AUES 安順聯合環境服務及顧問
Action-United Environmental Services & Consulting

Our Ref: TCS00864/16/300/L0176

19 JUN 2018

505488

Environmental Protection Department
Environmental Assessment Division
Metro Assessment Group
Kowloon Section (2)
27th floor, Southorn Centre,
130 Hennessy Road,
Wan Chai, Hong Kong.

Attn: Mr. Luk Hon Yin, Leo

14 June 2018
By Courier

Dear Sir,

Re: Service Contract No. NTE/07/2016
Environmental Team for Development of Anderson Road Quarry Site – Site Formation and Associated Infrastructure Works
Submission of Monthly Environmental Monitoring and Audit (EM&A) Report for April 2018

Pursuant to EM&A Manual Section 13.3.1, we submit herewith two (2) hard copies and one (1) electronic copy of the captioned report for you endorsement. Kindly note the report has been certified by the ET Leader and verified by IEC and the verification letter is enclosed in the report.

Should you have any queries or require further information, please feel free to contact us or the undersigned at Tel: 2959-6059 or Fax: 2959-6079.

Yours sincerely,
For and on Behalf of
Action-United Environmental Services & Consulting

Nicola Hon
Environmental Consultant
Encl.

cc	CEDD	Attn: Mr Stephen Li (Ch Eng/NTE2)	w/ 3 hardcopies + 1 softcopy
	EPD	Attn. Mr. Paul Wong (EPO (Regional E)41)	w/ 1 hardcopy
	AECOM	Attn: Mr Dennis Leung (CRE)	w/ 2 hardcopies + 1 softcopy

香港新界葵涌大連排道35-41號金基工業大廈20樓A室
Unit A, 20/F, Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, New Territories, Hong Kong
Tel (852) 2959-6059
Fax (852) 2959-6079
Email info@fordbusiness.com
Ford Business International Ltd.

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 (APRIL 2018)

PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	Reference No.	Prepared By	Certified By
28 May 2018	TCS00864/16/600/R0164v2	Nicola Hon (Environmental Consultant)	Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	11 May 2018	First Submission
2	28 May 2018	Amended according to the IEC's comments on 16 May 2018

ANEWR

Civil Engineering and Development Department
New Territories East Development Office
Suite 1213 Chinachem Golden Plaza
77 Mody Road
Tsim Sha Tsui East
Kowloon

Your reference:

Our reference: HKCEDD10/50/105060

Date: 13 June 2018

Attention: Mr Stephen T S Li

BY POST

Dear Sirs

Agreement No.: NTE 08/2016
Independent Environmental Checker for Development of Anderson Road Quarry Site
– Site Formation and Associated Infrastructure Works
Monthly Environmental Monitoring and Audit Report (April 2018)

We refer to the emails of 11, 28, 30 May and 11, 12 June 2018 from Action-United Environmental Services and Consulting attaching a Monthly Environmental Monitoring and Audit Report (April 2018) for the captioned project.

We have no further comment and hereby verify the Monthly Environmental Monitoring and Audit Report (April 2018).

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

Yours faithfully
ANEWR CONSULTING LIMITED

Adi Lee
Independent Environmental Checker

LYMA/LHHN/WCKJ/csym

cc CEDD – Mr Eric Li (email: chikli@cedd.gov.hk)
CEDD – Mr Matthew Lai (email: matthewsylai@cedd.gov.hk)
AECOM – Mr Alex Wong (email: yc.wong@aecom.com)
AECOM – Mr Dennis Leung (email: sre1tpf@yahoo.com.hk)
AUES – Mr T W Tam (email: twtam@fordbusiness.com)

ANewR Consulting Limited
Unit 517, 5/F, Tower A, Regent Centre
63 Wo Yi Hop Road, Kwai Chung, Hong Kong
Tel: (852) 2618 2831 Fax: (852) 3007 8648
Email: info@anewr.com
Web: www.anewr.com

ISO 9001 : 2008
Certificate No.: CC 3988

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. As advised by the 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. The EM&A programme under the Project was therefore commenced on 12 April 2017 pursuant to the requirement under the EM&A manual.

ES04 This is the **13th** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1 to 30 April 2018** (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	**4**	**60**
	24-hour TSP	**4**	**20**
Construction Noise	$L_{eq(30min)}$ Daytime	**4**	**16**

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES06 No exceedance of air quality was recorded in the Reporting Period. All noise measurement results were below the limit level (75dB(a)), however, two noise complaints (which triggered Action Level) were received on 11 April 2018 and 25 April 2018 for Contract 1 and Contract 2 respectively. 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	0	0
	24-hour TSP	0	0	0	0	0
Construction Noise	$L_{eq(30min)}$ Daytime	2	0	0	Investigation for Complaint for Contract 1 was completed while for Contract 2 is in progress. Please refer the details in Section 8.	Implement noise mitigation measures to eliminate nuisance

ENVIRONMENTAL COMPLAINT

ES07 In the Reporting Period, two (2) environmental complaints regarding construction noise were received on 11 April 2018 and 25 April 2018 for Contract 1 and Contract 2 respectively. Investigation for complaint for Contract 1 has completed by ET. In view of the construction works were carried out within the non-restricted hours and no noise measurement exceedance was recorded, it is concluded that the works under the project did not breach the Noise Control Ordinance. The Contractor has taken immediate action and enhanced the noise mitigation measures to response the complainant's concerns. The noise complaint for Contract 2 was forwarded to ET on 7 May 2018 and investigation is in progress and the investigation findings will be reported next reporting month.

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

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

REPORTING CHANGE

ES09 No reporting changes were made in the Reporting Period.

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 **3, 12, 17** and **24 April 2018** in which IEC joined the site inspection with SSEMC on **12 April 2018**. 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 **6, 11, 18** and **27 April 2018** in which IEC joined the site inspection with SSEMC on **27 April 2018**. No non-compliance was noted during the site inspection.

FUTURE KEY ISSUES

ES12 During wet season, preventive measures for muddy water or other water pollutants from site surface overflow to public area should be properly maintained. The Contractors should paid special attention on water quality mitigation measures and fully implement according ISEMM of the EM&A Manual.

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

ES14 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.

ES15 Mosquito control measures should be continued to prevent mosquito breeding on site.

Table of Contents

1. INTRODUCTION 1
1.1 PROJECT BACKGROUND 1
1.2 REPORT STRUCTURE 1

2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS 2
2.1 CONSTRUCTION CONTRACT PACKAGING 2
2.2 PROJECT ORGANIZATION 3
2.3 CONSTRUCTION PROGRESS 3

3. SUMMARY OF IMPACT MONITORING REQUIREMENTS 6
3.1 GENERAL 6
3.2 MONITORING PARAMETERS 6
3.3 MONITORING LOCATIONS 6
3.4 MONITORING FREQUENCY AND PERIOD 8
3.5 MONITORING EQUIPMENT 8
3.6 MONITORING METHODOLOGY 9
3.7 DERIVATION OF ACTION/LIMIT (A/L) LEVELS 11
3.8 DATA MANAGEMENT AND DATA QA/QC CONTROL 12

4. AIR QUALITY MONITORING 13
4.1 GENERAL 13
4.2 RESULTS OF AIR QUALITY MONITORING 13

5. CONSTRUCTION NOISE MONITORING 15
5.1 GENERAL 15
5.2 NOISE MONITORING RESULTS IN REPORTING MONTH 15

6. WASTE MANAGEMENT 16
6.1 GENERAL WASTE MANAGEMENT 16
6.2 RECORDS OF WASTE QUANTITIES 16

7. SITE INSPECTION 17
7.1 REQUIREMENTS 17
7.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH 17

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE 19
8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION 19

9. IMPLEMENTATION STATUS OF MITIGATION MEASURES 21
9.1 GENERAL REQUIREMENTS 21
9.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH 21
9.3 KEY ISSUES FOR THE COMING MONTH 23

10. CONCLUSIONS AND RECOMMENDATIONS 24
10.1 CONCLUSIONS 24
10.2 RECOMMENDATIONS 24

LIST OF TABLES

TABLE 2-1 STATUS OF ENVIRONMENTAL LICENSES AND PERMITS OF THE CONTRACT 1
TABLE 2-2 STATUS OF ENVIRONMENTAL LICENSES AND PERMITS OF THE CONTRACT 2
TABLE 3-1 SUMMARY OF EM&A REQUIREMENTS
TABLE 3-2 IMPACT MONITORING STATIONS - AIR QUALITY
TABLE 3-3 IMPACT MONITORING STATIONS - CONSTRUCTION NOISE
TABLE 3-4 AIR QUALITY MONITORING EQUIPMENT
TABLE 3-5 CONSTRUCTION NOISE MONITORING EQUIPMENT
TABLE 3-6 ACTION AND LIMIT LEVELS FOR AIR QUALITY MONITORING
TABLE 3-7 ACTION AND LIMIT LEVELS FOR CONSTRUCTION NOISE
TABLE 4-1 SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS (AMS-1)
TABLE 4-2 SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS (AMS-5)
TABLE 4-3 SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS (AMS-6)
TABLE 4-4 SUMMARY OF 24-HOUR AND 1-HOUR TSP MONITORING RESULTS (AMS-7)
TABLE 5-1 SUMMARY OF CONSTRUCTION NOISE MONITORING RESULTS
TABLE 6-1 SUMMARY OF QUANTITIES OF INERT C&D MATERIALS
TABLE 6-2 SUMMARY OF QUANTITIES OF C&D WASTES
TABLE 7-1 SITE OBSERVATIONS OF CONTRACT 1
TABLE 7-2 SITE OBSERVATIONS OF CONTRACT 2
TABLE 8-1 STATISTICAL SUMMARY OF ENVIRONMENTAL COMPLAINTS
TABLE 8-2 STATISTICAL SUMMARY OF ENVIRONMENTAL SUMMONS
TABLE 8-3 STATISTICAL SUMMARY OF ENVIRONMENTAL PROSECUTION
TABLE 9-1 ENVIRONMENTAL MITIGATION MEASURES

LIST OF APPENDICES

APPENDIX A LAYOUT PLAN OF THE PROJECT
APPENDIX B ORGANIZATION CHART
APPENDIX C THREE-MONTHS ROLLING CONSTRUCTION PROGRAMME
APPENDIX D MONITORING LOCATIONS FOR IMPACT MONITORING
APPENDIX E CALIBRATION CERTIFICATE OF MONITORING EQUIPMENT AND HOKLAS-ACCREDITATION CERTIFICATE OF THE TESTING LABORATORY
APPENDIX F EVENT AND ACTION PLAN
APPENDIX G IMPACT MONITORING SCHEDULE
APPENDIX H DATABASE OF MONITORING RESULT
APPENDIX I GRAPHICAL PLOTS FOR MONITORING RESULT
APPENDIX J METEOROLOGICAL DATA
APPENDIX K WASTE FLOW TABLE
APPENDIX L IMPLEMENTATION SCHEDULE FOR ENVIRONMENTAL MITIGATION MEASURES
APPENDIX M COMPLAINT LOG AND INVESTIGATION REPORT FOR COMPLAINT

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. 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 has not yet commenced. 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 **13th** monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1 to 30 April 2018**.

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	*Water Quality Monitoring*
Section 7	*Waste Management*
Section 8	*Site Inspections*
Section 9	*Environmental Complaints and Non-Compliance*
Section 10	*Implementation Status of Mitigation Measures*
Section 11	*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 would be divided by the 3 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 number to be assigned)

2.1.4 The commencement date of Contract 3 is to be confirmed and the tentative 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 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***. As provided by the Contractors of Contracts 1 and 2, the major construction activities conducted in the Reporting Period are summarized in below.

Contract 1 (NE/2016/01)

i) Site Cleaning
ii) Land Contamination Ground Investigation
iii) Site Formation in Portion A3 and A4
iv) Site Formation in Portion B8 and KW Asphalt Plant
v) KWP Crushing Plant in Portion B15:
- Demolition of the crushing plant structure
- Commenced demolishment of KW batching plant

vi) West Portal Area:
- Continued trimming slope at West Portal at top-down direction
- Soil nailing works at Slope A3

vii) East Portal Area:
- Installation of 11 kV cable trough
- Formation excavation and soil nailing works at Slope A1

viii) Underpass:
- Tunnel face excavation from West Portal
- Excavation for benching from CH2373 to CH2397 in front of West Portal entrance

ix) Internal Road L4, RWA18, RWA12 and Pedestrian Connectivity System A:
- construction of base slab of noise barrier including formworks and concreting
- construct new haul road to retaining wall RWA12
- excavation of retaining wall including RWA18 and RWA12 bay #22
- construction of the temporary drainage and cascade

x) Underground Stormwater Retention Tank:
- Stripping soil to expose rock head level and excavation
- Temporary soil nails
- Erection of tower crane
- rebar fixing for a wall structure
- concreting

xi) Water Pumping Station and Retaining Wall RWA13 and RWA14:
- excavation of slope A13 and the area of water pumping stations
- construction of base slabs for retaining wall RWA14

xii) Pedestrian Connectivity System B:
- excavation at North lift tower and South lift tower
- Commenced excavation for construction of pad footings at North lift tower
- Commenced piling works at South lift tower and drilling works in-progress.
- excavation for the u-channel

xiii) Internal Road L1:
- excavation for the internal road L1 adjacent to the Pedestrian Connectivity System B

xiv) Box Culvert BC1 and BC2:
- rebar fixing and concreting for a box culvert BC1's wall section and top slab

- excavation works and blinding layer concreting for box culvert BC2
- commenced laying geotextile filters, grade 200 rock filling and assembly of formworks at the transition section CHA144 to CHA168.019

xv) Internal Road L5:
- co-ordinates setting out and excavation and concreting of construction manholes and drainage pipelines

xvi) Others:
- pile load test
- Rock Slope Survey and Slope Stabilization in Portion B1
- Establishment Works of the Planting Medium on the Existing Slope Berms in Portion B1 and B5
- Road Improvement Works at Po Lam Road
- Mitigation Works for Natural Terrain Catchment B5

Contract 2 (NE/2016/05)

1. Portion 1: commence piling works,. ELS and proof drill; pile load test set-up at E1-PC1 and completed tree pruning work.
2. Portion 2: continue piling works and completed temporary rock fall fence/ noise barrier and commence rock slope excavation.
3. Portion 4: commence Stage 2 road construction
4. Portion 5: commence ELS for covered walkway
5. Portion 6: completed hoarding erection and inspection pit; commence construction of EPD road realignment and continue rock dowel installation
6. Portion 7: completed hiking trail extension in Site A; continue slope improvement work in Site B
7. Portion 8 & 9: completed soil nail foundation for baffle and continue slope improvement works at Site A and Site B

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 and 2-2***.

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-RE0098-18	23 Feb 18	22 Aug 18	valid
		GW-RE0215-18	29 Mar 18	25 Sep 18	valid

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 312173	NA	NA	valid
2	Chemical Waste Producer Registration	Registration no. WPN 5213-294-K2890-08	3 Jul 17	End of Project	Valid
3	Water Pollution Control Ordinance - Discharge License	WT00028685-2017	02 Aug 17	31 Aug 22	Valid
		WT00028686-2017	02 Aug 17	31 Aug 22	Valid
		WT00028687-2017	02 Aug 17	31 Aug 22	Valid
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account no.7027548	12 Apr 17	End of project	Valid
5	Construction Noise Permit	GW0RE0145-18	8 Mar 18	4 Apr 18	Valid

3. SUMMARY OF IMPACT MONITORING REQUIREMENTS

3.1 GENERAL

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

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

3.2 MONITORING PARAMETERS

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

- Air quality; and
- Construction noise

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

Table 3-1 Summary of EM&A Requirements

Environmental Issue	Parameters
Air Quality	• 1-hour TSP by Real-Time Portable Dust Meter; and • 24-hour TSP by High Volume Air Sampler
Noise	• Leq(30min) in normal working days (Monday to Saturday) 07:00-19:00 except public holiday • Supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.

3.3 MONITORING LOCATIONS

3.3.1 According to the EM&A Manual Section 4.6, seven (7) most representative and affected air sensitive receivers (ASR) were selected as air monitoring stations (AQM). The 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
AMS-1	ACYC-01	Chi Yum Ching She	Ground of Chi Yum Ching facing the project site
AMS-2	DARB-13	Block 8, Site B Note 1	Ground of Block 8, Site B facing On Sau Road
AMS-3	DARC-16	Planned Clinic and Community Centre, Site C2 Note 1	Ground of Planned Clinic and Community Centre facing Anderson Road
AMS-4	DARC-26	Planned School, Site C2 Note 2	Ground of Planned School facing Anderson Road
AMS-5	DARE-06	Block 5, DAR Site E	Main roof of Oi Tat House of On Tat Estate facing the project site
AMS-6	DARE-17	Block 9, Site E	Main roof of Hau Tat House of On Tat Estate facing the project site
AMS-7	AMYT-04	Ma Yau Tong Village	Balcony at 2nd floor of Village House Anderson Road No. 1 facing the project site

Note 1: The ASR is under construction and not yet in operation.
Note 2: The ASR is not yet constructed.

3.3.2 In our recent site visit at the subject site, 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.

3.3.3 In our baseline monitoring proposal, baseline 1-hour TSP monitoring will be conducted at all AQM location AMS-1 to AMS-7. However, baseline 24-hour TSP monitoring will be conducted at existing ASR AMS-1, AMS-5, AMS-6 and AMS-7 only with our justifications present below:

(a) AQM Locations AMS-2, AMS-3 & AMS-4 are planned ASRs which are still under construction/ has not yet constructed. During recent site visit, there were no suitable locations for setting up the HVS and electricity supply at these AQM locations.

(b) Alternative locations were considered in accordance with EM&A Manual Section 4.7.3. However, there were no suitable location found and our justifications are provided in below:

(i) Alternative locations Sau Mau Ping Estate and Shun Tin Estate were located at downhill of the subject site which separated by the active construction site (i.e., AMS-2, AMS-3 & AMS-4) and Sau Mau Ping Road. In view of the level deviation, the baseline data obtained in these alternative locations could not represent the baseline condition of the designated location AMS-2, AMS-3 & AMS-4. Moreover, when the planned ASR AMS-2, AMS-3 & AMS-4 activate sooner or later, impact monitoring should be carried out at these designated locations instead of the alternative locations.

(ii) Alternative location such as site boundary of the site subject was considered, however, there were no provisions of power supply to sustain the HVS continuously after consultation with the Contractor.

(c) According to EM&A Manual Section 4.7.4, as an exceptional cases, it is proposed to adopt the Action Level established at AMS-5 to AMS-2, AMS-3 & AMS-4 for impact monitoring as AMS-5 with our justification below.

(i) AMS-5 is the closest ASR to AMS-2, AMS-3 & AMS-4 under same direction of prevailing wind.

(ii) In view of the baseline 1-hour TSP data, the measured results at AMS-5 were lower than those collected at AMS-2, AMS-3 & AMS-4. As a conservation approach, adopting Action Level at AMS-5 for Location AMS-2, AMS-3 & AMS-4 is more stringent for the project.

(iii) The Action level for AMS-2, AMS-3 & AMS-4 will be subject to review in accordance with EM&A Manual Section 4.7.5

Construction Noise

3.3.4 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 2-3*** and illustrated in ***Appendix D***.

Table 3-3 Impact Monitoring Stations - Construction Noise

ID	NSR ID in EIA	Location
NMS-1	Site C2 – School 05 Note 1	Ground of planned school at DAR facing the project site
NMS-2	Site E – School Note 1	Ground area between the planned school and Him Tat House facing the project site

ID	NSR ID in EIA	Location
NMS-3	Site C2 – R102 Note 1	Ground of Ancillary Facilities Building facing the project site
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
NMS-4a#	Oi Tat House	Rooftop of Oi Tat House where 1m from the exterior of Oi Tat House facing the project site
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.
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)
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

Note 1: The NSR is under construction and not yet in operation.
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.
(#) 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.

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 3-4***.

Table 3-4 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 3-5***.

Table 3-5 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	B&K Type 2238
Calibrator	Cesva CB - 5
Portable Wind Speed Indicator	Anemometer AZ Instrument 8908

3.6 MONITORING METHODOLOGY

1-hour TSP

3.6.1 The 1-hour TSP monitor was a brand named "Sibata LD-3 Laser Dust monitor Particle Mass Profiler & Counter" which is a portable, battery-operated laser photometer. The 1-hour TSP meter provides a real time 1-hour TSP measurement based on 90° light scattering. The 1-hour TSP monitor consists of the following:

(a.) A pump to draw sample aerosol through the optic chamber where TSP is measured;

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

(c.) A built-in data logger compatible with Windows based program to facilitate data collection, analysis and reporting.

3.6.2 The 1-hour TSP meter to be used will be within the valid period, calibrated by the manufacturer prior to purchasing. Zero response of the instrument will be checked before and after each monitoring event.

24-hour TSP

3.6.3 The equipment used for 24-hour TSP measurement is Thermo Andersen Model GS2310 TSP high volume air sampling system, which complied with *EPA Code of Federal Regulation, Appendix B to Part 50*. The High Volume Air Sampler (HVS) consists of the following:

(a.) An anodized aluminum shelter;

(b.) A 8"x10" stainless steel filter holder;

(c.) A blower motor assembly;

(d.) A continuous flow/pressure recorder;

(e.) A motor speed-voltage control/elapsed time indicator;

(f.) A 7-day mechanical timer, and

(g.) A power supply of 220v/50 Hz

3.6.4 For HVS for 24-hour TSP monitoring, the HVS is mounted in a metallic cage with a top for protection and also it is sat on the existing ground or the roof of building. The flow rate of the

HVS between 0.6m^3/min and 1.7m^3/min will be properly set in accordance with the manufacturer's instruction to within the range recommended in *EPA Code of Federal Regulation, Appendix B to Part 50*. Glass Fiber Filter 8" x 10" of TE-653 will be used for 24-Hour TSP monitoring and would be supplied by laboratory. The general procedures of sampling are described as below:-

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

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

3.6.6 The HVS used for 24-hour TSP monitoring will be calibrated before the commencement for sampling, and after in two months interval for 1 point checking of maintenance and six months interval for five points calibrate in accordance with the manufacturer's instruction using the NIST-certified standard calibrator (Tisch Calibration Kit Model TE-5025A) to establish a relationship between the follow recorder meter reading in cfm (cubic feet per minute) and the standard flow rate, Qstd, in m^3/min. Motor brushes of HVS will be regularly replaced of about five hundred hours per time. The calibration certificates of all monitoring equipment used for the impact monitoring program in the Reporting Period and the HOKLAS accredited certificate of laboratory are attached in ***Appendix E***.

Noise Monitoring

3.6.7 As referred to in the Technical Memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804:1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

3.6.8 All noise measurements will be performed with the meter set to FAST response and on the A-weighted equivalent continuous sound pressure level (Leq). $Leq_{(30\ min)}$ in six consecutive $Leq_{(5\ min)}$ measurements will be used as the monitoring parameter for the time period between 07:00-19:00 hours on weekdays throughout the construction period.

3.6.9 The sound level meter will be mounted 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 3-6 and 3-7***.

Table 3-6 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-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

Table 3-7 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	***75*** dB(A)[Note 1] / ***70*** dB(A)[Note 2]/ ***65*** dB(A)[Note 2]
NMS-2		
NMS-3		***75*** dB(A)
NMS-4a*		***75*** dB(A)
NMS-4*		***75*** dB(A)

Monitoring Location	Action Level	Limit Level in dB(A)
	Time Period: 0700-1900 hours on normal weekdays	
NMS-5(#)		*75* dB(A)
NMS-6(#)		*75* dB(A)
NMS-7*		*75* dB(A)

Note 1: Locations NMS-1 and NMS-2 are planned school as NSRs which are still under construction/ not yet constructed; hence the Limit Levels of 75dB(A) is adopted for NMS-1 and NMS-2 until the school is occupied and in operation.

Note 2: 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 is recommended by RE and agreed by IEC, NMS4 is temporary suspended and the monitoring location is relocated to NMS4a.
(#) Additional noise monitoring location is recommended by RE and agreed by IEC which effective on 7 March 2018.

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-1, AMS-5, AMS-6 and AMS-7. No monitoring was conducted at AMS-2, AMS-3 and 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 ***60*** events of 1-hour TSP and ***20*** events of 24-hours TSP monitoring were carried out and the monitoring results are summarized in ***Tables 4-1 to 4-4***. 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-1)

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
3-Apr-18	86	4-Apr-18	9:03	58	60	63
9-Apr-18	76	10-Apr-18	9:03	68	72	74
14-Apr-18	49	16-Apr-18	13:44	73	71	76
20-Apr-18	86	21-Apr-18	9:39	65	69	70
26-Apr-18	39	27-Apr-18	13:44	72	78	89
Average (Range)	**67 (39 – 86)**	Average (Range)		**71 (58 – 89)**		

Table 4-2 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-Apr-18	33	4-Apr-18	10:20	66	73	80
9-Apr-18	52	10-Apr-18	13:47	76	71	71
14-Apr-18	19	16-Apr-18	8:52	63	67	67
20-Apr-18	66	21-Apr-18	9:30	67	61	59
26-Apr-18	23	27-Apr-18	9:28	68	69	69
Average (Range)	**39 (19 – 66)**	Average (Range)		**68 (59 – 80)**		

Table 4-3 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-Apr-18	51	4-Apr-18	13:49	51	53	53
9-Apr-18	64	10-Apr-18	13:30	74	74	68
14-Apr-18	29	16-Apr-18	8:42	69	71	67
20-Apr-18	64	21-Apr-18	9:13	61	59	61
26-Apr-18	56	27-Apr-18	9:11	69	68	65
Average (Range)	**53 (29 – 64)**	Average (Range)		**64 (51 – 74)**		

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

Date	24-hour TSP ($\mu g/m^3$)	1-hour TSP ($\mu g/m^3$)				
		Date	Start Time	1st reading	2nd reading	3rd reading
3-Apr-18	34	4-Apr-18	9:40	47	51	52
9-Apr-18	43	10-Apr-18	9:47	77	70	67
14-Apr-18	25	16-Apr-18	13:01	67	68	72
20-Apr-18	39	21-Apr-18	13:28	63	66	66
26-Apr-18	39	27-Apr-18	13:08	71	69	71
Average (Range)	**36 (25 – 43)**	Average (Range)		**65 (47 – 77)**		

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

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

5. CONSTRUCTION NOISE MONITORING

5.1 GENERAL

5.1.1 In the Reporting Period, noise monitoring was only performed at the additional monitoring locations NMS4a, NMS5, NMS6 and NMS7. No monitoring was conducted at the designated monitoring locations NMS1, NMS2 and NMS3 since they are the planned NSR and still under the construction or not yet constructed.

5.1.2 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 **16** events noise measurements were carried out at the designated locations. 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

Construction Noise Level ($L_{eq30min}$), dB(A)				
Date	**NMS4a**	**NMS5**	**NMS6**	**NMS7**
4-Apr-18	72	64	65	67
10-Apr-18	75	67	65	67
16-Apr-18	71	65	66	68
27-Apr-18	70	59	71	63
Limit Level	**75 dB(A)**			

5.2.2 As shown in ***Tables 5-1,*** the noise level measured at the additional monitoring locations did not exceed the Limit Level.

5.2.3 In the Reporting Period, there were two noise complaints (which triggered Action Level) received on 11 April 2018 and 25 April 2018 for Contract 1 and Contract 2 respectively.

5.2.4 Investigation for complaint for Contract 1 has been conducted and completed by ET. In view of the construction works were carried out within the non-restricted hours and no noise measurement exceedance was recorded, it is concluded that the works under the project did not breach the Noise Control Ordinance. The Contractor has taken immediate action and enhanced the noise mitigation measures to response the complainant's concerns. The noise complaint for Contract 2 was forwarded to ET on 7 May 2018 and investigation is in progress and the investigation findings will be reported next reporting month.

5.2.5 The detailed complaint investigation is presented in ***Section 8***.

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	
	Quantity	Disposal Location	Quantity	Disposal Location
Total generated Inert C&D Materials (‘000m^3)	18.121	-	1.296	-
Hard Road and Large Broken Concrete	6.582	-	0	-
Reused in this Contract (Inert) (‘000m^3)	11.460	-	0.001	-
Reused in other Projects (Inert) (‘000m^3)	0.007	-	0	-
Disposal as Public Fill (Inert) (‘000m^3)	0.072	TKO 137	1.295	TKO 137

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

Type of Waste	Contract 1		Contract 2	
	Quantity	Disposal Location	Quantity	Disposal Location
Recycled Metal (‘000kg)	183.610	License collector	0	-
Recycled Paper / Cardboard Packing (‘000kg)	0.000	License collector	0	-
Recycled Plastic (‘000kg)	0.000	-	0	-
Chemical Wastes (‘000kg)	0.000	-	0	-
General Refuses (‘000m^3)	0.009	SENT	0.071	SENT

7. SITE INSPECTION

7.1 REQUIREMENTS

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

7.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH

Contract 1

7.2.1 In the Reporting Period, joint site inspection for Contract 1 to evaluate site environmental performance was carried out by the RE, ET and the Contractor on **3, 12, 17** and **24 April 2018** in which IEC joined the site inspection with SSEMC on **12 April 2018**. 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
3 April 2018	• Dust mitigation measures should be provided for breaking activities to reduce dust impact. (Po Lam Road) • Waste oil cumulated inside the drip tray should be cleared. (USRT) • The frequency for water spraying on site haul road should be increased in order to reduce dust generation. • C&D waste and general refuse stored on site should be cleaned more frequency.	• Water spraying was provided for breaking works. • Waste oil cumulated inside the drip tray was cleared. • Frequency for water spraying was increased. • C&D waste and general refuse were disposed more frequently.
12 April 2018	• Turbid water discharged from WetSep was observed. Proper maintenance should be provided for the de-silting facilities to ensure all water discharge from site should comply with discharge license requirement. Moreover, the Contractor should review the capacity of de-silting system whether it is sufficient during wet season. (Q3) • Dust mitigation measures should be provided during dusty activities such as uploading, excavation and breaking to reduce dust impact. (A3) • It was reminded that NRMM label should be checked regularly to make sure it is properly displayed on the plant when using on-site. (General)	• No turbid water discharged from WetSep was observed. • Water spraying was provided for dusty activities. • Not required for reminder.
17 April 2018	• Mixture of oil and water cumulated inside drip tray should be cleaned and disposed as chemical waste. (West Portion) • It was reminded that stagnant water cumulated on-site after rainstorm should be cleared to prevent mosquito breeding. (General)	• Mixture of oil and water cumulated inside drip tray was cleared. • Not required for reminder.
24 April 2018	• Drip tray should be provided for chemical containers storage on-site. Also, stagnant water cumulated inside the drip tray should be cleaned. (System B)	• Chemical containers without drip tray were removed and the stagnant water cumulated inside the drip tray was cleared.

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 **6, 11, 18** and **27 April 2018**

in which IEC joined the site inspection with SSEMC on **27 April 2018**. 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
28 March 2018 (last reporting period)	• Tree protection zone should be provided for all retained trees at Portion 1.	• Tree protection zone was provided.
6 April 2018	• Oil stain was observed near the crane at Portion 1. The Contractor should clean up the oil stain and provide proper maintenance for the crane. • The Contractor should clean up the oil mixture cumulated inside the drip tray of the generator at Portion 1. • The Contractor was reminded to improve the shelter for the cement storage at Portion 2	• Oil stain was cleared. • Oil mixture inside drip tray was cleared. • Not required for reminder.
11 April 2018	• Accumulation of C&D wastes were observed on site. The Contractor was advised to remove the waste more frequently and maintained good housekeeping. (Portion 1) • General refuse was observed cumulated in the drain. The Contractor was advised to remove the waste and maintain the drainage system. (Portion 2) • To prevent mosquito breeding on site, the Contractor was reminded to cover water tank located on site. • It was reminded that all retained trees on site should be provided with protection zone.	• The C&D wastes were removed from site. • The general refuse cumulated in drain was removed. • Not required for reminder. • Not required for reminder.
18 April 2018	• Stagnant water cumulated in the drip tray was observed, the Contractor should remove the stagnant water to avoid mosquito breeding. (Portion 1) • General refuse was observed cumulated in drainage channel. The Contractor should remove the general refuse and prevent clogging during rainy days. (Portion 1)	• Stagnant water cumulated in the drip tray was removed. • General refuse cumulated in drainage channel was removed.
27 April 2018	• Seepage of surface runoff from site boundary of Portion 1 near Hiu Kwong Street was observed. The Contractor should properly maintain the perimeter bund of the site to ensure all runoff was collected. • The Contractor should be properly sealed the bottom of hoarding as located at Portion 1 to avoid presence of construction soil at pedestrian road. • The Contractor should improve the covering of noise barrier at Portion 1 to reduce noise impact to Hiu Lai Court. • Free-standing chemical container without drip tray was observed near Hiu Ming Street at Portion 2. The Contractor shall provide drip tray to avoid land contamination.	• The remedial measure was provided and no surface runoff was observed. • To be followed • To be followed • The chemical container has been removed from site.

Other Contracts

7.2.3 Since Contract 3 has not yet commenced, no site inspection was performed in the Reporting Period.

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

8.1.1 In the Reporting Period, two (2) environmental complaints regarding construction noise were received on 11 April 2018 and 25 April 2018 for Contract 1 and Contract 2 respectively.

Complaint received for Contract 1

8.1.2 A public complaint was received by SPRO on 11 April 2018 regarding the day time construction noise which was suspected to be generated by piling work nearby Him Tat House of On Tat Estate. 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, the Contractor 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. To further reduce the inconvenience caused to the nearby resident, the Contractor was advised to properly maintain good site practice including intermittent use of noisy machine plant and appropriate sequencing operation of plant equipment. The implementation of noise mitigation measures will be kept in view in subsequent site inspection.

8.1.3 Investigation Report for the complaint has been submitted by ET with no further comment was issued by IEC.

Complaint received for Contract 2

8.1.4 A public complaint was received by EPD on 25 April 2018 queried about the noise irritation which affects the school classes operation located close to Hiu Kwong Street and Hiu Ming Street. The noise complaint for Contract 2 was forwarded to ET on 7 May 2018 and investigation is in progress by ET and the investigation findings will be reported next reporting month.

8.1.5 The complaint log and Investigation Report for the above complaints are shown in ***Appendix M.***

8.1.6 In the Reporting Period, no summons and prosecution under the EM&A Programme was lodged for the project. The statistical summary table of environmental complaint 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 April 2017 –31 Mar 2018	1	0	**25**	**Dust, Noise and light nuisance**
	2	0	0	NA
1 – 30 April 2018	1	**1**	**26**	**Noise**
	2	**1**	**1**	**Noise**

Table 8-2 Statistical Summary of Environmental Summons

Reporting Period	Contract no.	Environmental Summons Statistics		
		Frequency	Cumulative	Summons Nature
1 April 2017 –31 Mar 2018	1	0	0	NA
	2	0	0	NA
1 – 30 April 2018	1	0	0	NA
	2	0	0	NA

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Contract no.	Environmental Prosecution Statistics		
		Frequency	Cumulative	Prosecution Nature
1 April 2017 –31 Mar 2018	1	0	0	NA
	2	0	0	NA
1 – 30 April 2018	1	0	0	NA
	2	0	0	NA

The Other Contracts

8.1.7 Since Contract 3 has not yet commenced, no environmental complaint, summons and prosecution are received in the Reporting Period.

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:

i. Pedestrian Connectivity System B:
   - Piling works at the South Lift Tower
   - Pad footing excavation at the North Lift Tower

ii. Internal Road L1 and L5:
   - Continue excavation of the internal road L1 adjacent to Pedestrian Connectivity System B
   - Continue excavation for construction of manholes and drainage pipes of the internal road L5

iii. Box Culvert BC1 and BC2:
   - Continue construction of the box culverts BC1 and BC2

iv. West Portal, East Portal and Underpass Tunnel:
   - Continue slope cut at slope A3 and A4
   - Continue slope cut and soil nailing works at East Portal.
   - Continue excavation for heading of tunnel face from West Portal.

v. Water Pumping Station including Retaining Wall RWA13 and RWA14:
   - Continue excavation at Water Pumping Station area
   - Continue construction of base slabs of retaining wall RWA13

- Continue construction of blinding layers of retaining wall RWA14

vi. Portion A3:
- Continue excavation for site formation
- Continue construction of U-channel

vii. Portion B8 and KW Asphalt Plant:
- Continue backfilling and compacting

viii. Portion B15:
- Continue demolishment of the KWP Crushing plant and Batching Plant

ix. Underground Stormwater Retention Tank (USRT):
- Continue open-cut excavation for the underground stormwater retention tank
- Continue construction of base slabs in Zone B.
- Continue steel reinforcement works for a wall structure in Zone A.

x. Internal Road L4 Pedestrian Connectivity System A, RWA12 and RWA18:
- Continue construction of wall structure of retaining wall bay#17 to 20 of RWA12.
- Continue excavation of retaining wall RWA18 and commence construction of bas slabs
- Continue construction of noise barrier structures.

xi. PTT:
- excavation construction of pile caps.

xii. Rock Slope Survey and Slope Stabilization at Portion B1:
- Continue installation of raking drains at slope feature 11NE-D/C998
- Continue rock dowelling works at slope feature 11NE-D/C998 and slope A16
- Commence installation of wire meshes at slope feature 11NE-D/C1003
- Commence rock stabilization works for slope feature 11NE-D/C999 upon receiving instructions from the Engineer
- Awaiting approval of method statement for bamboo scaffolding to be used at slope feature 11NE-D/C988 and 11NE-D/C1004

xiii. Establishment Works of the Planting Medium on the Existing Slope Berms in Portion B1 and B5:
- Continue establishment works at existing berms on slopes in Portion B1 for 9-month establishment works for landscape softworks under establishment schedule no.1
- Continue establishment works at existing berms on slopes in Portion B1 for 17-month establishment works for landscape softworks under establishment schedule no.2
- Continue establishment works on slopes in Portion B1 for 30-month establishment works for landscape softworks under establishment schedule no.3

xiv. Mitigation Works for Natural Terrain Catchment B5:
- Continue construction of 450 dia. Drainage connecting to an existing catch pit
- Continue construction of a maintenance staircase
- Continue construction of a gabion block

xv. Road Improvement Works at Po Lam Road:
- Continue site clearance and construction of temporary footpath in Phase 1.
- Commence excavation to expose existing underground utilities in Phase 1.

xvi. Land Contamination – Ground Investigation:
- Continue drilling works and installation of a monitoring well for ground investigation

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

1. Portion 1: Continue piling work; Continue Piling Load Test and ELS and commence to erect temporary working platform
2. Portion 2: Continue piling works and rock slope excavation.
3. Portion 4: Continue Stage 2 road construction with associated works
4. Portion 5: Continue to erect ELS and commence footing construction of the covered walkway

5. Portion 6: Continue Rock dowel installation work and construction of EPD road realignment
6. Portion 7: Continue slope improvement work in Site B
7. Portion 8 & 9: Commence baffle superstructure work and flexible barrier foundation; completed slope improvement work in Site A and Site B

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

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

10.1.1 This is **13th** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **30 April 2018**.

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, all noise measurement results were below the limit level. However, two noise complaints (which triggered Action Level) were received on 11 April 2018 and 25 April 2018 for Contract 1 and Contract 2 respectively. Investigation for complaint for Contract 1 has completed by ET while the complaint for Contract 1 received by ET on 7 May 2018 was in progress and reported in next reporting month.

10.1.4 In the Reporting Period, two (2) environmental complaints regarding construction noise were received on 11 April 2018 and 25 April 2018 for Contract 1 and Contract 2 respectively. Investigation for complaint for Contract 1 has completed by ET. In view of the construction works were carried out within the non-restricted hours and no noise measurement exceedance was recorded, it is concluded that the works under the project did not breach the Noise Control Ordinance. The Contractor has taken immediate action and enhanced the noise mitigation measures to response the complainant's concerns. The noise complaint for Contract 2 was forwarded to ET on 7 May 2018 and investigation is in progress and the investigation findings will be reported next reporting month

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

10.1.6 During the Reporting Period, weekly joint site inspection by the RE, ET with the relevant Main-contractor was carried out for Contracts 1 and 2 in accordance with the EM&A Manual stipulation whereas IEC performed monthly site inspection for both contracts. No non-compliance observed during the site inspection.

10.2 RECOMMENDATIONS

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

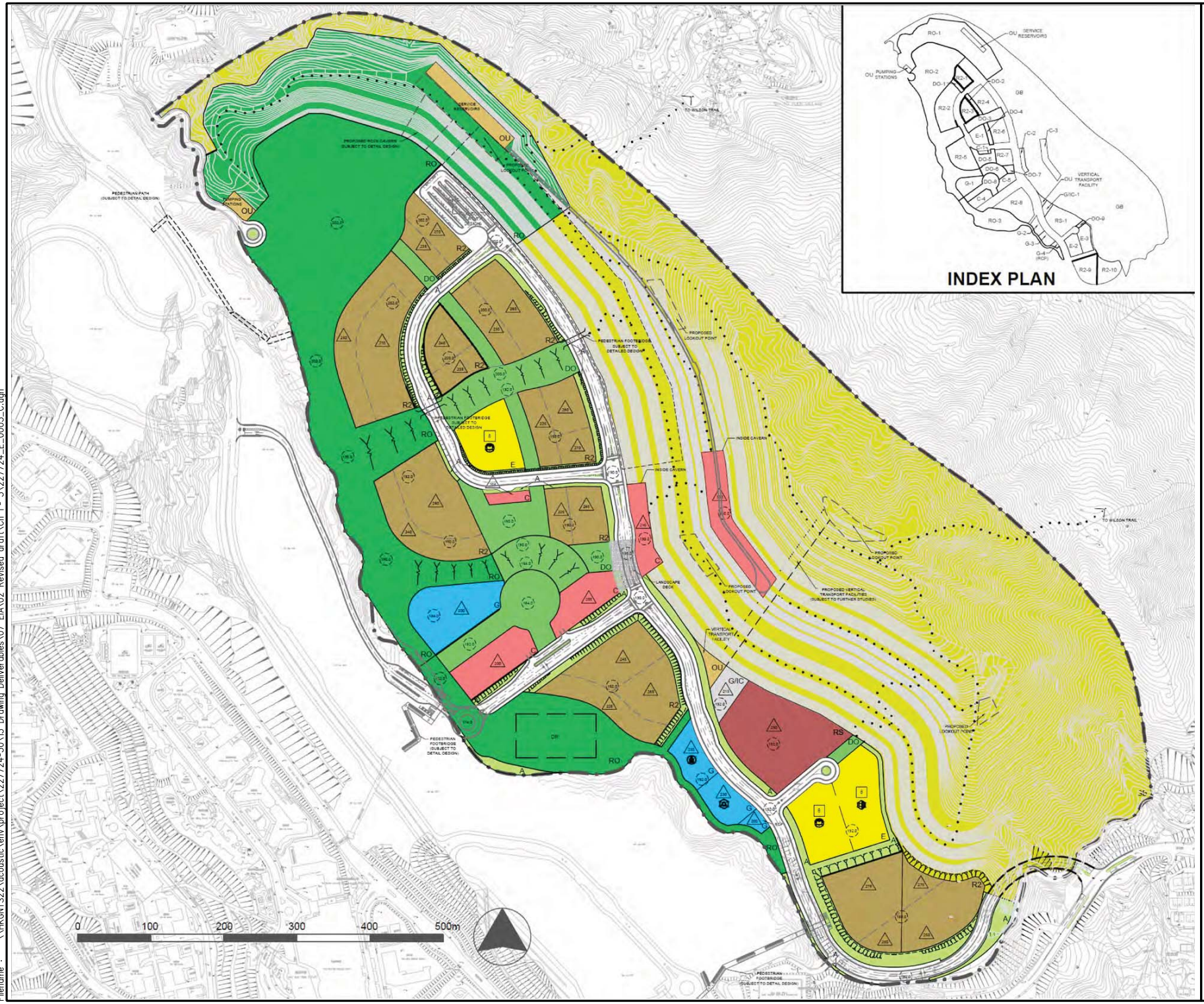
10.2.2 Since construction site is highly visible to the resident at nearby estates, the Contractors should fully implement air quality and noise mitigation measures to reduce construction dust emission and construction noise nuisance. Furthermore, noise mitigation measures such as using quiet plants should be implemented in accordance with the EM&A requirement.

10.2.3 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.

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

Appendix A

Layout plan of the Project



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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Recommended Outline Development Plan

Drawing no.	Rev.
227724/E/0003	C

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: AS SHOWN

Status: PRELIMINARY

COPYRIGHT RESERVED

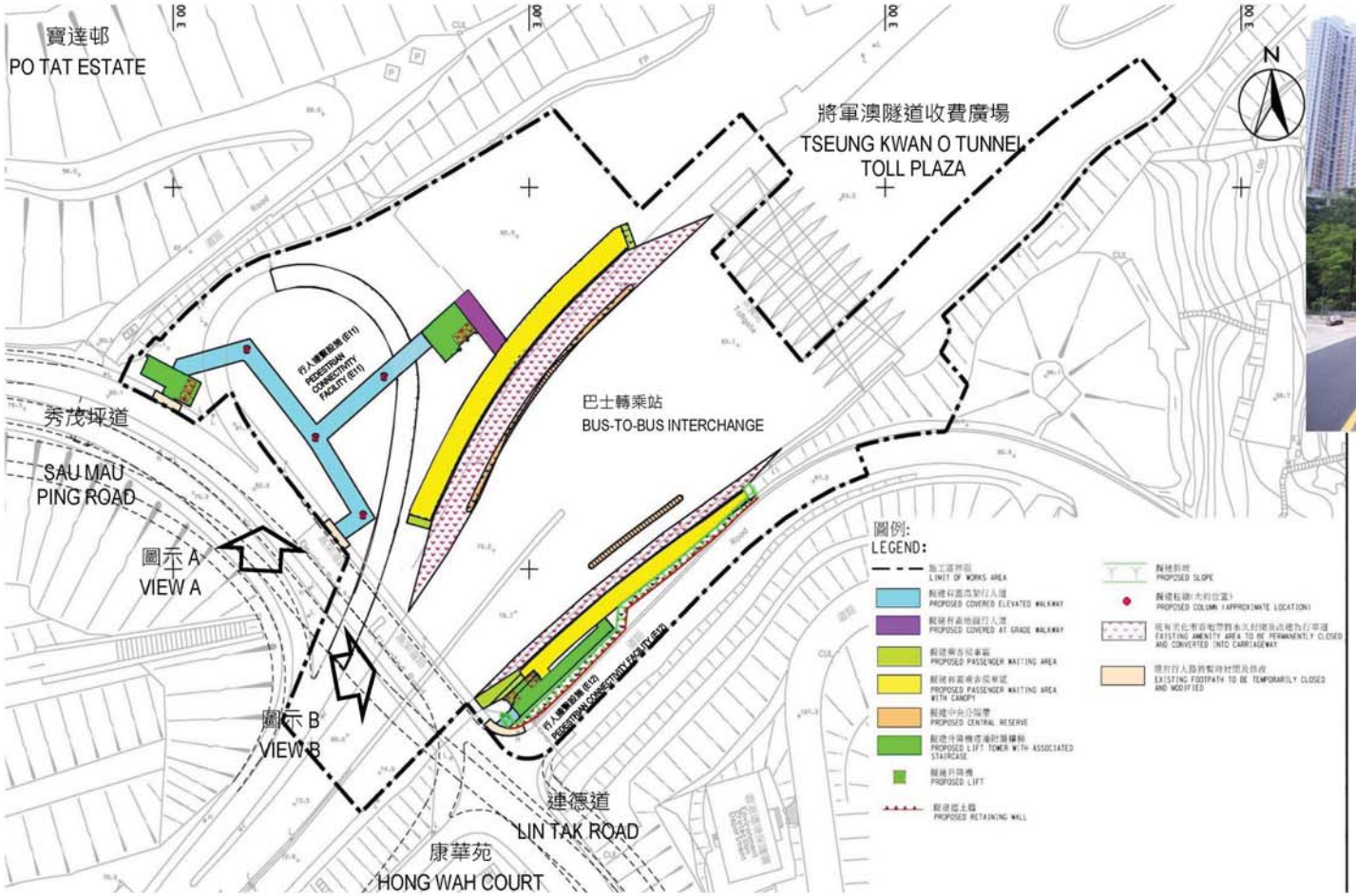
CEDD 土木工程拓展署 Civil Engineering and Development Department

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

圖則名稱 drawing title 安達臣道石礦場發展工程位置圖 DEVELOPMENT OF ANDERSON ROAD QUARRY SITE PROJECT LOCATION PLAN	**繪圖** drawn H K TSANG	**簽署** initial	**日期** date 23.3.16	**項目編號** item no.	**辦事處** office 新界東拓展處 NEW TERRITORIES EAST DEVELOPMENT OFFICE
	核對 checked L M CHAN	**簽署** initial	**日期** date 23.3.16	**比例** scale 1:10 000 @ A3	
	核准 approved T S LI	**簽署** initial	**日期** date 23.3.16	**圖則編號** drawing no. CDEARQZ0003	CEDD 土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

S:\Drawing\CDEARQ\UNctrol_copy\CDEARQZ0003\CDEARQZ0003.dgn

A3 297MM X 420MM



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

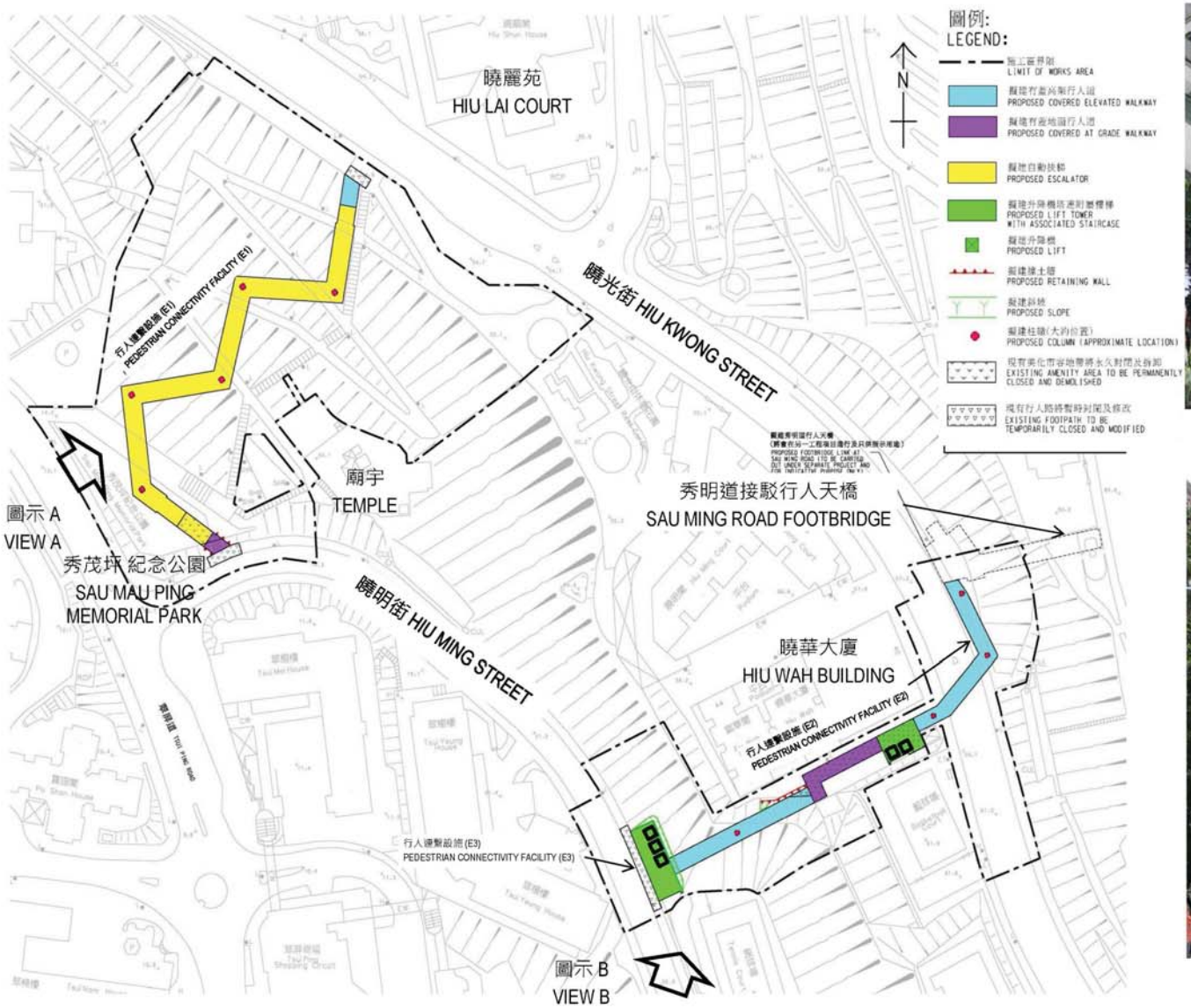
項目編號 Item No.
765CL

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



圖示 A VIEW A

圖示 B VIEW B

圖則名稱 Drawing Title

行人連繫設施(E1、E2及E3) - 平面圖及構思圖

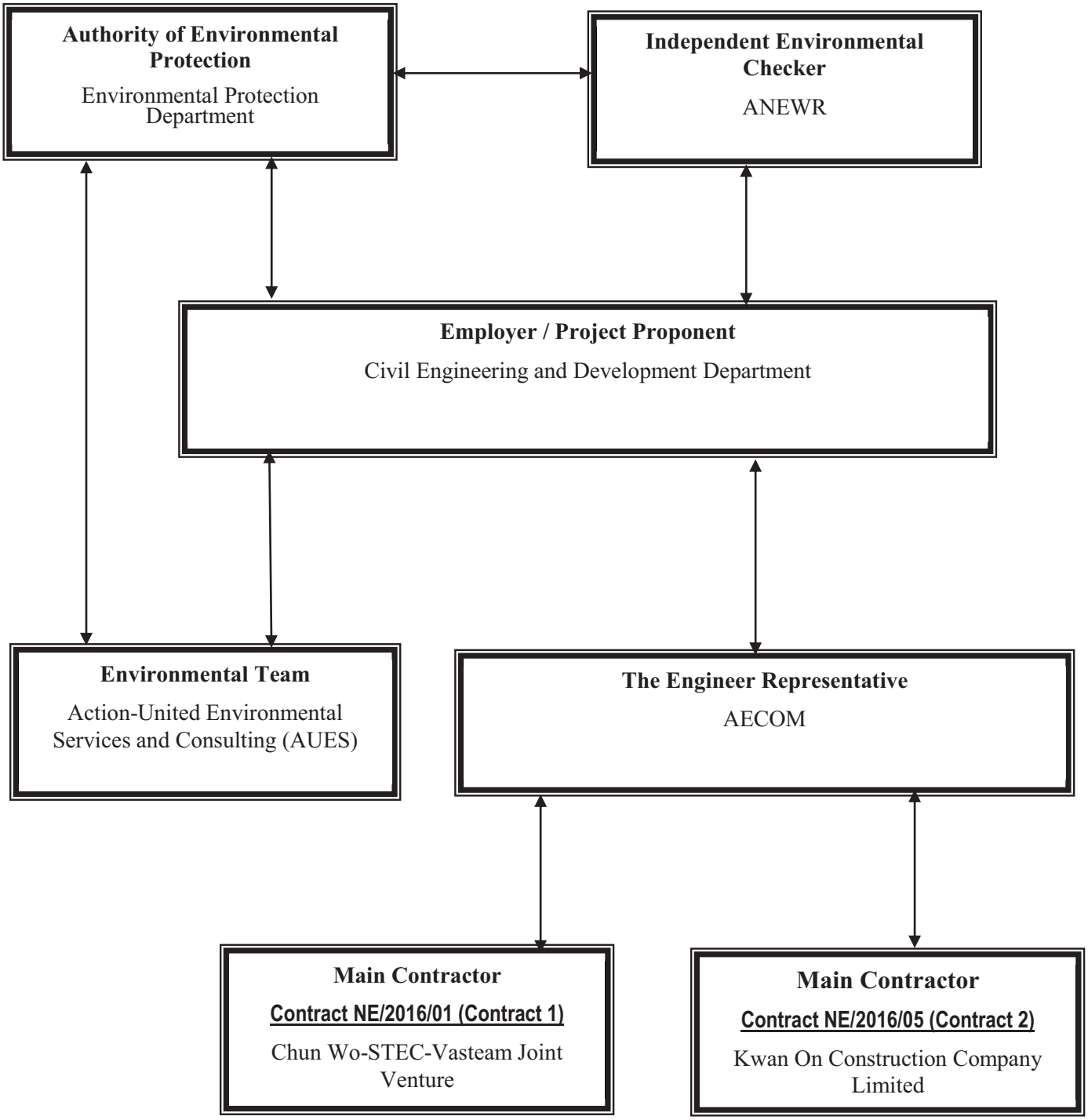
Pedestrian Connectivity Facilities (E1, E2 and E3) - Layout Plan and Artist's Impression

項目編號 Item No. 765CL	辦事處 Office 新界東拓展處 NEW TERRITORIES EAST DEVELOPMENT OFFICE
比例 Scale	土木工程拓展署 CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT
圖則編號 Drawing No. 附件二 Appendix 2	

Appendix B

Organization Chart

Project Organization Structure for



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

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	Stephen Li	2301 1383	2739 0076
AECOM	Chief Resident Engineer	Dennis Leung	2967 6608	2473 3221
AECOM	Senior Resident Engineer	Simon Leung	2967 6608	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	Kiwi Chan	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	Stephen Li	2301 1383	2739 0076
AECOM	Chief Resident Engineer	Dennis Leung	2967 6608	2473 3221
AECOM	Senior Resident Engineer	Simon Leung	2967 6608	2473 3221
ANEWR	Independent Environmental Checker	Adi Lee	2618 2836	3007 8648
KOCCL	Project Director	Ambrose Kwong	2889 2675	2558 6900
KOCCL	Site Agent	Antony Kwok	2898 8510	2558 6900
KOCCL	Safety and Environmental Manager	Joly C K Kwong	6111 5711	2558 6900
KOCCL	Environmental Officer	Fung Hiu Lam, Purvi	6395 3685	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

Appendix C

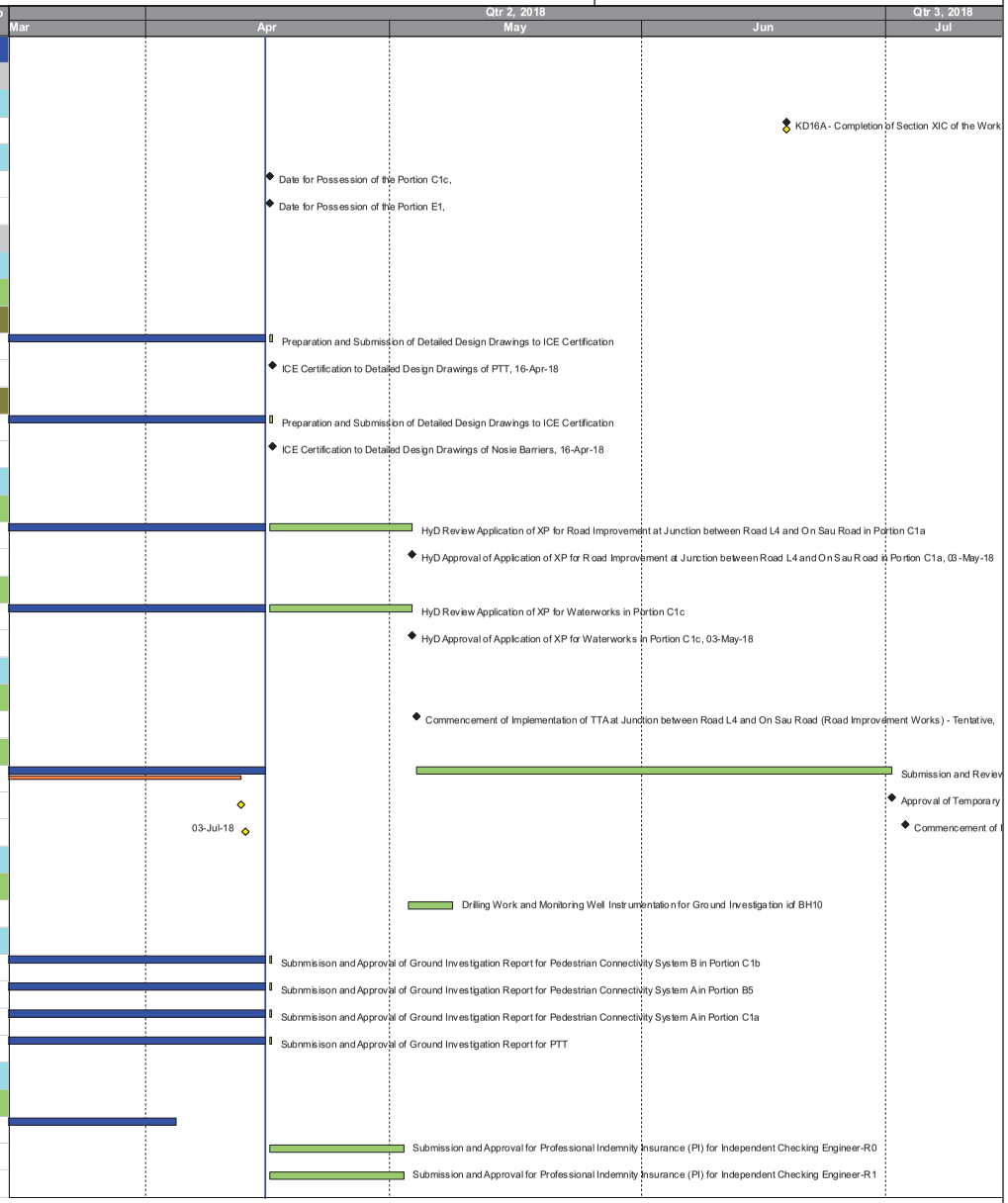
Construction Programme
(a) Contract 1 (NE/2016/01)
(b) Contract 2 (NE/2016/05)

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

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

25 Apr 2018

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ARQ - Works Programme Rev.1 - 3MRP (15 Apr 2018)								
Project Key Dates								
Key Dates for Completion of Sections of the Works								
AKC1180	KD16A - Completion of Section XIC of the Works - Mitigation Works for Natural Terrain Catchment B5	0	0		18-Jun-18		18-Jun-18*	0%
Possession Periods								
AKP1220	Date for Possession of the Portion C1c	0	0	24-Jan-18		16-Apr-18*		0%
AKP1270	Date for Possession of the Portion E1	0	0	25-Dec-16		16-Apr-18*		0%
Preliminary								
Design								
Alternative Design (AD)								
PTT (Changing from Bored Piles to Socket H Piles and Pile Cap/Tie Beam Thickness)								
APD1040	Preparation and Submission of Detailed Design Drawings to ICE Certification	30	273	07-Jul-17	10-Aug-17	16-May-17 A	16-Apr-18	98%
APD1050	ICE Certification to Detailed Design Drawings of PTT	0	0		10-Aug-17		16-Apr-18	0%
Noise Barriers (Re-design of Footings) at Road L4								
APD2040	Preparation and Submission of Detailed Design Drawings to ICE Certification	30	352	29-May-17	04-Jul-17	06-Feb-17 A	16-Apr-18	98%
APD2050	ICE Certification to Detailed Design Drawings of Nosie Barriers	0	0		04-Jul-17		16-Apr-18	0%
Excavation Permit (XP)								
On Sau Road (Junction between Road L4 and On Sau Road)								
APF1020	HyD Review Application of XP for Road Improvement at Junction between Road L4 and On Sau Road in Portion C1a	180	343	26-May-17	21-Nov-17	26-May-17 A	03-May-18	90%
APF1030	HyD Approval of Application of XP for Road Improvement at Junction between Road L4 and On Sau Road in Portion C1a	0	0		21-Nov-17		03-May-18	0%
Portion C1c								
APF1170	HyD Review Application of XP for Waterworks in Portion C1c	180	151	01-Aug-17	27-Jan-18	04-Dec-17 A	03-May-18	90%
APF1180	HyD Approval of Application of XP for Waterworks in Portion C1c	0	0		27-Jan-18		03-May-18	0%
Temporary Traffic Arrangement and Control								
On Sau Road (Junction between Road L4 and On Sau Road)								
APT2030	Commencement of Implementation of TTA at Junction between Road L4 and On Sau Road (Road Improvement Works) - Tentative	0	0	22-Nov-17		04-May-18		0%
Portion C1c								
APT4010	Submission and Review of Temporary Traffic Arrangement (TTA) Scheme for Portion C1c	75	210	28-Jan-18	12-Apr-18	04-Dec-17 A	01-Jul-18	21.33%
APT4020	Approval of Temporary Traffic Arrangement (TTA) Scheme for Portion C1c	0	0		12-Apr-18		01-Jul-18	0%
APT4030	Commencement of Implementation of TTA for Portion C1c	0	0	13-Apr-18		03-Jul-18		0%
Land Contamination - Ground Investigation								
Portion B7/B12/B15 (BH-01 to BH-11)								
APL1030A007	Drilling Work and Monitoring Well Instrumentation for Ground Investigation of BH10	0	5			03-May-18*	08-May-18	0%
Ground Investigation								
APG1110	Submmisison and Approval of Ground Investigation Report for Pedestrian Connectivity System B in Portion C1b	21	277	01-Jun-17	24-Jun-17	10-May-17 A	16-Apr-18	98%
APG1120	Submmisison and Approval of Ground Investigation Report for Pedestrian Connectivity System A in Portion B5	21	313	22-Mar-17	19-Apr-17	22-Mar-17 A	16-Apr-18	98%
APG1130	Submmisison and Approval of Ground Investigation Report for Pedestrian Connectivity System A in Portion C1a	21	164	24-Aug-17	16-Sep-17	21-Sep-17 A	16-Apr-18	98%
APG1140	Submmisison and Approval of Ground Investigation Report for PTT	21	289	05-Aug-17	29-Aug-17	24-Apr-17 A	16-Apr-18	98%
ARQ - MEP Submission								
General Submission								
A1029	Submission and Approval for Professional Indemnity Insurance (PI) for Designer	0	171			04-Sep-17 A	04-Apr-18 A	100%
A1030	Submission and Approval for Professional Indemnity Insurance (PI) for Independent Checking Engineer-R0	0	14			16-Apr-18*	02-May-18	0%
A1031	Submission and Approval for Professional Indemnity Insurance (PI) for Independent Checking Engineer-R1	0	14			16-Apr-18*	02-May-18	0%



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

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

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

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

25 Apr 2018

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
A1050	Submission and Approval for Nomination of E&M Engineer (Pumping Station)-R1	0	14			16-Apr-18*	02-May-18	0%
A1140	Submission and Approval for Nomination of Designer	0	117			20-Nov-17 A	16-Apr-18	95%
A1170	Submission and Approval for Independent Test Laboratory of PE Pipe-R1	0	14			16-Apr-18*	02-May-18	0%
A1180	Submission and Approval for Gate Valveand Sluice Valve	0	14			16-Apr-18*	02-May-18	0%
A1190	Submission and Approval for 300&100 uPVC for Gravity Sewerage and Storm Water Pipes at Natural Terrain	0	14			16-Apr-18*	02-May-18	0%
A1200	Submission and Approval for E-Co Ductile Iron Pipe and Fittings	0	146			16-Oct-17 A	17-Apr-18	95%
A1210	Submission and Approval for Mild Steel Pipes and Fittings	0	21			16-Apr-18*	10-May-18	0%
Fresh and Salt Water Pumping Station								
Mechanical								
A1340	Submission and Approval for Material of Roller Shutter at Fresh Water Pumping Station	0	17			13-Mar-18 A	04-Apr-18 A	100%
A1360	Submission and Approval for Material of Pipes and Fittings at Fresh Water Pumping Station	0	32			13-Mar-18 A	23-Apr-18	50%
Fresh and Salt Water Service Reservoir								
Instrumentation								
A2070	Submission and Approval for Design of SCADA Networks System at Fresh Water Reservoir	0	14			19-Jun-18*	05-Jul-18	0%
A2080	Submission and Approval for Design of SCADA Networks System at Salt Water Reservoir	0	14			19-Jun-18*	05-Jul-18	0%
Underpass								
Electrical								
A2290	Submission and Approval for Design of Lighting System at Underpass	0	14			06-Jul-18*	21-Jul-18	0%
A2300	Submission and Approval for Design of Busbar Chamber at Underpass	0	14			06-Jul-18*	21-Jul-18	0%
A2310	Submission and Approval for Design of ATS Panel at Underpass	0	14			06-Jul-18*	21-Jul-18	0%
A2320	Submission and Approval for Design of LV Switchboard at Underpass	0	14			06-Jul-18*	21-Jul-18	0%
Underground Stormwater Retention Tank								
MVAC								
A2460	Submission and Approval for Design of MVAC at USRT	0	14			15-May-18*	31-May-18	0%
A2470	Submission and Approval for Material of MVAC at USRT	0	14			23-May-18*	07-Jun-18	0%
Fire Services								
A2600	Submission and Approval for Design of FSS at USRT	0	14			15-May-18*	31-May-18	0%
A2610	Submission and Approval for Material of FSS at USRT	0	14			06-Jun-18*	22-Jun-18	0%
Mechanical								
A2620	Submission and Approval for Material of Flap Valves,Stoplogs and Roller Shutter at USRT	0	28			08-Feb-18 A	15-Mar-18 A	100%
A3360	Submission and Approval for Material of SS Cages and Guide Rails at USRT	0	14			07-May-18*	23-May-18	0%
Electrical								
A2480	Submission and Approval for Design of Power Supply System at USRT	0	14			15-May-18*	31-May-18	0%
A2490	Submission and Approval for Design of Electrical Works at USRT	0	14			15-Jun-18*	03-Jul-18	0%
A2500	Submission and Approval for Design of Earthing and Lightning Protection System at USRT	0	28			17-Mar-18 A	23-Apr-18	50%
A2510	Submission and Approval for Design of Motor Control Centre at USRT	0	14			15-Jun-18*	03-Jul-18	0%
A2540	Submission and Approval for Design of Photovoltaic System at USRT	0	14			15-Jun-18*	03-Jul-18	0%
A2550	Submission and Approval for Design of Small Power and ELV at USRT	0	14			15-Jun-18*	03-Jul-18	0%
A2560	Submission and Approval for Material of Motor Control Centre at USRT	0	14			21-Jun-18*	07-Jul-18	0%
A2590	Submission and Approval for Material of Photovoltaic System at USRT	0	14			21-Jun-18*	07-Jul-18	0%
Pedestrian Connectivity System A								
MVAC								
A2630	Submission and Approval for Design of MVAC at SYS-A	0	14			06-Jul-18*	21-Jul-18	0%

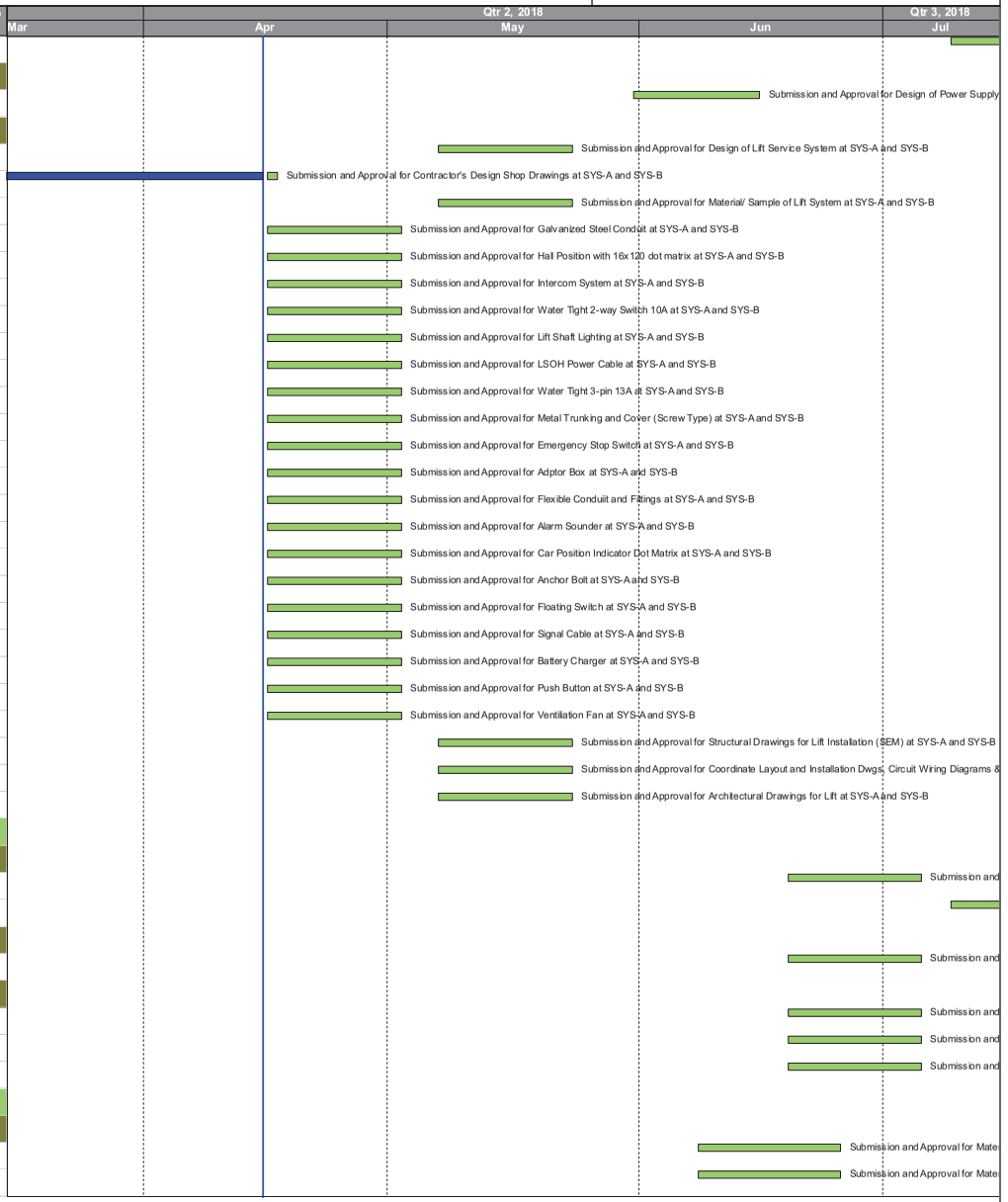
Planned Bar (WP)
Actual Bar
Forecast Bar
Planned Milestone (WP)
Milestone

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

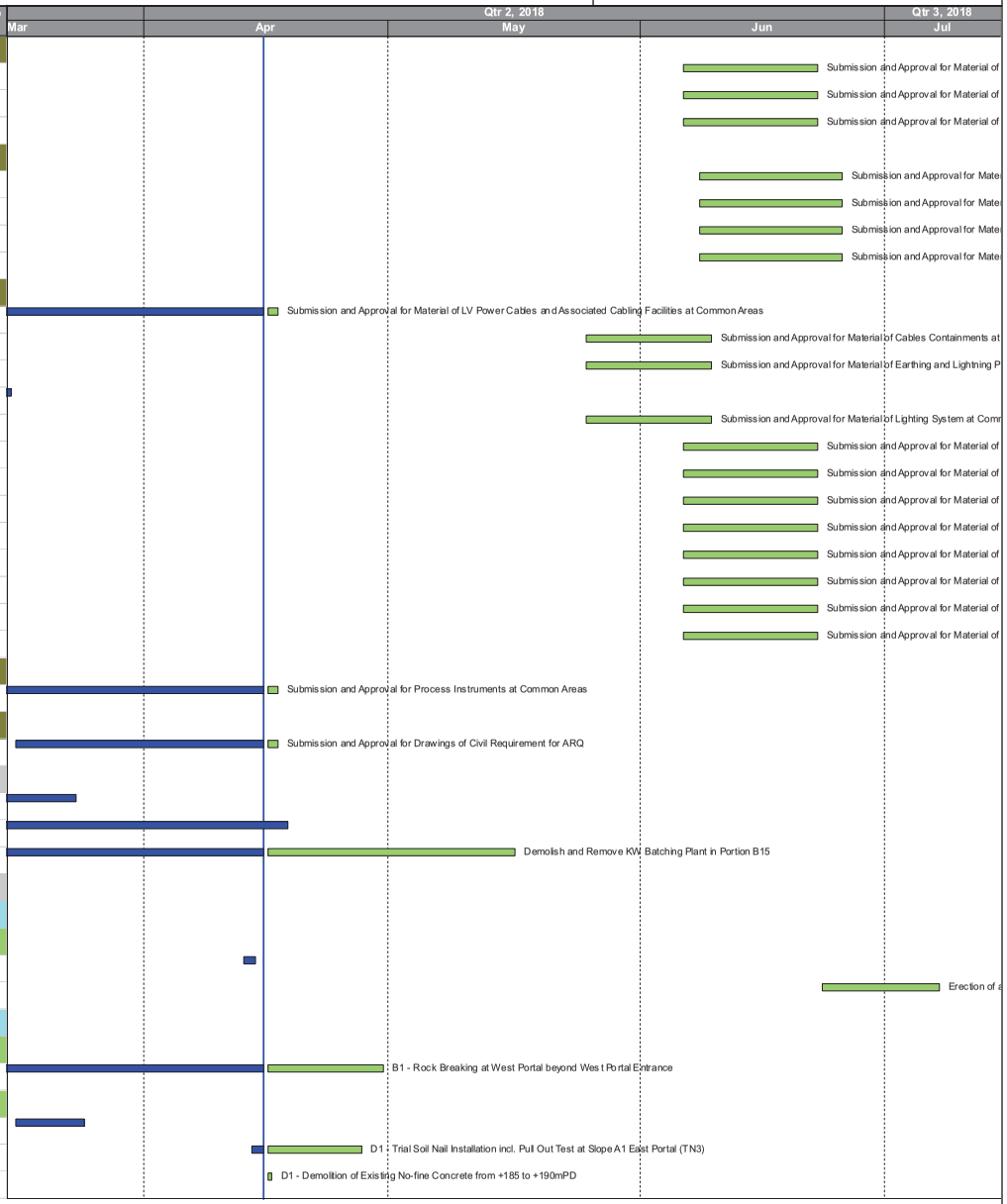
ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

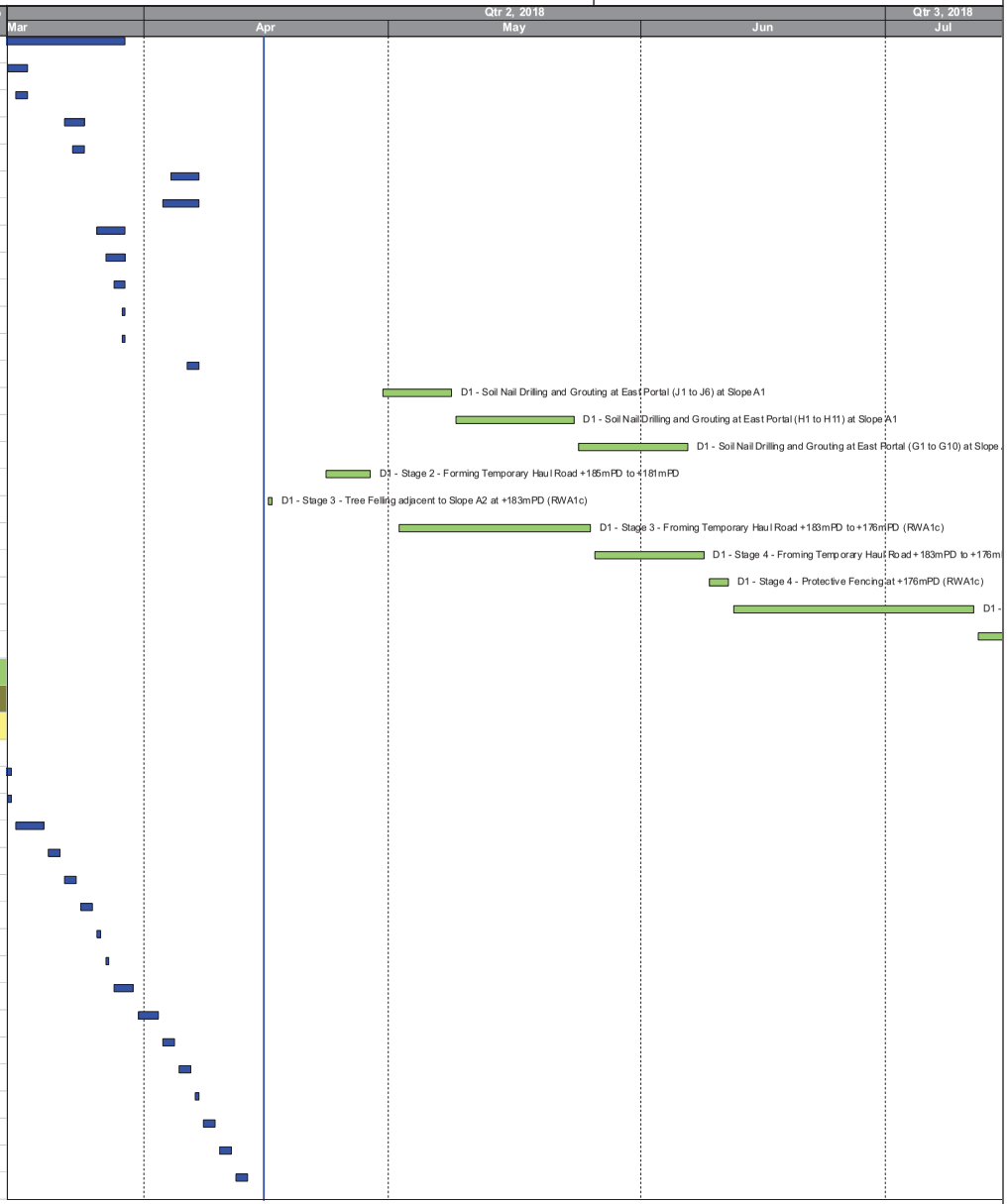
Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
A2640	Submission and Approval for Material of MVAC at SYS-A	0	14			09-Jul-18*	24-Jul-18	0%
Electrical								
A2650	Submission and Approval for Design of Power Supply System at SYS-A	0	14			31-May-18*	15-Jun-18	0%
Passenger Lift								
A2690	Submission and Approval for Design of Lift Service System at SYS-A and SYS-B	0	14			07-May-18*	23-May-18	0%
A2700	Submission and Approval for Contractor's Design Shop Drawings at SYS-A and SYS-B	0	58			31-Jan-18 A	17-Apr-18	90%
A2710	Submission and Approval for Material/ Sample of Lift System at SYS-A and SYS-B	0	14			07-May-18*	23-May-18	0%
A2720	Submission and Approval for Galvanized Steel Conduit at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2730	Submission and Approval for Hall Position with 16x120 dot matrix at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2740	Submission and Approval for Intercom System at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2750	Submission and Approval for Water Tight 2-way Switch 10A at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2760	Submission and Approval for Lift Shaft Lighting at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2770	Submission and Approval for LSOH Power Cable at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2780	Submission and Approval for Water Tight 3-pin 13A at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2790	Submission and Approval for Metal Trunking and Cover (Screw Type) at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2800	Submission and Approval for Emergency Stop Switch at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2810	Submission and Approval for Adptor Box at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2820	Submission and Approval for Flexible Conduiit and Fittings at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2830	Submission and Approval for Alarm Sounder at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2840	Submission and Approval for Car Position Indicator Dot Matrix at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2850	Submission and Approval for Anchor Bolt at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2860	Submission and Approval for Floating Switch at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2870	Submission and Approval for Signal Cable at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2880	Submission and Approval for Battery Charger at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2890	Submission and Approval for Push Button at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A2900	Submission and Approval for Ventiliation Fan at SYS-A and SYS-B	0	14			16-Apr-18*	02-May-18	0%
A3370	Submission and Approval for Structural Drawings for Lift Installation (SEM) at SYS-A and SYS-B	0	14			07-May-18*	23-May-18	0%
A3380	Submission and Approval for Coordinate Layout and Installation Dwgs, Circuit Wiring Diagrams & Control Logic Diagrams	0	14			07-May-18*	23-May-18	0%
A3390	Submission and Approval for Architectural Drawings for Lift at SYS-A and SYS-B	0	14			07-May-18*	23-May-18	0%
Pedestrian Connectivity System B								
MVAC								
A2910	Submission and Approval for Design of MVAC at SYS-B	0	14			19-Jun-18*	05-Jul-18	0%
A2920	Submission and Approval for Material of MVAC at SYS-B	0	14			09-Jul-18*	24-Jul-18	0%
Fire Services								
A2960	Submission and Approval for Design of FSS at SYS-B	0	14			19-Jun-18*	05-Jul-18	0%
Electrical								
A2930	Submission and Approval for Design of Power Supply System at SYS-B	0	14			19-Jun-18*	05-Jul-18	0%
A2940	Submission and Approval for Design of Electrical Works at SYS-B	0	14			19-Jun-18*	05-Jul-18	0%
A2950	Submission and Approval for Design of Earthing and Lightning Protection System at SYS-B	0	14			19-Jun-18*	05-Jul-18	0%
Common for All Areas								
MVAC								
A2970	Submission and Approval for Material of MVAC Thermal Insulation at Common Areas	0	14			08-Jun-18*	25-Jun-18	0%
A2980	Submission and Approval for Material of MVAC LMCP at Common Areas	0	14			08-Jun-18*	25-Jun-18	0%



Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
Fire Services								
A3070	Submission and Approval for Material of Manual Fire Alarm System at Common Areas	0	14			06-Jun-18*	22-Jun-18	0%
A3080	Submission and Approval for Material of Manual Fire Alarm Control at Common Areas	0	14			06-Jun-18*	22-Jun-18	0%
A3090	Submission and Approval for Material of Battery and Charger at Common Areas	0	14			06-Jun-18*	22-Jun-18	0%
Plumbing and Drainage Services								
A3120	Submission and Approval for Material of Tanks,Pipes,Valves and Fittings for Fresh Water and Cleaning Water Supply System	0	14			08-Jun-18*	25-Jun-18	0%
A3130	Submission and Approval for Material of Tanks,Pipes,Valves and Fittings for Flushing Water Supply System	0	14			08-Jun-18*	25-Jun-18	0%
A3140	Submission and Approval for Material of Pipes,Valves and Fittings for Drainage System	0	14			08-Jun-18*	25-Jun-18	0%
A3150	Submission and Approval for Material of LMCP for Drainage Pump System	0	14			08-Jun-18*	25-Jun-18	0%
Electrical								
A3000	Submission and Approval for Material of LV Power Cables and Associated Cabling Facilities at Common Areas	0	44			17-Feb-18 A	17-Apr-18	90%
A3010	Submission and Approval for Material of Cables Containments at Common Areas	0	14			25-May-18*	09-Jun-18	0%
A3020	Submission and Approval for Material of Earthing and Lightning Protection System at Common Areas	0	14			25-May-18*	09-Jun-18	0%
A3030	Submission and Approval for Material of Sub-main Power Distribution System at Common Areas	0	70			18-Dec-17 A	15-Mar-18 A	100%
A3040	Submission and Approval for Material of Lighting System at Common Areas	0	14			25-May-18*	09-Jun-18	0%
A3050	Submission and Approval for Material of Lighting Control Panel at Common Areas	0	14			06-Jun-18*	22-Jun-18	0%
A3210	Submission and Approval for Material of CCTV at Common Areas	0	14			06-Jun-18*	22-Jun-18	0%
A3220	Submission and Approval for Material of Intercom System at Common Areas	0	14			06-Jun-18*	22-Jun-18	0%
A3230	Submission and Approval for Material of Telephone System at Common Areas	0	14			06-Jun-18*	22-Jun-18	0%
A3240	Submission and Approval for Material of Security System at Common Areas	0	14			06-Jun-18*	22-Jun-18	0%
A3250	Submission and Approval for Material of Redio System at Common Areas	0	14			06-Jun-18*	22-Jun-18	0%
A3260	Submission and Approval for Material of ELV Cable at Common Areas	0	14			06-Jun-18*	22-Jun-18	0%
A3270	Submission and Approval for Material of UPS at Fresh and Salt Water Pumping Station	0	14			06-Jun-18*	22-Jun-18	0%
Instrumentation								
A3180	Submission and Approval for Process Instruments at Common Areas	0	48			12-Feb-18 A	17-Apr-18	90%
Civil Requirement								
A3110	Submission and Approval for Drawings of Civil Requirement for ARQ	0	23			16-Mar-18 A	17-Apr-18	90%
Interface with Other Contractors								
AI1040	KW to Backfill the Stockpile Area within South Boundary of Zone A (Assume 50 layers with 2 days cycle per layer)	100	170	05-May-17	31-Aug-17	28-Aug-17 A	23-Mar-18 A	100%
AI1050A002	Demolish and Remove KWP Crushing Plant in Portion B15	0	51			10-Feb-18 A	18-Apr-18 A	100%
AI1050A003	Demolish and Remove KW Batching Plant in Portion B15	0	55			08-Mar-18 A	16-May-18	15%
Construction and Installation								
Temporary Works								
Tower Cranes at Underground Stormwater Tank								
ACT1120A002	Erection of a Tower Crane in USRT Zone A (Bay 8)	0	2			13-Apr-18 A	14-Apr-18 A	100%
ACT1120A003	Erection of a Tower Crane in USRT Zone C (Bay 9a)	0	12			23-Jun-18*	07-Jul-18	0%
Underpass Tunnel								
West Portal								
ACU1060A001	B1 - Rock Breaking at West Portal beyond West Portal Entrance	0	348			17-May-17 A	30-Apr-18	88%
East Portal								
ACU2040A012a02	D1 - Trial Soil Nail Installation incl. Pull Out Test at Slope A1 East Portal (TN4)	0	9			16-Mar-18 A	24-Mar-18 A	100%
ACU2040A012a03	D1 - Trial Soil Nail Installation incl. Pull Out Test at Slope A1 East Portal (TN3)	0	14			14-Apr-18 A	27-Apr-18	0%
ACU2050A002	D1 - Demolition of Existing No-fine Concrete from +185 to +190mPD	0	1			16-Apr-18*	16-Apr-18	0%



Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACU2050A003	D1 - Trimming of Slope Profile for Permanent Soil Nailing Works at Row K and L	0	22			05-Mar-18 A	29-Mar-18 A	100%
ACU2050A004a01	D1 - Soil Nail Drilling and Grouting at East Portal (K22 to K28) at Slope A1	0	3			15-Mar-18 A	17-Mar-18 A	100%
ACU2050A004a02	D1 - Soil Nail Drilling and Grouting at East Portal (K17 to K21) at Slope A1	0	2			16-Mar-18 A	17-Mar-18 A	100%
ACU2050A004a03	D1 - Soil Nail Drilling and Grouting at East Portal (K9 to K16) at Slope A1	0	3			22-Mar-18 A	24-Mar-18 A	100%
ACU2050A004a04	D1 - Soil Nail Drilling and Grouting at East Portal (K5 to K8) at Slope A1	0	2			23-Mar-18 A	24-Mar-18 A	100%
ACU2050A004a05	D1 - Soil Nail Drilling and Grouting at East Portal (K4) at Slope A1	0	3			04-Apr-18 A	07-Apr-18 A	100%
ACU2050A004a06	D1 - Soil Nail Drilling and Grouting at East Portal (K1 to K3) at Slope A1	0	4			03-Apr-18 A	07-Apr-18 A	100%
ACU2050A005a01	D1 - Soil Nail Drilling and Grouting at East Portal (L13 to L20) at Slope A1	0	4			26-Mar-18 A	29-Mar-18 A	100%
ACU2050A005a02	D1 - Soil Nail Drilling and Grouting at East Portal (L8 to L12) at Slope A1	0	3			27-Mar-18 A	29-Mar-18 A	100%
ACU2050A005a03	D1 - Soil Nail Drilling and Grouting at East Portal (L4 to L7) at Slope A1	0	2			28-Mar-18 A	29-Mar-18 A	100%
ACU2050A005a04	D1 - Soil Nail Drilling and Grouting at East Portal (L2 to L3) at Slope A1	0	1			29-Mar-18 A	29-Mar-18 A	100%
ACU2050A005a05	D1 - Soil Nail Drilling and Grouting at East Portal (L19 to L20) at Slope A1	0	1			29-Mar-18 A	29-Mar-18 A	100%
ACU2050A005a06	D1 - Soil Nail Drilling and Grouting at East Portal (L0 to L1) at Slope A1	0	2			06-Apr-18 A	07-Apr-18 A	100%
ACU2050A006a01	D1 - Soil Nail Drilling and Grouting at East Portal (J1 to J6) at Slope A1	0	7			30-Apr-18*	08-May-18	0%
ACU2050A006a02	D1 - Soil Nail Drilling and Grouting at East Portal (H1 to H11) at Slope A1	0	12			09-May-18	23-May-18	0%
ACU2050A006a03	D1 - Soil Nail Drilling and Grouting at East Portal (G1 to G10) at Slope A1	0	12			24-May-18	06-Jun-18	0%
ACU2050A014	D1 - Stage 2 - Forming Temporary Haul Road +185mPD to +181mPD	0	6			23-Apr-18*	28-Apr-18	0%
ACU2050A016	D1 - Stage 3 - Tree Felling adjacent to Slope A2 at +183mPD (RWA1c)	0	1			16-Apr-18*	16-Apr-18	0%
ACU2050A017	D1 - Stage 3 - Froming Temporary Haul Road +183mPD to +176mPD (RWA1c)	0	24			02-May-18*	25-May-18	0%
ACU2050A019	D1 - Stage 4 - Froming Temporary Haul Road +183mPD to +176mPD (RWA1c)	0	14			26-May-18	08-Jun-18	0%
ACU2050A020	D1 - Stage 4 - Protective Fencing at +176mPD (RWA1c)	0	3			09-Jun-18	11-Jun-18	0%
ACU2050A021	D1 - Stage 4 - Temporary Soil Nailing Works (65nos.) at Slope A2 (RWA1c)	0	30			12-Jun-18	11-Jul-18	0%
ACU2050A022	D1 - Stage 5 - Excavation from +170mPD to +168.5mPD (At East Portal Entrance)	0	4			12-Jul-18	15-Jul-18	0%
	Underpass Tunnel							
	Tunnel Construction							
	Tunnel Construction from West Portal							
	CH2389.5 to CH2421 (Support Type A: 31.5m)							
ACU3010A044	9th Cycle (CH2410 to CH2412) - Rock Scaling for Underbreak Zone and Rock Mapping for Temporary Support (CATIII)	0	4			12-Mar-18 A	15-Mar-18 A	100%
ACU3010A045	9th Cycle (CH2410 to CH2412) - Drill, Install and Gout Rock Dowels (46mm Dia.) incl. Shotcrete for Temporary Support	0	1			15-Mar-18 A	15-Mar-18 A	100%
ACU3010A045a	Probing Erection for CH2412 to CH2432	0	4			16-Mar-18 A	19-Mar-18 A	100%
ACU3010A046	10th Cycle (CH2412 to CH2414) - Survey Setting Out and Drilling for Cut Hole/ Non-Cut Hole (102mm Dia.)	0	2			20-Mar-18 A	21-Mar-18 A	100%
ACU3010A047	10th Cycle (CH2412 to CH2414) - Rock Breaking for Non-cut Hole (102mm Dia.) and Insert Wedge into Non-cut Hole	0	2			22-Mar-18 A	23-Mar-18 A	100%
ACU3010A048	10th Cycle (CH2412 to CH2414) - Drilling for Tunnel Crown (76mm Dia.) and Rock Breaking	0	2			24-Mar-18 A	25-Mar-18 A	100%
ACU3010A049	10th Cycle (CH2412 to CH2414) - Rock Scaling for Underbreak Zone and Rock Mapping for Temporary Support (CATIII)	0	1			26-Mar-18 A	26-Mar-18 A	100%
ACU3010A050	10th Cycle (CH2412 to CH2414) - Drill, Install and Gout Rock Dowels (46mm Dia.) incl. Shotcrete for Temporary Support	0	1			27-Mar-18 A	27-Mar-18 A	100%
ACU3010A051	11th Cycle (CH2414 to CH2416) - Survey Setting Out and Drilling for Cut Hole/ Non-Cut Hole (102mm Dia.)	0	3			28-Mar-18 A	30-Mar-18 A	100%
ACU3010A052	11th Cycle (CH2414 to CH2416) - Rock Breaking for Non-cut Hole (102mm Dia.) and Insert Wedge into Non-cut Hole	0	3			31-Mar-18 A	02-Apr-18 A	100%
ACU3010A053	11th Cycle (CH2414 to CH2416) - Drilling for Tunnel Crown (76mm Dia.) and Rock Breaking	0	2			03-Apr-18 A	04-Apr-18 A	100%
ACU3010A054	11th Cycle (CH2414 to CH2416) - Rock Scaling for Underbreak Zone and Rock Mapping for Temporary Support (CATIII)	0	2			05-Apr-18 A	06-Apr-18 A	100%
ACU3010A055	11th Cycle (CH2414 to CH2416) - Drill, Install and Gout Rock Dowels (46mm Dia.) incl. Shotcrete for Temporary Support	0	1			07-Apr-18 A	07-Apr-18 A	100%
ACU3010A056	12th Cycle (CH2416 to CH2418) - Survey Setting Out and Drilling for Cut Hole/ Non-Cut Hole (102mm Dia.)	0	2			08-Apr-18 A	09-Apr-18 A	100%
ACU3010A057	12th Cycle (CH2416 to CH2418) - Rock Breaking for Non-cut Hole (102mm Dia.) and Insert Wedge into Non-cut Hole	0	2			10-Apr-18 A	11-Apr-18 A	100%
ACU3010A058	12th Cycle (CH2416 to CH2418) - Drilling for Tunnel Crown (76mm Dia.) and Rock Breaking	0	2			12-Apr-18 A	13-Apr-18 A	100%



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

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

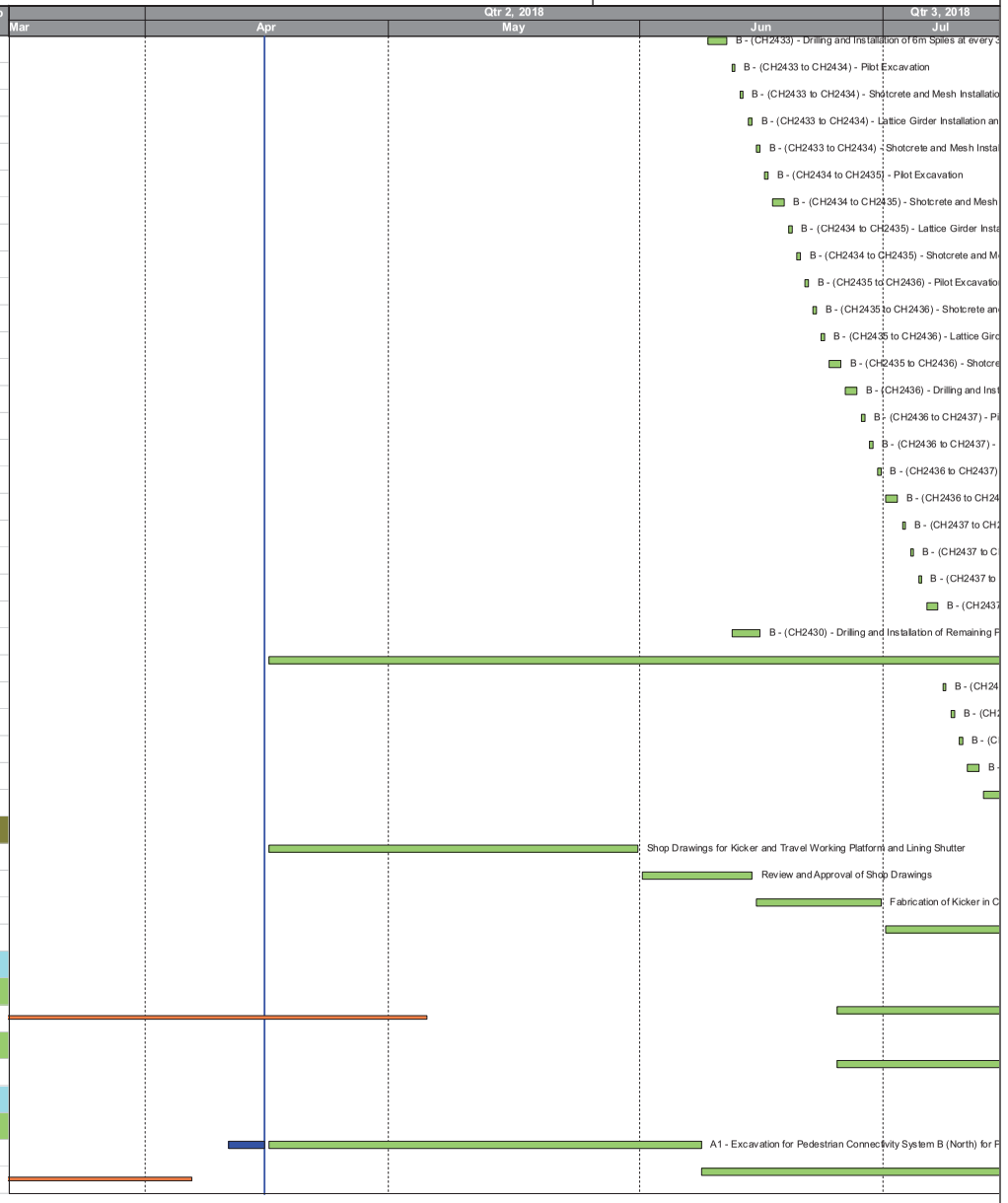
ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACU3010A059	12th Cycle (CH2416 to CH2418) - Rock Scaling for Underbreak Zone and Rock Mapping for Temporary Support (CATIII)	0	1			14-Apr-18 A	14-Apr-18 A	100%
ACU3010A060	12th Cycle (CH2416 to CH2418) - Drill, Install and Gout Rock Dowels (46mm Dia.) incl. Shotcrete for Temporary Support	0	1			15-Apr-18 A	15-Apr-18 A	100%
ACU3010A226	13th Cycle (CH24218 to CH2420) - Survey Setting Out and Drilling for Cut Hole/ Non-Cut Hole (102mm Dia.)	0	2			16-Apr-18	17-Apr-18	0%
ACU3010A227	13th Cycle (CH24218 to CH2420) - Rock Breaking for Non-cut Hole (102mm Dia.) and Insert Wedge into Non-cut Hole	0	2			18-Apr-18	19-Apr-18	0%
ACU3010A228	13th Cycle (CH24218 to CH2420) - Drilling for Tunnel Crown (76mm Dia.) and Rock Breaking	0	2			20-Apr-18	21-Apr-18	0%
ACU3010A229	13th Cycle (CH24218 to CH2420) - Rock Scaling for Underbreak Zone and Rock Mapping for Temporary Support (CATIII)	0	1			22-Apr-18	22-Apr-18	0%
ACU3010A230	13th Cycle (CH24218 to CH2420) - Drill, Install and Gout Rock Dowels (46mm Dia.) incl. Shotcrete for Temporary Support	0	1			23-Apr-18	23-Apr-18	0%
ACU3010A231	14th Cycle (CH24220 to CH2421) - Survey Setting Out and Drilling for Cut Hole/ Non-Cut Hole (102mm Dia.)	0	1			24-Apr-18	24-Apr-18	0%
ACU3010A232	14th Cycle (CH24220 to CH2421) - Rock Breaking for Non-cut Hole (102mm Dia.) and Insert Wedge into Non-cut Hole	0	1			25-Apr-18	25-Apr-18	0%
ACU3010A233	14th Cycle (CH24220 to CH2421) - Drilling for Tunnel Crown (76mm Dia.) and Rock Breaking	0	1			26-Apr-18	26-Apr-18	0%
ACU3010A234	14th Cycle (CH24220 to CH2421) - Rock Scaling for Underbreak Zone and Rock Mapping for Temporary Support (CATIII)	0	1			26-Apr-18	26-Apr-18	0%
ACU3010A235	14th Cycle (CH24220 to CH2421) - Drill, Install and Gout Rock Dowels (46mm Dia.) incl. Shotcrete for Temporary Support	0	1			27-Apr-18	27-Apr-18	0%
	CH2421 to CH2430 (Support Type A: 9m) 3m/ cycle							
ACU3010A268	15th Cycle (CH2421 to CH2424) - Survey Setting Out and Drilling for Cut Hole/ Non-Cut Hole (102mm Dia.)	0	2			28-Apr-18	29-Apr-18	0%
ACU3010A269	15th Cycle (CH2421 to CH2424) - Rock Breaking for Non-cut Hole (102mm Dia.) and Insert Wedge into Non-cut Hole	0	2			30-Apr-18	01-May-18	0%
ACU3010A270	15th Cycle (CH2421 to CH2424) - Drilling for Tunnel Crown (76mm Dia.) and Rock Breaking	0	2			02-May-18	03-May-18	0%
ACU3010A271	15th Cycle (CH2421 to CH2424) - Rock Scaling for Underbreak Zone and Rock Mapping for Temporary Support (CATIII)	0	1			04-May-18	04-May-18	0%
ACU3010A272	15th Cycle (CH2421 to CH2424) - Drill, Install and Gout Rock Dowels (46mm Dia.) incl. Shotcrete for Temporary Support	0	1			05-May-18	05-May-18	0%
ACU3010A273	16th Cycle (CH2424 to CH2427) - Survey Setting Out and Drilling for Cut Hole/ Non-Cut Hole (102mm Dia.)	0	2			06-May-18	07-May-18	0%
ACU3010A274	16th Cycle (CH2424 to CH2427) - Rock Breaking for Non-cut Hole (102mm Dia.) and Insert Wedge into Non-cut Hole	0	2			08-May-18	09-May-18	0%
ACU3010A275	16th Cycle (CH2424 to CH2427) - Drilling for Tunnel Crown (76mm Dia.) and Rock Breaking	0	2			10-May-18	11-May-18	0%
ACU3010A276	16th Cycle (CH2424 to CH2427) - Rock Scaling for Underbreak Zone and Rock Mapping for Temporary Support (CATIII)	0	1			12-May-18	12-May-18	0%
ACU3010A277	16th Cycle (CH2424 to CH2427) - Drill, Install and Gout Rock Dowels (46mm Dia.) incl. Shotcrete for Temporary Support	0	1			13-May-18	13-May-18	0%
ACU3010A278	17th Cycle (CH2427 to CH2430) - Survey Setting Out and Drilling for Cut Hole/ Non-Cut Hole (102mm Dia.)	0	2			14-May-18	15-May-18	0%
ACU3010A279	17th Cycle (CH2427 to CH2430) - Rock Breaking for Non-cut Hole (102mm Dia.) and Insert Wedge into Non-cut Hole	0	2			16-May-18	17-May-18	0%
ACU3010A280	17th Cycle (CH2427 to CH2430) - Drilling for Tunnel Crown (76mm Dia.) and Rock Breaking	0	2			18-May-18	19-May-18	0%
ACU3010A281	17th Cycle (CH2427 to CH2430) - Rock Scaling for Underbreak Zone and Rock Mapping for Temporary Support (CATIII)	0	1			20-May-18	20-May-18	0%
ACU3010A282	17th Cycle (CH2427 to CH2430) - Drill, Install and Gout Rock Dowels (46mm Dia.) incl. Shotcrete for Temporary Support	0	1			21-May-18	21-May-18	0%
	CH2430 to CH2442 (Support Type B: 12m) 1m/ cycle for Pilot							
ACU3010A283	B - (CH2430) - Probing Erection at CH2430	0	3			22-May-18	24-May-18	0%
ACU3010A284	B - (CH2430) - Drilling and Installation of 6m Long Spiles at every 3m Overlapping	0	1			25-May-18	25-May-18	0%
ACU3010A285	B - (CH2430 to CH2431) - Pilot Excavation	0	1			26-May-18	26-May-18	0%
ACU3010A286	B - (CH2430 to CH2431 - Shotcrete and Mesh Installation	0	2			27-May-18	28-May-18	0%
ACU3010A287	B - (CH2430 to CH2431) - Lattice Girder Installation and Shotcrete	0	1			29-May-18	29-May-18	0%
ACU3010A288	B - (CH2430 to CH2431) - Shotcrete and Mesh Installation	0	1			30-May-18	30-May-18	0%
ACU3010A289	B - (CH2431 to CH2432) - Pilot Excavation	0	1			31-May-18	31-May-18	0%
ACU3010A290	B - (CH2431 to CH2432) - Shotcrete and Mesh Installation	0	2			01-Jun-18	02-Jun-18	0%
ACU3010A291	B - (CH2431 to CH2432) - Lattice Girder Installation and Shotcrete	0	1			03-Jun-18	03-Jun-18	0%
ACU3010A292	B - (CH2431 to CH2432) - Shotcrete and Mesh Installation	0	1			04-Jun-18	04-Jun-18	0%
ACU3010A293	B - (CH2432 to CH2433) - Pilot Excavation	0	1			05-Jun-18	05-Jun-18	0%
ACU3010A294	B - (CH2432 to CH2433) - Shotcrete and Mesh Installation	0	1			06-Jun-18	06-Jun-18	0%
ACU3010A295	B - (CH2432 to CH2433) - Lattice Girder Installation and Shotcrete	0	1			07-Jun-18	07-Jun-18	0%
ACU3010A296	B - (CH2432 to CH2433) - Shotcrete and Mesh Installation	0	1			08-Jun-18	08-Jun-18	0%

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

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACU3010A297	B - (CH2433) - Drilling and Installation of 6m Spiles at every 3m Overlapping	0	3			09-Jun-18	11-Jun-18	0%
ACU3010A298	B - (CH2433 to CH2434) - Pilot Excavation	0	1			12-Jun-18	12-Jun-18	0%
ACU3010A299	B - (CH2433 to CH2434) - Shotcrete and Mesh Installation	0	1			13-Jun-18	13-Jun-18	0%
ACU3010A300	B - (CH2433 to CH2434) - Lattice Girder Installation and Shotcrete	0	1			14-Jun-18	14-Jun-18	0%
ACU3010A301	B - (CH2433 to CH2434) - Shotcrete and Mesh Installation	0	1			15-Jun-18	15-Jun-18	0%
ACU3010A302	B - (CH2434 to CH2435) - Pilot Excavation	0	1			16-Jun-18	16-Jun-18	0%
ACU3010A303	B - (CH2434 to CH2435) - Shotcrete and Mesh Installation	0	2			17-Jun-18	18-Jun-18	0%
ACU3010A304	B - (CH2434 to CH2435) - Lattice Girder Installation and Shotcrete	0	1			19-Jun-18	19-Jun-18	0%
ACU3010A305	B - (CH2434 to CH2435) - Shotcrete and Mesh Installation	0	1			20-Jun-18	20-Jun-18	0%
ACU3010A306	B - (CH2435 to CH2436) - Pilot Excavation	0	1			21-Jun-18	21-Jun-18	0%
ACU3010A307	B - (CH2435 to CH2436) - Shotcrete and Mesh Installation	0	1			22-Jun-18	22-Jun-18	0%
ACU3010A308	B - (CH2435 to CH2436) - Lattice Girder Installation and Shotcrete	0	1			23-Jun-18	23-Jun-18	0%
ACU3010A309	B - (CH2435 to CH2436) - Shotcrete and Mesh Installation	0	2			24-Jun-18	25-Jun-18	0%
ACU3010A310	B - (CH2436) - Drilling and Installation of 6m Spiles at every 3m Overlapping	0	2			26-Jun-18	27-Jun-18	0%
ACU3010A311	B - (CH2436 to CH2437) - Pilot Excavation	0	1			28-Jun-18	28-Jun-18	0%
ACU3010A312	B - (CH2436 to CH2437) - Shotcrete and Mesh Installation	0	1			29-Jun-18	29-Jun-18	0%
ACU3010A313	B - (CH2436 to CH2437) - Lattice Girder Installation and Shotcrete	0	1			30-Jun-18	30-Jun-18	0%
ACU3010A314	B - (CH2436 to CH2437) - Shotcrete and Mesh Installation	0	2			01-Jul-18	02-Jul-18	0%
ACU3010A315	B - (CH2437 to CH2438) - Pilot Excavation	0	1			03-Jul-18	03-Jul-18	0%
ACU3010A316	B - (CH2437 to CH2438) - Shotcrete and Mesh Installation	0	1			04-Jul-18	04-Jul-18	0%
ACU3010A317	B - (CH2437 to CH2438) - Lattice Girder Installation and Shotcrete	0	1			05-Jul-18	05-Jul-18	0%
ACU3010A318	B - (CH2437 to CH2438) - Shotcrete and Mesh Installation	0	2			06-Jul-18	07-Jul-18	0%
ACU3010A319	B - (CH2430) - Drilling and Installation of Remaining Permanent 6m Spiles at every 3m Overlapping for Tunnel Heading	0	4			12-Jun-18	15-Jun-18	0%
ACU3010A320	B - Excavation of Benching for CH2479.5 to CH2489.5	0	91			16-Apr-18	15-Jul-18	0%
ACU3010A321	B - (CH2438 to CH2439) - Pilot Excavation	0	1			08-Jul-18	08-Jul-18	0%
ACU3010A322	B - (CH2438 to CH2439) - Shotcrete and Mesh Installation	0	1			09-Jul-18	09-Jul-18	0%
ACU3010A323	B - (CH2438 to CH2439) - Lattice Girder Installation and Shotcrete	0	1			10-Jul-18	10-Jul-18	0%
ACU3010A324	B - (CH2438 to CH2439) - Shotcrete and Mesh Installation	0	2			11-Jul-18	12-Jul-18	0%
ACU3010A325	B - (CH2439) - Drilling and Installation of 6m Spiles at every 3m Overlapping	0	3			13-Jul-18	15-Jul-18	0%
Tunnel Lining								
ACU3140A001	Shop Drawings for Kicker and Travel Working Platform and Lining Shutter	0	46			16-Apr-18*	31-May-18	0%
ACU3140A002	Review and Approval of Shop Drawings	0	14			01-Jun-18	14-Jun-18	0%
ACU3140A003	Fabrication of Kicker in China PRC	0	16			15-Jun-18	30-Jun-18	0%
ACU3140A3	Fabrication of Working Platform in China PRC	0	15			01-Jul-18	15-Jul-18	0%
Pedestrian Connectivity System A								
Lift Tower (North) and Subway within Portion B5								
ACS1020	B5 - Construction of Pre-Bored H-Piles (66nos) of Lift Tower (4 days/pile/plant by 2 plants)	132	132	21-Nov-17	05-May-18	25-Jun-18	29-Nov-18	0%
Lift Tower (South) and Subway within Portion C1a								
ACS1090	C1a - Construction of Pre-Bored H-Piles (48nos) of Lift Tower (3 days /pile/ plant,assume 2 rigs)	144	72	18-Sep-17	14-Mar-18	25-Jun-18	17-Sep-18	0%
Pedestrian Connectivity System B								
Lift Tower (North) and Subway within Portion A1								
ACS2010A001	A1 - Excavation for Pedestrian Connectivity System B (North) for Pad Footing Construction	0	49			11-Apr-18 A	08-Jun-18	1%
ACS2030	A1 - Construction of Footings and Wall Structure upwards Level (+176mPD)	30	120	27-Feb-18	06-Apr-18	08-Jun-18	01-Nov-18	0%



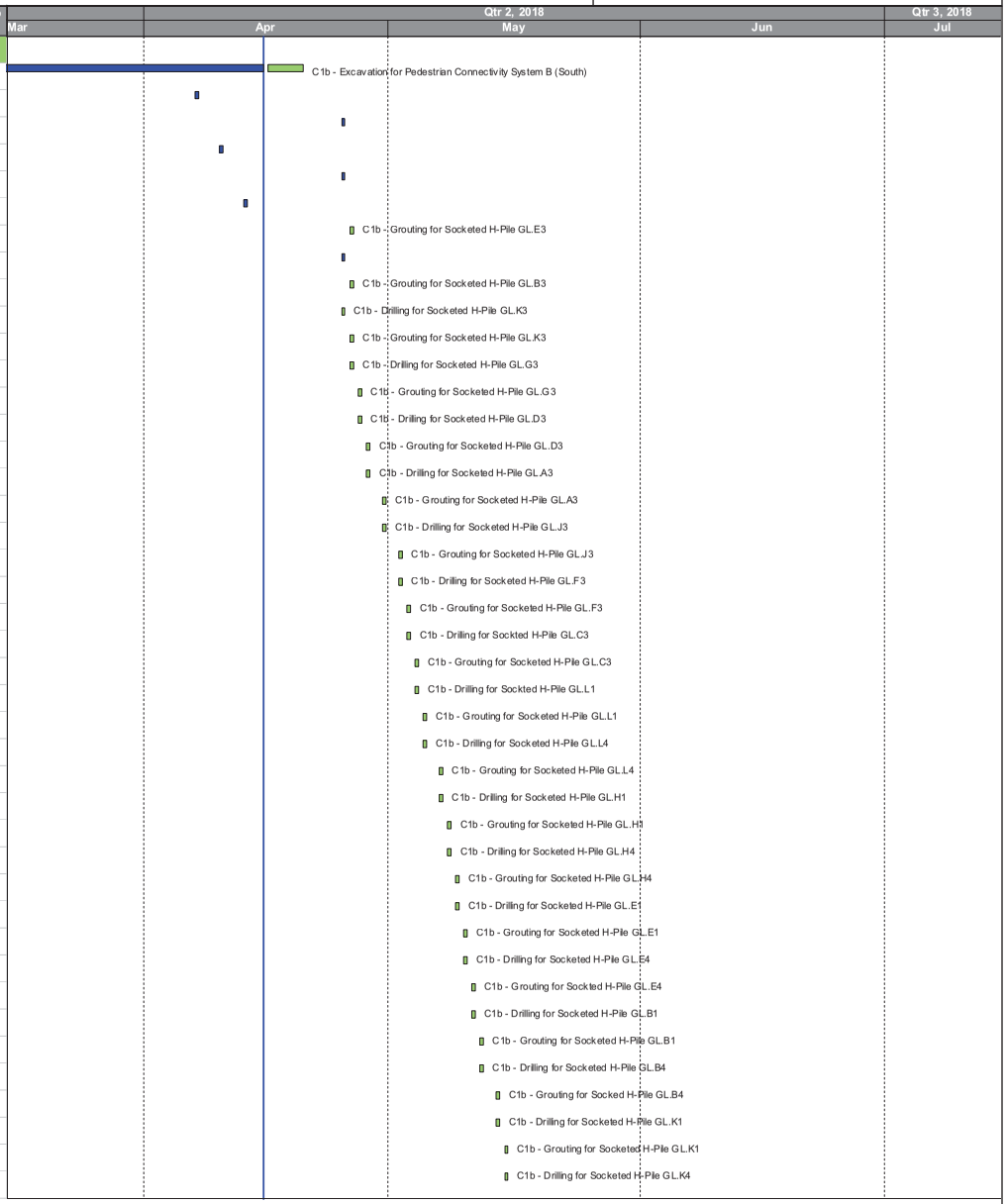
Planned Bar (WP) ◆ Milestone
Actual Bar
Forecast Bar
◇ Planned Milestone (WP)

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
	Lift Tower (South) and Subway within Portion C1b							
ACS2110	C1b - Excavation for Pedestrian Connectivity System B (South)	90	121	07-Jul-17	21-Oct-17	20-Nov-17 A	20-Apr-18	95%
ACS2120A001	C1b - Drilling for Socketed H-Pile GL.L3	0	1			07-Apr-18 A	07-Apr-18 A	100%
ACS2120A002	C1b - Grouting for Socketed H-Pile GL.L3	0	1			25-Apr-18 A	25-Apr-18 A	100%
ACS2120A003	C1b - Drilling for Socketed H-Pile GL.H3	0	1			10-Apr-18 A	10-Apr-18 A	100%
ACS2120A004	C1b - Grouting for Socketed H-Pile GL.H3	0	1			25-Apr-18 A	25-Apr-18 A	100%
ACS2120A005	C1b - Drilling for Socketed H-Pile GL.E3	0	1			13-Apr-18 A	13-Apr-18 A	100%
ACS2120A006	C1b - Grouting for Socketed H-Pile GL.E3	0	1			26-Apr-18*	26-Apr-18	0%
ACS2120A007	C1b - Drilling for Socketed H-Pile GL.B3	0	1			25-Apr-18 A	25-Apr-18 A	100%
ACS2120A008	C1b - Grouting for Socketed H-Pile GL.B3	0	1			26-Apr-18*	26-Apr-18	0%
ACS2120A009	C1b - Drilling for Socketed H-Pile GL.K3	0	1			25-Apr-18*	25-Apr-18	0%
ACS2120A010	C1b - Grouting for Socketed H-Pile GL.K3	0	1			26-Apr-18	26-Apr-18	0%
ACS2120A011	C1b - Drilling for Socketed H-Pile GL.G3	0	1			26-Apr-18	26-Apr-18	0%
ACS2120A012	C1b - Grouting for Socketed H-Pile GL.G3	0	1			27-Apr-18	27-Apr-18	0%
ACS2120A013	C1b - Drilling for Socketed H-Pile GL.D3	0	1			27-Apr-18*	27-Apr-18	0%
ACS2120A014	C1b - Grouting for Socketed H-Pile GL.D3	0	1			28-Apr-18	28-Apr-18	0%
ACS2120A015	C1b - Drilling for Socketed H-Pile GL.A3	0	1			28-Apr-18	28-Apr-18	0%
ACS2120A016	C1b - Grouting for Socketed H-Pile GL.A3	0	1			30-Apr-18	30-Apr-18	0%
ACS2120A017	C1b - Drilling for Socketed H-Pile GL.J3	0	1			30-Apr-18*	30-Apr-18	0%
ACS2120A018	C1b - Grouting for Socketed H-Pile GL.J3	0	1			02-May-18	02-May-18	0%
ACS2120A019	C1b - Drilling for Socketed H-Pile GL.F3	0	1			02-May-18	02-May-18	0%
ACS2120A020	C1b - Grouting for Socketed H-Pile GL.F3	0	1			03-May-18	03-May-18	0%
ACS2120A021	C1b - Drilling for Sockted H-Pile GL.C3	0	1			03-May-18*	03-May-18	0%
ACS2120A022	C1b - Grouting for Socketed H-Pile GL.C3	0	1			04-May-18	04-May-18	0%
ACS2120A023	C1b - Drilling for Sockted H-Pile GL.L1	0	1			04-May-18	04-May-18	0%
ACS2120A024	C1b - Grouting for Socketed H-Pile GL.L1	0	1			05-May-18	05-May-18	0%
ACS2120A025	C1b - Drilling for Socketed H-Pile GL.L4	0	1			05-May-18*	05-May-18	0%
ACS2120A026	C1b - Grouting for Socketed H-Pile GL.L4	0	1			07-May-18	07-May-18	0%
ACS2120A027	C1b - Drilling for Socketed H-Pile GL.H1	0	1			07-May-18	07-May-18	0%
ACS2120A028	C1b - Grouting for Socketed H-Pile GL.H1	0	1			08-May-18	08-May-18	0%
ACS2120A029	C1b - Drilling for Socketed H-Pile GL.H4	0	1			08-May-18*	08-May-18	0%
ACS2120A030	C1b - Grouting for Socketed H-Pile GL.H4	0	1			09-May-18	09-May-18	0%
ACS2120A031	C1b - Drilling for Socketed H-Pile GL.E1	0	1			09-May-18	09-May-18	0%
ACS2120A032	C1b - Grouting for Socketed H-Pile GL.E1	0	1			10-May-18	10-May-18	0%
ACS2120A033	C1b - Drilling for Socketed H-Pile GL.E4	0	1			10-May-18*	10-May-18	0%
ACS2120A034	C1b - Grouting for Sockted H-Pile GL.E4	0	1			11-May-18	11-May-18	0%
ACS2120A035	C1b - Drilling for Socketed H-Pile GL.B1	0	1			11-May-18	11-May-18	0%
ACS2120A036	C1b - Grouting for Socketed H-Pile GL.B1	0	1			12-May-18	12-May-18	0%
ACS2120A037	C1b - Drilling for Socketed H-Pile GL.B4	0	1			12-May-18*	12-May-18	0%
ACS2120A038	C1b - Grouting for Socked H-Pile GL.B4	0	1			14-May-18	14-May-18	0%
ACS2120A039	C1b - Drilling for Socketed H-Pile GL.K1	0	1			14-May-18	14-May-18	0%
ACS2120A040	C1b - Grouting for Socketed H-Pile GL.K1	0	1			15-May-18	15-May-18	0%
ACS2120A041	C1b - Drilling for Socketed H-Pile GL.K4	0	1			15-May-18*	15-May-18	0%



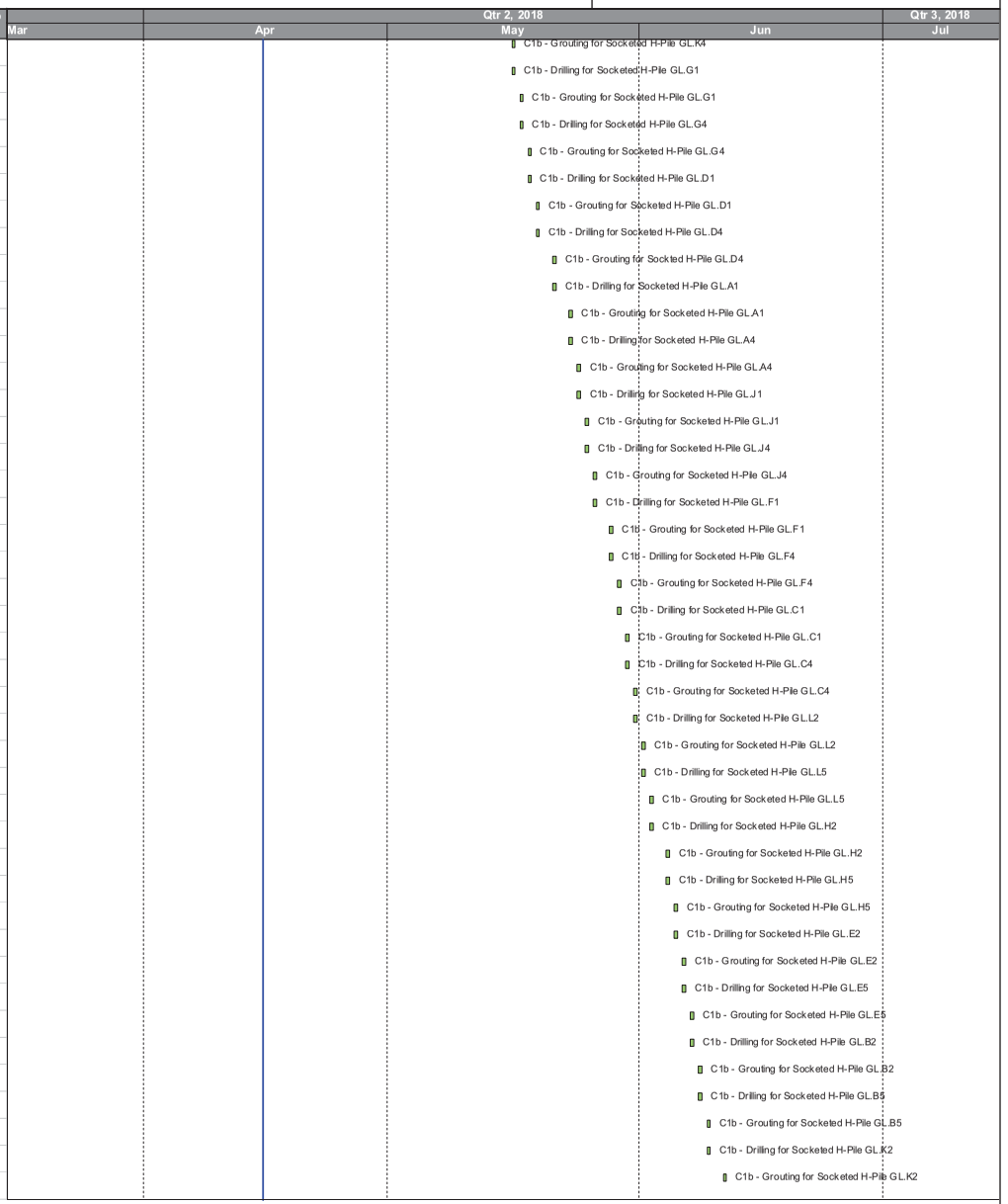
Planned Bar (WP)
Actual Bar
Forecast Bar
Planned Milestone (WP)
Milestone

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

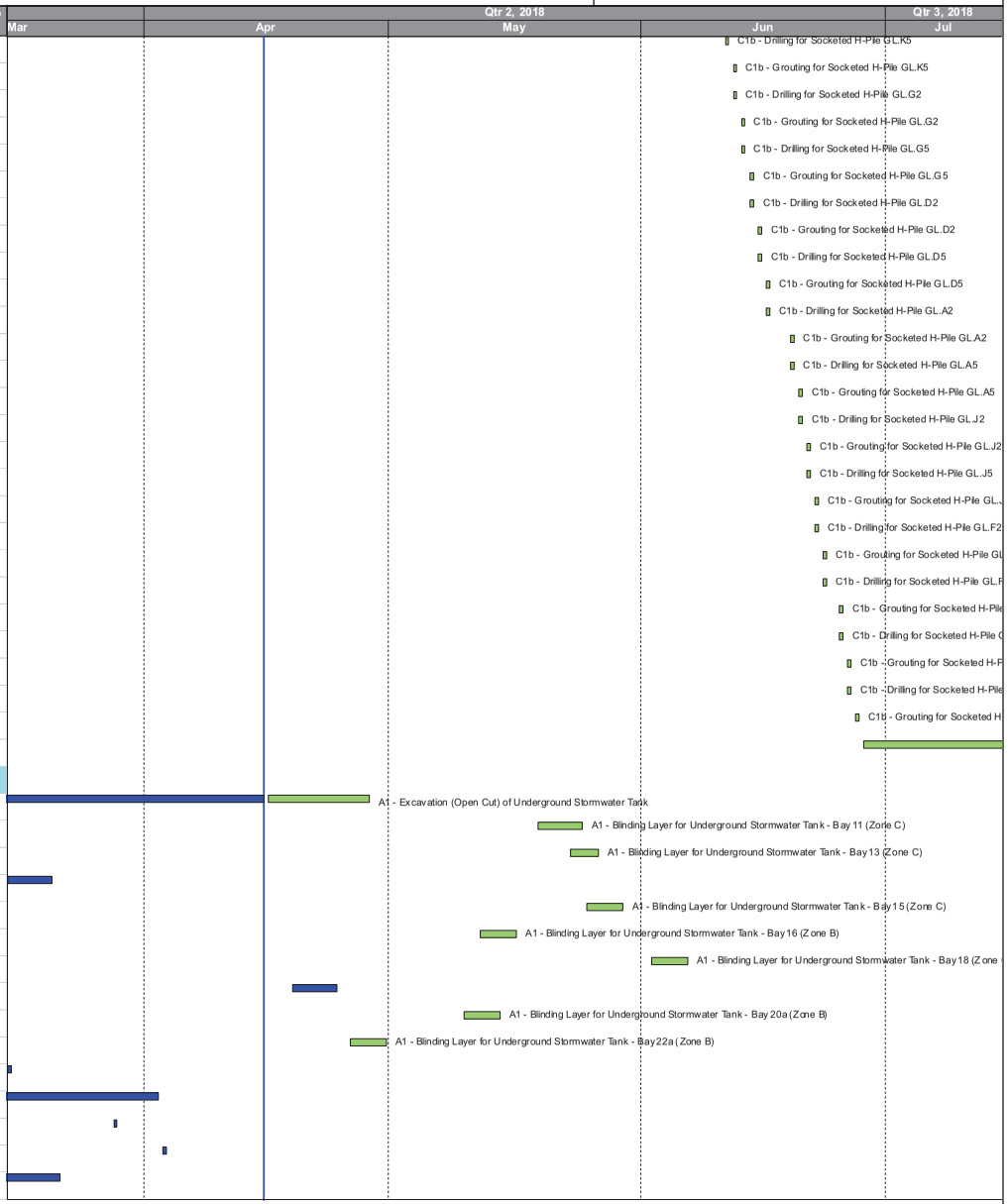
ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

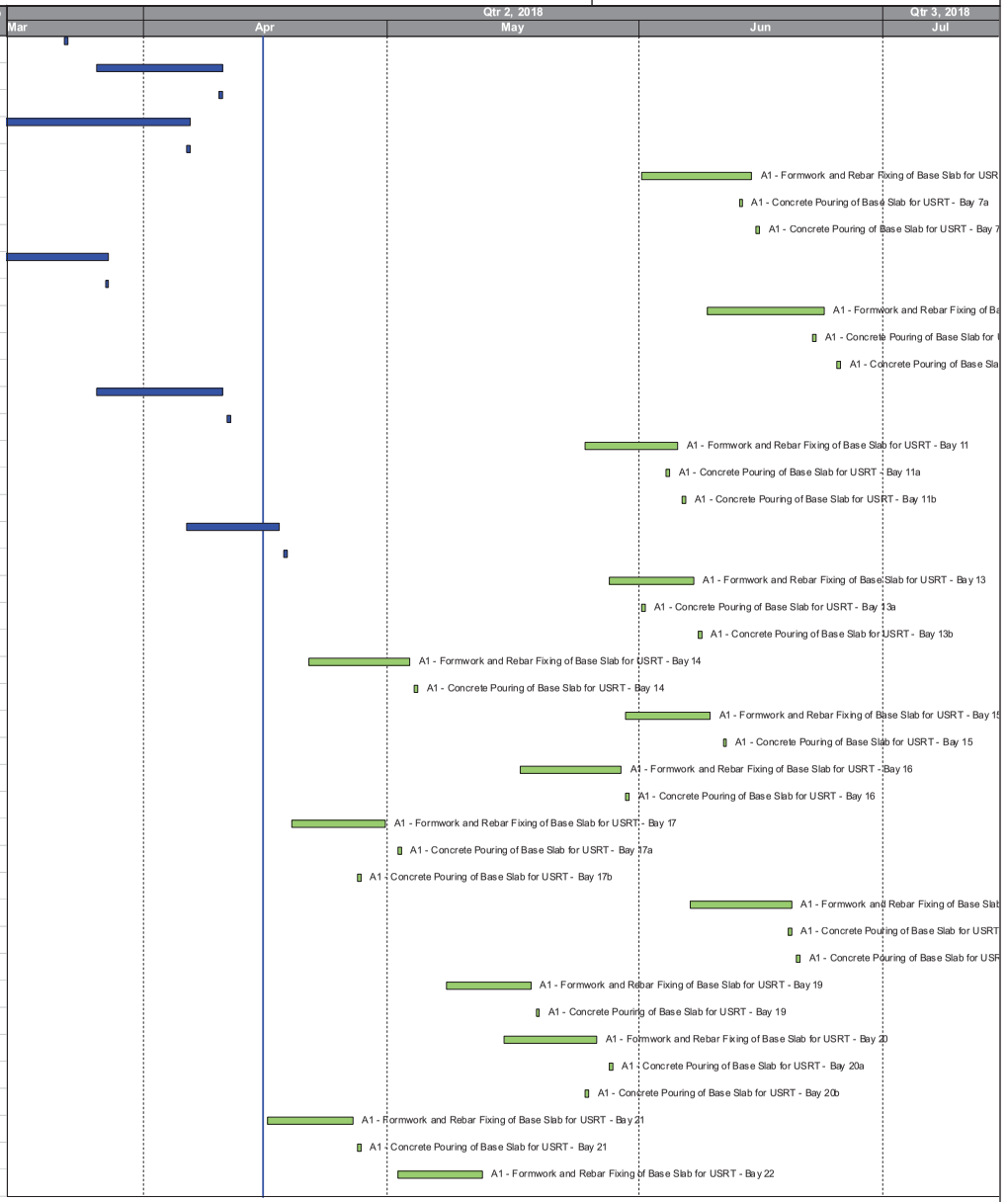
Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACS2120A042	C1b - Grouting for Socketed H-Pile GL.K4	0	1			16-May-18	16-May-18	0%
ACS2120A043	C1b - Drilling for Socketed H-Pile GL.G1	0	1			16-May-18	16-May-18	0%
ACS2120A044	C1b - Grouting for Socketed H-Pile GL.G1	0	1			17-May-18	17-May-18	0%
ACS2120A045	C1b - Drilling for Socketed H-Pile GL.G4	0	1			17-May-18*	17-May-18	0%
ACS2120A046	C1b - Grouting for Socketed H-Pile GL.G4	0	1			18-May-18	18-May-18	0%
ACS2120A047	C1b - Drilling for Socketed H-Pile GL.D1	0	1			18-May-18	18-May-18	0%
ACS2120A048	C1b - Grouting for Socketed H-Pile GL.D1	0	1			19-May-18	19-May-18	0%
ACS2120A049	C1b - Drilling for Socketed H-Pile GL.D4	0	1			19-May-18*	19-May-18	0%
ACS2120A050	C1b - Grouting for Sockted H-Pile GL.D4	0	1			21-May-18	21-May-18	0%
ACS2120A051	C1b - Drilling for Socketed H-Pile GL.A1	0	1			21-May-18	21-May-18	0%
ACS2120A052	C1b - Grouting for Socketed H-Pile GL.A1	0	1			23-May-18	23-May-18	0%
ACS2120A053	C1b - Drilling for Socketed H-Pile GL.A4	0	1			23-May-18*	23-May-18	0%
ACS2120A054	C1b - Grouting for Socketed H-Pile GL.A4	0	1			24-May-18	24-May-18	0%
ACS2120A055	C1b - Drilling for Socketed H-Pile GL.J1	0	1			24-May-18	24-May-18	0%
ACS2120A056	C1b - Grouting for Socketed H-Pile GL.J1	0	1			25-May-18	25-May-18	0%
ACS2120A057	C1b - Drilling for Socketed H-Pile GL.J4	0	1			25-May-18	25-May-18	0%
ACS2120A058	C1b - Grouting for Socketed H-Pile GL.J4	0	1			26-May-18	26-May-18	0%
ACS2120A059	C1b - Drilling for Socketed H-Pile GL.F1	0	1			26-May-18*	26-May-18	0%
ACS2120A060	C1b - Grouting for Socketed H-Pile GL.F1	0	1			28-May-18	28-May-18	0%
ACS2120A061	C1b - Drilling for Socketed H-Pile GL.F4	0	1			28-May-18	28-May-18	0%
ACS2120A062	C1b - Grouting for Socketed H-Pile GL.F4	0	1			29-May-18	29-May-18	0%
ACS2120A063	C1b - Drilling for Socketed H-Pile GL.C1	0	1			29-May-18	29-May-18	0%
ACS2120A064	C1b - Grouting for Socketed H-Pile GL.C1	0	1			30-May-18	30-May-18	0%
ACS2120A065	C1b - Drilling for Socketed H-Pile GL.C4	0	1			30-May-18	30-May-18	0%
ACS2120A066	C1b - Grouting for Socketed H-Pile GL.C4	0	1			31-May-18	31-May-18	0%
ACS2120A067	C1b - Drilling for Socketed H-Pile GL.L2	0	1			31-May-18	31-May-18	0%
ACS2120A068	C1b - Grouting for Socketed H-Pile GL.L2	0	1			01-Jun-18	01-Jun-18	0%
ACS2120A069	C1b - Drilling for Socketed H-Pile GL.L5	0	1			01-Jun-18*	01-Jun-18	0%
ACS2120A070	C1b - Grouting for Socketed H-Pile GL.L5	0	1			02-Jun-18	02-Jun-18	0%
ACS2120A071	C1b - Drilling for Socketed H-Pile GL.H2	0	1			02-Jun-18	02-Jun-18	0%
ACS2120A072	C1b - Grouting for Socketed H-Pile GL.H2	0	1			04-Jun-18	04-Jun-18	0%
ACS2120A073	C1b - Drilling for Socketed H-Pile GL.H5	0	1			04-Jun-18*	04-Jun-18	0%
ACS2120A074	C1b - Grouting for Socketed H-Pile GL.H5	0	1			05-Jun-18	05-Jun-18	0%
ACS2120A075	C1b - Drilling for Socketed H-Pile GL.E2	0	1			05-Jun-18	05-Jun-18	0%
ACS2120A076	C1b - Grouting for Socketed H-Pile GL.E2	0	1			06-Jun-18	06-Jun-18	0%
ACS2120A077	C1b - Drilling for Socketed H-Pile GL.E5	0	1			06-Jun-18*	06-Jun-18	0%
ACS2120A078	C1b - Grouting for Socketed H-Pile GL.E5	0	1			07-Jun-18	07-Jun-18	0%
ACS2120A079	C1b - Drilling for Socketed H-Pile GL.B2	0	1			07-Jun-18	07-Jun-18	0%
ACS2120A080	C1b - Grouting for Socketed H-Pile GL.B2	0	1			08-Jun-18	08-Jun-18	0%
ACS2120A081	C1b - Drilling for Socketed H-Pile GL.B5	0	1			08-Jun-18*	08-Jun-18	0%
ACS2120A082	C1b - Grouting for Socketed H-Pile GL.B5	0	1			09-Jun-18	09-Jun-18	0%
ACS2120A083	C1b - Drilling for Socketed H-Pile GL.K2	0	1			09-Jun-18	09-Jun-18	0%
ACS2120A084	C1b - Grouting for Socketed H-Pile GL.K2	0	1			11-Jun-18	11-Jun-18	0%



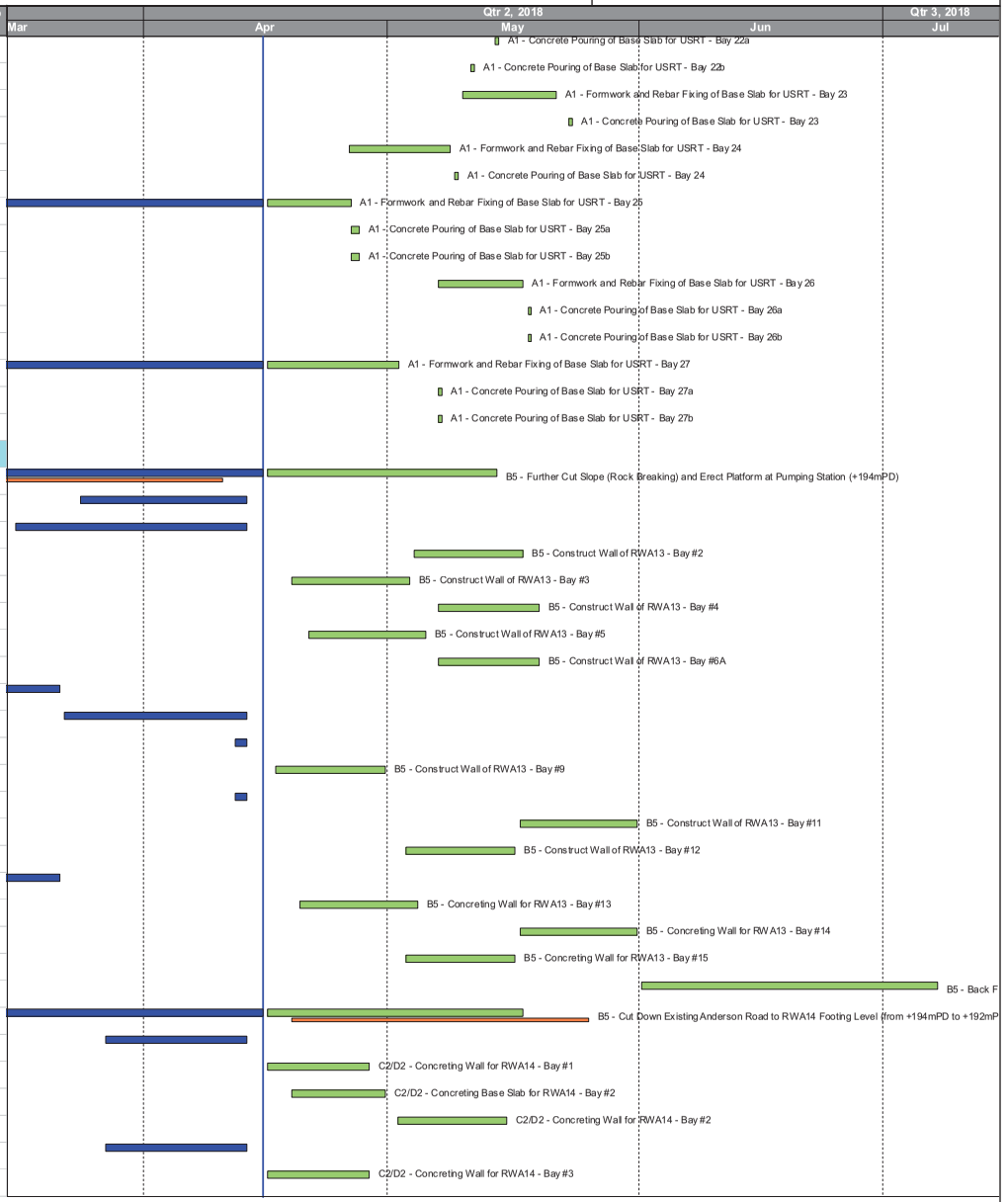
Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACS2120A085	C1b - Drilling for Socketed H-Pile GL.K5	0	1			11-Jun-18*	11-Jun-18	0%
ACS2120A086	C1b - Grouting for Socketed H-Pile GL.K5	0	1			12-Jun-18	12-Jun-18	0%
ACS2120A087	C1b - Drilling for Socketed H-Pile GL.G2	0	1			12-Jun-18	12-Jun-18	0%
ACS2120A088	C1b - Grouting for Socketed H-Pile GL.G2	0	1			13-Jun-18	13-Jun-18	0%
ACS2120A089	C1b - Drilling for Socketed H-Pile GL.G5	0	1			13-Jun-18*	13-Jun-18	0%
ACS2120A090	C1b - Grouting for Socketed H-Pile GL.G5	0	1			14-Jun-18	14-Jun-18	0%
ACS2120A091	C1b - Drilling for Socketed H-Pile GL.D2	0	1			14-Jun-18	14-Jun-18	0%
ACS2120A092	C1b - Grouting for Socketed H-Pile GL.D2	0	1			15-Jun-18	15-Jun-18	0%
ACS2120A102	C1b - Drilling for Socketed H-Pile GL.D5	0	1			15-Jun-18*	15-Jun-18	0%
ACS2120A103	C1b - Grouting for Socketed H-Pile GL.D5	0	1			16-Jun-18	16-Jun-18	0%
ACS2120A104	C1b - Drilling for Socketed H-Pile GL.A2	0	1			16-Jun-18	16-Jun-18	0%
ACS2120A105	C1b - Grouting for Socketed H-Pile GL.A2	0	1			19-Jun-18	19-Jun-18	0%
ACS2120A106	C1b - Drilling for Socketed H-Pile GL.A5	0	1			19-Jun-18*	19-Jun-18	0%
ACS2120A107	C1b - Grouting for Socketed H-Pile GL.A5	0	1			20-Jun-18	20-Jun-18	0%
ACS2120A108	C1b - Drilling for Socketed H-Pile GL.J2	0	1			20-Jun-18	20-Jun-18	0%
ACS2120A109	C1b - Grouting for Socketed H-Pile GL.J2	0	1			21-Jun-18	21-Jun-18	0%
ACS2120A110	C1b - Drilling for Socketed H-Pile GL.J5	0	1			21-Jun-18	21-Jun-18	0%
ACS2120A111	C1b - Grouting for Socketed H-Pile GL.J5	0	1			22-Jun-18	22-Jun-18	0%
ACS2120A112	C1b - Drilling for Socketed H-Pile GL.F2	0	1			22-Jun-18*	22-Jun-18	0%
ACS2120A113	C1b - Grouting for Socketed H-Pile GL.F2	0	1			23-Jun-18	23-Jun-18	0%
ACS2120A114	C1b - Drilling for Socketed H-Pile GL.F5	0	1			23-Jun-18*	23-Jun-18	0%
ACS2120A115	C1b - Grouting for Socketed H-Pile GL.F5	0	1			25-Jun-18	25-Jun-18	0%
ACS2120A116	C1b - Drilling for Socketed H-Pile GL.C2	0	1			25-Jun-18*	25-Jun-18	0%
ACS2120A117	C1b - Grouting for Socketed H-Pile GL.C2	0	1			26-Jun-18	26-Jun-18	0%
ACS2120A118	C1b - Drilling for Socketed H-Pile GL.C5	0	1			26-Jun-18*	26-Jun-18	0%
ACS2120A119	C1b - Grouting for Socketed H-Pile GL.C5	0	1			27-Jun-18	27-Jun-18	0%
ACS2120B001	C1b - Excavate for Construction of Pile Caps	0	45			28-Jun-18*	20-Aug-18	0%
	Underground Stormwater Retention Tank (Portion A1)							
ACN1010	A1 - Excavation (Open Cut) of Underground Stormwater Tank	201	289	02-May-17	30-Dec-17	10-May-17 A	28-Apr-18	94%
ACN1010A020	A1 - Blinding Layer for Underground Stormwater Tank - Bay 11 (Zone C)	0	4			19-May-18	24-May-18	0%
ACN1010A022	A1 - Blinding Layer for Underground Stormwater Tank - Bay 13 (Zone C)	0	4			23-May-18	26-May-18	0%
ACN1010A023	A1 - Blinding Layer for Underground Stormwater Tank - Bay 14 (Zone B)	0	5			15-Mar-18 A	20-Mar-18 A	100%
ACN1010A024	A1 - Blinding Layer for Underground Stormwater Tank - Bay 15 (Zone C)	0	4			25-May-18	29-May-18	0%
ACN1010A025	A1 - Blinding Layer for Underground Stormwater Tank - Bay 16 (Zone B)	0	4			12-May-18	16-May-18	0%
ACN1010A027	A1 - Blinding Layer for Underground Stormwater Tank - Bay 18 (Zone C)	0	4			02-Jun-18	06-Jun-18	0%
ACN1010A028	A1 - Blinding Layer for Underground Stormwater Tank - Bay 19 (Zone B)	0	5			19-Apr-18 A	24-Apr-18 A	100%
ACN1010A029a	A1 - Blinding Layer for Underground Stormwater Tank - Bay 20a (Zone B)	0	4			10-May-18	14-May-18	0%
ACN1010A031a	A1 - Blinding Layer for Underground Stormwater Tank - Bay 22a (Zone B)	0	4			26-Apr-18	30-Apr-18	0%
ACN1020A004	A1 - Concrete Pouring of Base Slab for USRT - Bay 2	0	1			15-Mar-18 A	15-Mar-18 A	100%
ACN1020A005	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 3	0	35			14-Feb-18 A	02-Apr-18 A	100%
ACN1020A006	A1 - Concrete Pouring of Base Slab for USRT - Bay 3	0	1			28-Mar-18 A	28-Mar-18 A	100%
ACN1020A006a	A1 - Concrete Pouring of Base Slab for USRT - Bay 3a	0	1			03-Apr-18 A	03-Apr-18 A	100%
ACN1020A007	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 4	0	44			26-Jan-18 A	21-Mar-18 A	100%



Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACN1020A008	A1 - Concrete Pouring of Base Slab for USRT - Bay 4	0	1			22-Mar-18 A	22-Mar-18 A	100%
ACN1020A009	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 5	0	10			26-Mar-18 A	10-Apr-18 A	100%
ACN1020A010	A1 - Concrete Pouring of Base Slab for USRT - Bay 5	0	1			10-Apr-18 A	10-Apr-18 A	100%
ACN1020A011	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 6	0	38			14-Feb-18 A	06-Apr-18 A	100%
ACN1020A012	A1 - Concrete Pouring of Base Slab for USRT - Bay 6	0	1			06-Apr-18 A	06-Apr-18 A	100%
ACN1020A013	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 7	0	12			01-Jun-18*	14-Jun-18	0%
ACN1020A014a	A1 - Concrete Pouring of Base Slab for USRT - Bay 7a	0	1			13-Jun-18	13-Jun-18	0%
ACN1020A014b	A1 - Concrete Pouring of Base Slab for USRT - Bay 7b	0	1			15-Jun-18	15-Jun-18	0%
ACN1020A015	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 8	0	12			14-Mar-18 A	27-Mar-18 A	100%
ACN1020A016	A1 - Concrete Pouring of Base Slab for USRT - Bay 8	0	1			27-Mar-18 A	27-Mar-18 A	100%
ACN1020A017	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 9	0	12			09-Jun-18*	23-Jun-18	0%
ACN1020A018a	A1 - Concrete Pouring of Base Slab for USRT - Bay 9a	0	1			22-Jun-18	22-Jun-18	0%
ACN1020A018b	A1 - Concrete Pouring of Base Slab for USRT - Bay 9b	0	1			25-Jun-18	25-Jun-18	0%
ACN1020A019	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 10	0	10			26-Mar-18 A	10-Apr-18 A	100%
ACN1020A020	A1 - Concrete Pouring of Base Slab for USRT - Bay 10	0	1			11-Apr-18 A	11-Apr-18 A	100%
ACN1020A021	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 11	0	10			25-May-18*	05-Jun-18	0%
ACN1020A022a	A1 - Concrete Pouring of Base Slab for USRT - Bay 11a	0	1			04-Jun-18	04-Jun-18	0%
ACN1020A022b	A1 - Concrete Pouring of Base Slab for USRT - Bay 11b	0	1			06-Jun-18	06-Jun-18	0%
ACN1020A023	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 12	0	10			06-Apr-18 A	17-Apr-18 A	100%
ACN1020A024	A1 - Concrete Pouring of Base Slab for USRT - Bay 12	0	1			18-Apr-18 A	18-Apr-18 A	100%
ACN1020A025	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 13	0	10			28-May-18*	07-Jun-18	0%
ACN1020A026a	A1 - Concrete Pouring of Base Slab for USRT - Bay 13a	0	1			01-Jun-18	01-Jun-18	0%
ACN1020A026b	A1 - Concrete Pouring of Base Slab for USRT - Bay 13b	0	1			08-Jun-18	08-Jun-18	0%
ACN1020A027	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 14	0	10			21-Apr-18*	03-May-18	0%
ACN1020A028	A1 - Concrete Pouring of Base Slab for USRT - Bay 14	0	1			04-May-18	04-May-18	0%
ACN1020A029	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 15	0	10			30-May-18*	09-Jun-18	0%
ACN1020A030	A1 - Concrete Pouring of Base Slab for USRT - Bay 15	0	1			11-Jun-18	11-Jun-18	0%
ACN1020A031	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 16	0	10			17-May-18*	29-May-18	0%
ACN1020A032	A1 - Concrete Pouring of Base Slab for USRT - Bay 16	0	1			30-May-18	30-May-18	0%
ACN1020A033	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 17	0	10			19-Apr-18*	30-Apr-18	0%
ACN1020A034a	A1 - Concrete Pouring of Base Slab for USRT - Bay 17a	0	1			02-May-18	02-May-18	0%
ACN1020A034b	A1 - Concrete Pouring of Base Slab for USRT - Bay 17b	0	1			27-Apr-18	27-Apr-18	0%
ACN1020A035	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 18	0	10			07-Jun-18*	19-Jun-18	0%
ACN1020A036a	A1 - Concrete Pouring of Base Slab for USRT - Bay 18a	0	1			19-Jun-18	19-Jun-18	0%
ACN1020A036b	A1 - Concrete Pouring of Base Slab for USRT - Bay 18b	0	1			20-Jun-18	20-Jun-18	0%
ACN1020A037	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 19	0	10			08-May-18*	18-May-18	0%
ACN1020A038	A1 - Concrete Pouring of Base Slab for USRT - Bay 19	0	1			19-May-18	19-May-18	0%
ACN1020A039	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 20	0	10			15-May-18*	26-May-18	0%
ACN1020A040a	A1 - Concrete Pouring of Base Slab for USRT - Bay 20a	0	1			28-May-18	28-May-18	0%
ACN1020A040b	A1 - Concrete Pouring of Base Slab for USRT - Bay 20b	0	1			25-May-18	25-May-18	0%
ACN1020A041	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 21	0	10			16-Apr-18	26-Apr-18	0%
ACN1020A042	A1 - Concrete Pouring of Base Slab for USRT - Bay 21	0	1			27-Apr-18	27-Apr-18	0%
ACN1020A043	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 22	0	10			02-May-18*	12-May-18	0%



Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACN1020A044a	A1 - Concrete Pouring of Base Slab for USRT - Bay 22a	0	1			14-May-18	14-May-18	0%
ACN1020A044b	A1 - Concrete Pouring of Base Slab for USRT - Bay 22b	0	1			11-May-18	11-May-18	0%
ACN1020A045	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 23	0	10			10-May-18*	21-May-18	0%
ACN1020A046	A1 - Concrete Pouring of Base Slab for USRT - Bay 23	0	1			23-May-18	23-May-18	0%
ACN1020A047	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 24	0	10			26-Apr-18*	08-May-18	0%
ACN1020A048	A1 - Concrete Pouring of Base Slab for USRT - Bay 24	0	1			09-May-18	09-May-18	0%
ACN1020A049	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 25	0	68			30-Jan-18 A	26-Apr-18	5%
ACN1020A050a	A1 - Concrete Pouring of Base Slab for USRT - Bay 25a	0	1			26-Apr-18	27-Apr-18	0%
ACN1020A050b	A1 - Concrete Pouring of Base Slab for USRT - Bay 25b	0	1			26-Apr-18	27-Apr-18	0%
ACN1020A051	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 26	0	10			07-May-18*	17-May-18	0%
ACN1020A052a	A1 - Concrete Pouring of Base Slab for USRT - Bay 26a	0	1			18-May-18	18-May-18	0%
ACN1020A052b	A1 - Concrete Pouring of Base Slab for USRT - Bay 26b	0	1			18-May-18	18-May-18	0%
ACN1020A053	A1 - Formwork and Rebar Fixing of Base Slab for USRT - Bay 27	0	71			30-Jan-18 A	02-May-18	5%
ACN1020A054a	A1 - Concrete Pouring of Base Slab for USRT - Bay 27a	0	1			07-May-18*	07-May-18	0%
ACN1020A054b	A1 - Concrete Pouring of Base Slab for USRT - Bay 27b	0	1			07-May-18*	07-May-18	0%
Water Pumping Stations (Portion B5)								
ACW1050	B5 - Further Cut Slope (Rock Breaking) and Erect Platform at Pumping Station (+194mPD)	180	220	29-Aug-17	10-Apr-18	14-Aug-17 A	14-May-18	87%
ACW1060A011	B5 - Construct Base Slab of RWA13 - Bay #5	0	14			24-Mar-18 A	13-Apr-18 A	100%
ACW1060A013	B5 - Construct Wall of RWA13 - Bay #1	0	21			16-Mar-18 A	13-Apr-18 A	100%
ACW1060A014	B5 - Construct Wall of RWA13 - Bay #2	0	12			04-May-18	17-May-18	0%
ACW1060A23	B5 - Construct Wall of RWA13 - Bay #3	0	12			19-Apr-18*	03-May-18	0%
ACW1060A33	B5 - Construct Wall of RWA13 - Bay #4	0	12			07-May-18	19-May-18	0%
ACW1060A43	B5 - Construct Wall of RWA13 - Bay #5	0	12			21-Apr-18*	05-May-18	0%
ACW1060A53	B5 - Construct Wall of RWA13 - Bay #6A	0	12			07-May-18	19-May-18	0%
ACW1070A011	B5 - Construct Base Slab of RWA13 - Bay #11	0	7			14-Mar-18 A	21-Mar-18 A	100%
ACW1070A012	B5 - Construct Base Slab of RWA13 - Bay #12	0	16			22-Mar-18 A	13-Apr-18 A	100%
ACW1070A12	B5 - Construct Wall of RWA13 - Bay #7A	0	2			12-Apr-18 A	13-Apr-18 A	100%
ACW1070A32	B5 - Construct Wall of RWA13 - Bay #9	0	12			17-Apr-18*	30-Apr-18	0%
ACW1070A42	B5 - Construct Wall of RWA13 - Bay #10	0	2			12-Apr-18 A	13-Apr-18 A	100%
ACW1070A52	B5 - Construct Wall of RWA13 - Bay #11	0	12			17-May-18	31-May-18	0%
ACW1070A62	B5 - Construct Wall of RWA13 - Bay #12	0	12			03-May-18	16-May-18	0%
ACW1080A014	B5 - Concreting Base Slab for RWA13 - Bay #14	0	7			14-Mar-18 A	21-Mar-18 A	100%
ACW1080A016	B5 - Concreting Wall for RWA13 - Bay #13	0	12			20-Apr-18*	04-May-18	0%
ACW1080A017	B5 - Concreting Wall for RWA13 - Bay #14	0	12			17-May-18*	31-May-18	0%
ACW1080A018	B5 - Concreting Wall for RWA13 - Bay #15	0	12			03-May-18*	16-May-18	0%
ACW1090	B5 - Back Fill for RWA13	90	30	26-Oct-17	12-Feb-18	01-Jun-18	07-Jul-18	0%
ACW1110	B5 - Cut Down Existing Anderson Road to RWA14 Footing Level (from +194mPD to +192mPD)	30	107	19-Apr-18	25-May-18	04-Jan-18 A	17-May-18	10%
ACW1120A002	C2/D2 - Concreting Base Slab for RWA14 - Bay #1	0	12			27-Mar-18 A	13-Apr-18 A	100%
ACW1120A003	C2/D2 - Concreting Wall for RWA14 - Bay #1	0	12			16-Apr-18	28-Apr-18	0%
ACW1120A005	C2/D2 - Concreting Base Slab for RWA14 - Bay #2	0	10			19-Apr-18*	30-Apr-18	0%
ACW1120A006	C2/D2 - Concreting Wall for RWA14 - Bay #2	0	12			02-May-18	15-May-18	0%
ACW1120A008	C2/D2 - Concreting Base Slab for RWA14 - Bay #3	0	12			27-Mar-18 A	13-Apr-18 A	100%
ACW1120A009	C2/D2 - Concreting Wall for RWA14 - Bay #3	0	12			16-Apr-18	28-Apr-18	0%



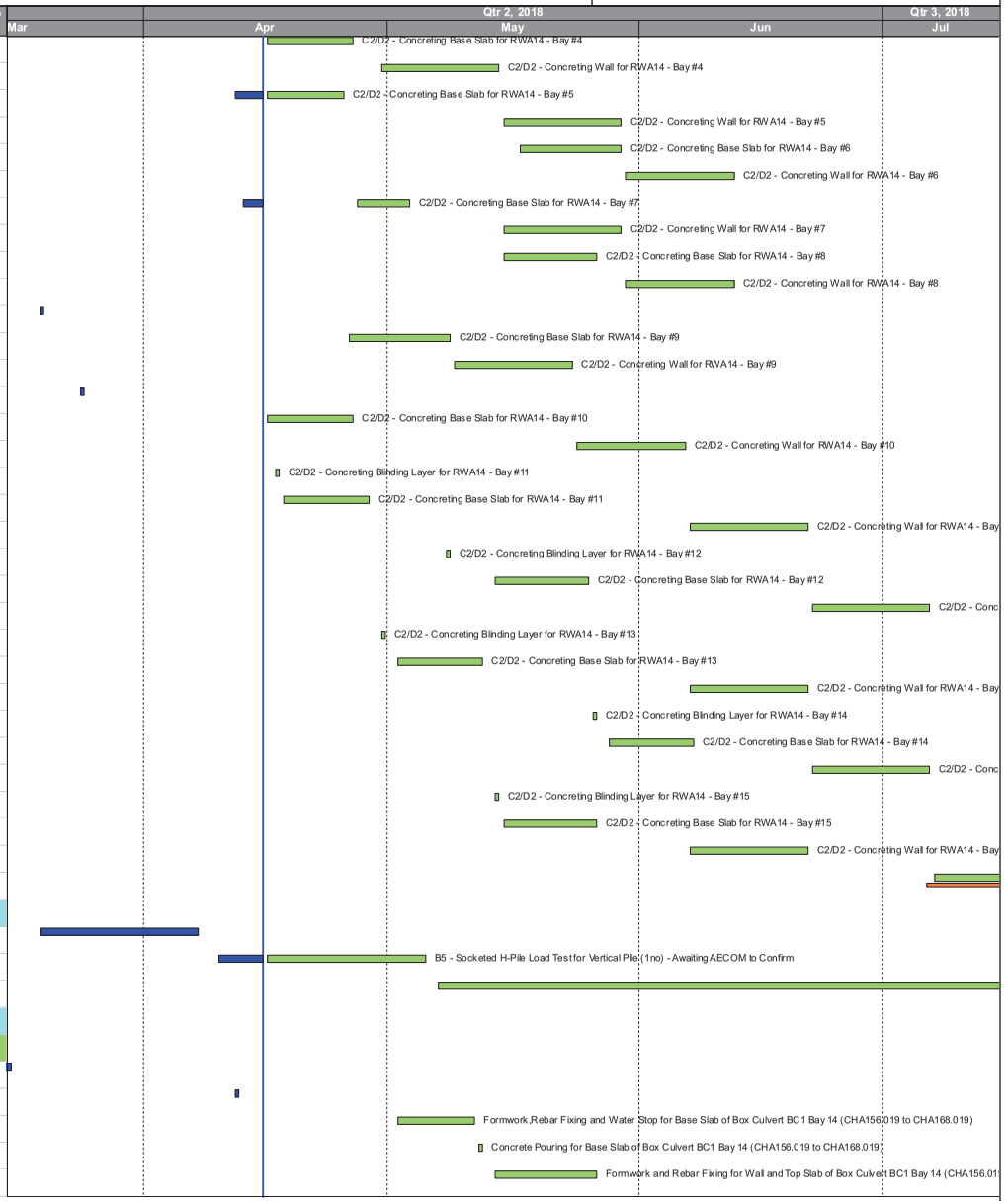
Planned Bar (WP)
Actual Bar
Forecast Bar
Planned Milestone (WP)
Milestone

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACW1120A011	C2/D2 - Concreting Base Slab for RWA14 - Bay #4	0	10			16-Apr-18	26-Apr-18	0%
ACW1120A012	C2/D2 - Concreting Wall for RWA14 - Bay #4	0	12			30-Apr-18	14-May-18	0%
ACW1120A014	C2/D2 - Concreting Base Slab for RWA14 - Bay #5	0	12			12-Apr-18 A	25-Apr-18	10%
ACW1120A015	C2/D2 - Concreting Wall for RWA14 - Bay #5	0	12			15-May-18	29-May-18	0%
ACW1120A017	C2/D2 - Concreting Base Slab for RWA14 - Bay #6	0	10			17-May-18	29-May-18	0%
ACW1120A018	C2/D2 - Concreting Wall for RWA14 - Bay #6	0	12			30-May-18	12-Jun-18	0%
ACW1120A020	C2/D2 - Concreting Base Slab for RWA14 - Bay #7	0	17			13-Apr-18 A	03-May-18	50%
ACW1120A021	C2/D2 - Concreting Wall for RWA14 - Bay #7	0	12			15-May-18	29-May-18	0%
ACW1120A023	C2/D2 - Concreting Base Slab for RWA14 - Bay #8	0	10			15-May-18	26-May-18	0%
ACW1120A024	C2/D2 - Concreting Wall for RWA14 - Bay #8	0	12			30-May-18	12-Jun-18	0%
ACW1120A025	C2/D2 - Concreting Blinding Layer for RWA14 - Bay #9	0	1			19-Mar-18 A	19-Mar-18 A	100%
ACW1120A026	C2/D2 - Concreting Base Slab for RWA14 - Bay #9	0	10			26-Apr-18	08-May-18	0%
ACW1120A027	C2/D2 - Concreting Wall for RWA14 - Bay #9	0	12			09-May-18	23-May-18	0%
ACW1120A028	C2/D2 - Concreting Blinding Layer for RWA14 - Bay #10	0	1			24-Mar-18 A	24-Mar-18 A	100%
ACW1120A029	C2/D2 - Concreting Base Slab for RWA14 - Bay #10	0	10			16-Apr-18	26-Apr-18	0%
ACW1120A030	C2/D2 - Concreting Wall for RWA14 - Bay #10	0	12			24-May-18	06-Jun-18	0%
ACW1120A031	C2/D2 - Concreting Blinding Layer for RWA14 - Bay #11	0	1			17-Apr-18*	17-Apr-18	0%
ACW1120A032	C2/D2 - Concreting Base Slab for RWA14 - Bay #11	0	10			18-Apr-18	28-Apr-18	0%
ACW1120A033	C2/D2 - Concreting Wall for RWA14 - Bay #11	0	12			07-Jun-18	21-Jun-18	0%
ACW1120A034	C2/D2 - Concreting Blinding Layer for RWA14 - Bay #12	0	1			08-May-18*	08-May-18	0%
ACW1120A035	C2/D2 - Concreting Base Slab for RWA14 - Bay #12	0	10			14-May-18	25-May-18	0%
ACW1120A036	C2/D2 - Concreting Wall for RWA14 - Bay #12	0	12			22-Jun-18	06-Jul-18	0%
ACW1120A037	C2/D2 - Concreting Blinding Layer for RWA14 - Bay #13	0	1			30-Apr-18*	30-Apr-18	0%
ACW1120A038	C2/D2 - Concreting Base Slab for RWA14 - Bay #13	0	10			02-May-18	12-May-18	0%
ACW1120A039	C2/D2 - Concreting Wall for RWA14 - Bay #13	0	12			07-Jun-18	21-Jun-18	0%
ACW1120A040	C2/D2 - Concreting Blinding Layer for RWA14 - Bay #14	0	1			26-May-18*	26-May-18	0%
ACW1120A041	C2/D2 - Concreting Base Slab for RWA14 - Bay #14	0	10			28-May-18	07-Jun-18	0%
ACW1120A042	C2/D2 - Concreting Wall for RWA14 - Bay #14	0	12			22-Jun-18	06-Jul-18	0%
ACW1120A043	C2/D2 - Concreting Blinding Layer for RWA14 - Bay #15	0	1			14-May-18*	14-May-18	0%
ACW1120A044	C2/D2 - Concreting Base Slab for RWA14 - Bay #15	0	10			15-May-18	26-May-18	0%
ACW1120A045	C2/D2 - Concreting Wall for RWA14 - Bay #15	0	12			07-Jun-18	21-Jun-18	0%
ACW1150	C2/D2 - Back Fill for RWA14	90	90	06-Jul-18	22-Oct-18	07-Jul-18	23-Oct-18	0%
Public Transportation Terminus (Portion B5)								
ACP1040A002	B5 - Awaiting AECOM's Approval for Method Statement	0	14			19-Mar-18 A	07-Apr-18 A	100%
ACP1040A003	B5 - Socketed H-Pile Load Test for Vertical Pile (1no) - Awaiting AECOM to Confirm	0	22			10-Apr-18 A	05-May-18	0%
ACP1040A004	B5 - Excavation and Construct Pile Caps with Erection of Steel Posts GLE/1-9	0	60			07-May-18*	18-Jul-18	0%
Internal Road Construction								
Single Cell Box Culvert BC1 incl. Transition Section CH141.820 to CH168.019								
ACL10050A007	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 13 (CHA141.820 to CHA156.019)	0	16			26-Feb-18 A	15-Mar-18 A	100%
ACL10050A009	Concrete Pouring for Wall and Top Slab of Box Culvert BC1 Bay 13 (CHA141.820 to CHA156.019)	0	1			12-Apr-18 A	12-Apr-18 A	100%
ACL10050A013	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC1 Bay 14 (CHA156.019 to CHA168.019)	0	9			02-May-18*	11-May-18	0%
ACL10050A014	Concrete Pouring for Base Slab of Box Culvert BC1 Bay 14 (CHA156.019 to CHA168.019)	0	1			12-May-18	12-May-18	0%
ACL10050A015	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC1 Bay 14 (CHA156.019 to CHA168.019)	0	11			14-May-18	26-May-18	0%



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

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

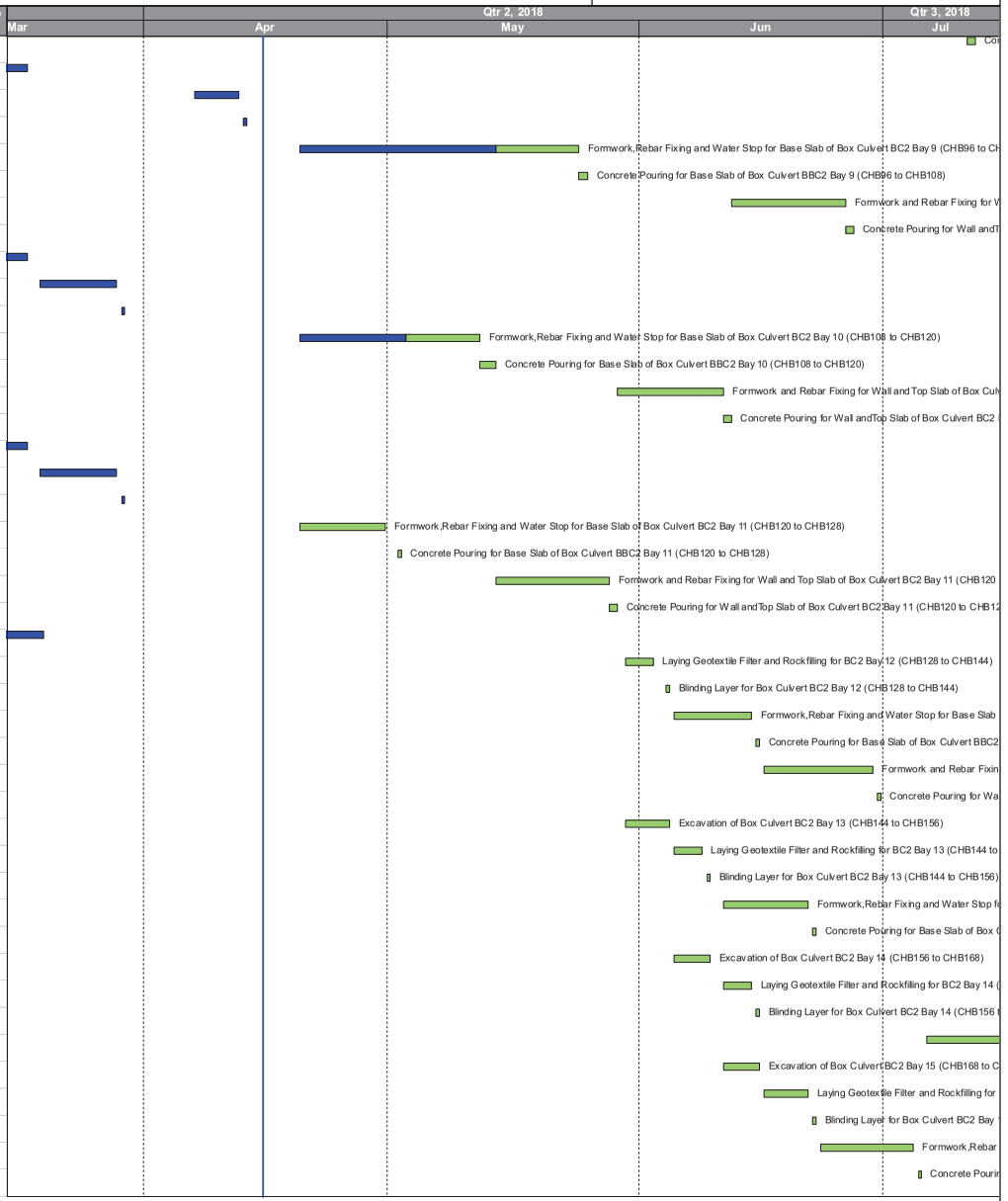
Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACL10050A017	Concrete Pouring for Wall and Top Slab of Box Culvert BC1 Bay 14 (CHA156.019 to CHA168.019)	0	1			28-May-18	28-May-18	0%
ACL10050A018	B2 - Back Fill of Box Culvert BC1 Transition Bay 13/14 (CHA141.820 to CHA168.019)	0	24			29-May-18	26-Jun-18	0%
ACL10050A019	B2 - Divert Open Drainage Channel to crossover BC1 Bay 14 (CHA156.019 to CHA168.019)	0	6			25-Jun-18	30-Jun-18	0%
ACL10050A020	Excavation of Box Culvert BC1 Bay 15 (CHCHA168.019 to CHA178.392)	0	5			03-Jul-18	07-Jul-18	0%
ACL10050A021	Laying Geotextile Filter and Rockfilling for Box Culvert BC1 Bay 15 (CHA168.019 to CHA178.392)	0	4			09-Jul-18*	12-Jul-18	0%
ACL10050A022	Blinding Layer for Box Culvert BC1 Bay 15 (CHA168.019 to CHA178.392)	0	1			13-Jul-18	13-Jul-18	0%
ACL10050A023	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC1 Bay 15 (CHA168.019 to CHA178.392)	0	9			14-Jul-18	24-Jul-18	0%
Twin Cell Box Culvert BC2								
ACL10050A030	Excavation of Box Culvert BC2 Bay 1 (CHB0 to CHB12)	0	5			09-Jul-18	13-Jul-18	0%
ACL10050A031	Laying Geotextile Filter and Rockfilling for BC2 Bay 1 (CHB0 to CHB12)	0	4			14-Jul-18*	18-Jul-18	0%
ACL10050A037	Excavation of Box Culvert BC2 Bay 2 (CHB12 to CHB24)	0	5			03-Jul-18*	07-Jul-18	0%
ACL10050A038	Laying Geotextile Filter and Rockfilling for BC2 Bay 2 (CHB12 to CHB24)	0	4			09-Jul-18*	12-Jul-18	0%
ACL10050A039	Blinding Layer for Box Culvert BC2 Bay 2 (CHB12 to CHB24)	0	1			13-Jul-18	13-Jul-18	0%
ACL10050A044	Excavation of Box Culvert BC2 Bay 3 (CHB24 to CHB36)	0	5			24-May-18	29-May-18	0%
ACL10050A045	Laying Geotextile Filter and Rockfilling for BC2 Bay 3 (CHB24 to CHB36)	0	4			30-May-18*	02-Jun-18	0%
ACL10050A046	Blinding Layer for Box Culvert BC2 Bay 3 (CHB24 to CHB36)	0	1			04-Jun-18	04-Jun-18	0%
ACL10050A051	Excavation of Box Culvert BC2 Bay 4 (CHB36 to CHB48)	0	5			17-May-18	23-May-18	0%
ACL10050A052	Laying Geotextile Filter and Rockfilling for BC2 Bay 4 (CHB36 to CHB48)	0	4			24-May-18*	28-May-18	0%
ACL10050A053	Blinding Layer for Box Culvert BC2 Bay 4 (CHB36 to CHB48)	0	1			29-May-18	29-May-18	0%
ACL10050A054	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 4 (CHB36 to CHB48)	0	9			13-Jul-18	24-Jul-18	0%
ACL10050A058	Excavation of Box Culvert BC2 Bay 5 (CHB48 to CHB58)	0	5			11-May-18	16-May-18	0%
ACL10050A059	Laying Geotextile Filter and Rockfilling for BC2 Bay 5 (CHB48 to CHB58)	0	4			17-May-18*	21-May-18	0%
ACL10050A060	Blinding Layer for Box Culvert BC2 Bay 5 (CHB48 to CHB58)	0	1			23-May-18	23-May-18	0%
ACL10050A061	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 5 (CHB48 to CHB58)	0	9			30-Jun-18	12-Jul-18	0%
ACL10050A062	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 5 (CHB48 to CHB58)	0	1			12-Jul-18	13-Jul-18	0%
ACL10050A063	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC2 Bay 5 (CHB48 to CHB58)	0	11			13-Jul-18	26-Jul-18	0%
ACL10050A065	Excavation of Box Culvert BC2 Bay 6 (CHB58 to CHB72)	0	5			05-May-18	10-May-18	0%
ACL10050A066	Laying Geotextile Filter and Rockfilling for BC2 Bay 6 (CHB58 to CHB72)	0	4			11-May-18*	15-May-18	0%
ACL10050A067	Blinding Layer for Box Culvert BC2 Bay 6 (CHB58 to CHB72)	0	1			16-May-18	16-May-18	0%
ACL10050A068	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 6 (CHB58 to CHB72)	0	9			19-Jun-18	29-Jun-18	0%
ACL10050A069	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 6 (CHB58 to CHB72)	0	1			29-Jun-18	30-Jun-18	0%
ACL10050A072	Excavation of Box Culvert BC2 Bay 7 (CHB72 to CHB84)	0	5			28-Apr-18	04-May-18	0%
ACL10050A073	Laying Geotextile Filter and Rockfilling for BC2 Bay 7 (CHB72 to CHB84)	0	4			05-May-18*	09-May-18	0%
ACL10050A074	Blinding Layer for Box Culvert BC2 Bay 7 (CHB72 to CHB84)	0	1			10-May-18	10-May-18	0%
ACL10050A075	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 7 (CHB72 to CHB84)	0	9			06-Jun-18	16-Jun-18	0%
ACL10050A076	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 7 (CHB72 to CHB84)	0	1			16-Jun-18	19-Jun-18	0%
ACL10050A077	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC2 Bay 7 (CHB72 to CHB84)	0	11			12-Jul-18	25-Jul-18	0%
ACL10050A079	Excavation of Box Culvert BC2 Bay 8 (CHB84 to CHB96)	0	5			23-Apr-18*	27-Apr-18	0%
ACL10050A080	Laying Geotextile Filter and Rockfilling for BC2 Bay 8 (CHB84 to CHB96)	0	4			28-Apr-18*	03-May-18	0%
ACL10050A081	Blinding Layer for Box Culvert BC2 Bay 8 (CHB84 to CHB96)	0	1			04-May-18	04-May-18	0%
ACL10050A082	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 8 (CHB84 to CHB96)	0	9			25-May-18	05-Jun-18	0%
ACL10050A083	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 8 (CHB84 to CHB96)	0	1			05-Jun-18	06-Jun-18	0%
ACL10050A084	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC2 Bay 8 (CHB84 to CHB96)	0	11			27-Jun-18	11-Jul-18	0%

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

25 Apr 2018

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACL10050A085	Concrete Pouring for Wall and Top Slab of Box Culvert BC2 Bay 8 (CHB84 to CHB96)	0	1			11-Jul-18	12-Jul-18	0%
ACL10050A086	Excavation of Box Culvert BC2 Bay 9 (CHB96 to CHB108)	0	5			13-Mar-18 A	17-Mar-18 A	100%
ACL10050A087	Laying Geotextile Filter and Rockfilling for BC2 Bay 9 (CHB96 to CHB108)	0	5			07-Apr-18 A	12-Apr-18 A	100%
ACL10050A088	Blinding Layer for Box Culvert BC2 Bay 9 (CHB96 to CHB108)	0	1			13-Apr-18 A	13-Apr-18 A	100%
ACL10050A089	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 9 (CHB96 to CHB108)	0	28			20-Apr-18 A	24-May-18	5%
ACL10050A090	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 9 (CHB96 to CHB108)	0	1			24-May-18	25-May-18	0%
ACL10050A091	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC2 Bay 9 (CHB96 to CHB108)	0	11			12-Jun-18	26-Jun-18	0%
ACL10050A092	Concrete Pouring for Wall and Top Slab of Box Culvert BC2 Bay 9 (CHB96 to CHB108)	0	1			26-Jun-18	27-Jun-18	0%
ACL10050A093	Excavation of Box Culvert BC2 Bay 10 (CHB108 to CHB120)	0	10			07-Mar-18 A	17-Mar-18 A	100%
ACL10050A094	Laying Geotextile Filter and Rockfilling for BC2 Bay 10 (CHB108 to CHB120)	0	9			19-Mar-18 A	28-Mar-18 A	100%
ACL10050A095	Blinding Layer for Box Culvert BC2 Bay 10 (CHB108 to CHB120)	0	1			29-Mar-18 A	29-Mar-18 A	100%
ACL10050A096	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 10 (CHB108 to CHB120)	0	18			20-Apr-18 A	12-May-18	10%
ACL10050A097	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 10 (CHB108 to CHB120)	0	1			12-May-18	14-May-18	0%
ACL10050A098	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC2 Bay 10 (CHB108 to CHB120)	0	11			29-May-18	11-Jun-18	0%
ACL10050A099	Concrete Pouring for Wall and Top Slab of Box Culvert BC2 Bay 10 (CHB108 to CHB120)	0	1			11-Jun-18	12-Jun-18	0%
ACL10050A100	Excavation of Box Culvert BC2 Bay 11 (CHB120 to CHB128)	0	15			01-Mar-18 A	17-Mar-18 A	100%
ACL10050A101	Laying Geotextile Filter and Rockfilling for BC2 Bay 11 (CHB120 to CHB128)	0	9			19-Mar-18 A	28-Mar-18 A	100%
ACL10050A102	Blinding Layer for Box Culvert BC2 Bay 11 (CHB120 to CHB128)	0	1			29-Mar-18 A	29-Mar-18 A	100%
ACL10050A103	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 11 (CHB120 to CHB128)	0	9			20-Apr-18*	30-Apr-18	0%
ACL10050A104	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 11 (CHB120 to CHB128)	0	1			02-May-18	02-May-18	0%
ACL10050A105	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert BC2 Bay 11 (CHB120 to CHB128)	0	11			14-May-18	28-May-18	0%
ACL10050A106	Concrete Pouring for Wall and Top Slab of Box Culvert BC2 Bay 11 (CHB120 to CHB128)	0	1			28-May-18	29-May-18	0%
ACL10050A107	Excavation of Box Culvert BC2 Bay 12 (CHB128 to CHB144)	0	11			07-Mar-18 A	19-Mar-18 A	100%
ACL10050A108	Laying Geotextile Filter and Rockfilling for BC2 Bay 12 (CHB128 to CHB144)	0	4			30-May-18*	02-Jun-18	0%
ACL10050A109	Blinding Layer for Box Culvert BC2 Bay 12 (CHB128 to CHB144)	0	1			04-Jun-18	04-Jun-18	0%
ACL10050A110	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 12 (CHB128 to CHB144)	0	9			05-Jun-18	14-Jun-18	0%
ACL10050A111	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 12 (CHB128 to CHB144)	0	1			15-Jun-18	15-Jun-18	0%
ACL10050A112	Formwork and Rebar Fixing for Wall and Top Slab of Box Culvert Bay 12 (CHB128 to CHB144)	0	11			16-Jun-18	29-Jun-18	0%
ACL10050A113	Concrete Pouring for Wall and Top Slab of Box Culvert BC2 Bay 12 (CHB128 to CHB144)	0	1			30-Jun-18	30-Jun-18	0%
ACL10050A114	Excavation of Box Culvert BC2 Bay 13 (CHB144 to CHB156)	0	5			30-May-18	04-Jun-18	0%
ACL10050A115	Laying Geotextile Filter and Rockfilling for BC2 Bay 13 (CHB144 to CHB156)	0	4			05-Jun-18*	08-Jun-18	0%
ACL10050A116	Blinding Layer for Box Culvert BC2 Bay 13 (CHB144 to CHB156)	0	1			09-Jun-18	09-Jun-18	0%
ACL10050A117	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 13 (CHB144 to CHB156)	0	9			11-Jun-18	21-Jun-18	0%
ACL10050A118	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 13 (CHB144 to CHB156)	0	1			22-Jun-18	22-Jun-18	0%
ACL10050A121	Excavation of Box Culvert BC2 Bay 14 (CHB156 to CHB168)	0	5			05-Jun-18	09-Jun-18	0%
ACL10050A122	Laying Geotextile Filter and Rockfilling for BC2 Bay 14 (CHB156 to CHB168)	0	4			11-Jun-18*	14-Jun-18	0%
ACL10050A123	Blinding Layer for Box Culvert BC2 Bay 14 (CHB156 to CHB168)	0	1			15-Jun-18	15-Jun-18	0%
ACL10050A124	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 14 (CHB156 to CHB168)	0	9			06-Jul-18	16-Jul-18	0%
ACL10050A128	Excavation of Box Culvert BC2 Bay 15 (CHB168 to CHB180)	0	5			11-Jun-18	15-Jun-18	0%
ACL10050A129	Laying Geotextile Filter and Rockfilling for BC2 Bay 15 (CHB168 to CHB180)	0	4			16-Jun-18*	21-Jun-18	0%
ACL10050A130	Blinding Layer for Box Culvert BC2 Bay 15 (CHB168 to CHB180)	0	1			22-Jun-18	22-Jun-18	0%
ACL10050A131	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 15 (CHB168 to CHB180)	0	9			23-Jun-18	04-Jul-18	0%
ACL10050A132	Concrete Pouring for Base Slab of Box Culvert BBC2 Bay 15 (CHB168 to CHB180)	0	1			05-Jul-18	05-Jul-18	0%



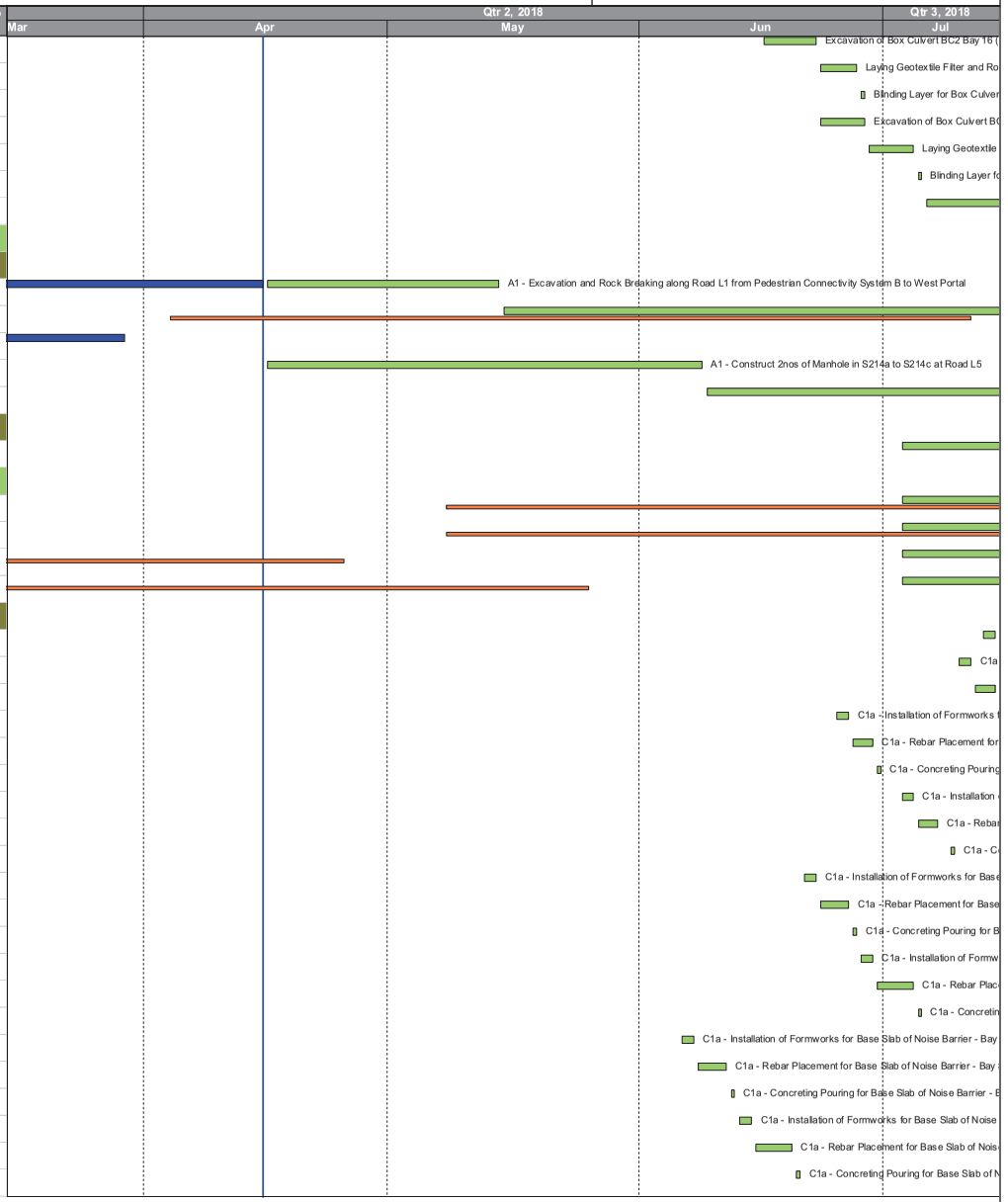
Planned Bar (WP)
Actual Bar
Forecast Bar
Planned Milestone (WP)
Milestone

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACL10050A135	Excavation of Box Culvert BC2 Bay 16 (CHB180 to CHB192)	0	5			16-Jun-18	22-Jun-18	0%
ACL10050A136	Laying Geotextile Filter and Rockfilling for BC2 Bay 16 (CHB180 to CHB192)	0	4			23-Jun-18*	27-Jun-18	0%
ACL10050A137	Blinding Layer for Box Culvert BC2 Bay 16 (CHB180 to CHB192)	0	1			28-Jun-18	28-Jun-18	0%
ACL10050A142	Excavation of Box Culvert BC2 Bay 17 (CHB192 to CHB201.096)	0	5			23-Jun-18	28-Jun-18	0%
ACL10050A143	Laying Geotextile Filter and Rockfilling for BC2 Bay 17 (CHB192 to CHB201.096)	0	4			29-Jun-18*	04-Jul-18	0%
ACL10050A144	Blinding Layer for Box Culvert BC2 Bay 17 (CHB192 to CHB201.096)	0	1			05-Jul-18	05-Jul-18	0%
ACL10050A145	Formwork,Rebar Fixing and Water Stop for Base Slab of Box Culvert BC2 Bay 17 (CHB192 to CHB201.096)	0	9			06-Jul-18	16-Jul-18	0%
At-grade Internal Road L1								
Road L1 and L5 (Portion A1)								
ACL10100A001	A1 - Excavation and Rock Breaking along Road L1 from Pedestrian Connectivity System B to West Portal	0	203			04-Sep-17 A	14-May-18	80%
ACL10110	A1 - Install Road Drainage, Water Mains, Ducts and Utilities along Road L1 from System B to West Portal	80	80	04-Apr-18	11-Jul-18	15-May-18	18-Aug-18	0%
ACL10120A001	A1 - Excavate, Setting Out and Construct Blinding Layer for 2nos of Manhole in S214a to S214c at Road L5	0	24			02-Mar-18 A	29-Mar-18 A	100%
ACL10120A002	A1 - Construct 2nos of Manhole in S214a to S214c at Road L5	0	45			16-Apr-18	08-Jun-18	0%
ACL10120A003	A1 - Further Excavation and Drainage Pipes Laying at Road L5	0	90			09-Jun-18	24-Sep-18	0%
Road L1 (Portion B2)								
ACL10039A002	Form Platform for Slope Works at SLope A15	0	21			03-Jul-18*	26-Jul-18	0%
At-grade Internal Road L4 (Portion C1a)								
ACL41150	C1a - Excavate and Construct Road Drainage System along Road L4 CH0 to CH50	80	80	08-May-18	11-Aug-18	03-Jul-18*	05-Oct-18	0%
ACL41152	C1a - Excavate and Construct Road Drainage System along Road L4 CH100 to CH150	70	70	08-May-18	31-Jul-18	03-Jul-18*	21-Sep-18	0%
ACL41240	C1a - Road Improvement at Junction between Road L4 and On Sau Road	90	90	03-Jan-18	25-Apr-18	03-Jul-18*	18-Oct-18	0%
ACL41250	C1a - Erect Scaffold for RockSlope Inspection along Road L4	180	30	13-Oct-17	25-May-18	03-Jul-18*	06-Aug-18	0%
Noise Barrier								
ACL401453	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #12 (1st Stage)	0	2			13-Jul-18	14-Jul-18	0%
ACL401471	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #14 (1st Stage)	0	2			10-Jul-18	11-Jul-18	0%
ACL401472	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #14 (1st Stage)	0	3			12-Jul-18	14-Jul-18	0%
ACL401489	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #16 (1st Stage)	0	2			25-Jun-18	26-Jun-18	0%
ACL401490	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #16 (1st Stage)	0	3			27-Jun-18	29-Jun-18	0%
ACL401491	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #16 (1st Stage)	0	1			30-Jun-18	30-Jun-18	0%
ACL401498	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #17 (1st Stage)	0	2			03-Jul-18	04-Jul-18	0%
ACL401499	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #17 (1st Stage)	0	3			05-Jul-18	07-Jul-18	0%
ACL401500	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #17 (1st Stage)	0	1			09-Jul-18	09-Jul-18	0%
ACL401507	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #18 (1st Stage)	0	2			21-Jun-18	22-Jun-18	0%
ACL401508	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #18 (1st Stage)	0	3			23-Jun-18	26-Jun-18	0%
ACL401509	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #18 (1st Stage)	0	1			27-Jun-18	27-Jun-18	0%
ACL401516	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #19 (1st Stage)	0	2			28-Jun-18	29-Jun-18	0%
ACL401517	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #19 (1st Stage)	0	3			30-Jun-18	04-Jul-18	0%
ACL401518	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #19 (1st Stage)	0	1			05-Jul-18	05-Jul-18	0%
ACL401525	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #20 (1st Stage)	0	2			06-Jun-18	07-Jun-18	0%
ACL401526	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #20 (1st Stage)	0	3			08-Jun-18	11-Jun-18	0%
ACL401527	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #20 (1st Stage)	0	1			12-Jun-18	12-Jun-18	0%
ACL401534	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #21 (1st Stage)	0	2			13-Jun-18	14-Jun-18	0%
ACL401535	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #21 (1st Stage)	0	3			15-Jun-18	19-Jun-18	0%
ACL401536	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #21 (1st Stage)	0	1			20-Jun-18	20-Jun-18	0%



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

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

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

25 Apr 2018

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACL401543	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #22 (1st Stage)	0	2			02-Jun-18	04-Jun-18	0%
ACL401544	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #22 (1st Stage)	0	3			05-Jun-18	07-Jun-18	0%
ACL401545	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #22 (1st Stage)	0	1			08-Jun-18	08-Jun-18	0%
ACL401552	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #23 (1st Stage)	0	2			09-Jun-18	11-Jun-18	0%
ACL401553	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #23 (1st Stage)	0	3			12-Jun-18	14-Jun-18	0%
ACL401554	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #23 (1st Stage)	0	1			15-Jun-18	15-Jun-18	0%
ACL401564	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #24 (2nd Stage)	0	2			07-May-18*	08-May-18	0%
ACL401565	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #24 (2nd Stage)	0	2			09-May-18	10-May-18	0%
ACL401566	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #24 (2nd Stage)	0	1			11-May-18	11-May-18	0%
ACL401567	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #24 (3rd Stage)	0	2			12-May-18	14-May-18	0%
ACL401568	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #24 (3rd Stage)	0	1			15-May-18	15-May-18	0%
ACL401569	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #24 (3rd Stage)	0	1			16-May-18	16-May-18	0%
ACL401570	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #25 (1st Stage)	0	3			13-Apr-18 A	16-Apr-18 A	100%
ACL401571	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #25 (1st Stage)	0	3			17-Apr-18 A	19-Apr-18 A	100%
ACL401572	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #25 (1st Stage)	0	1			20-Apr-18 A	20-Apr-18 A	100%
ACL401573	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #25 (2nd Stage)	0	2			14-May-18*	15-May-18	0%
ACL401574	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #25 (2nd Stage)	0	2			16-May-18	17-May-18	0%
ACL401575	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #25 (2nd Stage)	0	1			18-May-18	18-May-18	0%
ACL401576	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #25 (3rd Stage)	0	2			19-May-18	21-May-18	0%
ACL401577	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #25 (3rd Stage)	0	1			23-May-18	23-May-18	0%
ACL401578	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #25 (3rd Stage)	0	1			24-May-18	24-May-18	0%
ACL401582	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #26 (2nd Stage)	0	46			27-Feb-18 A	25-Apr-18	0%
ACL401583	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #26 (2nd Stage)	0	2			26-Apr-18	27-Apr-18	0%
ACL401584	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #26 (2nd Stage)	0	1			28-Apr-18	28-Apr-18	0%
ACL401585	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #26 (3rd Stage)	0	2			30-Apr-18	02-May-18	0%
ACL401586	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #26 (3rd Stage)	0	1			03-May-18	03-May-18	0%
ACL401587	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #26 (3rd Stage)	0	1			04-May-18	04-May-18	0%
ACL401588	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #27 (1st Stage)	0	3			13-Apr-18 A	16-Apr-18 A	100%
ACL401589	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #27 (1st Stage)	0	3			17-Apr-18 A	19-Apr-18 A	100%
ACL401590	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #27 (1st Stage)	0	1			20-Apr-18 A	20-Apr-18 A	100%
ACL401591	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #27 (2nd Stage)	0	2			07-May-18*	08-May-18	0%
ACL401592	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #27 (2nd Stage)	0	2			09-May-18	10-May-18	0%
ACL401593	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #27 (2nd Stage)	0	1			11-May-18	11-May-18	0%
ACL401594	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #27 (3rd Stage)	0	2			12-May-18	14-May-18	0%
ACL401595	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #27 (3rd Stage)	0	1			15-May-18	15-May-18	0%
ACL401596	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #27 (3rd Stage)	0	1			25-May-18	25-May-18	0%
ACL401597	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #28 (1st Stage)	0	13			02-Mar-18 A	16-Mar-18 A	100%
ACL401598	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #28 (1st Stage)	0	3			20-Mar-18 A	22-Mar-18 A	100%
ACL401599	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #28 (1st Stage)	0	1			23-Mar-18 A	23-Mar-18 A	100%
ACL401600	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #28 (2nd Stage)	0	2			07-May-18*	08-May-18	0%
ACL401601	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #28 (2nd Stage)	0	2			09-May-18	10-May-18	0%
ACL401602	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #28 (2nd Stage)	0	1			11-May-18	11-May-18	0%
ACL401603	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #28 (3rd Stage)	0	2			12-May-18	14-May-18	0%

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

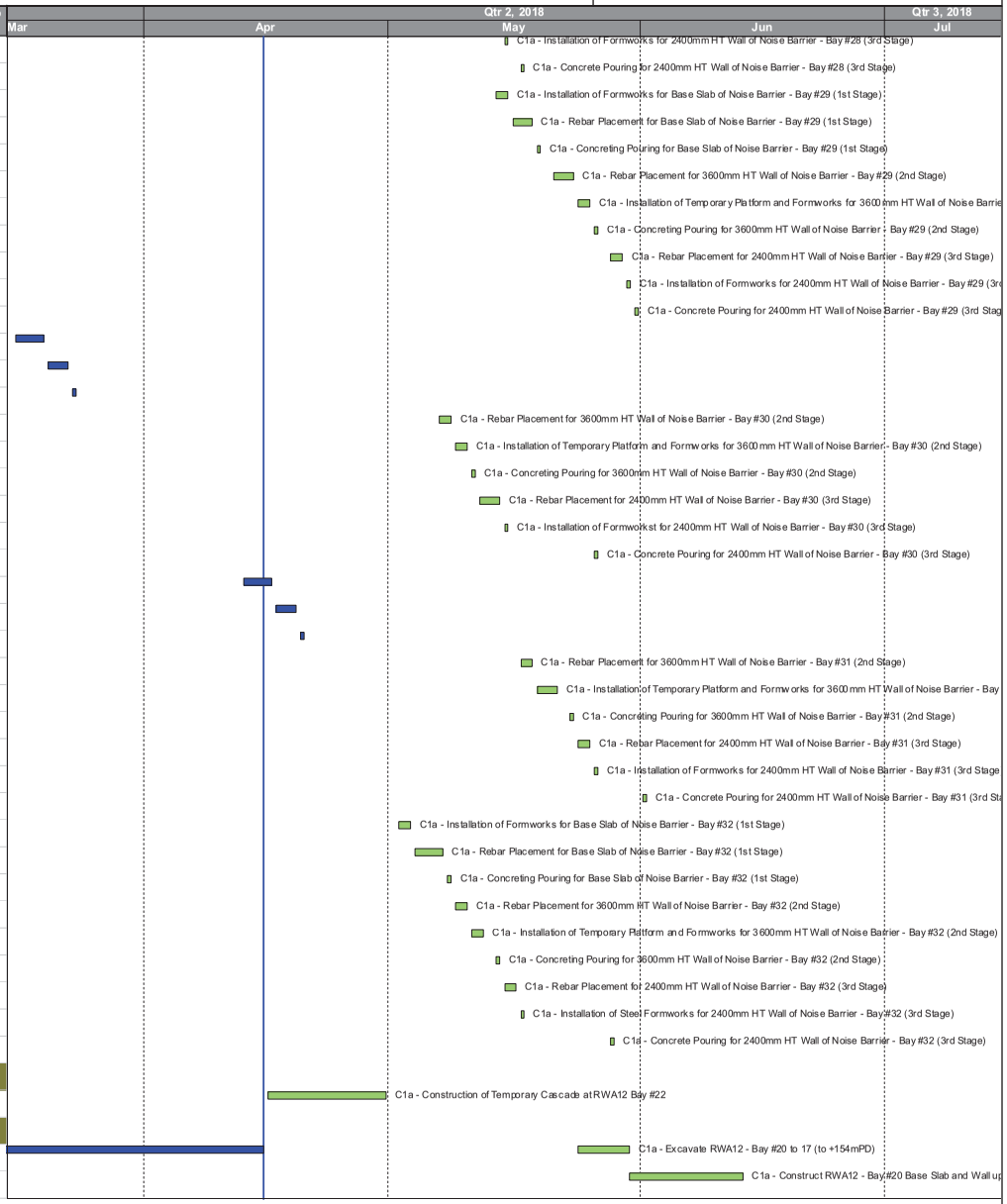
3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

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

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACL401604	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #28 (3rd Stage)	0	1			15-May-18	15-May-18	0%
ACL401605	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #28 (3rd Stage)	0	1			17-May-18	17-May-18	0%
ACL401606	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #29 (1st Stage)	0	2			14-May-18*	15-May-18	0%
ACL401607	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #29 (1st Stage)	0	3			16-May-18	18-May-18	0%
ACL401608	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #29 (1st Stage)	0	1			19-May-18	19-May-18	0%
ACL401609	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #29 (2nd Stage)	0	2			21-May-18	23-May-18	0%
ACL401610	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #29 (2nd Stage)	0	2			24-May-18	25-May-18	0%
ACL401611	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #29 (2nd Stage)	0	1			26-May-18	26-May-18	0%
ACL401612	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #29 (3rd Stage)	0	2			28-May-18	29-May-18	0%
ACL401613	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #29 (3rd Stage)	0	1			30-May-18	30-May-18	0%
ACL401614	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #29 (3rd Stage)	0	1			31-May-18	31-May-18	0%
ACL401615	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #30 (1st Stage)	0	3			16-Mar-18 A	19-Mar-18 A	100%
ACL401616	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #30 (1st Stage)	0	3			20-Mar-18 A	22-Mar-18 A	100%
ACL401617	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #30 (1st Stage)	0	1			23-Mar-18 A	23-Mar-18 A	100%
ACL401618	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #30 (2nd Stage)	0	2			07-May-18*	08-May-18	0%
ACL401619	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #30 (2nd Stage)	0	2			09-May-18	10-May-18	0%
ACL401620	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #30 (2nd Stage)	0	1			11-May-18	11-May-18	0%
ACL401621	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #30 (3rd Stage)	0	2			12-May-18	14-May-18	0%
ACL401622	C1a - Installation of Formworkst for 2400mm HT Wall of Noise Barrier - Bay #30 (3rd Stage)	0	1			15-May-18	15-May-18	0%
ACL401623	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #30 (3rd Stage)	0	1			26-May-18	26-May-18	0%
ACL401624	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #31 (1st Stage)	0	3			13-Apr-18 A	16-Apr-18 A	100%
ACL401625	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #31 (1st Stage)	0	3			17-Apr-18 A	19-Apr-18 A	100%
ACL401626	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #31 (1st Stage)	0	1			20-Apr-18 A	20-Apr-18 A	100%
ACL401627	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #31 (2nd Stage)	0	2			17-May-18	18-May-18	0%
ACL401628	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #31 (2nd Stage)	0	2			19-May-18	21-May-18	0%
ACL401629	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #31 (2nd Stage)	0	1			23-May-18	23-May-18	0%
ACL401630	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #31 (3rd Stage)	0	2			24-May-18	25-May-18	0%
ACL401631	C1a - Installation of Formworks for 2400mm HT Wall of Noise Barrier - Bay #31 (3rd Stage)	0	1			26-May-18	26-May-18	0%
ACL401632	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #31 (3rd Stage)	0	1			01-Jun-18	01-Jun-18	0%
ACL401633	C1a - Installation of Formworks for Base Slab of Noise Barrier - Bay #32 (1st Stage)	0	2			02-May-18*	03-May-18	0%
ACL401634	C1a - Rebar Placement for Base Slab of Noise Barrier - Bay #32 (1st Stage)	0	3			04-May-18	07-May-18	0%
ACL401635	C1a - Concreting Pouring for Base Slab of Noise Barrier - Bay #32 (1st Stage)	0	1			08-May-18	08-May-18	0%
ACL401636	C1a - Rebar Placement for 3600mm HT Wall of Noise Barrier - Bay #32 (2nd Stage)	0	2			09-May-18	10-May-18	0%
ACL401637	C1a - Installation of Temporary Platform and Formworks for 3600mm HT Wall of Noise Barrier - Bay #32 (2nd Stage)	0	2			11-May-18	12-May-18	0%
ACL401638	C1a - Concreting Pouring for 3600mm HT Wall of Noise Barrier - Bay #32 (2nd Stage)	0	1			14-May-18	14-May-18	0%
ACL401639	C1a - Rebar Placement for 2400mm HT Wall of Noise Barrier - Bay #32 (3rd Stage)	0	2			15-May-18	16-May-18	0%
ACL401640	C1a - Installation of Steel Formworks for 2400mm HT Wall of Noise Barrier - Bay #32 (3rd Stage)	0	1			17-May-18	17-May-18	0%
ACL401641	C1a - Concrete Pouring for 2400mm HT Wall of Noise Barrier - Bay #32 (3rd Stage)	0	1			28-May-18	28-May-18	0%
Twin 1950 Dia. Downpipe and Cascade								
ACL40050A001	C1a - Construction of Temporary Cascade at RWA12 Bay #22	0	13			16-Apr-18	30-Apr-18	0%
Retaining Wall RWA12								
ACL40020A002	C1a - Excavate RWA12 - Bay #20 to 17 (to +154mPD)	0	240			07-Aug-17 A	30-May-18	60%
ACL40020A003	C1a - Construct RWA12 - Bay #20 Base Slab and Wall upward +165mPD as 1st Portion	0	12			30-May-18	13-Jun-18	0%



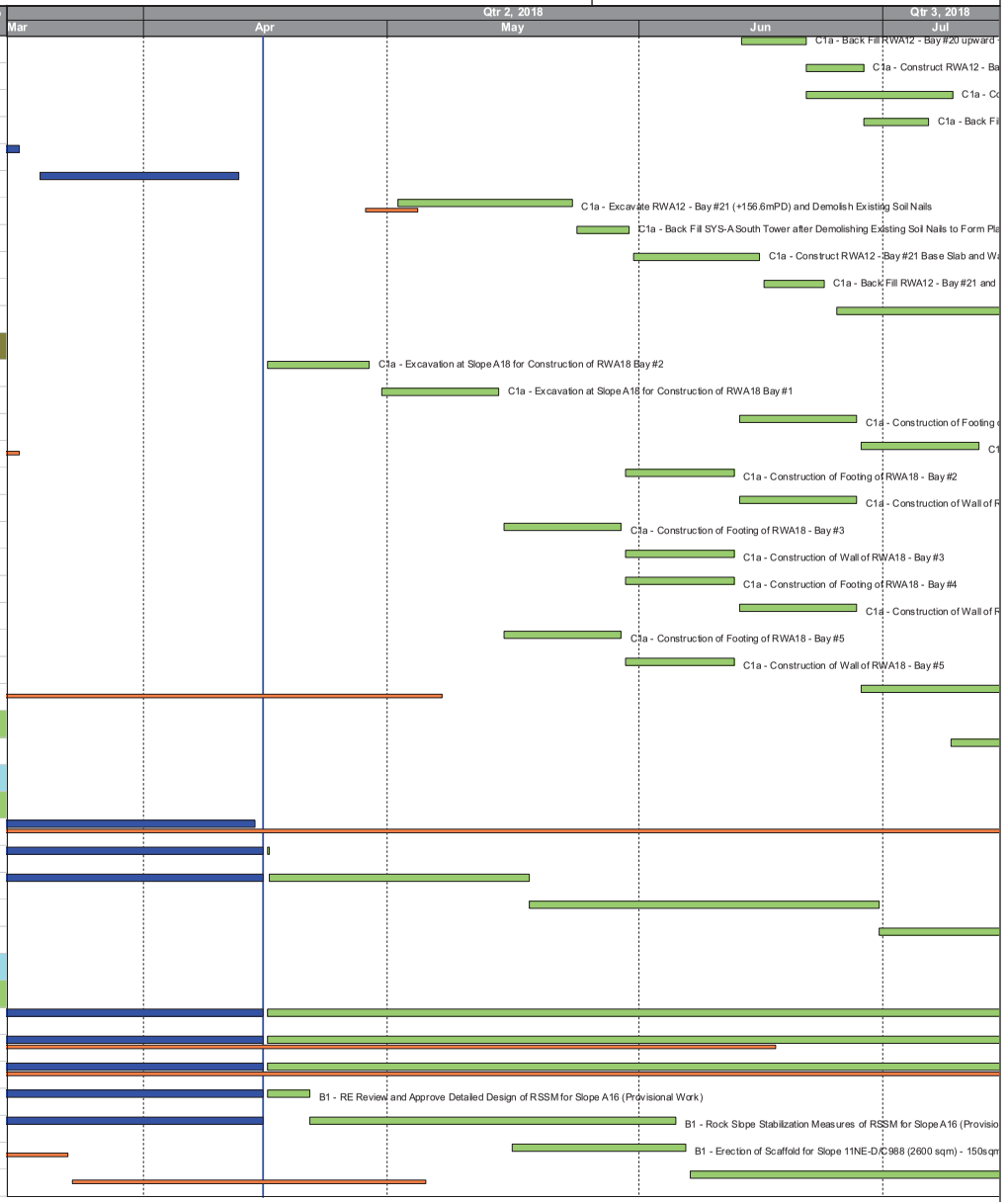
Planned Bar (WP)
Actual Bar
Forecast Bar
Planned Milestone (WP)
Milestone

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

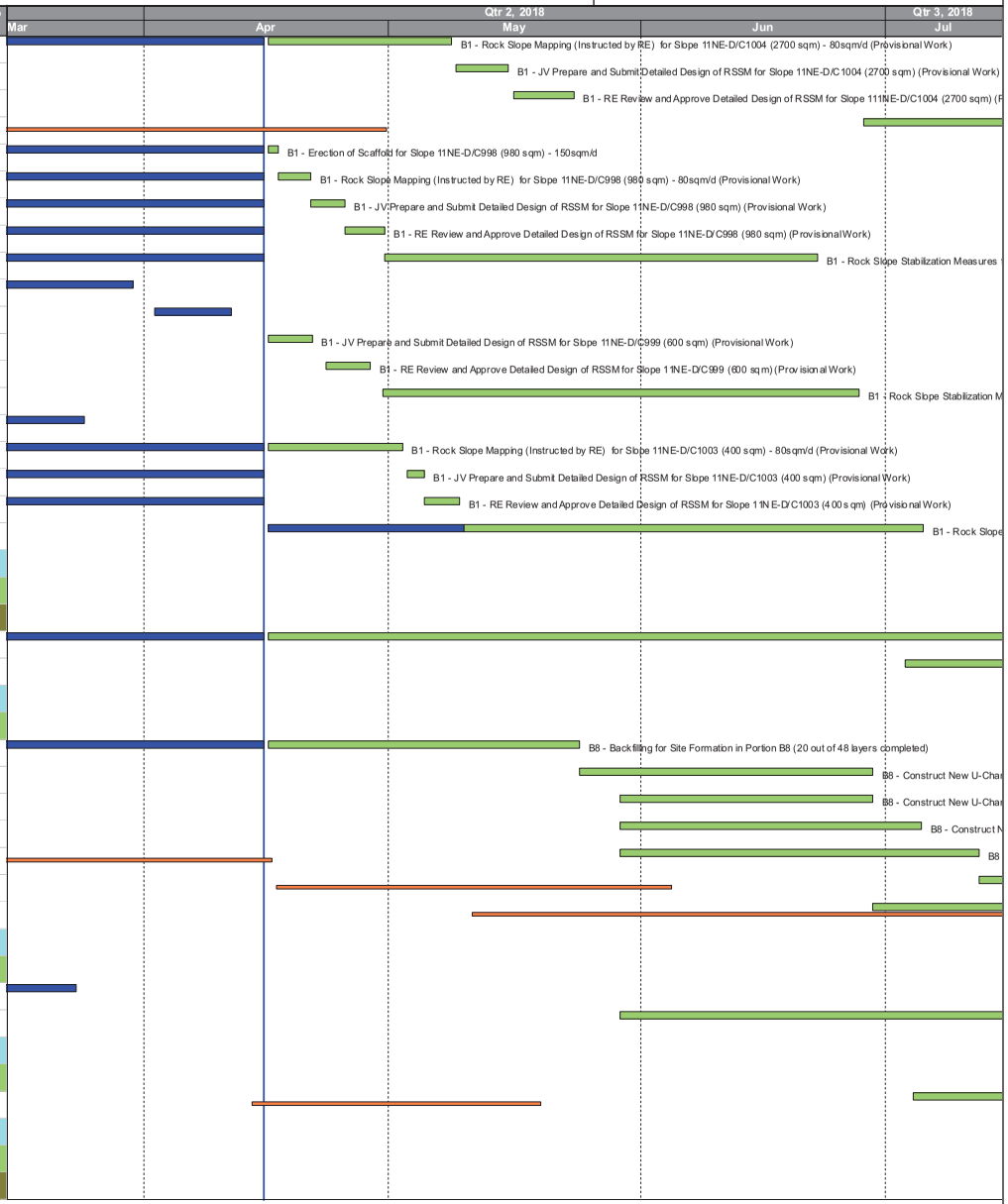
Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACL40020A004	C1a - Back Fill RWA12 - Bay #20 upward +163mPD	0	6			13-Jun-18	21-Jun-18	0%
ACL40020A005	C1a - Construct RWA12 - Bay #19 to 17	0	6			21-Jun-18	28-Jun-18	0%
ACL40020A006	C1a - Construct RWA12 - Bay #20 Wall upward +175mPD as 2nd Portion	0	14			21-Jun-18	09-Jul-18	0%
ACL40020A007	C1a - Back Fill RWA12 - Bay #19 to 17	0	6			28-Jun-18	06-Jul-18	0%
ACL40030A001	C1a - Construction of RWA12 - Bay #22 Base Slab	0	15			28-Feb-18 A	16-Mar-18 A	100%
ACL40040A001	C1a - Construction of RWA12 - Bay #22 Wall upward +165mPD as 1st Portion	0	18			19-Mar-18 A	12-Apr-18 A	100%
ACL40110	C1a - Excavate RWA12 - Bay #21 (+156.6mPD) and Demolish Existing Soil Nails	5	18	28-Apr-18	04-May-18	02-May-18*	23-May-18	0%
ACL40110A001	C1a - Back Fill SYS-A South Tower after Demolishing Existing Soil Nails to Form Platform	0	6			24-May-18	30-May-18	0%
ACL40120A001	C1a - Construct RWA12 - Bay #21 Base Slab and Wall upward +165mPD as 1st Portion	0	14			31-May-18	15-Jun-18	0%
ACL40120A002	C1a - Back Fill RWA12 - Bay #21 and 22 upward +163mPD (15 layers @ 4 layers/day)	0	6			16-Jun-18	23-Jun-18	0%
ACL40955	C1a - Excavate RWA12 - Bay #1 to 8	78	60	26-Jul-17	26-Oct-17	25-Jun-18*	03-Sep-18	0%
Retaining Wall RWA18								
ACL40170A004	C1a - Excavation at Slope A18 for Construction of RWA18 Bay #2	0	12			16-Apr-18	28-Apr-18	0%
ACL40170A005	C1a - Excavation at Slope A18 for Construction of RWA18 Bay #1	0	12			30-Apr-18	14-May-18	0%
ACL40180	C1a - Construction of Footing of RWA18 - Bay #1	12	12	16-Dec-17	02-Jan-18	13-Jun-18	27-Jun-18	0%
ACL40190	C1a - Construction of Wall of RWA18 - Bay #1	12	12	03-Mar-18	16-Mar-18	28-Jun-18	12-Jul-18	0%
ACL40200	C1a - Construction of Footing of RWA18 - Bay #2	12	12	02-Dec-17	15-Dec-17	30-May-18	12-Jun-18	0%
ACL40210	C1a - Construction of Wall of RWA18 - Bay #2	12	12	14-Feb-18	02-Mar-18	13-Jun-18	27-Jun-18	0%
ACL40220	C1a - Construction of Footing of RWA18 - Bay #3	12	12	18-Nov-17	01-Dec-17	15-May-18	29-May-18	0%
ACL40230	C1a - Construction of Wall of RWA18 - Bay #3	12	12	31-Jan-18	13-Feb-18	30-May-18	12-Jun-18	0%
ACL40240	C1a - Construction of Footing of RWA18 - Bay #4	12	12	02-Dec-17	15-Dec-17	30-May-18	12-Jun-18	0%
ACL40250	C1a - Construction of Wall of RWA18 - Bay #4	12	12	24-Feb-18	09-Mar-18	13-Jun-18	27-Jun-18	0%
ACL40260	C1a - Construction of Footing of RWA18 - Bay #5	12	12	18-Nov-17	01-Dec-17	15-May-18	29-May-18	0%
ACL40270	C1a - Construction of Wall of RWA18 - Bay #5	12	12	07-Feb-18	23-Feb-18	30-May-18	12-Jun-18	0%
ACL40275	C1a - Back Filling Retaining Wall RWA18 (5 bays)	45	45	10-Mar-18	07-May-18	28-Jun-18	20-Aug-18	0%
WSD Access Road (Portion B5)								
ACL60010	B5 - Site Clearance and Tree Felling	46	46	19-Dec-17	13-Feb-18	09-Jul-18	30-Aug-18	0%
Portion A3								
Site Formation								
ACA30020	A3 - Soil Excavation for Site Formation in Portion A3	306	147	07-Sep-17	18-Sep-18	13-Oct-17 A	14-Apr-18 A	100%
ACA30030	A3 - Rock Breaking for Site Formation in Portion A3	56	137	19-Sep-18	26-Nov-18	25-Oct-17 A	16-Apr-18	98%
ACA30035	A3 - Construct U-Channel with Cover (675UC) along Slope A16	14	61	27-Nov-18	12-Dec-18	02-Mar-18 A	18-May-18	10%
ACA30040	A3 - Construction of U-Channel, Catchpits and 525mm dia. drainage pipe connecting to Manhole A1	45	35	27-Nov-18	21-Jan-19	18-May-18	30-Jun-18	0%
ACA30050	A3 - Erect Boundary Chainlink Fence (141m) and Gates in Portion A3	35	21	22-Jan-19	06-Mar-19	30-Jun-18	26-Jul-18	0%
Portion B1								
Site Formation								
ACB10010	B1 - 9 Months Establishment Works for Landscape Softworks (Dwg.No.60328348/SF&I/1051&1052)	270	461	24-Jan-17	20-Oct-17	15-Sep-17 A	20-Dec-18	8%
ACB10020	B1 - 17 Months Establishment Works for Landscape Softworks (Dwg.No.60328348/SF&I/1051&1052)	510	682	24-Jan-17	17-Jun-18	15-Sep-17 A	29-Jul-19	8%
ACB10030	B1 - 30 Months Establishment Works for Landscape Softworks (Dwg.No.60328348/SF&I/1051&1052)	900	898	24-Jan-17	12-Jul-19	19-Feb-17 A	05-Aug-19	47%
ACB10080	B1 - RE Review and Approve Detailed Design of RSSM for Slope A16 (Provisional Work)	12	105	13-Sep-17	26-Sep-17	08-Dec-17 A	21-Apr-18	55%
ACB10090	B1 - Rock Slope Stabilization Measures of RSSM for Slope A16 (Provisional Work)	48	132	27-Sep-17	24-Nov-17	18-Dec-17 A	05-Jun-18	25%
ACB10310	B1 - Erection of Scaffold for Slope 11NE-D/C988 (2600 sqm) - 150sqm/d	18	18	02-Mar-18	22-Mar-18	16-May-18	06-Jun-18	0%
ACB10320	B1 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C988 (2600 sqm) - 80sqm/d (Provisional Work)	33	33	23-Mar-18	05-May-18	07-Jun-18	17-Jul-18	0%



ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACB10390	B1 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C1004 (2700 sqm) - 80sqm/d (Provisional Work)	38	122	20-Dec-17	05-Feb-18	05-Dec-17 A	08-May-18	50%
ACB10400	B1 - JV Prepare and Submit Detailed Design of RSSM for Slope 11NE-D/C1004 (2700 sqm) (Provisional Work)	6	6	06-Feb-18	12-Feb-18	09-May-18	15-May-18	0%
ACB10410	B1 - RE Review and Approve Detailed Design of RSSM for Slope 11NE-D/C1004 (2700 sqm) (Provisional Work)	6	6	13-Feb-18	22-Feb-18	16-May-18	23-May-18	0%
ACB10420	B1 - Rock Slope Stabilization Measures for Slope 11NE-D/C1004 (2700 sqm) (Provisional Work)	48	48	01-Mar-18	30-Apr-18	28-Jun-18	23-Aug-18	0%
ACB10650	B1 - Erection of Scaffold for Slope 11NE-D/C998 (980 sqm) - 150sqm/d	7	176	28-Jul-17	04-Aug-17	10-Jul-17 A	17-Apr-18	80%
ACB10660	B1 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C998 (980 sqm) - 80sqm/d (Provisional Work)	13	208	05-Aug-17	19-Aug-17	07-Aug-17 A	21-Apr-18	70%
ACB10670	B1 - JV Prepare and Submit Detailed Design of RSSM for Slope 11NE-D/C998 (980 sqm) (Provisional Work)	6	202	21-Aug-17	26-Aug-17	18-Aug-17 A	25-Apr-18	40%
ACB10680	B1 - RE Review and Approve Detailed Design of RSSM for Slope 11NE-D/C998 (980 sqm) (Provisional Work)	6	205	28-Aug-17	02-Sep-17	19-Aug-17 A	30-Apr-18	40%
ACB10690	B1 - Rock Slope Stabilization Measures for Slope 11NE-D/C998 (980 sqm)	48	182	04-Sep-17	01-Nov-17	08-Nov-17 A	22-Jun-18	10%
ACB10710	B1 - Erection of Scaffold for Slope 11NE-D/C999 (600 sqm) - 150sqm/d	4	60	13-Oct-17	17-Oct-17	16-Jan-18 A	30-Mar-18 A	100%
ACB10720	B1 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C999 (600 sqm) - 80sqm/d (Provisional Work)	8	7	18-Oct-17	26-Oct-17	02-Apr-18 A	11-Apr-18 A	100%
ACB10730	B1 - JV Prepare and Submit Detailed Design of RSSM for Slope 11NE-D/C999 (600 sqm) (Provisional Work)	6	6	27-Oct-17	03-Nov-17	16-Apr-18	21-Apr-18	0%
ACB10740	B1 - RE Review and Approve Detailed Design of RSSM for Slope 11NE-D/C999 (600 sqm) (Provisional Work)	6	6	04-Nov-17	10-Nov-17	23-Apr-18	28-Apr-18	0%
ACB10750	B1 - Rock Slope Stabilization Measures for Slope 11NE-D/C999 (600 sqm)	48	48	30-Dec-17	28-Feb-18	30-Apr-18	27-Jun-18	0%
ACB10770	B1 - Erection of Scaffold for Slope 11NE-D/C1003 (400 sqm) - 150sqm/d	3	133	11-Sep-17	13-Sep-17	13-Oct-17 A	24-Mar-18 A	100%
ACB10780	B1 - Rock Slope Mapping (Instructed by RE) for Slope 11NE-D/C1003 (400 sqm) - 80sqm/d (Provisional Work)	5	165	14-Sep-17	19-Sep-17	09-Oct-17 A	02-May-18	0%
ACB10790	B1 - JV Prepare and Submit Detailed Design of RSSM for Slope 11NE-D/C1003 (400 sqm) (Provisional Work)	6	120	20-Sep-17	26-Sep-17	04-Dec-17 A	05-May-18	60%
ACB10800	B1 - RE Review and Approve Detailed Design of RSSM for Slope 11NE-D/C1003 (400 sqm) (Provisional Work)	6	122	27-Sep-17	04-Oct-17	06-Dec-17 A	09-May-18	40%
ACB10810	B1 - Rock Slope Stabilization Measures for Slope 11NE-D/C1003 (400 sqm) (Provisional Work)	48	66	02-Nov-17	29-Dec-17	16-Apr-18 A	05-Jul-18	5%
Portion B5								
Portion B5 North & East Side adjacent to Portion B2 and Pumping Station and Reservoirs								
Site Formation								
ACB50060	B5 - 9 Months Establishment Works for Landscape Softworks (Dwg.No.60328348/SF&I/1051&1052)	270	426	24-Jan-17	20-Dec-17	15-Sep-17 A	23-Feb-19	5%
ACB50070	B5 - Erection of Scaffold and working Platform for Slope A15b	180	14	24-Jan-17	02-Sep-17	03-Jul-18*	18-Jul-18	0%
Portion B8								
Site Formation								
ACB80020	B8 - Backfilling for Site Formation in Portion B8 (20 out of 48 layers completed)	60	212	09-Oct-17	18-Dec-17	01-Sep-17 A	24-May-18	48%
ACB80030	B8 - Construct New U-Channel 300U (approx 80m) and Catchpit TC6c	30	30	14-Nov-17	18-Dec-17	24-May-18	29-Jun-18	0%
ACB80040	B8 - Construct New U-Channel 375U (approx 66m) and Catchpit TC6d	26	26	19-Dec-17	20-Jan-18	29-May-18	29-Jun-18	0%
ACB80050	B8 - Construct New U-Channel 450U (approx 73m) and Catchpit TC6a	30	30	22-Jan-18	28-Feb-18	29-May-18	05-Jul-18	0%
ACB80060	B8 - Construct New U-Channel 525U (approx 80m) and Catchpit TC6c	36	36	01-Mar-18	16-Apr-18	29-May-18	12-Jul-18	0%
ACB80070	B8 - Construct New U-Channel 450U (approx 100m) and Catchpit TC6	40	40	17-Apr-18	04-Jun-18	12-Jul-18	28-Aug-18	0%
ACB80090	B8 - Erect Boundary Chainlink Fence (appox 600m) and Gates in Portion B8	90	90	11-May-18	27-Aug-18	29-Jun-18	16-Oct-18	0%
Portion B10								
Site Formation								
ACB100020	B10 - Site Formation in Portion B10	45	166	31-Oct-17	21-Dec-17	01-Sep-17 A	23-Mar-18 A	100%
ACB100030	B10 - Construct New U-Channel (450U,525U and 675U; approx 90m) and Catchpits (3nos)	40	40	22-Dec-17	09-Feb-18	29-May-18	17-Jul-18	0%
Portion C1c								
Site Formation								
ACC20010	C1c - Site Clearance in Portion C1c	30	30	14-Apr-18	19-May-18	04-Jul-18	07-Aug-18	0%
Portion D1								
Road Improvement at Po Lam Road								
Phase 1 Road Improvement Works (Location A)								



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

3-MONTH ROLLING PROGRAMME
(In comparison with WP Rev.1 dated 25 Aug 2017)

ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

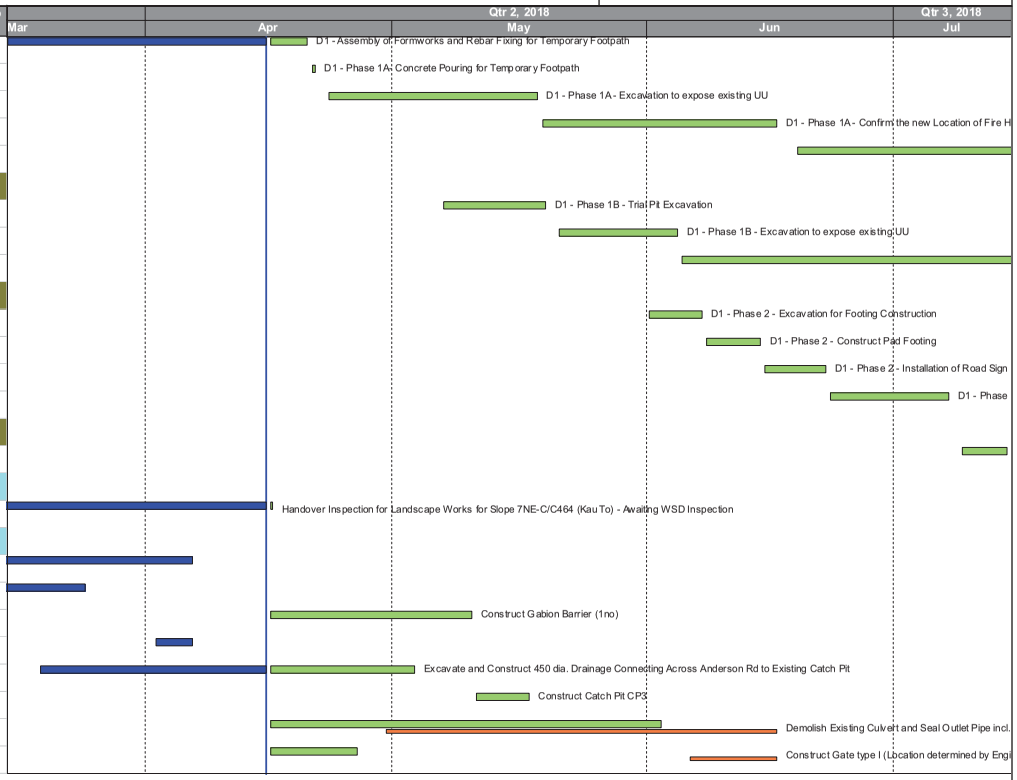
Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

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

25 Apr 2018

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

Activity ID	Activity Name	BL Project Duration	At Completion Duration	BL Project Start	BL Project Finish	Start	Finish	% Comp
ACD10025A001a	D1 - Assembly of Formworks and Rebar Fixing for Temporary Footpath	0	28			15-Mar-18 A	20-Apr-18	16.67%
ACD10025A002	D1 - Phase 1A- Concrete Pouring for Temporary Footpath	0	1			21-Apr-18	21-Apr-18	0%
ACD10035A001	D1 - Phase 1A - Excavation to expose existing UU	0	22			23-Apr-18	18-May-18	0%
ACD10035A002	D1 - Phase 1A - Confirm the new Location of Fire Hydrant	0	24			19-May-18	16-Jun-18	0%
ACD10045	D1 - Phase 1A - CLP to Lay New Cables and Abandon Existing Cables	24	47	30-Aug-17	26-Sep-17	19-Jun-18	13-Aug-18	0%
	Phase 1 Road Improvement Works (Location B)							
ACD10130A001	D1 - Phase 1B - Trial Pit Excavation	0	12			07-May-18*	19-May-18	0%
ACD10140A001	D1 - Phase 1B - Excavation to expose existing UU	0	12			21-May-18	04-Jun-18	0%
ACD10150A001	D1 - Phase 1B - Confirm Proposed Location of Drawpits (Earth/E&M/ATC) and Light Signal Head	0	36			05-Jun-18	18-Jul-18	0%
	Phase 2 Road Improvement Works							
ACD10180A001	D1 - Phase 2 - Excavation for Footing Construction	0	6			01-Jun-18*	07-Jun-18	0%
ACD10190A001	D1 - Phase 2 - Construct Pad Footing	0	6			08-Jun-18	14-Jun-18	0%
ACD10200A001	D1 - Phase 2 - Installation of Road Sign Post	0	6			15-Jun-18	22-Jun-18	0%
ACD10210A001	D1 - Phase 2 - Backfilling	0	12			23-Jun-18	07-Jul-18	0%
	Phase 3 Road Improvement Works							
ACD10230A001	D1 - Phase 3 - Excavation	0	6			09-Jul-18	14-Jul-18	0%
	Shui Chuen O & Kau To (Portion E2) - Subject to Excision							
ACO10243	Handover Inspection for Landscape Works for Slope 7NE-C/C464 (Kau To) - Awaiting WSD Inspection	7	89	30-Oct-17	06-Nov-17	21-Dec-17 A	16-Apr-18	90%
	Mitigation Works for Natural Terrain Catchment B5 adjacent to Anderson Road - Subject to Excision							
ACO10140	Slope Trimming and Excavation for Gabion Barrier Construction (As directed by Engineer)	30	25	18-Jan-18	24-Feb-18	05-Mar-18 A	06-Apr-18 A	100%
ACO10150A001	Excavate and Construct 450UC and Catch Pit CP1 & C2	0	18			05-Mar-18 A	24-Mar-18 A	100%
ACO10150A002	Construct Gabion Barrier (1no)	0	14			24-Apr-18 A	10-May-18	0%
ACO10160A001	Construct 800mm Concrete Maintenance Access	0	3			02-Apr-18 A	06-Apr-18 A	100%
ACO10160A002	Excavate and Construct 450 dia. Drainage Connecting Across Anderson Rd to Existing Catch Pit	0	35			19-Mar-18 A	03-May-18	50%
ACO10160A003	Construct Catch Pit CP3	0	6			11-May-18	17-May-18	0%
ACO10170	Demolish Existing Culvert and Seal Outlet Pipe incl. Modification of Catchpit and Stepped Channel (As directed by Engr)	40	40	30-Apr-18	16-Jun-18	16-Apr-18	02-Jun-18	0%
ACO10180	Construct Gate type I (Location determined by Engineer)	10	10	06-Jun-18	16-Jun-18	16-Apr-18	26-Apr-18	0%

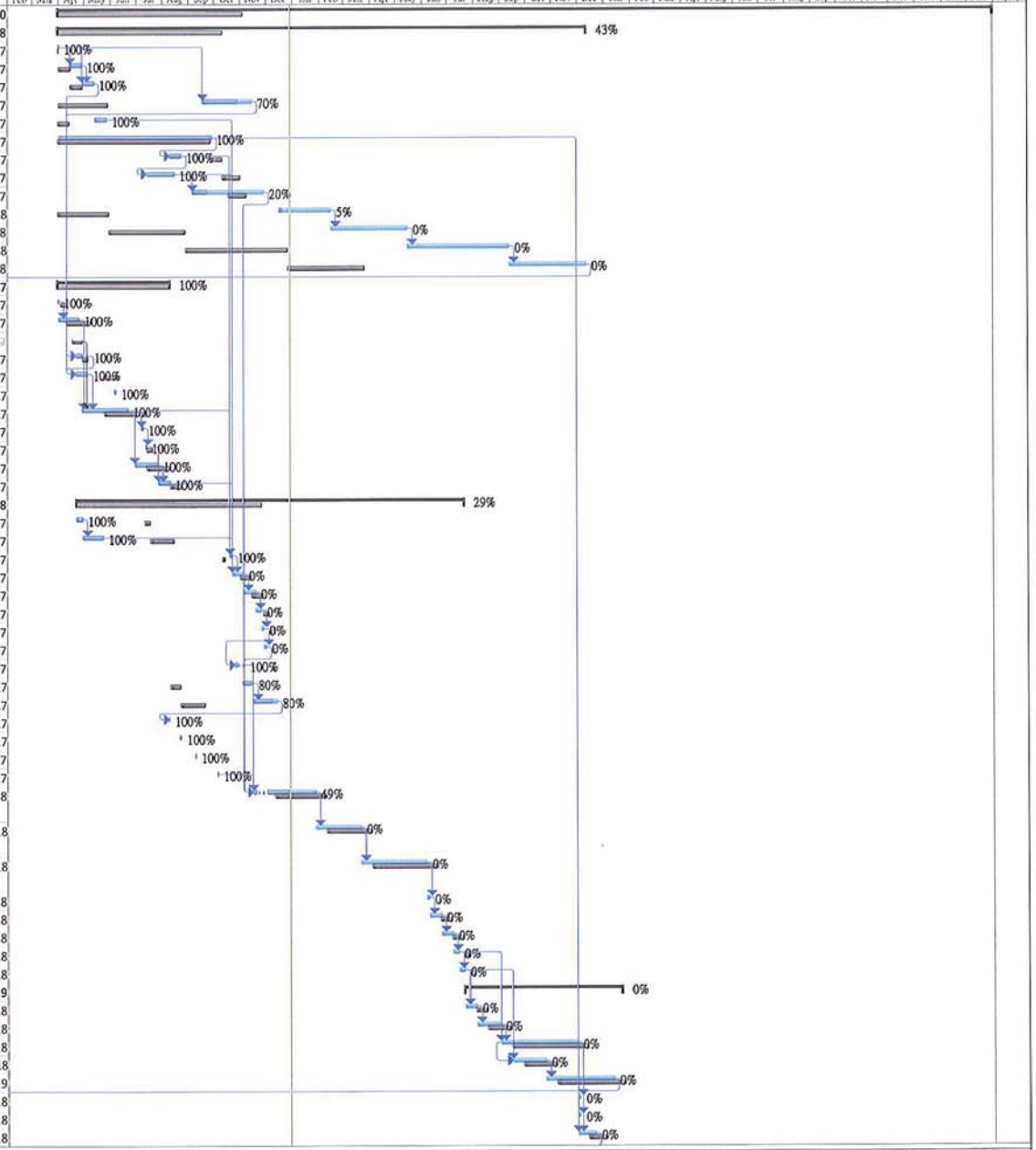


ARQ - Programme Logics based on WP Rev.1 dated 25 Aug 2017

Date	Revision	Checked	Approved
25-Apr-18	3MRP Rev.1 (Cut Off on 15 Apr 18)		

Revised programme for Section A-E1_Dec 17

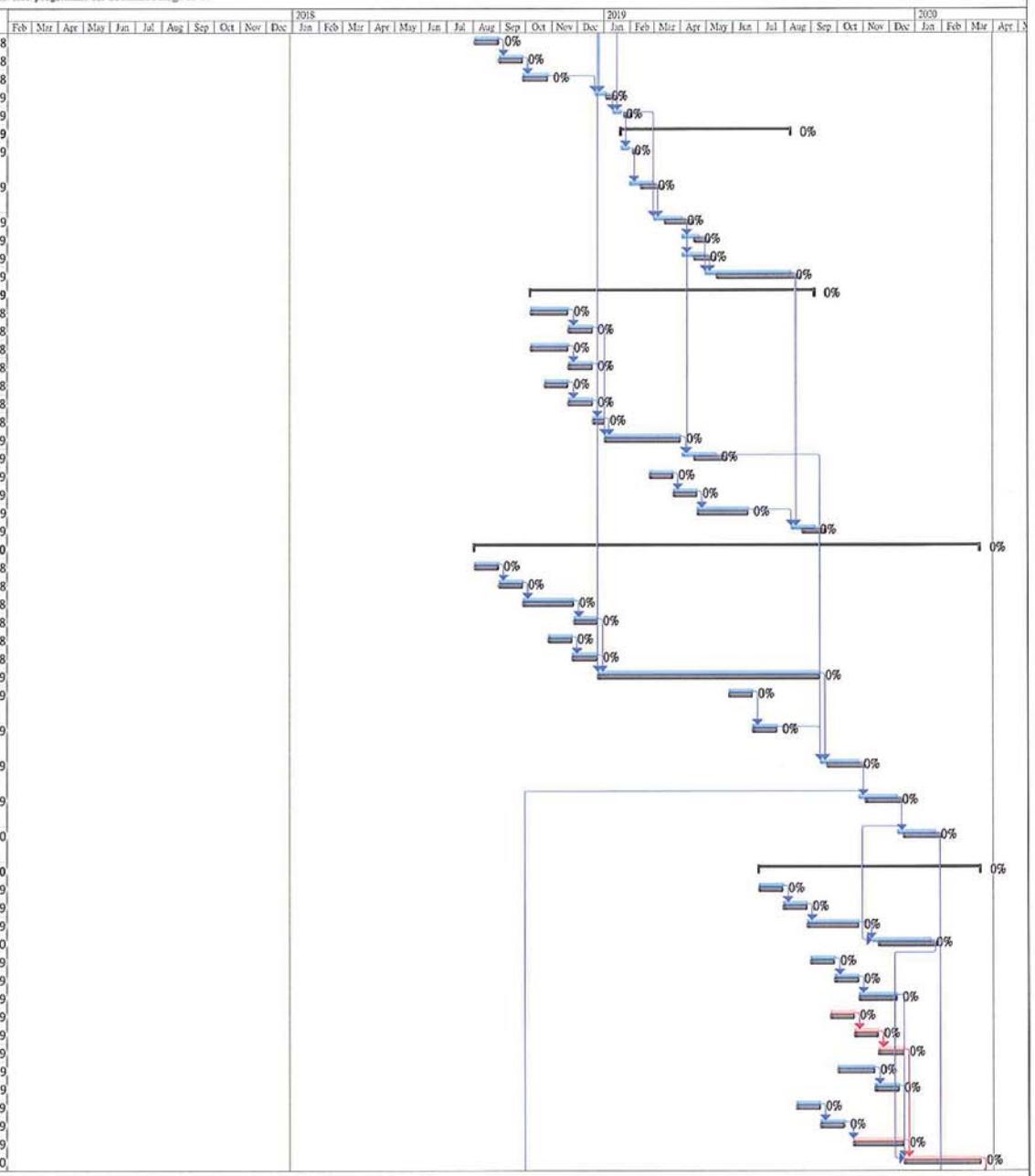
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	A.1.1	**Section A, Portion 1 - Escalator (E1)**	**1096 days**	**986.55 days**	**Fri 31/3/17**	**Mon 30/3/20**
2	A.1.1.1	**Pre Construction Works**	**620 days**	**354.65 days**	**Fri 31/3/17**	**Mon 10/12/18**
3	A.1.1.1.1	Access Date for Portion 1	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	A.1.1.1.2	Site Clearance	14 days	0 days	Fri 14/4/17	Thu 27/4/17
5	A.1.1.1.3	Site Condition Survey	14 days	0 days	Fri 28/4/17	Thu 11/5/17
6	A.1.1.1.4	Initial site survey and submission	58 days	17.4 days	Sun 17/9/17	Mon 13/11/17
7	1.1.5	Carry out Tree Survey and Report Submission	14 days	0 days	Sat 13/5/17	Fri 26/5/17
8	A.1.1.1.5	Application for Excavation Permit (XP)	180 days	0 days	Sat 1/4/17	Wed 27/9/17
9	A.1.1.1.7	Implement TTA at Hiu Ming Street/Hiu Kwong Street	14 days	0 days	Wed 9/8/17	Tue 22/8/17
10	A.1.1.1.8	Erection of Hoarding	33 days	0 days	Thu 13/7/17	Mon 14/8/17
11	A.1.1.1.9	Tree Fell	84 days	67.2 days	Tue 5/9/17	Mon 27/11/17
12	A.1.1.1.10	Design submission of Escalator	60 days	57 days	Sat 16/12/17	Tue 13/2/18
13	A.1.1.1.11	Comment of design submission of Escalator	90 days	90 days	Wed 14/2/18	Mon 14/5/18
14	1.1.12	Second design submission of Escalator	120 days	120 days	Tue 15/5/18	Tue 11/9/18
15	1.1.13	Approval of design submission of Escalator	90 days	90 days	Wed 12/9/18	Mon 10/12/18
16	A.1.1.2	**Ground Investigation**	**132 days**	**0 days**	**Fri 31/3/17**	**Wed 9/8/17**
17	A.1.1.2.1	Proposal of ground investigation specialist	1 day	0 days	Fri 31/3/17	Fri 31/3/17
18	A.1.1.2.2	Approval of ground investigation specialist	24 days	0 days	Sat 1/4/17	Mon 24/4/17
19	~~A.1.1.2.3~~	~~Submission of Construction impact assessment~~	~~12 days~~	~~12 days~~	~~Mon 17/4/17~~	~~Fri 28/4/17~~
20	A.1.1.2.4	Establishment of Drilling rigs	7 days	0 days	Fri 21/4/17	Fri 5/5/17
21	A.1.1.2.5	Inspection Pits (10 nr)	14 days	0 days	Fri 21/4/17	Thu 4/5/17
22	1.2.6	Additional Inspection Pit (PMI 1 & PMI 2)	2 days	0 days	Mon 5/6/17	Tue 6/6/17
23	A.1.1.2.6	Predrilling (10 nr)	54 days	0 days	Fri 28/4/17	Tue 20/6/17
24	1.2.8	Additional Pre-drilling (PMI 3)	2 days	0 days	Fri 7/7/17	Sat 8/7/17
25	A.1.1.2.7	Demobilization of Drilling rigs	1 day	0 days	Wed 12/7/17	Wed 12/7/17
26	A.1.1.2.8	In-situ testing and result submission	28 days	0 days	Thu 29/6/17	Wed 26/7/17
27	A.1.1.2.9	Laboratory tests	14 days	0 days	Thu 27/7/17	Wed 9/8/17
28	A.1.1.3	**Piling Works (Pr-bored Socket H-Pile)**	**454.4 days**	**322.53 days**	**Sat 22/4/17**	**Fri 20/7/18**
29	A.1.1.3.1	Proposal of Piling Specialist	7 days	0 days	Sat 22/4/17	Fri 28/4/17
30	A.1.1.3.2	Approval of Piling Specialist	24 days	0 days	Sat 29/4/17	Mon 22/5/17
31	A.1.1.3.3	Establishment of Piling rigs (1 nr)	3 days	0 days	Thu 19/10/17	Sat 21/10/17
32	A.1.1.3.4	Construction of Preliminary Pile (1 nr)	13 days	13 days	Sun 22/10/17	Fri 3/11/17
33	A.1.1.3.5	Establishment of pile testing equipment	14 days	14 days	Sat 4/11/17	Fri 17/11/17
34	A.1.1.3.6	Load Test Preliminary Pile (1 nr)	7 days	7 days	Sat 18/11/17	Fri 24/11/17
35	A.1.1.3.7	Submission of Load Test Report (Preliminary Pile)	3 days	3 days	Sat 25/11/17	Mon 27/11/17
36	A.1.1.3.8	Review of Load Test result	3 days	3 days	Tue 28/11/17	Thu 30/11/17
37	A.1.1.3.9	Establishment of Piling rigs (1 nr)	3 days	0 days	Wed 25/10/17	Sat 4/11/17
38	A.1.1.3.10	Submission of temporary working platform design	12 days	2.4 days	Fri 3/11/17	Tue 14/11/17
39	A.1.1.3.11	Approval of temporary working platform design	28 days	5.6 days	Wed 15/11/17	Tue 12/12/17
40	A.1.1.3.11a	CCTV on uncharted Manhole (PMI 12)	1 day	0 days	Tue 8/8/17	Tue 8/8/17
41	A.1.1.3.11b	Demolition of Uncharted Manhole (PMI 15)	2 days	0 days	Mon 21/8/17	Tue 22/8/17
42	A.1.1.2.11c	Revised Pile Loading Schedule (PMI 17)	1 day	0 days	Fri 8/9/17	Fri 8/9/17
43	A.1.1.2.11d	Pile Sleeve Not Required For E1-RS1 & E1-PC1 (PMI 19)	1 day	0 days	Wed 4/10/17	Wed 4/10/17
44	A.1.1.3.12	Construction of Main Pile for pile cap E1-RS1 and E1-PC1(34nrs)	60 days	30.4 days	Wed 15/11/17	Fri 26/1/18
45	A.1.1.3.13	Construction of main pile for pile cap E1 PC6 and E1-PC5 (30 nrs)	53 days	53 days	Fri 26/1/18	Tue 20/3/18
46	A.1.1.3.14	Construction of main pile for pile cap E1 PC2, E1 PC3 and E1 PC4 (44nrs)	77 days	77 days	Tue 20/3/18	Tue 5/6/18
47	A.1.1.3.15	Establishment of Drilling rigs for proof drill (1 nr)	3 days	3 days	Tue 5/6/18	Fri 8/6/18
48	A.1.1.3.16	Selection and Carry out Proof drill (2 nrs)	14 days	14 days	Fri 8/6/18	Fri 22/6/18
49	A.1.1.3.17	Establishment of pile testing equipment	14 days	14 days	Fri 22/6/18	Fri 6/7/18
50	A.1.1.3.18	Selection and Carry Out Load Test Main Pile (1 nr)	7 days	7 days	Fri 6/7/18	Fri 13/7/18
51	A.1.1.3.19	Submission of Load Test Report (Main Pile)	7 days	7 days	Fri 13/7/18	Fri 20/7/18
52	A.1.1.4	**Pile Cap & Footing**	**184 days**	**184 days**	**Fri 20/7/18**	**Sun 20/1/19**
53	A.1.1.4.1	Submission of temporary works for ELS	14 days	14 days	Fri 20/7/18	Fri 3/8/18
54	A.1.1.4.2	Approval of temporary works for ELS	28 days	28 days	Fri 3/8/18	Fri 31/8/18
55	A.1.1.4.3	Installing ELS Works	90 days	90 days	Fri 31/8/18	Thu 29/11/18
56	A.1.1.4.4	Pile cap (E1-PC1 and E1-PC2)	39 days	39 days	Fri 14/9/18	Tue 23/10/18
57	A.1.1.4.5	Pile Cap (E1-PC3 ~ PC6)	79 days	79 days	Tue 23/10/18	Thu 10/1/19
58	A.1.1.4.5a	Interface detail E1-RS1 (PMI 30)	3 days	3 days	Thu 29/11/18	Sun 2/12/18
59	A.1.1.4.5b	Water Pipe Diversion (PMI 16)	3 days	3 days	Thu 29/11/18	Sun 2/12/18
60	A.1.1.4.6	Retaining structure (E1-RS1)	21 days	21 days	Thu 29/11/18	Thu 20/12/18



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

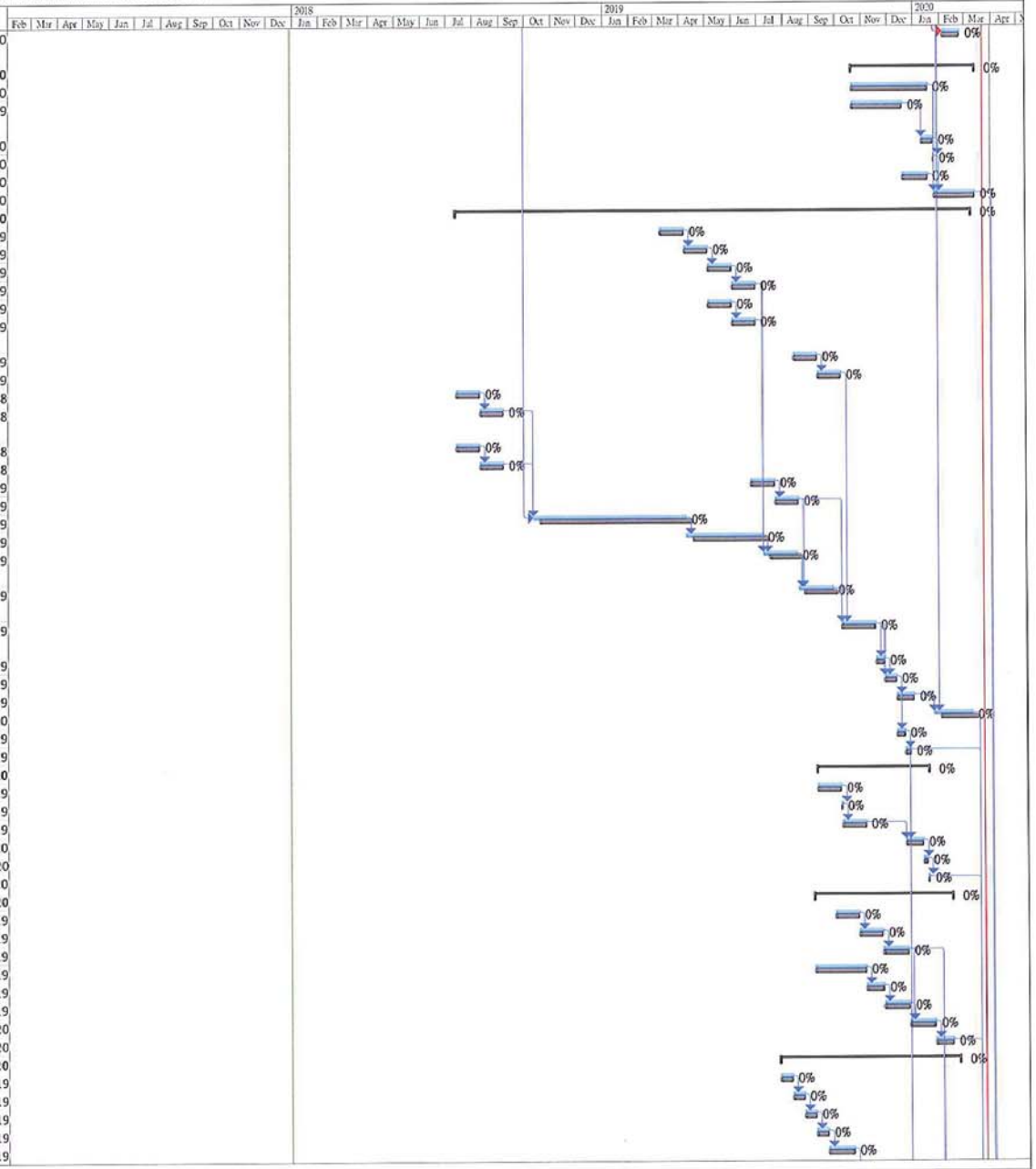
Revised programme for Section A-E1_Dec 17

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
61	A.1.1.4.7	Material submission of water proofing works	28 days	28 days	Thu 2/8/18	Wed 29/8/18
62	A.1.1.4.8	Approval of material of water proofing wroks	28 days	28 days	Thu 30/8/18	Wed 26/9/18
63	A.1.1.4.9	Procurement to delivery of water proofing material	30 days	30 days	Thu 27/9/18	Fri 26/10/18
64	A.1.1.4.10	Waterproofing Works	14 days	14 days	Thu 20/12/18	Thu 3/1/19
65	A.1.1.4.11	Backfilling	10 days	10 days	Thu 10/1/19	Sun 20/1/19
66	**A.1.1.5**	**Superstructures**	**199 days**	**199 days**	**Sun 20/1/19**	**Wed 7/8/19**
67	A.1.1.5.1	Submission of temporary work design and method for piers construction	10 days	10 days	Sun 20/1/19	Wed 30/1/19
68	A.1.1.5.2	Approval to temporary works design and method for piers construction	28 days	28 days	Wed 30/1/19	Wed 27/2/19
69	A.1.1.5.3	Construction of piers (E1-P1 ~ P5)	34 days	34 days	Wed 27/2/19	Tue 2/4/19
70	A.1.1.5.4	Conatruction of Ramp Structures	20 days	20 days	Tue 2/4/19	Mon 22/4/19
71	A.1.1.5.5	Construction of Abutment (E1-PC6)	27 days	27 days	Tue 2/4/19	Mon 29/4/19
72	A.1.1.5.6	Construction of deck slab with cast in items	100 days	100 days	Mon 29/4/19	Wed 7/8/19
73	**A.1.1.6**	**Construction of Bearings and Movement Joints**	**333.4 days**	**333.4 days**	**Sat 6/10/18**	**Wed 4/9/19**
74	A.1.1.6.1	Proposal of Bridge Bearing Specialist	45 days	45 days	Sat 6/10/18	Mon 19/11/18
75	A.1.1.6.2	Approval of Bridge Bearing Specialist	28 days	28 days	Tue 20/11/18	Mon 17/12/18
76	A.1.1.6.3	Design submission of Bridge Bearing	45 days	45 days	Sat 6/10/18	Mon 19/11/18
77	A.1.1.6.4	Approval of design submission of Bridge bearing	28 days	28 days	Tue 20/11/18	Mon 17/12/18
78	A.1.1.6.5	Material submission of Bridge Bearing	28 days	28 days	Tue 23/10/18	Mon 19/11/18
79	A.1.1.6.6	Approval of material submission to Bridge Bearing	28 days	28 days	Tue 20/11/18	Mon 17/12/18
80	A.1.1.6.7	Testing and submission of result of Bridge Bearing	14 days	14 days	Tue 18/12/18	Mon 31/12/18
81	A.1.1.6.8	Procurement and delivery of Bridge Bearing	90 days	90 days	Tue 1/1/19	Sun 31/3/19
82	A.1.1.6.9	Installation of Bearings (6 nr)	40 days	40 days	Tue 2/4/19	Sun 12/5/19
83	A.1.1.6.10	Material submission of movement joints	28 days	28 days	Sat 23/2/19	Fri 22/3/19
84	A.1.1.6.11	Approval of material submission of movement joints	28 days	28 days	Sat 23/3/19	Fri 19/4/19
85	A.1.1.6.12	Procurement to delivery of movement joints	60 days	60 days	Sat 20/4/19	Tue 18/6/19
86	A.1.1.6.13	Construction of MJ (3 nr)	28 days	28 days	Wed 7/8/19	Wed 4/9/19
87	**A.1.1.7**	**Installation of Escalators (E1-ES01 to ES-12)**	**592 days**	**592 days**	**Thu 2/8/18**	**Sun 15/3/20**
88	A.1.1.7.1	Proposal of Escalator Specialist	28 days	28 days	Thu 2/8/18	Wed 29/8/18
89	A.1.1.7.2	Approval of Escalator Specialist	28 days	28 days	Thu 30/8/18	Wed 26/9/18
90	A.1.1.7.3	Submission of Escalator E&M (SEM)	60 days	60 days	Thu 27/9/18	Sun 25/11/18
91	A.1.1.7.4	Approval of Escalator E&M (SEM)	28 days	28 days	Mon 26/11/18	Sun 23/12/18
92	A.1.1.7.5	Material submission of escalator	28 days	28 days	Sat 27/10/18	Fri 23/11/18
93	A.1.1.7.6	Approval of material submission of escalator	30 days	30 days	Sat 24/11/18	Sun 23/12/18
94	A.1.1.7.7	Procurement to delivery of escalator	260 days	260 days	Mon 24/12/18	Mon 9/9/19
95	A.1.1.7.8	Submission of method statement for installation of escalator	28 days	28 days	Mon 27/5/19	Sun 23/6/19
96	A.1.1.7.9	Approval of method statement for installation of escalator	28 days	28 days	Mon 24/6/19	Sun 21/7/19
97	A.1.1.7.10	Installation of escalators and associate works (E1-RS1 to E1-P2)	45 days	45 days	Tue 10/9/19	Thu 24/10/19
98	A.1.1.7.11	Installation of escalator and associate works (E1-P2 to E1 P4)	45 days	45 days	Fri 25/10/19	Sun 8/12/19
99	A.1.1.7.12	Escalator Installation and associate works (E1-P4 to E1-ABT)	45 days	45 days	Mon 9/12/19	Wed 22/1/20
100	**A.1.1.7.13**	**Parapet and Roofing**	**259 days**	**259 days**	**Mon 1/7/19**	**Sun 15/3/20**
101	A.1.1.7.14	Material submission of Plexiglass	28 days	28 days	Mon 1/7/19	Sun 28/7/19
102	A.1.1.7.15	Approval of material of Plexiglass	28 days	28 days	Mon 29/7/19	Sun 25/8/19
103	A.1.1.7.16	Procurement to delivery of Plexiglass	60 days	60 days	Mon 26/8/19	Thu 24/10/19
104	A.1.1.7.17	Construction of pedestrian Plexiglass parapet	70 days	70 days	Sat 9/11/19	Fri 17/1/20
105	A.1.1.7.18	Material submission of fall arrest system	28 days	28 days	Fri 30/8/19	Thu 26/9/19
106	A.1.1.7.19	Approval of material of fall arrrest system	28 days	28 days	Fri 27/9/19	Thu 24/10/19
107	A.1.1.7.20	Procurement of fall arrest system	45 days	45 days	Fri 25/10/19	Sun 8/12/19
108	A.1.1.7.21	Material submission of corrugated steel roof	28 days	28 days	Sun 22/9/19	Sat 19/10/19
109	A.1.1.7.22	Approval of material for corrugated steel roof	28 days	28 days	Sun 20/10/19	Sat 16/11/19
110	A.1.1.7.23	Procurement of corrugated steel roof	30 days	30 days	Sun 17/11/19	Mon 16/12/19
111	A.1.1.7.24	Design submission of roof system	44 days	44 days	Mon 30/9/19	Tue 12/11/19
112	A.1.1.7.25	Approval of design submission of roof system	28 days	28 days	Wed 13/11/19	Tue 10/12/19
113	A.1.1.7.26	Proposal of off site fabrication of steelworks	28 days	28 days	Tue 13/8/19	Mon 9/9/19
114	A.1.1.7.27	Approval of off site fabrication of steelworks	28 days	28 days	Tue 10/9/19	Mon 7/10/19
115	A.1.1.7.28	Fabrication of steelworks	60 days	60 days	Fri 18/10/19	Mon 16/12/19
116	A.1.1.7.29	Erect Canopy and roofing system	90 days	90 days	Tue 17/12/19	Sun 15/3/20



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

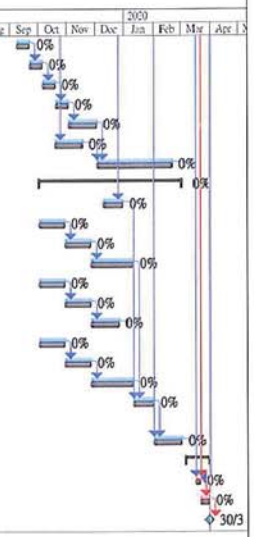
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
117	A.1.1.7.30	Decking construction connecting to existing footpath	20 days	20 days	Tue 4/2/20	Sun 23/2/20
118	**A.1.1.8**	**Drainage works construction**	**145 days**	**145 days**	**Sun 20/10/19**	**Thu 12/3/20**
119	A.1.1.8.1	Application of XP for carriageway of Hiu Ming Street	90 days	90 days	Sun 20/10/19	Fri 17/1/20
120	A.1.1.8.2	TTA application for drainage works at carriageway of Hiu Ming Street	60 days	60 days	Sun 20/10/19	Wed 18/12/19
121	A.1.1.8.3	Road works advice	14 days	14 days	Fri 10/1/20	Thu 23/1/20
122	A.1.1.8.4	Implementation of TTA	1 day	1 day	Fri 24/1/20	Fri 24/1/20
123	A.1.1.8.5	Procurement to delivery of material of drainage	30 days	30 days	Thu 19/12/19	Fri 17/1/20
124	A.1.1.8.6	Construction of drainage	48 days	48 days	Sat 25/1/20	Thu 12/3/20
125	**A.1.1.9**	**E & M Works**	**605 days**	**605 days**	**Thu 12/7/18**	**Sat 7/3/20**
126	A.1.1.9.1	Proposal of Specialist for E&M works	28 days	28 days	Sat 9/3/19	Fri 5/4/19
127	A.1.1.9.2	Approval of Specialist for E&M works	28 days	28 days	Sat 6/4/19	Fri 3/5/19
128	A.1.1.9.3	Material submission of cable tray	28 days	28 days	Sat 4/5/19	Fri 31/5/19
129	A.1.1.9.4	Approval of material submission of cable tray	28 days	28 days	Sat 1/6/19	Fri 28/6/19
130	A.1.1.9.5	Material submission of cables,conduits, fittings	28 days	28 days	Sat 4/5/19	Fri 31/5/19
131	A.1.1.9.6	Approval of material submission of cables, conduits, fittings	28 days	28 days	Sat 1/6/19	Fri 28/6/19
132	A.1.1.9.7	Material submission of lightings	28 days	28 days	Mon 12/8/19	Sun 8/9/19
133	A.1.1.9.8	Approval of material submission of lightings	28 days	28 days	Mon 9/9/19	Sun 6/10/19
134	A.1.1.9.9	Material submission of pillar box c/w accessories	28 days	28 days	Thu 12/7/18	Wed 8/8/18
135	A.1.1.9.10	Approval of material submission of pillar box c/w accessories	28 days	28 days	Thu 9/8/18	Wed 5/9/18
136	A.1.1.9.11	Material submission of MCB distribution board	28 days	28 days	Thu 12/7/18	Wed 8/8/18
137	A.1.1.9.12	Approval of MCB distribution board	28 days	28 days	Thu 9/8/18	Wed 5/9/18
138	A.1.1.9.13	Material submission of communication cables	28 days	28 days	Sun 23/6/19	Sat 20/7/19
139	A.1.1.9.14	Approval of communication cables	28 days	28 days	Sun 21/7/19	Sat 17/8/19
140	A.1.1.9.15	Positioning,/Construction/Installation of Pillar Box	180 days	180 days	Wed 10/10/18	Sun 7/4/19
141	A.1.1.9.16	Application of Power Supply	90 days	90 days	Mon 8/4/19	Sat 6/7/19
142	A.1.1.9.17	Trenching works and laying of ducting and power cables	40 days	40 days	Sun 7/7/19	Thu 15/8/19
143	A.1.1.9.18	Trenching works and laying of telecommunication cables	40 days	40 days	Sun 18/8/19	Thu 26/9/19
144	A.1.1.9.19	Trenching works and laying of lighting/communication cables	40 days	40 days	Mon 7/10/19	Fri 15/11/19
145	A.1.1.9.20	Connection of Telecommunication cables	10 days	10 days	Sat 16/11/19	Mon 25/11/19
146	A.1.1.9.21	Lighting/Communication connections	14 days	14 days	Tue 26/11/19	Mon 9/12/19
147	A.1.1.9.22	Finishing Works	21 days	21 days	Tue 10/12/19	Mon 30/12/19
148	A.1.1.9.23	T&C of Escalator and Submission of Form LE5 to EMSD	45 days	45 days	Thu 23/1/20	Sat 7/3/20
149	A.1.1.9.24	Reinstatement of footpath/stair	10 days	10 days	Tue 10/12/19	Thu 19/12/19
150	A.1.1.9.25	Demobilization and Clean up the Site	7 days	7 days	Fri 20/12/19	Thu 26/12/19
151	**A.1.1.10**	**Landscaping Works**	**131 days**	**131 days**	**Sun 8/9/19**	**Thu 16/1/20**
152	A.1.1.10.1	Submission of proposal of Landscape specialist	28 days	28 days	Sun 8/9/19	Sat 5/10/19
153	A.1.1.10.2	Nursery Inspection	1 day	1 day	Sun 6/10/19	Sun 6/10/19
154	A.1.1.10.3	Approval of proposal of Landscape specialist	28 days	28 days	Mon 7/10/19	Sun 3/11/19
155	A.1.1.10.4	Construction of hard and soft Landscape works	21 days	21 days	Fri 20/12/19	Thu 9/1/20
156	A.1.1.10.5	Rectification of detects	5 days	5 days	Fri 10/1/20	Tue 14/1/20
157	A.1.1.10.6	General tidy up	2 days	2 days	Wed 15/1/20	Thu 16/1/20
158	**A.1.1.11**	**Road and Pavings / traffic Signs**	**162 days**	**162 days**	**Wed 4/9/19**	**Wed 12/2/20**
159	A.1.1.11.1	Material submission of road pavers	28 days	28 days	Sat 28/9/19	Fri 25/10/19
160	A.1.1.11.2	Approval of material submission of road pavers	28 days	28 days	Sat 26/10/19	Fri 22/11/19
161	A.1.1.11.3	Procurement to delivery of road pavers	30 days	30 days	Sat 23/11/19	Sun 22/12/19
162	A.1.1.11.4	Ordering to delivery of concrete kerbs from CSD	60 days	60 days	Wed 4/9/19	Sat 2/11/19
163	A.1.1.11.5	Construction of kerbs	21 days	21 days	Sun 3/11/19	Sat 23/11/19
164	A.1.1.11.6	Construction of footpath	30 days	30 days	Sun 24/11/19	Mon 23/12/19
165	A.1.1.11.7	Construction of paved area	30 days	30 days	Tue 24/12/19	Wed 22/1/20
166	A.1.1.11.8	Installation of traffic/Directional Signs	21 days	21 days	Thu 23/1/20	Wed 12/2/20
167	**A.1.1.12**	**External Finishes**	**211 days**	**211 days**	**Thu 25/7/19**	**Thu 20/2/20**
168	A.1.1.12.1	Material submission of tiles	14 days	14 days	Thu 25/7/19	Wed 7/8/19
169	A.1.1.12.2	Comment of material submission of tiles	14 days	14 days	Thu 8/8/19	Wed 21/8/19
170	A.1.1.12.3	2nd submission of material of tiles	14 days	14 days	Thu 22/8/19	Wed 4/9/19
171	A.1.1.12.4	Approval of material of tiles	14 days	14 days	Thu 5/9/19	Wed 18/9/19
172	A.1.1.12.5	Procurement to delivery of tiles	30 days	30 days	Thu 19/9/19	Fri 18/10/19



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

Revised programme for Section A-E1_Dec 17

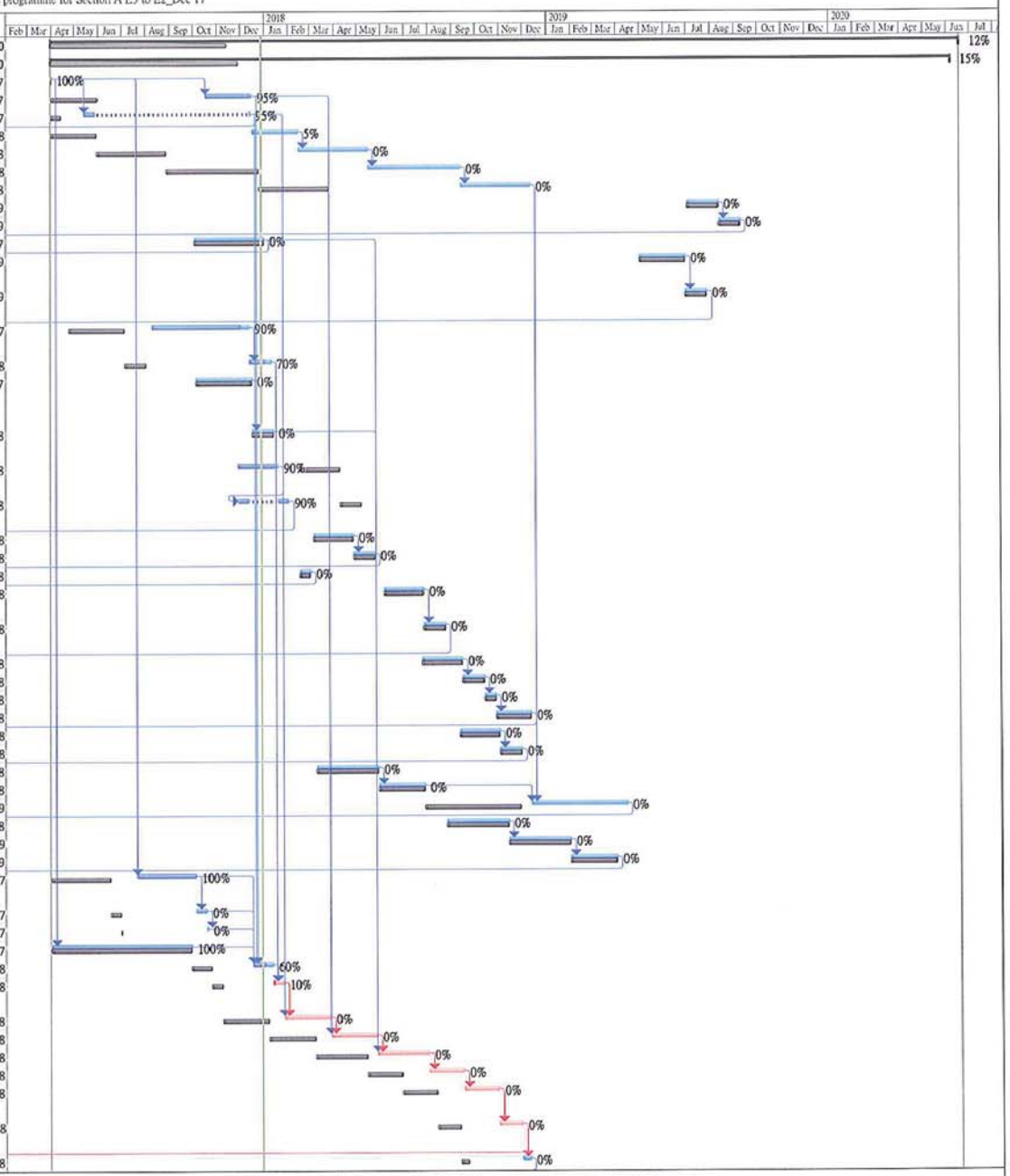
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
173	A.1.1.12.6	Material submission of paint	14 days	14 days	Sun 8/9/19	Sat 21/9/19
174	A.1.1.12.7	Comment of matreial submission of paint	14 days	14 days	Sun 22/9/19	Sat 5/10/19
175	A.1.1.12.8	2nd submission of paints	14 days	14 days	Sun 6/10/19	Sat 19/10/19
176	A.1.1.12.9	Approval of material submission of paints	14 days	14 days	Sun 20/10/19	Sat 2/11/19
177	A.1.1.12.10	Procurement to delivery of paints	30 days	30 days	Sun 3/11/19	Mon 2/12/19
178	A.1.1.12.11	Construction of Tactile/Cermaric/Concrete Tiles	30 days	30 days	Sat 19/10/19	Sun 17/11/19
179	A.1.1.12.12	Texture Spray/Fungus Resistant Paint	80 days	80 days	Tue 3/12/19	Thu 20/2/20
180	**A.1.1.13**	**Construction of Sau Mau Ping Memorial Park**	**152 days**	**152 days**	**Wed 2/10/19**	**Sun 1/3/20**
181	A.1.1.13.1	Slope improvement work (11NE-D/CR222)	21 days	21 days	Tue 10/12/19	Mon 30/12/19
182	A.1.1.13.2	Material submission of Pavillion	28 days	28 days	Wed 2/10/19	Tue 29/10/19
183	A.1.1.13.3	Approval ot material submission of Pavillion	28 days	28 days	Wed 30/10/19	Tue 26/11/19
184	A.1.1.13.4	Procurement to delivery of Pavillion	45 days	45 days	Wed 27/11/19	Fri 10/1/20
185	A.1.1.13.5	Material submission of Bench	28 days	28 days	Wed 2/10/19	Tue 29/10/19
186	A.1.1.13.6	Approval to material submission of Bench	28 days	28 days	Wed 30/10/19	Tue 26/11/19
187	A.1.1.13.7	Procument to delivery of Bench	30 days	30 days	Wed 27/11/19	Thu 26/12/19
188	A.1.1.13.8	Material submission of Pole Light	28 days	28 days	Wed 2/10/19	Tue 29/10/19
189	A.1.1.13.9	Approval of material submission of Pole Light	28 days	28 days	Wed 30/10/19	Tue 26/11/19
190	A.1.1.13.10	Procurement to delivery of Pole light	45 days	45 days	Wed 27/11/19	Fri 10/1/20
191	A.1.1.13.11	Construction of Pavillon/Bench/Pole Light with ducting	21 days	21 days	Sat 11/1/20	Fri 31/1/20
192	A.1.1.13.12	Construction of Pavers	30 days	30 days	Sat 1/2/20	Sun 1/3/20
193	**A.1.1.14**	**General Inspection and Tidy up of Portion 1**	**25 days**	**25 days**	**Fri 6/3/20**	**Mon 30/3/20**
194	A.1.1.14.1	General Inspection and tidy up of Portion 1	5 days	5 days	Mon 16/3/20	Fri 20/3/20
195	A.1.1.14.2	Allowabale Terminal Float	10 days	10 days	Sat 21/3/20	Mon 30/3/20
196	A.1.1.14.3	Completion of works	0 days	0 days	Mon 30/3/20	Mon 30/3/20



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

Revised programme for Section A E3 to E2_Dec 17

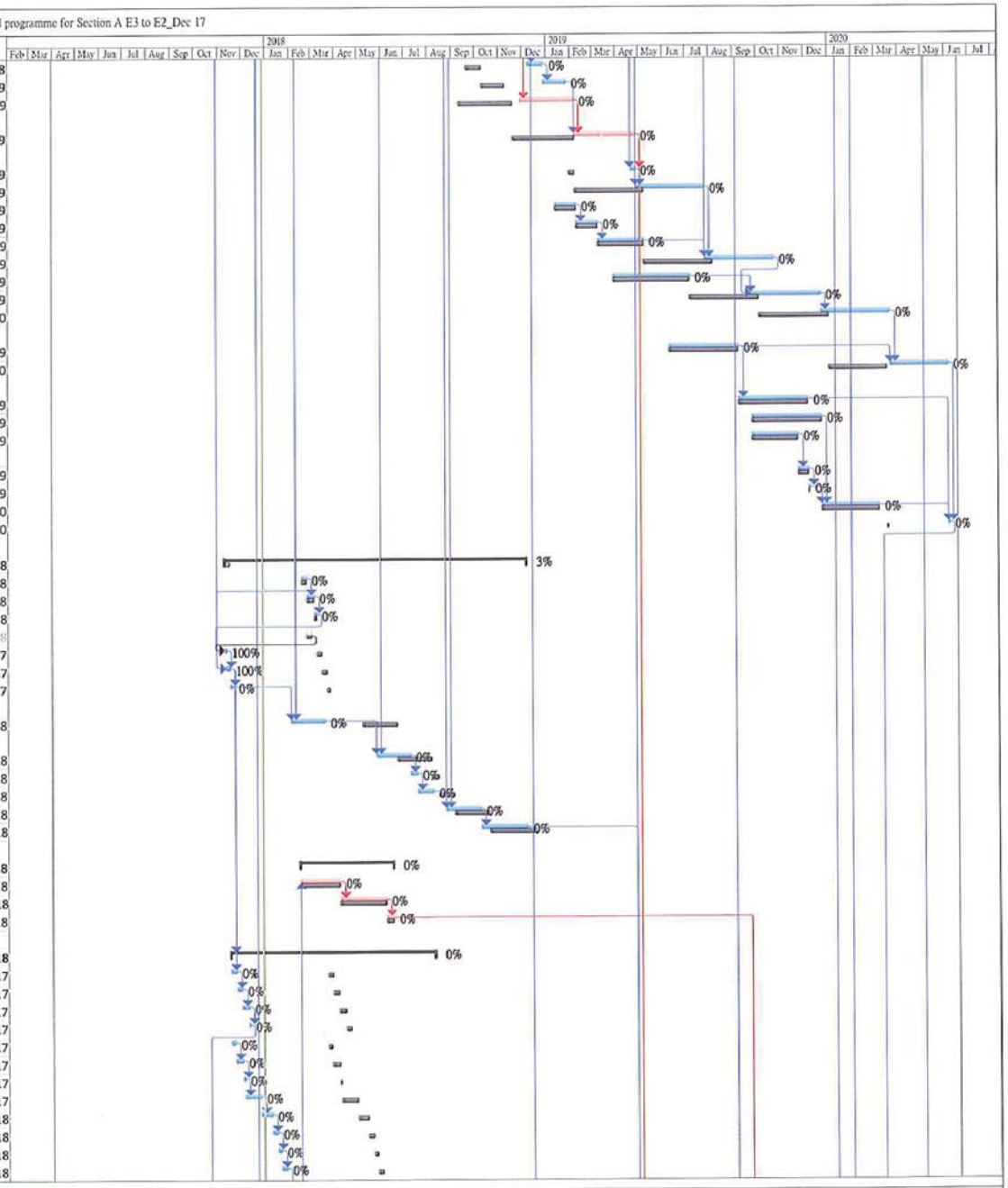
ID	Task Name	Duration	Remaining Duration	Start	Finish
A.2.1	Section A	1175 days	1039.17 days	Fri 31/3/17	Wed 17/6/20
A.2.1.1	E3 and E2 Footbridge and lift Tower	1164 days	994.66 days	Fri 31/3/17	Sat 6/6/20
A.2.1.1.1	Access Date of Portion 2	1 day	0 days	Fri 31/3/17	Fri 31/3/17
A.2.1.1.2	Initial Site survey	60 days	3 days	Tue 17/10/17	Fri 15/12/17
A.2.1.1.3	Initial Tree survey	15 days	0.75 days	Sat 13/5/17	Wed 13/12/17
A.2.1.1.4	Design submission of lift	60 days	57 days	Sat 16/12/17	Tue 13/2/18
A.2.1.1.5	Comment of design submission of lift	90 days	90 days	Wed 14/2/18	Mon 14/5/18
A.2.1.1.5a	Second design submission of lift	120 days	120 days	Tue 15/5/18	Tue 11/9/18
A.2.1.1.5b	Approval of design submission of lift	90 days	90 days	Wed 12/9/18	Mon 10/12/18
A.2.1.1.6	Design submission of lighting at footbridge	41 days	41 days	Tue 2/7/19	Sun 11/8/19
A.2.1.1.7	Approval of design submission of lighting for footbridge	28 days	28 days	Mon 12/8/19	Sun 8/9/19
A.2.1.1.8	Proposal of Concrete Batching Plant and mixes	90 days	90 days	Tue 3/10/17	Sun 31/12/17
A.2.1.1.9	Submission of shop drawing for irrigation system and submersible pump for the footbridge	60 days	60 days	Wed 1/5/19	Sat 29/6/19
A.2.1.1.10	Acceptance of shop drawing for irrigation system and submersible pump system	28 days	28 days	Sun 30/6/19	Sat 27/7/19
A.2.1.1.11	Method Statement submission for excavation of rock for bridge tower E3-ST1 and approval	126 days	12.6 days	Wed 9/8/17	Tue 12/12/17
A.2.1.1.12	Approval of method statement of excavation of rock	28 days	8.4 days	Wed 13/12/17	Tue 9/1/18
A.2.1.1.13	Method Statement Submission for installation and Temporary works design for concreting of bridge tower E3-ST1	72 days	72 days	Thu 5/10/17	Fri 15/12/17
A.2.1.1.14	Approval of method statement of temporary works design for concreting of bridge tower of bridge tower E3-ST1	28 days	28 days	Sat 16/12/17	Fri 12/1/18
A.2.1.1.15	Method Statement submission for installation of socket H piles including predrill location and Proof Drill location	52 days	5.2 days	Tue 28/11/17	Thu 18/1/18
A.2.1.1.16	Approval of method statement for installation of socket H piles including predrill and proof drill location	28 days	2.8 days	Tue 28/11/17	Thu 1/2/18
A.2.1.1.17	Submission of Method statement for testing of socket H piles	52 days	52 days	Mon 5/3/18	Wed 25/4/18
A.2.1.1.18	Approval of method statement for testing of socket H piles	28 days	28 days	Thu 26/4/18	Wed 23/5/18
A.2.1.1.19	Submission of construction impact assessment	14 days	14 days	Fri 16/2/18	Thu 1/3/18
A.2.1.1.20	Submission of method statement for formwork design for casting the bridge piers footing and bridge piers	52 days	52 days	Mon 4/6/18	Wed 25/7/18
A.2.1.1.21	Approval of method statement for formwork design for casting bridge piers footing and piers	28 days	28 days	Thu 26/7/18	Wed 22/8/18
A.2.1.1.22	Design and Material Submission of proposed bridge bearings	52 days	52 days	Tue 24/7/18	Thu 13/9/18
A.2.1.1.23	Approval of design and material of bridge bearing	28 days	28 days	Fri 14/9/18	Thu 11/10/18
A.2.1.1.24	Testing and result submission of bridge bearing	15 days	15 days	Fri 12/10/18	Fri 26/10/18
A.2.1.1.25	Procurement, ordering and delivery of bridge bearings	45 days	45 days	Sat 27/10/18	Mon 10/12/18
A.2.1.1.26	Submission of method statement for erection of steel truss	52 days	52 days	Mon 10/9/18	Wed 31/10/18
A.2.1.1.27	Approval of method statement for erection of steel truss	28 days	28 days	Thu 1/11/18	Wed 28/11/18
A.2.1.1.28	Method statement submission for proposed lift installation	80 days	80 days	Fri 9/3/18	Sun 27/5/18
A.2.1.1.29	Material Submission of Proposed Lift	60 days	60 days	Mon 28/5/18	Thu 26/7/18
A.2.1.1.30	Procurement, ordering & delivery of proposed lift	124 days	124 days	Tue 11/12/18	Sat 13/4/19
A.2.1.1.31	Design and Material Submission of glazing and louvres	80 days	80 days	Fri 24/8/18	Sun 11/11/18
A.2.1.1.32	Method Statement of glazing and louvre installation	80 days	80 days	Mon 12/11/18	Wed 30/1/19
A.2.1.1.33	Procurement, ordering and delivery of louvres & glazing	60 days	60 days	Thu 31/1/19	Sun 31/3/19
A.2.1.1.35	Approval of TTA to block FP of Hiu Ming St and Hiu Kwong Street for erection of Hoarding	76 days	0 days	Thu 20/7/17	Tue 3/10/17
A.2.1.1.36	Road Works Advice	14 days	14 days	Wed 4/10/17	Tue 17/10/17
A.2.1.1.37	Implementation of TTA	1 day	1 day	Wed 18/10/17	Wed 18/10/17
A.2.1.1.38	Application of Excavation permit	180 days	0 days	Sat 1/4/17	Wed 27/9/17
A.2.1.1.39	Erection of Hoardings for footbridge E3, E2	26 days	10.4 days	Sat 16/12/17	Wed 10/1/18
A.2.1.1.40	Mobilisation of excavator for breaking of rock for escalator tower E3-ST1	14 days	12.6 days	Thu 11/1/18	Wed 24/1/18
A.2.1.1.41	Breaking of 50% of rock for escalator tower E3-ST1	60 days	60 days	Thu 25/1/18	Sun 25/3/18
A.2.1.1.42	Breaking of remaining 50% of rock for escalator tower E3-ST1	60 days	60 days	Mon 26/3/18	Thu 24/5/18
A.2.1.1.43	Construction of E3-ST1 substructure E3-PC1	67 days	67 days	Fri 25/5/18	Mon 30/7/18
A.2.1.1.44	Construction E3 superstructure E3 -ST1up to level 34mPD	45 days	45 days	Tue 31/7/18	Thu 13/9/18
A.2.1.1.45	Contruction of E3 superstructure E3-ST1 from 34mPD to 43.6mPD	45 days	45 days	Fri 14/9/18	Sun 28/10/18
A.2.1.1.46	Infill the space with no fine concrete between rock slope and edge of E3-ST1	30 days	30 days	Mon 29/10/18	Tue 27/11/18
A.2.1.1.47	Erect tubular platform for rock slope survey	10 days	10 days	Wed 28/11/18	Fri 7/12/18



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

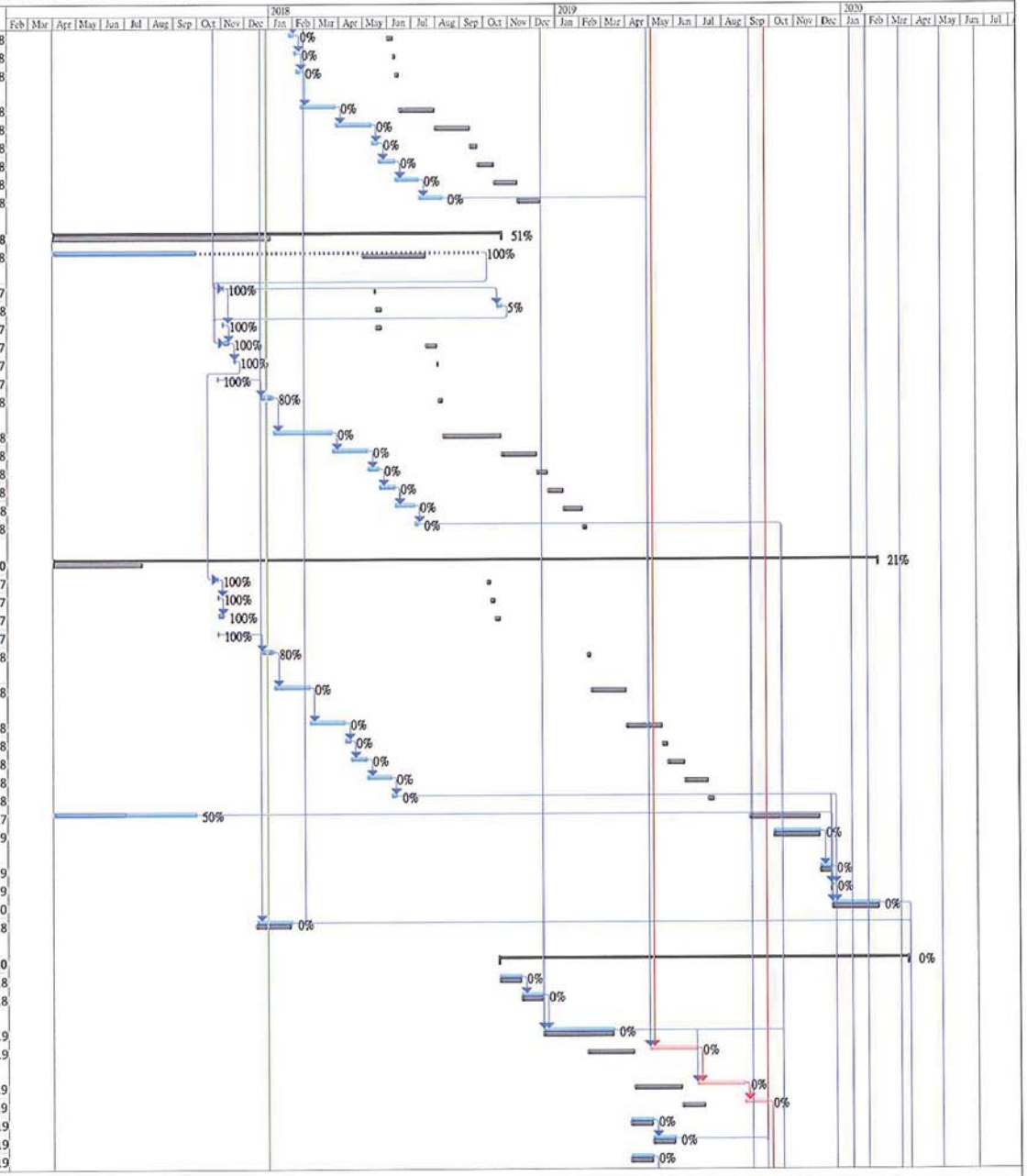
Revised programme for Section A E3 to E2_Dec 17

ID	Task Name	Duration	Remaining Duration	Start	Finish
A.2.1.1.48	Rock slope survey	20 days	20 days	Sat 8/12/18	Thu 27/12/18
A.2.1.1.49	Rock slope stabilization works to be instructed	30 days	30 days	Fri 28/12/18	Sat 26/1/19
A.2.1.1.50	Construction of E3 Superstructure E3-ST1 from 43.6mPD to 59.7mPD	70 days	70 days	Wed 28/11/18	Tue 5/2/19
A.2.1.1.51	Construction of E3 Superstructure E3-ST1 from 59.7mPD to 71.2mPD	80 days	80 days	Wed 6/2/19	Fri 26/4/19
A.2.1.1.52	Installation of bridge bearing	7 days	7 days	Sat 20/4/19	Fri 26/4/19
A.2.1.1.53	Installation of lift (3nrs)	90 days	90 days	Sat 27/4/19	Thu 25/7/19
A.2.1.1.54	Design of glazing and louver	28 days	28 days	Sat 12/1/19	Fri 8/2/19
A.2.1.1.55	Approval of design for glazing and louver	28 days	28 days	Sat 9/2/19	Fri 8/3/19
A.2.1.1.56	Procurement to delivery of glazing and louver	60 days	60 days	Sat 9/3/19	Tue 7/5/19
A.2.1.1.57	Installation of glazing and louver	90 days	90 days	Fri 26/7/19	Wed 23/10/19
A.2.1.1.58	Application of telecommunication lines	100 days	100 days	Fri 29/3/19	Sat 6/7/19
A.2.1.1.59	Installation of E&M for the lift towers	90 days	90 days	Tue 24/9/19	Sun 22/12/19
A.2.1.1.60	Positioning, Construction, installation and connection of pillar box	90 days	90 days	Mon 23/12/19	Sat 21/3/20
A.2.1.1.61	Application and connection of power supply	90 days	90 days	Mon 10/6/19	Sat 7/9/19
A.2.1.1.62	Testing and comminissioning of lifts and submission of form LE5 to EMSD	75 days	75 days	Sun 22/3/20	Thu 4/6/20
A.2.1.1.63	Decoration and Finishings works for E3-ST1	90 days	90 days	Sun 8/9/19	Fri 6/12/19
A.2.1.1.64	Application of XP for Drainage works at Hiu Ming Street	90 days	90 days	Wed 25/9/19	Mon 23/12/19
A.2.1.1.65	Approval of TTA for construction of Drainage works at Hiu Ming Street	60 days	60 days	Wed 25/9/19	Sat 23/11/19
A.2.1.1.66	Road Works Advice	14 days	14 days	Sun 24/11/19	Sat 7/12/19
A.2.1.1.67	Implementation of TTA	1 day	1 day	Sun 8/12/19	Sun 8/12/19
A.2.1.1.68	Drainage works at Hiu Ming Street	75 days	75 days	Tue 24/12/19	Sat 7/3/20
A.2.1.1.69	General tidy up	2 days	2 days	Fri 5/6/20	Sat 6/6/20
A.2.1.2	**Pile Cap E3-PC3 and E3 Abutment**	**392 days**	**379.8 days**	**Thu 9/11/17**	**Wed 5/12/18**
A.2.1.2.1	Set up tubular platform for removal of soil nails at Slope E3b	7 days	7 days	Fri 16/2/18	Thu 22/2/18
A.2.1.2.2	Removal of soil nails (19nrs) at slope E3b	10 days	10 days	Fri 23/2/18	Sun 4/3/18
A.2.1.2.3	Removal of tubular platform	3 days	3 days	Mon 5/3/18	Wed 7/3/18
~~A.2.1.2.4~~	~~Mobilization of plants for predrilling for pile cap E3-PC-3~~	~~2 days~~	~~2 days~~	~~Fri 23/2/18~~	~~Thu 1/3/18~~
A.2.1.2.5	Setting up of plants for predrill for pile cap E3-PC3	2 days	0 days	Thu 9/11/17	Fri 10/11/17
A.2.1.2.6	Predrill for pile cap E3-PC3	6 days	0 days	Fri 10/11/17	Wed 15/11/17
A.2.1.2.7	Mobilization of plants for drilling for installation of pre-bored socket H piles (9 nrs) for pile cap E3-PC3	4 days	4 days	Thu 16/11/17	Sun 19/11/17
A.2.1.2.8	Drilling and installation of pre-bored socket H piles (9 nrs)for pile cap E3-PC3	45 days	45 days	Fri 2/2/18	Sun 18/3/18
A.2.1.2.9	Testing of piles	45 days	45 days	Thu 24/5/18	Sat 7/7/18
A.2.1.2.10	Proof Drilling	9 days	9 days	Sun 8/7/18	Mon 16/7/18
A.2.1.2.11	Excavation with temporary shoring for pile cap E3-PC3	21 days	21 days	Tue 17/7/18	Mon 6/8/18
A.2.1.2.12	Construction of Pile caps E3-PC3	45 days	45 days	Thu 23/8/18	Sat 6/10/18
A.2.1.2.13	Construction of E3 Abutment	60 days	60 days	Sun 7/10/18	Wed 5/12/18
A.2.1.3	**Substructure of Covered Walkway**	**122 days**	**122 days**	**Wed 14/2/18**	**Fri 15/6/18**
A.2.1.3.1	Excavation of footing of covered walkway footing	52 days	52 days	Wed 14/2/18	Fri 6/4/18
A.2.1.3.2	Construction of footing of covered walkway footing	60 days	60 days	Sat 7/4/18	Tue 5/6/18
A.2.1.3.3	Backfill the footing of the covered walkway	10 days	10 days	Wed 6/6/18	Fri 15/6/18
A.2.1.4	**Pile Cap E3-PC2 and column**	**266 days**	**266 days**	**Thu 16/11/17**	**Wed 8/8/18**
A.2.1.4.1	Mobilization of plants for predrilling for pile cap E3-PC 2	7 days	7 days	Thu 16/11/17	Wed 22/11/17
A.2.1.4.2	Setting up of plants for predrill for pile cap E3-PC2	7 days	7 days	Thu 23/11/17	Wed 29/11/17
A.2.1.4.3	Predrill for pile cap E3-PC2	9 days	9 days	Thu 30/11/17	Fri 8/12/17
A.2.1.4.4	Demobilization of predrill rig	1 day	1 day	Sat 9/12/17	Sat 9/12/17
A.2.1.4.5	Site clearance for soil nails for zone 1	5 days	5 days	Thu 16/11/17	Mon 20/11/17
A.2.1.4.6	Erection of tubular scaffold platform for soil nails for zone 1	10 days	10 days	Tue 21/11/17	Thu 30/11/17
A.2.1.4.7	Setting out of soil nails	2 days	2 days	Fri 1/12/17	Sat 2/12/17
A.2.1.4.8	Construction of soil nails (29nrs)	21 days	21 days	Sun 3/12/17	Sat 23/12/17
A.2.1.4.9	Construction of soil nails heads (29nrs)	14 days	14 days	Sun 24/12/17	Sat 6/1/18
A.2.1.4.10	Removal of tubular scaffold platform	7 days	7 days	Sun 7/1/18	Sat 13/1/18
A.2.1.4.11	Site clearance for soil nails for zone 2	5 days	5 days	Sun 14/1/18	Thu 18/1/18
A.2.1.4.12	Erection of tubular scaffold platform for soil nails for zone 2	7 days	7 days	Fri 19/1/18	Thu 25/1/18



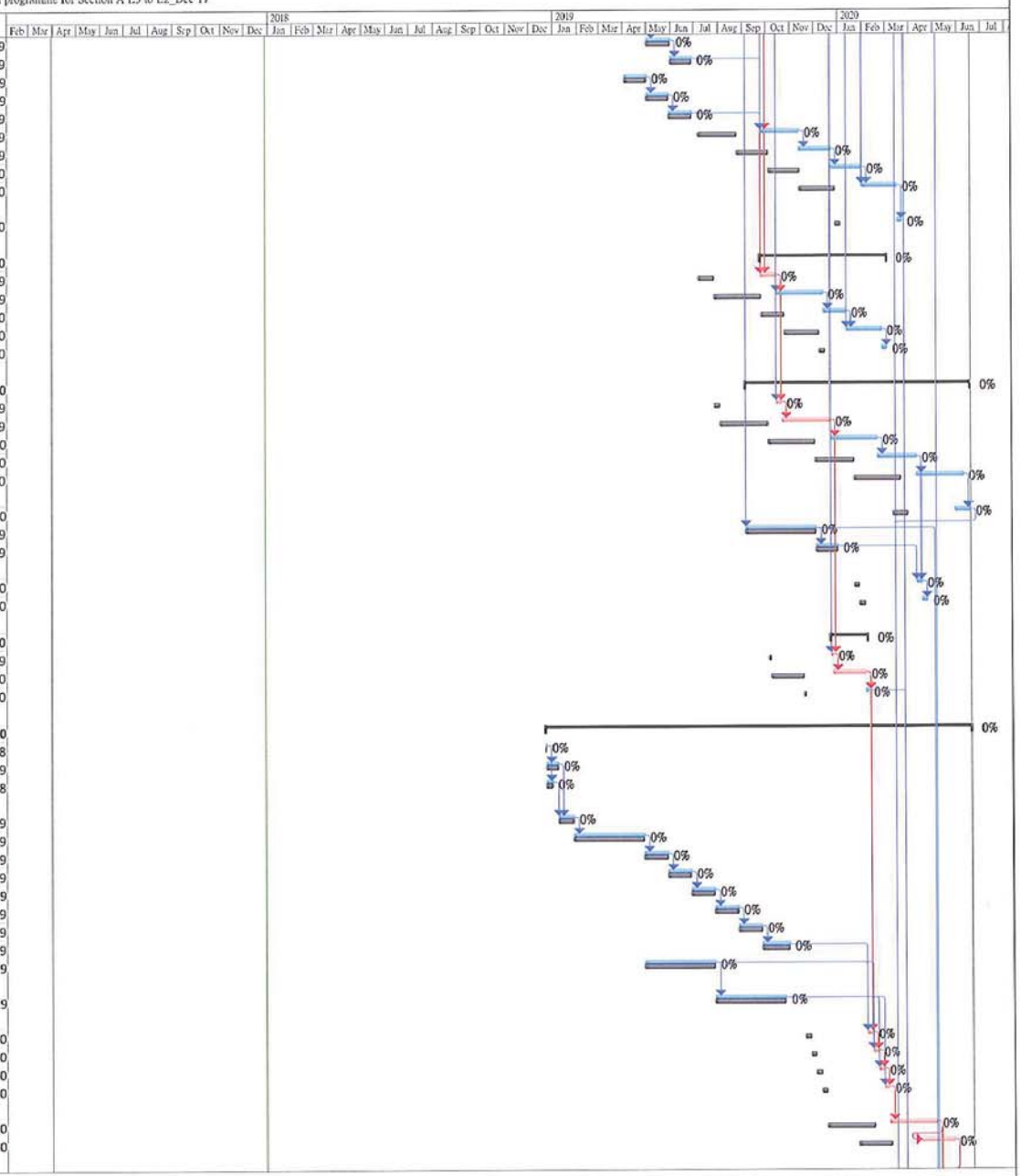
Critical, Critical Split, Critical Progress, Task, Split, Task Progress, Manual Task, Start-only, Finish-only, Duration-only, Baseline, Baseline Split, Baseline Milestone, Milestone, Summary Progress, Summary, Manual Summary, Project Summary, External Tasks, External Milestone, Inactive Task, Inactive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

ID	Task Name	Duration	Remaining Duration	Start	Finish
A.2.1.4.13	Removal of soil nails (7nrs)	7 days	7 days	Fri 26/1/18	Thu 1/2/18
A.2.1.4.14	Removal of tubular scaffold platform from zone 2	3 days	3 days	Fri 2/2/18	Sun 4/2/18
A.2.1.4.15	Mobilization of plant for drilling and installation of pre-bored socket H piles	5 days	5 days	Mon 5/2/18	Fri 9/2/18
A.2.1.4.16	Drilling and construction of pre-bored socket H piles (9nrs)	45 days	45 days	Sat 10/2/18	Mon 26/3/18
A.2.1.4.17	Testing of piles	45 days	45 days	Tue 27/3/18	Thu 10/5/18
A.2.1.4.18	Proof Drilling	9 days	9 days	Fri 11/5/18	Sat 19/5/18
A.2.1.4.19	Excavation with shoring for construction of pile cap E3-PC2	21 days	21 days	Sun 20/5/18	Sat 9/6/18
A.2.1.4.20	Construction of pile cap E3-PC2	30 days	30 days	Sun 10/6/18	Mon 9/7/18
A.2.1.4.21	Construction of Column E3-P1	30 days	30 days	Tue 10/7/18	Wed 8/8/18
A.2.1.5	**Pile Cap E2-PC1**	**571 days**	**278.11 days**	**Sat 1/4/17**	**Tue 23/10/18**
A.2.1.5.1	Application of Excavation permit for area occupied by pile cap E2-PC1	180 days	0 days	Sat 1/4/17	Thu 27/9/18
A.2.1.5.2	Mobilization of plant for predrill for pile cap E2-PC1	1 day	0 days	Thu 2/11/17	Thu 2/11/17
A.2.1.5.3	Initial site survey	7 days	6.65 days	Wed 17/10/18	Tue 23/10/18
A.2.1.5.4	Setting up plant for predrill for pile cap E2-PC1	1 day	0 days	Thu 2/11/17	Fri 3/11/17
A.2.1.5.5	Predrill for pile cap E2-PC1	7 days	0 days	Fri 3/11/17	Thu 9/11/17
A.2.1.5.6	Demobilization of predrill rig	1 day	0 days	Fri 17/11/17	Fri 17/11/17
A.2.1.5.6a	Pile Sleeve Not Required for E2-PC1 & PC2 (PMI 20)	1 day	0 days	Thu 26/10/17	Thu 26/10/17
A.2.1.5.7	Mobilization of plant for drilling and installation of pre-bored socket H piles	16 days	3.2 days	Thu 21/12/17	Fri 5/1/18
A.2.1.5.8	Drilling and construction for pre-bored socket H piles(35nrs)	75 days	75 days	Sat 6/1/18	Wed 21/3/18
A.2.1.5.9	Testing of piles	45 days	45 days	Thu 22/3/18	Sat 5/5/18
A.2.1.5.10	Proof Drilling	14 days	14 days	Sun 6/5/18	Sat 19/5/18
A.2.1.5.11	Excavation with temporary shoring for pile cap E2-PC1	20 days	20 days	Sun 20/5/18	Fri 8/6/18
A.2.1.5.12	Construction of pile cap E2-PC1	25 days	25 days	Sat 9/6/18	Tue 3/7/18
A.2.1.5.13	Backfill the pile cap E2-PC1	5 days	5 days	Wed 4/7/18	Sun 8/7/18
A.2.1.6	**Substructure E2-PC2**	**1049 days**	**831.43 days**	**Sat 1/4/17**	**Thu 13/2/20**
A.2.1.6.1	Mobilization of plants for predrilling for pile cap E2-PC 2	1 day	0 days	Wed 25/10/17	Wed 25/10/17
A.2.1.6.2	Setting up plant for predrill for pile pile cap E2-PC2	1 day	0 days	Thu 26/10/17	Thu 26/10/17
A.2.1.6.3	Predrill for pile cap E2-PC2	7 days	0 days	Fri 27/10/17	Thu 2/11/17
A2.1.6.3a	Pile Sleeve Not Required for E2-PC1 & PC2 (PMI 20)	1 day	0 days	Thu 26/10/17	Thu 26/10/17
A.2.1.6.4	Mobilization of plants for drilling and installation of pre-bored socket H Ples for pile cap E2-PC2	15 days	3 days	Fri 22/12/17	Fri 5/1/18
A.2.1.6.5	Drilling and installation of pre-bored socket H piles for pile cap E2-PC2	45 days	45 days	Sat 6/1/18	Mon 19/2/18
A.2.1.6.6	Testing of piles	45 days	45 days	Tue 20/2/18	Thu 5/4/18
A.2.1.6.7	Proof Drilling	7 days	7 days	Fri 6/4/18	Thu 12/4/18
A.2.1.6.8	Excavation with shoring for pile cap E2-PC2	21 days	21 days	Fri 13/4/18	Thu 3/5/18
A.2.1.6.9	Construction of pile cap E2-PC2	30 days	30 days	Fri 4/5/18	Sat 2/6/18
A.2.1.6.10	Backfill the pile cap E2-PC2	7 days	7 days	Sun 3/6/18	Sat 9/6/18
A.2.1.6.11	Application of XP for Drainage works at Hiu Kwong Street	180 days	90 days	Sat 1/4/17	Wed 27/9/17
A.2.1.6.12	Approval of TTA for construction of Drainage works at Hiu Kwong Street	60 days	60 days	Wed 2/10/19	Sat 30/11/19
A.2.1.6.13	Road Works Advice	14 days	14 days	Sun 1/12/19	Sat 14/12/19
A.2.1.6.14	Implementation of TTA	1 day	1 day	Sun 15/12/19	Sun 15/12/19
A.2.1.6.15	Construction of Drainage works at Hiu Kwong Street	60 days	60 days	Mon 16/12/19	Thu 13/2/20
A.2.1.6.16	Trees felling works between E3-ST1 and E3 abutment	45 days	45 days	Thu 14/12/17	Sat 27/1/18
A.2.1.7	**Steel Bridge between E3-ST1 and E3 Abutment**	**522 days**	**522 days**	**Thu 18/10/18**	**Sun 22/3/20**
A.2.1.7.1	Proposal of off site fabrication of steelworks for E2 and E3	28 days	28 days	Thu 18/10/18	Wed 14/11/18
A.2.1.7.2	Approval of off site fabrication of steelworks for bridge E2 and E3	28 days	28 days	Thu 15/11/18	Wed 12/12/18
A.2.1.7.3	Fabbrication and Delivery of fabricated steelworks	90 days	90 days	Thu 13/12/18	Tue 12/3/19
A.2.1.7.4	Construction of launching platform for steel bridge between E3-ST1 and E3 abutment	60 days	60 days	Sat 27/4/19	Tue 25/6/19
A.2.1.7.5	Assembly of steel truss between E3 tower and E3 abutment	60 days	60 days	Wed 26/6/19	Sat 24/8/19
A.2.1.7.6	Bridge launching between E3-ST1 and E3 Abutment	29 days	29 days	Sun 25/8/19	Sun 22/9/19
A.2.1.7.7	Design submission of roof system	28 days	28 days	Wed 3/4/19	Tue 30/4/19
A.2.1.7.8	Approval of design of roof system	28 days	28 days	Wed 1/5/19	Tue 28/5/19
A.2.1.7.9	Material submission of corrugated steel roof	28 days	28 days	Wed 3/4/19	Tue 30/4/19



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

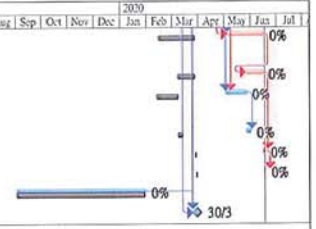
ID	Task Name	Duration	Remaining Duration	Start	Finish
A.2.1.7.10	Approval of corrugated steel roof	30 days	30 days	Wed 1/5/19	Thu 30/5/19
A.2.1.7.11	Procurement to delivery of corrugated steel roof	28 days	28 days	Fri 31/5/19	Thu 27/6/19
A.2.1.7.12	Material submission of fall arrest system	28 days	28 days	Wed 3/4/19	Tue 30/4/19
A.2.1.7.13	Approval of fall arrest system	28 days	28 days	Wed 1/5/19	Tue 28/5/19
A.2.1.7.14	Procurement to delivery of fall arrest system	30 days	30 days	Wed 29/5/19	Thu 27/6/19
A.2.1.7.15	Roof construction of the steel truss E3-ST1 to E3 abutment	50 days	50 days	Mon 23/9/19	Mon 11/11/19
A.2.1.7.16	Construction of screeding and paving blocks	40 days	40 days	Tue 12/11/19	Sat 21/12/19
A.2.1.7.17	Installation of parapets and planters	40 days	40 days	Sun 22/12/19	Thu 30/1/20
A.2.1.7.18	Installation of lightings to steel truss between E3 tower and E3 abutment	45 days	45 days	Fri 31/1/20	Sun 15/3/20
A.2.1.7.19	Installation of irrigation pipe and water point	7 days	7 days	Mon 16/3/20	Sun 22/3/20
A.2.1.8	**Superstructure of Covered Walkway**	**162 days**	**162 days**	**Mon 23/9/19**	**Mon 2/3/20**
A.2.1.8.1	Expose the substructure of the Covered Walkway	20 days	20 days	Mon 23/9/19	Sat 12/10/19
A.2.1.8.2	Construction of columns and beams for covered walkway	60 days	60 days	Sun 13/10/19	Wed 11/12/19
A.2.1.8.3	Installation of steel sheet roof for the covered walkway	30 days	30 days	Thu 12/12/19	Fri 10/1/20
A.2.1.8.4	Installation of Lighting to covered walkway	45 days	45 days	Sat 11/1/20	Mon 24/2/20
A.2.1.8.5	Installation of irrigation pipe	7 days	7 days	Tue 25/2/20	Mon 2/3/20
A.2.1.9	**Superstructure of E2-LT1 and Lift**	**287 days**	**287 days**	**Wed 4/9/19**	**Tue 16/6/20**
A.2.1.9.1	Excavation to expose footing E2-PC1	7 days	7 days	Sun 13/10/19	Sat 19/10/19
A.2.1.9.2	Construction of superstructure of lift tower E2-LT1	62 days	62 days	Sun 20/10/19	Fri 20/12/19
A.2.1.9.3	Installation of lift (2nrs)	60 days	60 days	Sat 21/12/19	Tue 18/2/20
A.2.1.9.4	Installation of E&M for the lift towers and Pillar Box	50 days	50 days	Wed 19/2/20	Wed 8/4/20
A.2.1.9.5	Testing and comminissioning of lifts and submission of form LE5 to EMSD	60 days	60 days	Thu 9/4/20	Sun 7/6/20
A.2.1.9.6	Installation of louver and finishing works	20 days	20 days	Thu 28/5/20	Tue 16/6/20
A.2.1.9.7	Application for connection to existing water mains	90 days	90 days	Wed 4/9/19	Mon 2/12/19
A.2.1.9.8	Trenching works for connection of existing water connection point	28 days	28 days	Tue 3/12/19	Mon 30/12/19
A.2.1.9.9	Installation of water meter box	7 days	7 days	Thu 9/4/20	Wed 15/4/20
A.2.1.9.10	Planting works on bridge	7 days	7 days	Thu 16/4/20	Wed 22/4/20
A.2.1.10	**Superstructure of E2-P1**	**48 days**	**48 days**	**Sat 21/12/19**	**Thu 6/2/20**
A.2.1.10.1	Excavation to expose Pile cap E2-PC2 for column E2-P1	3 days	3 days	Sat 21/12/19	Mon 23/12/19
A.2.1.10.2	Construction of column for E2-P1	42 days	42 days	Tue 24/12/19	Mon 3/2/20
A.2.1.10.3	General tidy up	3 days	3 days	Tue 4/2/20	Thu 6/2/20
A.3.1.11	**Bridge between E2-P1 to E2-P3**	**545 days**	**545 days**	**Fri 21/12/18**	**Wed 17/6/20**
A.3.1.11.1	Access date of E2 between Pier E2-P2 to E2-P3 (Portion 3)	1 day	1 day	Fri 21/12/18	Fri 21/12/18
A.3.1.11.2	Initial site survey	15 days	15 days	Sat 22/12/18	Sat 5/1/19
A.3.1.11.3	Erection of Hoarding at South bound footpath of Hiu Kwong St	8 days	8 days	Sat 22/12/18	Sat 29/12/18
A.3.1.11.4	Excavation of inspection pits to locate utilities	20 days	20 days	Sun 6/1/19	Fri 25/1/19
A.3.1.11.5	Diversion of utilities by UU	90 days	90 days	Sat 26/1/19	Thu 25/4/19
A.3.1.11.6	Excavation with shoring for construction of E2-F3	30 days	30 days	Fri 26/4/19	Sat 25/5/19
A.3.1.11.7	Construction of pad footing of E2-F3	30 days	30 days	Sun 26/5/19	Mon 24/6/19
A.3.1.11.8	Construction of column for E2-P2	30 days	30 days	Tue 25/6/19	Wed 24/7/19
A.3.1.11.9	Excavation with shoring for construction of E2-F4	30 days	30 days	Thu 25/7/19	Fri 23/8/19
A.3.1.11.10	Construction of pad footing of E2-F4	30 days	30 days	Sat 24/8/19	Sun 22/9/19
A.3.1.11.11	Construction of column for E2-P3 and the bridge deck	35 days	35 days	Mon 23/9/19	Sun 27/10/19
A.3.1.11.12	Off site Fabrication of Steel deck truss between E2-LT1 to E2-P1, E2-P1 to E2-P2	90 days	90 days	Fri 26/4/19	Wed 24/7/19
A.3.1.11.13	Off site Fabrication of Steel deck truss between E2-P2 to E2-P3 and E2-P3 to bridge constructed by others	90 days	90 days	Thu 25/7/19	Tue 22/10/19
A.3.1.11.14	Lifting of steel truss between E2-LT1 to E2-P1	7 days	7 days	Tue 4/2/20	Mon 10/2/20
A.3.1.11.15	Lifting of steel truss between E2-P1 to E2-P2	7 days	7 days	Tue 11/2/20	Mon 17/2/20
A.3.1.11.16	Lifting of Truss between E2-P2 to E2-P3	7 days	7 days	Tue 18/2/20	Mon 24/2/20
A.3.1.11.17	Lifting of truss for E2-P3 to connect to bridge constructed by others	7 days	7 days	Tue 25/2/20	Mon 2/3/20
A.3.1.11.18	Roof installation of the bridge from E2-LT1 to E2-P3	60 days	60 days	Tue 3/3/20	Fri 1/5/20
A.3.1.11.19	Screeding and paving blocks for the bridge from E2-LT1 to E2-P3	42 days	42 days	Sun 12/4/20	Sat 23/5/20



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

Revised programme for Section A E3 to E2_Dec 17

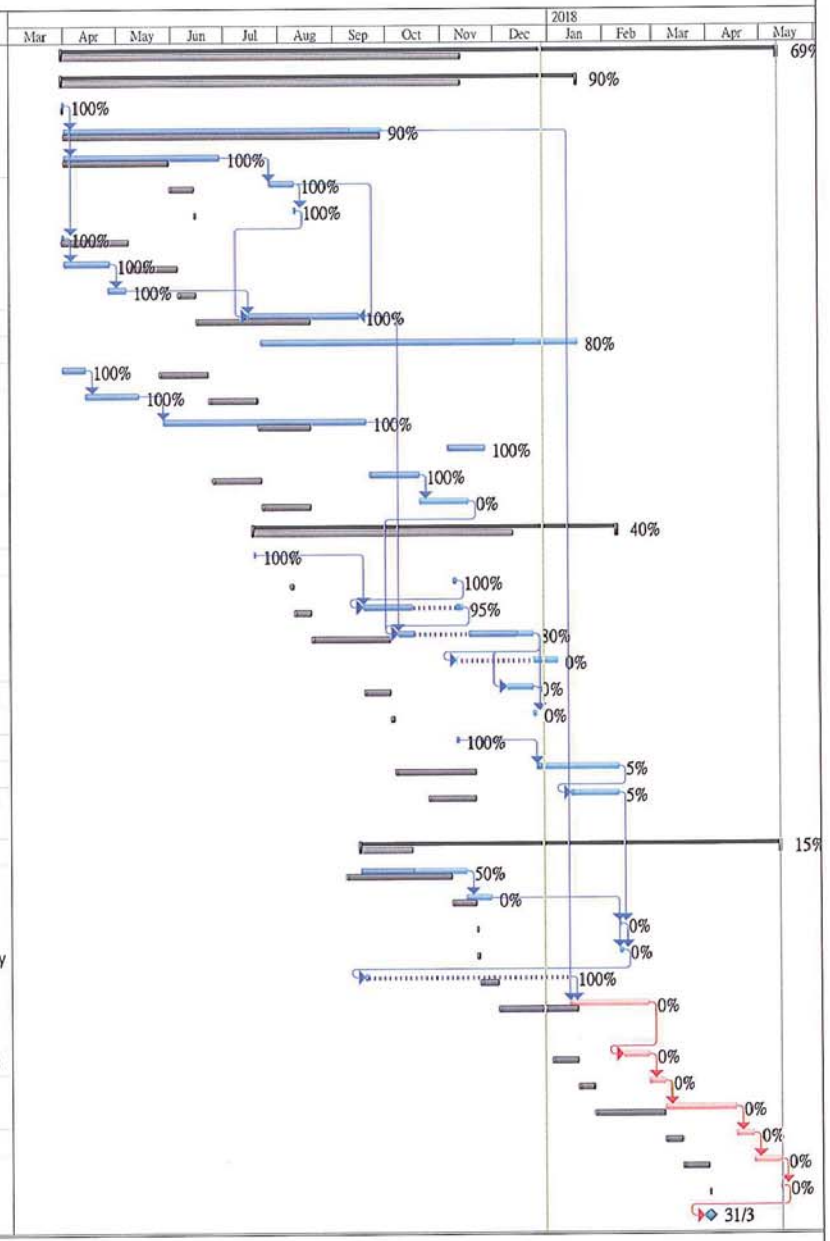
ID	Task Name	Duration	Remaining Duration	Start	Finish
A.3.1.11.20	Electrical installation and lighting works for bridge from E2-LT1 to E2-P3	42 days	42 days	Mon 4/5/20	Sun 14/6/20
A.3.1.11.21	Tubular handrail and planter on bridge from E2-LT1 to E2-P3	20 days	20 days	Tue 26/5/20	Sun 14/6/20
A.3.1.11.22	Trenching works for connection of existing water connection point	25 days	25 days	Sat 2/5/20	Tue 26/5/20
A.3.1.11.23	Water meter box and water point construction	5 days	5 days	Wed 27/5/20	Sun 31/5/20
A.3.1.11.24	Planting works on bridge	2 days	2 days	Mon 15/6/20	Tue 16/6/20
A.3.1.11.25	General tidy up for Portion 3	1 day	1 day	Wed 17/6/20	Wed 17/6/20
A.3.1.11.26	Overall landscape works	150 days	150 days	Mon 2/9/19	Wed 29/1/20
A.3.1.11.27	Completion of works	0 days	0 days	Mon 30/3/20	Mon 30/3/20



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

Revised programme for Section B_Dec 17

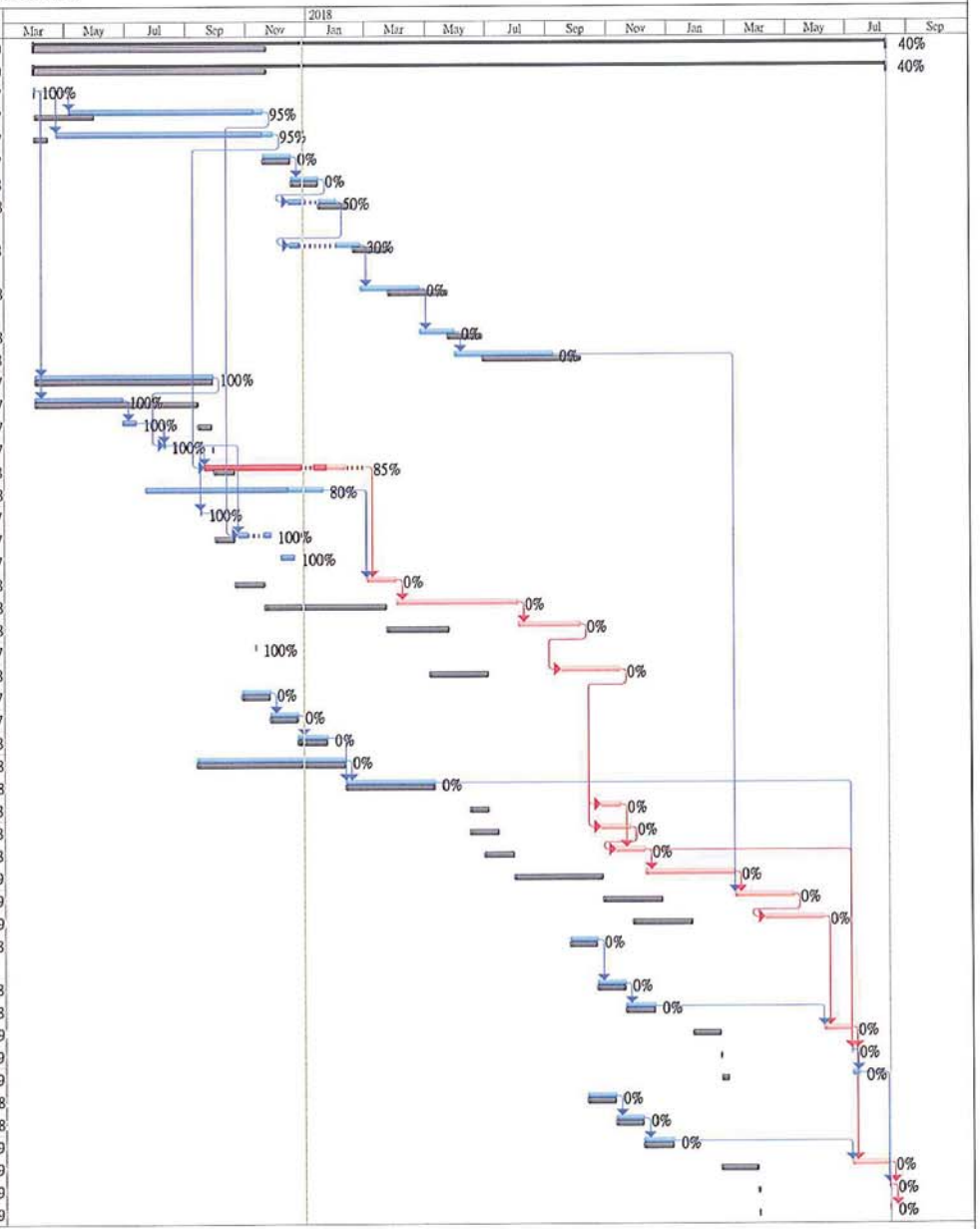
ID	Task Name	Duration	Remaining Duration	Start	Finish	Predecessors
B.4.1	**SECTION B - CONSTRUCTION OF SLIP ROAD**	**406 days**	**127.14 days**	**Fri 31/3/17**	**Thu 10/5/18**	
B.4.1.1	**PRE CONSTRUCTION WORKS**	**292 days**	**29.97 days**	**Fri 31/3/17**	**Tue 16/1/18**	
B.4.1.1.1	Access Date of Portion 4	1 day	0 days	Fri 31/3/17	Fri 31/3/17	
B.4.1.1.2	Application of Excavation Permit	180 days	18 days	Sat 1/4/17	Wed 27/9/17	3
B.4.1.1.3	Application of TTA and approval	88 days	0 days	Sat 1/4/17	Tue 27/6/17	3
B.4.1.1.4	Road works advice	14 days	0 days	Wed 26/7/17	Tue 8/8/17	5
B.4.1.1.5	Implementation of TTA for ingress and egress	1 day	0 days	Wed 9/8/17	Wed 9/8/17	6
B.4.1.1.6	Proposal of landscape specialist	1 day	0 days	Fri 31/3/17	Fri 31/3/17	3FS-1 day
B.4.1.1.7	Approval to proposal of landscape specialist	26 days	0 days	Sat 1/4/17	Wed 26/4/17	8
B.4.1.1.10	Tree survey	10 days	0 days	Wed 26/4/17	Fri 5/5/17	9
B.4.1.1.11	Trees Transplant	63 days	0 days	Fri 14/7/17	Thu 14/9/17	10,6FF,7
B.4.1.1.11a	Landscaping Works (PMI 9)	180 days	36 days	Fri 21/7/17	Tue 16/1/18	
B.4.1.1.12	Submission of material for drainage works	13 days	0 days	Fri 31/3/17	Wed 12/4/17	
B.4.1.1.13	Approval of submission for drainage works	30 days	0 days	Thu 13/4/17	Fri 12/5/17	13
B.4.1.1.16	Procurement and delivery of drainage pipes and material	115 days	0 days	Sat 27/5/17	Mon 18/9/17	14
1.1.14	Material Test for Drainage Pipe (PMI 21)	21 days	0 days	Sat 4/11/17	Fri 24/11/17	
B.4.1.1.17	Submission of method statement for Drainage works	28 days	0 days	Thu 21/9/17	Wed 18/10/17	
B.4.1.1.18	Approval of method statement for drainage works	28 days	28 days	Thu 19/10/17	Wed 15/11/17	17
B.4.1.2	**First Stage Works**	**206 days**	**124.1 days**	**Mon 17/7/17**	**Wed 7/2/18**	
B.4.1.2.1	Utilities Detection	1 day	0 days	Mon 17/7/17	Mon 17/7/17	
B.4.1.2.2	Survey of existing drainage	2 days	0 days	Tue 7/11/17	Wed 8/11/17	
B.4.1.2.3	Initial site survey	31 days	1.55 days	Sun 17/9/17	Sun 12/11/17	21,20
B.4.1.2.4	Drainage works at first stage	45 days	9 days	Sat 7/10/17	Thu 21/12/17	11,15,22,18
B.4.1.2.4a	Revised Drainage Works (PMI 26)	14 days	13.95 days	Thu 9/11/17	Thu 4/1/18	23
B.4.1.2.5	Draw pits construction	15 days	15 days	Thu 7/12/17	Thu 21/12/17	23FS-15 days
B.4.1.2.6	Laying street lighting cables	2 days	2 days	Fri 22/12/17	Sat 23/12/17	23,25
B.4.1.2.6a	Revised Setting Out amd Vertical Road Profile (PMI 25)	1 day	0 days	Thu 9/11/17	Thu 9/11/17	
B.4.1.2.7	Road works	46 days	43.7 days	Sun 24/12/17	Wed 7/2/18	27
B.4.1.2.8	Construct Temporary road before implementation of road closure	27 days	25.65 days	Fri 12/1/18	Wed 7/2/18	28FS-27 days
B.4.1.3	**Second Stage Works**	**238 days**	**202.41 days**	**Fri 15/9/17**	**Thu 10/5/18**	
B.4.1.3.1	Application of TTA to divert traffic of existing slip road	60 days	30 days	Fri 15/9/17	Mon 13/11/17	
B.4.1.3.2	Road Works advice	14 days	14 days	Tue 14/11/17	Mon 27/11/17	31
B.4.1.3.3	Implementation of TTA to divert traffic to Temp slip road	1 day	1 day	Thu 8/2/18	Thu 8/2/18	32,29
B.4.1.3.4	Utilities detection and Suirvey of existing drainage	2 days	2 days	Thu 8/2/18	Fri 9/2/18	32,33FS-1 day
B.4.1.3.5	Initial site survey	2 days	0 days	Sun 17/9/17	Wed 10/1/18	34
B.4.1.3.6	Drainage works at entrance of existing slip road (D101+ others)	45 days	45 days	Thu 11/1/18	Sat 24/2/18	35,4
B.4.1.3.7	Draw pits construction	15 days	15 days	Sat 10/2/18	Sat 24/2/18	36FS-15 days
B.4.1.3.8	Laying street lighting cables	9 days	9 days	Sun 25/2/18	Mon 5/3/18	37
B.4.1.3.9	Road works	40 days	40 days	Tue 6/3/18	Sat 14/4/18	38
B.4.1.3.10	Remaining clash barriers and road markings	10 days	10 days	Sun 15/4/18	Tue 24/4/18	39
B.4.1.3.11	Reinstate works area	15 days	15 days	Wed 25/4/18	Wed 9/5/18	40
B.4.1.3.12	General tidy up	1 day	1 day	Thu 10/5/18	Thu 10/5/18	41
B.4.1.3.13	Completion of works	0 days	0 days	Sat 31/3/18	Sat 31/3/18	42



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

Revised programme for Section C_Dec 17

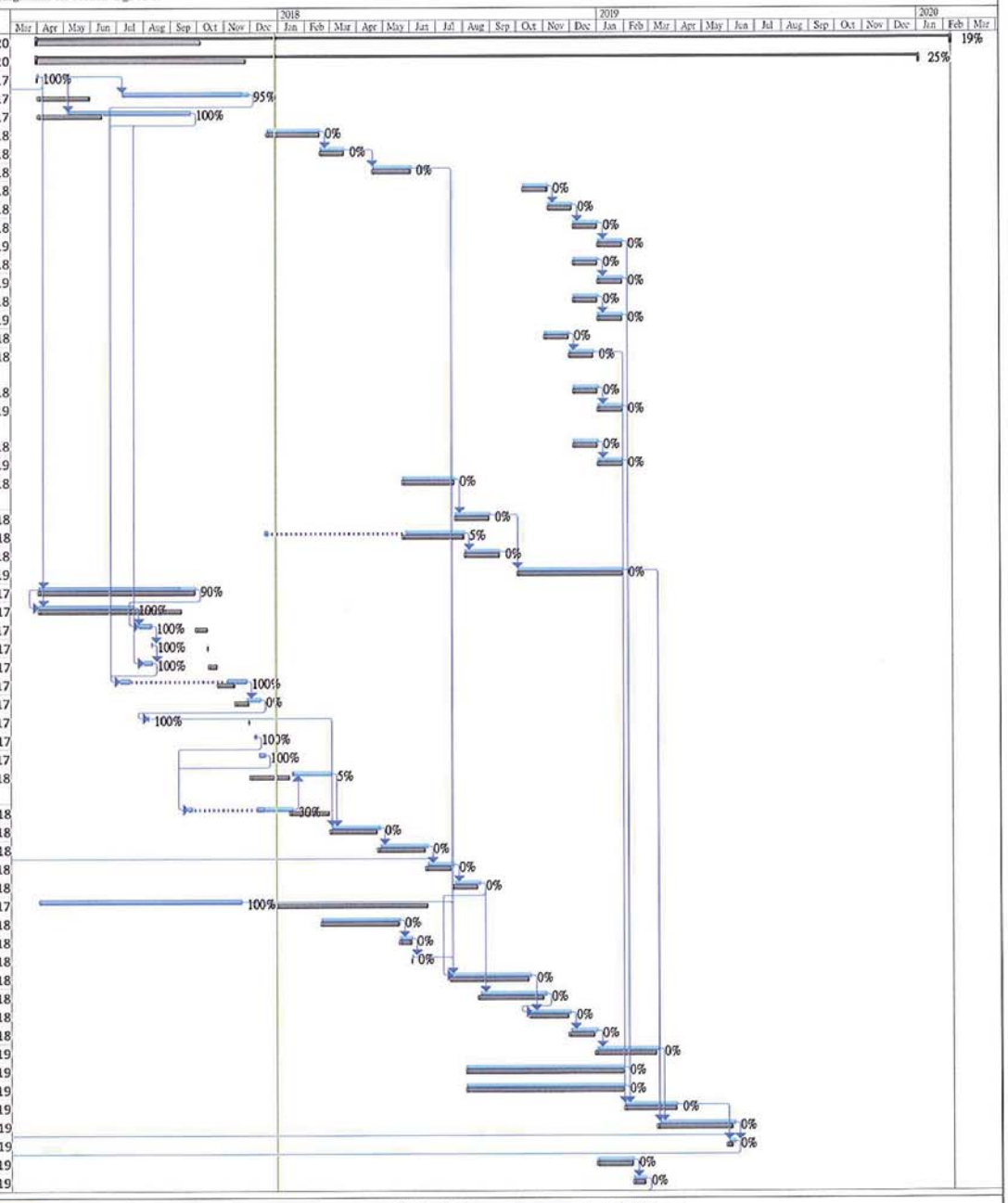
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	C.5.1	**SECTION C - CONSTRUCTION OF BUS BUS INTERCHANGE**	**863.75 days**	**520.28 days**	**Fri 31/3/17**	**Sun 11/8/19**
2	C.5.1.1	**Works not within TKOT carriageway**	**863.75 days**	**520.28 days**	**Fri 31/3/17**	**Sun 11/8/19**
3	C.5.1.1.1	Access Date of Portion 5	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	C.5.1.1.2	Initial Site Survey	197 days	9.85 days	Fri 5/5/17	Fri 17/11/17
5	C.5.1.1.3	Tree survey	220 days	11 days	Sat 22/4/17	Mon 27/11/17
6	C.5.1.1.4	Proposal of strucutral steel erectors	28 days	28 days	Sat 18/11/17	Fri 15/12/17
7	C.5.1.1.5	Approval of structural steel erectors	28 days	28 days	Sat 16/12/17	Fri 12/1/18
8	C.5.1.1.6	Submission of method statement of construction of covered walkway	35 days	17.5 days	Wed 13/12/17	Tue 30/1/18
9	C.5.1.1.7	Approval of method statement of construction of covered walkway	35 days	24.5 days	Thu 14/12/17	Fri 23/2/18
10	C.5.1.1.8	Submission of offsite fabrication of steel for covered walkway	60 days	60 days	Sat 24/2/18	Tue 24/4/18
11	C.5.1.1.9	Approval of proposal offsite fabrication of covered walkway	35 days	35 days	Wed 25/4/18	Tue 29/5/18
12	C.5.1.1.10	Fabrication of covered walkway	100 days	100 days	Wed 30/5/18	Thu 6/9/18
13	C.5.1.1.11	Application of XP	180 days	0 days	Sat 1/4/17	Wed 27/9/17
14	C.5.1.1.12	Application of TTA for loading and unloading area	88 days	0 days	Sat 1/4/17	Tue 27/6/17
15	C.5.1.1.13	Road works advice	14 days	0 days	Wed 28/6/17	Tue 11/7/17
16	C.5.1.1.14	Implementation of TTA	1 day	0 days	Wed 9/8/17	Wed 9/8/17
17	C.5.1.1.15	Tree Fellings	131 days	19.65 days	Tue 19/9/17	Thu 1/3/18
18	C.5.1.1.15a	Landscaping Works (PMI 9)	180 days	36 days	Fri 21/7/17	Tue 16/1/18
19	C.5.1.1.16	Utilities detection	1 day	0 days	Fri 15/9/17	Fri 15/9/17
20	C.5.1.1.17	Excavation of inpsection pit for locating existing utilities	17 days	0 days	Mon 23/10/17	Fri 24/11/17
21	C.5.1.1.17a	Excavation of inpsection pit for locating existing TCS (PMI 32)	14 days	0 days	Tue 5/12/17	Mon 18/12/17
22	C.5.1.1.18	Arrangement with UU companies for diversion of UU	30 days	30 days	Thu 1/3/18	Sat 31/3/18
23	C.5.1.1.19	Diversion of utilities	123 days	123 days	Sat 31/3/18	Wed 1/8/18
24	C.5.1.1.20	Construction of footing of covered walkway	63 days	63 days	Wed 1/8/18	Wed 3/10/18
25	C.5.1.1.20a	Revised Drainage Works at Portion 4 & 5 (PMI 26)	1 day	0 days	Thu 9/11/17	Thu 9/11/17
26	C.5.1.1.21	Drainage works D201 to D207 above the footing	60 days	60 days	Thu 13/9/18	Mon 12/11/18
27	C.5.1.1.22	Material submission of Pillar box c.w accessories	28 days	28 days	Fri 27/10/17	Thu 23/11/17
28	C.5.1.1.23	Approval of material submission of Pillar box c/w accessories	28 days	28 days	Fri 24/11/17	Thu 21/12/17
29	C.5.1.1.24	Procurement to delivery of pillar box and accessories	30 days	30 days	Fri 22/12/17	Sat 20/1/18
30	C.5.1.1.25	Positioning and construction of pillar box	150 days	150 days	Mon 11/9/17	Wed 7/2/18
31	C.5.1.1.26	Application of Power Supply	90 days	90 days	Thu 8/2/18	Tue 8/5/18
32	C.5.1.1.27	Construct draw pits	20 days	20 days	Tue 23/10/18	Mon 12/11/18
33	C.5.1.1.28	Laying of TCS cables by others	30 days	30 days	Tue 23/10/18	Thu 22/11/18
34	C.5.1.1.29	Laying of cables for lighting	30 days	30 days	Wed 7/11/18	Fri 7/12/18
35	C.5.1.1.30	Construction of new high mast lighting and other lightings	90 days	90 days	Fri 7/12/18	Thu 7/3/19
36	C.5.1.1.31	Installation of posts and beams for covered walkway	60 days	60 days	Thu 7/3/19	Mon 6/5/19
37	C.5.1.1.32	Installation of glass cover for covered walkway	60 days	60 days	Sat 6/4/19	Wed 5/6/19
38	C.5.1.1.33	Material submission of fittings and lighting for covered walkway	28 days	28 days	Sat 22/9/18	Fri 19/10/18
39	C.5.1.1.34	Approval of fitting and lightings for covered walkway	28 days	28 days	Sat 20/10/18	Fri 16/11/18
40	C.5.1.1.35	Procurement to delivery of lightings	30 days	30 days	Sat 17/11/18	Sun 16/12/18
41	C.5.1.1.36	Installation of lighting of covered walkway	28 days	28 days	Wed 5/6/19	Wed 3/7/19
42	C.5.1.1.37	Connection of power supply to lightings	1 day	1 day	Wed 3/7/19	Thu 4/7/19
43	C.5.1.1.38	Testing and commissioning of electrical works	7 days	7 days	Thu 4/7/19	Thu 11/7/19
44	C.5.1.1.39	Material submission of paver blocks	28 days	28 days	Wed 10/10/18	Tue 6/11/18
45	C.5.1.1.40	Approval to submission of paver blocks	28 days	28 days	Wed 7/11/18	Tue 4/12/18
46	C.5.1.1.41	Procurement to delivery of paver blocks	30 days	30 days	Wed 5/12/18	Thu 3/1/19
47	C.5.1.1.42	Construction of paving blocks for covered walkway	37 days	37 days	Wed 3/7/19	Fri 9/8/19
48	C.5.1.1.43	General tidy up	2 days	2 days	Fri 9/8/19	Sun 11/8/19
49	C.5.1.1.44	Completion of Works	1 day	1 day	Sat 10/8/19	Sun 11/8/19



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

Revised programme for Section D_Dec 17

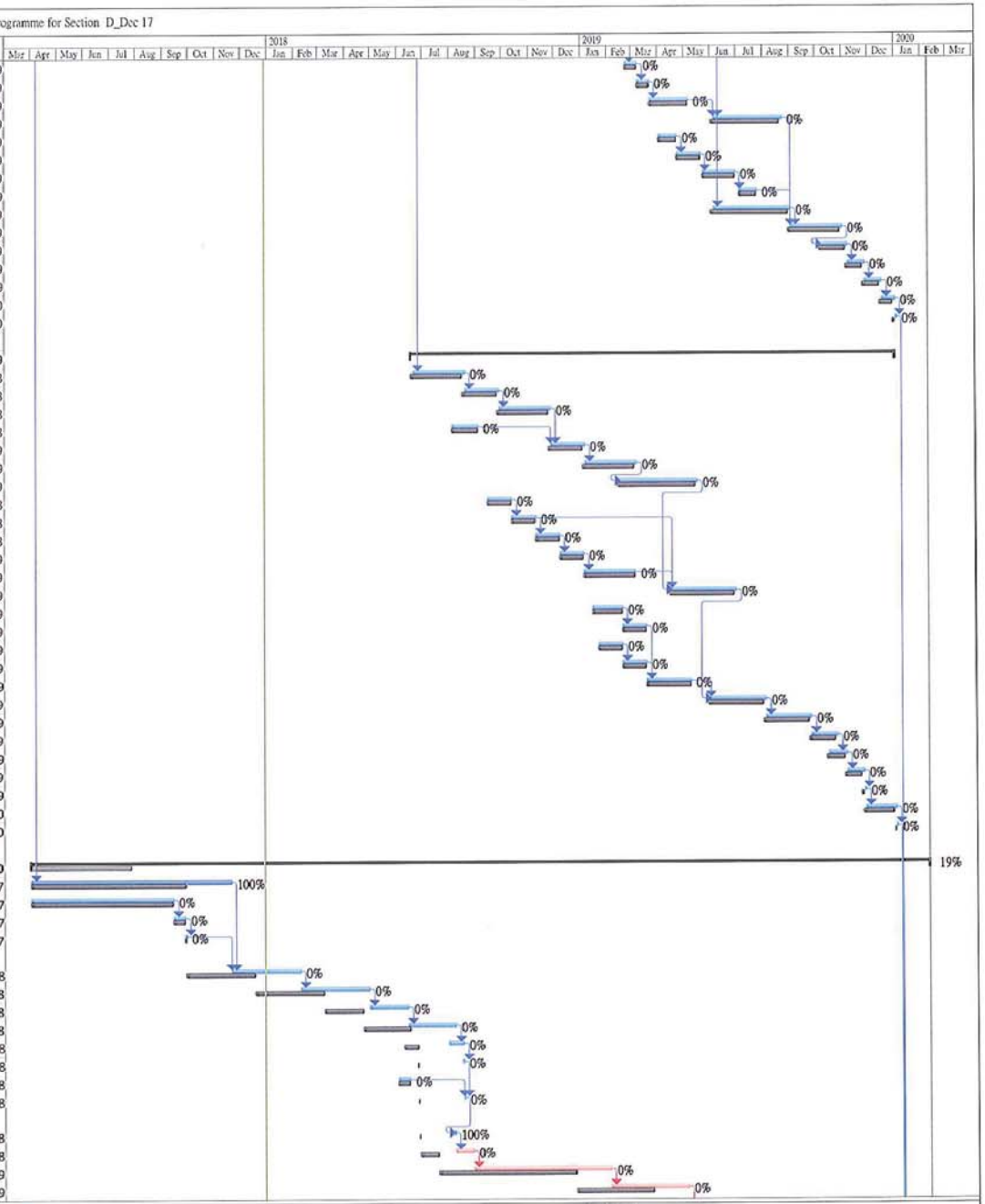
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	D.6.1	**Section D**	**1045 days**	**851.52 days**	**Fri 31/3/17**	**Sat 8/2/20**
2	D.6.1.1	**Construction E12 Footbridge and Lift Tower**	**1008.5 days**	**756.87 days**	**Fri 31/3/17**	**Fri 3/1/20**
3	D.6.1.1.1	Access Date for Portion 6	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	D.6.1.1.2	Initial Site Survey	145 days	7.25 days	Thu 6/7/17	Mon 27/11/17
5	D.6.1.1.3	Tree survey	141 days	0 days	Fri 5/5/17	Fri 22/9/17
6	D.6.1.1.4	Submission of material for water mains	60 days	60 days	Tue 19/12/17	Fri 16/2/18
7	D.6.1.1.5	Approval to submission of water mains	28 days	28 days	Sat 17/2/18	Fri 16/3/18
8	D.6.1.1.6	Procurement to Delivery of water mains material	45 days	45 days	Wed 18/4/18	Fri 1/6/18
9	D.6.1.1.7	Proposal of E&M Specialist	28 days	28 days	Mon 8/10/18	Sun 4/11/18
10	D.6.1.1.8	Approval of E&M Specialist	28 days	28 days	Mon 5/11/18	Sun 2/12/18
11	D.6.1.1.9	Material submission of cable tray	28 days	28 days	Tue 4/12/18	Mon 31/12/18
12	D.6.1.1.10	Approval of material submission of cable tray	28 days	28 days	Tue 1/1/19	Mon 28/1/19
13	D.6.1.1.11	Material submission of cables, conduit, fittings	28 days	28 days	Tue 4/12/18	Mon 31/12/18
14	D.6.1.1.12	Approval of material submission of cables conduit, fittings	28 days	28 days	Tue 1/1/19	Mon 28/1/19
15	D.6.1.1.13	Material submission of proposed lightings	28 days	28 days	Tue 4/12/18	Mon 31/12/18
16	D.6.1.1.14	Approval of proposed lighting	28 days	28 days	Tue 1/1/19	Mon 28/1/19
17	D.6.1.1.15	Material submission of pillar box c/w accessories	28 days	28 days	Thu 1/11/18	Wed 28/11/18
18	D.6.1.1.16	Approval of material submission of pillar box c/w accessories	28 days	28 days	Thu 29/11/18	Wed 26/12/18
19	D.6.1.1.17	Material submission of MCB distribution board	28 days	28 days	Tue 4/12/18	Mon 31/12/18
20	D.6.1.1.18	Approval of material submission of MCB distribution board	28 days	28 days	Tue 1/1/19	Mon 28/1/19
21	D.6.1.1.15	Material submission of communication cables	28 days	28 days	Tue 4/12/18	Mon 31/12/18
22	D.6.1.1.14	Approval of submission of communication cables	28 days	28 days	Tue 1/1/19	Mon 28/1/19
23	D.6.1.1.15	Submission of Lift Structural E&M (SEM), layout and installation drawings	60 days	60 days	Tue 22/5/18	Fri 20/7/18
24	D.6.1.1.14	Approval of Lift's SEM, layout and installation drawings	40 days	40 days	Sat 21/7/18	Wed 29/8/18
25	D.6.1.1.15	Material submission of proposed lifts	71 days	67.45 days	Sat 16/12/17	Tue 31/7/18
26	D.6.1.1.14	Approval of submission of proposed lift	41 days	41 days	Wed 1/8/18	Mon 10/9/18
27	D.6.1.1.12	Procurement to delivery of lift	120 days	120 days	Mon 1/10/18	Mon 28/1/19
28	D.6.1.1.13	Excavation Permit	180 days	18 days	Sat 1/4/17	Wed 27/9/17
29	D.6.1.1.14	Application of TTA for loading and unloading area	109 days	0 days	Sat 1/4/17	Tue 18/7/17
30	D.6.1.1.15	Road Works advice	14 days	0 days	Tue 25/7/17	Mon 7/8/17
31	D.6.1.1.16	Implementation of TTA	1 day	0 days	Tue 8/8/17	Tue 8/8/17
32	D.6.1.1.17	Erection of hoarding	10 days	0 days	Sun 30/7/17	Tue 8/8/17
33	D.6.1.1.18	Site Clearance and Tree felling	34 days	0 days	Mon 3/7/17	Fri 24/11/17
34	D.6.1.1.19	Construct temporary drainage systems	16 days	16 days	Sat 25/11/17	Sun 10/12/17
35	D.6.1.1.20	Utilities Detection	1 day	0 days	Fri 4/8/17	Fri 4/8/17
36	D.6.1.1.20a	CCTV Inspection on uncharted Leachate pipes (PMI 27)	2 days	0 days	Mon 4/12/17	Tue 5/12/17
37	D.6.1.1.20b	Revised RWE12 level (PMI 34)	7 days	0 days	Sat 9/12/17	Fri 15/12/17
38	D.6.1.1.21	Predrill for Excavation of rocks from retaining wall CH97.5 to CH45	45 days	42.75 days	Mon 15/1/18	Thu 1/3/18
39	D.6.1.1.22	Predrill for Excavation of rocks from retaining wall CH45 to CH0	45 days	31.5 days	Tue 19/9/17	Tue 16/1/18
40	D.6.1.1.23	Excavation of rock from retaining wall chainage CH97.5 to CH45	55 days	55 days	Thu 1/3/18	Wed 25/4/18
41	D.6.1.1.22	Excavation of rock from retaining wall chainage CH45 to CH0	55 days	55 days	Wed 25/4/18	Tue 19/6/18
42	D.6.1.1.23	Construction of Retaining walls chainage CH97.5 to CH 45	30 days	30 days	Tue 19/6/18	Thu 19/7/18
43	D.6.1.1.24	Construction of Retaining walls chainage CH45 to CH 0	30 days	30 days	Thu 19/7/18	Sat 18/8/18
44	D.6.1.1.25	XP application for works in TKOT carriageway	232 days	0 days	Sat 1/4/17	Sat 18/11/17
45	D.6.1.1.26	Application of TTA for diversion of water mains	90 days	90 days	Sat 17/2/18	Thu 17/5/18
46	D.6.1.1.27	Road works advice	14 days	14 days	Fri 18/5/18	Thu 31/5/18
47	D.6.1.1.28	Implementation of TTA for water mains diversion	1 day	1 day	Fri 1/6/18	Fri 1/6/18
48	D.6.1.1.29	Diversion of water mains	90 days	90 days	Tue 17/7/18	Mon 15/10/18
49	D.6.1.1.30	Rock slope treatment	75 days	75 days	Sat 18/8/18	Thu 1/11/18
50	D.6.1.1.31	Construction of substructure of lift tower	45 days	45 days	Mon 15/10/18	Thu 29/11/18
51	D.6.1.1.32	Construction E12-P1, E12, P2	30 days	30 days	Thu 29/11/18	Sat 29/12/18
52	D.6.1.1.33	Construction of lift tower superstructures	70 days	70 days	Sat 29/12/18	Sat 9/3/19
53	D.6.1.1.34	Application of Power Supply	180 days	180 days	Thu 2/8/18	Mon 28/1/19
54	D.6.1.1.35	Positioning/Construction/installation of Pillar Box	180 days	180 days	Thu 2/8/18	Mon 28/1/19
55	D.6.1.1.36	Trenching works for laying cables and communication cables	60 days	60 days	Tue 29/1/19	Fri 29/3/19
56	D.6.1.1.37	Lift car installations	87 days	87 days	Sat 9/3/19	Tue 4/6/19
57	D.6.1.1.38	Connection of cables and communication cables to lift car	7 days	7 days	Tue 28/5/19	Tue 4/6/19
58	D.6.1.1.39	Submission of material for glazing and louver	41 days	41 days	Sat 29/12/18	Thu 7/2/19
59	D.6.1.1.40	Comment of submission for glazing and louver	14 days	14 days	Fri 8/2/19	Thu 21/2/19



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

Revised programme for Section D_Dec 17

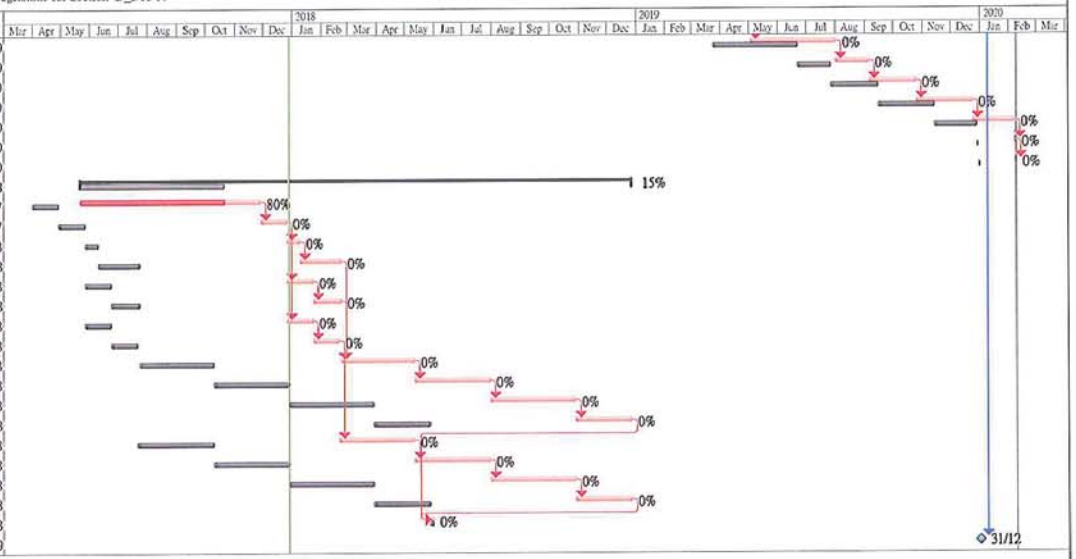
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
60	D.6.1.1.41	Second submission of proposal of glazing and louver	14 days	14 days	Fri 22/2/19	Thu 7/3/19
61	D.6.1.1.42	Approval of glazing and louver	14 days	14 days	Fri 8/3/19	Thu 21/3/19
62	D.6.1.1.43	Procurement to delivery of glazing and louver	45 days	45 days	Fri 22/3/19	Sun 5/5/19
63	D.6.1.1.44	Glazing and louvers installation	80 days	80 days	Tue 4/6/19	Fri 23/8/19
64	D.6.1.1.45	Submission of sump pump system	21 days	21 days	Tue 2/4/19	Mon 22/4/19
65	D.6.1.1.46	Approval to submission of sump pump system	28 days	28 days	Tue 23/4/19	Mon 20/5/19
66	D.6.1.1.47	Procurement to delivery of sump pump	38 days	38 days	Thu 23/5/19	Sat 29/6/19
67	D.6.1.1.48	Installation of sump pump system	20 days	20 days	Fri 5/7/19	Wed 24/7/19
68	D.6.1.1.49	Installation of E&M works	90 days	90 days	Tue 4/6/19	Mon 2/9/19
69	D.6.1.1.50	T&C for lift and submission of form LE5 to EMSD	60 days	60 days	Mon 2/9/19	Fri 1/11/19
70	D.6.1.1.51	Construction of staircase footing	30 days	30 days	Tue 8/10/19	Thu 7/11/19
71	D.6.1.1.52	Construction of staircase	20 days	20 days	Thu 7/11/19	Wed 27/11/19
72	D.6.1.1.53	construction of cover for staircase	20 days	20 days	Wed 27/11/19	Tue 17/12/19
73	D.6.1.1.54	Installation of lighting to staircase	15 days	15 days	Tue 17/12/19	Wed 1/1/20
74	D.6.1.1.55	General tidy up	2 days	2 days	Wed 1/1/20	Fri 3/1/20
75						
76	**D.6.1.2**	**Covered Walkway**	**563 days**	**563 days**	**Sun 17/6/18**	**Tue 31/12/19**
77	D.6.1.2.1	Construction of footing BB1-SB-F4	60 days	60 days	Tue 19/6/18	Sat 18/8/18
78	D.6.1.2.2	Construction of footing BB1-SB-F3	40 days	40 days	Sat 18/8/18	Thu 27/9/18
79	D.6.1.2.3	Construction of tooting BB1-SB-F2, BB1-SB-F1	60 days	60 days	Thu 27/9/18	Mon 26/11/18
80	D.6.1.2.4	Procurement to delivery of drainage material	30 days	30 days	Sat 4/8/18	Sun 2/9/18
81	D.6.1.2.5	Construct the drainage from Manhole D701 to D702	40 days	40 days	Mon 26/11/18	Sat 5/1/19
82	D.6.1.2.6	Construct the drainage from Manhole D702 to D803	60 days	60 days	Sat 5/1/19	Wed 6/3/19
83	D.6.1.2.7	Relocation of street lighting cables and lighting	90 days	90 days	Fri 15/2/19	Thu 16/5/19
84	D.6.1.2.8	Proposal of steel works specialist	28 days	28 days	Fri 14/9/18	Thu 11/10/18
85	D.6.1.2.9	Approval of steelworks specialist	28 days	28 days	Fri 12/10/18	Thu 8/11/18
86	D.6.1.2.10	Submission of off site fabrication of steelworks	28 days	28 days	Fri 9/11/18	Thu 6/12/18
87	D.6.1.2.11	Approval of off site fabrication of steel works	28 days	28 days	Fri 7/12/18	Thu 3/1/19
88	D.6.1.2.12	Off site fabrication of steelworks	60 days	60 days	Fri 4/1/19	Mon 4/3/19
89	D.6.1.2.13	construction of columns for covered walkway	75 days	75 days	Tue 16/4/19	Sun 30/6/19
90	D.6.1.2.14	Design submission of roof structure	35 days	35 days	Mon 14/1/19	Sun 17/2/19
91	D.6.1.2.15	Approval to design of roof structure	28 days	28 days	Mon 18/2/19	Sun 17/3/19
92	D.6.1.2.16	Material submission of roof panels	28 days	28 days	Mon 21/1/19	Sun 17/2/19
93	D.6.1.2.17	Approval of material submission of roof panels	28 days	28 days	Mon 18/2/19	Sun 17/3/19
94	D.6.1.2.18	Procurement to delivery of roof panels	51 days	51 days	Mon 18/3/19	Tue 7/5/19
95	D.6.1.2.19	construction of roof structures of covered walkway	64 days	64 days	Fri 31/5/19	Sat 3/8/19
96	D.6.1.2.20	construction of paving blocks to covered walkway	53 days	53 days	Sat 3/8/19	Wed 25/9/19
97	D.6.1.2.21	Installation of lighting to covered walkway and bridges	30 days	30 days	Wed 25/9/19	Fri 25/10/19
98	D.6.1.2.22	Connection of bridge drainage to manholes	21 days	21 days	Tue 15/10/19	Tue 5/11/19
99	D.6.1.2.23	Construction of water points	20 days	20 days	Tue 5/11/19	Mon 25/11/19
100	D.6.1.2.24	Connection of water to irrigation pipes	2 days	2 days	Mon 25/11/19	Wed 27/11/19
101	D.6.1.2.25	Construction of Paving blocks to other area	35 days	35 days	Wed 27/11/19	Wed 1/1/20
102	D.6.1.2.26	General tidy up	1 day	1 day	Wed 1/1/20	Thu 2/1/20
103						
104	**D.6.1.3**	**Works in TKOT Carriageway**	**1044 days**	**850.79 days**	**Sat 1/4/17**	**Sat 8/2/20**
105	D.6.1.3.1	Excavation Permit for drainage works in TKOT carriageway	232 days	0 days	Sat 1/4/17	Sat 18/11/17
106	D.6.1.3.2	Application of TTA for drainage works in TKOT carriageway	165 days	165 days	Sat 1/4/17	Tue 12/9/17
107	D.6.1.3.3	Road works advice	14 days	14 days	Wed 13/9/17	Tue 26/9/17
108	D.6.1.3.4	Implementation of TTA for drainage works in Southbound carriageway	1 day	1 day	Wed 27/9/17	Wed 27/9/17
109	D.6.1.3.5	Drainage from Manhole D601 to D607	80 days	80 days	Sun 19/11/17	Tue 6/2/18
110	D.6.1.3.6	Drainage works from Manhole D607 to D803	80 days	80 days	Wed 7/2/18	Fri 27/4/18
111	D.6.1.3.7	Construction of bus bay island	45 days	45 days	Sat 28/4/18	Mon 11/6/18
112	D.6.1.3.8	Reconstruction of Concrete Pavement	55 days	55 days	Tue 12/6/18	Sun 5/8/18
113	D.6.1.3.9	Road Marking	17 days	17 days	Sun 29/7/18	Tue 14/8/18
114	D.6.1.3.10	completion of works in TKOT Southbound carriageway	1 day	1 day	Tue 14/8/18	Tue 14/8/18
115	D.6.1.311	Road Works Advice for TTA in Northbound carriageway	14 days	14 days	Thu 31/5/18	Wed 13/6/18
116	D.6.1.3.12	Implementation of TTA for drainage works in Northbound carriageway	1 day	1 day	Wed 15/8/18	Wed 15/8/18
117	D.6.1.3.13	Utilitiies Detection	1 day	0 days	Sat 4/8/18	Sat 4/8/18
118	D.6.1.3.14	Inspection Pit to locate existing utilities	21 days	21 days	Sun 5/8/18	Sat 25/8/18
119	D.6.1.3.15	Diversion of utilities	160 days	160 days	Sun 26/8/18	Fri 1/2/19
120	D.6.1.3.16	Drainage works D401 to D410	90 days	90 days	Sat 2/2/19	Thu 2/5/19



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

Revised programme for Section D_Dec 17

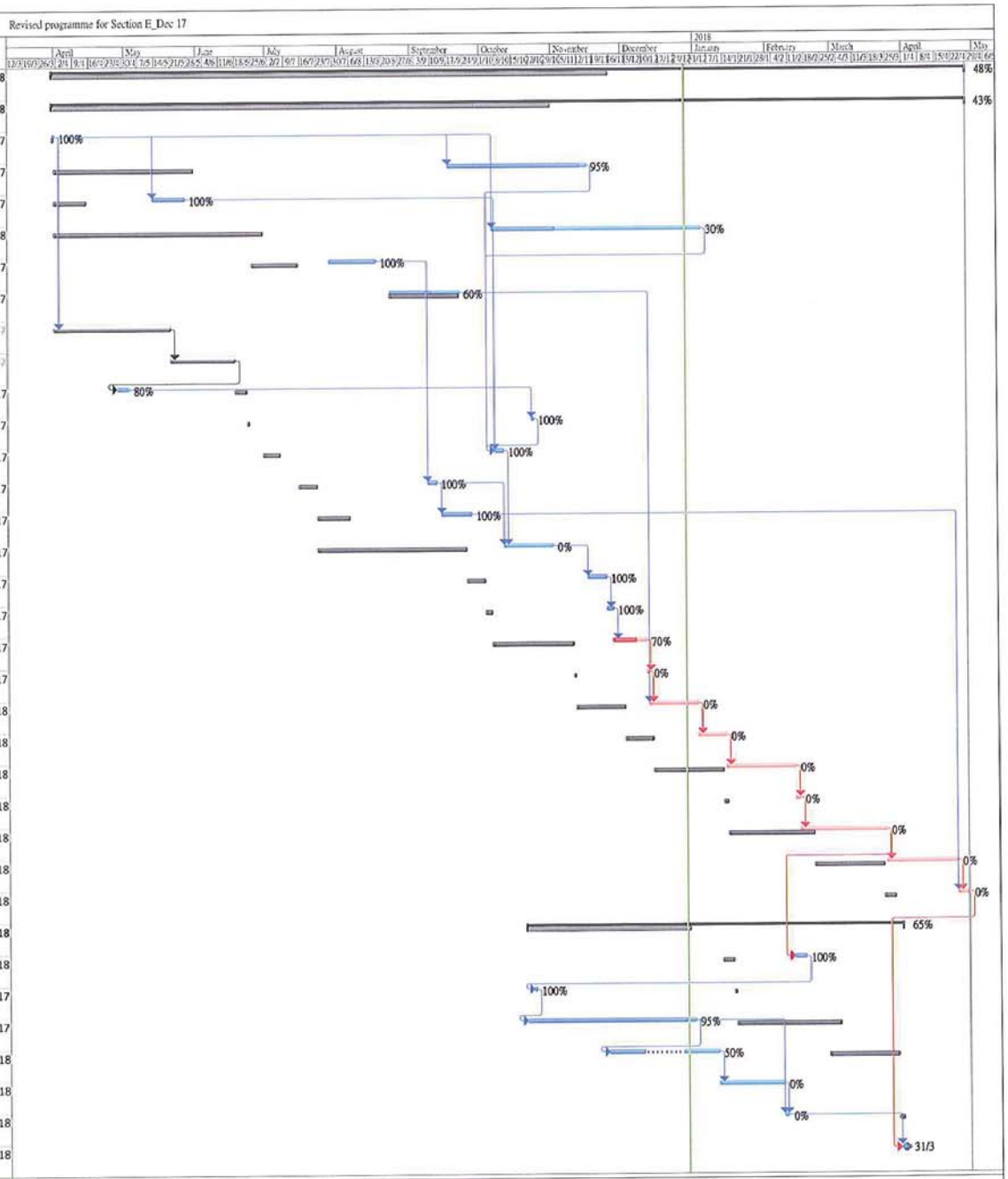
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
121	D.6.1.3.17	Drainage works D410 to D419	90 days	90 days	Fri 3/5/19	Wed 31/7/19
122	D.6.1.3.18	Drainage works D301	35 days	35 days	Thu 1/8/19	Wed 4/9/19
123	D.6.1.3.19	Construction of kerb for Bus Bay kerb island	50 days	50 days	Thu 5/9/19	Thu 24/10/19
124	D.6.1.3.20	Laying of Subbase and pavement for Bus Bay	60 days	60 days	Fri 25/10/19	Mon 23/12/19
125	D.6.1.3.21	Remaining Road Marking and signage	45 days	45 days	Tue 24/12/19	Thu 6/2/20
126	D.6.1.3.22	General tidy up	1 day	1 day	Fri 7/2/20	Fri 7/2/20
127	D.6.1.3.23	Completion of Works	1 day	1 day	Sat 8/2/20	Sat 8/2/20
128	**D.6.1.4**	**AUTOTOLL**	**584 days**	**496.2 days**	**Mon 22/5/17**	**Wed 26/12/18**
129	D.6.1.4.1	Proposal of Specialist for MTC and ETC system	190 days	38 days	Mon 22/5/17	Mon 27/11/17
130	D.6.1.4.2	Approval of Specialist for MTC and ETC system	28 days	28 days	Tue 28/11/17	Mon 25/12/17
131	D.6.1.4.3	Material submission of Autotoll System	14 days	14 days	Tue 26/12/17	Mon 8/1/18
132	D.6.1.4.4	Approval of material submission of autotoll system	44 days	44 days	Tue 9/1/18	Wed 21/2/18
133	D.6.1.4.5	Statuory submission of Auto Toll system	28 days	28 days	Tue 26/12/17	Mon 22/1/18
134	D.6.1.4.6	Approval of Auto Toll System	30 days	30 days	Tue 23/1/18	Wed 21/2/18
135	D.6.1.4.7	Method statement submission of Swapping of autotoll system	28 days	28 days	Tue 26/12/17	Mon 22/1/18
136	D.6.1.4.8	Approval of method statement of swapping of autotoll system	28 days	28 days	Tue 23/1/18	Mon 19/2/18
137	D.6.1.4.9	Activation of manual toll system of Lane 2	78 days	78 days	Thu 22/2/18	Thu 10/5/18
138	D.6.1.4.10	Deactivation of autotoll system in Lane 2	80 days	80 days	Fri 11/5/18	Sun 29/7/18
139	D.6.1.4.11	Inatallation and activation of autotoll system in Lane 1	90 days	90 days	Mon 30/7/18	Sat 27/10/18
140	D.6.1.4.12	Testing and commissioning of autotoll and manual toll system	60 days	60 days	Sun 28/10/18	Wed 26/12/18
141	D.6.1.4.13	Activation of manual toll system of Lane 11	80 days	80 days	Tue 20/2/18	Thu 10/5/18
142	D.6.1.4.14	Deactivation of autotoll system in Lane 11	80 days	80 days	Fri 11/5/18	Sun 29/7/18
143	D.6.1.4.15	Inatallation and activation of autotoll system in Lane 1	90 days	90 days	Mon 30/7/18	Sat 27/10/18
144	D.6.1.4.16	Testing and commissioning of autotoll and manual toll system	60 days	60 days	Sun 28/10/18	Wed 26/12/18
145	D.6.1.4.17	General tidy up	3 days	3 days	Mon 28/5/18	Wed 30/5/18
146	D.6.1.4.18	Completion of works	0 days	0 days	Tue 31/12/19	Tue 31/12/19



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

Revised programme for Section E_Dec 17

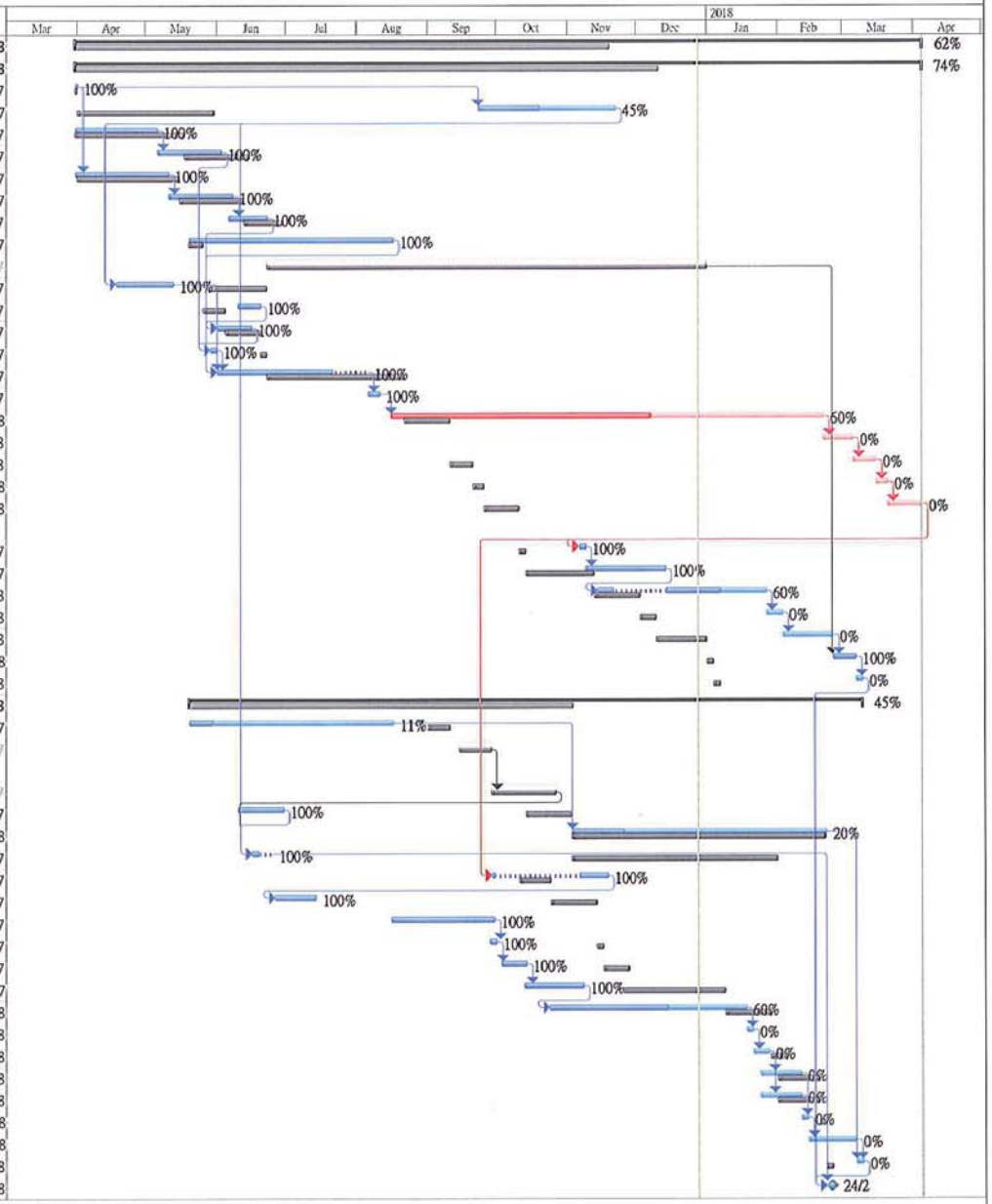
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	E.7.1	**SECTION E - HIKING TRAILS (JORDAN SECTION & CHOI WAN SECTION)**	**393 days**	**202.63 days**	**Fri 31/3/17**	**Fri 27/4/18**
2	E.7.1.1	**CONSTRUCTION OF HIKING TRAIL (Jordan section)**	**393 days**	**223.44 days**	**Fri 31/3/17**	**Fri 27/4/18**
3	E.7.1.1.1	Access Date of Portion 7	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	E.7.1.1.2	Initial Survey of Site (Jordan and Choi Wan Section)	60 days	3 days	Sun 17/9/17	Wed 15/11/17
5	E.7.1.1.3	Tree survey and submission (Jordan and Choi Wan Section)	14 days	0 days	Sat 13/5/17	Fri 26/5/17
6	E.7.1.1.4	Mobilization of plant, access , equipment, material	90 days	63 days	Fri 6/10/17	Wed 3/1/18
7	E.7.1.1.5	Submission of construction impact assessment	20 days	0 days	Fri 28/7/17	Wed 16/8/17
8	E.7.1.1.6	Procurement to delivery of soil nails	30 days	12 days	Wed 23/8/17	Thu 21/9/17
9	E.7.1.1.7	Submission of method statement of excavation of slope	50 days	50 days	Sat 1/4/17	Sat 20/5/17
10	E.7.1.1.8	Approval of Method Statement of excavation of slope	28 days	28 days	Sun 21/5/17	Sat 17/6/17
11	E.7.1.1.9	Construction of Hoarding	5 days	1 day	Fri 28/4/17	Tue 2/5/17
12	E.7.1.1.10	Utilities detection	1 day	0 days	Mon 23/10/17	Mon 23/10/17
13	E.7.1.1.11	Construction of confirmation Trial Pit TP1	4 days	0 days	Sat 7/10/17	Tue 10/10/17
14	E.7.1.1.12	Construction of confirmation borehole J1-BH1	4 days	0 days	Fri 8/9/17	Mon 11/9/17
15	E.7.1.1.13	Construct borehole J1-BH2 and test samples	13 days	0 days	Thu 14/9/17	Tue 26/9/17
16	E.7.1.1.14	Excavation of slope and drainage construction	21 days	21 days	Wed 11/10/17	Tue 31/10/17
17	E.7.1.1.15	Erection of tubular platform for soil nails	8 days	0 days	Thu 16/11/17	Thu 23/11/17
18	E.7.1.1.16	Setting out of soil nails	3 days	0 days	Fri 24/11/17	Sun 26/11/17
19	E.7.1.1.17	Construction of Test nails TN1 and TN2	14 days	4.2 days	Mon 27/11/17	Sun 10/12/17
20	E.7.1.1.18	Pull out tests for TN1 and TN2	1 day	1 day	Mon 11/12/17	Mon 11/12/17
21	E.7.1.1.19	Construction of soil nails (45nrs)	21 days	21 days	Tue 12/12/17	Mon 1/1/18
22	E.7.1.1.20	Construction of soil nail heads	12 days	12 days	Tue 2/1/18	Sat 13/1/18
23	E.7.1.1.21	Construction of staircase	30 days	30 days	Sun 14/1/18	Mon 12/2/18
24	E.7.1.1.22	Hydroseeding of slope	2 days	2 days	Tue 13/2/18	Wed 14/2/18
25	E.7.1.1.23	Construction of hiking trail	37 days	37 days	Thu 15/2/18	Fri 23/3/18
26	E.7.1.1.24	Construction of Planter walls with planting	30 days	30 days	Sat 24/3/18	Sun 22/4/18
27	E.7.1.1.25	General tidy up	5 days	5 days	Mon 23/4/18	Fri 27/4/18
28	E.7.1.2	**CONSTRUCTION OF HIKING TRAIL (Choi Wan section)**	**162 days**	**57.05 days**	**Fri 20/10/17**	**Sat 31/3/18**
29	E.7.1.2.1	Erection of hoarding	5 days	0 days	Mon 12/2/18	Fri 16/2/18
30	E.7.1.2.2	Utilities detection	1 day	0 days	Mon 23/10/17	Mon 23/10/17
31	E.7.1.2.3	Construction of hiking trail	72 days	3.6 days	Fri 20/10/17	Sat 30/12/17
32	E.7.1.2.4	Construction of planter walls with planting	30 days	15 days	Fri 24/11/17	Tue 9/1/18
33	E.7.1.2.4a	Landscaping Works (PMI 33)	28 days	28 days	Wed 10/1/18	Tue 6/2/18
34	E.7.1.2.5	General tidy up	2 days	2 days	Wed 7/2/18	Thu 8/2/18
35	E.7.1.2.6	Completion of Works	0 days	0 days	Sat 31/3/18	Sat 31/3/18



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

Revised programme for Section F_Dec 17

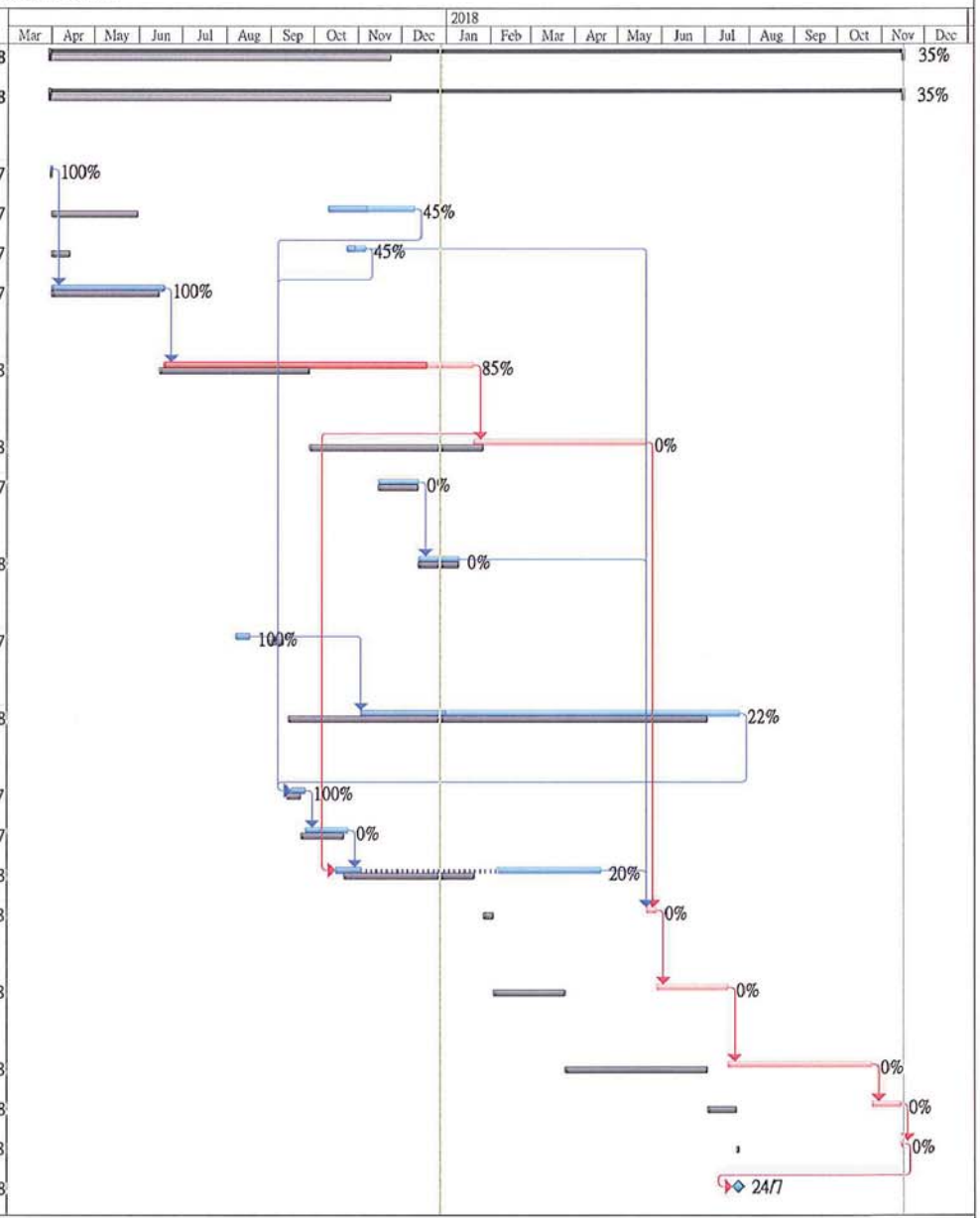
ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	F.8.1	**SECTION F - ENTRUSTED SLOPES (SITE A & SITE B)**	**370 days**	**139.57 days**	**Fri 31/3/17**	**Wed 4/4/18**
2	F.8.1.1	**CONSTRUCTION OF SOIL NAILS IN SITE B**	**370 days**	**97.85 days**	**Fri 31/3/17**	**Wed 4/4/18**
3	F.8.1.1.1	Access Date of Portion 8	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	F.8.1.1.2	Initial Site Survey for site A and Site B	60 days	33 days	Sat 23/9/17	Tue 21/11/17
5	F.8.1.1.3	Submission of method statement of soil nailing works	36 days	0 days	Fri 31/3/17	Fri 5/5/17
6	F.8.1.1.4	Approval of method statement of soil nailing works	28 days	0 days	Sat 6/5/17	Fri 2/6/17
7	F.8.1.1.5	Material submission of soil nailing system	41 days	0 days	Fri 31/3/17	Wed 10/5/17
8	F.8.1.1.6	Approval of material for soil nailing system	28 days	0 days	Thu 11/5/17	Wed 7/6/17
9	F.8.1.1.7	Procurement to delivery of soil nails system	17 days	0 days	Tue 6/6/17	Thu 22/6/17
10	F.8.1.1.8	Submission of Construction Impact Assessment	89 days	0 days	Sat 20/5/17	Wed 16/8/17
~~11~~	~~F.8.1.1.9~~	~~Monitoring of ground movement and ground water~~	~~192 days~~	~~192 days~~	~~Fri 23/6/17~~	~~Sun 31/12/17~~
12	F.8.1.1.10	General site clrearance	25 days	0 days	Tue 18/4/17	Fri 12/5/17
13	F.8.1.1.11	Tree Survey for slope features 11NE-D/C709, C714, C711	10 days	0 days	Sat 10/6/17	Mon 19/6/17
14	F.8.1.1.12	Erection of tubular Scaffold for slope 11NE-D/C709, C714	15 days	0 days	Thu 1/6/17	Thu 15/6/17
15	F.8.1.1.13	Setting out of soil nails	3 days	0 days	Mon 29/5/17	Wed 31/5/17
16	F.8.1.1.14	Construction of soil nail (198nrs)	50.4 days	0 days	Thu 1/6/17	Sat 5/8/17
17	F.8.1.1.14a	Additional soil nail (13nrs) (PMI 22)	5 days	0 days	Sun 6/8/17	Thu 10/8/17
18	F.8.1.1.15	Construction of soil nail heads	189 days	75.6 days	Wed 16/8/17	Tue 20/2/18
19	F.8.1.1.15a	Additional soil nail heads (13nrs) (PMI 22)	13 days	13 days	Wed 21/2/18	Mon 5/3/18
20	F.8.1.1.16	Construction of sprayed concrete	10 days	10 days	Tue 6/3/18	Thu 15/3/18
21	F.8.1.1.17	Removal of tubular scaffold and tidy up	5 days	5 days	Fri 16/3/18	Tue 20/3/18
22	F.8.1.1.18	Erection of tubular scaffold for slope feature 11NE-D/C711	15 days	15 days	Wed 21/3/18	Wed 4/4/18
23	F.8.1.1.19	Setting out of soil nails	3 days	0 days	Mon 6/11/17	Wed 8/11/17
24	F.8.1.1.20	Construction of soil nails (82nrs)	35 days	0 days	Thu 9/11/17	Wed 13/12/17
25	F.8.1.1.21	Construction of soil nails heads	51 days	20.4 days	Tue 14/11/17	Fri 26/1/18
26	F.8.1.1.22	Removal of tubular scaffold and tidy up	7 days	7 days	Sat 27/1/18	Fri 2/2/18
27	F.8.1.1.23	Laying of non-biodegradable control mat	22 days	22 days	Sat 3/2/18	Sat 24/2/18
28	F.8.1.1.24	hydroseeding of slope	10 days	0 days	Sun 25/2/18	Tue 6/3/18
29	F.8.1.1.25	General tidy up site	3 days	3 days	Wed 7/3/18	Fri 9/3/18
30	F.8.1.2	**CONSTRUCTION OF SOIL NAILS IN SITE A**	**294 days**	**162.14 days**	**Sat 20/5/17**	**Fri 9/3/18**
31	F.8.1.2.1	Submission of Construction Impact Assessment	89 days	79 days	Sat 20/5/17	Wed 16/8/17
~~32~~	~~F.8.1.2.2~~	~~Submission of method statement of demolition of terrace~~	~~14 days~~	~~14 days~~	~~Fri 15/9/17~~	~~Thu 28/9/17~~
~~33~~	~~F.8.1.2.3~~	~~Approval to method statement of demolition of terrace~~	~~28 days~~	~~28 days~~	~~Fri 29/9/17~~	~~Thu 26/10/17~~
34	F.8.1.2.4	Tree Survey	20 days	0 days	Sat 10/6/17	Thu 29/6/17
35	F.8.1.2.5	Monitoring of ground movement and ground water	111 days	88.8 days	Fri 3/11/17	Wed 21/2/18
36	F.8.1.2.6	Demolition of existing terrace structure	3 days	0 days	Fri 16/6/17	Sat 24/6/17
37	F.8.1.2.7	Erection of Tubular Platform	14 days	0 days	Fri 29/9/17	Sat 18/11/17
38	F.8.1.2.8	Stripping of 500mm thick top soil	18 days	0 days	Mon 26/6/17	Thu 13/7/17
39	F.8.1.2.8a	Verification Inspection Pits (PMI 14)	45 days	0 days	Wed 16/8/17	Fri 29/9/17
40	F.8.1.2.9	Setting out of soil nails	3 days	0 days	Thu 28/9/17	Sat 30/9/17
41	F.8.1.2.10	Pull Out Test (4 nrs)	11 days	0 days	Tue 3/10/17	Fri 13/10/17
42	F.8.1.2.11	Construction of soil nail (162nrs)	26 days	0 days	Fri 13/10/17	Tue 7/11/17
43	F.8.1.2.12	Construction of soil nail heads	86 days	34.4 days	Tue 24/10/17	Wed 17/1/18
44	F.8.1.2.12a	Remove of Dead Tree Stump (PMI 28)	3 days	3 days	Thu 18/1/18	Sat 20/1/18
45	F.8.1.2.13	Removal of tubular scaffold and tidy up	7 days	7 days	Sun 21/1/18	Sat 27/1/18
46	F.8.1.2.14	Laying of biodegradable control mat	18 days	18 days	Wed 24/1/18	Sat 10/2/18
47	F.8.1.2.15	Construction of granite stone wall	18 days	18 days	Wed 24/1/18	Sat 10/2/18
48	F.8.1.2.16	Hydroseeding of slope	3 days	3 days	Sun 11/2/18	Tue 13/2/18
49	F.8.1.2.16a	Erection of Chain Fence	21 days	21 days	Wed 14/2/18	Tue 6/3/18
50	F.8.1.2.17	General tidy up site	3 days	3 days	Wed 7/3/18	Fri 9/3/18
51	F.8.1.2.18	Completion of Works	0 days	0 days	Sat 24/2/18	Sat 24/2/18



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

Revised programme for Section F1_Dec 17

ITEM	ID	Task Name	Duration	Remaining Duration	Start	Finish
1	F1.9.1	**SECTION F1 - FLEXIBLE BARRIER**	**595 days**	**388.28 days**	**Fri 31/3/17**	**Thu 15/11/18**
2	F1.9.1.1	**CONSTRUCTION OF Flexible barriers near Tiu King Leng**	**595 days**	**388.28 days**	**Fri 31/3/17**	**Thu 15/11/18**
3	F1.9.1.1.1	Access Date for Portion 9	1 day	0 days	Fri 31/3/17	Fri 31/3/17
4	F1.9.1.1.2	Initial Site Survey	60 days	33 days	Wed 11/10/17	Sat 9/12/17
5	F1.9.1.1.3	Initial Tree Survey	13 days	7.15 days	Tue 24/10/17	Sun 5/11/17
6	F1.9.1.1.4	Material and design submission for flexible barrier systems	78 days	0 days	Sat 1/4/17	Sat 17/6/17
7	F1.9.1.1.5	Approval to material and design submission for flexible barrier system	216 days	32.4 days	Sun 18/6/17	Fri 19/1/18
8	F1.9.1.1.6	Procurement of flexible barriers	121 days	121 days	Sat 20/1/18	Sun 20/5/18
9	F1.9.1.1.7	Submission of method statement for Flexible barrier construction	28 days	28 days	Wed 15/11/17	Tue 12/12/17
10	F1.9.1.1.8	Approval of method statement for flexible barrier construction	28 days	28 days	Wed 13/12/17	Tue 9/1/18
11	F1.9.1.1.9	Submission of construction impact assessment	10 days	0 days	Mon 7/8/17	Wed 16/8/17
12	F1.9.1.1.10	Monitoring of vibration and ground water level	264 days	205.4 days	Fri 3/11/17	Tue 24/7/18
13	F1.9.1.1.11	Construction of piezometers (2nr) (PMI 4)	10 days	0 days	Fri 15/9/17	Sun 24/9/17
14	F1.9.1.1.12	Ground Investigation works	30 days	30 days	Mon 25/9/17	Tue 24/10/17
15	F1.9.1.1.13	Construction of Baffles	91 days	72.8 days	Mon 16/10/17	Wed 18/4/18
16	F1.9.1.1.14	General site clearance for Flexible barriers	7 days	7 days	Mon 21/5/18	Sun 27/5/18
17	F1.9.1.1.15	Erection of tubular platform for flexible barrier construction	50 days	50 days	Mon 28/5/18	Mon 16/7/18
18	F1.9.1.1.16	Erection of flexible barriers	100 days	100 days	Tue 17/7/18	Wed 24/10/18
19	F1.9.1.1.17	Removal of platform	20 days	20 days	Thu 25/10/18	Tue 13/11/18
20	F1.9.1.1.18	General tidy up	2 days	2 days	Wed 14/11/18	Thu 15/11/18
21	F1.9.1.1.19	Completion of works	0 days	0 days	Tue 24/7/18	Tue 24/7/18



Appendix D

Monitoring Locations for Impact Monitoring

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.
ALL RIGHTS RESERVED
© DVE ARUP

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

COPYRIGHT RESERVED

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

0 25 50 75 100 125
METRES
1 : 5000

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

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.
ALL RIGHTS RESERVED.
© OVE ARUP & PARTNERS HONG KONG LIMITED.

AMS-3

AMS-4

AMS-5

AMS-6

HVS in AMS-5 for 24-Hour TSP

HVS in AMS-6 for 24-Hour TSP

Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 2 of 3)

Drawing no.	Rev.
227724/E/1046	B

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

COPYRIGHT RESERVED

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

0 25 50 75 100 125
METRES
1 : 5000

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

HVS in AMS-7 for 24-Hour TSP

Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 3 of 3)

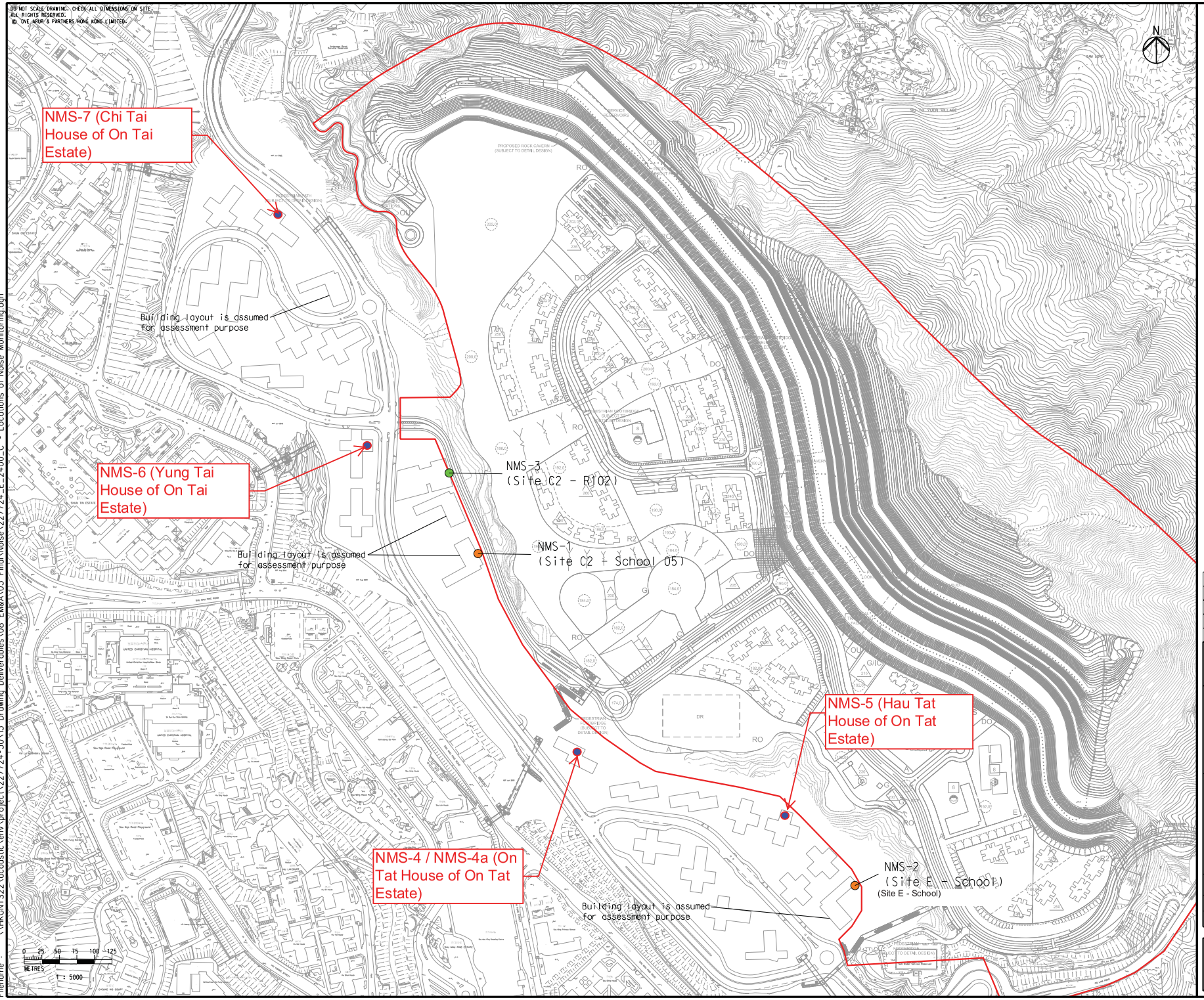
Drawing no.			Rev.
227724/E/1047			B
Drawn GL	Date 03/14	Checked TC	Approved ST
Scale 1:5000 @A3		Status PRELIMINARY	

COPYRIGHT RESERVED

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

DO NOT SCALE DRAWING. CHECK ALL DIMENSIONS ON SITE.
ALL RIGHTS RESERVED.
© ove arup & partners hong kong limited.



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

COPYRIGHT RESERVED

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

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
Location ID : AMS1
Model:TISCH High Volume Air Sampler TE-5170

Date of Calibration: 29-Mar-18
Next Calibration Date: 28-May-18
Technician: Mr. Ip Ka Hing

CONDITIONS

Sea Level Pressure (hPa)	1014.3	Corrected Pressure (mm Hg)	760.725
Temperature (°C)	22.9	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	TE-5025A	Qstd Intercept ->	-0.03691
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	2.1	9.1	11.2	1.682	52	52.21	Slope = 32.5367
13	1.0	8.6	9.6	1.558	49	49.20	Intercept = -2.0561
10	-0.3	8.1	7.8	1.406	44	44.18	Corr. coeff. = 0.9981
7	-1.8	6.4	4.6	1.084	32	32.13	
5	-2.5	4.9	2.4	0.788	24	24.10	

Calculations :

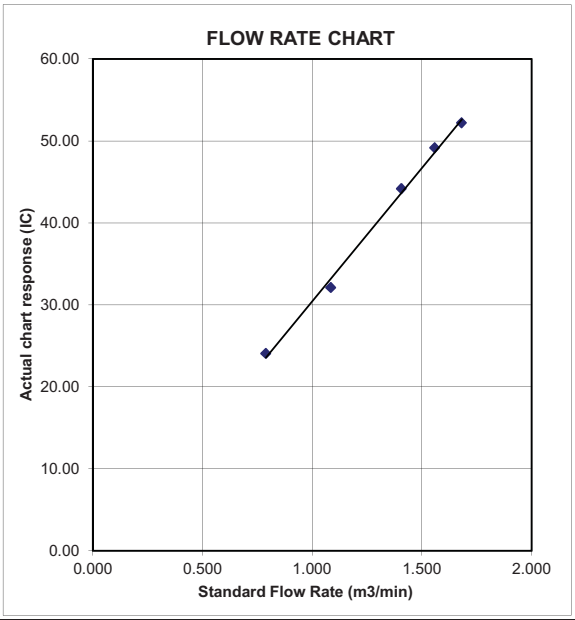
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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: 29-Mar-18
Location ID : AMS 5	Next Calibration Date: 28-May-18
Model:TISCH High Volume Air Sampler TE-5170	Technician: Mr. Ip Ka Hing

CONDITIONS

Sea Level Pressure (hPa)	1014.3	Corrected Pressure (mm Hg)	760.725
Temperature (°C)	22.9	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	TE-5025A	Qstd Intercept ->	-0.03691
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	1.2	9.5	10.7	1.644	52	52.21	Slope = 30.4250
13	0.1	8.3	8.4	1.459	47	47.19	Intercept = 2.5336
10	-1.1	7.3	6.2	1.256	41	41.16	Corr. coeff. = 0.9994
7	-2.3	6.1	3.8	0.987	32	32.13	
5	-3.0	5.3	2.3	0.772	26	26.10	

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)

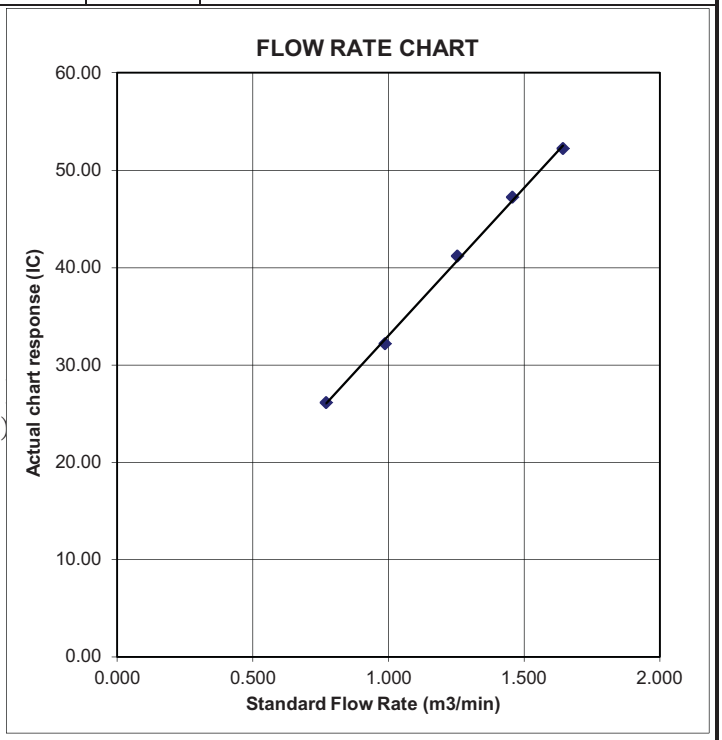
m = sampler slope

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: 29-Mar-18
Location ID : AMS 6	Next Calibration Date: 28-May-18
Model:TISCH High Volume Air Sampler TE-5170	Technician: Mr. Ip Ka Hing

CONDITIONS

Sea Level Pressure (hPa)	1014.3	Corrected Pressure (mm Hg)	760.725
Temperature (°C)	22.9	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	TE-5025A	Qstd Intercept ->	-0.03691
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	1.0	9.0	10	1.590	54	54.22	Slope = 29.3822
13	-0.1	7.9	7.8	1.406	50	50.20	Intercept = 8.2735
10	-1.1	7.1	6	1.236	45	45.18	Corr. coeff. = 0.9980
7	-2.2	6	3.8	0.987	37	37.15	
5	-2.9	5.3	2.4	0.788	31	31.12	

Calculations :

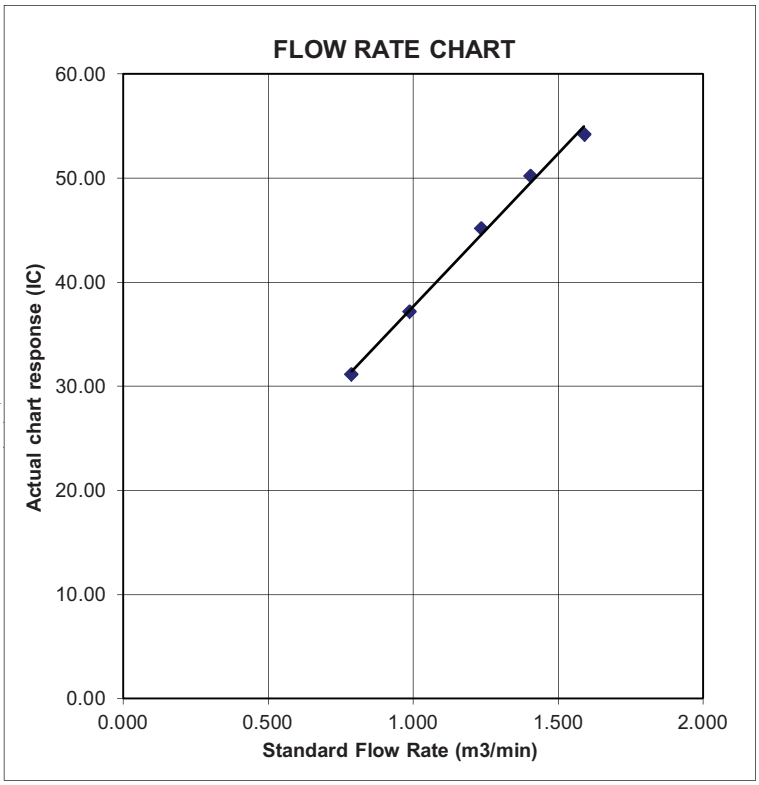
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

For subsequent calculation of sampler flow:

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

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



TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Ma Yau Tong Village
Location ID : AMS 7
Model:TISCH High Volume Air Sampler TE-5170

Date of Calibration: 29-Mar-18
Next Calibration Date: 28-May-18
Technician: Mr. Ip Ka Hing

CONDITIONS

Sea Level Pressure (hPa)	1014.3	Corrected Pressure (mm Hg)	760.725
Temperature (°C)	22.9	Temperature (K)	296

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.02017
Model->	TE-5025A	Qstd Intercept ->	-0.03691
Serial # ->	1612		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	2.2	9.9	12.1	1.747	50	50.20	Slope = 31.1242
13	0.9	8.7	9.6	1.558	43	43.17	Intercept = -5.0326
10	-0.2	7.6	7.4	1.370	37	37.15	Corr. coeff. = 0.9956
7	-1.5	6.3	4.8	1.107	28	28.11	
5	-2.5	5.4	2.9	0.865	23	23.09	

Calculations :

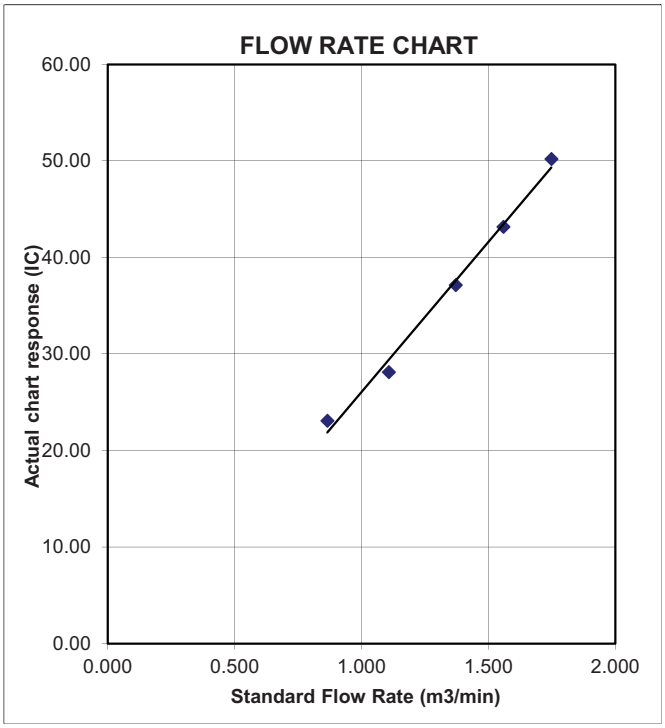
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

www.tisch-env.cor
TOLL FREE: (877)263-761(
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	: **HK1815078**
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	: 5-JAN-2018
		DATE OF ISSUE	: 5-FEB-2018
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.

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	: HK1815078
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.
HK1815078-001	S/N: 366409	AIR	05-Jan-2018	S/N: 366409

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366409
Equipment Ref:	EQ109
Job Order	HK1815078

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	1 December 2017

Equipment Verification Results:

Testing Date: 5 January 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	10:27 ~ 12:34	19.3	1015.3	0.011	474	3.7
2hr01min	12:38 ~ 14:39	19.3	1015.3	0.012	577	4.8
2hr08min	14:42 ~ 16:50	19.3	1015.3	0.036	2097	16.4

Sensitivity Adjustment Scale Setting (Before Calibration) 520 (CPM)

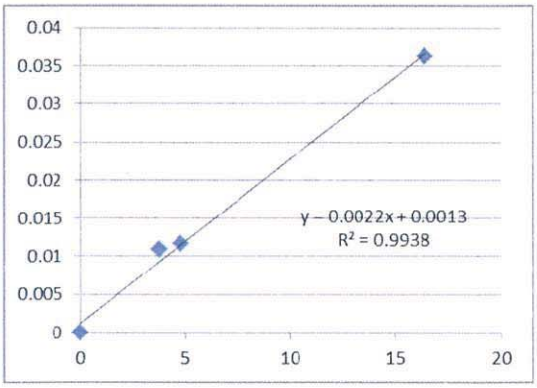
Sensitivity Adjustment Scale Setting (After Calibration) 521 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9967

Date of Issue 9 January 2018



Remarks:

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

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

Operator : Martin Li Signature : Date : 9 January 2018

QC Reviewer : Ben Tam Signature : Date : 9 January 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	1-Dec-17
Location ID :	Calibration Room	Next Calibration Date:	1-Mar-18

CONDITIONS

Sea Level Pressure (hPa)	1018.8	Corrected Pressure (mm Hg)	764.1
Temperature (°C)	21.2	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.3	6.3	12.6	1.703	54	54.49	Slope = 31.2239
13	5	5	10.0	1.518	48	48.44	Intercept = 0.7901
10	3.9	3.9	7.8	1.342	42	42.38	Corr. coeff. = 0.9971
8	2.4	2.4	4.8	1.056	32	32.29	
5	1.0	1.0	2.0	0.686	23	23.21	

Calculations :

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

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

Qstd = standard flow rate

IC = corrected chart respones

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

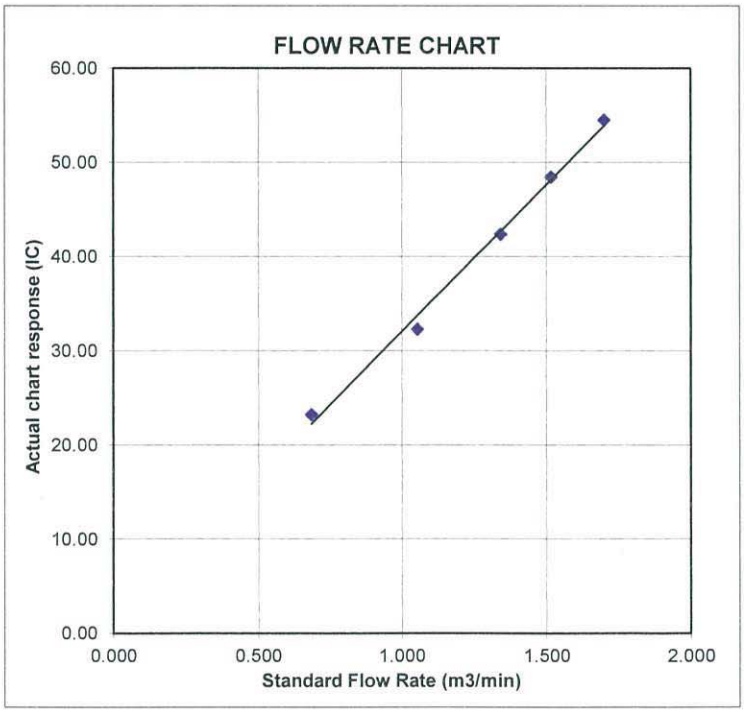
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1815073**
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	: 5-JAN-2018
		DATE OF ISSUE	: 5-FEB-2018
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.

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	: HK1815073
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.
HK1815073-001	S/N: 2X6145	AIR	05-Jan-2018	S/N: 2X6145

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	2X6145
Equipment Ref:	EQ105
Job Order	HK1815073

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	1 December 2017

Equipment Verification Results:

Testing Date: 5 January 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	10:27 ~ 12:34	19.3	1015.3	0.011	511	4.0
2hr01min	12:38 ~ 14:39	19.3	1015.3	0.012	598	4.9
2hr08min	14:42 ~ 16:50	19.3	1015.3	0.036	2111	16.5

Sensitivity Adjustment Scale Setting (Before Calibration) 583 (CPM)

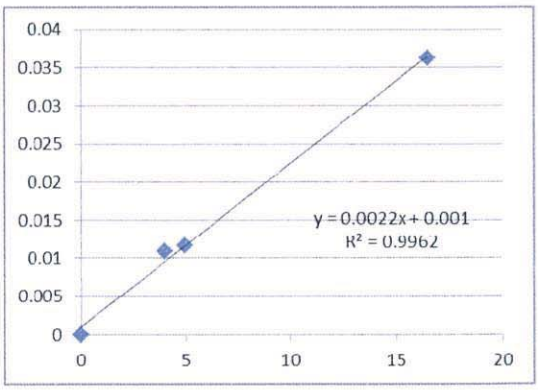
Sensitivity Adjustment Scale Setting (After Calibration) 583 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9981

Date of Issue 9 January 2018



Remarks:

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

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

Operator : Martin Li Signature : Date : 9 January 2018

QC Reviewer : Ben Tam Signature : Date : 9 January 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	1-Dec-17
Location ID :	Calibration Room	Next Calibration Date:	1-Mar-18

CONDITIONS

Sea Level Pressure (hPa)	1018.8	Corrected Pressure (mm Hg)	764.1
Temperature (°C)	21.2	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.3	6.3	12.6	1.703	54	54.49	Slope = 31.2239
13	5	5	10.0	1.518	48	48.44	Intercept = 0.7901
10	3.9	3.9	7.8	1.342	42	42.38	Corr. coeff. = 0.9971
8	2.4	2.4	4.8	1.056	32	32.29	
5	1.0	1.0	2.0	0.686	23	23.21	

Calculations :

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

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

Qstd = standard flow rate

IC = corrected chart respones

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

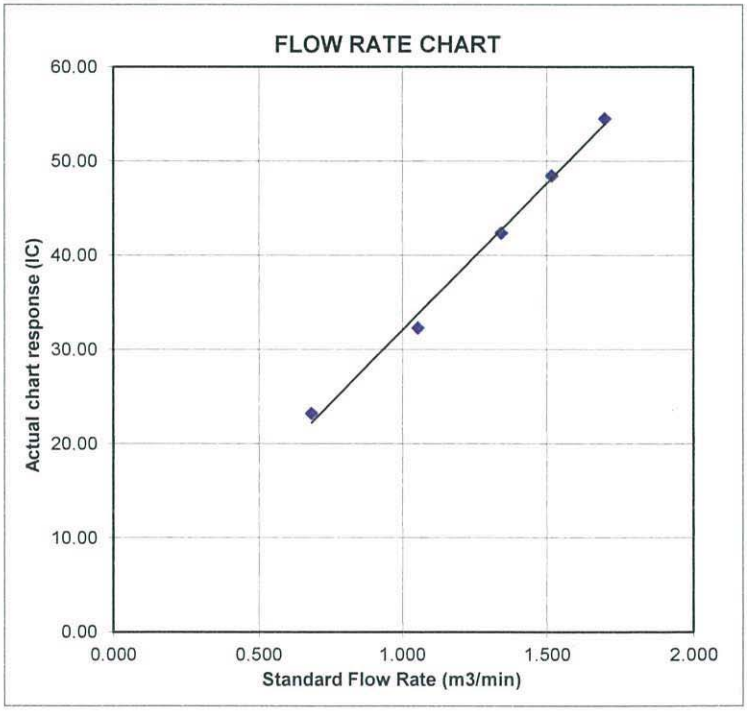
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1815077**
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	: 5-JAN-2018
		DATE OF ISSUE	: 5-FEB-2018
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.

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	: HK1815077
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.
HK1815077-001	S/N: 3Y6503	AIR	05-Jan-2018	S/N: 3Y6503

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6503
Equipment Ref:	EQ112
Job Order	HK1815077

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	1 December 2017

Equipment Verification Results:

Testing Date: 5 January 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	10:27 ~ 12:34	19.3	1015.3	0.011	521	4.1
2hr01min	12:38 ~ 14:39	19.3	1015.3	0.012	674	5.6
2hr08min	14:42 ~ 16:50	19.3	1015.3	0.036	2077	16.3

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

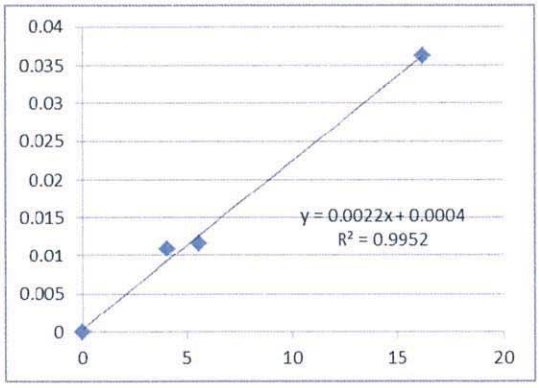
Sensitivity Adjustment Scale Setting (After Calibration) 661 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9976

Date of Issue 9 January 2018



Remarks:

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

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

Operator : Martin Li Signature : Date : 9 January 2018

QC Reviewer : Ben Tam Signature : Date : 9 January 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	1-Dec-17
Location ID :	Calibration Room	Next Calibration Date:	1-Mar-18

CONDITIONS

Sea Level Pressure (hPa)	1018.8	Corrected Pressure (mm Hg)	764.1
Temperature (°C)	21.2	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.3	6.3	12.6	1.703	54	54.49	Slope = 31.2239
13	5	5	10.0	1.518	48	48.44	Intercept = 0.7901
10	3.9	3.9	7.8	1.342	42	42.38	Corr. coeff. = 0.9971
8	2.4	2.4	4.8	1.056	32	32.29	
5	1.0	1.0	2.0	0.686	23	23.21	

Calculations :

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

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

Qstd = standard flow rate

IC = corrected chart respones

I = actual chart response

m = calibrator Qstd slope

b = calibrator Qstd intercept

Ta = actual temperature during calibration (deg K)

Pstd = actual pressure during calibration (mm Hg)

For subsequent calculation of sampler flow:

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

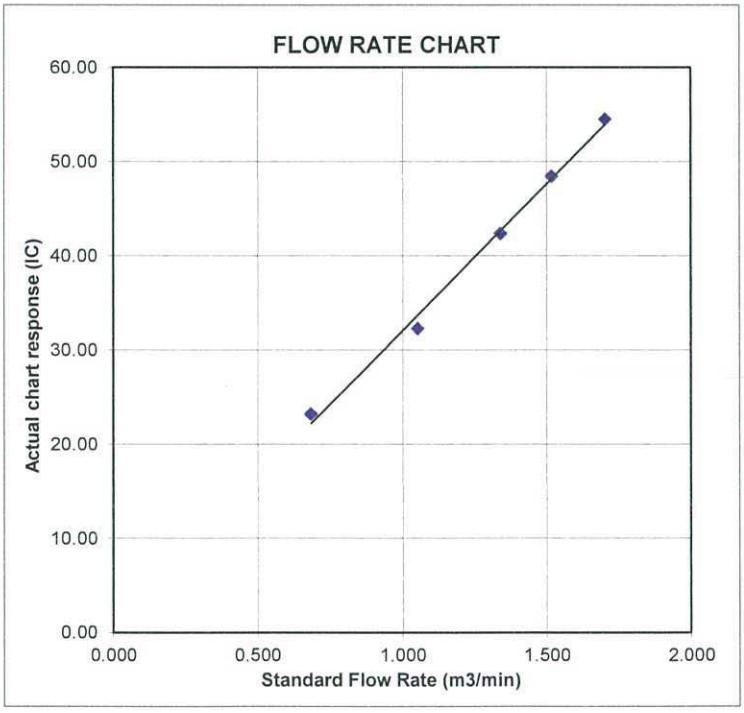
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	: **HK1815072**
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	: 5-JAN-2018
		DATE OF ISSUE	: 5-FEB-2018
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.

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	: HK1815072
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.
HK1815072-001	S/N: 366410	AIR	05-Jan-2018	S/N: 366410

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366410
Equipment Ref:	EQ110
Job Order	HK1815072

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	1 December 2017

Equipment Verification Results:

Testing Date: 5 January 2018

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr07min	10:27 ~ 12:34	19.3	1015.3	0.011	498	3.9
2hr01min	12:38 ~ 14:39	19.3	1015.3	0.012	571	4.7
2hr08min	14:42 ~ 16:50	19.3	1015.3	0.036	2095	16.4

Sensitivity Adjustment Scale Setting (Before Calibration) 670 (CPM)

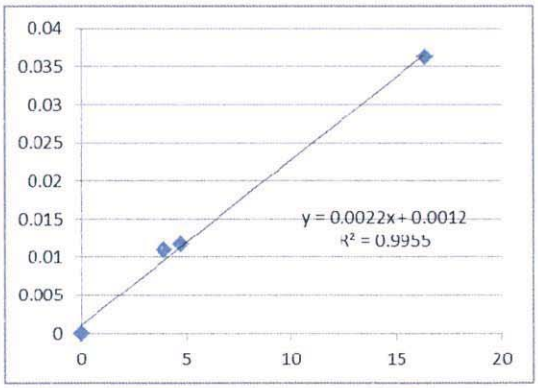
Sensitivity Adjustment Scale Setting (After Calibration) 669 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9977

Date of Issue 9 January 2018



Remarks:

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

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

Operator : Martin Li Signature : Date : 9 January 2018

QC Reviewer : Ben Tam Signature : Date : 9 January 2018

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	1-Dec-17
Location ID :	Calibration Room	Next Calibration Date:	1-Mar-18

CONDITIONS

Sea Level Pressure (hPa)	1018.8	Corrected Pressure (mm Hg)	764.1
Temperature (°C)	21.2	Temperature (K)	294

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.11965
Model->	5025A	Qstd Intercept ->	-0.02696
Calibration Date->	28-Feb-17	Expiry Date->	28-Feb-18

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.3	6.3	12.6	1.703	54	54.49	Slope = 31.2239
13	5	5	10.0	1.518	48	48.44	Intercept = 0.7901
10	3.9	3.9	7.8	1.342	42	42.38	Corr. coeff. = 0.9971
8	2.4	2.4	4.8	1.056	32	32.29	
5	1.0	1.0	2.0	0.686	23	23.21	

Calculations :

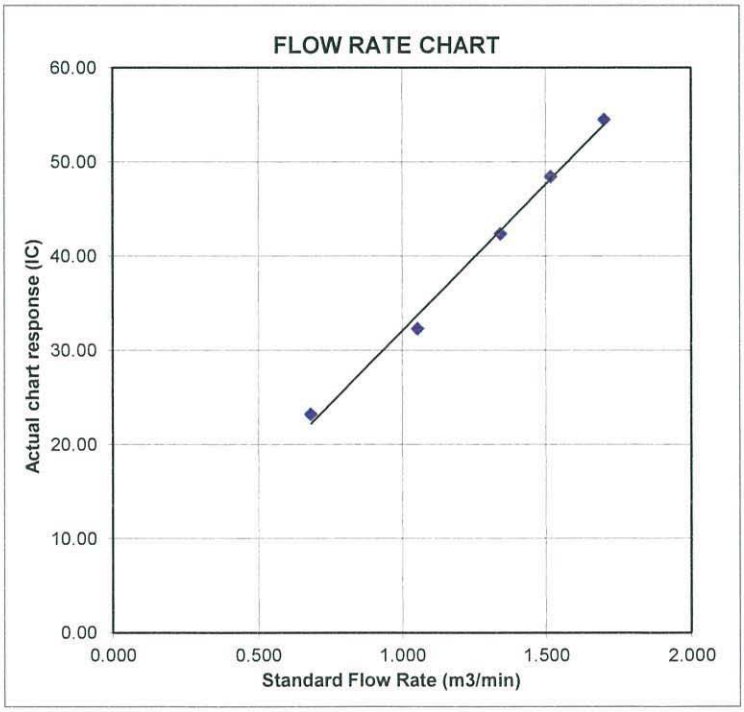
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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

For subsequent calculation of sampler flow:

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

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



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

Certificate of Calibration
校正證書

Certificate No. : C174098
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 14 July 2017

Description / 儀器名稱 : Integrating Sound Level Meter (EQ010)
Manufacturer / 製造商 : Brüel & Kjær
Model No. / 型號 : 2238
Serial No. / 編號 : 2285721
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 22 July 2017

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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong
Technical Officer

Certified By 核證 : K C Lee
Engineer

Date of Issue 簽發日期 : 25 July 2017

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Certificate of Calibration
校正證書

Certificate No. : C174098
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. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C170048
CL281	Multifunction Acoustic Calibrator	PA160023

4. Test procedure : MA101N.

5. Results :

5.1 Sound Pressure Level

5.1.1 Reference Sound Pressure Level

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

5.1.2 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		114.0

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

5.2 Time Weighting

5.2.1 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			94.1	± 0.1

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

Certificate of Calibration
校正證書

Certificate No. : C174098
證書編號

5.2.2 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

5.3 Frequency Weighting

5.3.1 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	77.7	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.8	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

5.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.2	-3.0 ± 1.5
					63 Hz	93.3	-0.8 ± 1.5
					125 Hz	93.9	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.1	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.9	-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)

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

Certificate of Calibration
校正證書

Certificate No. : C174098
證書編號

5.4 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	90.1	± 0.5
			60 sec.			$1/10^3$		80	79.9	± 1.0
			5 min.			$1/10^4$		70	69.8	± 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.

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

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

Certificate of Calibration
校正證書

Certificate No. : C172791
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC17-0924) Date of Receipt / 收件日期 : 16 May 2017

Description / 儀器名稱 : Sound Level Calibrator (EQ084)
Manufacturer / 製造商 : Cesva
Model No. / 型號 : CB-5
Serial No. / 編號 : 030023
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 : (55 ± 20)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 23 May 2017

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
- Agilent Technologies / Keysight Technologies
- Rohde & Schwarz Laboratory, Germany
- Fluke Everett Service Center, USA

Tested By 測試 : H T Wong, Technical Officer

Certified By 核證 : K C Lee, Engineer

Date of Issue 簽發日期 : 24 May 2017

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

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

Certificate of Calibration
校正證書

Certificate No. : C172791
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	C163709
CL281	Multifunction Acoustic Calibrator	PA160023
TST150A	Measuring Amplifier	C161175

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	93.8	± 0.3	± 0.2
104 dB, 1 kHz	103.9		± 0.3

5.2 Frequency Accuracy

UUT Nominal Value (kHz)	Measured Value (kHz)	Mfr's Spec.	Uncertainty of Measured Value (Hz)
1	0.994	1 kHz ± 1.5 %	± 1

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

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

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

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, Tsing Shan Wan Exchange Building, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 – 校正及檢測實驗所
c/o 香港新界屯門興安里一號青山灣機樓四樓
Tel/電話: 2927 2606 Fax/傳真: 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

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

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

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

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

Environmental Testing
環境測試

This laboratory is accredited in accordance with the recognised International Standard ISO / IEC 17025 : 2005.
本實驗所乃根據公認的國際標準 ISO / IEC 17025 : 2005 獲得認可。
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory
這項認可資格演示在指定範疇所需的技術能力及實驗所質量管理體系的運作
quality management system (see joint IAF-ILAC-ISO Communiqué).
(見國際認可論壇、國際實驗所認可合作組織及國際標準化組織的聯合公報)。

The common seal of the Hong Kong Accreditation Service is affixed hereto by the authority of the HKAS Executive
香港認可處根據認可處執行機關的權限在此蓋上通用印章

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

Registration Number : HOKLAS 066
註冊號碼：

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

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

L 000552

Appendix F

Event and Action Plan

Event / Action Plan for construction dust

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Action Level exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, ER and Contractor; 3. Repeat measurement to confirm finding; and 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; and 3. Review and advise the ET and ER on the effectiveness of the proposed remedial measures.	1. Notify Contractor.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Rectify any unacceptable practice and implement remedial measures; and 3. Amend working methods agreed with ER if appropriate.
Action Level exceedance for two or more consecutive samples	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC, ER and Contractor; 3. Advise the ER and Contractor on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC, ER and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; and 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET and ER on the effectiveness of the proposed remedial measures; and 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 3. Implement the agreed proposals; and 4. Amend proposal if appropriate.
Limit Level exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor, IEC and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; and 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET, ER and Contractor on possible remedial measures; 4. Advise the ER and ET on the effectiveness of the proposed remedial measures; and 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; and 3. Supervise and ensure remedial measures properly implemented.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; and 5. Amend proposal if appropriate.
Limit Level exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC, Contractor and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the ET and IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise and ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Take immediate action to avoid further exceedance; 3. Submit proposals for remedial actions to ER with a copy to ET and IEC within 3 working days of notification; 4. Implement the agreed proposals; 5. Resubmit proposals if problem still not under control; and 6. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Event and Action Plan for Construction Noise

Event	Action			
	ET	**IEC**	**ER**	**Contractor**
Action Level Exceedance	1. Notify IEC, ER and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC, ER and Contractor; 4. Discuss with the Contractor and formulate remedial measures; and 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the analysed results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; and 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; and 4. Ensure remedial measures are properly implemented.	1. Submit noise mitigation proposals to IEC and ER; and 2. Implement noise mitigation proposals.
Limit Level Exceedance	1. Identify source; 2. Inform IEC, ER, EPD and Contractor; 3. Repeat measurements to confirm findings; 4. Increase monitoring frequency; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Inform IEC, ER and EPD the causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; and 8. If exceedance stops, cease additional monitoring.	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; and 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analysed noise problem; 4. Ensure remedial measures properly implemented; and 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; and 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix G

Impact Monitoring Schedule

Impact Monitoring Schedule for the Reporting Period

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

✓	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
Tue	1-May-18			
Wed	2-May-18			✓
Thu	3-May-18	✓	✓	
Fri	4-May-18			
Sat	5-May-18			
Sun	6-May-18			
Mon	7-May-18			
Tue	8-May-18			✓
Wed	9-May-18	✓	✓	
Thu	10-May-18			
Fri	11-May-18			
Sat	12-May-18			
Sun	13-May-18			
Mon	14-May-18			✓
Tue	15-May-18	✓	✓	
Wed	16-May-18			
Thu	17-May-18			
Fri	18-May-18			
Sat	19-May-18			✓
Sun	20-May-18			
Mon	21-May-18	✓	✓	
Tue	22-May-18			
Wed	23-May-18			
Thu	24-May-18			✓
Fri	25-May-18			
Sat	26-May-18		✓	
Sun	27-May-18			
Mon	28-May-18			
Tue	29-May-18			✓
Wed	30-May-18	✓	✓	
Thu	31-May-18			

✓	Monitoring Day
	Sunday or Public Holiday

Appendix H

Database of Monitoring Result

24-hour TSP Database

24-hour TSP Monitoring Data for AMS-1

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	($\mu g/m^3$)
3-Apr-18	22413	19375.34	19398.85	1410.60	38	40	39.0	20.8	1014.2	1.27	1793	2.6654	2.8198	0.1544	86
9-Apr-18	22395	19398.85	19423.21	1461.60	37	39	38.0	21.8	1013.1	1.24	1808	2.6690	2.8069	0.1379	76
14-Apr-18	22450	19423.21	19447.59	1462.80	38	41	39.5	21.9	1013.6	1.28	1878	2.6703	2.7617	0.0914	49
20-Apr-18	22364	19447.59	19472.16	1474.20	38	40	39.0	23.7	1011.5	1.26	1862	2.6719	2.8313	0.1594	86
26-Apr-18	22514	19472.16	19496.33	1450.20	39	40	39.5	23.8	1012.6	1.28	1855	2.6952	2.7673	0.0721	39

24-hour TSP Monitoring Data for AMS-5

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	($\mu g/m^3$)
3-Apr-18	22412	5752.15	5776.02	1432.20	38	41	39.5	20.8	1014.2	1.22	1754	2.6558	2.7143	0.0585	33
9-Apr-18	22284	5776.02	5800.74	1483.20	22	28	25.0	21.8	1013.1	0.74	1102	2.6937	2.7511	0.0574	52
14-Apr-18	22417	5800.74	5824.61	1432.20	40	42	41.0	21.9	1013.6	1.27	1821	2.6689	2.7039	0.0350	19
20-Apr-18	22484	5824.61	5848.51	1434.00	40	40	40.0	23.7	1011.5	1.23	1768	2.6638	2.7809	0.1171	66
26-Apr-18	22488	5848.51	5872.32	1428.60	38	40	39.0	23.8	1012.6	1.20	1715	2.6819	2.7209	0.0390	23

24-hour TSP Monitoring Data for AMS-6

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	($\mu g/m^3$)
3-Apr-18	22411	10992.53	11016.77	1454.40	37	43	40.0	20.8	1014.2	1.09	1585	2.6608	2.7413	0.0805	51
9-Apr-18	22453	11016.77	11041.19	1465.20	44	44	44.0	21.8	1013.1	1.22	1793	2.6626	2.7773	0.1147	64
14-Apr-18	22416	11041.19	11065.02	1429.80	54	54	54.0	21.9	1013.6	1.57	2239	2.6689	2.7339	0.0650	29
20-Apr-18	22485	11065.02	11088.80	1426.80	44	45	44.5	23.7	1011.5	1.23	1762	2.6733	2.7866	0.1133	64
26-Apr-18	22489	11088.80	11112.68	1432.80	39	40	39.5	23.8	1012.6	1.06	1526	2.6604	2.7455	0.0851	56

24-hour TSP Monitoring Data for AMS-7

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	($\mu g/m^3$)
3-Apr-18	22414	6390.74	6415.07	1459.80	37	41	39.0	20.8	1014.2	1.42	2079	2.6631	2.7330	0.0699	34
9-Apr-18	22281	6415.07	6438.94	1432.20	32	36	34.0	21.8	1013.1	1.26	1804	2.6945	2.7722	0.0777	43
14-Apr-18	22415	6438.94	6463.20	1455.60	41	41	41.0	21.9	1013.6	1.49	2163	2.6639	2.7180	0.0541	25
20-Apr-18	22486	6463.20	6487.53	1459.80	35	39	37.0	23.7	1011.5	1.35	1974	2.6649	2.7412	0.0763	39
26-Apr-18	22545	6487.53	6511.27	1424.40	28	28	28.0	23.8	1012.6	1.06	1514	2.6765	2.7358	0.0593	39

Noise Database

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)
		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)	
4-Apr-18	11:21	71.7	74.6	67.9	70.6	73.2	68.8	72.9	74.7	68.8	72.7	74.4	67.6	71.3	75.9	68.3	71.4	74.5	67.2	72
10-Apr-18	13:51	75.6	78.0	70.5	76.7	79.0	72.0	74.6	77.0	69.5	76.3	79.0	71.5	73.8	76.0	70.0	72.3	74.5	69.0	75
16-Apr-18	10:28	71.6	73.5	67.5	70.7	73.0	67.0	71.1	73.0	68.0	70.4	72.0	68.0	71.6	73.0	69.0	70.8	72.5	66.5	71
27-Apr-18	10:28	71.7	73.5	67.5	72.9	75.5	67.5	66.5	69.5	60.0	68.6	70.5	66.0	69.8	72.0	67.0	68.1	69.0	66.5	70

Noise Measurement Results (dB) of NMS5																			
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)
		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)	
4-Apr-18	10:24	59.7	62.4	57.9	63.3	65.2	59.7	64.6	66.2	60.3	64.9	67.7	60.1	65.8	68.9	61.4	65.3	66.1	61.8	64
10-Apr-18	13:08	66.4	68.5	62.0	67.7	70.0	63.5	67.6	70.0	64.0	66.7	69.0	62.5	67.5	69.5	63.5	67.9	70.0	64.5	67
16-Apr-18	11:24	65.6	67.0	63.5	64.8	67.0	62.5	65.4	67.5	62.0	66.2	68.0	63.0	64.8	66.5	62.0	61.7	64.0	58.5	65
27-Apr-18	11:25	59.6	61.5	56.5	58.7	61.0	56.0	58.2	60.0	55.0	58.8	61.0	55.5	58.2	60.0	55.0	58.2	60.0	53.5	59

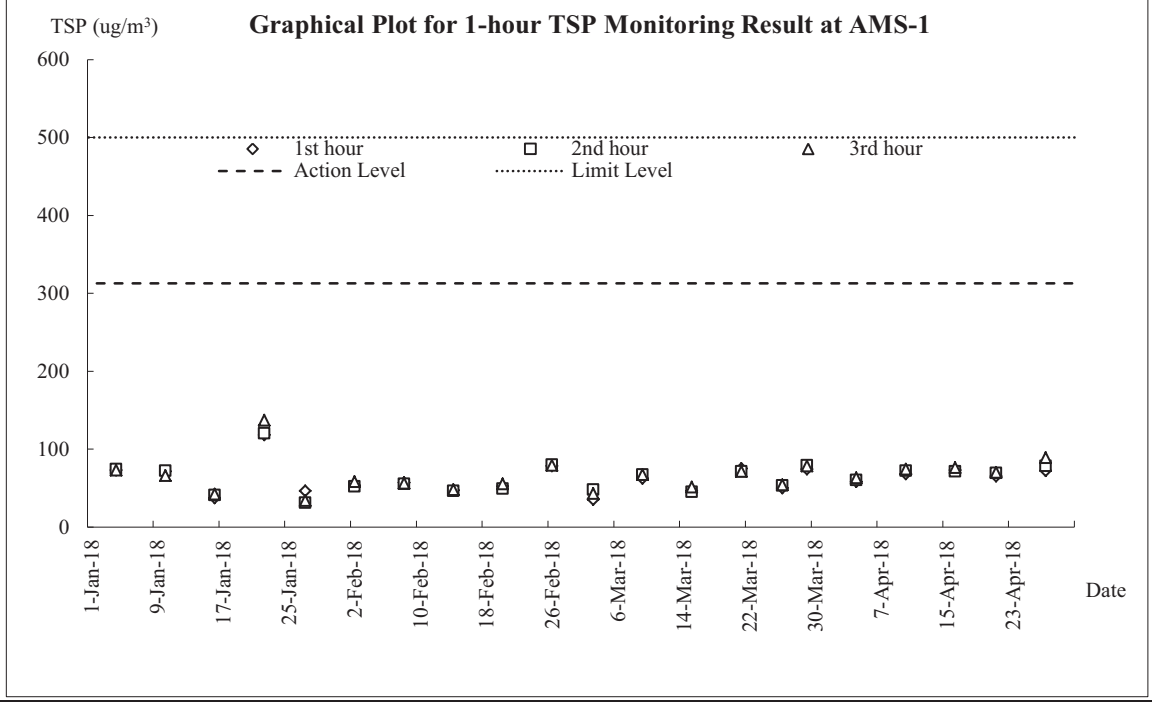
Noise Measurement Results (dB) of NMS6																			
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	
4-Apr-18	13:12	64.1	67.9	60.3	65.8	67.6	61.4	66.2	68.8	61.7	64.3	67.6	62.1	65.3	67.9	62.5	64.8	67.7	61.7	65
10-Apr-18	14:36	66.2	68.5	63.0	64.6	66.0	62.5	64.2	65.5	62.0	64.6	66.0	62.5	64.2	65.5	62.5	65.2	67.5	62.0	65
16-Apr-18	9:43	66.2	68.5	62.5	66.7	68.5	63.0	66.4	68.0	63.0	65.5	67.5	62.0	65.5	67.5	62.5	65.0	67.0	62.0	66
27-Apr-18	9:46	72.0	75.5	63.0	70.7	75.5	63.0	69.6	74.5	62.0	73.8	77.0	64.5	67.9	71.5	62.0	68.5	72.0	60.5	71

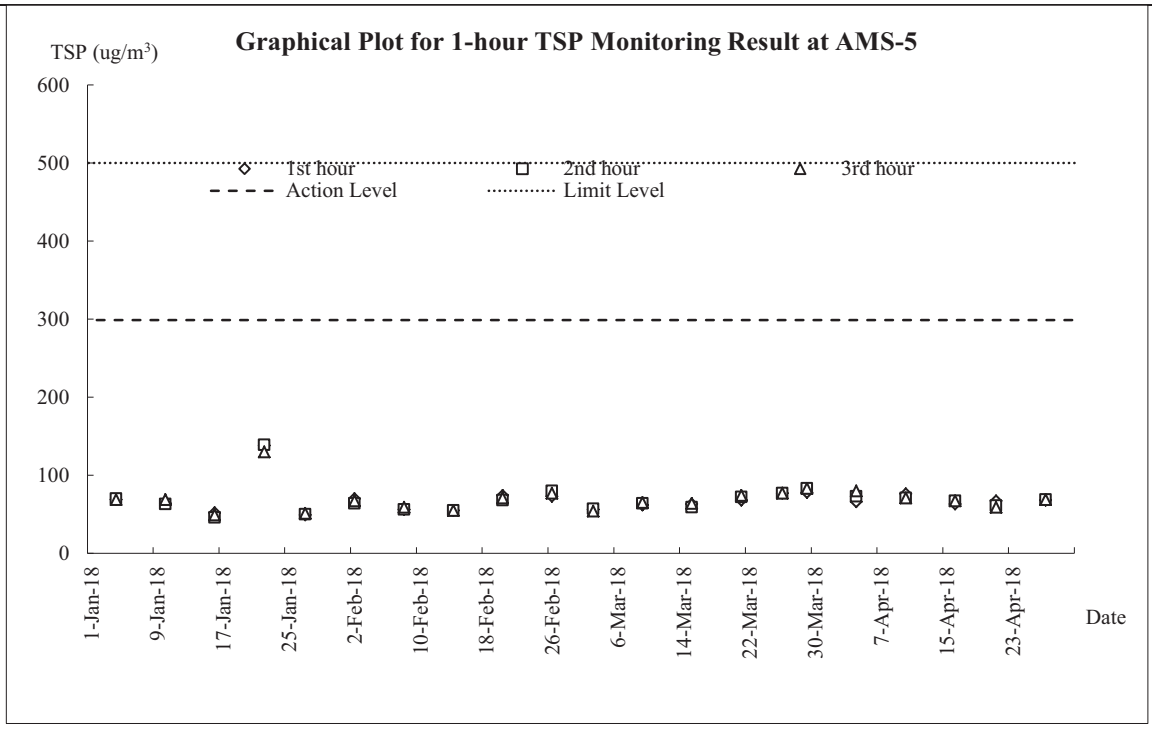
Noise Measurement Results (dB) of NMS7																			
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	
4-Apr-18	14:18	66.2	72.4	61.8	67.3	71.6	62.2	67.9	71.4	61.3	66.2	71.8	62.4	65.9	69.7	61.5	66.3	71.6	61.7	67
10-Apr-18	15:18	66.5	69.0	61.5	67.5	70.5	62.0	68.1	71.0	62.5	65.9	68.5	61.5	64.4	67.0	60.5	65.6	68.0	61.0	67
16-Apr-18	9:00	64.8	68.5	55.5	65.2	68.5	58.5	70.4	73.5	63.5	68.3	72.0	61.0	67.8	72.0	57.5	68.1	71.0	61.5	68
27-Apr-18	9:03	67.2	71.5	58.0	64.3	67.0	51.5	57.9	60.0	53.0	62.6	65.0	58.5	62.3	64.0	59.0	61.2	63.0	58.5	63

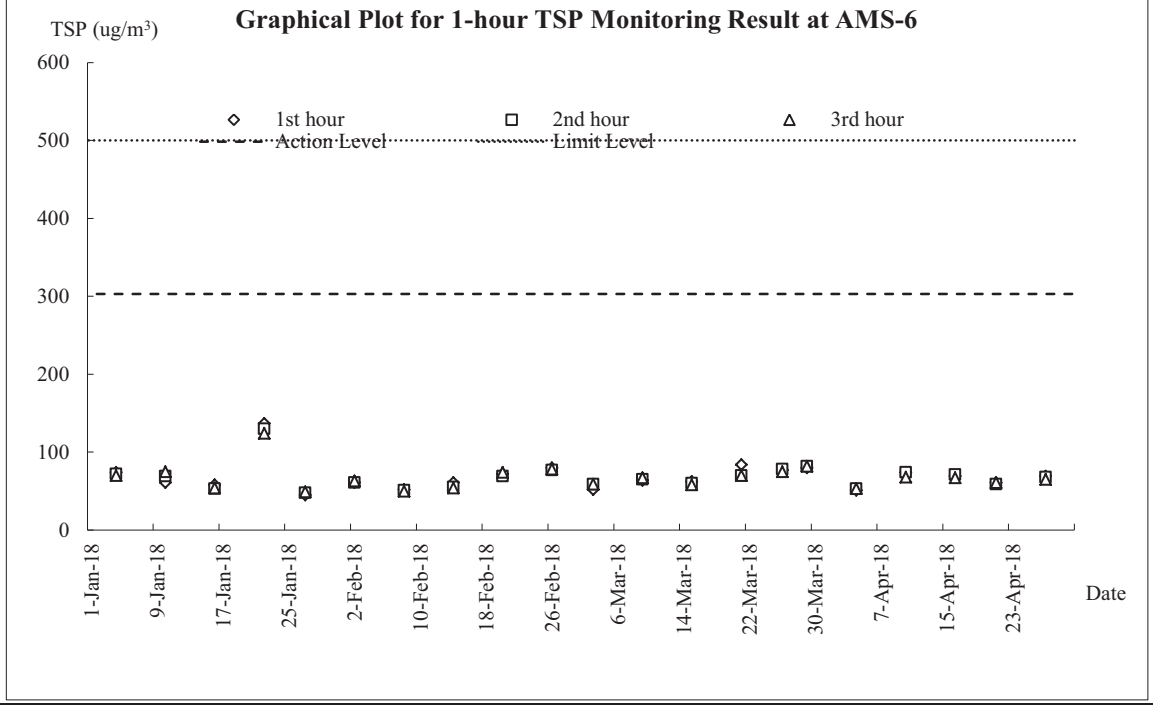
Appendix I

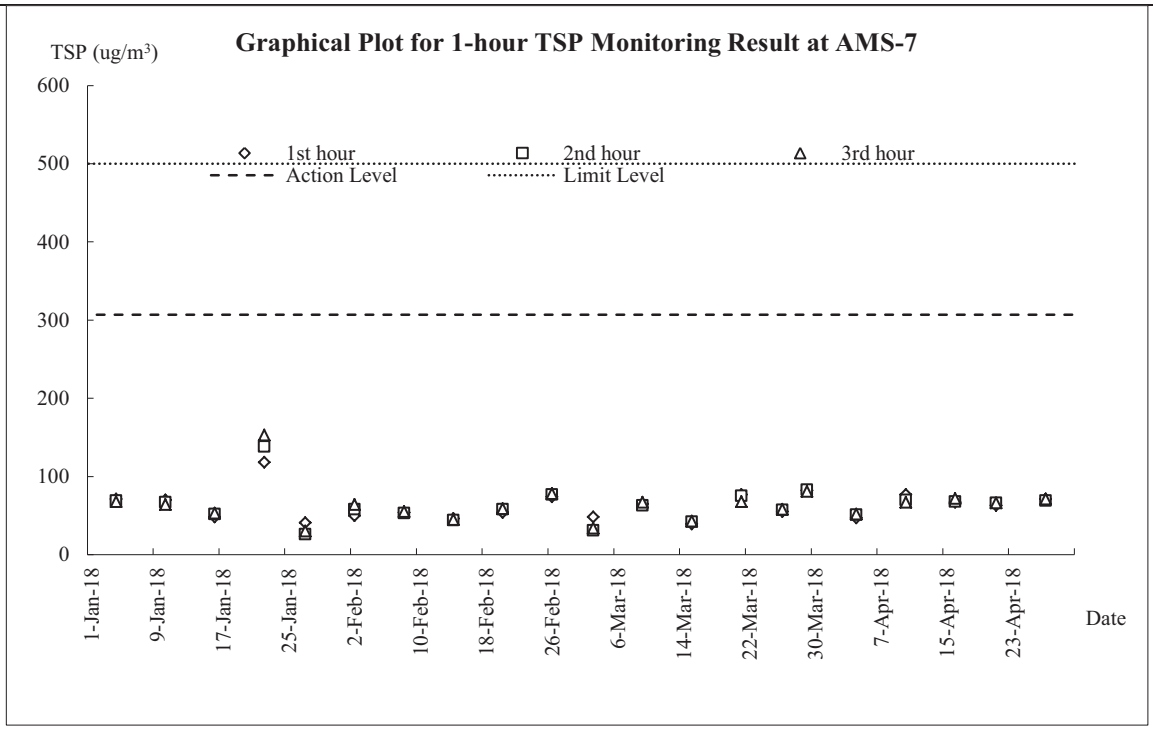
Graphical Plots for Monitoring Result

Air Quality – 1-hour TSP

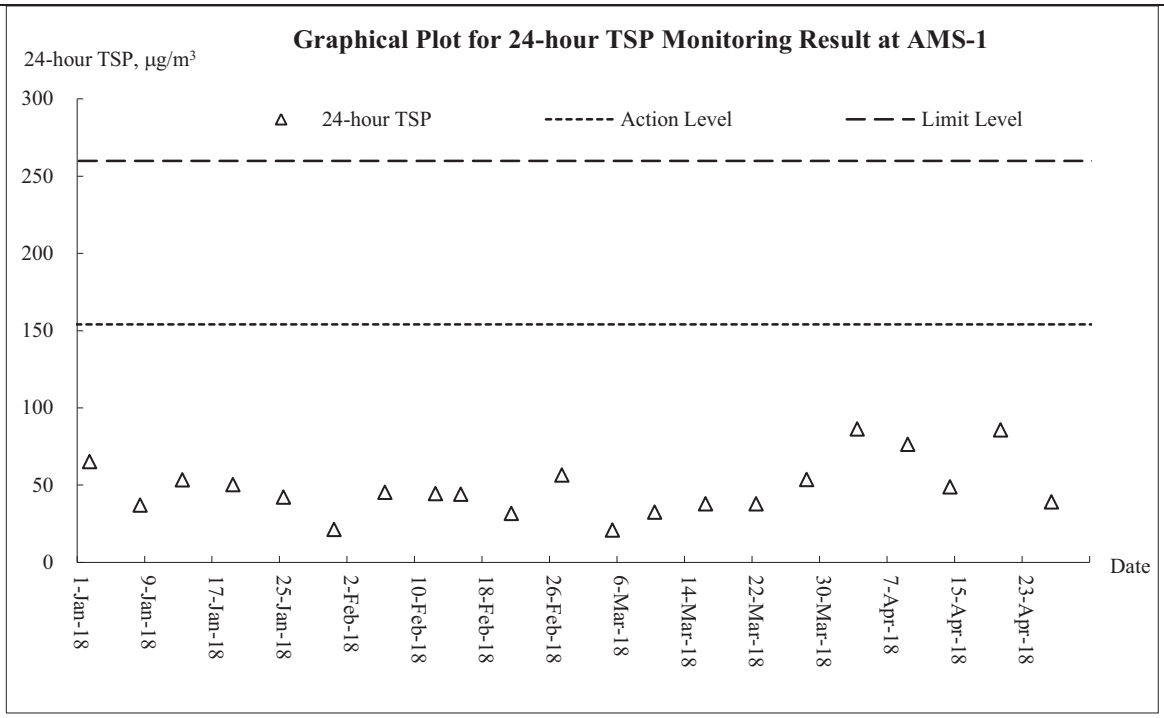


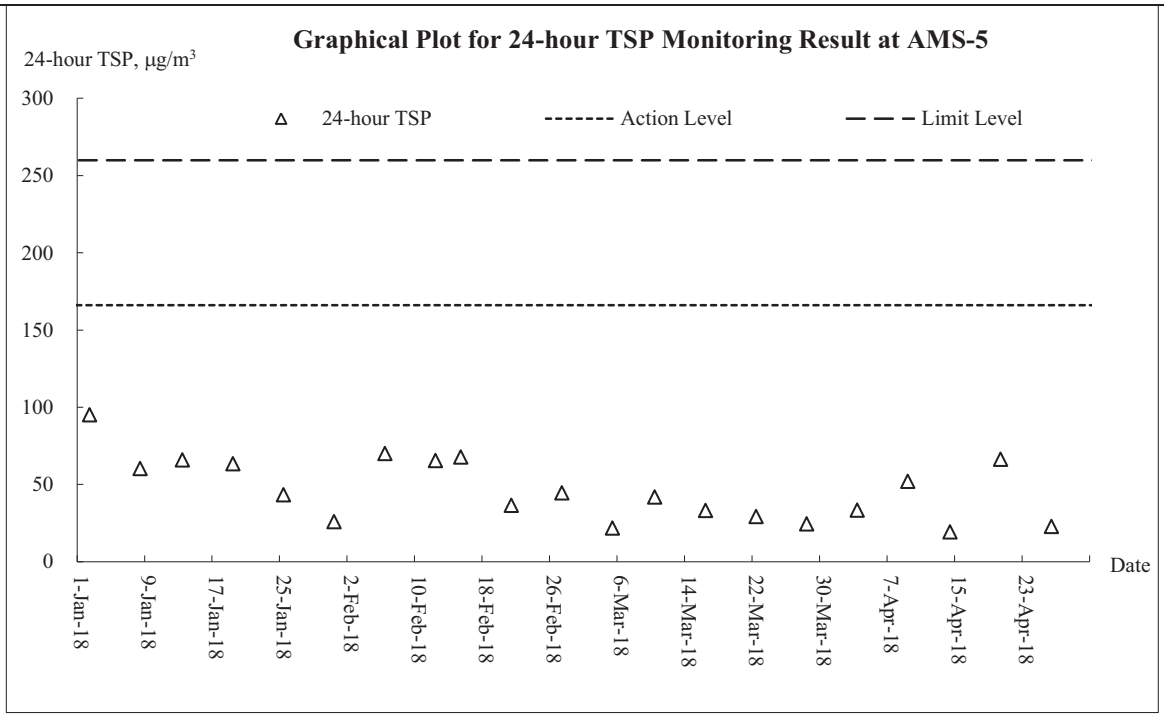


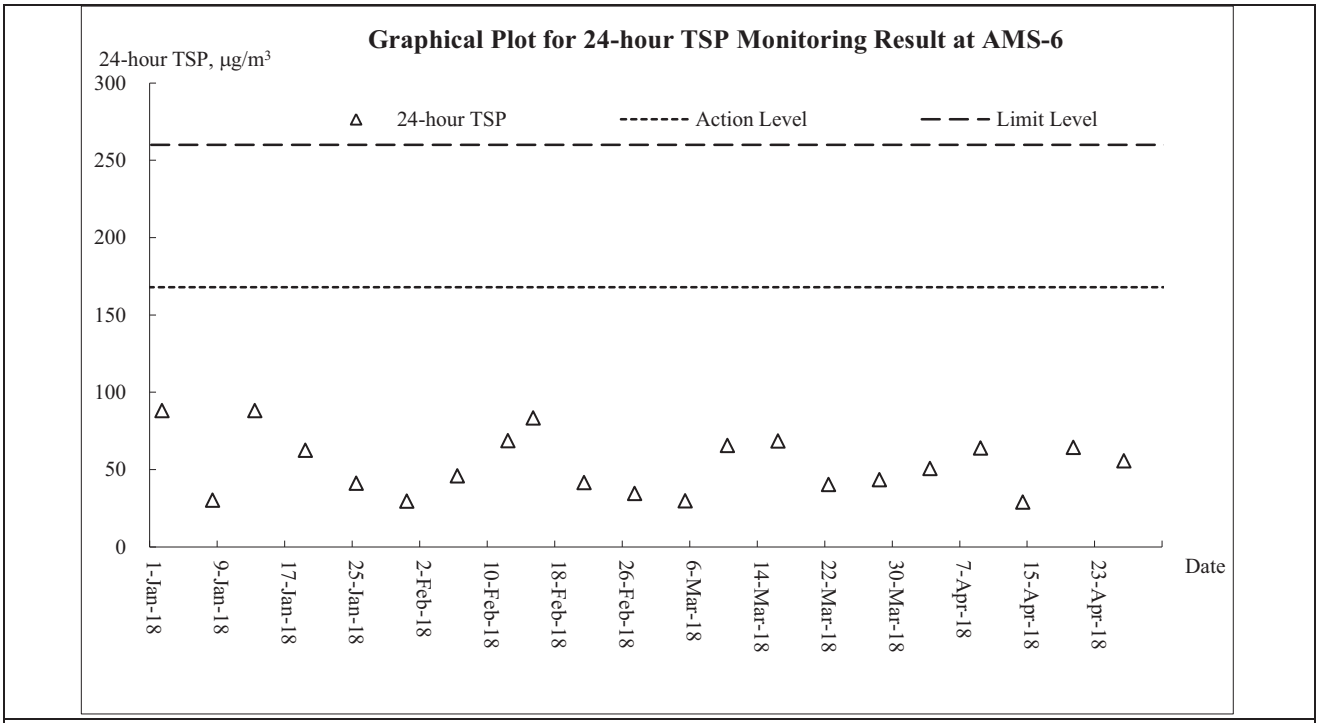

Graphical Plot for 1-hour TSP Monitoring Result at AMS-6
TSP (ug/m³)
600
500
400
300
200
100
0
1st hour
2nd hour
3rd hour
Action Level
Limit Level
1-Jan-18
9-Jan-18
17-Jan-18
25-Jan-18
2-Feb-18
10-Feb-18
18-Feb-18
26-Feb-18
6-Mar-18
14-Mar-18
22-Mar-18
30-Mar-18
7-Apr-18
15-Apr-18
23-Apr-18
Date

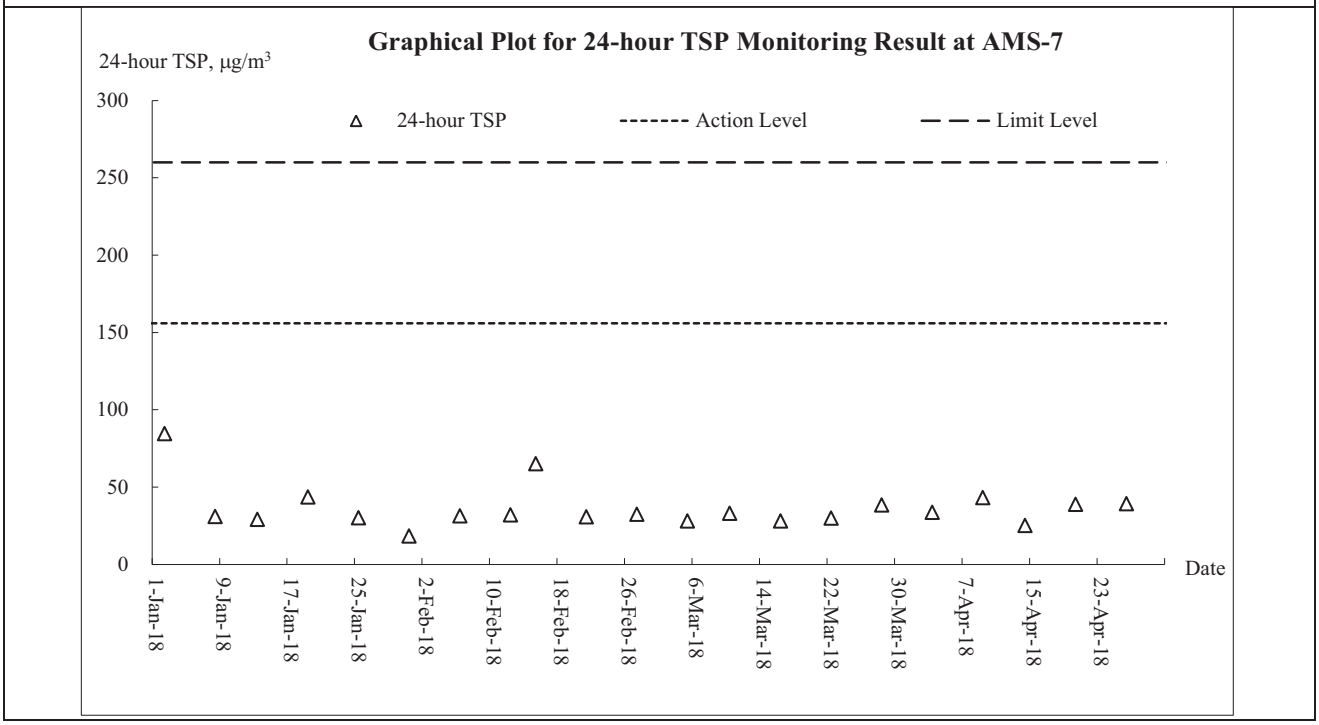

Graphical Plot for 1-hour TSP Monitoring Result at AMS-7
TSP (ug/m³)
600
500
400
300
200
100
0
1st hour
2nd hour
3rd hour
Action Level
Limit Level
1-Jan-18
9-Jan-18
17-Jan-18
25-Jan-18
2-Feb-18
10-Feb-18
18-Feb-18
26-Feb-18
6-Mar-18
14-Mar-18
22-Mar-18
30-Mar-18
7-Apr-18
15-Apr-18
23-Apr-18
Date

Air Quality – 24-hour TSP

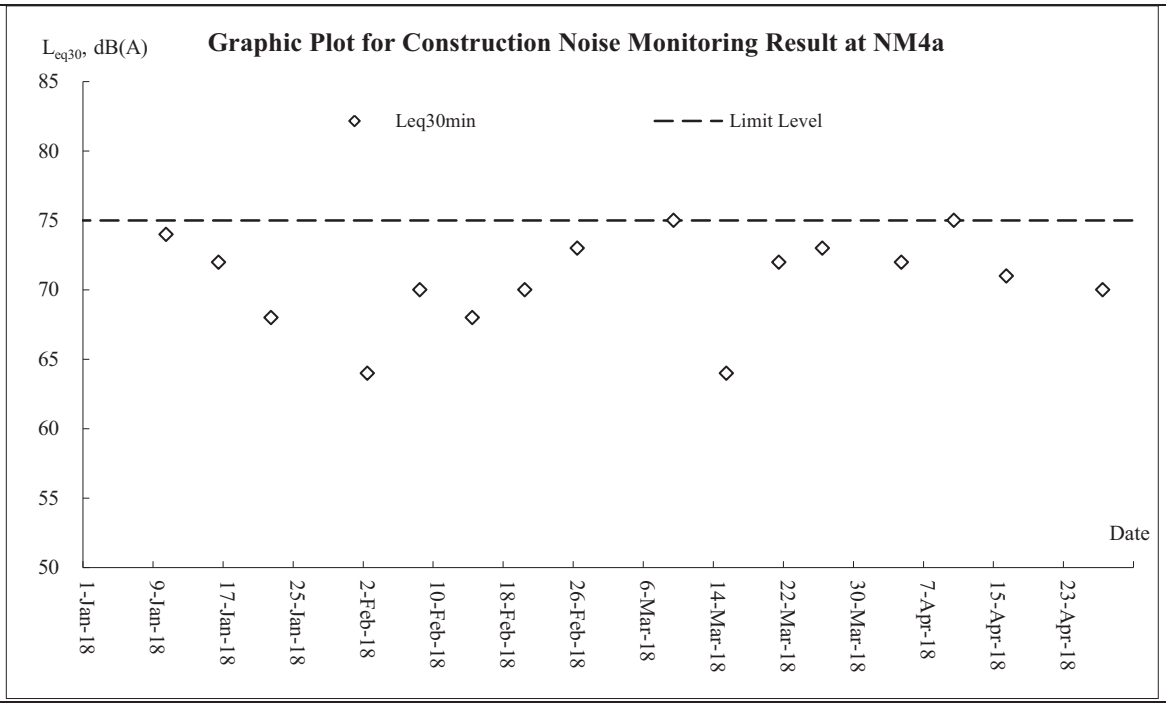


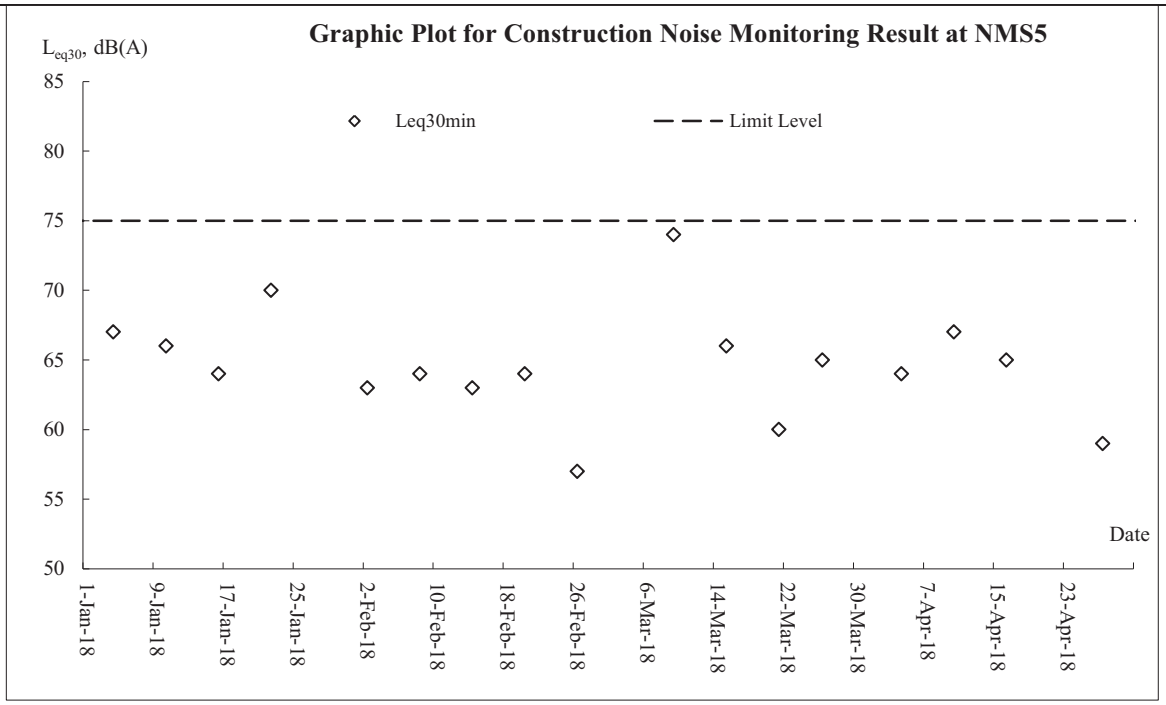


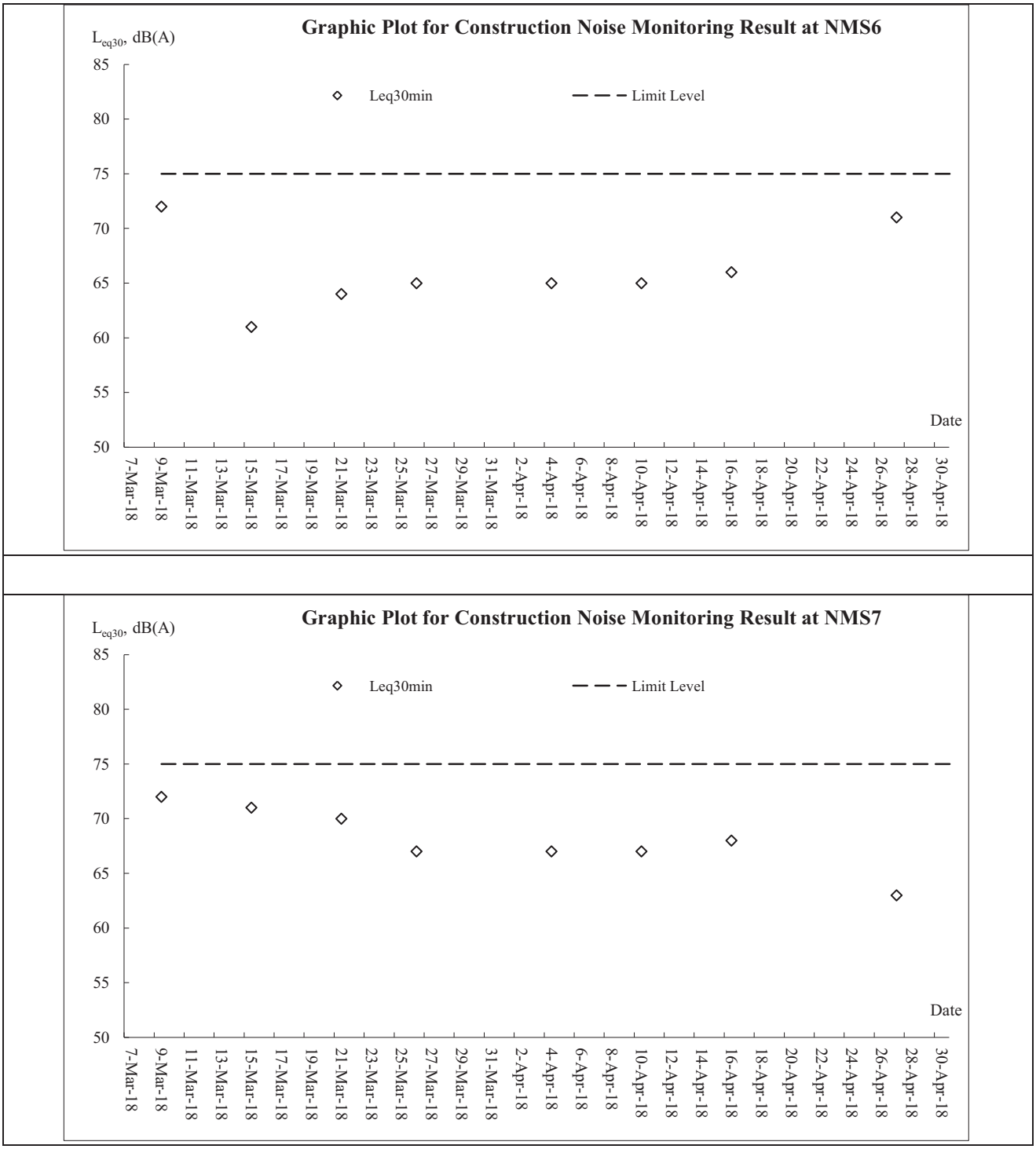

Graphical Plot for 24-hour TSP Monitoring Result at AMS-6
24-hour TSP, µg/m³
300
250
200
150
100
50
0
24-hour TSP
Action Level
Limit Level
1-Jan-18
9-Jan-18
17-Jan-18
25-Jan-18
2-Feb-18
10-Feb-18
18-Feb-18
26-Feb-18
6-Mar-18
14-Mar-18
22-Mar-18
30-Mar-18
7-Apr-18
15-Apr-18
23-Apr-18
Date


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-Jan-18
9-Jan-18
17-Jan-18
25-Jan-18
2-Feb-18
10-Feb-18
18-Feb-18
26-Feb-18
6-Mar-18
14-Mar-18
22-Mar-18
30-Mar-18
7-Apr-18
15-Apr-18
23-Apr-18
Date

Noise


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-Jan-18
9-Jan-18
17-Jan-18
25-Jan-18
2-Feb-18
10-Feb-18
18-Feb-18
26-Feb-18
6-Mar-18
14-Mar-18
22-Mar-18
30-Mar-18
7-Apr-18
15-Apr-18
23-Apr-18


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-Jan-18
9-Jan-18
17-Jan-18
25-Jan-18
2-Feb-18
10-Feb-18
18-Feb-18
26-Feb-18
6-Mar-18
14-Mar-18
22-Mar-18
30-Mar-18
7-Apr-18
15-Apr-18
23-Apr-18


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
7-Mar-18
9-Mar-18
11-Mar-18
13-Mar-18
15-Mar-18
17-Mar-18
19-Mar-18
21-Mar-18
23-Mar-18
25-Mar-18
27-Mar-18
29-Mar-18
31-Mar-18
2-Apr-18
4-Apr-18
6-Apr-18
8-Apr-18
10-Apr-18
12-Apr-18
14-Apr-18
16-Apr-18
18-Apr-18
20-Apr-18
22-Apr-18
24-Apr-18
26-Apr-18
28-Apr-18
30-Apr-18

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
7-Mar-18
9-Mar-18
11-Mar-18
13-Mar-18
15-Mar-18
17-Mar-18
19-Mar-18
21-Mar-18
23-Mar-18
25-Mar-18
27-Mar-18
29-Mar-18
31-Mar-18
2-Apr-18
4-Apr-18
6-Apr-18
8-Apr-18
10-Apr-18
12-Apr-18
14-Apr-18
16-Apr-18
18-Apr-18
20-Apr-18
22-Apr-18
24-Apr-18
26-Apr-18
28-Apr-18
30-Apr-18

Appendix J

Meteorological Data

Date		Weather	Total Rainfall (mm)	Kwun Tong Station	Kai Tak Station		King's Park Station
				Mean Air Temp. (°C)	Wind Speed (km/h)	Wind Direction	Mean Relative Humidity (%)
1-Apr-18	Sun	Hot and dry in the afternoon. Light winds.	0	23.7	7.6	SW	72.9
2-Apr-18	Mon	Hot and dry in the afternoon. Light winds.	0	24.3	8.2	SE	66
3-Apr-18	Tue	Hot and dry in the afternoon. Light winds.	0	24.5	10.6	E/SE	69.2
4-Apr-18	Wed	Mainly fine.	0	24.8	9.5	E/NE	74.5
5-Apr-18	Thu	Hot and dry in the afternoon. Light winds.	0	25.2	11.1	E/SE	74.5
6-Apr-18	Fri	Hot and dry in the afternoon. Light winds.	Trace	22.4	9.2	N	71.7
7-Apr-18	Sat	Mainly fine.	Trace	16.9	8.3	NE	59.3
8-Apr-18	Sun	Light to moderate east to southeasterly winds. Mainly fine.	0	19.7	11.4	E/NE	59.2
9-Apr-18	Mon	Light to moderate east to southeasterly winds. Mainly fine.	0	21.1	8.2	E/NE	71.5
10-Apr-18	Tue	Moderate easterly winds, occasionally fresh offshore.	0	23.7	12.9	E/NE	74.5
11-Apr-18	Wed	Hot and dry in the afternoon. Light winds.	0	24.8	9.8	E/NE	80.7
12-Apr-18	Thu	Mainly fine.	0	25	7.5	E/SE	78
13-Apr-18	Fri	Light to moderate east to southeasterly winds. Mainly fine.	Trace	26	12.8	E/SE	74.5
14-Apr-18	Sat	Mainly fine.	Trace	25.7	7.3	S/SW	81.5
15-Apr-18	Sun	Cloudy to overcast with rain.	17.2	21.6	12.9	E/NE	83
16-Apr-18	Mon	Cloudy to overcast with rain.	2	18.4	7.4	N/NE	85
17-Apr-18	Tue	Mainly cloudy. Bright periods in the afternoon.	0.2	20.1	6.9	N/NE	78.5
18-Apr-18	Wed	Mainly cloudy. Bright periods in the afternoon.	0.1	22.6	12.1	E/SE	77
19-Apr-18	Thu	Mainly cloudy with one or two showers.	0	23.6	13.7	E	73
20-Apr-18	Fri	Moderate easterly winds.	Trace	23.7	13.3	E	79.2
21-Apr-18	Sat	Mainly cloudy with one or two showers.	Trace	25.3	8.2	E/SE	72.5
22-Apr-18	Sun	Moderate easterly winds.	Trace	25.9	11	SE	81.5
23-Apr-18	Mon	Moderate easterly winds.	Trace	26.9	8	E/SE	75.2
24-Apr-18	Tue	Moderate east to northeasterly winds.	8.2	25.4	7.3	SE	86.2
25-Apr-18	Wed	Cloudy. Isolated showers in the afternoon.	Trace	23.4	10	E/SE	76
26-Apr-18	Thu	Fine and hot. Light to moderate southerly winds.	0.3	22.8	16.1	E/SE	83
27-Apr-18	Fri	Fine and hot. Light to moderate southerly winds.	Trace	24.9	9.5	SE	76.5
28-Apr-18	Sat	Fine and hot. Light to moderate southerly winds.	0.1	24	5.3	N/NE	81.2
29-Apr-18	Sun	Fine and hot. Light to moderate southerly winds.	Trace	25.9	11.2	SE	80
30-Apr-18	Mon	Fine and hot. Light to moderate southerly winds.	Trace	26.6	11.3	SE	80

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 2018 (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	30.706	19.998	10.550	0.000	0.158	1.191	132.060	0.000	0.000	0.000	0.013
Feb	23.014	12.020	10.887	0.000	0.107	1.569	0.000	0.000	0.000	0.000	0.008
Mar	9.911	1.152	8.660	0.000	0.099	0.736	471.850	0.326	0.000	0.000	0.011
Apr	18.121	6.582	11.460	0.007	0.072	0.627	183.610	0.000	0.000	0.000	0.009
May											
Jun											
Sub-total	81.752	39.752	41.557	0.007	0.436	4.123	787.520	0.326	0.000	0.000	0.041
Jul											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	81.752	39.752	41.557	0.007	0.436	4.123	787.520	0.326	0.000	0.000	0.041

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 2018 (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	0.046	0.00	0.001	0.00	0.045	0.00	0.00	0.00	0.00	0.00	0.0006
Feb	0.089	0.00	0.001	0.00	0.088	0.00	0.00	0.00	0.00	0.00	0.0028
Mar #	0.129	0.00	0.001	0.00	0.129	0.00	0.00	0.00	0.00	0.00	0.0004
Apr	1.296	0.00	0.001	0.00	1.295	0.00	0.00	0.00	0.00	0.00	0.071
May											
June											
Sub-total											
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total											

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

Remark (#) : There is an updated on the waste quantities in March 2018 compared to the Waste Flow Table enclosed in the last EM&A Report - March.

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
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
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
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	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	@	V

AUES

Fax Cover Sheet

To	**Mr. Dennis Leung**	**Fax No**	**By e-mail**
Company	**AECOM**		
cc			
From	**Nicola Hon**	**Date**	**30 April 2018**
Our Ref	TCS00864/16/300/**F0160b**	**No of Pages**	5 **(Incl. cover sheet)**

RE **CEDD Service Contract No. NTE/07/2016**
Environmental Team for Development of Anderson Road Quarry Site –
Site Formation and Associated Infrastructure Works
Investigation Report for Environmental Complaint from resident of Him Tat House of On Tat Estate

If you do not receive all pages, or transmission is illegible, please contact the originator on (852) 2959-6059 to re-send. Should this facsimile be sent to the wrong fax number, would receiver please destroy this copy and notify Action-United Environmental Services & Consulting immediately. Thank you.

Dear Sir,

Enclosed please find the investigation report for the captioned for your follow up action.

Should you have any queries or need further information, please do not hesitate to contact us or the undersigned at **Tel: 2959-6059 or Fax: 2959-6079**.

Yours Faithfully,
For and on Behalf of
Action-United Environmental Services & Consulting

Nicola Hon
Environmental Consultant

Encl.

EPD	Mr. Leo Luk	Fax: 2591 0558
EPD	Mr. Paul Wong	Fax: 2756 8588
CEDD/BCP	Mr. Stephen Li (Ch Eng/NTE2)	Fax: 2739 0076
ANewR (IEC)	Mr. Adi Lee	By e-mail
CWSTVJV	Mr. TY Leung	By e-mail

CEDD Service Contract No. NTE/07/2016
Environmental Team for Development of Anderson Road Quarry Site –
Site Formation and Associated Infrastructure Works

Investigation Report on Environmental Complaint / Enquires

Complaint Log No.	NTE/07/2016 – 27
Received Date by ET	12 April 2018
Related Contracts	Contract 1 (NE/2016/01)
Complaint Details	The resident 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.
Complaint Location	13/F Him Tat House(謙達樓)of On Tat Estate
Date of Complaint	11 April 2018
Environmental Aspect	Noise
Complainant	Resident of Him Tat House (referred by Mr. Hui Yau Wai)
Complaint Route	Received by SPRO Hotline
Investigation Result	1. A public complaint was received by SPRO on 11 April 2018 regarding the day time construction noise which was suspected to be generated by piling work nearby. The complainant enquired about the completion date of the works close to Him Tat House. The site layout and complaint location are shown in ***Figure 1***. 2. Joint site inspection among the RE, Contractor of Contract 1 - NE/2016/01 (CWSTVJV) and ET was carried out on 17 April 2018 for the complaint investigation. It was observed that bore piling and drilling works were carried out at works area in System B which opposite to Him Tat House but temporary noise barriers have not properly erected. ***(Photo 1)*** During the site inspection, CWSTVJV agreed to erect noise barriers along the works area to minimize the noise impact to the public. Moreover, concurrent construction works by other contractor were observed next to Him Tat House which generating significant noise. ***(Photo 2)*** 3. According to the impact noise monitoring result obtained at Hau Tat House refuge floor (next to Him Tat House) in March 2018, there were no breaches of EM&A requirement which revealed that the construction noise received at representative NSR is within acceptable level. Moreover, the construction works was carried out during non-restricted hours and there should be no breaches Noise Control Ordinance. 4. 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. ***(Photo 3)*** 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. 5. To further reduce the inconvenience caused to the nearby resident, CWSTVJV should also properly maintain good site practice including intermittent use of machine and plant and Sequencing operation of construction plant equipment, as appropriate.

Prepared By : Nicola Hon

Designation : Environmental Consultant

Signature :

Date : 30 April 2018

Photo Record

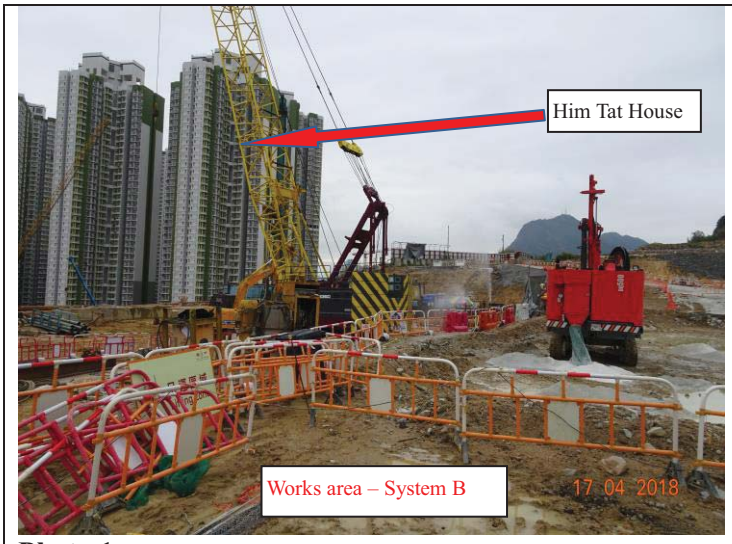


Photo 1

Joint site inspection among the RE, Contractor of Contract 1 - NE/2016/01 (CWSTVJV) and ET was carried out on 17 April 2018 for the complaint investigation. It was observed that bore piling and drilling works were carried out at works area in System B which opposite to Him Tat House but temporary noise barriers have not properly erected.

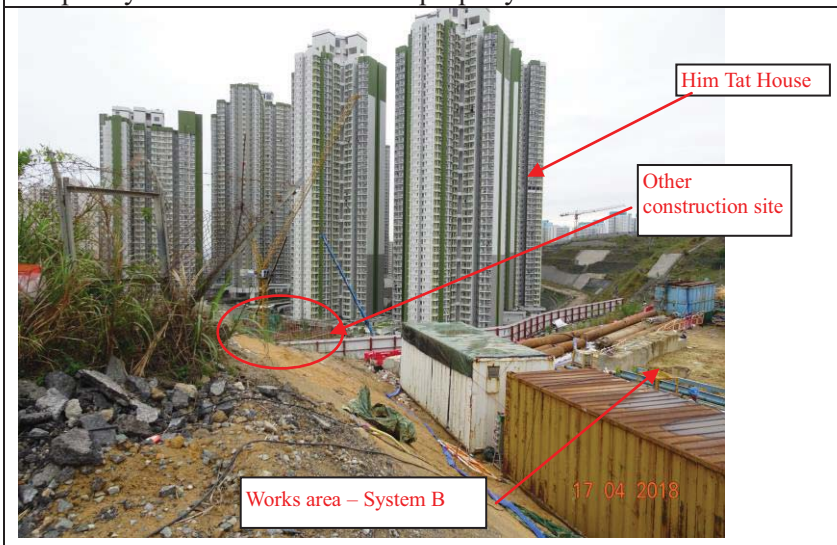


Photo 2

Concurrent construction works by other contractor were observed next to Him Tat House which generating significant noise.

Photo 3

As advised by CWSTVJV on 20 April 2018, noise barrier was being erected at works area in System B as noise mitigation measures. However, 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.

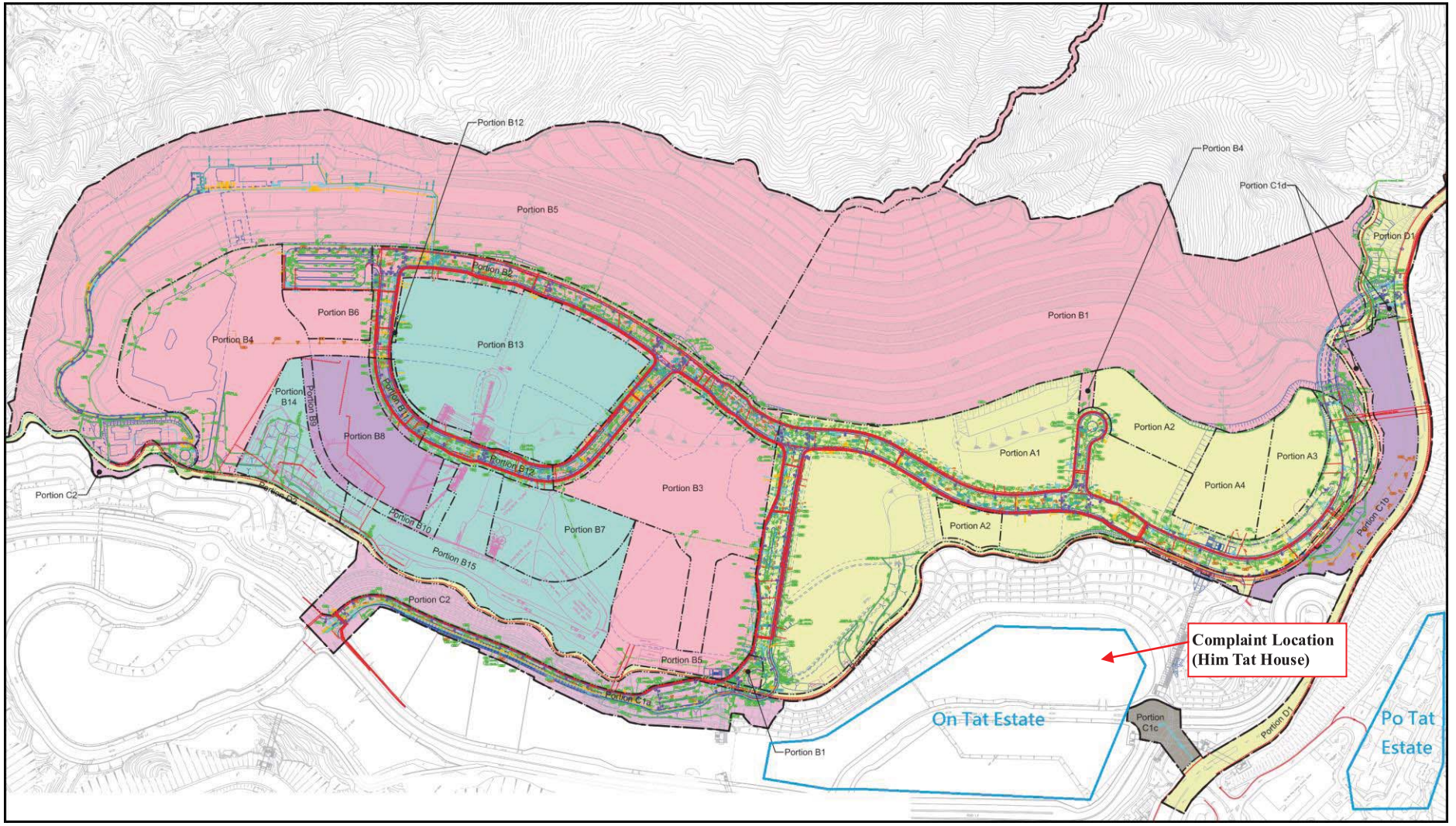


Figure 1 The Layout of NE/2016/01 and the Complaint Location

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
	within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet ; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fit ted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; and • Exposed earth should be properly treated by compact ion, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.					
S4.7.7	Implement regular dust monitoring under EM&A programme during the Construction phase.	Control construction airborne noise	Selected Representative dust monitoring station	All construction sites where practicable	V	N/A
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	Control construction ion airborne noise	Contractor	All construction sites where practicable	@	@

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
	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.					
S5.6.11 to S5.6.13	Use of " Quiet " Plant and Working Methods.	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	V	V
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
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
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
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
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
Water Quality Impact (Contraction Phase)						
S6.6.3	Construction Runoff	Control construction runoff	Contractor	All	@	@

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
	In accordance with the Practice Note for Professional Persons on Construction ion Site Drainage, Environmental Protect ion Department , 1994 (ProPECC PN 1/94), best management practices should be implemented as far as practicable as below: • At the start of site establishment , perimeter cut -off drains to direct off-site water around the site should be constructed with internal drainage works. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. • Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipment in order to avoid or minimize polluted runoff. Sediment at ion tanks with sufficient capacity, constructed from preformed individual cells of approximately 6 to 8 m^3 capacities, are recommended as a general mitigation measure which can be used for set t ling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped. • 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			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
	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 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					

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
	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. • 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	Handling of site sewage	Contractor	All construction sites	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status	
					Contract 1	Contract 2
	performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause water quality impact after undertaking all required measure					
S6.6.8 and 6.6.9	Accidental Spillage To prevent accidental spillage of chemicals, proper storage and handling facilities should be provided. All the tanks, containers and storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and storm drains. The Contractor is required to register as a chemical waste producer if chemical wastes would be generated from the construction ion activities. Storage of chemical waste arising from the construction ion activities should be well managed with suitable labels an d warnings while disposal of those chemical wastes should be comply with the requirement states in Waste Disposal Ordinance (Cap 354) as well as Waste Disposal (Chemical Waste) (General) Regulations.	Prevention of accidental spillage	Contractor	All construction sites	@	@
S6.6.11-S6.6.14	Groundwater from Contaminated Area The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater discharge. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed during the process of discharge license application. The compliancy to the TM-DSS and the existence of prohibited substance should be confirmed after further SI. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated in compliance with TMDSS or properly recharged into the ground. If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. Petroleum Carbon Ranges (PCRs)). All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be discharged into the foul sewers. If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back	Minimize contaminated groundwater impacts	Contractor	All construction sites	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
	into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Sect ion 2.3 of TM-DSS. The baseline groundwater quality shall be determined prior to the select ion of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement . Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as PCRs should be removed as necessary by installing the petrol interceptor.					
Waste Management (Contraction Phase)						
S8.5.2	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 t rucks or by transporting wastes in enclosed containers; • regular cleaning an d maintenance programme for drainage systems, sumps and oil interceptors;	Minimize waste generation during construction	Contractor	All construction sites	@	@
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
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	Reduce waste generation	Contractor	All construction sites where	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
	recommendations are proposed to achieve reduction: • segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling o materials and their proper disposal; • proper storage and site practices to minimize the potential for damage and contamination of construction ion materials; • plan and stock construction ion materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste; • sort out demolition debris and excavated materials from demolition works to recover reusable/recyclable port ions (i.e. soil, broken concrete, metal etc.); • provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling.			practicable		
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 ion sites	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	@	@
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	Minimize waste impacts from excavated and C&D materials	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
	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					
S8.5.15	<u>Contaminated Soil</u> As a precaution, it is recommended that standard good site practice should be implemented during the construction phase to minimize any potential exposure to contaminated soils or groundwater. The details of mitigation measures to minimize the potential environmental implications arising from the handling of contaminated materials refer to Land Contamination Section.	Remediate contaminated soil	Contractor	All construction sites where applicable	@	@
S8.5.17	<u>Chemical Waste</u> • 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
S8.5.18	<u>General Waste</u> • 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	Minimize production of the general refuse and avoid odour, pest and litter impacts	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
	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.					
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
Ecology (Contraction Phase)						
S. 10.7.2 to 10.7.6	Re-provision of Wooded Area for ecological function at the future Quarry Park.	Compensate for the loss of three woodland patches of a total area of about 1.13ha.	Contractor/ Detailed Design Consultant (qualified botanist / horticulturist / Certified Arborist to supervise the planting).	Northern part of the proposed Quarry Park.	N/A	NA
.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;	Minimize impacts on Hydrological condition and water quality of hillside watercourses.	Contractor	All construction sites	V	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
	• Stockpiling of construction ion 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 t rap 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.					
S.10.7.11	Implement an emergency contingency plan during the construction phase and the plan will include, but not be limited to, the following: • Potential emergency situations; • Chemicals or hazardous materials used on-site (and their location); • Emergency response team; • Emergency response procedures; • List of emergency telephone hot lines;	Minimize impacts on Hydrological condition and water quality of hillside watercourses.	Contractor	All construction sites	N/A	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
	• Locations and types of emergency response equipment , and • Training plan and testing for effectiveness.					
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	@
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
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
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
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

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

Appendix M

Complaint Log
And
Investigation Report for Complaint

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	**3**	0
March 2018	**0**	0
April 2018	**2**	0
Overall Total	**27**	**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	On Tat Estate	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	A resident living in On Tat House reported that some night works with noise and flashing caused nuisance to nearby resident after 11:00 pm on 23 March 2017.	According the incident report conducted by the CWSTVJV, demobilization of crawler crane was undertaken on 23 March 2017 11pm and it is TD requirement to carry out demobilization of heavy machine at nighttime. It is considered this complaint was a single incident and would not be happened again in future.	no comment by IEC on 11 Oct 2017	TCS00864/16/300/F0087
2	28-Jul-17	28-Jul-17	38/F of Yin Tat House (賢達樓), On Tat Estate	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu received a complaint from a resident living in the flat on 38/F of Yin Tat House (賢達樓), On Tat Estate. The resident complained about the noise level of our works during daytime.	Noise monitoring by Contractor was conducted in Yin Tat House, On Tat Estate, at around 2 pm on 28-Jul-2017. Another noise monitoring was carried out by ET and representatives of AECOM and JV in the presence of the complainant in her flat at 10 am on 1-Aug-2017 and was witnessed by Mr. Hsu. No exceedance of noise was recorded. The complainant was satisfied about the monitoring results.	no comment by IEC on 9 Aug 2017	TCS00864/16/300/F0060
3	29-Aug-17	29-Aug-17	Shing Tat House 24/F	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu Yau Wai 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	Tat Yan House, Po Tat Estate	Resident of Po Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00019373-17)	day time construciton noise of breakers (8am to 6pm)	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	Tat Yan House, Po Tat Estate	Resident of Po Tat Estate	Dust & Construction noise	EPD	EPD (ref. N08/RE/00019428-17)	Day time construction noise of breakers (8AM to 6PM). Requested to delay the operating hour of breakers to 10AM or 11AM			TCS00864/16/300/F0093
6	15-Jul-17	29-Aug-17	Tat Yi House, Po Tat Estate	Resident of Po Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/00022479-17)	Construction noise	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident and the working hour 08:00 to 18:00 did not breach any legal requirement. To 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	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	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/ RE/00024 557-17)	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	Sau Mau Ping Estate Sau Nga House	Resident of Sau Mau Ping Estate	Construction noise	SPRO hotline	NA	The complainant is living at Sau Mau Ping Estate Sau Nga House 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	Sau Mau Ping Estate Sau Nga House and Sau Yee House	Resident of Sau Mau Ping Estate	Construction noise	EPD	EPD (ref.N08/ RE/00031 074-17)	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	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/ RE/00029 489-17)	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	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction noise	EPD	EPD (ref. N08/RE/0 0032407-17)	Day time construction noise, the complainant requested using less breaker at one time, erecting taller noise barrier to cover the equipment. In addition, the complainant would like to know the construction schedule whether there will be more breaking activities in near future			TCS00864/16/300/F0106
13	25-Oct-17	26-Oct-17	Tat Kwai House, Po Tat Estate	Resident of Po Tat Estate	Dust	EPD	NA	投訴安達臣道地盤的泥車落泥，令他達貴樓的住所受到大塵影響，要求跟進及回覆	Investigation revealed that CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. Nevertheless, based on the observation during site inspection on 31 October 2017, CWSTVJV was advised to enhance the dust mitigation measures particularly during dry season.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0100

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	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Noise	EPD	NA	安達邨俊達樓居民投訴石礦場地盤又再於早上 07:45 開始傳出機器不停採石的噪音(幾乎每日在 08:00-19:00 進行工程)，已持續一年，他全家人受到滋擾。	Ad-hoc noise measurement was conducted by ET at rooftop of Chun Tat House in the morning of 20 November 2017 and measurement result was below the Limit Level under the EM&A Programme. CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 30 Nov 2017	TCS00864/16/300/F0109
15	13-Nov-17	14-Nov-17	Chi Tai House, On Tai Estate	Mr. Lam Wai	light pollution and noise	SPRO hotline	NA	1. 智泰樓面向安達臣地盤方向，有照射燈深夜時分仍然常開，影響居民正常睡眠質素，照成一定的精神壓力。 2. 隔音布未固定，大風吹過發出極大的聲浪	To ease the concern by the complaint, CWSTVJV has adjusted the lights to the orientation pointing the ground and that to minimise the nuisance. For the maintenance of noise barrier, CWSTVJV has immediately fixed the noise barrier nearest to On Tai Estate and prolonged the cover area of the noise barrier to reduce the noise impact to the public.	no comment by IEC on 24 Nov 2017	TCS00864/16/300/F0104
16	1-Nov-17	14-Nov-17	Shing Tat House, On Tat Estate	Resident of Po Tat Estate	Noise	EPD	NA	居住於安達邨誠達樓高層的投訴人投訴由早上八時半至下午六時聽到掘鐵噪音。	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	Sau Yee House, Sau Mau Ping Estate	Resident of Sau Mau Ping Estate	Construction Noise	EPD	EPD (ref.N08/RE/00027738-17)	Night time construction noise of hammering (around 12AM)	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	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction Noise	EPD	EPD (ref. N08/RE/00029489-17)	Day time construction noise of breakers (8AM to 5PM)	Noise mitigation measures were implemented to reduce the noise impact to the nearby resident. According to the impact noise monitoring result in September 2017, there were no breaches of EM&A requirement. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 10 Jan 2018	TCS00864/16/300/F0117
19	15-Dec-17	21-Dec-17	Sau Yee House	Resident of Sau Mau Ping Estate	Construction Noise	EPD	NA	Resident of Sau Yee House complained suspected construction noise from Anderson Construction Site at restricted hour (7pm to 7am).	It is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out after 19:00 at the subject site. Therefore, the complaint about noise nuisance during night time should not be related to the Project.	no comment by IEC on 10 Jan 2018	TCS00864/16/300/F0118
20	20-Dec-17	21-Dec-17	On Tat Estate	Resident of On Tat Estate	Dust	EPD	NA	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	Sau Yee House	Resident of Sau Mau Ping Estate	Construction Noise	CE's office	NA	日間及凌晨均聽到轟隆聲的噪音及震動，懷疑是由附近工程引起	ET has conducted an ad-hoc noise measurement for Leq (30min) in the complainant's flat in the monitoring of 17 January 2018.It was noted that the complainant's flat is not in direct line of sight to the Anderson Road Quarry Site. The measurement noise	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0129

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Status	Investigation Report Ref.
									result was below the Limit Level under the EM&A Programme. Moreover, it is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out during restricted hour at the subject site. Therefore, the complaint about noise nuisance during restricted hour should not be related to the Project.		
22	15-Jan-18	15-Jan-18	Chun Tat House	Resident of Chun Tat House of On Tat Estate, 40/F	Construction Noise	SPRO mobile	NA	She is irritated by the construction noise of breaking rock for a long time and strongly requested to know exactly when will be the completion date of the breaking rock part of works opposite to Chun Tat House. She said we should do more on the mitigation measures because our site is very close to the residents nearby.	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in January 2018, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0130
23	1-Feb-18	2-Feb-18	Chi Tai House of On Tai Estate	Resident of On Tai Estate (referred by Mr. Lam Wai)	Construction Noise	SPRO hotline	NA	"智泰對出，白天噪音過大，可否加裝隔音板?高層受影響"	The Environmental Team has conducted an ad-hoc noise measurement for Leq(30min) at the corridor of 22/F of Chi Tai House on 2 February 2018 facing the construction site. The measurement noise result was 65dB(A) which below the Limit Level under the EM&A Programme. In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in January 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	Shing Tat House of On Tat Estate	Resident of Shing Tat House (referred by Mr. Hsu Yau Wai)	Construction Noise	SPRO hotline	NA	Mr. Hsu reported that some disturbing noise was heard after 6:00 pm from the site near Shing Tat House of On Tat Estate.	AECOM has liaised with Mr. Hsu on 2 February 2018 for the complaint matter and he reported to AECOM that the noise was generated until 7:00 pm on 1 February 2018. 3. As advised by Contractor of Contract 1, breaking works at USRT area which opposite to Shing Tat House was only carried out from 8:00 to 18:00. However, rock breaking at System A was extended to 19:00 on 1 February 2018. As noise mitigation measures, noise barriers were erected for the works area. Further to the complaint case, CWSTVJV would seek for other quiet work method such as using drilling machine to reduce noise level and speed up the rock breaking process, so that to reduce the noise intensity level and the duration of exposure.	no comment by IEC on 28 Feb 2018	TCS00864/16/300/F0140
25	28-Feb-18	28-Feb-18	Shing Tat House of On Tat Estate	Resident of Shing Tat House	Construction Noise	EPD	NA	安達邨誠達樓居民, 投訴人是返夜班, 一年半以來長期受對出地盤日間掘石仔噪音滋擾, 由於單位與地盤太近, 堅持環保署跟進及回覆如何處理及減低噪音, 他亦要求知道何日完工.	Breaking works at Underground Stormwater Retention Tank area which opposite to Shing Tat House was carried out from 8:00 to 18:00. The Contractor has implemented noise mitigation measures to reduce the noise impact to the nearby resident. It was advised that the rock breaking works shall tentatively be completed by end of April and it is believe that the noise impact should be minimized. Since the works were carried out within the non-restricted hours and noise monitoring noise were within acceptable level, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 19 Mar 2018	TCS00864/16/300/F0143

Log ref.	Date of Complaint	Date of Received by ET	Complaint Location	Complainant	Complaint nature	Channel	Ref. no.	Complaint details	Follow up action	Status	Investigation Report Ref.
26	11-Apr-18	12-Apr-18	Him Tat House of On Tat Estate	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	The complainant is complaint that regarding the day time construction noise nuisance which was suspected to be generated by piling work nearby. Hence, the complainant enquired about the completion date of the piling works.	In progress		