2/4/21
341	Installation Conduit and cable containment	10 days	Thu 2/4/21	Tue 2/16/21
342	Cable and wiring	10 days	Tue 2/16/21	Fri 2/26/21
343	Installation of Light fitting	14 days	Sat 2/27/21	Mon 3/15/21
344	Power connection to Lighting	1 day	Mon 3/15/21	Tue 3/16/21
345	T&C of Lighting	7 days	Tue 3/16/21	Tue 3/23/21
346	**Landscape Works**	**667 days**	**Wed 10/3/18**	**Mon 10/19/20**
347	Remove felled trees PMI 018	3 days	Wed 10/3/18	Fri 10/5/18
348	Tree Pruning PMI 042	3 days	Tue 3/3/20	Thu 3/5/20
349	Individual TRA Form 2	150 days	Wed 10/3/18	Tue 3/19/19
350	Submission of proposal of Landscape Specialist	30 days	Wed 10/3/18	Mon 11/5/18
351	Nursery Inspection	10 days	Mon 11/5/18	Fri 11/16/18
352	Approval of proposal of Landscape specialist	180 days	Fri 11/16/18	Thu 6/6/19
353	Construction of hard and soft landscape works	60 days	Mon 6/1/20	Thu 8/6/20
354	Rectification of Defects	60 days	Thu 8/6/20	Tue 10/13/20
355	**Road and Pavings / Traffic Signs**	**180 days**	**Sat 9/26/20**	**Fri 4/16/21**
356	Material submission of Road Pavers	15 days	Sat 9/26/20	Tue 10/13/20
357	Approval of material submission of Road Pavers	15 days	Wed 10/14/20	Fri 10/30/20
358	Procurement to delivery of Road Pavers	15 days	Fri 10/30/20	Mon 11/16/20
359	Ordering to delivery of concrete kerbs from CSD	15 days	Mon 11/16/20	Thu 12/3/20
360	Construction of kerbs	30 days	Thu 12/3/20	Tue 1/5/21
361	Construction of footpath	30 days	Wed 1/6/21	Mon 2/8/21
362	Construction of Paved Area	30 days	Mon 2/8/21	Sat 3/13/21
363	Installation of Traffic / Directional Signs	30 days	Sat 3/13/21	Fri 4/16/21
364	**External Finishes**	**190 days**	**Sun 8/9/20**	**Tue 3/9/21**
365	Material submission of tiles	30 days	Sat 9/26/20	Fri 10/30/20
366	Approval of material of tiles	30 days	Fri 10/30/20	Thu 12/3/20
367	Procurement to delivery of tiles	30 days	Thu 12/3/20	Tue 1/5/21
368	Tiling works	30 days	Wed 1/6/21	Mon 2/8/21
369	Material submission of Paint	30 days	Sat 9/26/20	Fri 10/30/20
370	Comment of material submission of paint	30 days	Fri 10/30/20	Thu 12/3/20
371	2nd submission of paints	30 days	Thu 12/3/20	Tue 1/5/21
372	Approval of material submision of paints	30 days	Wed 1/6/21	Mon 2/8/21
373	Procurement to delivery of paints	30 days	Mon 2/8/21	Sat 3/13/21
374	Texture spray, fungus resistant paint	30 days	Sat 3/13/21	Fri 4/16/21
375	**Construction of Sau Mau Ping Memorial Park**	**275 days**	**Sun 3/1/20**	**Sat 1/2/21**
376	Slope improvement work (11NE-D/CR222)	30 days	Sat 9/26/20	Fri 10/30/20
377	Material submission of Pavillion	30 days	Fri 10/30/20	Thu 12/3/20
378	Approval of material submission of Pavillion	30 days	Thu 12/3/20	Tue 1/5/21
379	Procurement to delivery of Pavillion	30 days	Wed 1/6/21	Mon 2/8/21
380	Material submissin of Bench	30 days	Sat 9/26/20	Fri 10/30/20
381	Approval to material submission of Bench	30 days	Fri 10/30/20	Thu 12/3/20
382	Procurement to delivery of Bench	30 days	Thu 12/3/20	Tue 1/5/21
383	Design submission of Pole Light to LCSD	60 days	Mon 3/2/20	Thu 5/7/20
384	Material of material submission of Pole Light	10 days	Thu 5/7/20	Tue 5/19/20
385	Approval of material submission of Pole Light	10 days	Tue 5/19/20	Fri 5/29/20
386	Procurement to delivery of Pole Light	90 days	Sat 5/30/20	Tue 9/8/20
387	Construction of Pavillion, bench, pole light with ducting	30 days	Tue 9/8/20	Sat 10/10/20
388	Construction of Irrigation system	30 days	Mon 10/12/20	Fri 11/13/20



Project: Accepted Programme Portio

Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Critical | Critical Split | Progress

ID	Task Name	Duration	Start	Finish
389	Construction of Pavers	30 days	Sat 11/14/20	Thu 12/17/20
390	Handovwer to LCSD	7 days	Thu 12/17/20	Fri 12/25/20
391	**General Inspection and Tidy Up of Portion 1**	**123 days**	**Wed 8/26/20**	**Sun 1/10/21**
392	General Inspection and Tidy Up of Portion 1	4 days	Fri 12/25/20	Wed 12/30/20
393	Handover Portion 1	1 day	Wed 12/30/20	Thu 12/31/20
394				
395	**Section A, Portion 2 - Lift Tower (E2)**			
396	Handover of Portion 1	1 day	Sat 4/1/17	Sat 4/1/17
397	Site Preparation Works	91 days	Sun 4/2/17	Thu 7/13/17
398	**Submissions**	**304 days**	**Wed 8/2/17**	**Sat 7/7/18**
399	MS for Lift LT1 excavation	30 days	Tue 8/8/17	Sat 9/9/17
400	MS Footbridge	30 days	Wed 5/16/18	Mon 6/18/18
401	MS trench excavation	30 days	Wed 8/2/17	Mon 9/4/17
402	**Substructure**	**985 days**	**Thu 7/13/17**	**Mon 7/20/20**
403	CSD	400 days	Fri 7/14/17	Fri 10/5/18
404	MS for socket H pile E2-PC2 (4 revisions)	221 days	Tue 11/28/17	Thu 8/2/18
405	MS for ELS covered walkway C1 (3 revisions)	102 days	Wed 12/13/17	Thu 4/5/18
406	MS for platform for minipiling (3 revisions)	59 days	Mon 12/18/17	Wed 2/21/18
407	MS Rock fall fence (2 revisions)	56 days	Mon 3/5/18	Sat 5/5/18
408	MS tree pruning proposal (4 revisions)	488 days	Thu 7/13/17	Thu 1/10/19
409	MS working platform	30 days	Fri 6/22/18	Wed 7/25/18
410	MS ELS E2-PC1	30 days	Tue 11/20/18	Sat 12/22/18
411	MS Piling	30 days	Tue 11/27/18	Sat 12/29/18
412	MS Temp Gravity Wall for RWE 3b (3 revisions)	70 days	Fri 12/7/18	Sat 2/23/19
413	MS Concrete Block Platform (2revisions)	35 days	Sat 12/8/18	Wed 1/16/19
414	MS Predrilling E3-PC2 (2 revisions)	31 days	Mon 12/10/18	Sat 1/12/19
415	MS footbridge	30 days	Fri 12/14/18	Wed 1/16/19
416	MS Lift Tower	30 days	Tue 12/18/18	Sat 1/19/19
417	Method Statement for Construction of Portion 2	45 days	Fri 10/5/18	Sat 11/24/18
418	Method Statemenst for Piling, ELS, Pilecap and Pier Construction	60 days	Fri 10/5/18	Tue 12/11/18
419	**Superstructure E2 and E3 Footbridge and Lift Tower**	**394 days**	**Wed 8/1/18**	**Wed 10/16/19**
420	Submission of MS for formwork design for concreting Bridge Piers	150 days	Wed 8/1/18	Tue 1/15/19
421	Approval of MS for formwork design for concreting Bridge Piers	40 days	Wed 1/16/19	Fri 3/1/19
422	Design and MS Submission of Lift Towers E2-ST1 and E3-ST1 (2	200 days	Wed 8/1/18	Tue 3/12/19
423	Approval of Design and MS Submission of Lift Towers	30 days	Wed 3/13/19	Mon 4/15/19
424	Submission of MS for installation and Temporary Works design for	200 days	Wed 8/1/18	Tue 3/12/19
425	Approval of MS of Temp Works design for concreting of Lift tower	30 days	Wed 3/13/19	Mon 4/15/19
426	Submission of Design and Material for Bridge Bearings	30 days	Mon 4/15/19	Sat 5/18/19
427	Approval of Design and Material for Bridge Bearings	30 days	Sat 5/18/19	Fri 6/21/19
428	Testing and result submission of Bridge Bearings	84 days	Fri 6/21/19	Mon 9/23/19
429	Procurement, ordering and delivery of Bridge Bearings	20 days	Tue 9/24/19	Wed 10/16/19
430	**Steel Bridge**	**470 days**	**Fri 2/15/19**	**Sat 7/25/20**
431	Submission of MS for Erection of Steel Truss	60 days	Wed 5/1/19	Sat 7/6/19
432	Proposal of off-site fabrication of steelworks for E2 and E3	30 days	Tue 4/23/19	Sat 5/25/19
433	Approval of Off-Site fabrication of steelworks for Bridge E2 and E3	240 days	Sat 5/25/19	Wed 2/19/20
434	Submission of Design of roof system	30 days	Wed 2/19/20	Mon 3/23/20
435	Approval of Design of roof system	20 days	Tue 3/24/20	Wed 4/15/20
436	Submsission of Material of Corrugated Steel Roof	30 days	Wed 2/19/20	Mon 3/23/20
437	Approval of corrugated steel roof	20 days	Tue 3/24/20	Wed 4/15/20
438	Procurement to delivery of corrugated steel roof	120 days	Wed 4/15/20	Thu 8/27/20
439	Submission of material fall arrest system	30 days	Wed 2/19/20	Mon 3/23/20
440	Approval of fall arrest system	20 days	Tue 3/24/20	Wed 4/15/20
441	Procurement to delivery of fall arrest system	90 days	Wed 4/15/20	Fri 7/24/20
442	Submission of Design of Glazing and Louvre	30 days	Mon 6/1/20	Fri 7/3/20
443	Approval of Design and Glazing and Louvre	20 days	Sat 7/4/20	Sat 7/25/20
444	Procurement, ordering and delivery of Glazing and Louvres	30 days	Mon 7/27/20	Fri 8/28/20
445	**E&M and Building works**	**450 days**	**Sun 9/29/19**	**Sat 2/13/21**
446	Submission of shop drawing for irrigation system and submersible	60 days	Wed 7/1/20	Sat 9/5/20
447	Approval of shop drawing for irrigation system and submersible pump	30 days	Sat 9/5/20	Fri 10/9/20
448	Submission of Ventilation System	30 days	Sat 9/5/20	Fri 10/9/20
449	Design submission of lighting at footbridge	90 days	Tue 9/24/19	Thu 1/2/20
450	Approval of Design Submission of Lighting at footbridge	60 days	Thu 1/2/20	Mon 3/9/20
451	Procurement to delivery of Lighting	60 days	Mon 6/1/20	Thu 8/6/20
452	Submission of MS for Lift Installation	60 days	Mon 6/15/20	Thu 8/20/20
453	Approval of MS for Lift Installation	60 days	Thu 8/20/20	Tue 10/27/20
454	Procurement, ordering and delivery of Lift	180 days	Fri 5/1/20	Wed 11/18/20
455	Application of E1 XP for telemetry by AECOM	164 days	Fri 5/1/20	Sat 10/31/20
456	Completion of Telemetry Civil & E&M Works	36 days	Mon 11/2/20	Wed 2/17/21
457	**Setout Predrill location**	**1151.25 days**	**Mon 4/24/17**	**Tue 11/3/20**
458	Contractor Site Office	2 days	Mon 4/24/17	Tue 4/25/17
459	Site Clearance	70 days	Thu 4/27/17	Fri 7/14/17
460	MS rock slope excavation (4 revisions)	200 days	Thu 7/13/17	Wed 2/21/18
461	Inspection pits	10 days	Wed 2/21/18	Sat 3/3/18
462	Noise Barrier for LT1	1 day	Sat 3/3/18	Sat 3/3/18
463	Blocks for Platform and wall	27 days	Sun 3/4/18	Tue 4/3/18
464	E2-PC1 Piling	35 days	Wed 4/4/18	Sat 5/12/18
465	EOT school examination PMI 051	7 days	Fri 4/6/18	Fri 4/13/18
466	Presplitting PMI 054	120 days	Tue 5/15/18	Wed 9/26/18
467	Rock slope cutting at LT1 to ground level	151 days	Tue 5/15/18	Mon 11/2/20
468	EOT school examination PMI 117	2 days	Tue 10/30/18	Fri 11/2/18
469	Rock slope cutting at LT1 to ground level(cont)	61 days	Fri 11/2/18	Tue 11/3/20
470	EOT school examination PMI 141	20 days	Wed 1/9/19	Thu 1/31/19
471	EOT school examination CE149 & 151	20 days	Thu 1/31/19	Wed 5/6/20
472	Rock slope cutting at LT1 to ground level(cont)	27 days	Sat 2/23/19	Mon 3/25/19
473	CE171 10 days exam Mar & April 2019	10 days	Mon 3/25/19	Fri 4/5/19
474	Rock cutting to basement level	396 days	Sat 4/6/19	Tue 6/23/20
475	Rock dowel stabilization PMI 076, PMI 080, PMI 103, PMI 132, PMI	40 days	Mon 4/1/19	Wed 5/15/19
476	Rock dowel stabilization PMI 197	30 days	Fri 5/1/20	Wed 6/3/20
477	**Site Formation Works**	**553 days**	**Tue 11/13/18**	**Thu 7/23/20**
478	Inspection Pit PMI 106	15 days	Tue 11/13/18	Thu 11/29/18
479	Trial Trench for tree roots PMI 077	7 days	Tue 11/13/18	Tue 11/20/18
480	Approval of tree pruning proposal	85 days	Thu 1/10/19	Mon 4/15/19
481	Prune / Fell trees for access of plants	10 days	Tue 4/16/19	Fri 4/26/19
482	Relocation of RCP	14 days	Sat 6/1/19	Mon 6/17/19
483	SWAP TTA	120 days	Mon 6/17/19	Tue 10/29/19
484	Pending WSD comments	180 days	Tue 10/29/19	Mon 5/18/20
485	Water diversion for Hiu Wah Building	60 days	Mon 5/18/20	Thu 7/23/20



Project: Accepted Programme Portio

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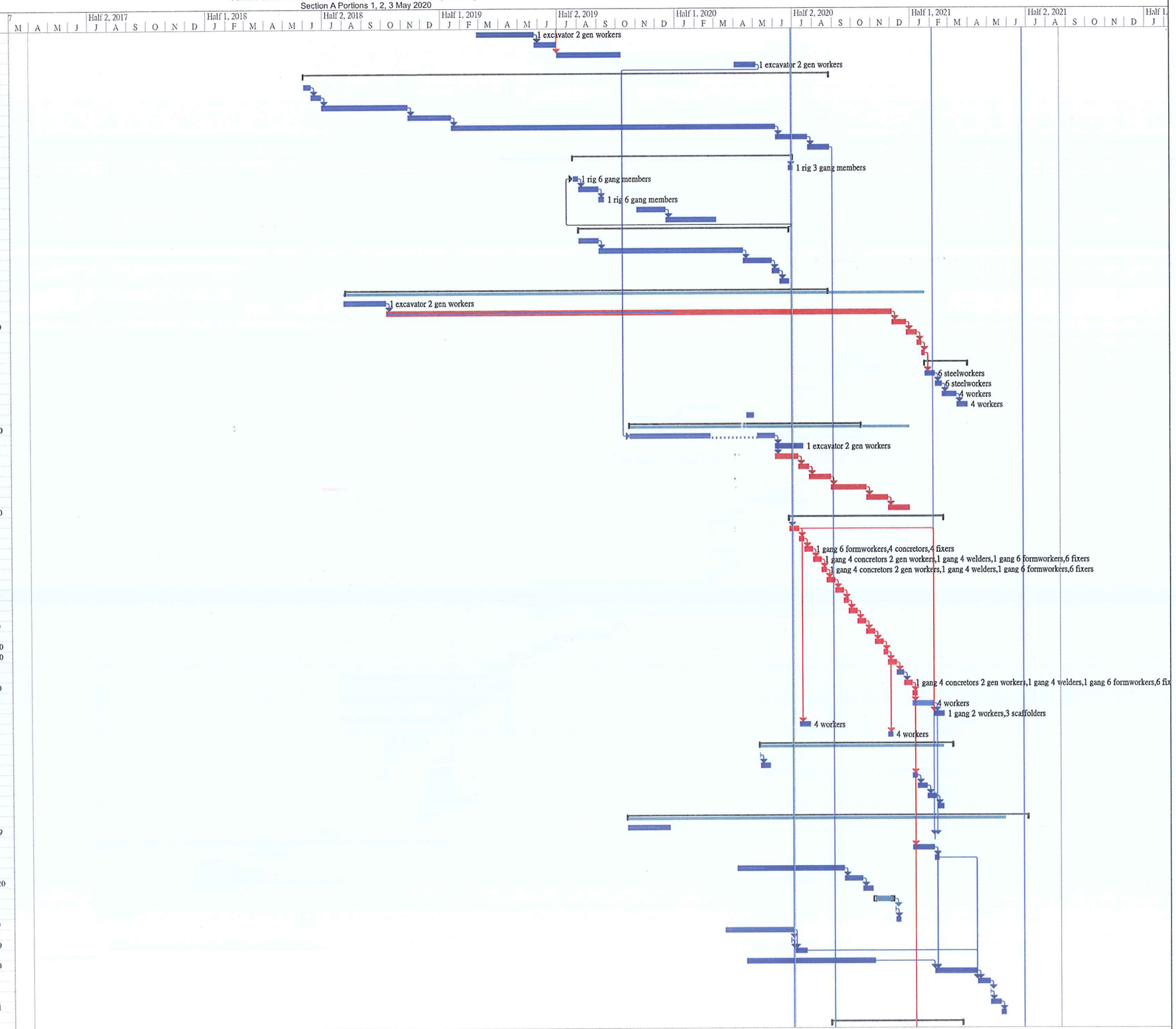
Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - Accepted Programme
Section A Portions 1, 2, 3 May 2020

ID	Task Name	Duration	Start	Finish
486	Deploy Excavator and trim ground and slope from Retaining Wall 3b	81 days	Mon 2/25/19	Sat 5/25/19
487	Everwin terminatiion effect	31 days	Sat 5/25/19	Sat 6/29/19
488	Retaining Wall RWE3b Works	90 days	Sat 6/29/19	Tue 10/8/19
489	Remove soil nails during triming	30 days	Wed 4/1/20	Mon 5/4/20
490	**E2-PC1 (28 nos piles)**	730 days	Fri 6/1/18	Wed 8/26/20
491	Deploy GI rig for predrilling	10 days	Fri 6/1/18	Tue 6/12/18
492	Sheetpiling	15 days	Tue 6/12/18	Thu 6/28/18
493	Drill Pre-Bore H-Piles at E2-PC1 (28nos)	120 days	Fri 6/29/18	Sat 11/10/18
494	Stop for TTA use	60 days	Sat 11/10/18	Wed 1/16/19
495	Shoring works	450 days	Wed 1/16/19	Wed 6/3/20
496	Excavation works	45 days	Wed 6/3/20	Thu 7/23/20
497	RC Pilecap Works	30 days	Fri 7/24/20	Wed 8/26/20
498	**E2-PC2 (4nos piles)**	**306 days**	**Wed 7/24/19**	**Tue 6/30/20**
499	Deploy GI rig for predrilling	7 days	Tue 6/23/20	Tue 6/30/20
500	Drill Pre-Bore H-Piles at E2-PC2 (2nos)	8 days	Wed 7/24/19	Thu 8/1/19
501	Swap TTA	28 days	Fri 8/2/19	Mon 9/2/19
502	Drill Pre-Bore H-Piles at E2-PC2 (2nos)	8 days	Mon 9/2/19	Wed 9/11/19
503	Shoring works	40 days	Fri 11/1/19	Mon 12/16/19
504	RC Pilecap Works with couplers	70 days	Mon 12/16/19	Tue 3/3/20
505	**E3-PC2 (6nos piles)**	**292 days**	**Fri 8/2/19**	**Wed 6/24/20**
506	Drill Pre-Bore H-Piles (6 nos)	28 days	Fri 8/2/19	Mon 9/2/19
507	Site formation works	200 days	Mon 9/2/19	Mon 4/13/20
508	Shoring works	40 days	Mon 4/13/20	Thu 5/28/20
509	RC Pilecap Works	11 days	Thu 5/28/20	Tue 6/9/20
510	RC Abutment Works	13 days	Tue 6/9/20	Wed 6/24/20
511	**C1 Footing**	**670 days**	**Sun 8/5/18**	**Mon 8/24/20**
512	Excavation 1.2m and remove C&D	60 days	Wed 8/1/18	Sat 10/6/18
513	Stop for TTA use	702 days	Sat 10/6/18	Tue 12/1/20
514	Excavation 2.2m and remove C&D	20 days	Tue 12/1/20	Wed 12/23/20
515	Shoring works	15 days	Wed 12/23/20	Sat 1/9/21
516	RC concrete footing works	7 days	Sat 1/9/21	Sat 1/16/21
517	backfill	4 days	Sat 1/16/21	Thu 1/21/21
518	**Covered Walkway**	**59 days**	**Thu 1/21/21**	**Mon 3/29/21**
519	Steelwork erection for covered walkway	14 days	Thu 1/21/21	Sat 2/6/21
520	Installation of steel sheet roof for covered walkway	10 days	Sat 2/6/21	Wed 2/17/21
521	Installation of Lighting to covered walkway	20 days	Wed 2/17/21	Thu 3/11/21
522	Installation of Irrigation Pipe	15 days	Fri 3/12/21	Mon 3/29/21
523	GI Predrilling works	10 days	Sat 4/18/20	Wed 4/29/20
524	**E2-PC2 Pile cap (9 nos)**	**322 days**	**Sat 10/19/19**	**Wed 10/14/20**
525	Tower crane construction at Tennis Court	137 days	Sat 10/19/19	Mon 6/1/20
526	Slope trimming works	40 days	Mon 6/1/20	Wed 7/15/20
527	Tree felling works	33 days	Mon 6/1/20	Tue 7/7/20
528	Steel Frame Platform / Buttress construction	15 days	Wed 7/8/20	Fri 7/24/20
529	Piling works using Tower Crane	30 days	Fri 7/24/20	Thu 8/27/20
530	Shoring works	50 days	Thu 8/27/20	Thu 10/22/20
531	RC Pilecap works	30 days	Thu 10/22/20	Tue 11/24/20
532	RC Pier	30 days	Wed 11/25/20	Mon 12/28/20
533	**Lift Tower E3-ST1**	**216 days**	**Tue 6/23/20**	**Fri 2/19/21**
534	Basement construction	14 days	Tue 6/23/20	Wed 7/8/20
535	Level to G/F +25mPD	7 days	Wed 7/8/20	Thu 7/16/20
536	Level +25mPD to +29mPD	12 days	Thu 7/16/20	Wed 7/29/20
537	Level +29mPD to +33mPD	12 days	Thu 7/30/20	Wed 8/12/20
538	Level +33mPD to +34mPD	7 days	Wed 8/12/20	Thu 8/20/20
539	Level +34mPD to +37.4mPD	12 days	Thu 8/20/20	Wed 9/2/20
540	Level +37.4mPD to +41.4mPD	12 days	Wed 9/2/20	Wed 9/16/20
541	Level +41.4mPD to +43.6mPD	7 days	Wed 9/16/20	Wed 9/23/20
542	Level +43.6mPD to +47mPD	12 days	Thu 9/24/20	Wed 10/7/20
543	Level +47mPD to +50.8mPD	12 days	Wed 10/7/20	Tue 10/20/20
544	Level +50.8mPD to +54.2mPD	12 days	Wed 10/21/20	Tue 11/3/20
545	Level +54.2mPD to +58.2mPD	12 days	Tue 11/3/20	Mon 11/16/20
546	Level +58.2mPD to +59.7mPD	6 days	Tue 11/17/20	Mon 11/23/20
547	Level +59.7mPD to +63mPD	12 days	Mon 11/23/20	Mon 12/7/20
548	Level +63mPD to +66.5mPD	11 days	Mon 12/7/20	Fri 12/18/20
549	Construction of Roof +66.5mPD to +70.45mPD	11 days	Sat 12/19/20	Thu 12/31/20
550	Remove tower crane	7 days	Thu 12/31/20	Fri 1/8/21
551	Erection of glazing and louvres	30 days	Thu 12/31/20	Wed 2/3/21
552	Dismantling of external and internal scaffolding	15 days	Wed 2/3/21	Fri 2/19/21
553	Infill No Fine Concrete between Rock Slope and Wall of E3-ST1	15 days	Wed 7/8/20	Sat 7/25/20
554	Installation of bridge bearings	7 days	Mon 11/23/20	Tue 12/1/20
555	**E3 Lift Tower Lighting**	270 days	Thu 5/7/20	Fri 3/5/21
556	Handover EMSD Pillar Box and associated ducting to E&M	1 day	Thu 5/7/20	Thu 5/7/20
557	Electrical works inside Pillar Box EMSD and Lighting Compartment	14 days	Fri 5/8/20	Sat 5/23/20
558	Conduit and cable containment	7 days	Thu 12/31/20	Fri 1/8/21
559	Cable and wiring	14 days	Fri 1/8/21	Sat 1/23/21
560	Installation of Light fitting	13 days	Sat 1/23/21	Sat 2/6/21
561	T&C	10 days	Mon 2/8/21	Thu 2/18/21
562	**E3 Lift Installation**	559 days	Mon 10/14/19	Wed 6/30/21
563	Statuary Submission of Lift Design and Materials	60 days	Mon 10/14/19	Thu 12/19/19
564	Handover lift shaft and associated ducting to E&M	1 day	Wed 2/3/21	Thu 2/4/21
565	E&M works inside Lift Shaft	30 days	Thu 12/31/20	Wed 2/3/21
566	Handover of Lift structure to E&M Lift subcontractor	7 days	Wed 2/3/21	Wed 2/10/21
567	Confirmation of telemetry service routing with CHUBB / HKT	150 days	Wed 4/1/20	Tue 9/15/20
568	Chubb/HKT cable laying for telemetry cable system	26 days	Wed 9/16/20	Wed 10/14/20
569	Installation and connection of telemetry components in Pillar Box	14 days	Thu 10/15/20	Fri 10/30/20
570	CLP cable laying and lead-in into Pillar Box	30 days	Sun 11/1/20	Thu 12/3/20
571	CLP Lift Meter Power and Connection	1 day	Fri 12/4/20	Fri 12/4/20
572	CLP Lift Meter Installation inside Pillar Box	7 days	Sat 12/5/20	Sat 12/12/20
573	Procurement to delivery of Sump Pump and Panel	96 days	Fri 3/13/20	Sat 6/27/20
574	Handover Sump Pit and associated ducting to E&M	1 day	Tue 6/23/20	Wed 6/24/20
575	Installation of Sump Pump (by Wing Luen)	18 days	Mon 6/29/20	Sat 7/18/20
576	Delivery of Lift components to site	180 days	Wed 4/15/20	Mon 11/2/20
577	Lift installation and Lift Shaft Ventilation installation	60 days	Wed 2/3/21	Sat 4/10/21
578	Testing & commissioning	17 days	Sat 4/10/21	Fri 4/30/21
579	EMSD Form LF5 submission	1 day	Fri 4/30/21	Sat 5/1/21
580	EMSD Inspection	14 days	Sat 5/1/21	Mon 5/17/21
581	Use Permit	7 days	Mon 5/17/21	Tue 5/25/21
582	**E2-LT1 Lift Shaft Construction**	**183.25 days**	**Wed 8/26/20**	**Fri 3/19/21**



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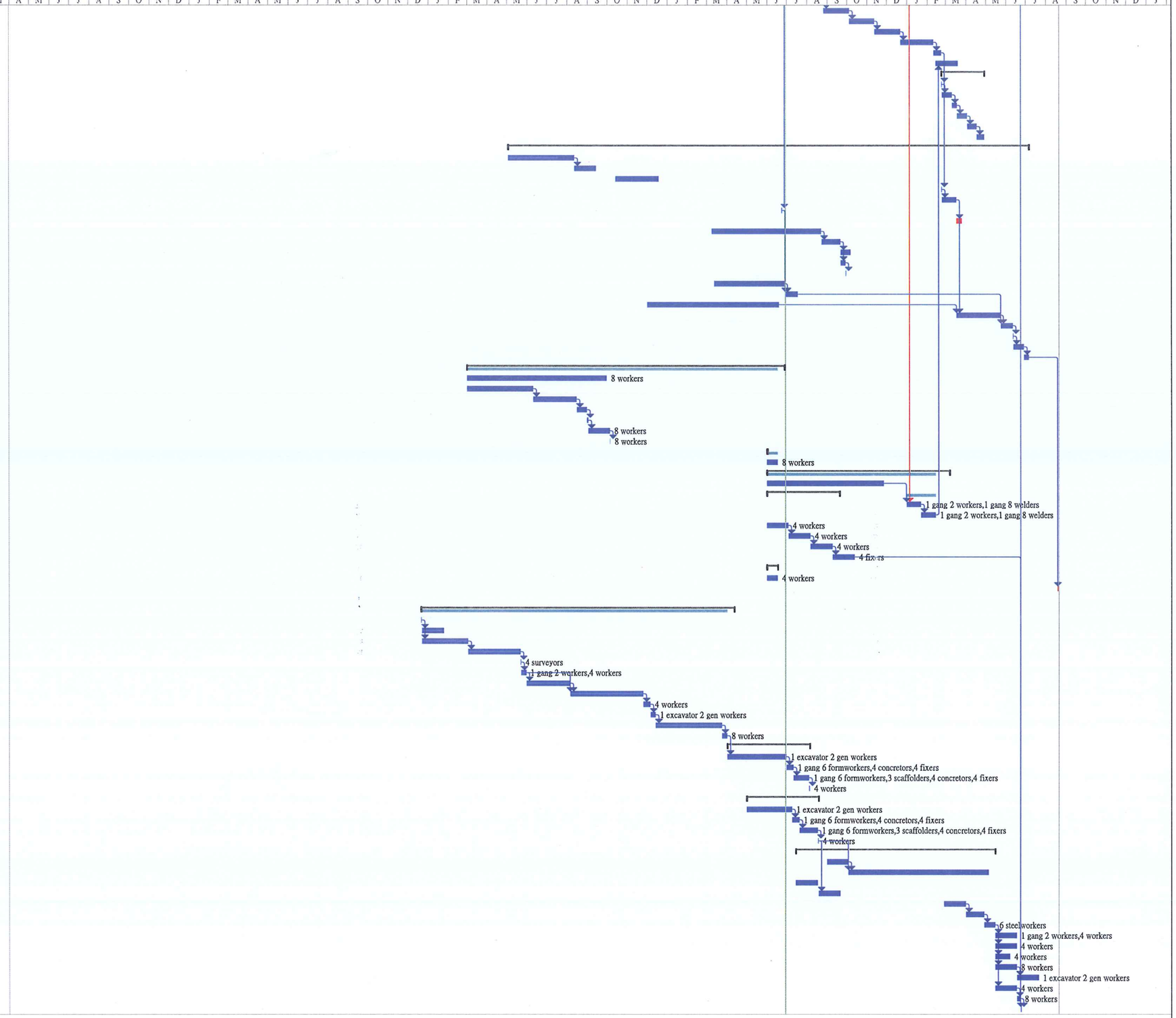
ID	Task Name	Duration	Start	Finish
583	Completion of RC structure 1/F	35 days	Wed 8/26/20	Mon 10/5/20
584	Completion of RC structure 2/F	35 days	Mon 10/5/20	Thu 11/12/20
585	Completion of RC structure R/F	35 days	Fri 11/13/20	Tue 12/22/20
586	Erection of glazing and louvres	45 days	Tue 12/22/20	Wed 2/10/21
587	Dismantling of external and internal scaffolding	10 days	Wed 2/10/21	Mon 2/22/21
588	Remaining E2-PC2 Pier and cantilever slab	30 days	Sat 2/13/21	Fri 3/19/21
589	**E2-LT1 Lift Lighting**	59 days	Mon 2/22/21	Wed 4/28/21
590	Handover EMSD Pillar Box and associated ducting to E&M	1 day	Mon 2/22/21	Tue 2/23/21
591	Electrical works inside Pillar Box EMSD and Lighting Compartment	14 days	Tue 2/23/21	Wed 3/10/21
592	Conduit and cable containment	7 days	Wed 3/10/21	Thu 3/18/21
593	Cable and wiring	14 days	Thu 3/18/21	Fri 4/2/21
594	Installation of Light fitting	13 days	Sat 4/3/21	Sat 4/17/21
595	T&C	10 days	Sat 4/17/21	Wed 4/28/21
596	**E2-LT1 Lift Tower Installation**	710 days	Fri 5/3/19	Tue 7/6/21
597	MS for E2 Lift Tower Erection	90 days	Fri 5/3/19	Mon 8/12/19
598	Approval of submission	30 days	Mon 8/12/19	Sat 9/14/19
599	Statuary Submission of Lift Design and Materials	60 days	Mon 10/14/19	Thu 12/19/19
600	Handover lift shaft and associated ducting to E&M	1 day	Mon 2/22/21	Tue 2/23/21
601	E&M works inside Lift Shaft	20 days	Tue 2/23/21	Wed 3/17/21
602	Handover Sump Pit and associated ducting to E&M	1 day	Tue 6/23/20	Wed 6/24/20
603	Handover of Lift structure to E&M Lift subcontractor	7 days	Wed 3/17/21	Thu 3/25/21
604	Confirmation of telemetry service routing with CHUBB / HKT	150 days	Mon 3/9/20	Sat 8/22/20
605	Chubb/HKT cable laying for telemetry cable system	26 days	Mon 8/24/20	Mon 9/21/20
606	Installation and connection of telemetry components in Pillar Box	14 days	Tue 9/22/20	Wed 10/7/20
607	CLP Lift Meter Installation	7 days	Tue 9/22/20	Tue 9/29/20
608	CLP Lift Meter Power Connection	1 day	Tue 9/29/20	Wed 9/30/20
609	Procurement to delivery of Sump Pump and Panel	96 days	Fri 3/13/20	Sat 6/27/20
610	Installation of Sump Pump (by Wing Luen)	18 days	Mon 6/29/20	Sat 7/18/20
611	Delivery of Lift components to site	180 days	Mon 12/2/19	Fri 6/19/20
612	Lift installation and Lift Shaft Ventilation installation	60 days	Wed 3/17/21	Sat 5/22/21
613	Testing & commissioning	17 days	Mon 5/24/21	Fri 6/11/21
614	EMSD Form LE5 submission	1 day	Fri 6/11/21	Sat 6/12/21
615	EMSD Inspection	14 days	Sat 6/12/21	Mon 6/28/21
616	Use Permit	7 days	Mon 6/28/21	Tue 7/6/21
617	**Drainage and Landscape works at Hiu Ming Street**	**433.5 days**	**Fri 3/1/19**	**Sun 6/28/20**
618	Decoration and Finishings Works at Hiu Ming Street	190 days	Fri 3/1/19	Mon 9/30/19
619	Application of XP for Drainage Works at Hiu Ming Street	90 days	Fri 3/1/19	Mon 6/10/19
620	Approval of TTA for construction of Drainage Works at Hiu Ming	60 days	Mon 6/10/19	Thu 8/15/19
621	Road Works Advice	14 days	Fri 8/16/19	Sat 8/31/19
622	Implementation of TTA	1 day	Sat 8/31/19	Mon 9/2/19
623	Drainage works at Hiu Ming Street	30 days	Mon 9/2/19	Sat 10/5/19
624	General Tidy Up	1 day	Sat 10/5/19	Sat 10/5/19
625	**Drainage Hiu Kwong Street PMI 045**	**1 day**	**Mon 6/1/20**	**Mon 6/1/20**
626	Drainage works	15 days	Mon 6/1/20	Wed 6/17/20
627	**Steel Bridge between E3-ST1 and E3-P1**	**250 days**	**Mon 6/1/20**	**Sun 3/7/21**
628	Fabrication and Delivery of Fabricated Steelworks	160 days	Mon 6/1/20	Thu 11/26/20
629	**On Site Steelworks fabrication**	**100 days**	**Mon 6/1/20**	**Sun 9/20/20**
630	Construction of Steel Bridge Deck between E3-ST1 and E3-P1 Pier	20 days	Thu 12/31/20	Fri 1/22/21
631	Construction of steel Roof E3-ST1 to E3-P1 Pier	20 days	Fri 1/22/21	Sat 2/13/21
632	Construction of Screeding and paving blocks	30 days	Mon 6/1/20	Fri 7/3/20
633	Installation of parapets and planters	30 days	Sat 7/4/20	Thu 8/6/20
634	Installation of lightings to steel truss between E3 tower and E3	30 days	Thu 8/6/20	Wed 9/9/20
635	Installation of irrigation Pipe and water point	30 days	Wed 9/9/20	Tue 10/13/20
636	**Landscape Works**	**15 days**	**Mon 6/1/20**	**Wed 6/17/20**
637	Tree Pruning PMI 044	15 days	Mon 6/1/20	Wed 6/17/20
638	**Handover Portion 2**	1 day	Thu 8/19/21	Fri 8/20/21
639				
640	**Bridge between E2-P1 and E2-P3 (Section A E3 Portion 3)**	**427.25 days**	**Fri 12/21/18**	**Sun 4/12/20**
641	Partial Handover of Portion 3	1 day	Fri 12/21/18	Fri 12/21/18
642	Application of XP	30 days	Sat 12/22/18	Thu 1/24/19
643	Delay Possession of Partial Handover	63 days	Sat 12/22/18	Sat 3/2/19
644	Waiting for Full Handover of Portion 3	71 days	Sat 3/2/19	Tue 5/21/19
645	Initial site survey	1 day	Tue 5/21/19	Wed 5/22/19
646	Erection of Hoarding at South bound footpath of Hiu Kwong Street	7 days	Wed 5/22/19	Thu 5/30/19
647	RA approval from District Council	60 days	Thu 5/30/19	Mon 8/5/19
648	TownGas Diversion Works	100 days	Mon 8/5/19	Mon 11/25/19
649	Relocation of Crossing and shadow island	10 days	Mon 11/25/19	Fri 12/6/19
650	Trial Pit at E2-PC3 for UU	7 days	Fri 12/6/19	Sat 12/14/19
651	TownGas Handover Portion 3	90 days	Sat 12/14/19	Tue 3/24/20
652	Diversion of CLP lamp post	7 days	Tue 3/24/20	Wed 4/1/20
653	**Construction of E2-F3**	**113 days**	**Wed 4/1/20**	**Wed 8/5/20**
654	Rock excavation with shoring for E2-F3	81 days	Wed 4/1/20	Tue 6/30/20
655	Construction of pad footing E2-F3	10 days	Wed 7/1/20	Sat 7/11/20
656	Construction of column for E2-F3	21 days	Sat 7/11/20	Tue 8/4/20
657	Installation of bearing at E2-P2 and E2-P1	1 day	Tue 8/4/20	Wed 8/5/20
658	**Construction of E2-F4**	**98 days**	**Fri 5/1/20**	**Tue 8/18/20**
659	Rock Excavation with shoring for construction of E2-F4	62 days	Fri 5/1/20	Thu 7/9/20
660	Construction of pad footing of E2-F4	10 days	Thu 7/9/20	Mon 7/20/20
661	Construction of columns for E2-P3 and Bridge Deck	25 days	Tue 7/21/20	Mon 8/17/20
662	Installation of bearing	1 day	Tue 8/18/20	Tue 8/18/20
663	**Steel footbridge works**	**272 days**	**Wed 7/15/20**	**Sat 5/15/21**
664	Off site Fabrication of Steel deck truss between E2-LT1 to E2-P1,	30 days	Tue 9/1/20	Sat 10/3/20
665	Preparation works and Lifting of steel truss between E2-LT1 to E2-P1	190 days	Sat 10/3/20	Wed 5/5/21
666	Off site Fabrication of Steel deck truss between E2-P2 to E2-P3, E2-P3	30 days	Wed 7/15/20	Mon 8/17/20
667	Preparation works and lifting of truss for E2-P3 to connect to bridge	30 days	Wed 8/19/20	Mon 9/21/20
668	Off site Fabrication of Steel deck truss between E2-P1 to E2-P2	30 days	Fri 2/26/21	Wed 3/31/21
669	Preparation works and Lifting of steel truss between E2-P1 to E2-P2	25 days	Wed 3/31/21	Wed 4/28/21
670	Roof installation of bridge from E2-LT1 to E2-P3	15 days	Wed 4/28/21	Sat 5/15/21
671	Screeding and paving blocks for the bridge from E2-LT1 to E2-P3	30 days	Sat 5/15/21	Thu 6/17/21
672	Electrical installation and lighting works for bridge from E2-LT1 to E2-P3	30 days	Sat 5/15/21	Thu 6/17/21
673	Tubular handrail and planter on bridge from E2-LT1 to E2-P3	20 days	Sat 5/15/21	Mon 6/7/21
674	150mm dia storm drain pipe across Hiu Kwong Street	30 days	Sat 5/15/21	Thu 6/17/21
675	Trenching works for connection of existing water connection point	30 days	Fri 6/18/21	Wed 7/21/21
676	Water meter box and water point connection	30 days	Sat 5/15/21	Thu 6/17/21
677	General Tidy Up for Portion 3	5 days	Fri 6/18/21	Wed 6/23/21
678	**Handover Portion 3**	1 day	Wed 6/23/21	Thu 6/24/21



Project: Accepted Programme Portio

Task	Summary	External Milestone	Inactive Summary	Manual Summary Rollup	Finish-only	Critical Split			
Split	Project Summary	Inactive Task	Manual Task	Manual Summary	Deadline	Progress			
Milestone	External Tasks	Inactive Milestone	Duration-only	Start-only	Critical				

Kwan On Construction Co. Ltd. 均安建築有限公司	Contract No. NE/2016/05 Development of Anderson Road Quarry Site Pedestrian Connectivity Facilities Works Phase 1

CONTRACTOR SUBMISSION FORM

Your Ref. No. :	
Submission Ref. No. :	**NE/2016/05 – 4275**
Date of Submission :	2 July 2020
Title of Submission :	Monthly programme for section D Portion 6 (June 2020)
Specification Reference :	PS 1.08

Description of Content:

I enclosed herewith an updated monthly programme for section D Portion 6 for your acceptance.

Purpose of Submission :

☑ **For Acceptance** ☐ **For Information** ☐ **For Record Purpose**

From: Kwan On Construction Co., Ltd.	Signature:
Name: Albert Ng	
Title: Site Agent	

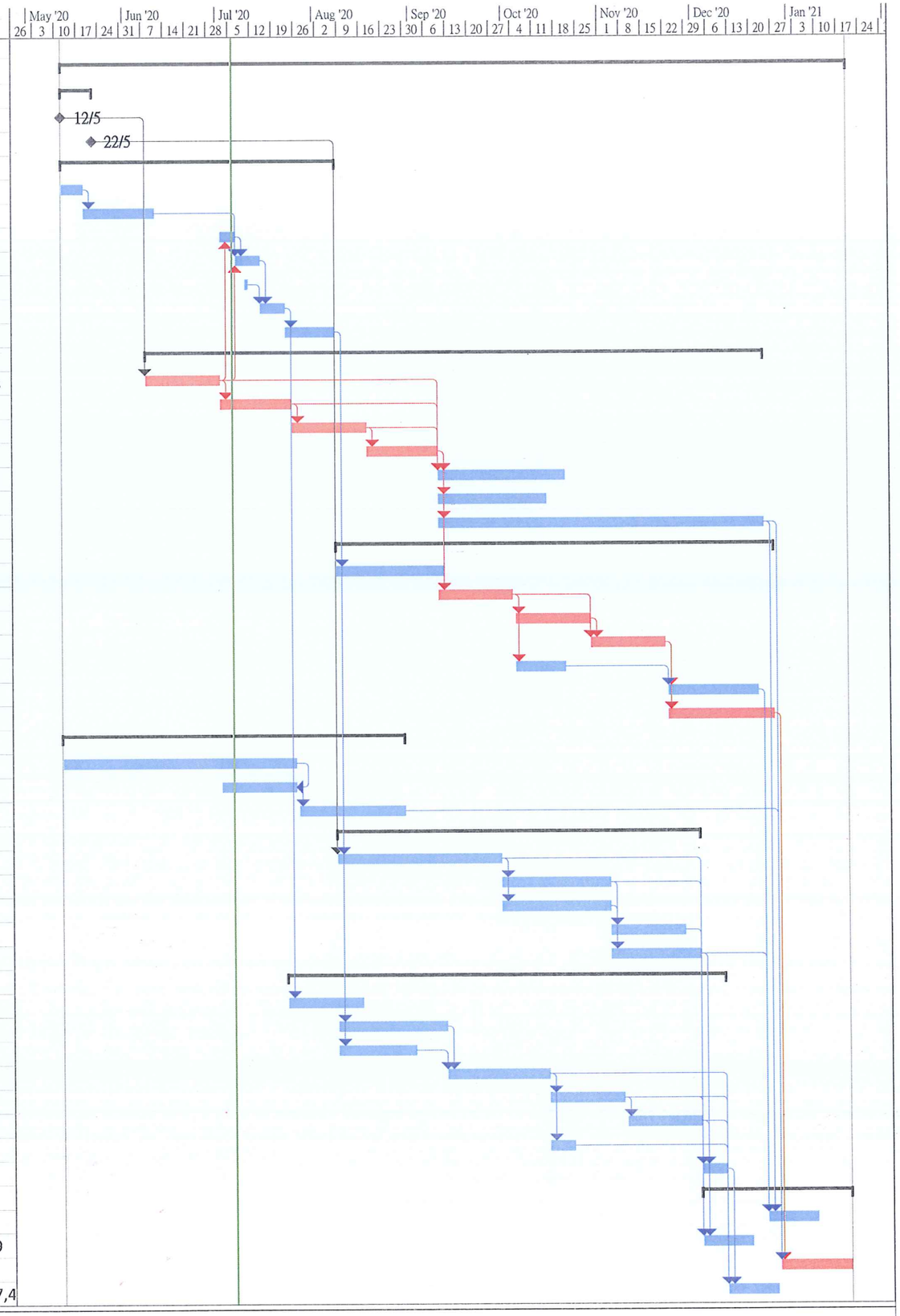
Response:

cc. The Supervisor –Ivan Tsang, AECOM **Additional Sheet ☐**

Status;	☐ **Accepted** ☐ **Not Accepted** ☐ **Acceptance not Required** ☐ **Accepted subject to condition(s) as stated / further required information as stated.** ☐ **Others:** _____ **(please specify)**

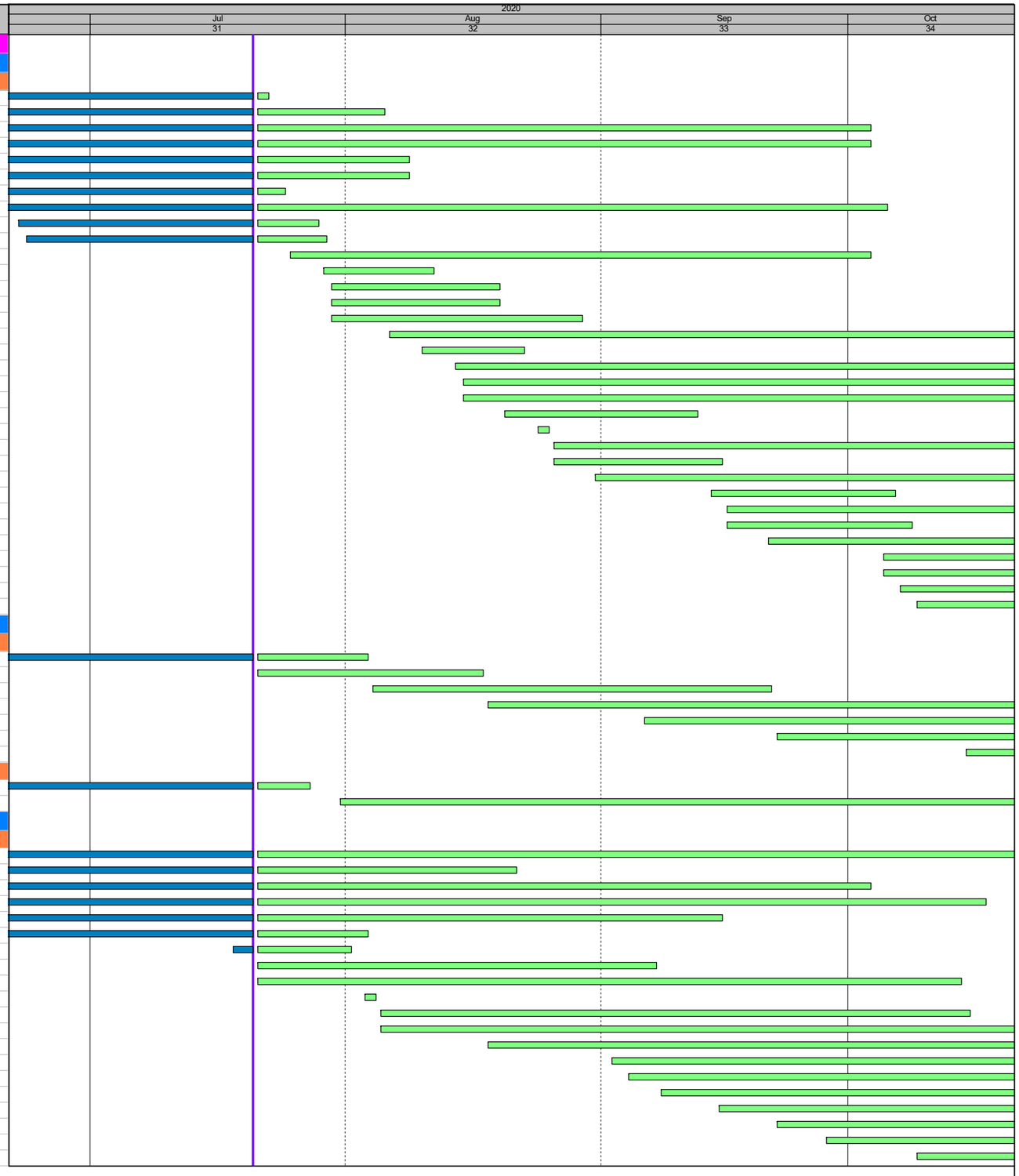
The *Supervisor*'s Delegate	**Date:**

ID	Task Name	Duration	Start	Finish	Predecessors
1					
2	**Portion 6 overall construction programme for outstanding items**	**217 days**	**Tue 12/5/20**	**Tue 19/1/21**	
3	**Foundation construction**	**9 days**	**Tue 12/5/20**	**Fri 22/5/20**	
4	Completed E12 Footing construction	0 days	Tue 12/5/20	Tue 12/5/20	
5	Completed BBI Footing construction	0 days	Fri 22/5/20	Fri 22/5/20	
6	**CLP & tel-com Cable diversion**	**76 days**	**Tue 12/5/20**	**Fri 7/8/20**	
7	Excavation of cable trench	6 days	Tue 12/5/20	Mon 18/5/20	
8	CLP cable diversion (1st phase)	20 days	Tue 19/5/20	Wed 10/6/20	7
9	Site Clearance for CLP	4 days	Thu 2/7/20	Mon 6/7/20	15
10	CLP cable diversion (2nd phase)	7 days	Tue 7/7/20	Tue 14/7/20	8,15,9
11	CNP issued by EPD for night work	1 day	Fri 10/7/20	Fri 10/7/20	
12	CLP cable diversion (3rd phase)	7 days	Wed 15/7/20	Wed 22/7/20	10,11
13	Telecom cable diversion (with drawpit construction)	14 days	Thu 23/7/20	Fri 7/8/20	12
14	**E12 Lift Tower construction**	**171 days**	**Mon 8/6/20**	**Wed 23/12/20**	
15	E12 Lift tower construction (1st phase)	21 days	Mon 8/6/20	Wed 1/7/20	4FS+23 days
16	E12 Lift tower construction (2nd phase)	20 days	Thu 2/7/20	Fri 24/7/20	15
17	E12 Lift tower construction (3rd phase)	20 days	Sat 25/7/20	Mon 17/8/20	16
18	E12 Lift tower construction (4th phase)	20 days	Tue 18/8/20	Wed 9/9/20	17
19	E12 Lift tower louvre, glazing and E&M installation	35 days	Thu 10/9/20	Tue 20/10/20	15,16,17,18
20	Finishing Erection of E12 Lift Tower	30 days	Thu 10/9/20	Wed 14/10/20	18
21	Lift installation	90 days	Thu 10/9/20	Wed 23/12/20	18
22	**E12 Staircase & Footbridge construction**	**121 days**	**Sat 8/8/20**	**Sat 26/12/20**	
23	Excavation & construction of sump pit	30 days	Sat 8/8/20	Fri 11/9/20	13
24	E12 Staircase construction	21 days	Thu 10/9/20	Sat 3/10/20	18
25	E12 Footbridge Construction	21 days	Mon 5/10/20	Wed 28/10/20	24
26	E12 Footbridge Steel Structure Installation	21 days	Thu 29/10/20	Sat 21/11/20	24,25
27	Pilliar box construction	14 days	Mon 5/10/20	Tue 20/10/20	24
28	E12 footbridge E&M installation	25 days	Mon 23/11/20	Mon 21/12/20	26,27
29	Finishing Erection of E12 Footbridge & staircase	30 days	Mon 23/11/20	Sat 26/12/20	26
30	**RWE12 Retaining Wall**	**95 days**	**Tue 12/5/20**	**Sat 29/8/20**	
31	DN600 DI pipe installation	65 days	Tue 12/5/20	Sat 25/7/20	
32	Construction of retaining wall RWE12 bay 13 & 14	21 days	Thu 2/7/20	Sat 25/7/20	31FF
33	Erection of finishing of RWE12 & EPD road	30 days	Mon 27/7/20	Sat 29/8/20	32
34	**BBI-SB Covered walkway construction**	**100 days**	**Sat 8/8/20**	**Wed 2/12/20**	
35	BBI Steel Structure Installation	45 days	Sat 8/8/20	Tue 29/9/20	13,5
36	BBI PMMA Installation	30 days	Wed 30/9/20	Tue 3/11/20	35
37	Stormwater drainage system (footpath)	30 days	Wed 30/9/20	Tue 3/11/20	35
38	Paving block for footway	21 days	Wed 4/11/20	Fri 27/11/20	37
39	BBI E&M installation	25 days	Wed 4/11/20	Wed 2/12/20	36
40	**Road work**	**121 days**	**Thu 23/7/20**	**Thu 10/12/20**	
41	Central divider construction (with u-channel)	21 days	Thu 23/7/20	Sat 15/8/20	12
42	Stormwater drainage system (road section)	30 days	Sat 8/8/20	Fri 11/9/20	13
43	Sewerage drainage system	21 days	Sat 8/8/20	Tue 1/9/20	13
44	Concrete road pavement	28 days	Sat 12/9/20	Wed 14/10/20	42,43
45	Road kerb erection	21 days	Thu 15/10/20	Sat 7/11/20	44
46	Beam barrier installation	21 days	Mon 9/11/20	Wed 2/12/20	45
47	Roadmarking erection	7 days	Thu 15/10/20	Thu 22/10/20	44
48	Traffic sign erection	7 days	Thu 3/12/20	Thu 10/12/20	45,46
49	**Test & completion**	**41 days**	**Thu 3/12/20**	**Tue 19/1/21**	
50	E&M T&C and use Permit	14 days	Thu 24/12/20	Fri 8/1/21	21,28,39
51	BBI-SB T&C	14 days	Thu 3/12/20	Fri 18/12/20	35,36,38,39
52	E12 Lift tower and staircase T&C	20 days	Mon 28/12/20	Tue 19/1/21	21,29,33
53	Road Work T&C	14 days	Fri 11/12/20	Sat 26/12/20	44,45,46,47,4



Contract 3 (NE/2017/03)

Activity ID	Activity Name	Duration	Start	Finish
NE2017/03 - ARQ PHASE 2A - Monthly Programme Update (202007)-1 _200731		953	25-Mar-19 A	01-Nov-21
Road Improvement Works Location 1 (RIW1)		542	09-Sep-19 A	18-Aug-21
Construction Works		542	09-Sep-19 A	18-Aug-21
CON11430	Site formation works & form haul road (FE1 "b" side)	60	09-Sep-19 A	22-Jul-20
CON10231	Existing watermain diversion (by WSD)	24	06-Apr-20 A	05-Aug-20
CON10630	Construct RW footing (RWC2 type 1a & 1)	78	04-Jun-20 A	03-Oct-20
CON10612	ELS to RW pile cap (RWC2 type 2)	78	04-Jun-20 A	03-Oct-20
CON11470	Existing towngas main diversion	48	12-Jun-20 A	08-Aug-20
CON11150	Gasmain laying (by Towngas, 8wk requested by Towngas)	48	12-Jun-20 A	08-Aug-20
CON10254	Awaiting CLP for diversion scheme confirmation	12	12-Jun-20 A	24-Jul-20
CON12330	Construct subway footing (KS27 west side)	90	18-Jun-20 A	05-Oct-20
CON10728A	Coordination with ArchSD for diversion scheme (Pending 21/6/2020 to 21/7/2(	30	22-Jun-20 A	28-Jul-20
CON11318A	Pending on CT5 alignment change	30	23-Jun-20 A	29-Jul-20
CON10270	ELS to bore pile pile cap (RWC2 type 5)	59	25-Jul-20	03-Oct-20
CON10730	Moblishion works for socket H-pile works (RWC2 type 3)	12	29-Jul-20	11-Aug-20
CON11320	PM review & acceptance ELS design	18	30-Jul-20	19-Aug-20
CON11324	PM review & acceptance method statement for footing & minipile	18	30-Jul-20	19-Aug-20
CON11326	Erect piling platform	27	30-Jul-20	29-Aug-20
CON10310	Construct RW footing (RWC2 type 4, 6, 7, 8)	72	06-Aug-20	31-Oct-20
CON11150A	(NCE063) Inclement weather (21/5/2020 to 20/6/2020) on RIW1 Slip Rd 2	12	10-Aug-20	22-Aug-20
CON10750	Pre-drill & construct socket H-pile works (RWC2 type 3; 400nos, 3d/no, 4 tean	300	14-Aug-20	18-Aug-21
CON12350	Construct subway wall and soffit (KS27 west side)	90	15-Aug-20	01-Dec-20
CON10330	upgrading works at Feature No. 11NEA/F60 (by pip-by-pit method) - Stage 2	90	15-Aug-20	01-Dec-20
CON11506	Erect piling platform on FE1	21	20-Aug-20	12-Sep-20
CON11150B	(NCE[TBA]) Inclement weather (21/6/2020 to 20/7/2020) on RIW1 Slip Rd 2	2	24-Aug-20	25-Aug-20
CON11170	Utilities works, drainage works for slip road 2 _stage 3	60	26-Aug-20	06-Nov-20
CON11210	Utilities works, drainage works for slip road 2 _stage 4	18	26-Aug-20	15-Sep-20
CON11330	(NCE??) Construct CT5 Type 1 piling foundation (18nos, 5d/no, 1 team)	90	31-Aug-20	16-Dec-20
CON11508	Pre-drill works on FE1	18	14-Sep-20	06-Oct-20
CON11190	Road works for slip road 2 _stage 3	60	16-Sep-20	27-Nov-20
CON11230	Road works for slip road 2 _stage 4	18	16-Sep-20	08-Oct-20
CON10650	Construct RW wall (RWC2 type 1a & 1)	78	21-Sep-20	23-Dec-20
CON10390	Construct pile cap (RWC2 type 5)	90	05-Oct-20	21-Jan-21
CON10652	Construct RW footing (RWC2 type 2)	78	05-Oct-20	07-Jan-21
CON11510	(NCE??) Construct piling foundation at FE1 Type 1 (12nos, 5d/no, 1 team)	60	07-Oct-20	16-Dec-20
CON11270	Upgrading works on existing slip road 2 _stage 5	18	09-Oct-20	30-Oct-20
Road Improvement Works Location 2 (RIW2)		267	13-Mar-20 A	04-Dec-20
Construction Works in Slope C3 (Portion B)		267	13-Mar-20 A	04-Dec-20
CON20850	Construct RW bay 3 to bay 8 wall (L=34m)	72	13-Mar-20 A	03-Aug-20
CON20710	Install sheet pile RW bay 1 to bay 2	24	21-Jul-20	17-Aug-20
CON20852	** Delay reason ***	42	04-Aug-20	21-Sep-20
CON20730	ELS works to RW bay 1 to bay 2	90	18-Aug-20	03-Dec-20
CON20170	Fabrication of NB steel post - along slope side	90	06-Sep-20	04-Dec-20
CON20910	Construct RW bay 14 to bay 16 base (L=19m)	42	22-Sep-20	12-Nov-20
CON20930	Construct RW bay 14 to bay 16 wall (L=19m)	42	15-Oct-20	03-Dec-20
Construction Noise Semi-Enclosure SE2 (Portion C)		167	28-Apr-20 A	16-Nov-20
CON22130	Remove existing central median for phase 4 (SE2 PC5 to PC6)	36	28-Apr-20 A	27-Jul-20
CON21650	Construct piling fdn (CT4, SE2 Bay4 to Bay12)	90	31-Jul-20	16-Nov-20
Road Improvement Works Location 3 (RIW3)		494	23-May-19 A	16-Jan-21
Construction Works		494	23-May-19 A	16-Jan-21
CON31050	(CE140) Cut slope works (CH0 to CH115) (L=115m, 10857m3, 30m3/d)	365	23-May-19 A	01-Dec-20
CON31070	(CE140) Construct RWD3 (CH0 to CH60)	150	18-Dec-19 A	21-Aug-20
CON31072	Rock slope mapping (Stage 1)	180	26-Feb-20 A	03-Oct-20
CON31074	PM review & acceptance and slope stabilization measures (Stage 1)	180	11-Mar-20 A	17-Oct-20
CON30810	Construct retaining wall RWD2 footing	90	21-May-20 A	15-Sep-20
CON30654	(EWN 50, EWN52, EWN57, EWN58) JV Pending WSD confirm SMPR waterr	30	01-Jun-20 A	03-Aug-20
CON30230G	(NCE063) Inclement weather (21/5/2020 to 20/6/2020) on RIW3 Slope D1	12	18-Jul-20 A	01-Aug-20
CON30070	Form haul road B	42	21-Jul-20	07-Sep-20
CON30830	Construct retaining wall RWD2 wall	72	21-Jul-20	14-Oct-20
CON30230H	(NCE[TBA]) Inclement weather (21/6/2020 to 20/7/2020) on RIW3 Slope D1	2	03-Aug-20	04-Aug-20
CON30290	Construct RWD1 (bay 1 to bay 7) pile cap (2 teams)	60	05-Aug-20	15-Oct-20
CON30250	Construct mini pile at RWD1 (bay 8 to bay 14) (121nos, 1.4d/no, 2 teams)	81	05-Aug-20	10-Nov-20
CON30850	Construct slip road 4 utilities works & black fill & road works	72	18-Aug-20	12-Nov-20
CON30310	Construct RWD1 (bay 1 to bay 7) wall (2 teams)	60	02-Sep-20	13-Nov-20
CON31310	Utilities works, drainage works & watermain (CH0 to CH115)	90	04-Sep-20	21-Dec-20
CON30130	Slope works at slope D1 (stage 2, 20% completed)	72	08-Sep-20	03-Dec-20
CON30870	Construct slip road 4 road works	72	15-Sep-20	10-Dec-20
CON30650	Watermain works on Sau Man Ping Road toward Lam Tim (Section 1)	84	22-Sep-20	04-Jan-21
CON31330	Road works (CH0 to CH115)	90	28-Sep-20	16-Jan-21
CON30330	Construct RWD1 (bay 1 to bay 7) utilities works & backfill (2 teams)	60	09-Oct-20	18-Dec-20



Actual Work
Remaining Work
Milestone

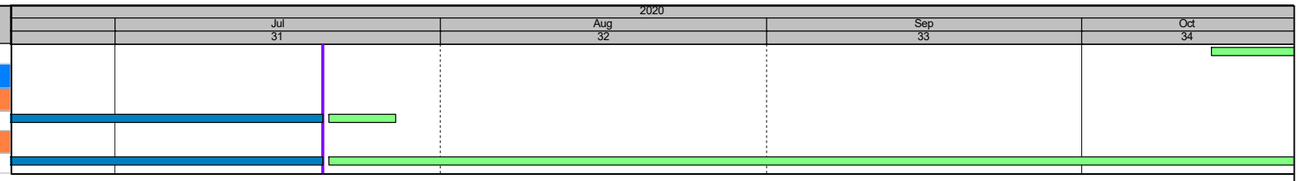
NE/2017/03 Development of Anderson Road Quarry Site - Investigation Design & Construction
Development of Anderson Road Quarry Site Road - Improvement Works & Pedestrian Connectivity Facilities Works Phase 2A
3-Month Rolling Programme

Activity ID	Activity Name	Duration	Start	Finish
CON30530	Drainage & utilities works (bay 1 to bay 7)	60	13-Oct-20	22-Dec-20
Pedestrian Connectivity Facility (PC-E11)		341	28-Feb-20 A	03-Mar-21
Construction Works		341	28-Feb-20 A	03-Mar-21
CON43010	Maintenance temporary access form lin tak road to new bus-bus interchange	288	28-Feb-20 A	11-Dec-20
CON42350	Construct lift tower 2 (2 teams) & blackfill	60	22-Jun-20 A	01-Sep-20
CON42292	ELS for new DN900 drainage pipe	24	10-Jul-20 A	06-Aug-20
CON42294	Existing DN900 drainage pipe diversion	42	07-Aug-20	24-Sep-20
CON42630	Construct covered-walkway between PC-E11 & BBI toilet	102	02-Sep-20	05-Jan-21
CON42910	Application for power supply & energization (PC-E11)	144	02-Sep-20	26-Feb-21
CON42670	Install glass & window to lift tower no 2	42	02-Sep-20	22-Oct-20
CON42296	Construct type L manhole (2nos)	66	25-Sep-20	14-Dec-20
CON42270	Construct U/G utilities & backfill	120	07-Oct-20	03-Mar-21
Pedestrian Connectivity Facility (PC-E8)		546	25-Mar-19 A	25-Jan-21
Construction Works		546	25-Mar-19 A	25-Jan-21
CON41930	Application for power supply & energization (PC-E8)	156	25-Mar-19 A	31-Jul-20
CON41130	Construct escalator pit P5>P6 (E11 & E12)	60	11-Jun-20 A	21-Aug-20
CON41090	Construct escalator pit P3>P4 (E7 & E8)	60	06-Jul-20 A	12-Sep-20
CON40490B	(NCE063) Inclement weather (21/5/2020 to 20/6/2020) affected to E8	12	09-Jul-20 A	22-Jul-20
CON41110	Construct escalator pit P4>P5 (E9 & E10)	60	21-Jul-20	28-Sep-20
CON40490C	(NCE[TBA]) Inclement weather (21/6/2020 to 20/7/2020) affected to E8	2	23-Jul-20	24-Jul-20
CON40770	Construct footing E8-F3 (65m3) & backfilling	24	25-Jul-20	21-Aug-20
CON40590	ELS to E8-F8 (approx 1377m3, @57m3/d)	18	25-Jul-20	14-Aug-20
CON40870	Construct footing E8-F8 (72m3) & backfilling	24	15-Aug-20	11-Sep-20
CON40910	Construct pier E8-P2 (2 pour)	42	22-Aug-20	12-Oct-20
CON41270	Erect steel roof P5>P6	48	22-Aug-20	19-Oct-20
CON41390	ABWF works (P5 to P6)	72	22-Aug-20	17-Nov-20
CON41230	Erect steel roof P3>P4	48	14-Sep-20	11-Nov-20
CON41350	ABWF works (P3 to P4)	72	14-Sep-20	09-Dec-20
CON41170	Erect steel roof F9 & F1>P1	48	15-Sep-20	12-Nov-20
CON41310	ABWF works (F9 & F1 to P1)	72	15-Sep-20	10-Dec-20
CON41470	External finishing works (F9 & F1 to P1)	60	22-Sep-20	03-Dec-20
CON41010	Construct E8-ABT	24	24-Sep-20	23-Oct-20
CON41250	Erect steel roof P4>P5	48	29-Sep-20	26-Nov-20
CON41430	ABWF works (P4 to P5)	72	29-Sep-20	24-Dec-20
CON41590	External finishing works (P4 to P5)	60	29-Sep-20	10-Dec-20
CON41770	E&M works (F9 & F1 to P1)	60	06-Oct-20	15-Dec-20
CON41850	E&M works (P5 to P6)	60	06-Oct-20	15-Dec-20
CON41650	2_ Install escalator (E8-E7 & E8-E8) (P3 to P4)	90	07-Oct-20	23-Jan-21
CON41610	1_ Install escalator (E8-E1 & E8-E2) (F1 to P1)	90	08-Oct-20	25-Jan-21
CON41050	Construct escalator pit P1>P2 (E3 & E4)	60	13-Oct-20	22-Dec-20
CON41070	Construct escalator pit P2>P3 (E5 & E6)	60	13-Oct-20	22-Dec-20
Pedestrian Connectivity Facility System A (SYA)		162	11-Jul-20 A	22-Jan-21
Construction Works		162	11-Jul-20 A	22-Jan-21
CON50250	Construct superstructure of lift tower to roof level (3m/pour, +144 to +165.7mPl	162	11-Jul-20 A	22-Jan-21
Pedestrian Connectivity Facility System B (SYB)		535	11-Jan-20 A	01-Nov-21
Construction Works		535	11-Jan-20 A	01-Nov-21
CON51110	(CE140) Pre-drill & construct socket H-pile works at SYB-PC7 (20nos, 6d/no, 1	120	11-Jan-20 A	03-Aug-20
CON50859	Further review onto gasmain alignment (by Towngas)	130	17-Apr-20 A	19-Sep-20
CON53274	TTA modification works	54	09-May-20 A	27-Jul-20
CON53272	(EWN[TBA]) UU shifting - CLP's cable	78	09-May-20 A	10-Aug-20
CON52190	Construct above ground structure SYB-ABT	42	12-Jun-20 A	17-Aug-20
CON51670	Construct pile cap SYB-PC8 (94m3)	24	25-Jul-20	21-Aug-20
CON53276	(EWN[TBA]) UU shifting - HGC's cable	12	28-Jul-20	10-Aug-20
CON53278	(EWN[TBA]) UU shifting - HKBN's cable	12	28-Jul-20	10-Aug-20
CON53280	(EWN[TBA]) UU shifting - CATV's cable	12	28-Jul-20	10-Aug-20
CON53282	(EWN[TBA]) UU shifting - HKT's cable	12	28-Jul-20	10-Aug-20
CON51290	Install sheet pile at SYB-PC6	12	07-Aug-20	20-Aug-20
CON53284	Site clearance for mobilization	12	11-Aug-20	24-Aug-20
CON51310	Excavate & install support at SYB-PC6	30	21-Aug-20	24-Sep-20
CON51910	Construct pier SYB-P8 (2 pour)	42	22-Aug-20	12-Oct-20
CON53286	UU detection & excavate trail pit	6	25-Aug-20	31-Aug-20
CON51750	Construct pile cap SYB-PC7 (94m3)	24	08-Sep-20	07-Oct-20
CON50859A	(NCE063) Inclement weather (21/5/2020 to 20/6/2020) on Sys B	12	21-Sep-20	06-Oct-20
CON51050	Moblisation piling rig plant to SYS-PC6	6	25-Sep-20	03-Oct-20
CON51370	Install sheet pile at SYB-PC4	12	25-Sep-20	10-Oct-20
CON51070	Pre-drill & construct piling fdn at SYB-PC6	50	05-Oct-20	02-Dec-20
CON50859B	(NCE[TBA]) Inclement weather (21/6/2020 to 20/7/2020) on Sys B	2	07-Oct-20	08-Oct-20
CON51970	Construct pier SYB-P7 (2 pour)	42	08-Oct-20	26-Nov-20
CON50855	Gasmain diversion (Sys B) - Apply 2nd stage TTA & civil works for gasmain dive	12	09-Oct-20	22-Oct-20
CON51390	Excavate & install support at SYB-PC4	30	12-Oct-20	16-Nov-20

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
CON51810	Construct underground drainage pipe	312	13-Oct-20	01-Nov-21
Bus-Bus Interchange Public Toilet (BBI Toilet)		365	01-Apr-20 A	01-Apr-21
Construction Works		72	01-Apr-20 A	27-Jul-20
CON43430	Outstandarding works _BBI toilet	72	01-Apr-20 A	27-Jul-20
Works related to section 10A - Establishment Works for Landscape Softworks in Section 10		365	01-Apr-20 A	01-Apr-21
CON43370	Establishment Works for Landscape Softworks in Section 10 (Portion FI)	365	01-Apr-20 A	01-Apr-21



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

Appendix D

Monitoring Locations for Impact Monitoring

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

Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

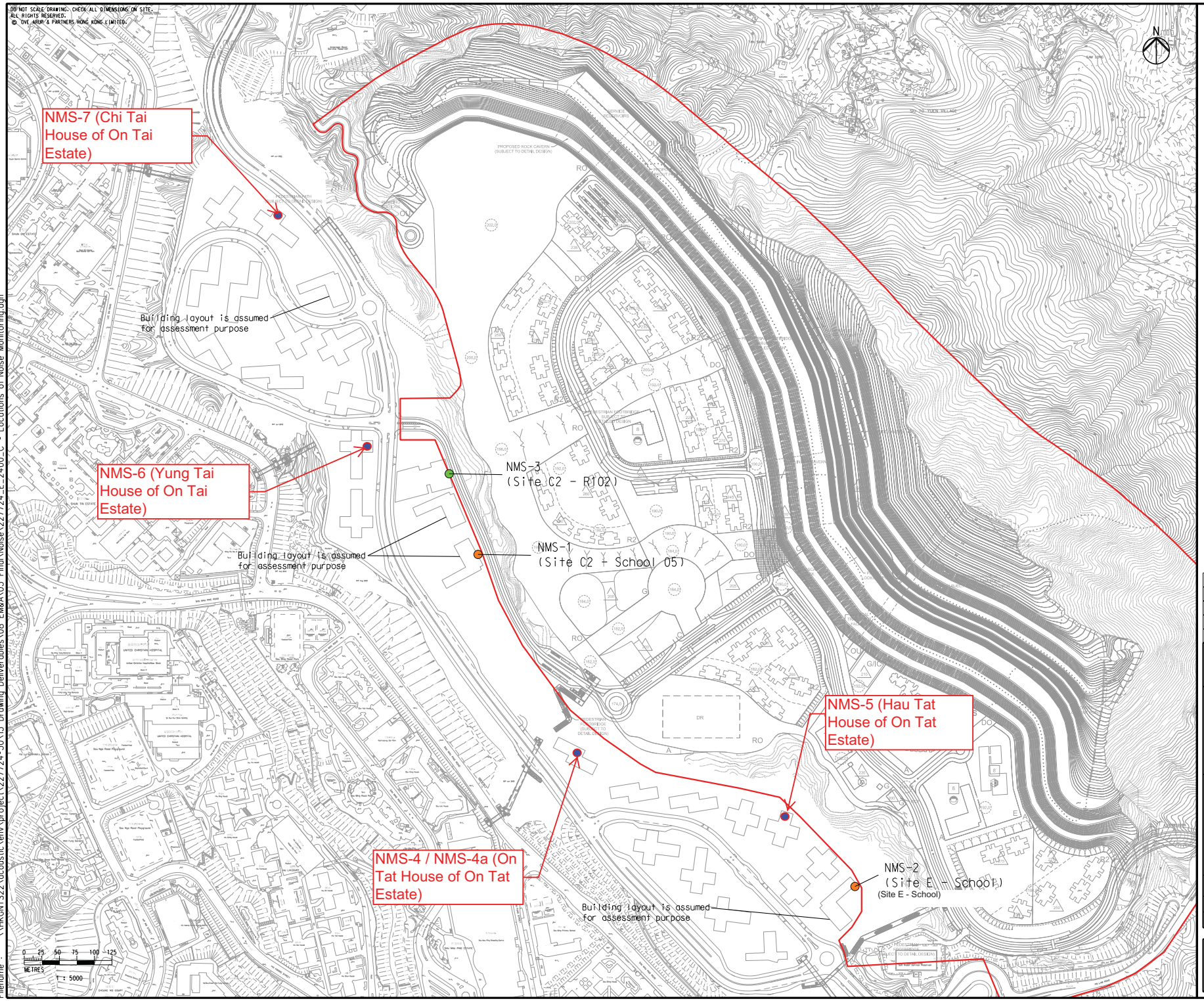
Drawing title

Locations of Construction Dust Monitoring (Sheet 1 of 3)

Drawing no.	227724/E/1045	Rev.	B
Drawn GL	Date 03/14	Checked TC	Approved ST
Scale 1:5000 @A3		Status PRELIMINARY	

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

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



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

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

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

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

土木工程拓展署
Civil Engineering and Development Department

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Printed by : 4/8/2014
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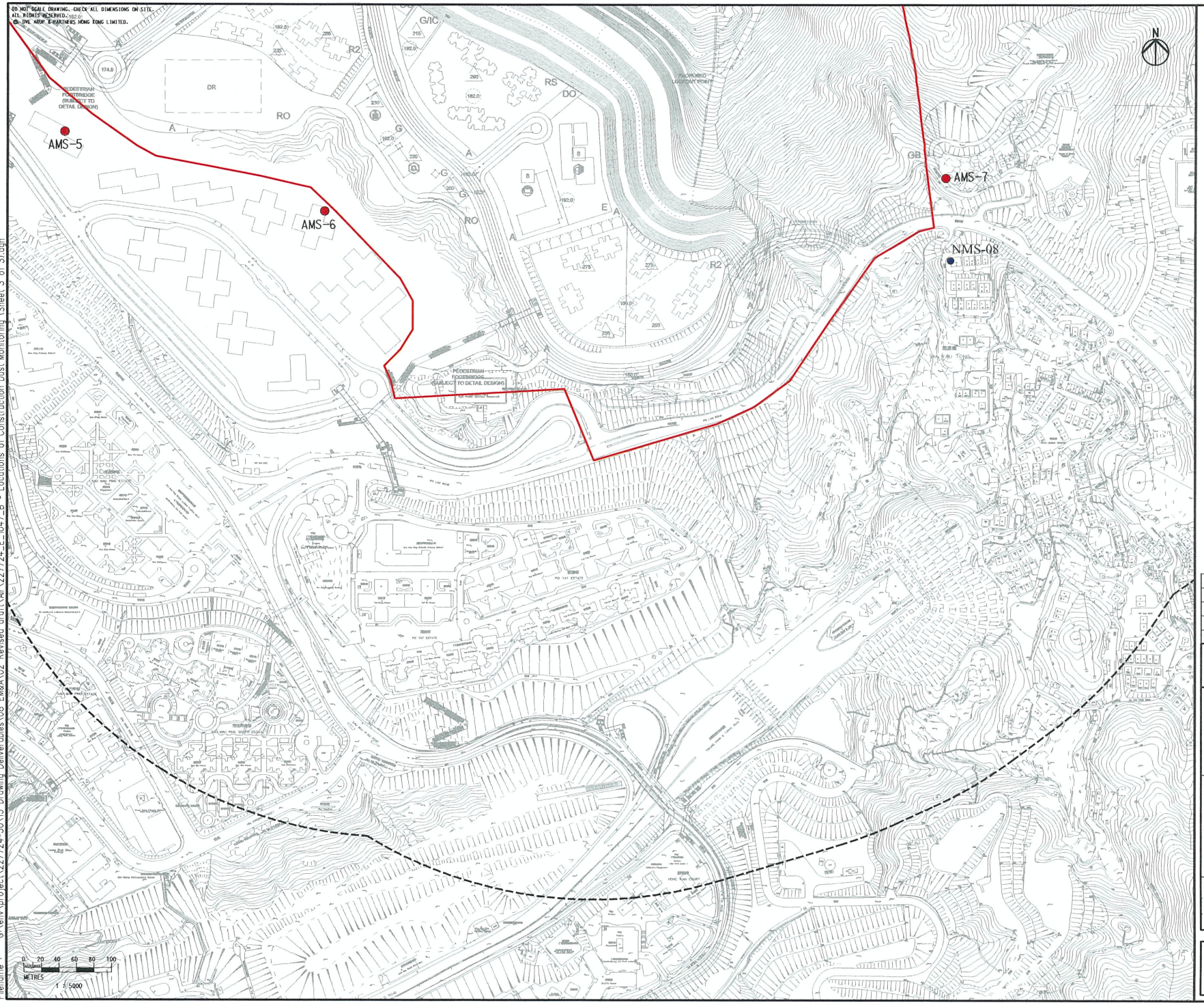


Rev	Description	By	Date
B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13

Consultant

Contract No. and Title

Agreement No. CE 18/2012(CE)

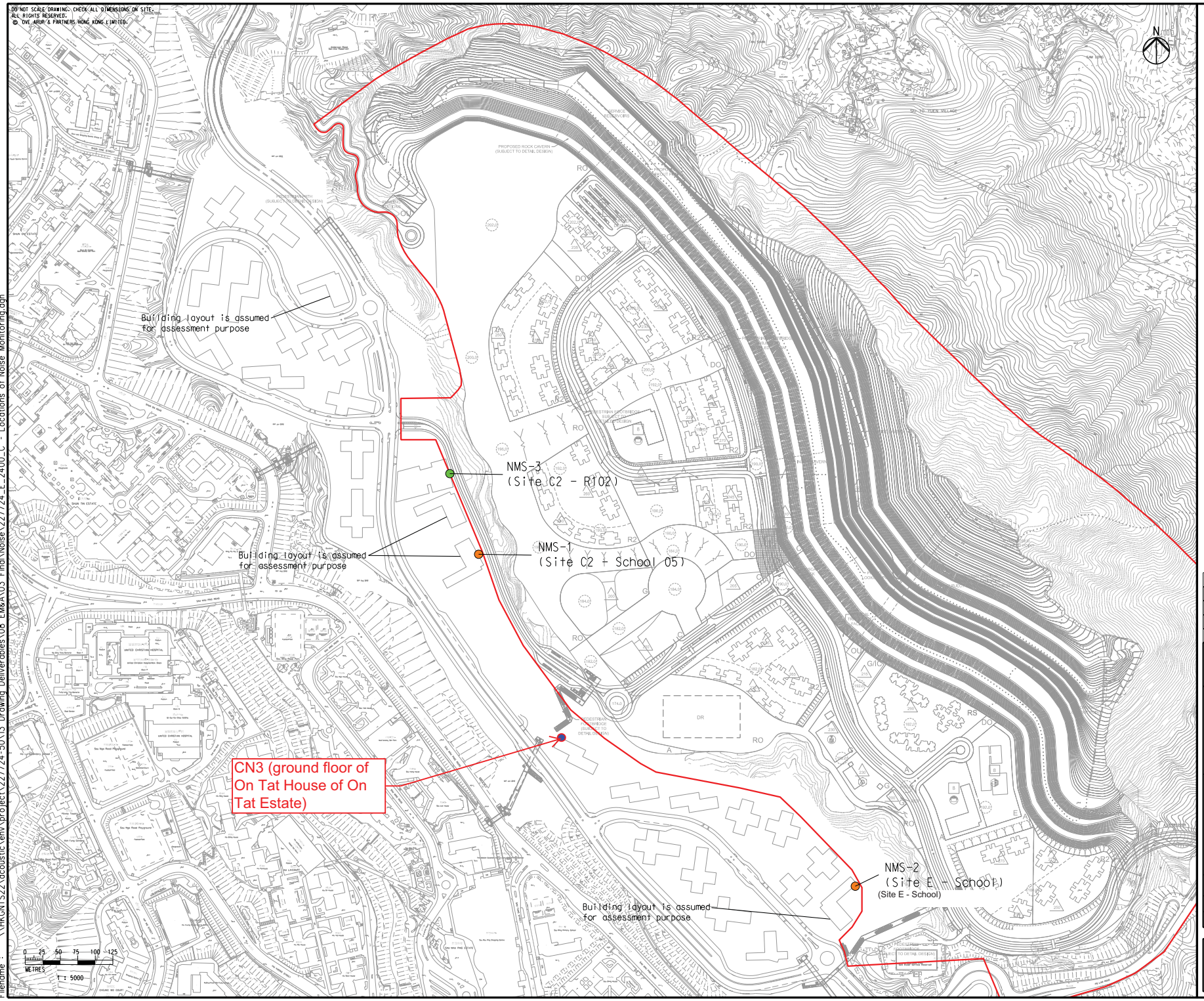
Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust and Noise Monitoring

Printed by : 4/8/2014
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)



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

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

Printed by : 6/3/2014
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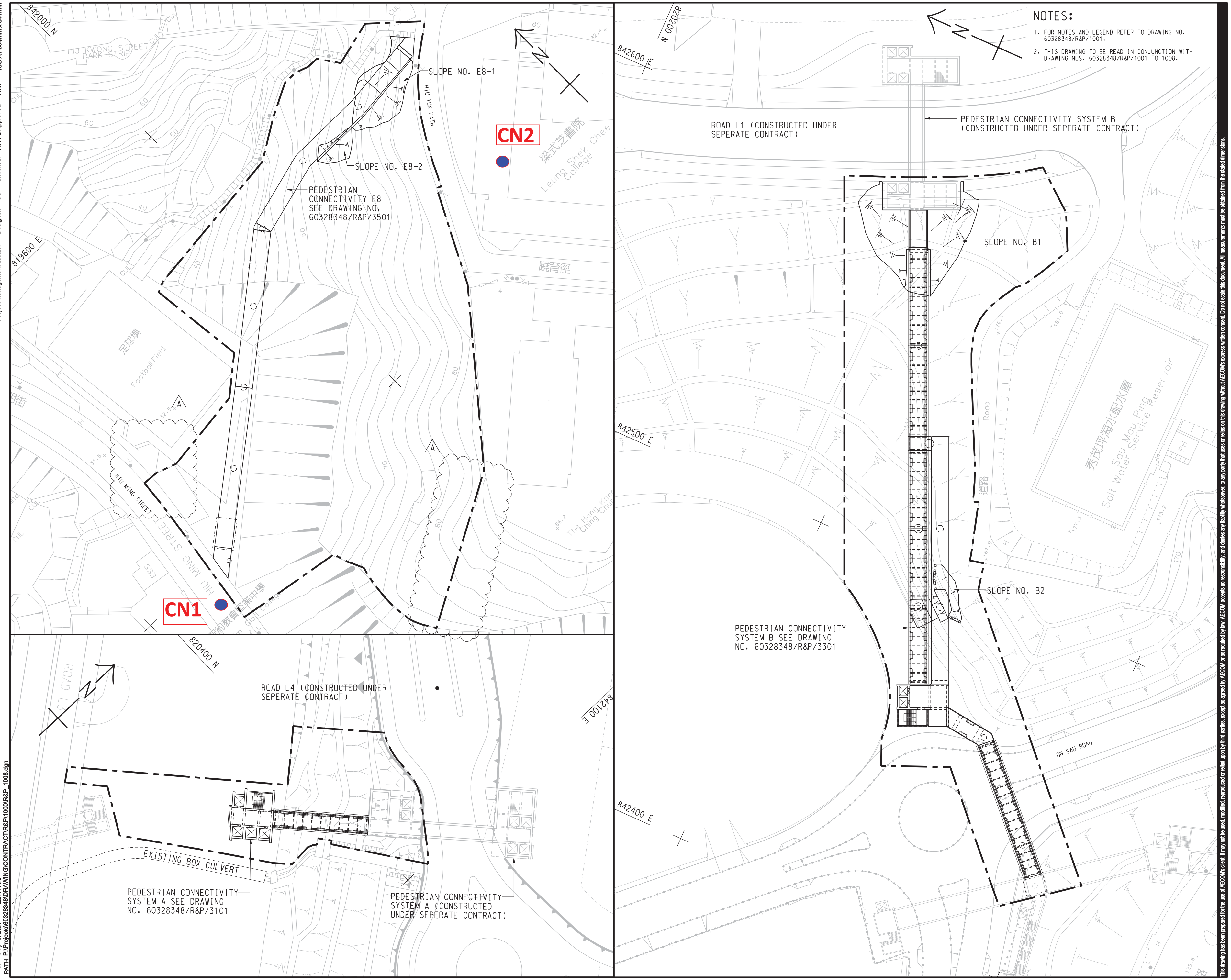

Project Management Initials: Designer: CCYT Checked: AWYC Approved: HKT ISO A1 594mm x 841mm

Plot File by: WUMT 2017/11/9
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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

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

CONSULTANT

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS

noise monitoring location

ISSUE/REVISION

I/R	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

Appendix E

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

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: 4-Apr-20
Next Calibration Date: 4-Jun-20
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1018	Corrected Pressure (mm Hg)	763.5
Temperature (°C)	20.8	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	TE-5025A	Qstd Intercept ->	-0.04616
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	7.5	5.5	13	1.816	54	54.51	Slope = 36.8695
13	5.9	4.2	10.1	1.603	45	45.42	Intercept = -13.2382
10	4.7	3.1	7.8	1.411	37	37.35	Corr. coeff. = 0.9965
7	3.5	1.6	5.1	1.146	30	30.28	
5	2.5	0.9	3.4	0.940	21	21.20	

Calculations :

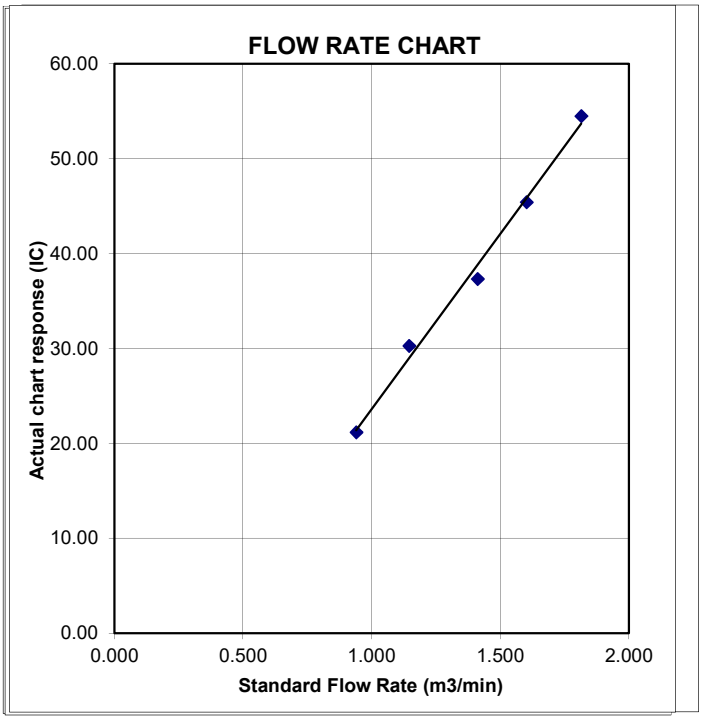
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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 : Tan Shan Village No. 5 - 6 — Date of Calibration: 4-Jun-20
Location ID : AMS1a — Next Calibration Date: 4-Aug-20
Model:TISCH High Volume Air Sampler TE-5170 — Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1008	Corrected Pressure (mm Hg)	756
Temperature (°C)	30.1	Temperature (K)	303

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	TE-5025A	Qstd Intercept ->	-0.04616
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.6	5.6	11.2	1.653	46	45.49	Slope = 27.7557
13	4.4	4.4	8.8	1.468	42	41.54	Intercept = 0.1546
10	3.4	3.4	6.8	1.293	36	35.60	Corr. coeff. = 0.9958
7	2.1	2.1	4.2	1.021	30	29.67	
5	1.3	1.3	2.6	0.808	22	21.76	

Calculations :

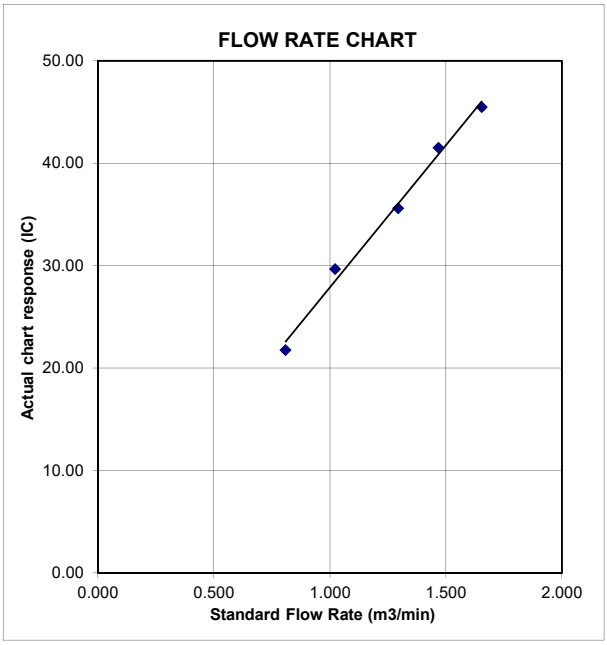
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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:	4-Jun-20
Location ID :	AMS 5	Next Calibration Date:	4-Aug-20
Model:TISCH High Volume Air Sampler TE-5170		Technician: Mr. Fai So	

CONDITIONS

Sea Level Pressure (hPa)	1008	Corrected Pressure (mm Hg)	756
Temperature (℃)	30.1	Temperature (K)	303

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	TE-5025A	Qstd Intercept ->	-0.04616
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.6	5.8	12.4	1.738	50	49.45	Slope = 26.1765
13	5.5	4.2	9.7	1.540	46	45.49	Intercept = 3.9846
10	4.3	3	7.3	1.339	38	37.58	Corr. coeff. = 0.9948
7	2.8	1.8	4.6	1.068	32	31.65	
5	1.3	1.3	2.6	0.808	26	25.71	

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)

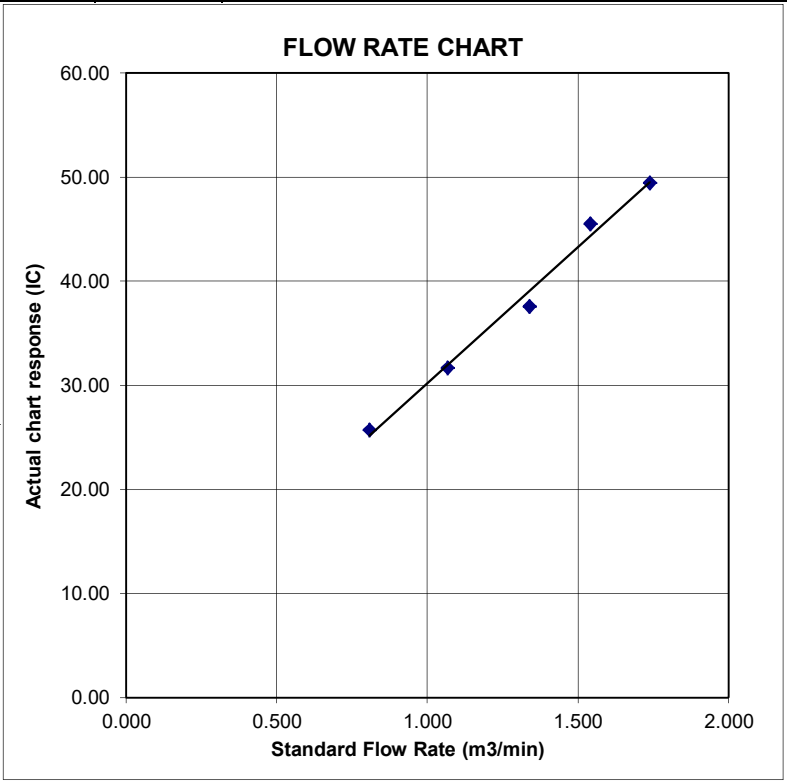
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Hau Tat House	Date of Calibration:	4-Jun-20
Location ID :	AMS 6	Next Calibration Date:	4-Aug-20
Model:TISCH High Volume Air Sampler TE-5170		Technician:	Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1008	Corrected Pressure (mm Hg)	756
Temperature (°C)	30.1	Temperature (K)	303

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	TE-5025A	Qstd Intercept ->	-0.04616
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6	6	12	1.710	52	51.42	Slope = 40.3700
13	5.5	5	10.5	1.601	48	47.47	Intercept = -17.9444
10	4.3	3.9	8.2	1.418	38	37.58	Corr. coeff. = 0.9968
7	3.8	1.8	5.6	1.175	30	29.67	
5	2.7	1.1	3.8	0.972	22	21.76	

Calculations :

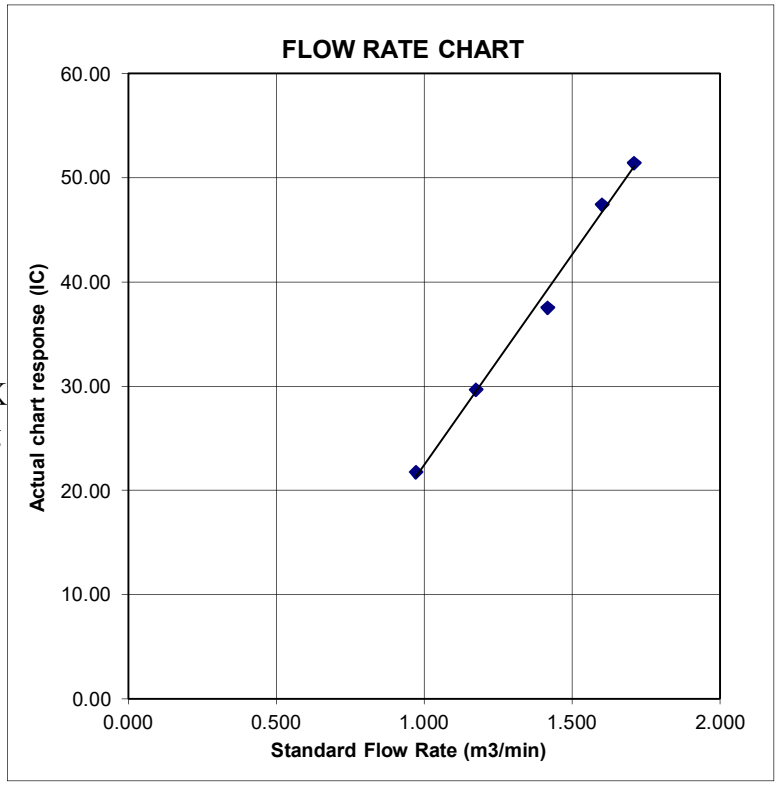
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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: 4-Jun-20
Next Calibration Date: 4-Aug-20
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1008	Corrected Pressure (mm Hg)	756
Temperature (°C)	30.1	Temperature (K)	303

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	TE-5025A	Qstd Intercept ->	-0.04616
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	7.0	6.0	13	1.779	54	53.40	Slope = 36.6378
13	5.9	4.2	10.1	1.571	45	44.50	Intercept = -12.5928
10	4.7	3.1	7.8	1.383	37	36.59	Corr. coeff. = 0.9957
7	3.0	2.0	5	1.112	30	29.67	
5	2.0	1.4	3.4	0.921	21	20.77	

Calculations :

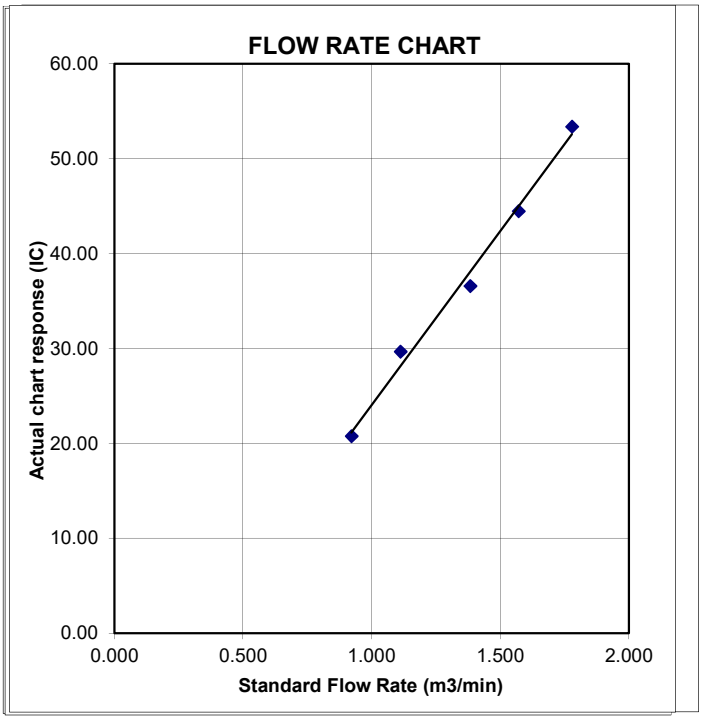
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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 : Tan Shan Village No. 5 - 6	Date of Calibration: 4-Apr-20
Location ID : AMS1a	Next Calibration Date: 4-Jun-20
Model:TISCH High Volume Air Sampler TE-5170	Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1018	Corrected Pressure (mm Hg)	763.5
Temperature (°C)	20.8	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	TE-5025A	Qstd Intercept ->	-0.04616
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	5.5	5.7	11.2	1.687	46	46.43	Slope = 27.9438
13	4.3	4.5	8.8	1.498	42	42.40	Intercept = -0.1361
10	3.3	3.5	6.8	1.319	36	36.34	Corr. coeff. = 0.9968
7	2.1	2.2	4.3	1.054	30	30.28	
5	1.3	1.3	2.6	0.824	22	22.21	

Calculations :

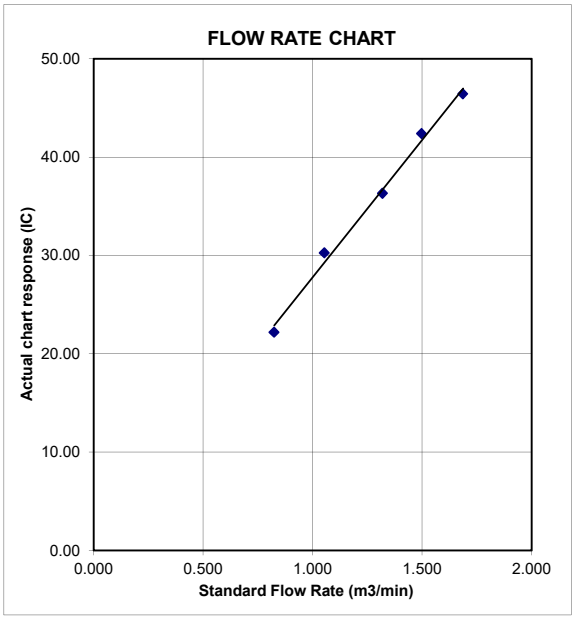
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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:	4-Apr-20
Location ID :	AMS 5	Next Calibration Date:	4-Jun-20
Model:TISCH High Volume Air Sampler TE-5170		Technician: Mr. Fai So	

CONDITIONS

Sea Level Pressure (hPa)	1018	Corrected Pressure (mm Hg)	763.5
Temperature (°C)	20.8	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	TE-5025A	Qstd Intercept ->	-0.04616
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.5	5.8	12.3	1.767	50	50.47	Slope = 29.5731
13	5.5	4.1	9.6	1.563	46	46.43	Intercept = -1.2088
10	4.5	3	7.5	1.384	38	38.36	Corr. coeff. = 0.9896
7	3.2	1.3	4.5	1.078	32	32.30	
5	1.8	1.8	3.6	0.966	26	26.25	

Calculations :

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

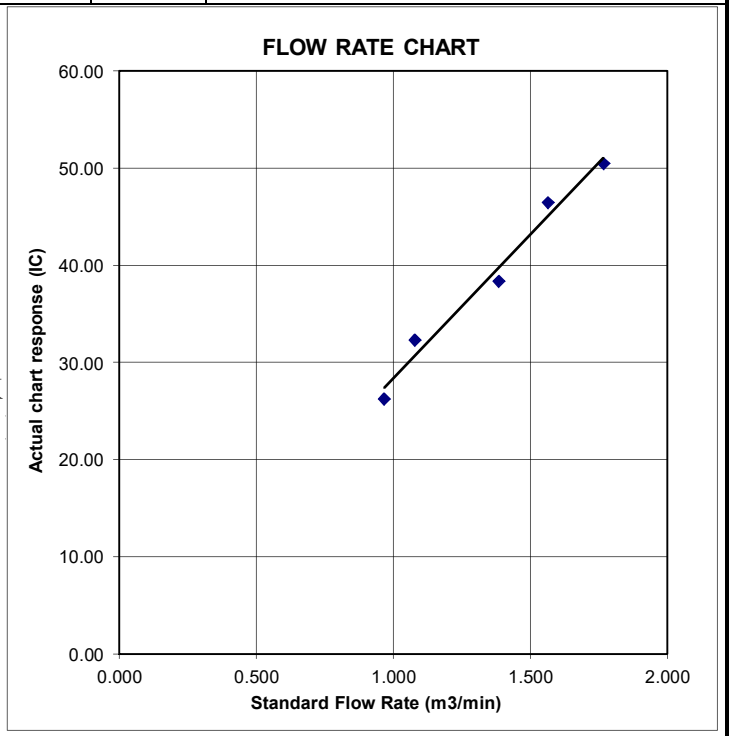
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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	Date of Calibration:	4-Apr-20
Location ID :	AMS 6	Next Calibration Date:	4-Jun-20
Model:TISCH High Volume Air Sampler TE-5170		Technician:	Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1018	Corrected Pressure (mm Hg)	763.5
Temperature (°C)	20.8	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	TE-5025A	Qstd Intercept ->	-0.04616
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	7	5	12	1.745	52	52.49	Slope = 40.3700
13	6.1	4.4	10.5	1.634	48	48.45	Intercept = -18.2974
10	4.9	3.3	8.2	1.447	38	38.36	Corr. coeff. = 0.9968
7	3.8	1.8	5.6	1.199	30	30.28	
5	2.7	1.1	3.8	0.992	22	22.21	

Calculations :

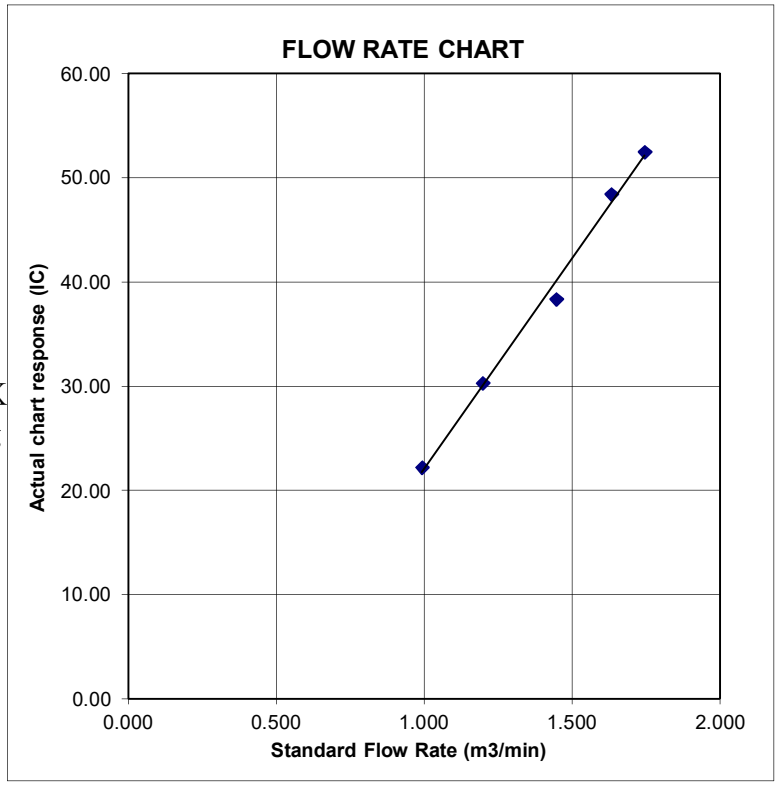
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	:	**HK2001298**
CLIENT	: **ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING**			
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH	:	1
		DATE RECEIVED	:	6-JAN-2020
		DATE OF ISSUE	:	10-JAN-2020
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., if any) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Enviro Services.**

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.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

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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 : HK2001298
SUB-BATCH : 1
CLIENT : ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT : ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2001298-001	S/N: 2X6145	AIR	06-Jan-2020	S/N: 2X6145

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	2X6145
Equipment Ref:	EQ105
Job Order	HK2001298

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	3 December 2019

Equipment Verification Results:

Testing Date: 27&31 December 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr	09:08 ~ 11:10	18.0	1020.3	0.040	2254	18.8
2hr	11:15 ~ 13:16	19.2	1024.9	0.048	2561	21.3
2hr15min	13:22 ~ 15:23	19.2	1024.9	0.034	1841	13.6

Sensitivity Adjustment Scale Setting (Before Calibration) 586 (CPM)

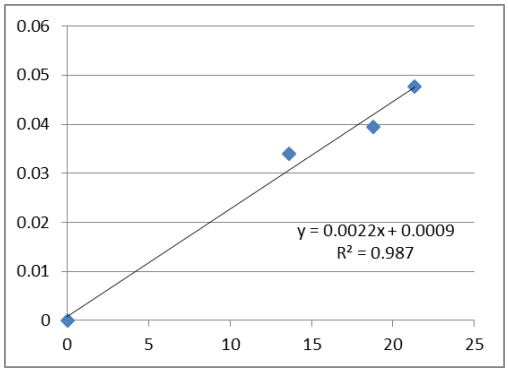
Sensitivity Adjustment Scale Setting (After Calibration) 586 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9935

Date of Issue 6 January 2020



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 6 January 2020

QC Reviewer : Ben Tam Signature : Date : 6 January 2020

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	3-Dec-19
Location ID :	Calibration Room	Next Calibration Date:	3-Mar-20

CONDITIONS

Sea Level Pressure (hPa)	1023.1	Corrected Pressure (mm Hg)	767.325
Temperature (°C)	16.4	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	5025A	Qstd Intercept ->	-0.00065
Calibration Date->	5-Feb-19	Expiry Date->	5-Feb-20

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.5	6.5	13.0	1.754	53	54.04	Slope = 36.7338
13	5.2	5.2	10.4	1.569	48	48.94	Intercept = -9.6198
10	4.1	4.1	8.2	1.393	41	41.80	Corr. coeff. = 0.9986
8	2.6	2.6	5.2	1.109	30	30.59	
5	1.6	1.6	3.2	0.870	22	22.43	

Calculations :

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

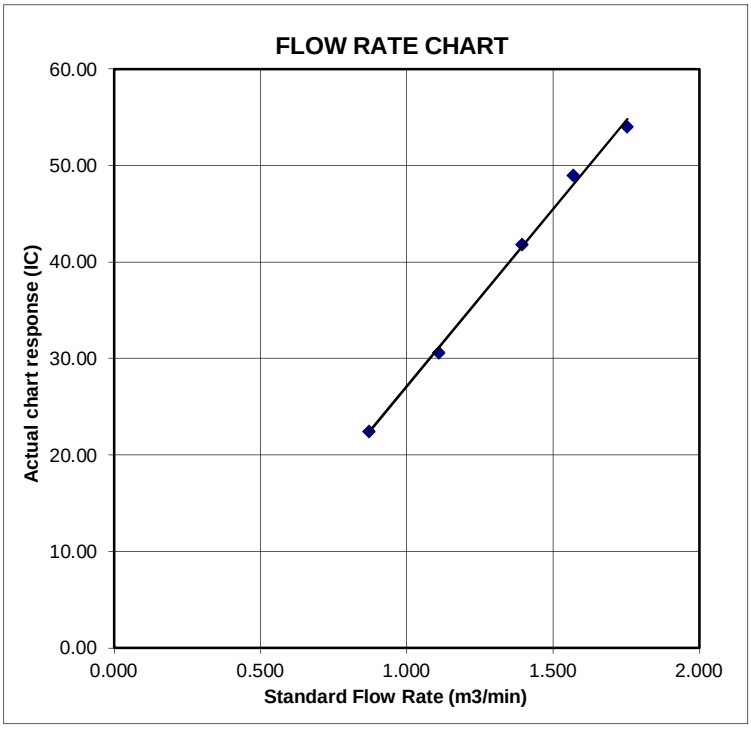
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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:
February 5, 2020

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 5, 2019	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 753.1	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1941**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4830	3.2	2.00
2	3	4	1	1.0430	6.4	4.00
3	5	6	1	0.9300	7.9	5.00
4	7	8	1	0.8870	8.7	5.50
5	9	10	1	0.7320	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0036	0.6767	1.4197	0.9958	0.6714	0.8821
0.9993	0.9581	2.0078	0.9915	0.9506	1.2475
0.9973	1.0723	2.2448	0.9895	1.0640	1.3947
0.9962	1.1231	2.3544	0.9884	1.1144	1.4628
0.9908	1.3536	2.8395	0.9831	1.3431	1.7642
QSTD	**m=**	**2.09680**	**QA**	**m=**	**1.31298**
	b=	**-0.00065**		**b=**	**-0.00040**
	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

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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	:	**HK2001299**
CLIENT	: **ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING**			
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH DATE RECEIVED DATE OF ISSUE	: : :	1 6-JAN-2020 10-JAN-2020
PROJECT	: ----	NO. OF SAMPLES CLIENT ORDER	: :	1 ----

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., if any) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Enviro Services.**

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.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
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Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER : HK2001299
SUB-BATCH : 1
CLIENT : ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT : ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2001299-001	S/N: 11008017	AIR	06-Jan-2020	S/N: 11008017

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	TSI AM510
Serial No.	11008017
Equipment Ref:	EQ102
Work Order:	HK2001299

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES Office (Calibration Room)
Equipment Ref:	HVS 018
Last Calibration Date:	3 December 2019

Equipment Verification Results:

Verification Date: 27 & 31 December 2019

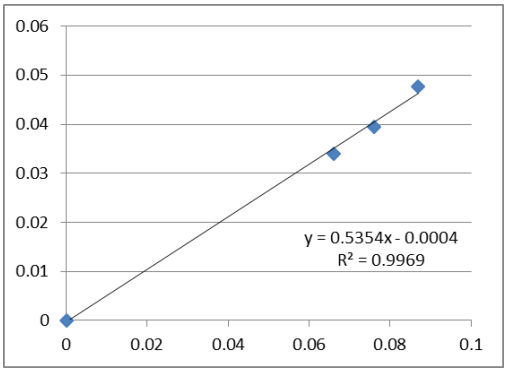
Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Concentration in mg/m^3 (Calibrated Equipment)	Tolerance (mg/m^3)
2hr	09:08 ~ 11:10	18.0	1020.3	0.040	0.076	+0.036
2hr	11:15 ~ 13:16	19.2	1024.9	0.048	0.087	+0.039
2hr15min	13:22 ~ 15:23	19.2	1024.9	0.034	0.066	+0.032

Linear Regression of Y or X

Slope (factor): 0.5354

Correlation Coefficient (R) 0.9984

Date of Issue 6 January 2020



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.5354 should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 6 January 2020

QC Reviewer : Ben Tam Signature : Date : 6 January 2020

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	3-Dec-19
Location ID :	Calibration Room	Next Calibration Date:	3-Mar-20

CONDITIONS

Sea Level Pressure (hPa)	1023.1	Corrected Pressure (mm Hg)	767.325
Temperature (°C)	16.4	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	5025A	Qstd Intercept ->	-0.00065
Calibration Date->	5-Feb-19	Expiry Date->	5-Feb-20

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.5	6.5	13.0	1.754	53	54.04	Slope = 36.7338
13	5.2	5.2	10.4	1.569	48	48.94	Intercept = -9.6198
10	4.1	4.1	8.2	1.393	41	41.80	Corr. coeff. = 0.9986
8	2.6	2.6	5.2	1.109	30	30.59	
5	1.6	1.6	3.2	0.870	22	22.43	

Calculations :

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

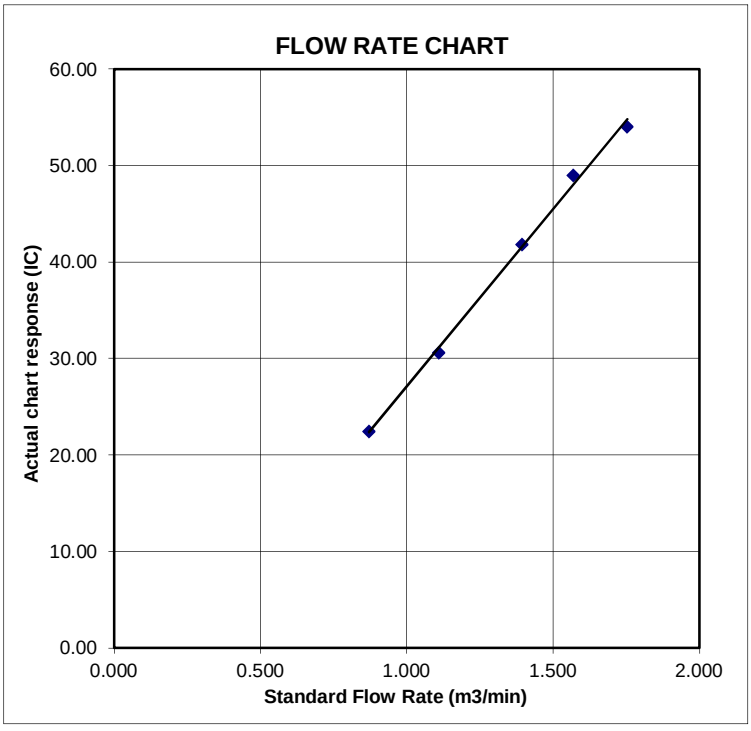
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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:
February 5, 2020

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 5, 2019	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 753.1	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1941**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4830	3.2	2.00
2	3	4	1	1.0430	6.4	4.00
3	5	6	1	0.9300	7.9	5.00
4	7	8	1	0.8870	8.7	5.50
5	9	10	1	0.7320	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0036	0.6767	1.4197	0.9958	0.6714	0.8821
0.9993	0.9581	2.0078	0.9915	0.9506	1.2475
0.9973	1.0723	2.2448	0.9895	1.0640	1.3947
0.9962	1.1231	2.3544	0.9884	1.1144	1.4628
0.9908	1.3536	2.8395	0.9831	1.3431	1.7642
QSTD	**m=**	**2.09680**	**QA**	**m=**	**1.31298**
	b=	**-0.00065**		**b=**	**-0.00040**
	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

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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	:	**HK2001293**
CLIENT	: **ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING**			
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH DATE RECEIVED DATE OF ISSUE	: 1 : 6-JAN-2020 : 10-JAN-2020	
PROJECT	: ----	NO. OF SAMPLES CLIENT ORDER	: 1 : ---	

General Comments

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- **Sample information (Project name, Sample ID, Sampling date/time, etc., if any) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Enviro Services.**

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.

Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

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WORK ORDER : HK2001293
SUB-BATCH : 1
CLIENT : ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT : ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2001293-001	S/N: 3Y6503	AIR	06-Jan-2020	S/N: 3Y6503

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6503
Equipment Ref:	EQ112
Job Order	HK2001293

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	3 December 2019

Equipment Verification Results:

Testing Date: 27&31 December 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr	09:08 ~ 11:10	18.0	1020.3	0.040	2371	19.8
2hr	11:15 ~ 13:16	19.2	1024.9	0.048	2479	20.7
2hr15min	13:22 ~ 15:23	19.2	1024.9	0.034	1899	14.1

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

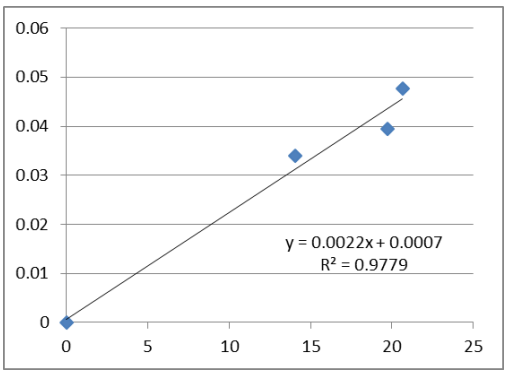
Sensitivity Adjustment Scale Setting (After Calibration) 655 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9889

Date of Issue 6 January 2020



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 6 January 2020

QC Reviewer : Ben Tam Signature : Date : 6 January 2020

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	3-Dec-19
Location ID :	Calibration Room	Next Calibration Date:	3-Mar-20

CONDITIONS

Sea Level Pressure (hPa)	1023.1	Corrected Pressure (mm Hg)	767.325
Temperature (°C)	16.4	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	5025A	Qstd Intercept ->	-0.00065
Calibration Date->	5-Feb-19	Expiry Date->	5-Feb-20

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.5	6.5	13.0	1.754	53	54.04	Slope = 36.7338
13	5.2	5.2	10.4	1.569	48	48.94	Intercept = -9.6198
10	4.1	4.1	8.2	1.393	41	41.80	Corr. coeff. = 0.9986
8	2.6	2.6	5.2	1.109	30	30.59	
5	1.6	1.6	3.2	0.870	22	22.43	

Calculations :

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

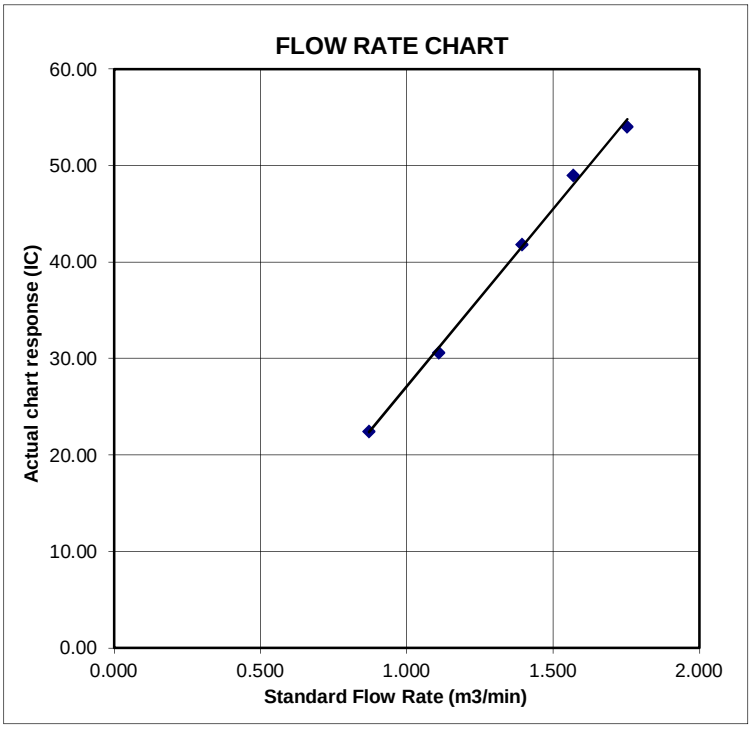
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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:
February 5, 2020

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 5, 2019	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 753.1	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1941**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4830	3.2	2.00
2	3	4	1	1.0430	6.4	4.00
3	5	6	1	0.9300	7.9	5.00
4	7	8	1	0.8870	8.7	5.50
5	9	10	1	0.7320	12.7	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
1.0036	0.6767	1.4197	0.9958	0.6714	0.8821
0.9993	0.9581	2.0078	0.9915	0.9506	1.2475
0.9973	1.0723	2.2448	0.9895	1.0640	1.3947
0.9962	1.1231	2.3544	0.9884	1.1144	1.4628
0.9908	1.3536	2.8395	0.9831	1.3431	1.7642
QSTD	**m=**	**2.09680**	**QA**	**m=**	**1.31298**
	b=	**-0.00065**		**b=**	**-0.00040**
	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	:	**HK2001300**
CLIENT	: **ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING**			
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD, KWAI CHUNG, N.T. HONG KONG	SUB-BATCH DATE RECEIVED DATE OF ISSUE	: : :	1 6-JAN-2020 10-JAN-2020
PROJECT	: ----	NO. OF SAMPLES CLIENT ORDER	: :	1 ----

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., if any) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Enviro Services.**

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.

Results apply to sample(s) as submitted. 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 : HK2001300
SUB-BATCH : 1
CLIENT : ACTION UNITED ENVIRONMENT SERVICES AND CONSULTING
PROJECT : ----

ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2001300-001	S/N: 366410	AIR	06-Jan-2020	S/N: 366410

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366410
Equipment Ref:	EQ110
Job Order	HK2001300

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	3 December 2019

Equipment Verification Results:

Testing Date: 27&31 December 2019

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr	09:08 ~ 11:10	18.0	1020.3	0.040	2298	19.2
2hr	11:15 ~ 13:16	19.2	1024.9	0.048	2477	20.6
2hr15min	13:22 ~ 15:23	19.2	1024.9	0.034	1941	14.4

Sensitivity Adjustment Scale Setting (Before Calibration) 674 (CPM)

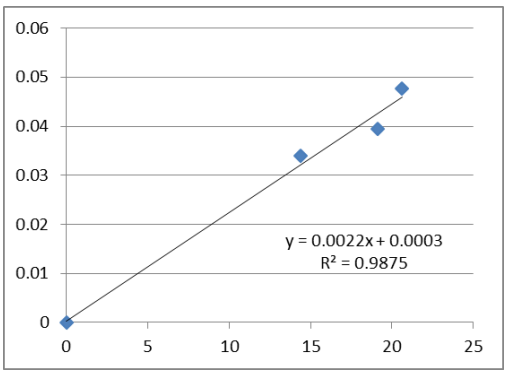
Sensitivity Adjustment Scale Setting (After Calibration) 674 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9937

Date of Issue 6 January 2020



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0022 should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 6 January 2020

QC Reviewer : Ben Tam Signature : Date : 6 January 2020

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	3-Dec-19
Location ID :	Calibration Room	Next Calibration Date:	3-Mar-20

CONDITIONS

Sea Level Pressure (hPa)	1023.1	Corrected Pressure (mm Hg)	767.325
Temperature (°C)	16.4	Temperature (K)	289

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	5025A	Qstd Intercept ->	-0.00065
Calibration Date->	5-Feb-19	Expiry Date->	5-Feb-20

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.5	6.5	13.0	1.754	53	54.04	Slope = 36.7338
13	5.2	5.2	10.4	1.569	48	48.94	Intercept = -9.6198
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8	2.6	2.6	5.2	1.109	30	30.59	
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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
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m = calibrator Qstd slope
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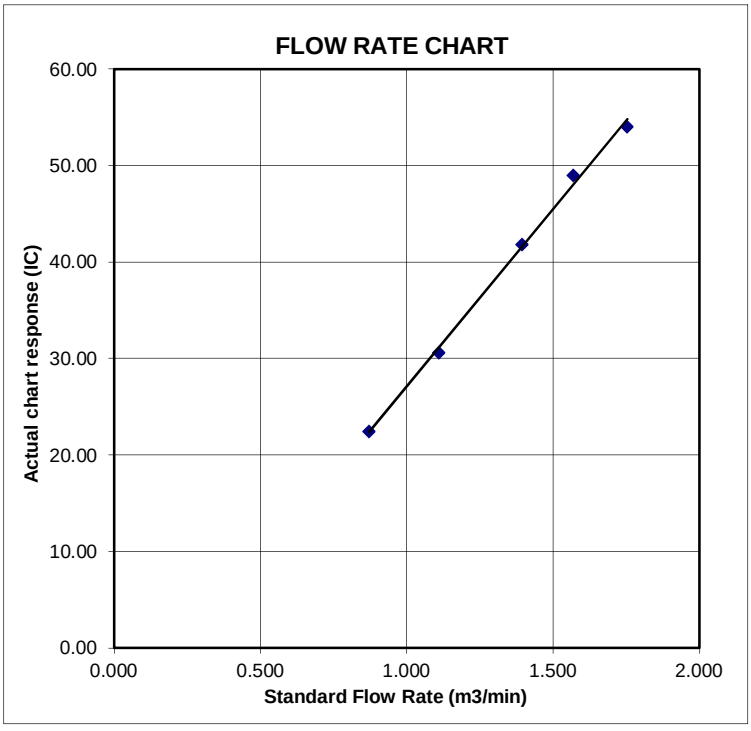
Ta = actual temperature during calibration (deg K)
Pstd = actual pressure during calibration (mm Hg)

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:
February 5, 2020

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 5, 2019	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 753.1	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1941**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.4830	3.2	2.00
2	3	4	1	1.0430	6.4	4.00
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1.0036	0.6767	1.4197	0.9958	0.6714	0.8821
0.9993	0.9581	2.0078	0.9915	0.9506	1.2475
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0.9962	1.1231	2.3544	0.9884	1.1144	1.4628
0.9908	1.3536	2.8395	0.9831	1.3431	1.7642
QSTD	**m=**	**2.09680**	**QA**	**m=**	**1.31298**
	b=	**-0.00065**		**b=**	**-0.00040**
	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

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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. : C203572
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC20-1324) Date of Receipt / 收件日期 : 19 June 2020

Description / 儀器名稱 : Sound Calibrator (EQ082)
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 4231
Serial No. / 編號 : 2713428
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 : 29 June 2020

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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Assistant Engineer

Certified By 核證 : KC Lee
K C Lee
Engineer

Date of Issue 簽發日期 : 6 July 2020

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. : C203572
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	C193756
CL281	Multifunction Acoustic Calibrator	CDK1806821
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	± 0.2	± 0.2
114 dB, 1 kHz	114.1		

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.

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
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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. : C203573
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC20-1324) Date of Receipt / 收件日期 : 19 June 2020

Description / 儀器名稱	:	Integrating Sound Level Meter (EQ010)
Manufacturer / 製造商	:	Brüel & Kjær
Model No. / 型號	:	2238
Serial No. / 編號	:	2285721
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 : 29 June 2020

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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Assistant Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 6 July 2020

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Certificate of Calibration
校正證書

Certificate No. : C203573
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 using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

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	C200258
CL281	Multifunction Acoustic Calibrator	CDK1806821

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.3

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.1 (Ref.)
				104.00		104.0
				114.00		114.0

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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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. : C203573
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	Ref.
	L_{ASP}		S			94.1	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.8	-39.4 ± 1.5
					63 Hz	67.9	-26.2 ± 1.5
					125 Hz	77.9	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.9	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	95.1	+1.0 ± 1.0
					8 kHz	93.0	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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Certificate of Calibration
校正證書

Certificate No. : C203573
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.2	-3.0 ± 1.5
					63 Hz	93.4	-0.8 ± 1.5
					125 Hz	94.0	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	94.0	-0.2 ± 1.0
					4 kHz	93.3	-0.8 ± 1.0
					8 kHz	91.1	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.9	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
						$1/10^2$		90	89.9	± 0.5
			60 sec.			$1/10^3$		80	79.9	± 1.0
			5 min.			$1/10^4$		70	69.7	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812707

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

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

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

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

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

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輝創工程有限公司 - 校正及檢測實驗所
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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. : C203574
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC20-1324) Date of Receipt / 收件日期 : 19 June 2020

Description / 儀器名稱 : Integrating Sound Level Meter (EQ009)
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 2238
Serial No. / 編號 : 2285722
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 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 : 29 June 2020

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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Assistant Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 6 July 2020

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. : C203574
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 using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

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	C200258
CL281	Multifunction Acoustic Calibrator	CDK1806821

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
52 - 132	L_{AFP}	A	F	94.00	1	93.8

6.1.1.2 After Self-calibration

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

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
52 - 132	L_{AFP}	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

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

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Certificate of Calibration
校正證書

Certificate No. : C203574
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
52 - 132	L_{AFP}	A	F	94.00	1	94.0	Ref.
	L_{ASP}		S			94.0	± 0.1
	L_{AIP}		I			94.1	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

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

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
52 - 132	L_{AFP}	A	F	94.00	31.5 Hz	54.5	-39.4 ± 1.5
					63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.8	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

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c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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Certificate of Calibration
校正證書

Certificate No. : C203574
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6.3.2 C-Weighting

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

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
32 - 112	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
						$1/10^2$		90	89.6	± 0.5
			60 sec.			$1/10^3$		80	79.1	± 1.0
			5 min.			$1/10^4$		70	69.2	± 1.0

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

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

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

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

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

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C193784
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-1098) Date of Receipt / 收件日期 : 5 July 2019

Description / 儀器名稱 : Integrating Sound Level Meter (EQ008)
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 2238
Serial No. / 編號 : 2285690
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 : 17 July 2019

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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Assistant Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 22 July 2019

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
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c/o 香港新界屯門興安里一號四樓
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Certificate of Calibration
校正證書

Certificate No. : C193784
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 using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

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	C190176
CL281	Multifunction Acoustic Calibrator	CDK1806821

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.2

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.0	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		113.9

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

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Certificate of Calibration
校正證書

Certificate No. : C193784
證書編號

6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.0	Ref.
	L_{ASP}		S			94.0	± 0.1
	L_{AIP}		I			94.0	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.0	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.7	-39.4 ± 1.5
					63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.9	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.8	-4.3 (+3.0 ; -6.0)

Certificate of Calibration
校正證書

Certificate No. : C193784
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6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.1	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.2	-0.8 ± 1.0
					8 kHz	91.0	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	99.9	± 0.5
						$1/10^2$		90	90.1	± 0.5
			60 sec.			$1/10^3$		80	79.8	± 1.0
			5 min.			$1/10^4$		70	69.7	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2812705

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

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

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

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

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

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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. : C193753
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-1098) Date of Receipt / 收件日期 : 5 July 2019

Description / 儀器名稱	:	Integrating Sound Level Meter (EQ006)
Manufacturer / 製造商	:	Brüel & Kjær
Model No. / 型號	:	2238
Serial No. / 編號	:	2285762
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 : 16 July 2019

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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Assistant Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 22 July 2019

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
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Certificate of Calibration
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Certificate No. : C193753
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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 using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

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	C190176
CL281	Multifunction Acoustic Calibrator	CDK1806821

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.4

6.1.1.2 After Self-calibration

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	± 0.7

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
50 - 130	L_{AFP}	A	F	94.00	1	94.1 (Ref.)
				104.00		104.1
				114.00		114.0

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

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6.2 Time Weighting

6.2.1 Continuous Signal

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
50 - 130	L_{AFP}	A	F	94.00	1	94.1	Ref.
	L_{ASP}		S			94.1	± 0.1
	L_{AIP}		I			94.2	± 0.1

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	104.9	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.0	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	55.2	-39.4 ± 1.5
					63 Hz	68.1	-26.2 ± 1.5
					125 Hz	78.0	-16.1 ± 1.0
					250 Hz	85.4	-8.6 ± 1.0
					500 Hz	90.8	-3.2 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	95.3	+1.2 ± 1.0
					4 kHz	95.1	+1.0 ± 1.0
					8 kHz	93.0	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.9	-4.3 (+3.0 ; -6.0)

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6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.5	-3.0 ± 1.5
					63 Hz	93.4	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.1	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.1	Ref.
					2 kHz	93.9	-0.2 ± 1.0
					4 kHz	93.3	-0.8 ± 1.0
					8 kHz	91.1	-3.0 (+1.5 ; -3.0)
					12.5 kHz	88.0	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	90.0	± 0.5
			60 sec.			$1/10^3$		80	79.2	± 1.0
			5 min.			$1/10^4$		70	69.2	± 1.0

Remarks : - UUT Microphone Model No. : 4188 & S/N : 2658547

- Mfr's Spec. : IEC 60651 Type 1 & IEC 60804 Type 1

- Uncertainties of Applied Value :

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

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

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

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

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

Certificate of Calibration
校正證書

Certificate No. : C200487
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-1098) Date of Receipt / 收件日期 : 7 January 2020

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 : 22 January 2020

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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Assistant Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 24 January 2020

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. : C200487
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	C193756
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	C181288

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.

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. : C193751
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC19-1098) Date of Receipt / 收件日期 : 5 July 2019

Description / 儀器名稱 : Sound Calibrator (EQ083)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-74
Serial No. / 編號 : 34246492
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 : 16 July 2019

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
- The Bruel & Kjaer Calibration Laboratory, Denmark
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Assistant Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 22 July 2019

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
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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. : C193751
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	C183775
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	C181288

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	± 0.3	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	1.002	1 kHz ± 1 %	± 1

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

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

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

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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

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

has been accepted by the HKAS Executive, on the recommendation of the Accreditation Advisory Board, as a
為香港認可處執行機關根據認可諮詢委員會建議而接受的

HOKLAS Accredited Laboratory
「香港實驗所認可計劃」認可實驗所

This laboratory meets the requirements of ISO / IEC 17025 : 2005 – General requirements for the competence
此實驗所符合ISO / IEC 17025 : 2005 –《測試及校正實驗所能力的通用規定》所訂的要求，
of testing and calibration laboratories and it has been accredited for performing specific tests or calibrations as
獲認可進行載於香港實驗所認可計劃《認可實驗所名冊》內下述測試類別中的指定
listed in the HOKLAS Directory of Accredited Laboratories within the test category of
測試或校正工作

Environmental Testing
環境測試

This laboratory is accredited in accordance with the recognised International Standard ISO / IEC 17025 : 2005.
本實驗所乃根據公認的國際標準 ISO / IEC 17025 : 2005 獲得認可。
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory
這項認可資格演示在指定範疇所需的技術能力及實驗所質量管理體系的運作
quality management system (see joint IAF-ILAC-ISO Communiqué).
(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 the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
香港認可處根據認可處執行機關的權限在此蓋上通用印章

CHAN Sing Sing, Terence, Executive Administrator
執行幹事 陳成城
Issue Date : 5 May 2009
簽發日期：二零零九年五月五日

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

L 000552

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-Jul-20			
Thu	2-Jul-20			✓
Fri	3-Jul-20	✓	✓	
Sat	4-Jul-20			
Sun	5-Jul-20			
Mon	6-Jul-20			
Tue	7-Jul-20			
Wed	8-Jul-20	CN1, CN2, CN3 and NMS8		✓
Thu	9-Jul-20	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Fri	10-Jul-20			
Sat	11-Jul-20			
Sun	12-Jul-20			
Mon	13-Jul-20			
Tue	14-Jul-20	CN1, CN2, CN3 and NMS8		✓
Wed	15-Jul-20	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Thu	16-Jul-20			
Fri	17-Jul-20			
Sat	18-Jul-20			
Sun	19-Jul-20			
Mon	20-Jul-20	CN1, CN2, CN3		✓
Tue	21-Jul-20	NMS2, NMS3, NMS-4a, NMS5, NMS6, NMS7 and NMS8	✓	
Wed	22-Jul-20			
Thu	23-Jul-20			
Fri	24-Jul-20			
Sat	25-Jul-20			✓
Sun	26-Jul-20			
Mon	27-Jul-20	NMS2, NMS3, NMS-4a, NMS5, NMS6, NMS7 and NMS8	✓	
Tue	28-Jul-20			
Wed	29-Jul-20			
Thu	30-Jul-20			
Fri	31-Jul-20	CN1, CN2, CN3		✓

✓	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
Sat	1-Aug-20		✓	
Sun	2-Aug-20			
Mon	3-Aug-20			
Tue	4-Aug-20			
Wed	5-Aug-20			
Thu	6-Aug-20	CN1, CN2, CN3 and NMS8		✓
Fri	7-Aug-20	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Sat	8-Aug-20			
Sun	9-Aug-20			
Mon	10-Aug-20			
Tue	11-Aug-20			
Wed	12-Aug-20	CN1, CN2, CN3 and NMS8		✓
Thu	13-Aug-20	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Fri	14-Aug-20			
Sat	15-Aug-20			
Sun	16-Aug-20			
Mon	17-Aug-20			
Tue	18-Aug-20	CN1, CN2, CN3 and NMS8		✓
Wed	19-Aug-20	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Thu	20-Aug-20			
Fri	21-Aug-20			
Sat	22-Aug-20			
Sun	23-Aug-20			
Mon	24-Aug-20	CN1, CN2, CN3 and NMS8		✓
Tue	25-Aug-20	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Wed	26-Aug-20			
Thu	27-Aug-20			
Fri	28-Aug-20			
Sat	29-Aug-20			✓
Sun	30-Aug-20			
Mon	31-Aug-20			

✓	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)	($\mu g/m^3$)
2-Jul-20	25791	22675.61	22699.61	1440	31	32	31.5	27.7	1006.4	1.12	1613	2.812	2.84	0.028	17
8-Jul-20	25909	22699.61	22723.61	1440	31	32	31.5	28.9	1005.7	1.12	1610	2.7599	2.8039	0.044	27
14-Jul-20	25901	22723.61	22747.61	1440	30	32	31	30.6	1006.5	1.10	1580	2.8193	2.8594	0.0401	25
20-Jul-20	26050	22747.61	22771.61	1440	31	32	31.5	28.8	1006	1.12	1610	2.8372	2.8578	0.0206	13
25-Jul-20	25949	22771.61	22795.61	1440	31	32	31.5	28.8	1005.3	1.12	1609	2.772	2.7956	0.0236	15
31-Jul-20	26056	22795.61	22819.61	1440	30	32	31	28.8	1004.7	1.10	1583	2.8172	2.8436	0.0264	17

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)	($\mu g/m^3$)
2-Jul-20	26006	9288.06	9312.06	1440.00	30	31	30.5	28.7	1006.4	1.00	1443	2.8140	2.8358	0.0218	15
8-Jul-20	26017	9312.06	9336.06	1440.00	30	32	31.0	28.8	1005.8	1.02	1469	2.8180	2.8654	0.0474	32
14-Jul-20	25910	9336.06	9360.06	1440.00	30	32	31.0	30.6	1006.5	1.02	1465	2.7999	2.8445	0.0446	30
20-Jul-20	26047	9360.06	9384.06	1440.00	30	32	31.0	28.8	1006	1.02	1469	2.8008	2.8416	0.0408	28
25-Jul-20	25957	9384.06	9408.06	1440.00	30	32	31.0	30.7	1007.3	1.02	1465	2.7620	2.8118	0.0498	34
31-Jul-20	25995	9408.56	9432.06	1410.00	22	22	22.0	28.8	1004.7	0.68	958	2.7750	2.7842	0.0092	10

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)	($\mu g/m^3$)
2-Jul-20	26005	14492.01	14516.01	1440.00	30	32	31.0	28.7	1006.4	1.21	1735	2.8232	2.8433	0.0201	12
8-Jul-20	26010	14516.01	14540.01	1440.00	30	32	31.0	28.8	1005.8	1.20	1735	2.8066	2.8405	0.0339	20
14-Jul-20	25941	14540.01	14564.01	1440.00	30	32	31.0	30.6	1006.5	1.20	1732	2.7113	2.8031	0.0918	53
20-Jul-20	26048	14564.01	14588.01	1440.00	30	32	31.0	28.8	1006	1.20	1735	2.8275	2.8521	0.0246	14
25-Jul-20	25958	14588.01	14612.01	1440.00	30	32	31.0	30.7	1007.3	1.20	1732	2.7918	2.8257	0.0339	20
31-Jul-20	25996	14612.01	14636.01	1440.00	30	32	31.0	28.8	1004.7	1.20	1734	2.7660	2.7960	0.0300	17

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)	($\mu g/m^3$)
2-Jul-20	26002	9852.14	9876.14	1440.00	30	32	31.0	28.7	1006.4	1.18	1702	2.8037	2.8366	0.0329	19
8-Jul-20	26011	9876.14	9900.14	1440.00	31	32	31.5	28.7	1005.7	1.19	1721	2.8310	2.8885	0.0575	33
14-Jul-20	25908	9900.14	9924.14	1440.00	30	32	31.0	30.6	1006.5	1.18	1698	2.7817	2.8041	0.0224	13
20-Jul-20	26049	9924.15	9948.15	1440.00	31	32	31.5	28.8	1006	1.19	1721	2.7917	2.8197	0.0280	16
25-Jul-20	25948	9948.15	9972.15	1440.00	31	32	31.5	28.8	1005.3	1.19	1720	2.7499	2.7696	0.0197	11

31-Jul-20	26057	9972.15	9996.15	1440.00	30	32	31.0	28.8	1004.7	1.18	1700	2.8033	2.8388	0.0355	21

NOISE MONITORING RESULT DATABASE FOR CONTRACT 1

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)			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)		
3-Jul-20	10:37	57	58.5	55.7	57.2	59	55.5	59.2	61.3	56.1	60.3	62.3	56.4	59.8	61.5	56.2	56.8	57.6	56	59	70
9-Jul-20	14:22	63.8	66	60.5	63.1	65.7	60.2	62.4	65	58.5	61.6	64.7	57.7	63.5	66.3	58	62.8	65.9	57	63	70
15-Jul-20	11:08	61.3	63	60	59.5	61.5	56.3	60.2	62.4	59.8	58.4	60.6	56.8	57.5	59.3	55.5	57.9	60	55.7	59	70
21-Jul-20	14:52	60.8	62	59.5	60.3	61	59.4	60	60.8	59.2	60.2	61.1	59.2	60.5	61.1	59.3	61.7	62.9	59.1	61	70
27-Jul-20	14:46	59.1	61	57	59.3	60.7	57.6	58.4	59.3	56.8	58.3	60	56.3	58.5	60.3	56.9	59.5	61.7	57.3	59	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)		
3-Jul-20	9:40	60.2	61.5	58.2	60.4	62.2	58.9	60.9	62.7	58.6	60.7	62.1	58.8	61.5	62.1	59.6	61.6	62.0	59.3	61	75
9-Jul-20	9:30	64.3	66.8	61.4	65.6	67.9	63.6	63.2	65.7	60.8	66.1	69.1	64.2	64.8	67.0	61.8	62.9	65.2	60.4	65	75
15-Jul-20	14:11	63.3	66.7	59.1	62.8	65.0	59.1	63.1	65.3	59.1	63.2	66.2	59.7	62.9	65.7	59.6	65.1	68.2	60.6	63	75
21-Jul-20	9:20	60.6	62.2	58.7	60.9	62.6	59.1	61.9	64.2	59.4	61.3	62.9	59.5	60.8	62.1	59.1	60.2	61.5	58.6	61	75
27-Jul-20	13:08	62.1	63.1	61.2	62.2	63.1	61.3	62.7	63.7	61.6	63.1	64.1	62.1	63.4	64.2	62.5	62.8	63.8	62.0	63	75

Noise Measurement Results (dB) of NMS4a

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
3-Jul-20	13:55	68	69.6	65.8	68.1	70.1	65.6	67.9	69.9	65.4	68	70.1	65.4	67.5	69.1	65.2	68.5	70.8	65.9	68	75
9-Jul-20	10:20	69.5	71.3	66.9	71.5	73.9	68.4	68.9	71.1	66.1	68.8	71	65.8	72.9	70.8	65.2	69.3	71.9	65.7	70	75
15-Jul-20	9:30	69.2	71.1	66.2	68.5	70.8	65.3	69.2	71.1	66.9	67.5	69.6	64.9	68.6	71	65.9	67.8	69.6	65.2	69	75
21-Jul-20	14:11	69.9	72	66.7	69.3	71.5	66.5	70	71.9	66.7	69.7	71.8	66.8	70.3	72.5	67	68.6	70.4	66	70	75
27-Jul-20	9:43	64.3	65.9	62.4	65.9	67.2	63.1	64.7	65.6	63.4	64.2	65.3	62.9	63	64.3	61.8	64.2	65.8	62.5	64	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)		
3-Jul-20	9:51	69.2	70.8	66.2	69.7	71.9	66.4	69.9	71.4	67	69	71	66.1	69.3	70.6	66.4	69.5	71.9	66.2	69	75
9-Jul-20	13:14	65.6	65.7	63.5	64.1	64.9	63.2	64.7	65.4	63.1	64.2	65.2	63.2	64	64.8	63	64.2	65.2	63.3	65	75
15-Jul-20	10:28	70.2	72.6	66.9	71.4	74.9	67	71.5	74.9	66.9	72.9	75.9	66.9	69.9	72.7	65.9	70.3	73.4	75.5	71	75
21-Jul-20	10:30	68.4	69.6	67.2	68	69	66.8	68.1	69.2	67	68.1	69	67	67.7	68.7	66.7	67.9	69.1	66.6	68	75
27-Jul-20	10:32	62.3	63.2	61.2	63.7	63.5	61	61.4	62.7	60	61	61.9	60.1	60.7	61.5	59.8	61	62	59.8	62	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)		
3-Jul-20	14:21	66.1	68.3	63	67.1	69.2	64.3	67.9	69.7	65.4	66.9	68.9	64.6	67.9	69.9	65.4	67	68.5	65.1	67	75
9-Jul-20	10:20	63.1	65.9	57.9	64	66	61	63.4	65.3	60.4	63.4	65.8	59.1	64.8	66.9	61	65.7	67.9	62.8	64	75
15-Jul-20	14:50	63.5	64.7	61.9	65.1	67.6	61.3	64.2	65.9	62	64.3	66.4	62	65	66.2	63.5	66.1	68.4	62.8	65	75
21-Jul-20	10:46	64.5	66.1	61.6	63.1	65.7	60.9	64.5	65.1	59.3	65.7	66.5	60.5	65	66.4	61.3	66	67.4	62	65	75
27-Jul-20	10:28	67	69.6	63	66.9	69.3	63.4	66.1	68.5	62.8	65.1	67.6	61	66.5	68.7	63	65.6	67.9	62.9	66	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)		
3-Jul-20	15:09	64.3	66.7	60.5	65	66.6	62.8	66.1	69.8	61.4	66	68.3	62.3	64.2	66.6	60.6	62.4	64.1	60.1	65	75
9-Jul-20	14:22	65	67.4	61.6	64.7	67.1	59.8	65.8	68.1	62.6	65.8	67.9	62.5	65.7	68.7	62.1	65	67.1	61.4	65	75
15-Jul-20	15:38	64.3	66.3	62.2	65.2	67.8	62	66.7	69.3	62.8	66.4	68.6	63.4	65.3	67.3	62.7	66.9	69.8	63	66	75
21-Jul-20	9:55	64.6	67.6	59.3	65.2	68.9	62.3	65.6	67.6	62.8	64.5	66.6	61.9	67.6	70.5	62.8	68.3	71	63.7	66	75
27-Jul-20	9:46	72.1	74.9	64.6	71.6	74.7	63.9	69.4	73.2	61.9	70.6	74.2	63.5	69.3	73.2	61.1	71	74	63.8	71	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)		
3-Jul-20	13:31	59.3	61.5	56	61.8	65	57.1	61.5	64.5	57.2	64.6	67.7	59.6	65.5	68.8	57.8	59.9	60.7	59.3	63	75
8-Jul-20	13:18	56.2	59.2	53.1	58.2	60.2	54.7	60.5	62.4	55.8	59.3	62.1	55.3	56.8	59.7	53.5	58.7	60.5	55.1	59	75
14-Jul-20	13:08	64.3	66.7	61.7	63.2	65.8	60.8	63.2	65.3	58.3	65	66.8	59.6	62.2	63.9	60.1	62.8	64.2	59.3	64	75
21-Jul-20	13:51	62.8	64.3	57.9	61.8	63.1	58.4	64.6	66	59.4	61.7	63	57.7	61.7	63.2	57	63.5	65.2	58.5	63	75

27-Jul-20	13:40	56.8	57.3	51.6	57.5	59.1	51.9	56.5	57.4	52.8	57.5	58.8	52.8	58.6	59.4	53.8	58.4	59.8	52	58	75

NOISE MONITORING RESULT DATABASE FOR CONTRACT 3

Noise Measurement Results (dB) of CN1

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)		
3-Jul-20	16:39	65.4	67.8	62.3	66.5	68.5	62.9	62.6	64.4	59.8	63.2	64.7	60.5	67.3	70.2	63.7	65.6	67.4	61.2	65	70
8-Jul-20	15:45	68.4	70.2	65.2	64.6	66.2	63.1	66.6	68.3	64.8	65.4	67.3	62.6	63.7	65.5	61.8	62.9	65.1	60.9	66	70
14-Jul-20	15:31	64.7	65.8	63.6	63.8	64.6	61.5	65.2	66.8	64.2	67.3	68.9	65.6	68.4	69.8	66.8	64.2	65.1	63.2	66	70
20-Jul-20	11:14	60.3	60.6	59.9	63.8	63.9	58.9	59.8	60.9	57.7	59.7	60.8	58.5	61	59.7	56.1	58	58.2	56	61	70
31-Jul-20	16:08	63	65.8	59.2	62.2	63.6	60.4	63.1	65.2	59.8	61.8	64.4	56.4	62.6	65.5	57.5	61.7	64.5	56.7	62	70

Noise Measurement Results (dB) of CN2

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)**		
3-Jul-20	15:55	62.4	65.3	58.8	63.2	65.8	59.2	60.3	62.4	57.6	65.2	68.8	62.6	66.2	69.4	63	61.6	64.4	58.2	64	70
8-Jul-20	15:03	64.3	66.8	59.5	62.6	64.8	59.1	63.4	65.2	60.1	60.6	63.2	58.3	58.7	60.7	57.4	57.7	59.8	56.8	62	70
14-Jul-20	14:48	58.6	60.4	56.9	59.3	61.1	57.4	61.6	62.8	60.5	62.1	64.4	61.4	59.9	61.4	58.2	60.6	61.8	59.9	61	70
20-Jul-20	10:38	64.6	64.7	58	66.5	67.6	59.1	62.7	64.5	58.1	63.5	65	59.7	61.7	64.5	58	63.5	65.5	59.2	64	70
31-Jul-20	15:15	61.8	63.4	58.5	61.6	63.2	58.4	58.7	61.6	54.2	60.2	61.6	59.7	59	62.4	54.6	58.9	60.3	57.2	60	70

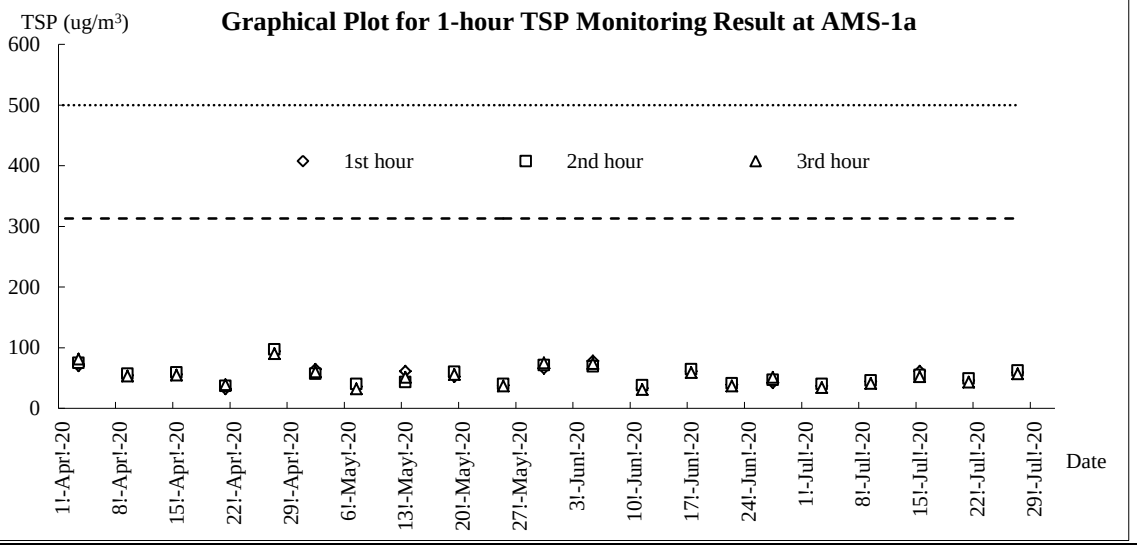
Noise Measurement Results (dB) of CN3

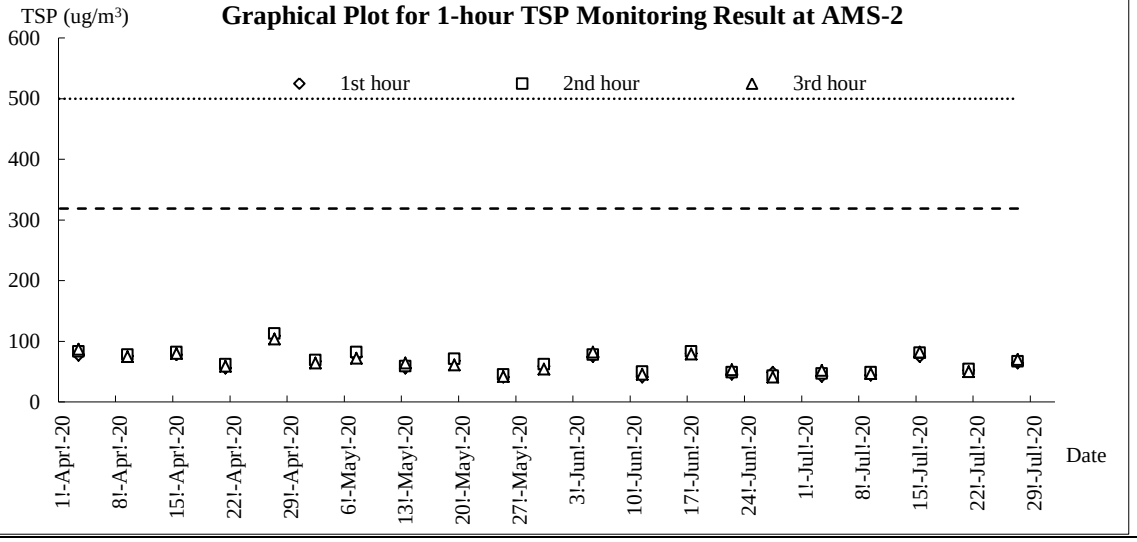
Date	**Start Time**	**1st Leq (5min)**			**2nd Leq (5min)**			**3rd Leq (5min)**			**4th Leq (5min)**			**5th Leq (5min)**			**6th Leq (5min)**			**Leq30min, dB(A)**	**Limit Level dB(A)**
		Leq, dB(A)	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**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)**		
3-Jul-20	14:32	59.8	62	57.1	61.2	62.1	55.9	61.7	62.4	55.7	57.9	59.9	55.3	59.8	61.8	55.6	60.8	62.1	57.9	60	75
8-Jul-20	14:11	63.8	66.1	61.3	65.6	67.3	64.5	66.1	68.6	65.2	64.3	66.9	62.2	63.6	66.3	61.8	65.2	67.5	64.4	65	75
14-Jul-20	13:59	64.4	66	63.2	63.7	65.6	62.7	62.9	64.5	61.4	65.5	66.9	64.2	64.9	66.5	63.8	63.5	65.2	62.5	64	75
20-Jul-20	9:22	63.7	65.6	57.5	60.4	63.5	56.9	59.7	61.1	56.7	60.8	62.1	55.5	60.5	62.7	56.6	57.2	59.3	55.1	61	75
31-Jul-20	14:21	62.7	65.2	59.4	63.3	65.6	58.7	64.4	66.8	58.2	64.1	66.1	59.2	63.8	66	57.4	64	66	58.6	64	75

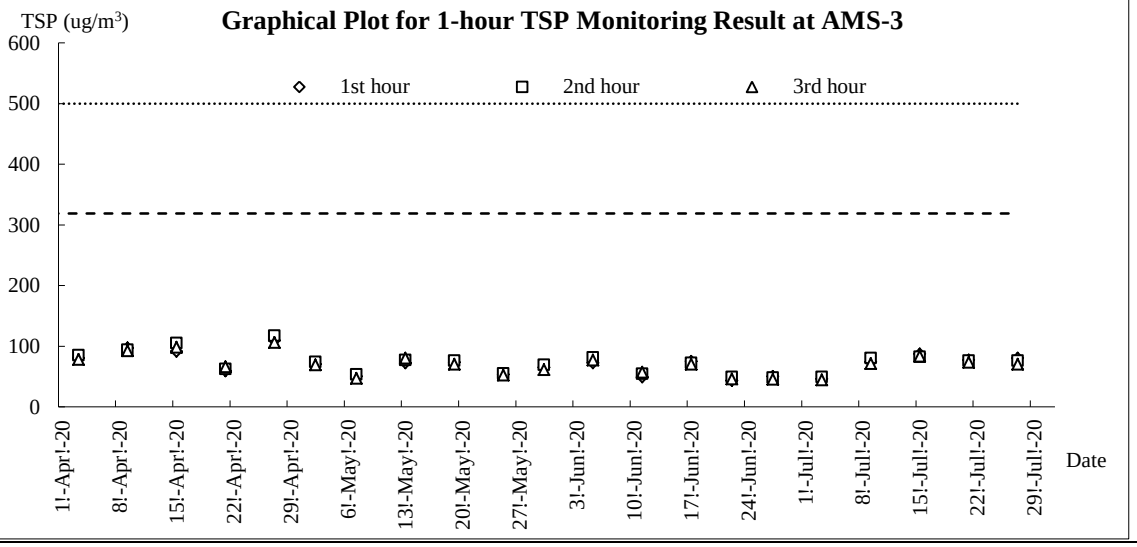
Appendix I

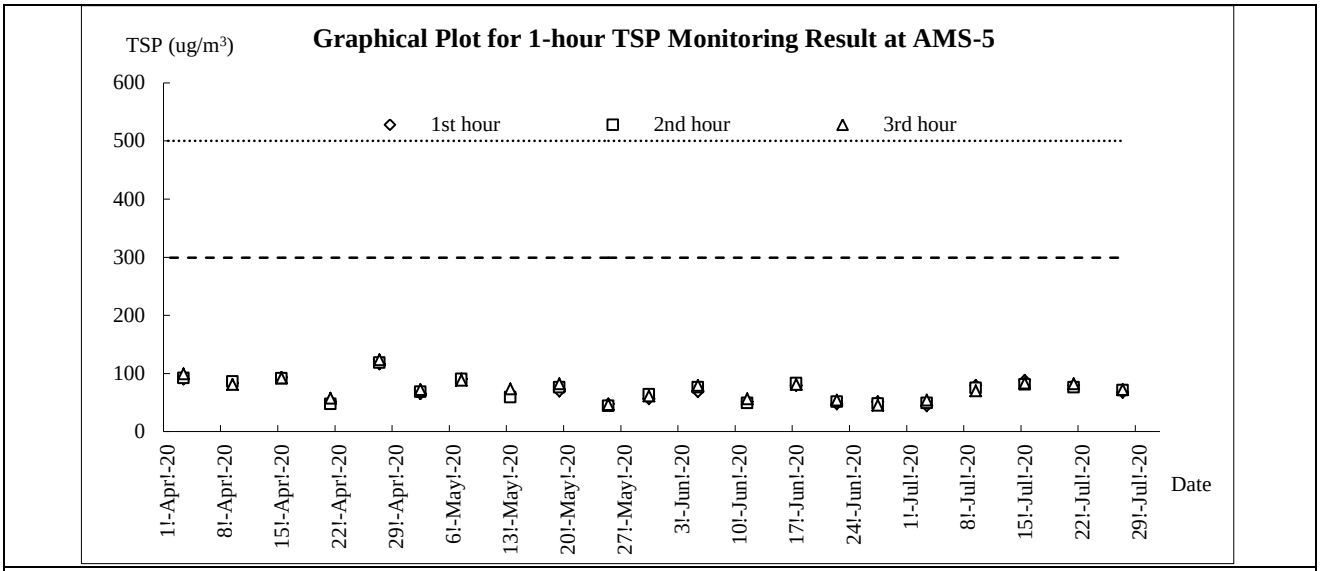
Graphical Plots for Monitoring Result

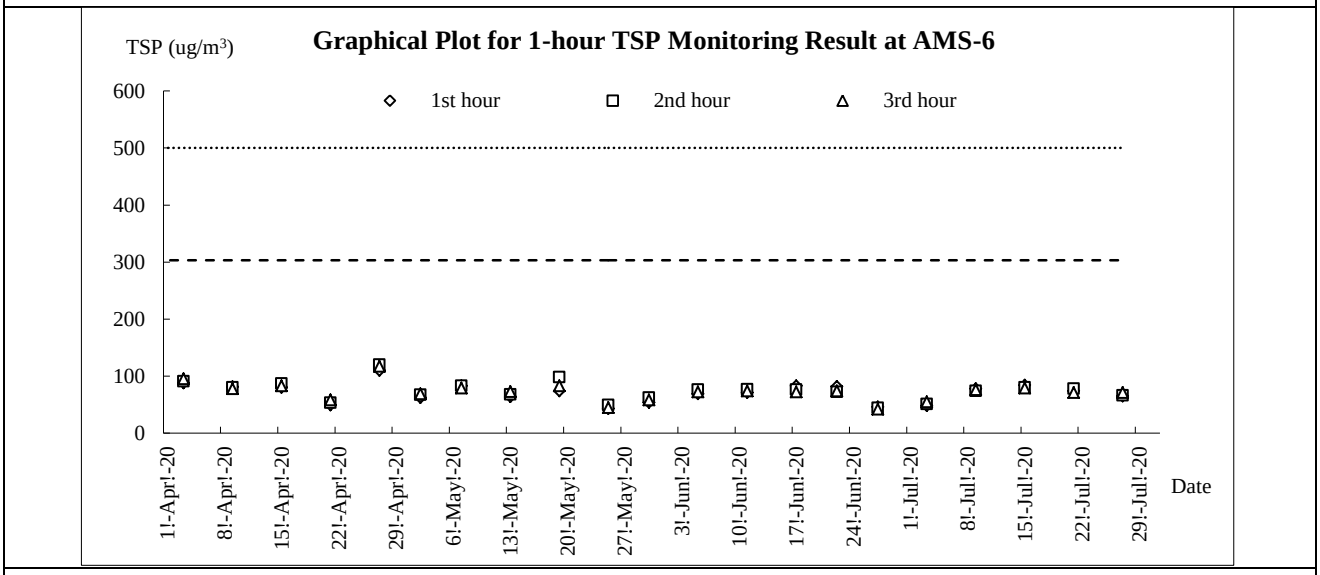
Air Quality – 1-hour TSP

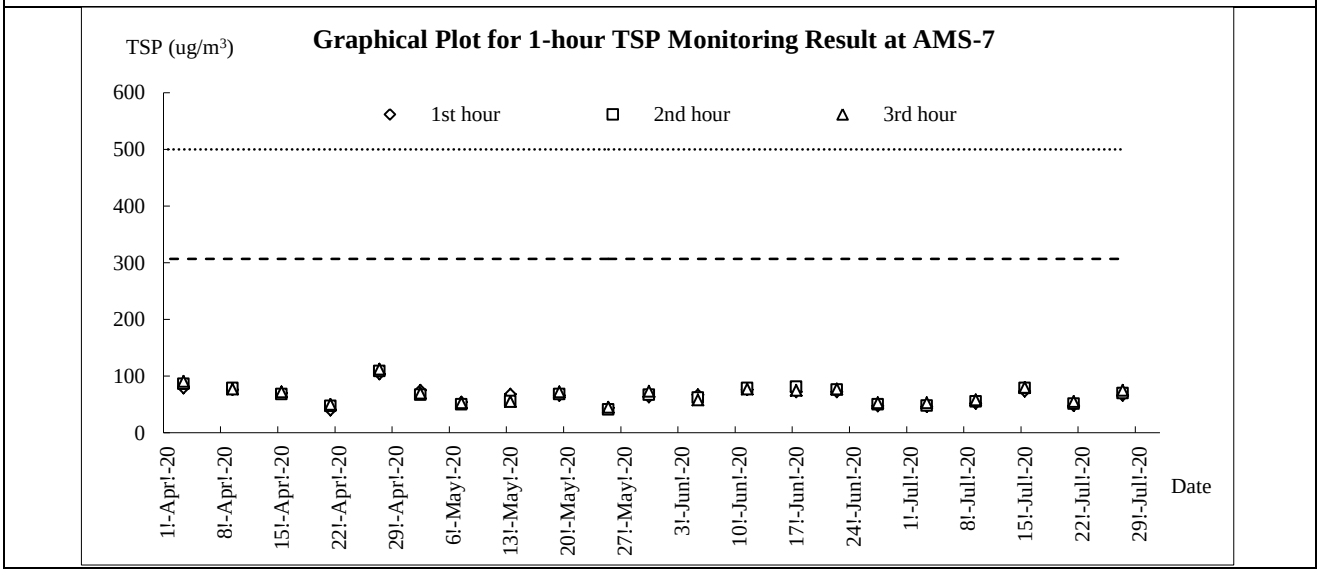




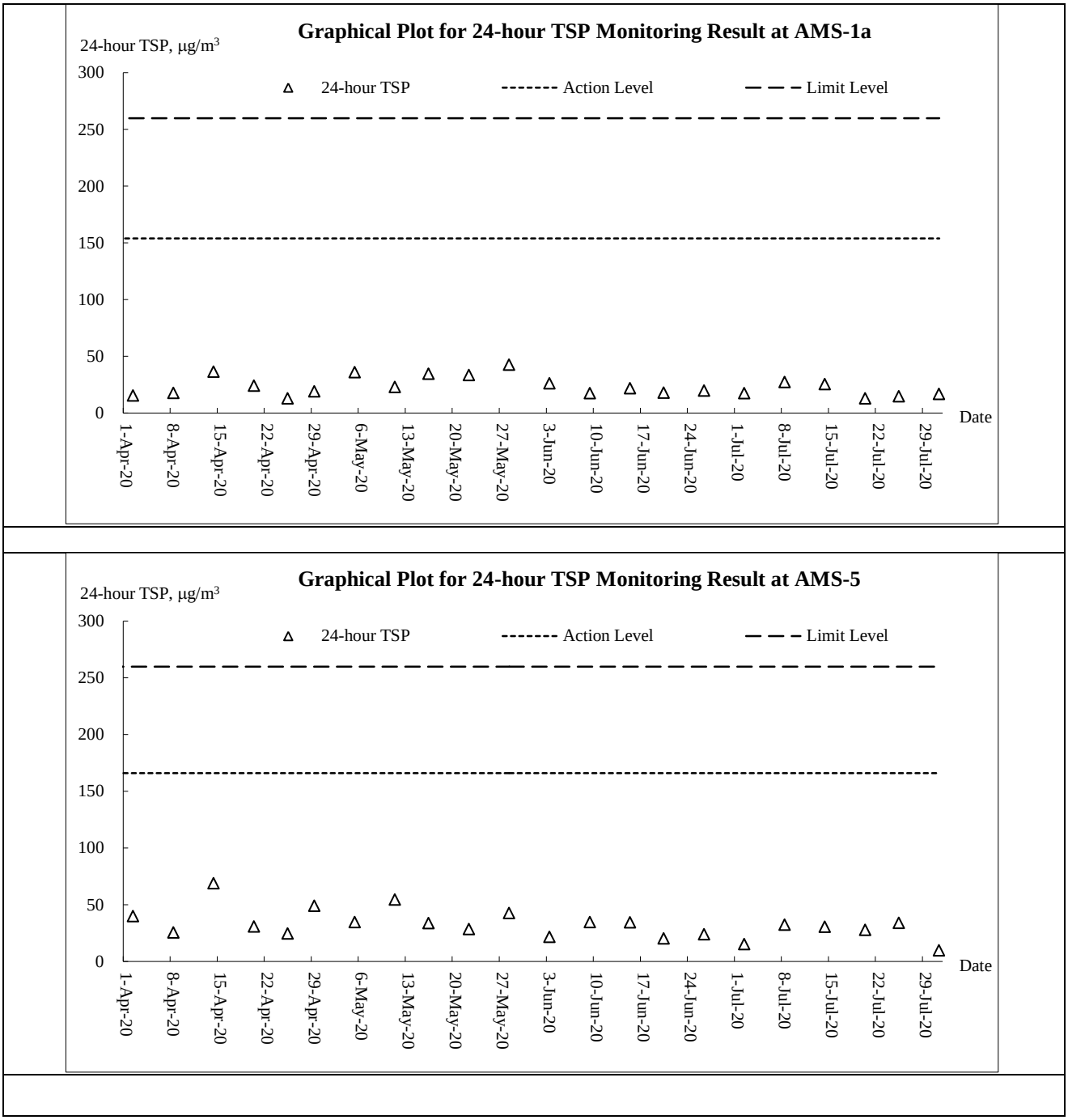


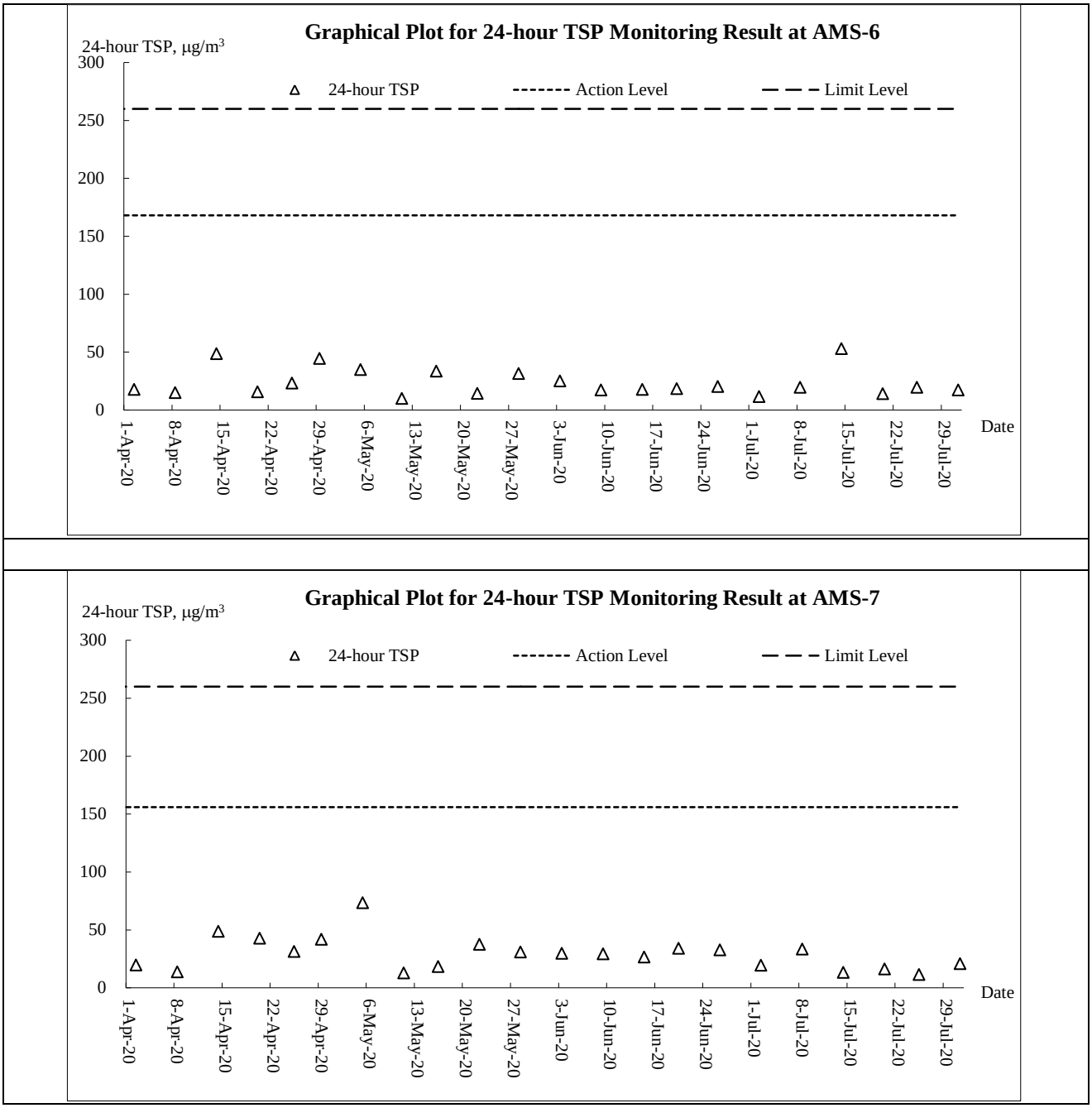

Graphical Plot for 1-hour TSP Monitoring Result at AMS-5
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
11-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20
Date


Graphical Plot for 1-hour TSP Monitoring Result at AMS-6
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
11-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20
Date


Graphical Plot for 1-hour TSP Monitoring Result at AMS-7
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
11-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20
Date

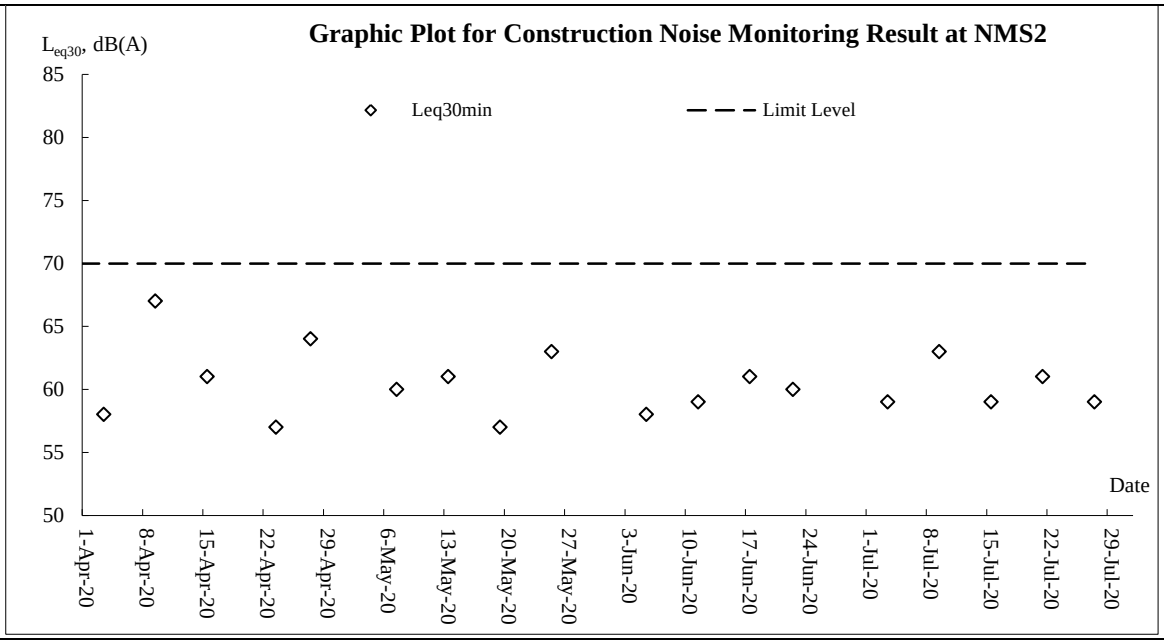
Air Quality – 24-hour TSP

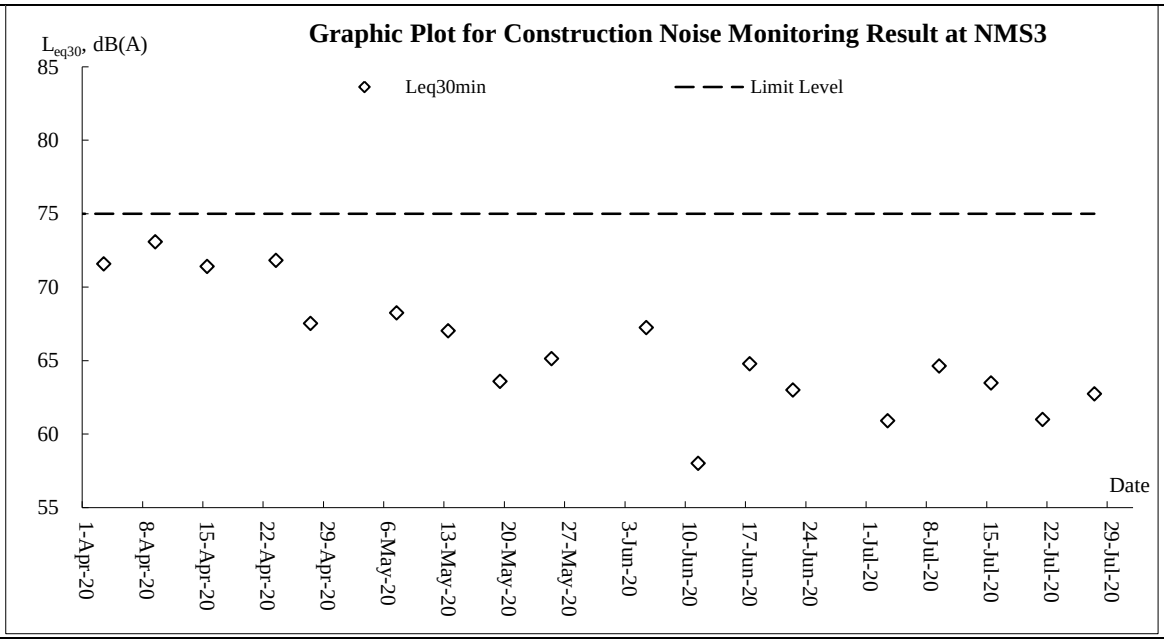


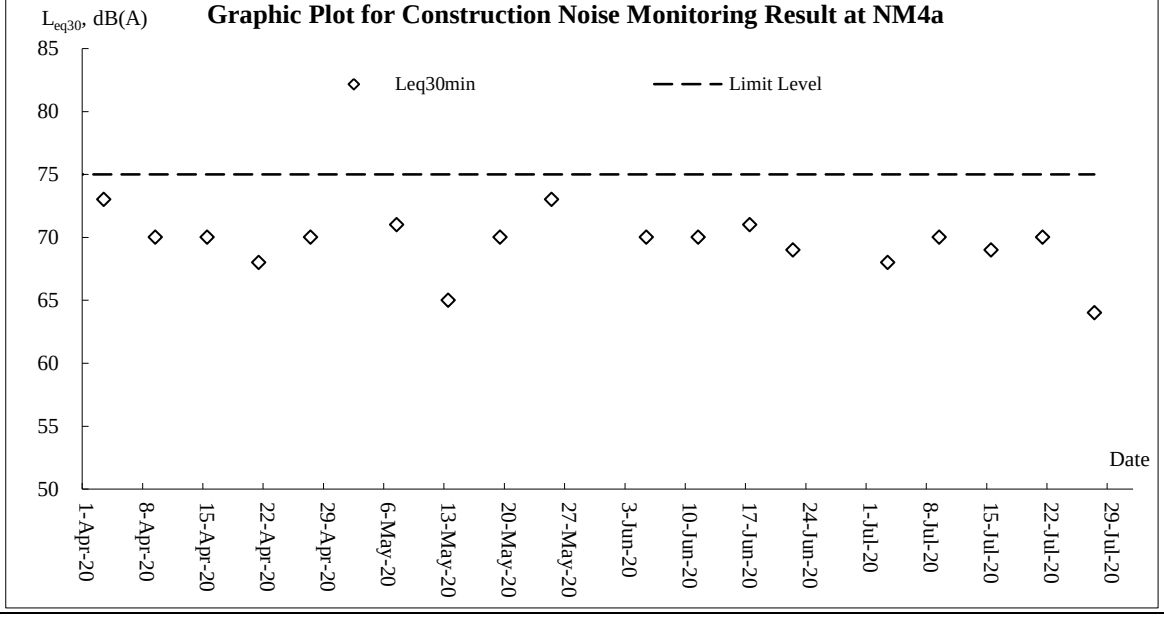

Graphical Plot for 24-hour TSP Monitoring Result at AMS-6
24-hour TSP, μg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20
Date

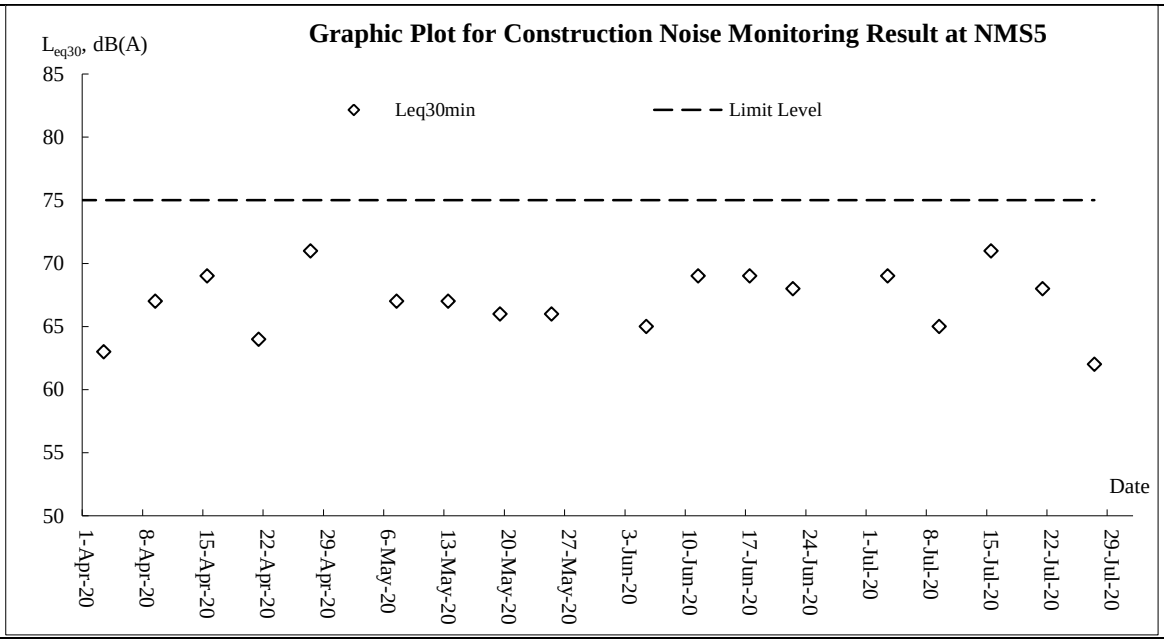
Graphical Plot for 24-hour TSP Monitoring Result at AMS-7
24-hour TSP, μg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20
Date

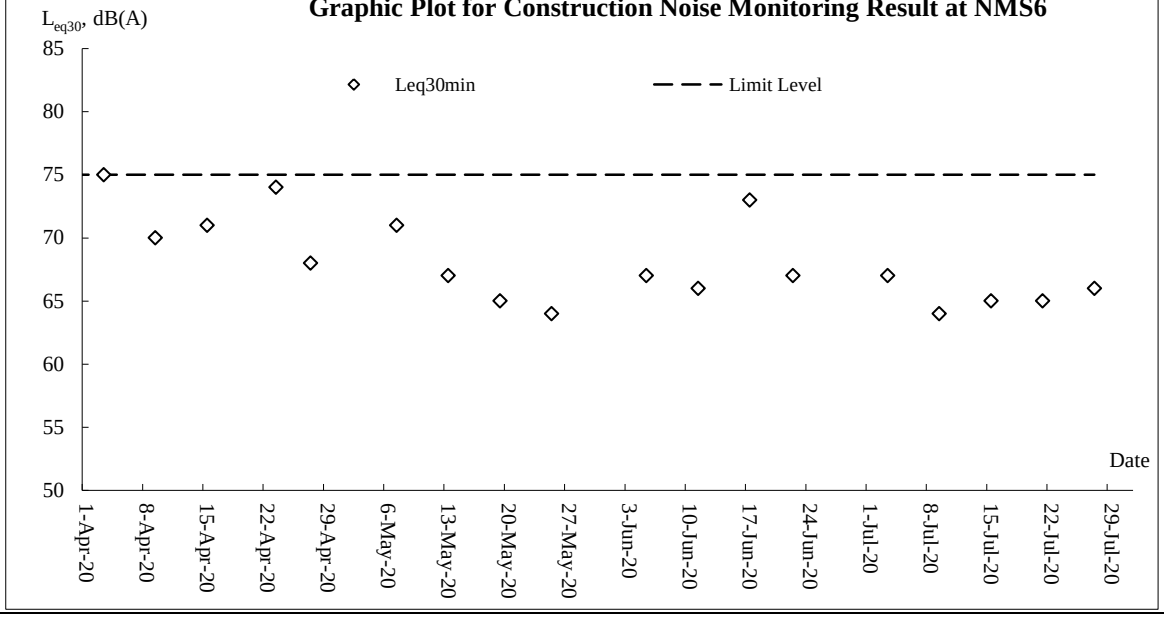
Noise

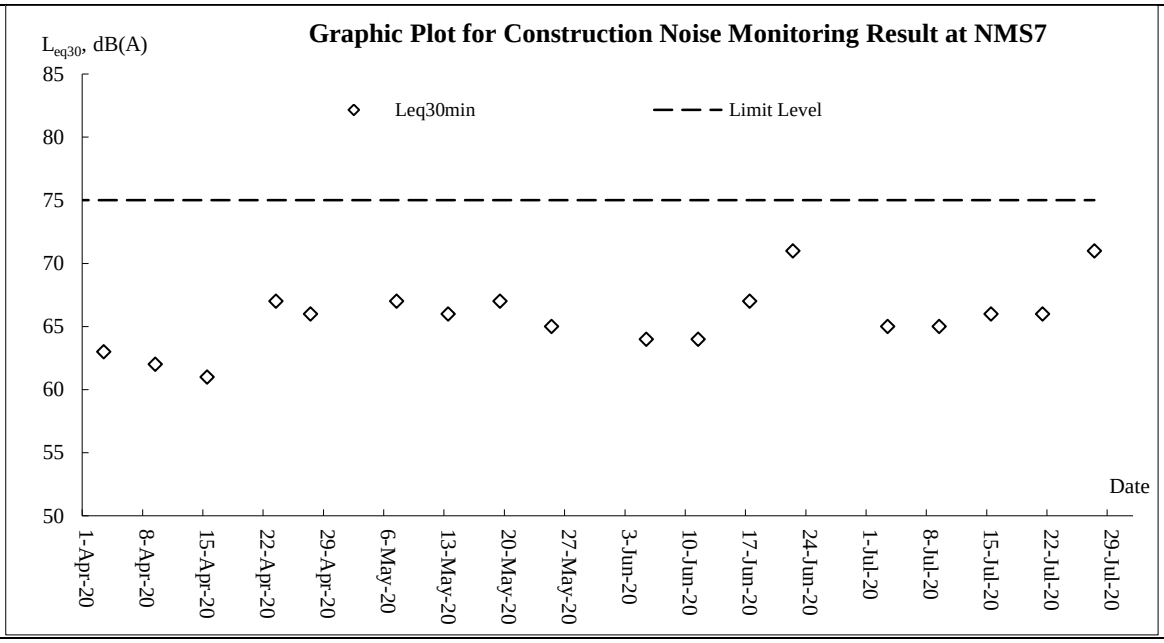

Graphic Plot for Construction Noise Monitoring Result at NMS2
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20

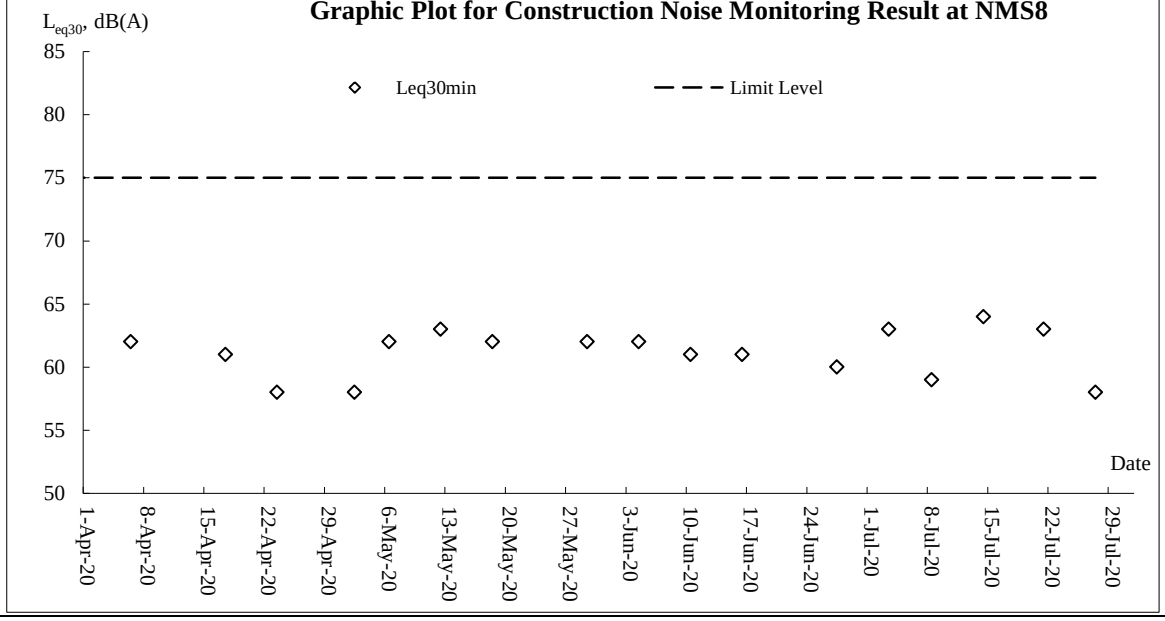

Graphic Plot for Construction Noise Monitoring Result at NMS3
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
Date
1-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20

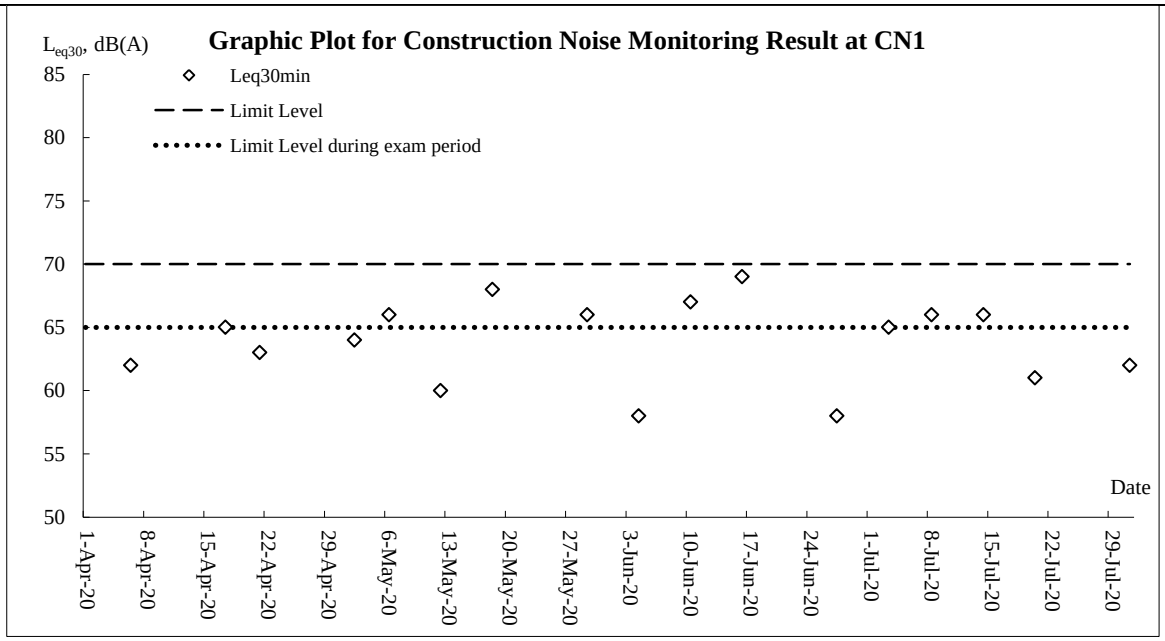

Graphic Plot for Construction Noise Monitoring Result at NM4a
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20


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-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20


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-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20


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-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20


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-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20


Graphic Plot for Construction Noise Monitoring Result at CN1
L_{eq30}, dB(A)
Leq30min
Limit Level
Limit Level during exam period
85
80
75
70
65
60
55
50
Date
1-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
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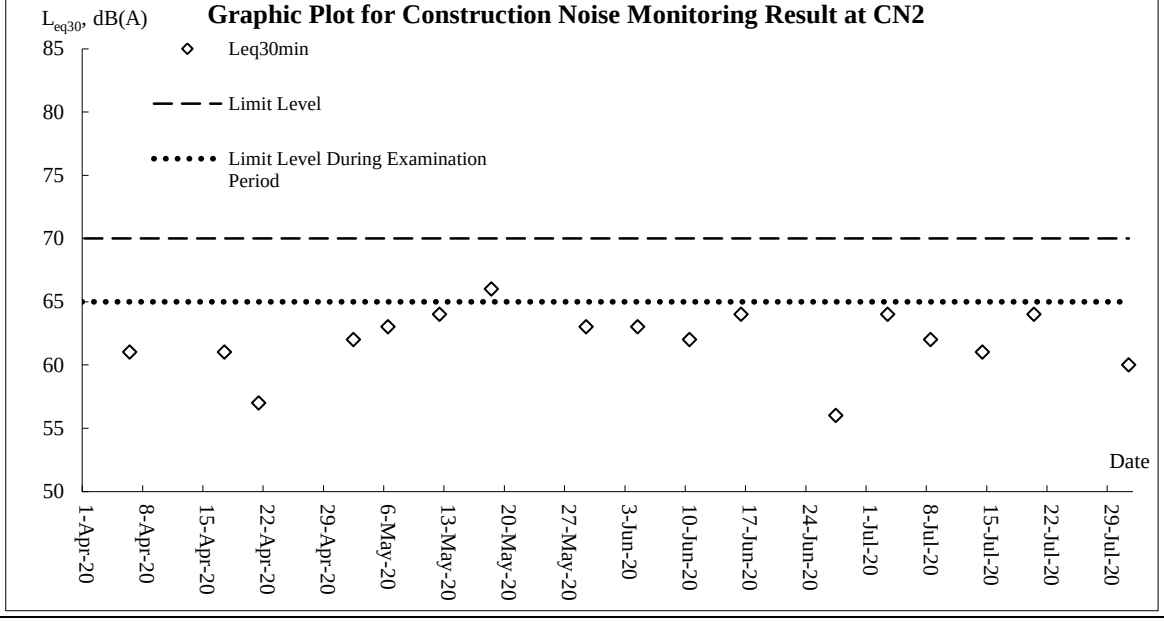
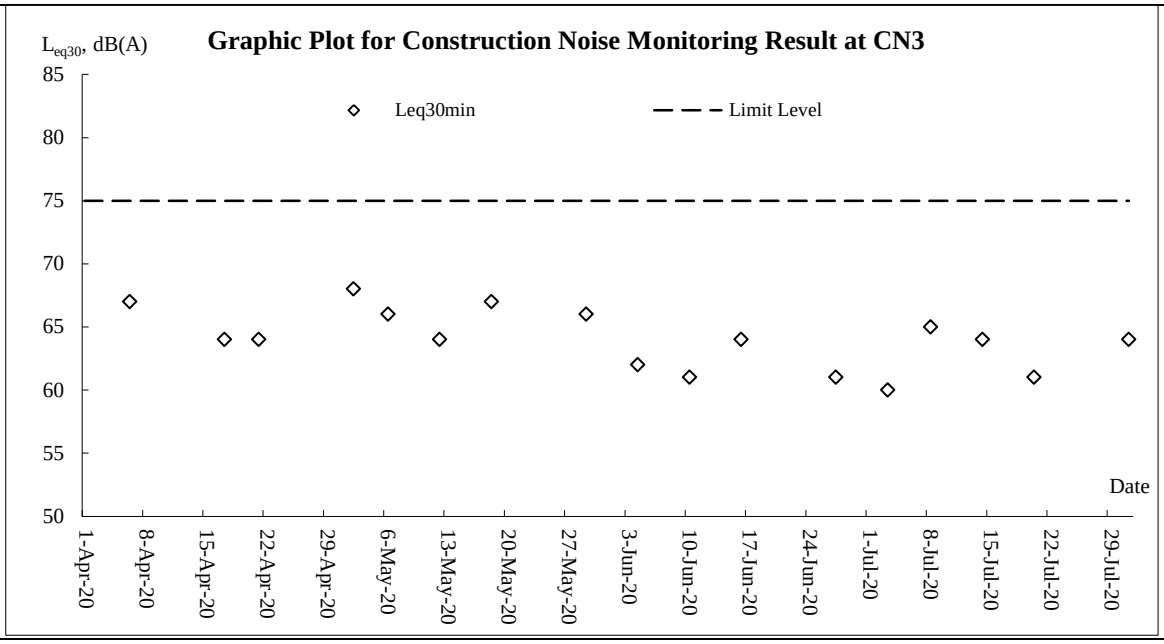
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20


Graphic Plot for Construction Noise Monitoring Result at CN2
L_{eq30}, dB(A)
Leq30min
Limit Level
Limit Level During Examination Period
85
80
75
70
65
60
55
50
Date
1-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20


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-Apr-20
8-Apr-20
15-Apr-20
22-Apr-20
29-Apr-20
6-May-20
13-May-20
20-May-20
27-May-20
3-Jun-20
10-Jun-20
17-Jun-20
24-Jun-20
1-Jul-20
8-Jul-20
15-Jul-20
22-Jul-20
29-Jul-20

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-Jul-20	Wed	Hot. Occasional showers.	1.1	31.6	12.5	E/SE	79.7
2-Jul-20	Thu	Moderate southerly winds.	9.3	30.5	11	SE	79.5
3-Jul-20	Fri	Isolated thunderstorms at first. Sunny intervals	29.5	30.8	8.5	S/SE	81
4-Jul-20	Sat	Mainly fine. Very hot	8.3	32.2	10.2	SW	79
5-Jul-20	Sun	Moderate southerly winds.	1.3	31.5	12.5	SW	73.2
6-Jul-20	Mon	Very hot apart from isolated showers in the afternoon.	4.1	31.8	11	SW	73.5
7-Jul-20	Tue	Mainly fine apart from one or two showers.	0.7	31.5	11.2	SW	76.2
8-Jul-20	Wed	Very hot in the afternoon.	0.6	31.3	13.2	SW	81.5
9-Jul-20	Thu	Very hot in the afternoon.	Trace	31.6	15.2	SW	80
10-Jul-20	Fri	Mainly cloudy and hot with one or two showers.	0	31.6	11.5	S	77.2
11-Jul-20	Sat	Sunny intervals during the day.	0	32.5	10.7	SW	69.5
12-Jul-20	Sun	Moderate southwesterly winds, fresh offshore.	0	32.7	7.5	SW	70.7
13-Jul-20	Mon	Mainly fine. Very hot in the afternoon.	0	32.7	8.7	SW	73.5
14-Jul-20	Tue	Cloudy periods tonight. Light to moderate southwesterly winds.	0	33.5	11.2	W/SW	73.2
15-Jul-20	Wed	Mainly fine apart from one or two isolated showers.	0	32.6	14.2	W/SW	72
16-Jul-20	Thu	Very hot in the afternoon.	2.4	32	11.2	SW	77.5
17-Jul-20	Fri	Moderate south to southwesterly winds.	2.5	31.2	9.5	SW	77.5
18-Jul-20	Sat	Mainly fine apart from one or two showers	2.2	32.4	10.5	S/SE	72.2
19-Jul-20	Sun	Very hot during the day.	0	32.1	10	S/SE	72
20-Jul-20	Mon	Light to moderate southeasterly winds.	3.1	31.9	6.2	S/SW	76
21-Jul-20	Tue	Fine and very hot.	0	32.3	8.7	SE	74.5
22-Jul-20	Wed	Light to moderate south to southwesterly winds.	2.5	31.7	8.7	SE	77.5
23-Jul-20	Thu	Mainly fine. Very hot	Trace	33	6.2	SE	71.5
24-Jul-20	Fri	Fine and very hot.	0	33.4	7	SW	73
25-Jul-20	Sat	Light to moderate southerly winds.	0	33.4	6.5	SE	69
26-Jul-20	Sun	isolated showers and thunderstorms.	Trace	33.4	9.2	W/SW	68.7
27-Jul-20	Mon	Moderate southwesterly winds.	2.3	32.4	9	SW	71
28-Jul-20	Tue	Mainly fine and very hot apart from isolated showers	3	33.1	7	SW	74.5
29-Jul-20	Wed	Mainly cloudy with a few showers.	2.6	32.9	10	SE	80
30-Jul-20	Thu	Sunny intervals in the afternoon.	13.3	30.8	17.5	E	74.5
31-Jul-20	Fri	Moderate southeasterly winds.	36.6	28.2	20	E	81

Appendix K

Waste Flow Table

Contract No.: NE/2016/01

Site Formation and Infrastructure Works for Development of Anderson Road Quarry Site

Monthly Summary Waste Flow Table for 2020 (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	129.197	22.841	126.974	0.924	1.299	0.000	0.005	0.025	0.007	0.000	0.141
Feb	110.670	2.524	109.300	1.240	0.130	0.000	0.000	0.000	0.000	0.000	0.205
Mar	161.220	2.884	153.483	7.567	0.170	0.000	0.007	0.000	0.008	0.000	0.169
Apr	47.464	1.609	35.093	11.120	1.251	1.103	0.004	0.575	0.003	0.000	0.120
May	71.700	0.723	58.845	12.190	0.665	0.000	0.000	0.142	0.000	0.000	0.087
Jun	73.326	1.753	61.073	12.146	0.107	0.000	0.000	0.000	0.000	0.000	0.096
Sub-total	593.577	32.334	544.768	45.187	3.622	1.103	0.016	0.742	0.018	0.000	0.818
Jul	40.087	0.735	27.864	11.584	0.639	0.000	0.023	0.529	0.019	0.000	0.230
Aug	0.000										
Sep	0.000										
Oct	0.000										
Nov	0.000										
Dec	0.000										
Total	633.664	33.069	572.632	56.771	4.261	1.103	0.039	1.271	0.037	0.000	1.048

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.

Appendix II

Name of Department : CEDD Contract No. : NE/2016/05

Monthly Summary Waste Flow Table for 2020 (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	0.397	0	0.113	0	0.150	0	0	0	0	0	0.134
Feb	0.237	0	0.071	0	0.118	0	0	0	0	0	0.048
Mar	0.615	0	0	0	0.405	0	0	0	0	0	0.21
Apr	0.608	0	0	0	0.528	0	0	0	0	0	0.08
May	0.420	0	0.05	0	0.260	0	0	0	0	0	0.11
June	0.357	0	0.017	0	0.25	0	0	0	0	0	0.09
Sub-total	2.634	0	0.251	0	1.711	0	0	0	0	0	0.672
July	0.24	0	0.03	0	0.10	0	0	0	0	0	0.11
Aug		0		0		0	0	0	0	0	
Sept		0		0		0	0	0	0	0	
Oct		0		0		0	0	0	0	0	
Nov		0		0		0	0	0	0	0	
Dec		0		0		0	0	0	0	0	
Total	2.874	0	0.281	0	1.811	0	0	0	0	0	0.782

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.

Contract No.: NE/2017/03

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

Monthly Summary Waste Flow Table for 2020(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	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	1.284	0.000	0.083	1.058	1.202	0.000	0.002	0.069	0.000	0.000	0.029
Feb	4.744	0.000	0.023	1.590	4.721	0.000	0.000	0.000	0.620	0.000	0.027
Mar	6.140	0.000	0.083	0.503	6.057	0.000	0.002	0.054	0.569	0.000	0.025
Apr	1.828	0.000	0.000	0.968	1.828	0.000	0.000	0.000	0.000	0.000	0.031
May	0.380	0.000	0.000	0.015	0.380	0.000	0.000	0.000	0.260	0.000	0.026
Jun	1.181	0.000	0.000	0.135	1.181	0.000	0.002	0.176	2.210	0.000	0.015
Sub-total	15.557	0.000	0.188	4.268	15.370	0.000	0.006	0.299	3.660	0.000	0.153
Jul	2.107	0.000	0.938	1.575	1.169	0.000	0.000	0.000	0.000	0.000	0.011
Aug											
Sep											
Oct											
Nov											
Dec											
Total	17.664	0.000	1.125	5.843	16.539	0.000	0.006	0.299	3.660	0.000	0.164

Contract No.: NE/2017/03

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

Forecast of Total Quantities of C&D Materials to be Generated from the Contract*										
Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
15.000	0.000	0.000	0.000	15.000	0.000	0.100	2.000	0.300	1.000	3.500

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 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)

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
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
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
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 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	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
	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, 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 Representati ve dust monitoring station	All construction sites where practicable	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	V
S5.6.11 to	Use of " Quiet " Plant and Working Methods.	Reduce the noise	Contractor	All	V	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
S5.6.13		levels of plant items		construction sites where practicable			
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
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
S5.6.19	Sequencing operation of construction plants equipment.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction ion sites where practicable	V	V	N/A
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
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	N/A
Water Quality Impact (Contraction Phase)							
S6.6.3	<u>Construction Runoff</u> In accordance with the Practice Note for Professional Persons on Construction ion Site Drainage, Environmental 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	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
	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. • 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 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						

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
	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. • 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.	Handling of site sewage	Contractor	All construction sites	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
	• 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 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
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 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	Minimize contaminated groundwater impacts	Contractor	All construction sites	NA	NA	NA

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
	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	Good Site Practice 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 (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.	Minimize waste generation during construction	Contractor	All construction sites	V	V	V
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	Reduce waste generation	Contractor	All construction sites where practicable	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
	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.						
S8.5.5	<u>Storage of Waste</u> 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
S8.5.6	<u>Collection and Transportation of Waste</u> The following recommendation should be implemented to minimize the impacts: • remove waste in timely manner; • employ the trucks with cover or enclosed containers for waste • transportation; • obtain relevant waste disposal permits from the appropriate authorities; and • disposal of waste should be done at licensed waste disposal facilities.	Minimize waste impacts from storage	Contractor	All construction sites	V	@	V
S8.5.8	<u>Excavated and C&D Material</u> Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at public filling areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials: • 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
S8.5.15	<u>Contaminated Soil</u> As a precaution, it is recommended that standard good site practice should be	Remediate contaminated soil	Contractor	All construction	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
	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.			sites where applicable			
S8.5.17	Chemical Waste • 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.	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	V	V	V
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	@
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
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	Northern part of the proposed Quarry Park.	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
			planting).				
.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 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.	Minimize impacts on Hydrological condition and water quality of hillside watercourses.	Contractor	All construction sites	V	N/A	V
S.10.7.11	Implement an emergency contingency plan during the construction phase and the	Minimize impacts on	Contractor	All	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
	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.	Hydrological condition and water quality of hillside watercourses.		construction sites			
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
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	V
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
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
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

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	**1**	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	**1**	0
Overall Total	**59**	**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	Status	Investigation Report Ref.
1	23-Mar-17	NA	Anderson Road Quarry site	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	Anderson Road Quarry site	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 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	Anderson Road Quarry site	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu Yau Wai 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 site.	Noise monitoring was carried out by ET 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
4	21-Jun-17	29-Aug-17	Anderson Road Quarry site	Resident of Po Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00019373-17)	day time construction noise of breakers (8am to 6pm)	These two complaints were forwarded by CEDD to ET on 31 August 2017 which after the complaint dates. Investigation was conducted based on the site information by the Contractor of Contract 1 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	Anderson Road Quarry site	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	Anderson Road Quarry site	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 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/F0094
7	28-Jul-17	29-Aug-17	Anderson Road Quarry site	unknown	Dust	EPD	EPD (ref.N08/RE/00023986-17)	Poor control on dust emission at Anderson Road Construction Site	CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident and status of the implementation of dust mitigation measures was considered effective based on the site observation.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0097

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Status	Investigation Report Ref.
8	2-Aug-17	29-Aug-17	Anderson Road Quarry site	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00024557-17)	Day time construction noise of breakers (8AM to 6PM)	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in August 2017, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should further enhance the noise mitigation measures as appropriately. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0098
9	19-Sep-17	19-Sep-17	Anderson Road Quarry site	Resident of Sau Mau Ping Estate	Construction noise	SPRO hotline	NA	The complainant is living at Sau Mau Ping Estate Sau Nga House 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. 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	Anderson Road Quarry site	Resident of Sau Mau Ping Estate	Construction noise	EPD	EPD (ref.N08/RE/00031074-17)	On 21 September 2017, the same complaint further reported that the noise can be heard at both Sau Yee House and Sau Nga House even in daytime and he strongly requested the Contractor to follow up the case immediately.			TCS00864/16/300/F0088
11	27-Sep-17	13-Oct-17	Anderson Road Quarry site	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00029489-17)	The complainant questioned why there were 6 to 7 breakers operating in the morning but only 1 operating in the afternoon. He requested to shift the operation of the breakers to afternoon.	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in September and October 2017, there were no breaches of EM&A requirement. 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	Anderson Road Quarry site	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	Anderson Road Quarry site	Resident of Po Tat Estate	Dust	EPD	NA	投訴安達臣道地盤的泥車落泥，令他達貴樓的住所受到大塵影響，要求跟進及回覆	Investigation revealed that CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. Nevertheless, based on the observation during site inspection on 31 October 2017, CWSTVJV was advised to enhance the dust mitigation measures particularly during dry season.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0100

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Status	Investigation Report Ref.
14	6-Nov-17	7-Nov-17	Anderson Road Quarry site	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 掻 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	Anderson Road Quarry site	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
16	1-Nov-17	14-Nov-17	Anderson Road Quarry site	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掻鐵噪音。	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.	no comment by IEC on 13 Dec 2017	TCS00864/16/300/F0110
17	25-Aug-17	26-Oct-17	Anderson Road Quarry site	Resident of Sau Mau Ping Estate	Construction Noise	EPD	EPD (ref.N08/RE/00027738-17)	Night time construction noise of hammering (around 12AM)	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
18	12-Sep-17	26-Oct-17	Anderson Road Quarry site	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/F0117
19	15-Dec-17	21-Dec-17	Anderson Road Quarry site	Resident of Sau Mau Ping Estate	Construction Noise	EPD	NA	Resident of Sau Yee House complained suspected construction noise from Anderson Construction Site at restricted hour (7pm to 7am).	It is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out after 19:00 at the subject site. Therefore, the complaint about noise nuisance during night time should not be related to the Project.	no comment by IEC on 10 Jan 2018	TCS00864/16/300/F0118
20	20-Dec-17	21-Dec-17	Anderson Road Quarry site	Resident of On Tat Estate	Dust	EPD	NA	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，要求部門到場視察。	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
21	28-Dec-17	10-Jan-18	Anderson Road Quarry site	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	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	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0129

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Status	Investigation Report Ref.
									result was below the Limit Level under the EM&A Programme. Moreover, it is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out during restricted hour at the subject site. Therefore, the complaint about noise nuisance during restricted hour should not be related to the Project.		
22	15-Jan-18	15-Jan-18	Anderson Road Quarry site	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	Anderson Road Quarry site	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 2018, there were no breaches of EM&A requirement.	no comment by IEC on 22 Feb 2018	TCS00864/16/300/F0137
24	1-Feb-18	2-Feb-18	Anderson Road Quarry site	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
25	28-Feb-18	28-Feb-18	Anderson Road Quarry site	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掘石仔噪音滋擾, 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

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Status	Investigation Report Ref.
26	11-Apr-18	12-Apr-18	Anderson Road Quarry site	Resident of HimTat House	Construction Noise	SPRO Hotline	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 practicable. The implementation of noise mitigation measures will be kept in view in subsequent site inspection.	no comment by IEC on 7 May 2018	TCS00864/16/300/F0160b
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.		NA	NA
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
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	投訴人指馬游塘區堆填區往將軍澳方向行車入口因配合項目需要而進行移除山坡工程，但其鑽地鑿石的噪音嚴重影響藍田康雅苑*居民，要求有關部門跟進。 *註:投訴人於 2018 年 8 月 27 日更正指受影響屋苑應為藍田康華苑。	to reduce the inconvenience caused to the nearby resident, Kwan On should properly maintain the noise mitigation measures as appropriate, such as maintain good site practice including intermittent use of machine and plant and Sequencing operation of construction plant equipment. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 7 Sep 2018	TCS00864/16/300/F0196a

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Status	Investigation Report Ref.
31	26-Feb-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
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
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

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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
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
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

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41	15-Feb-19	25-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	1823	2-494807 4127	1823 has referred a case to CEDD on 15 February 2019, which the complainant complained about the construction 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	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 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.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0251a
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
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 breach the Noise Control Ordinance.	no comment by IEC on 6 May 2019	TCS00864/16/300/F0264

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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.	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 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.	no comment by IEC on 12 August 2019	TCS00864/16/300/F0292b
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
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

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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
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	Resident of Ma Yau Tong Village	Noise	EPD	NA	<u>On 10 November 2019</u> 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。 <u>On 11 November 2019</u> 寶琳路近馬游塘村開掘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	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/F0337a
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. 2-597630 3183	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	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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								Yan Street. He suggested to speed up the noise making works by intensely concentrate the excavation works during day time. No 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
54	4-Mar-20	17-Mar-20	Near Hiu Ming Street Playground (E8)	Undisclosed	Noise	1823	ref. 3-628323 7171	投訴人投訴有關秀茂坪邨秀安樓附近有兩個地盤 ， 地盤由星期一至五，每天早上約 9AM-5 PM 持續不斷發出強烈的嘈音， 投訴人表示地盤是在曉明街藍球場旁邊的位置(投訴人未能告知確實街號) ，因此要求部門盡快回覆及告知有關情況 。 A public complaint was received by 1823 on 4 March 2020 regarding the construction noise. The complainant mentioned that there were two construction sites near Hiu Ming Street Playground generated construction noise continuously during 9AM to 5PM on weekdays.	In our investigation, CW-CMGCJV had implemented the noise mitigation measures for the works at upper section of E8 near Hiu Yuk Path and no noise impact was observed and anticipated in Hiu Ming Street based on the site activities and our inspection record. It is considered that the complaint is likely related to another construction site located near Hiu Ming Street Playground and not caused by the works under the Project. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement.	no comment by IEC on 15 Apr 2020	TCS00864/16/300/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	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 concerned Lin Tak Road was satisfactory. It is considered that the complaint was unlikely due to the project.	no comment by IEC on 15 Apr 2020	TCS00864/16/300/F0360a

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								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.			
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 generated from the Anderson Road Quarry Site had been continued for two years.	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. 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
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 and implementation of noise mitigation measures to alleviate the noise impact arising from the construction work.	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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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
59	18-Jun-20	23-Jun-20	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 after 6pm 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
60	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 (restricted hours). 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. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of 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	-	TCS00864/16/300/F0401

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 SYSTEM A.

Impermeable cover for slope at Pumping Station

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

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