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 (JANUARY 2020)

PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	Reference No.	Prepared By	Certified By
17 February 2020	TCS00864/16/600/R0347v2	Nicola Hon (Environmental Consultant)	Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	13 February 2020	First Submission
2	17 February 2020	Amended according to the IEC's comments on 14 February 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: HKCEDD10/50/106307

Date: 21 February 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 (January 2020)

We refer to the emails of 13 and 17 February 2020 from Action-United Environmental Services and Consulting attaching a Monthly Environmental Monitoring and Audit Report (January 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 Ms Hazel Chan on 2618 2831.

Yours faithfully
ANEWR CONSULTING LIMITED

Adi Lee
Independent Environmental Checker

LYMA/CYYH/lhmh

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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 is divided to three CEDD contracts including Contract 1 (NE/2016/01), Contract 2 (NE/2016/05) and Contract 3 (NE/2017/03). As advised by the Resident Engineer (RE), the date for commencement of Contract 1 was on 21 December 2016 and the major construction works has been commenced on 12 April 2017. The date for commencement 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 **34th** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1 to 31 January 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**	**108**
	24-hour TSP	**4**	**24**
Construction Noise	$L_{eq(30min)}$ Daytime for Contract NE/2016/01	**7**	**28**
	$L_{eq(30min)}$ Daytime for Contract NE/2017/03	**3**	**12**

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 nor noise complaint (which triggered Action Level) were received in the reporting period. The environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

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

ENVIRONMENTAL COMPLAINT

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

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

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

REPORTING CHANGE

ES09 In the Reporting Period, noise monitoring location NMS-3 and air monitoring location AMS-3 (On Tai Estate Ancillary Facilities Building) has been started in operation and therefore noise and air monitoring was commenced at NMS-3 and AMS-3 according to the EM&A Manual.

SITE INSPECTION

ES10 In this Reporting Period, joint site inspection to evaluate the site environmental performance for ***Contract 1*** was carried out by the RE, ET and Contractor on **9th, 14th and 21st January 2020** in which IEC joined the site inspection with SSEMC on **9th January 2020**. No non-compliance was noted during the site inspection.

ES11 In this Reporting Period, joint site inspection to evaluate the site environmental performance for ***Contract 2*** was carried out by the RE, ET and Contractor on **3rd, 8th, 15th and 22nd January 2020** in which IEC joined the site inspection with SSEMC on **22nd January 2019**. No non-compliance was noted during the site inspection.

ES12 In this Reporting Period, joint site inspection to evaluate the site environmental performance for ***Contract 3*** was carried out by the RE, ET and Contractor on **3rd, 10th, 17th and 21st January 2020** in which IEC joined the site inspection with SSEMC on **10th January 2020.** No non-compliance was noted during the site inspection.

FUTURE KEY ISSUES

ES13 During dry season, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission as far as practicable. Furthermore, since construction site is highly visible to the resident at nearby estates, noise mitigation measures such as using of quiet plants should be implemented in accordance with the EM&A requirement.

ES14 Since construction site is highly visible to the resident at nearby estates, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission.

ES15 Construction noise would be a key environmental issue during construction work of the Project. Noise mitigation measures such as using quiet plants should be implemented in accordance with the EM&A requirement.

ES16 In addition, all effluent discharge shall be ensure to fulfill Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or discharge permits stipulation.

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 Action-United Environmental Services & Consulting (hereinafter referred as "AUES") has been awarded the CEDD Service Contract No. NTE/07/2016 Environmental Team for Development of Anderson Road Quarry Site – Site Formation and Associated Infrastructure Works (hereinafter called "the Service Contract") on 15 December 2016. The commencement date of the Service Contract was December 2016 and the Contract Period is 70 months. The 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.

1.1.2 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).

1.1.3 To facilitate the project management and implementation, the Service Contract is divided to three CEDD contracts including Contract 1 (NE/2016/01), Contract 2 (NE/2016/05) and Contract 3 (NE/2017/03). The date for commencement of Contract 1 was on 21 December 2016 and the major construction works commenced on 12 April 2017. The date for commencement of Contract 2 was 31 March 2017 and the major construction activities commenced on 2 May 2017. Contract 3 was commenced on 31 May 2018 but the major construction activities works have not yet commenced in this reporting period. The EM&A programme under the Project was commenced on 12 April 2017 pursuant to the requirement under the EM&A manual.

1.1.4 According to the Approved EM&A Manual, air quality and construction noise are required to be monitored during the construction phase of the Project. As part of the EM&A program, baseline monitoring to determine the ambient environmental conditions is required to be carried out before construction work of the Project commencement. Hence, baseline air quality and background noise monitoring were conducted on ***17th January 2017*** to ***30th January 2017***, ***16th February 2017*** to ***2nd March 2017 and 26th March 2017 to 8th April 2017***. Furthermore, Baseline Monitoring Report, which certified by Environmental Team Leader (ETL) and verified by the Independent Environmental Checker (IEC) has been submitted to Environmental Protection Department (EPD) on ***9 May 2017*** for endorsement.

1.1.5 This is the **34th** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1 to 31 January 2020**.

1.2 REPORT STRUCTURE

1.2.1 The Monthly Environmental Monitoring and Audit (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

2.2.1 The project organization structure for Contracts 1 and 2 is shown in ***Appendix B***.

2.3 CONSTRUCTION PROGRESS

2.3.1 The three-months rolling construction program for Contracts 1 and 2 are enclosed in ***Appendix C*** while the construction program for Contract 3 has not yet provided by the Contractor in this Reporting Period. As provided by the Contractors, the major construction activities conducted in the Reporting Period are summarized in below.

Contract 1 (NE/2016/01)

1. Implementation of Temporary Traffic Arrangement at the junction between On Sau Road and Road L4, Po Lam Road near Po Tat Estate and Po Lam Road near Ma Yau Tong Village;
2. Construction of the footing at North Tower of Pedestrian Connectivity System B (PCSB);
3. Backfilling works at South Tower and Subway of PCSB;
4. Construction of drainage, sewerage and grey water pipes in Road L1;
5. Installation of UUs in Road L1;
6. Construction of drainage, sewerage and grey water pipes in Road L2;
7. Construction of sewerage and grey water pipes in Road L3;
8. Construction of drainage and sewerage pipes in Road L4;
9. Installation of lighting ducts in Road L5;
10. Construction of Box Culvert BC2;
11. Excavation work for Box Culvert BC3;
12. Construction of underground tie beams and erection of roof cover panels for Public Transport Terminus;
13. Road Improvement Works at Po Lam Road;
14. Construction of tunnel lining at West Portal and East Portal;
15. Backfilling works for Fresh Water Pumping Station;
16. Watertightness test at Fresh Water Pumping Station;
17. Backfilling works for Retaining Wall RWA 13 and RWA 14;
18. Construction of retaining walls and guide posts at Artificial Flood Attenuation Lake;
19. Construction of ventilation building for Underground Stormwater Retention Tank (USRT);
20. Backfilling works around USRT;
21. Construction of Retaining Walls RWA12 for Road L4;
22. Construction of Retaining Walls RWA9 for Road L3;
23. Soil nailing works at slope A2, Slope A1 of East Portal and slope A3 of West Portal near PCSB;
24. Slope works at Slope A5;
25. Rock breaking & excavation activity of site formation works at Road L4 and Pedestrian Connectivity System A (PCSA);
26. Rock Slope Survey and Slope Stabilization at Portion B1;
27. Construction of Pedestrian Connectivity System A (PCSA).

Contract 2 (NE/2016/05)

1. Portion 1: Continue Piling works for Pile Cap E1 –PC4 and E1-PC5. Backfilling with no-fines concrete around pile cap E1-RS1, E1-PC1 and E1-PC 2.
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 type 1, 1a, 4 to 8 in-progress; No fine concrete construction at RWC2 area is in progress;
- ELS works at KS27 subway extension is in progress;
- Excavate works and install lateral support at FE1 was completed; and
- Construction of Slip Road 2 drainage works is in progress.

Works in Road Improvement Works 2 (RIW2)

- Site clearance for Portion 7 is in progress.

Works in Road Improvement Works 3 (RIW3)

- Pre-drilling works for RWD1 at Slope D1 were completed;
- Mass blinding concrete for RWD1 at Slope D1 was in-progress;
- Excavation works to rock-head level for mass concrete structure at Slope D2 was completed;
- Dowel bar installation works for mass concrete structure at Slope D2 was in-progress;
- Excavation works and piling platform formation for RWD2 at Slope D2 was in-progress;
- Rock excavation works using drill and split method at Slope D3 along Lin Tak Road are in-progress;
- Retaining wall construction at slope crest of Slope D3 was in-progress.

Pedestrian Connectivity Facility E8 (PC-E8)

- Excavation works for Footing F4, F5 & F6 are in-progress;
- ELS installation at F8 is in progress;
- Formwork for Pier P1 is in progress.

Pedestrian Connectivity Facility E11 (PC-E11)

- Socketed H-pile construction at PC1 and proof drilling works were completed;
- Socketed H-pile construction at PC6 commenced;
- Excavation and install lateral support for pile cap construction was in progress.

Pedestrian Connectivity Facilities Systems A (PC-SYA)

- Rock excavation works was completed;
- Footing construction works is in-progress.

Pedestrian Connectivity Facilities Systems B (PC-SYB)

- Socket H pile construction at SYB-PC3 was completed;
- Socket H pile construction at SYB-A2, F8 in progress;
- Site clearance, UU Detection and Trial pit inspection at PC2 & PC1 in progress.

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

- Construction of manhole adjacent to public toilet is in progress;

- RC works of public toilet was completed;
- ABWF of public toilet was in progress;
- Submission of shop-drawings for ABWF and E&M works are in progress;
- Installation of conduit for E&M works was in progress.

2.3.2 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project of contracts 1 and 2 are 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 5213-292-C4115-01	15 Feb 17	End of project	valid
3	Water Pollution Control Ordinance – Discharge License	WT00027252-2017	20 Mar 17	31 Mar 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-RE0738-19	19 Sep 19	12 Mar 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

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	**For Area R1W3 (E11)** Registration no. WPN : 5213-294-C4239-04	6-Aug-18	End of Project	Valid
		For Area System A Registration no. WPN: 5213-293-C4239-05	6-Aug-18	End of Project	Valid
		For Area System B Registration no. WPN 5213-294-C4239-03	6-Aug-18	End of Project	Valid
		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 Lifting Oscillators of Area RIW1 KS27	-	-	-	Refuse
	CNP for loading and unloading of Stone Monument at RIW2	-	-	-	Refuse

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.

3.3.2 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 Note 1	Ground of Planned Clinic and Community Centre facing Anderson Road (Ancillary Facilities Building)	Active
AMS-4	DARC-26	Planned School, Site C2 Note 2	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

ID	ASR ID in EIA	Location in the EM&A Manual	Identified Location during Site Visit	Status
AMS-6	DARE-17	Block 9, Site E	Main roof of Hau Tat House of On Tat Estate facing the project site	Active
AMS-7	AMYT-04	Ma Yau Tong Village	Balcony at 2nd floor of Village House Anderson Road No. 1 facing the project site	Active

- *Note 1: The ASR has completed construction and provided the services. The relevant monitoring station AMS-3 was commenced air quality monitoring on 3 December 2019*
- *Note 2: The ASR is not yet constructed.*
- *(#) 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.*

Construction Noise

3.3.3 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

3.3.4 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	Rion NL-52, B&K-2238, B&K-2250
Calibrator	B&K4231
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.
(:) AMS-3 was effective on 3December 2019.

Table 3-8 Action and Limit Levels for Construction Noise

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

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

Note: If works are to be carried out during restricted hours, the conditions stipulated in the construction noise permit issued by the Noise Control Authority have to be followed.

Remark: (*) Additional noise monitoring location was recommended by RE and agreed by IEC. It was temporary suspended and the monitoring location is relocated to NMS4a with effective on 15 Nov 2017.
(@) NMS-2 was effective on 15 November 2019.
(:) NMS-3 was effective on 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 Housing Authority, 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 ***108*** 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
3-Jan-20	49	4-Jan-20	13:49	61	64	59
9-Jan-20	76	10-Jan-20	13:34	98	105	113
15-Jan-20	54	16-Jan-20	13:37	55	53	56
21-Jan-20	75	21-Jan-20	13:31	61	66	59
24-Jan-20	17	24-Jan-20	13:53	53	51	54
30-Jan-20	22	30-Jan-20	13:37	51	49	51
Average (Range)	**49 (17 - 76)**	Average (Range)		**64 (49 – 113)**		

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**
4-Jan-20	9:13	80	76	83
10-Jan-20	14:02	93	101	108
16-Jan-20	9:11	83	87	81
21-Jan-20	9:06	77	75	79
24-Jan-20	9:10	65	70	64
30-Jan-20	9:11	66	68	65
Average (Range)		**79 (64 – 108)**		

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**
4-Jan-20	12:45	95	88	80
10-Jan-20	13:05	75	70	86
16-Jan-20	13:11	80	78	77
21-Jan-20	12:15	80	85	79
24-Jan-20	12:30	67	64	63
30-Jan-20	12:19	65	63	62

1-hour TSP (μg/m³)				
Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
Average (Range)		**75 (62 – 95)**		

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**
3-Jan-20	32	4-Jan-20	9:30	74	76	77
9-Jan-20	62	10-Jan-20	9:12	79	85	93
15-Jan-20	52	16-Jan-20	9:28	83	81	82
21-Jan-20	53	21-Jan-20	9:21	83	87	91
24-Jan-20	30	24-Jan-20	9:25	65	63	64
30-Jan-20	40	30-Jan-20	9:28	63	60	58
Average (Range)	**45 (30 – 62)**	Average (Range)		**76 (58 – 93)**		

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**
3-Jan-20	25	4-Jan-20	9:48	73	70	74
9-Jan-20	42	10-Jan-20	9:23	83	86	91
15-Jan-20	40	16-Jan-20	10:03	78	80	82
21-Jan-20	35	21-Jan-20	9:51	81	83	79
24-Jan-20	35	24-Jan-20	9:45	65	67	69
30-Jan-20	39	30-Jan-20	9:54	65	65	66
Average (Range)	**36 (25 – 42)**	Average (Range)		**75 (65 – 91)**		

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**
3-Jan-20	30	4-Jan-20	13:18	65	71	67
9-Jan-20	41	10-Jan-20	9:44	88	92	99
15-Jan-20	42	16-Jan-20	12:47	72	71	76
21-Jan-20	58	21-Jan-20	12:48	76	81	75
24-Jan-20	20	24-Jan-20	13:18	68	67	72
30-Jan-20	29	30-Jan-20	12:53	61	60	65
Average (Range)	**37 (20 – 58)**	Average (Range)		**74 (60 – 99)**		

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 were performed at the 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 **28** 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**	**NMS8**
10-Jan-20	61	71	68	64	71	65	63
16-Jan-20	64	66	69	68	59	65	64
21-Jan-20	61	65	70	67	58	63	67
30-Jan-20	56	64	57	57	55	58	60
Limit Level	***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;

5.2.2 For the additional noise monitoring under Contract 3, a total of **12** 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**
7-Jan-20	65	62	67
13-Jan-20	63	65	65
22-Jan-20	65	63	62
31-Jan-20	60	60	64
Limit Level	***70*** dB(A)[Note 1] / ***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.

@ school examination during 7 to 8 and 10 to 14 January 2020.

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

6. WASTE MANAGEMENT

6.1 GENERAL WASTE MANAGEMENT

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

6.2 RECORDS OF WASTE QUANTITIES

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

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

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

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

Type of Waste	Contract 1		Contract 2		Contract 3	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Total generated Inert C&D Materials ('000m^3) (#)	129.197	-	0.3729	-	1.284	-
Hard Rock and Large Broken Concrete ('000m^3)	22.841	-	0	-	0	-
Reused in this Contract (Inert) ('000m^3)	126.974	-	0.0889	-	0.083	-
Reused in other Projects (Inert) ('000m^3)	0.924	*	0	-	1.058	*
Disposal as Public Fill (Inert) ('000m^3)	1.299	TKO 137	0.150	TKO 137	1.202	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)	0.05	Licensed collector	0	-	0.002	Licensed collector
Recycled Paper / Cardboard Packing ('000kg)	0.025	Licensed collector	0	-	0.069	Licensed collector
Recycled Plastic ('000kg)	0.007	Licensed collector	0	-	0	-
Chemical Wastes ('000kg)	0	-	0	-	0	-
General Refuses ('000m^3)	0.141	SENT	0.134	SENT	0.029	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.

7.1.2 In response to the Government's appeal on special work arrangement and minimise the spread of the novel coronavirus, all the Resident Site Staff (RSS) of the project would work at home from 29 January 2020 to 2 February 2020. Moreover, the Contractors were instructed to restrict site works and there would not have major construction activities / continue site closure during the concerned period.

7.1.3 Due to the abovementioned arrangement, the environmental site inspection by Environmental Team in this week was affected and has to be cancelled

7.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH

Contract 1

7.2.1 In the Reporting Period, joint site inspection for Contract 1 to evaluate site environmental performance was carried out by the RE, ET and the Contractor on **9th, 14th and 21st January 2020** in which IEC joined the site inspection with SSEMC on **9th January 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 January 2020	• The Contractor was reminded to provide dust suppression measures during the breaking work.	• Reminder only.
14 January 2020	• The Contractor should replace the NRMM label on the excavator at PTT, USRT.	• The Contractor should replace the NRMM label on the excavator at PTT, USRT.
21 January 2020	• Drip tray should be provided for chemical storage on-site. (Road L4) • Proper dust mitigation measure should be provided for breaking works to reduce dust impact. (PTT)	• Chemical containers without drip tray were removed. • Water spraying had been provided for breaking works to reduce dust impact.

Contract 2

7.2.2 In the Reporting Period, joint site inspection for Contract 2 to evaluate site environmental performance was carried out by the RE, ET and the Contractor on **3rd, 8th, 15th and 22nd January 2020** in which IEC joined the site inspection with SSEMC on **22nd January 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
3 January 2020	• Accumulation of construction waste on the ground of portion 2 was observed. The Contractor was advised to dispose it as soon as	• Construction waste was removed.

Date	Findings / Deficiencies	Follow-Up Status
	possible. • Chemical containers was observed on the access road of portion 2. The Contractor was advised to place chemical containers inside drip tray • Excavator without NRMM label was observed at portion 5. The Contractor was advised to provide NRMM label for excavator within site area • The Contractor was reminded to enhance house-keeping within site area • The Contractor was reminded to spray water regularly at exposed area of portion 1 and 5 • The Contractor was reminded to wrap the breaker with acoustic mat.	• Tarpaulin sheet was provided for chemical containers to avoid oil leakage • NRMM label was provided for excavator used within site area. • Reminder only. • Reminder only. • Reminder only.
8 January 2020	• No adverse environmental issue was observed.	• NA.
15 January 2020	• Water hose hanging on retained trees was observed at portion 2. The Contactor was advised to remove all construction materials within tree protection zone. • The Contractor was reminded to provide noise emission label and drip tray for air compressor at portion 1. • The Contractor was reminded to dispose general refuse regularly at portion 1. • The Contractor was reminded to maintain the public u-channel to avoid accumulated of stagnant water.	• Water hose hanging on retained trees was removed. Last observation was closed. • Reminder only. • Reminder only. • Reminder only.
22 January 2020	• Chemical containers were observed on the ground at portion 1. The Contractor was advised to place chemical containers inside drip tray. • The Contractor was reminded to clean up scattered refused on the ground at portion 2. • The Contractor was reminded to provide noise emission label and drip tray for air compressor at portion 1.	• Tarpaulin sheet was provided for chemical containers to avoid oil leakage. • Reminder only. • Reminder only.

Contract 3

7.2.3 In the Reporting Period, joint site inspection for Contract 3 to evaluate site environmental performance was carried out by the RE, ET and the Contractor on **3rd, 10th, 17th and 21st January 2020** in which IEC joined the site inspection with SSEMC on **10th January 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 January 2020	• Sediment at public u-channel was observed at system B. The Contractor should clear the sediment as soon as possible.	• Sediment was cleared.
10 January 2020	• The Contractor was reminded to remove the stagnant water at System A.	• Reminder only.
17 January 2020	• Improper color of NRMM label was observed at System B. The Contractor should replace the NRMM label.	• NRMM label was replaced.
21 January 2020	• Accumulation of construction wastes was observed at F1. The Contractor was advised to dispose the construction waste regularly.	• Construction waste was removed.

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.1.1 In the Reporting Period, no environmental complaint was received. Besides, no summons and prosecution under the EM&A Programme was lodged for the project. Investigation for the complaint was undertaken by the ET and presented in following sections.

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

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

Table 8-1 Statistical Summary of Environmental Complaints

Reporting Period	Contract no.	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
1 Apr 2017 – 31 Dec 2019	1	0	**42**	**Dust, Noise and light nuisance**
21 Mar 2017 –31 Dec 2019	2	0	**8**	**Noise**
31 May 2018 – 31 Dec 2019	3	0	**1**	**Waste Management**
1 – 31 January 2020	1	0	**42**	NA
	2	0	**8**	NA
	3	0	**1**	NA

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Contract no.	Environmental Summons Statistics		
		Frequency	Cumulative	Summons Nature
1 Apr 2017 – 31 Dec 2019	1	0	0	NA
21 Mar 2017 –31 Dec 2019	2	0	0	NA
31 May 2018 – 31 Dec 2019	3	0	0	NA
1 – 31 January 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 – 31 Dec 2019	1	0	0	NA
21 Mar 2017 –31 Dec 2019	2	0	0	NA
31 May 2018 – 31 Dec 2019	3	0	0	NA
1 – 31 January 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:

1. Implementation of Temporary Traffic Arrangement at the junction between On Sau Road and Road L4, Po Lam Road near Po Tat Estate and Po Lam Road near Ma Yau Tong Village;
2. Construction of the footing at North Tower of Pedestrian Connectivity System B (PCSB);
3. Backfilling works at South Tower and Subway of PCSB;
4. Gullies and upper drainage construction for road L1 west
5. Construction of drainage, sewerage and grey water pipes in Road L1;
6. Gullies and upper drainage construction for road L1 west;
7. Installation of UUs in Road L1;
8. Construction of drainage, sewerage and grey water pipes in Road L2;
9. Construction of sewerage and grey water pipes in Road L3;
10. Construction of drainage and sewerage pipes in Road L4;
11. Installation of lighting ducts in Road L5;
12. Construction of Box Culvert BC2;
13. Excavation work for Box Culvert BC3;
14. Construction of underground tie beams and erection of roof cover panels for Public Transport Terminus;
15. Road Improvement Works at Po Lam Road;

16. Construction of tunnel lining at West Portal and East Portal;
17. Backfilling works for Fresh Water Pumping Station;
18. Backfilling works for Retaining Wall RWA 13 and RWA 14;
19. Construction of retaining walls and guide posts at Artificial Flood Attenuation Lake;
20. Construction of ventilation building for Underground Stormwater Retention Tank (USRT);
21. Backfilling works around USRT;
22. Construction of Retaining Walls RWA12 for Road L4;
23. Construction of Retaining Walls RWA9 for Road L3;
24. Soil nailing works at slope A2, Slope A1 of East Portal and slope A3 of West Portal near PCSB;
25. Rock breaking & excavation activity of site formation works at Road L4 and Pedestrian Connectivity System A (PCSA);
26. Rock Slope Survey and Slope Stabilization at Portion B1;
27. Construction of Pedestrian Connectivity System A (PCSA).

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 5:
  - Installation of steel post & PMMA
  - Drainage Works
  - Road pavement erection
  - Lighting installation
- Portion 6:
  - Rock breaking for rock cut slope and BBI Footing.
  - Fixing formwork, reinforcement and place concrete for RWE12 & BBI footing

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 4, 6, 7 & 8;
- Importation of bored piles plants and machineries for bored pile construction at Plat form 1;
- No-fines concrete construction at RWC2 area;
- Trenchless construction for gasmain redirection upon PMI approval at Slip Road 2;
- ELS construction at KS27; and
- Plate load test for FE1.

<u>Road Improvement Works 2 (RIW2)</u>
- Soil nail installation at Slope C1 at Zone 5, 6 and 7;
- Site clearance and slope profile formation at Slope C1 at Zone 5 & 6;
- Removal of Lamp posts and erect temporary lamp posts; and
- Piling Platform erection and Sheetpile installation for Portion 7.

<u>Road Improvement Works 3 (RIW3)</u>
- Stage 1 rock excavation at Slope D3;
- Retaining wall construction at Slope D3;

- Mass blinding concreting works at Slope D11;
- Mini-pile installation works at Slope D1; and
- Mass concrete wall construction at Slope D2.

Pedestrian Connectivity Facility E8 (PC-E8)

- Excavation and install lateral support for Footing F8 & F7;
- Construction of Footing F4, F5 F6; and
- R.C works to Pier 1.

Pedestrian Connectivity Facility E11 (PC-E11)

- Construction of socketed H-piles at PC-6
- Construction of pile cap RC works.

Pedestrian Connectivity Facility System A (PC-SYA)

- Construction of footing.

Pedestrian Connectivity Facility System A (PC-SYB)

- Construction of socketed H-piles at pile cap PC-7, 8 and SYB-A2;.

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 works

9.3 KEY ISSUES FOR THE COMING MONTH

9.3.1 Key issues to be considered in the coming month include:

- Implementation of dust suppression measures at all times;
- Potential wastewater quality impact due to surface runoff;
- Potential fugitive dust quality impact due from the dry/loose/exposure soil surface/dusty material;
- Disposal of empty engine oil containers within site area;
- Ensure dust suppression measures are implemented properly;
- Sediment catch-pits and silt removal facilities should be regularly maintained;
- Management of chemical wastes;
- Discharge of site effluent to the nearby wetland, stockpiling or disposal of materials, and any dredging or construction area at this area are prohibited;
- Follow-up of improvement on general waste management issues; and
- Implementation of construction noise preventative control measures

9.3.2 During dry season, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission as far as practicable. Furthermore, since construction site is highly visible to the resident at nearby estates, noise mitigation measures such as using of quiet plants should be implemented in accordance with the EM&A requirement.

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

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

10.1.1 This is **34th** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **31 January 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 In the Reporting Period, no Limit Level exceedance was recorded and no Notification of Exceedance was issued. Moreover, no complaint was received for the project.

10.1.4 No environmental complaint, notification of summons or successful prosecution was received under the Project.

10.1.5 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 dry season, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission as far as practicable. Furthermore, since construction site is highly visible to the resident at nearby estates, noise mitigation measures such as using of quiet plants should be implemented in accordance with the EM&A requirement.

10.2.2 Since construction site is highly visible to the resident at nearby estates, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission.

10.2.3 Construction noise would be a key environmental issue during construction work of the Project. Noise mitigation measures such as using quiet plants should be implemented in accordance with the EM&A requirement.

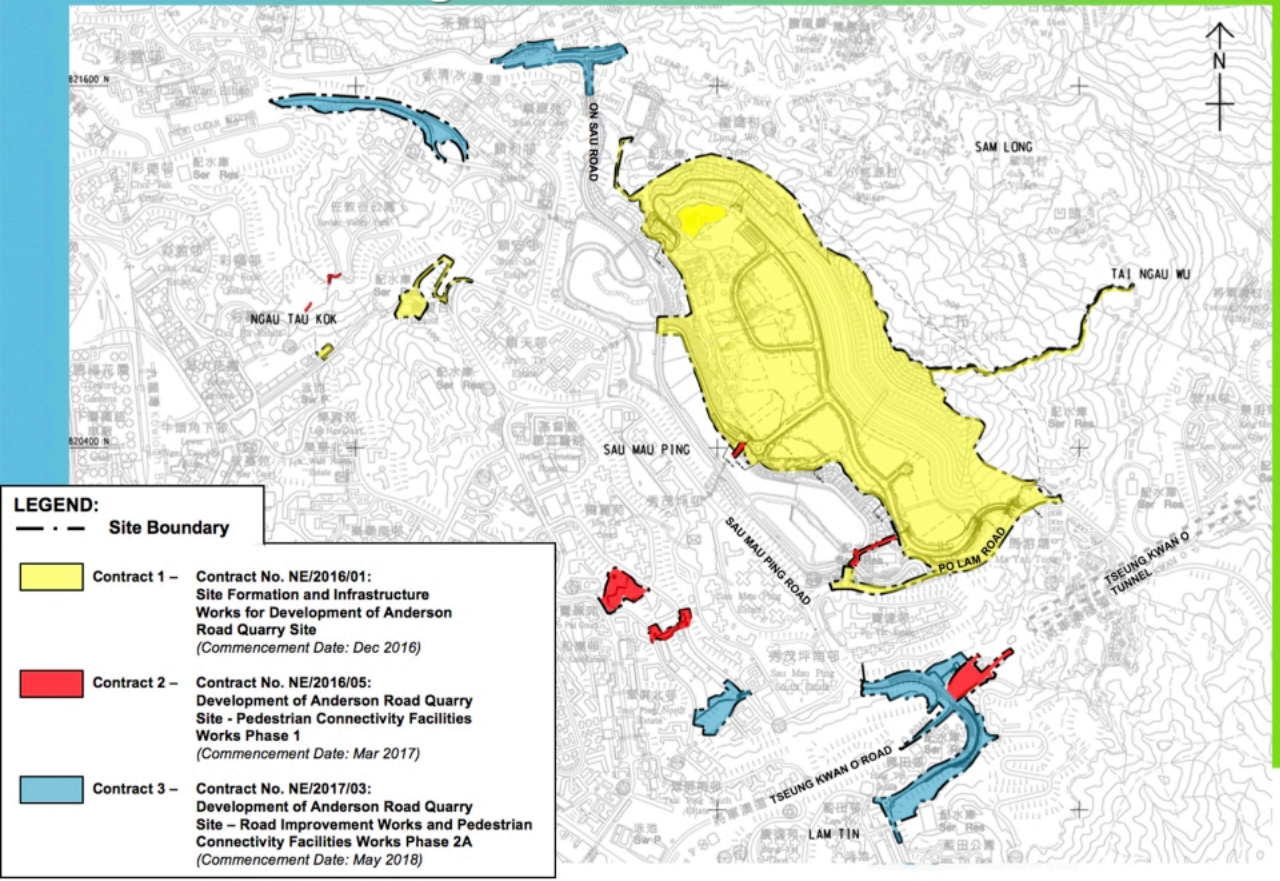
10.2.4 In addition, all effluent discharge shall be ensure to fulfill Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or discharge permits stipulation.

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

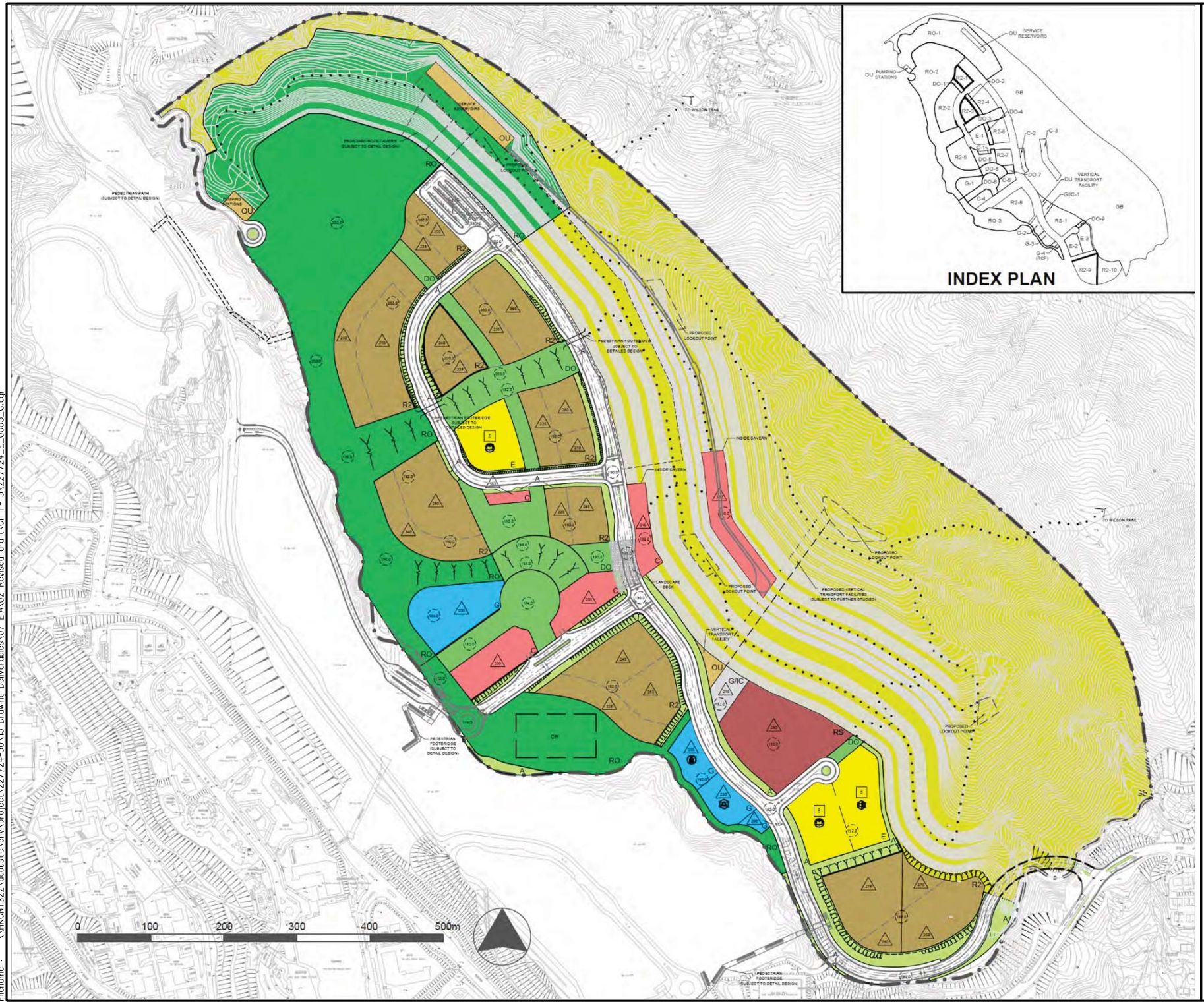
Appendix A

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: GL	Date: 03/14	Checked: TC / Approved: 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)

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
CEDD Civil Engineering and Development Department

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

STATUS
階段

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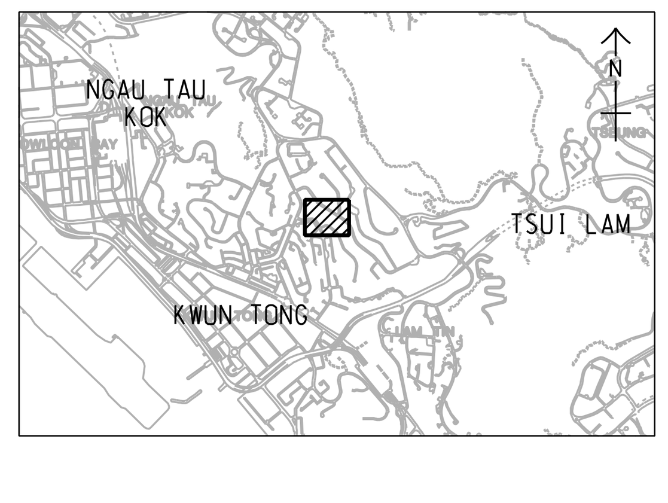

PROJECT NO. 項目編號: 60328348

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
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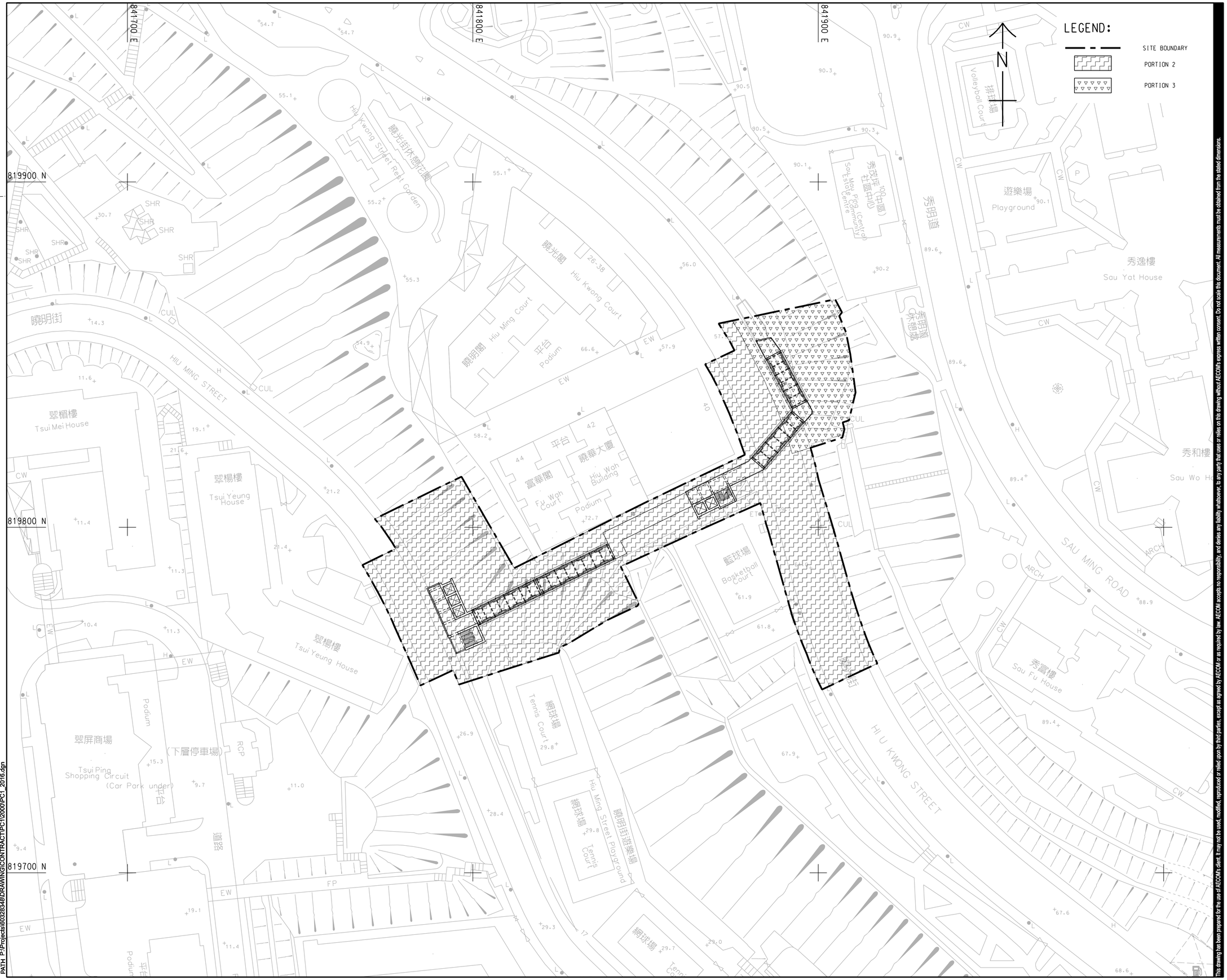

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PROJECT 項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

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DIMENSION UNIT 尺寸單位
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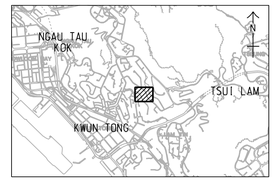

PROJECT NO. 項目編號
60328348

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
Podium
(Car Park under)
平台
（下層停車場）
兒童遊樂場
運德道
香港環境保護署
Environmental Protection Department
CUL
FP
TS
PH
WT

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PROJECT
項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY
FACILITIES WORKS PHASE 1

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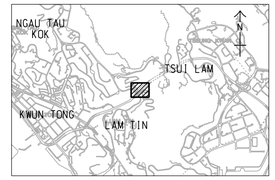

PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

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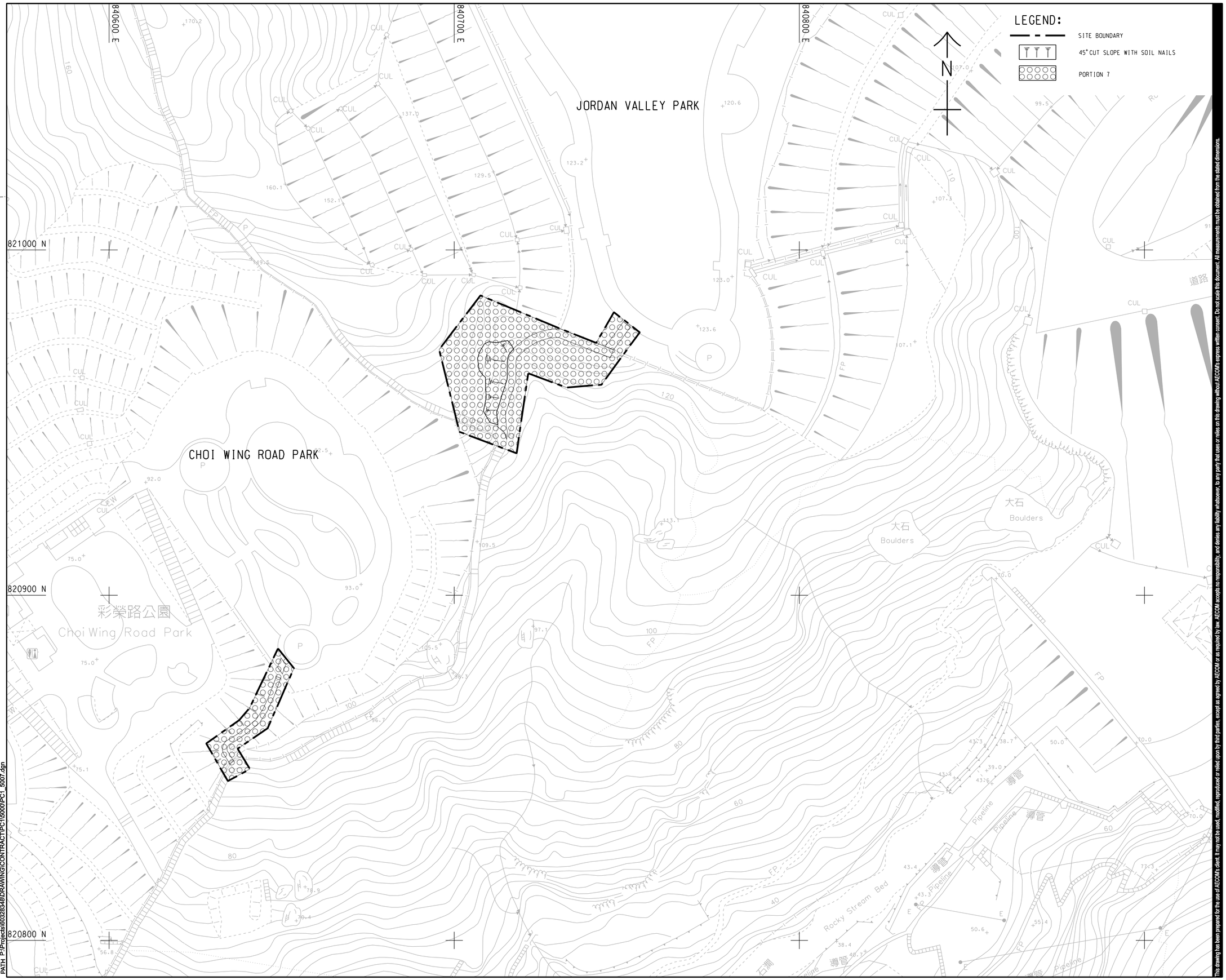
E12 AND BBI - PORTION OF SITE

SHEET NUMBER 圖紙編號
60328348/PC1/3016



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PROJECT 項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

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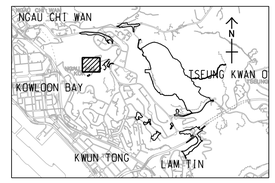

PROJECT NO. 項目編號
60328348

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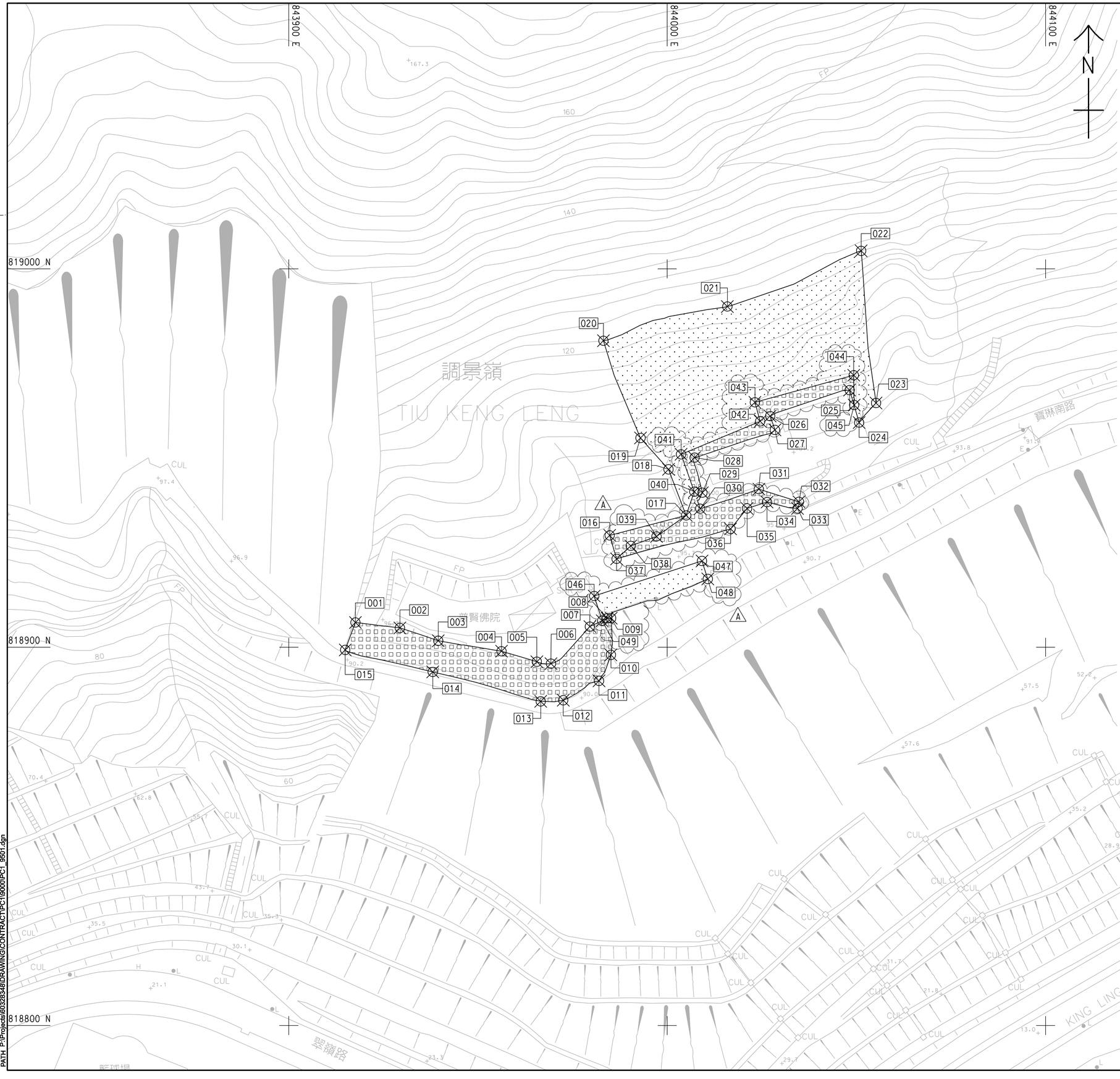
Project Management Initials: | Designer: PC/TK | Checked: AC | Approved: BWCW | ISO A1 594mm x 841mm



SETTING OUT POINTS

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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
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024	844050.7010	818959.3870
025	844048.1970	818967.9590
026	844027.1930	818961.0890
027	844028.4560	818957.440
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030	844008.6995	818936.6258
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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
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PROJECT 項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

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A	NOV. 16	TENDER ADDENDUM NO. 1	AC
-	OCT. 16	TENDER DRAWING	AC

STATUS 階段

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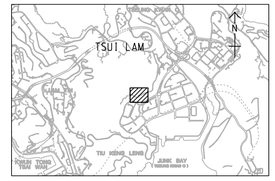


PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

SHEET TITLE 圖紙名稱

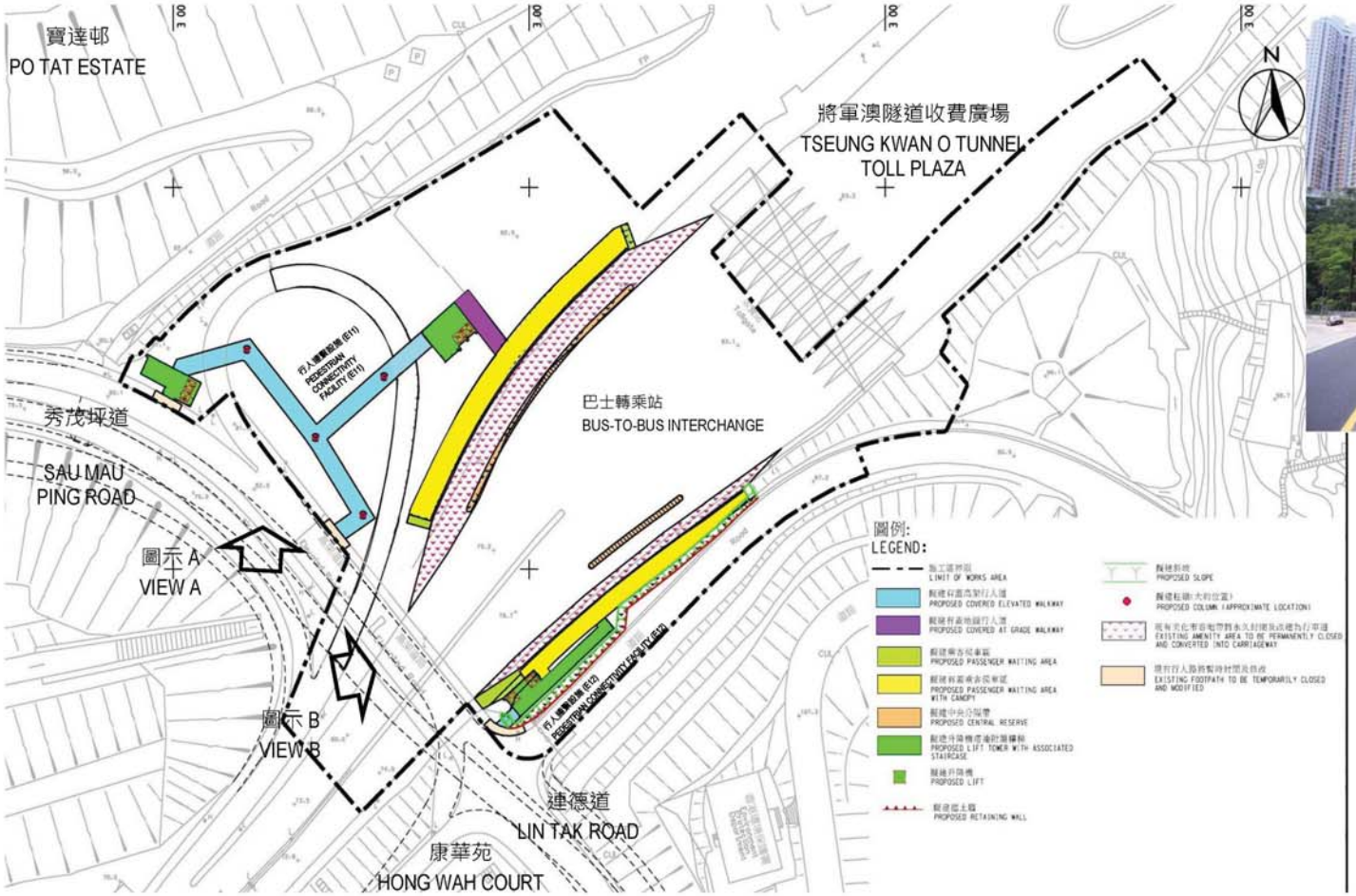
INFRASTRUCTURAL WORKS AT PO LAM ROAD SOUTH TIU KENG LENG – PORTION OF SITE

SHEET NUMBER 圖紙編號

60328348/PC1/9501A

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

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

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.

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 Secondary 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

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

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.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

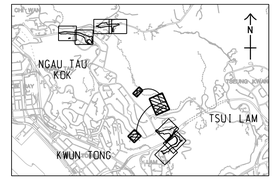
I/R 修訂	DATE 日期	DESCRIPTION 內容摘要	CHK. 核核
			yc
A	NOV. 17	TENDER ADDENDUM NO. 1	AWYC
-	OCT. 17	TENDER DRAWING	AWYC

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

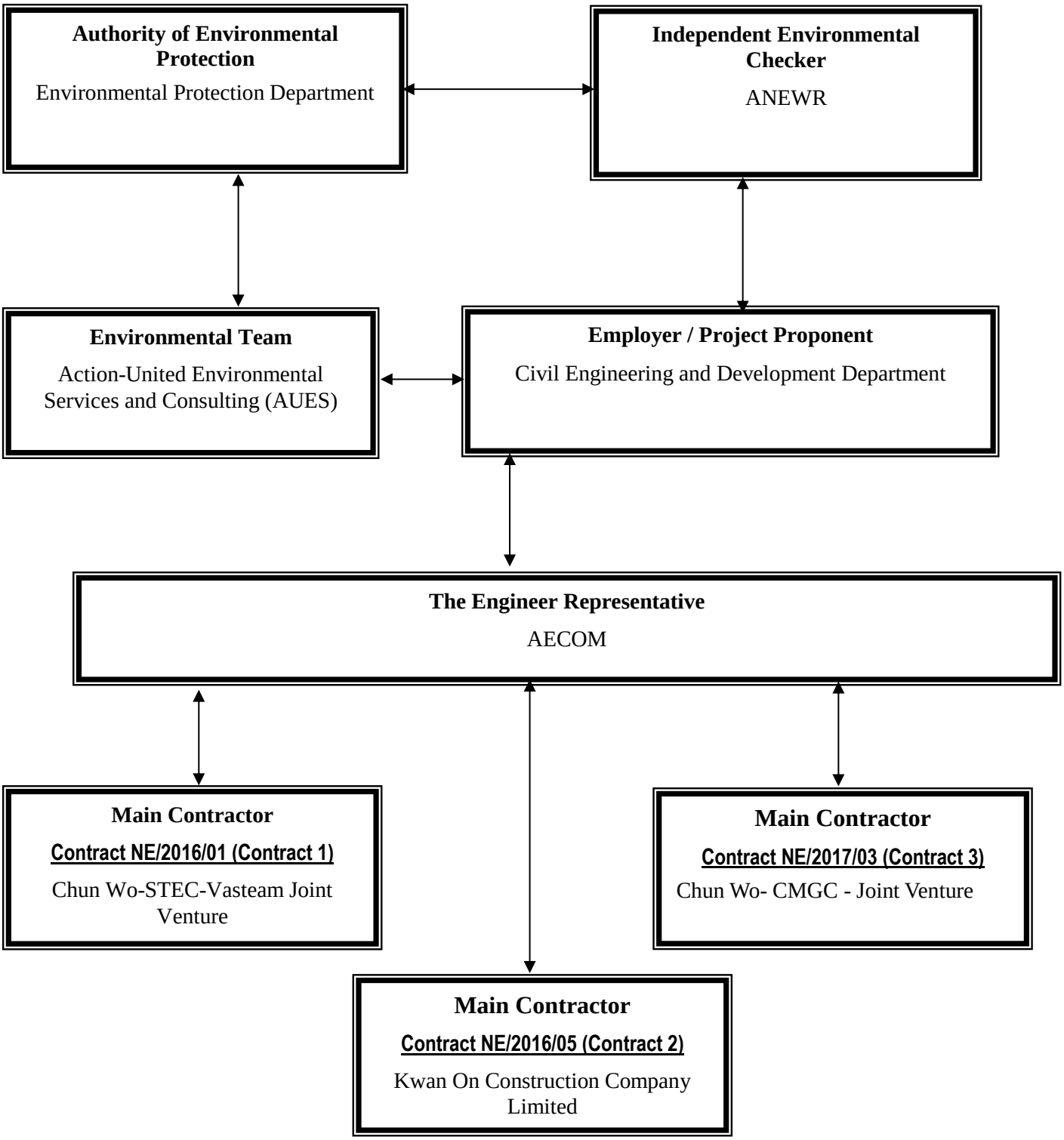
SHEET 8 OF 8

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 Chiu	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)

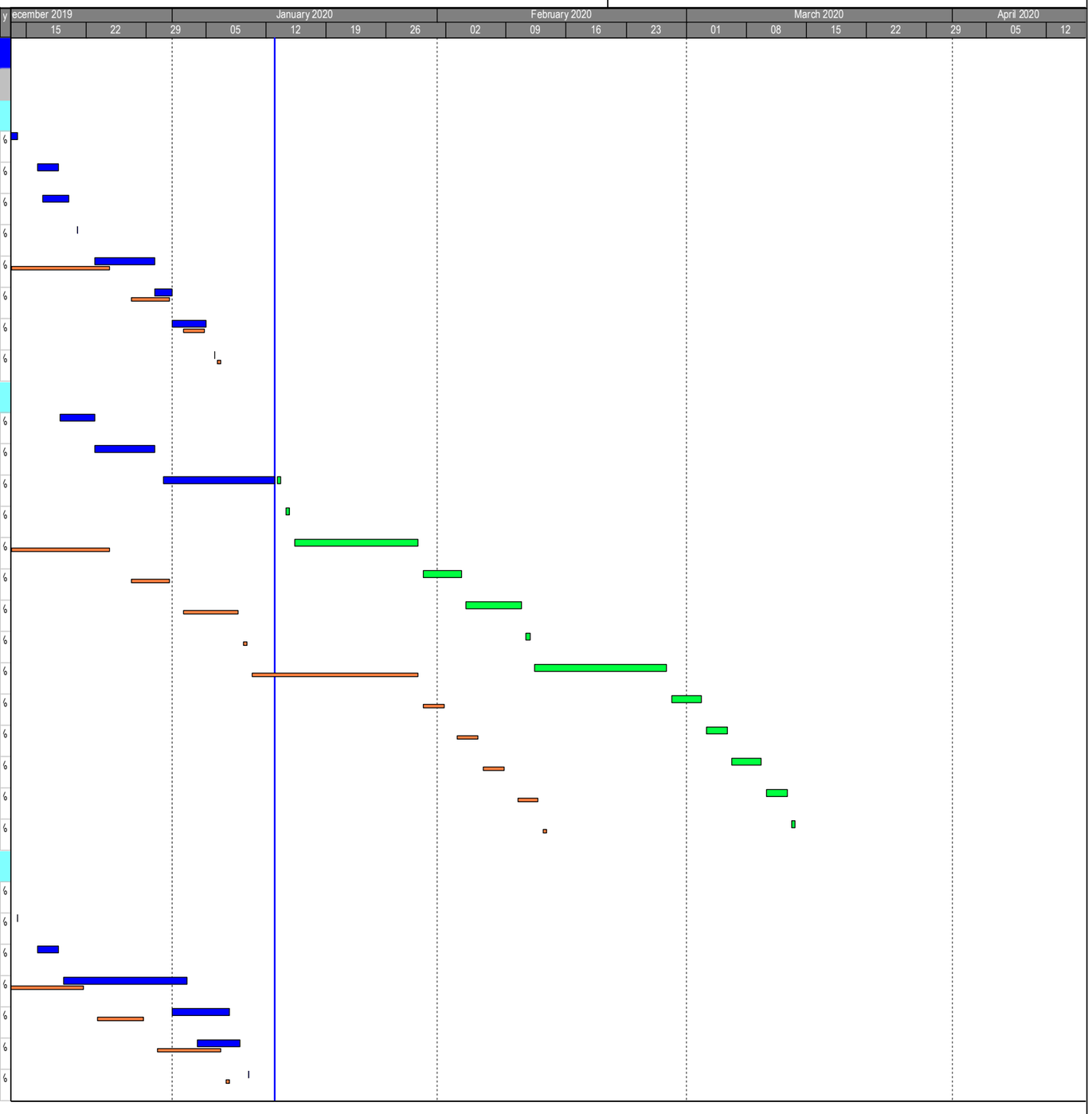
Contract 1 (NE/2016/01)

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

CONTRACT NO. NE/2016/01 DEVELOPMENT OF ANDERSON ROAD QUARRY SITE INVESTIGATION, DESIGN AND CONSTRUCTION
3 - MONTH ROLLING PROGRAMME

Cut-Off Data Date: 13-Jan-20

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start	Finish
Anderson Rd Sub-programme (Jan 20)							
Box Culvert BC2							
Bay 16							
BC2-1460	Grade 200 + blinding layer	2d	11-Nov-19	12-Nov-19	2d	12-Dec-19 A	14-Dec-19 A
BC2-1470	Base Slab Formowork erection	3d	18-Nov-19	20-Nov-19	3d	16-Dec-19 A	18-Dec-19 A
BC2-1480	Rebar fixing + cleaning	4d	21-Nov-19	25-Nov-19	3d	17-Dec-19 A	20-Dec-19 A
BC2-1490	Concreting	1d	26-Nov-19	26-Nov-19	0d	21-Dec-19 A	21-Dec-19 A
BC2-1500	Falsework + soffit formwork erection	10d	13-Dec-19	24-Dec-19	4d	23-Dec-19 A	30-Dec-19 A
BC2-1510	Rebar fixing	4d	27-Dec-19	31-Dec-19	2d	30-Dec-19 A	01-Jan-20 A
BC2-1520	Wall formwork erection	3d	02-Jan-20	04-Jan-20	3d	01-Jan-20 A	05-Jan-20 A
BC2-1530	Concreting	1d	06-Jan-20	06-Jan-20	0d	06-Jan-20 A	06-Jan-20 A
Bay 17							
BC2-1540	Grade 200 + blinding layer	2d	27-Nov-19	28-Nov-19	3d	19-Dec-19 A	23-Dec-19 A
BC2-1550	Base Slab Formowork erection	3d	29-Nov-19	02-Dec-19	4d	23-Dec-19 A	30-Dec-19 A
BC2-1560	Rebar fixing + cleaning	4d	07-Dec-19	11-Dec-19	11d	31-Dec-19 A	13-Jan-20
BC2-1570	Concreting	1d	12-Dec-19	12-Dec-19	1d	14-Jan-20	14-Jan-20
BC2-1580	Falsework + soffit formwork erection	10d	13-Dec-19	24-Dec-19	10d	15-Jan-20	29-Jan-20
BC2-1590	Rebar fixing	4d	27-Dec-19	31-Dec-19	4d	30-Jan-20	03-Feb-20
BC2-1600	Wall formwork erection	6d	02-Jan-20	08-Jan-20	6d	04-Feb-20	10-Feb-20
BC2-1610	Concreting	1d	09-Jan-20	09-Jan-20	1d	11-Feb-20	11-Feb-20
BC2-1620	Backfilling	14d	10-Jan-20	29-Jan-20	14d	12-Feb-20	27-Feb-20
BC2-1630	Working platform erection	3d	30-Jan-20	01-Feb-20	3d	28-Feb-20	02-Mar-20
BC2-1640	Chamber wall formwork	3d	03-Feb-20	05-Feb-20	3d	03-Mar-20	05-Mar-20
BC2-1650	Rebar fixing	3d	06-Feb-20	08-Feb-20	3d	06-Mar-20	09-Mar-20
BC2-1660	External Wall formwork erection + cleaning	3d	10-Feb-20	12-Feb-20	3d	10-Mar-20	12-Mar-20
BC2-1670	Concreting	1d	13-Feb-20	13-Feb-20	1d	13-Mar-20	13-Mar-20
Bay 18							
BC2-1710	Stair formwork erection	3d	03-Dec-19	05-Dec-19	2d	11-Dec-19 A	13-Dec-19 A
BC2-1720	Concreting	1d	06-Dec-19	06-Dec-19	0d	14-Dec-19 A	14-Dec-19 A
BC2-1730	Formwork removal	3d	07-Dec-19	10-Dec-19	3d	16-Dec-19 A	18-Dec-19 A
BC2-1740	Falsework + soffit formwork erection	10d	11-Dec-19	21-Dec-19	10d	19-Dec-19 A	02-Jan-20 A
BC2-1750	Rebar fixing	4d	23-Dec-19	28-Dec-19	5d	01-Jan-20 A	07-Jan-20 A
BC2-1760	Wall formwork erection	6d	30-Dec-19	06-Jan-20	4d	04-Jan-20 A	09-Jan-20 A
BC2-1770	Concreting	1d	07-Jan-20	07-Jan-20	0d	10-Jan-20 A	10-Jan-20 A

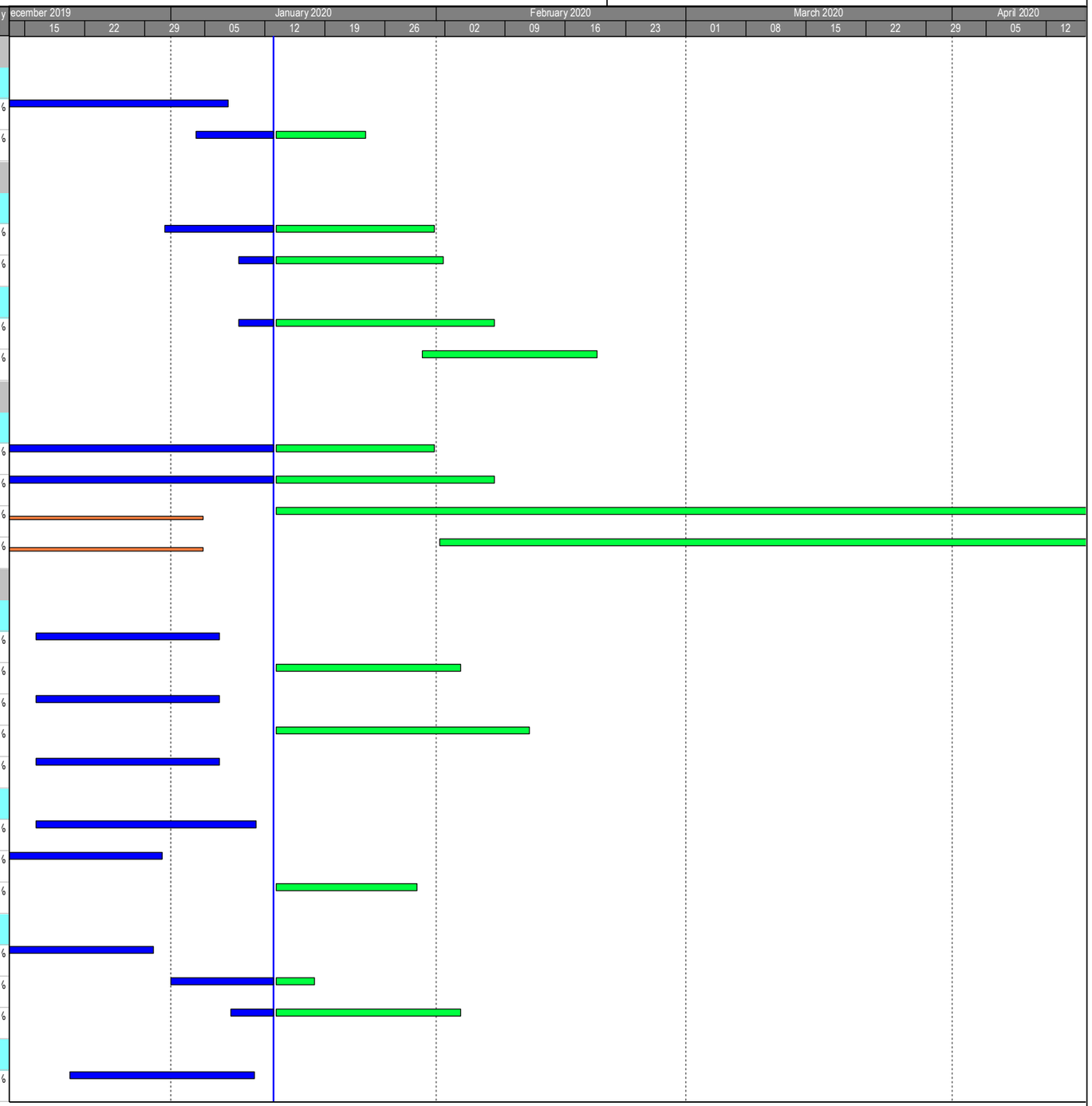


Primary Baseline
Actual Work
Baseline Milestone
Milestone
Forecast Work

3 Month Rolling Programme
Anderson Rd Sub-programme (Jan 20)
10-Jan-20

Date	Revision	Checked	Approved

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start	Finish	y
Salt Water Reservoir								
Roof & Other								
SWR-1390	Water Test - Water tightness test for salt water reservoir	0d			24d	07-Dec-19 A	07-Jan-20 A	%
SWR-1400	Roof - metal railing installation	0d			17d	04-Jan-20 A	23-Jan-20	%
Fresh Water Reservoir								
Roof Bay 1 & 3								
FWR-1870	Roof Bay 1 & 3 - Water tightness test for fresh water reservoir	0d			24d	31-Dec-19 A	31-Jan-20	%
FWR-1880	Roof Bay 1 & 3 - roof metal railing installation	0d			18d	09-Jan-20 A	01-Feb-20	%
Roof Bay 2 & 4								
FWR-1970	Roof Bay 2 & 4 - Water tightness test for fresh water reservoir	0d			23d	09-Jan-20 A	07-Feb-20	%
FWR-1980	Roof Bay 2 & 4 - roof metal railing installation	0d			18d	30-Jan-20	19-Feb-20	%
Pedestrian Connection System A & B								
PC system B								
PCB-1030	System B - Structure of north tower	96d	01-Apr-19	29-Jul-19	247d	01-Apr-19 A	31-Jan-20	%
PCB-1070	System B - Backfill subway	53d	21-Sep-19	23-Nov-19	63d	20-Nov-19 A	07-Feb-20	%
PCB-1090	System B - Backfill south tower	81d	27-Sep-19	04-Jan-20	81d	13-Jan-20	23-Apr-20	%
PCB-1100	System B - Backfill north tower	81d	27-Sep-19	04-Jan-20	81d	01-Feb-20	12-May-20	%
Artificial Flood Attenuation Lake								
Retaining wall Part 1 Bay 13-17)								
ART-1100	Art retain wall - Part 1 bay 13	16d	10-Oct-19	28-Oct-19	16d	16-Dec-19 A	06-Jan-20 A	%
ART-1110	Art retain wall - Part 1 bay 14	16d	19-Oct-19	06-Nov-19	16d	13-Jan-20	03-Feb-20	%
ART-1120	Art retain wall - Part 1 bay 15	16d	10-Oct-19	28-Oct-19	16d	16-Dec-19 A	06-Jan-20 A	%
ART-1130	Art retain wall - Part 1 bay 16	23d	19-Oct-19	14-Nov-19	23d	13-Jan-20	11-Feb-20	%
ART-1140	Art retain wall - Part 1 bay 17	16d	10-Oct-19	28-Oct-19	16d	16-Dec-19 A	06-Jan-20 A	%
Retaining wall Part 8 Bay 32-37)								
ART-1160	Art retain wall - Part 8 bay 32	12d	20-Sep-19	04-Oct-19	20d	16-Dec-19 A	11-Jan-20 A	%
ART-1170	Art retain wall - Part 8 bay 33	12d	27-Sep-19	12-Oct-19	58d	22-Oct-19 A	31-Dec-19 A	%
ART-1190	Art retain wall - Part 8 bay 35	12d	27-Sep-19	12-Oct-19	12d	13-Jan-20	29-Jan-20	%
Retaining wall Part 2 Bay 9-12)								
ART-1240	Art retain wall - Part 2 bay 10	14d	02-Sep-19	18-Sep-19	63d	15-Oct-19 A	30-Dec-19 A	%
ART-1250	Art retain wall - Part 2 bay 11	16d	29-Oct-19	15-Nov-19	14d	01-Jan-20 A	17-Jan-20	%
ART-1260	Art retain wall - Part 2 bay 12	16d	07-Nov-19	25-Nov-19	20d	08-Jan-20 A	03-Feb-20	%
Retaining wall Part 3 Bay 3-6)								
ART-1280	Art retain wall - Part 3 bay 3	16d	10-Oct-19	28-Oct-19	16d	20-Dec-19 A	10-Jan-20 A	%

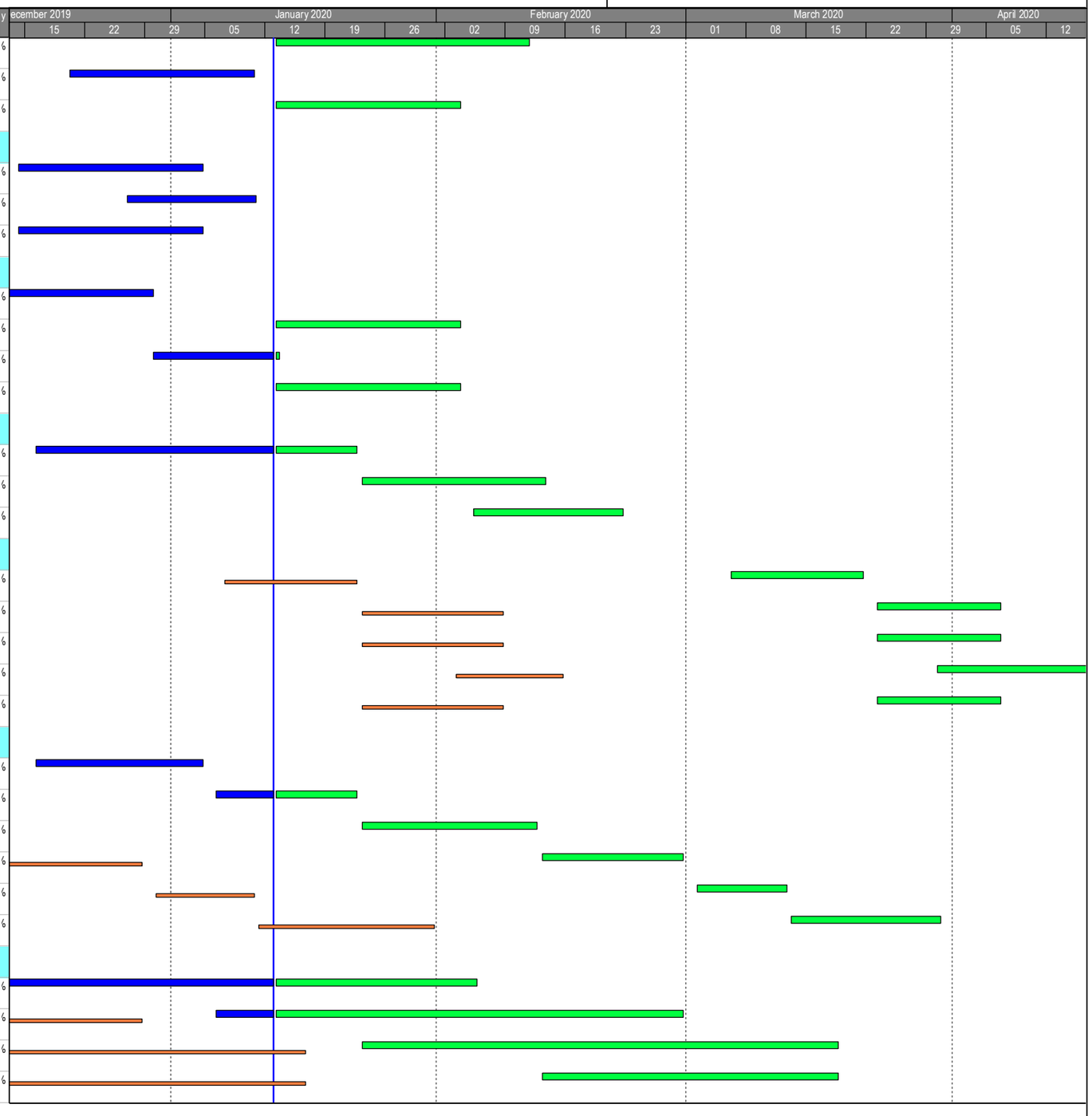


Primary Baseline
Actual Work
Baseline Milestone
Milestone
Forecast Work

3 Month Rolling Programme
Anderson Rd Sub-programme (Jan 20)
10-Jan-20

Date	Revision	Checked	Approved

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start	Finish
ART-1290	Art retain wall - Part 3 bay 4	23d	19-Oct-19	14-Nov-19	23d	13-Jan-20	11-Feb-20
ART-1300	Art retain wall - Part 3 bay 5	16d	10-Oct-19	28-Oct-19	16d	20-Dec-19 A	10-Jan-20 A
ART-1310	Art retain wall - Part 3 bay 6	16d	19-Oct-19	06-Nov-19	16d	13-Jan-20	03-Feb-20
Retaining wall Part 4 Bay22-24)							
ART-1330	Art retain wall - Part 4 bay 22	16d	05-Nov-19	22-Nov-19	16d	14-Dec-19 A	04-Jan-20 A
ART-1340	Art retain wall - Part 4 bay 23	16d	26-Oct-19	13-Nov-19	12d	27-Dec-19 A	11-Jan-20 A
ART-1350	Art retain wall - Part 4 bay 24	16d	05-Nov-19	22-Nov-19	16d	14-Dec-19 A	04-Jan-20 A
Retaining wall Part 5 Bay 29-31)							
ART-1360	Art retain wall - Part 5 excavation, 300mm rock fill	14d	26-Oct-19	11-Nov-19	15d	10-Dec-19 A	30-Dec-19 A
ART-1370	Art retain wall - Part 5 bay 29	16d	12-Nov-19	29-Nov-19	16d	13-Jan-20	03-Feb-20
ART-1380	Art retain wall - Part 5 bay 30	16d	21-Nov-19	09-Dec-19	12d	30-Dec-19 A	13-Jan-20
ART-1390	Art retain wall - Part 5 bay 31	16d	12-Nov-19	29-Nov-19	16d	13-Jan-20	03-Feb-20
Retaining wall Part 7 Bay 1-2 Wall A)							
ART-1440	Art retain wall - Part 7 backfill with SRT	30d	11-Oct-19	14-Nov-19	30d	16-Dec-19 A	22-Jan-20
ART-1450	Art retain wall - Part 7 bay 1	16d	15-Nov-19	03-Dec-19	16d	23-Jan-20	13-Feb-20
ART-1460	Art retain wall - Part 7 bay 2	16d	25-Nov-19	12-Dec-19	16d	05-Feb-20	22-Feb-20
Retaining wall Part 11 Bay 47-49)							
ART-1470	Art retain wall - Part 11 excavation	14d	07-Jan-20	22-Jan-20	14d	06-Mar-20	21-Mar-20
ART-1480	Art retain wall - Part 11 bay 46	12d	23-Jan-20	08-Feb-20	12d	23-Mar-20	06-Apr-20
ART-1490	Art retain wall - Part 11 bay 47	12d	23-Jan-20	08-Feb-20	12d	23-Mar-20	06-Apr-20
ART-1500	Art retain wall - Part 11 bay 48	12d	03-Feb-20	15-Feb-20	12d	30-Mar-20	16-Apr-20
ART-1510	Art retain wall - Part 11 bay 49	12d	23-Jan-20	08-Feb-20	12d	23-Mar-20	06-Apr-20
Water testing (stem wall)							
ART-1820	Art retain wall - Bay 10-19	15d	18-Oct-19	04-Nov-19	15d	16-Dec-19 A	04-Jan-20 A
ART-1830	Art retain wall - Bay 1-9	15d	05-Nov-19	21-Nov-19	15d	06-Jan-20 A	22-Jan-20
ART-1840	Art retain wall - Bay 39-46	15d	22-Nov-19	09-Dec-19	15d	23-Jan-20	12-Feb-20
ART-1850	Art retain wall - Bay 32-38	15d	10-Dec-19	28-Dec-19	15d	13-Feb-20	29-Feb-20
ART-1860	Art retain wall - Bay 29-31	10d	30-Dec-19	10-Jan-20	10d	02-Mar-20	12-Mar-20
ART-1870	Art retain wall - Bay 47-52	15d	11-Jan-20	31-Jan-20	15d	13-Mar-20	30-Mar-20
Backfill at back of retaining wall							
ART-1880	Art retain wall - Bay 20-28	45d	18-Oct-19	09-Dec-19	45d	09-Dec-19 A	05-Feb-20
ART-1890	Art retain wall - Bay 10-19	45d	05-Nov-19	28-Dec-19	45d	06-Jan-20 A	29-Feb-20
ART-1900	Art retain wall - Bay 1-9	45d	22-Nov-19	16-Jan-20	45d	23-Jan-20	18-Mar-20
ART-1910	Art retain wall - Bay 39-46	30d	10-Dec-19	16-Jan-20	30d	13-Feb-20	18-Mar-20



Primary Baseline
Actual Work
Baseline Milestone
Milestone
Forecast Work

3 Month Rolling Programme

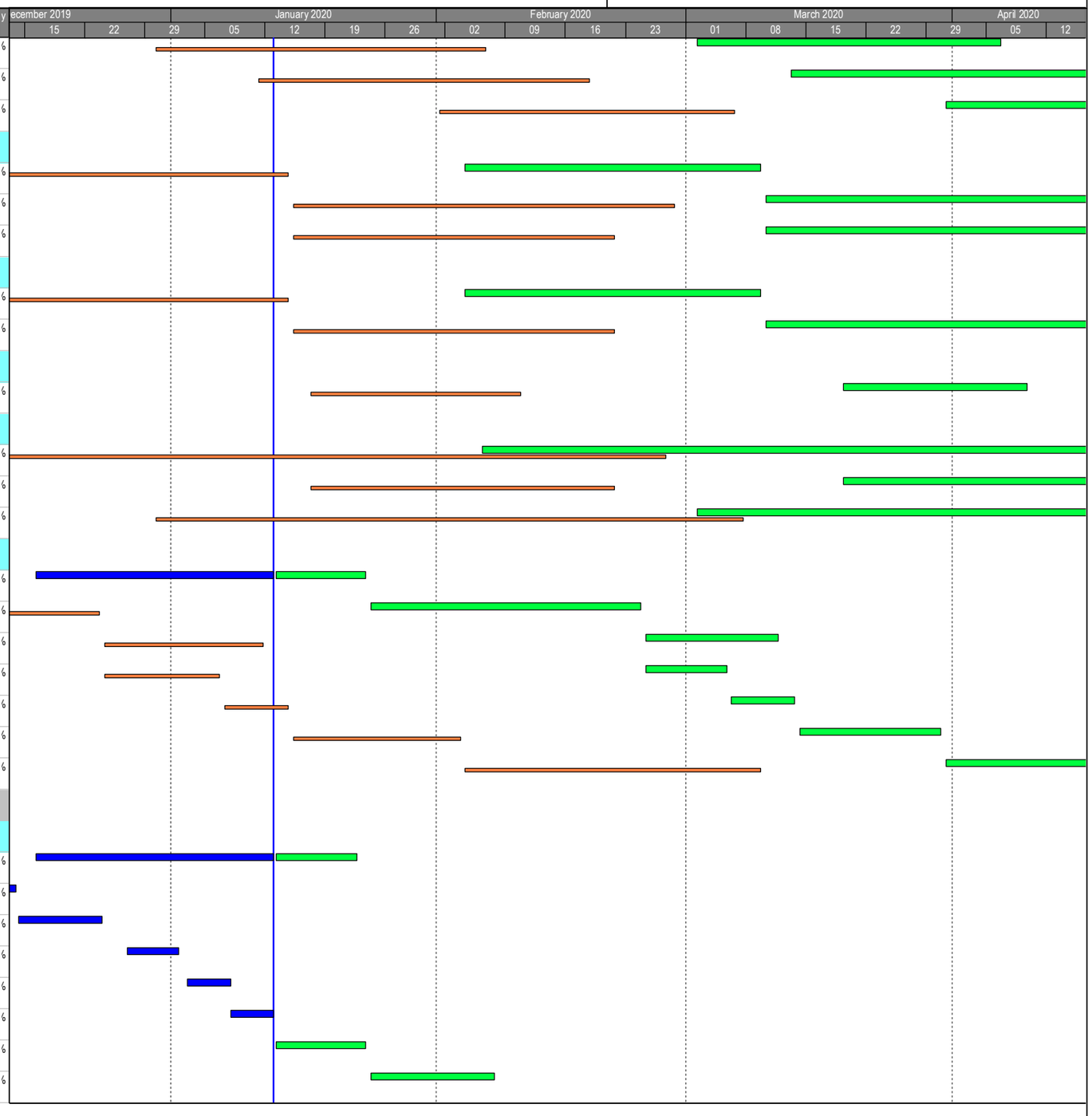
Anderson Rd Sub-programme (Jan 20)
10-Jan-20

Date	Revision	Checked	Approved

CONTRACT NO. NE/2016/01 DEVELOPMENT OF ANDERSON ROAD QUARRY SITE INVESTIGATION, DESIGN AND CONSTRUCTION
3 - MONTH ROLLING PROGRAMME

Cut-Off Data Date: 13-Jan-20

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start	Finish
ART-1920	Art retain wall - Bay 32-38	30d	30-Dec-19	06-Feb-20	30d	02-Mar-20	06-Apr-20
ART-1930	Art retain wall - Bay 29-31	30d	11-Jan-20	18-Feb-20	30d	13-Mar-20	21-Apr-20
ART-1940	Art retain wall - Bay 47-52	30d	01-Feb-20	06-Mar-20	30d	31-Mar-20	11-May-20
Construction of lake bottom							
ART-1950	Art Lake - Excavation north part	30d	07-Dec-19	14-Jan-20	30d	04-Feb-20	09-Mar-20
ART-1960	Art Lake - Construction north part	36d	15-Jan-20	28-Feb-20	36d	10-Mar-20	24-Apr-20
ART-1970	Art Lake - Excavation south part	30d	15-Jan-20	21-Feb-20	30d	10-Mar-20	17-Apr-20
Construction of Floating Bridge							
ART-2050	Art Lake Floating Brdige - backfill	30d	07-Dec-19	14-Jan-20	30d	04-Feb-20	09-Mar-20
ART-2060	Art Lake Floating Brdige - footing construction	30d	15-Jan-20	21-Feb-20	30d	10-Mar-20	17-Apr-20
Slot Chamber							
ART-2080	Art Lake - Slot chamber no. 1 & stop log chamber	18d	17-Jan-20	10-Feb-20	18d	19-Mar-20	09-Apr-20
Drainage							
ART-2110	Art Lake - Outside bay 38-45	63d	10-Dec-19	27-Feb-20	63d	06-Feb-20	23-Apr-20
ART-2120	Art Lake - Outside bay 3-8	28d	17-Jan-20	21-Feb-20	28d	19-Mar-20	24-Apr-20
ART-2130	Art Lake - Outside bay 9-28	56d	30-Dec-19	07-Mar-20	56d	02-Mar-20	12-May-20
Treatment Plant							
ART-1570	Treatment plant - Construct the base(S3)	18d	05-Nov-19	25-Nov-19	31d	16-Dec-19 A	23-Jan-20
ART-1580	Treatment plant - Construct the wall(W4,5,8,9,15,16,17,10)	24d	26-Nov-19	23-Dec-19	24d	24-Jan-20	24-Feb-20
ART-1590	Treatment plant - Construct the Roof (S4)	14d	24-Dec-19	11-Jan-20	14d	25-Feb-20	11-Mar-20
ART-1600	Treatment plant - Rockfilling/backfilling(by course material), 5.5m Depth	9d	24-Dec-19	06-Jan-20	9d	25-Feb-20	05-Mar-20
ART-1610	Treatment plant - Construct the base(S1,2)	7d	07-Jan-20	14-Jan-20	7d	06-Mar-20	13-Mar-20
ART-1620	Treatment plant - Construct the wall(W1,2,3,6,7,8,9,11,12,13,14)	14d	15-Jan-20	03-Feb-20	14d	14-Mar-20	30-Mar-20
ART-1630	Treatment plant - Backfilling (by course material) to 197.1mPD, 8.2m Depth	30d	04-Feb-20	09-Mar-20	30d	31-Mar-20	11-May-20
Underpass Tunnel							
Tunnel Permanent Lining							
TUN-3010	Tunnel Lining Bay 1 CH2389 to CH2395	0d			30d	16-Dec-19 A	22-Jan-20
TUN-3160	Tunnel Lining Bay 18 CH2475 to CH2481	0d			6d	07-Dec-19 A	14-Dec-19 A
TUN-3170	Tunnel Lining Bay 19 CH2481 to CH2487	0d			8d	14-Dec-19 A	24-Dec-19 A
TUN-3180	Tunnel Lining Bay 20 CH2487 to CH2493	0d			4d	27-Dec-19 A	02-Jan-20 A
TUN-3190	Tunnel Lining Bay 21 CH2493 to CH2498	0d			4d	03-Jan-20 A	08-Jan-20 A
TUN-3200	Tunnel Lining Bay 22 CH2498 to CH2504	0d			4d	08-Jan-20 A	13-Jan-20 A
TUN-3210	Tunnel Lining Bay 23 CH2504 to CH2510	0d			10d	13-Jan-20	23-Jan-20
TUN-3220	Tunnel Lining Bay 24 CH2510 to CH2515	0d			10d	24-Jan-20	07-Feb-20

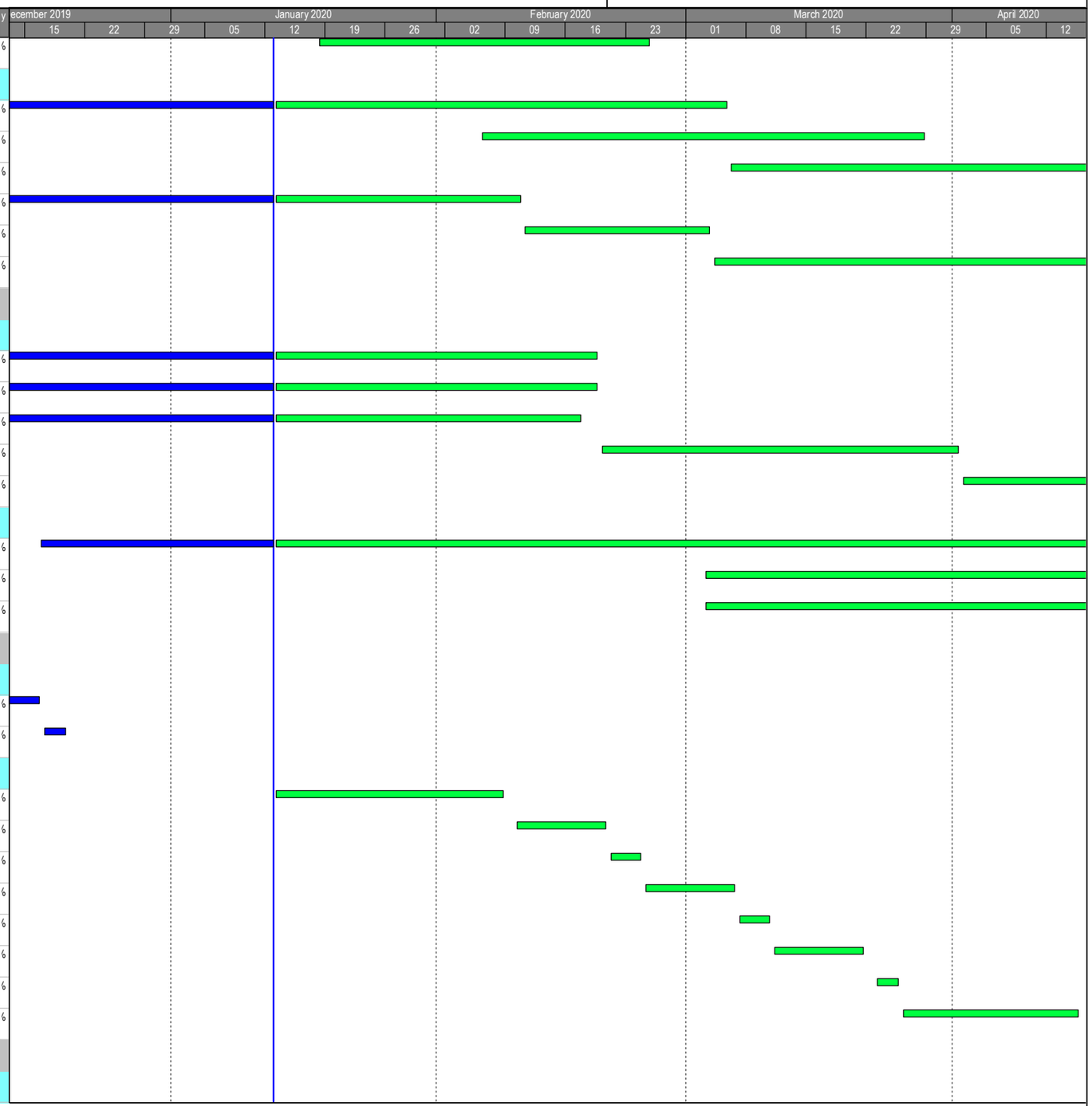


Primary Baseline
Actual Work
Baseline Milestone
Milestone
Forecast Work

3 Month Rolling Programme
Anderson Rd Sub-programme (Jan 20)
10-Jan-20

Date	Revision	Checked	Approved

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start	Finish
TUN-3230	Tunnel Lining Bay 25 CH2515 to CH2520	0d			30d	18-Jan-20	25-Feb-20
Box Culvert BC3							
TUN-3310	BC3 - CH2389 to CH2422 (32.5m)	0d			80d	27-Nov-19 A	05-Mar-20
TUN-3320	BC3 - CH2422 to CH2433 (11m)	0d			45d	06-Feb-20	28-Mar-20
TUN-3330	BC3 - CH2433 to CH2460 (27m)	0d			89d	06-Mar-20	24-Jun-20
TUN-3340	BC3 - CH2520 to CH2511 (9m)	0d			49d	09-Dec-19 A	10-Feb-20
TUN-3350	BC3 - CH2511 to CH2506 (5m)	0d			19d	11-Feb-20	03-Mar-20
TUN-3360	BC3 - CH2506 to CH2484 (22m)	0d			70d	04-Mar-20	30-May-20
Road L4 (RWA18, Noise Barrier, RWA12, Utilities & Road Works)							
Retaining Wall RWA12							
L4-3440	L4 (RWA12) - Bay 17-20 construct wall & backfill upto +165	0d			104d	15-Oct-19 A	19-Feb-20
L4-3670	L4 (RWA12) - Bay 9-16 construct wall & backfill	0d			162d	05-Aug-19 A	19-Feb-20
L4-3680	L4 (RWA12) - Bay 1-8 construct wall & backfill	0d			148d	19-Aug-19 A	17-Feb-20
L4-3690	L4 (RWA12) - Bay 23-29 excavate in soil & rock	0d			36d	20-Feb-20	01-Apr-20
L4-3700	L4 (RWA12) - Bay 23-29 construct wall & backfill	0d			105d	02-Apr-20	11-Aug-20
Road Works - Drainage							
L4-4210	L4 (Drainage) - Backfill noise barrier & RWA12	0d			105d	17-Dec-19 A	28-Apr-20
L4-4220	L4 (Drainage) - Excavate & lay drain CH0 to CH50	0d			80d	03-Mar-20	10-Jun-20
L4-4240	L4 (Drainage) - Excavate & lay drain CH100 to CH150	0d			80d	03-Mar-20	10-Jun-20
Retaining Wall RWA9 at Road L3							
RWA9 Bay 1 to Bay 6							
RWA9-1070	RWA9 - F/W & rebat fixing to Bay 2, 4 & 6 Wall	0d			14d	30-Nov-19 A	16-Dec-19 A
RWA9-1080	RWA9 - Concrete laying for Bay 2, 4 & 6 Wall	0d			3d	17-Dec-19 A	19-Dec-19 A
RWA9 Bay 7 to Bay 12							
RWA9-1090	RWA9 - Excav & formation work for Bay 7 to 12 & lay blinding layer	0d			21d	13-Jan-20	08-Feb-20
RWA9-1100	RWA9 - F/W & rebat fixing to Bay 7, 9 & 11 Base Slab	0d			10d	10-Feb-20	20-Feb-20
RWA9-1110	RWA9 - Concrete laying for Bay 7, 9 & 11 Base Slab	0d			3d	21-Feb-20	24-Feb-20
RWA9-1120	RWA9 - F/W & rebat fixing to Bay 8, 10 & 12 Base Slab	0d			10d	25-Feb-20	06-Mar-20
RWA9-1130	RWA9 - Concrete laying for Bay 8, 10 & 12 Base Slab	0d			3d	07-Mar-20	10-Mar-20
RWA9-1140	RWA9 - F/W & rebat fixing to Bay 7, 9 & 11 Wall	0d			10d	11-Mar-20	21-Mar-20
RWA9-1150	RWA9 - Concrete laying for Bay 7, 9 & 11 Wall	0d			3d	23-Mar-20	25-Mar-20
RWA9-1160	RWA9 - F/W & rebat fixing to Bay 8, 10 & 12 Wall	0d			14d	26-Mar-20	15-Apr-20
Road Works L5,L1 east (between Junction L3 & L5)							
Road L5							



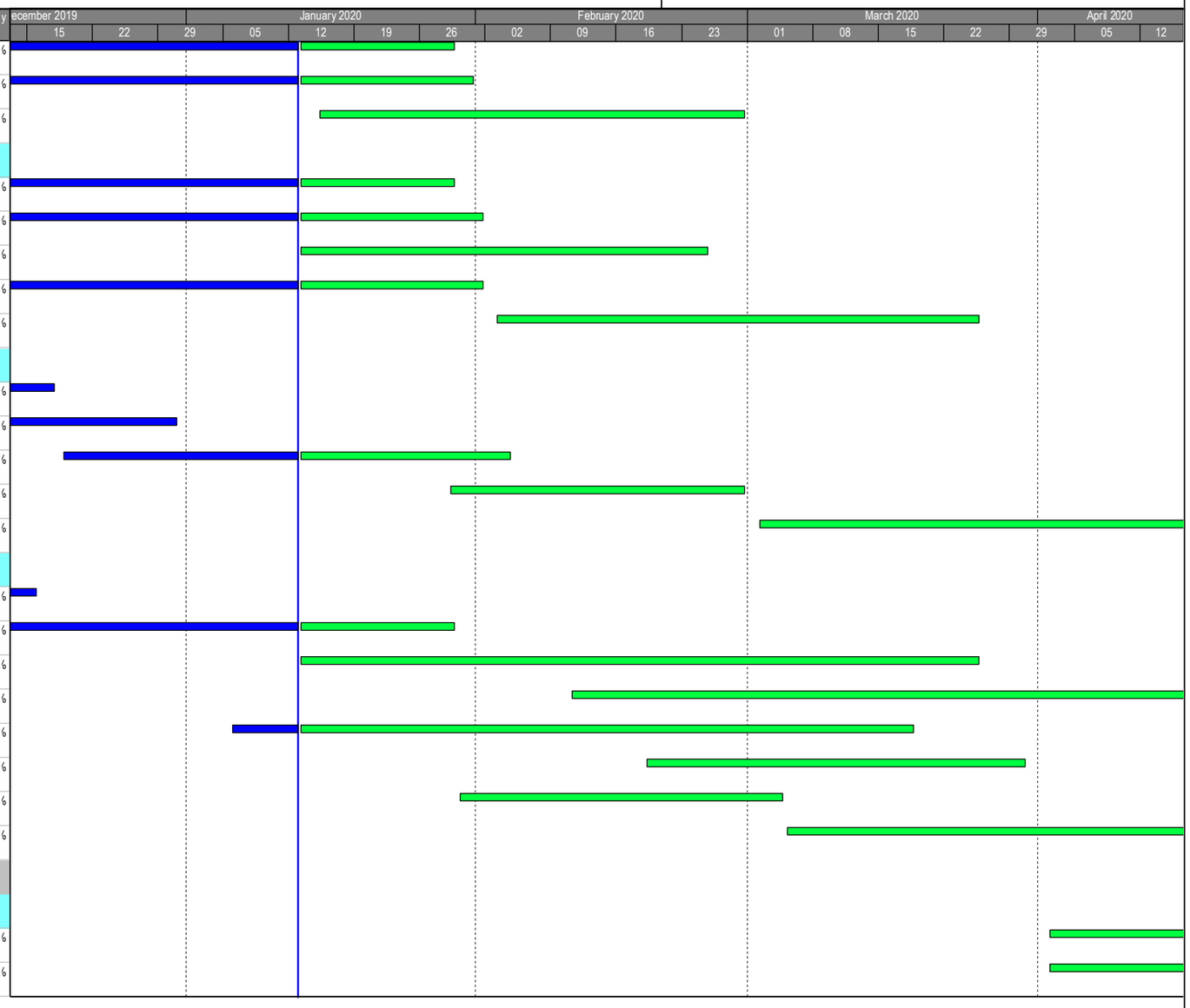
Primary Baseline
Actual Work
Baseline Milestone
Milestone
Forecast Work

3 Month Rolling Programme

Anderson Rd Sub-programme (Jan 20)
10-Jan-20

Date	Revision	Checked	Approved

Activity ID	Activity Name	BL1 Duration	BL1 Start	BL1 Finish	Duration	Start	Finish
RL5-1040	Road L5 - ducting for Street Lighting	0d			45d	02-Dec-19 A	29-Jan-20
RL5-1050	Road L5 - Road Pavement	0d			45d	04-Dec-19 A	31-Jan-20
RL5-1060	Road L5 - Landscape funiture	0d			37d	15-Jan-20	29-Feb-20
Road L1 east part 1 (L5 toward L3 Junction)							
RL1a-1020	Road L1 east 1 - Watermain installation	0d			63d	11-Nov-19 A	29-Jan-20
RL1a-1030	Road L1 east 1 - UU installation	0d			51d	28-Nov-19 A	01-Feb-20
RL1a-1040	Road L1 east 1 - ducting for Street Lighting	0d			35d	13-Jan-20	25-Feb-20
RL1a-1050	Road L1 east 1 - Road Pavement	0d			42d	09-Dec-19 A	01-Feb-20
RL1a-1060	Road L1 east 1 - Landscape funiture	0d			45d	03-Feb-20	25-Mar-20
Road L1 east part 2 (L5 toward PC system B)							
RL1b-1020	Road L1 east 2 - Watermain installation	0d			40d	01-Nov-19 A	18-Dec-19 A
RL1b-1030	Road L1 east 2 - UU installation	0d			45d	06-Nov-19 A	31-Dec-19 A
RL1b-1040	Road L1 east 2 - ducting for Street Lighting	0d			35d	19-Dec-19 A	04-Feb-20
RL1b-1050	Road L1 east 2 - Road Pavement	0d			28d	29-Jan-20	29-Feb-20
RL1b-1060	Road L1 east 2 - Landscape funiture	0d			45d	02-Mar-20	27-Apr-20
Road L1 east part 3 (Junction L3 toward L5)							
RL1c-1010	Road L1 east 3 - Drain Works (except gully near slope)	0d			100d	17-Aug-19 A	16-Dec-19 A
RL1c-1013	Road L1 east 3 - relocation of 1200 drain connection to culvert	0d			35d	13-Dec-19 A	29-Jan-20
RL1c-1020	Road L1 east 3 - Watermain installation	0d			60d	13-Jan-20	25-Mar-20
RL1c-1023	Road L1 east 3 - Fibe optic installation	0d			60d	11-Feb-20	24-Apr-20
RL1c-1030	Road L1 east 3 - UU installation	0d			60d	06-Jan-20 A	18-Mar-20
RL1c-1040	Road L1 east 3 - ducting for Street Lighting	0d			35d	19-Feb-20	30-Mar-20
RL1c-1050	Road L1 east 3 - Road Pavement	0d			30d	30-Jan-20	04-Mar-20
RL1c-1060	Road L1 east 2 - Landscape funiture	0d			35d	05-Mar-20	18-Apr-20
Road Works PTT, L1 west (between Junction L3 & PTT)							
Road L1 west part 1 (Box culvert BC1)							
RL1c-1090	Road L1 west 1 - Watermain installation	0d			45d	02-Apr-20	30-May-20
RL1c-1100	Road L1 west 1 - Fibe optic installation	0d			60d	02-Apr-20	17-Jun-20



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Milestone
Forecast Work

3 Month Rolling Programme

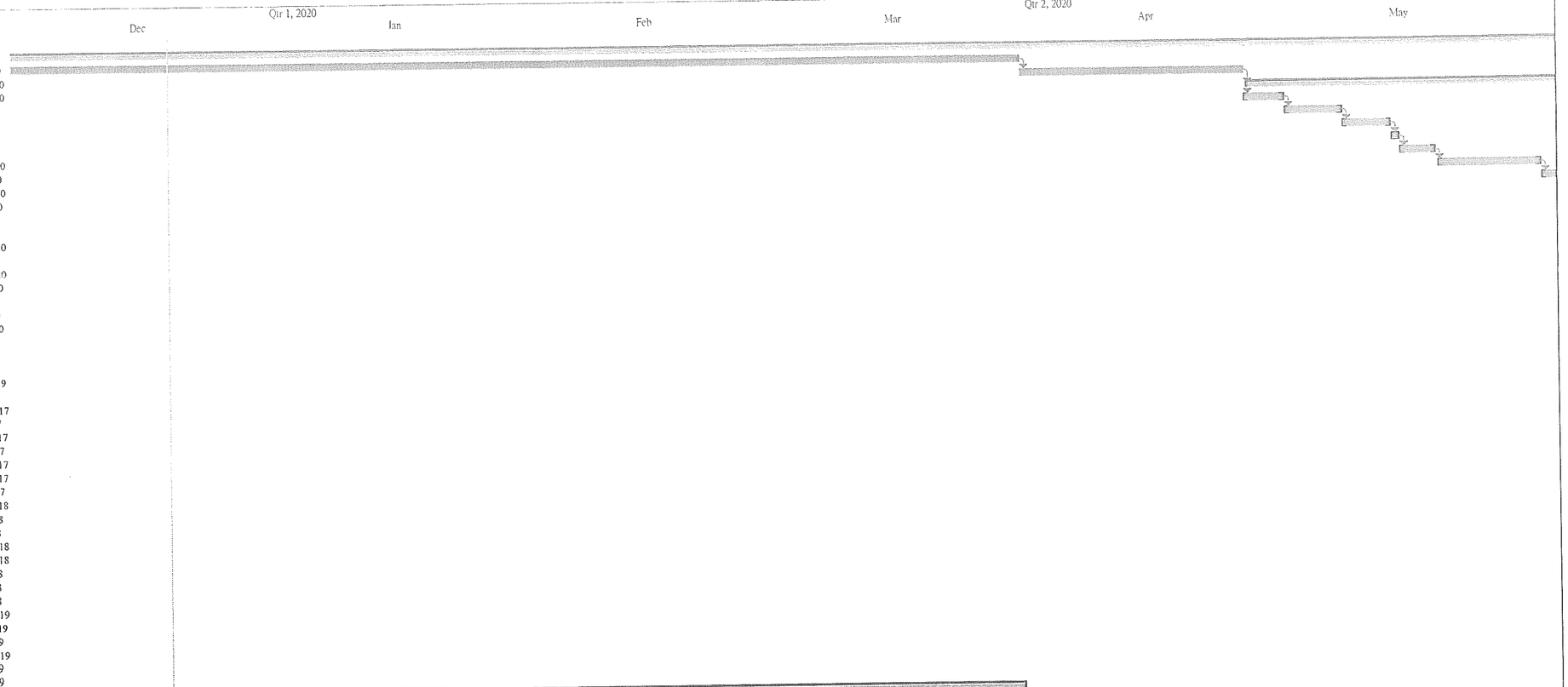
Anderson Rd Sub-programme (Jan 20)
10-Jan-20

Date	Revision	Checked	Approved

Contract 2 (NE/2016/05)

Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - 3 months Accepted Programme
Section A Portions 1, 2, 3 Dec 2019

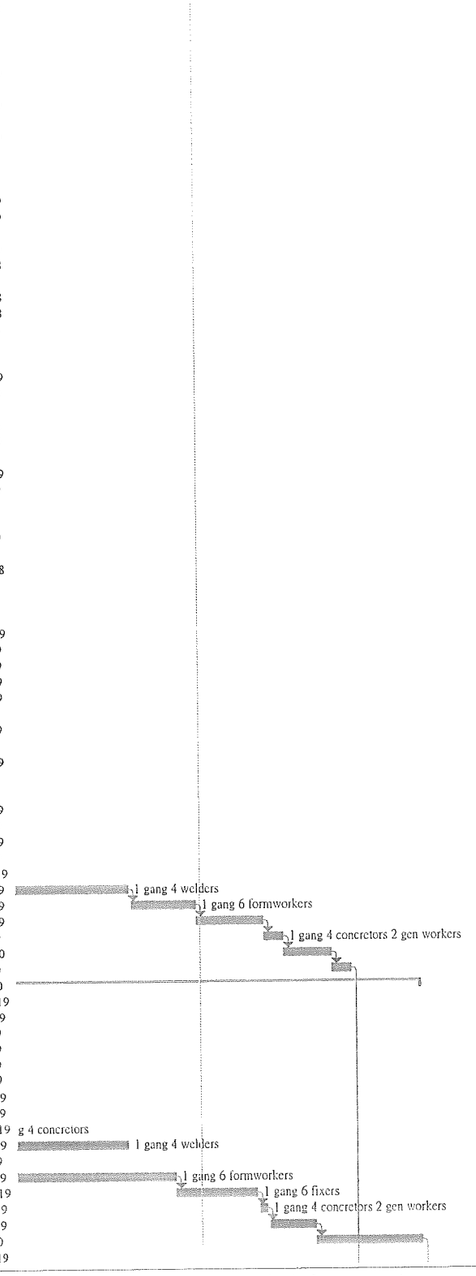
ID	Task Name	Duration	Start	Finish
1	Section A Portions 1, 2, 3			
2	Revised Contract Period	1151 days	Sat 01-04-17	Sat 10-10-20
3	Contract Commencement Period (Addendum No 2)	978 days	Sat 01-04-17	Tue 31-03-20
4	Public Holidays since 1 April 2017	24 days	Tue 31-03-20	Mon 27-04-20
5	Granted EOT from CE	131 days	Tue 28-04-20	Mon 21-09-20
6	CE124 - 5days exam	5 days	Mon 27-04-20	Sat 02-05-20
7	CE 051 - 7days exam	6 days	Sat 02-05-20	Sat 09-05-20
8	CE113 - 5days exam	5 days	Sat 09-05-20	Fri 15-05-20
9	CE 058 - 1days inclement weather March 2018	1 day	Fri 15-05-20	Sat 16-05-20
10	CE 078 - 4days inclement weather May 2018	4 days	Sat 16-05-20	Wed 20-05-20
11	CE102 - 11days inclement weather June 2018	11 days	Thu 21-05-20	Tue 02-06-20
12	CE109 - 7days inclement weather July 2018	7 days	Tue 02-06-20	Wed 10-06-20
13	CE149 & CE151 20days exam Jan & Feb 2019	20 days	Wed 10-06-20	Thu 02-07-20
14	PMI-159 - 1day exam	1 day	Thu 02-07-20	Fri 03-07-20
15	CE171 10 days exam Mar & April 2019	14 days	Fri 03-07-20	Sat 18-07-20
16	CE174 3 days inclement weather Feb 2019	3 days	Sat 18-07-20	Wed 22-07-20
17	3.5days inclement weather Mar 2019	3.5 days	Wed 22-07-20	Sat 25-07-20
18	CE193 2.5 day inclement weather April 2019	2.5 days	Mon 27-07-20	Wed 29-07-20
19	1 day school graduation May 2019	1 day	Wed 29-07-20	Thu 30-07-20
20	1 day inclement weather May 2019	1 day	Thu 30-07-20	Fri 31-07-20
21	1 day inclement weather June 2019	1 day	Fri 31-07-20	Sat 01-08-20
22	4 day inclement weather July 2019	4 days	Sat 01-08-20	Thu 06-08-20
23	14 days TownGas at Portion 3	14 days	Thu 06-08-20	Fri 21-08-20
24	12 days exam June 2019	12 days	Fri 21-08-20	Fri 04-09-20
25				
26	Submissions	788 days	Thu 04-05-17	Thu 03-10-19
27	MS socket H pile for RS1 and PC1 (3 revisions)	189 days	Thu 04-05-17	Fri 01-12-17
28	Submissions	139 days	Tue 09-05-17	Wed 11-10-17
29	MS for Weld test	30 days	Tue 09-05-17	Sat 10-06-17
30	MS Tree felling	30 days	Wed 31-05-17	Mon 03-07-17
31	MS Tree protection	30 days	Thu 15-06-17	Tue 18-07-17
32	MS site entrance	30 days	Fri 07-07-17	Wed 09-08-17
33	MS hoarding	30 days	Fri 11-08-17	Wed 13-09-17
34	MS GI	30 days	Thu 07-09-17	Tue 10-10-17
35	Approval of MS	161 days	Tue 10-10-17	Mon 09-04-18
36	Pile cap submissions	211 days	Mon 09-04-18	Fri 30-11-18
37	MS pilecap	30 days	Mon 09-04-18	Fri 11-05-18
38	MS pile load test PC1 (3 revisions)	23 days	Sat 21-04-18	Wed 16-05-18
39	Approval of Load Test	23 days	Thu 17-05-18	Mon 11-06-18
40	MS dismantle load test	30 days	Tue 12-06-18	Sat 14-07-18
41	MS ELS (2 revisions)	182 days	Fri 27-04-18	Fri 16-11-18
42	MS Piling PC3 to PC5 (3 revisions)	189 days	Thu 03-05-18	Fri 30-11-18
43	Approval of MS	90 days	Fri 30-11-18	Mon 11-03-19
44	Superstructure submissions	256 days	Wed 15-08-18	Tue 28-05-19
45	MS Pier formwork (4 revisions)	141 days	Wed 15-08-18	Sat 19-01-19
46	MS Deck	45 days	Sat 19-01-19	Mon 11-03-19
47	Approval of MS	70 days	Mon 11-03-19	Tue 28-05-19
48	Civil works liaison with CLP, PCCW, HKT	120 days	Wed 22-05-19	Thu 03-10-19
49	Section A, Portion 1 - Escalator (E1)	979 days	Fri 31-03-17	Tue 31-03-20
50	Setting out of site boundary	4 days	Wed 05-04-17	Sat 08-04-17
51	Setting out of predrill coordinates / Site clearance	14 days	Mon 10-04-17	Tue 25-04-17
52	Inspection pits	3 days	Sat 22-04-17	Wed 26-04-17
53	UU Detection	3 days	Fri 14-04-17	Mon 17-04-17
54	Contractor's office	2 days	Tue 25-04-17	Wed 26-04-17
55	Predrilling Works	95 days	Sat 29-04-17	Sun 13-08-17
56	Predrilling PD/E1/01	0 days	Sat 29-04-17	Fri 05-05-17
57	Predrill PD/E1/03	4 days	Fri 05-05-17	Wed 10-05-17
58	Predrill PD/E1/04	4 days	Wed 10-05-17	Mon 15-05-17
59	Predrill PD/E1/10	4 days	Mon 15-05-17	Fri 19-05-17
60	Predrill PD/E1/09	4 days	Sat 20-05-17	Wed 24-05-17
61	Predrill PD/E1/07	4 days	Thu 25-05-17	Mon 29-05-17
62	Predrill PD/E1/08	5 days	Mon 29-05-17	Fri 02-06-17
63	Predrill PD/E1/06	6 days	Sat 03-06-17	Fri 09-06-17
64	Predrill PD/E1/05	4 days	Fri 09-06-17	Wed 14-06-17
65	Predrill PD/E1/02	5 days	Wed 14-06-17	Tue 20-06-17
66	Additional Predrilling at PD/E1/06	12 days	Tue 20-06-17	Mon 03-07-17
67	Additional Predrilling for PMI003	7 days	Tue 04-07-17	Tue 11-07-17
68	PreConstruction Works	309.5 days	Thu 04-05-17	Sun 15-04-18
69	Hoarding	60 days	Thu 04-05-17	Mon 10-07-17
70	Temp Site Entrance	7 days	Fri 04-08-17	Fri 11-08-17
71	Trees	218 days	Fri 04-08-17	Thu 05-04-18
72	Demolish manhole PMI 015	20 days	Mon 21-08-17	Tue 12-09-17
73	Drawf wall	9 days	Mon 18-09-17	Wed 27-09-17
74	Sheetpile Site Entrance near E1-PC5	15 days	Fri 29-09-17	Mon 16-10-17
75	Sheetpiling E1-PC1	5 days	Mon 16-10-17	Sat 21-10-17
76	Haul Road	87 days	Mon 01-10-18	Mon 07-01-19
77	MS Haul Road (6 revisions)	67 days	Mon 08-10-18	Fri 21-12-18
78	Haul Road approval	29 days	Mon 01-10-18	Fri 02-11-18
79	Haul Road to PC1 & PC2	10 days	Fri 02-11-18	Wed 14-11-18
80	Haul Road to PC3	3 days	Wed 14-11-18	Sat 17-11-18
81	Approval for Haul Road to PC5	30 days	Sat 17-11-18	Thu 20-12-18
82	Haul Road to PC5	4 days	Fri 21-12-18	Tue 25-12-18
83	Haul Road to PC4	15 days	Fri 21-12-18	Mon 07-01-19
84	Drilling Works	625.25 days	Sat 28-10-17	Sun 29-09-19
85	Boring Machine deployment and set up(2nrs)	14 days	Sat 28-10-17	Tue 14-11-17
86	Drill and grout H-Piles E1-PC1 (12nrs)	67 days	Tue 14-11-17	Sat 27-01-18
87	Drill and grout H-Piles RS1 (22nrs)	114 days	Fri 17-11-17	Sat 24-03-18
88	MS Approval and Setup for E1-PC6	40 days	Tue 27-02-18	Thu 12-04-18
89	Drill and grout E1-PC6 with revision PMI 057	92 days	Thu 12-04-18	Tue 24-07-18
90	MS approval and Setup for E1-PC2	26 days	Wed 25-07-18	Thu 23-08-18
91	Drill and grout E1-PC2 (12 nrs) with revision PMI 056	40 days	Thu 23-08-18	Sat 06-10-18
92	MS approval and Rig Setup for E1-PC3	40 days	Sun 07-10-18	Wed 21-11-18
93	Drill and grout E1-PC3 (16 nrs) incomplete	20 days	Tue 20-11-18	Wed 12-12-18
94	MS approval and Setup rig to PC5	8 days	Wed 12-12-18	Thu 20-12-18
95	Near Miss Incident	21 days	Fri 21-12-18	Sat 12-01-19
96	Drill and grout E1-PC5 (12 nrs)	20 days	Mon 14-01-19	Tue 05-02-19
97	Drill and grout E1-PC4 (16 nrs)	60 days	Tue 05-02-19	Fri 12-04-19



Project: Accepted Programme Portio
Date: Fri 20-12-19

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
98	Drill and grout E1-PC3 (5 nrs)	14 days	Sat 13-04-19	Mon 29-04-19
99	Inclement weather Knock-out to Haul Road	25 days	Mon 29-04-19	Mon 27-05-19
100	Subcontractor Everwin Termination Effect	30 days	Mon 27-05-19	Sat 29-06-19
101	Drill and grout E1-PC3 staircase (8 nrs)	36 days	Tue 23-07-19	Sat 31-08-19
102	Additional Predrill PC3 Staircase	7 days	Mon 02-09-19	Mon 09-09-19
103				
104	ELS & Pile Cap works	525 days	Mon 02-04-18	Sun 10-11-19
105	**E1-PC1**	**306 days**	**Thu 19-04-18**	**Wed 27-03-19**
106	Excavate E1-PC1	43 days	Thu 19-04-18	Wed 06-06-18
107	Blinding E1-PC1	1 day	Thu 07-06-18	Thu 07-06-18
108	Pile Head Welding	15 days	Fri 08-06-18	Mon 25-06-18
109	MS formwork (3 revisions)	89 days	Fri 08-06-18	Sat 15-09-18
110	Formwork E1-PC1	5 days	Sat 15-09-18	Fri 21-09-18
111	BBS Approval	61 days	Sun 15-07-18	Fri 21-09-18
112	Rebar fix E1-PC1	11 days	Fri 21-09-18	Thu 04-10-18
113	MS concrete	7 days	Thu 27-09-18	Thu 04-10-18
114	Concrete E1-PC1	1 day	Fri 05-10-18	Fri 05-10-18
115	Waterproofing PMI 112	84 days	Sat 06-10-18	Tue 08-01-19
116	Backfill no-fines	70 days	Tue 08-01-19	Wed 27-03-19
117	**E1-PC6**	**368 days**	**Mon 02-04-18**	**Sat 18-05-19**
118	MS Piling E1-PC6 (2 revisions)	8 days	Mon 02-04-18	Tue 10-04-18
119	MS Approval	194 days	Tue 10-04-18	Tue 13-11-18
120	Excavate E1-PC6	44 days	Wed 14-11-18	Wed 02-01-19
121	Blinding E1-PC6	1 day	Wed 02-01-19	Thu 03-01-19
122	Pile Head Welding	5 days	Fri 04-01-19	Wed 09-01-19
123	BBS Approval	60 days	Fri 24-08-18	Tue 30-10-18
124	ELS	80 days	Tue 30-10-18	Mon 28-01-19
125	Formwork E1-PC6	9 days	Thu 10-01-19	Sat 19-01-19
126	Rebar Fix E1-PC6	9 days	Tue 22-01-19	Thu 31-01-19
127	Surface Geometric Testing	23 days	Thu 31-01-19	Tue 26-02-19
128	Concrete E1-PC6	1 day	Wed 27-02-19	Wed 27-02-19
129	Waterproofing PMI 112	41 days	Thu 28-02-19	Mon 15-04-19
130	Backfill no-fines	30 days	Mon 15-04-19	Sat 18-05-19
131	**RS1**	**227 days**	**Wed 05-09-18**	**Thu 16-05-19**
132	Sheetpiling	30 days	Wed 05-09-18	Mon 08-10-18
133	Piling RS1	24 days	Tue 09-10-18	Tue 06-11-18
134	Blinding RS1	1 day	Mon 05-11-18	Mon 05-11-18
135	ELS	12 days	Tue 06-11-18	Mon 19-11-18
136	Pile Head Welding	5 days	Sat 17-11-18	Thu 22-11-18
137	ELS as-built approval	25 days	Fri 30-11-18	Fri 28-12-18
138	Near Miss Incident	21 days	Fri 21-12-18	Sat 12-01-19
139	Remove Waling	3 days	Mon 14-01-19	Wed 16-01-19
140	Formwork RS1	10 days	Mon 14-01-19	Thu 24-01-19
141	Revised Rebars PMI 148	30 days	Sat 20-10-18	Fri 23-11-18
142	BBS Approval	30 days	Sat 24-11-18	Thu 27-12-18
143	Rebar Fix RS1	5 days	Thu 24-01-19	Tue 29-01-19
144	CNY PH	9 days	Tue 29-01-19	Fri 08-02-19
145	Continue Rebar Fix RS1	9 days	Fri 08-02-19	Mon 18-02-19
146	Surface Geometric Testing	15 days	Tue 19-02-19	Thu 07-03-19
147	Concrete RS1	1 day	Thu 07-03-19	Fri 08-03-19
148	Waterproofing PMI 112	32 days	Fri 08-03-19	Sat 13-04-19
149	Backfill no-fines	30 days	Sat 13-04-19	Thu 16-05-19
150	**E1-PC2**	**177 days**	**Thu 27-09-18**	**Fri 12-04-19**
151	MS ELS PC2 (4 revisions)	54 days	Thu 27-09-18	Mon 26-11-18
152	Sheetpiling E1-PC2	11 days	Mon 26-11-18	Fri 07-12-18
153	Piling PC2	20 days	Fri 07-12-18	Sat 29-12-18
154	Blinding PC2	1 day	Sat 29-12-18	Sat 29-12-18
155	Pile Head Welding	7 days	Mon 31-12-18	Mon 07-01-19
156	BBS Approval	7 days	Mon 07-01-19	Tue 15-01-19
157	Formwork PC2	7 days	Tue 08-01-19	Tue 15-01-19
158	Rebar Fix PC2	8 days	Wed 16-01-19	Thu 24-01-19
159	Surface Geometric Testing	19 days	Thu 24-01-19	Thu 14-02-19
160	Concrete PC2	1 day	Fri 15-02-19	Fri 15-02-19
161	Waterproofing PMI 112	40 days	Sat 16-02-19	Tue 02-04-19
162	Backfill no-fines	10 days	Tue 02-04-19	Fri 12-04-19
163	**E1-PC5**	**193.75 days**	**Mon 14-01-19**	**Sun 18-08-19**
164	Sheetpile Site Entrance near E1-PC5	5 days	Mon 14-01-19	Fri 18-01-19
165	Piling E1-PC5	19 days	Fri 08-03-19	Fri 29-03-19
166	Sheetpile remaining works E1-PC5	30 days	Fri 29-03-19	Thu 02-05-19
167	Excavate E1-PC5	20 days	Sat 04-05-19	Sat 25-05-19
168	Subcontractor Everwin Termination Effect	60 days	Mon 27-05-19	Thu 01-08-19
169	Continue excavate E1-PC5	90 days	Thu 01-08-19	Sat 09-11-19
170	Blinding E1-PC5	1 day	Mon 11-11-19	Mon 11-11-19
171	Pile Head Welding	28 days	Tue 12-11-19	Thu 12-12-19
172	Formwork E1-PC5	6 days	Fri 13-12-19	Thu 19-12-19
173	Rebar fix E1-PC5	6 days	Thu 19-12-19	Thu 26-12-19
174	Concrete E1-PC5	2 days	Thu 26-12-19	Sat 28-12-19
175	Waterproofing PMI 112	4 days	Sat 28-12-19	Thu 02-01-20
176	Backfill no-fines	2 days	Thu 02-01-20	Sat 04-01-20
177	**E1-PC4**	**317 days**	**Tue 22-01-19**	**Sat 11-01-20**
178	Sheetpiling	20 days	Tue 22-01-19	Wed 13-02-19
179	Drilling 5nos piles	14 days	Wed 13-02-19	Thu 28-02-19
180	Redrill piles	14 days	Fri 29-03-19	Sat 13-04-19
181	Grout piles	6 days	Mon 15-04-19	Sat 20-04-19
182	Sheetpile remaining works E1-PC4	31 days	Sat 20-04-19	Sat 25-05-19
183	Subcontractor Everwin Termination Effect	60 days	Sat 25-05-19	Thu 01-08-19
184	Excavate E1-PC4	75 days	Thu 01-08-19	Thu 24-10-19
185	Temp soil storage	30 days	Thu 24-10-19	Tue 26-11-19
186	Blinding E1-PC4	1 day	Wed 27-11-19	Wed 27-11-19
187	Pile Head Welding	13 days	Thu 28-11-19	Thu 12-12-19
188	BBS Approval	94 days	Sat 20-04-19	Sat 03-08-19
189	Formwork E1-PC4	17 days	Thu 28-11-19	Tue 17-12-19
190	Rebar Fix E1-PC4	8 days	Tue 17-12-19	Wed 25-12-19
191	Concrete E1-PC4	1 day	Thu 26-12-19	Thu 26-12-19
192	Waterproofing PMI 112	4 days	Fri 27-12-19	Tue 31-12-19
193	Backfill no-fines	10 days	Tue 31-12-19	Sat 11-01-20
194	E1-PC3 & RC staircase	283.5 days	Fri 28-12-18	Sun 10-11-19



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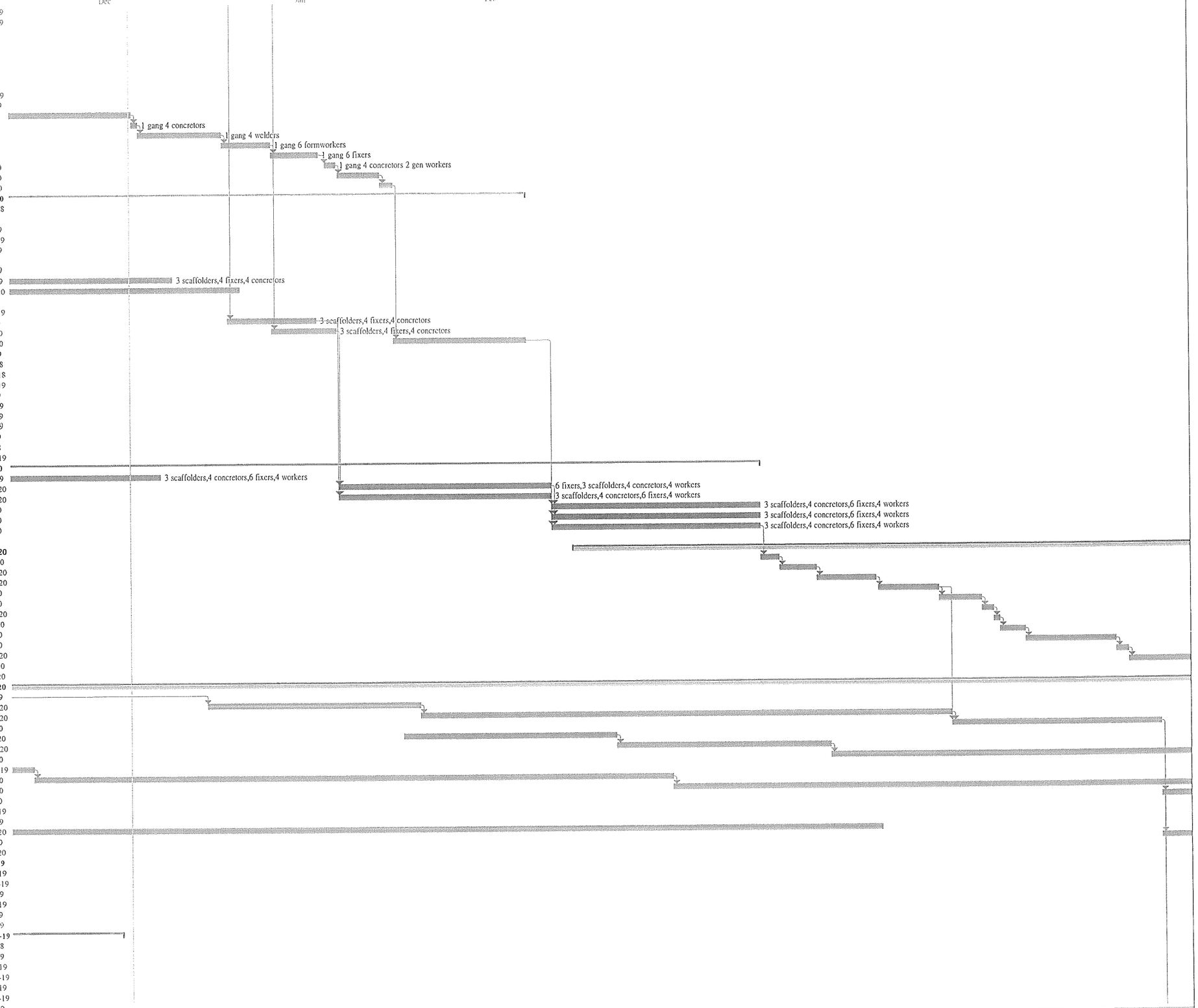
Task | Split | Milestone | Summary | Project Summary | External Tasks | External Milestone | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | Deadline | Critical | Critical Split | Progress

ID	Task Name	Duration	Start	Finish
195	MS ELS (2 revisions)	17 days	Fri 28-12-18	Wed 16-01-19
196	Drilling 5nos piles	20 days	Tue 15-01-19	Wed 06-02-19
197	BBS Approval	30 days	Mon 11-03-19	Fri 12-04-19
198	Continue drilling 11nos piles	30 days	Mon 15-04-19	Fri 17-05-19
199	Demobilize Everwin drilling rig	7 days	Sat 18-05-19	Sat 25-05-19
200	Subcontractor Everwin Termination Effect	31 days	Sat 25-05-19	Sat 29-06-19
201	Mobilize Ping On drilling rig to PC3 staircase	43 days	Sat 29-06-19	Fri 16-08-19
202	Sheetpile PC3 & RC Staircase	10 days	Tue 03-09-19	Fri 13-09-19
203	Excavate PC3 & Staircase	10 days	Fri 13-09-19	Wed 25-09-19
204	Removal of backfill material	45 days	Wed 25-09-19	Thu 14-11-19
205	ELS	32 days	Thu 14-11-19	Fri 20-12-19
206	Blinding PC3 & staircase	1 day	Fri 20-12-19	Sat 21-12-19
207	Pile Head Welding	12 days	Sat 21-12-19	Fri 03-01-20
208	Formwork PC3 & Staircase pilecaps	7 days	Fri 03-01-20	Sat 11-01-20
209	Rebar Fix PC3 & staircase pilecaps	7 days	Sat 11-01-20	Sat 18-01-20
210	Concrete PC3 & Staircase pilecaps	2 days	Mon 20-01-20	Tue 21-01-20
211	Waterproofing PMI 112	6 days	Wed 22-01-20	Tue 28-01-20
212	Backfill no-fines	2 days	Tue 28-01-20	Thu 30-01-20
213	**Superstructure**	**399 days**	**Sat 01-12-18**	**Thu 20-02-20**
214	Submission of Temp Work design and MS for Piers	14 days	Sat 01-12-18	Mon 17-12-18
215	Approval of Temp Work design and MS for Piers	30 days	Mon 17-12-18	Sat 19-01-19
216	Submission of Temp Work design and MS for Piers(Rev 2,3)	40 days	Sat 19-01-19	Tue 05-03-19
217	Approval of Temp Work design and MS for Piers (Rev 3)	30 days	Tue 05-03-19	Mon 08-04-19
218	Submission of Temp Work design and MS for Piers (Rev 4)	20 days	Mon 08-04-19	Tue 30-04-19
219	Approval of Temp Work design and MS for Piers (Rev 4)	35 days	Tue 30-04-19	Sat 08-06-19
220	Subcontractor Everwin Termination Effect	60 days	Sat 08-06-19	Wed 14-08-19
221	Construction of Abutment (E1-PC6) with drill and grout	120 days	Wed 14-08-19	Thu 26-12-19
222	Construction of Ramp (E1-RS1)	141 days	Thu 01-08-19	Mon 06-01-20
223	Construction of Pier P1	58 days	Wed 14-08-19	Fri 18-10-19
224	Construction of Pier P2	9 days	Fri 18-10-19	Mon 28-10-19
225	Construction of Pier P5	13 days	Sat 04-01-20	Sat 18-01-20
226	Construction of Pier P4	9 days	Sat 11-01-20	Tue 21-01-20
227	Construction of Pier/P3 Staircase	19 days	Thu 30-01-20	Thu 20-02-20
228	**Construction of Bearings and Movement Joints**	**351 days**	**Sat 06-10-18**	**Sat 02-11-19**
229	Proposal of Bridge Bearing Specialist	30 days	Sat 06-10-18	Thu 08-11-18
230	Approval of Bridge Bearing Specialist	30 days	Thu 08-11-18	Wed 12-12-18
231	Design submission of Bridge Bearing	60 days	Thu 13-12-18	Mon 18-02-19
232	Approval of Design submission of Bridge Bearing	30 days	Mon 18-02-19	Sat 23-03-19
233	Material Submission for Bridge Bearing	60 days	Mon 25-03-19	Thu 30-05-19
234	Approval of Material Submission for Bridge Bearing	60 days	Thu 30-05-19	Tue 06-08-19
235	Testing and result submission of Bridge Bearings	43 days	Tue 06-08-19	Mon 23-09-19
236	Procurement to delivery of Bridge Bearing	30 days	Mon 23-09-19	Sat 26-10-19
237	Installation of Bridge Bearings for PC6	7 days	Sat 06-10-18	Sat 13-10-18
238	Installation of Bridge Bearings for PC3	7 days	Wed 09-10-19	Wed 16-10-19
239	**Construction of esclator trough with cast-in items**	**145 days**	**Fri 18-10-19**	**Sat 28-03-20**
240	Deck RS1 to P1	60 days	Fri 18-10-19	Tue 24-12-19
241	Deck P5 to P6	30 days	Wed 22-01-20	Mon 24-02-20
242	Deck P4 to P5	30 days	Wed 22-01-20	Mon 24-02-20
243	Deck P3 to P4	30 days	Mon 24-02-20	Sat 28-03-20
244	Deck P2 to P3	30 days	Mon 24-02-20	Sat 28-03-20
245	Deck P1 to P2	30 days	Mon 24-02-20	Sat 28-03-20
246				
247	**Escalators Installation**	**114 days**	**Fri 28-02-20**	**Sat 04-07-20**
248	Plumbing & measuring of escalator pit	2 days	Sat 28-03-20	Tue 31-03-20
249	Delivery, hoisting and positioning of escalator truss	5 days	Tue 31-03-20	Mon 06-04-20
250	Drive/ step chain, step and guiderail tracks installation	9 days	Mon 06-04-20	Wed 15-04-20
251	Balustrade, handrail, skirting and deflector device works	9 days	Thu 16-04-20	Sat 25-04-20
252	Electrical works and escalator pits installation	6 days	Sat 25-04-20	Sat 02-05-20
253	Permenant power energization for escalator	1 day	Sat 02-05-20	Mon 04-05-20
254	Inspection(low) speed running testing of escalator operation	1 day	Mon 04-05-20	Tue 05-05-20
255	Final tuning and adjusting of escalator equipment / devices (drive ch	4 days	Tue 05-05-20	Sat 09-05-20
256	Normal (fast) speed running and safety testing of escalator operation	13 days	Sat 09-05-20	Sat 23-05-20
257	Submission of Form LE5 to EMSD	1 day	Sat 23-05-20	Mon 25-05-20
258	Anticipate EMSD inspection	14 days	Mon 25-05-20	Tue 09-06-20
259	Anticipate Use Permit issue date	14 days	Wed 10-06-20	Thu 25-06-20
260	**Parapet and Roofing**	**580.25 days**	**Tue 13-11-18**	**Sun 23-08-20**
261	Proposal of off-site fabrication of steelworks	180 days	Tue 13-11-18	Sat 01-06-19
262	Approval of off site fabrication of steelworks	30 days	Wed 01-01-20	Mon 03-02-20
263	Fabrication of steelworks off-site	75 days	Mon 03-02-20	Mon 27-04-20
264	Erection of steelworks	30 days	Mon 27-04-20	Sat 30-05-20
265	Material submission of fall arrest system	30 days	Sat 01-02-20	Thu 05-03-20
266	Approval of material for fall arrest system	30 days	Thu 05-03-20	Wed 08-04-20
267	Procurement of fall arrest system	60 days	Wed 08-04-20	Sat 13-06-20
268	Material submission of corrugated steel roof	30 days	Fri 01-11-19	Wed 04-12-19
269	Approval of material for corrugated steel roof	90 days	Wed 04-12-19	Sat 14-03-20
270	Procurement of corrugated steel roof	75 days	Sat 14-03-20	Sat 06-06-20
271	Erection of roof system	30 days	Sat 30-05-20	Fri 03-07-20
272	Material submission of Plexiglass	140 days	Tue 13-11-18	Thu 18-04-19
273	Approval of material Plexiglass	90 days	Thu 18-04-19	Sat 27-07-19
274	Procurement to delivery of Plexiglass	235 days	Sat 27-07-19	Thu 16-04-20
275	Construction of pedestrian Plexiglass parapet	30 days	Sat 30-05-20	Fri 03-07-20
276	Decking construction connecting to existing footpath	10 days	Fri 03-07-20	Tue 14-07-20
277	**Drainage Works Construction**	**305 days**	**Tue 13-11-18**	**Sat 19-10-19**
278	Application of XP for carriageway for Hiu Ming Street	90 days	Tue 13-11-18	Thu 21-02-19
279	TTA Application for drainage works at Hiu Ming Street	80 days	Thu 21-02-19	Wed 22-05-19
280	Road Works Advice	10 days	Wed 22-05-19	Sat 01-06-19
281	Implementation of TTA	60 days	Sat 01-06-19	Thu 08-08-19
282	Procurement to delivery of material for Drainage	20 days	Thu 08-08-19	Fri 30-08-19
283	Construction of Drainage PMI 016	45 days	Fri 30-08-19	Sat 19-10-19
284	**E & M Lighting Works**	**358 days**	**Tue 13-11-18**	**Wed 18-12-19**
285	Proposal of Specialist for E&M Works	24 days	Tue 13-11-18	Sat 08-12-18
286	Approval of Specialist for E&M Works	24 days	Mon 10-12-18	Sat 05-01-19
287	Material Submission of cable tray	30 days	Sat 05-01-19	Thu 07-02-19
288	Approval of material cable tray	30 days	Fri 08-02-19	Wed 13-03-19
289	Material submission of cables, conduits, fittings	24 days	Wed 13-03-19	Tue 09-04-19
290	Approval of material for cables conduits fittings	24 days	Tue 09-04-19	Mon 06-05-19
291	Material submission of lightings	30 days	Mon 06-05-19	Sat 08-06-19



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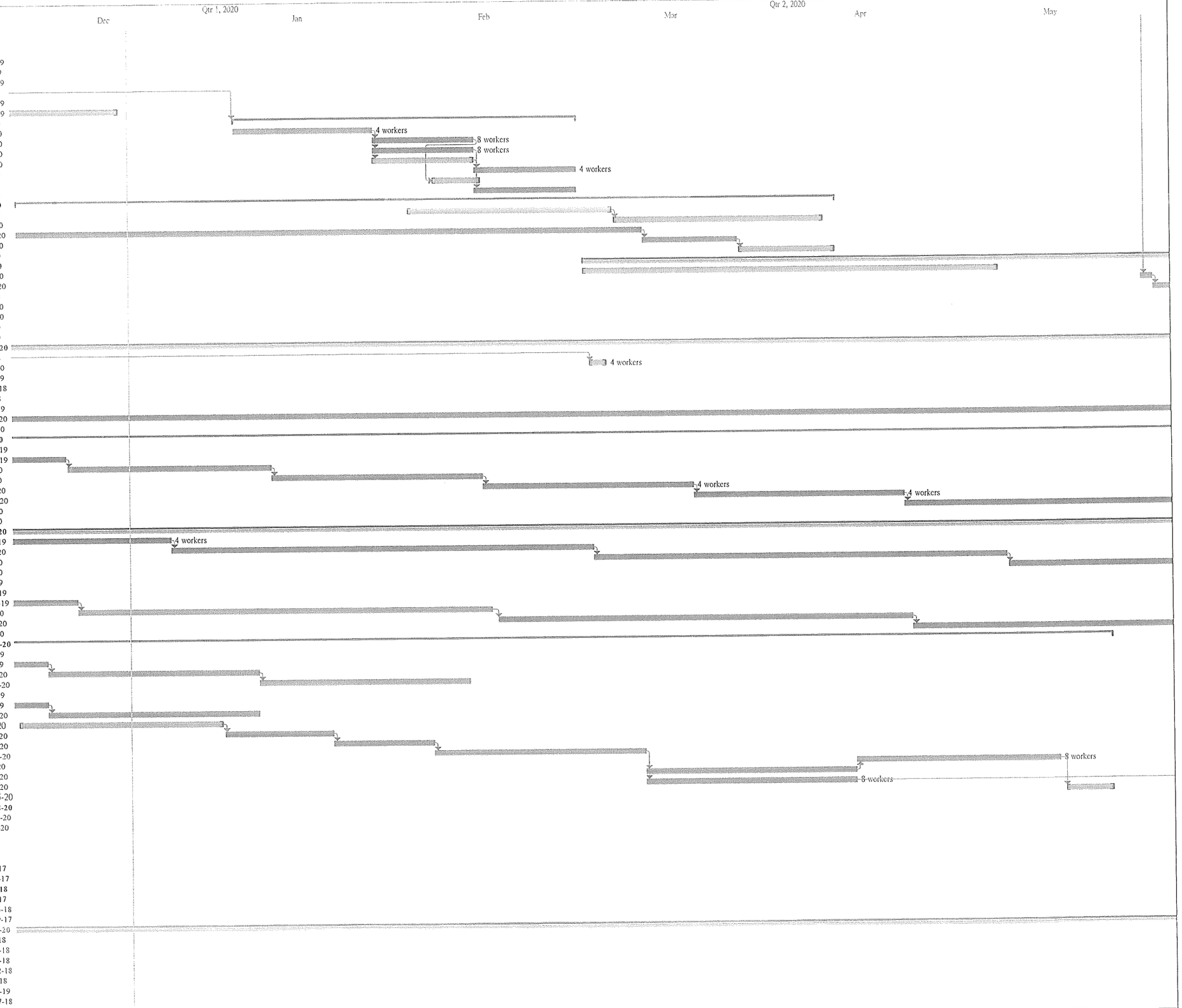
Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - 3 months Accepted Programme
Section A Portions 1, 2, 3 Dec 2019

ID	Task Name	Duration	Start	Finish
292	Approval of material submission of Lightings	30 days	Sat 08-06-19	Fri 12-07-19
293	Material submission of Pillar Box c/w accessories	26 days	Fri 12-07-19	Sat 10-08-19
294	Approval of material submission of Pillar Box c/w accessories	27 days	Fri 12-07-19	Sat 10-08-19
295	Material submission of MCB distribution board	30 days	Fri 08-02-19	Wed 13-03-19
296	Approval of MCB distribution board	30 days	Wed 13-03-19	Tue 16-04-19
297	Material submission of communication cables	30 days	Tue 16-04-19	Mon 20-05-19
298	Approval of communication cables	30 days	Mon 20-05-19	Sat 22-06-19
299	Application of Power supply	60 days	Sat 22-06-19	Wed 28-08-19
300	Application of telemetry	30 days	Fri 15-11-19	Wed 18-12-19
301	**Construction and Installation works for pillar box**	**50 days**	**Mon 06-01-20**	**Sat 29-02-20**
302	Positioning and construction of Pillar Box	20 days	Mon 06-01-20	Tue 28-01-20
303	Trenching works and laying of ducts and power cables	15 days	Tue 28-01-20	Thu 13-02-20
304	Trenching works and laying of telecommunication cables	15 days	Tue 28-01-20	Thu 13-02-20
305	Installation of E&M Component inside Pillar Box	15 days	Tue 28-01-20	Thu 13-02-20
306	Instalation and Connection of Telemetry system	15 days	Thu 13-02-20	Sat 29-02-20
307	Installation of Electricity Meter	7 days	Fri 07-02-20	Fri 14-02-20
308	T&C of E&M works inside pillar box	15 days	Thu 13-02-20	Sat 29-02-20
309	Sump pit and pumps	118 days	Mon 02-12-19	Sat 11-04-20
310	Construction of Sump pit	30 days	Mon 03-02-20	Fri 06-03-20
311	Trenches and ductings for sump pit to existing manhole	30 days	Sat 07-03-20	Thu 09-04-20
312	Procurement to delivery of Sump Pump, Piping and Associated Equi	90 days	Mon 02-12-19	Wed 11-03-20
313	Installation of Sump Pump (by Wing Luen)	14 days	Wed 11-03-20	Thu 26-03-20
314	T&C of Sump Pump System	14 days	Fri 27-03-20	Sat 11-04-20
315	**Installation of Lighting**	**137 days**	**Mon 02-03-20**	**Sat 01-08-20**
316	Procurement & Delivery of Lighting and accessories	60 days	Mon 02-03-20	Thu 07-05-20
317	Handover of escalator cover walkway to E&M	1 day	Sat 30-05-20	Mon 01-06-20
318	Installation Conduit and cable containment	10 days	Mon 01-06-20	Fri 12-06-20
319	Cable and wiring	10 days	Fri 12-06-20	Tue 23-06-20
320	Installation of Light fitting	14 days	Tue 23-06-20	Thu 09-07-20
321	Power connection to Lighting	1 day	Thu 09-07-20	Fri 10-07-20
322	T&C of Lighting	7 days	Fri 10-07-20	Fri 17-07-20
323	Landscape Works	617 days	Wed 03-10-18	Mon 24-08-20
324	Remove felled trees PMI 018	3 days	Wed 03-10-18	Fri 05-10-18
325	Tree Pruning PMI 042	3 days	Tue 03-03-20	Thu 05-03-20
326	Individual TRA Form 2	150 days	Wed 03-10-18	Tue 19-03-19
327	Submission of proposal of Landscape Specialist	30 days	Wed 03-10-18	Mon 05-11-18
328	Nursery Inspection	10 days	Mon 05-11-18	Fri 16-11-18
329	Approval of proposal of Landscape specialist	180 days	Fri 16-11-18	Thu 06-06-19
330	Construction of hard and soft landscape works	360 days	Thu 06-06-19	Mon 13-07-20
331	Rectification of Defects	20 days	Mon 13-07-20	Tue 04-08-20
332	**Road and Pavings / Traffic Signs**	**255 days**	**Sat 19-10-19**	**Fri 31-07-20**
333	Material submission of Road Pavers	15 days	Sat 19-10-19	Wed 06-11-19
334	Approval of material submission of Road Pavers	30 days	Wed 06-11-19	Mon 09-12-19
335	Procurement to delivery of Road Pavers	30 days	Tue 10-12-19	Sat 11-01-20
336	Ordering to delivery of concrete kerbs from CSD	30 days	Sat 11-01-20	Fri 14-02-20
337	Construction of kerbs	30 days	Fri 14-02-20	Thu 19-03-20
338	Construction of footpath	30 days	Thu 19-03-20	Wed 22-04-20
339	Construction of Paved Area	60 days	Wed 22-04-20	Sat 27-06-20
340	Installation of Traffic / Directional Signs	30 days	Sat 27-06-20	Fri 31-07-20
341	**External Finishes**	**353.25 days**	**Thu 25-07-19**	**Sun 23-08-20**
342	Material submission of tiles	60 days	Mon 21-10-19	Thu 26-12-19
343	Approval of material of tiles	60 days	Thu 26-12-19	Tue 03-03-20
344	Procurement to delivery of tiles	60 days	Tue 03-03-20	Fri 08-05-20
345	Tiling works	75 days	Sat 09-05-20	Fri 31-07-20
346	Material submission of Paint	30 days	Mon 02-09-19	Fri 04-10-19
347	Comment of material submission of paint	30 days	Sat 05-10-19	Thu 07-11-19
348	2nd submission of paints	30 days	Thu 07-11-19	Wed 11-12-19
349	Approval of material submision of paints	60 days	Wed 11-12-19	Sat 15-02-20
350	Procurement to delivery of paints	60 days	Mon 17-02-20	Thu 23-04-20
351	Texture spray, fungus resistant paint	90 days	Thu 23-04-20	Sat 01-08-20
352	**Construction of Sau Mau Ping Memorial Park**	**212.25 days**	**Tue 01-10-19**	**Mon 25-05-20**
353	Slope improvement work (11NE-D/CR222)	30 days	Tue 01-10-19	Sat 02-11-19
354	Material submission of Pavillion	30 days	Sat 02-11-19	Fri 06-12-19
355	Approval of material submission of Pavillion	30 days	Fri 06-12-19	Thu 09-01-20
356	Procurement to delivery of Pavillion	30 days	Thu 09-01-20	Wed 12-02-20
357	Material submissin of Bench	30 days	Tue 01-10-19	Sat 02-11-19
358	Approval to material submission of Bench	30 days	Sat 02-11-19	Fri 06-12-19
359	Procurement to delivery of Bench	30 days	Fri 06-12-19	Thu 09-01-20
360	Design submission of Pole Light to LCSD	30 days	Mon 02-12-19	Fri 03-01-20
361	Material of material submission of Pole Light	15 days	Sat 04-01-20	Tue 21-01-20
362	Approval of material submission of Pole Light	15 days	Tue 21-01-20	Thu 06-02-20
363	Procurement to delivery of Pole Light	30 days	Thu 06-02-20	Wed 11-03-20
364	Construction of Pavillion, bench, pole light with ducting	30 days	Tue 14-04-20	Sat 16-05-20
365	Construction of Irrigation system	30 days	Wed 11-03-20	Tue 14-04-20
366	Construction of Pavers	30 days	Wed 11-03-20	Tue 14-04-20
367	Handovwer to LCSD	7 days	Mon 18-05-20	Mon 25-05-20
368	**General Inspection and Tidy Up of Portion 1**	**12 days**	**Tue 04-08-20**	**Mon 17-08-20**
369	General Inspection and Tidy Up of Portion 1	4 days	Sat 01-08-20	Wed 05-08-20
370	Handover Portion 1	1 day	Wed 05-08-20	Thu 06-08-20
371				
372				
373	**Section A, Portion 2 - Lift Tower (E2)**			
374	Handover of Portion 1	1 day	Sat 01-04-17	Sat 01-04-17
375	Site Preparation Works	91 days	Sun 02-04-17	Thu 13-07-17
376	Submissions	**304 days**	**Wed 02-08-17**	**Sat 07-07-18**
377	MS for Lift LT1 excavation	30 days	Tue 08-08-17	Sat 09-09-17
378	MS Footbridge	30 days	Wed 16-05-18	Mon 18-06-18
379	MS trench excavation	30 days	Wed 02-08-17	Mon 04-09-17
380	Substructure	984.5 days	Thu 13-07-17	Sun 13-07-20
381	CSD	400 days	Fri 14-07-17	Fri 05-10-18
382	MS for socket H pile E2-PC2 (4 revisions)	221 days	Tue 28-11-17	Thu 02-08-18
383	MS for ELS covered walkway C1 (3 revisions)	102 days	Wed 13-12-17	Thu 05-04-18
384	MS for platform for minipiling (3 revisions)	59 days	Mon 18-12-17	Wed 21-02-18
385	MS Rock fall fence (2 revisions)	56 days	Mon 05-03-18	Sat 05-05-18
386	MS tree pruning proposal (4 revisions)	488 days	Thu 13-07-17	Thu 10-01-19
387	MS working platform	30 days	Fri 22-06-18	Wed 25-07-18
388	MS ELS E2-PC1	30 days	Tue 20-11-18	Sat 22-12-18



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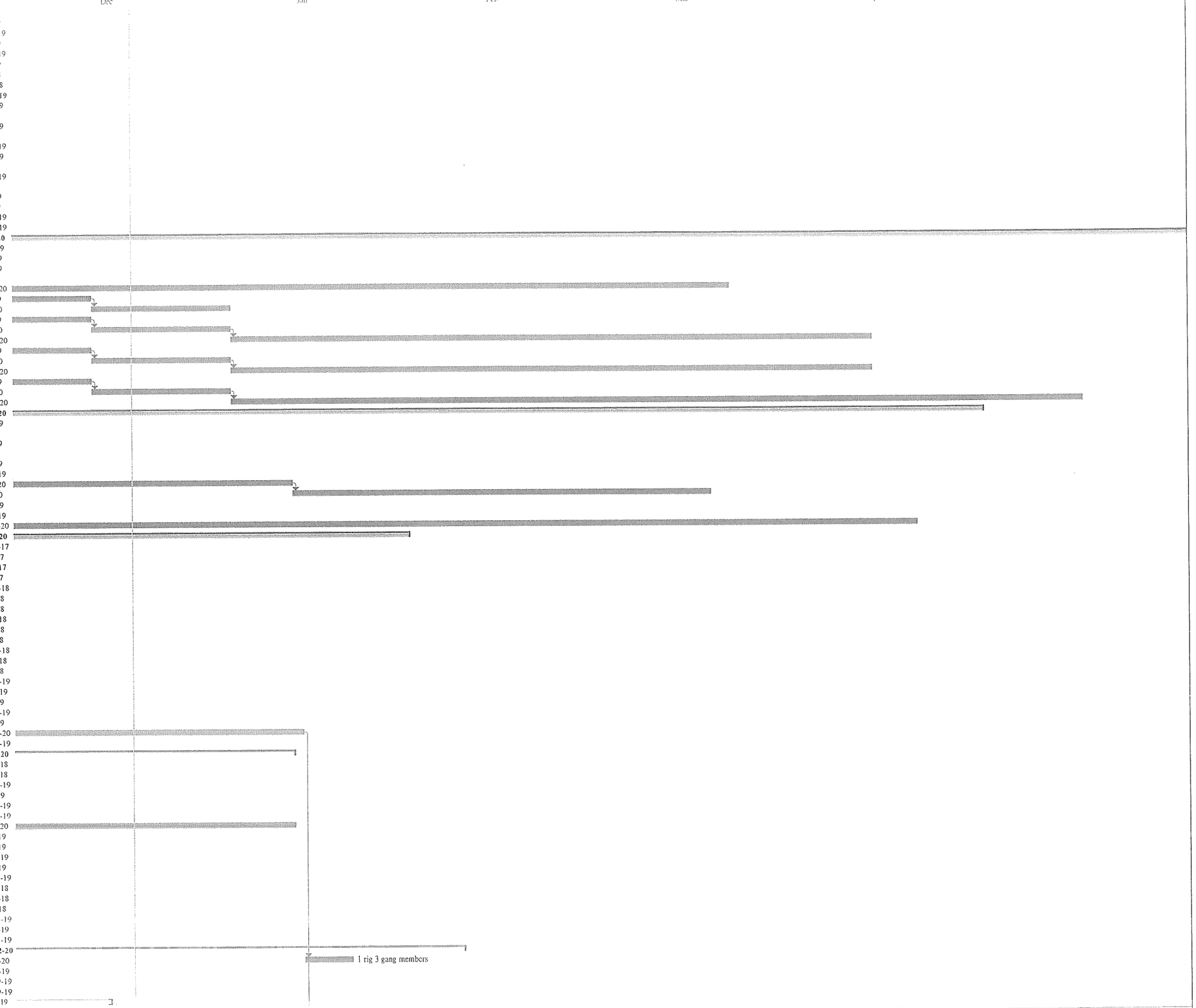
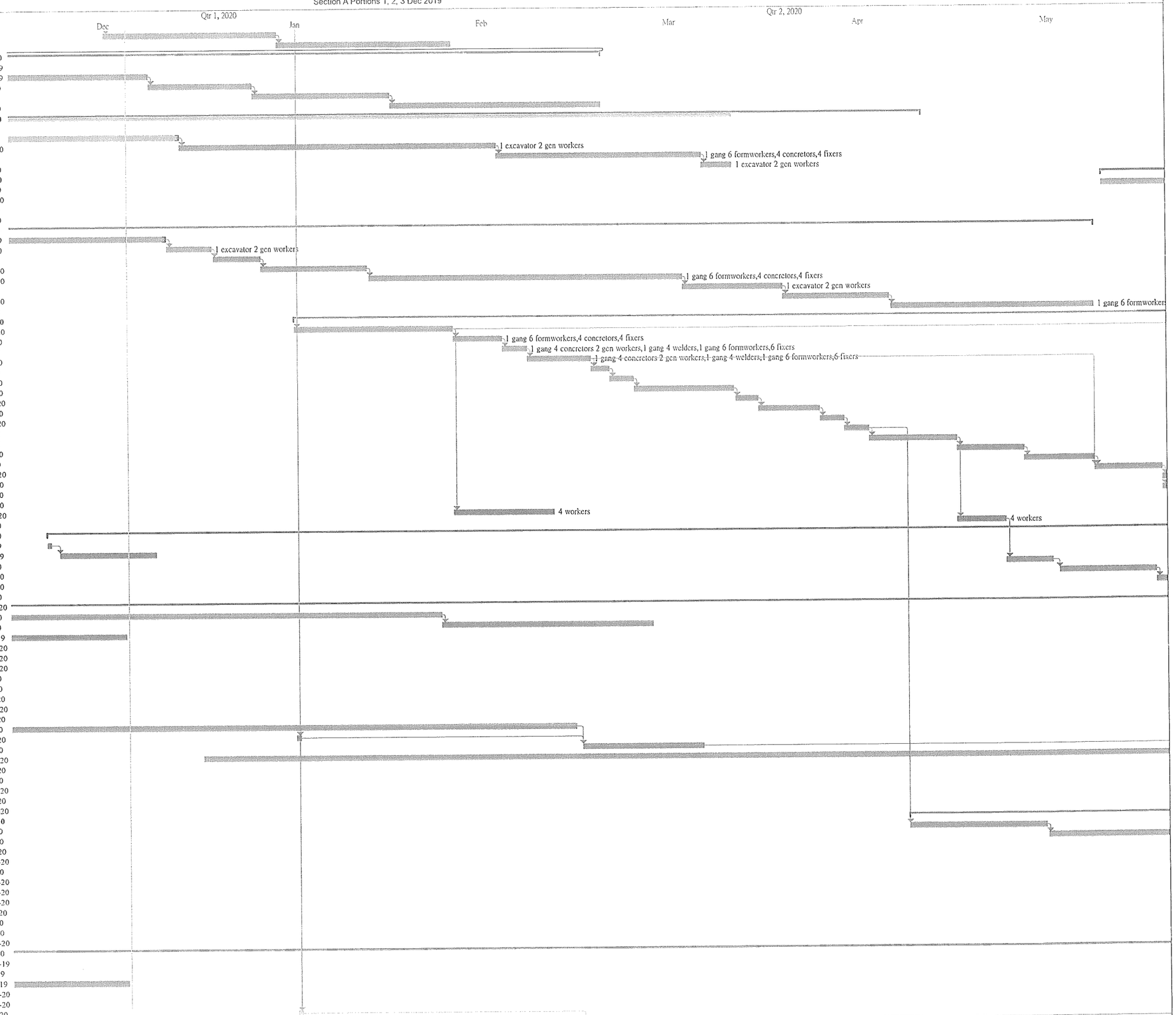
ID	Task Name	Duration	Start	Finish
389	MS Piling	30 days	Tue 27-11-18	Sat 29-12-18
390	MS Temp Gravity Wall for RWE 3b (3 revisions)	70 days	Fri 07-12-18	Sat 23-02-19
391	MS Concrete Block Platform (2revisions)	35 days	Sat 08-12-18	Wed 16-01-19
392	MS Predrilling E3-PC2 (2 revisions)	31 days	Mon 10-12-18	Sat 12-01-19
393	MS footbridge	30 days	Fri 14-12-18	Wed 16-01-19
394	MS Lift Tower	30 days	Tue 18-12-18	Sat 19-01-19
395	Method Statement for Construction of Portion 2	45 days	Fri 05-10-18	Sat 24-11-18
396	Method Statemenst for Piling, ELS, Pilecap and Pier Construction	60 days	Fri 05-10-18	Tue 11-12-18
397	Superstructure E2 and E3 Footbridge and Lift Tower	394 days	Wed 01-08-18	Wed 16-10-19
398	Submission of MS for formwork design for concreting Bridge Piers	150 days	Wed 01-08-18	Tue 15-01-19
399	Approval of MS for formwork design for concreting Bridge Piers	40 days	Wed 16-01-19	Fri 01-03-19
400	Design and MS Submission of Lift Towers E2-ST1 and E3-ST1 (2 revisions)	200 days	Wed 01-08-18	Tue 12-03-19
401	Approval of Design and MS Submission of Lift Towers	30 days	Wed 13-03-19	Mon 15-04-19
402	Submission of MS for installation and Temporary Works design for concreting of Lift tower E3-ST1	200 days	Wed 01-08-18	Tue 12-03-19
403	Approval of MS of Temp Works design for concreting of Lift tower E3-ST1	30 days	Wed 13-03-19	Mon 15-04-19
404	Submission of Design and Material for Bridge Bearings	30 days	Mon 15-04-19	Sat 18-05-19
405	Approval of Design and Material for Bridge Bearings	30 days	Sat 18-05-19	Fri 21-06-19
406	Testing and result submission of Bridge Bearings	84 days	Fri 21-06-19	Mon 23-09-19
407	Procurement, ordering and delivery of Bridge Bearings	20 days	Tue 24-09-19	Wed 16-10-19
408	**Steel Bridge**	**458.5 days**	**Fri 15-02-19**	**Sun 12-07-20**
409	Submission of MS for Erection of Steel Truss	60 days	Fri 15-02-19	Tue 23-04-19
410	Proposal of off-site fabrication of steelworks for E2 and E3	30 days	Tue 23-04-19	Sat 25-05-19
411	Approval of Off-Site fabrication of steelworks for Bridge E2 and E3	150 days	Sat 25-05-19	Sat 09-11-19
412	Fabrication and Delivery of Fabricated Steelworks	120 days	Sat 09-11-19	Mon 23-03-20
413	Submission of Design of roof system	30 days	Sat 09-11-19	Fri 13-12-19
414	Approval of Design of roof system	20 days	Fri 13-12-19	Sat 04-01-20
415	Submission of Material of Corrugated Steel Roof	30 days	Sat 09-11-19	Fri 13-12-19
416	Approval of corrugated steel roof	20 days	Fri 13-12-19	Sat 04-01-20
417	Procurement to delivery of corrugated steel roof	90 days	Sat 04-01-20	Wed 15-04-20
418	Submission of material fall arrest system	30 days	Sat 09-11-19	Fri 13-12-19
419	Approval of fall arrest system	20 days	Fri 13-12-19	Sat 04-01-20
420	Procurement to delivery of fall arrest system	90 days	Sat 04-01-20	Wed 15-04-20
421	Submission of Design of Glazing and Louvre	30 days	Sat 09-11-19	Fri 13-12-19
422	Approval of Design and Glazing and Louvre	20 days	Fri 13-12-19	Sat 04-01-20
423	Procurement, ordering and delivery of Glazing and Louvres	120 days	Sat 04-01-20	Mon 18-05-20
424	**E&M and Building works**	**396 days**	**Fri 15-02-19**	**Sun 03-05-20**
425	Submission of shop drawing for irrigation system and submersible pump for Footbridge	160 days	Wed 01-05-19	Sat 26-10-19
426	Approval of shop drawing for irrigation system and submersible pump system	30 days	Sat 26-10-19	Fri 29-11-19
427	Submission of Ventilation System	30 days	Sat 26-10-19	Fri 29-11-19
428	Design submission of lighting at footbridge	60 days	Mon 02-09-19	Thu 07-11-19
429	Approval of Design Submission of Lighting at footbridge	60 days	Thu 07-11-19	Tue 14-01-20
430	Procurement to delivery of Lighting	60 days	Tue 14-01-20	Fri 20-03-20
431	Submission of MS for Lift Installation	120 days	Fri 15-02-19	Sat 29-06-19
432	Approval of MS for Lift Installation	90 days	Sat 29-06-19	Tue 08-10-19
433	Procurement, ordering and delivery of Lift	180 days	Thu 03-10-19	Wed 22-04-20
434	**Pre construction works**	**912.5 days**	**Mon 17-04-17**	**Sun 02-02-20**
435	UU Detection	1 day	Mon 17-04-17	Mon 17-04-17
436	Setout Predrill location	4 days	Wed 19-04-17	Sat 22-04-17
437	Contractor Site Office	2 days	Mon 24-04-17	Tue 25-04-17
438	Site Clearance	70 days	Thu 27-04-17	Fri 14-07-17
439	MS rock slope excavation (4 revisions)	200 days	Thu 13-07-17	Wed 21-02-18
440	Inspection pits	10 days	Wed 21-02-18	Sat 03-03-18
441	Noise Barrier for LT1	1 day	Sat 03-03-18	Sat 03-03-18
442	Blocks for Platform and wall	27 days	Sun 04-03-18	Tue 03-04-18
443	E2-PC1 Piling	35 days	Wed 04-04-18	Sat 12-05-18
444	EOT school examination PMI 051	7 days	Fri 06-04-18	Fri 13-04-18
445	Presplitting PMI 054	120 days	Tue 15-05-18	Wed 26-09-18
446	Rock slope cutting at LT1 to ground level	151 days	Tue 15-05-18	Tue 30-10-18
447	EOT school examination PMI 117	2 days	Tue 30-10-18	Fri 02-11-18
448	Rock slope cutting at LT1 to ground level(cont)	61 days	Fri 02-11-18	Wed 09-01-19
449	EOT school examination PMI 141	20 days	Wed 09-01-19	Thu 31-01-19
450	EOT school examination CE149 & 151	20 days	Thu 31-01-19	Fri 22-02-19
451	Rock slope cutting at LT1 to ground level(cont)	27 days	Sat 23-02-19	Mon 25-03-19
452	CE171 10 days exam Mar & April 2019	10 days	Mon 25-03-19	Fri 05-04-19
453	Rock cutting to basement level	254 days	Sat 06-04-19	Wed 15-01-20
454	Rock dowel stabilization PMI 076, PMI 080, PMI 103, PMI 132, PM	40 days	Mon 01-04-19	Wed 15-05-19
455	**Site Formation Works**	**382 days**	**Tue 13-11-18**	**Tue 14-01-20**
456	Inspection Pit PMI 106	15 days	Tue 13-11-18	Thu 29-11-18
457	Trial Trench for tree roots PMI 077	7 days	Tue 13-11-18	Tue 20-11-18
458	Approval of tree pruning proposal	85 days	Thu 10-01-19	Mon 15-04-19
459	Prune / Fell trees for access of plants	10 days	Tue 16-04-19	Fri 26-04-19
460	Relocation of RCP	14 days	Sat 01-06-19	Mon 17-06-19
461	SWAP TTA	69 days	Mon 17-06-19	Mon 02-09-19
462	Water diversion for Hiu Wah Building	120 days	Mon 02-09-19	Tue 14-01-20
463	Deploy Excavator and trim ground and slope from Retaining Wall 3b	81 days	Mon 25-02-19	Sat 25-05-19
464	Everwin terminatiion effect	31 days	Sat 25-05-19	Sat 29-06-19
465	Retaining Wall RWE3b Works	90 days	Sat 29-06-19	Tue 08-10-19
466	Remove soil nails during triming	10 days	Wed 09-10-19	Sat 19-10-19
467	**E2-PC1 (28 nos piles)**	265 days	Fri 01-06-18	Mon 25-03-19
468	Deploy GI rig for predrilling	10 days	Fri 01-06-18	Tue 12-06-18
469	Sheetpiling	15 days	Tue 12-06-18	Thu 28-06-18
470	Drill Pre-Bore H-Piles at E2-PC1 (28nos)	120 days	Fri 29-06-18	Sat 10-11-18
471	Stop for TTA use	60 days	Sat 10-11-18	Wed 16-01-19
472	Shoring works	30 days	Wed 16-01-19	Tue 19-02-19
473	RC Pilecap Works	30 days	Tue 19-02-19	Mon 25-03-19
474	**E3-PC2 (4nos piles)**	**179.25 days**	**Wed 24-07-19**	**Mon 10-02-20**
475	Deploy GI rig for predrilling	7 days	Thu 16-01-20	Thu 23-01-20
476	Drill Pre-Bore H-Piles at E2-PC2 (2nos)	8 days	Wed 24-07-19	Thu 01-08-19
477	Swap TTA	28 days	Fri 02-08-19	Mon 02-09-19
478	Drill Pre-Bore H-Piles at E2-PC2 (2nos)	8 days	Mon 02-09-19	Wed 11-09-19
479	Shoring works	40 days	Fri 01-11-19	Mon 16-12-19



Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - 3 months Accepted Programme
Section A Portions 1, 2, 3 Dec 2019

ID	Task Name	Duration	Start	Finish
480	RC Pilecap Works	25 days	Mon 16-12-19	Mon 13-01-20
481	RC Pier works	25 days	Mon 13-01-20	Mon 10-02-20
482	E3-ABT (6nos piles)	193 days	Fri 02-08-19	Thu 05-03-20
483	Drill Pre-Bore H-Piles (6 nos)	28 days	Fri 02-08-19	Mon 02-09-19
484	Site formation works	100 days	Mon 02-09-19	Mon 23-12-19
485	Shoring works	15 days	Mon 23-12-19	Thu 09-01-20
486	RC Pilecap Works	20 days	Thu 09-01-20	Fri 31-01-20
487	RC Abutment Works	30 days	Fri 31-01-20	Thu 05-03-20
488	C1 Footing	474 days	Tue 13-11-18	Sun 26-04-20
489	Excavation 1.2m and remove C&D	60 days	Wed 01-08-18	Sat 06-10-18
490	Stop for TTA use	400 days	Sat 06-10-18	Sat 28-12-19
491	Shoring works	45 days	Sat 28-12-19	Mon 17-02-20
492	RC concrete footing works	30 days	Mon 17-02-20	Sat 21-03-20
493	backfill	4 days	Sat 21-03-20	Thu 26-03-20
494	Covered Walkway	70 days	Mon 25-05-20	Tue 11-08-20
495	Steelwork erection for covered walkway	14 days	Mon 25-05-20	Tue 09-06-20
496	Installation of steel sheet roof for covered walkway	14 days	Tue 09-06-20	Wed 24-06-20
497	Installation of Lighting to covered walkway	21 days	Thu 25-06-20	Sat 18-07-20
498	Installation of Irrigation Pipe	21 days	Sat 18-07-20	Tue 11-08-20
499	E2-PC2 Pile cap (9 nos)	194 days	Sat 19-10-19	Sat 23-05-20
500	Tower crane construction at Tennis Court	60 days	Sat 19-10-19	Thu 26-12-19
501	Slope trimming works	7 days	Thu 26-12-19	Thu 02-01-20
502	GI Predrilling works	7 days	Fri 03-01-20	Fri 10-01-20
503	Steel Frame Platform	15 days	Fri 10-01-20	Mon 27-01-20
504	Piling works using Tower Crane	45 days	Tue 28-01-20	Wed 18-03-20
505	Shoring works	15 days	Wed 18-03-20	Fri 03-04-20
506	RC Pilecap works	15 days	Fri 03-04-20	Mon 20-04-20
507	RC Pier	30 days	Tue 21-04-20	Sat 23-05-20
508	Lift Tower E3-ST1	169.5 days	Thu 16-01-20	Thu 23-07-20
509	Basement construction to G/F +25mPD	22.5 days	Thu 16-01-20	Mon 10-02-20
510	Level +25mPD to +28mPD	7 days	Mon 10-02-20	Tue 18-02-20
511	Level +28mPD to +31mPD	4 days	Tue 18-02-20	Sat 22-02-20
512	Level +31mPD to +34mPD	9 days	Sat 22-02-20	Tue 03-03-20
513	Level +34mPD to +37.2mPD	3 days	Tue 03-03-20	Fri 06-03-20
514	Level +37.2mPD to +40.4mPD	3 days	Fri 06-03-20	Tue 10-03-20
515	Level +40.4mPD to +43.6mPD	15 days	Tue 10-03-20	Thu 26-03-20
516	Level +43.6mPD to +47.2mPD	3 days	Fri 27-03-20	Mon 30-03-20
517	Level +47.2mPD to +50.8mPD	9 days	Mon 30-03-20	Thu 09-04-20
518	Level +50.8mPD to +53.8mPD	3 days	Thu 09-04-20	Mon 13-04-20
519	Level +53.8mPD to +56.8mPD	4 days	Mon 13-04-20	Fri 17-04-20
520	Level +56.8mPD to +59.7mPD	13 days	Fri 17-04-20	Fri 01-05-20
521	Level +59.7mPD to +66.3mPD	9 days	Fri 01-05-20	Tue 12-05-20
522	Level +66.3mPD to +66.5mPD	11 days	Tue 12-05-20	Sat 23-05-20
523	Construction of Roof +66.5mPD to +70.45mPD	9 days	Sat 23-05-20	Wed 03-06-20
524	Remove tower crane	7 days	Wed 03-06-20	Thu 11-06-20
525	Erection of glazing and louvres	30 days	Wed 03-06-20	Tue 07-07-20
526	Dismantling of external and internal scaffolding	15 days	Tue 07-07-20	Thu 23-07-20
527	Infill No Fine Concrete between Rock Slope and Wall of E3-ST1	15 days	Mon 10-02-20	Wed 26-02-20
528	Installation of bridge bearings	7 days	Fri 01-05-20	Sat 09-05-20
529	E3 Lift Tower Lighting	182 days	Sat 07-12-19	Sat 27-06-20
530	Handover EMSD Pillar Box and associated ducting to E&M	1 day	Sat 07-12-19	Sat 07-12-19
531	Electrical works inside Pillar Box EMSD and Lighting Compartment	14 days	Mon 09-12-19	Tue 24-12-19
532	Conduit and cable containment	7 days	Sat 09-05-20	Sat 16-05-20
533	Cable and wiring	14 days	Mon 18-05-20	Tue 02-06-20
534	Installation of Light fitting	13 days	Tue 02-06-20	Tue 16-06-20
535	T&C	10 days	Wed 17-06-20	Sat 27-06-20
536	E3 Lift Installation	352.75 days	Mon 14-10-19	Wed 11-11-20
537	MS for E3 Lift Erection in Tower	90 days	Thu 31-10-19	Sat 08-02-20
538	Approval of submission	30 days	Sat 08-02-20	Fri 13-03-20
539	Statuary Submission of Lift Design and Materials	60 days	Mon 14-10-19	Thu 19-12-19
540	Handover lift shaft and associated ducting to E&M	1 day	Tue 07-07-20	Wed 08-07-20
541	E&M works inside Lift Shaft	25 days	Wed 08-07-20	Wed 05-08-20
542	Handover of Lift structure to E&M Lift subcontractor	7 days	Wed 05-08-20	Wed 12-08-20
543	Confirmation of telemetry service routing with CHUBB / HKT	27 days	Thu 13-08-20	Fri 11-09-20
544	Chubb/HKT cable laying for telemetry cable system	26 days	Sat 12-09-20	Sat 10-10-20
545	Installation and connection of telemetry components in Pillar Box	14 days	Sat 10-10-20	Tue 27-10-20
546	CLP Lift Meter Installation	7 days	Sat 10-10-20	Mon 19-10-20
547	CLP Lift Meter Power Connection	1 day	Mon 19-10-20	Tue 20-10-20
548	Procurement to delivery of Sump Pump and Panel	96 days	Fri 15-11-19	Sat 29-02-20
549	Handover Sump Pit and associated ducting to E&M	1 day	Thu 16-01-20	Thu 16-01-20
550	Installation of Sump Pump (by Wing Luen)	18 days	Mon 02-03-20	Sat 21-03-20
551	Delivery of Lift components to site	180 days	Wed 01-01-20	Mon 20-07-20
552	Lift installation and Lift Shaft Venilation installation	60 days	Thu 23-07-20	Tue 29-09-20
553	Testing & commissioning	17 days	Tue 29-09-20	Sat 17-10-20
554	EMSD Form LE5 submission	1 day	Sat 17-10-20	Mon 19-10-20
555	EMSD Inspection	14 days	Mon 19-10-20	Tue 03-11-20
556	Use Permit	7 days	Wed 04-11-20	Wed 11-11-20
557	E2-LT1 Lift Shaft Construction	90 days	Thu 23-04-20	Sat 01-08-20
558	Completion of RC structure 1/F	20 days	Thu 23-04-20	Fri 15-05-20
559	Completion of RC structure 2/F	20 days	Sat 16-05-20	Sat 06-06-20
560	Completion of RC structure R/F	20 days	Mon 08-06-20	Tue 30-06-20
561	Erection of glazing and louvres	20 days	Tue 30-06-20	Wed 22-07-20
562	Dismantling of external and internal scaffolding	10 days	Wed 22-07-20	Sat 01-08-20
563	E2-LT1 Lift Lighting	59 days	Mon 03-08-20	Wed 07-10-20
564	Handover EMSD Pillar Box and associated ducting to E&M	1 day	Mon 03-08-20	Mon 03-08-20
565	Electrical works inside Pillar Box EMSD and Lighting Compartment	14 days	Tue 04-08-20	Wed 19-08-20
566	Conduit and cable containment	7 days	Wed 19-08-20	Thu 27-08-20
567	Cable and wiring	14 days	Thu 27-08-20	Fri 11-09-20
568	Installation of Light fitting	13 days	Fri 11-09-20	Sat 26-09-20
569	T&C	10 days	Sat 26-09-20	Wed 07-10-20
570	E2-LT1 Lift Tower Installation	508.5 days	Fri 03-05-19	Sat 21-11-20
571	MS for E12 Lift Tower Erection	90 days	Fri 03-05-19	Mon 12-08-19
572	Approval of submission	30 days	Mon 12-08-19	Sat 14-09-19
573	Statuary Submission of Lift Design and Materials	60 days	Mon 14-10-19	Thu 19-12-19
574	Handover lift shaft and associated ducting to E&M	1 day	Mon 03-08-20	Mon 03-08-20
575	E&M works inside Lift Shaft	25 days	Tue 04-08-20	Mon 31-08-20
576	Handover Sump Pit and associated ducting to E&M	1 day	Thu 16-01-20	Thu 16-01-20



Project: Accepted Programme Portio
Date: Fri 20-12-19

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

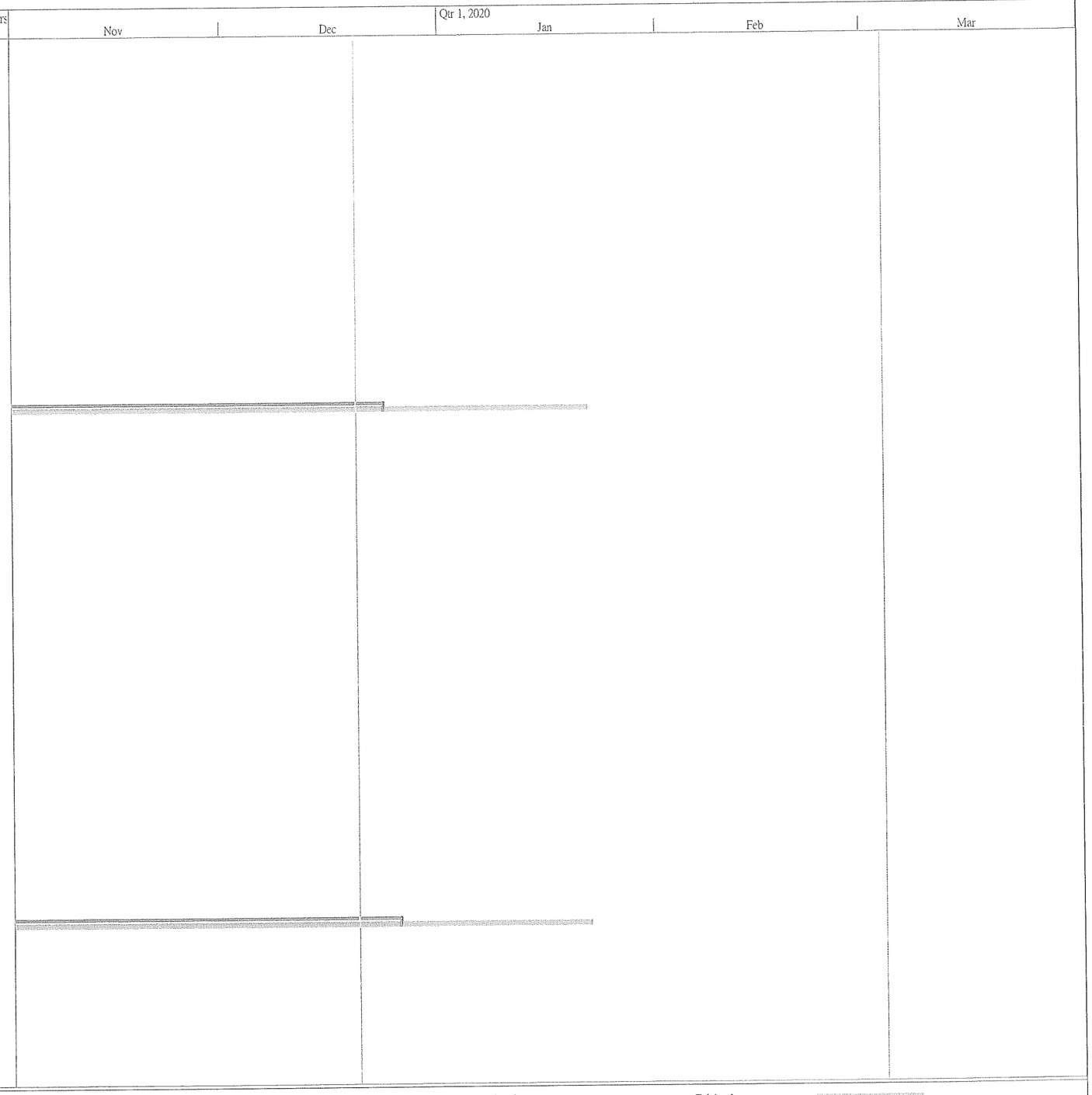
ID	Task Name	Duration	Start	Finish
577	Handover of Lift structure to E&M Lift subcontractor	7 days	Tue 01-09-20	Tue 08-09-20
578	Confirmation of telemetry service routing with CHUBB / HKT	27 days	Tue 08-09-20	Thu 08-10-20
579	Chubb/HKT cable laying for telemetry cable system	26 days	Thu 08-10-20	Fri 06-11-20
580	Installation and connection of telemetry components in Pillar Box	14 days	Fri 06-11-20	Sat 21-11-20
581	CLP Lift Meter Installation	7 days	Fri 06-11-20	Sat 14-11-20
582	CLP Lift Meter Power Connection	1 day	Sat 14-11-20	Mon 16-11-20
583	Procurement to delivery of Sump Pump and Panel	96 days	Fri 15-11-19	Sat 29-02-20
584	Installation of Sump Pump (by Wing Luen)	18 days	Mon 02-03-20	Sat 21-03-20
585	Delivery of Lift components to site	180 days	Mon 02-12-19	Fri 19-06-20
586	Lift installation and Lift Shaft Ventilation installation	60 days	Sat 20-06-20	Wed 26-08-20
587	Testing & commissioning	17 days	Tue 08-09-20	Sat 26-09-20
588	EMSD Form LE5 submission	1 day	Mon 28-09-20	Mon 28-09-20
589	EMSD Inspection	14 days	Tue 29-09-20	Wed 14-10-20
590	Use Permit	7 days	Wed 14-10-20	Thu 22-10-20
591	**Drainage and Landscape works at Hiu Ming Street**	**293 days**	**Tue 13-11-18**	**Mon 07-10-19**
592	Decoration and Finishings Works at Hiu Ming Street	190 days	Fri 01-03-19	Mon 30-09-19
593	Application of XP for Drainage Works at Hiu Ming Street	90 days	Fri 01-03-19	Mon 10-06-19
594	Approval of TTA for construction of Drainage Works at Hiu Ming S	60 days	Mon 10-06-19	Thu 15-08-19
595	Road Works Advice	14 days	Fri 16-08-19	Sat 31-08-19
596	Implementation of TTA	1 day	Sat 31-08-19	Mon 02-09-19
597	Drainage works at Hiu Ming Street	30 days	Mon 02-09-19	Sat 05-10-19
598	General Tidy Up	1 day	Sat 05-10-19	Sat 05-10-19
599	**Drainage Hiu Kwong Street PMI 045**	**1 day**	**Tue 13-11-18**	**Tue 13-11-18**
600	Drainage works	1 day	Tue 13-11-18	Tue 13-11-18
601	**Steel Bridge between E3-ST1 and E3-P1**	**580 days**	**Tue 13-11-18**	**Sat 22-08-20**
602	Fabrication and Delivery of Fabricated Steelworks	60 days	Mon 02-09-19	Thu 07-11-19
603	**On Site Steelworks fabrication**	**430 days**	**Tue 13-11-18**	**Sat 07-03-20**
604	Construction of Steel Bridge Deck between E3-ST1 and E3-P1 Pi	40 days	Wed 15-04-20	Fri 29-05-20
605	Construction of steel Roof E3-ST1 to E3-P1 Pier	30 days	Mon 13-04-20	Fri 15-05-20
606	Construction of Screeding and paving blocks	30 days	Tue 13-11-18	Sat 15-12-18
607	Installation of parapets and planters	30 days	Sat 15-12-18	Fri 18-01-19
608	Installation of lightings to steel truss between E3 tower and E3 abutm	30 days	Fri 18-01-19	Thu 21-02-19
609	Installation of irrigation Pipe and water point	30 days	Thu 21-02-19	Wed 27-03-19
610	**Landscape Works**	**15 days**	**Tue 13-11-18**	**Thu 29-11-18**
611	Tree Pruning PMI 044	15 days	Tue 13-11-18	Thu 29-11-18
612	Handover Portion 2	1 day	Fri 09-10-20	Fri 09-10-20
613				
614				
615	**Bridge between E2-P1 and E2-P3 (Section A E3 Portion 3)**	**583 days**	**Fri 21-12-18**	**Sat 03-10-20**
616	Partial Handover of Portion 3	1 day	Fri 21-12-18	Fri 21-12-18
617	Application of XP	30 days	Sat 22-12-18	Thu 24-01-19
618	Delay Possession of Partial Handover	63 days	Sat 22-12-18	Sat 02-03-19
619	Waiting for Full Handover of Portion 3	71 days	Sat 02-03-19	Tue 21-05-19
620	Initial site survey	1 day	Tue 21-05-19	Wed 22-05-19
621	Erection of Hoarding at South bound footpath of Hiu Kwong Street	7 days	Wed 22-05-19	Thu 30-05-19
622	RA approval from District Council	60 days	Thu 30-05-19	Mon 05-08-19
623	TownGas Diversion	100 days	Mon 05-08-19	Mon 25-11-19
624	Relocation of Crossing and shadow island	10 days	Mon 25-11-19	Fri 06-12-19
625	Trial Pit at E2-PC3 for UU	7 days	Fri 06-12-19	Sat 14-12-19
626	Diversion of utilities by UU	90 days	Sat 14-12-19	Tue 24-03-20
627	Construction of E2-PC3	67 days	Wed 16-01-19	Mon 01-04-19
628	Rock excavation with shoring for E2-F3	35 days	Wed 16-01-19	Sat 23-02-19
629	Construction of pad footing E2-PC3	10 days	Sat 23-02-19	Thu 07-03-19
630	Construction of column for E2-P2	21 days	Thu 07-03-19	Sat 30-03-19
631	Installation of bearing at E2-P2 and E2-P1	1 day	Sat 30-03-19	Mon 01-04-19
632	Construction of E2-PC4	67 days	Wed 16-01-19	Mon 01-04-19
633	Rock Excavation with shoring for construction of E2-PC4	35 days	Wed 16-01-19	Sat 23-02-19
634	Construction of pad footing of E2-PC4	10 days	Sat 23-02-19	Thu 07-03-19
635	Construction of columns for E2-P3 and Bridge Deck	21 days	Thu 07-03-19	Sat 30-03-19
636	Installation of bearing	1 day	Sat 30-03-19	Mon 01-04-19
637	Steel footbridge works	136 days	Wed 16-10-19	Mon 16-03-20
638	Off site Fabrication of Steel deck truss between E2-LT1 to E2-P1, E2-P1 to E2-P2	30 days	Wed 16-10-19	Mon 18-11-19
639	Preparation works and Lifting of steel truss between E2-LT1 to E2-P	10 days	Tue 19-11-19	Fri 29-11-19
640	Off site Fabrication of Steel deck truss between E2-P2 to E2-P3, E2-P3 to bridge by others	30 days	Thu 07-11-19	Wed 11-12-19
641	Preparation works and lifting of truss for E2-P3 to connect to bridge	20 days	Wed 11-12-19	Thu 02-01-20
642	Off site Fabrication of Steel deck truss between E2-P1 to E2-P2	30 days	Wed 18-12-19	Mon 20-01-20
643	Preparation works and Lifting of steel truss between E2-P1 to E2-P2	20 days	Mon 20-01-20	Tue 11-02-20
644	Roof installation of bridge from E2-LT1 to E2-P3	30 days	Wed 12-02-20	Mon 16-03-20
645	Screeding and paving blocks for the bridge from E2-LT1 to E2-P3	30 days	Mon 16-03-20	Sat 18-04-20
646	Electrical installation and lighting works for bridge from E2-LT1 to E2-	30 days	Sat 18-04-20	Fri 22-05-20
647	Tubular handrail and planter on bridge from E2-LT1 to E2-P3	20 days	Fri 22-05-20	Sat 13-06-20
648	150mm dia storm drain pipe across Hiu Kwong Street	30 days	Mon 01-04-19	Sat 04-05-19
649	Trenching works for connection of existing water connection point	30 days	Sat 13-06-20	Fri 17-07-20
650	Water meter box and water point connection	30 days	Fri 17-07-20	Thu 20-08-20
651	General Tidy Up for Portion 3	5 days	Thu 20-08-20	Tue 25-08-20
652	Handover Portion 3	1 day	Wed 26-08-20	Wed 26-08-20

Project: Accepted Programme Portio
Date: Fri 20-12-19

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 - 3 Months programme for section C
Portion 5 Dec 2019)

ID	任務名稱	Duration	Start	Finish	Predecessors
1	**Revised Contract Period for Section C**	**717 days**	**Fri 31-03-17**	**Mon 15-07-19**	
2	Original Contract Period	630 days	Fri 31-03-17	Thu 04-04-19	
3	Public Holidays	24 days	Fri 05-04-19	Thu 02-05-19	2
4	CE Granted	717 days	Fri 31-03-17	Mon 15-07-19	
5	CE 016 Inclement weather Aug 2017	0 days			3
6	CE 031 Inclement weather Oct 2017	0 days			5
7	CE 039 Inclement weather Nov 2017	0 days			6
8	CE 058 - 1days inclement weather March 2018	1 day			7
9	CE 078 - 4days inclement weather May 2018	4 days			8
10	CE102 - 11days inclement weather June 2018	11 days			9
11	CE109 - 7days inclement weather July 2018	7 days			10
12	CE132 - 12 days inclement weather Aug 2018	12 days			11
13	CE146 - 0.5 days inclement weather Nov 2018	0.5 days			12
14	5day inclement weather April 2019	5 days			13
15	3day inclement weather May 2019	3 days			14
16	5day inclement weather June 2019	5 days			15
17	4 day inclement weather July 2019	4 days			16
18	11day inclement weather August 2019	11 days			17
19					
20	**Section C - Construction of Northern BBI Covered Walkway**	**855 days**	**Fri 31-03-17**	**Mon 23-12-19**	
21	**Planning and Survey**	**119.06 days**	**Fri 31-03-17**	**Thu 17-08-17**	
22	Planning	56 days	Fri 31-03-17	Sat 03-06-17	
23	Initial site survey	30 days	Mon 05-06-17	Sat 08-07-17	22
24	Material Submissions	42 days	Mon 05-06-17	Sat 22-07-17	22
25	Tree survey	33.06 days	Mon 10-07-17	Thu 17-08-17	23
26	**Preparation of Works**	**435 days**	**Mon 17-07-17**	**Wed 05-12-18**	
27	Tree Felling	120 days	Thu 17-08-17	Thu 04-01-18	25
28	Transplant Trees	180 days	Thu 17-08-17	Tue 20-03-18	25
29	UU detection and survey	60 days	Mon 17-07-17	Sat 23-09-17	
30	Excavation of inspection pits to locate utilities	30 days	Mon 30-10-17	Sat 02-12-17	29
31	Arrangement with UU companies for diversion	120 days	Thu 19-07-18	Wed 05-12-18	
32	Application of TTA for access, loading and unloading area (TKOR/011A)	7 days	Sun 01-04-18	Mon 09-04-18	
33	Implementation of TTA (TKOR/011A)	30 days	Wed 16-05-18	Tue 19-06-18	32
34	Road Works Advice (TKOR/011A)	30 days	Thu 26-07-18	Wed 29-08-18	
35	**Site investigation and survey work**	**498 days**	**Fri 31-03-17**	**Thu 01-11-18**	
36	Trial Pit and inspection pit at F5	30 days	Fri 31-03-17	Thu 04-05-17	
37	Fell and Dispose Tree to SENT Landfill	99 days	Thu 22-03-18	Sat 14-07-18	28
38	Excavate Inspection Pits and Trench for 400kV cable - PMI no.32	21 days	Tue 05-12-17	Thu 28-12-17	
39	CCTV Inspection of Uncharted Concrete Pipe - PMI no.59	5 days	Thu 10-05-18	Tue 15-05-18	
40	Excavate Inspection Pit for Box Culvert - PMI no.68	14 days	Mon 28-05-18	Tue 12-06-18	
41	Excavate Inspection Pits for 400kV cable - PMI no.107	21 days	Fri 21-09-18	Mon 15-10-18	
42	Remove dead tree on top of inspection pit	7 days	Tue 16-10-18	Tue 23-10-18	41
43	Excavation for Trial Pit for UU TCS	7 days	Wed 24-10-18	Wed 31-10-18	42
44					
45	**Northern BBI Footings**	**857 days**	**Fri 31-03-17**	**Wed 25-12-19**	
46	**Bay F5**	**313 days**	**Mon 01-01-18**	**Mon 31-12-18**	
47	Submission for ELS for BBI Footing	157 days	Mon 01-01-18	Mon 02-07-18	
48	Approval of ELS	14 days	Mon 02-07-18	Tue 17-07-18	47
49	ELS for Footing F5	26 days	Wed 18-07-18	Thu 16-08-18	37,48
50	Formwork for footing F5	15 days	Fri 17-08-18	Mon 03-09-18	49
51	Submission of BBS	30 days	Wed 04-07-18	Tue 07-08-18	
52	Pending BBS approval for footing F5	23 days	Wed 08-08-18	Mon 03-09-18	51
53	Fixing Rebar and Place Concrete for Footing F5	42 days	Tue 04-09-18	Mon 22-10-18	52,50

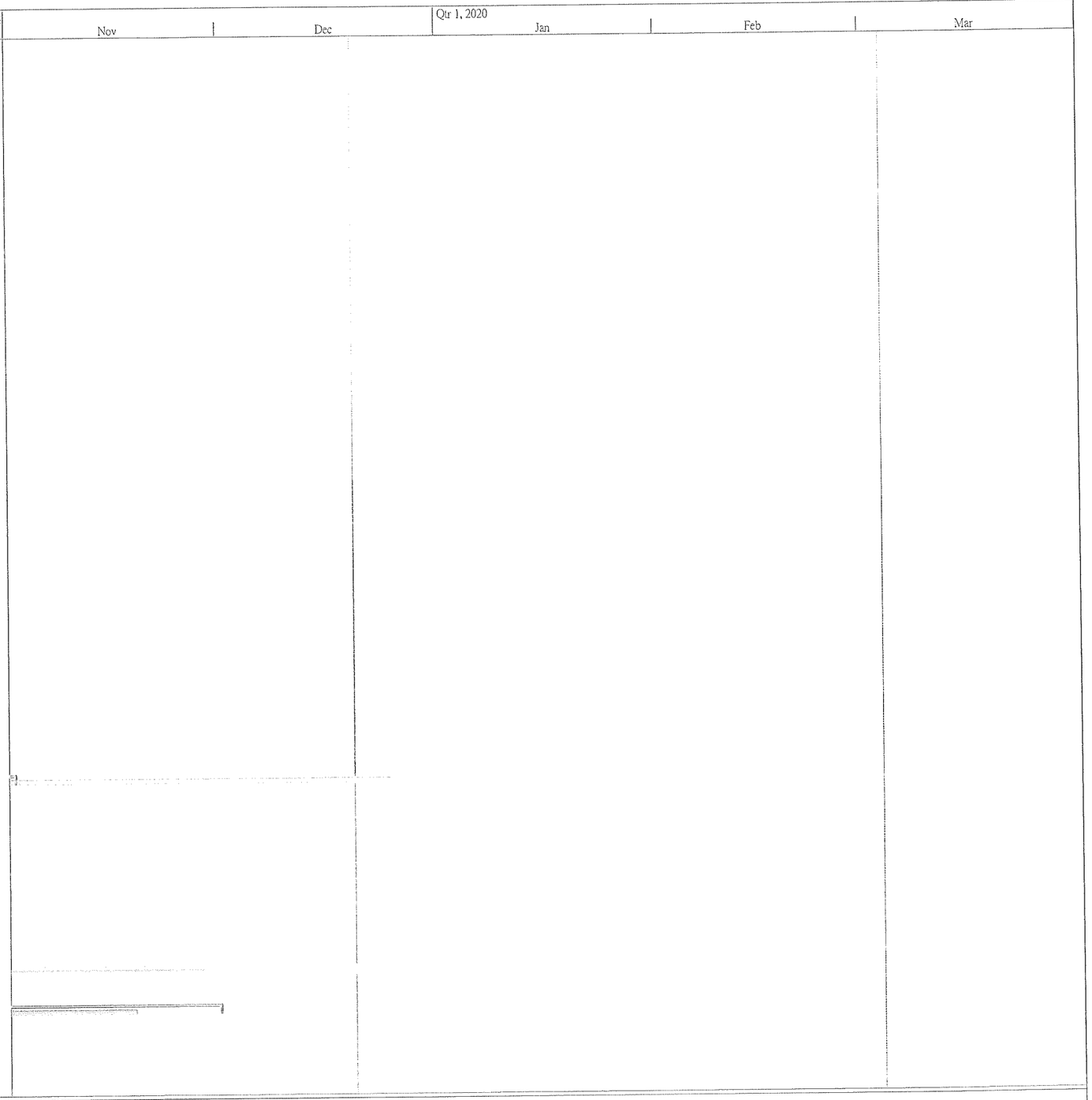


專案: Accepted Programme Portion 5 f
日期: Fri 20-12-19

Critical Split | 摘要 | 非作用中的摘要 | 手動摘要 | 外部里程碑 | Critical
任務 | 專案摘要報告 | 手動任務 | 僅定義開始日期 | 期限
分割 | 非作用中的任務 | 僅包含工期 | 僅包含完成時間 | 進度
里程碑 | 非作用中的里程碑 | 手動上顯型摘要 | 外部任務 | 手動進度

Contract No. NE/2016/05
Development of Anderson Road Quarry Site Connection of Pedestrian Facilities Works Phase 1 - 3 Months programme for section C
Portion 5 Dec 2019)

ID	任務名稱	Duration	Start	Finish	Predecessors
54	Placing Concrete for Footing F5	1 day	Tue 23-10-18	Tue 23-10-18	53
55	Waterproofing F5 - PMI no. 114	3 days	Wed 24-10-18	Fri 26-10-18	54
56	Backfilling (included SRT) F5	46 days	Sat 27-10-18	Sat 29-12-18	55
57	Bay F4	112 days	Fri 28-09-18	Tue 05-02-19	
58	Pending BBS approval for footing F4 - PMI no.99	30 days	Fri 28-09-18	Thu 01-11-18	
59	ELS for Footing F4	31 days	Tue 23-10-18	Tue 27-11-18	53
60	Formwork for footing F4 - PMI no.124	11 days	Wed 28-11-18	Mon 10-12-18	59
61	Fixing Rebar and Place Concrete for Footing F4	7 days	Tue 11-12-18	Tue 18-12-18	60
62	Backfilling (included SRT) F4	42 days	Wed 19-12-18	Tue 05-02-19	61,56
63	Bay F3	95 days	Wed 28-11-18	Mon 18-03-19	
64	Pending BBS approval for footing F3 - PMI no.135	20 days	Tue 11-12-18	Wed 02-01-19	
65	ELS for Footing F3	44 days	Wed 28-11-18	Thu 17-01-19	59
66	Formwork for footing F3 - PMI no. 134	6 days	Fri 18-01-19	Thu 24-01-19	65
67	Fixing Rebar and Place Concrete for Footing F3	21 days	Fri 25-01-19	Mon 18-02-19	66
68	Backfilling (included SRT) F3	24 days	Tue 19-02-19	Mon 18-03-19	67
69	Bay F1a	193 days	Mon 11-02-19	Mon 23-09-19	
70	Submission of BBS - PMI no.154	62 days	Mon 11-02-19	Tue 23-04-19	
71	BBS approval for Footing F1b - PMI no.154	5 days	Wed 24-04-19	Mon 29-04-19	70
72	ELS for Footing F1a	38 days	Mon 18-03-19	Tue 30-04-19	68
73	Revising the layout of F1a footing due to E&M manhole - PMI no.172	30 days	Wed 01-05-19	Tue 04-06-19	72
74	Formwork for footing F1a - PMI no.139	7 days	Wed 05-06-19	Wed 12-06-19	73
75	Fixing Rebar and Place Concrete for Footing F1a	8 days	Thu 13-06-19	Fri 21-06-19	74,71
76	Backfilling (included SRT) F1a	80 days	Sat 22-06-19	Mon 23-09-19	75
77	Bay 2	114 days	Wed 24-04-19	Tue 03-09-19	
78	Submission for BBS	32 days	Wed 24-04-19	Thu 30-05-19	70
79	BBS approval for Footing F2 - PMI no. 154	31 days	Fri 31-05-19	Fri 05-07-19	78
80	ELS for Footing F2	7 days	Mon 22-07-19	Mon 29-07-19	87
81	Formwork for footing F2 - PMI no.139	3 days	Tue 30-07-19	Thu 01-08-19	80
82	Fixing Rebar and Place Concrete for Footing F2	7 days	Fri 02-08-19	Fri 09-08-19	81
83	Backfilling (included SRT) F2	21 days	Sat 10-08-19	Tue 03-09-19	82
84	Bay F1b	111 days	Tue 30-04-19	Thu 05-09-19	
85	Submission of BBS	14 days	Tue 30-04-19	Wed 15-05-19	71
86	BBS approval for Footing F1b - PMI no.154	7 days	Thu 16-05-19	Thu 23-05-19	85
87	ELS for Footing F1b (combine with HM A's ELS)	70 days	Wed 01-05-19	Sat 20-07-19	72
88	Formwork for footing F1b - PMI no.139	5 days	Mon 22-07-19	Fri 26-07-19	87
89	Fixing Rebar and Place Concrete for Footing F1b	14 days	Sat 27-07-19	Mon 12-08-19	88,86
90	Backfilling (included SRT) F1b	21 days	Tue 13-08-19	Thu 05-09-19	89
91	Columns base of BBI	811 days	Fri 31-03-17	Fri 01-11-19	
92	Submission of cast-in item included holding down bolt and base plate	35 days	Fri 19-04-19	Wed 29-05-19	
93	Approval of of the HD Bolt submission	4 days	Thu 30-05-19	Mon 03-06-19	92
94	Columns above footing F5	25 days	Tue 04-06-19	Tue 02-07-19	93
95	Columns above footing F4	25 days	Wed 03-07-19	Wed 31-07-19	94
96	Columns above footing F3	25 days	Thu 01-08-19	Thu 29-08-19	95
97	Columns above footing F1a	10 days	Fri 30-08-19	Tue 10-09-19	96
98	Columns above footing F1b	10 days	Wed 11-09-19	Sat 21-09-19	97,89
99	Columns above footing F2	7 days	Mon 23-09-19	Mon 30-09-19	98
100	Backfilling	90 days	Wed 11-09-19	Tue 24-12-19	97
101					
102	Steelworks for BBI	836 days	Fri 31-03-17	Sun 01-12-19	
103	Propose structural steel erectors	90 days	Tue 30-10-18	Mon 11-02-19	
104	Approve structural steel erectors	60 days	Tue 12-02-19	Mon 22-04-19	103
105	Submission of offsite fabrication of steel including shop drawing for covered walkway	30 days	Tue 23-04-19	Mon 27-05-19	104



專案: Accepted Programme Portion 5 f
日期: Fri 20-12-19

Critical Split	摘要	非作用中的摘要	手動摘要	外部里程碑	Critical		
任務	專案摘要報告	手動任務	僅定義開始日期	期限			
分割	非作用中的任務	僅包含工期	僅包含完成時間	進度			
里程碑	非作用中的里程碑	手動上顯型摘要	外部任務	手動進度			

Contract No. NE/2016/05
Development of Anderson Road Quarry Site Connection of Pedestrian Facilities Works Phase 1 - 3 Months programme for section C
Portion 5 Dec 2019)

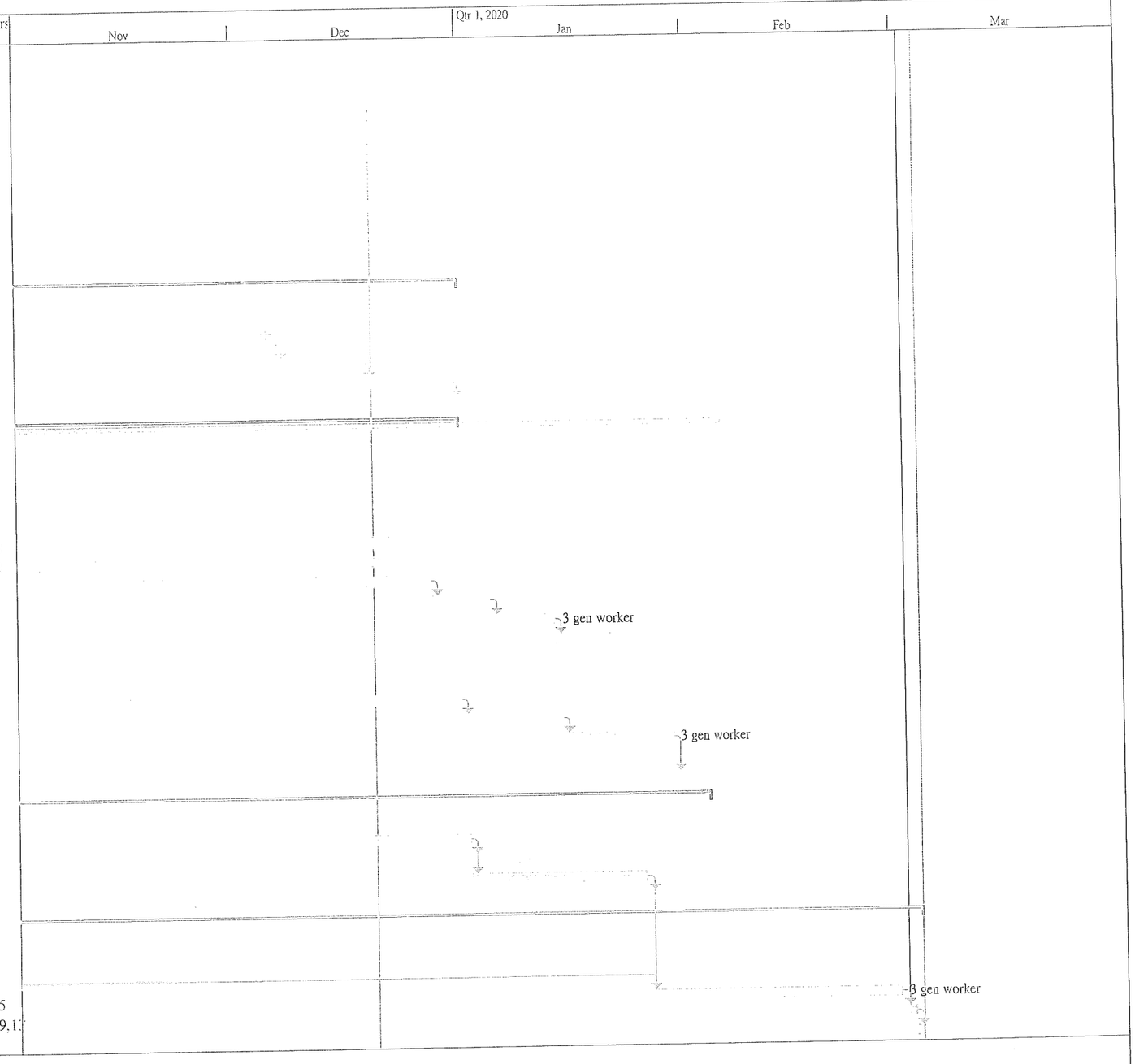
ID	任務名稱	Duration	Start	Finish	Predecessors
106	Approve offsite fabrication of steel including shop drawing for covered walkway	120 days	Tue 28-05-19	Mon 14-10-19	105
107	Fabrication and Delivery of Fabricated Steelworks	30 days	Tue 15-10-19	Mon 18-11-19	106
108					
109	**Steel structure of BBI**	**855 days**	**Fri 31-03-17**	**Mon 23-12-19**	
110	Erection of Steel structure for BBI	35 days	Tue 19-11-19	Sat 28-12-19	107
111	Installation of drainage downpipe for the covered walkway structure	7 days	Mon 30-12-19	Mon 06-01-20	110
112	Submission for PMMA cover Panels	260 days	Mon 01-10-18	Tue 30-07-19	
113	Approval of Submissions	30 days	Wed 31-07-19	Tue 03-09-19	112
114	Fabrication and delivery of PMMA panels	100 days	Wed 04-09-19	Sat 28-12-19	113
115	Installation of PMMA cover for covered walkway	20 days	Mon 30-12-19	Tue 21-01-20	114,110
116					
117	Drainage works	774 days	Mon 05-06-17	Sat 23-11-19	
118	Commence PMI-183 for drainage works	15 days	Tue 01-10-19	Thu 17-10-19	
119	Drainage work for 225UC and 300UC	60 days	Fri 18-10-19	Thu 26-12-19	118
120	D416, D417, D418, D419	100 days	Mon 02-09-19	Thu 26-12-19	
121	Connection of D419 to culvert	7 days	Fri 27-12-19	Fri 03-01-20	120
122	Construction of Sewerage System PMI-183	1 day?	Mon 25-11-19	Mon 25-11-19	
123	PMI-183	40 days	Mon 25-11-19	Thu 09-01-20	
124	**Concrete surround of TCS and E&M ducting of drawpit cover PMI 200**	**21 days**	**Mon 25-11-19**	**Wed 18-12-19**	
125	PMI -200	21 days	Mon 25-11-19	Wed 18-12-19	
126	**Relocation of Fire Hydrant**	**392 days?**	**Wed 03-10-18**	**Thu 02-01-20**	
127	Procurement of Fire Hydrant	20 days	Mon 02-12-19	Tue 24-12-19	
128	Relocation	1 day?	Wed 25-12-19	Wed 25-12-19	127
129	T&C	7 days	Thu 26-12-19	Thu 02-01-20	128
130	High Mast Relocation Works	336 days	Wed 03-10-18	Tue 29-10-19	
131	Liaison with TD & MOM for relocation of the works	60 days	Sat 01-06-19	Fri 09-08-19	
132	Laying of TCS Cables by others	14 days	Thu 06-06-19	Fri 21-06-19	131
133	Commence PMI-176 for drawpits	60 days	Sat 22-06-19	Fri 30-08-19	132
134	Construct Drawpits for TCS cables by others	14 days	Sat 31-08-19	Mon 16-09-19	133
135	Laying of Cables by others	7 days	Tue 17-09-19	Tue 24-09-19	134
136	Submission for Temporary Lighting (PMI145)	24 days	Mon 01-04-19	Sat 27-04-19	
137	Approval for Temporary Lighting	60 days	Mon 29-04-19	Sat 06-07-19	136
138	Construction of Ducting for Temporary Lighting	30 days	Mon 08-07-19	Sat 10-08-19	137
139	Construction of Temporary Lighting	30 days	Mon 12-08-19	Sat 14-09-19	138
140	MOM Contractor to disconnect existing high mast cables	1 day	Wed 25-09-19	Wed 25-09-19	135,154,1
141	Relocation of High Mast Lighting A & B	10 days	Mon 14-10-19	Thu 24-10-19	
142	MOM Contractor connect high mast cables	4 days	Fri 25-10-19	Tue 29-10-19	141
143	**High Mast A Southern**	**317 days**	**Wed 03-10-18**	**Mon 07-10-19**	
144	Submission for ELS for Footing for High Mast A - PMI no.115	60 days	Wed 03-10-18	Tue 11-12-18	
145	Approval of ELS	14 days	Wed 12-12-18	Thu 27-12-18	144
146	Submission of revised ELS	30 days	Fri 28-12-18	Thu 31-01-19	145
147	**Lower Part of High Mast**	**14 days**	**Thu 07-02-19**	**Fri 22-02-19**	
148	Formwork for High Mast A - PMI no.115	7 days	Thu 07-02-19	Thu 14-02-19	146
149	Fixing rebar and Placing concrete for High Mast A - PMI no.115	7 days	Fri 15-02-19	Fri 22-02-19	148
150	**Upper Part of High Mast**	**179 days**	**Wed 13-03-19**	**Mon 07-10-19**	
151	Submission of HD Bolts	120 days	Wed 13-03-19	Tue 30-07-19	
152	Approval of cast in items	30 days	Wed 31-07-19	Tue 03-09-19	151
153	Formwork	10 days	Wed 04-09-19	Sat 14-09-19	152,149
154	Fixing rebar and placing concrete	5 days	Mon 16-09-19	Fri 20-09-19	153
155	Backfilling (included SRT) HM A - PMI no.115	14 days	Sat 21-09-19	Mon 07-10-19	154

專案: Accepted Programme Portion 5 f
日期: Fri 20-12-19

Critical Split	摘要	非作用中的摘要	手動摘要	外部里程碑	Critical		
任務	專案摘要報告	手動任務	僅定義開始日期	期限			
分割	非作用中的任務	僅包含工期	僅包含完成時間	進度			
里程碑	非作用中的里程碑	手動上顯型摘要	外部任務	手動進度			

Contract No. NE/2016/05
Development of Anderson Road Quarry Site Connection of Pedestrian Facilities Works Phase 1 - 3 Months programme for section C
Portion 5 Dec 2019)

ID	任務名稱	Duration	Start	Finish	Predecessors
156	High Mast B Northern	228 days	Tue 15-01-19	Mon 07-10-19	
157	ELS for Footing for High Mast B - PMI no.115	14 days	Tue 15-01-19	Wed 30-01-19	
158	Lower Part of High Mast	15 days	Thu 31-01-19	Sat 16-02-19	
159	Formwork for High Mast B - PMI no.115	14 days	Thu 31-01-19	Fri 15-02-19	157
160	Fixing rebar and Place concrete for High Mast B - PMI no.115	1 day	Sat 16-02-19	Sat 16-02-19	159
161	Upper Part of High Mast	179 days	Wed 13-03-19	Mon 07-10-19	
162	Submission of Cast in items	120 days	Wed 13-03-19	Tue 30-07-19	
163	Approval of cast in items	30 days	Wed 31-07-19	Tue 03-09-19	162
164	Formwork	10 days	Wed 04-09-19	Sat 14-09-19	163,160
165	Fixing rebar and placing concrete	5 days	Mon 16-09-19	Fri 20-09-19	164
166	Backfilling (included SRT) for High mast B	14 days	Sat 21-09-19	Mon 07-10-19	165
167	CCTV Relocation	104 days	Mon 02-09-19	Tue 31-12-19	
168	Footing construction	30 days	Mon 02-09-19	Sat 05-10-19	
169	HD bolt installation	3 days	Mon 02-12-19	Wed 04-12-19	
170	CCTV Column	2 days	Thu 05-12-19	Fri 06-12-19	169
171	Ducting construction	10 days	Sat 07-12-19	Wed 18-12-19	170
172	Cabling Laying	10 days	Thu 19-12-19	Mon 30-12-19	171
173	Relocation of CCTV	1 day	Tue 31-12-19	Tue 31-12-19	172
174	E&M Cover Walkway Lighting	365 days	Thu 01-11-18	Tue 31-12-19	
175	Liaison with UU companies for diversion	150 days	Thu 01-11-18	Wed 24-04-19	
176	Application of Power supply and Liason with CLP for pillar box and ductings	120 days	Thu 25-04-19	Wed 11-09-19	175
177	Design, drawing submission and approval	38 days	Mon 02-09-19	Tue 15-10-19	
178	Material submission and approval	38 days	Mon 02-09-19	Tue 15-10-19	
179	Procurement and delivery of lighting	70 days	Wed 16-10-19	Sat 04-01-20	177,178
180	Procurement and delivery of E&M materials	70 days	Wed 16-10-19	Sat 04-01-20	177,178
181	Construction of Pillar Box	75 days	Wed 02-10-19	Fri 27-12-19	
182	Inspection of Pillar box with CLP	7 days	Sat 28-12-19	Sat 04-01-20	181
183	Cable laying and Installation of CLP cutout by CLP	7 days	Mon 06-01-20	Mon 13-01-20	182
184	E&M works inside pillar box	10 days	Tue 14-01-20	Fri 24-01-20	183
185	Handover of covered walkway and underground duct for E&M installation	1 day	Mon 28-10-19	Mon 28-10-19	
186	Conduit and cable containment	55 days	Tue 29-10-19	Tue 31-12-19	185
187	Cable and wiring	12 days	Wed 01-01-20	Tue 14-01-20	186
188	Installation of Lighting for covered walkway	13 days	Wed 15-01-20	Wed 29-01-20	187
189	Power supply connection	1 day	Mon 30-12-19	Mon 30-12-19	
190	T&C of Electrical works	6 days	Thu 30-01-20	Wed 05-02-20	188
191	Construction of central divider	107 days	Wed 02-10-19	Mon 03-02-20	
192	Breaking the existing road surface	40 days	Wed 02-10-19	Sat 16-11-19	83
193	Laying of K1 kerb	15 days	Mon 16-12-19	Wed 01-01-20	
194	Erection of corrugated beam barrier	7 days	Thu 02-01-20	Thu 09-01-20	193
195	Erection of surface U-channel	21 days	Thu 02-01-20	Sat 25-01-20	193
196	Road Marking	7 days	Mon 27-01-20	Mon 03-02-20	195
197	Finishing work and tidy up	317 days	Thu 28-02-19	Tue 03-03-20	
198	No paving block supply from CSD	14 days	Thu 28-02-19	Fri 15-03-19	
199	Submission for the paving block	14 days	Sat 16-03-19	Mon 01-04-19	198
200	Procurement of Paving Block from CSD	200 days	Tue 02-04-19	Wed 20-11-19	199
201	Construction of paving blocks for covered walkway	30 days	Mon 27-01-20	Sat 29-02-20	200,195
202	General Tidy Up	1 day	Mon 02-03-20	Mon 02-03-20	201,109,1
203	Handover Portion 5	1 day	Tue 03-03-20	Tue 03-03-20	202

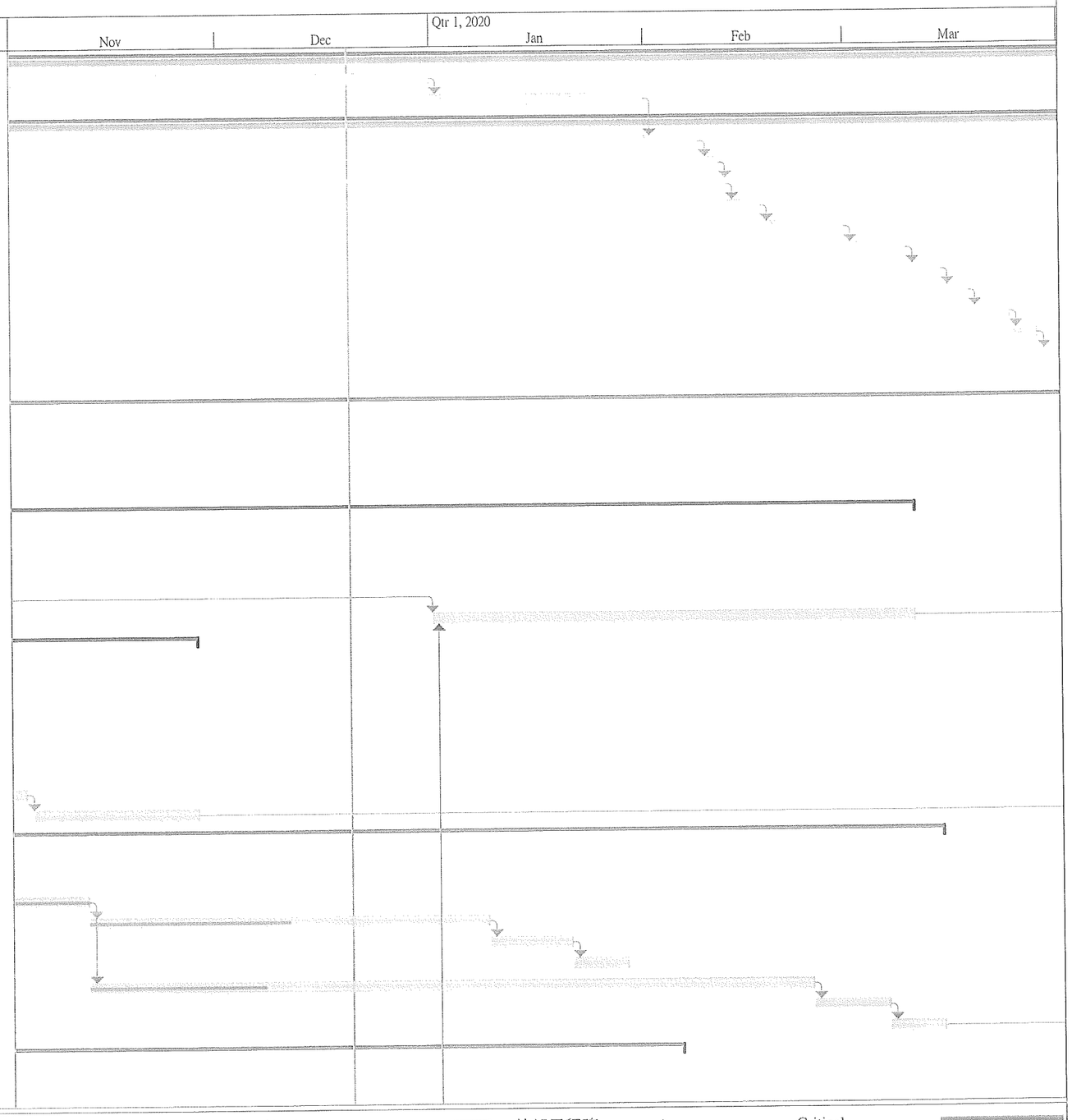


專案: Accepted Programme Portion 5 f
日期: Fri 20-12-19

Critical Split	摘要	非作用中的摘要	手動摘要	外部里程碑	Critical
任務	專案摘要報告	手動任務	僅定義開始日期	期限	
分割	非作用中的任務	僅包含工期	僅包含完成時間	進度	
里程碑	非作用中的里程碑	手動上顯型摘要	外部任務	手動進度	

Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - 3 Months programme for section D
Portion 6 (Dec 2019)

ID	任務名稱	Duration	Start	Finish	Predecessors
1	**Revised Contract Period of Section D**	**948 days**	**Fri 31-03-17**	**Thu 09-04-20**	
2	Original Contract Period	862 days	Fri 31-03-17	Tue 31-12-19	
3	Public Holidays	27 days	Wed 01-01-20	Fri 31-01-20	2
4	**CE Granted**	**948 days**	**Fri 31-03-17**	**Thu 09-04-20**	
5	CE 016 Inclement weather Aug 2017	7 days			3
6	CE 031 Inclement weather Oct 2017	2 days			5
7	CE 039 Inclement weather Nov 2017	1 day			6
8	CE 078 Inclement weather May 2018	4 days			7
9	CE 102 Inclement weather June 2018	11 days			8
10	CE 109 Inclement weather July 2018	7 days			9
11	5days inclement weather April 2019	5 days			10
12	3days inclement weather May 2019	3 days			11
13	5days inclement weather June 2019	5 days			12
14	4days inclement weather July 2019	4 days			13
15	11 days inclement weather August 2019	11 days			14
16					
17	**Southern BBI Covered Walkway, E12 Lift Tower and Covered Staircase and RWE12 Retaining wall**	**1055 days**	**Fri 31-03-17**	**Wed 12-08-20**	
18	**Establishment Works**	**513 days**	**Fri 31-03-17**	**Mon 19-11-18**	
19	Site Clearance	163 days	Fri 31-03-17	Fri 06-10-17	
20	Tree Felling	350 days	Sat 07-10-17	Mon 19-11-18	19
21	**UU Diversion**	922 days	Fri 31-03-17	Tue 10-03-20	
22	Excavation for trial pit for UU inspection	30 days	Fri 31-03-17	Thu 04-05-17	
23	Liaison with UU undertakers Regular Meeting	652 days	Fri 05-05-17	Tue 04-06-19	22
24	Submission	72 days	Wed 05-06-19	Tue 27-08-19	23
25	Approval of submission	14 days	Wed 28-08-19	Thu 12-09-19	24
26	Construction of UU by others HKT,PCCW,CLP	60 days	Wed 01-01-20	Tue 10-03-20	129,25
27	**Swapping of ETC and TRC lane (Autotoll Sign Gantry) (PMI 62 and 63)**	**519 days**	**Sun 01-04-18**	**Wed 27-11-19**	
28	Design the sign gantry (according to the existing one)	40 days	Sun 01-04-18	Thu 17-05-18	
29	Erection of Mock up sign gantry	14 days	Thu 17-05-18	Fri 01-06-18	28
30	Revising the structure design of the sign gantry	400 days	Sat 02-06-18	Wed 11-09-19	29
31	Fabrication of Permanent Sign Gantry	15 days	Thu 12-09-19	Sat 28-09-19	30
32	Delivery of Sign Gantry	15 days	Mon 30-09-19	Wed 16-10-19	31
33	Erection of Permanent Sign Gantry	15 days	Thu 17-10-19	Sat 02-11-19	32
34	Notification to HKSAR and lane swap	21 days	Mon 04-11-19	Wed 27-11-19	33
35	**Drainage near Northbound BBI**	**716 days**	**Fri 01-12-17**	**Sat 14-03-20**	
36	Submision of precast concrete 450 pipe & U-channel	29 days	Fri 01-12-17	Wed 03-01-18	
37	Approval of submission	300 days	Thu 04-01-18	Wed 19-12-18	36
38	Commence PMI202 for drainage works	280 days	Thu 20-12-18	Mon 11-11-19	37
39	Rock excavation for drainage for Partial BBI Opening	50 days	Tue 12-11-19	Wed 08-01-20	38
40	Installation of drainage for Partial BBI Opening	10 days	Thu 09-01-20	Mon 20-01-20	39
41	Drainage T&C for Partial BBI Opening	7 days	Tue 21-01-20	Tue 28-01-20	40
42	Rock excavation for drainage for Phase 2 BBI Opening	90 days	Tue 12-11-19	Mon 24-02-20	38
43	Installation of drainage for Phase 2 BBI Opening	10 days	Tue 25-02-20	Fri 06-03-20	42
44	Drainage T&C	7 days	Sat 07-03-20	Sat 14-03-20	43
45	**Rock Fall Safety Fence and Excavation of Southbound Rock Breaking**	**501 days**	**Mon 02-07-18**	**Wed 05-02-20**	
46	Submission in accordance to CEDD standard drawing	81 days	Mon 02-07-18	Wed 03-10-18	

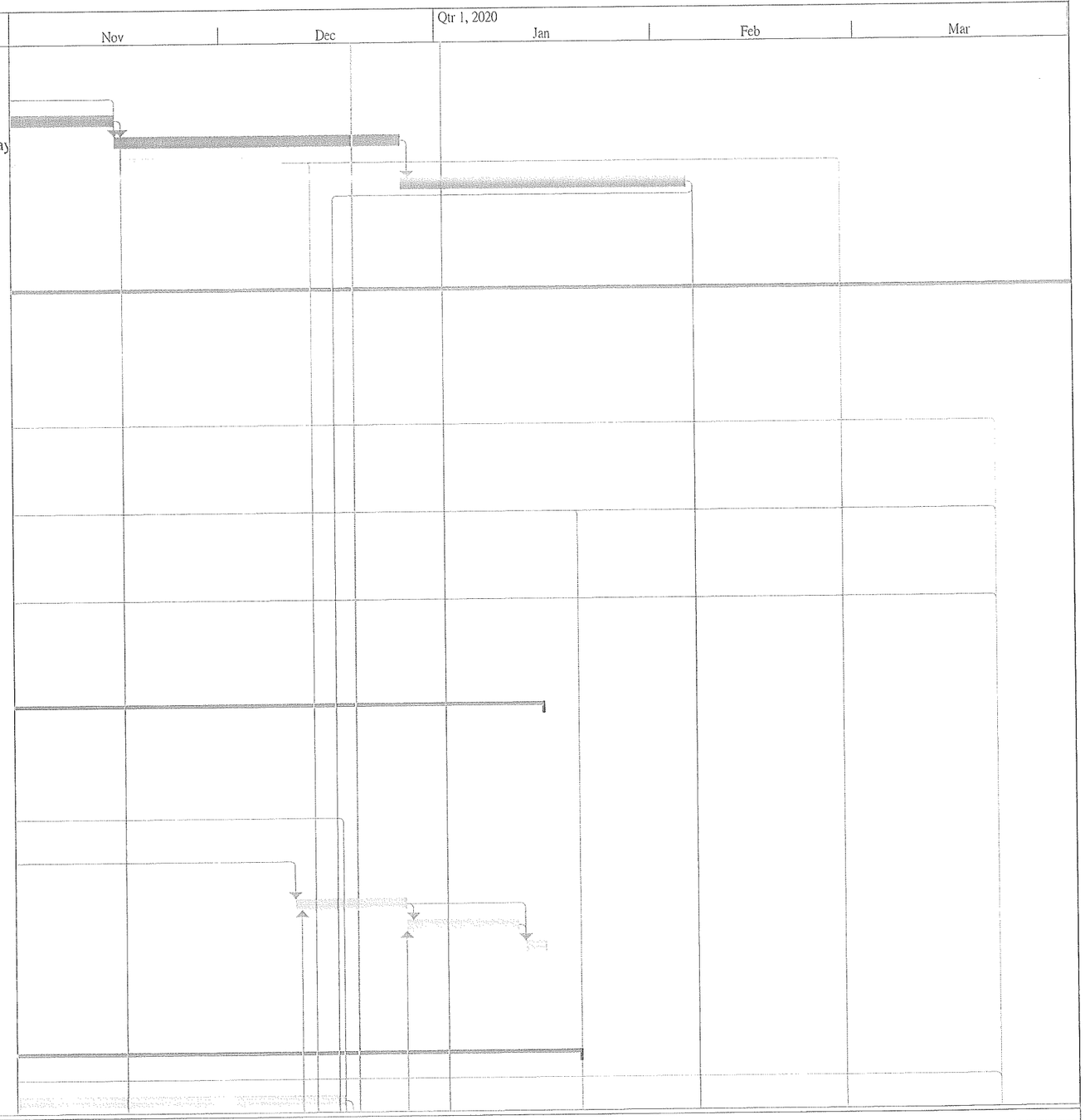


專案: Accepted Programme Portion 6 f
日期: Fri 20-12-19

Critical Split
任務
分割
里程碑
摘要
專案摘要報告
非作用中的任務
非作用中的里程碑
非作用中的摘要
手動任務
僅包含工期
手動上顯型摘要
手動摘要
僅定義開始日期
僅包含完成時間
外部任務
外部里程碑
期限
進度
手動進度
Critical

Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - 3 Months programme for section D
Portion 6 (Dec 2019)

ID	任務名稱	Duration	Start	Finish	Predecessors
47	Re-Submission to AECOM's standard drawing	15 days	Wed 03-10-18	Fri 19-10-18	46
48	Approval of submission	29 days	Sat 20-10-18	Thu 22-11-18	47
49	Erection of the rock fall fencing	37 days	Fri 23-11-18	Fri 04-01-19	48,20
50	Rock excavation to Footing F4 for 30m 1st Phase BB1	270 days	Sat 05-01-19	Fri 15-11-19	49
51	Rock excavation to Footings F3	35 days	Sat 16-11-19	Thu 26-12-19	49FS+200 day
52	Rock excavation to Footings F2 & F1	60 days	Tue 01-10-19	Mon 09-12-19	
53	Rock excavation to Footing E12 Lift Shaft	35 days	Fri 27-12-19	Wed 05-02-20	51
54	**Rock Stabilization Works**	**376 days**	**Fri 01-12-17**	**Tue 12-02-19**	
55	Submission of Method Statement for Rock Dowel Drilling	16 days	Fri 01-12-17	Tue 19-12-17	
56	Rock Dowel drilling	323 days	Wed 20-12-17	Mon 31-12-18	55
57	Presplitting from bay 3 to 9 due to CE (PMI 131 and 123)	37 days	Tue 01-01-19	Tue 12-02-19	56
58	**Construction of RWE12 Retaining wall**	**472 days**	**Thu 01-11-18**	**Mon 04-05-20**	
59	Submission for BBS (PMI 113)	57 days	Thu 01-11-18	Sat 05-01-19	
60	Approval of BBS	5 days	Mon 07-01-19	Fri 11-01-19	59
61	**RWE12 Bay 3-6**	**47 days**	**Sat 12-01-19**	**Thu 07-03-19**	
62	Rebar Fixing	26 days	Sat 12-01-19	Mon 11-02-19	60
63	Formwork	20 days	Tue 12-02-19	Wed 06-03-19	62
64	concreting	1 day	Thu 07-03-19	Thu 07-03-19	63
65	**RWE12 Bay 7-10**	**21 days**	**Fri 08-03-19**	**Mon 01-04-19**	
66	Rebar Fixing	5 days	Fri 08-03-19	Wed 13-03-19	64
67	Formwork	15 days	Thu 14-03-19	Sat 30-03-19	66
68	concreting	1 day	Mon 01-04-19	Mon 01-04-19	67
69	**RWE12 Bay 2**	**16 days**	**Tue 02-04-19**	**Fri 19-04-19**	
70	Rebar Fixing	3 days	Tue 02-04-19	Thu 04-04-19	68
71	Formwork	12 days	Fri 05-04-19	Thu 18-04-19	70
72	concreting	1 day	Fri 19-04-19	Fri 19-04-19	71
73	**RWE12 Bay 11 & 12**	**16 days**	**Sat 20-04-19**	**Wed 08-05-19**	
74	Rebar Fixing	3 days	Sat 20-04-19	Tue 23-04-19	72
75	Formwork	12 days	Wed 24-04-19	Tue 07-05-19	74
76	concreting	1 day	Wed 08-05-19	Wed 08-05-19	75
77	**Sewerage Manhole System B001 to B003 (PMI 128)**	**250 days**	**Sat 30-03-19**	**Wed 15-01-20**	
78	Submission of method statement for temporary and permanent diversion of sewerage system	35 days	Mon 01-04-19	Fri 10-05-19	
79	Submission for PE sewerage pipes	40 days	Sat 30-03-19	Wed 15-05-19	
80	Approval of submission	14 days	Thu 16-05-19	Fri 31-05-19	79,78
81	Construct B001 Manahole and connection pipe in bay 1A	21 days	Sat 01-06-19	Tue 25-06-19	80
82	Temporary diversion of the sewerage pipe (from B001 to existing sewerage pipe)	45 days	Wed 26-06-19	Fri 16-08-19	81
83	Construct B002 Manahole	14 days	Wed 11-12-19	Thu 26-12-19	82,112
84	Construct B003 Manahole	14 days	Fri 27-12-19	Sat 11-01-20	83,112
85	Permanent diversion of the sewerage pipe	3 days	Mon 13-01-20	Wed 15-01-20	83,84
86	**RWE12 Bay 1**	**9 days**	**Wed 26-06-19**	**Fri 05-07-19**	
87	Rebar Fixing	1 day	Wed 26-06-19	Wed 26-06-19	81
88	Formwork	7 days	Thu 27-06-19	Thu 04-07-19	87
89	concreting	1 day	Fri 05-07-19	Fri 05-07-19	88
90	**RWE12 Bay 1A 2A**	**279 days**	**Fri 01-03-19**	**Mon 20-01-20**	
91	Commence PMI184 for Bay 1A 2A	100 days	Fri 01-03-19	Tue 25-06-19	
92	Excavation	150 days	Wed 26-06-19	Tue 17-12-19	91



專案: Accepted Programme Portion 6 f
日期: Fri 20-12-19

Critical Split | 摘要 | 非作用中的摘要 | 手動摘要 | 外部里程碑 | Critical
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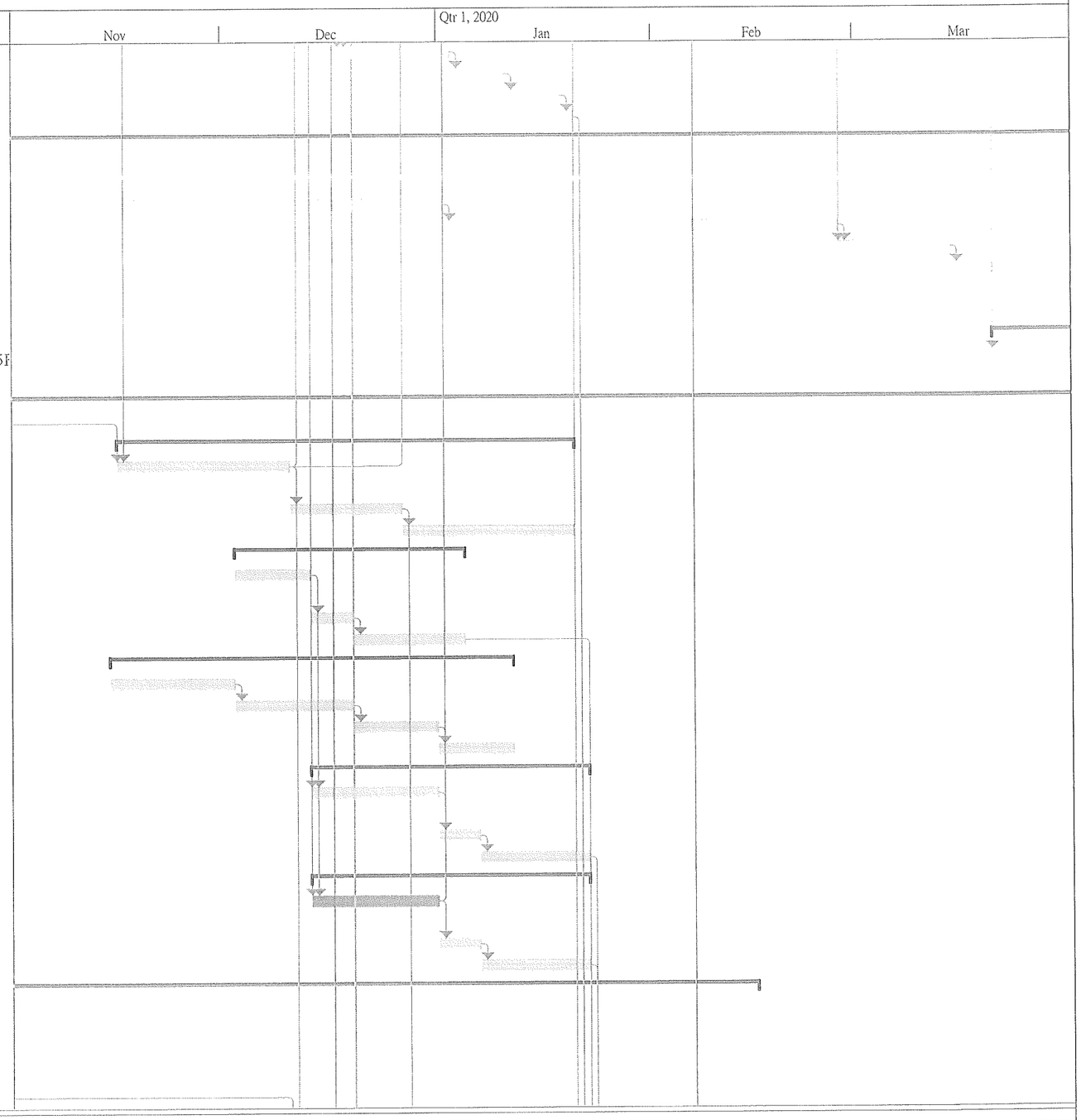
Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - 3 Months programme for section D
Portion 6 (Dec 2019)

ID	任務名稱	Duration	Start	Finish	Predecessors
93	Rock dowel drilling Bay 1A and 2A (PMI)	14 days	Wed 18-12-19	Thu 02-01-20	81,92
94	Rebar Fixing	7 days	Fri 03-01-20	Fri 10-01-20	93
95	Formwork	7 days	Sat 11-01-20	Sat 18-01-20	94
96	concreting	1 day	Mon 20-01-20	Mon 20-01-20	95
97	**RWE12 Bay 13-15**	**292 days**	**Tue 14-05-19**	**Fri 17-04-20**	
98	Liason with EPD regarding the temporary diversion	20 days	Tue 14-05-19	Wed 05-06-19	
99	Excavation	120 days	Thu 06-06-19	Wed 23-10-19	98
100	Temporary diversion of the pedestrian road next to EPD	60 days	Thu 24-10-19	Wed 01-01-20	99
101	PMI 184 revised RWE12	49 days	Thu 02-01-20	Thu 27-02-20	100
102	Rock Dowel Drilling Bay 13 - 15	14 days	Fri 28-02-20	Sat 14-03-20	52,101
103	Rebar Fixing	14 days	Mon 16-03-20	Tue 31-03-20	102
104	Formwork	14 days	Wed 01-04-20	Thu 16-04-20	103
105	concreting	1 day	Fri 17-04-20	Fri 17-04-20	104
106	**Construction of the permanent pedestrian road of RWE**	**38 days**	**Sat 21-03-20**	**Mon 04-05-20**	
107	Backfilling behined the RWE12	31 days	Sat 21-03-20	Sat 25-04-20	64,68,72,105F
108	Erection of the type 2 railing	7 days	Mon 27-04-20	Mon 04-05-20	107
109	**Construction of BBI Covered Walkway at SouthBound**	**511 days**	**Mon 15-10-18**	**Mon 01-06-20**	
110	Submissions (Including MS, ELS and BBS)	30 days	Thu 02-05-19	Wed 05-06-19	
111	**BBI-SB-F4 (BBI Phase 1)**	**56 days**	**Sat 16-11-19**	**Mon 20-01-20**	
112	Construct footing (Including Rebar Fixing, formwork and Concreting)	21 days	Sat 16-11-19	Tue 10-12-19	110,50
113	Column base	14 days	Wed 11-12-19	Thu 26-12-19	112
114	Backfilling	21 days	Fri 27-12-19	Mon 20-01-20	113
115	**BBI-SB-F3 (BBI Phase 2)**	**29 days**	**Tue 03-12-19**	**Sat 04-01-20**	
116	Construct footing (Including Rebar Fixing, formwork and Concreting)	10 days	Tue 03-12-19	Fri 13-12-19	
117	Column base	5 days	Sat 14-12-19	Thu 19-12-19	116
118	Backfilling	14 days	Fri 20-12-19	Sat 04-01-20	117
119	**CCTV Post Relocation**	**50 days**	**Fri 15-11-19**	**Sat 11-01-20**	
120	Break foundation	15 days	Fri 15-11-19	Mon 02-12-19	
121	Dowel bars	15 days	Tue 03-12-19	Thu 19-12-19	120
122	Footing construction	10 days	Fri 20-12-19	Tue 31-12-19	121
123	Relocation	10 days	Wed 01-01-20	Sat 11-01-20	122
124	**BBI-SB-F2 (BBI Phase 2)**	**34 days**	**Sat 14-12-19**	**Wed 22-01-20**	
125	Construct footing (Including Rebar Fixing, formwork and Concreting)	15 days	Sat 14-12-19	Tue 31-12-19	116,52
126	Column base	5 days	Wed 01-01-20	Mon 06-01-20	125
127	Backfilling	14 days	Tue 07-01-20	Wed 22-01-20	126
128	**BBI-SB-F1 (BBI Phase 2)**	**34 days**	**Sat 14-12-19**	**Wed 22-01-20**	
129	Construct footing (Including Rebar Fixing, formwork and Concreting)	15 days	Sat 14-12-19	Tue 31-12-19	116,52
130	Column base	5 days	Wed 01-01-20	Mon 06-01-20	129
131	Backfilling	14 days	Tue 07-01-20	Wed 22-01-20	130
132	Steelwork	405 days	Thu 01-11-18	Sat 15-02-20	
133	Submission of Steelwork Erector	120 days	Thu 01-11-18	Wed 20-03-19	
134	Approval of submission	7 days	Thu 21-03-19	Thu 28-03-19	133
135	Submission of Shop Drawing	140 days	Fri 29-03-19	Sat 07-09-19	134
136	Approval of submission	14 days	Mon 09-09-19	Tue 24-09-19	135
137	Off-site steel fabrication	24 days	Wed 25-09-19	Tue 22-10-19	136



專案: Accepted Programme Portion 6 f
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Critical Split | 摘要 | 非作用中的摘要 | 手動摘要 | 外部里程碑 | Critical
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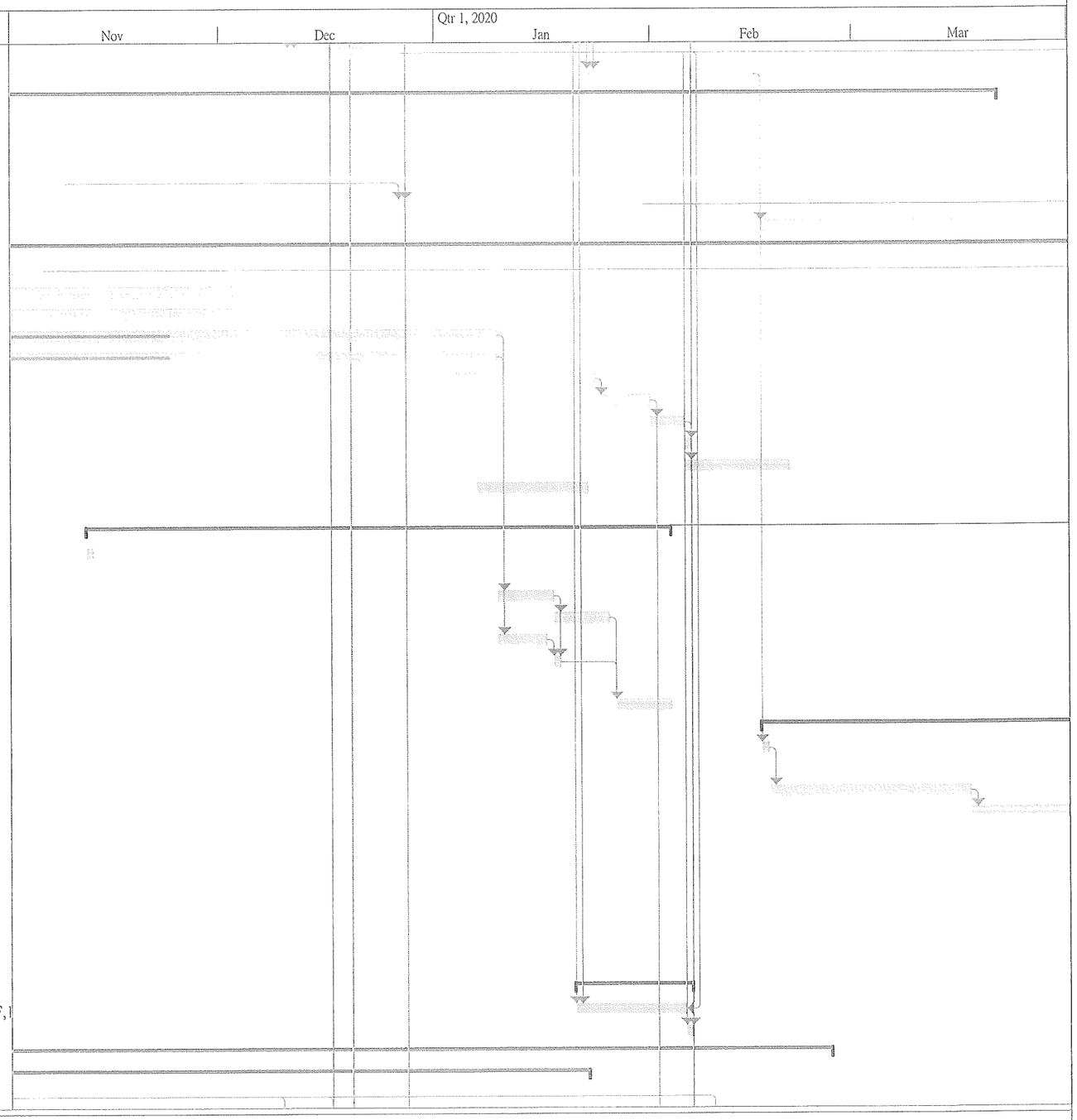
Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - 3 Months programme for section D
Portion 6 (Dec 2019)

ID	任務名稱	Duration	Start	Finish	Predecessors
138	Erection of Cover walkway steelwork for BBI Phase 1	14 days	Wed 11-12-19	Thu 26-12-19	112,137
139	Erection of Cover walkway steelwork for BBI Phase 2	21 days	Thu 23-01-20	Sat 15-02-20	118,127,131
140	**PMMA for BBI**	**450 days**	**Mon 15-10-18**	**Sat 21-03-20**	
141	Submission of Material and Shop Drawing for Cover Panel	160 days	Mon 15-10-18	Thu 18-04-19	
142	Approval of submission	120 days	Fri 19-04-19	Thu 05-09-19	141
143	Procurement	55 days	Fri 06-09-19	Fri 08-11-19	142
144	PMMA Erection for BBI Phase 1	30 days	Fri 27-12-19	Thu 30-01-20	143,138
145	PMMA Erection for BBI Phase 2	30 days	Mon 17-02-20	Sat 21-03-20	139
146	**E&M for covered walkway**	**359 days**	**Wed 10-04-19**	**Mon 01-06-20**	
147	Application of electrical power supply	180 days	Wed 10-04-19	Tue 05-11-19	
148	Design, drawing submission and approval	79 days	Sun 01-09-19	Mon 02-12-19	
149	Material submission and approval	79 days	Sun 01-09-19	Mon 02-12-19	
150	Procurement to delivery of lightings	80 days	Wed 09-10-19	Thu 09-01-20	
151	Procurement to delivery of E&M materials	80 days	Wed 09-10-19	Thu 09-01-20	
152	Constuction of Pillar Box at Lin Tak Road	20 days	Wed 01-01-20	Thu 23-01-20	
153	E&M works inside CLP Pillar Box	7 days	Fri 24-01-20	Fri 31-01-20	152
154	Inspection of Pillar box by CLP	4 days	Sat 01-02-20	Wed 05-02-20	153
155	Handover of Pillar Box to CLP	1 day	Thu 06-02-20	Thu 06-02-20	154
156	Cable laying and Installation of CLP cutout from CLP	13 days	Thu 06-02-20	Thu 20-02-20	154
157	Construction of Temporary Pillar Box for Lighting at Phase 1	14 days	Tue 07-01-20	Wed 22-01-20	
158	**Installation for BBI Phase 1 Partial BBI Opening**	72 days	Tue 12-11-19	Mon 03-02-20	
159	Handover of BBI cover walkway and underground duct to E&M	1 day	Tue 12-11-19	Tue 12-11-19	
160	Conduit and cable containment	7 days	Fri 10-01-20	Fri 17-01-20	151
161	Cable and wiring	7 days	Sat 18-01-20	Sat 25-01-20	160
162	Installation of Light fitting	6 days	Fri 10-01-20	Thu 16-01-20	150
163	Lighting meter power connection to temporary power	1 day	Sat 18-01-20	Sat 18-01-20	160,162
164	T&C	7 days	Mon 27-01-20	Mon 03-02-20	161,163
165	**Installation for BBI Phase 2**	**91 days**	**Mon 17-02-20**	**Mon 01-06-20**	
166	Handover of BBI cover walkway and underground duct to E&M	1 day	Mon 17-02-20	Mon 17-02-20	139
167	Conduit and cable containment	25 days	Tue 18-02-20	Tue 17-03-20	166
168	Cable and wiring	16 days	Wed 18-03-20	Sat 04-04-20	167
169	Installation of Light fitting	18 days	Mon 06-04-20	Sat 25-04-20	168
170	Construction of Permananet Lighting Pillar Box	14 days	Thu 23-04-20	Fri 08-05-20	234
171	Instalation of Lighting Pillar Box components	12 days	Sat 09-05-20	Fri 22-05-20	170
172	Lighting meter power connection to permanent power supply	1 day	Sat 23-05-20	Sat 23-05-20	171
173	T&C	7 days	Mon 25-05-20	Mon 01-06-20	172
174	Removal of Temporary Pillar Box after changeover	7 days	Mon 25-05-20	Mon 01-06-20	172
175	**Related facilities of BBI Phase 1 opening**	**15 days**	**Tue 21-01-20**	**Thu 06-02-20**	
176	Temporary access to BBI Phase 1	14 days	Tue 21-01-20	Wed 05-02-20	68,96,138FF,1
177	Opening for phase 1	1 day	Thu 06-02-20	Thu 06-02-20	176,138
178	**Construction of High Mast footing**	**273 days**	**Mon 15-04-19**	**Wed 26-02-20**	
179	**High Mast D**	**243 days**	**Mon 15-04-19**	**Wed 22-01-20**	
180	Submisions including MS, ELS and BBS	145 days	Mon 15-04-19	Mon 30-09-19	



專案: Accepted Programme Portion 6 f
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Critical Split	摘要	非作用中的摘要	手動摘要	外部里程碑		Critical	
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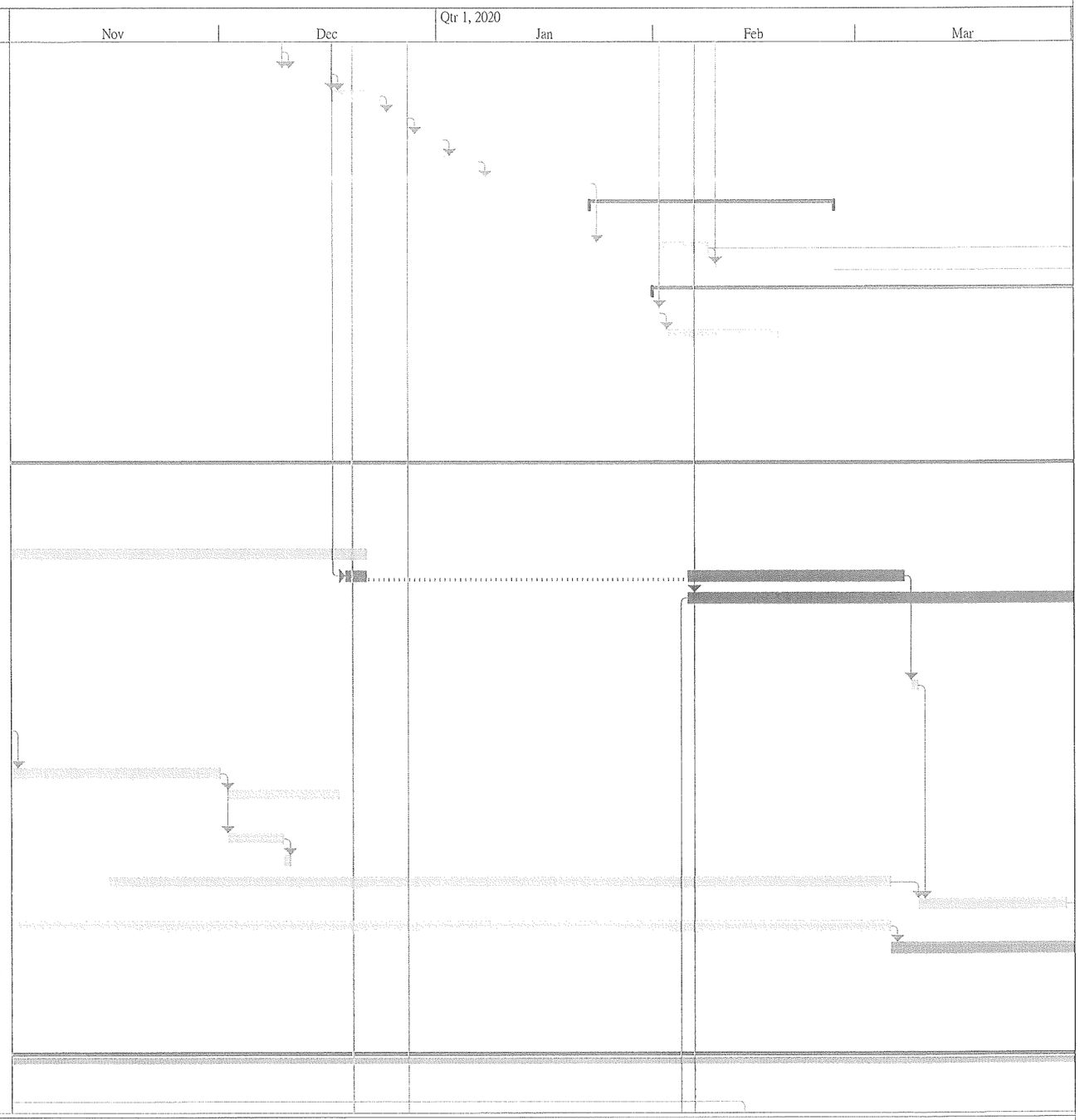
Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - 3 Months programme for section D
Portion 6 (Dec 2019)

ID	任務名稱	Duration	Start	Finish	Predecessors
181	Rock excavation	60 days	Tue 01-10-19	Mon 09-12-19	
182	Formwork for lower layer	6 days	Tue 10-12-19	Mon 16-12-19	181,180
183	Rebar and concrete	6 days	Tue 17-12-19	Mon 23-12-19	180,182
184	Formwork for upper layer	4 days	Tue 24-12-19	Fri 27-12-19	183
185	Rebar and concrete for upper Layer	4 days	Sat 28-12-19	Wed 01-01-20	184
186	Install HD Bolts	4 days	Thu 02-01-20	Mon 06-01-20	185
187	Backfilling	14 days	Tue 07-01-20	Wed 22-01-20	186
188	**Temp Lighting and Relocation of High Mast Footing (PMI 145)**	**30 days**	**Thu 23-01-20**	**Wed 26-02-20**	
189	Relocation of existing High Mast Lighting D	15 days	Thu 23-01-20	Sat 08-02-20	187
190	CCTV Post Relocation	15 days	Mon 10-02-20	Wed 26-02-20	189,180
191	**E12 Lift Tower Lighting**	128 days	Sat 01-02-20	Mon 29-06-20	
192	Handover EMSD Pillar Box and associated ducting to E&M	1 day	Sat 01-02-20	Sat 01-02-20	153
193	Electrical works inside Pillar Box EMSD and Lighting Compartment	14 days	Mon 03-02-20	Tue 18-02-20	192
194	Conduit and cable containment	7 days	Sat 09-05-20	Sat 16-05-20	237
195	Cable and wiring	14 days	Mon 18-05-20	Tue 02-06-20	194
196	Installation of Light fitting	13 days	Wed 03-06-20	Wed 17-06-20	195
197	T&C	10 days	Thu 18-06-20	Mon 29-06-20	196
198	**E12 Lift Tower Construction PMI-184**	**401 days**	**Fri 03-05-19**	**Wed 12-08-20**	
199	PMI 184 revised E12	75 days	Fri 03-05-19	Mon 29-07-19	
200	MS for E12 Lift Tower Erection	90 days	Fri 03-05-19	Thu 15-08-19	
201	Approval of submission	30 days	Fri 16-08-19	Thu 19-09-19	200,199
202	Statuary Submission of Lift Design and Materials	60 days	Mon 14-10-19	Sat 21-12-19	
203	RC Footing and Sump Pit	30 days	Thu 19-12-19	Sat 07-03-20	53
204	Supersturture	90 days	Thu 06-02-20	Wed 20-05-20	53
205	Louvre and Glazing installation	30 days	Thu 21-05-20	Wed 24-06-20	204
206	Handover lift shaft and associated ducting to E&M	1 day	Thu 21-05-20	Thu 21-05-20	204
207	E&M works inside Lift Shaft	25 days	Fri 22-05-20	Fri 19-06-20	206
208	Handover Sump Pit and associated ducting to E&M	1 day	Mon 09-03-20	Mon 09-03-20	203
209	Handover of Lift structure to E&M Lift subcontractor	7 days	Sat 20-06-20	Sat 27-06-20	207
210	Confirmation of telemetry service routing with CHUBB / HKT	27 days	Tue 01-10-19	Thu 31-10-19	
211	Chubb/HKT cable laying for telemetry cable system	26 days	Fri 01-11-19	Sat 30-11-19	210
212	Installation and connection of telemetry components in Pillar Box	14 days	Mon 02-12-19	Tue 17-12-19	211
213	CLP Lift Meter Installation	7 days	Mon 02-12-19	Mon 09-12-19	211
214	CLP Lift Meter Power Connection	1 day	Tue 10-12-19	Tue 10-12-19	213
215	Procurement to delivery of Sump Pump and Panel	96 days	Fri 15-11-19	Thu 05-03-20	
216	Installation of Sump Pump (by Wing Luen)	18 days	Tue 10-03-20	Mon 30-03-20	215,208
217	Delivery of Lift components to site	180 days	Fri 09-08-19	Thu 05-03-20	
218	Lift installation and Lift Shaft Ventilation installation	60 days	Fri 06-03-20	Thu 14-05-20	217
219	Testing & commissioning	17 days	Mon 29-06-20	Fri 17-07-20	218,216,209
220	EMSD Form LE5 submission	1 day	Sat 18-07-20	Sat 18-07-20	219
221	EMSD Inspection	14 days	Mon 20-07-20	Tue 04-08-20	220
222	Use Permit	7 days	Wed 05-08-20	Wed 12-08-20	221
223	**Concrete Staircase and Footbridge**	**380 days**	**Fri 01-03-19**	**Sun 17-05-20**	
224	MS for concrete staircase	30 days	Sun 01-09-19	Sat 05-10-19	
225	Approval of submission	14 days	Mon 07-10-19	Tue 22-10-19	224



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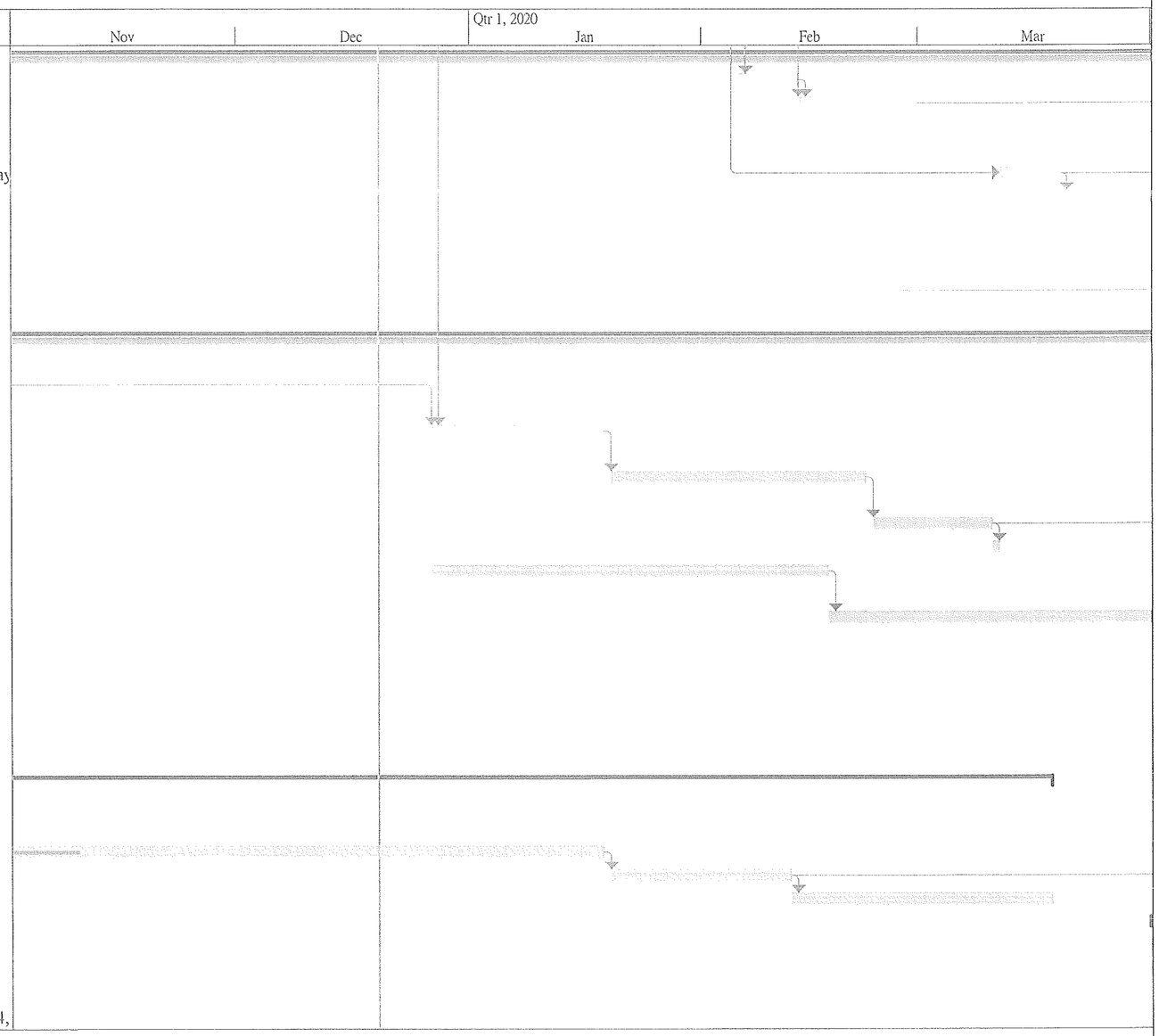
Contract No. NE/2016/05
Development of Anderson Road Quarry Site
Connection of Pedestrian Facilities Works Phase 1 - 3 Months programme for section D
Portion 6 (Dec 2019)

ID	任務名稱	Duration	Start	Finish	Predecessors
226	**Concrete Staircase Construction**	**380 days**	**Fri 01-03-19**	**Sun 17-05-20**	
227	Shoring	7 days	Thu 06-02-20	Thu 13-02-20	53
228	Scaffolding	14 days	Fri 14-02-20	Sat 29-02-20	227,225
229	Submission of Bearing	90 days	Fri 01-03-19	Thu 13-06-19	
230	Approval of Bearing Submission	90 days	Fri 14-06-19	Thu 26-09-19	229
231	Install Bearing	7 days	Thu 12-03-20	Thu 19-03-20	204SS+30 day
232	Formwork	14 days	Fri 20-03-20	Sat 04-04-20	231
233	Rebar fixing	14 days	Mon 06-04-20	Tue 21-04-20	232,228
234	concreting	1 day	Wed 22-04-20	Wed 22-04-20	232,233,231
235	Remove scaffold and formwork	7 days	Thu 23-04-20	Thu 30-04-20	234
236	Off-site steel fabrication	50 days	Wed 01-01-20	Thu 27-02-20	
237	Erection of Covered staircase steelwork	14 days	Thu 23-04-20	Fri 08-05-20	236,234
238	**Carriageway Works**	**1064 days**	**Fri 31-03-17**	**Sun 23-08-20**	
239	Appication of the TTA	14 days	Wed 08-05-19	Thu 23-05-19	
240	Implement the TTA and and apply for the RA for Partial BBI Opening	30 days	Fri 24-05-19	Thu 27-06-19	239
241	Excavation for drainage manholes and pipes for Partial BBI Opening	20 days	Fri 27-12-19	Sat 18-01-20	240,113
242	Installation of 450 stormpipes and backfilling for Partial BBI Opening	30 days	Mon 20-01-20	Sat 22-02-20	241
243	Construction of Concrete Pavement for Partial BBI Opening	14 days	Mon 24-02-20	Tue 10-03-20	242
244	Road Making at Bus Stop for Partial BBI Opening	1 day	Wed 11-03-20	Wed 11-03-20	243
245	Excavation for drainage manholes and pipes for Ph 2 BBI Opening	45 days	Fri 27-12-19	Mon 17-02-20	
246	Installation of 450 stormpipes and backfilling for Ph 2 BBI Opening	45 days	Tue 18-02-20	Thu 09-04-20	245
247	Construction of Concrete Pavement for Ph 2 BBI Opening	45 days	Fri 10-04-20	Mon 01-06-20	246
248	Road Making at Bus Stop for Ph 2 BBI Opening	1 day	Tue 02-06-20	Tue 02-06-20	247
249	Installation of untensioned corrugated beam barrier and directional sign for Ph2 BBI Opening	14 days	Wed 03-06-20	Thu 18-06-20	248
250	<New Task>	1 day?	Fri 31-03-17	Fri 31-03-17	
251	**Paving for covered walkway**	**310 days**	**Sat 23-03-19**	**Wed 18-03-20**	
252	Material submission for the paving block	14 days	Sat 23-03-19	Mon 08-04-19	
253	Approval of submission	1 day	Tue 09-04-19	Tue 09-04-19	252
254	Procurement	120 days	Sun 01-09-19	Sat 18-01-20	253
255	Paving Construction for BBI Partial Opening	21 days	Mon 20-01-20	Wed 12-02-20	254
256	Paving Construction for BBI Ph2 Opening	30 days	Thu 13-02-20	Wed 18-03-20	255
257	**Street furniture erection**	**118 days**	**Wed 01-04-20**	**Sat 15-08-20**	
258	Intallation of water point and associated watermain	30 days	Wed 01-04-20	Tue 05-05-20	
259	Erection of of the irrigantion system	30 days	Wed 01-04-20	Tue 05-05-20	
260	Relocation and connection of fire hydrant	30 days	Wed 06-05-20	Tue 09-06-20	259
261	Overall T&C	3 days	Thu 13-08-20	Sat 15-08-20	147,26,34,44,



專案: Accepted Programme Portion 6 f
日期: Fri 20-12-19

Critical Split	摘要	非作用中的摘要	手動摘要	外部里程碑		Critical	
任務	專案摘要報告	手動任務	僅定義開始日期	期限			
分割	非作用中的任務	僅包含工期	僅包含完成時間	進度			
里程碑	非作用中的里程碑	手動上顯型摘要	外部任務	手動進度			

Contract 3 (NE/2017/03)

Activity ID	Activity Name	Duration	Start	Finish
NE2017/03 - ARQ PHASE 2A - Monthly Programme Update (201912)-2 _200113		1395	14-Dec-18 A	17-Jan-23
Road Improvement Works Location 1 (RIW1)		444	14-Dec-18 A	22-Sep-20
Construction Works		444	14-Dec-18 A	22-Sep-20
Slope Works and Retaining Wall RWC2 Works		306	18-Jul-19 A	31-Jul-20
Workfront 1 (RWC2 CH452 to CH270) (RW Type 4, 5, 6, 7 & 8)		273	18-Jul-19 A	20-Jun-20
Foundation Works (RWC2 CH452 to CH270) (RW Type 4, 5, 6, 7 & 8)		273	18-Jul-19 A	20-Jun-20
CON10290	upgrading works at Feature No. 11NEA/F60 (by pip-by-pit method) - Stage 1	133	18-Jul-19 A	14-Feb-20
CON10210	Pre-drill & construct bored pile (1no, 36d/no, 1 team)	36	21-Nov-19 A	04-Jan-20
CON10230	ELS works to footing (RWC2 type 4, 6, 7, 8)	60	21-Nov-19 A	05-Feb-20
CON10250	Pre-drill & construct bored pile (1no, 36d/no, 1 team)	36	06-Jan-20	19-Feb-20
CON10330	upgrading works at Feature No. 11NEA/F60 (by pip-by-pit method) - Stage 2	103	15-Feb-20	20-Jun-20
CON10270	ELS to bore pile pile cap (RWC2 type 5)	90	20-Feb-20	10-Jun-20
Structure Works (RWC2 CH452 to CH270) (RW Type 4, 5, 6, 7 & 8)		90	06-Feb-20	27-May-20
CON10310	Construct RW footing (RWC2 type 4, 6, 7, 8)	90	06-Feb-20	27-May-20
Workfront 2 (RWC2 CH98 to CH-9) (RW Type 1a, 1 & 2)		226	16-Oct-19 A	31-Jul-20
Foundation Works (RWC2 CH98 to CH-9) (RW Type 1a, 1 & 2)		120	16-Oct-19 A	04-Mar-20
CON10610	ELS to RW pile cap (RWC2 type 1a, 1, 2)	120	16-Oct-19 A	04-Mar-20
Structure Works (RWC2 CH98 to CH-9) (RW Type 1a, 1 & 2)		120	05-Mar-20	31-Jul-20
CON10630	Construct RW footing (RWC2 type 1a, 1, 2)	120	05-Mar-20	31-Jul-20
Noise Barrier Works		444	14-Dec-18 A	22-Sep-20
Works in Slip Road 2		423	14-Dec-18 A	07-Jul-20
DUR10130	duration summary of slip road 2	423	14-Dec-18 A	06-Jun-20
CON11170	Utilities works, drainage works for slip road 2 _stage 3	60	30-Mar-20	13-Jun-20
CON11210	Utilities works, drainage works for slip road 2 _stage 4	18	30-Mar-20	23-Apr-20
CON11190	Road works for slip road 2 _stage 3	60	24-Apr-20	07-Jul-20
CON11230	Road works for slip road 2 _stage 4	18	24-Apr-20	16-May-20
CON11270	Upgrading works on existing slip road 2 _stage 5	18	18-May-20	06-Jun-20
Gasmain Diversiion under Slip Road 2		172	29-Aug-19 A	28-Mar-20
DUR10110	Duration of gasmain diversion after 28/8/2019	172	29-Aug-19 A	28-Mar-20
CON11130	Civil provision works on Towngas new request (12wk)	72	04-Nov-19 A	01-Feb-20
CON11150	Gasmain laying (by Towngas, 8wk requested by Towngas)	48	03-Feb-20	28-Mar-20
NBW (CT5-PC1 ~ CT5-PC3)		156	23-Dec-19	07-Jul-20
CON11330	Construct socket H-pile works (CT5-PC1 ~ CT5-PC3) (12nos, 6d/no, 1 team)	72	23-Dec-19	21-Mar-20
CON11350	Construct NB pile cap (CT5-PC1 ~ CT5-PC3)	60	23-Mar-20	06-Jun-20
CON11370	Construct tie beam (CT5-PC1 ~ CT5-PC3)	60	24-Apr-20	07-Jul-20
NBW (FE1-PC3b ~ FE1-PC8b)		276	09-Sep-19 A	22-Sep-20
CON11430	Site formation works & form haul road (FE1 "b" side)	60	09-Sep-19 A	23-Dec-19
CON11470	Existing towngas main diversion	48	03-Feb-20	28-Mar-20
CON11510	Pre-drill & construct socket H-pile works works (FE1-PC3b ~ FE1-PC7b) (24nc	144	30-Mar-20	22-Sep-20
Works in Subway KS27		382	15-Apr-19 A	29-Aug-20
CON12310	Site clearance, uu diversion & ELS works (KS27 west side)	210	15-Apr-19 A	06-Feb-20
CON12330	Construct subway footing (KS27 west side)	90	07-Feb-20	28-May-20
CON12350	Construct subway wall and soffit (KS27 west side)	120	03-Apr-20	29-Aug-20
Road Improvement Works Location 2 (RIW2)		1085	06-Mar-19 A	17-Jan-23
Construction Works in Slope C3 (Portion B)		260	09-Sep-19 A	25-Aug-20
Slope Works at Portion B		260	09-Sep-19 A	25-Aug-20
Earth Works		260	09-Sep-19 A	25-Aug-20
Haul Road & Soil Nail Works		260	09-Sep-19 A	25-Aug-20
CON20510	Drill & install soil nails (Zone 2 to Zone 3, 119nos 8m dp, 3d/no, 3 team)	120	09-Sep-19 A	06-Feb-20
CON20570	Drill & install soil nails (Zone 5 & Zone 6, 92nos 10m dp, 3d/no, 3 team)	96	19-Oct-19 A	14-Feb-20
CON20590	Drill & install tie back @RW bay 3 to bay 8 (Zone 4 & Zone 5, 84nos 7m depth,	90	11-May-20	25-Aug-20
Cut Slope & Fill Slope Works		192	29-Oct-19 A	28-Jul-20
CON20631	Construct trial pit, trial trench & inspection pit for gasmain & power cable	4	29-Oct-19 A	31-Dec-19
CON20650	Install sheet pile to RW bay 9 to bay 13	18	02-Jan-20	22-Jan-20
CON20670	ELS to RW bay 9 to bay 13 formation	60	23-Jan-20	06-Apr-20
CON20690	Cut slope & formation works @Zone 4	42	07-Apr-20	30-May-20
CON20750	Cut slope & formation works @RW bay 3 to bay	90	07-Apr-20	28-Jul-20
Retaining Wall		90	07-Apr-20	28-Jul-20
CON20790	Construct RW bay 9 to bay 13 base (L=30m)	66	07-Apr-20	29-Jun-20
CON20810	Construct RW bay 9 to bay 13 wall (L=30m)	66	11-May-20	28-Jul-20
Construction Noise Semi-Enclosure SE2 (Portion C)		1085	06-Mar-19 A	17-Jan-23
Preliminary Works		1085	06-Mar-19 A	17-Jan-23
Site Set-up Works		1085	06-Mar-19 A	17-Jan-23

Actual Work
Remaining Work
Milestone

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

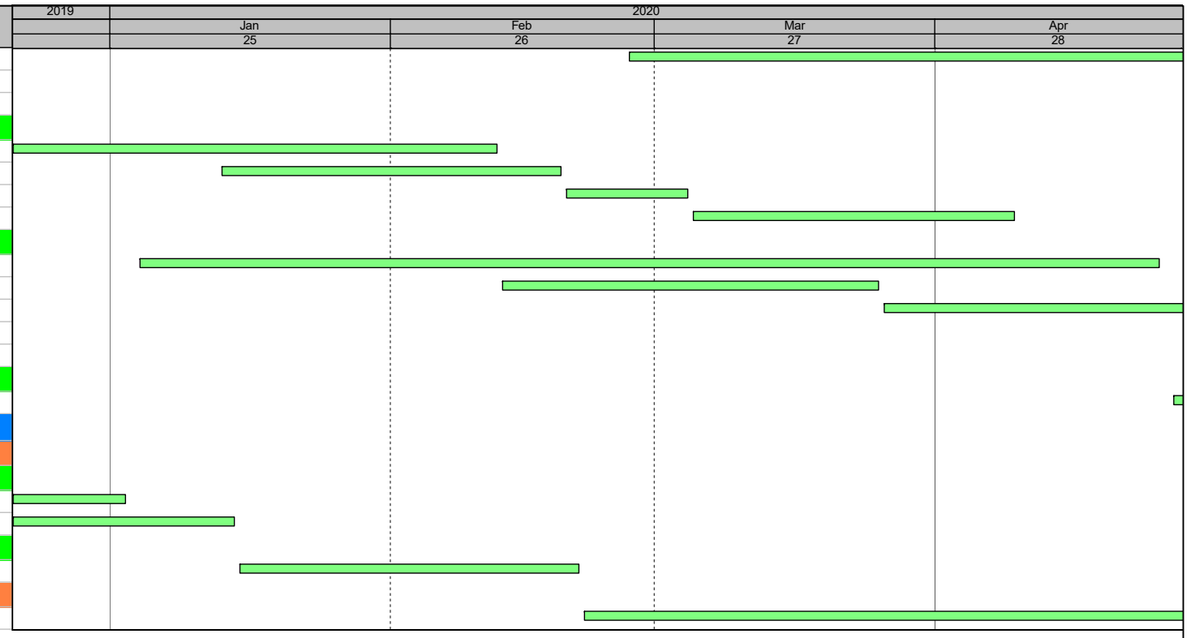
Activity ID	Activity Name	Duration	Start	Finish
DUR20030	Trees preservation duration works period at portion C	1085	06-Mar-19 A	17-Jan-23
Construction Works		271	05-Aug-19 A	16-Jul-20
Noise Semi-Enclosure Sub-structure Works		271	05-Aug-19 A	16-Jul-20
Phase 1 (CT4, SE2 Bay4 to Bay12)		271	05-Aug-19 A	16-Jul-20
CON21630	Site formation works (CT4, SE2 Bay4 to Bay12; L=110m)	37	05-Aug-19 A	24-Dec-19
CON21631	Trial pit excavation for expose existing utilities	37	21-Oct-19 A	24-Jan-20
CON21650	Pre-drill & construct piling fdn (CT4, SE2 Bay4 to Bay12)	90	29-Jan-20	19-May-20
CON21670	Install sheet piles (CT4, SE2 Bay4 to Bay12; 230m 5m/d, 1 team)	48	20-May-20	16-Jul-20
Road Improvement Works Location 3 (RIW3)		365	23-May-19 A	01-Dec-20
Construction Works		365	23-May-19 A	01-Dec-20
Works in Slope D1		238	12-Oct-19 A	31-Jul-20
Preparation Works		39	21-Dec-19	11-Feb-20
CON30070	Form haul road B	39	21-Dec-19	11-Feb-20
Slope Works (Slope D1)		216	12-Oct-19 A	06-Jul-20
CON30110	Slope works at slope D1 (stage 1, 15% completed)	72	12-Oct-19 A	11-Feb-20
CON30130	Slope works at slope D1 (stage 2, 40% completed)	117	12-Feb-20	06-Jul-20
Construction of Retaining Wall RWD1		160	15-Jan-20	31-Jul-20
Foundation Works (RWD1)		160	15-Jan-20	31-Jul-20
CON30230	Construct mini pile at RWD1 (bay 1 to bay 7) (105nos, 1.5d/no, 2 teams)	79	15-Jan-20	23-Apr-20
CON30250	Construct mini pile at RWD1 (bay 8 to bay 14) (121nos, 1.4d/no, 2 teams)	81	24-Apr-20	31-Jul-20
Sub-structure Works (RWD1)		60	24-Apr-20	07-Jul-20
RWD1 (Bay 1 to Bay 7)		60	24-Apr-20	07-Jul-20
CON30290	Construct RWD1 (bay 1 to bay 7) pile cap (2 teams)	60	24-Apr-20	07-Jul-20
RWD1 (Type 4)		60	24-Apr-20	07-Jul-20
CON30430	Construct RWD1-Type 4 pile cap (CH144~CH160, 16m)	60	24-Apr-20	07-Jul-20
Construction of Watermain along Sau Mam Ping Road		95	10-Feb-20	05-Jun-20
CON30650	Watermain works on Sau Man Ping Road toward Lam Tim (Section 1)	95	10-Feb-20	05-Jun-20
Works in Slope D2		194	29-Oct-19 A	28-Jul-20
Construction of Retaining Wall RWD2		194	29-Oct-19 A	28-Jul-20
CON30790	Install sheet pile, support & slope works at slope D2 (L=75m)	90	29-Oct-19 A	07-Mar-20
CON30770	Install monitoring & instrumentation (Slope D2)	60	29-Oct-19 A	17-Jan-20
CON30810	Construct retaining wall RWD2 footing	90	09-Mar-20	29-Jun-20
CON30830	Construct retaining wall RWD2 wall	90	07-Apr-20	28-Jul-20
Works in Slope D3		365	23-May-19 A	01-Dec-20
Slope Works (Slope D3)		365	23-May-19 A	01-Dec-20
CON31050	Cut slope works (CH0 to CH115) (L=115m, 10857m3, 30m3/d)	365	23-May-19 A	01-Dec-20
CON31070	Construct RWD3 (CH0 to CH60)	150	18-Dec-19 A	24-Jun-20
Pedestrian Connectivity Facility (PC-E8)		385	21-Feb-19 A	14-Jul-20
Construction Works		385	21-Feb-19 A	14-Jul-20
Preparation Works		347	21-Feb-19 A	04-Jul-20
Trees Works		347	01-Apr-19 A	04-Jul-20
DUR40010	Trees preservation duration works period at portion G	347	01-Apr-19 A	04-Jul-20
Hoarding Works & Site Set-up		185	21-Feb-19 A	07-Jan-20
CON40290	Relocate existing street lighting (AA6955) at Hiu Yuk Path (by CLPE's contract	185	21-Feb-19 A	07-Jan-20
Earth Works		239	05-Aug-19 A	26-May-20
CON40550	Working platform for F4, F5 & F6 disposal works	59	05-Aug-19 A	17-Jan-20
CON40570	ELS to E8-F7 (approx 1378m3, @25m3/d)	55	27-Nov-19 A	05-Feb-20
CON40490	Soil nailing & slope cut at slope E8-1 and E8-2	60	11-Mar-20	26-May-20
CON40590	ELS to E8-F8 (approx 1377m3, @25m3/d)	55	11-Mar-20	20-May-20
Temporary Support & Stabilisation Works due to Underforeseen Rock-head Profile		77	27-Nov-19 A	10-Mar-20
CON40611	Temporary support & stabilisation works at F4, F5 & F6	58	27-Nov-19 A	08-Feb-20
CON40612	Temporary support & stabilisation works at F7	26	10-Feb-20	10-Mar-20
Footing Construction		79	16-Dec-19 A	28-Mar-20
CON40850	Construct footing E8-F6 (65m3) & backfilling	24	16-Dec-19 A	07-Feb-20
CON40770	Construct footing E8-F3 (65m3) & backfilling	24	18-Jan-20	18-Feb-20
CON40810	Construct footing E8-F4 (65m3) & backfilling	24	10-Feb-20	07-Mar-20
CON40790	Construct footing E8-F5 (65m3) & backfilling	24	10-Feb-20	07-Mar-20
CON40830	Construct footing E8-F7 (38m3) & backfilling	18	09-Mar-20	28-Mar-20
Pier Construction		84	10-Feb-20	23-May-20
CON40990	Construct pier E8-P5 (2 pour)	42	10-Feb-20	28-Mar-20
CON40910	Construct pier E8-P2 (2 pour)	42	19-Feb-20	08-Apr-20
CON40950	Construct pier E8-P3 (2 pour)	42	09-Mar-20	02-May-20
CON40930	Construct pier E8-P4 (2 pour)	42	09-Mar-20	02-May-20

Activity ID	Activity Name	Duration	Start	Finish
CON40970	Construct pier E8-P6 (2 pour)	42	30-Mar-20	23-May-20
Escalator Pit Construction		137	24-Jan-20	14-Jul-20
CON41030	Construct escalator pit F1>P1	60	24-Jan-20	07-Apr-20
CON41050	Construct escalator pit P1>P2	60	09-Apr-20	23-Jun-20
CON41070	Construct escalator pit P2>P3	60	04-May-20	14-Jul-20
CON41090	Construct escalator pit P3>P4	60	04-May-20	14-Jul-20
Steel Roof Erection		48	08-Apr-20	08-Jun-20
CON41170	Erect steel roof F9 & F1>P1	48	08-Apr-20	08-Jun-20
E&M Works		377	25-Mar-19 A	04-Jul-20
CON41930	Application for power supply & energization (PC-E8)	156	25-Mar-19 A	04-Jan-20
CON41770	E&M works (F9 & F1 to P1)	60	22-Apr-20	04-Jul-20
Pedestrian Connectivity Facility (PC-E11)		1054	08-Jan-19 A	13-Jan-22
Construction Works		1054	08-Jan-19 A	13-Jan-22
Preliminary Works		856	08-Jan-19 A	13-Jan-22
DUR40030	Trees preservation duration works period at portion E	856	08-Jan-19 A	13-Jan-22
Foundation Works		81	25-Nov-19 A	02-Mar-20
CON42150	Construct socket H-pile works for E11-PC6 (49nos, 6d/no, 1 rig)	81	25-Nov-19 A	02-Mar-20
Sub-structure Works		258	23-Sep-19 A	16-Sep-20
CON42190	ELS & construct sub-structure for E11-PC3	54	23-Sep-19 A	21-Jan-20
CON42271	Trial pit for expose ground obstruction	42	23-Nov-19 A	14-Jan-20
CON42290	ELS & construct sub-structure for E11-PC1	30	15-Jan-20	21-Feb-20
CON42250	ELS & construct sub-structure for E11-PC6 (2 teams)	30	03-Mar-20	07-Apr-20
CON42270	Construct U/G utilities & backfill	120	25-Apr-20	16-Sep-20
Super-structure Works / Erect Bridge Steel Frame		114	15-Feb-20	06-Jul-20
RC Works		104	15-Feb-20	22-Jun-20
CON42370	Construct pier E11-P1	48	15-Feb-20	15-Apr-20
CON42330	Construct pier E11-P2	48	15-Feb-20	15-Apr-20
CON42310	Construct pier E11-P3	48	15-Feb-20	15-Apr-20
CON42390	Construct lift tower 1 (2 teams)	60	22-Feb-20	08-May-20
CON42350	Construct lift tower 2 (2 teams) & blackfill	60	08-Apr-20	22-Jun-20
CON42410	Construct pier E11-P4	48	16-Apr-20	12-Jun-20
Structure Steel Works		48	09-May-20	06-Jul-20
CON42470	Erect steel frame E11-FB1, construct floor slab & side planter	48	09-May-20	06-Jul-20
CON42450	Erect steel frame E11-FB2, construct floor slab & side planter	30	16-May-20	19-Jun-20
ABWF Works		42	09-May-20	27-Jun-20
CON42650	Install glass & window to lift tower no 1	42	09-May-20	27-Jun-20
E&M Works		144	09-May-20	29-Oct-20
CON42910	Application for power supply & energization (PC-E11)	144	09-May-20	29-Oct-20
Provide Temporary Access form Lin Tak Road to New Bus-Bus Interchange		330	21-Dec-19	14-Nov-20
CON42990	Provide temporary access form lin tak road to new bus-bus interchange	30	21-Dec-19*	31-Jan-20
CON43010	Maintenance temporary access form lin tak road to new bus-bus interchange	288	01-Feb-20	14-Nov-20
Pedestrian Connectivity Facility System A (SYA)		246	20-Nov-19 A	18-Sep-20
Construction Works		246	20-Nov-19 A	18-Sep-20
Sub-structure Works		111	20-Nov-19 A	06-Apr-20
CON50210	Construct footing SYA-F1 (+130.5 ~ +134mPD)	42	20-Nov-19 A	15-Jan-20
CON50230	Construct footing SYA-F1 (+134 ~ +144mPD)	66	16-Jan-20	06-Apr-20
Super-structure Works / Erect Bridge Steel Frame		135	07-Apr-20	18-Sep-20
CON50250	Construct superstructure of lift tower to roof level (3m/pour, +144 to +165.7mPl	135	07-Apr-20	18-Sep-20
Pedestrian Connectivity Facility System B (SYB)		223	02-Oct-19 A	08-Jul-20
Construction Works		223	02-Oct-19 A	08-Jul-20
Preliminary Works		150	02-Oct-19 A	27-May-20
CON50890	Site clearance at portion L (to PC-1)	66	21-Dec-19	13-Mar-20
Gasmain Works		150	02-Oct-19 A	27-May-20
CON50852	Excavate trial pit, trial trench etc, TTA application & co-ordination meeting	54	02-Oct-19 A	06-Mar-20
CON50853	Gasmain diversion (Sys B) - planning (by Towngas)	48	28-Dec-19	26-Feb-20
CON50854	Gasmain diversion (Sys B) - Apply 1st stage TTA	16	07-Mar-20	25-Mar-20
CON50855	Gasmain diversion (Sys B) - Apply 2nd stage TTA & civil works for gasmain divi	12	26-Mar-20	09-Apr-20
CON50856	Gasmain diversion (Sys B) - gasmain diversion works (by Towngas)	36	14-Apr-20	27-May-20
Foundation Works		223	05-Oct-19 A	08-Jul-20
CON50990	Pre-drill & construct socket H-pile works at SYB-A1 under Portion K (18nos, 6c	108	05-Oct-19 A	03-Jan-20
CON51030	Pre-drill & construct socket H-pile works at SYB-PC8 (20nos, 6d/no, 1 team)	120	05-Dec-19 A	06-May-20
CON51050	Moblisation piling rig plant to SYS-PC6	6	20-Feb-20	26-Feb-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
CON51070	Pre-drill & construct piling fdn at SYB-PC6	50	27-Feb-20	29-Apr-20
CON51130	Moblisation piling rig plant to SYS-PC4	6	02-May-20	08-May-20
CON51150	Pre-drill & construct piling fdn at SYB-PC4	50	09-May-20	08-Jul-20
Earth Works		96	12-Dec-19 A	09-Apr-20
CON51350	Excavate & install support at SYB-PC3 (810m3, 25m3/d, 1 team + 12d)	48	12-Dec-19 A	12-Feb-20
CON51310	Excavate & install support at SYB-PC6	30	13-Jan-20	19-Feb-20
CON51370	Install sheet pile at SYB-PC4	12	20-Feb-20	04-Mar-20
CON51390	Excavate & install support at SYB-PC4	30	05-Mar-20	09-Apr-20
Sub-structure Works		141	04-Jan-20	27-Jun-20
CON51650	Construct pile cap SYB-ABT (100m3)	90	04-Jan-20	25-Apr-20
CON51610	Construct pile cap SYB-PC3 (340m3)	36	13-Feb-20	25-Mar-20
CON51630	Construct below ground sub-structure SYB-LT1 & SYB-ST1	48	26-Mar-20	27-May-20
CON51690	Construct pile cap SYB-PC6 (120m3)	48	02-May-20	27-Jun-20
CON51670	Construct pile cap SYB-PC8 (94m3)	24	07-May-20	03-Jun-20
Construction of Lift Tower & Staircase Tower		42	27-Apr-20	16-Jun-20
CON52190	Construct above ground structure SYB-ABT	42	27-Apr-20	16-Jun-20
Bus-Bus Interchange Public Toilet (BBI Toilet)		474	05-Nov-19 A	20-Feb-21
Construction Works		88	05-Nov-19 A	21-Feb-20
ABWF Works		58	05-Nov-19 A	14-Jan-20
CON43130	Associated Landscape Works (BBI Toilet)	48	05-Nov-19 A	02-Jan-20
CON43150	Install cabinet & sanitary fittings (BBI Toilet)	36	30-Nov-19 A	14-Jan-20
Plumbing & Drainage Services Installation		30	15-Jan-20	21-Feb-20
CON43350	T&C and Statutory Inspection _BBI toilet	30	15-Jan-20	21-Feb-20
Works related to section 10A - Establishment Works for Landscape Softworks in Section 10		365	22-Feb-20	20-Feb-21
CON43370	Establishment Works for Landscape Softworks in Section 10 (Portion FI)	365	22-Feb-20	20-Feb-21



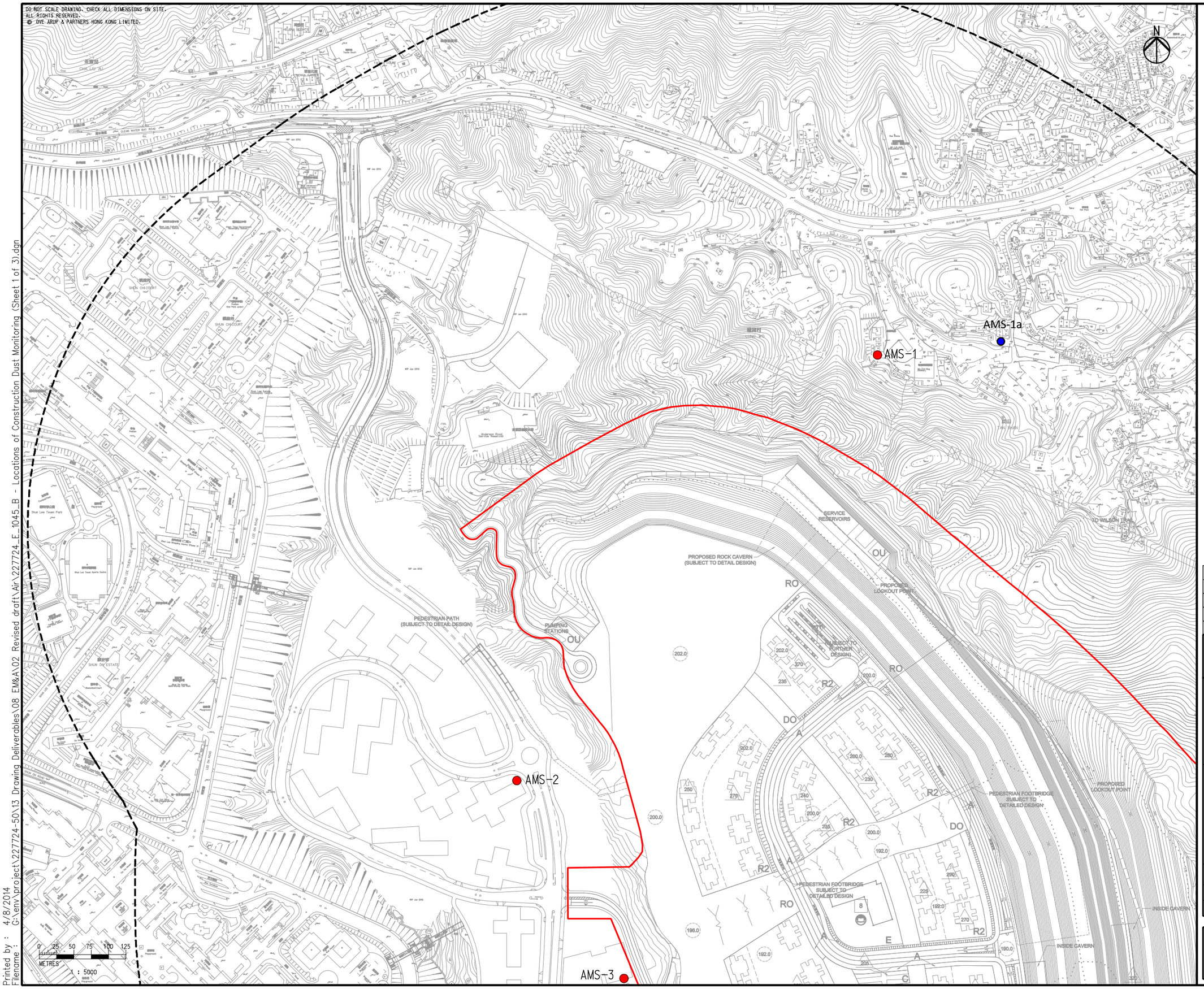
Actual Work
Remaining Work
Milestone

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
- Alternate Dust Monitoring Location

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 1 of 3)

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

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

HVS in AMS-1 for 24-Hour TSP

AMS-1

AMS-2

AMS-3

N

Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 1 of 3)

Drawing no.	Rev.
227724/E/1045	B

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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

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METRES
1 : 5000

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

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

N

0 25 50 75 100 125
METRES
1 : 5000

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

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_1046_B - Locations of Construction Dust Monitoring (Sheet 2 of 3).dgn

Legend

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

AMS-5

AMS-6

AMS-7

HVS in AMS-7 for 24-Hour TSP

0 20 40 60 80 100
METRES
1 : 5000

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 3 of 3)

Drawing no.	Rev.
227724/E/1047	B

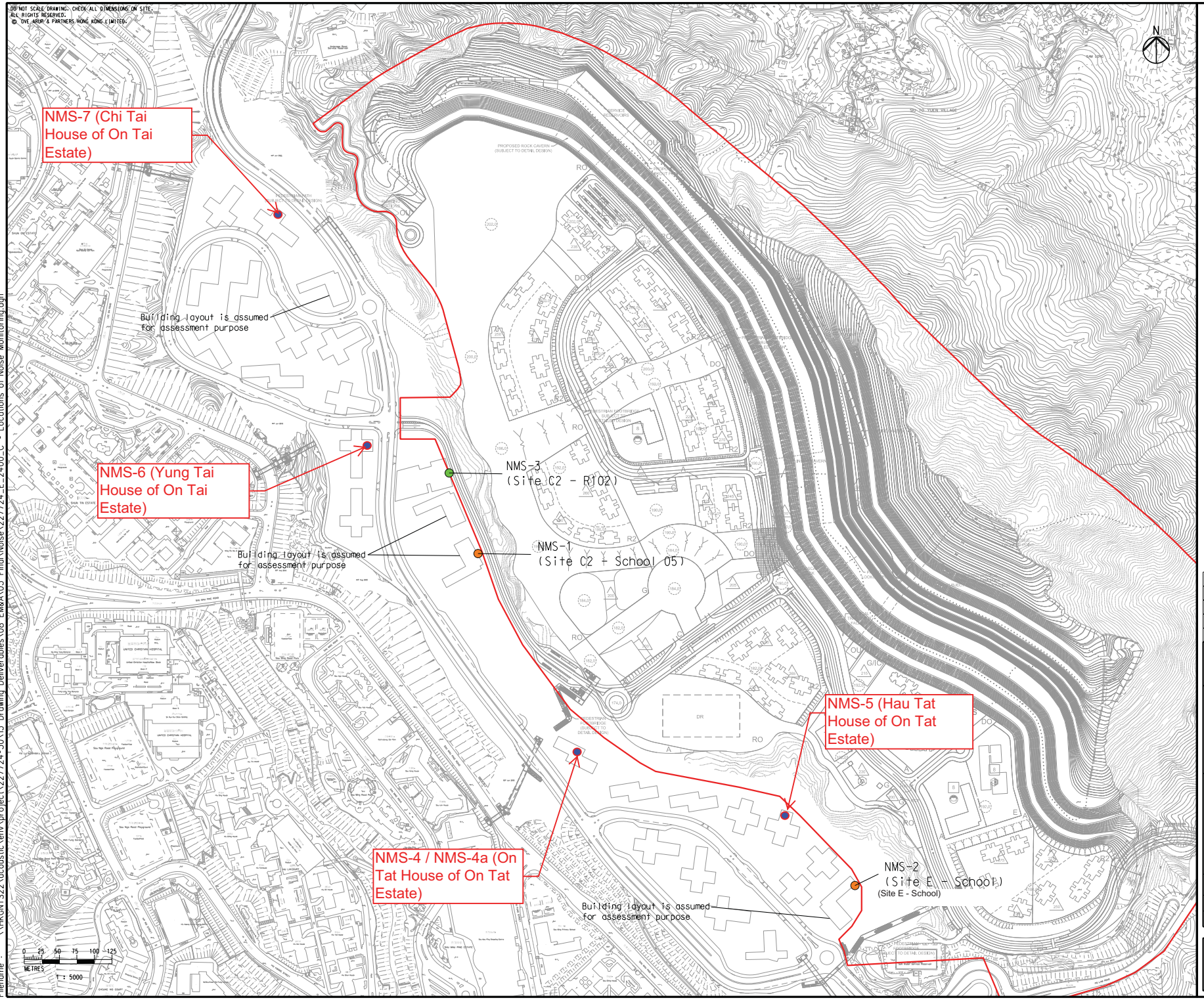
Drawn	Date	Checked	Approved
GL	03/14	TC	ST

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_1047_B - Locations of Construction Dust Monitoring (Sheet 3 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

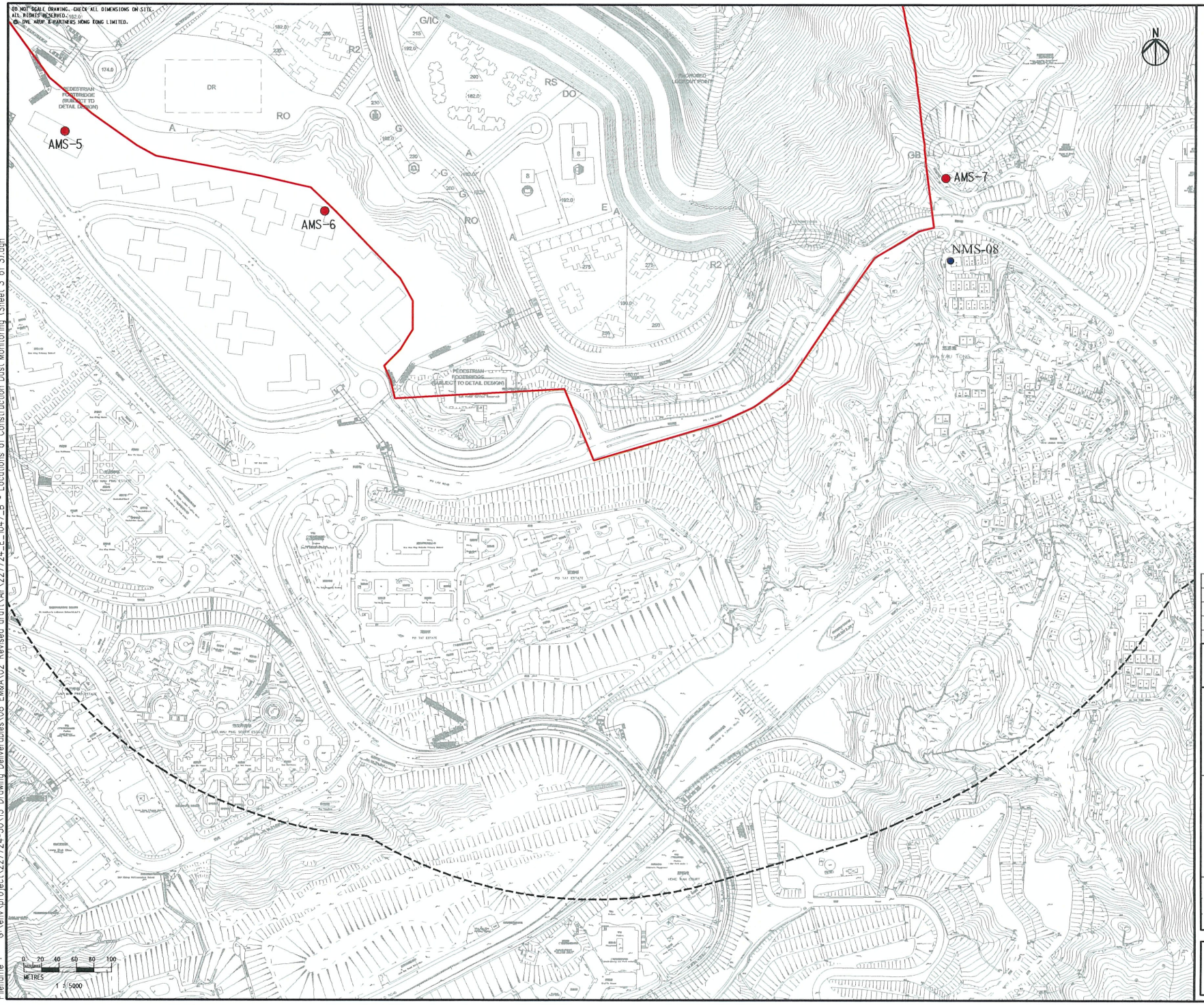
Drawn	Date	Checked	Approved
GL	05/14	TC	ST

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



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

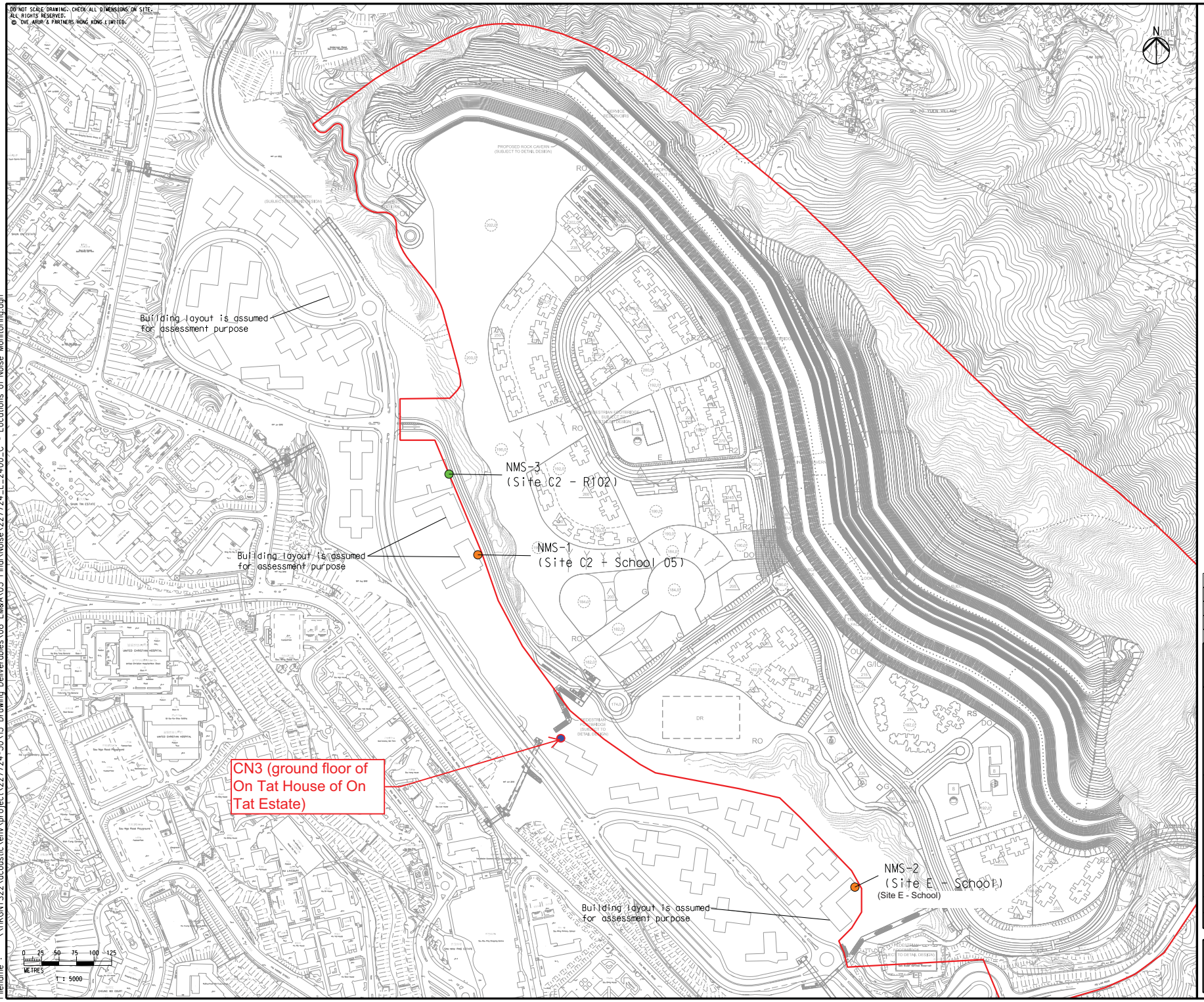
Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust and Noise Monitoring

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

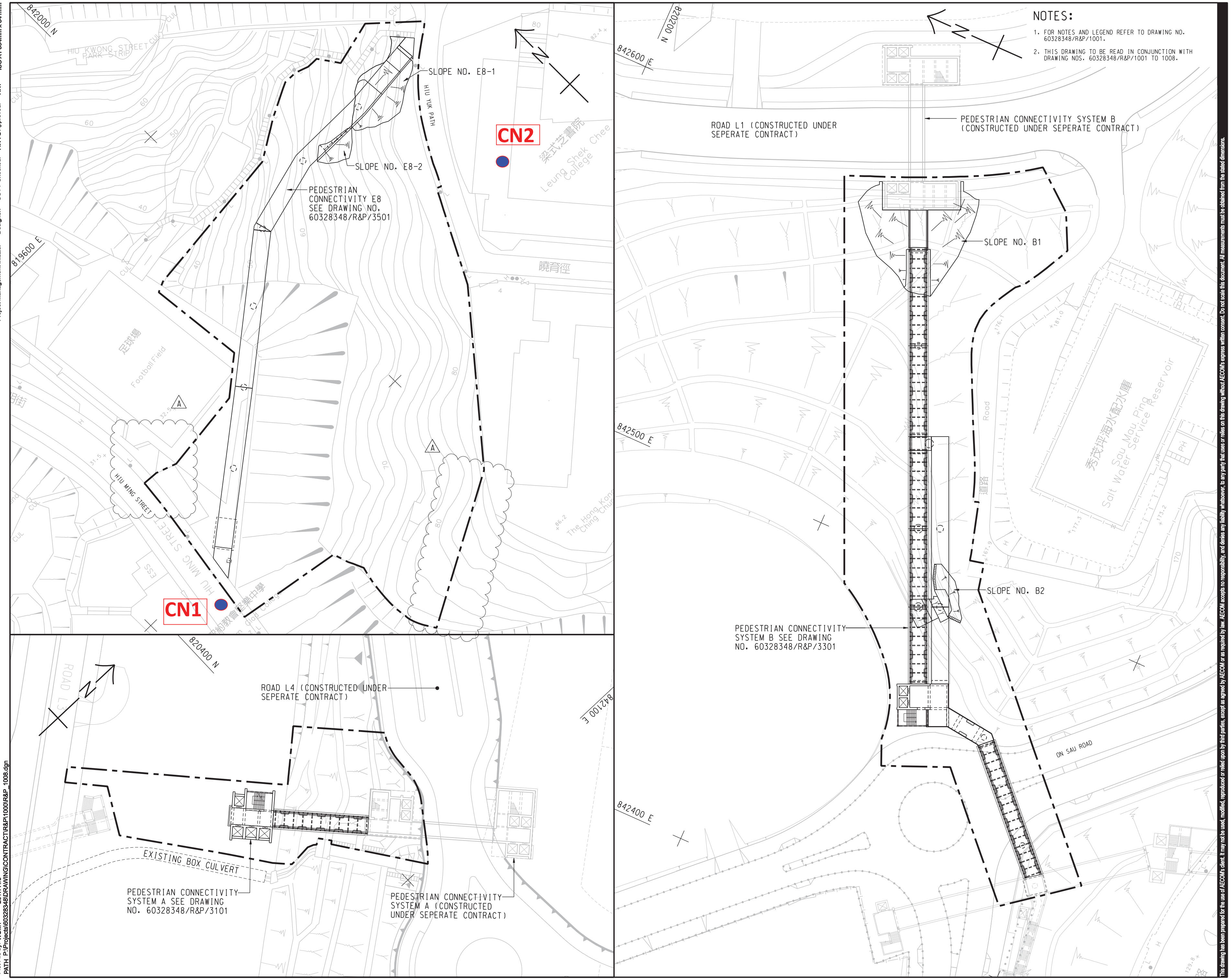
Drawn	Date	Checked	Approved
GL	05/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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

Printed by : 6/3/2014
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



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

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

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

● noise monitoring location

ISSUE/REVISION 修訂

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

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

Plot File by: WUMT 2017/11/9
PATH P:\Projects\60328348\DRAWINGS\CONTRACT\R&P1000\R&P_1008.dgn

Appendix E

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

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Chi Yum Ching She	Date of Calibration: 16-Dec-19
Location ID : AMS1	Next Calibration Date: 16-Feb-20
Model:TISCH High Volume Air Sampler TE-5170	Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1018.1	Corrected Pressure (mm Hg)	763.575
Temperature (°C)	21.3	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	TE-5025A	Qstd Intercept ->	-0.00065
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4.1	4.1	8.2	1.378	64	64.55	Slope = 30.1349
13	3.1	3.1	6.2	1.198	58	58.50	Intercept = 22.9272
10	2.6	2.6	5.2	1.097	56	56.48	Corr. coeff. = 0.9989
7	1.8	1.8	3.6	0.913	50	50.43	
5	1.1	1.1	2.2	0.714	44	44.38	

Calculations :

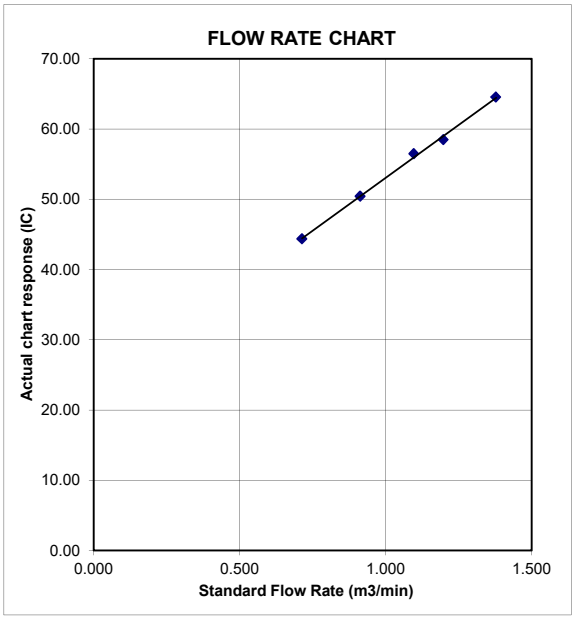
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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:	2-Dec-19
Location ID :	AMS 5	Next Calibration Date:	2-Feb-20
Model:TISCH High Volume Air Sampler TE-5170		Technician: Mr. Fai So	

CONDITIONS

Sea Level Pressure (hPa)	1021.6	Corrected Pressure (mm Hg)	766.2
Temperature (°C)	17.4	Temperature (K)	290

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	TE-5025A	Qstd Intercept ->	-0.00065
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.1	6.1	12.2	1.695	53	53.91	Slope = 35.1442
13	4.7	4.7	9.4	1.488	45	45.77	Intercept = -5.9813
10	3.6	3.6	7.2	1.302	39	39.67	Corr. coeff. = 0.9996
7	2.5	2.5	5	1.085	32	32.55	
5	1.2	1.2	2.4	0.752	20	20.34	

Calculations :

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

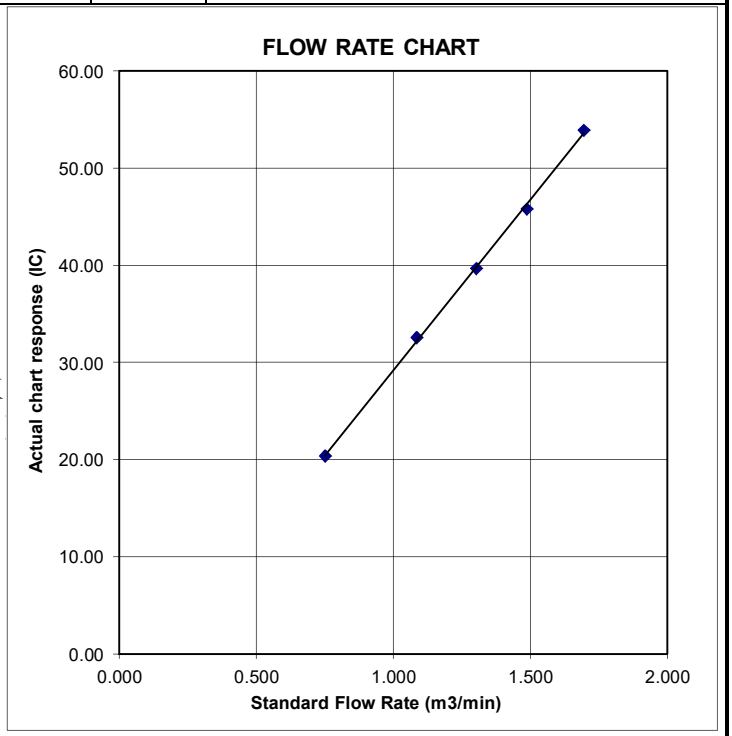
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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:	2-Dec-19
Location ID :	AMS 6	Next Calibration Date:	2-Feb-20
Model:TISCH High Volume Air Sampler TE-5170		Technician: Mr. Fai So	

CONDITIONS

Sea Level Pressure (hPa)	1021.6	Corrected Pressure (mm Hg)	766.2
Temperature (℃)	17.4	Temperature (K)	290

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	TE-5025A	Qstd Intercept ->	-0.00065
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.708	56	56.96	Slope = 36.6789
13	4.4	4.4	8.8	1.439	47	47.80	Intercept = -5.6696
10	3.5	3.5	7	1.284	40	40.68	Corr. coeff. = 0.9993
7	2.2	2.2	4.4	1.018	31	31.53	
5	1.1	1.0	2.1	0.703	20	20.34	

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)

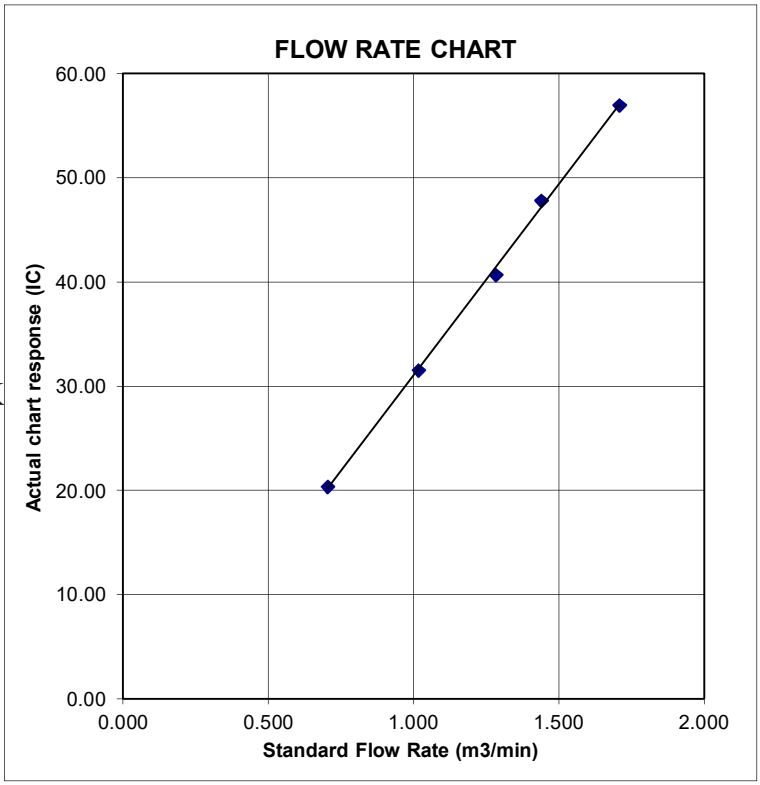
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ma Yau Tong Village	Date of Calibration: 2-Dec-19
Location ID : AMS 7	Next Calibration Date: 2-Feb-20
Model:TISCH High Volume Air Sampler TE-5170	Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1021.6	Corrected Pressure (mm Hg)	766.2
Temperature (°C)	17.4	Temperature (K)	290

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.0968
Model->	TE-5025A	Qstd Intercept ->	-0.00065
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.2	6.2	12.4	1.708	45	45.77	Slope = 28.5610
13	5.2	5.1	10.3	1.557	40	40.68	Intercept = -3.5709
10	3.7	3.7	7.4	1.320	33	33.57	Corr. coeff. = 0.9993
7	2.2	2.2	4.4	1.018	25	25.43	
5	1.1	1.1	2.2	0.720	17	17.29	

Calculations :

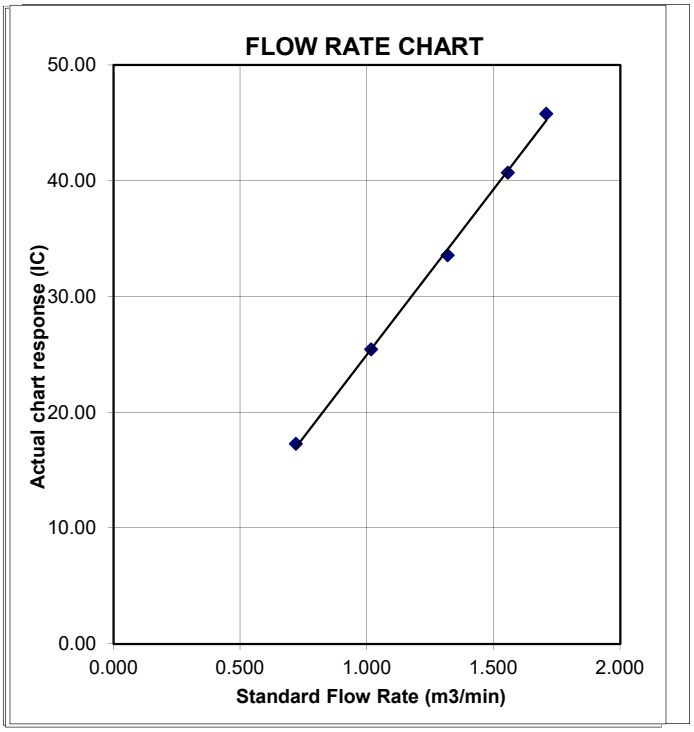
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

For subsequent calculation of sampler flow:

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

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



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	:	MR BEN TAM	WORK ORDER	:	**HK1912129**
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	:	20-MAR-2019
			DATE OF ISSUE	:	22-MAR-2019
PROJECT	:	----	NO. OF SAMPLES	:	1
			CLIENT ORDER	:	

General Comments

- **Sample(s) were received in ambient condition.**
- **Sample(s) analysed and reported on an as received basis.**
- **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	General Manager

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	:	HK1912129
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.
HK1912129-001	S/N: 366407	AIR	20-Mar-2019	366407

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366407
Equipment Ref:	EQ107
Job Order	HK1912129

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	12 February 2019

Equipment Verification Results:

Testing Date: 11 March 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)
2hr00min	09:21 ~ 11:21	18.4	1014.9	0.021	2514	21.0
2hr00min	11:30 ~ 13:30	18.4	1014.9	0.025	2861	23.8
2hr00min	13:40 ~ 15:40	18.4	1014.9	0.032	3211	26.8

Sensitivity Adjustment Scale Setting (Before Calibration) 565 (CPM)

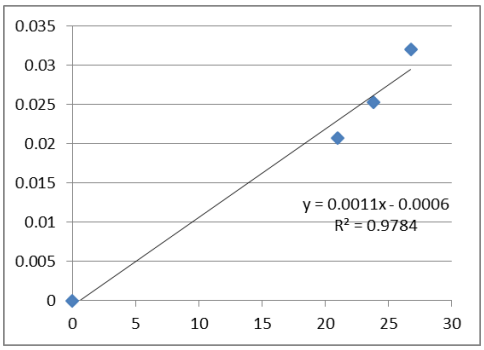
Sensitivity Adjustment Scale Setting (After Calibration) 566 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0011

Correlation Coefficient (R) 0.9891

Date of Issue 18 March 2019



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0011 should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 18 March 2019

QC Reviewer : Ben Tam Signature : Date : 18 March 2019

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	12-Feb-19
Location ID :	Calibration Room	Next Calibration Date:	12-May-19

CONDITIONS

Sea Level Pressure (hPa)	1024.2	Corrected Pressure (mm Hg)	768.15
Temperature (°C)	19.0	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Calibration Date->	13-Feb-18	Expiry Date->	13-Feb-19

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4	7.7	11.7	1.738	60	60.94	Slope = 35.5369
13	2.8	6.9	9.7	1.584	52	52.81	Intercept = -1.8924
10	1.9	5.4	7.3	1.377	46	46.72	Corr. coeff. = 0.9951
8	0.6	4	4.6	1.097	38	38.59	
5	-0.4	3.1	2.7	0.844	27	27.42	

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)

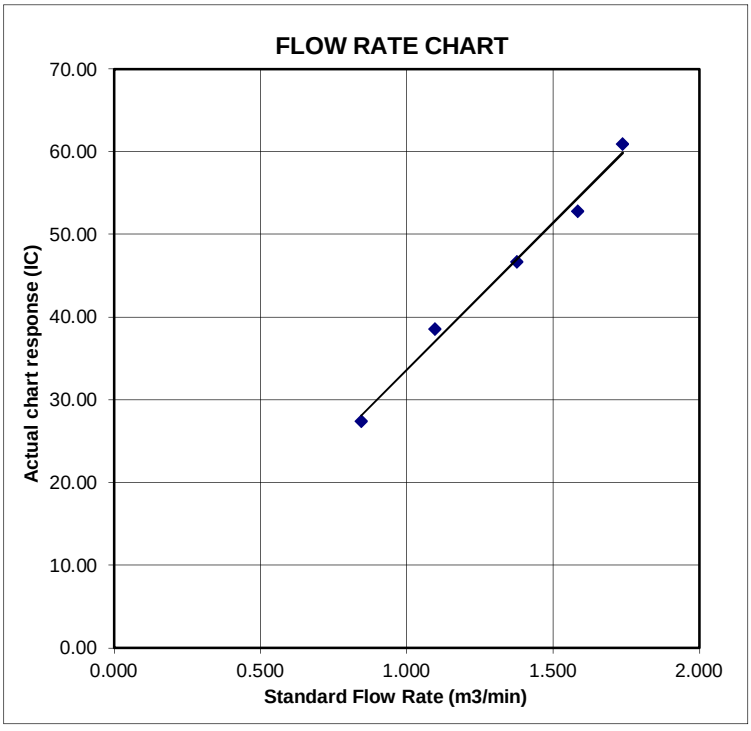
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 13, 2019

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 13, 2018	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 763.3	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	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)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
1.0109	1.1358	2.2599	0.9896	1.1120	1.3854
1.0098	1.1964	2.3702	0.9886	1.1713	1.4530
1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
QSTD	**m=**	**2.02017**	**QA**	**m=**	**1.26500**
	b=	**-0.03691**		**b=**	**-0.02263**
	r=	**0.99988**		**r=**	**0.99988**

Calculations

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

For subsequent flow rate calculations:

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

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

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

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

RECALIBRATION

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

Tisch Environmental, Inc.
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FAX: (513)467-900

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	:	MR BEN TAM	WORK ORDER	:	**HK1912134**
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	:	20-MAR-2019
			DATE OF ISSUE	:	22-MAR-2019
PROJECT	:	----	NO. OF SAMPLES	:	1
			CLIENT ORDER	:	----

General Comments

- **Sample(s) were received in ambient condition.**
- **Sample(s) analysed and reported on an as received basis.**
- **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	General Manager

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	:	HK1912134
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.
HK1912134-001	S/N: 3Y6502	AIR	20-Mar-2019	3Y6502

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6502
Equipment Ref:	EQ113
Job Order	HK1912134

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	12 February 2019

Equipment Verification Results:

Calibration Date: 11 March 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)
2hr00min	09:21 ~ 11:21	18.4	1014.9	0.021	2670	22.3
2hr00min	11:30 ~ 13:30	18.4	1014.9	0.025	2917	24.3
2hr00min	13:40 ~ 15:40	18.4	1014.9	0.032	3301	27.5

Sensitivity Adjustment Scale Setting (Before Calibration) 573 (CPM)

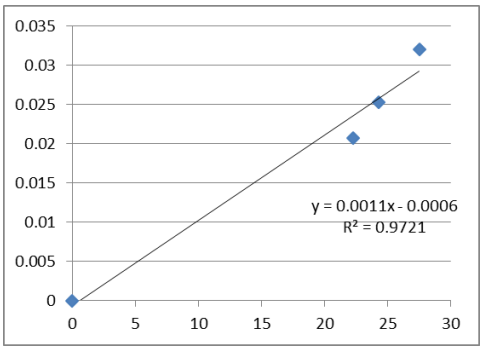
Sensitivity Adjustment Scale Setting (After Calibration) 573 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0011

Correlation Coefficient (R) 0.9860

Date of Issue 15 March 2019



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0011 should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 15 March 2019

QC Reviewer : Ben Tam Signature : Date : 15 March 2019

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	12-Feb-19
Location ID :	Calibration Room	Next Calibration Date:	12-May-19

CONDITIONS

Sea Level Pressure (hPa)	1024.2	Corrected Pressure (mm Hg)	768.15
Temperature (°C)	19.0	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Calibration Date->	13-Feb-18	Expiry Date->	13-Feb-19

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4	7.7	11.7	1.738	60	60.94	Slope = 35.5369
13	2.8	6.9	9.7	1.584	52	52.81	Intercept = -1.8924
10	1.9	5.4	7.3	1.377	46	46.72	Corr. coeff. = 0.9951
8	0.6	4	4.6	1.097	38	38.59	
5	-0.4	3.1	2.7	0.844	27	27.42	

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)

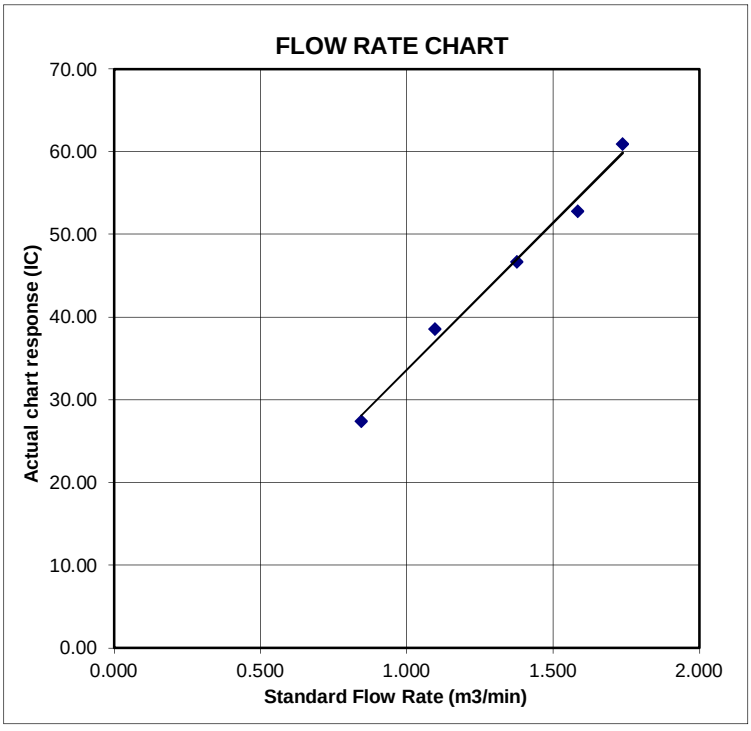
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 13, 2019

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 13, 2018	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 763.3	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	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)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
1.0109	1.1358	2.2599	0.9896	1.1120	1.3854
1.0098	1.1964	2.3702	0.9886	1.1713	1.4530
1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
QSTD	**m=**	**2.02017**	**QA**	**m=**	**1.26500**
	b=	**-0.03691**		**b=**	**-0.02263**
	r=	**0.99988**		**r=**	**0.99988**

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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ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	:	MR BEN TAM	WORK ORDER	:	**HK1912133**
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	:	20-MAR-2019
			DATE OF ISSUE	:	22-MAR-2019
PROJECT	:	----	NO. OF SAMPLES	:	1
			CLIENT ORDER	:	----

General Comments

- **Sample(s) were received in ambient condition.**
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- **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	General Manager

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

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

WORK ORDER : HK1912133
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.
HK1912133-001	S/N: 3Y6501	AIR	20-Mar-2019	3Y6501

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6501
Equipment Ref:	EQ111
Job Order	HK1912133

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	12 February 2019

Equipment Verification Results:

Calibration Date: 11 March 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)
2hr00min	09:21 ~ 11:21	18.4	1014.9	0.021	3650	30.4
2hr00min	11:30 ~ 13:30	18.4	1014.9	0.025	4111	34.3
2hr00min	13:40 ~ 15:40	18.4	1014.9	0.032	4611	38.4

Sensitivity Adjustment Scale Setting (Before Calibration) 657 (CPM)

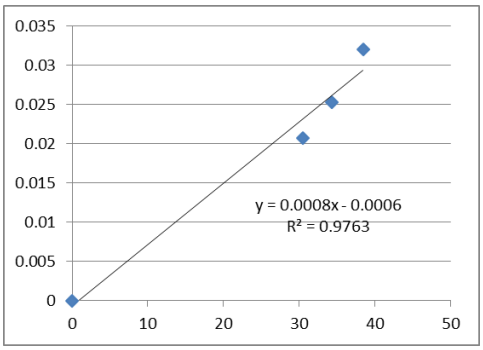
Sensitivity Adjustment Scale Setting (After Calibration) 656 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0008

Correlation Coefficient (R) 0.9881

Date of Issue 18 March 2019



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0008 should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 18 March 2019

QC Reviewer : Ben Tam Signature : Date : 18 March 2019

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	12-Feb-19
Location ID :	Calibration Room	Next Calibration Date:	12-May-19

CONDITIONS

Sea Level Pressure (hPa)	1024.2	Corrected Pressure (mm Hg)	768.15
Temperature (°C)	19.0	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Calibration Date->	13-Feb-18	Expiry Date->	13-Feb-19

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4	7.7	11.7	1.738	60	60.94	Slope = 35.5369
13	2.8	6.9	9.7	1.584	52	52.81	Intercept = -1.8924
10	1.9	5.4	7.3	1.377	46	46.72	Corr. coeff. = 0.9951
8	0.6	4	4.6	1.097	38	38.59	
5	-0.4	3.1	2.7	0.844	27	27.42	

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)

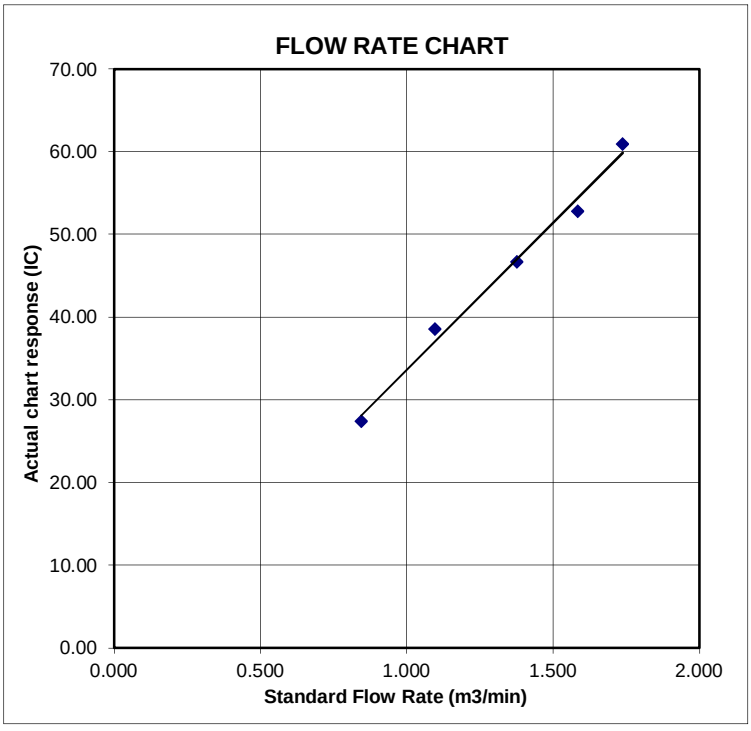
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 13, 2019

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 13, 2018	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 763.3	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	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)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
1.0109	1.1358	2.2599	0.9896	1.1120	1.3854
1.0098	1.1964	2.3702	0.9886	1.1713	1.4530
1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
QSTD	**m=**	**2.02017**	**QA**	**m=**	**1.26500**
	b=	**-0.03691**		**b=**	**-0.02263**
	r=	**0.99988**		**r=**	**0.99988**

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

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ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	:	MR BEN TAM	WORK ORDER	:	**HK1912131**
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	:	20-MAR-2019
			DATE OF ISSUE	:	22-MAR-2019
PROJECT	:	----	NO. OF SAMPLES	:	1
			CLIENT ORDER	:	----

General Comments

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- **Sample(s) analysed and reported on an as received basis.**
- **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	General Manager

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

WORK ORDER	: HK1912131
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.
HK1912131-001	S/N: 366418	AIR	20-Mar-2019	366418

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366418
Equipment Ref:	EQ108
Job Order	HK1912131

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	12 February 2019

Equipment Verification Results:

Calibration Date: 11 March 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)
2hr00min	09:21 ~ 11:21	18.4	1014.9	0.021	2811	23.4
2hr00min	11:30 ~ 13:30	18.4	1014.9	0.025	3012	25.1
2hr00min	13:40 ~ 15:40	18.4	1014.9	0.032	3345	27.9

Sensitivity Adjustment Scale Setting (Before Calibration) 685 (CPM)

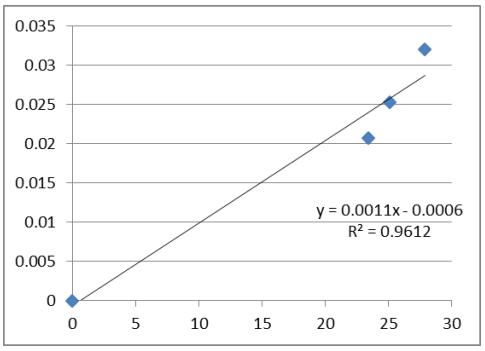
Sensitivity Adjustment Scale Setting (After Calibration) 685 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0011

Correlation Coefficient (R) 0.9804

Date of Issue 18 March 2019



Remarks:

1. **Strong** Correlation (R>0.8)
2. Factor 0.0011 should be apply for TSP monitoring

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

Operator : Fai So Signature : Date : 18 March 2019

QC Reviewer : Ben Tam Signature : Date : 18 March 2019

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	12-Feb-19
Location ID :	Calibration Room	Next Calibration Date:	12-May-19

CONDITIONS

Sea Level Pressure (hPa)	1024.2	Corrected Pressure (mm Hg)	768.15
Temperature (°C)	19.0	Temperature (K)	292

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	5025A	Qstd Intercept ->	-0.03691
Calibration Date->	13-Feb-18	Expiry Date->	13-Feb-19

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	4	7.7	11.7	1.738	60	60.94	Slope = 35.5369
13	2.8	6.9	9.7	1.584	52	52.81	Intercept = -1.8924
10	1.9	5.4	7.3	1.377	46	46.72	Corr. coeff. = 0.9951
8	0.6	4	4.6	1.097	38	38.59	
5	-0.4	3.1	2.7	0.844	27	27.42	

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)

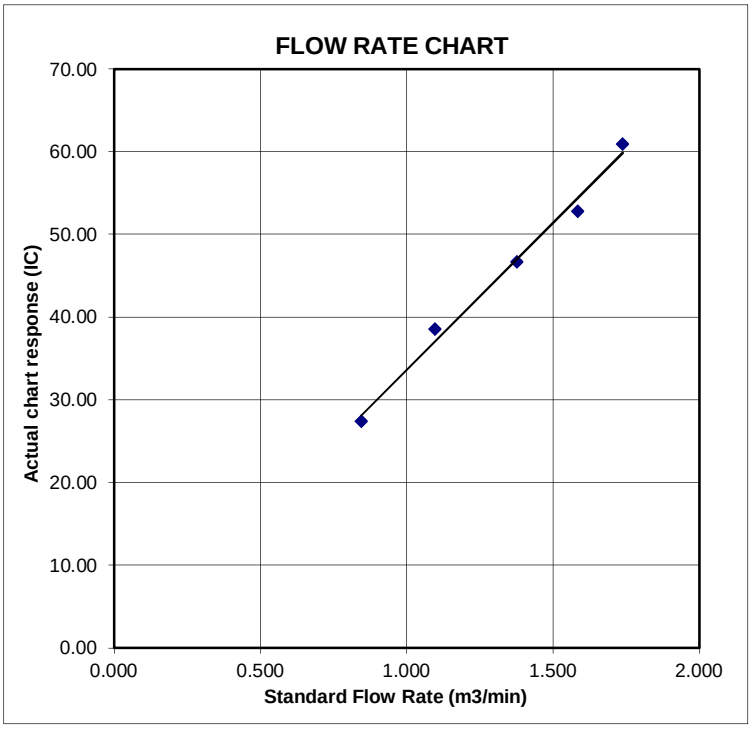
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 13, 2019

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 13, 2018	**Rootsmeter S/N:** 438320	**Ta:** 293	°K
Operator:	Jim Tisch		**Pa:** 763.3	mm Hg
Calibration Model #:	TE-5025A	**Calibrator S/N:** **1612**		

Run	Vol. Init (m3)	Vol. Final (m3)	ΔVol. (m3)	ΔTime (min)	ΔP (mm Hg)	ΔH (in H2O)
1	1	2	1	1.3970	3.2	2.00
2	3	4	1	1.0000	6.3	4.00
3	5	6	1	0.8900	7.9	5.00
4	7	8	1	0.8440	8.7	5.50
5	9	10	1	0.7010	12.6	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)
1.0172	0.7281	1.4293	0.9958	0.7128	0.8762
1.0130	1.0130	2.0213	0.9917	0.9917	1.2392
1.0109	1.1358	2.2599	0.9896	1.1120	1.3854
1.0098	1.1964	2.3702	0.9886	1.1713	1.4530
1.0046	1.4331	2.8586	0.9835	1.4030	1.7524
QSTD	**m=**	**2.02017**	**QA**	**m=**	**1.26500**
	b=	**-0.03691**		**b=**	**-0.02263**
	r=	**0.99988**		**r=**	**0.99988**

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

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FAX: (513)467-900

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
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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. : C193753
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	94.4

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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Certificate of Calibration
校正證書

Certificate No. : C193753
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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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Certificate No. : C193753
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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. : C193752
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 : 9 July 2019

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

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 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
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Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C193752
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	94.1	± 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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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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
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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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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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

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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.

Certificate of Calibration
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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	94.0	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)

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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	91.1	-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.

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

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

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-Jan-20			
Thu	2-Jan-20			
Fri	3-Jan-20			✓
Sat	4-Jan-20		✓	
Sun	5-Jan-20			
Mon	6-Jan-20			
Tue	7-Jan-20	CN1, CN2, CN3		
Wed	8-Jan-20			
Thu	9-Jan-20			✓
Fri	10-Jan-20	NMS2, NMS3, NMS-4a, NMS5, NMS6, NMS7 and NMS8	✓	
Sat	11-Jan-20			
Sun	12-Jan-20			
Mon	13-Jan-20	CN1, CN2, CN3		
Tue	14-Jan-20			
Wed	15-Jan-20			✓
Thu	16-Jan-20	NMS2, NMS3, NMS-4a, NMS5, NMS6, NMS7 and NMS8	✓	
Fri	17-Jan-20			
Sat	18-Jan-20			
Sun	19-Jan-20			
Mon	20-Jan-20			
Tue	21-Jan-20	NMS2, NMS3, NMS-4a, NMS5, NMS6, NMS7 and NMS8	✓	✓
Wed	22-Jan-20	CN1, CN2, CN3		
Thu	23-Jan-20			
Fri	24-Jan-20		✓	✓
Sat	25-Jan-20			
Sun	26-Jan-20			
Mon	27-Jan-20			
Tue	28-Jan-20			
Wed	29-Jan-20			
Thu	30-Jan-20	NMS2, NMS3, NMS-4a, NMS5, NMS6, NMS7 and NMS8	✓	✓
Fri	31-Jan-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-Feb-20			
Sun	2-Feb-20			
Mon	3-Feb-20			
Tue	4-Feb-20			✓
Wed	5-Feb-20	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Thu	6-Feb-20	CN1, CN2, CN3 and NMS8		
Fri	7-Feb-20			
Sat	8-Feb-20			
Sun	9-Feb-20			
Mon	10-Feb-20			✓
Tue	11-Feb-20	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Wed	12-Feb-20	CN1, CN2, CN3 and NMS8		
Thu	13-Feb-20			
Fri	14-Feb-20			
Sat	15-Feb-20			✓
Sun	16-Feb-20			
Mon	17-Feb-20	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Tue	18-Feb-20	CN1, CN2, CN3 and NMS8		
Wed	19-Feb-20			
Thu	20-Feb-20			
Fri	21-Feb-20			✓
Sat	22-Feb-20		✓	
Sun	23-Feb-20			
Mon	24-Feb-20	CN1, CN2, CN3 and NMS8		
Tue	25-Feb-20			
Wed	26-Feb-20			
Thu	27-Feb-20			✓
Fri	28-Feb-20	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Sat	29-Feb-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)	(μg/m^3)
3-Jan-20	25168	21907.57	21931.57	1440.00	40	42	41	18.9	1023	0.62	893	2.7795	2.823	0.0435	49
9-Jan-20	25224	21931.57	21955.57	1440.00	38	39	38.5	16.8	1020.4	0.54	776	2.7933	2.8525	0.0592	76
15-Jan-20	25265	21955.57	21979.57	1440.00	40	42	41	19.5	1018.3	0.62	887	2.7468	2.7947	0.0479	54
21-Jan-20	25232	21979.57	22003.57	1440.00	38	40	39	18.8	1022.4	0.55	796	2.7754	2.8348	0.0594	75
24-Jan-20	25238	22003.57	22027.57	1440.00	40	42	41	21.5	1018.1	0.61	880	2.7819	2.7967	0.0148	17
30-Jan-20	25240	22027.57	22051.57	1440.00	42	44	43	14.7	1021.5	0.70	1004	2.7752	2.7974	0.0222	22

24-hour TSP Monitoring Data for AMS-5

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
3-Jan-20	25164	8519.63	8543.63	1440.00	38	40	39.0	18.9	1023	1.30	1867	2.7686	2.8290	0.0604	32
9-Jan-20	25225	8543.63	8567.88	1455.00	36	37	36.5	16.8	1020.4	1.23	1785	2.8204	2.9303	0.1099	62
15-Jan-20	25263	8567.88	8591.88	1440.00	42	44	43.0	19.5	1018.3	1.41	2028	2.7654	2.8705	0.1051	52
21-Jan-20	25229	8591.88	8615.88	1440.00	40	42	41.0	18.8	1022.4	1.35	1950	2.7856	2.8880	0.1024	53
24-Jan-20	25237	8615.88	8639.88	1440.00	42	44	43.0	21.5	1018.1	1.40	2022	2.7739	2.8346	0.0607	30
30-Jan-20	25349	8639.88	8663.89	1440.60	40	42	41.0	14.7	1021.5	1.36	1963	2.7693	2.8472	0.0779	40

24-hour TSP Monitoring Data for AMS-6

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
3-Jan-20	25163	13723.61	13747.61	1440.00	40	42	41.0	18.9	1023	1.29	1857	2.7742	2.8210	0.0468	25
9-Jan-20	25226	13747.61	13771.81	1452.00	41	42	41.5	16.8	1020.4	1.31	1896	2.7834	2.8636	0.0802	42
15-Jan-20	25243	13771.81	13795.81	1440.00	38	40	39.0	19.5	1018.3	1.23	1772	2.7587	2.8300	0.0713	40
21-Jan-20	25230	13795.81	13819.81	1440.00	40	42	41.0	18.8	1022.4	1.29	1857	2.7615	2.8272	0.0657	35
24-Jan-20	25239	13819.81	13843.82	1440.60	38	40	39.0	21.5	1018.1	1.23	1767	2.7463	2.8086	0.0623	35
30-Jan-20	25351	13843.82	13867.82	1440.00	40	42	41.0	14.7	1021.5	1.30	1867	2.7640	2.8370	0.0730	39

24-hour TSP Monitoring Data for AMS-7

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
3-Jan-20	25222	9084.13	9108.13	1440.00	42	44	43.0	18.9	1023	1.65	2381	2.7798	2.8509	0.0711	30
9-Jan-20	25223	9108.13	9132.53	1464.00	40	41	40.5	16.8	1020.4	1.57	2296	2.7762	2.8703	0.0941	41
15-Jan-20	25264	9132.53	9156.69	1449.60	42	44	43.0	19.5	1018.3	1.65	2389	2.7596	2.8599	0.1003	42
21-Jan-20	25231	9156.69	9180.69	1440.00	40	42	41.0	18.8	1022.4	1.58	2278	2.7715	2.9047	0.1332	58
24-Jan-20	25238	9180.69	9204.69	1440.00	42	44	43.0	21.5	1018.1	1.64	2366	2.7911	2.8386	0.0475	20

30-Jan-20	25350	9204.69	9228.70	1440.60	40	42	41.0	14.7	1021.5	1.59	2293	2.7850	2.8522	0.0672	29

NOISE MONITORING RESULT DATABASE

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)		
10-Jan-20	10:31	60.4	62.3	57.5	60.4	62.2	58	60.1	61.9	56.7	61.1	62.8	58.7	61.7	63.1	58.9	60.5	62.7	57.7	61	70.0
16-Jan-20	11:00	63.4	64.4	62.3	64.2	65.7	62.1	65.1	67.4	63	64.1	65.7	61.9	63	64.7	60.4	64.6	66.3	61.5	64	70.0
21-Jan-20	11:03	61.4	63.5	58	60.7	62	58	59.8	60.9	58.7	59.9	61	59	61.7	62.7	60.4	60.3	60.9	58.8	61	70.0
30-Jan-20	11:08	57.2	59	53.6	54.5	55.8	53.5	56	59.2	53.7	55.2	56.5	51.5	56.5	58.9	52.7	56	56.5	52.5	56	70.0

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)		
10-Jan-20	15:35	70.8	72.5	67.7	70.3	72.0	67.3	71.4	72.9	69.0	71.2	72.8	68.5	71.6	72.9	68.4	71.5	73.0	69.1	71	75.0
16-Jan-20	14:11	65.8	67.0	61.4	64.5	67.0	60.2	66.3	67.1	60.3	66.9	66.5	60.4	65.4	67.5	63.2	67.6	70.6	63.2	66	75.0
21-Jan-20	14:06	64.9	67.1	62.3	65.6	68.2	61.3	64.2	67.2	61.5	66.2	67.6	61.6	65.8	67.0	61.4	65.2	68.0	61.0	65	75.0
30-Jan-20	14:03	63.2	64.8	60.9	65.7	68.5	61.0	64.4	65.5	63.0	63.5	64.6	62.4	64.1	66.3	61.4	65.1	68.1	61.2	64	75.0

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)		
10-Jan-20	16:19	68	70.2	64.5	67.3	69.4	64	67.8	69.8	65.1	68.1	70.6	64.5	68.7	70.1	65.7	67	69.8	64.7	68	75.0
16-Jan-20	9:29	68.2	68	62.5	69.3	69.5	62.5	69	70	63.5	68.7	69.5	66.5	71.1	74.5	65.5	68.2	70.5	64.5	69	75.0
21-Jan-20	9:23	71.8	74	67	68.3	70.5	63.5	70.7	75	64.5	70.3	68.5	62.5	68.8	72.5	61	69.8	72	67	70	75.0
30-Jan-20	9:26	58.4	60.5	51.5	57.5	59.5	51	56.9	60.5	52.7	56	56.5	50.5	55.5	57.5	50.5	56.3	59.5	50	57	75.0

Noise Measurement Results (dB) of NMS5

Date	Start	1st Leq (5min)	2nd Leq (5min)	3rd Leq (5min)	4th Leq (5min)	5th Leq (5min)	6th Leq (5min)	Leq30min,	Limit

	Time	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)	dB(A)	Level dB(A)
10-Jan-20	11:14	62	64	59.6	64.4	66.6	61.7	64.8	66.5	62.5	64.3	66.5	62	63.2	65	61.7	64.2	66.4	62.4	64	75
16-Jan-20	10:15	67.5	70.1	61.7	67.8	70.4	63.2	68.7	70.6	63.1	68.2	70.5	64.5	69.6	70.5	63.5	68.8	71.5	61.5	68	75
21-Jan-20	10:17	67.9	69.3	66.3	67.4	69.7	60.8	65.3	66.4	64.3	68.7	69.5	66.5	66.6	69	63	67	69.5	63.5	67	75
30-Jan-20	10:19	58.7	61	56	57.8	59	56.6	57.1	59	54	55.6	57.5	54.5	54.2	57	53.4	56.2	57.4	54.4	57	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)		
10-Jan-20	14:56	70.3	74.2	63	70.7	74.5	63.3	70.9	74.9	63.2	70.6	74.1	63.7	71.5	75.5	64.7	70.6	74.3	63.4	71	75
16-Jan-20	14:51	59.3	61.5	55	60.2	62	57.5	58.1	59.7	55.9	59.7	63	56.9	57.9	60.5	54	56.2	59	52.1	59	75
21-Jan-20	14:41	58.4	61.8	53	58.7	62.3	54.8	57.4	59.3	54.3	56.2	59.8	51	56.8	58	55.5	57.7	59.2	55.9	58	75
30-Jan-20	14:43	53.5	55.5	50.8	56.1	55	51.4	53.2	54.6	51.2	55.3	58.7	51.2	54.1	55.7	50.9	55.2	56.5	53	55	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)		
10-Jan-20	14:14	64.7	67.6	57.5	65.5	67	59.9	65.6	66	58.5	62.5	64.2	57.8	63.1	66	58.4	65.1	66	57.2	65	75
16-Jan-20	15:37	65.2	68	56.5	63.5	66.4	59.1	64.9	66.1	63.3	64.5	66.1	61.2	63.8	65.4	61.4	65.4	61.4	61.8	65	75
21-Jan-20	15:27	63.6	66.2	59.4	64.5	66.6	61	61.1	61.9	60.2	63.8	64.5	61.2	63	64	61.5	63.1	64.2	62.1	63	75
30-Jan-20	15:30	58.2	62.1	52.2	56.6	59	50.8	58.6	60	56.5	58.7	60.5	56	57.4	58.6	55.6	57.1	60.5	54.5	58	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)		
10-Jan-20	9:39	61.8	65.8	58.1	61.2	64.5	58.5	62.7	65.2	56.8	63.6	66.7	57.7	62.3	65.4	58.5	65.3	67.1	59.3	63	75
16-Jan-20	16:45	64.8	66	53.5	65	66.5	62.5	63.3	66.5	55.5	62.6	64.5	59	63.7	66.5	57	65.9	68.5	58.5	64	75
21-Jan-20	16:33	65.9	68.5	58.5	67.1	69	64.3	67.7	70.7	62.7	67.4	69.8	63.5	66.7	69.2	60.8	64.6	66.8	60.2	67	75
31-Jan-20	16:40	59.8	62.5	53.5	58.6	62.5	55.5	58.2	60.5	54.5	60.7	62.5	56.5	59.8	61.6	54.2	60.3	62.6	54.1	60	75

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)		
7-Jan-20	11:00	65.8	64	59.8	64.7	66.2	60.3	63.8	65.4	59.4	65.3	66.8	60.1	65.7	68	59.9	65.3	68	59.5	65	65

13-Jan-20	10:50	63.2	66	59	65.9	69.9	57	62.8	63.7	57.2	58.2	60.5	52	59.8	61	58.3	60.7	62.4	57.5	63	65
22-Jan-20	15:46	65.9	67.7	61	67.6	65.2	59.6	64.9	70.7	61	63.8	67.5	56.3	65.7	68.3	57.1	63.5	67.5	56.3	65	70
31-Jan-20	14:55	60.6	63.5	55.5	61.8	63	58.5	59.1	61.6	53	61.4	63.3	59.7	58.6	59.7	57.3	59.6	60.5	58.7	60	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)		
7-Jan-20	10:21	62.7	63.8	60.4	63.3	65.3	61.6	60.6	61.8	59.1	62	62.9	61	59.9	61.2	56.4	59.2	63.3	64	62	70
13-Jan-20	10:13	64.4	65.4	63.3	65.1	66.1	63.8	64.7	65.4	63.6	67.5	68	63.1	65.9	66.2	63.8	64.3	65.3	63.7	65	70
22-Jan-20	15:11	61.5	64.2	56.0	63.3	63.9	55.1	62.7	64.3	60.2	64.2	65.4	62.8	65.0	65.9	64.0	62.8	64.6	60.8	63	70
31-Jan-20	14:08	58.1	62.8	53.7	58.9	60.3	57	59.2	63.5	54	60.5	62.7	56.7	59.4	61.9	53.2	62.4	64	60.4	60	70

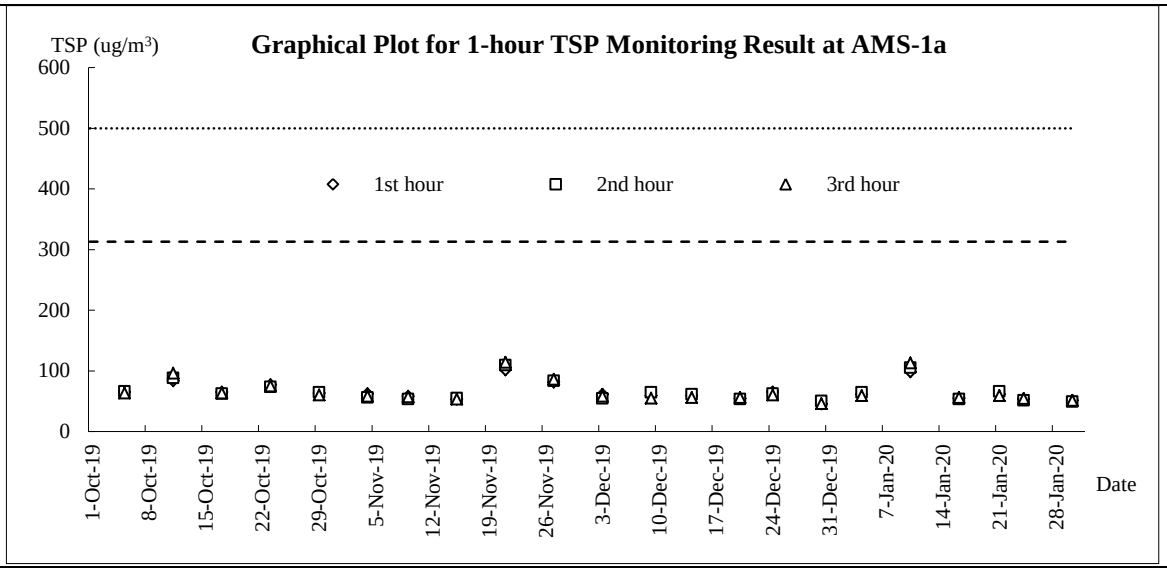
Noise Measurement Results (dB) of CN3

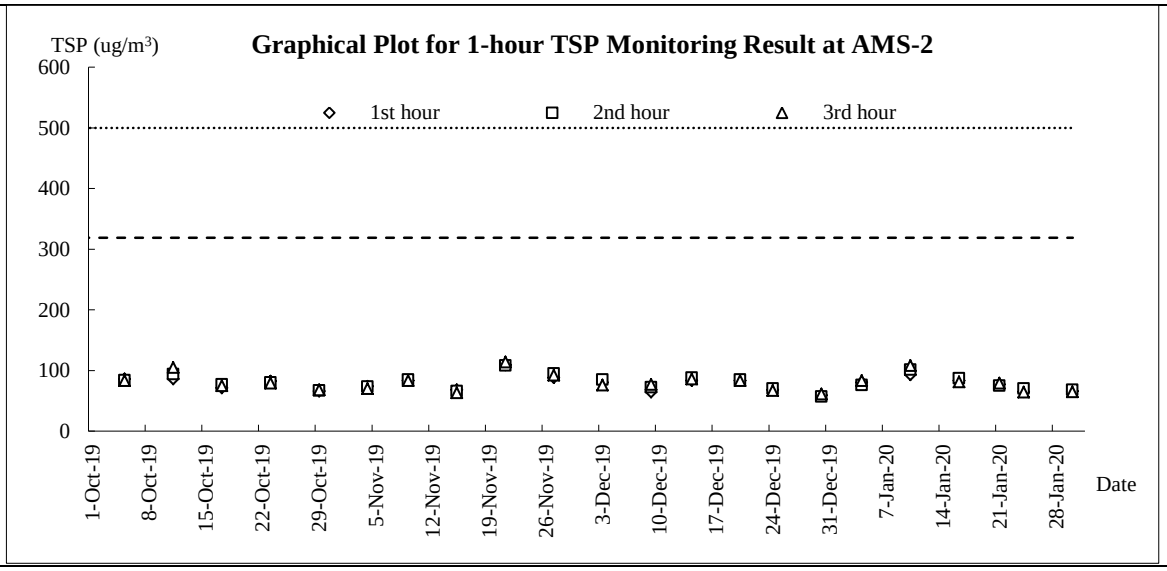
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
7-Jan-20	9:30	66.7	69	62.6	65.1	70.2	58.4	67.4	70	63.8	68.8	71.9	62.3	66.6	69.2	63.4	65.8	67.5	63.9	67	75
13-Jan-20	9:11	66.6	68.5	61.3	65.1	68.5	61.4	66.5	69.5	60	65.7	68.7	59.4	64.5	67.7	60	61.1	64.1	59.5	65	75
22-Jan-20	13:49	65.3	68.8	56.6	60.7	63.4	56.2	59.5	61.5	56.5	61.1	65.4	57.7	63.4	67.8	57.8	61.1	64.9	57.7	62	75
31-Jan-20	10:23	64.4	67	60	63.6	65.9	60.3	64	67	58.3	65.6	68.5	59.8	63.3	66.8	58.1	64	67	58.3	64	75

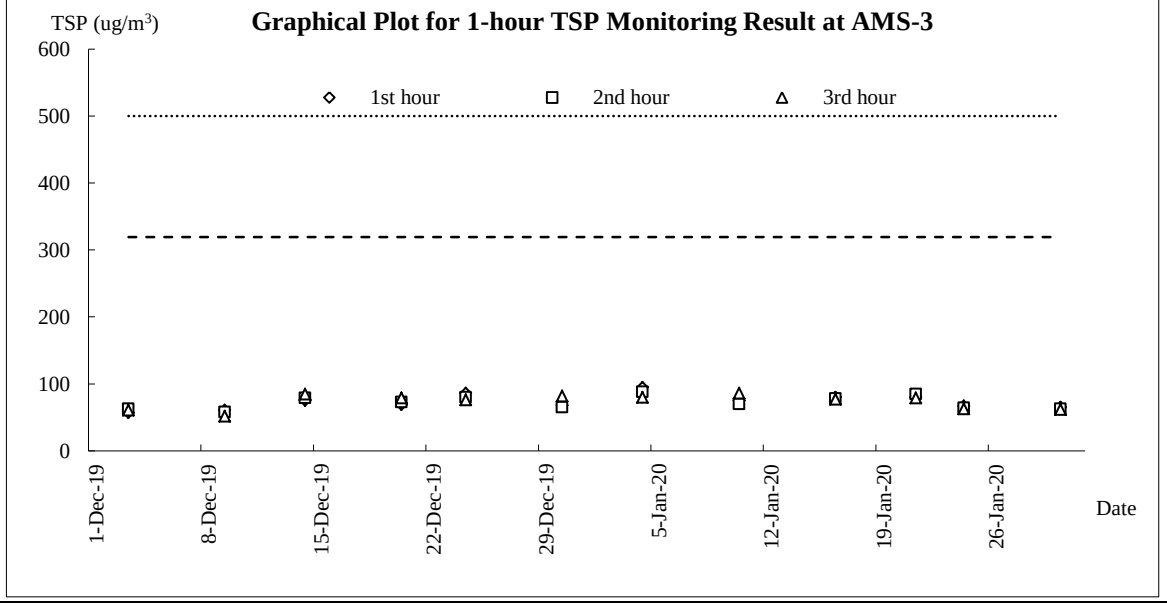
Appendix I

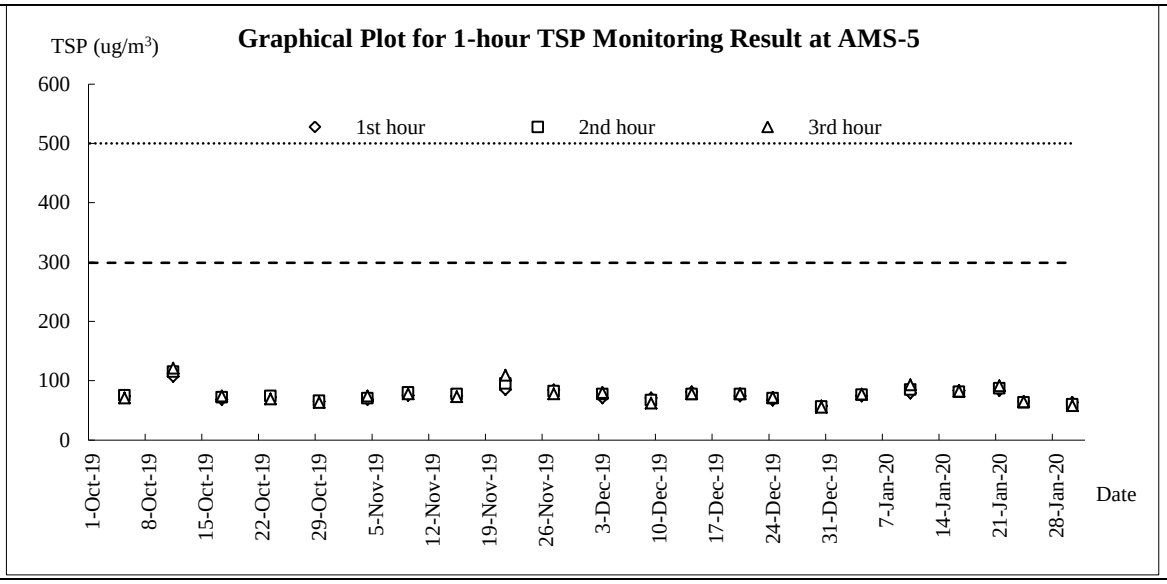
Graphical Plots for Monitoring Result

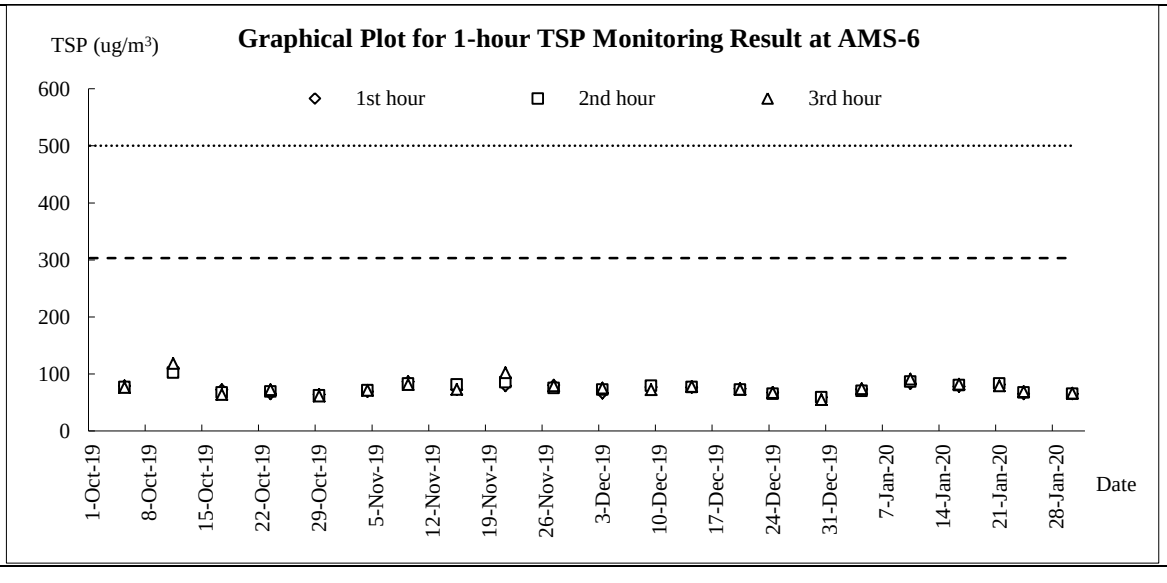
Air Quality – 1-hour TSP

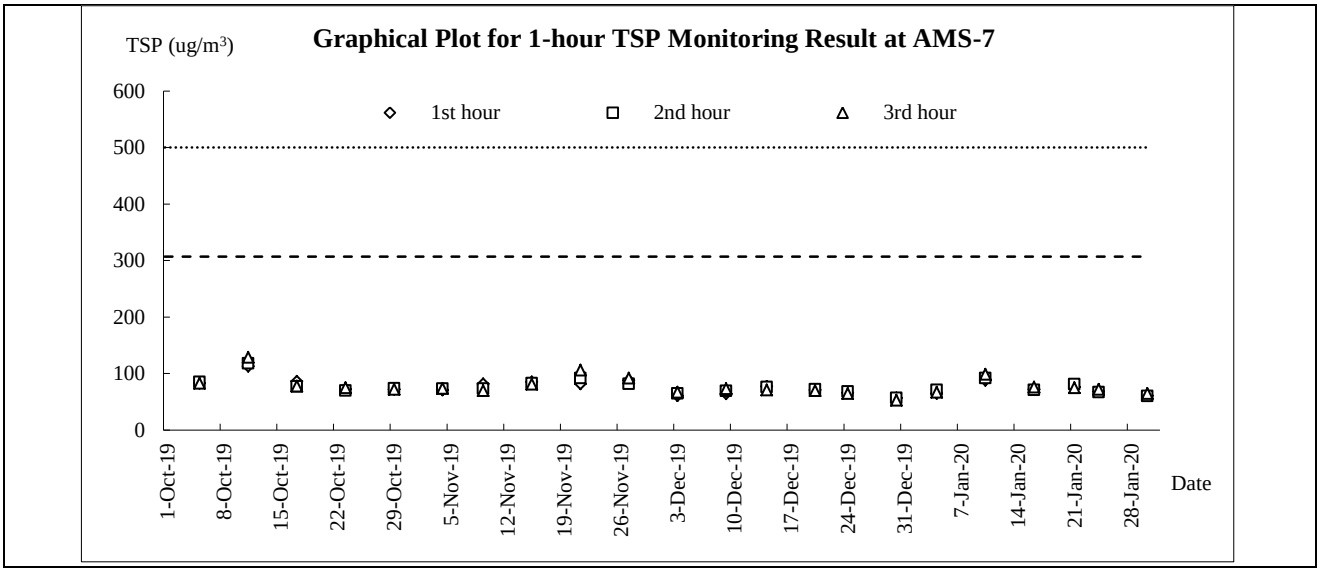




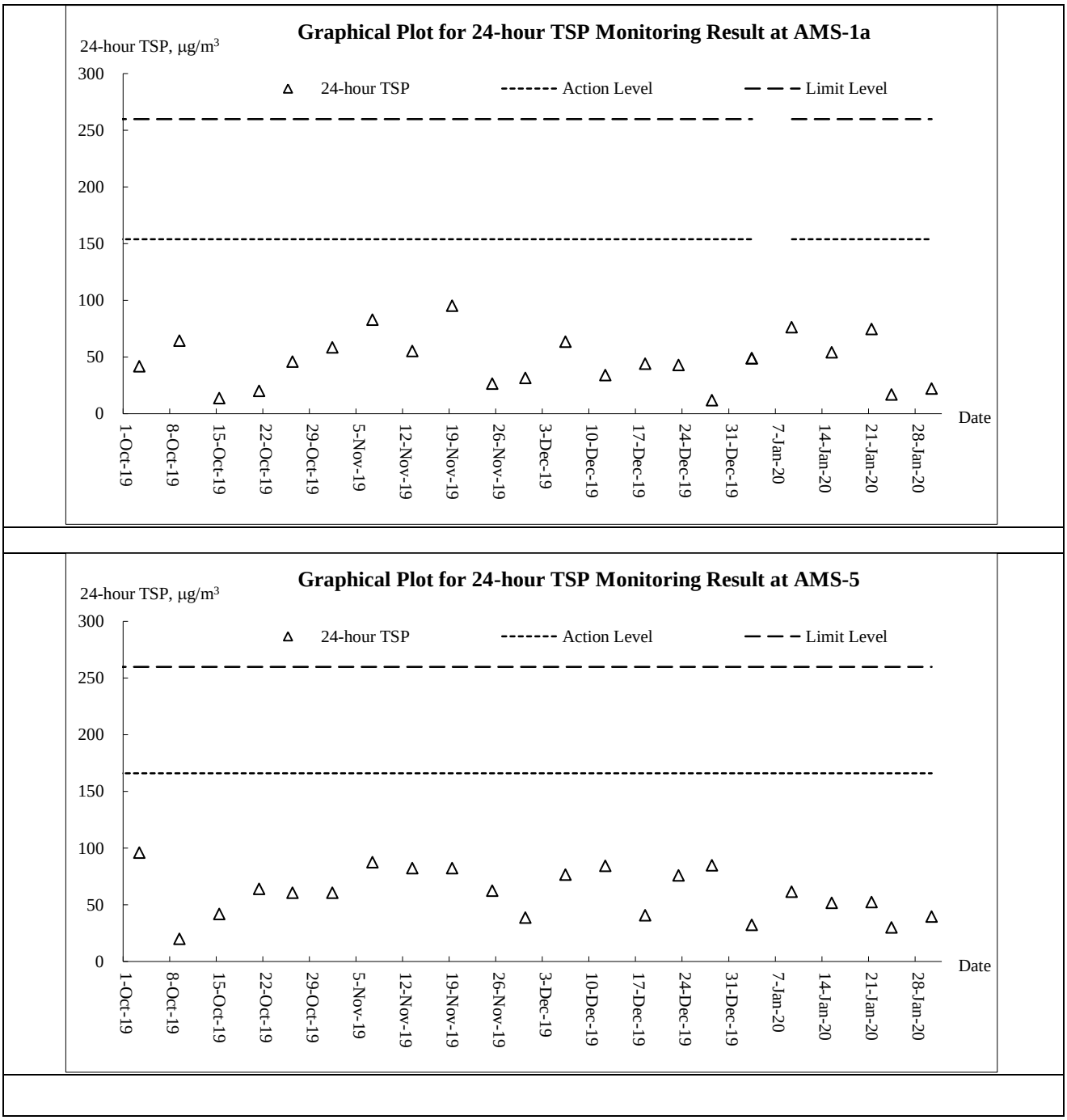

TSP (ug/m3)
Graphical Plot for 1-hour TSP Monitoring Result at AMS-3
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1-Dec-19
8-Dec-19
15-Dec-19
22-Dec-19
29-Dec-19
5-Jan-20
12-Jan-20
19-Jan-20
26-Jan-20
Date

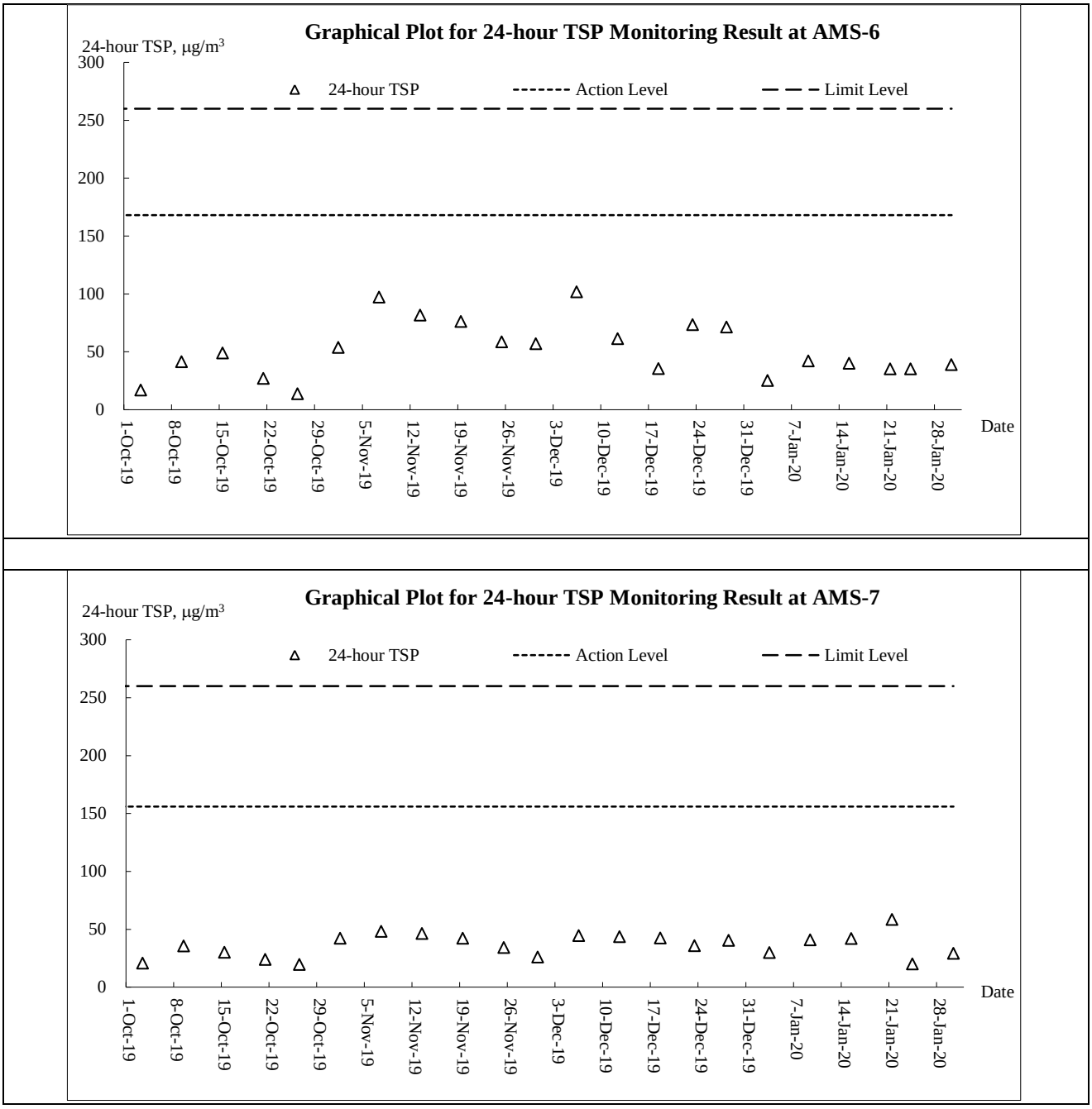

TSP (ug/m3)
Graphical Plot for 1-hour TSP Monitoring Result at AMS-5
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
17-Dec-19
24-Dec-19
31-Dec-19
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-20
Date


TSP (ug/m3)
Graphical Plot for 1-hour TSP Monitoring Result at AMS-6
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
17-Dec-19
24-Dec-19
31-Dec-19
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-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
1-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
17-Dec-19
24-Dec-19
31-Dec-19
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-20
Date

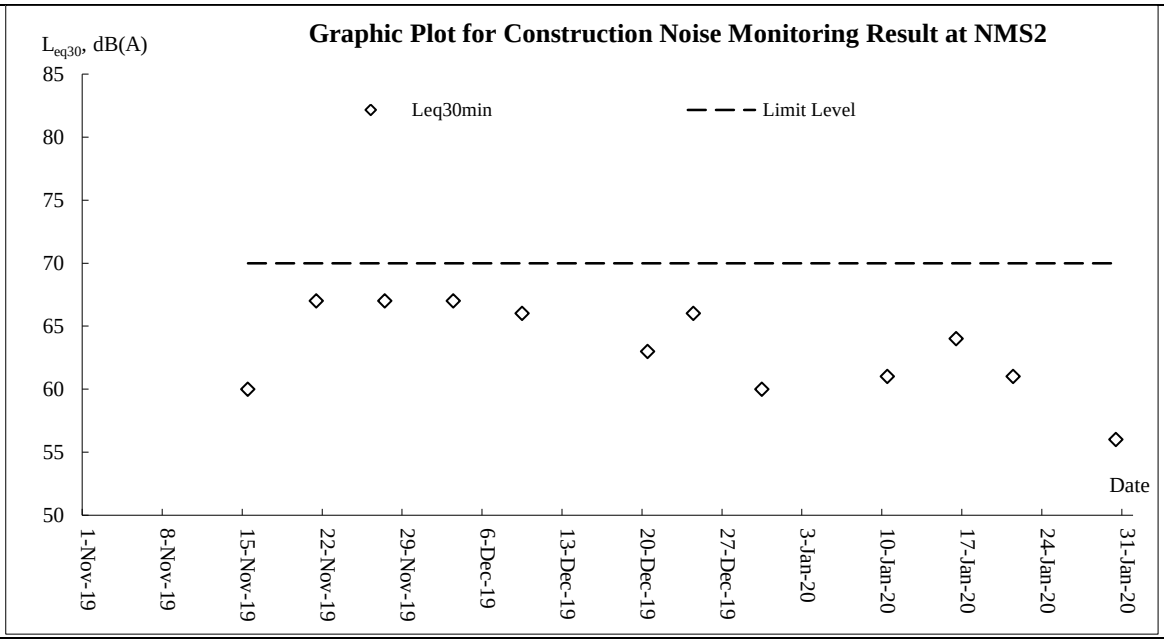
Air Quality – 24-hour TSP

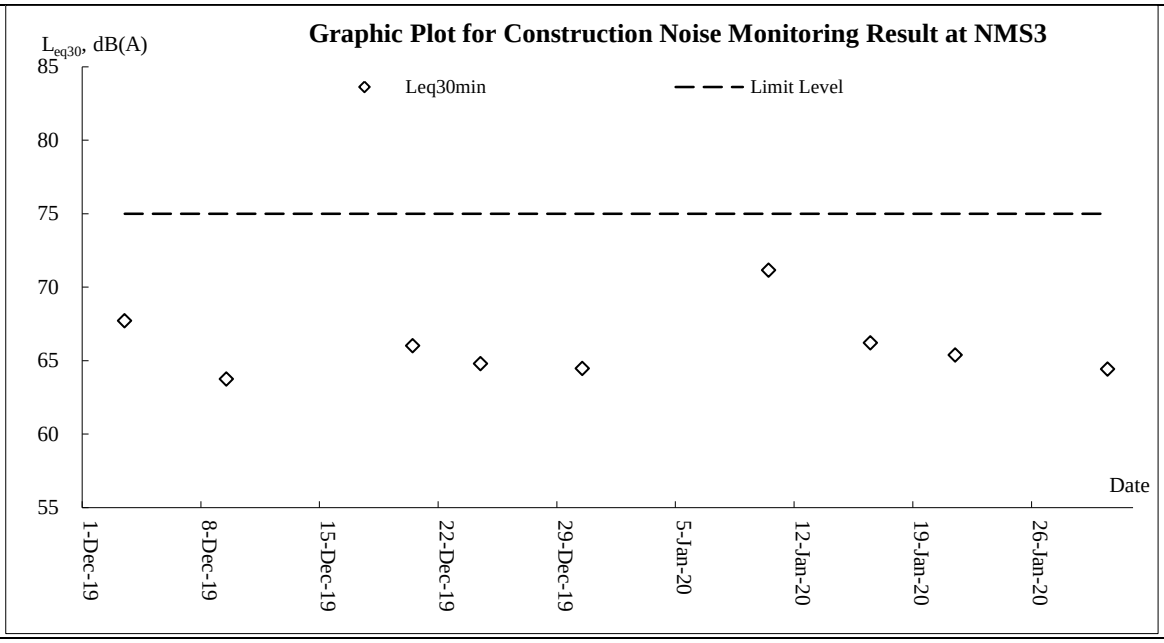


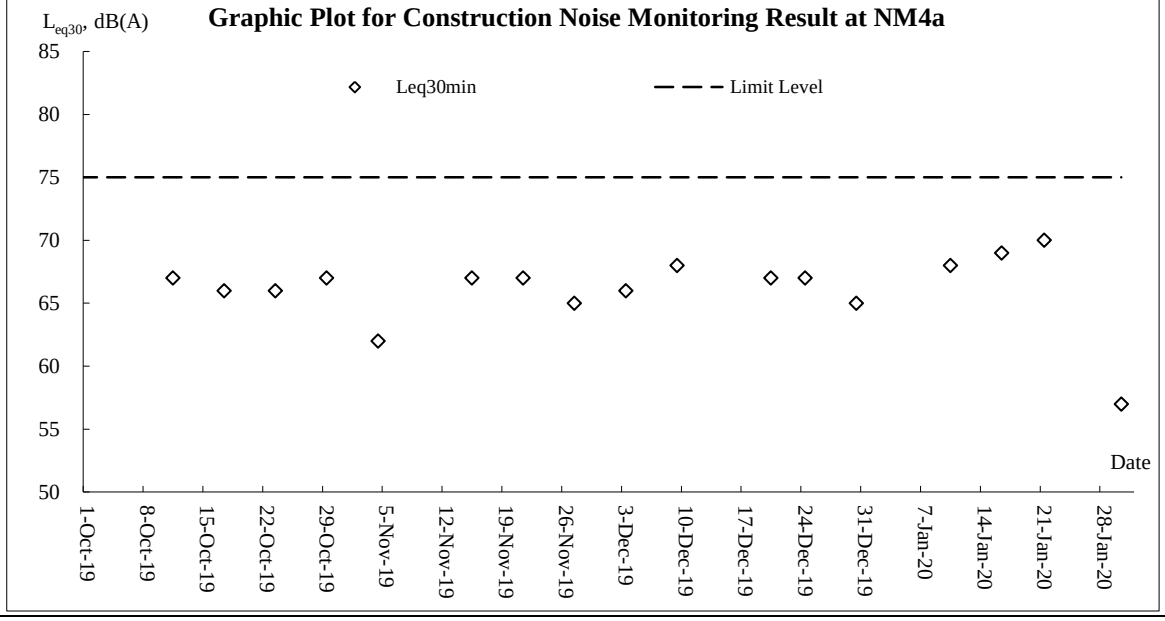

Graphical Plot for 24-hour TSP Monitoring Result at AMS-6
24-hour TSP, μg/m³
300
250
200
150
100
50
0
24-hour TSP
Action Level
Limit Level
1-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
17-Dec-19
24-Dec-19
31-Dec-19
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-20
Date

Graphical Plot for 24-hour TSP Monitoring Result at AMS-7
24-hour TSP, μg/m³
300
250
200
150
100
50
0
24-hour TSP
Action Level
Limit Level
1-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
17-Dec-19
24-Dec-19
31-Dec-19
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-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-Nov-19
8-Nov-19
15-Nov-19
22-Nov-19
29-Nov-19
6-Dec-19
13-Dec-19
20-Dec-19
27-Dec-19
3-Jan-20
10-Jan-20
17-Jan-20
24-Jan-20
31-Jan-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-Dec-19
8-Dec-19
15-Dec-19
22-Dec-19
29-Dec-19
5-Jan-20
12-Jan-20
19-Jan-20
26-Jan-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-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
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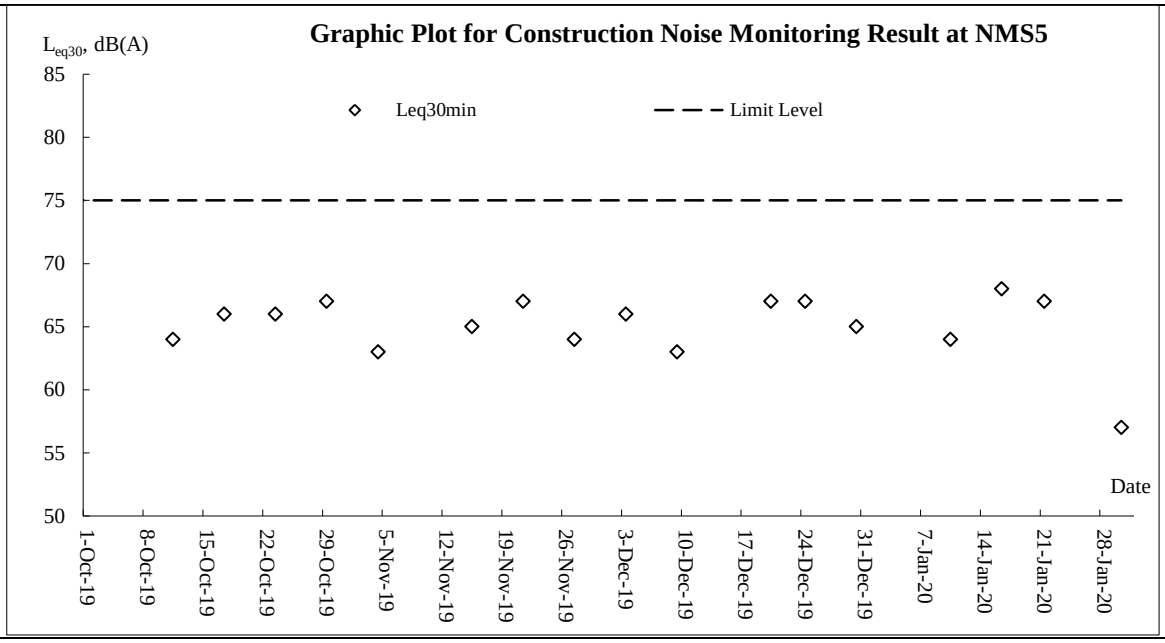
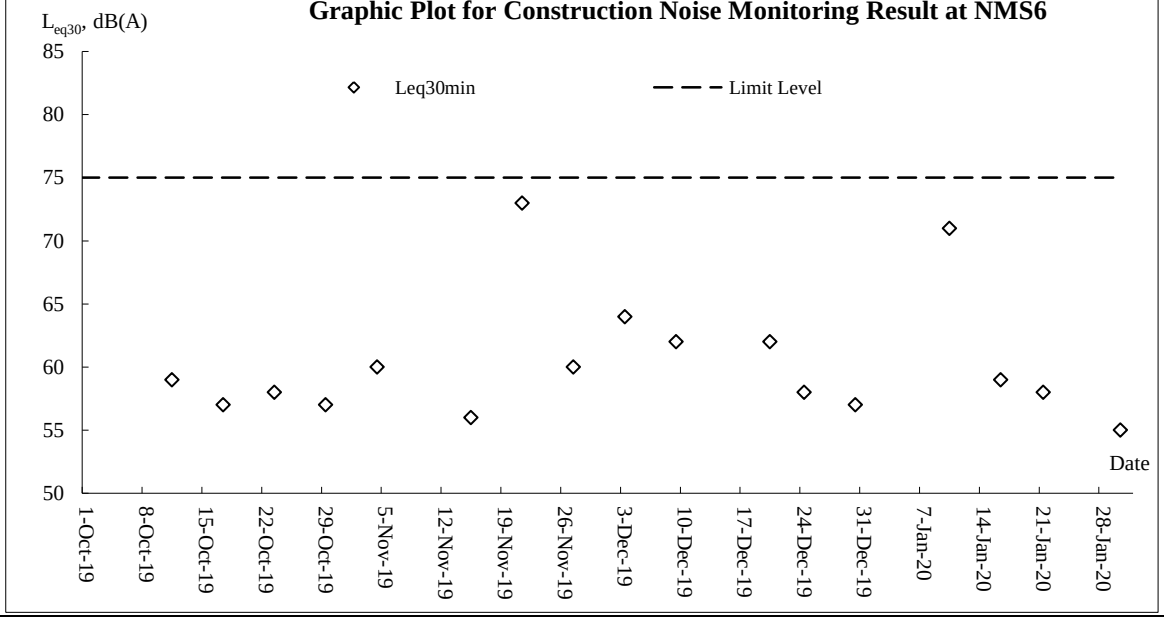
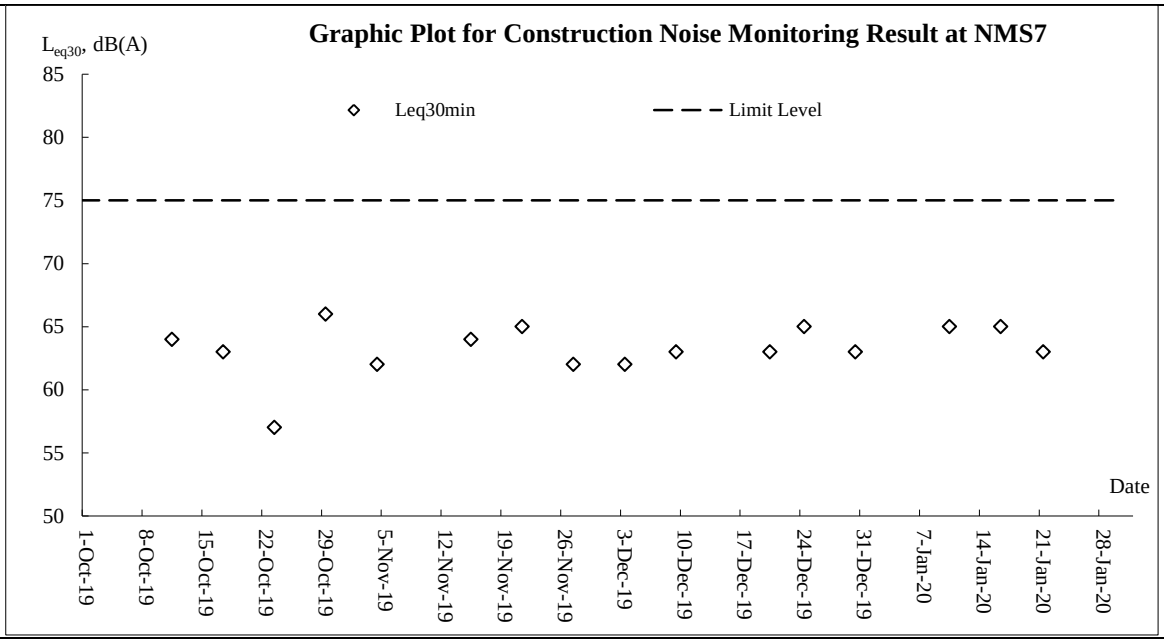
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-20


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-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
17-Dec-19
24-Dec-19
31-Dec-19
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-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-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
17-Dec-19
24-Dec-19
31-Dec-19
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-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-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
17-Dec-19
24-Dec-19
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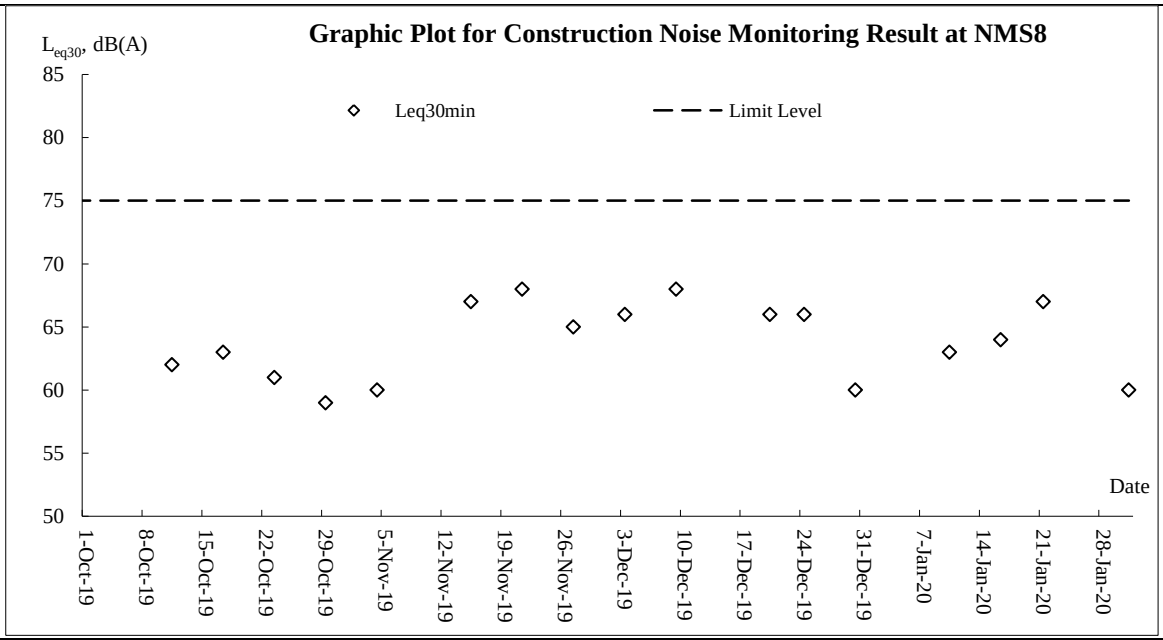
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-20


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-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
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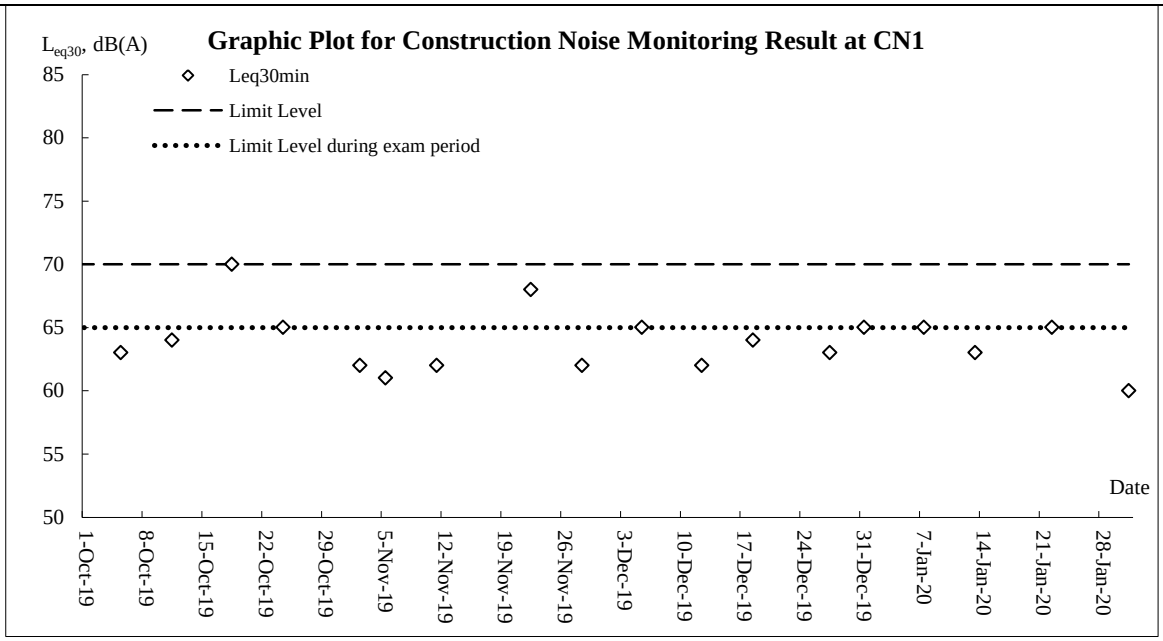
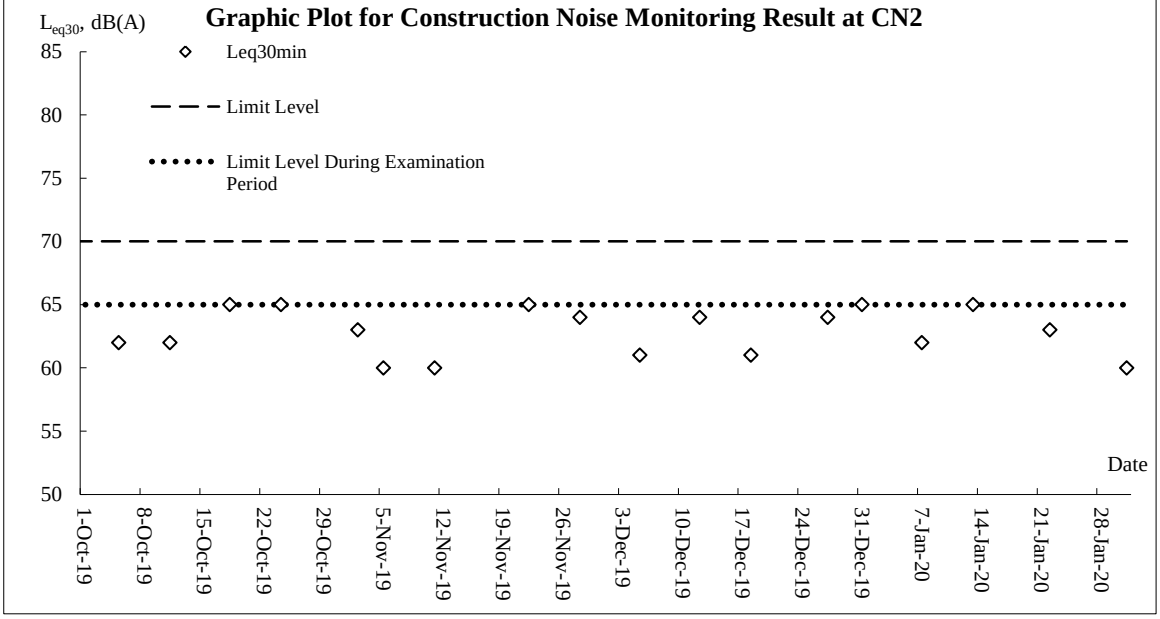
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-20


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-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
17-Dec-19
24-Dec-19
31-Dec-19
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-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-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
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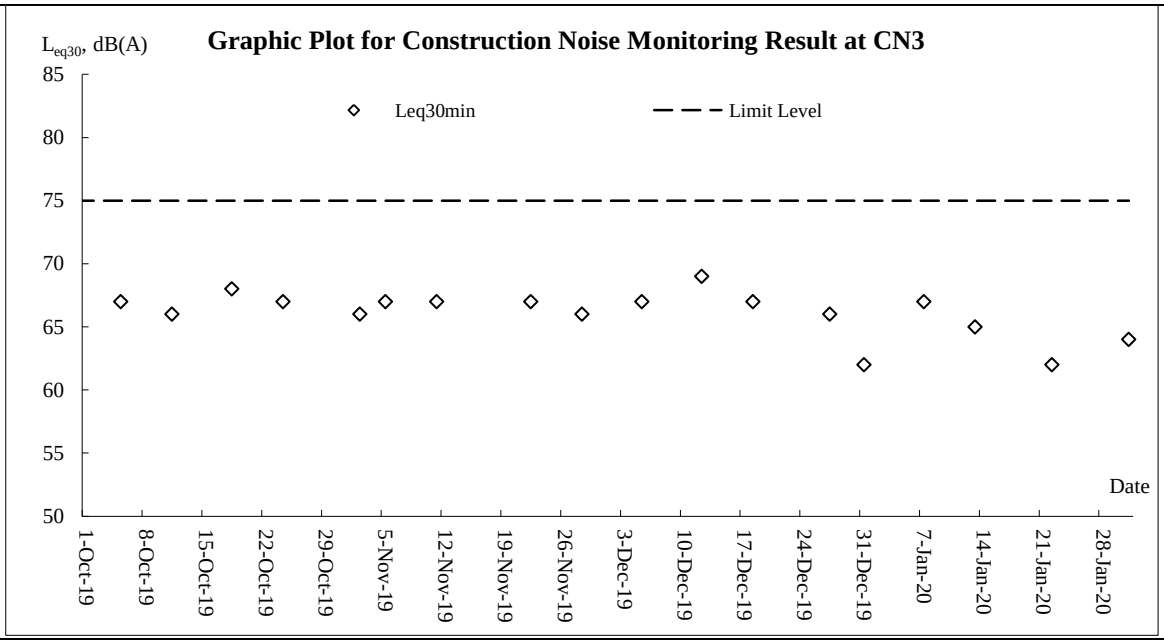
14-Jan-20
21-Jan-20
28-Jan-20


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-Oct-19
8-Oct-19
15-Oct-19
22-Oct-19
29-Oct-19
5-Nov-19
12-Nov-19
19-Nov-19
26-Nov-19
3-Dec-19
10-Dec-19
17-Dec-19
24-Dec-19
31-Dec-19
7-Jan-20
14-Jan-20
21-Jan-20
28-Jan-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-Jan-20	Wed	Moderate northerly winds, fresh offshore.	Trace	17.1	13.5	E/SE	73
2-Jan-20	Thu	Mainly fine and dry.	0	19.3	10.3	E	70
3-Jan-20	Fri	Moderate to fresh northerly winds,	0	19.1	11.1	SE	76.5
4-Jan-20	Sat	Moderate northerly winds, fresh offshore.	0	19.9	10.5	SE	75.2
5-Jan-20	Sun	Mainly fine and dry.	0	19.7	17.3	E/SE	70.5
6-Jan-20	Mon	Mainly fine and dry.	0	21.4	6	SE	76
7-Jan-20	Tue	Moderate northerly winds, fresh offshore.	Trace	23.3	10.5	SE	71.2
8-Jan-20	Wed	Mainly fine and dry.	0	22.4	12.9	SE	64
9-Jan-20	Thu	Moderate to fresh northerly winds,	0	18.3	20.7	E/SE	71
10-Jan-20	Fri	Moderate northerly winds, fresh offshore.	0	19.4	14.2	E	73.2
11-Jan-20	Sat	Mainly fine and dry.	0	21.4	15.9	E	71.5
12-Jan-20	Sun	Very dry during the day. Moderate to fresh northerly winds,	Trace	20.6	9.5	N/NE	60
13-Jan-20	Mon	Cloudy with a few rain patches.	0	16.9	13	N/NE	69.7
14-Jan-20	Tue	Mainly fine and dry.	0	19	13	E/NE	67.2
15-Jan-20	Wed	Moderate to fresh northerly winds,	0.1	18.9	14.6	E/NE	71.7
16-Jan-20	Thu	Mainly fine and dry.	Trace	19.3	16.5	E	76.7
17-Jan-20	Fri	Moderate to fresh northerly winds,	0	18.1	8.6	N	69.7
18-Jan-20	Sat	Mainly fine and dry.	0	18	10.5	N	75
19-Jan-20	Sun	Coastal mist tonight. Light winds.	0	18.3	8.2	N	66.2
20-Jan-20	Mon	Mainly cloudy. Sunny periods in the afternoon	0	16.4	8.5	N/NW	69
21-Jan-20	Tue	Coastal mist tonight. Light winds.	0	18	13.5	E/NE	75
22-Jan-20	Wed	Mainly cloudy. Sunny periods in the afternoon	Trace	20.6	9.7	SE	76
23-Jan-20	Thu	Moderate to fresh northerly winds,	0	22.6	9.5	SE	78.2
24-Jan-20	Fri	Moderate northeasterly winds, occasionally fresh offshore.	Trace	20.5	8	S/SE	77.2
25-Jan-20	Sat	Moderate northerly winds, fresh offshore.	2.1	19.9	7.5	N	69.5
26-Jan-20	Sun	Mainly fine and dry.	12.3	16.1	10.5	N/NE	71.5
27-Jan-20	Mon	Moderate to fresh northerly winds,	0.2	13.3	9.5	N/NW	61.5
28-Jan-20	Tue	Moderate northerly winds, fresh offshore.	0.1	13.1	10	W/NW	59
29-Jan-20	Wed	Mainly fine and dry.	0	14	9.6	W/NW	44.7
30-Jan-20	Thu	Very dry during the day. Moderate to fresh northerly winds,	0	13.9	11	N	51
31-Jan-20	Fri	Cloudy with a few rain patches.	0	14.7	12.5	N/NE	54

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	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	129.197	22.841	126.974	0.924	1.299	0.000	0.005	0.025	0.007	0.000	0.141
Feb	0.000										
Mar	0.000										
Apr	0.000										
May	0.000										
Jun	0.000										
Sub-total	129.197	22.841	126.974	0.924	1.299	0.000	0.005	0.025	0.007	0.000	0.141
Jul	0.000										
Aug	0.000										
Sep	0.000										
Oct	0.000										
Nov	0.000										
Dec	0.000										
Total	129.197	22.841	126.974	0.924	1.299	0.000	0.005	0.025	0.007	0.000	0.141

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.

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	0.3729	0	0.0889	0	0.150	0	0	0	0	0	0.134
Feb											
Mar											
Apr											
May											
June											
Sub-total	0.3729	0	0.0889	0	0.150	0	0	0	0	0	0.134
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total											

Notes: (1) The performance targets are given in PS Clause 6.14

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material.

(4) The Contractor shall also submit the latest forecast of the total amount of C&D materials expected to be generated from the Works. Together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000 m^3.

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											
Mar											
Apr											
May											
Jun											
Sub-total	1.284	0.000	0.083	1.058	1.202	0.000	0.002	0.069	0.000	0.000	0.029
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	1.284	0.000	0.083	1.058	1.202	0.000	0.002	0.069	0.000	0.000	0.029

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)
7.000	0	0	0	7.000	0	100.000	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
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	<u>Accidental Spillage</u> To prevent accidental spillage of chemicals, proper storage and handling facilities should be provided. All the tanks, containers and storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and storm drains. The Contractor is required to register as a chemical waste producer if chemical wastes would be generated from the construction ion activities. Storage of chemical waste arising from the construction ion activities should be well managed with suitable labels 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
S6.6.11-S6.6.14	<u>Groundwater from Contaminated Area</u> The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater discharge. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed during the process of discharge license application. The compliancy to the TM-DSS and the existence of prohibited substance should be confirmed after further SI. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated in compliance with TMDSS or properly recharged into the ground. If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. Petroleum Carbon Ranges (PCRs)). All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be 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	@	@
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	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
Overall Total	**51**	**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 開始傳出機器不停掘石的噪音(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掘鐵噪音。	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

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									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掻石仔噪音滋擾, 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

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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

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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

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.
								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.			

Appendix N

Implementation Status for Water Quality Mitigation Measures

Water Quality Mitigation Measure

Perimeter channel to collect site surface

Exposed surface was covered by cement motar

Q1: Temporary Water Reservoir 1

Q2: Temporary Water Reservoir 3

Q3: Wastewater treatment facility 110 cu. m. + AquaSed of 60 cu. m. per hour

Q5: Wastewater treatment facility 11 cu. m. + AquaSed of 60 cu. m. per hour

Q6: Wastewater treatment facility 24 cu. m.

Q7: Wastewater treatment facility AquaSed of 60 cu. m. per hour