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 (NOVEMBER 2021)

PREPARED FOR
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT (CEDD)

Date	Reference No.	Prepared By	Certified By
17 December 2021	TCS00864/16/600/R0513v2	Nicola Hon (Environmental Consultant)	Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	13 December 2021	First Submission
2	17 December 2021	Amended according to the IEC's comments

ANEWR

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

Your reference:

Our reference: HKCEDD10/50/107723

Date: 17 December 2021

Attention: Mr Lam Sai Wing, Sam

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 (November 2021)

We refer to the emails of 13 and 17 December 2021 from Action-United Environmental Services and Consulting attaching a Monthly Environmental Monitoring and Audit Report (November 2021) for the captioned project.

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

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

Yours faithfully
ANEWR CONSULTING LIMITED

James Choi
Independent Environmental Checker

CPSJ/LCCR/YCFF/lsmt

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ISO 9001 : 2015
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 has been divided to three CEDD contracts including Contract NE/2016/01 (Contract 1), Contract NE/2016/05 (Contract 2) and Contract NE/2017/03 (Contract 3). As advised by the Resident Engineer (RE), the commencement date of Contract 1 was 21 December 2016 and the major construction works has been commenced on 12 April 2017. The commencement date of Contract 2 was 31 March 2017 and the major construction activities have been commenced on 2 May 2017. Furthermore, Contract 3 was commenced on 31 May 2018 and the major construction activities works was commenced in November 2018. The EM&A programme under the Project was commenced on 12 April 2017 pursuant to the requirement under the EM&A manual. In addition, variation order for extend service scope to E5, E6, E7 and C10 under Contract ED/2019/02 (Contract 5) was issued by AECOM. The commencement date of Contract 5 was on 30 March 2021. Moreover, variation order for extend service under Contract ED/2020/02 (Contract 4) was issued by AECOM. The commencement date of Contract 4 was on 27 September 2021.

ES04 This is the **56th** monthly EM&A report presenting the monitoring results and inspection findings for the period from **1 to 30 November 2021** (hereinafter 'the Reporting Period').

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES05 Environmental monitoring activities under the EM&A programme in the Reporting Period are summarized in the following table.

Environmental Aspect	Environmental Monitoring Parameters / Inspection	Reporting Period	
		Number of Active Monitoring Locations	Total Occasions
Air Quality	1-hour TSP	**6**	**96**
	24-hour TSP	**4**	**20**
Construction Noise	$L_{eq(30min)}$ Daytime for Contract NE/2016/01	**7**	**29**
	$L_{eq(30min)}$ Daytime for Contract NE/2017/03	**3**	**15**

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES06 No exceedance of air quality was recorded in the Reporting Period. For construction noise monitoring, no Limit Level exceedance was recorded and no noise complaint (which triggered Action Level) was received in the reporting period. The environmental exceedance, NOE issued and investigation of exceedance are summarized in the following table.

Environmental Aspect	Monitoring Parameters	Action Level	Limit Level	Event & Action		
				NOE Issued	Investigation	Corrective Actions
Air Quality	1-hour TSP	0	0	0	NA	NA
	24-hour TSP	0	0	0	NA	NA

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

ENVIRONMENTAL COMPLAINT

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

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

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

REPORTING CHANGE

ES09 There is no reporting change in the Reporting Period.

SITE INSPECTION

ES10 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 1*** were carried out by the RE, ET and Contractor on **2, 11, 16, 23 and 30 November 2021** in which IEC joined the site inspection with SSEMC on **11 November 2021**. No non-compliance was noted during the site inspection.

ES11 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 2*** were carried out by the RE, ET and Contractor on **3, 10, 17 and 24 November 2021** in which IEC joined the site inspection on **17 November 2021**. No non-compliance was noted during the site inspection.

ES12 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 3*** were carried out by the RE, ET and Contractor on **5, 9, 19 and 26 November 2021** in which IEC joined the site inspection with SSEMC on **9 November 2021.** No non-compliance was noted during the site inspection.

ES13 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 4*** were carried out by the RE, ET and Contractor on **3, 10, 17 and 22 November 2021** in which IEC joined the site inspection with SSEMC on **22 November 2021.** No non-compliance was noted during the site inspection.

ES14 In this Reporting Period, joint site inspections to evaluate the site environmental performance for ***Contract 5*** were carried out by the RE, ET and Contractor on **4, 11, 18 and 23 November 2021** in which IEC joined the site inspection with SSEMC on **23 November 2021.** No non-compliance was noted during the site inspection.

FUTURE KEY ISSUES

ES15 During dry season, the Contractors should fully implement air quality mitigation measures to reduce construction dust emission as far as practicable. Furthermore, since construction site is highly visible to the resident at nearby estates, noise mitigation measures such as using of quiet plants should be implemented in accordance with the EM&A requirement.

ES16 Since construction site is highly visible to the resident at nearby estates, the Contractors should pay special attention on potential environmental impact generated by the site activities and adhere implement adequate air quality and noise mitigation measures as far as practicable to reduce the impact to the public.

ES17 Construction noise is one of the key environmental issues during construction work of the Project. Noise mitigation measures such as using quiet plants and noise barriers shall be implemented where practicable according to the EM&A manual.

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

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INTRODUCTION

1.1 PROJECT BACKGROUND

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

1.1.2 The Services under the Service Contract is to provide environmental monitoring and audit (EM&A) services for the Works Contracts pursuant to the requirement of Environmental Team (ET) under the EM&A manual to ensure that the environmental performance of the Works Contracts comply with the requirement specified in the EM&A Manual and Environmental Impact Assessment (EIA) Report of Development of Anderson Road Quarry and other relevant statutory requirements.

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

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

1.1.5 According to the Approved EM&A Manual, air quality and noise monitoring are required to be monitored during the construction phase of the Project. As part of the EM&A program, baseline monitoring is required to determine the ambient environmental conditions. Baseline monitoring including air quality and noise conducted between ***January*** and ***April 2019*** at all designated monitoring locations were before construction work commencement. Furthermore, the Baseline Monitoring Report which verified by the Independent Environmental Checker (hereinafter referred as "the IEC") has been submitted to Environmental Protection Department **(**EPD) on ***9 May 2017*** for endorsement.

1.1.6 This is the **56th** monthly EM&A report presenting the monitoring results and inspection findings for the period from **1 to 30 November 2021 (**hereinafter referred as "Reporting Period").

1.2 1.2 REPORT STRUCTURE

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

Section 1 *Introduction*
Section 2 *Project Organization and Construction Progress*
Section 3 *Summary of Impact Monitoring Requirements*
Section 4 *Air Quality Monitoring*
Section 5 *Construction Noise Monitoring*

2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

2.1 CONSTRUCTION CONTRACT PACKAGING

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

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

2.1.2 Commencement date of Contract 1 was in late December 2016 and the major scope of work of Contract 1 is listed below:

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

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

2.1.3 Commencement date of Contract 2 was 31 March 2017 and the major Scope of Work of the Contract 2 is listed below:

(i) Construction of the following pedestrian connectivity facilities with covered elevated walkways, covered at grad walkways, escalators, life towers with associate staircase and lifts:-
  (a) Linking Hiu Kwong street with Hiu Ming Street (E1)
  (b) Linking the proposed "Footbridge Link at Sau Ming Road" with Hiu Ming Street (E2, C1 and E3)
  (c) Linking the proposed bus-to-bus interchange at Tseung Kwan O Tunnel Toll Plaza with Lin Tak Road (E12)

(ii) Construction of bus-to-bus interchange (BBI) at Tseung Kwan O Tunnel Toll Plaza;

(iii) Associated landscape works;

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

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

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

2.1.4 The commencement date of Contract 3 is on 31 May 2018 and the major Scope of Work of the Contract 3 is listed below:

(i) Site formation and road works in the following sections:-
  (a) at junction of Clear Water Bay Road (CWBR) and On Sau Road constructed under the Development at Anderson Road (DAR) project including the provision of U-turn facility and noise mitigation measures (RIW1);
  (b) at New Clear Water Bay Road (NCWBR) near Shun Lee Tsuen Road including the road widening works at NCWBR, modification of existing subway structure and provision of noise mitigation measures (RIW2); and
  (c) at the junction of Lin Tak Road and Sau Mau Ping Road, construction of flyover above Tseung Kwan O Road, provision of loading and unloading bays along Lin Tak Road and noise mitigation measures (RIW3).

(ii) construction of the following pedestrian connectivity facilities with covered elevated walkways, escalators and lift towers with associated staircases and lifts:-

(a) linking Anderson Road Quarry site with the DAR Site (except the works covered under Contract 1) (System A and System B);
(b) linking Hiu Ming Street with Hiu Yuk Path (E8); and
(c) linking the proposed bus-bus interchange at Tseung Kwan O Tunnel Toll Plaza with Sau Mau Ping Road (E11).

(iii) Associated landscape works.

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

2.1.5 The commencement date of Contract 4 is on 27 September 2021 and the major Scope of Work of the Contract 4 is listed below:

- Construction of hard landscaping and other ancillary works (e.g. paver footpath, planter walls, benches, lighting etc.);
- Construction of soft landscaping works;
- Lighting, irrigation, electrical and mechanical engineering works within the landscaping area;
- Construction of landscape deck; and
- Electrical and mechanical works for underground water treatment facilities and pumping system for Regional Open Space and Artificial Flood Attenuation Lake.

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

2.1.6 The commencement date of Contract 5 is on 30 March 2021 and the major Scope of Work of the Contract 5 is listed below:

- Construction of two-way escalator link between Sau Mau Ping Road and the existing footbridge to Po Tat Estate;
- Construction of two-way escalator link between Sau Mau Ping South Estate and the existing footbridge to Sau Mau Ping Road;
- Construction of footbridge, 3m, clear width, with and about 20m high lift tower between Hiu Kwong Street and the podium of Sau Ming House, Sau Mau Ping Estate;
- Construction of footbridge, 3m clear width, with an about 40m high lift tower between Sau Mau Ping Road and the podium of Po Tat Estate; and
- Ancillary works including associated civil, geotechnical, structural, electrical and mechanical engineering and landscaping works.

2.2 PROJECT ORGANIZATION

2.2.1 The project organization and contact details for Contracts 1, 2, 3, 4 and 5 are shown in ***Appendix B***.

2.3 CONSTRUCTION PROGRESS

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

Contract 1 (NE/2016/01)

East Portal Area:

- Buttress wall (left and right) construction works completed from 164mPD to 172mPD (LHS) and 164mPD to 170mPD (RHS).
- Construction of RWA1B Retaining Wall completed
- Rock cut slope A1
- RWA1C Bay 2 & 3 base slab completed and Bay 2 stem wall complete and formwork and rebar for bay 3 in progress.

- Rock dowel at slope A1 164mPD to 169mPD level, drilling holes for rock dowel in progress 35/48nos completed.
- Installation of the cross-ducting pipes complete.
- Laying the WSD 150PE pipe at east portal carriageway and pressure test complete.
- Laying the 2nd road base bitumen complete.
- Bay 4 RWA1c drilling vertical dowel bar completed and L-shaped dowel bar for RWA1c Type 1 buttress wall total 21nos complete.
- Cast concrete of Pillar Box and Kiosk complete

West Portal Area:

- Buttress wall (left) from 178.5mPD to 186.5mPD complete.
- Buttress wall (right) from 170 to 178mPD in progress at Slope A3 near West Portal.
- Slope A3, Construction of 200mPD, 186mPd and 178mPD berm in progress.

Underpass Tunnel:

- Tunnel Concrete Lining construction works (Total 25 Bays) included B1 with West portal structure and Bay 25 with East Portal structure, and progress upto Bay 24 (124m), Bay 25 and East Portal structure (excluding headwall) completed west portal structure completed and construction of headwall completed, construction of headwall at East Portal completed.
- Excavation for Box Culvert BC3 completed and structure works completed.
- Erection and installation of the VE Panel sub-frame in progress and 90% complete.
- Construction of mass concrete wall in underpass completed 260m/260m.
- Painting the 1st, 2nd & 3rd layer on lining structure completed.
- Installation of the profile barrier inside underpass (LHS and RHS) completed 260m/260m.
- Rock excavation of Manhole A4 and 900mm stormwater drainage pipe completed at East Portal and construction of manhole A4 with backdrop completed and laying of 900mm pipe completed.
- Excavation works for manhole R618 to R623 completed and installation of manholes R618 to R623 completed.
- Laying of 300mm thick drainage layer,225mm thick subbase and geotextile complete.
- Laying road base bituminous insider underpass complete

Po Lam Road

- Excavation work in progress to install ducting pipes and draw pits and installation of k1 kerb in progress
- Removal the existing concrete pavement completed for installation of ducting crossing pipes.
- Reinstatement of the concrete carriageway at Po Lam road at stage 3 in progress.
- Re-build the modification catch pit at Po Lam road and Slope A1 complete.
- 900sc excavation work completed
- Structure works for traffic sign board footing DS01 and polar mount footing complete.
- Installation of the beam barrier at Po Lam Road Layby complete
- Installation of 2 of 3 no of lighting complete at Po Lam Road
- Stage 2 TTA at Po Lam Road implemented and completed
- Installation of 3nos manholes and gully complete

Water Reservoir:

- The water tightness test for Salt Water Reservoir complete and passed and Fresh Water Reservoir water tightness test complete and pass, defect rectification works completed.
- Rock excavation work to formation level outside water reservoir completed and soil excavation work (to formation level) completed. Rock excavation for drainage works completed. Manhole construction and Drainage Pipe laying are completed, Backfilling works completed. The excavation works of VC chambers (Watermain) and additional

dia.600mm drainage pipe with manhole completed and construction of valve chamber in progress
- Rock trench excavation for watermain and utilities along WSD access road completed.
- Pipe laying along WSD access road in progress, 90% complete.
- Concreting of pipe plinths and staircase for downpipe from reservoir to PTT was completed. Downpipe installation from ~210mPD to 230mPD complete.

Water Pumping Station, Retaining Wall RWA13 and RWA14:
- Backfill retaining wall RWA13 and RWA14 Bay 9-14 complete.
- Rock excavation for Watermain works completed. The chambers (VC8, VC9, EFM & DN450 valve) construction works pipe laying complete.
- Metal Works and ABWF Work are completed. E&M Works at Water Pumping Station in progress.
- Mapping works and excavation of A13 Slope completed. Mass concrete fill works (VO/238) complete.
- Pipe laying of watermain behind retaining wall RWA13 was completed.
- Excavation and construction work of drawpit and ducting works in progress.
- Excavation work and construction work of Boundary Fence Footing in progress.
- Rock breaking to road formation level completed. Rock breaking to bedding level of watermain from pumping station to RWA13 complete.
- All watermains from pumping station to RWA13 have been laid.

Cavern at Portion B5:
- Rock fall fence installation complete.
- Rock breaking of existing rock slope at Ch210-Ch225 on level +200mPD - 206mPD complete.
- Rock breaking of existing rock slope at Ch0-Ch190 slope toe complete.
- Mapping of sub area SA1 to SA13 complete.
- Rock dowel construction from CH5 – CH200 +201mPD to +210mPD complete
- Erection of Inspection scaffold completed from CH0 to CH255.367 on 230m PD.
- UC construction at CH248 +205mPD berm complete.
- UC construction at CH0 to CH248 +230mPD berm in progress.
- Rock breaking of existing rock slope at Ch180-Ch248 on level +196mPD - 200mPD in progress.
- Rock dowel construction at Ch0-248 on +230 to +250 completed.
- Rock dowel construction at Ch200-240 on +201 to +210.5 in progress.
- Construction of Inspection scaffold on Temporary Triangle bracket completed.

Artificial Flood Attenuation Lake:
- East side and west side of concrete lining at Lake bottom complete. Remaining part (near Bay 50-51) in progress.
- Laying granular bed at remaining parts (center) of Lake bottom complete.
- To continue laying HDPE membrane at center of Lake bottom.
- Retaining wall base slab complete and stem wall 51 out of 52 complete, the construction of remaining stem wall in progress.
- Whole Treatment Plant construction complete.
- Drainage work at hill side complete. To continue the remaining part (outside slot chamber).
- The footing with guidepost of floating bridge, retaining wall & all landing are complete.
- To continue the dwarf wall construction works.

Pedestrian Connectivity System B (PC System B):
- PC System B structure complete, South Tower structure Rock fill completed.
- 1050mm dia. pipe from M/H S311 to S312 installation completed.
- Internal ABWF works in System B in progress

Construction of Internal Road L1:

- Road breaking and drainage works for road L1 west in progress.
- Drainage works for road L1 east cycle track in progress.
- Watermain construction in progress, 80 % complete. Rock breaking for watermain at L1 west in progress.
- Road L1 west lower level and middle level drainage construction in progress lower drainage complete middle drainage 70%, upper level 10% and gully pipe rock breaking in progress.
- Road L1 east lower level and middle level drainage construction in progress lower drainage completed 100% middle drainage 90%, upper level and gully pipe rock breaking in progress.
- Construction of Infiltration Planter in Progress, and 70% completed.
- Kerb laying, asphalt paving in progress.
- Formation of footpath and cycle track in progress.

PTT:

- Completed backfilling to sub-base level for concrete pavement works at Row A – B, B – C, C – D, D - E.
- Steel work erection for PTT cover structure in progress (90% complete).
- PMMA Panel Installation work in progress (80% complete).
- Drainage work at Row A-B (100% complete) Row B-C (100% complete), C-D (100% complete), D-E (100 % complete), Downpipe catchpit pipe laying and construction (100% complete).
- Concrete pavement construction in progress. (25% complete)
- Noise Barrier in progress

MEP Works:

- Submission of designs and materials related to MEP works to continue.
- E&M installation works at PTT to continue.
- E&M installation works at Underground Stormwater Retention Tank to continue.
- E&M installation works at Pedestrian Connectivity System B to continue.
- Lighting installation works at Pedestrian Connectivity System B completed.
- Sump Pump installation works at Pedestrian Connectivity System B completed.
- E&M installation works at Underpass to continue.
- Cable & Lighting Supporting Frame installation works at Underpass completed.
- E&M installation works at Fresh Water Pumping station to continue.
- Road lighting fitting installation at Underpass complete.
- Road lighting fitting installation at Public Transport Terminus complete.
- E&M installation works at pillar box (System B) to continue.

Existing Anderson Road:

- Excluding the pipe trough portion, 92% of the watermain was laid.
- Temporary slope protection works for pipe trough excavation completed.
- Concreting of Bay 1-2 and Slab of Bay 3-4 of pipe trough were completed. Rebar formwork fixing for Wall of Bay 3-4 is in progress.
- Trial pits at watermain connection point were excavated to identify existing water pipes. Arrangement of water connection pending for WSD confirmation.

Contract 2 (NE/2016/05)

- Temporary Traffic Arrangement (TTA)
- Soil Nail Construction
- Mass Concrete construction
- Formwork and Falsework installation and dismantling
- Lifting Tower Construction
- Rebar fixing

Contract 3 (NE/2017/03)

Works in Road Improvement Works 1 (RIW1)

- Construct RC works & backfilling at Type 2 are in-progress.
- Construct socketed H pile at RWC2 Type 3 for piling construction are in-progress; Rock excavation at RWC2 Type 3 are in-progress.
- Preparation works of drainage diversion at Type 4 is in-progress.
- Backfilling works at Type 6 to 8 is in-progress.
- Mini-pile works at FE1-PC1b is in-progress.
- Excavate trial pit works at CT5 is in-progress.
- Drainage works at KS27 (West Side) also is in-progress; Install sheet pile & ELS works at KS27 (East Side) near Shun Lee Estate.

Works in Road Improvement Works 2 (RIW2)

- Construct RC works at RWC3b; Rock excavation works at RWC3b are in-progress.
- Install pipe pile wall at CT4 roadside is in-progress.
- Construct mini-pile works at SE2 (hill side toward Sai Keung direction) is in-progress; Excavate for expose utilities and utilities protection / diversion are in-progress.
- TTA arrangement for the upcoming stage at SE2 in-progress.

Works in Road Improvement Works 3 (RIW3)

- Excavate trial pits at Sau Mui Ping Road / Lin Tak Road for watermain alignment confirmation in-progress.
- Concreting and backfilling works at RWD1 Bay 1 – 10.
- ELS works at RWD1 Bay 11 – 14 is in-progress.
- Rock excavate at Slope D1 lower portion is in-progress.
- Road works and backfilling works at Slope D2 are in-progress.
- Rock excavation using drill & split method, drainage works and road works at Slope D3 / Lin Tak Road are in-progress.

Pedestrian Connectivity Facility E8 (PC-E8)

- Touch-up outstanding works are in progress.

Pedestrian Connectivity Facility E11 (PC-E11)

- ABWF works and E&M works at LT2 & ST2 are in-progress.
- ABWF works and E&M works at LT1 & ST1 are in-progress.
- ABWF work and E&M works inside the footbridge steel frame are in-progress.

Pedestrian Connectivity Facility A (PC-SYA)

- ABWF works and E&M works at LT1, LT2 & ST1 are in-progress.
- Erect steel works inside RC structure is in-progress.

Pedestrian Connectivity Facility B (PC-SYB)

- RC works at SyB-LT1 & ST1 is in-progress.
- Construct pile cap at PC4 & PC6 are in-progress.
- Install sheet-pile and excavation works at PC1 are in-progress.

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

- The completed toilet was handed over to Food and Environmental Hygiene Department on 30 September 2020; Additional works under an instruction is in-progress.

Contract 4 (ED/2020/02)

- Initial Survey, Tree Survey
- Construction of site office.
- Erection of Chain link Fence
- Removal of disused drains and sprinkle system at Portion 10

- Excavation work for Site Drainage at Portion 2a, 8 & 12
- GI work (CE)
- Modification of RWA10 footing

Contract 5 (ED/2019/02)

Portion 1
- Tree Felling
- Mobilization of 4T backhoe
- Installation of Utility Settlement Market after locating the 600 gas main

Portion 2
- Magnetic Particle Inspection
- Piling Works
- H-Piles Welding

Portion 3
- Boundary Setting
- Pre-Drill Hole E7-BH6

Portion 4
- Exposing Rock Surface at E10-F3
- Rock Fall Fence Preparation
- Pre Drill Hole E10-BH2

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

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 411762	NA	NA	valid
	Form NB – Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 412730	NA	NA	valid
2	Chemical Waste Producer Registration	Registration no. WPN 5213-292-C4115-01	15 Feb 17	End of project	valid
3	Water Pollution Control Ordinance – Discharge License	WT00028050-2017	29 May 17	31 May 22	valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no. 7026925	20 Jan 17	End of project	valid
5	Construction Noise Permit	GW-RE0686-21	26 Jul 21	25 Jan 22	valid
		GW-RE0690-21	26 Jul 2021	25 Oct 21	Expired on 25 Oct 2021

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Notification pursuant to Air pollution Control (Construction Dust) Regulation	EPD ref. no. 312173	NA	NA	valid
2	Chemical Waste Producer Registration	Registration no. WPN 5213-294-K2890-08	7 Jul 17	End of Project	Valid
3	Water Pollution Control Ordinance – Discharge License	WT00028685-2017	02 Aug 17	31 Aug 22	Valid
		WT00028686-2017	02 Aug 17	31 Aug 22	Valid
		WT00028687-2017	02 Aug 17	31 Aug 22	Valid
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no.7027548	12 Apr 17	End of project	Valid

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air Pollution Control (Construction Dust) Regulation	EPD ref. no. 434186	31-May-18	NA	Valid
2	Chemical Waste Producer Registration	**For Area R1W3 (E11)** Registration no. WPN : 5213-294-C4239-04	6-Aug-18	End of Project	Valid
		For Area System A Registration no. WPN: 5213-293-C4239-05	6-Aug-18	End of Project	Valid
		For Area System B Registration no. WPN 5213-294-C4239-03	6-Aug-18	End of Project	Valid
		For Area E8 Registration no. WPN 5213-292-C4239-06	6-Aug-18	End of Project	Valid
3	Water Pollution Control Ordinance – Discharge License	**For Area R1W3 (E11)** WT00032742-2018	18-Jan-19	31-Jan-24	Valid
		For Area System A WT00033223-2019	31-Jan-19	31-Jan-24	Valid
		For Area System B WT00033229-2019	24-Jun-19	30-Jun-24	Valid
		For Area E8 WT00033224-2019	21-Mar-19	31-Mar-24	Valid
4	Waste Disposal Regulation –	Account no.7031075	20 Jun 2018	End of project	Valid

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
	Billing Account for Disposal of Construction Waste				

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air Pollution Control (Construction Dust) Regulation	EPD ref. no. 470496	19 August 2021	NA	Valid
2	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Account no. 7041336	6 September 2021	NA	Valid
3	Chemical Waste Producer Registration	Registration no. WPN 5213-296-C1206-12	14 September 21	End of project	Valid
4	Water Pollution Control Ordinance – Discharge License	Working in Progress			

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Form NA – Notification pursuant to Air Pollution Control (Construction Dust) Regulation	EPD ref. no. 466364	NA	NA	Valid
2	Chemical Waste Producer Registration	Registration no. WPN 5298-293-W3611-01	12 May 21	End of project	Valid
3	Water Pollution Control Ordinance – Discharge License	Working in Progress			
4	Waste Disposal Regulation – Billing Account for Disposal of Construction Waste	Working in Progress			

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

THE EM&A PROGRAM OF CONSTRUCTION PHASE MONITORING SHALL COVER THE FOLLOWING ENVIRONMENTAL ISSUES:

- Air quality; and
- Construction noise

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

Table 3-1 Summary of EM&A Requirements

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

3.3 MONITORING LOCATIONS

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

Table 3-2 Impact Monitoring Stations – Air Quality

ID	ASR ID in EIA	Location in the EM&A Manual	Identified Location during Site Visit	Status
AMS-1	ACYC-01	Chi Yum Ching She	Ground of Chi Yum Ching facing the project site	Replaced by AMS-1a
AMS-1a (*)	ACYC-01	Tan Shan Village No. 5 - 6	Ground of Tan Shan Village No. 5 - 6 facing the project site	Active
AMS-2 (#)	DARB-13	Block 8, Site B	Ground of Fung Tai House of On Tai Estate	Active
AMS-3 (:)	DARC-16	Planned Clinic and Community Centre, Site C2	Ground of Planned Clinic and Community Centre facing Anderson Road (Ancillary Facilities Building)	Active
AMS-4	DARC-26	Planned School, Site C2 Note 1	Ground of Planned School facing Anderson Road	Not yet commenced
AMS-5	DARE-06	Block 5, DAR Site E	Main roof of Oi Tat House of On Tat Estate facing the	Active

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

Note 1: The ASR is under construction.

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

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

(:) AMS-3 was effective on 3 December 2019.

Construction Noise

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

Table 3-3 Impact Monitoring Stations – Construction Noise

ID	NSR ID in EIA	Location	Status
NMS-1	Site C2 – School 05 Note 1	Ground of planned school at DAR facing the project site	Not yet commenced
NMS-2 (@)	Site E – School	Rooftop of S.K.H. St. John's Tsang Shiu Tim Primary School, where 1m from the exterior of the building facing the project site	Active
NMS-3(:)	Site C2 – R102	Ground of Ancillary Facilities Building facing the project site	Active
NMS-4*	Oi Tat House	1m from the exterior of ground floor façade of Oi Tat House of On Tat Estate facing the project site	Suspended
NMS-4a #	Oi Tat House	Rooftop of Oi Tat House where 1m from the exterior of Oi Tat House facing the project site	Active
NMS-5#	Hau Tat House	22/F, refuge floor of Hau Tat House where 1m from the exterior of Hau Tat House facing the project site.	Active
NMS-6~	Yung Tai House of On Tai Estate	Rooftop of Yung Tai House where 1m from the exterior of the building facing the project site)	Active
NMS-7~	Chi Tai House of On Tai Estate	Rooftop of Chi Tai House where 1m from the exterior of the building facing the project site	Active

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

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

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

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

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

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

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

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

Addition Construction Noise Monitoring Location

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

Table 3-4 Additional Impact Monitoring Stations – Construction Noise

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

3.4 MONITORING FREQUENCY AND PERIOD

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

Air Quality Monitoring

3.4.2 Frequency of impact air quality monitoring is as follows:

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

Noise Monitoring

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

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

3.5 MONITORING EQUIPMENT

Air Quality Monitoring

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

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

Table 3-5 Air Quality Monitoring Equipment

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

Noise Monitoring

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

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

Table 3-6 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	Rion NL-31, NL-52, B&K 2238
Calibrator	Rion NC-74, NC-75
Portable Wind Speed Indicator	Anemometer AZ Instrument 8908

3.6 MONITORING METHODOLOGY

1-hour TSP

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

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

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

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

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

24-hour TSP

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

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

3.6.4 For HVS for 24-hour TSP monitoring, the HVS is mounted in a metallic cage with a top for protection and also it is sat on the existing ground or the roof of building. The flow rate of the HVS between 0.6m^3/min and 1.7m^3/min will be properly set in accordance with the manufacturer's instruction to within the range recommended in *EPA Code of Federal Regulation, Appendix B to Part 50*. Glass Fiber Filter 8" x 10" of TE-653 will be used for 24-Hour TSP monitoring and would be supplied by laboratory. The general procedures of sampling are described as below:-

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

3.6.5 All the sampled 24-hour TSP filters will be kept in normal air conditioned room conditions, i.e. 70% HR (Relative Humidity) and 25ºC, 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 mounte

3.6.10 d on a tripod at a height of 1.2 m and placed at the assessment point and oriented such that the microphone is pointed to the site with the microphone facing perpendicular to the line of sight. The windshield will be fitted for all measurements. Where a measurement is to be carried out at a building, the assessment point would normally be at a position 1 m from the exterior of the building façade. Where a measurement is to be made for noise being received at a place other than a building, the assessment point would be at a position 1.2 m above the ground in a free-field situation, i.e. at least 3.5 m away from reflective surfaces such as adjacent buildings or walls.

3.6.11 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.

3.6.12 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.

3.6.13 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

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

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

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

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

Monitoring Station	Action Level (μg /m^3)	Limit Level (μg/m^3)

	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP
AMS-1	313	154	500	260
AMS-1a*(*)*	313	154	500	260
AMS-2	319	165	500	260
AMS-3	319	165	500	260
AMS-4	315	165	500	260
AMS-5	299	166	500	260
AMS-6	303	168	500	260
AMS-7	307	156	500	260

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

Table 3-8 Action and Limit Levels for Construction Noise

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

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

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

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

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

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

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

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

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

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

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

3.8 DATA MANAGEMENT AND DATA QA/QC CONTROL

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

the data.

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

4. AIR QUALITY MONITORING

4.1 GENERAL

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

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

4.3 RESULTS OF AIR QUALITY MONITORING

4.3.1 In the Reporting Period, a total of ***96*** events of 1-hour TSP monitoring and ***20*** events of 24-hours TSP were carried out and the monitoring results are summarized in ***Tables 4-1 to 4-5***. The detailed 24-hour TSP monitoring data are presented in ***Appendix H*** and the relevant graphical plots are shown in ***Appendix I***.

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

Date	24-hour TSP (μg/m³)	1-hour TSP (μg/m³)				
		Date	Start Time	1st reading	2nd reading	3rd reading
5-Nov-21	19	4-Nov-21	14:30	72	74	70
11-Nov-21	19	10-Nov-21	9:17	87	79	82
17-Nov-21	32	16-Nov-21	9:01	80	75	77
23-Nov-21	23	22-Nov-21	13:21	81	83	89
29-Nov-21	31	27-Nov-21	9:23	90	86	97
Average (Range)	**25 (19 – 32)**	Average (Range)		**81 (70 – 97)**		

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

1-hour TSP (μg/m³)				
Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
4-Nov-21	9:05	83	88	86
10-Nov-21	9:28	74	86	80
16-Nov-21	9:27	86	82	88
22-Nov-21	13:13	84	77	81
27-Nov-21	15:40	79	88	77
Average (Range)		**83 (74 – 88)**		

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

1-hour TSP (μg/m³)				
Date	**Start Time**	**1st reading**	**2nd reading**	**3rd reading**
4-Nov-21	12:30	83	86	87
10-Nov-21	9:30	74	81	77
16-Nov-21	9:37	87	91	88
22-Nov-21	13:04	78	81	86
27-Nov-21	15:47	90	97	92
Average (Range)		**85 (74 – 97)**		

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

Date	24-hour TSP ($\mu g/m^3$)	1-hour TSP ($\mu g/m^3$)				
		Date	Start Time	1st reading	2nd reading	3rd reading
5-Nov-21	32	4-Nov-21	9:20	81	77	78
11-Nov-21	56	10-Nov-21	13:02	69	73	78
17-Nov-21	98	16-Nov-21	14:12	98	94	109
23-Nov-21	49	22-Nov-21	9:29	77	84	89
29-Nov-21	65	27-Nov-21	10:11	106	99	108
Average (Range)	**60 (32 – 98)**	Average (Range)		**88 (69 – 109)**		

Table 4-5 Summary of 24-hour and 1-hour TSP Monitoring Results (AMS-6)

Date	24-hour TSP ($\mu g/m^3$)	1-hour TSP ($\mu g/m^3$)				
		Date	Start Time	1st reading	2nd reading	3rd reading
5-Nov-21	46	4-Nov-21	9:50	78	79	81
11-Nov-21	85	10-Nov-21	13:09	83	74	80
17-Nov-21	118	16-Nov-21	14:01	93	92	101
23-Nov-21	66	22-Nov-21	9:19	87	79	81
29-Nov-21	104	27-Nov-21	14:42	92	88	99
Average (Range)	**84 (46 – 118)**	Average (Range)		**86 (74 – 101)**		

Table 4-6 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
5-Nov-21	32	4-Nov-21	13:48	86	85	80
11-Nov-21	37	10-Nov-21	13:24	87	69	79
17-Nov-21	33	16-Nov-21	13:36	95	104	97
23-Nov-21	52	22-Nov-21	9:08	79	81	83
29-Nov-21	100	27-Nov-21	9:57	77	84	75
Average (Range)	**51 (32 – 100)**	Average (Range)		**84 (69 – 104)**		

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

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

5. CONSTRUCTION NOISE MONITORING

5.1 GENERAL

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

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

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

5.3 NOISE MONITORING RESULTS IN REPORTING MONTH

5.3.1 In the Reporting Period, a total of **29** events noise measurements were carried out at the designated locations under Contract 1. The noise monitoring results at the designated locations are summarized in ***Tables 5-1.*** The detailed noise monitoring data are presented in ***Appendix H*** and the relevant graphical plots are shown in ***Appendix I***.

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

Construction Noise Level ($L_{eq30min}$), dB(A)						
Date	**NMS2**	**NMS3**	**NMS4a**	**NMS5**	**NMS6**	**NMS7**
4-Nov-21	65	67	67	66	67	67
10-Nov-21	65	66	72	71	68	68
16-Nov-21	64	61	70	69	72	70
22-Nov-21	66	66	68	64	69	65
Limit Level	***70*** dB(A) / ***65*** dB(A)[Note 1]	**75 dB(A)**				

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

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

Construction Noise Level ($L_{eq30min}$), dB(A)	
Date	**NMS8**
1-Nov-21	58
12-Nov-21	59
18-Nov-21	58
24-Nov-21	66
30-Nov-21	61
Limit Level	**75 dB(A)**

5.3.2 For the additional noise monitoring under Contract 3, a total of **15** events noise measurements were performed for the Contract. The noise monitoring results are summarized in ***Tables 5-2.*** The detailed noise monitoring data are presented in ***Appendix H*** and the relevant graphical plots are shown in ***Appendix I***.

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

Construction Noise Level ($L_{eq30min}$), dB(A)			
Date	**CN1**	**CN2**	**CN3**
1-Nov-21	65	60	60
12-Nov-21	62	58	57
18-Nov-21	58	58	62
24-Nov-21	64	63	67

Construction Noise Level ($L_{eq30min}$), dB(A)			
Date	**CN1**	**CN2**	**CN3**
30-Nov-21	58	59	60
Limit Level	***70*** dB(A) / ***65*** dB(A)[Note 1]	***70*** dB(A)[Note 1] / ***65*** dB(A)[Note 1]	**75 dB(A)**

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

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

6. WASTE MANAGEMENT

6.1 GENERAL WASTE MANAGEMENT

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

6.3 RECORDS OF WASTE QUANTITIES

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

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

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

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

Type of Waste	Contract 1		Contract 2		Contract 3		Contract 4		Contract 5	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Total generated Inert C&D Materials ('000m^3) (#)	19.619	-	0.01	-	5.028	-	83.441	-	0.1	-
Hard Rock and Large Broken Concrete ('000m^3)	0	-	0	-	0	-	38.338	-	0	-
Reused in this Contract (Inert) ('000m^3)	7.160	-	0	-	0.333	-	0	-	0	-
Reused in other Projects (Inert) ('000m^3)	11.76	*	0	-	1.017	-	0	-	0	-
Disposal as Public Fill (Inert) ('000m^3)	0.700	TKO 137	0.01	**TKO 137**	3.678	TKO 137	45.103	-	0.1	-

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

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

Type of Waste	Contract 1		Contract 2		Contract 3		Contract 4		Contract 5	
	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location	Quantity	Disposal Location
Recycled Metal ('000kg)	0	-	0	-	0	-	0	-	0	-
Recycled Paper / Cardboard Packing ('000kg)	0	-	0	-	0	-	0	-	0	-
Recycled Plastic ('000kg)	0	-	0	-	0.490	Licensed collector	0	-	0	-
Chemical Wastes ('000kg)	0	-	0	-	0	-	0	-	0	-
General Refuses ('000m^3)	0.090	SENT	0.03	SENT	0.045	SENT	0	SENT	0.03	SENT

7. SITE INSPECTION

7.1 REQUIREMENTS

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

7.2 FINDINGS / DEFICIENCIES DURING THE REPORTING MONTH

Contract 1

7.2.1 In the Reporting Period, joint site inspections for Contract 1 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **2, 11, 16, 23 and 30 November 2021** in which IEC joined the site inspection with SSEMC on **11 November 2021**. 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
2 November 2021	• No adverse environmental issue was observed during site inspection • The Contractor was reminded to implement dust suppression measures at System A during windy season.	• NA • Reminder only
11 November 2021	• The Contractor was advised to provide drip tray for chemical containers at PTT. • The Contractor was reminded to clean stagnant water inside drip tray at PTT. • The Contractor was reminded to provide water spray for dust suppression at Cavern.	• Chemical containers have been removed from PTT • The Contractor has implemented action to remove stagnant water from drip tray. • Reminder only
16 November 2021	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to provide water spray for dust suppression during dry season.	• NA • Reminder only.
23 November 2021	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to implement dust suppression measures at System A and Cavern.	• NA • Reminder only
30 November 2021	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to provide water spray for dust suppression at System A	• NA • Reminder only

Contract 2

7.2.2 In the Reporting Period, joint site inspections for Contract 2 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **3, 10, 17 and 24 November 2021** in which IEC joined the site inspection with SSEMC on **17 November 2021**. No non-compliance was noted. The findings / deficiencies of ***Contract 2*** that observed during the weekly site inspection are listed in ***Table 7-2***.

Table 7-2 Site Observations of Contract 2

Date	Findings / Deficiencies	Follow-Up Status
3 November 2021	• No adverse environmental issue was observed. • The Contractor was reminded to maintain good house-keeping at L Portion 2.	• NA • Reminder only
10 November 2021	• The Contractor was advised to maintain house-keeping within site area. • The Contractor was advised to cover cement bags properly at PC3 and RS1.	• Reminder only • Cement bags have been removed from PC3 and RS1.
17 November 2021	• Empty cement bag was observed at Portion 2. The Contractor was advised to remove it from site area. • The Contractor was reminded to maintain good house-keeping within site area. • The Contractor was reminded to clean u-channel regularly at Portion 2.	• Cement bags have been removed • Reminder only • Reminder only
24 November 2021	• No adverse environmental issue was observed. • The Contractor was reminded to dispose general refuse regularly within site area. (Portion 2) • The Contractor was reminded to provide drip tray for container in Portion 2 • The Contractor was reminded to provide drip tray for chemical container to avoid land contamination at P2L	• NA • Reminder only • Reminder only • Reminder only

Contract 3

7.2.3 In the Reporting Period, joint site inspections for Contract 3 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **5, 9, 19 and 26 November 2021** in which IEC joined the site inspection with SSEMC on **9 November 2021**. No non-compliance was noted. The findings / deficiencies of ***Contract 3*** that observed during the weekly site inspection are listed in ***Table 7-3***

Table 7-3 Site Observations of Contract 3

Date	Findings / Deficiencies	Follow-Up Status
5 November 2021	• No adverse environmental issue was observed during site inspection.	• NA
9 November 2021	• No adverse environmental issue was observed during site inspection.	• NA
19 November 2021	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to clean u-channel ay System B.	• NA • Reminder only
26 November 2021	• No adverse environmental issue was observed during site inspection. •	• Reminder only

Contract 4

7.2.4 In the Reporting Period, joint site inspections for Contract 4 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **3, 10, 17 and 22 November**

2021 in which IEC joined the site inspection with SSEMC on **22 November 2021**. No non-compliance was noted. The findings / deficiencies of ***Contract 4*** that observed during the weekly site inspection are listed in ***Table 7-4***

Table 7-4 Site Observations of Contract 4

Date	Findings / Deficiencies	Follow-Up Status
3 November 2021	• The Contractor was advised to provide drip tray for chemical container at +185mPD	• Chemical container is removed from site area.
10 November 2021	• No adverse environmental issue was observed during site inspection.	• NA
17 November 2021	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to fix the steel cage pump at GI (next to Portion 14) to prevent stagnant water leakage	• NA • Reminder only
22 November 2021	• No adverse environmental issue was observed during site inspection. • The Contractor was reminded to clean the oil stains and disposed of it as chemical waste at platform +185mPD.	• NA • Reminder only

Contract 5

7.2.5 In the Reporting Period, joint site inspections for Contract 5 to evaluate site environmental performance were carried out by the RE, ET and the Contractor on **4, 11, 18 and 23 2021** in which IEC joined the site inspection with SSEMC on **23 November 2021**. No non-compliance was noted. The findings / deficiencies of ***Contract 5*** that observed during the weekly site inspection are listed in ***Table 7-5***

Table 7-5 Site Observations of Contract 5

Date	Findings / Deficiencies	Follow-Up Status
4 November 2021	• No adverse environmental issue was observed • The Contractor was reminded to provide water spray for dust suppression at E10.	• NA • Reminder only
11 November 2021	• Excavator without NRMM label was observed at E10. The Contractor was advised to provide NRMM label for excavator used within site area. • The Contractor was reminded to provide water spray regularly at exposed work area at E6.	• NRMM label is provided for excavator at E10. • Reminder only
18 November 2021	• No adverse environmental issue was observed. • The Contractor was reminded to remain good housekeeping at E6. • The Contractor was reminded to remove oil container at E6.	• NA • Reminder only • Reminder only
23 November 2021	• The Contractor was advised to provide drip tray for chemical container or remove it from site area (E6) • Chemical leakage was observed at E6. The Contractor was advised to clean chemical as soon as possible to avoid	• Chemical container was removed and chemical leakage was cleaned within site area • Chemical container was removed and chemical leakage was cleaned

Date	Findings / Deficiencies	Follow-Up Status
	land contamination.	within site area.

8. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

8.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

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

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

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

Table 8-1 Statistical Summary of Environmental Complaints

Reporting Period	Contract no.	Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
1 Apr 2017 – 31 Oct 2021	1	0	**52**	**Dust, Noise and light nuisance**
21 Mar 2017 – 31 Oct 2021	2	0	**10**	**Noise**
31 May 2018 – 31 Oct 2021	3	0	**8**	**Waste Management, Noise, Water Quality**
27 Sep 2021- 31 Oct 2021	4	0	**0**	NA
30 Mar 2021 – 31 Oct 2021	5	0	**0**	NA
1 – 30 November 2021	1	0	**52**	NA
	2	0	**10**	NA
	3	0	**8**	NA
	4	0	**0**	NA
	5	0	**0**	NA

Table 8-2 Statistical Summary of Environmental Summons

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

Table 8-3 Statistical Summary of Environmental Prosecution

Reporting Period	Contract no.	Environmental Prosecution Statistics		
		Frequency	Cumulative	Prosecution Nature
1 Apr 2017 – 31 Oct 2021	1	0	0	NA
21 Mar 2017 – 31 Oct 2021	2	0	0	NA
31 May 2018 – 31 Oct 2021	3	0	0	NA
27 Sep 2021- 31 Oct 2021	4	0	0	NA
30 Mar 2021 – 31 Oct 2021	5	0	0	NA
1 – 30 November 2021	1	0	0	NA

Reporting Period	Contract no.	Environmental Prosecution Statistics		
		Frequency	Cumulative	Prosecution Nature
	2	0	0	NA
	3	0	0	NA
	4	0	0	NA
	5	0	0	NA

9. IMPLEMENTATION STATUS OF MITIGATION MEASURES

9.1 GENERAL REQUIREMENTS

9.1.1 The environmental mitigation measures that recommended in the Implementation Schedule for Environmental Mitigation Measures (ISEMM) in the approved EM&A Manual covered the issues of dust, noise, water and waste and they are summarized presented in ***Appendix L.***

9.1.2 All contracts under the Project shall be implementing the required environmental mitigation measures according to the approved EM&A Manual as subject to the site condition. Environmental mitigation measures generally implemented in this Reporting Period are summarized in ***Table 9-1***.

Table 9-1 Environmental Mitigation Measures

Issues	Environmental Mitigation Measures
Water Quality	• Wastewater to be treated by filtration system; such as, silt curtain or sedimentation tank before discharge. • Replace silt curtain materials if necessary
Air Quality	• Maintain damp / wet surface on access road • Keep slow speed in the sites • All vehicles must use wheel washing facility before off site • All vehicles must use wheel washing facility before off site • Sprayed water during breaking works
Noise	• Restrain operation time of plants from 07:00 to 19:00 on any working day except for Public Holiday and Sunday. • Keep good maintenance of plants • Place noisy plants away from residence or school • Provide noise barriers or hoarding to enclose the noisy plants or works • Shut down the plants when not in used.
Waste and Chemical Management	• On-site sorting prior to disposal • Follow requirements and procedures of the "Trip-ticket System" • Predict required quantity of • concrete accurately • Collect the unused fresh concrete at designated locations in the sites for subsequent disposal
General	• The site was generally kept tidy and clean.

9.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

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

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

Pedestrian Connectivity System B:
- Bamboo Scaffold Erection for external ABWF works

Box Culvert BC1 at Internal Road L1:
- Defect rectification work to continue
- Slurry removal to continue
- Cat ladder installation complete
- Material of Multi-part cover will arrive in early December 2021.

Construction of Internal Road L1:
- Excavation and laying of watermain to continue.
- Road work, footpath and cycle track at L1 east to continue.

- Gullies and upper drainage construction for road L1 west to continue.

Water Reservoir:
- To continue construct valve chamber.
- To continue the construction works of WSD Access.
- To continue the laying and construct the additional dia.600 pipe and manhole.

Artificial Flood Attenuation Lake:
- To continue the drainage works (the remaining part: near S114).
- To continue laying 10mm aggregate (400mm thk).

Slope Stabilization at Portion B5:
- Continue to erect inspection scaffolds from 2nd to 5th berm.
- Continue to carry out stabilization works at Feature No. 11NE-D/C948 & 11NE-B/C902
- Perform rocking mapping and stabilization measure at 11NE-B/C900
- Perform scaffolding alternation to suit stabilization work required at 11NE-B/C1013 & 1014

Site Formation Work at Portion B13:
- Land Parcel R2-4 & R2-6 Excavation to formation level in progress.
- UC construction at Land Parcel R2-4 & R2-6 in progress.

Cavern (Portion B5):
- Rock fall fence installation complete.
- Rock breaking of existing slope at Ch200-248 on level +196 - 202mPD to continue.
- Rock dowel construction to continue.
- Drilling of Portal to continue.
- Planter wall construction to continue.
- UC construction at CH248 +198.5mPD berm in progress.
- Construction of Inspection scaffold on temporary triangle bracket in progress.

MEP Works:
- Submission of designs and materials related to MEP works in progress.
- E&M installation works at PTT in progress to continue.
- E&M installation works at Pump Hall of Fresh Water Pumping Station in progress.
- E&M installation works at Pedestrian Connectivity System B in progress.
- E&M installation works at Underground Stormwater Retention Tank in progress.
- E&M installation works at Underpass in progress
- Commencement of E&M installation works at Pillar Box (Underground Stormwater Retention Tank).

Road Improvement Works at Po Lam Road:
- Construction of permanent footpath and surface drainage system complete
- Excavation works to facilitate installation of the E&M/ACT/Earth pit and construction of permanent footpath and surface drainage system complete
- Construct concrete carriageway and footpath completed
- Install beam barrier complete
- Construct Island in progress
- Implement stage 3 TTA

Internal Road L4, Pedestrian Connectivity System A, Noise Barrier, RWA12 and RWA18:
- Backfilling G200 rock at RWA12 to continue
- Drainage, sewerage construction in progress
- UU installation in progress
- Watermain laying to be commenced

PTT

- Lighting system and PMMA panel installation to continue, concrete pavement construction, kerb laying and noise barrier works would continue.

Retaining Wall RWA9 at Road L3

- Backfilling and SRT of RWA9 Bays 1- Bay10 complete.
- Lower level drainage in progress.
- Watermain laying in progress.
- UU laying complete.
- Ducting installation works for street lighting to commence.

Hiking Trail (Portion B5):

- Perform material submission due to revised detail of hiking trail.

Existing Anderson Road

- Pipe trough construction to continue.

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

- Temporary Traffic Arrangement (TTA)
- Soil Nail Construction
- Mass Concrete construction
- Formwork and Falsework installation and dismantling
- Lifting Tower Construction
- Rebar fixing

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

Works in Road Improvement Works 1 (RIW1)

- Construct RC works & backfilling at Type 2 are in-progress.
- Construct socketed H pile at RWC2 Type 3 for piling construction are in-progress; Rock excavation at RWC2 Type 3 are in-progress.
- Preparation works of drainage diversion at Type 4 is in-progress.
- Backfilling works at Type 6 to 8 is in-progress.
- Mini-pile works at FE1-PC1b is in-progress.
- Excavate trial pit works at CT5 is in-progress.
- Drainage works at KS27 (West Side) also is in-progress; Install sheet pile & ELS works at KS27 (East Side) near Shun Lee Estate.

Works in Road Improvement Works 2 (RIW2)

- Construct RC works at RWC3b; Rock excavation works at RWC3b are in-progress.
- Install pipe pile wall at CT4 roadside is in-progress.
- Construct mini-pile works at SE2 (hill side toward Sai Keung direction) is in-progress; Excavate for expose utilities and utilities protection / diversion are in-progress.
- TTA arrangement for the upcoming stage at SE2 in-progress.

Works in Road Improvement Works 3 (RIW3)

- Excavate trial pits at Sau Mui Ping Road / Lin Tak Road for watermain alignment confirmation in-progress.
- Concreting and backfilling works at RWD1 Bay 1 – 10.
- ELS works at RWD1 Bay 11 – 14 is in-progress.
- Rock excavate at Slope D1 lower portion is in-progress.
- Road works and backfilling works at Slope D2 are in-progress.
- Rock excavation using drill & split method, drainage works and road works at Slope D3 / Lin Tak Road are in-progress.

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

Pedestrian Connectivity Facility E11 (PC-E11)
- ABWF works and E&M works at LT2 & ST2 are in-progress.
- ABWF works and E&M works at LT1 & ST1 are in-progress.
- ABWF work and E&M works inside the footbridge steel frame are in-progress.

Pedestrian Connectivity Facility A (PC-SYA)
- ABWF works and E&M works at LT1, LT2 & ST1 are in-progress.
- Erect steel works inside RC structure is in-progress.

Pedestrian Connectivity Facility B (PC-SYB)
- RC works at SyB-LT1 & ST1 is in-progress.
- Construct pile cap at PC4 & PC6 are in-progress.
- Install sheet-pile and excavation works at PC1 are in-progress.

Tseung Kwan O Bus-Bus Interchange New Public Toilet (BBI-Toilet)
- The completed toilet was handed over to Food and Environmental Hygiene Department on 30 September 2020; Additional works under an instruction is in-progress.

9.2.4 Construction activities for Contract 4 in the coming month are listed below:

- Initial Survey, Tree Survey
- Construction of site office.
- Erection of Chain link Fence
- Removal of disused drains and sprinkle system at Portion 10
- Excavation work for Site Drainage at Portion 2a, 8 & 12
- GI work (CE)
- Modification of RWA10 footing

9.2.5 Construction activities for Contract 5 in the coming month are listed below:

Portion 1
- Form piling platform

Portion 2
- Piling Works

Portion 3
- Diversion of existing staircase

Portion 4
- Excavation of E10-F3
- Excavation of E10-F1

9.3 KEY ISSUES FOR THE COMING MONTH

9.3.1 Key issues to be considered in the coming month include:
- Implementation of dust suppression measures at all times;
- Potential wastewater quality impact due to surface runoff;
- Potential fugitive dust quality impact due from the dry/loose/exposure soil surface/dusty material;
- Disposal of empty engine oil containers within site area;
- Ensure dust suppression measures are implemented properly;
- Sediment catch-pits and silt removal facilities should be regularly maintained;
- Management of chemical wastes;
- Discharge of site effluent to the nearby wetland, stockpiling or disposal of materials, and

any dredging or construction area at this area are prohibited;

- Follow-up of improvement on general waste management issues; and
- Implementation of construction noise preventative control measures

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

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

10. CONCLUSIONS AND RECOMMENDATIONS

10.1 CONCLUSIONS

10.1.1 This is **56th** monthly EM&A report presenting the monitoring results and inspection findings for the Reporting Period from **1** to **30 November 2021**.

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

10.1.3 In the Reporting Period, no exceedance was recorded and no Notification of Exceedance was issued. Moreover, no noise complaints (which triggered Action Level) were received for the Project.

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

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

10.1.6 During the Reporting Period, weekly joint site inspection by the RE, ET with the relevant Main-contractor was carried out for Contracts 1, 2, 3, 4 and 5 in accordance with the EM&A Manual stipulation whereas IEC performed monthly site inspection for both contracts. No non-compliance observed during the site inspection.

10.2 RECOMMENDATIONS

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

10.2.2 Since construction site is highly visible to the resident at nearby estates, the Contractors should pay special attention on potential environmental impact generated by the site activities and adhere implement adequate air quality and noise mitigation measures as far as practicable to reduce the impact to the public.

10.2.3 Construction noise is one of the key environmental issues during construction work of the Project. Noise mitigation measures such as using quiet plants and noise barriers shall be implemented where practicable according to the EM&A manual.

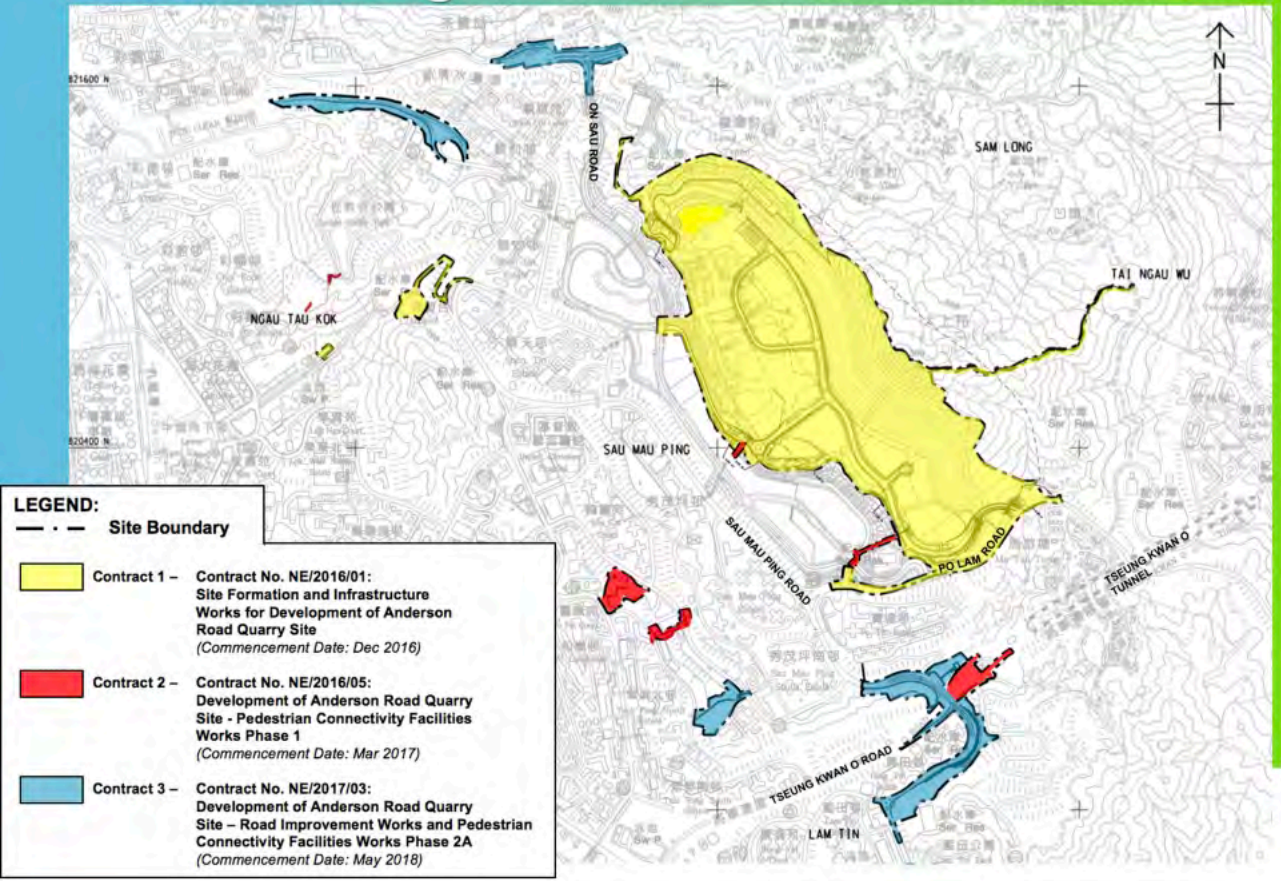
10.2.4 In addition, the Contractors should ensure all effluent discharge shall be fulfilled the Technical Memorandum of Effluent Discharged into Drainage and Sewerage Systems, inland and Coastal Waters criteria or relevant discharge license requirement.

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

Appendix A

Layout plan of the Project

Contract Packages



LEGEND:

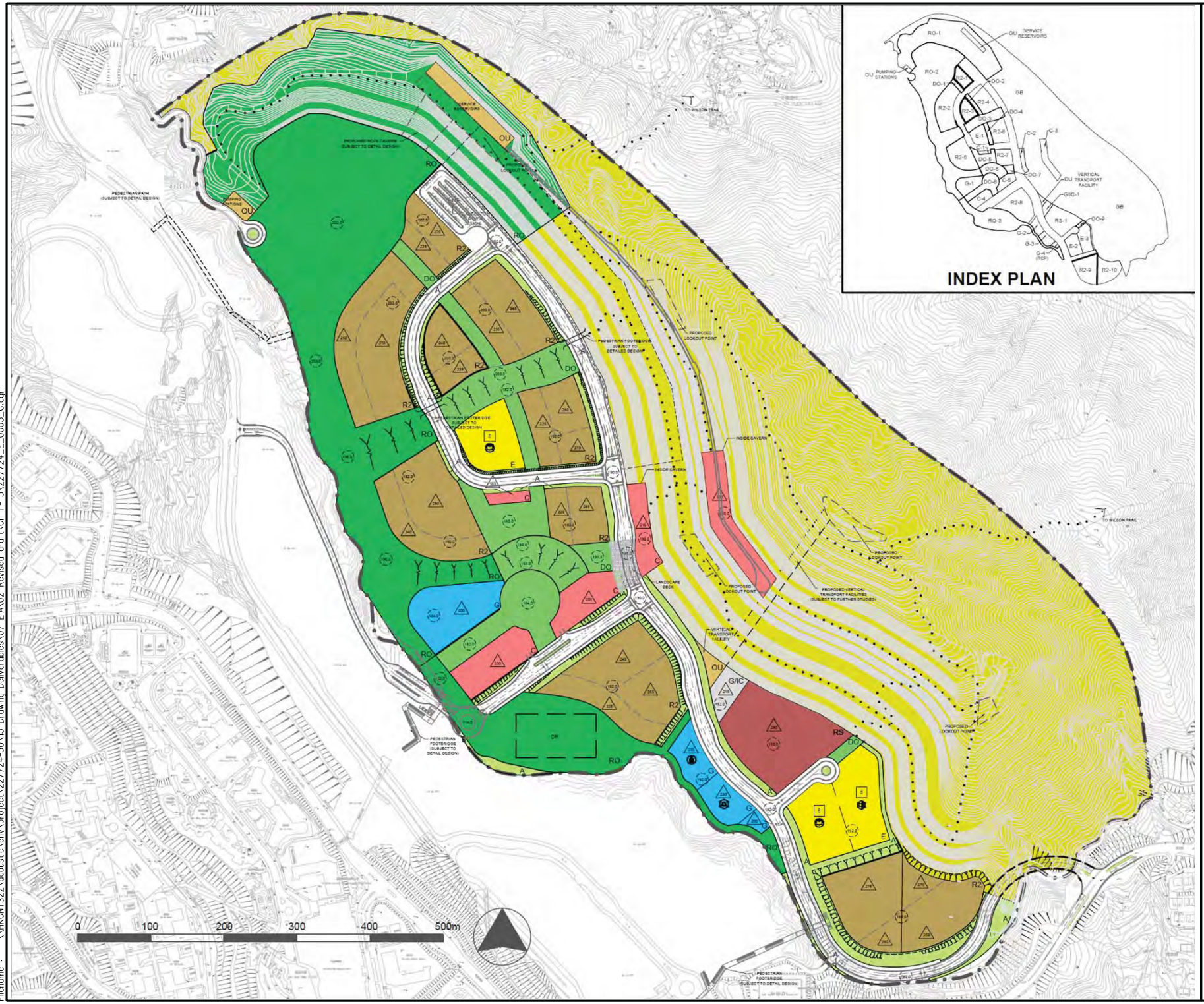
— · — **Site Boundary**

Contract 1 – **Contract No. NE/2016/01:**
Site Formation and Infrastructure Works for Development of Anderson Road Quarry Site
(Commencement Date: Dec 2016)

Contract 2 – **Contract No. NE/2016/05:**
Development of Anderson Road Quarry Site - Pedestrian Connectivity Facilities Works Phase 1
(Commencement Date: Mar 2017)

Contract 3 – **Contract No. NE/2017/03:**
Development of Anderson Road Quarry Site – Road Improvement Works and Pedestrian Connectivity Facilities Works Phase 2A
(Commencement Date: May 2018)

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



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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

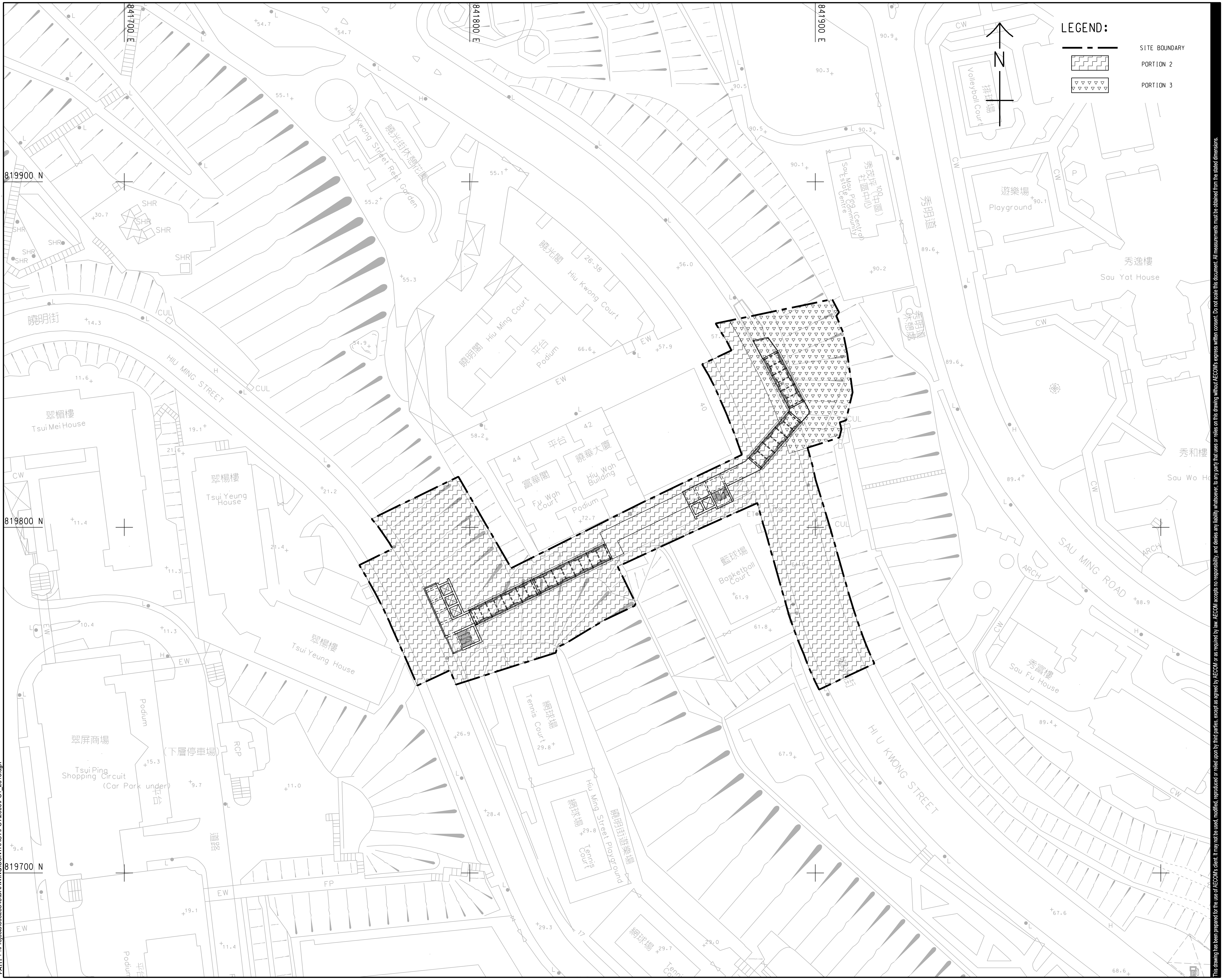
Recommended Outline Development Plan

Drawing no.		Rev.
227724/E/0003		C
Drawn: GL	Date: 03/14	Checked: TC / Approved: ST
Scale: AS SHOWN	Status: PRELIMINARY	

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

Printed by : 3/31/2014
Filename : \\HKGNTS22\acoustic\env\project\227724-50\13 Drawing Deliverables\07 EIA\02 Revised draft\Ch 1 - 3\227724_E_0003_C.dgn

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



AECOM

PROJECT 項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

CLIENT 業主

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

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

ISSUE/REVISION 修訂

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

STATUS 階段

SCALE 比例 A1 1 : 500

DIMENSION UNIT 尺寸單位 METRES

KEY PLAN 索引圖 A1 1 : 60000

PROJECT NO. 項目編號 60328348

CONTRACT NO. 合約編號 NE/2016/05

SHEET TITLE 圖紙名稱

E2-C1-E3 - PORTION OF SITE

SHEET NUMBER 圖紙編號

60328348/PC1/2016

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

Plot File by: WANGGLW 2016/10/24
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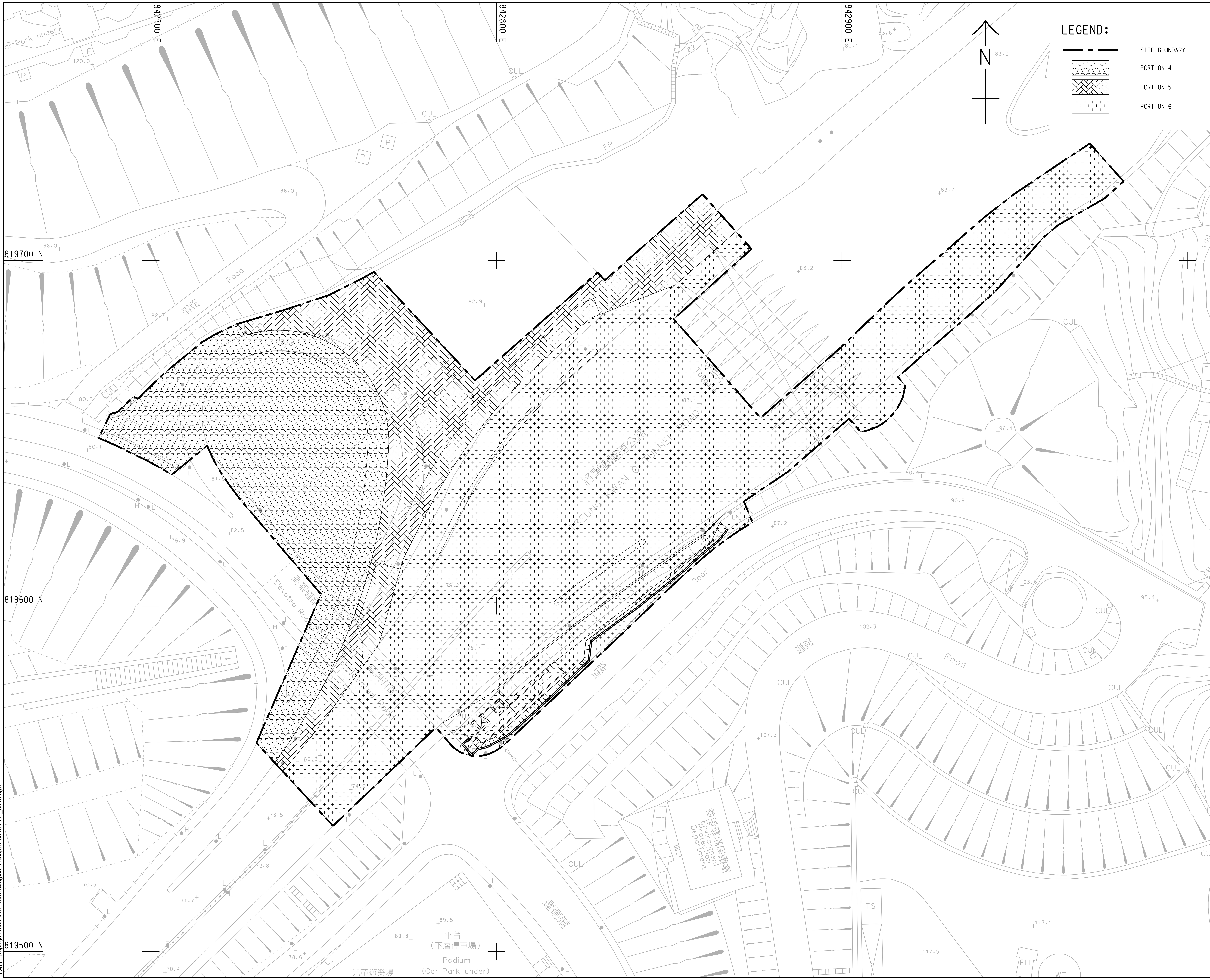

AECOM

PROJECT 項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

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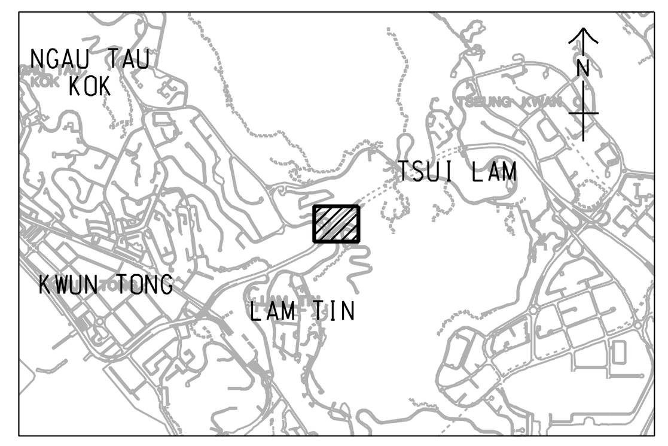
STATUS 階段

SCALE 比例 A1 1 : 500

DIMENSION UNIT 尺寸單位 METRES

KEY PLAN 索引圖 A1 1 : 60000



PROJECT NO. 項目編號 60328348

CONTRACT NO. 合約編號 NE/2016/05

SHEET TITLE 圖紙名稱

E12 AND BBI - PORTION OF SITE

SHEET NUMBER 圖紙編號

60328348/PC1/3016

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

Plot File by: WANGGLW 2016/10/25
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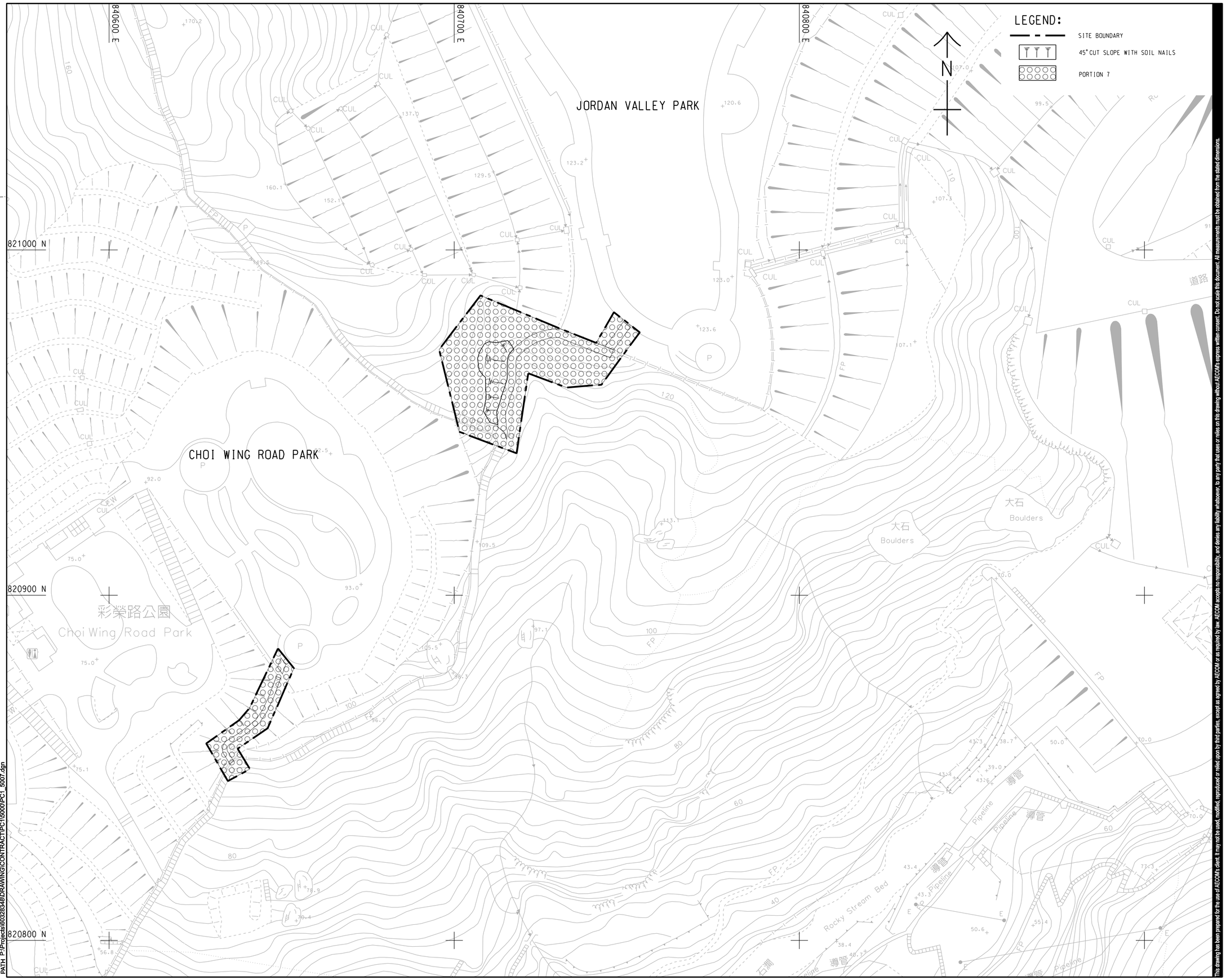

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PROJECT 項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

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STATUS 階段

SCALE 比例
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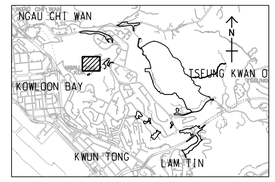
DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 A1 1 : 60000



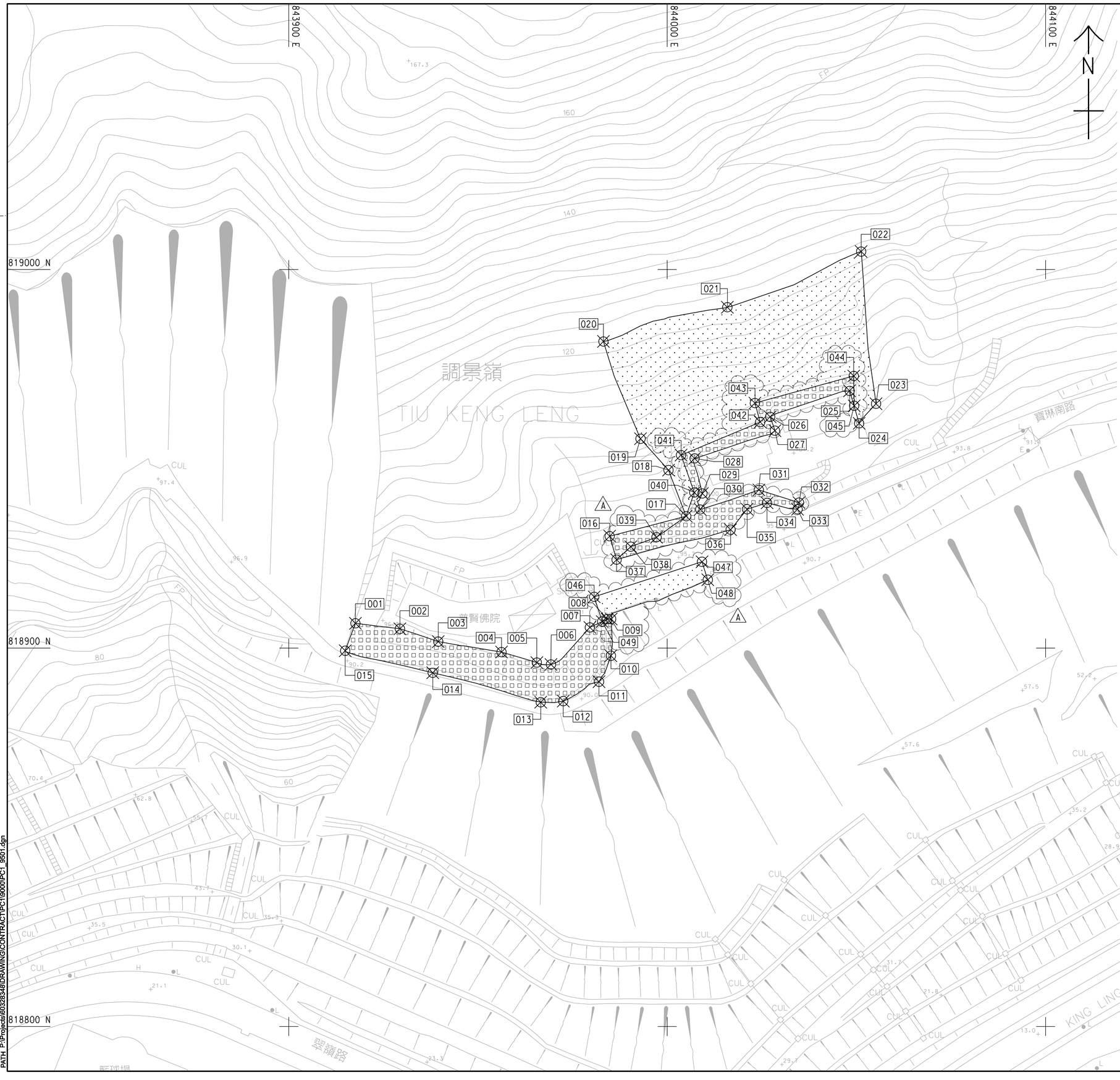
PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

SHEET TITLE 圖紙名稱
GREEN ROUTE - PORTION OF SITE

SHEET NUMBER 圖紙編號
60328348/PC1/5007

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



LEGEND:

PORTION 8

PORTION 9

SETTING OUT POINTS

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

Plot File by: WANGGLW 2016/11/16
PATH: P:\Projects\60328348\DRAWING\CONTRACT\PC1\9000\PC1_9501.dgn

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PROJECT 項目

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

CONTRACT TITLE
PEDESTRIAN CONNECTIVITY FACILITIES WORKS PHASE 1

CLIENT 業主

土木工程拓展署
Civil Engineering and Development Department

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-	OCT. 16	TENDER DRAWING	AC

STATUS 階段

SCALE 比例
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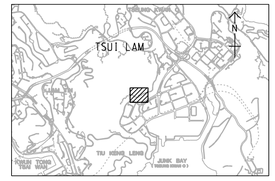
DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 A1 1 : 60000



PROJECT NO. 項目編號
60328348

CONTRACT NO. 合約編號
NE/2016/05

SHEET TITLE 圖紙名稱

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

SHEET NUMBER 圖紙編號

60328348/PC1/9501A

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

圖示 A VIEW A

圖示 B VIEW B

圖則名稱 Drawing Title

行人連繫設施(巴士轉乘站、E11及E12) - 平面圖及構思圖

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

項目編號 Item No.
765CL

比例 Scale

圖則編號 Drawing No.
附件五 Appendix 5

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

土木工程拓展署
CIVIL ENGINEERING AND DEVELOPMENT DEPARTMENT

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

NOTES:

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

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

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

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

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PROJECT 項目

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

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

CLIENT 業主

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Civil Engineering and Development Department

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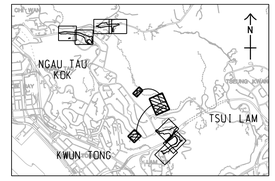
A	NOV. 17	TENDER ADDENDUM NO. 1	AWYC
-	OCT. 17	TENDER DRAWING	AWYC

STATUS 階段

SCALE 比例
A1 1 : 500

DIMENSION UNIT 尺寸單位
METRES

KEY PLAN 索引圖 A1 1 : 60000



PROJECT NO. 項目編號
60328348

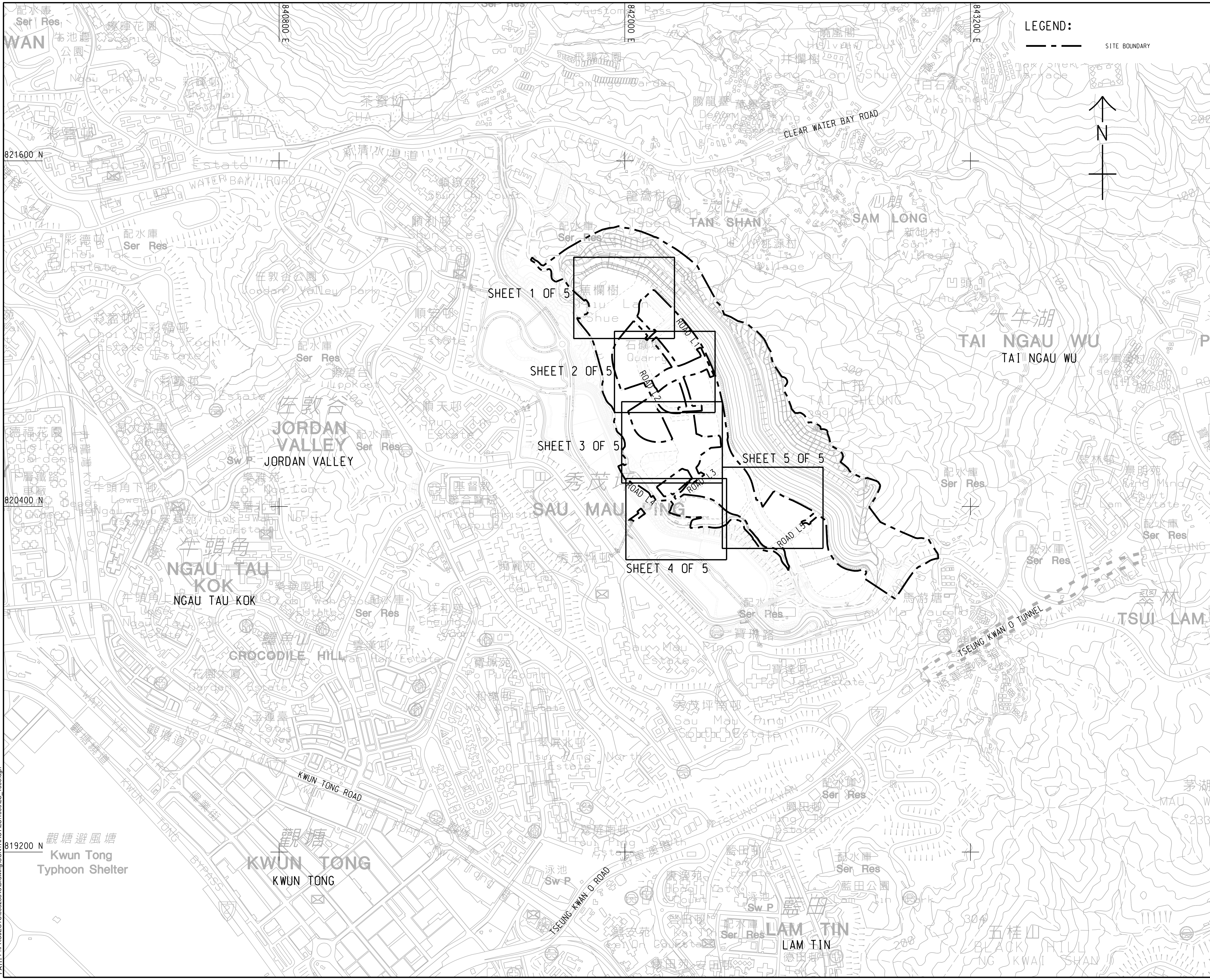
CONTRACT NO. 合約編號
NE/2017/03

SHEET TITLE 圖紙名稱
GENERAL LAYOUT

SHEET 8 OF 8

SHEET NUMBER 圖紙編號
60328348/R&P/1008A

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



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Plot File by: YangRO 3/19/2021
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PROJECT
項目

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

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

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-	MAR. 21	TENDER DRAWING	AWYC

STATUS
階段

SCALE 比例	**DIMENSION UNIT** 尺寸單位
A1 1 : 6000	METRES

KEY PLAN
索引圖

PROJECT NO. 項目編號	**CONTRACT NO.** 合約編號
60328348	ED/2020/02

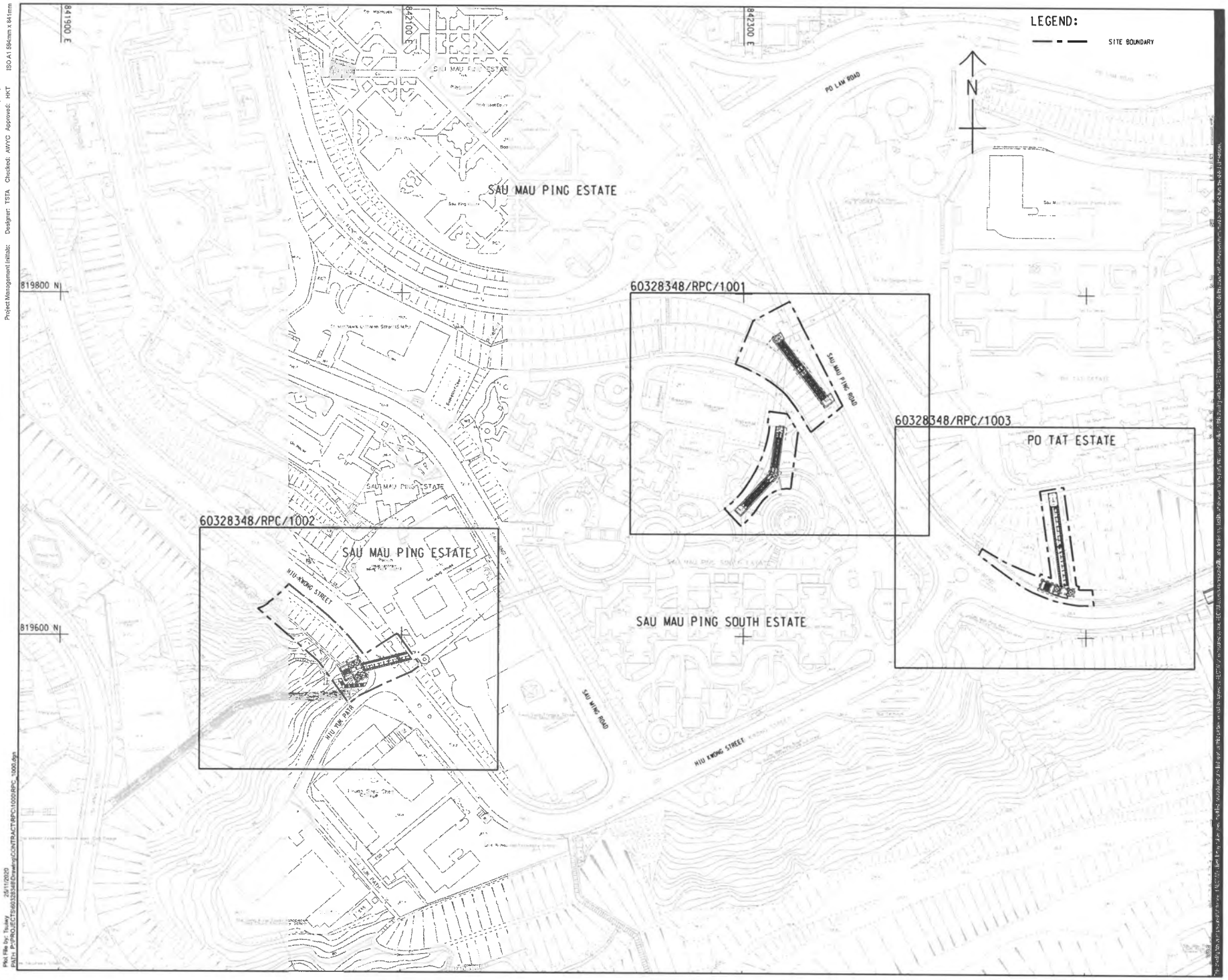
SHEET TITLE
圖紙名稱

KEY PLAN

SHEET NUMBER
圖紙編號

60328348/LS/1000

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



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

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

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

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

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VR	DATE	DESCRIPTION	CHK.
-	NOV. 20	TENDER DRAWING	AWYC

STATUS

SCALE
A1 1 : 1000

DIMENSION UNIT
METRES

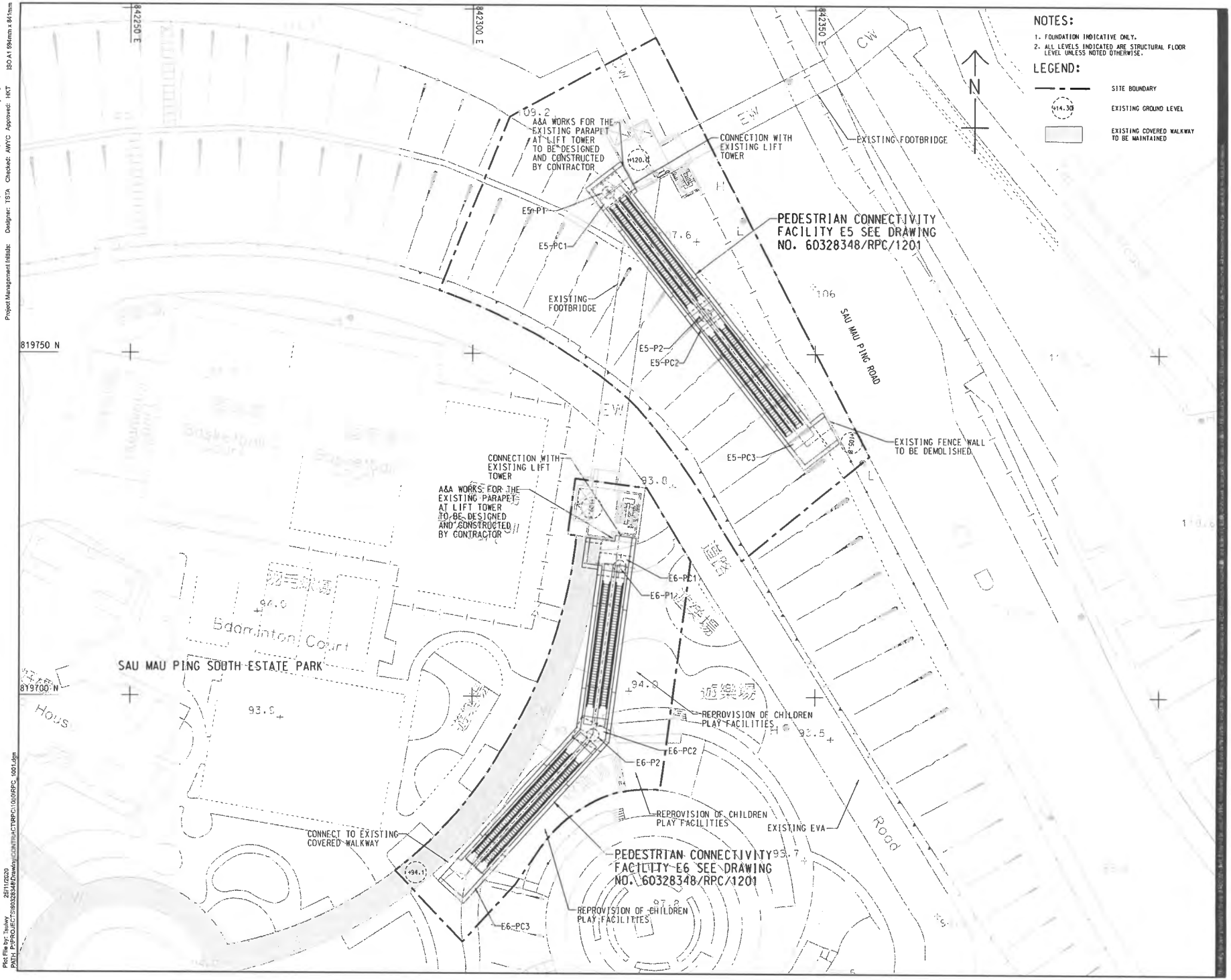
KEY PLAN

PROJECT NO.
60328348

CONTRACT NO.
ED/2019/02

SHEET TITLE
KEY PLAN

SHEET NUMBER
60328348/RPC/1000



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Plot File by: Suiwy 25/11/2020
PATH: P:\PROJECT\60328348\Drawing\CONTRACT\RPC\1\00\RPC_1001.dgn

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PROJECT

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

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

CLIENT

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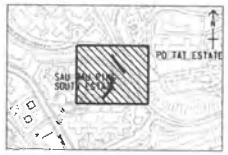
-	NOV. 20	TENDER DRAWING	AWYC

STATUS

SCALE A1 1 : 250

DIMENSION UNIT METRES

KEY PLAN A1 1 : 5000



PROJECT NO. 60328348

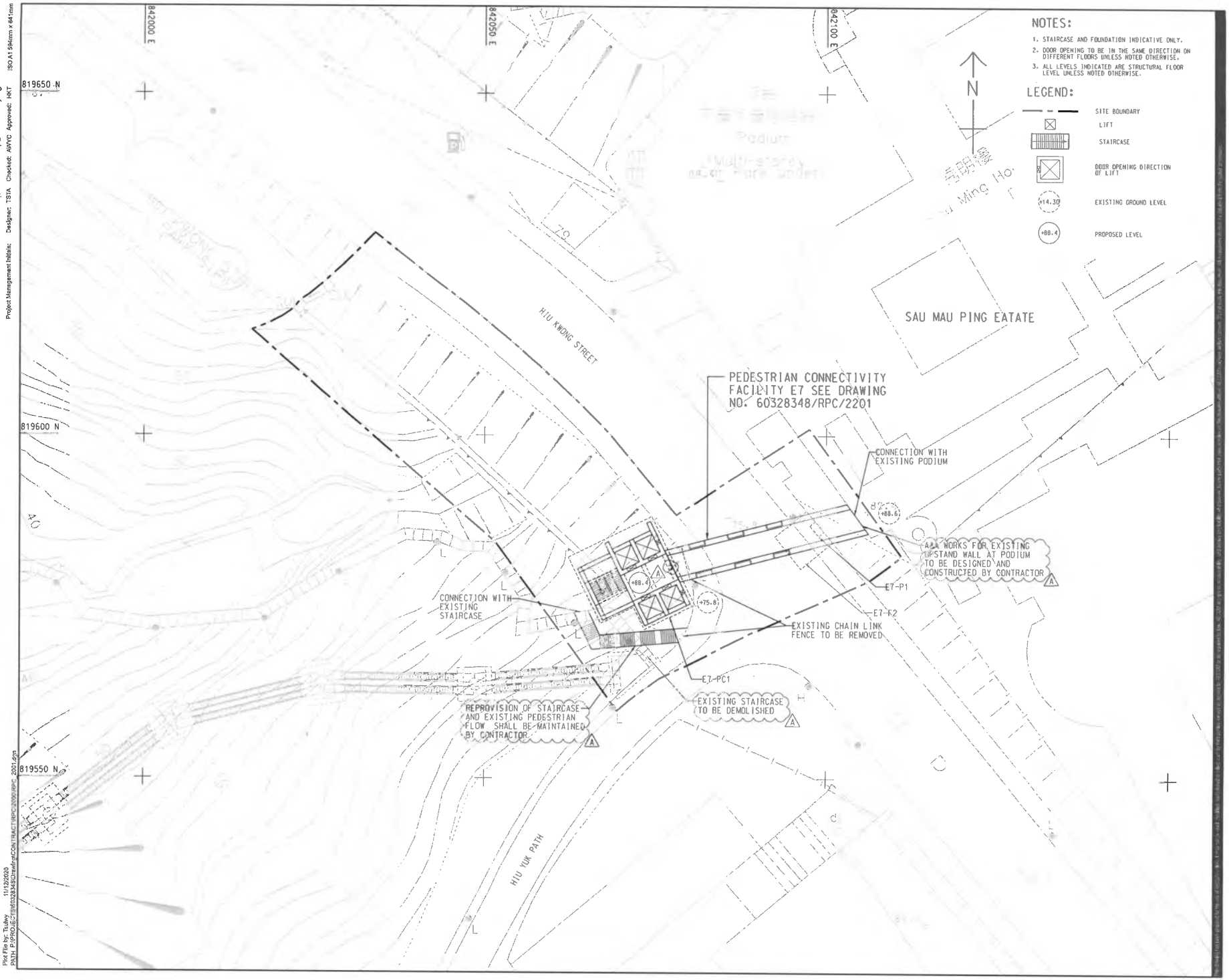
CONTRACT NO. ED/2019/02

SHEET TITLE

GENERAL LAYOUT - E5 & E6

SHEET NUMBER

60328348/RPC/1001



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

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

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

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-	NOV. 20	TENDER DRAWING	AWYC

STATUS

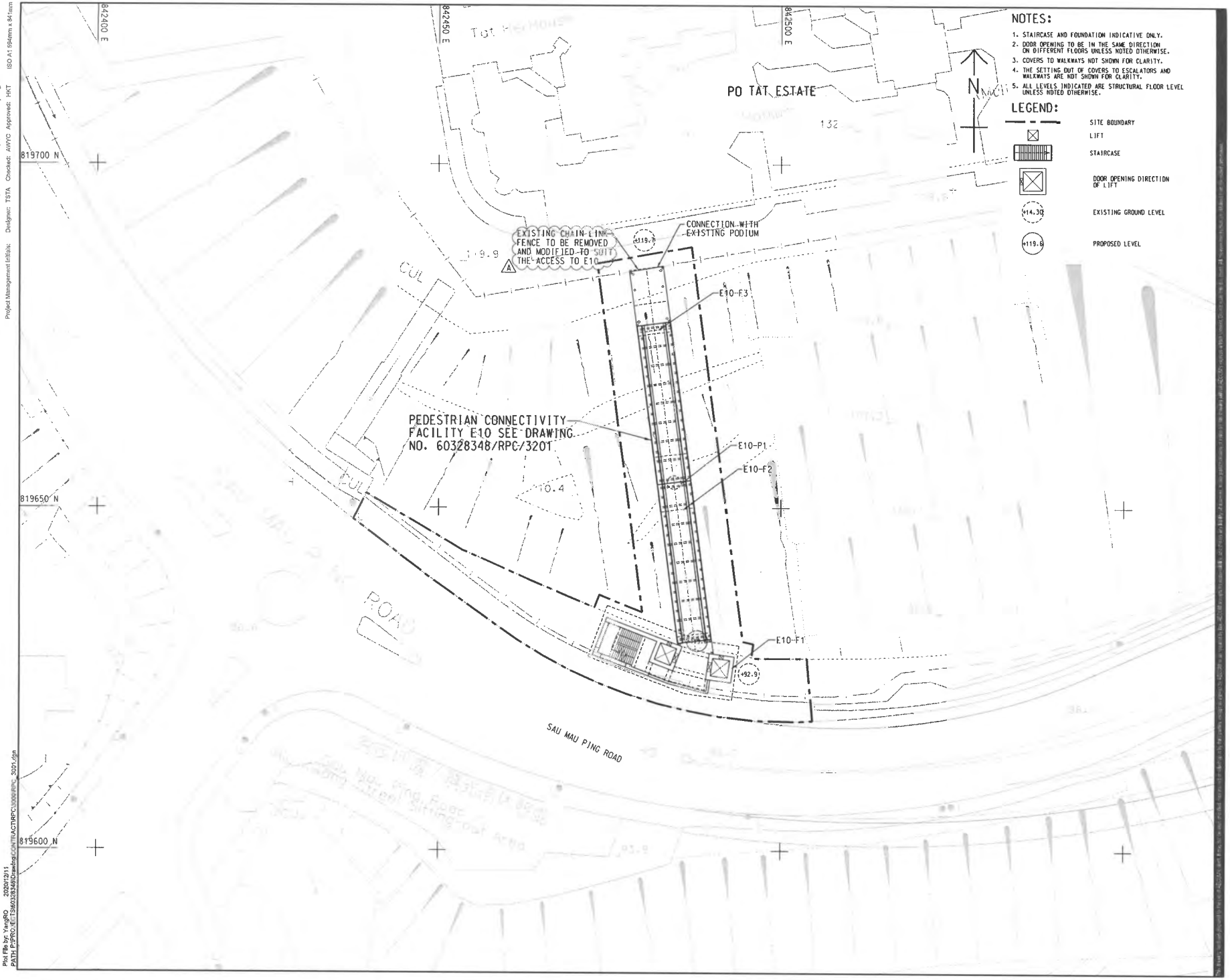
SCALE A1 1 : 250
DIMENSION UNIT METRES

KEY PLAN A1 1 : 5000

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

SHEET TITLE
GENERAL LAYOUT - E7

SHEET NUMBER
60328348/RPC/2001A



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Plot File by: YangRO 2020/12/11
PATH: P:\RPC\E1\60328348\Drawings\CONTRACT\RPC\3000\RPC_3001.dgn

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

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

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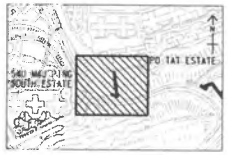
-	NOV. 20	TENDER DRAWING	AWYC

STATUS

SCALE: A1 1 : 250
DIMENSION UNIT: METRES

KEY PLAN A1 1 : 5000



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

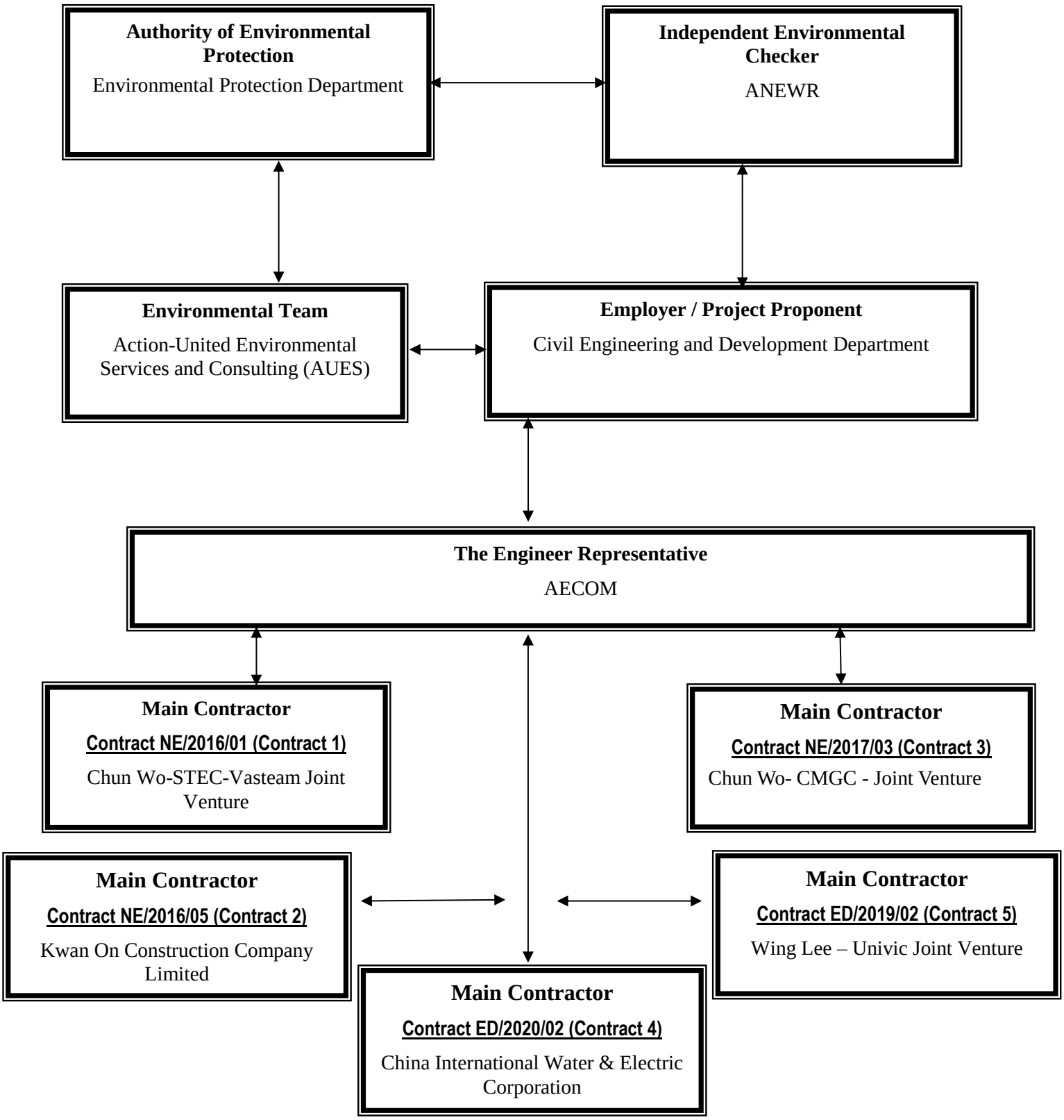
SHEET TITLE
GENERAL LAYOUT - E10

SHEET NUMBER
60328348/RPC/3001A

Appendix B

Project Organization Structure

Project Organization Structure



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

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	S W Lam, Sam	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Li, Ling Tommy	9389 8792	2473 3221
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CSVJV	Project Manager	William Leung	2638 7181	2744 6937
CSVJV	Site Agent	TY Leung	2638 7181	2744 6937
CSVJV	Project Environmental Manager	Jimmy Cheng	2638 7181	2744 6937
CSVJV	Environmental Officer	Ken Chu	2638 7181	2744 6937
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

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

ANEWR (IEC) –ANewR Consulting Limited

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

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

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	S W Lam, Sam	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Bill Hon	5599 1466	2473 3221
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
KOCCL	Project Director	Ambrose Kwong	2889 2675	2558 6900
KOCCL	Site Agent	Mr. Albert PK Ng	9150 1523	2558 6900
KOCCL	Safety and Environmental Manager	Joly C K Kwong	6111 5711	2558 6900
KOCCL	Environmental Officer	Ken Tam	9555 9958	-2558 6900
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

KOCCL (Main Contractor) –Kwan On Construction Company Limited

ANEWR (IEC) –ANewR Consulting Limited

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

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

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	S W Lam, Sam	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Brad Chan	5506 0068	2473 3221
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CW – CMGC - JV	Construction Manager	William Leung	9464 1392	3965 9900
CW – CMGC - JV	Site Agent	Yu, Chi Kuen Paul	94569819	3965 9900
CW – CMGC - JV	Environmental Officer	King Lam	9570 6187	3965 9900
CW – CMGC - JV	Environmental Supervisor	Anna Tsang	9333 8499	3965 9900
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

CW – CMGC - JV (Main Contractor) – Chun Wo- CMGC - Joint Venture

ANEWR (IEC) –ANewR Consulting Limited

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

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

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Engineer	S W Lam, Sam	3842 7087	2739 0076
AECOM	Chief Resident Engineer	Lee, Yu Ching Paul	5723 6880	2473 3221
AECOM	Senior Resident Engineer	Li, Ling Tommy	9389 8792	2473 3221
ANEWR	Independent Environmental Checker	James Choi	2618 2836	3007 8648
CIWEC	Project Director	Leung, Siu Ming Wilson	5135 6590	2508 0987
CIWEC	Site Agent	Tam. Wing San Wilson	9031 5600	2508 0987
CIWEC	Environmental Officer	Claudia Chiang	9851 7932	2508 0987
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

CIWEC (Main Contractor) –China International Water & Electric Corporation

ANEWR (IEC) –ANewR Consulting Limited

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

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

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

Legend:

CEDD (Employer) – Civil Engineering and Development Department

AECOM (Engineer) – AECOM Asia Co. Ltd.

WL –UJV (Main Contractor) – Wing Lee – Univic Joint Venture

ANEWR (IEC) –ANewR Consulting Limited

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

Appendix C

Construction Programme

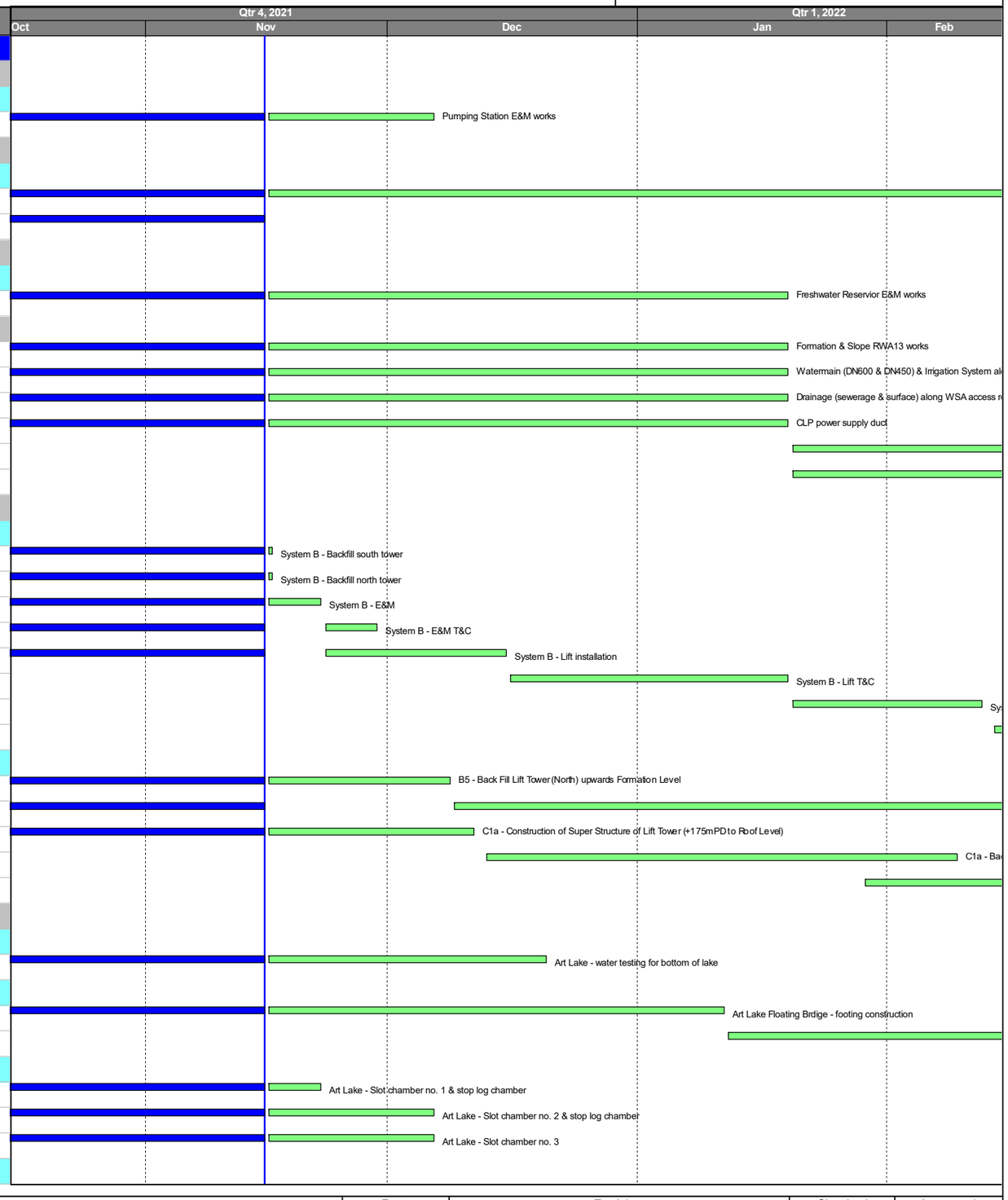
- (a) Contract 1 (NE/2016/01)
- (b) Contract 2 (NE/2016/05)
- (c) Contract 3 (NE/2017/03)
- (d) Contract 4 (ED/2020/02)
- (e) Contract 5 (ED/2019/02)

Contract 1 (NE/2016/01)

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

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

Activity ID	Activity Name	BL Project Duration	BL Project Start	BL Project Finish	At Completion Duration	Start	Finish
Anderson Rd Sub-programme (November 2021) _ccn _211112							
Fresh Water Pumping Station							
Stage 5 -ABWF, Finishing & E&M							
FWP-1320	Pumping Station E&M works	0			431	29-Jun-20 A	06-Dec-21
Salt Water Reservoir							
ABWF, Finishing & E&M							
SWR-1410	Saltwater Reservior ABWF & Finishing	0			598	18-Feb-20 A	22-Feb-22
SWR-1420	Saltwater Reservior E&M works	0			527	29-May-20 A	05-Mar-22
Fresh Water Reservoir							
ABWF, Finishing & E&M							
FWR-2000	Freshwater Reservior E&M works	0			379	12-Oct-20 A	19-Jan-22
RWS Access Road & External Works							
FWP-1400	Formation & Slope RWA13 works	0			502	16-May-20 A	19-Jan-22
FWP-1410	Watermain (DN600 & DN450) & Irrigation System along WSA access road	0			502	16-May-20 A	19-Jan-22
FWP-1420	Drainage (sewerage & surface) along WSA access road	0			440	30-Jul-20 A	19-Jan-22
FWP-1430	CLP power supply duct	0			399	16-Sep-20 A	19-Jan-22
FWP-1440	Road Works & Fencing	0			120	20-Jan-22	18-Jun-22
FWP-1450	Grteen Roof & Paving Area	0			100	20-Jan-22	25-May-22
Pedestrian Connection System A & B							
PC system B							
PCB-1090	System B - Backfill south tower	81	19-Aug-19	23-Nov-19	521	16-Feb-20 A	16-Nov-21
PCB-1100	System B - Backfill north tower	81	19-Aug-19	23-Nov-19	521	16-Feb-20 A	16-Nov-21
PCB-1120	System B - E&M	22	23-Sep-19	19-Oct-19	438	05-Jun-20 A	22-Nov-21
PCB-1130	System B - E&M T&C	24	21-Oct-19	16-Nov-19	224	02-Mar-21 A	29-Nov-21
PCB-1140	System B - Lift installation	75	21-Oct-19	18-Jan-20	238	02-Mar-21 A	15-Dec-21
PCB-1150	System B - Lift T&C	27	20-Jan-20	22-Feb-20	27	16-Dec-21	19-Jan-22
PCB-1160	System B - Submission of form 5 & EMSD instaction	18	24-Feb-20	14-Mar-20	18	20-Jan-22	12-Feb-22
PCB-1170	System B - Issurance of Uer Permit	6	16-Mar-20	21-Mar-20	6	14-Feb-22	19-Feb-22
PC system A							
PCA-1050	B5 - Back Fill Lift Tower (North) upwards Formation Level	0			134	02-Jul-21 A	08-Dec-21
PCA-1060	B5 - E&M and BS Works	0			214	02-Jul-21 A	18-Mar-22
PCA-1150	C1a - Construction of Super Structure of Lift Tower (+175mPD to Roof Level)	0			131	09-Jul-21 A	11-Dec-21
PCA-1160	C1a - Back Fill Lift Tower (South) upwards Formation Level	0			45	13-Dec-21	09-Feb-22
PCA-1170	C1a - E&M and BS Works	0			90	29-Jan-22	23-May-22
Artificial Flood Attenuation Lake							
Construction of lake bottom							
ART-1990	Art Lake - water testing for bottom of lake	45	28-Feb-20	24-Apr-20	242	02-Mar-21 A	20-Dec-21
Construction of Floating Bridge							
ART-2060	Art Lake Floating Brdige - footing construction	30	06-Dec-19	13-Jan-20	298	11-Jan-21 A	11-Jan-22
ART-2070	Art Lake Floating Brdige - installation bridge	30	14-Jan-20	20-Feb-20	54	12-Jan-22	18-Mar-22
Slot Chamber							
ART-2080	Art Lake - Slot chamber no. 1 & stop log chamber	18	09-Dec-19	31-Dec-19	455	16-May-20 A	22-Nov-21
ART-2090	Art Lake - Slot chamber no. 2 & stop log chamber	26	31-Jan-20	29-Feb-20	236	23-Feb-21 A	06-Dec-21
ART-2100	Art Lake - Slot chamber no. 3	33	31-Jan-20	09-Mar-20	236	23-Feb-21 A	06-Dec-21
Drainage							



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

3-month Rolling Programme
Anderson Rd Sub-programme
15-Nov-21

Date	Revision	Checked	Approved
15-Oct-21	C1-MPU202110		

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

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

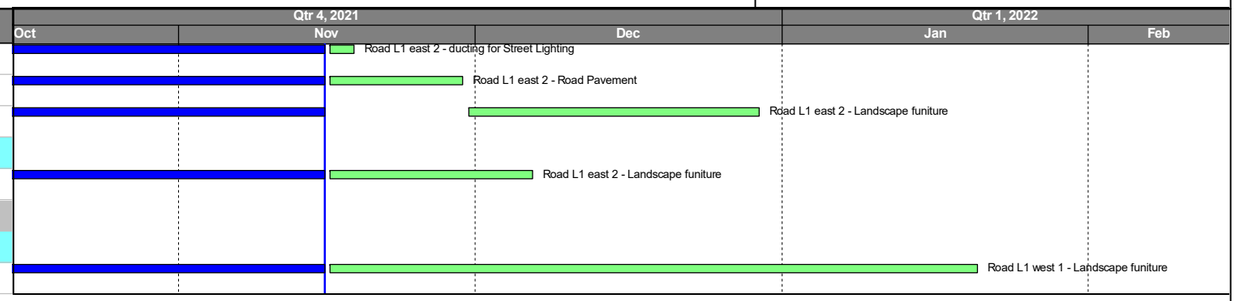
Activity ID	Activity Name	BL Project Duration	BL Project Start	BL Project Finish	At Completion Duration	Start	Finish
ART-2110	Art Lake - Outside bay 38-45	63	04-Nov-19	18-Jan-20	520	02-Mar-20 A	29-Nov-21
ART-2120	Art Lake - Outside bay 3-8	28	09-Dec-19	13-Jan-20	461	16-May-20 A	29-Nov-21
ART-2130	Art Lake - Outside bay 9-28	56	21-Nov-19	31-Jan-20	490	07-Apr-20 A	29-Nov-21
ART-2140	Art Lake - Outside bay 50-52	14	31-Jan-20	15-Feb-20	348	28-Sep-20 A	29-Nov-21
Treatment Plant							
ART-1620	Treatment plant - Construct the wall(W1,2,3,6,7,8,9,11,12,13,14)	14	10-Dec-19	27-Dec-19	433	11-Jun-20 A	22-Nov-21
ART-1630	Treatment plant - Backfilling (by course material) to 197.1mPD, 8.2m Depth	30	28-Dec-19	05-Feb-20	280	11-Jan-21 A	17-Dec-21
Bioretention System							
ART-2150	Art Lake - Part 1,2,4	72	01-Feb-20	29-Apr-20	449	13-Jun-20 A	13-Dec-21
ART-2160	Art Lake - Part 3	32	14-Jan-20	22-Feb-20	405	06-Aug-20 A	13-Dec-21
ART-2170	Art Lake - Part 6,7,12	16	17-Feb-20	05-Mar-20	403	08-Aug-20 A	13-Dec-21
Underpass Tunnel							
VE Panels, Road Works, E&M							
TUN-3540	Tunnel - FS main, Socket & AFA equipment	0			326	19-Oct-20 A	22-Nov-21
TUN-3550	Underpass L1 paving, funiture, marking, signage from East Portal	0			326	19-Oct-20 A	22-Nov-21
TUN-3560	Tunnel - E&M 2nd Fix (Lighting & Equipment)	0			326	19-Oct-20 A	22-Nov-21
TUN-3570	Underpass ABWF works	0			309	09-Nov-20 A	22-Nov-21
TUN-3580	Tunnel - E&M Final Fix (Equipment connection & testing)	0			309	09-Nov-20 A	22-Nov-21
TUN-3590	Tunnel - T&C & Statutory inspection	0			139	30-Jun-21 A	13-Dec-21
Road L4 (RWA18, Noise Barrier, RWA12, Utilities & Road Works)							
Retaining Wall RWA12							
L4-3460	L4 (RWA12) - Bay 17-20 construct wall & backfill upto +175	0			154	23-Jun-21 A	23-Dec-21
L4-3530	L4 (RWA12) - Bay 22 construct wall & backfill upto +170 (after twin 1950 pipe)	0			134	16-Aug-21 A	25-Jan-22
L4-3540	L4 (RWA12) - Bay 22 construct wall & backfill upto +175	0			85	26-Jan-22	13-May-22
L4-3630	L4 (RWA12) - Bay 21 construct wall & backfill upto +170 (after system A sub-way)	0			154	23-Jun-21 A	23-Dec-21
L4-3640	L4 (RWA12) - Bay 21 construct wall & backfill upto +175	0			85	24-Dec-21	09-Apr-22
Road Works - Drainage							
L4-4260	L4 (Drainage) - Backfill for water main CH0 to CH200	0			218	02-Mar-21 A	22-Nov-21
L4-4280	L4 (Drainage) - Excavate & lay drain CH250 to CH300	0			230	02-Mar-21 A	06-Dec-21
L4-4300	L4 (Drainage) - Excavate & lay drain CH350 to CH400	0			230	02-Mar-21 A	06-Dec-21
L4-4310	L4 (Drainage) - Backfill for water main CH200 to CH400	0			30	07-Dec-21	13-Jan-22
Watermain & Utilities							
L4-4320	L4 (Watermain & UU) - Constuct watermain & UU CH0 to CH200	0			90	14-Jan-22	07-May-22
L4-4330	L4 (Watermain & UU) - Constuct watermain & UU CH200 to CH400	0			90	14-Jan-22	07-May-22
Retaining Wall RWA9 at Road L3							
RWA9 Bay 13 to Bay 16							
RWA9-1240	RWA9 - F/W & rebat fixing to Bay 16 wall	0			133	23-Jun-21 A	29-Nov-21
RWA9-1250	RWA9 - Concrete laying for Bay 16 wall	0			1	30-Nov-21	30-Nov-21
RWA9-1260	RWA9 - F/W & rebat fixing to Bay 13, 14 & 15 wall	0			21	01-Dec-21	24-Dec-21
RWA9-1270	RWA9 - Concrete laying for Bay 13, 14 & 15 wall	0			4	28-Dec-21	31-Dec-21
RWA9 Bay 21 & Bay 22							
RWA9-1400	RWA9 - F/W & rebat fixing to Bay 21 & 22 Wall	0			133	30-Jun-21 A	06-Dec-21
RWA9-1410	RWA9 - Concrete laying for Bay 21 & 22 Wall	0			3	07-Dec-21	09-Dec-21
Road Works L5,L1 east (between Junction L3 & L5)							
Road L1 east part 2 (L5 toward PC system B)							

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

3-month Rolling Programme
Anderson Rd Sub-programme
15-Nov-21

Date	Revision	Checked	Approved
15-Oct-21	C1-MPU202110		

Activity ID	Activity Name	BL Project Duration	BL Project Start	BL Project Finish	At Completion Duration	Start	Finish
RL1b-1040	Road L1 east 2 - ducting for Street Lighting	0			568	19-Dec-19 A	18-Nov-21
RL1b-1050	Road L1 east 2 - Road Pavement	0			484	17-Apr-20 A	29-Nov-21
RL1b-1060	Road L1 east 2 - Landscape funiture	0			461	13-Jun-20 A	29-Dec-21
Road L1 east part 3 (Junction L3 toward L5)							
RL1c-1060	Road L1 east 2 - Landscape funiture	0			443	13-Jun-20 A	06-Dec-21
Road Works PTT, L1 west (between Junction L3 & PTT)							
Road L1 west part 1 (Box culvert BC1)							
RL1c-1140	Road L1 west 1 - Landscape funiture	0			177	21-Jun-21 A	20-Jan-22



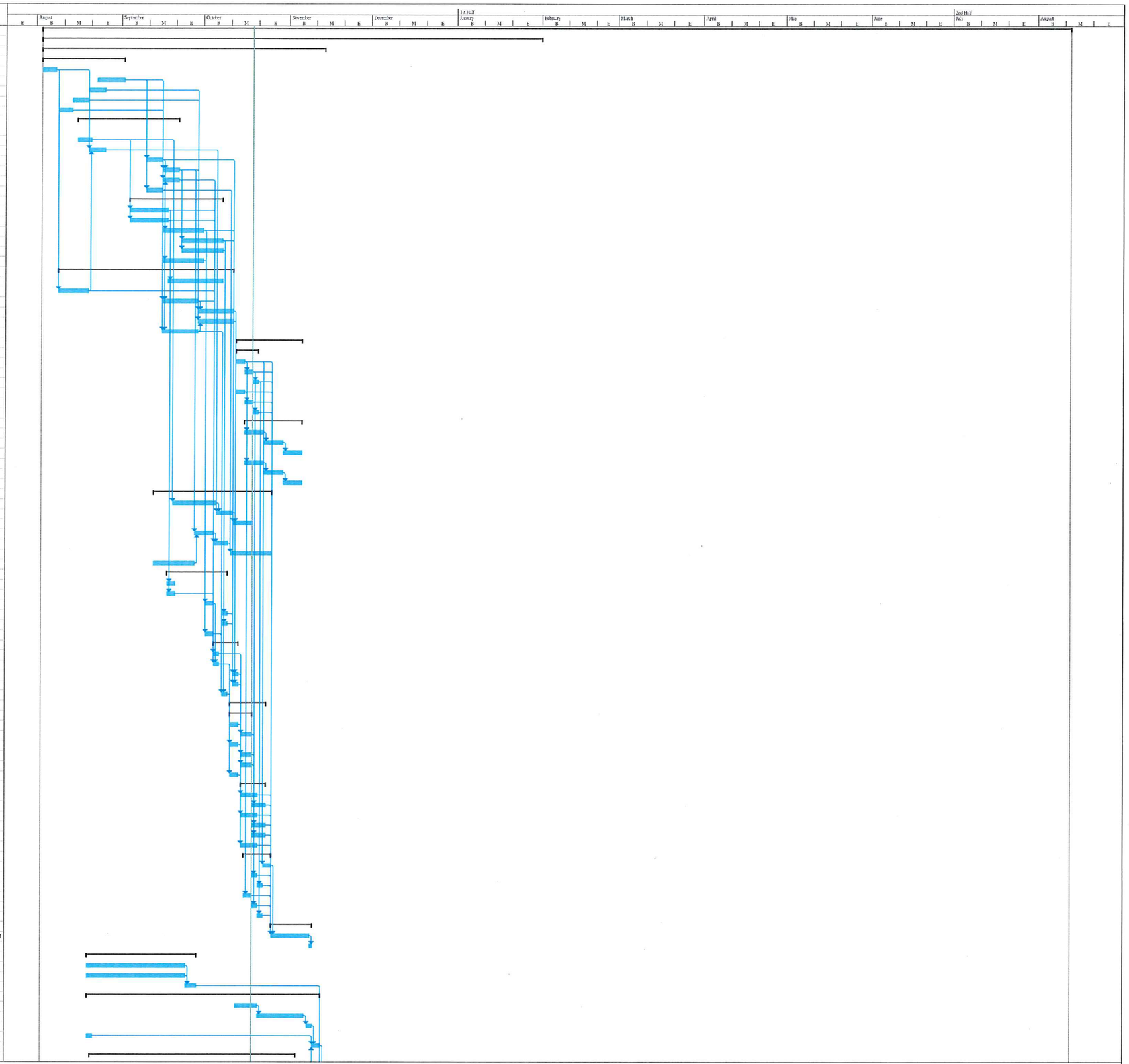
Planned Bar (WP) ◇ Planned Milestone (WP)
Actual Bar ◆ Milestone
Forecast Bar

3-month Rolling Programme
Anderson Rd Sub-programme
15-Nov-21

Date	Revision	Checked	Approved
15-Oct-21	C1-MPU202110		

Contract 2 (NE/2016/05)

ID	Task Name	Duration	Start	Finish	Predecessors
1	**NE/2016/05**	**305 days**	**Tue 03-08-21**	**Fri 12-08-22**	
2	**Portion 1**	**150 days**	**Tue 03-08-21**	**Mon 31-01-22**	
3	**E1 Escalator**	**86 days**	**Tue 03-08-21**	**Sat 13-11-21**	
4	**Bamboo Scaffolding Erection**	**26 days**	**Tue 03-08-21**	**Wed 01-09-21**	
5	PC1 to PC2	5 days	Tue 03-08-21	Sat 07-08-21	
6	PC2 to PC3	9 days	Mon 23-08-21	Wed 01-09-21	
7	PC3 to PC4	5 days	Fri 20-08-21	Wed 25-08-21	
8	PC4 to PC5	5 days	Sat 14-08-21	Thu 19-08-21	
9	PC5 to PC6	5 days	Mon 09-08-21	Fri 13-08-21	
10	**Steel Frame Adjustment & Corrugated Sheet Roofing Installation**	**32 days**	**Mon 16-08-21**	**Tue 21-09-21**	
11	RS1 to PC1	5 days	Mon 16-08-21	Fri 20-08-21	
12	PC1 to PC2	5 days	Fri 20-08-21	Wed 25-08-21	5,26
13	PC2 to PC3	5 days	Fri 10-09-21	Wed 15-09-21	6
14	PC3 to PC4	5 days	Thu 16-09-21	Tue 21-09-21	7,13
15	PC4 to PC5	5 days	Thu 16-09-21	Tue 21-09-21	8,16
16	PC5 to PC6	5 days	Fri 10-09-21	Wed 15-09-21	9
17	**Cladding Features & Gutter Installation**	**27 days**	**Sat 04-09-21**	**Thu 07-10-21**	
18	RS1 to PC1	12 days	Sat 04-09-21	Fri 17-09-21	11
19	PC1 to PC2	12 days	Sat 04-09-21	Fri 17-09-21	12
20	PC2 to PC3	12 days	Thu 16-09-21	Thu 30-09-21	13
21	PC3 to PC4	12 days	Thu 23-09-21	Thu 07-10-21	14
22	PC4 to PC5	12 days	Thu 23-09-21	Thu 07-10-21	15
23	PC5 to PC6	12 days	Thu 16-09-21	Thu 30-09-21	16
24	**Lighting & Unistrut & Lightning Protection**	**53 days**	**Mon 09-08-21**	**Mon 11-10-21**	
25	RS1 to PC1	15 days	Sat 18-09-21	Thu 07-10-21	18
26	PC1 to PC2	10 days	Mon 09-08-21	Thu 19-08-21	5
27	PC2 to PC3	10 days	Thu 16-09-21	Tue 28-09-21	6,13
28	PC3 to PC4	10 days	Wed 29-09-21	Mon 11-10-21	7,14,27
29	PC4 to PC5	10 days	Wed 29-09-21	Mon 11-10-21	8,15,30
30	PC5 to PC6	10 days	Thu 16-09-21	Tue 28-09-21	9,16
31	**Flashing Installation**	**20 days**	**Wed 13-10-21**	**Fri 05-11-21**	
32	**Landing**	**6 days**	**Wed 13-10-21**	**Wed 20-10-21**	
33	RS1 to PC1	2 days	Wed 13-10-21	Fri 15-10-21	
34	PC1 to PC2	2 days	Sat 16-10-21	Mon 18-10-21	33
35	PC2 to PC3	2 days	Tue 19-10-21	Wed 20-10-21	34
36	PC3 to PC4	2 days	Wed 13-10-21	Fri 15-10-21	
37	PC4 to PC5	2 days	Sat 16-10-21	Mon 18-10-21	36
38	PC5 to PC6	2 days	Tue 19-10-21	Wed 20-10-21	37
39	**Gap along Escalators**	**18 days**	**Sat 16-10-21**	**Fri 05-11-21**	
40	RS1 to PC1	6 days	Sat 16-10-21	Fri 22-10-21	33
41	PC1 to PC2	6 days	Sat 23-10-21	Fri 29-10-21	40
42	PC2 to PC3	6 days	Sat 30-10-21	Fri 05-11-21	41
43	PC3 to PC4	6 days	Sat 16-10-21	Fri 22-10-21	36
44	PC4 to PC5	6 days	Sat 23-10-21	Fri 29-10-21	43
45	PC5 to PC6	6 days	Sat 30-10-21	Fri 05-11-21	44
46	**Tiling (Wall / Floors)**	**34 days**	**Mon 13-09-21**	**Mon 25-10-21**	
47	RS1 to PC1 (Entrance & Landing)	12 days	Mon 20-09-21	Tue 05-10-21	11
48	PC1 to PC2 (Landing)	5 days	Wed 06-10-21	Mon 11-10-21	47,12
49	PC2 to PC3 (Landing)	5 days	Tue 12-10-21	Mon 18-10-21	48,13
50	PC3 to PC4 (Landing)	5 days	Tue 28-09-21	Mon 04-10-21	53,14
51	PC4 to PC5 (Landing)	5 days	Tue 05-10-21	Sat 09-10-21	50,15
52	PC5 to PC6 (Entrance & Landing)	12 days	Mon 11-10-21	Mon 25-10-21	51,16
53	Staircase	12 days	Mon 13-09-21	Mon 27-09-21	
54	**Downpipe**	**17 days**	**Sat 18-09-21**	**Sat 09-10-21**	
55	RS1 to PC1	2 days	Sat 18-09-21	Mon 20-09-21	18
56	PC1 to PC2	2 days	Sat 18-09-21	Mon 20-09-21	19
57	PC2 to PC3	2 days	Sat 02-10-21	Mon 04-10-21	20
58	PC3 to PC4	2 days	Fri 08-10-21	Sat 09-10-21	21
59	PC4 to PC5	2 days	Fri 08-10-21	Sat 09-10-21	22
60	PC5 to PC6	2 days	Sat 02-10-21	Mon 04-10-21	23
61	**Dismantling of Bamboo Scaffolding**	**8 days**	**Tue 05-10-21**	**Wed 13-10-21**	
62	PC1 to PC2	2 days	Tue 05-10-21	Wed 06-10-21	56,26,18
63	PC2 to PC3	2 days	Tue 05-10-21	Wed 06-10-21	57,27,19
64	PC3 to PC4	2 days	Tue 12-10-21	Wed 13-10-21	58,28,20
65	PC4 to PC5	2 days	Tue 12-10-21	Wed 13-10-21	59,29,21
66	PC5 to PC6	2 days	Fri 08-10-21	Sat 09-10-21	60,30,22
67	**GMS Railing with PMMA**	**11 days**	**Mon 11-10-21**	**Sat 23-10-21**	
68	**Pole Installation**	**6 days**	**Mon 11-10-21**	**Mon 18-10-21**	
69	RS1 to PC1	3 days	Mon 11-10-21	Wed 13-10-21	
70	PC1 to PC2	3 days	Fri 15-10-21	Mon 18-10-21	62,69
71	PC2 to PC3	3 days	Mon 11-10-21	Wed 13-10-21	63
72	PC3 to PC4	3 days	Fri 15-10-21	Mon 18-10-21	64
73	PC4 to PC5	3 days	Fri 15-10-21	Mon 18-10-21	65
74	PC5 to PC6	3 days	Mon 11-10-21	Wed 13-10-21	66
75	**PMMA sheet Installation**	**8 days**	**Fri 15-10-21**	**Sat 23-10-21**	
76	RS1 to PC1	5 days	Fri 15-10-21	Wed 20-10-21	69
77	PC1 to PC2	5 days	Tue 19-10-21	Sat 23-10-21	70
78	PC2 to PC3	5 days	Fri 15-10-21	Wed 20-10-21	71
79	PC3 to PC4	5 days	Tue 19-10-21	Sat 23-10-21	72
80	PC4 to PC5	5 days	Tue 19-10-21	Sat 23-10-21	73
81	PC5 to PC6	5 days	Fri 15-10-21	Wed 20-10-21	74
82	**Escalators Barriers Installation**	**8 days**	**Sat 16-10-21**	**Mon 25-10-21**	
83	RS1 to PC1	2 days	Sat 23-10-21	Mon 25-10-21	33
84	PC1 to PC2	2 days	Tue 19-10-21	Wed 20-10-21	34
85	PC2 to PC3	2 days	Thu 21-10-21	Fri 22-10-21	35
86	PC3 to PC4	2 days	Sat 16-10-21	Mon 18-10-21	36
87	PC4 to PC5	2 days	Tue 19-10-21	Wed 20-10-21	37
88	PC5 to PC6	2 days	Thu 21-10-21	Fri 22-10-21	38
89	**Submission for LE5**	**13 days**	**Tue 26-10-21**	**Tue 09-11-21**	
90	AP Inspection, Testing & Submission Preparation	12 days	Tue 26-10-21	Mon 08-11-21	79,80,36,81,37,38,76,77,78,33,34,35,83,84,85,86,87,88
91	Submission	1 day	Tue 09-11-21	Tue 09-11-21	90
92	**Drainage System to Escalator**	**33 days**	**Fri 20-08-21**	**Tue 28-09-21**	
93	Manhole	30 days	Fri 20-08-21	Fri 24-09-21	
94	Drain Pipe Installation	30 days	Fri 20-08-21	Fri 24-09-21	
95	Testing	3 days	Sat 25-09-21	Tue 28-09-21	93,94
96	**Telemetry System to Escalator**	**70 days**	**Fri 20-08-21**	**Fri 12-11-21**	
97	XP / TTA	6 days	Wed 13-10-21	Wed 20-10-21	
98	Civil Works	15 days	Thu 21-10-21	Sat 06-11-21	97
99	Cabling Works outside Site Boundary	2 days	Mon 08-11-21	Tue 09-11-21	98
100	Cabling Works at Escalators	2 days	Fri 20-08-21	Sat 21-08-21	
101	Testing	3 days	Wed 10-11-21	Fri 12-11-21	99,100,106
102	**Traffic Light Box**	**61 days**	**Sat 21-08-21**	**Wed 03-11-21**	



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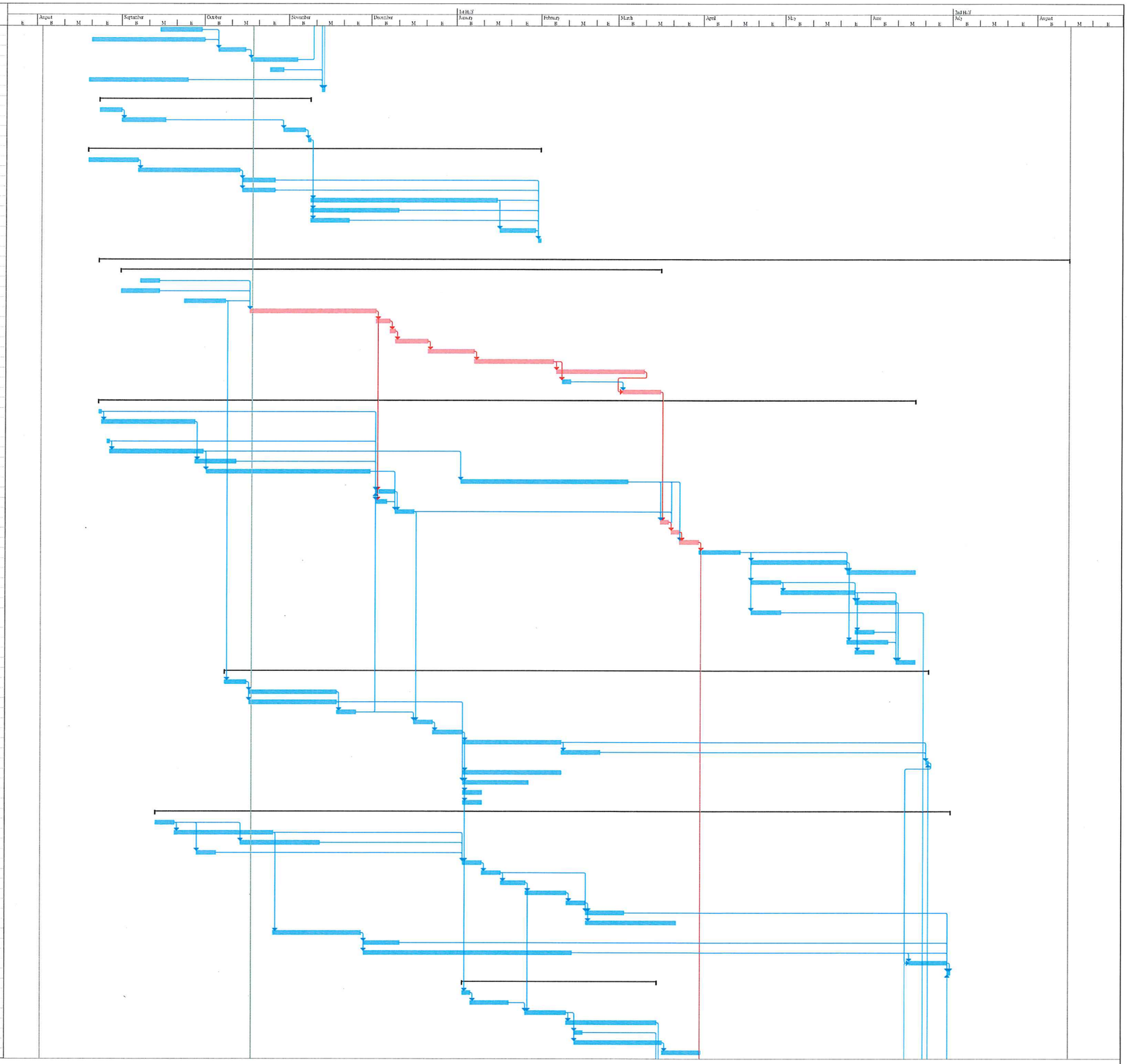
ID	Task Name	Duration	Start	Finish	Predecessors
103	Mounting Installation	12 days	Wed 15-09-21	Wed 29-09-21	
104	Procurement of Traffic Box	34 days	Sat 21-08-21	Thu 30-09-21	
105	Box Installation and Cabling	8 days	Wed 06-10-21	Fri 15-10-21	103,104
106	Testing	15 days	Mon 18-10-21	Wed 03-11-21	105
107	Fall Arrest System Installation	5 days	Mon 25-10-21	Fri 29-10-21	
108	Painting	30 days	Fri 20-08-21	Fri 24-09-21	
109	Handover of Escalators	1 day	Sat 13-11-21	Sat 13-11-21	101,95,108,107
110	**Landscaping on Slope**	**63 days**	**Tue 24-08-21**	**Mon 08-11-21**	
111	U-Channel	7 days	Tue 24-08-21	Tue 31-08-21	
112	Planting	14 days	Wed 01-09-21	Thu 16-09-21	111
113	Hydroseeding	7 days	Sat 30-10-21	Sat 06-11-21	112
114	Handover of Slope	1 day	Mon 08-11-21	Mon 08-11-21	113
115	**Construction of Sau Mau Ping Memorial Park**	**135 days**	**Fri 20-08-21**	**Mon 31-01-22**	
116	Submission for Pole Light, Pavilion, Bench	15 days	Fri 20-08-21	Mon 06-09-21	
117	Procurement of Pole Light, Pavilion, Bench	30 days	Tue 07-09-21	Wed 13-10-21	116
118	Construction of Pavilion	10 days	Fri 15-10-21	Tue 26-10-21	117
119	Construction of Pole Light with Cabling	10 days	Fri 15-10-21	Tue 26-10-21	117
120	Construction of Pavement	56 days	Tue 09-11-21	Sat 15-01-22	114
121	Construction of Irrigation System	28 days	Tue 09-11-21	Fri 10-12-21	114
122	Construction of Railing	12 days	Tue 09-11-21	Mon 22-11-21	114
123	Planting	12 days	Mon 17-01-22	Sat 29-01-22	120
124	Handover to LCSD	1 day	Mon 31-01-22	Mon 31-01-22	118,119,120,122,123,121
125					
126	**Portion 2**	**287 days**	**Tue 24-08-21**	**Fri 12-08-22**	
127	**E3-PC2 Pile Cap, Column and Pier**	**160 days**	**Wed 01-09-21**	**Wed 16-03-22**	
128	Concrete Capping Works	6 days	Wed 08-09-21	Tue 14-09-21	
129	Temporary Working Platform for Piling	12 days	Wed 01-09-21	Tue 14-09-21	
130	Risk Assessment for Existing RC Canopy at Fu Wah Court	12 days	Fri 24-09-21	Fri 08-10-21	
131	Piling Works	40 days	Mon 18-10-21	Thu 02-12-21	129,128,130
132	Anchor Plate for Pile Heads incl. Testing	4 days	Fri 03-12-21	Tue 07-12-21	131
133	Construction of Blindng Layer	2 days	Wed 08-12-21	Thu 09-12-21	132
134	Constructiono of Pile Cap	10 days	Fri 10-12-21	Tue 21-12-21	133
135	Construction of Column	12 days	Wed 22-12-21	Fri 07-01-22	134
136	Construction of Pier Head and Corbal	22 days	Sat 08-01-22	Sat 05-02-22	135
137	Concrete Curing for Pier Head	28 days	Mon 07-02-22	Thu 10-03-22	136
138	Bearing Installation at Corbal	3 days	Wed 09-02-22	Fri 11-02-22	136
139	Erect Temp. Steel Support (for 2nd Session, E3-FB1)	12 days	Thu 03-03-22	Wed 16-03-22	138,137FS-7 days
140	**E3-FB1 Bridge**	**240 days**	**Tue 24-08-21**	**Fri 17-06-22**	
141	Design Submission of Temporary Support at E3-Abt	1 day	Tue 24-08-21	Tue 24-08-21	
142	Design Submission Approval of Temporary Support at E3-Abt	28 days	Wed 25-08-21	Mon 27-09-21	141
143	Shop Drawing Submission of E3-FB1	1 day	Fri 27-08-21	Fri 27-08-21	
144	Shop Drawing Approval of E3-FB1	28 days	Sat 28-08-21	Thu 30-09-21	143
145	Procurement of Material for Temp. Support	12 days	Tue 28-09-21	Tue 12-10-21	142
146	Procurement / fabribation for E3-FB1 (1st Session)	50 days	Sat 02-10-21	Tue 30-11-21	144
147	Procurement / fabribation for E3-FB1 (2nd-4th Session)	50 days	Mon 03-01-22	Fri 04-03-22	144
148	Erect Temp. Support at E3-Abt (For 1st Session, E3-FB1)	6 days	Fri 03-12-21	Thu 09-12-21	141,143,145,131,169
149	Bearing Installation at E3-Abt	3 days	Fri 03-12-21	Mon 06-12-21	141,143,145,131
150	Install E3-FB1 - 1st Session (from E3-Abt)	6 days	Fri 10-12-21	Thu 16-12-21	146,148,149
151	Install E3-FB1 - 2nd Session (from E3-PC2)	3 days	Thu 17-03-22	Sat 19-03-22	139,150,147
152	Install E3-FB1 - 3rd Session (Connect 1st & 2nd Session)	3 days	Mon 21-03-22	Wed 23-03-22	150,151,147
153	Install E3-FB1 - 4th Session (E3-LT1 to E3-PC2)	6 days	Thu 24-03-22	Wed 30-03-22	152,147
154	Concreting Bridge Deck	12 days	Thu 31-03-22	Thu 14-04-22	153
155	Construction of RC Planters	28 days	Tue 19-04-22	Mon 23-05-22	154
156	Floor Tiling including leveling	21 days	Tue 24-05-22	Fri 17-06-22	154,155
157	Erection of Scaffolding underneath Bridge Deck	10 days	Tue 19-04-22	Fri 29-04-22	154
158	Installation of Corrugated Roof Panel & Gutter	21 days	Sat 30-04-22	Thu 26-05-22	157
159	Installation of GRP Feature	12 days	Fri 27-05-22	Fri 10-06-22	157,158
160	Installation of E&M Works incl. Lighting, Lightning, Power Cable (From E3 Pillar to E2 Pillar)	10 days	Tue 19-04-22	Fri 29-04-22	154
161	Installation of Downpipe	6 days	Fri 27-05-22	Thu 02-06-22	158
162	Installation of Irrigation System	12 days	Tue 24-05-22	Tue 07-06-22	155
163	Fall Arrest System	6 days	Fri 27-05-22	Thu 02-06-22	158
164	Dismantling of Scaffolding & Temporary Support to E3-FB1	6 days	Sat 11-06-22	Fri 17-06-22	158,159,161,162,160
165	**Covered Walkway, Sump Pit, E2 Pillar Box**	**206 days**	**Sat 09-10-21**	**Wed 22-06-22**	
166	Excavation of Footing and Sump Pit	6 days	Sat 09-10-21	Sat 16-10-21	130
167	Construction of Footing of Covered Walkway	28 days	Mon 18-10-21	Thu 18-11-21	166
168	Construction of Sump Pit	28 days	Mon 18-10-21	Thu 18-11-21	166
169	Backfilling and Compaction Test	6 days	Fri 19-11-21	Thu 25-11-21	167,168
170	Installation of Steel Frame (Covered Walkway)	6 days	Fri 17-12-21	Thu 23-12-21	169,150
171	Installation of Roofing (Covered Walkway)	6 days	Fri 24-12-21	Mon 03-01-22	170
172	Construction of E2 Pillar Box (Civil)	28 days	Tue 04-01-22	Tue 08-02-22	171
173	Construction of E2 Pillar Box (E&M)	12 days	Wed 09-02-22	Tue 22-02-22	172
174	E2 Pillar Energized from E3 Pillar	1 day	Wed 22-06-22	Wed 22-06-22	247,172,173
175	Construction of Pavement	28 days	Tue 04-01-22	Tue 08-02-22	171
176	Installation of E&M Works (Pump & Lighting)	21 days	Tue 04-01-22	Thu 27-01-22	168,171
177	Installation of Irrigation Pipe	6 days	Tue 04-01-22	Mon 10-01-22	171
178	Fall Arrest System	6 days	Tue 04-01-22	Mon 10-01-22	171
179	**E2 Lift Tower**	**233 days**	**Tue 14-09-21**	**Thu 30-06-22**	
180	Scaffolding Modification	6 days	Tue 14-09-21	Mon 20-09-21	
181	Window and Louvre Installation	28 days	Tue 21-09-21	Tue 26-10-21	180
182	Tiling Works on Wall	25 days	Fri 15-10-21	Fri 12-11-21	180
183	Waterproofing Works	5 days	Wed 29-09-21	Tue 05-10-21	180
184	Erect Falseworks for E2-LT1 Staircase Landing at +62.85mPD	6 days	Tue 04-01-22	Mon 10-01-22	171,181,182,183
185	Construction of E2-LT1 Staircase Landing at +62.85mPD	6 days	Tue 11-01-22	Mon 17-01-22	184
186	Erect Falseworks for E2-LT1 RC Decking at +66.3mPD	8 days	Tue 18-01-22	Wed 26-01-22	185
187	Construction of E2-LT1 RC Decking at +66.3mPD	10 days	Thu 27-01-22	Thu 10-02-22	186
188	Installation of Steel Frame	6 days	Fri 11-02-22	Thu 17-02-22	187
189	Installation of Railing	12 days	Fri 18-02-22	Thu 03-03-22	188,185
190	Tiling Works	28 days	Fri 18-02-22	Tue 22-03-22	188
191	E&M Works	28 days	Wed 27-10-21	Sat 27-11-21	181
192	Cabling for Permanent Power	12 days	Mon 29-11-21	Sat 11-12-21	191
193	Lift Installation	60 days	Mon 29-11-21	Sat 12-02-22	191
194	Lift Testing	12 days	Thu 16-06-22	Wed 29-06-22	193,247FS-6 days,174FS-6 days
195	LE5 Submission to EMSD	1 day	Thu 30-06-22	Thu 30-06-22	193,192,189,247,194
196	**E2-PC2 Pile Cap**	**58 days**	**Tue 04-01-22**	**Tue 15-03-22**	
197	Excavation for Column Construction	3 days	Tue 04-01-22	Thu 06-01-22	171
198	Construction of Column	12 days	Fri 07-01-22	Thu 20-01-22	197
199	Construction of Pier Head and Corbal	10 days	Thu 27-01-22	Thu 10-02-22	198,186
200	Concrete Curing for Pier Head and Corbal	28 days	Fri 11-02-22	Tue 15-03-22	199
201	Bearing Installation	3 days	Mon 14-02-22	Wed 16-02-22	199
202	Drainage	28 days	Mon 14-02-22	Thu 17-03-22	199
203	Reinstatment	12 days	Fri 18-03-22	Thu 31-03-22	202



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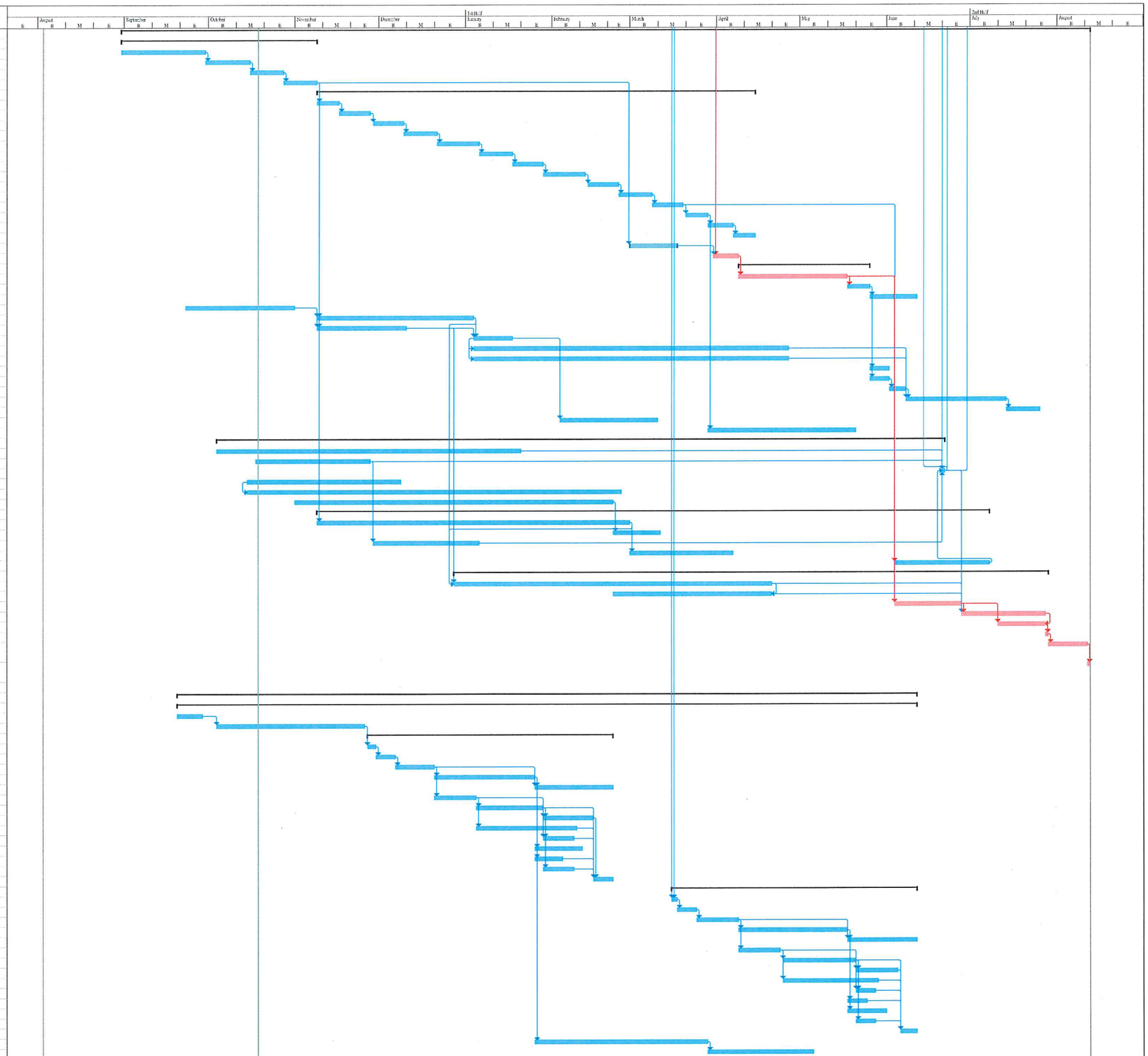
ID	Task Name	Duration	Start	Finish	Predecessors
204	**E3-LT1 Lift TowerPortion 2**	**281 days**	**Tue 31-08-21**	**Fri 12-08-22**	
205	**E3-LT1 Lift tower structure**	**57 days**	**Tue 31-08-21**	**Mon 08-11-21**	
206	15th pour (+59.7 - +63.3mPD)	25 days	Tue 31-08-21	Wed 29-09-21	
207	16th pour (+63.3 - +66.5mPD)	12 days	Thu 30-09-21	Fri 15-10-21	206
208	17th pour (+66.5 - +70.45mPD)	10 days	Sat 16-10-21	Wed 27-10-21	207
209	18th pour (+70.45 - +71.35mPD & Partial Parapet wall)	10 days	Thu 28-10-21	Mon 08-11-21	208
210	**E3-ST1 Staircase (landing & stairs)**	**128 days**	**Tue 09-11-21**	**Thu 14-04-22**	
211	1st pour (+25.0 - +28.6mPD)	7 days	Tue 09-11-21	Tue 16-11-21	209
212	2nd pour (+28.6 - +32.2mPD)	10 days	Wed 17-11-21	Sat 27-11-21	211
213	3rd pour (+32.2 - +35.8mPD)	10 days	Mon 29-11-21	Thu 09-12-21	212
214	4th pour (+35.8 - +38.8mPD)	10 days	Fri 10-12-21	Tue 21-12-21	213
215	5th pour (+38.8 - +41.8mPD)	10 days	Wed 22-12-21	Wed 05-01-22	214
216	6th pour (+41.8 - +45.4mPD)	10 days	Thu 06-01-22	Mon 17-01-22	215
217	7th pour (+45.4 - +49.0mPD)	10 days	Tue 18-01-22	Fri 28-01-22	216
218	8th pour (+49.0 - +52.6mPD)	10 days	Sat 29-01-22	Sat 12-02-22	217
219	9th pour (+52.6 - +56.2mPD)	10 days	Mon 14-02-22	Thu 24-02-22	218
220	10th pour (+56.2 - +59.7mPD)	10 days	Fri 25-02-22	Tue 08-03-22	219
221	11th pour (+59.7 - +63.3mPD)	10 days	Wed 09-03-22	Sat 19-03-22	220
222	12th pour (+63.3mPD)	7 days	Mon 21-03-22	Mon 28-03-22	221
223	13th pour (+66.5mPD)	7 days	Tue 29-03-22	Wed 06-04-22	222
224	14th pour (+70.45mPD)	7 days	Thu 07-04-22	Thu 14-04-22	223
225	Erection of small crane at roof	15 days	Tue 01-03-22	Thu 17-03-22	209
226	Removal of tower crane & footing	7 days	Thu 31-03-22	Fri 08-04-22	225,153
227	**Reinstatement works for tower crane slab**	**35 days**	**Sat 09-04-22**	**Wed 25-05-22**	
228	Slab Opening Reinstatement	28 days	Sat 09-04-22	Tue 17-05-22	226
229	Parapet Wall (Remaining)	7 days	Wed 18-05-22	Wed 25-05-22	228
230	Removal of small crane	14 days	Thu 26-05-22	Sat 11-06-22	229
231	Steel truss - welding works & welding test	31 days	Thu 23-09-21	Sun 31-10-21	
232	Window installation	45 days	Tue 09-11-21	Mon 03-01-22	231,209
233	Louvre installation	28 days	Tue 09-11-21	Fri 10-12-21	231,209
234	Water tightness test for E3-LT1 louvre / windows	12 days	Tue 04-01-22	Mon 17-01-22	232,233
235	Tiles (Wall/Staircase/Floor)	90 days	Tue 04-01-22	Tue 26-04-22	234SS
236	Paint	90 days	Tue 04-01-22	Tue 26-04-22	234SS
237	Fall Arrest System (Roof)	6 days	Thu 26-05-22	Wed 01-06-22	229
238	Waterproof (Roof)	6 days	Thu 26-05-22	Wed 01-06-22	229
239	Water tightness test for E3-LT1 roof	4 days	Thu 02-06-22	Tue 07-06-22	238
240	Dismantle of scaffolding working platform	30 days	Wed 08-06-22	Wed 13-07-22	239,235,236
241	Glass canopy at G/F	10 days	Thu 14-07-22	Mon 25-07-22	240
242	Install inclined plate at the recess of Windows & Louvres	30 days	Fri 04-02-22	Thu 10-03-22	234
243	Railing (GMS) on staircase	40 days	Tue 29-03-22	Fri 20-05-22	222
244	**E&M works**	**210 days**	**Mon 04-10-21**	**Tue 21-06-22**	
245	Incoming Cable by CLP	90 days	Mon 04-10-21	Thu 20-01-22	
246	E3 Pillar Box (Civil)	36 days	Mon 18-10-21	Sat 27-11-21	
247	E3 Pillar Energized by CLP	1 day	Tue 21-06-22	Tue 21-06-22	245,246,160,256FS-14 days,254
248	Telemetry Duct	47 days	Fri 15-10-21	Wed 08-12-21	
249	Drainage Manhole	109 days	Fri 15-10-21	Fri 25-02-22	248SS
250	Sump pit (Civil)	92 days	Mon 01-11-21	Tue 22-02-22	
251	**Electrical installation**	**193 days**	**Tue 09-11-21**	**Thu 07-07-22**	
252	Lift Shafts	90 days	Tue 09-11-21	Mon 28-02-22	209
253	E3 Sump Pit (E&M)	15 days	Wed 23-02-22	Fri 11-03-22	250
254	E3 Pillar Box (E&M)	30 days	Mon 29-11-21	Wed 05-01-22	246
255	Lighting	31 days	Tue 01-03-22	Wed 06-04-22	252
256	E3 Machine Room	28 days	Sat 04-06-22	Thu 07-07-22	228FS+14 days,221
257	**Lift installation**	**171 days**	**Tue 28-12-21**	**Thu 28-07-22**	
258	Lift Car Installation	90 days	Tue 28-12-21	Wed 20-04-22	232FS-15 days,233FS-7 days,252FS-50 days
259	Door frames / Misc.	45 days	Wed 23-02-22	Wed 20-04-22	258FF
260	Machine Room Motor Installation & Cabling	20 days	Sat 04-06-22	Mon 27-06-22	228FS+14 days
261	Self test	25 days	Tue 28-06-22	Wed 27-07-22	260,247FS-10 days,258,259
262	T&C	15 days	Mon 11-07-22	Wed 27-07-22	260,261FF
263	Submit LE5 to EMSD	1 day	Thu 28-07-22	Thu 28-07-22	262
264	Pre-handing over inspection (E3-LT1 & E3-FB1) by HyD/Structure Maintenance	12 days	Fri 29-07-22	Thu 11-08-22	263
265	Ready to open Lift Tower E3-LT1 / Footbridge E3-FB1 to public	1 day	Fri 12-08-22	Fri 12-08-22	264
266					
267	**Portion 3**	**212 days**	**Mon 20-09-21**	**Sat 11-06-22**	
268	**E2-FB1 Bridge**	**212 days**	**Mon 20-09-21**	**Sat 11-06-22**	
269	Shop Drawing Approval of E3-FB1	7 days	Mon 20-09-21	Tue 28-09-21	
270	Procurement of Material for E3-FB1	45 days	Mon 04-10-21	Thu 25-11-21	269
271	**E2-FB1 - 1st Span (Housing Lift Tower to E2-P2)**	**69 days**	**Sat 27-11-21**	**Tue 22-02-22**	
272	Bridge Erection (Only allow on Sat to Sun / Public Holiday)	2 days	Sat 27-11-21	Mon 29-11-21	270
273	Remaining Steelworks before Bridge Deck Casting	6 days	Tue 30-11-21	Mon 06-12-21	272
274	Concreting Bridge Deck	12 days	Tue 07-12-21	Mon 20-12-21	273
275	Construction of RC Planter	28 days	Tue 21-12-21	Tue 25-01-22	274
276	Floor Tiling	21 days	Wed 26-01-22	Tue 22-02-22	274,275
277	Erection of Scaffolding	10 days	Tue 21-12-21	Tue 04-01-22	274
278	Installation of Corrugated Roof Panel & Gutter	21 days	Wed 05-01-22	Fri 28-01-22	277
279	Installation of GRP Feature	12 days	Sat 29-01-22	Tue 15-02-22	277,278
280	Installation of E&M Works incl. Unistruct & Lighting	28 days	Wed 05-01-22	Wed 09-02-22	277
281	Installation of Downpipe	6 days	Sat 29-01-22	Tue 08-02-22	278,277
282	Installation of Railing	12 days	Wed 26-01-22	Fri 11-02-22	275
283	Installation of Irrigation System	6 days	Wed 26-01-22	Fri 04-02-22	275
284	Fall Arrest System	6 days	Sat 29-01-22	Tue 08-02-22	278
285	Dismantling of Scaffolding	6 days	Wed 16-02-22	Tue 22-02-22	279,280,281,283,278,284
286	**E2-FB1 - 2nd Span (E2-P2 to E2-LT1)**	**69 days**	**Wed 16-03-22**	**Sat 11-06-22**	
287	Bridge Lifting (Only allow on Sat to Sun / Public Holiday)	2 days	Wed 16-03-22	Thu 17-03-22	200,201
288	Remaining Steelworks before Bridge Deck Casting	6 days	Fri 18-03-22	Thu 24-03-22	287
289	Concreting Bridge Deck	12 days	Fri 25-03-22	Fri 08-04-22	288
290	Construction of RC Planter	28 days	Sat 09-04-22	Tue 17-05-22	289
291	Floor Tiling	21 days	Wed 18-05-22	Sat 11-06-22	289,290
292	Erection of Scaffolding	10 days	Sat 09-04-22	Sat 23-04-22	289
293	Installation of Corrugated Roof Panel & Gutter	21 days	Mon 25-04-22	Fri 20-05-22	292
294	Installation of GRP Feature	12 days	Sat 21-05-22	Sat 04-06-22	292,293
295	Installation of E&M Works incl. Unistruct & Lighting	28 days	Mon 25-04-22	Sat 28-05-22	292
296	Installation of Downpipe	6 days	Sat 21-05-22	Fri 27-05-22	292,293
297	Installation of Irrigation System	6 days	Wed 18-05-22	Tue 24-05-22	290
298	Installation of Railing	12 days	Wed 18-05-22	Tue 31-05-22	290
299	Fall Arrest System	6 days	Sat 21-05-22	Fri 27-05-22	293
300	Dismantling of Scaffolding	6 days	Mon 06-06-22	Sat 11-06-22	294,295,296,297,299,293
301	Underground Drainage	50 days	Wed 26-01-22	Mon 28-03-22	275
302	Road Surface Reinstatement	28 days	Tue 29-03-22	Thu 05-05-22	301



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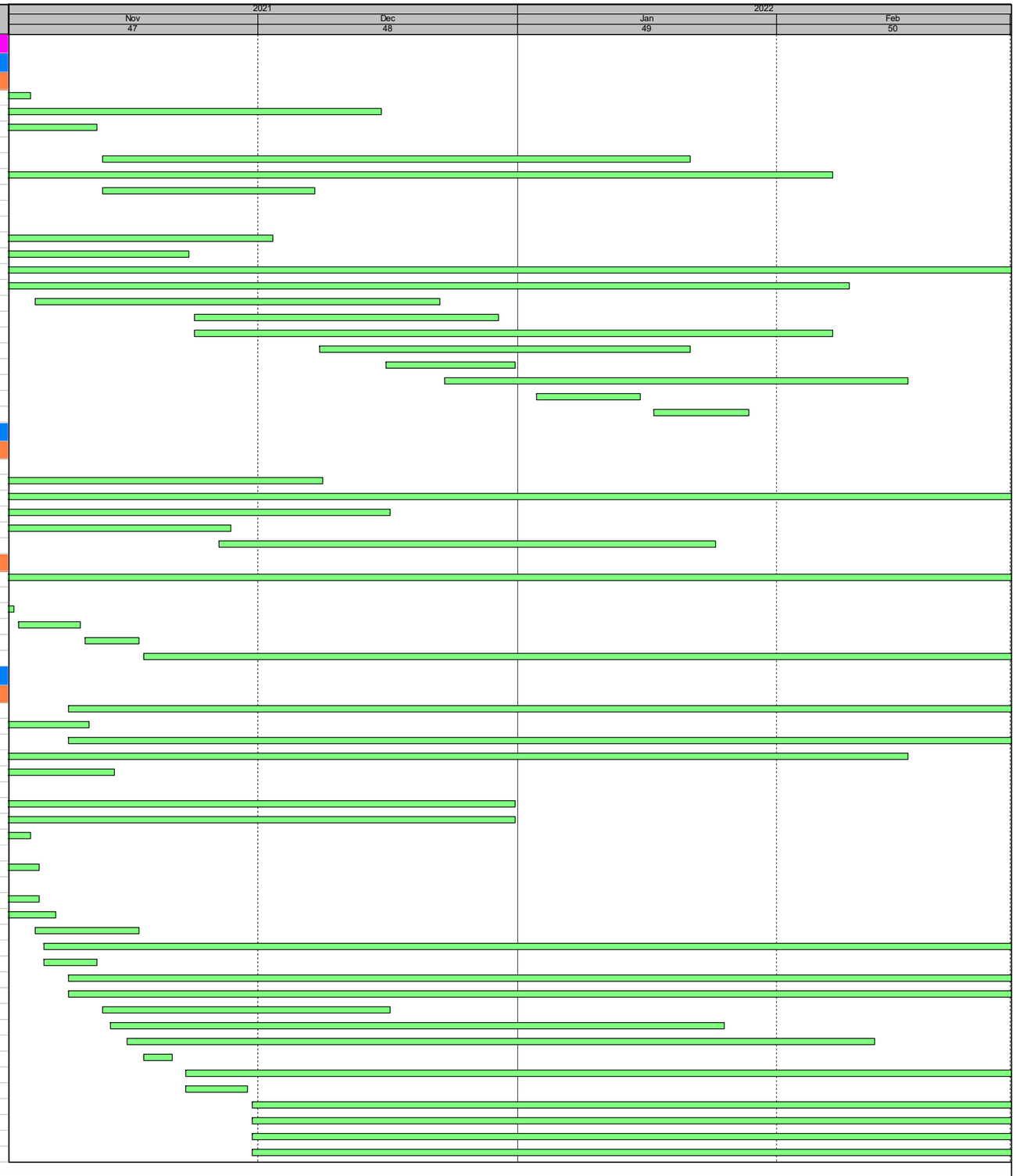
Contract 3 (NE/2017/03)

Activity ID	Activity Name	Duration	Start	Finish
NE2017/03 - ARQ PHASE 2A - Monthly Programme Update (202110)-2 _211130		849	06-Apr-20 A	11-Nov-22
Road Improvement Works Location 1 (RIW1)		750	06-Apr-20 A	25-Oct-22
Construction Works		750	06-Apr-20 A	25-Oct-22
CON10231A	(CE358) SLG meeting for unchart watermain diversion	42	06-Apr-20 A	03-Nov-21
CON10650	Construct RW wall (RWC2 type 1a & 1 [Bay 2 to Bay 1])	225	04-Nov-20 A	15-Dec-21
CON11328	(NCE036B) Design reviewing on Great depth condition encountered on rockh	27	23-Apr-21 A	11-Nov-21
CON10748	ELS works at RWC2 type 3 (7500 m3, 100 m3/d, 2 teams)	38	05-Jul-21 A	21-Oct-21
CON11330	(NCE036B) Construct CT5 Type 1 piling foundation (18nos, 5d/no, 1 team)	90	15-Jul-21 A	21-Jan-22
CON12356C	Modification works to existing drainage pipe (near KS27 west side bay 2)	130	17-Aug-21 A	07-Feb-22
CON11550	Construct piling foundation at FE1 Type 2 (12nos, 2d/no, 1 team)	24	19-Aug-21 A	07-Dec-21
CON10748C	(NCE144) Unforeseen rock boulders found at RWC2 type 3, near bay 21 to b	12	13-Sep-21 A	27-Oct-21
CON10736A	(CE267) Further design reviewing on RWC2 Type 3 Socket H Piles	39	13-Sep-21 A	30-Oct-21
CON10268	Trial pit excavation (RWC2 type 5)	60	21-Sep-21 A	02-Dec-21
CON12370	Site clearance & install sheet pile (KS27 east side)	36	11-Oct-21 A	22-Nov-21
CON10750	Construct socket H-pile works (RWC2 type 3; 400nos, 3d/no, 4 teams)	300	13-Oct-21 A	25-Oct-22
CON12330	Construct subway footing (KS27 west side, bay 1)	90	21-Oct-21	09-Feb-22
CON10231B	(CE358) Unchart watermain diversion (by WSD)	42	04-Nov-21	22-Dec-21
CON12370A	(NCE[TBA]) Unforeseen ground condition obstructed sheet-pile installation at k	30	23-Nov-21	29-Dec-21
CON12372	ELS works (KS27 east side)	60	23-Nov-21	07-Feb-22
CON11552	ELS works for construct pile cap (FE1-PC1b, 32m, 1m/d)	36	08-Dec-21	21-Jan-22
CON10650A	(NCE148) Inclement weather 21/5/2021 to 20/6/2021 RWC2 type 1a, 1 & 2	12	16-Dec-21	31-Dec-21
CON10240	Existing drainage pipe diversion (lower stream)	42	23-Dec-21	16-Feb-22
CON10650B	(NCE153) Inclement weather 21/6/2021 to 20/7/2021 RWC2 type 1a, 1 & 2	12	03-Jan-22	15-Jan-22
CON10650C	(NCE157) Inclement weather 21/7/2021 to 20/8/2021 RWC2 type 1a, 1 & 2	11	17-Jan-22	28-Jan-22
Road Improvement Works Location 2 (RIW2)		198	28-Aug-21 A	29-Apr-22
Construction Works in Slope C3 (Portion B)		161	13-Oct-21 A	29-Apr-22
CON20670B	(NCE170) Inclement weather 21/9/2021 to 20/10/2021 at RIW2 RWC3	7	13-Oct-21 A	21-Oct-21
CON20850A	Remaining works for junction at RWC3 C & B	42	21-Oct-21	08-Dec-21
CON20670C	ELS to RW bay 9 to bay 16 formation (due to unforeseen ground condition)	154	21-Oct-21	29-Apr-22
CON20910	Construct RW bay 14 to bay 16 base (L=19m)	48	22-Oct-21	16-Dec-21
CON20770	Construct rigid barrier RWC3c	27	28-Oct-21	27-Nov-21
CON20930	Construct RW bay 14 to bay 16 wall (L=19m)	48	26-Nov-21	24-Jan-22
Construction Noise Semi-Enclosure SE2 (Portion C)		151	28-Aug-21 A	12-Mar-22
CON21654H	(CE332) Construct piling fdn of SE2 (Bay4 to Bay13)	72	28-Aug-21 A	12-Mar-22
CON21962	Construct piling platform SE2 (Bay 13 to Bay 18)	30	31-Aug-21 A	27-Oct-21
CON21962A	(NCE166) Inclement weather (21/8/2021 to 20/9/2021) on RIW2 NB	4	28-Oct-21	01-Nov-21
CON21962B	(NCE170) Inclement weather (21/9/2021 to 20/10/2021) on RIW2 NB	7	02-Nov-21	09-Nov-21
CON21962C	Install sheet pile SE2 (Bay 13 to Bay 18)	6	10-Nov-21	16-Nov-21
CON21964	Construct piling fdn SE2 Bay 13 to 18 with utilities potection works (74nos, 2d/r	84	17-Nov-21	01-Mar-22
Road Improvement Works Location 3 (RIW3)		660	19-Jul-21 A	11-Nov-22
Construction Works		660	19-Jul-21 A	11-Nov-22
CON31130	Cut slope works (CH115 to CH275) (L=160m, 24058m3, 65m3/d)	371	19-Jul-21 A	11-Nov-22
CON30330	Construct RWD1 (bay 1 to bay 7) utilities works & backfill (2 teams)	60	21-Jul-21 A	10-Nov-21
CON31150	Construct RWD3 (CH60 to CH152)	150	09-Aug-21 A	08-Mar-22
CON32410	Construct type 2 NB footing (CH44~CH52, 130m3, team 1)	150	16-Aug-21 A	16-Feb-22
CON30170	Slope works at slope D1 (stage 4, 55% completed)	72	19-Aug-21 A	13-Nov-21
CON30412B	Install pipe pile wall (around 32nos. 1d/no.+ setup) (Bay 14b to Bay 16)	36	07-Sep-21 A	21-Oct-21
CON30530	Drainage & utilities works (bay 1 to bay 7)	60	21-Oct-21	31-Dec-21
CON30390	Construct RWD1 (bay 8 to bay 13) utilities works & backfill (2 teams)	60	21-Oct-21	31-Dec-21
CON30654D	(NCE153) Inclement weather (21/6/2021 to 20/7/2021) on RIW3 WM	12	21-Oct-21	03-Nov-21
CON31330D	(NCE157) Inclement weather (21/7/2021 to 20/8/2021) on RIW3 Slope D3	4	21-Oct-21	25-Oct-21
CON30412C	ELS works and shotcrete (Bay 14b to Bay 16)	12	22-Oct-21	04-Nov-21
CON31330E	(NCE166) Inclement weather (21/8/2021 to 20/9/2021) on RIW3 Slope D3	4	26-Oct-21	29-Oct-21
CON32410A	(NCE170) Inclement weather (21/9/2021 to 20/10/2021) on RIW3 SE1 VB1	7	28-Oct-21	04-Nov-21
CON31330F	(NCE170) Inclement weather (21/9/2021 to 20/10/2021) on RIW3 Slope D3	7	30-Oct-21	06-Nov-21
CON30654E	(NCE157) Inclement weather (21/7/2021 to 20/8/2021) on RIW3 WM	11	04-Nov-21	16-Nov-21
CON32430	Construct type 2 NB tie beam (CH44~CH52, 130m3, team 1)	150	05-Nov-21	12-May-22
CON30412D	Install UU support (Bay 14b to Bay 16)	6	05-Nov-21	11-Nov-21
CON31170	Soil nail works (11NE-D/F246, CH190 to CH260)	150	08-Nov-21	14-May-22
CON31212	Rock slope mapping (Stage 2)	180	08-Nov-21	20-Jun-22
CON30412E	Pre-drill & construct mini pile at RWD1 (bay 14b) (10nos, 3.0d/no, 1 team)	30	12-Nov-21	16-Dec-21
CON30550	Road works (bay 1 to bay 7)	60	13-Nov-21	25-Jan-22
CON30190	Slope works at slope D1 (stage 5, 70% completed)	72	15-Nov-21	12-Feb-22
CON30654F	(NCE166) Inclement weather (21/8/2021 to 20/9/2021) on RIW3 WM	4	17-Nov-21	20-Nov-21
CON31214	PM review & acceptance and slope stabilization measures (Stage 2)	180	22-Nov-21	05-Jul-22
CON30654G	(NCE170) Inclement weather (21/9/2021 to 20/10/2021) on RIW3 WM	7	22-Nov-21	29-Nov-21
CON30650	Construct Twin Fresh Watermain CH10 to CH50	120	30-Nov-21	29-Apr-22
CON30656	Construct Twin Fresh Watermain CH50 to CH100	160	30-Nov-21	18-Jun-22
CON30658	Construct Twin Fresh Watermain CH270 to CH320	184	30-Nov-21	18-Jul-22
CON30662	Construct Fresh Watermain A CH320 to CH400 (EPD access)	180	30-Nov-21	13-Jul-22

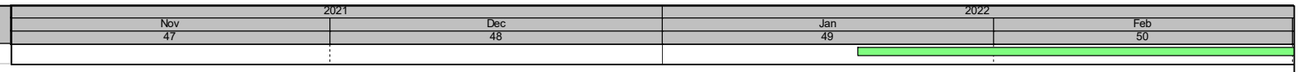


Actual Work
Remaining Work
Milestone

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

Activity ID	Activity Name	Duration	Start	Finish
CON31290	Reinstatment works & fill no-fine concrete works	90	13-Dec-21	02-Apr-22
CON30430	Construct pile cap (Bay 14b)	9	17-Dec-21	29-Dec-21
CON30430A	Plate load test (Bay 15 to Bay 16)	9	30-Dec-21	10-Jan-22
CON30430B	Construct RC stem wall (Bay 14a to Bay 14b)	24	11-Jan-22	10-Feb-22
Pedestrian Connectivity Facility (PC-E11)		286	17-May-21 A	09-Mar-22
Construction Works		286	17-May-21 A	09-Mar-22
CON42628B	Footing design review for Construct covered-walkway between PC-E11 & BBI	24	17-May-21 A	03-Nov-21
CON42690	ABWF works @E11-FB2 & E11-FB4	107	24-May-21 A	17-Nov-21
CON42710	ABWF works @E11-FB3 & E11-FB5	107	24-May-21 A	17-Nov-21
CON42772	ABWF works @LT2 (Other than lift shaft area)	48	04-Aug-21 A	28-Oct-21
CON42872	E&M works to PC-E11 @LT2 (Other than lift shaft area)	36	01-Sep-21 A	01-Nov-21
CON42390G	(NCE[TBA]) Shortage supply of cement from the Mainland affected to E11	30	05-Oct-21 A	09-Nov-21
CON42470	Erect steel frame E11-FB1, construct floor slab & side planter	48	13-Oct-21 A	08-Dec-21
CON42950	Lifts installation works in E11-LT2	60	02-Nov-21	13-Jan-22
CON42630	Construct covered-walkway between PC-E11 & BBI toilet	102	04-Nov-21	09-Mar-22
CON42650	Install glass & window to lift tower no 1	21	10-Nov-21	03-Dec-21
CON42570	Erect roof steel frame, gutter & corrugated metal sheet E11-FB1	42	18-Nov-21	08-Jan-22
CON42790	E&M works to PC-E11 @E11-FB2 & E11-FB4	48	18-Nov-21	15-Jan-22
CON42810	E&M works to PC-E11 @E11-FB3 & E11-FB5	48	18-Nov-21	15-Jan-22
CON42730	ABWF works @LT1 (inside 2nos lift shaft)	12	04-Dec-21	17-Dec-21
CON42830	E&M works to PC-E11 @LT1 (inside 2nos lift shaft)	12	18-Dec-21	04-Jan-22
CON42732	ABWF works @LT1 (Other than lift shaft area)	48	18-Dec-21	18-Feb-22
CON42930	Lifts installation works in E11-LT1	60	21-Dec-21	07-Mar-22
CON42750	ABWF works @E11-FB1	60	22-Dec-21	08-Mar-22
CON42850	E&M works to PC-E11 @E11-FB1	48	05-Jan-22	04-Mar-22
CON42832	E&M works to PC-E11 @LT1 (Other than lift shaft area)	36	05-Jan-22	18-Feb-22
CON42610A	Install fall arrest system on roof of footbridge	36	10-Jan-22	23-Feb-22
CON42952	T&C to lift E11-LT2	30	14-Jan-22	21-Feb-22
Pedestrian Connectivity Facility (PC-E8)		136	26-Jul-21 A	05-Feb-22
Construction Works		136	26-Jul-21 A	05-Feb-22
CON40628A	Slope 326 drawing reviewing	36	26-Jul-21 A	04-Nov-21
CON40650	Slope replacement works cycle 1 (slope 326)	18	13-Sep-21 A	17-Nov-21
CON41470	External finishing works (F9 & F1 to P1)	48	13-Oct-21 A	08-Dec-21
CON41490	External finishing works (P1 to P2)	48	13-Oct-21 A	08-Dec-21
CON41510	External finishing works (P2 to P3)	48	13-Oct-21 A	08-Dec-21
CON41530	External finishing works (P3 to P4)	48	13-Oct-21 A	08-Dec-21
CON41590	External finishing works (P4 to P5)	48	13-Oct-21 A	08-Dec-21
CON41550	External finishing works (P5 to P6)	48	13-Oct-21 A	08-Dec-21
CON41570	External finishing works (P6 to ABT)	48	13-Oct-21 A	08-Dec-21
CON43490	Erect working platform	12	13-Oct-21 A	27-Oct-21
CON43510	Construct concrete buttress wallRemove piling platform	24	28-Oct-21	24-Nov-21
CON40670	Slope replacement works cycle 2 (slope 326)	18	18-Nov-21	08-Dec-21
CON40690	Slope replacement works cycle 3 (slope 326)	18	18-Nov-21	08-Dec-21
CON43530	Remove working platform & site clearance	18	25-Nov-21	15-Dec-21
CON40710	Slope replacement works cycle 4 (slope 326)	15	09-Dec-21	28-Dec-21
CON41950	T&C and Statutory Inspection _PC-E8	30	29-Dec-21	05-Feb-22
Pedestrian Connectivity Facility System A (SYA)		154	02-Jul-21 A	08-Apr-22
Construction Works		154	02-Jul-21 A	08-Apr-22
CON50312	Footbridge erection pending on C1 progress	48	02-Jul-21 A	27-Oct-21
CON50290D	(NCE157) Inclement weather (21/7/2021 to 20/8/2021) on Sys A	11	18-Oct-21 A	29-Oct-21
CON50290E	(NCE166) Inclement weather (21/8/2021 to 20/9/2021) on Sys A	4	30-Oct-21	03-Nov-21
CON50290F	(NCE170) Inclement weather (21/9/2021 to 20/10/2021) on Sys A	7	04-Nov-21	11-Nov-21
CON50330	ABWF works (lift tower & staircase)	120	12-Nov-21	08-Apr-22
CON50332	ABWF works (4 nos. lift shaft)	120	12-Nov-21	08-Apr-22
CON503121	Off site fabrication for footbridge steel frame & delivery to site	62	12-Nov-21	26-Jan-22
CON50370	Install windows & louvers (SYA 1st & 2nd lift shaft)	60	17-Dec-21	03-Mar-22
CON50492	E&M works (SYA 1st & 2nd lift shaft)	42	11-Jan-22	03-Mar-22
Pedestrian Connectivity Facility System B (SYB)		187	21-Jun-21 A	05-Mar-22
Construction Works		187	21-Jun-21 A	05-Mar-22
CON52170	Construct superstructure SYB-LT1	168	21-Jun-21 A	24-Feb-22
CON51450A	(NCE156) Unforseen gound condition affected install sheet pile at SYB-PC1	130	28-Jul-21 A	11-Dec-21
CON51730	Construct pile cap SYB-PC4 (52m3)	39	21-Oct-21	04-Dec-21
CON51790	TBA	42	21-Oct-21	08-Dec-21
CON51690	Construct pile cap SYB-PC6 (120m3)	48	21-Oct-21	15-Dec-21
CON51510	TBA	42	21-Oct-21	08-Dec-21
CON52110	Construct pier SYB-P3 (2 pour) & temporary LT1 support	42	06-Dec-21	26-Jan-22
CON52150	Construct pier SYB-P5 (3 pour)	72	06-Dec-21	05-Mar-22
CON51450B	(NCE166) Inclement weather (21/8/2021 to 20/9/2021) on Sys B PC1	4	13-Dec-21	16-Dec-21
CON51450C	(NCE170) Inclement weather (21/9/2021 to 20/10/2021) on Sys B PC1	7	17-Dec-21	24-Dec-21
CON51470	Excavate & install support at SYB-PC1 (108m3, 25m3/d, 1 team + 12d)	18	28-Dec-21	18-Jan-22

Activity ID	Activity Name	Duration	Start	Finish
CON51770	Construct pile cap SYB-PC1 (35m3)	36	19-Jan-22	04-Mar-22

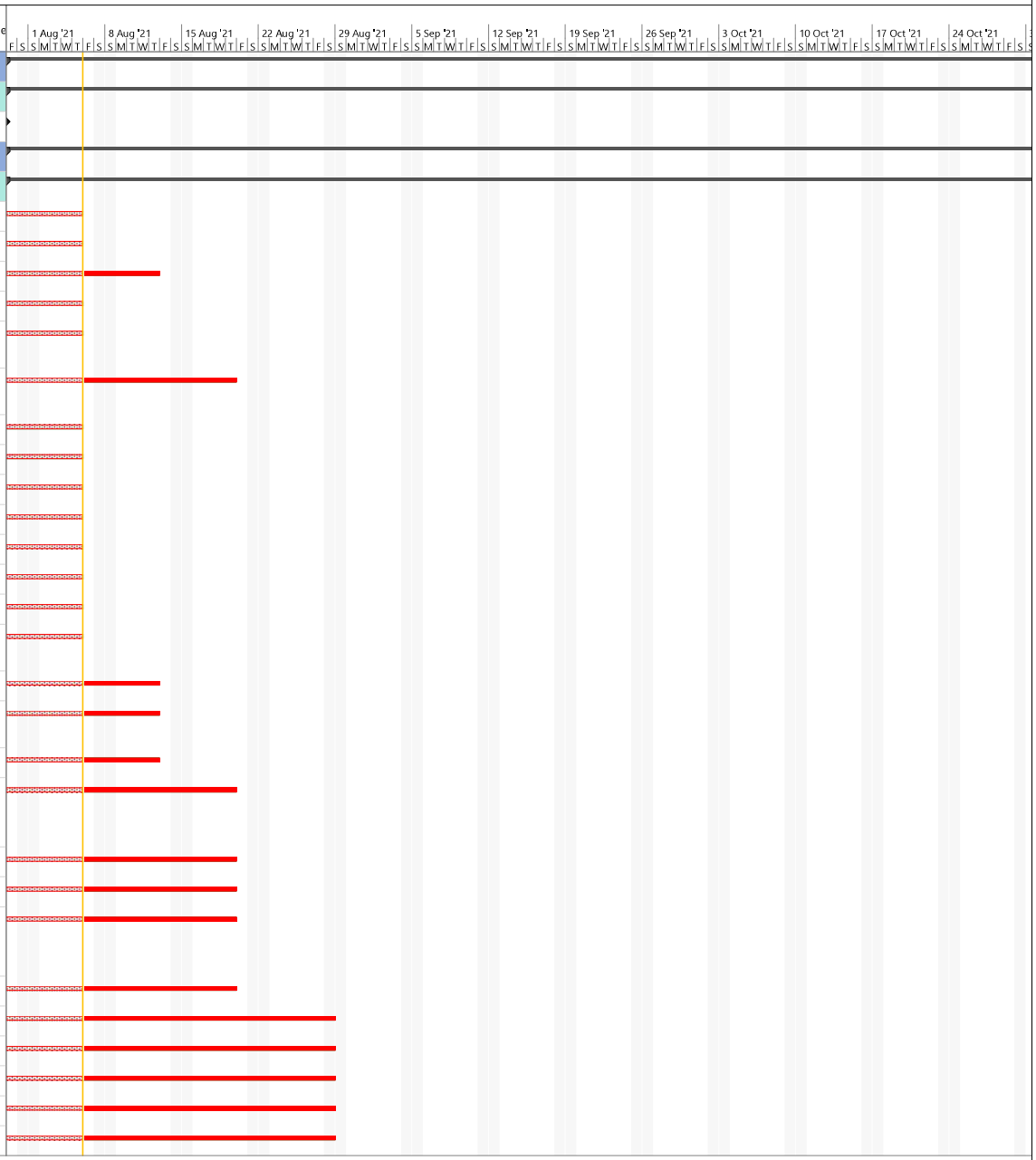


Actual Work
Remaining Work
Milestone

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

Contract 4 (ED/2020/02)

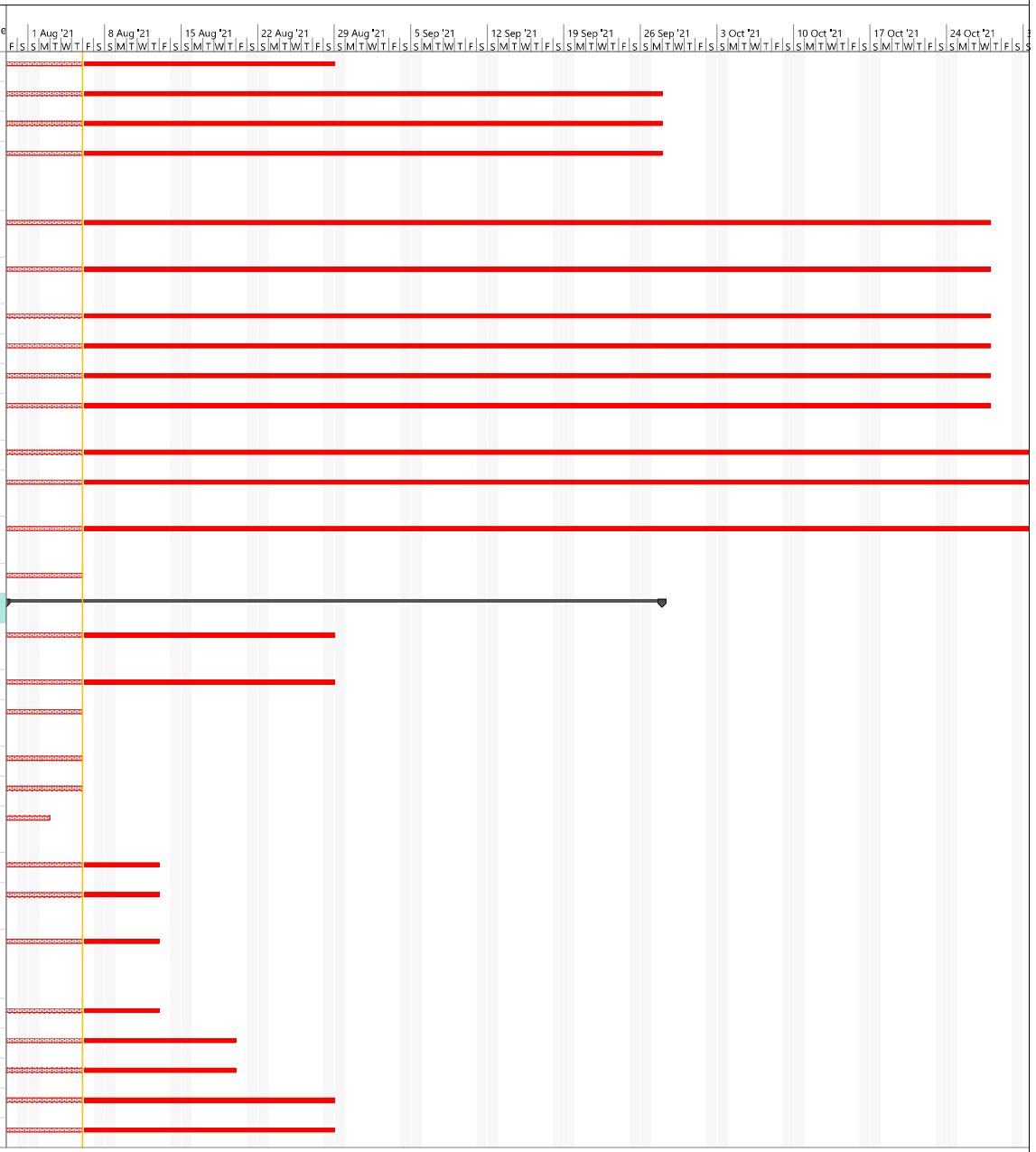
ID	Activity Code	Activity Name	Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	% Comple
5	**ED202.2**	**Section of Works and Relevant Portions of Work**	**1248d**	**30/7/21**	**28/12/24**	**30/7/21**	**28/12/24**	**0d**	**0%**
117	**ED202.2.22**	**Section of Works 10 - All Tree Protection and Preservation Works**	**883d**	**30/7/21**	**29/12/23**	**30/7/21**	**29/12/23**	**0d**	**1%**
118	ED202.2.22.001	Commencement of All Tree Protection and Preservation Work	0d	30/7/21	30/7/21	30/7/21	30/7/21	0d	100%
121	**ED202.3**	**Preliminaries**	**1239d**	**30/7/21**	**19/12/24**	**30/7/21**	**28/12/24**	**9d**	**15%**
122	**ED202.3.01**	**Establishment of Commercial/Organization**	**180d**	**30/7/21**	**25/1/22**	**30/7/21**	**25/1/22**	**0d**	**17%**
123	ED202.3.01.001	Inform Contractor of the name and delegrated autorities of the PMD (ER)	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
124	ED202.3.01.002	Confirmation and arrangment of the method of payment	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
125	ED202.3.01.003	Issue forms to CIC & PCFB	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
126	ED202.3.01.004	Submission of MPF form to MPFSA	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
127	ED202.3.01.005	Notification to Labour Department/Marine Department of the commencement date and other details of the contract	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
128	ED202.3.01.006	Submission of Summary Details of Contract to the Departmental Safety and Environmental	21d	30/7/21	19/8/21	30/7/21	19/8/21	0d	33%
129	ED202.3.01.007	Nominate a Labour Officer	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
130	ED202.3.01.008	Set up Site Liaison Group (SLG)	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
131	ED202.3.01.009	Contractors' Joint Venture guarantee	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
132	ED202.3.01.010	Professional video production company and a competent video director	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
133	ED202.3.01.011	Lists of equipment to be calibrated in-house and by external organizations	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
134	ED202.3.01.012	Surveyor, Key People	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
135	ED202.3.01.013	Traffic Consultant, Traffic Engineer	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
136	ED202.3.01.014	Particulars of Independent service provider for Digital Works Supervision System	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
137	ED202.3.01.015	Contractor's Management Team	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
138	ED202.3.01.016	Particulars of emergency unit and supporting machinary and equipment	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
139	ED202.3.01.017	BIM team	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
140	ED202.3.01.018	Competent member of the sites supervisory staff to oversee and supervise tree works related to arboricultural operations and preservation of trees within the Site	21d	30/7/21	19/8/21	30/7/21	19/8/21	0d	33%
141	ED202.3.01.019	Content of Contract Webpage (Monthly update afterwards)	21d	30/7/21	19/8/21	30/7/21	19/8/21	0d	33%
142	ED202.3.01.020	qualified polyethylene pipe layer identification card	21d	30/7/21	19/8/21	30/7/21	19/8/21	0d	33%
143	ED202.3.01.021	Particulars of the assigned person (competent member with arboriculture knowledge of the site supervisory for tree preservation)	21d	30/7/21	19/8/21	30/7/21	19/8/21	0d	33%
144	ED202.3.01.022	Detais of Geotechnical monitoring team	21d	30/7/21	19/8/21	30/7/21	19/8/21	0d	33%
145	ED202.3.01.023	Design of the CRE Site Office certified by an accpeted ICE	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
146	ED202.3.01.024	Design Architect	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
147	ED202.3.01.025	Specially required staff	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
148	ED202.3.01.026	Public Relateion Officer	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
149	ED202.3.01.027	Site Safety Committee (SSC) Meeting (monthly afterwards)	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%



Project Start Date: 30 July 2021
Data Date: 6 August 2021

Activity | Milestone | Summary | Critical Activity | Activity Progress | Critical Activity Progress

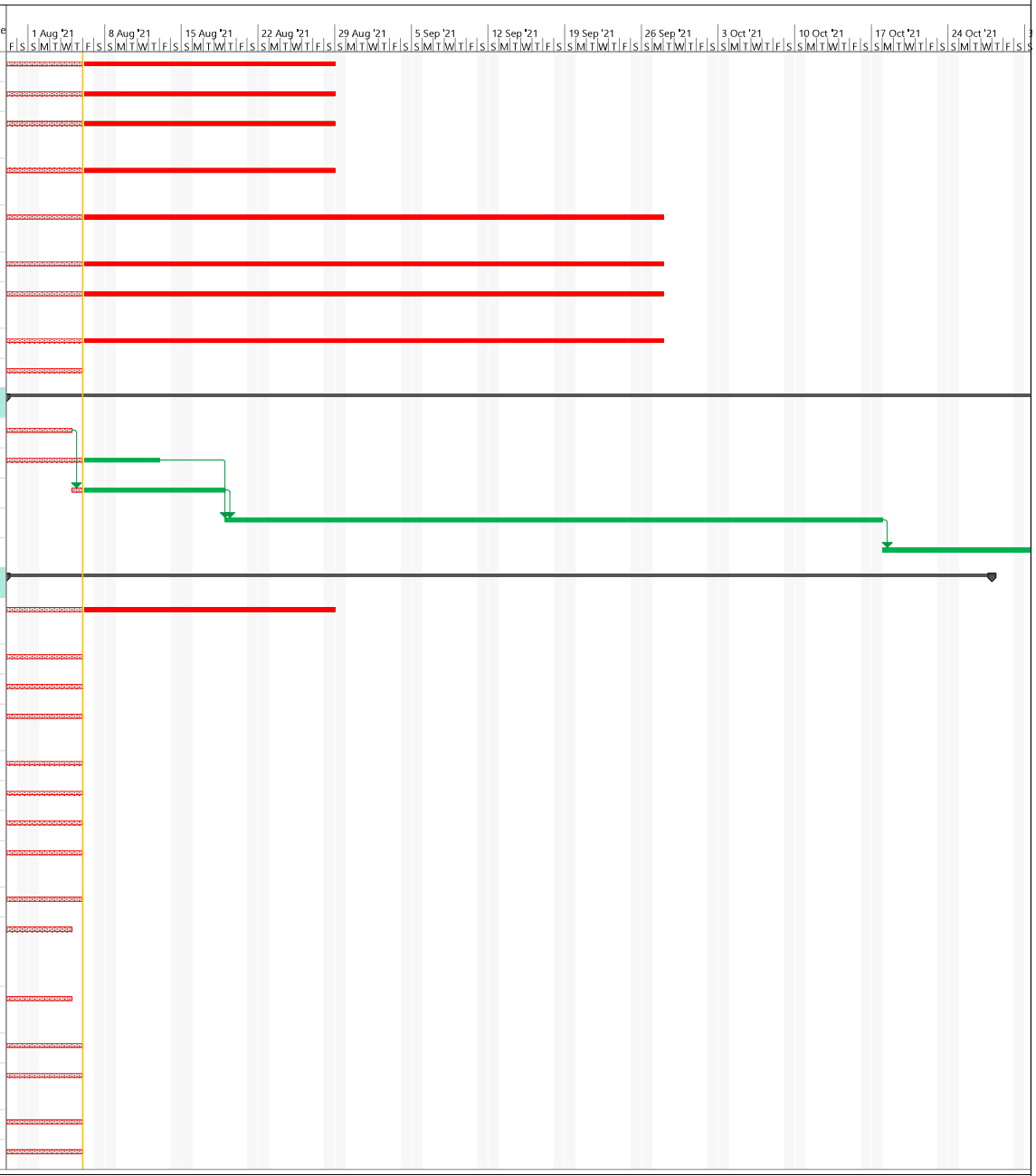
ID	Activity Code	Activity Name	Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	% Comple
150	ED202.3.01.028	Meeting of the SSMC (monthly afterwards)	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
151	ED202.3.01.029	Professional Indemnity Insurance in respect of Contractor's Design	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
152	ED202.3.01.030	Proposed gasket material for waterworks	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
153	ED202.3.01.031	7 days advance notice of the date on which workers begin to wear Site uniform; Provide uniforms within 5 days after the design is accepted by PM	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
154	ED202.3.01.032	Book with a certification body the date of audit for ISO 9001:2015 certification	90d	30/7/21	27/10/21	30/7/21	27/10/21	0d	8%
155	ED202.3.01.033	2 Engineering Graduates 3 Technician apprentices	90d	30/7/21	27/10/21	30/7/21	27/10/21	0d	8%
156	ED202.3.01.034	Commisioning of DWSS	90d	30/7/21	27/10/21	30/7/21	27/10/21	0d	8%
157	ED202.3.01.035	Agree on the content and presentation of the dashboard of DWSS	90d	30/7/21	27/10/21	30/7/21	27/10/21	0d	8%
158	ED202.3.01.036	Monthly collabration and information exchange of BIM	90d	30/7/21	27/10/21	30/7/21	27/10/21	0d	8%
159	ED202.3.01.037	Combined Services Drawing (CSD) and CBWD generated from BIM model	90d	30/7/21	27/10/21	30/7/21	27/10/21	0d	8%
160	ED202.3.01.038	Video script for Project Video Film	180d	30/7/21	25/1/22	30/7/21	25/1/22	0d	4%
161	ED202.3.01.039	Employment of Construction Industry Council's Graduates (min. 4 graduates)	180d	30/7/21	25/1/22	30/7/21	25/1/22	0d	4%
162	ED202.3.01.040	4 staff members for contractor/ Subcontrctor to attend CIC BIM Training	180d	30/7/21	25/1/22	30/7/21	25/1/22	0d	4%
163	ED202.3.01.041	Programmed requirement for acquisition of CSD products	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
164	**ED202.3.02**	**Plan & Proposals**	**60d**	**30/7/21**	**27/9/21**	**30/7/21**	**27/9/21**	**0d**	**26%**
165	ED202.3.02.001	Preperation and submission of Noise Mitigation Plan (3 hard copies, 2 electronic copies)	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
166	ED202.3.02.002	Preperation and submission of Waste Management Plan (WMP)	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
167	ED202.3.02.003	Preperation and submission of Draft Construction Health and Safety Plan (3 copies)	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
168	ED202.3.02.004	Preperation and submission of Quality Policy statement and quality plan	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
169	ED202.3.02.005	Preperation and submission of Hoarding plan	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
170	ED202.3.02.006	Preperation and submission of Draft Environmental Management Plan (EMP) 3 copies	4d	30/7/21	2/8/21	30/7/21	2/8/21	0d	100%
171	ED202.3.02.007	Preperation of Proposal for the works to be carried out by the licensed plumber	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
172	ED202.3.02.008	Tender requirements for suppliers of Plant and Materials, Equipment and Insurance Proposal	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
173	ED202.3.02.009	Preperation of Proposal for arrangement for placement of storage compartments/ drinking water facilities/ toilet/ hand-wash facilities/ showering/ rubbishbin/ workingshelter on Site	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
174	ED202.3.02.010	Preperation Proposal for security system	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
175	ED202.3.02.011	Preperation and submission of DWSS proposal	21d	30/7/21	19/8/21	30/7/21	19/8/21	0d	33%
176	ED202.3.02.012	Preperation and submission of Subcontractor Management Plan (SMP)	21d	30/7/21	19/8/21	30/7/21	19/8/21	0d	33%
177	ED202.3.02.013	Preperation and submission of Construction Health and Safety Plan (6 copies)	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
178	ED202.3.02.014	Weather protection scheme	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%



Project Start Date: 30 July 2021
Data Date: 6 August 2021

Activity | Milestone | Summary | Critical Activity | Activity Progress | Critical Activity Progress

ID	Activity Code	Activity Name	Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	% Comple
179	ED202.3.02.015	Preperation and submission of Monitoring Proposal for Geotechnical works	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
180	ED202.3.02.016	Proposal of COBie information requirements	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
181	ED202.3.02.017	Preperation and submission of Final Environmental Management Plan (EMP) 3 copies	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
182	ED202.3.02.018	Preperation of Proposed Plans for submission of each Release of construction and Project Video Films	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
183	ED202.3.02.019	Preperation and submission of Site Traffic Safety Management Plan (STSMP), (monthly update)	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
184	ED202.3.02.020	Preperation and submission of Site Managemnt Plan for TTS	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
185	ED202.3.02.021	Preperation and submission of BIM Execution Plan inaccoradance with the PSA 1.14D	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
186	ED202.3.02.022	Public Relation (PR) Company, PR plan	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
187	ED202.3.02.023	Preperation and submission of Temporary drainage management plan	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
188	**ED202.3.03**	**Programme**	**1239d**	**30/7/21**	**19/12/24**	**30/7/21**	**28/12/24**	**9d**	**1%**
189	ED202.3.03.001	Preparation & Submission of First Works Program	6d	30/7/21	4/8/21	30/7/21	4/8/21	0d	100%
190	ED202.3.03.002	Preparation & Submssion of Three Months Rolling Program	14d	30/7/21	12/8/21	30/7/21	27/8/21	15d	50%
191	ED202.3.03.003	Program Review and Accpetance of First Program	14d	5/8/21	18/8/21	5/8/21	27/8/21	9d	7%
192	ED202.3.03.004	Preparation and Submission of Detailed Works Program	60d	19/8/21	17/10/21	28/8/21	26/10/21	9d	0%
193	ED202.3.03.005	Program Review and Acceptance of Works Program	14d	18/10/21	31/10/21	27/10/21	9/11/21	9d	0%
195	**ED202.3.04**	**Permit and Licences**	**90d**	**30/7/21**	**27/10/21**	**30/7/21**	**27/10/21**	**0d**	**32%**
196	ED202.3.04.001	Detailed construction sequences with associated traffic diversion schemes and obtain endorsement in principle from the relavent authorties and the Supervisor	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
197	ED202.3.04.002	Risk Assessment for slope works	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
198	ED202.3.04.003	Proposed methods of working and sound-reducing measures for all equipment	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
199	ED202.3.04.004	Welfare facilities for workers in accordance with requirements in PS Clause 1.69B	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
200	ED202.3.04.005	UU detection equipment brand/model	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
201	ED202.3.04.006	Certified calibration certificates	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
202	ED202.3.04.007	PM to advise Contractor the details of ET	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
203	ED202.3.04.008	Calibration of measuring instruments for Geotechnical works and copies of certified calibration	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
204	ED202.3.04.009	Copies of Documents as per P.S.A. 1.12.4.I.	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
205	ED202.3.04.010	Contract Computer Facilities, Electronic Document Management System, Site Record Information System, Digital Works Supervision System and other software	6d	30/7/21	4/8/21	30/7/21	4/8/21	0d	100%
206	ED202.3.04.011	Name of the designated bank and all related arrangement details for payment of wages to all the Site Workers	6d	30/7/21	4/8/21	30/7/21	4/8/21	0d	100%
207	ED202.3.04.012	Site Cleanliness and Tidiness	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
208	ED202.3.04.013	3 sets of coloured reoord photos in SR size (recording existing building/ street funiture.....)	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
209	ED202.3.04.014	Contract Cars	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
210	ED202.3.04.015	Design of uniform for site workers	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%



Project Start Date: 30 July 2021
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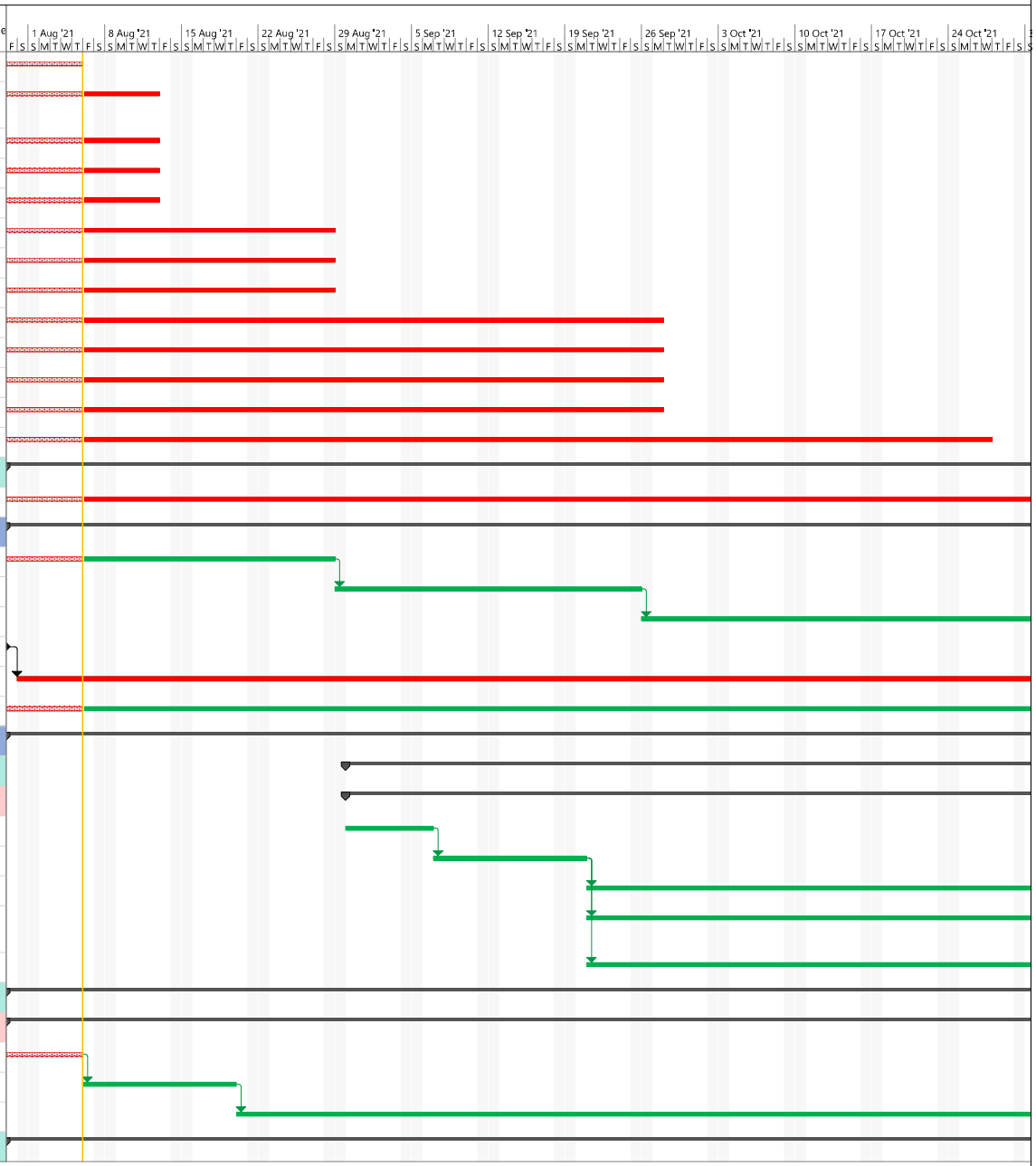
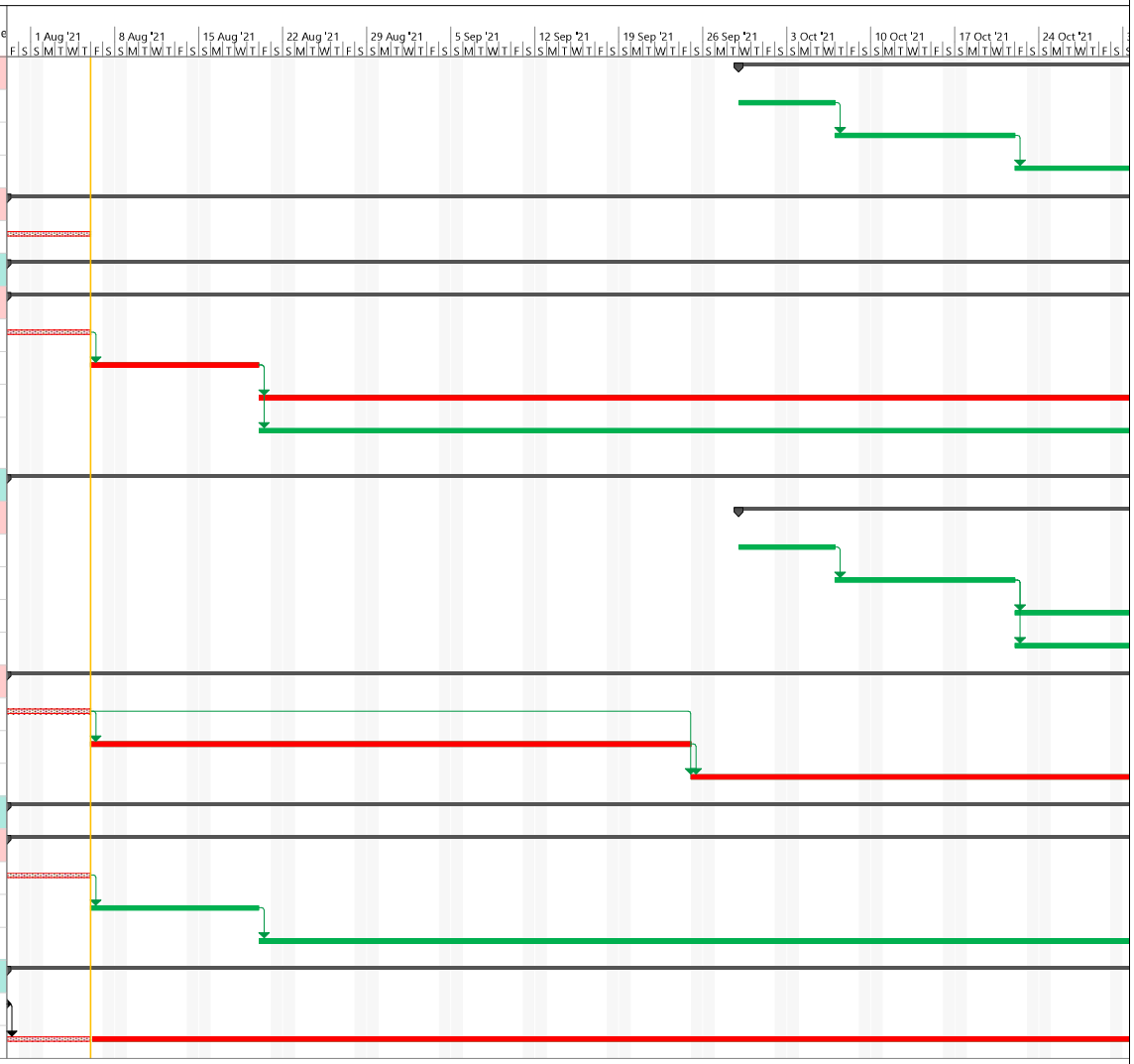
Activity | Milestone | Summary | Critical Activity | Activity Progress | Critical Activity Progress

ID	Activity Code	Activity Name	Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	% Comple
211	ED202.3.04.016	Survey Equipment for Initial survey	7d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
212	ED202.3.04.017	Inclinometer access tubes - suppliers, material specification and samples of the tubes and couplings	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
213	ED202.3.04.018	Payment of Wages System for Site Workers	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
214	ED202.3.04.019	Location and area for Pre-work Activities	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
215	ED202.3.04.020	Tree survey record	14d	30/7/21	12/8/21	30/7/21	12/8/21	0d	50%
216	ED202.3.04.021	Details of installation of showering facilities	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
217	ED202.3.04.022	Propose DWSS and arrange live demonstration	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
218	ED202.3.04.023	Supply of Survey Equipment for PM use	30d	30/7/21	28/8/21	30/7/21	28/8/21	0d	23%
219	ED202.3.04.024	Complete setting up and begin to operate the Security System	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
220	ED202.3.04.025	Sample for weather protection scheme and conduct site trail	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
221	ED202.3.04.026	Initial Survey	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
222	ED202.3.04.027	Assessment for the risk resulting from working in hot weather	60d	30/7/21	27/9/21	30/7/21	27/9/21	0d	12%
223	ED202.3.04.028	Full functioning of Survey Equipment without malfunction	90d	30/7/21	27/10/21	30/7/21	27/10/21	0d	8%
224	**ED202.3.05**	**Contractor's Design**	**329d**	**30/7/21**	**23/6/22**	**30/7/21**	**23/6/22**	**0d**	**2%**
225	ED202.3.05.001	Prepare & Submission Contractor's Design - Architectural & Structural	120d	30/7/21	26/11/21	30/7/21	26/11/21	0d	6%
232	**ED202.4**	**Work Area**	**1248d**	**30/7/21**	**28/12/24**	**30/7/21**	**28/12/24**	**0d**	**0%**
233	ED202.4.01	CRE Site Office Design & ICE Endorsement	30d	30/7/21	28/8/21	30/7/21	17/9/21	20d	23%
234	ED202.4.02	CRE Site office Design Review and Acceptance	28d	29/8/21	25/9/21	18/9/21	15/10/21	20d	0%
235	ED202.4.03	CRE Site office Construction Works	120d	26/9/21	23/1/22	16/10/21	12/2/22	20d	0%
237	ED202.4.05	Access for Works Area	0d	30/7/21	30/7/21	30/7/21	30/7/21	0d	100%
238	ED202.4.06	Maintenance Duration for Works Area	1247d	31/7/21	28/12/24	31/7/21	28/12/24	0d	0%
240	ED202.4.08	Setting up Contractor's Project office	120d	30/7/21	26/11/21	30/7/21	24/12/21	28d	6%
242	**ED202.5**	**Construction Works**	**1039d**	**30/7/21**	**28/12/24**	**30/7/21**	**28/12/24**	**0d**	**0%**
243	**ED202.5.01**	**Section of Works 1 - Portions 1a, 1b, 2b**	**697d**	**30/8/21**	**13/12/23**	**22/9/21**	**28/12/24**	**19d**	**0%**
258	**ED202.5.01.002**	**Portion 2a**	**697d**	**30/8/21**	**13/12/23**	**22/9/21**	**13/12/23**	**0d**	**0%**
259	ED202.5.01.002.001	Provision of site access [31 days after starting date as per Contract]	6d	30/8/21	6/9/21	22/9/21	28/9/21	19d	0%
260	ED202.5.01.002.002	Mobilization & Site Clearance	12d	7/9/21	20/9/21	29/9/21	13/10/21	19d	0%
261	ED202.5.01.002.003	Excavation and Construction of Drainage and Sewerage lines	160d	21/9/21	31/3/22	15/10/21	23/4/22	19d	0%
263	ED202.5.01.002.005	Excavation and Construction of Waterlines for treated water & flushing water and pipe ends with with blank flange	120d	21/9/21	12/2/22	1/12/21	23/4/22	59d	0%
265	ED202.5.01.002.007	Excavation and construction of drawpits and ducting Incl., T&C	120d	21/9/21	12/2/22	7/1/22	30/5/22	89d	0%
298	**ED202.5.03**	**Section of Works 2 - Portion 8**	**584d**	**30/7/21**	**3/7/23**	**30/7/21**	**29/7/23**	**23d**	**1%**
299	**ED202.5.03.001**	**Portion 8**	**584d**	**30/7/21**	**3/7/23**	**30/7/21**	**29/7/23**	**23d**	**1%**
300	ED202.5.03.001.001	Provision of site access [on starting date as per Contract]	6d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
301	ED202.5.03.001.002	Mobilization & Site Clearance	12d	6/8/21	19/8/21	3/9/21	16/9/21	23d	0%
302	ED202.5.03.001.003	Excavation and Construction of Drainage Works	160d	20/8/21	1/3/22	17/9/21	28/3/22	23d	0%
313	**ED202.5.05**	**Section of Works 3 - Portions 1b, 3, 4, 5**	**554d**	**30/7/21**	**26/5/23**	**30/7/21**	**30/5/23**	**3d**	**1%**



ID	Activity Code	Activity Name	Dur	Early Start	Early Finish	Late Start	Late Finish	Total Float	% Comple
326	**ED202.5.05.002**	**Portion 3**	**308d**	**29/9/21**	**6/10/22**	**15/3/22**	**30/5/23**	**138d**	**0%**
327	ED202.5.05.002.001	Provision of site access [61 days after starting date as per Contract]	6d	29/9/21	6/10/21	15/3/22	21/3/22	138d	0%
328	ED202.5.05.002.002	Mobilization & Site Clearance	12d	7/10/21	21/10/21	22/3/22	4/4/22	138d	0%
329	ED202.5.05.002.003	Backfilling and compaction of materials	200d	22/10/21	18/6/22	6/4/22	1/12/22	138d	0%
331	**ED202.5.05.003**	**Portion 4**	**419d**	**30/7/21**	**15/12/22**	**30/7/21**	**30/5/23**	**138d**	**4%**
332	ED202.5.05.003.001	Provision of site access [on starting date as per Contract]	6d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
343	**ED202.5.07**	**Section of Works 4 - Portions 6, 12**	**568d**	**30/7/21**	**13/6/23**	**30/7/21**	**13/6/23**	**0d**	**0%**
356	**ED202.5.07.002**	**Portion 12**	**568d**	**30/7/21**	**13/6/23**	**30/7/21**	**13/6/23**	**0d**	**1%**
357	ED202.5.07.002.001	Provision of site access [on starting date as per Contract]	6d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
358	ED202.5.07.002.002	Mobilization & Site Clearance	12d	6/8/21	19/8/21	6/8/21	19/8/21	0d	0%
359	ED202.5.07.002.003	Excavation and Construction of Drainage Works	160d	20/8/21	1/3/22	20/8/21	1/3/22	0d	0%
361	ED202.5.07.002.005	Excavation and Construction of Waterlines for fresh water & flushing water and connection to existing tee-off	60d	20/8/21	1/11/21	16/10/21	24/12/21	46d	0%
373	**ED202.5.09**	**Section of Works 5A - Portions 9, 10**	**581d**	**30/7/21**	**28/6/23**	**30/7/21**	**28/6/23**	**0d**	**0%**
374	**ED202.5.09.001**	**Portion 9 [Sitting Out Area C & R2-1 Footpath]**	**528d**	**29/9/21**	**26/6/23**	**2/10/21**	**28/6/23**	**2d**	**0%**
375	ED202.5.09.001.001	Provision of site access [61 days after starting date as per Contract]	6d	29/9/21	6/10/21	2/10/21	8/10/21	2d	0%
376	ED202.5.09.001.002	Mobilization & Site Clearance	12d	7/10/21	21/10/21	9/10/21	23/10/21	2d	0%
377	ED202.5.09.001.003	Excavation and construction of drainage line and catchpits	60d	22/10/21	31/12/21	25/10/21	4/1/22	2d	0%
379	ED202.5.09.001.005	Excavation and construction of drawpits and ducting & Irrigation system	90d	22/10/21	7/2/22	25/10/21	9/2/22	2d	0%
387	**ED202.5.09.002**	**Portion 10**	**581d**	**30/7/21**	**28/6/23**	**30/7/21**	**28/6/23**	**0d**	**1%**
388	ED202.5.09.002.001	Provision of site access [on starting date as per Contract]	6d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
389	ED202.5.09.002.002	Slope inspection & assessment work	42d	6/8/21	24/9/21	6/8/21	24/9/21	0d	0%
390	ED202.5.09.002.003	Mobilization, access & Site Clearance	42d	25/9/21	15/11/21	25/9/21	15/11/21	0d	0%
505	**ED202.5.14**	**Section of Works 7A - Portions 13a, 14**	**536d**	**30/7/21**	**5/5/23**	**30/7/21**	**29/5/23**	**20d**	**1%**
513	**ED202.5.14.002**	**Portion 14**	**408d**	**30/7/21**	**2/12/22**	**30/7/21**	**29/5/23**	**148d**	**1%**
514	ED202.5.14.002.001	Provision of site access [on starting date as per Contract]	6d	30/7/21	5/8/21	30/7/21	5/8/21	0d	100%
515	ED202.5.14.002.002	Mobilization & Site Clearance	12d	6/8/21	19/8/21	8/10/21	22/10/21	52d	0%
516	ED202.5.14.002.003	Installation of monitoring instruments	60d	20/8/21	1/11/21	23/10/21	3/1/22	52d	0%
644	**ED202.5.22**	**Section of Works 10 - All Tree Protection and Preservation Works**	**736d**	**30/7/21**	**29/12/23**	**30/7/21**	**29/12/23**	**0d**	**1%**
645	ED202.5.22.001	Commencement of All Tree Protection and Preservation Work	0d	30/7/21	30/7/21	30/7/21	30/7/21	0d	100%
646	ED202.5.22.002	All Tree Protection and Preservation Work Duration for Section 8	883d	30/7/21	29/12/23	30/7/21	29/12/23	0d	1%



Project Start Date: 30 July 2021
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Activity | Milestone | Summary | Critical Activity | Activity Progress | Critical Activity Progress

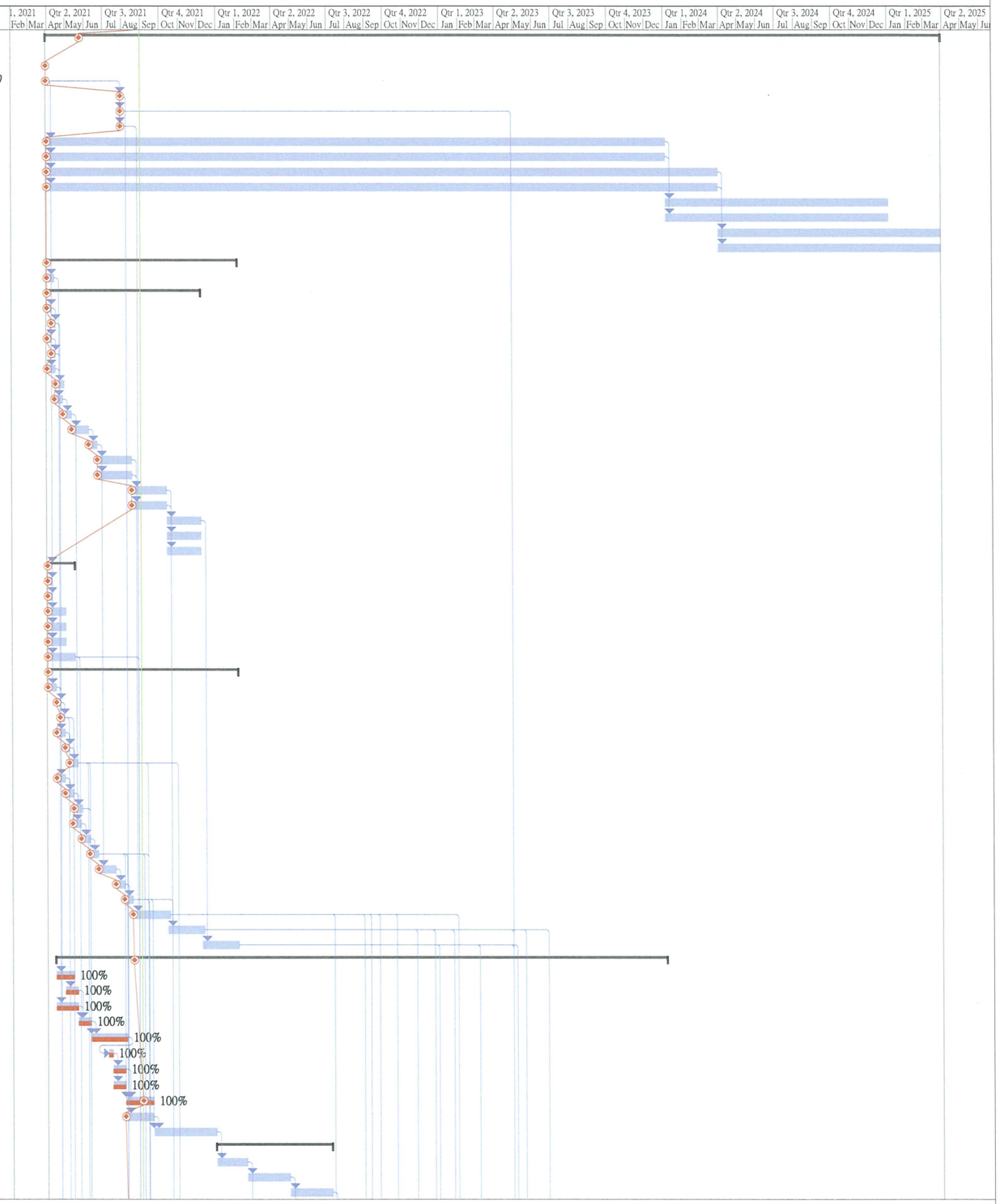
Contract 5 (NE/2019/02)

Contract No. ED/2019/02
Development of Anderson Road Quarry Site -
Remaining Pedestrian Connectivity Facilities Works

First Programme

Wing Lee - Univic Joint Venture

ID	Task Mod	Task Name	Duration	Start	Finish	Predecessors	Successors
1		**Development of Anderson Road Quarry Site - Remaining Pedestrian Connectivity Facilities Works**	**1461 days**	**Tue 30/3/21**	**Sat 29/3/25**		
2		*Contract Starting Date*	*1 day*	*Tue 30/3/21*	*Tue 30/3/21*		
3		*Possession of Site (Portion 1a, 2, 3a & 4b)*	*1 day*	*Tue 30/3/21*	*Tue 30/3/21*		*16,35,18,20,22,43,4,36,37,38,39,40,41,5,6,7,8,9,10*
4		*Possession of Site (Portion 1b)*	*1 day*	*Fri 30/7/21*	*Fri 30/7/21*	*3*	*70,272*
5		*Possession of Site (Portion 3b)*	*1 day*	*Fri 30/7/21*	*Fri 30/7/21*	*3*	*222*
6		*Possession of Site (Portion 4a)*	*1 day*	*Fri 30/7/21*	*Fri 30/7/21*	*3*	*244*
7		Construction Period of Section 1	1009 days	Wed 31/3/21	Wed 3/1/24	3	11
8		Construction Period of Section 2	1009 days	Wed 31/3/21	Wed 3/1/24	3	12
9		Construction Period of Section 3	1095 days	Wed 31/3/21	Fri 29/3/24	3	13
10		Construction Period of Section 4	1095 days	Wed 31/3/21	Fri 29/3/24	3	14
11		Construction Period of Section 1A	365 days	Thu 4/1/24	Thu 2/1/25	7	
12		Construction Period of Section 2A	365 days	Thu 4/1/24	Thu 2/1/25	8	
13		Construction Pperiod of Section 3A	365 days	Sat 30/3/24	Sat 29/3/25	9	
14		Construction Period of Section 4A	365 days	Sat 30/3/24	Sat 29/3/25	10	
15		Preliminary Work	310 days	Wed 31/3/21	Thu 3/2/22		
16		Mobilization of Site Accommodation	12 days	Wed 31/3/21	Sun 11/4/21	3	62,119,174,209,240,243,24,64
17		Major Sub-contractor Submission	250 days	Wed 31/3/21	Sun 5/12/21		
18		Submit Proposed Landscaping Sub-contractor	7 days	Wed 31/3/21	Tue 6/4/21	3	19
19		Accept Proposed Landscaping Sub-contractor	7 days	Wed 7/4/21	Tue 13/4/21	18	46,49
20		Submit Proposed Traffic Consultant	7 days	Wed 31/3/21	Tue 6/4/21	3	21
21		Accept Proposed Traffic Consultant	7 days	Wed 7/4/21	Tue 13/4/21	20	178
22		Submit Proposed Independent Checking Engineer	14 days	Wed 31/3/21	Tue 13/4/21	3	23
23		Accept Proposed Independent Checking Engineer	14 days	Wed 14/4/21	Tue 27/4/21	22	
24		Submit Proposed Ground Investigation Sub-contractor	14 days	Mon 12/4/21	Sun 25/4/21	16	25
25		Accept Proposed Ground Investigation Sub-contractor	14 days	Mon 26/4/21	Sun 9/5/21	24	26,52
26		Submit Proposed Piling Sub-contractor	28 days	Mon 10/5/21	Sun 6/6/21	25	27
27		Accept Proposed Piling Sub-contractor	14 days	Mon 7/6/21	Sun 20/6/21	26	55,28,29
28		Submit & Accept Proposed E&M Sub-contractor	56 days	Mon 21/6/21	Sun 15/8/21	27	58
29		Submit & Accept Proposed Lift/Escalator Sub-contractor	56 days	Mon 21/6/21	Sun 15/8/21	27	30,31,58
30		Submit & Accept Bearing Sub-contractor	56 days	Mon 16/8/21	Sun 10/10/21	29	59
31		Submit & Accept Proposed Movement Joint Sub-contractor	56 days	Mon 16/8/21	Sun 10/10/21	29	32,33,34,59
32		Submit & Accept Proposed Steelwork Sub-contractor	56 days	Mon 11/10/21	Sun 5/12/21	31	60
33		Submit & Accept Proposed Waterproofing Sub-contractor	56 days	Mon 11/10/21	Sun 5/12/21	31	
34		Submit & Accept Proposed Road Marking Sub-contractor	56 days	Mon 11/10/21	Sun 5/12/21	31	
35		Contractural Submission	45 days	Wed 31/3/21	Fri 14/5/21	3	
36		Initial Photo Record	7 days	Wed 31/3/21	Tue 6/4/21	3	
37		Noise Mitigation Plan	7 days	Wed 31/3/21	Tue 6/4/21	3	
38		Safety Management Plan	30 days	Wed 31/3/21	Thu 29/4/21	3	
39		Environmental Managenet Plan	30 days	Wed 31/3/21	Thu 29/4/21	3	
40		Waste Management Plan	30 days	Wed 31/3/21	Thu 29/4/21	3	
41		Initial Condition Survey	45 days	Wed 31/3/21	Fri 14/5/21	3	65,121,177,245
42		Technical Submission	310 days	Wed 31/3/21	Thu 3/2/22		
43		Prepare Method Statement of Initial Survey	14 days	Wed 31/3/21	Tue 13/4/21	3	44
44		Review & Resubmit MS of Initial Survey	6 days	Wed 14/4/21	Mon 19/4/21	43	45
45		Acceptance of MS of Iniial Survey	7 days	Tue 20/4/21	Mon 26/4/21	44	63,120,176,242
46		Prepare Method Statement of Tree Felling	14 days	Wed 14/4/21	Tue 27/4/21	19	47
47		Review & Resubmit MS of Tree Felling	7 days	Wed 28/4/21	Tue 4/5/21	46	48
48		Acceptance of MS of Tree Felling	14 days	Wed 5/5/21	Tue 18/5/21	47	66,122,179,246,273
49		Prepare Method Statement of Tree Transplanting	14 days	Wed 14/4/21	Tue 27/4/21	19	50
50		Review & Resubmit MS of Tree Transplanting	14 days	Wed 28/4/21	Tue 11/5/21	49	51
51		Acceptance of MS of Tree Transplanting	14 days	Wed 12/5/21	Tue 25/5/21	50	123
52		Prepare Method Statement of Ground Investigation	14 days	Mon 10/5/21	Sun 23/5/21	25	53
53		Review & Resubmit MS of Ground Investigation	14 days	Mon 24/5/21	Sun 6/6/21	52	54
54		Acceptance of MS of Ground Investigation	14 days	Mon 7/6/21	Sun 20/6/21	53	70,127,185,248
55		Prepare Method Statement of Piling Works	28 days	Mon 21/6/21	Sun 18/7/21	27	56
56		Review & Resubmit MS of Piling Works	14 days	Mon 19/7/21	Sun 1/8/21	55	57
57		Acceptance of MS of Piling Works	14 days	Mon 2/8/21	Sun 15/8/21	56	129,186,72
58		Submit & Accept of Lift & E&M Submission	60 days	Mon 16/8/21	Thu 14/10/21	28,29	87,142,191,218,253,277
59		Submit & Accept bearing & MJ Submission	60 days	Mon 11/10/21	Thu 9/12/21	30,31	89,144,192,220,257,281
60		Submit & Accept Steelwork submission	60 days	Mon 6/12/21	Thu 3/2/22	32	98,153,222,283
61		Section 1 - E5 Escalator (Portion 1a & 1b)	997 days	Mon 12/4/21	Wed 3/1/24		
62		Site Clearance	30 days	Mon 12/4/21	Tue 11/5/21	16	
63		Initial Survey	21 days	Tue 27/4/21	Mon 17/5/21	45	65
64		Coordination with Housing Authority for Access	36 days	Mon 12/4/21	Mon 17/5/21	16	65
65		Erection of Site Hoarding	21 days	Tue 18/5/21	Mon 7/6/21	63,41,64	66
66		Tree Felling	59 days	Tue 8/6/21	Thu 5/8/21	65,48	67
67		Trial Pit Excavation	7 days	Tue 6/7/21	Mon 12/7/21	66	68,69
68		Utilities Diversion	21 days	Tue 13/7/21	Mon 2/8/21	67	70,71
69		Installation of Monitoring & Instrumentation Point	21 days	Tue 13/7/21	Mon 2/8/21	67	
70		Ground Investigation & install piezometer	45 days	Tue 3/8/21	Thu 16/9/21	68,54,4	
71		Fell Additional Trees (EWN001)	45 days	Tue 3/8/21	Thu 16/9/21	68	72
72		Form piling platform on Existing slope	102 days	Fri 17/9/21	Mon 27/12/21	71,57	74
73		Piling Works	190 days	Tue 28/12/21	Tue 5/7/22		
74		At Pile Cap E5-PC3 (12 nrs of 610mm PSH Piles)	50 days	Tue 28/12/21	Tue 15/2/22	72	75,79
75		At Pile Cap E5-PC2 (16 nrs of 610mm PSH Piles)	70 days	Wed 16/2/22	Tue 26/4/22	74	76,80
76		At Pile Cap E5-PC1 (16 nrs of 610mm PSH Piles)	70 days	Wed 27/4/22	Tue 5/7/22	75	77



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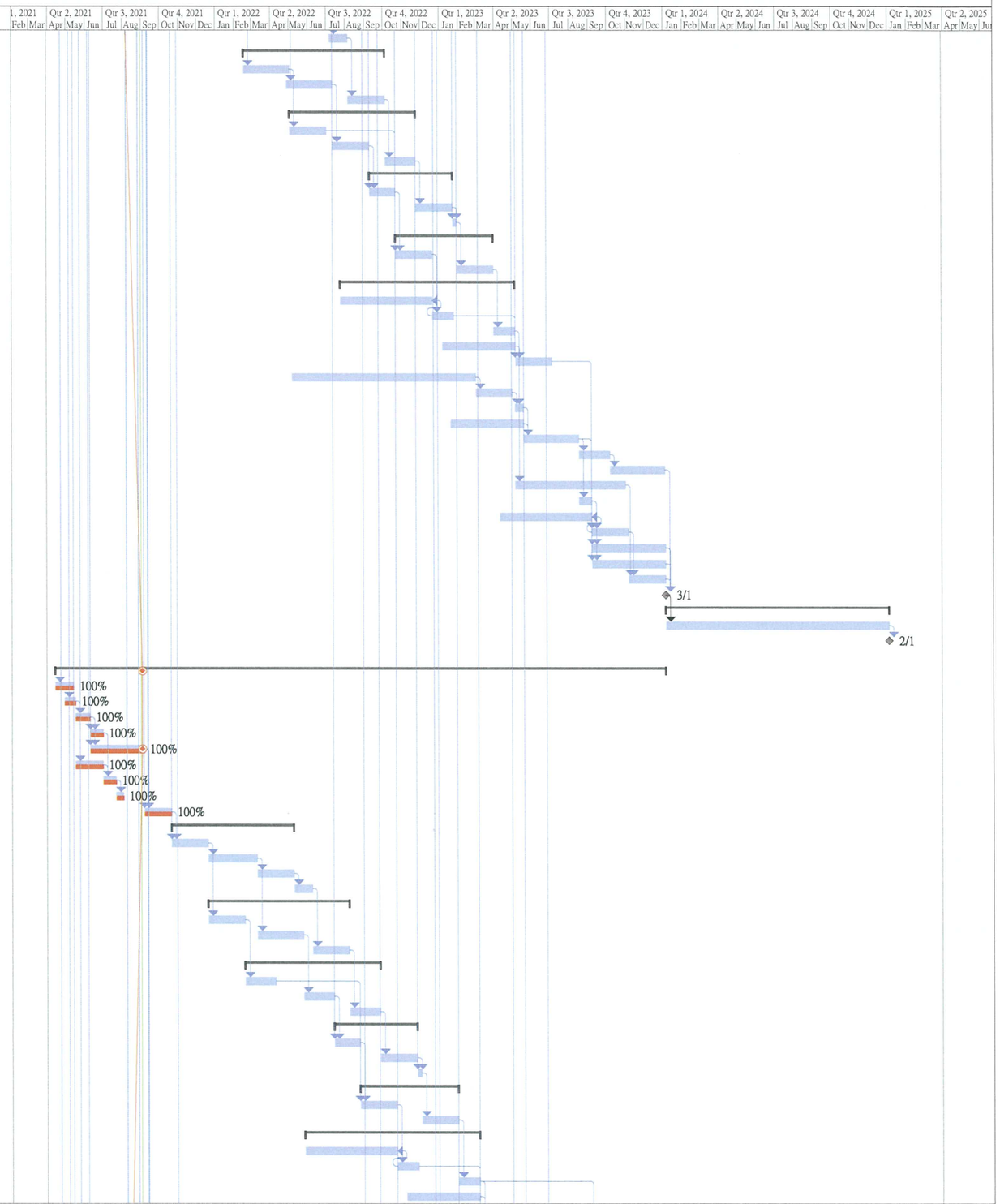
Task · Split · Milestone · Summary · Project Summary · Inactive Task · Inactive Milestone · Inactive Summary · Manual Task · Duration-only · Manual Summary Rollup · Manual Summary · Start-only · Finish-only · External Tasks · External Milestone · Deadline · Progress · Manual Progress

First Programme

ID	Task Mod	Task Name	Duration	Start	Finish	Predecessors	Successors
77		Loading Test of Piling	30 days	Wed 6/7/22	Thu 4/8/22	76	81
78		Excavation	230 days	Wed 16/2/22	Mon 3/10/22		
79		For Pile Cap E5-PC3	75 days	Wed 16/2/22	Sun 1/5/22	74	83
80		For Pile Cap E5-PC2	75 days	Wed 27/4/22	Sun 10/7/22	75	84
81		For Pile Cap E5-PC1	60 days	Fri 5/8/22	Mon 3/10/22	77	85
82		Pile Cap Construction	205 days	Mon 2/5/22	Tue 22/11/22		
83		For Pile Cap E5-PC3	60 days	Mon 2/5/22	Thu 30/6/22	79	91
84		For Pile Cap E5-PC2	60 days	Mon 11/7/22	Thu 8/9/22	80	87
85		For Pile Cap E5-PC1	50 days	Tue 4/10/22	Tue 22/11/22	81	88
86		Construction of Piers	135 days	Fri 9/9/22	Sat 21/1/23		
87		For Pier E5-P2	42 days	Fri 9/9/22	Thu 20/10/22	84,58	91
88		For Pier E5-P1	60 days	Wed 23/11/22	Sat 21/1/23	85	89
89		Installation of Bearing	7 days	Sun 22/1/23	Sat 28/1/23	88,59	92
90		Construction of Escalator Trough	160 days	Fri 21/10/22	Wed 29/3/23		
91		From PC3 - PC2	60 days	Fri 21/10/22	Mon 19/12/22	87,83	95
92		From PC2 - PC1	60 days	Sun 29/1/23	Wed 29/3/23	89	96
93		Installation of Escalator	285 days	Sat 23/7/22	Wed 3/5/23		
94		Procument & Delivery of Escalator Material	150 days	Sat 23/7/22	Tue 20/12/22	95SF	
95		From PC3 - PC2	35 days	Tue 20/12/22	Mon 23/1/23	91	98,94SF
96		From PC2 - PC1	35 days	Thu 30/3/23	Wed 3/5/23	92	98,106,101
97		Ordering of steel frame, roofing panels & fall arrest system	120 days	Thu 5/1/23	Thu 4/5/23		98
98		Erection of Canopy	60 days	Fri 5/5/23	Mon 3/7/23	96,95,60,97	109
99		Design Submission and Approval of A&A Works	300 days	Thu 5/5/22	Tue 28/2/23		100
100		Connection of Existing lift tower	60 days	Wed 1/3/23	Sat 29/4/23	99	101
101		Installation of Movement Joint	14 days	Thu 4/5/23	Wed 17/5/23	96,100	103
102		Ordering of balustrades, barriers & architectural features	120 days	Wed 18/1/23	Wed 17/5/23		103
103		Finishing Work	90 days	Thu 18/5/23	Tue 15/8/23	101,102	107,110,111,104
104		Remove existing soil nail	50 days	Wed 16/8/23	Wed 4/10/23	103	105
105		Backfill pile caps & Reinstate existing Slope & Retaining wall	90 days	Thu 5/10/23	Tue 2/1/24	104	113
106		Telemetry & Power Supply System	180 days	Thu 4/5/23	Mon 30/10/23	96	112
107		Construction of Pillar Box	21 days	Wed 16/8/23	Tue 5/9/23	103	109,110,111
108		Procument & Delivery of E&M Material	150 days	Sun 9/4/23	Wed 6/9/23	109SF	
109		E & M Installation & Lighting Installation	60 days	Wed 6/9/23	Sat 4/11/23	98,107	112,108SF
110		Drainage & Misc. Road Works	120 days	Wed 6/9/23	Wed 3/1/24	107,103	113
111		Landscaping Works	120 days	Wed 6/9/23	Wed 3/1/24	107,103	113
112		Testing & Commissioning	60 days	Sun 5/11/23	Wed 3/1/24	109,106	113
113		*Section 1 Completion*	*0 days*	*Wed 3/1/24*	*Wed 3/1/24*	*112,110,105,111*	*115*
114		**Section 1A - Establishment Works (Portion 1a & 1b)**	**365 days**	**Thu 4/1/24**	**Thu 2/1/25**		
115		Establishment Works	365 days	Thu 4/1/24	Thu 2/1/25	113	116
116		*Section 1A Completion*	*0 days*	*Thu 2/1/25*	*Thu 2/1/25*	*115*	
117							
118		**Section 2 - E6 Escalator (Portion 2)**	**997 days**	**Mon 12/4/21**	**Wed 3/1/24**		
119		Site Clearance	30 days	Mon 12/4/21	Tue 11/5/21	16	
120		Initial Survey	18 days	Tue 27/4/21	Fri 14/5/21	45	121,124
121		Erection of Site Hoarding	24 days	Sat 15/5/21	Mon 7/6/21	120,41	122,123
122		Tree Felling	21 days	Tue 8/6/21	Mon 28/6/21	121,48	125
123		Tree Transplanting	88 days	Tue 8/6/21	Fri 3/9/21	121,51	127
124		Coordination with HD for access & facilities relocation	45 days	Sat 15/5/21	Mon 28/6/21	120	125
125		Take up park facilities & Furniture	21 days	Tue 29/6/21	Mon 19/7/21	122,124	126
126		Installation of Monitoring & Instrumentation Point	12 days	Tue 20/7/21	Sat 31/7/21	125	
127		Ground Investigation	45 days	Sat 4/9/21	Mon 18/10/21	123,54	129
128		**Piling Works**	**200 days**	**Tue 19/10/21**	**Fri 6/5/22**		
129		At Pile Cap E6-PC3 (12 nrs of 610mm PSH Piles)	60 days	Tue 19/10/21	Fri 17/12/21	127,57	130,134
130		At Pile Cap E6-PC2 (16 nrs of 610mm PSH Piles)	80 days	Sat 18/12/21	Mon 7/3/22	129	131,135
131		At Pile Cap E6-PC1 (16 nrs of 610mm PSH Piles)	60 days	Tue 8/3/22	Fri 6/5/22	130	132
132		Loading Test of Piling	30 days	Sat 7/5/22	Sun 5/6/22	131	136
133		**Excavation**	**230 days**	**Sat 18/12/21**	**Thu 4/8/22**		
134		For Pile Cap E6-PC3	60 days	Sat 18/12/21	Tue 15/2/22	129	138
135		For Pile Cap E6-PC2	75 days	Tue 8/3/22	Sat 21/5/22	130	139
136		For Pile Cap E6-PC1	60 days	Mon 6/6/22	Thu 4/8/22	132	140
137		**Pile Cap Construction**	**220 days**	**Wed 16/2/22**	**Fri 23/9/22**		
138		For Pile Cap E5-PC3	50 days	Wed 16/2/22	Wed 6/4/22	134	146
139		For Pile Cap E5-PC2	50 days	Sun 22/5/22	Sun 10/7/22	135	142
140		For Pile Cap E5-PC1	50 days	Fri 5/8/22	Fri 23/9/22	136	143
141		**Construction of Piers**	**135 days**	**Mon 11/7/22**	**Tue 22/11/22**		
142		For Pier E5-P2	42 days	Mon 11/7/22	Sun 21/8/22	139,58	146
143		For Pier E5-P1	60 days	Sat 24/9/22	Tue 22/11/22	140	144
144		Installation of Bearing	7 days	Wed 23/11/22	Tue 29/11/22	143,59	147
145		**Construction of Escalator Trough**	**160 days**	**Mon 22/8/22**	**Sat 28/1/23**		
146		From PC3 - PC2	60 days	Mon 22/8/22	Thu 20/10/22	142,138	150
147		From PC2 - PC1	60 days	Wed 30/11/22	Sat 28/1/23	144	151
148		**Installation of Escalator**	**285 days**	**Tue 24/5/22**	**Sat 4/3/23**		
149		Procument & Delivery of Escalator Material	150 days	Tue 24/5/22	Fri 21/10/22	150SF	
150		From PC3 - PC2	35 days	Fri 21/10/22	Thu 24/11/22	146	153,149SF
151		From PC2 - PC1	35 days	Sun 29/1/23	Sat 4/3/23	147	153,156,163
152		Ordering of steel frame, roofing panels & fall arrest system	120 days	Sat 5/11/22	Sat 4/3/23		153



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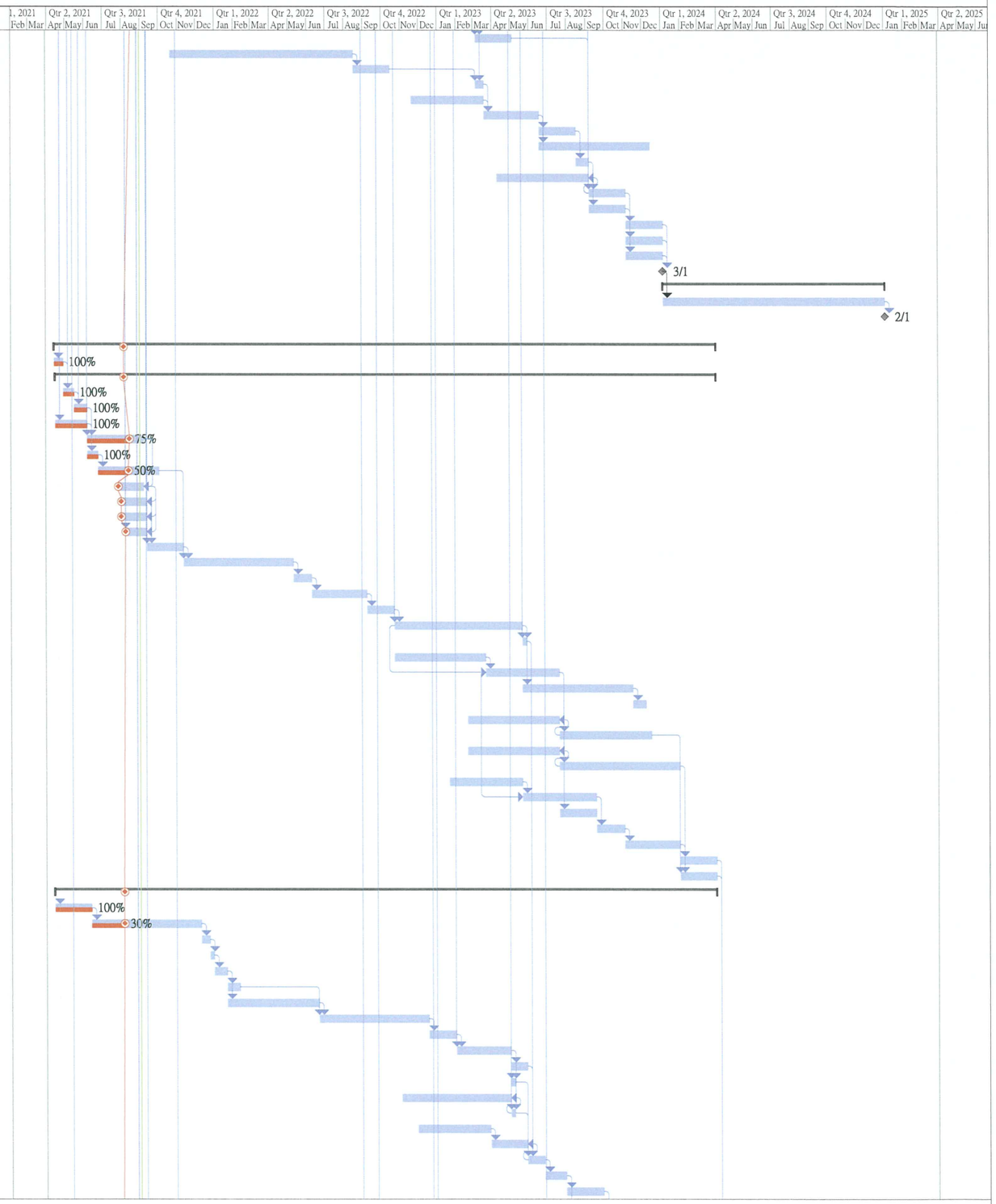
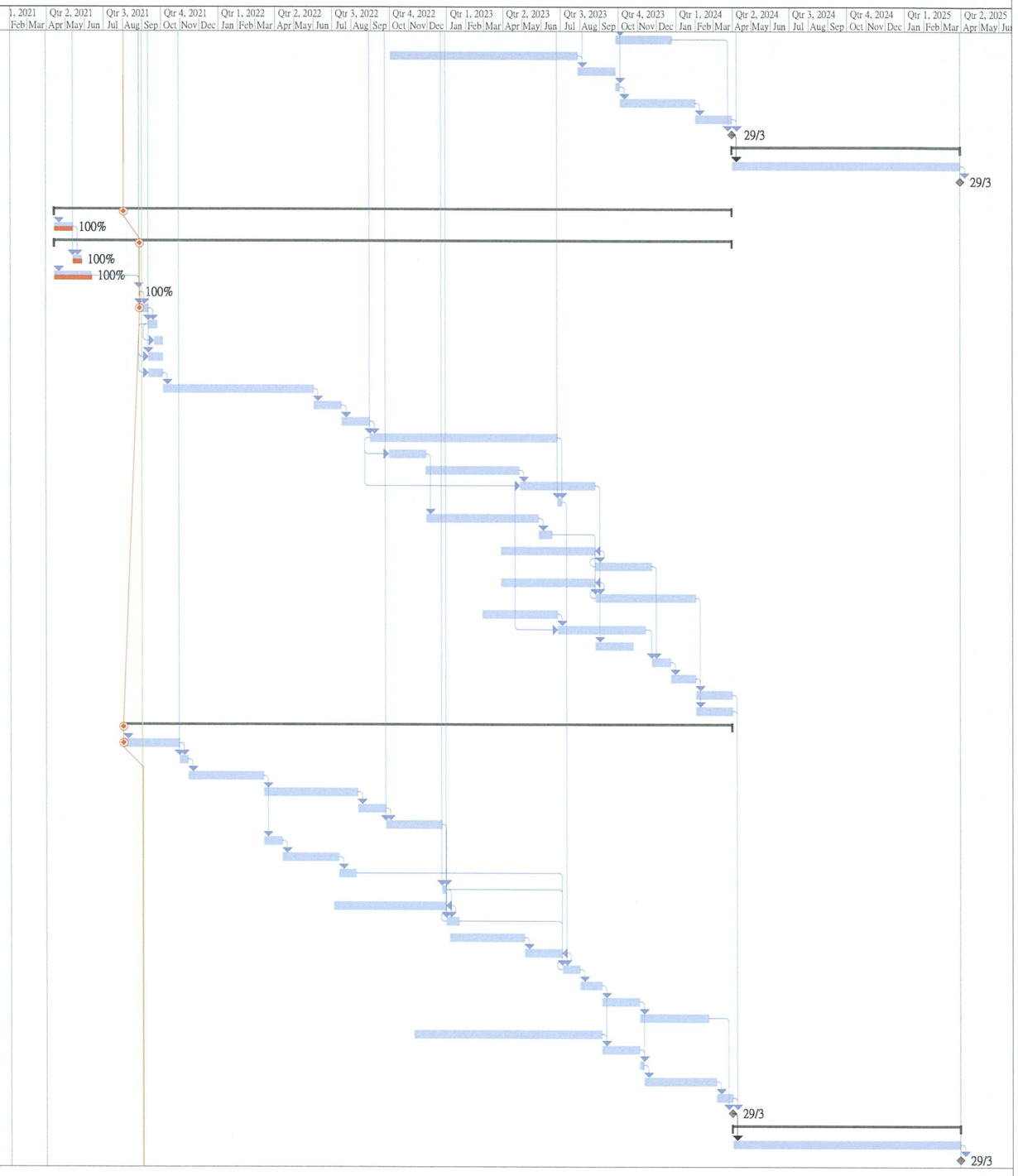
Task | Summary | Inactive Milestone | Duration-only | Start-only | External Milestone | Manual Progress
Split | Project Summary | Inactive Summary | Manual Summary Rollup | Finish-only | Deadline
Milestone | Inactive Task | Manual Task | Manual Summary | External Tasks | Progress

First Programme

ID	Task Mod	Task Name	Duration	Start	Finish	Predecessors	Successors
153		Erection of Canopy	60 days	Sun 5/3/23	Wed 3/5/23	151,60,150,152	163
154		Design Submission and Approval of A&A Works	300 days	Wed 20/10/21	Mon 15/8/22		155
155		Connection of Existing lift tower	60 days	Tue 16/8/22	Fri 14/10/22	154	156
156		Installation of Movement Joint	14 days	Sun 5/3/23	Sat 18/3/23	151,155	158
157		Ordering of balustrades, barriers & architectural features	120 days	Sat 19/11/22	Sat 18/3/23		158
158		Finishing Work	90 days	Sun 19/3/23	Fri 16/6/23	156,157	159,160
159		Backfill pile caps	60 days	Sat 17/6/23	Tue 15/8/23	158	161
160		Telemetry & Power Supply System	180 days	Sat 17/6/23	Wed 13/12/23	158	
161		Construction of Pillar Box	21 days	Wed 16/8/23	Tue 5/9/23	159	163,164
162		Procument & Delivery of E&M Material	150 days	Sun 9/4/23	Wed 6/9/23	163SF	
163		E & M Installation & Lighting Installation	60 days	Wed 6/9/23	Sat 4/11/23	151,161,153	167,162SF
164		Drainage & Misc. Road Works	60 days	Wed 6/9/23	Sat 4/11/23	161	165,166
165		Reinstatement of park facilities	60 days	Sun 5/11/23	Wed 3/1/24	164	168
166		Landscaping Works	60 days	Sun 5/11/23	Wed 3/1/24	164	168
167		Testing & Commissioning	60 days	Sun 5/11/23	Wed 3/1/24	163	168
168		*Section 2 Completion*	*0 days*	*Wed 3/1/24*	*Wed 3/1/24*	*165,167,166*	*170*
169		**Section 2A - Establishment Work (Portion 2)**	**365 days**	**Thu 4/1/24**	**Thu 2/1/25**		
170		Establishment Works	365 days	Thu 4/1/24	Thu 2/1/25	168	171
171		*Section 2A Completion*	*0 days*	*Thu 2/1/25*	*Thu 2/1/25*	*170*	
172							
173		**Section 3 - E7 Bridge (Portion 3a & 3b)**	**1083 days**	**Mon 12/4/21**	**Fri 29/3/24**		
174		Site Clearance	15 days	Mon 12/4/21	Mon 26/4/21	16	176
175		**E7 Lift Tower**	**1081 days**	**Wed 14/4/21**	**Fri 29/3/24**		
176		Initial Survey	18 days	Tue 27/4/21	Fri 14/5/21	174,45	177
177		Erection of Site Hoarding	21 days	Sat 15/5/21	Fri 4/6/21	176,41	179,180
178		TTA for Site Entrance & Bus Stop Relocation	52 days	Wed 14/4/21	Fri 4/6/21	21	179
179		Tree Felling	93 days	Sat 5/6/21	Sun 5/9/21	177,48,178	182FF
180		Trial Pit Excavation	18 days	Sat 5/6/21	Tue 22/6/21	177	181
181		Installation of Monitoring & Instrumentation Point	100 days	Wed 23/6/21	Thu 30/9/21	180	187
182		Fell Additional Trees (P-T00260; PMI No.8)	42 days	Mon 26/7/21	Sun 5/9/21	179FF	185FF+5 days,183FF+5 days,184FF+5 days
183		Street Light Relocation	42 days	Sat 31/7/21	Fri 10/9/21	182FF+5 days	186
184		Diversion of existing staircase	42 days	Sat 31/7/21	Fri 10/9/21	182FF+5 days	
185		Installation Piezometer & Ground Investigation	35 days	Sat 7/8/21	Fri 10/9/21	54,182FF+5 days	186
186		Form piling platform on Existing slope	60 days	Sat 11/9/21	Tue 9/11/21	57,183,185	187
187		Piling Work (68 nrs of 323mm Mini-piles)	180 days	Wed 10/11/21	Sun 8/5/22	186,181	188
188		Loading Test	30 days	Mon 9/5/22	Tue 7/6/22	187	189
189		Excavation of pile cap	90 days	Wed 8/6/22	Mon 5/9/22	188	190
190		Pile Cap Construction	45 days	Tue 6/9/22	Thu 20/10/22	189	191
191		Construction of Lift Tower (9 Pours)	210 days	Fri 21/10/22	Thu 18/5/23	190,58	192,194SS+150 days,195
192		Installation of Bearing	7 days	Fri 19/5/23	Thu 25/5/23	191,59	225
193		Fabrication of Lourves & Glazing	150 days	Fri 21/10/22	Sun 19/3/23		194
194		Installation of Lourves & Glazing	120 days	Mon 20/3/23	Mon 17/7/23	191SS+150 days,193	198,202SS+60 days,200,203
195		Telemetry & Power Supply System	180 days	Fri 19/5/23	Tue 14/11/23	191	196
196		Construction of Pillar Box	21 days	Wed 15/11/23	Tue 5/12/23	195	
197		Procument & Delivery of Lift Material	150 days	Sat 18/2/23	Tue 18/7/23	198SF	
198		Lift Installation	150 days	Tue 18/7/23	Thu 14/12/23	194	207,197SF
199		Procument & Delivery of E&M Material	150 days	Sat 18/2/23	Tue 18/7/23	200SF	
200		E & M Installation & Lighting Installation	196 days	Tue 18/7/23	Mon 29/1/24	194	207,199SF
201		Ordering of balustrades, barriers & architectural features	120 days	Thu 19/1/23	Thu 18/5/23		202
202		Finishing Work of Lift Tower	120 days	Fri 19/5/23	Fri 15/9/23	194SS+60 days,201	204
203		Waterpoofing & Installation of Fall Arrest System	60 days	Tue 18/7/23	Fri 15/9/23	194	
204		Removal of scaffolding	46 days	Sat 16/9/23	Tue 31/10/23	202	205
205		Backfill and Reinstate existing slope	90 days	Wed 1/11/23	Mon 29/1/24	204	206
206		Underground drainage & water main works	60 days	Tue 30/1/24	Fri 29/3/24	205	234
207		Testing & Commissioning	60 days	Tue 30/1/24	Fri 29/3/24	200,198	234
208		E7 Pier	1083 days	Mon 12/4/21	Fri 29/3/24		
209		Prepare & Endorse TTA scheme by TMLG	60 days	Mon 12/4/21	Thu 10/6/21	16	210
210		Application of Excavation Permit	180 days	Fri 11/6/21	Tue 7/12/21	209	211
211		Implementation of TTA at carriageway	14 days	Wed 8/12/21	Tue 21/12/21	210	212
212		Installation of Monitoring & Instrumentation Point	7 days	Wed 22/12/21	Tue 28/12/21	211	213
213		Trial Pit Excavation	21 days	Wed 29/12/21	Tue 18/1/22	212	214,215
214		Relocation of street light post	21 days	Wed 19/1/22	Tue 8/2/22	213	216
215		Utilities Diversion	150 days	Wed 19/1/22	Fri 17/6/22	213	216
216		Excavation of footing	180 days	Sat 18/6/22	Wed 14/12/22	215,214	217
217		Construction of Footing E7-F2	45 days	Thu 15/12/22	Sat 28/1/23	216	218
218		Construction of Pier E7-P1 (4 Poues)	90 days	Sun 29/1/23	Fri 28/4/23	217,58	220,222,219
219		Allowable for achievement of concrete strength	27 days	Sat 29/4/23	Thu 25/5/23	218	225
220		Installation of Bearing	7 days	Sat 29/4/23	Fri 5/5/23	218,59	225
221		Submit & obtain BD's approval for A&A Works at Carpark	180 days	Mon 31/10/22	Sat 29/4/23	222SF	
222		Forming support for steel bridge at Carpark	7 days	Sat 29/4/23	Fri 5/5/23	218,60,5	225,221SF
223		Ordering of steel frame, roofing panels & fall arrest system	120 days	Sat 26/11/22	Sat 25/3/23		224
224		Fabrication of Steel Bridge	60 days	Mon 27/3/23	Fri 26/5/23	225SF,223	
225		Erection of Steel Bridge	28 days	Fri 26/5/23	Thu 22/6/23	220,222,219,192	226,224SF
226		Construction of Concrete slab	35 days	Fri 23/6/23	Thu 27/7/23	225	227,230
227		Construction of Roofing System	60 days	Fri 28/7/23	Mon 25/9/23	226	228,231



ID	Task Mod	Task Name	Duration	Start	Finish	Predecessors	Successors
228		E & M Installation & Lighting Installation	90 days	Tue 26/9/23	Sun 24/12/23	227	234
229		Design Submission and Approval of A&A Works	300 days	Sat 1/10/22	Thu 27/7/23		230
230		Connection of Existing car park	60 days	Fri 28/7/23	Mon 25/9/23	226,229	
231		Installation of Movement Joint	7 days	Tue 26/9/23	Mon 2/10/23	227	232
232		Finishing work of bridge deck	120 days	Tue 3/10/23	Tue 30/1/24	231	233
233		Landscaping Works	59 days	Wed 31/1/24	Fri 29/3/24	232	234
234		*Section 3 Completion*	*0 days*	*Fri 29/3/24*	*Fri 29/3/24*	*206,207,228,233*	*236*
235		**Section 3A - Establishment Works (Portion 3a & 3b)**	**365 days**	**Sat 30/3/24**	**Sat 29/3/25**		
236		Establishment Works	365 days	Sat 30/3/24	Sat 29/3/25	234	237
237		*Section 3A Completion*	*0 days*	*Sat 29/3/25*	*Sat 29/3/25*	*236*	
238							
239		**Section 4 - E10 Bridge (Portion 4a & 4b)**	**1083 days**	**Mon 12/4/21**	**Fri 29/3/24**		
240		Site Clearance	30 days	Mon 12/4/21	Tue 11/5/21	16	242
241		E10 Lift Tower	1083 days	Mon 12/4/21	Fri 29/3/24		
242		Initial Survey	14 days	Wed 12/5/21	Tue 25/5/21	240,45	
243		Prepare & Endorse TTA scheme by TMLG	60 days	Mon 12/4/21	Thu 10/6/21	16	244
244		Implement TTA to form site entrance	1 day	Thu 26/8/21	Thu 26/8/21	243,6	245
245		Erection of Site Hoarding	14 days	Fri 27/8/21	Thu 9/9/21	244,41	246
246		Tree Felling	14 days	Fri 10/9/21	Thu 23/9/21	245,48	249SS,247SS+9 days,248SS
247		Installation of Monitoring & Instrumentation Point	14 days	Sun 19/9/21	Sat 2/10/21	246SS+9 days	
248		Installation Piezometer & Ground Investigation	23 days	Fri 10/9/21	Sat 2/10/21	246SS,54	
249		Fell Additional Trees (EWN001)	23 days	Fri 10/9/21	Sat 2/10/21	246SS	250
250		Excavation of Footing E10-FT1	240 days	Sun 3/10/21	Mon 30/5/22	249	251
251		Construction of Footing	45 days	Tue 31/5/22	Thu 14/7/22	250	252
252		Erection of Tower Crane	45 days	Fri 15/7/22	Sun 28/8/22	251	253
253		Construction of Lift Tower (12 pours)	300 days	Mon 29/8/22	Sat 24/6/23	252,58	254SS+30 days,256SS+240 days,257
254		Backfill of E10-PT1	60 days	Wed 28/9/22	Sat 26/11/22	253SS+30 days	258
255		Fabrication of Lourves & Glazing	150 days	Sat 26/11/22	Mon 24/4/23		256
256		Installation of Lourves & Glazing	120 days	Wed 26/4/23	Wed 23/8/23	253SS+240 days,255	261,265SS+60 days,263,266
257		Installation of Bearing	7 days	Sun 25/6/23	Sat 1/7/23	253,59	286
258		Telemetry & Power Supply System	180 days	Sun 27/11/22	Thu 25/5/23	254	259
259		Construction of Pillar Box	21 days	Fri 26/5/23	Thu 15/6/23	258	263
260		Procument & Delivery of Lift Material	150 days	Mon 27/3/23	Thu 24/8/23	261SF	
261		Lift Installation	90 days	Thu 24/8/23	Tue 21/11/23	256	267,260SF
262		Procument & Delivery of E&M Material	150 days	Mon 27/3/23	Thu 24/8/23	263SF	
263		E & M Installation & Lighting Installation	160 days	Thu 24/8/23	Tue 30/1/24	256,259	270,262SF
264		Ordering of balustrades, barriers & architectural features	120 days	Sat 25/2/23	Sat 24/6/23		265
265		Finishing Work of Lift Tower	140 days	Sun 25/6/23	Sat 11/11/23	256SS+60 days,264	267
266		Waterpoofing & Installation of Fall Arrest System	60 days	Thu 24/8/23	Sun 22/10/23	256	
267		Removal of scaffolding	30 days	Wed 22/11/23	Thu 21/12/23	265,261	268
268		Ground Level Drainage & water main laying	40 days	Fri 22/12/23	Tue 30/1/24	267	269
269		Reinstatement and Misc. Roadwork	59 days	Wed 31/1/24	Fri 29/3/24	268	295
270		Testing & Commisioning	59 days	Wed 31/1/24	Fri 29/3/24	263	295
271		Pier & Abutment	973 days	Sat 31/7/21	Fri 29/3/24		
272		Form Haul Road	90 days	Sat 31/7/21	Thu 28/10/21	4	273
273		Tree Felling	14 days	Fri 29/10/21	Thu 11/11/21	272,48	274
274		Excavation of Footing E10-FT2	120 days	Fri 12/11/21	Fri 11/3/22	273	278,275
275		Excavation of Footing E10-FT3	150 days	Sat 12/3/22	Mon 8/8/22	274	276
276		Construction of Footing E10_FT3	45 days	Tue 9/8/22	Thu 22/9/22	275	277
277		Construction of Abutment on FT3	90 days	Fri 23/9/22	Wed 21/12/22	276,58	281,283
278		Construction of Footing E10-FT2	30 days	Sat 12/3/22	Sun 10/4/22	274	279
279		Construction of Pier E10-P1 (4 pours)	90 days	Mon 11/4/22	Sat 9/7/22	278	280
280		Allowable for achievement of concrete strength	27 days	Sun 10/7/22	Fri 5/8/22	279	286
281		Installation of Bearing	7 days	Thu 22/12/22	Wed 28/12/22	277,59	286,283
282		Submit & obtain BD's approval for A&A Works at Carpark	180 days	Sat 2/7/22	Thu 29/12/22	283SF	
283		Forming support for steel bridge at Podium	20 days	Thu 29/12/22	Tue 17/1/23	281,60,277	286,282SF
284		Ordering of steel frame, roofing panels & fall arrest system	120 days	Tue 3/1/23	Tue 2/5/23		285
285		Fabrication of Steel Bridge	60 days	Wed 3/5/23	Sun 2/7/23	286SF,284	
286		Erection of Steel Bridge	28 days	Sun 2/7/23	Sat 29/7/23	280,281,283,257	287,285SF
287		Construction of Concrete slab	35 days	Sun 30/7/23	Sat 2/9/23	286	288,291
288		Construction of Roofing System	60 days	Sun 3/9/23	Wed 1/11/23	287	289,292
289		E & M Installation & Lighting Installation	110 days	Thu 2/11/23	Mon 19/2/24	288	295
290		Design Submission and Approval of A&A Works	300 days	Mon 7/11/22	Sat 2/9/23		291
291		Connection of Existing Estate Prodium	60 days	Sun 3/9/23	Wed 1/11/23	287,290	292
292		Installation of Movement Joint	7 days	Thu 2/11/23	Wed 8/11/23	288,291	293
293		Finishing work of bridge deck	116 days	Thu 9/11/23	Sun 3/3/24	292	294
294		Landscaping Works	26 days	Mon 4/3/24	Fri 29/3/24	293	295
295		*Section 4 Completion*	*0 days*	*Fri 29/3/24*	*Fri 29/3/24*	*269,270,289,294*	*297*
296		**Section 4A - Establishment Works (Portion 4a & 4b)**	**365 days**	**Sat 30/3/24**	**Sat 29/3/25**		
297		Establishment Works	365 days	Sat 30/3/24	Sat 29/3/25	295	298
298		*Section 4A Completion*	*0 days*	*Sat 29/3/25*	*Sat 29/3/25*	*297*	



Appendix D

Monitoring Locations for Impact Monitoring

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

HVS in AMS-1 for 24-Hour TSP

AMS-1

AMS-1a

AMS-2

AMS-3

Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 1 of 3)

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

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

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METRES
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Printed by : 4/8/2014
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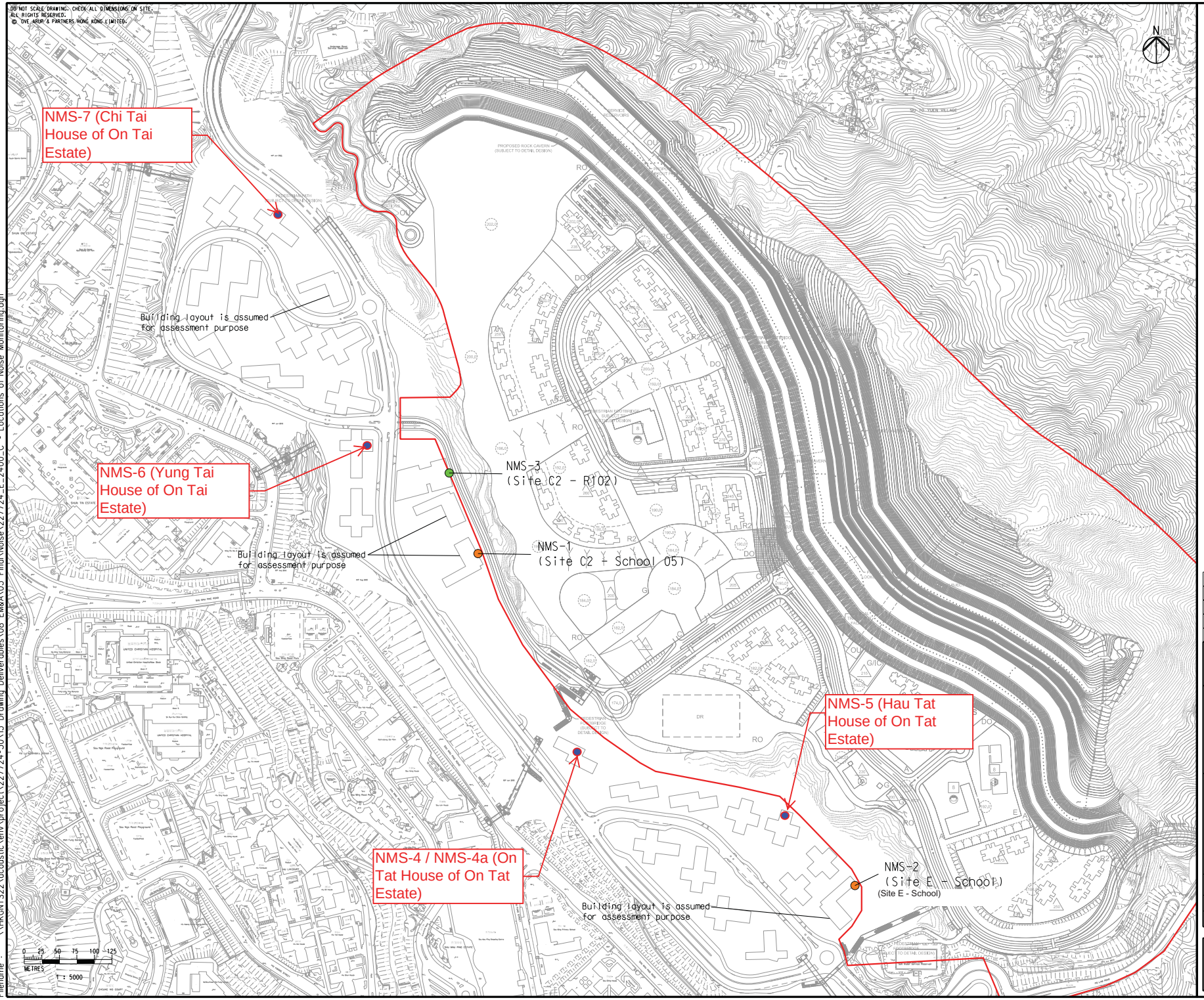

Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Noise Monitoring

Drawing no.	Rev.
227724/E/2400	C

Drawn	Date	Checked	Approved
GL	05/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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

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

AMS-3

AMS-4

AMS-5

AMS-6

HVS in AMS-5 for 24-Hour TSP

HVS in AMS-6 for 24-Hour TSP

Legend

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

N

0 25 50 75 100 125
METRES
1 : 5000

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust Monitoring (Sheet 2 of 3)

Drawing no.	Rev.
227724/E/1046	B

Drawn	Date	Checked	Approved
GL	03/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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

Printed by : 4/8/2014
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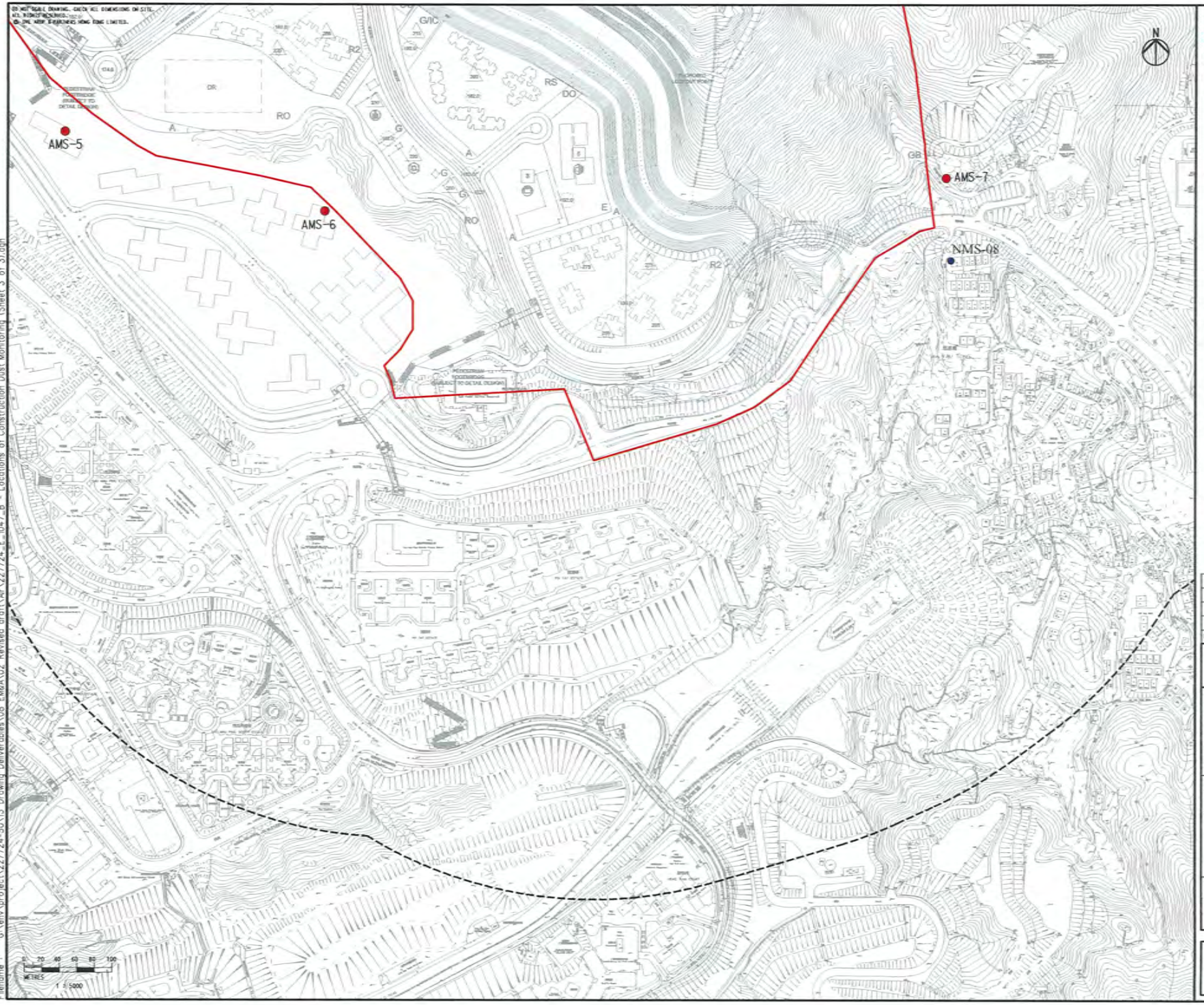


Rev	Description	By	Date
B	SECOND ISSUE	GL	03/14
A	FIRST ISSUE	GL	10/13

Consultant

Contract No. and Title

Agreement No. CE 18/2012(CE)

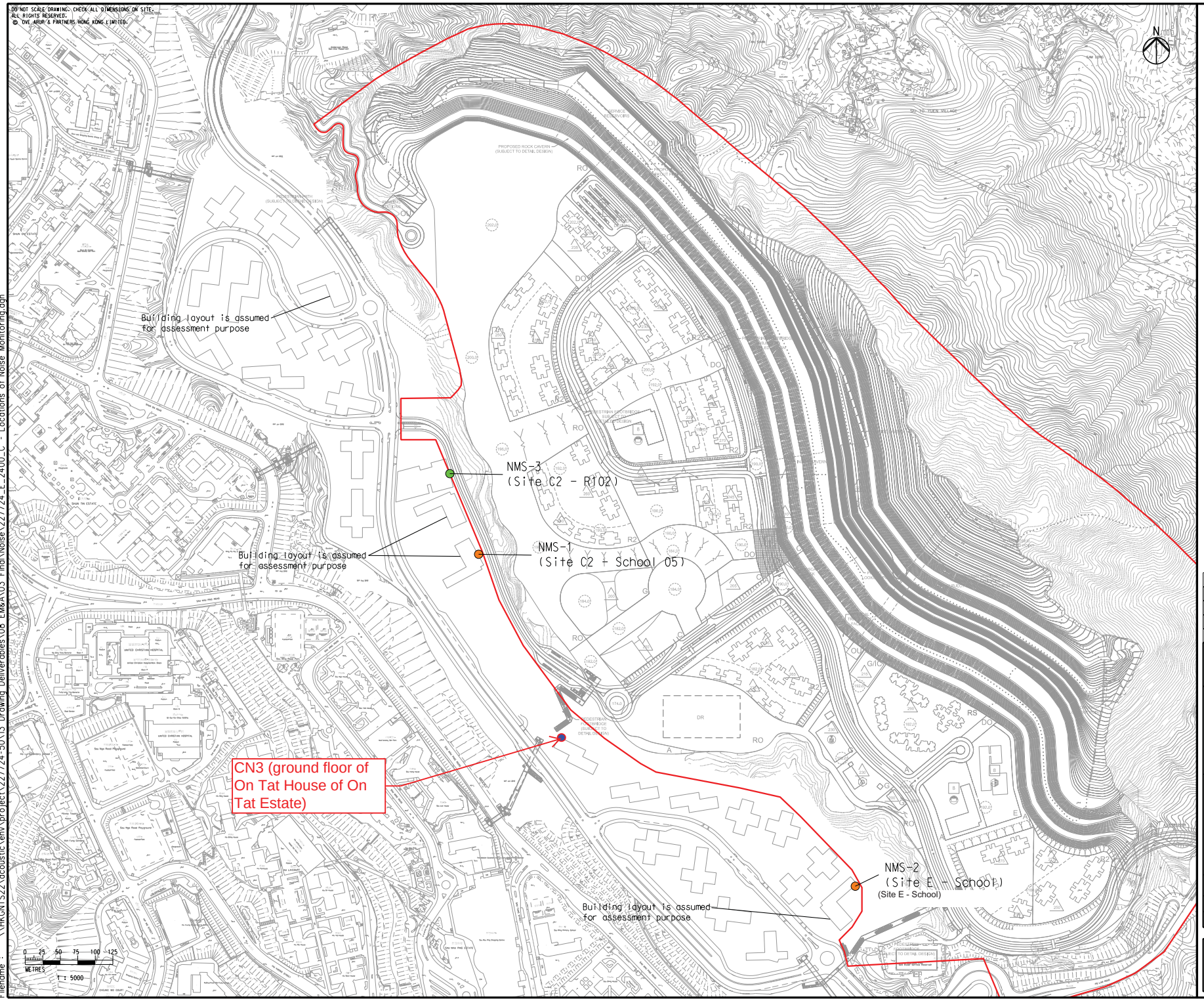
Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Construction Dust and Noise Monitoring

Printed by : 4/8/2014
Filename : G:\env\project\227724-50\13 Drawing Deliverables\08 EM&A\02 Revised draft\Air\227724_E_1047_B - Locations of Construction Dust Monitoring (Sheet 3 of 3).dgn

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



Legend

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

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

Consultant

ARUP

Contract No. and Title

Agreement No. CE 18/2012(CE)

Development of Anderson Road Quarry - Investigation

Drawing title

Locations of Noise Monitoring

Drawing no.	Rev.
227724/E/2400	C

Drawn	Date	Checked	Approved
GL	05/14	TC	ST

Scale: 1:5000 @A3

Status: PRELIMINARY

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

Printed by : 6/3/2014
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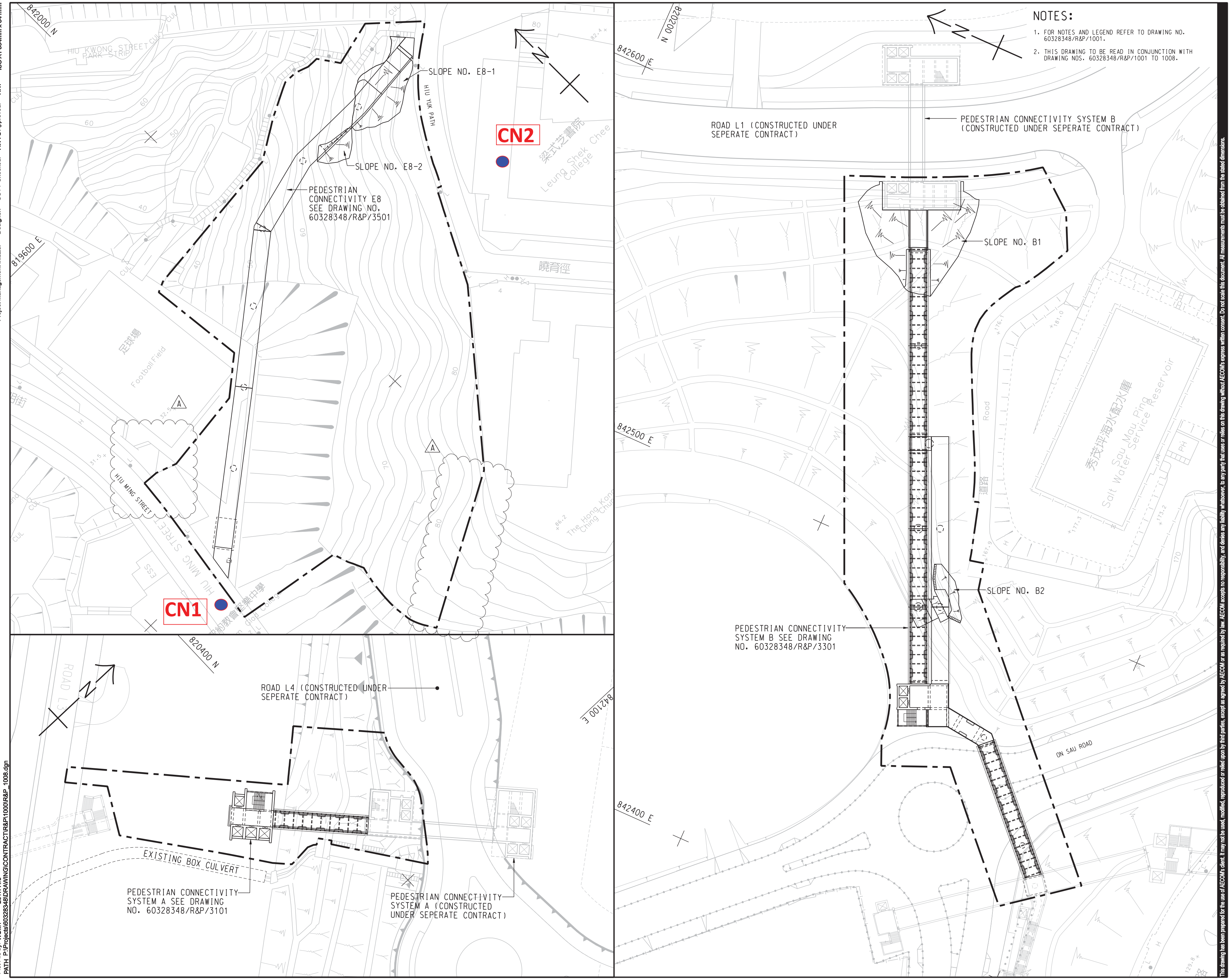


AECOM

PROJECT 項目

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

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

CLIENT 業主

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

CONSULTANT 工程顧問公司

AECOM Asia Company Ltd.
www.aecom.com

SUB-CONSULTANTS 分判工程顧問公司

● noise monitoring location

ISSUE/REVISION 修訂

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

STATUS 階段

SCALE 比例: A1 1 : 500

DIMENSION UNIT 尺寸單位: METRES

KEY PLAN 索引圖 A1 1 : 60000

PROJECT NO. 項目編號: 60328348

CONTRACT NO. 合約編號: NE/2017/03

SHEET TITLE 圖紙名稱: GENERAL LAYOUT

SHEET 8 OF 8

SHEET NUMBER 圖紙編號: 60328348/R&P/1008A

Appendix E

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

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Tan Shan Village No. 5 - 6 — Date of Calibration: 30-Sep-21
Location ID : AMS1a — Next Calibration Date: 30-Nov-21
Model:TISCH High Volume Air Sampler TE-5170 — Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1008.1	Corrected Pressure (mm Hg)	756.075
Temperature (°C)	30.3	Temperature (K)	303

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10574
Model->	TE-5025A	Qstd Intercept ->	-0.00985
Serial # ->	1941		

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	1.671	50	49.43	Slope = 40.8503
13	5.4	5.4	10.8	1.548	46	45.48	Intercept = -18.7539
10	3.8	3.8	7.6	1.299	34	33.61	Corr. coeff. = 0.9971
7	2.7	2.7	5.4	1.096	25	24.72	
5	1.6	1.6	3.2	0.845	17	16.81	

Calculations :

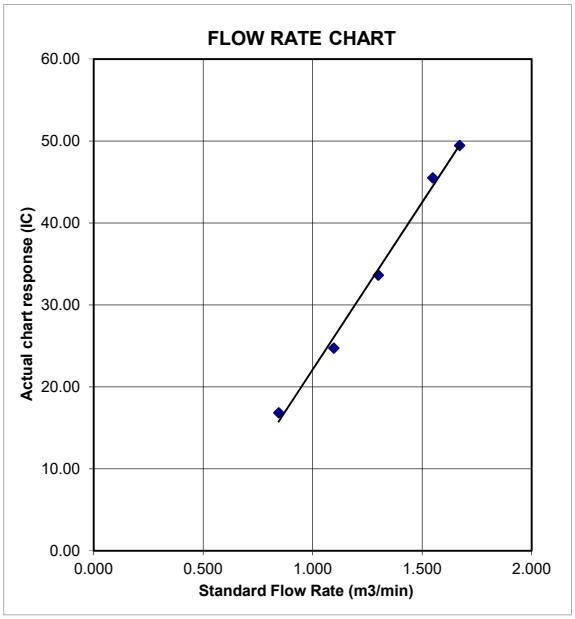
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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:	30-Sep-21
Location ID :	AMS 5	Next Calibration Date:	30-Nov-21
Model:TISCH High Volume Air Sampler TE-5170		Technician: Mr. Fai So	

CONDITIONS

Sea Level Pressure (hPa)	1008.1	Corrected Pressure (mm Hg)	756.075
Temperature (°C)	30.3	Temperature (K)	303

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10574
Model->	TE-5025A	Qstd Intercept ->	-0.00985
Serial # ->	1941		

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	1.671	52	51.41	Slope = 39.3071
13	5.2	5.2	10.4	1.519	44	43.50	Intercept = -15.3729
10	3.8	3.8	7.6	1.299	36	35.59	Corr. coeff. = 0.9970
7	2.6	2.6	5.2	1.075	26	25.71	
5	1.5	1.5	3	0.818	18	17.80	

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)

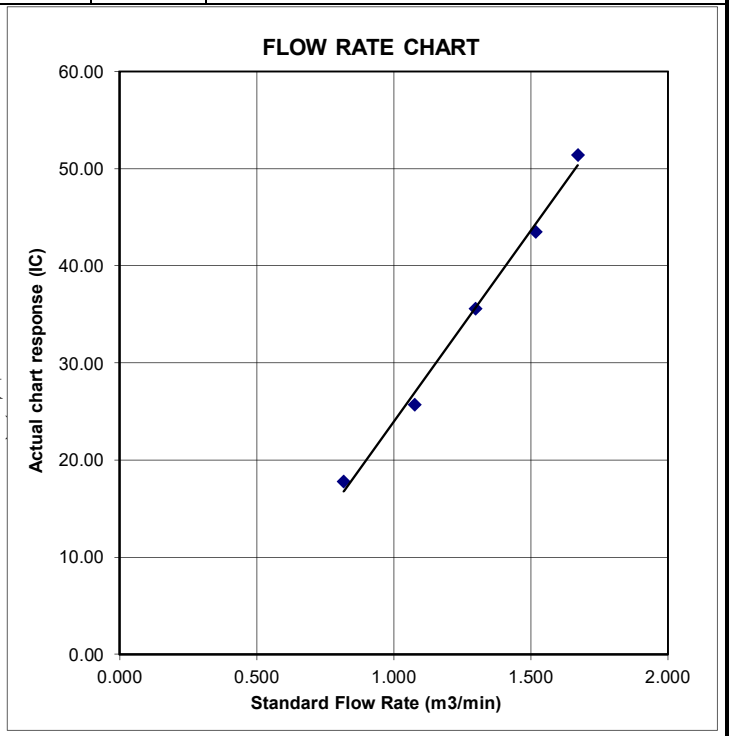
m = sampler slope

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:	30-Sep-21
Location ID :	AMS 6	Next Calibration Date:	30-Nov-21
Model:TISCH High Volume Air Sampler TE-5170		Technician:	Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1008.1	Corrected Pressure (mm Hg)	756.075
Temperature (℃)	30.3	Temperature (K)	303

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10574
Model->	TE-5025A	Qstd Intercept ->	-0.00985
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.4	6.4	12.8	1.684	52	51.41	Slope = 40.7175
13	5.2	5.2	10.4	1.519	46	46.00	Intercept = -16.7687
10	3.8	3.8	7.6	1.299	36	35.59	Corr. coeff. = 0.9991
7	2.7	2.7	5.4	1.096	28	27.68	
5	1.6	1.6	3.2	0.845	18	17.80	

Calculations :

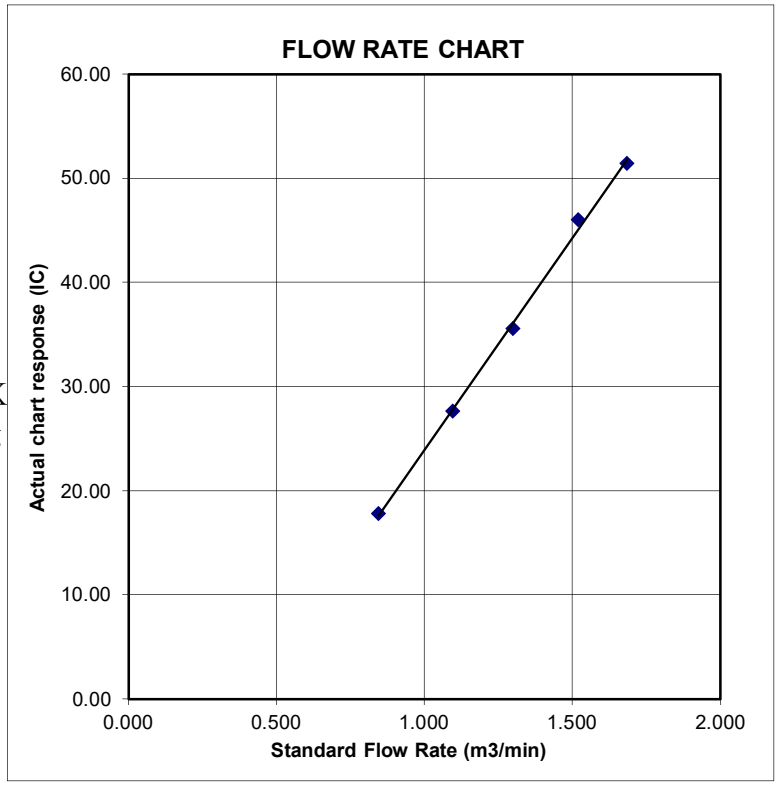
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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: 30-Sep-21
Next Calibration Date: 30-Nov-21
Technician: Mr. Fai So

CONDITIONS

Sea Level Pressure (hPa)	1008.1	Corrected Pressure (mm Hg)	756.075
Temperature (°C)	30.3	Temperature (K)	303

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.10574
Model->	TE-5025A	Qstd Intercept ->	-0.00985
Serial # ->	1941		

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.5	6.5	13	1.698	52	51.41	Slope = 40.1735
13	5.5	5.5	11	1.562	48	47.46	Intercept = -16.0898
10	3.7	3.7	7.4	1.282	36	35.59	Corr. coeff. = 0.9992
7	2.7	2.7	5.4	1.096	28	27.68	
5	1.6	1.6	3.2	0.845	18	17.80	

Calculations :

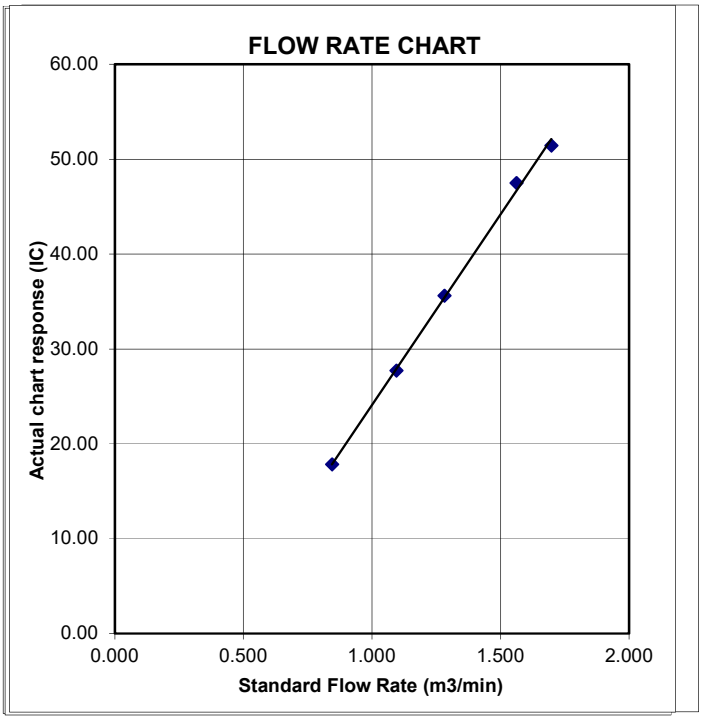
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]
IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]

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	:	**HK2102490**
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	:	15-JAN-2021
		DATE OF ISSUE	:	26-JAN-2021
PROJECT	:	NO. OF SAMPLES	:	1
		CLIENT ORDER	:	---

General Comments

- **Samples(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.**

Signatories

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

Signatories	*Position*
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

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

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong
Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER : HK2102490
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.
HK2102490-001	S/N: 2X6145	AIR	15-Jan-2021	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	HK2102490

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	8 October 2020

Equipment Verification Results:

Testing Date: 31 December 2020

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr01min	09:16 ~ 11:17	10.9	1027.0	0.058	3107	25.6
2hr01min	11:19 ~ 11:20	10.9	1027.0	0.027	1724	14.2
2hr01min	11:22 ~ 13:23	10.9	1027.0	0.026	1300	10.8

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

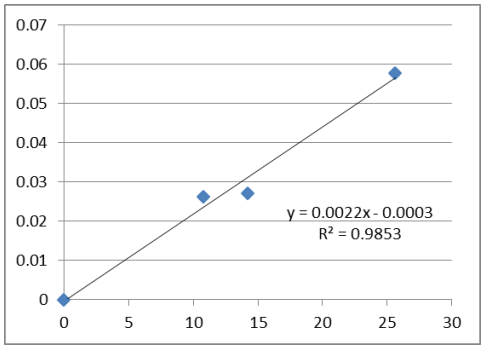
Sensitivity Adjustment Scale Setting (After Calibration) 586 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient 0.9926

Date of Issue 8 January 2021



Remarks:

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

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

Operator : Fai So Signature : Date : 8 January 2021

QC Reviewer : Ben Tam Signature : Date : 8 January 2021

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	8-Oct-20
Location ID :	Calibration Room	Next Calibration Date:	8-Jan-21

CONDITIONS

Sea Level Pressure (hPa)	1015.2	Corrected Pressure (mm Hg)	761.4
Temperature (°C)	25.5	Temperature (K)	299

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	5025A	Qstd Intercept ->	-0.04616
Calibration Date->	7-Feb-20	Expiry Date->	7-Feb-21

CALIBRATION

Plate No.	H20 (L) (in)	H2O (R) (in)	H20 (in)	Qstd (m3/min)	I (chart)	IC corrected	LINEAR REGRESSION
18	6.4	6.4	12.8	1.785	56	56.00	Slope = 38.0056
13	5.1	5.1	10.2	1.596	49	49.00	Intercept = -11.6655
10	4	4	8.0	1.416	42	42.00	Corr. coeff. = 0.9991
8	2.5	2.5	5.0	1.124	32	32.00	
5	1.5	1.5	3.0	0.876	21	21.00	

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)

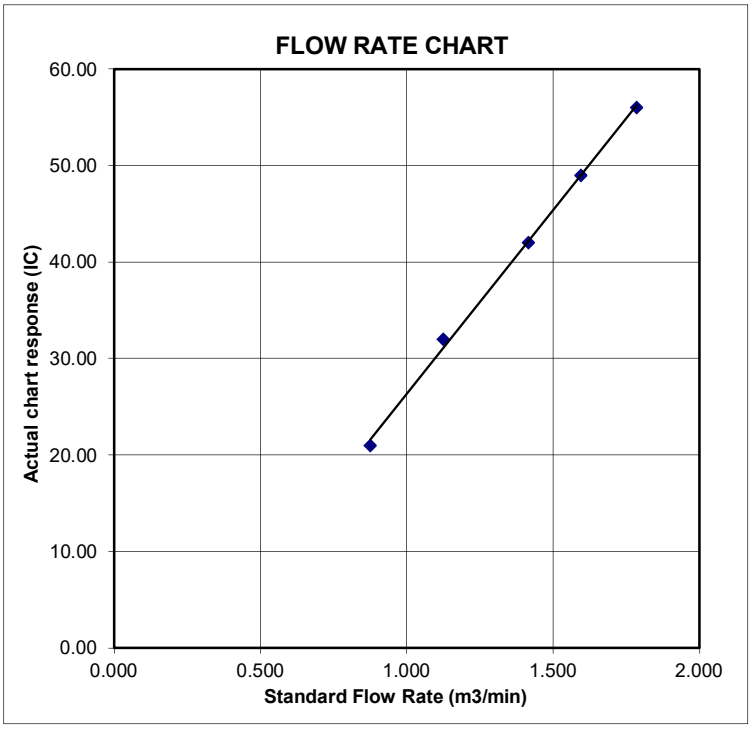
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 7, 2021

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 7, 2020	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 745.5	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	1.3730	3.2	2.00
2	3	4	1	0.9820	6.4	4.00
3	5	6	1	0.8780	8.0	5.00
4	7	8	1	0.8340	8.8	5.50
5	9	10	1	0.6900	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9866	0.7186	1.4078	0.9957	0.7252	0.8896
0.9824	1.0004	1.9909	0.9914	1.0096	1.2581
0.9802	1.1165	2.2259	0.9893	1.1267	1.4066
0.9792	1.1741	2.3345	0.9882	1.1849	1.4753
0.9739	1.4114	2.8155	0.9828	1.4244	1.7792
QSTD	**m=**	**2.03014**	**QA**	**m=**	**1.27124**
	b=	**-0.04616**		**b=**	**-0.02917**
	r=	**0.99995**		**r=**	**0.99995**

Calculations

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

For subsequent flow rate calculations:

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

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

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

RECALIBRATION

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

Tisch Environmental, Inc.
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FAX: (513)467-9009

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	:	**HK2111334**
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	:	17-MAR-2021
		DATE OF ISSUE	:	16-APR-2021
PROJECT	:	NO. OF SAMPLES	:	1
		CLIENT ORDER	:	---

General Comments

- **Samples(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.**

Signatories

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Signatories	*Position*
Richard Fung	Managing Director

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

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WORK ORDER : HK2111334
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.
HK2111334-001	S/N: 366418	AIR	17-Mar-2021	S/N: 366418

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366418
Equipment Ref:	EQ108
Job Order	HK2111334

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	13 January 2021

Equipment Verification Results:

Verification Date: 12 March 2021

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr01min	09:30 ~ 11:31	22.0	1018.6	0.023	1801	14.9
2hr01min	11:35 ~ 11:36	22.0	1018.6	0.044	2208	18.2
2hr	11:40 ~ 13:40	22.0	1018.6	0.039	2013	16.8

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

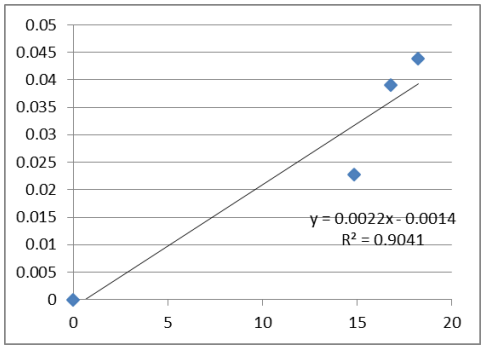
Sensitivity Adjustment Scale Setting (After Calibration) 685 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9508

Date of Issue 15 March 2021



Remarks:

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

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

Operator : Fai So Signature : Date : 15 March 2021

QC Reviewer : Ben Tam Signature : Date : 15 March 2021

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	13-Jan-21
Location ID :	Calibration Room	Next Calibration Date:	13-Apr-21

CONDITIONS

Sea Level Pressure (hPa)	1019.8	Corrected Pressure (mm Hg)	764.85
Temperature (°C)	13.4	Temperature (K)	286

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	5025A	Qstd Intercept ->	-0.04616
Calibration Date->	7-Feb-20	Expiry Date->	7-Feb-21

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	1.812	55	56.28	Slope = 39.9777
13	5.1	5.1	10.2	1.633	49	50.14	Intercept = -15.3902
10	4	4	8.0	1.448	42	42.98	Corr. coeff. = 0.9972
8	2.6	2.6	5.2	1.172	32	32.75	
5	1.8	1.8	3.6	0.979	22	22.51	

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:

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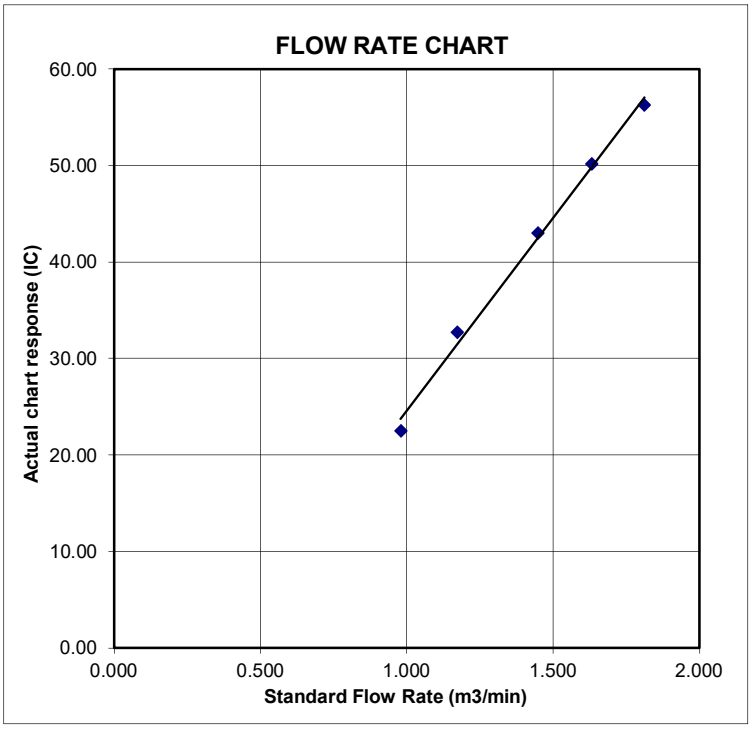

TISCH Environmental

RECALIBRATION DUE DATE:
February 7, 2021

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 7, 2020	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 745.5	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	1.3730	3.2	2.00
2	3	4	1	0.9820	6.4	4.00
3	5	6	1	0.8780	8.0	5.00
4	7	8	1	0.8340	8.8	5.50
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Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9866	0.7186	1.4078	0.9957	0.7252	0.8896
0.9824	1.0004	1.9909	0.9914	1.0096	1.2581
0.9802	1.1165	2.2259	0.9893	1.1267	1.4066
0.9792	1.1741	2.3345	0.9882	1.1849	1.4753
0.9739	1.4114	2.8155	0.9828	1.4244	1.7792
QSTD	**m=**	**2.03014**	**QA**	**m=**	**1.27124**
	b=	**-0.04616**		**b=**	**-0.02917**
	r=	**0.99995**		**r=**	**0.99995**

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)	
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m: slope	

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ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	:	**HK2111342**
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	:	17-MAR-2021
		DATE OF ISSUE	:	16-APR-2021
PROJECT	:	NO. OF SAMPLES	:	1
		CLIENT ORDER	:	---

General Comments

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WORK ORDER	:	HK2111342
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.
HK2111342-001	S/N: 456658	AIR	17-Mar-2021	S/N: 456658

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456658
Equipment Ref:	EQ115
Job Order	HK2111342

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	13 January 2021

Equipment Verification Results:

Verification Date: 12 March 2021

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr01min	09:30 ~ 11:31	22.0	1018.6	0.023	1711	14.1
2hr01min	11:35 ~ 11:36	22.0	1018.6	0.044	2311	19.1
2hr	11:40 ~ 13:40	22.0	1018.6	0.039	2001	16.7

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

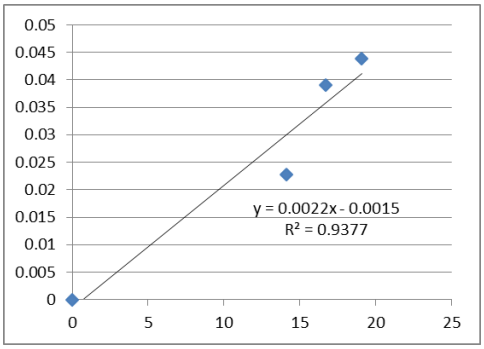
Sensitivity Adjustment Scale Setting (After Calibration) 698 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9683

Date of Issue 15 March 2021



Remarks:

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

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

Operator : Fai So Signature : Date : 15 March 2021

QC Reviewer : Ben Tam Signature : Date : 15 March 2021

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	13-Jan-21
Location ID :	Calibration Room	Next Calibration Date:	13-Apr-21

CONDITIONS

Sea Level Pressure (hPa)	1019.8	Corrected Pressure (mm Hg)	764.85
Temperature (°C)	13.4	Temperature (K)	286

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	5025A	Qstd Intercept ->	-0.04616
Calibration Date->	7-Feb-20	Expiry Date->	7-Feb-21

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	1.812	55	56.28	Slope = 39.9777
13	5.1	5.1	10.2	1.633	49	50.14	Intercept = -15.3902
10	4	4	8.0	1.448	42	42.98	Corr. coeff. = 0.9972
8	2.6	2.6	5.2	1.172	32	32.75	
5	1.8	1.8	3.6	0.979	22	22.51	

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)

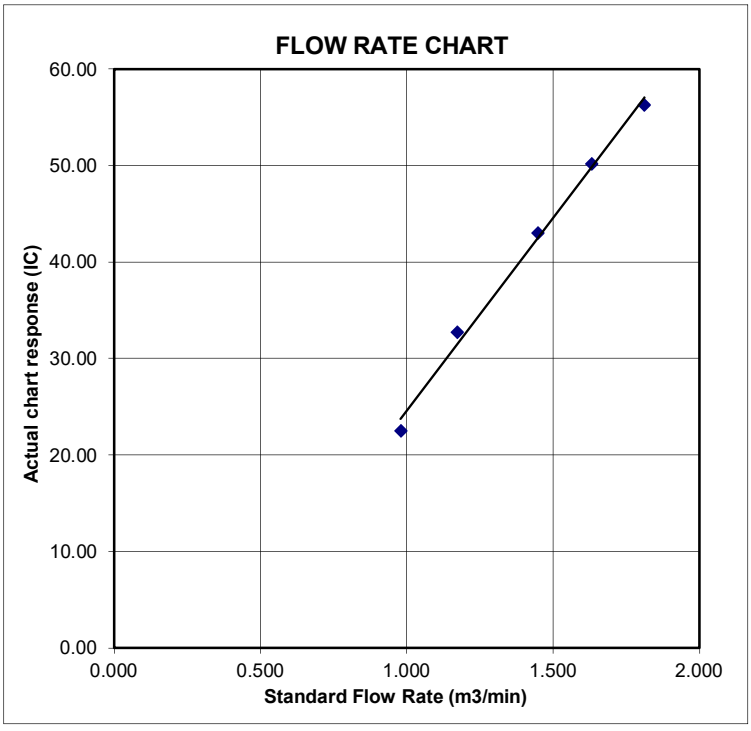
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 7, 2021

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 7, 2020	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 745.5	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	1.3730	3.2	2.00
2	3	4	1	0.9820	6.4	4.00
3	5	6	1	0.8780	8.0	5.00
4	7	8	1	0.8340	8.8	5.50
5	9	10	1	0.6900	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9866	0.7186	1.4078	0.9957	0.7252	0.8896
0.9824	1.0004	1.9909	0.9914	1.0096	1.2581
0.9802	1.1165	2.2259	0.9893	1.1267	1.4066
0.9792	1.1741	2.3345	0.9882	1.1849	1.4753
0.9739	1.4114	2.8155	0.9828	1.4244	1.7792
QSTD	**m=**	**2.03014**	**QA**	**m=**	**1.27124**
	b=	**-0.04616**		**b=**	**-0.02917**
	r=	**0.99995**		**r=**	**0.99995**

Calculations

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

For subsequent flow rate calculations:

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

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

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

RECALIBRATION

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

Tisch Environmental, Inc.
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TOLL FREE: (877)263-7610
FAX: (513)467-9009

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	:	**HK2111340**
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	:	17-MAR-2021
		DATE OF ISSUE	:	16-APR-2021
PROJECT	:	NO. OF SAMPLES	:	1
		CLIENT ORDER	:	---

General Comments

- **Samples(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.**

Signatories

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

Signatories	*Position*
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

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

ALS Technichem (HK) Pty Ltd
Part of the ALS Laboratory Group
11/F. Chung Shun Knitting Centre 1 - 3 Wing Yip Street Kwai Chung N.T. Hong Kong
Tel. +852 2610 1044 Fax. +852 2610 2021 www.alsglobal.com

WORK ORDER : HK2111340
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.
HK2111340-001	S/N: 3Y6501	AIR	17-Mar-2021	S/N: 3Y6501

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	3Y6501
Equipment Ref:	EQ111
Job Order	HK2111340

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	13 January 2021

Equipment Verification Results:

Verification Date: 12 March 2021

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr01min	09:30 ~ 11:31	22.0	1018.6	0.023	1852	15.3
2hr01min	11:35 ~ 11:36	22.0	1018.6	0.044	2317	19.1
2hr	11:40 ~ 13:40	22.0	1018.6	0.039	2013	16.8

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

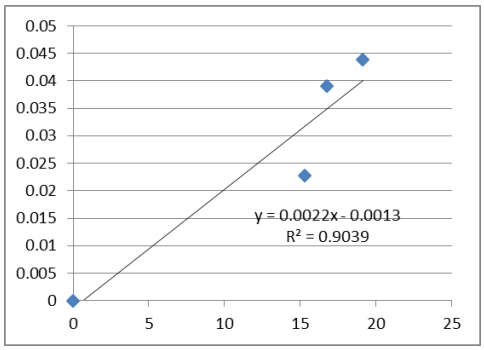
Sensitivity Adjustment Scale Setting (After Calibration) 650 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9507

Date of Issue 15 March 2021



Remarks:

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

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

Operator : Fai So Signature : Date : 15 March 2021

QC Reviewer : Ben Tam Signature : Date : 15 March 2021

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	13-Jan-21
Location ID :	Calibration Room	Next Calibration Date:	13-Apr-21

CONDITIONS

Sea Level Pressure (hPa)	1019.8	Corrected Pressure (mm Hg)	764.85
Temperature (°C)	13.4	Temperature (K)	286

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	5025A	Qstd Intercept ->	-0.04616
Calibration Date->	7-Feb-20	Expiry Date->	7-Feb-21

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	1.812	55	56.28	Slope = 39.9777
13	5.1	5.1	10.2	1.633	49	50.14	Intercept = -15.3902
10	4	4	8.0	1.448	42	42.98	Corr. coeff. = 0.9972
8	2.6	2.6	5.2	1.172	32	32.75	
5	1.8	1.8	3.6	0.979	22	22.51	

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)

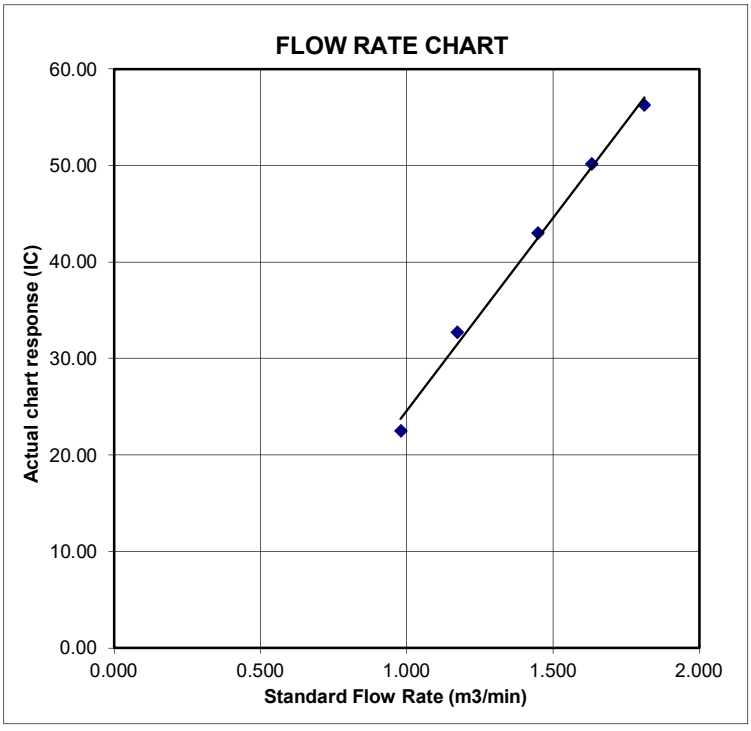
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 7, 2021

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 7, 2020	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 745.5	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	1.3730	3.2	2.00
2	3	4	1	0.9820	6.4	4.00
3	5	6	1	0.8780	8.0	5.00
4	7	8	1	0.8340	8.8	5.50
5	9	10	1	0.6900	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9866	0.7186	1.4078	0.9957	0.7252	0.8896
0.9824	1.0004	1.9909	0.9914	1.0096	1.2581
0.9802	1.1165	2.2259	0.9893	1.1267	1.4066
0.9792	1.1741	2.3345	0.9882	1.1849	1.4753
0.9739	1.4114	2.8155	0.9828	1.4244	1.7792
QSTD	**m=**	**2.03014**	**QA**	**m=**	**1.27124**
	b=	**-0.04616**		**b=**	**-0.02917**
	r=	**0.99995**		**r=**	**0.99995**

Calculations

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

For subsequent flow rate calculations:

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

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

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

RECALIBRATION

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

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ALS Technichem (HK) Pty Ltd

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ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	:	**HK2111343**
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	:	17-MAR-2021
		DATE OF ISSUE	:	16-APR-2021
PROJECT	:	NO. OF SAMPLES	:	1
		CLIENT ORDER	:	---

General Comments

- **Samples(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the item(s) tested.**
- **Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.**
- **Calibration was subcontracted to and analysed by Action United Environmental Services & Consulting.**

Signatories

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

Signatories	*Position*
Richard Fung	Managing Director

This is the Final Report and supersedes any preliminary report with this batch number.

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

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WORK ORDER : HK2111343
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.
HK2111343-001	S/N: 456659	AIR	17-Mar-2021	S/N: 456659

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456659
Equipment Ref:	EQ116
Job Order	HK2111343

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	13 January 2021

Equipment Verification Results:

Verification Date: 12 March 2021

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr01min	09:30 ~ 11:31	22.0	1018.6	0.023	1477	12.2
2hr01min	11:35 ~ 11:36	22.0	1018.6	0.044	2559	21.1
2hr	11:40 ~ 13:40	22.0	1018.6	0.039	1987	16.6

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

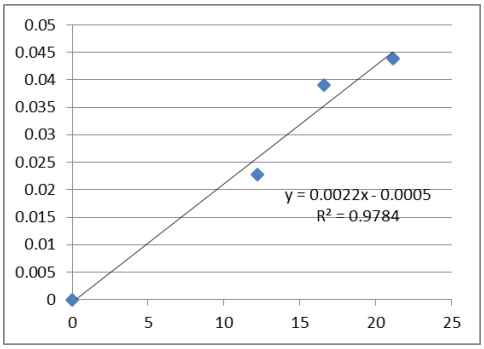
Sensitivity Adjustment Scale Setting (After Calibration) 724 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9891

Date of Issue 15 March 2021



Remarks:

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

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

Operator : Fai So Signature : Date : 15 March 2021

QC Reviewer : Ben Tam Signature : Date : 15 March 2021

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	13-Jan-21
Location ID :	Calibration Room	Next Calibration Date:	13-Apr-21

CONDITIONS

Sea Level Pressure (hPa)	1019.8	Corrected Pressure (mm Hg)	764.85
Temperature (°C)	13.4	Temperature (K)	286

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	5025A	Qstd Intercept ->	-0.04616
Calibration Date->	7-Feb-20	Expiry Date->	7-Feb-21

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	1.812	55	56.28	Slope = 39.9777
13	5.1	5.1	10.2	1.633	49	50.14	Intercept = -15.3902
10	4	4	8.0	1.448	42	42.98	Corr. coeff. = 0.9972
8	2.6	2.6	5.2	1.172	32	32.75	
5	1.8	1.8	3.6	0.979	22	22.51	

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)

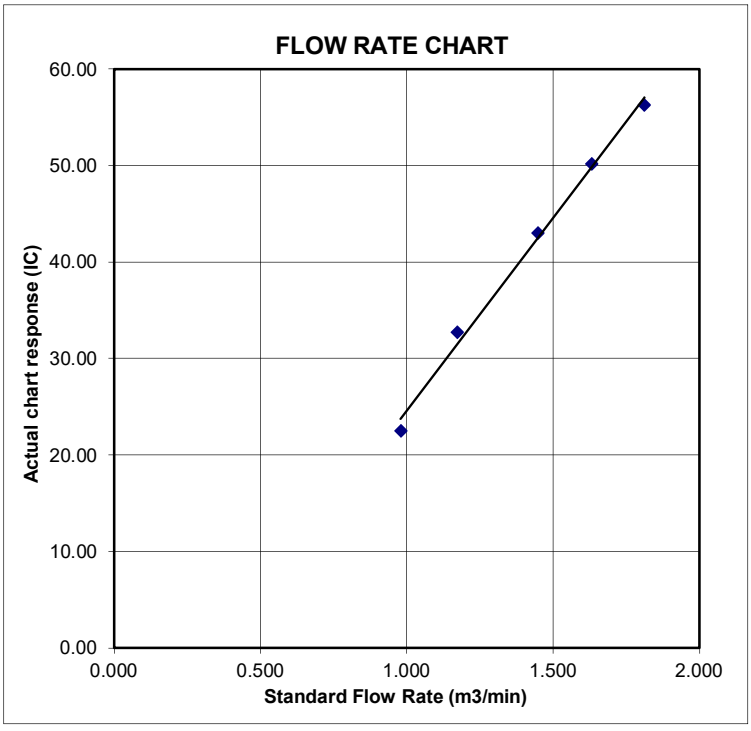
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 7, 2021

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 7, 2020	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 745.5	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	1.3730	3.2	2.00
2	3	4	1	0.9820	6.4	4.00
3	5	6	1	0.8780	8.0	5.00
4	7	8	1	0.8340	8.8	5.50
5	9	10	1	0.6900	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9866	0.7186	1.4078	0.9957	0.7252	0.8896
0.9824	1.0004	1.9909	0.9914	1.0096	1.2581
0.9802	1.1165	2.2259	0.9893	1.1267	1.4066
0.9792	1.1741	2.3345	0.9882	1.1849	1.4753
0.9739	1.4114	2.8155	0.9828	1.4244	1.7792
QSTD	**m=**	**2.03014**	**QA**	**m=**	**1.27124**
	b=	**-0.04616**		**b=**	**-0.02917**
	r=	**0.99995**		**r=**	**0.99995**

Calculations

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

For subsequent flow rate calculations:

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

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

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

RECALIBRATION

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

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ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES

SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER	:	**HK2111344**
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	:	17-MAR-2021
		DATE OF ISSUE	:	16-APR-2021
PROJECT	:	NO. OF SAMPLES	:	1
		CLIENT ORDER	:	---

General Comments

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

Signatories

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

Signatories	*Position*
Richard Fung	Managing Director

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

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WORK ORDER : HK2111344
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.
HK2111344-001	S/N: 456660	AIR	17-Mar-2021	S/N: 456660

Equipment Verification Report (TSP)

Equipment Calibrated:

Type:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	456660
Equipment Ref:	EQ117
Job Order	HK2111344

Standard Equipment:

Standard Equipment:	Higher Volume Sampler
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018
Last Calibration Date:	13 January 2021

Equipment Verification Results:

Verification Date: 12 March 2021

Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in mg/m^3 (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/60min)
2hr01min	09:30 ~ 11:31	22.0	1018.6	0.023	1732	14.3
2hr01min	11:35 ~ 11:36	22.0	1018.6	0.044	2308	19.0
2hr	11:40 ~ 13:40	22.0	1018.6	0.039	1957	16.3

Sensitivity Adjustment Scale Setting (Before Calibration) 615 (CPM)

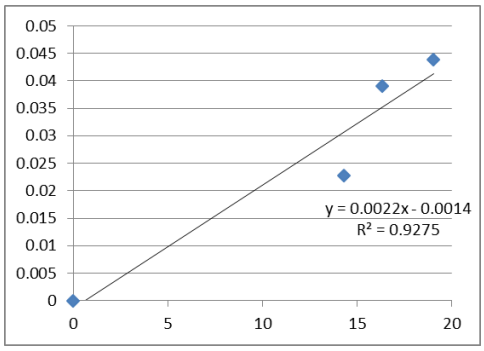
Sensitivity Adjustment Scale Setting (After Calibration) 615 (CPM)

Linear Regression of Y or X

Slope (K-factor): 0.0022

Correlation Coefficient (R) 0.9631

Date of Issue 15 March 2021



Remarks:

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

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

Operator : Fai So Signature : Date : 15 March 2021

QC Reviewer : Ben Tam Signature : Date : 15 March 2021

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location :	Gold King Industrial Building, Kwai Chung	Date of Calibration:	13-Jan-21
Location ID :	Calibration Room	Next Calibration Date:	13-Apr-21

CONDITIONS

Sea Level Pressure (hPa)	1019.8	Corrected Pressure (mm Hg)	764.85
Temperature (°C)	13.4	Temperature (K)	286

CALIBRATION ORIFICE

Make->	TISCH	Qstd Slope ->	2.03014
Model->	5025A	Qstd Intercept ->	-0.04616
Calibration Date->	7-Feb-20	Expiry Date->	7-Feb-21

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	1.812	55	56.28	Slope = 39.9777
13	5.1	5.1	10.2	1.633	49	50.14	Intercept = -15.3902
10	4	4	8.0	1.448	42	42.98	Corr. coeff. = 0.9972
8	2.6	2.6	5.2	1.172	32	32.75	
5	1.8	1.8	3.6	0.979	22	22.51	

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)

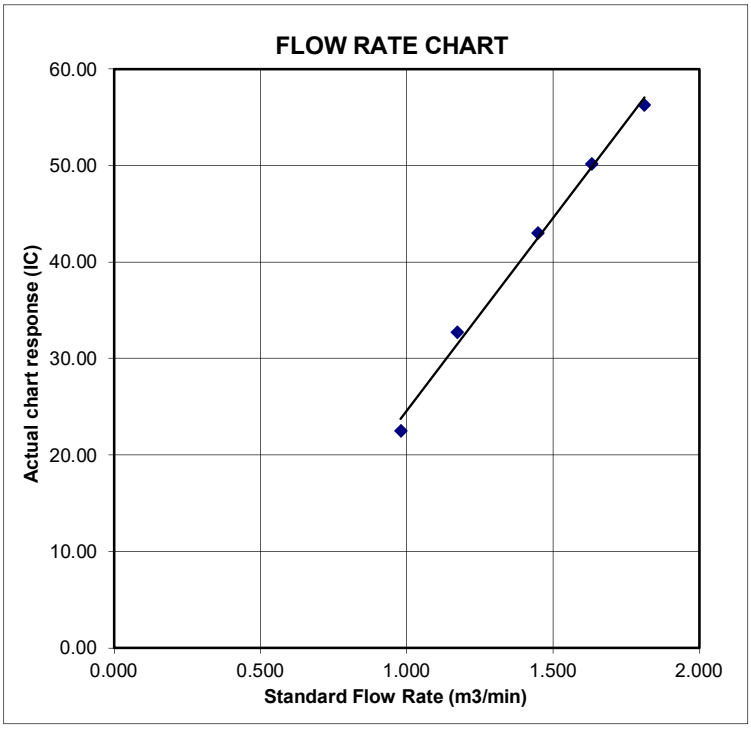
m = sampler slope

b = sampler intercept

I = chart response

Tav = daily average temperature

Pav = daily average pressure



TISCH Environmental

RECALIBRATION DUE DATE:
February 7, 2021

Certificate of Calibration

Calibration Certification Information				
Cal. Date:	February 7, 2020	**Rootsmeter S/N:** 438320	**Ta:** 295	°K
Operator:	Jim Tisch		**Pa:** 745.5	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	1.3730	3.2	2.00
2	3	4	1	0.9820	6.4	4.00
3	5	6	1	0.8780	8.0	5.00
4	7	8	1	0.8340	8.8	5.50
5	9	10	1	0.6900	12.8	8.00

Data Tabulation

Vstd (m3)	Qstd (x-axis)	$\sqrt{\Delta H\left(\frac{Pa}{Pstd}\right)\left(\frac{Tstd}{Ta}\right)}$ (y-axis)	Va	Qa (x-axis)	$\sqrt{\Delta H\left(Ta/Pa\right)}$ (y-axis)
0.9866	0.7186	1.4078	0.9957	0.7252	0.8896
0.9824	1.0004	1.9909	0.9914	1.0096	1.2581
0.9802	1.1165	2.2259	0.9893	1.1267	1.4066
0.9792	1.1741	2.3345	0.9882	1.1849	1.4753
0.9739	1.4114	2.8155	0.9828	1.4244	1.7792
QSTD	**m=**	**2.03014**	**QA**	**m=**	**1.27124**
	b=	**-0.04616**		**b=**	**-0.02917**
	r=	**0.99995**		**r=**	**0.99995**

Calculations

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

For subsequent flow rate calculations:

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

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

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

RECALIBRATION

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

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

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

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

Certificate of Calibration
校正證書

Certificate No. : C214363
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC21-1345) Date of Receipt / 收件日期 : 8 July 2021

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

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 24 July 2021

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
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Project Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 26 July 2021

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Certificate of Calibration
校正證書

Certificate No. : C214363
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration using laboratory acoustic calibrator was performed before the test from 6.1.1.2 to 6.4.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C210084
CL281	Multifunction Acoustic Calibrator	AV210017

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

6.1.1.1 Before Self-calibration

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

6.1.1.2 After Self-calibration

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

6.1.2 Linearity

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

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

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Certificate of Calibration
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Certificate No. : C214363
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6.2 Time Weighting

6.2.1 Continuous Signal

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

6.2.2 Tone Burst Signal (2 kHz)

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Burst Duration		
30 - 110	L_{AFP}	A	F	106.0	Continuous	106.0	Ref.
	L_{AFMax}				200 ms	105.1	-1.0 ± 1.0
	L_{ASP}		S		Continuous	106.0	Ref.
	L_{ASMax}				500 ms	102.1	-4.1 ± 1.0

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{AFP}	A	F	94.00	31.5 Hz	54.7	-39.4 ± 1.5
					63 Hz	67.8	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.0
					250 Hz	85.3	-8.6 ± 1.0
					500 Hz	90.7	-3.2 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.0
					4 kHz	95.0	+1.0 ± 1.0
					8 kHz	92.8	-1.1 (+1.5 ; -3.0)
					12.5 kHz	89.7	-4.3 (+3.0 ; -6.0)

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Certificate of Calibration
校正證書

Certificate No. : C214363
證書編號

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 60651 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
50 - 130	L_{CFP}	C	F	94.00	31.5 Hz	91.1	-3.0 ± 1.5
					63 Hz	93.2	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.0
					250 Hz	94.0	0.0 ± 1.0
					500 Hz	94.0	0.0 ± 1.0
					1 kHz	94.0	Ref.
					2 kHz	93.8	-0.2 ± 1.0
					4 kHz	93.2	-0.8 ± 1.0
					8 kHz	90.9	-3.0 (+1.5 ; -3.0)
					12.5 kHz	87.8	-6.2 (+3.0 ; -6.0)

6.4 Time Averaging

UUT Setting				Applied Value					UUT Reading (dB)	IEC 60804 Type 1 Spec. (dB)
Range (dB)	Parameter	Frequency Weighting	Integrating Time	Frequency (kHz)	Burst Duration (ms)	Burst Duty Factor	Burst Level (dB)	Equivalent Level (dB)		
30 - 110	L_{Aeq}	A	10 sec.	4	1	1/10	110.0	100	100.0	± 0.5
						$1/10^2$		90	90.2	± 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.

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Certificate of Calibration
校正證書

Certificate No. : C216479
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC21-2189) Date of Receipt / 收件日期 : 25 October 2021

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

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 9 November 2021

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
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Project Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 10 November 2021

Sun Creation Engineering Limited – Calibration & Testing Laboratory
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Certificate of Calibration
校正證書

Certificate No. : C216479
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C210084
CL281	Multifunction Acoustic Calibrator	AV210017

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.6	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 130	L_A	A	Fast	94.00	1	93.6 (Ref.)
				104.00		103.6
				114.00		113.6

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

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 130	L_A	A	Fast	94.00	1	93.6	Ref.
			Slow			93.6	± 0.3

Certificate of Calibration
校正證書

Certificate No. : C216479
證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_A	A	Fast	94.00	63 Hz	67.3	-26.2 ± 1.5
					125 Hz	77.4	-16.1 ± 1.5
					250 Hz	84.9	-8.6 ± 1.4
					500 Hz	90.4	-3.2 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	94.8	+1.2 ± 1.6
					4 kHz	94.6	+1.0 ± 1.6
					8 kHz	92.6	-1.1 (+2.1 ; -3.1)
					16 kHz	85.7	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Function	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 130	L_C	C	Fast	94.00	63 Hz	92.7	-0.8 ± 1.5
					125 Hz	93.4	-0.2 ± 1.5
					250 Hz	93.6	0.0 ± 1.4
					500 Hz	93.6	0.0 ± 1.4
					1 kHz	93.6	Ref.
					2 kHz	93.5	-0.2 ± 1.6
					4 kHz	92.8	-0.8 ± 1.6
					8 kHz	90.7	-3.0 (+2.1 ; -3.1)
					16 kHz	83.7	-8.5 (+3.5 ; -17.0)

Certificate of Calibration
校正證書

Certificate No. : C216479
證書編號

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

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

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

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

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

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

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Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C210403
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC20-1324) Date of Receipt / 收件日期 : 19 January 2021

Description / 儀器名稱 : Sound Level Meter (EQ067)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NL-31
Serial No. / 編號 : 00410221
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 21 January 2021

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

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

Tested By 測試 : K P Cheuk
Assistant Engineer

Certified By 核證 : K C Lee
Engineer

Date of Issue 簽發日期 : 21 January 2021

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Certificate of Calibration
校正證書

Certificate No. : C210403
證書編號

1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.

2. Self-calibration was performed before the test.

3. The results presented are the mean of 3 measurements at each calibration point.

4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C210084
CL281	Multifunction Acoustic Calibrator	CDK1806821

5. Test procedure : MA101N.

6. Results :

6.1 Sound Pressure Level

6.1.1 Reference Sound Pressure Level

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	94.0	± 1.1

6.1.2 Linearity

UUT Setting				Applied Value		UUT Reading (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)	
30 - 120	L_A	A	Fast	94.00	1	94.0 (Ref.)
				104.00		104.0
				114.00		114.0

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

6.2 Time Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq. (kHz)		
30 - 120	L_A	A	Fast	94.00	1	94.0	Ref.
			Slow			93.9	± 0.3

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Certificate of Calibration
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Certificate No. : C210403
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6.3 Frequency Weighting

6.3.1 A-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_A	A	Fast	94.00	63 Hz	67.7	-26.2 ± 1.5
					125 Hz	77.8	-16.1 ± 1.5
					250 Hz	85.3	-8.6 ± 1.4
					500 Hz	90.7	-3.2 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	95.2	+1.2 ± 1.6
					4 kHz	95.1	+1.0 ± 1.6
					8 kHz	93.0	-1.1 (+2.1 ; -3.1)
					12.5 kHz	90.1	-4.3 (+3.0 ; -6.0)

6.3.2 C-Weighting

UUT Setting				Applied Value		UUT Reading (dB)	IEC 61672 Class 1 Spec. (dB)
Range (dB)	Mode	Frequency Weighting	Time Weighting	Level (dB)	Freq.		
30 - 120	L_C	C	Fast	94.00	63 Hz	93.1	-0.8 ± 1.5
					125 Hz	93.8	-0.2 ± 1.5
					250 Hz	93.9	0.0 ± 1.4
					500 Hz	94.0	0.0 ± 1.4
					1 kHz	94.0	Ref.
					2 kHz	93.9	-0.2 ± 1.6
					4 kHz	93.3	-0.8 ± 1.6
					8 kHz	91.1	-3.0 (+2.1 ; -3.1)
					12.5 kHz	88.3	-6.2 (+3.0 ; -6.0)

Certificate of Calibration
校正證書

Certificate No. : C210403
證書編號

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

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :

94 dB	: 63 Hz - 125 Hz	:	± 0.35 dB
	250 Hz - 500 Hz	:	± 0.30 dB
	1 kHz	:	± 0.20 dB
	2 kHz - 4 kHz	:	± 0.35 dB
	8 kHz	:	± 0.45 dB
	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)

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

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

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

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輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
Tel/電話: (852) 2927 2606 Fax/傳真: (852) 2744 8986 E-mail/電郵: callab@suncreation.com Website/網址: www.suncreation.com

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

Certificate of Calibration
校正證書

Certificate No. : C215418
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC21-1345) Date of Receipt / 收件日期 : 26 August 2021

Description / 儀器名稱 : Sound Calibrator (EQ083)
Manufacturer / 製造商 : Rion
Model No. / 型號 : NC-74
Serial No. / 編號 : 34246492
Supplied By / 委託者 : Action-United Environmental Services and Consulting
Unit A, 20/F., Gold King Industrial Building,
35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 10 September 2021

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
- Fluke Everett Service Center, USA

Tested By 測試 : Cheuk
K P Cheuk
Project Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 13 September 2021

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
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1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours before the commencement of the test.

2. The results presented are the mean of 3 measurements at each calibration point.

3. Test equipment :

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

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.3	± 0.2

5.2 Frequency Accuracy

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

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

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

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

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
c/o 香港新界屯門興安里一號四樓
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C210388
證書編號

ITEM TESTED / 送檢項目 (Job No. / 序引編號 : IC21-0122) Date of Receipt / 收件日期 : 19 January 2021

Description / 儀器名稱	:	Sound Calibrator (EQ089)
Manufacturer / 製造商	:	Rion
Model No. / 型號	:	NC-75
Serial No. / 編號	:	34680623
Supplied By / 委託者	:	Action-United Environmental Services and Consulting Unit A, 20/F., Gold King Industrial Building, 35-41 Tai Lin Pai Road, Kwai Chung, N.T.

TEST CONDITIONS / 測試條件

Temperature / 溫度 : (23 ± 2)°C Relative Humidity / 相對濕度 : (50 ± 25)%
Line Voltage / 電壓 : ---

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 20 January 2021

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.
The results do not exceed manufacturer's specification.
The results are detailed in the subsequent page(s).

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

Tested By 測試 : Cheuk
K P Cheuk
Assistant Engineer

Certified By 核證 :
K C Lee
Engineer

Date of Issue 簽發日期 : 20 January 2021

Sun Creation Engineering Limited – Calibration & Testing Laboratory
c/o 4/F, 1 Hing On Lane, Tuen Mun, New Territories, Hong Kong
輝創工程有限公司 - 校正及檢測實驗所
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輝創工程有限公司
Sun Creation Engineering Limited
Calibration & Testing Laboratory

Certificate of Calibration
校正證書

Certificate No. : C210388
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	C203952
CL281	Multifunction Acoustic Calibrator	CDK1806821
TST150A	Measuring Amplifier	C201309

4. Test procedure : MA100N.

5. Results :

5.1 Sound Level Accuracy

UUT Nominal Value	Measured Value (dB)	Mfr's Spec. (dB)	Uncertainty of Measured Value (dB)
94 dB, 1 kHz	94.0	± 0.25	± 0.2

5.2 Frequency Accuracy

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

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

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

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

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Hong Kong Accreditation Service
香港認可處

Certificate of Accreditation
認可證書

This is to certify that
特此證明

ALS TECHNICHEM (HK) PTY LIMITED

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

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

Environmental Testing
環境測試

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

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

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

Registration Number : HOKLAS 066
註冊號碼：

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

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

L001934

Appendix F

Event and Action Plan

Event / Action Plan for construction dust

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

Event and Action Plan for Construction Noise

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

Appendix G

Impact Monitoring Schedule

Impact Monitoring Schedule for the Reporting Period

Date		NOISE MONITORING (0700 – 1900)	AIR QUALITY MONITORING	
			1-HOUR TSP	24-HOUR TSP
Mon	1-Nov-21	CN1, CN2, CN3 and NMS8		
Tue	2-Nov-21			
Wed	3-Nov-21			
Thu	4-Nov-21	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Fri	5-Nov-21			✓
Sat	6-Nov-21			
Sun	7-Nov-21			
Mon	8-Nov-21			
Tue	9-Nov-21			
Wed	10-Nov-21	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Thu	11-Nov-21			✓
Fri	12-Nov-21	CN1, CN2, CN3 and NMS8		
Sat	13-Nov-21			
Sun	14-Nov-21			
Mon	15-Nov-21			
Tue	16-Nov-21	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Wed	17-Nov-21			✓
Thu	18-Nov-21	CN1, CN2, CN3 and NMS8		
Fri	19-Nov-21			
Sat	20-Nov-21			
Sun	21-Nov-21			
Mon	22-Nov-21	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Tue	23-Nov-21			✓
Wed	24-Nov-21	CN1, CN2, CN3 and NMS8		
Thu	25-Nov-21			
Fri	26-Nov-21			
Sat	27-Nov-21		✓	
Sun	28-Nov-21			
Mon	29-Nov-21			✓
Tue	30-Nov-21	CN1, CN2, CN3 and NMS8		

✓	Monitoring Day
	Sunday or Public Holiday

Impact Monitoring Schedule for next Reporting Period

Date		NOISE MONITORING (0700 – 1900)	AIR QUALITY MONITORING	
			1-HOUR TSP	24-HOUR TSP
Wed	1-Dec-21			
Thu	2-Dec-21			
Fri	3-Dec-21	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Sat	4-Dec-21			✓
Sun	5-Dec-21			
Mon	6-Dec-21	CN1, CN2, CN3 and NMS8		
Tue	7-Dec-21			
Wed	8-Dec-21			
Thu	9-Dec-21	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Fri	10-Dec-21			✓
Sat	11-Dec-21			
Sun	12-Dec-21			
Mon	13-Dec-21			
Tue	14-Dec-21			
Wed	15-Dec-21	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Thu	16-Dec-21			✓
Fri	17-Dec-21	CN1, CN2, CN3 and NMS8		
Sat	18-Dec-21			
Sun	19-Dec-21			
Mon	20-Dec-21			
Tue	21-Dec-21	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Wed	22-Dec-21			✓
Thu	23-Dec-21			
Fri	24-Dec-21	CN1, CN2, CN3 and NMS8	✓	
Sat	25-Dec-21			
Sun	26-Dec-21			
Mon	27-Dec-21			
Tue	28-Dec-21			✓
Wed	29-Dec-21			
Thu	30-Dec-21	NMS2, NMS3, NMS-4a, NMS5, NMS6 and NMS7	✓	
Fri	31-Dec-21	CN1, CN2, CN3 and NMS8		

✓	Monitoring Day
	Sunday or Public Holiday

Appendix H

Database of Monitoring Result

24-HOUR TSP MONITORING RESULT DATABASE

24-hour TSP Monitoring Data for AMS1a

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
5-Nov-21	27414	24115.75	24139.75	1440	34	36	35	26.1	1012.5	1.31	1892	2.7014	2.737	0.0356	19
11-Nov-21	27416	24139.75	24163.75	1440	34	35	34.5	22.7	1016.6	1.31	1884	2.718	2.7529	0.0349	19
17-Nov-21	27643	24163.75	24187.75	1440	34	35	34.5	21.7	1020.1	1.31	1888	2.6659	2.7266	0.0607	32
23-Nov-21	27685	24187.75	24211.75	1440	36	38	37	21.2	1018.1	1.37	1977	2.6958	2.7414	0.0456	23
29-Nov-21	27644	24211.75	24235.75	1440	34	35	34.5	22.4	1017.3	1.31	1885	2.6692	2.7271	0.0579	31

24-hour TSP Monitoring Data for AMS-5

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
5-Nov-21	27408	11328.15	11352.15	1440.00	36	37	36.5	23.6	1016.5	1.32	1906	2.7118	2.7727	0.0609	32
11-Nov-21	27619	11352.15	11376.15	1440.00	35	37	36.0	22.7	1016.6	1.31	1889	2.6489	2.7548	0.1059	56
17-Nov-21	27630	11376.15	11400.15	1440.00	36	37	36.5	21.7	1020.1	1.33	1912	2.6929	2.8802	0.1873	98
23-Nov-21	27684	11400.15	11424.15	1440.00	38	39	38.5	21.2	1018.1	1.38	1986	2.7190	2.8168	0.0978	49
29-Nov-21	27645	11424.15	11448.15	1440.00	36	37	36.5	22.4	1017.3	1.33	1909	2.6734	2.7976	0.1242	65

24-hour TSP Monitoring Data for AMS-6

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
5-Nov-21	27407	16472.07	16496.07	1440.00	36	37	36.5	23.6	1016.5	1.31	1889	2.7212	2.8074	0.0862	46
11-Nov-21	27618	16496.07	16520.07	1440.00	37	38	37.5	22.7	1016.6	1.34	1927	2.6321	2.7962	0.1641	85
17-Nov-21	27641	16520.07	16544.07	1440.00	41	42	41.5	21.7	1020.1	1.44	2074	2.6723	2.9167	0.2444	118
23-Nov-21	27682	16544.07	16568.07	1440.00	38	39	38.5	21.2	1018.1	1.37	1967	2.7102	2.8399	0.1297	66
29-Nov-21	27646	16568.07	16592.07	1440.00	40	42	41.0	22.4	1017.3	1.43	2052	2.6616	2.8755	0.2139	104

24-hour TSP Monitoring Data for AMS-7

DATE	SAMPLE NUMBER	ELAPSED TIME			CHART READING			AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER WEIGHT (g)		DUST WEIGHT COLLECTED	24-hr TSP
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(℃)	(hPa)	(m^3/min)	(std m^3)	INITIAL	FINAL	(g)	(μg/m^3)
5-Nov-21	27413	11808.24	11832.24	1440.00	34	36	35.0	26.1	1012.5	1.27	1828	2.7293	2.7877	0.0584	32
11-Nov-21	27415	11832.24	11856.24	1440.00	34	35	34.5	22.7	1016.6	1.26	1820	2.7143	2.7822	0.0679	37
17-Nov-21	27642	11856.24	11880.24	1440.00	33	36	34.5	21.7	1020.1	1.27	1824	2.6512	2.7113	0.0601	33
23-Nov-21	27686	11880.24	11904.25	1440.60	36	38	37.0	21.2	1018.1	1.33	1915	2.7130	2.8119	0.0989	52
29-Nov-21	27420	11904.25	11928.25	1440.00	38	40	39.0	20.5	1018.4	1.38	1989	2.7047	2.9032	0.1985	100

NOISE MONITORING RESULT DATABASE FOR CONTRACT 1

Noise Measurement Results (dB) of NMS2

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-Nov-21	11:00	64.2	67.5	60.4	66.6	69.4	62.8	66.5	68.2	64.8	63.5	65.4	61.4	65.8	68	62.7	64	66.3	61.8.	65	70
10-Nov-21	9:18	63.8	66.2	59	66.4	68	62.6	63.7	66	60.3	62.9	66	57.4	66	68.4	62	67.1	69.8	60.4	65	70
16-Nov-21	16:11	64.7	66.8	61.9	63.3	65	61	64.8	67.6	60.9	63.6	65.7	60.7	65.5	67.8	62.6	64.7	66	61.6	64	70
22-Nov-21	9:17	63.4	64.9	59.7	71.5	69.1	61	61.6	63.9	59.9	61.6	62.8	59.8	62.7	64.1	60.4	63	64.2	61.4	66	70

Noise Measurement Results (dB) of NMS3

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-Nov-21	15:05	66.8	68.6	64.5	67.0	68.4	64.7	64.7	66.7	62.4	65.7	67.3	64.0	67.7	70.2	65.5	66.7	69.2	64.0	67	75
10-Nov-21	10:04	68.7	71.8	65.3	66.6	67.6	57.1	63.7	65.6	61.1	62.4	64.6	59.1	63.1	65.3	59.4	65.6	68.9	61.5	66	75
16-Nov-21	9:38	60.8	61.2	58.2	60.7	62.2	58.6	61.2	62.2	58.8	61.2	62.7	58.7	61.8	62.2	59.2	60.4	61.8	58.4	61	75
22-Nov-21	15:50	68.5	72.5	59.0	60.0	61.0	58.5	61.8	64.5	59.0	69.6	73.0	59.5	64.3	67.0	59.5	60.7	61.5	59.0	66	75

Noise Measurement Results (dB) of NMS4a

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-Nov-21	9:24	65.6	67.9	62.4	67.6	70.2	63.8	66.4	68.5	64.2	68.6	70.8	65.4	67.5	69.4	64.6	64.2	67.5	60.4	67	75
10-Nov-21	10:48	71.6	74.2	67.6	74.3	76.9	70.1	72.2	74.5	67.9	70.8	73.3	63.7	71.1	74.4	63.9	70.8	73.3	68.2	72	75
16-Nov-21	14:13	69.5	71.1	67.5	69.6	71.1	67.7	69.6	71	67.9	69.1	70.3	67.6	70.2	71.5	68.6	69.3	70.7	67.9	70	75
22-Nov-21	10:16	68.9	70.5	66.5	67.1	68	66	68	69	66.5	67.5	68.5	66	68.2	69.5	66.5	67.4	68	66	68	75

Noise Measurement Results (dB) of NMS5

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-Nov-21	10:18	66.2	68.2	64.1	66.9	67.8	65	67.8	70.4	64.8	64.7	66	62.8	65.4	67.2	63.3	65.1	66.6	63	66	75
10-Nov-21	13:04	71.6	74.7	63.4	72.7	75.2	64.1	71.4	74.9	64.6	66.4	69.1	61.4	68.4	71.4	60	69.8	71.6	61.1	71	75
16-Nov-21	15:29	68.7	70.6	66.2	69.9	72	66.8	68.6	70.8	65.3	69.5	71.9	66.7	69.8	72.9	66.9	69.9	71.6	66.1	69	75
22-Nov-21	14:49	64.5	65.5	63	64.1	65	62.5	63.6	65	61.5	65.2	66.5	63	64.4	65.5	62.5	64.1	65.5	62.5	64	75

Noise Measurement Results (dB) of NMS6

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-Nov-21	15:42	67.2	68.7	65.7	67.7	70.2	64.5	66.8	68.9	64	64.7	65.9	62.5	65.1	66.6	63	66.9	68.7	64.6	67	75
10-Nov-21	13:48	69.9	73.2	64	69.4	72.1	65	67.9	70.8	62.8	67.1	71.4	60.6	67.5	70.1	62.3	68.3	70.3	60.6	68	75
16-Nov-21	10:19	70.5	70.2	67.8	70.7	71.8	67.9	70.2	72.7	67.7	72.7	74.9	68.1	74.5	75.8	69.1	73.3	74.8	67.1	72	75
22-Nov-21	10:56	69.1	70.5	67.5	69	70.5	67	69	70	67	66.9	68	65	68.3	70	66	70.1	71.5	68.5	69	75

Noise Measurement Results (dB) of NMS7

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-Nov-21	16:30	65.8	68	62.7	67.7	70.6	64.4	64	66.3	61.8	68.4	70.4	65.9	67.2	69.1	64.2	66.8	68.8	64.8	67	75
10-Nov-21	14:31	67.9	70.3	63.5	69.3	71.5	66.7	68.1	71.3	62.4	68.8	70.3	66.6	69.2	71.4	65.7	67.3	68.9	64.6	68	75
16-Nov-21	11:03	68.7	70.5	66.3	69.2	71.7	67.3	69.5	71.5	66.3	70.8	72.2	67.5	69.7	71.6	66.7	69.2	70.8	65	70	75
22-Nov-21	11:30	66.8	68	64.5	66.6	68.5	63.5	66.5	68	64	64.2	66.5	62	64	66	61.5	62.9	64	60.5	65	75

Noise Measurement Results (dB) of NMS8

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
1-Nov-21	10:44	58.4	61.8	52.7	58.4	60.3	55.8	57.2	59.3	53.3	57.4	59	54.8	58.3	60.5	55	59.1	60	55.3	58	75
12-Nov-21	9;57	59.9	63	55	59.2	61	56	58.6	60.5	55.5	58.8	61	55	58.5	61	54.5	59	61	55	59	75
18-Nov-21	10:10	58.7	60.4	52.6	57.5	60.8	52.9	58.7	61.2	53.6	57.6	60.5	52.8	57.9	60.6	52.7	58.2	61.9	53.5	58	75
24-Nov-21	9:24	64.8	68	58.5	66.2	68.5	60	65.3	69	59.5	66.6	70.5	56.5	64.4	68	57	66.2	69	59.5	66	75
30-Nov-21	10:08	62.9	64.6	57.4	61.6	63.7	58.8	60.9	62.8	56.4	60.7	60.9	55.5	61.8	62.8	56.4	59.3	60	55.6	61	75

NOISE MONITORING RESULT DATABASE FOR CONTRACT 3

Noise Measurement Results (dB) of CN1

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Limit Level dB(A)
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
1-Nov-21	13:03	64.6	67.9	60.4	66.5	68.4	59.7	63.9	66.7	60.1	65.1	67.9	61.1	65.7	68.1	61.4	64.9	67.4	60.6	65	70
12-Nov-21	11:28	61.7	63.5	57.5	65.7	68	56	63.1	64	57.5	59.7	59	55.5	58.9	59.5	56	58.3	60	56.5	62	70
18-Nov-21	11:36	56.6	58.5	51	60.2	60.7	50.7	55.6	57.6	50	57.6	58.9	51.5	57.5	55.9	49.6	58.5	58.8	50.6	58	70
24-Nov-21	13:08	61.8	62.6	60.5	61.2	61.6	60.9	64	68.4	60.7	66.3	69.8	59	62.4	63.8	59.5	64.1	64	59.6	64	70
30-Nov-21	11:39	57.6	56.1	49.2	54.5	53.6	49.7	59.6	56.5	48.3	56.7	58.7	50.6	60.8	61.4	50.9	55.7	57.4	50.8	58	70

Noise Measurement Results (dB) of CN2

Date	**Start Time**	**1st Leq (5min)**			**2nd Leq (5min)**			**3rd Leq (5min)**			**4th Leq (5min)**			**5th Leq (5min)**			**6th Leq (5min)**			**Leq30min, dB(A)**	**Limit Level dB(A)**
		Leq, dB(A)	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**		
1-Nov-21	11:29	55.3	57.1	53.2	60.4	60.4	53.7	58.3	60.5	53.8	61	63.3	54.2	60.9	62.7	53.7	59.5	60	53.5	60	70
12-Nov-21	10;52	56.3	58	54	56.6	58.5	54	58.2	59	55	57.7	60	55	59.4	59.5	55.5	57.6	59	55	58	70
18-Nov-21	11:01	58.9	61.3	53.2	58	60.4	53.4	57.5	60.5	53.4	56.2	59.4	53.7	57.4	61.5	52	57.4	59.6	52.6	58	70
24-Nov-21	11:29	62.9	68.3	58.7	61.8	66.4	59.9	62.3	65.7	61.1	62.9	68.8	60.1	62.4	67.6	60.2	63.3	67.2	62.2	63	70
30-Nov-21	11:03	58.6	61.9	53	59.2	62.8	54.6	58.7	61.7	53.9	58.8	60.9	53.7	59.7	62.8	54.8	58.8	61.8	53.7	59	70

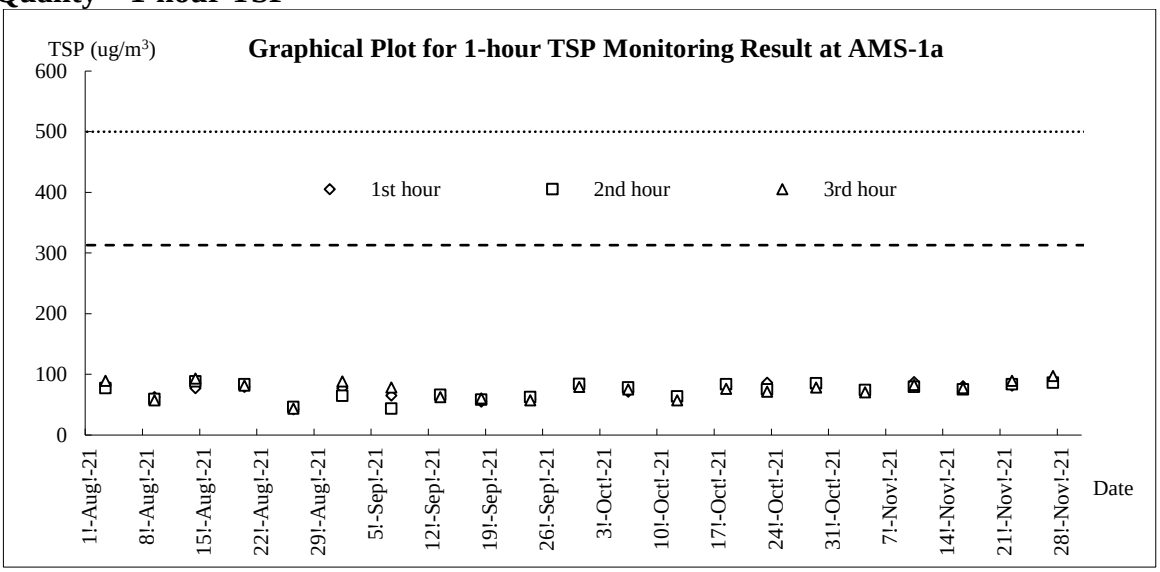
Noise Measurement Results (dB) of CN3

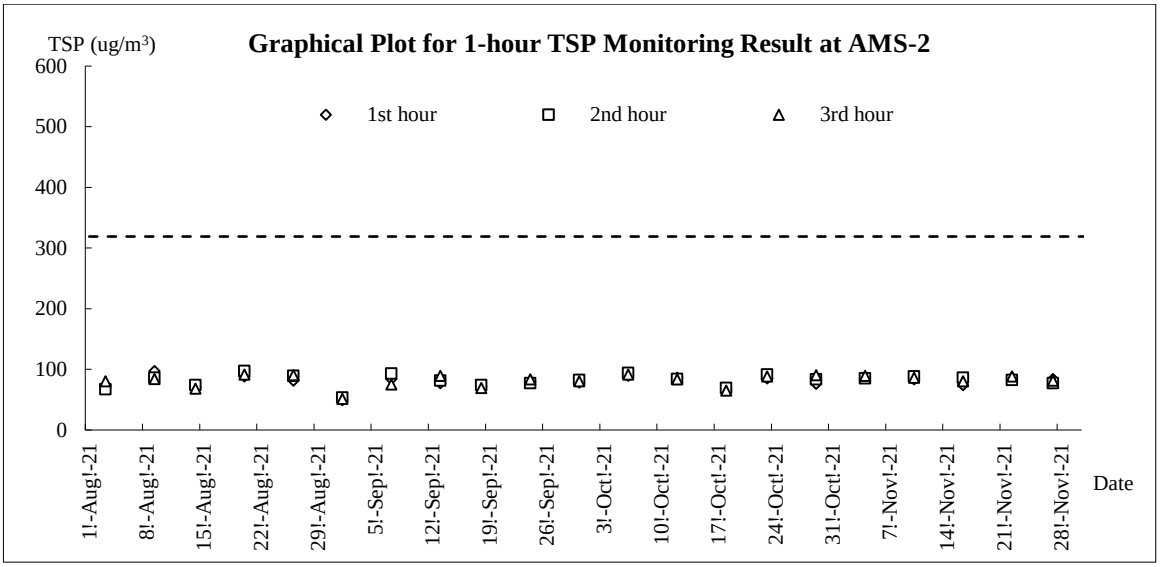
Date	**Start Time**	**1st Leq (5min)**			**2nd Leq (5min)**			**3rd Leq (5min)**			**4th Leq (5min)**			**5th Leq (5min)**			**6th Leq (5min)**			**Leq30min, dB(A)**	**Limit Level dB(A)**
		Leq, dB(A)	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**	**Leq, dB(A)**	**L10, dB(A)**	**L90, dB(A)**		
1-Nov-21	9:40	61.1	64.5	55.9	59.1	61.7	55.3	59.2	61.7	54.8	59.3	61.8	54.9	59.7	62.3	55.1	58.7	61.2	55.9	60	75
12-Nov-21	9:07	56.2	57	55.5	56.1	57.5	53	59.9	63	55.5	57.7	59	55.5	56.6	58	55	57.2	58.5	55.5	57	75
18-Nov-21	14:47	61.8	64.3	57.1	61.5	62.5	57.5	64.7	65.7	57.7	59.8	61	56.8	61.7	62.4	56.7	59.5	61.5	55.5	62	75
24-Nov-21	10:24	66	68.1	62.2	66.5	69	61.9	68.2	69.1	61.7	66.5	68.5	61.1	67.7	69	61.7	66.2	68.2	61.5	67	75
30-Nov-21	9:03	61.6	62.3	55	61.2	62.6	55.5	57.4	59.9	54	59.5	61.8	56	60.7	62.9	55.3	59.8	61.9	56.5	60	75

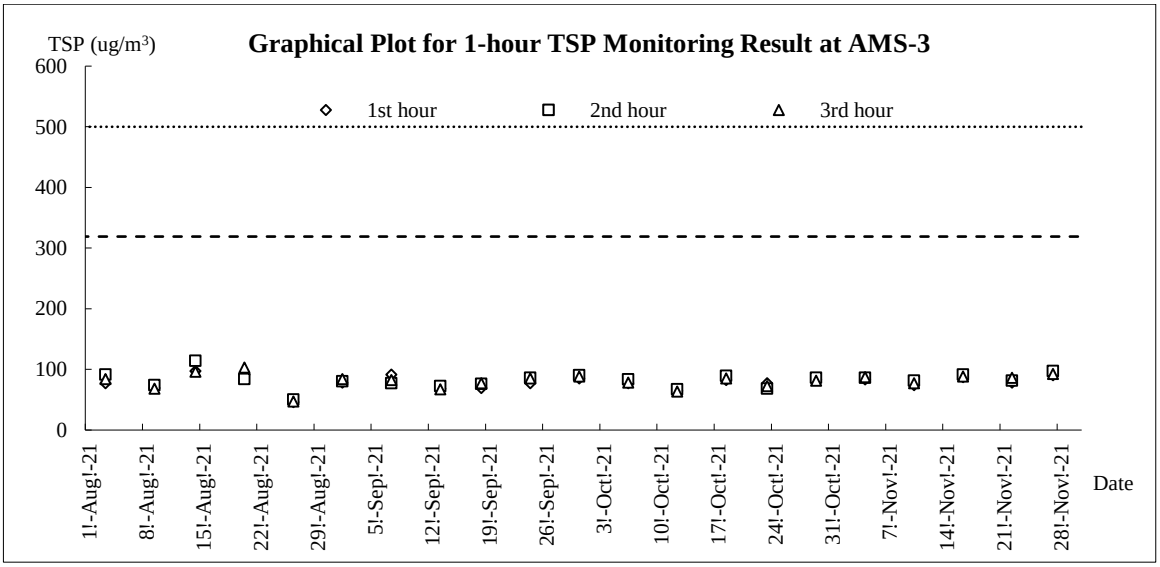
Appendix I

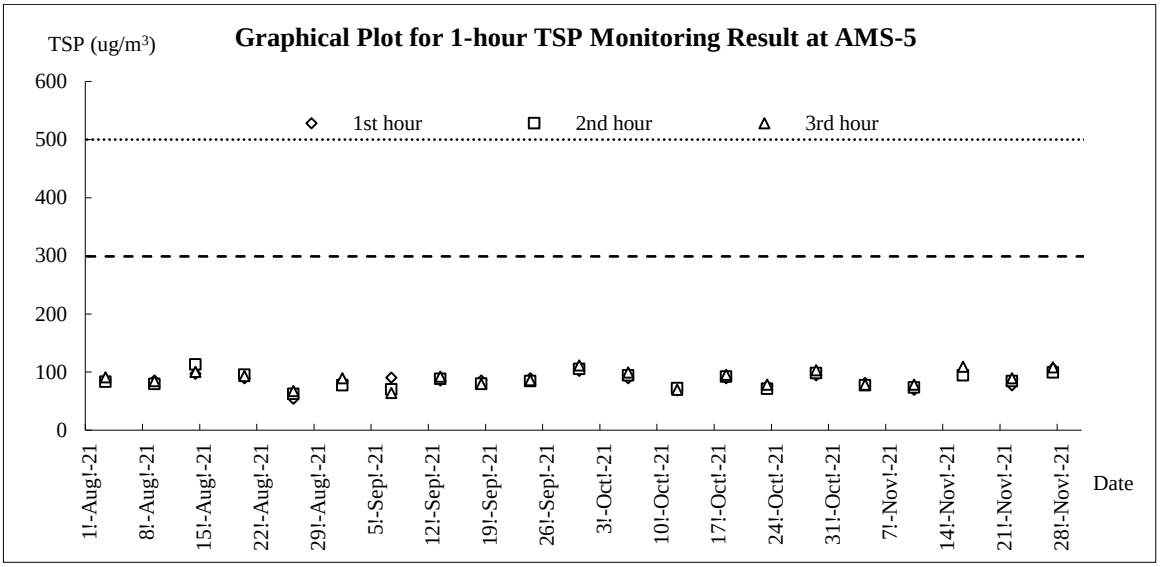
Graphical Plots for Monitoring Result

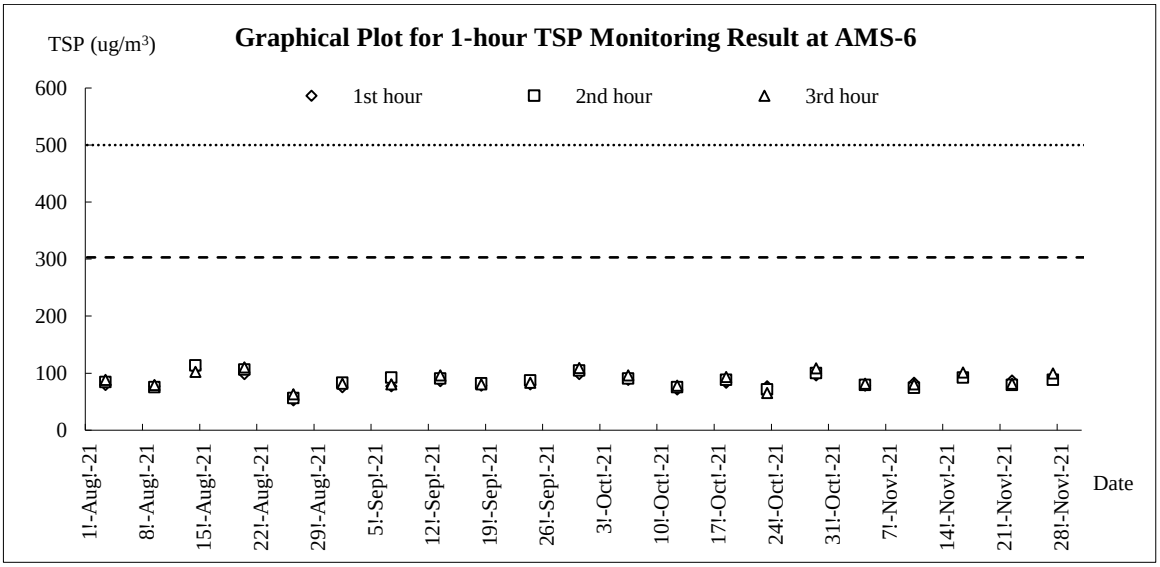
Air Quality – 1-hour TSP

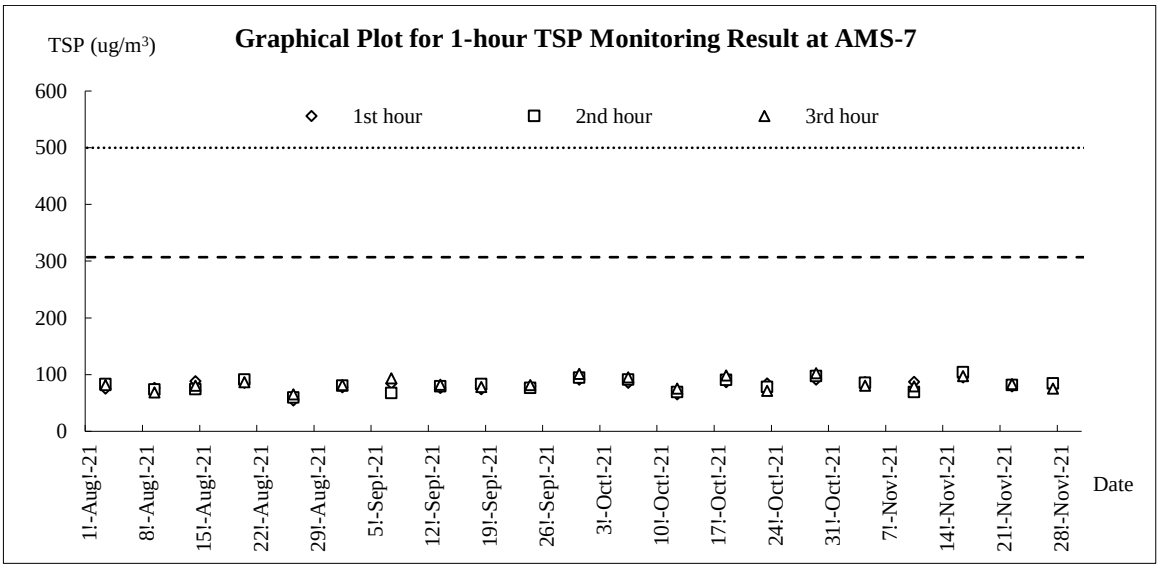




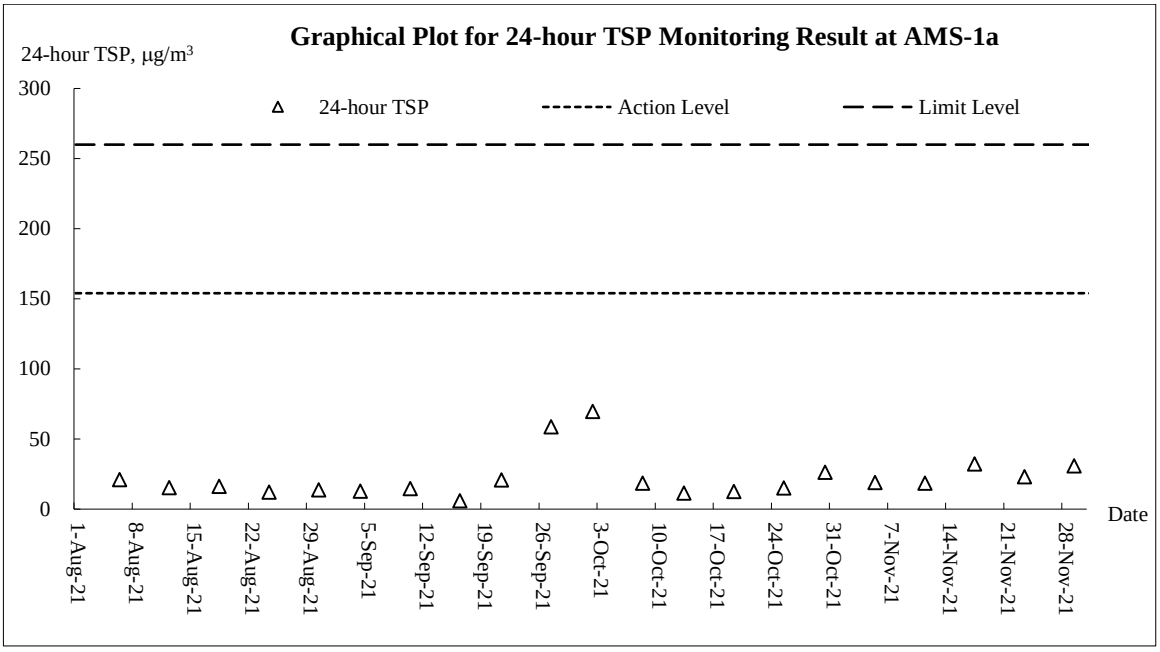


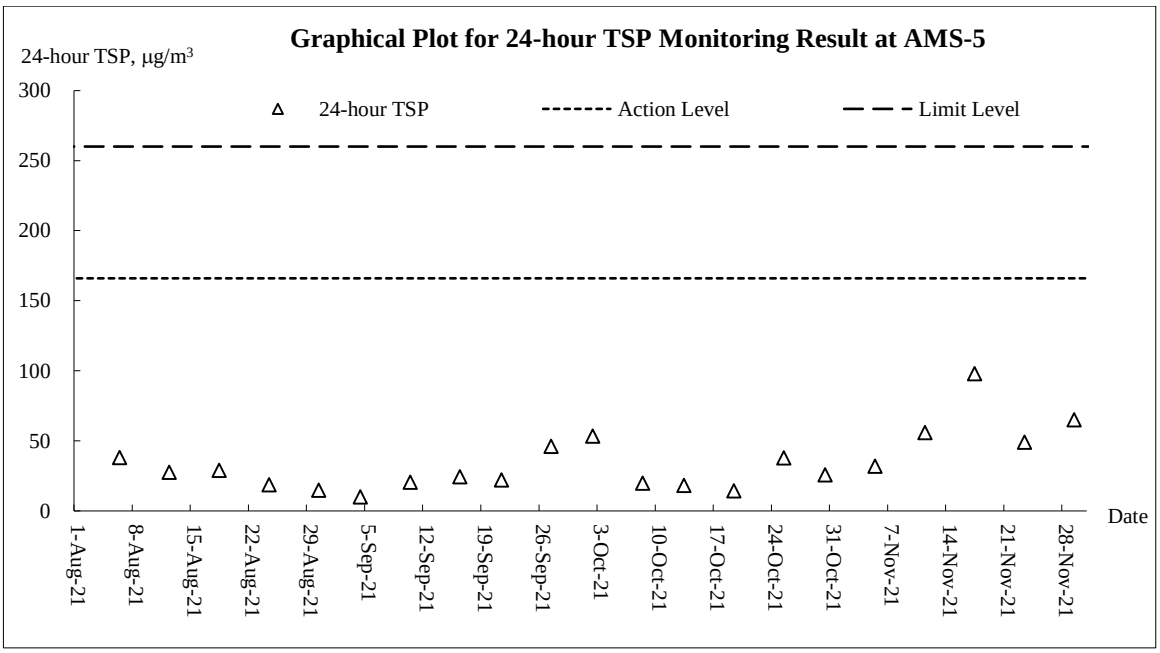

Graphical Plot for 1-hour TSP Monitoring Result at AMS-5
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1!-Aug!-21
8!-Aug!-21
15!-Aug!-21
22!-Aug!-21
29!-Aug!-21
5!-Sep!-21
12!-Sep!-21
19!-Sep!-21
26!-Sep!-21
3!-Oct!-21
10!-Oct!-21
17!-Oct!-21
24!-Oct!-21
31!-Oct!-21
7!-Nov!-21
14!-Nov!-21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

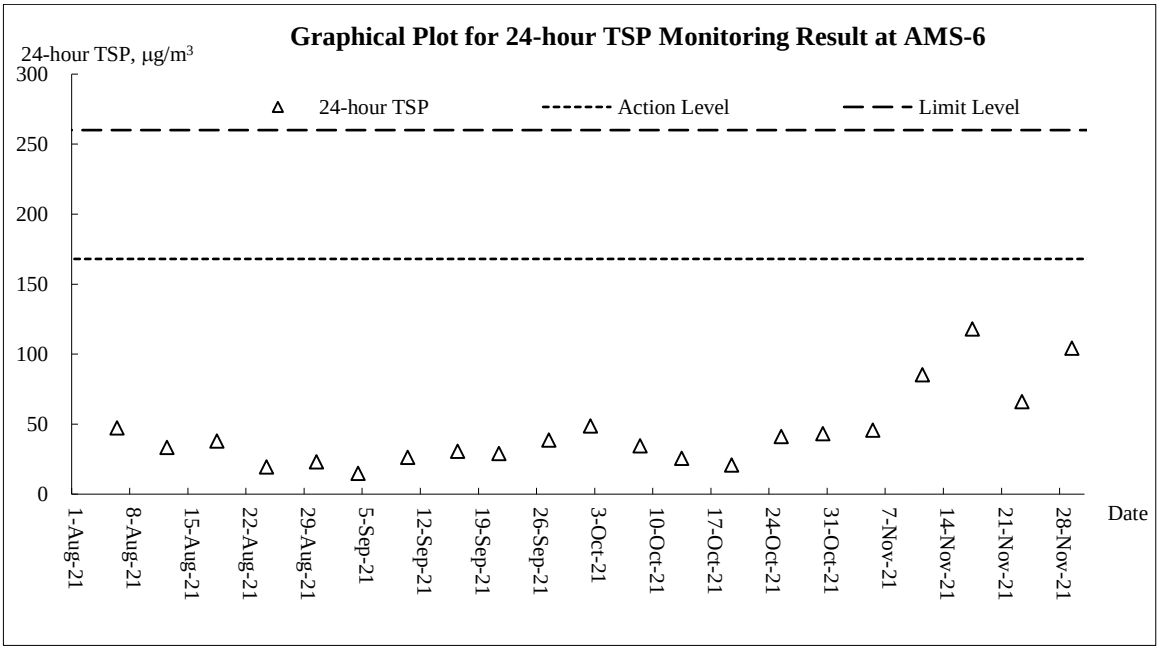

Graphical Plot for 1-hour TSP Monitoring Result at AMS-6
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1!-Aug!-21
8!-Aug!-21
15!-Aug!-21
22!-Aug!-21
29!-Aug!-21
5!-Sep!-21
12!-Sep!-21
19!-Sep!-21
26!-Sep!-21
3!-Oct!-21
10!-Oct!-21
17!-Oct!-21
24!-Oct!-21
31!-Oct!-21
7!-Nov!-21
14!-Nov!-21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

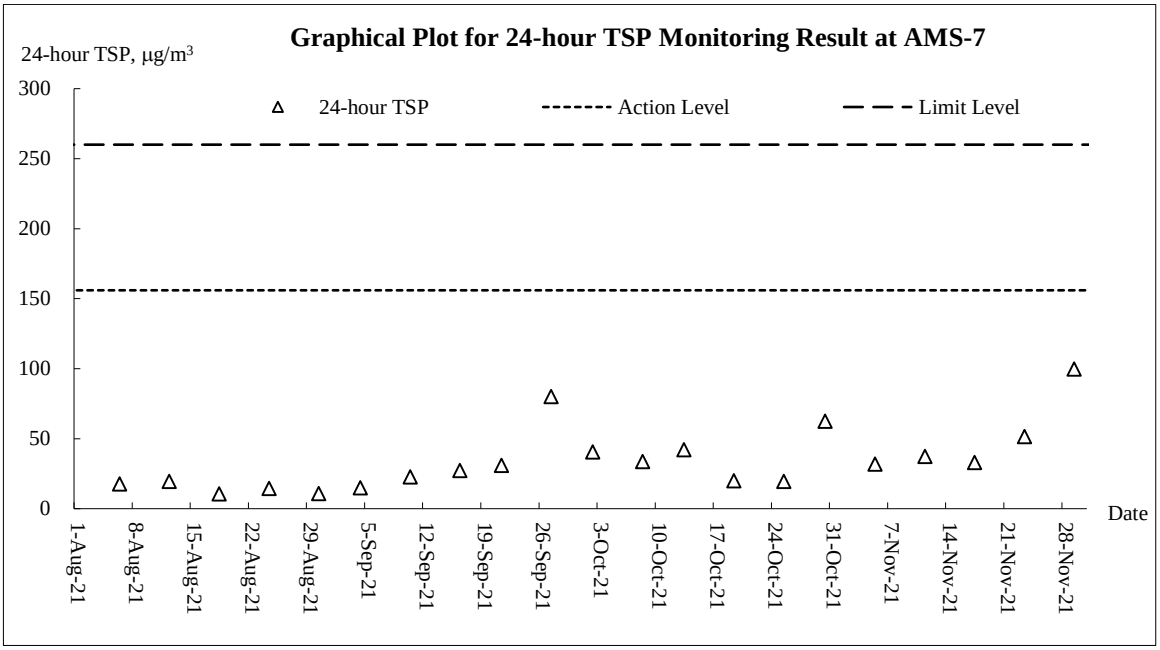

Graphical Plot for 1-hour TSP Monitoring Result at AMS-7
TSP (ug/m3)
1st hour
2nd hour
3rd hour
600
500
400
300
200
100
0
1!-Aug!-21
8!-Aug!-21
15!-Aug!-21
22!-Aug!-21
29!-Aug!-21
5!-Sep!-21
12!-Sep!-21
19!-Sep!-21
26!-Sep!-21
3!-Oct!-21
10!-Oct!-21
17!-Oct!-21
24!-Oct!-21
31!-Oct!-21
7!-Nov!-21
14!-Nov!-21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

Air Quality – 24-hour TSP






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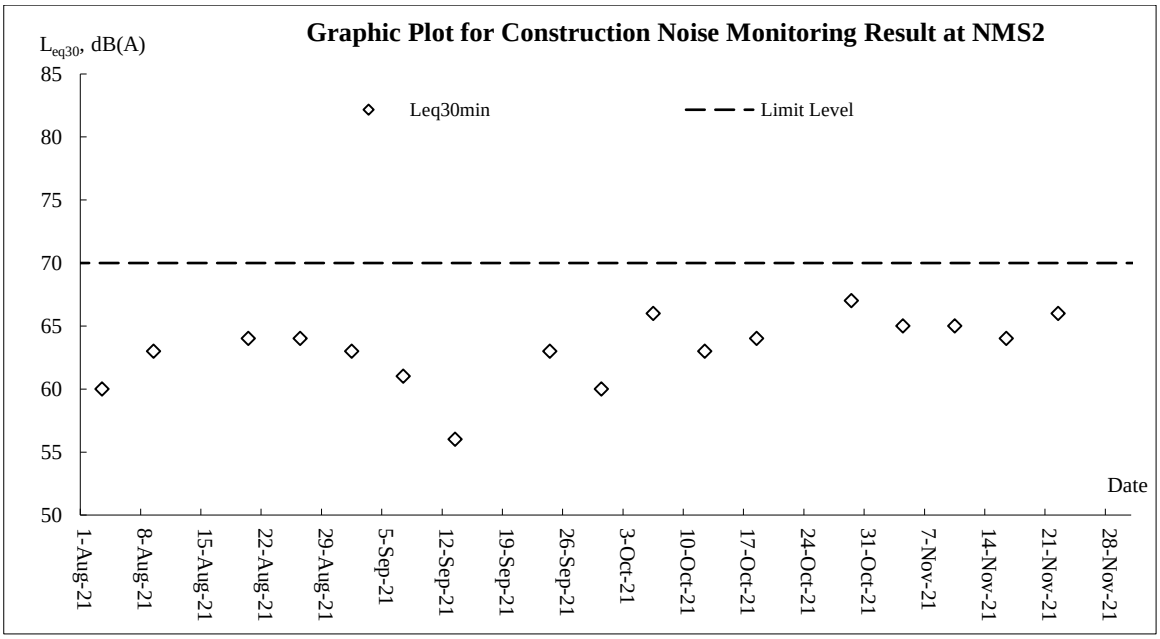
24-hour TSP, μg/m³
24-hour TSP
Action Level
Limit Level
300
250
200
150
100
50
0
1-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
3-Oct-21
10-Oct-21
17-Oct-21
24-Oct-21
31-Oct-21
7-Nov-21
14-Nov-21
21-Nov-21
28-Nov-21
Date

Noise


Graphic Plot for Construction Noise Monitoring Result at NMS2
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
3-Oct-21
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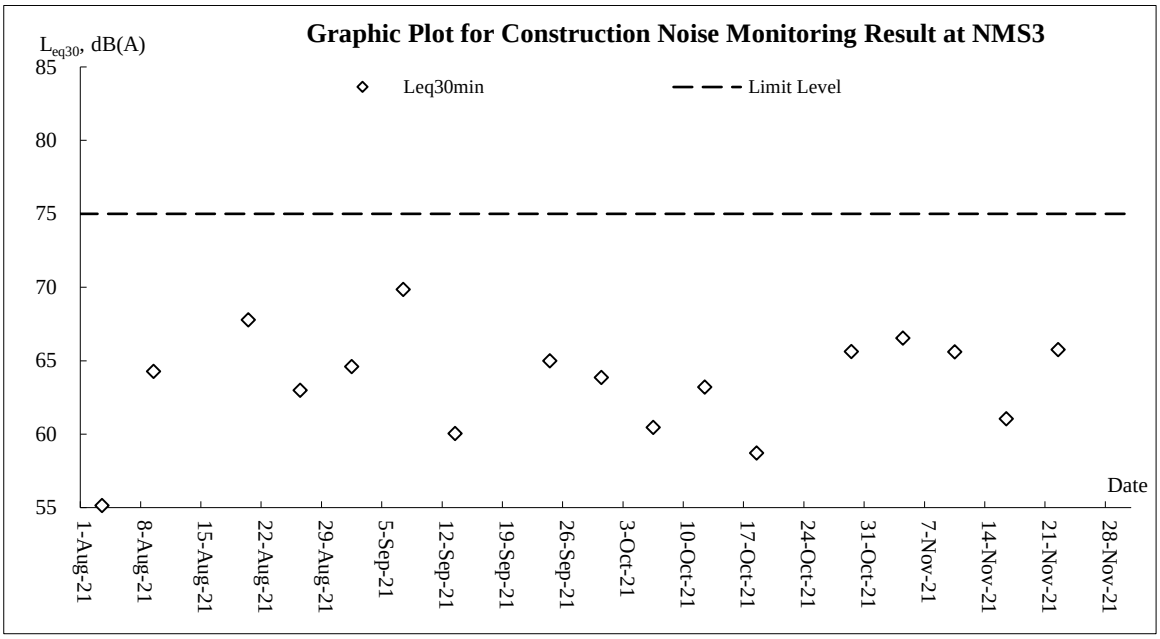
7-Nov-21
14-Nov-21
21-Nov-21
28-Nov-21


Graphic Plot for Construction Noise Monitoring Result at NMS3
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
Date
1-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
3-Oct-21
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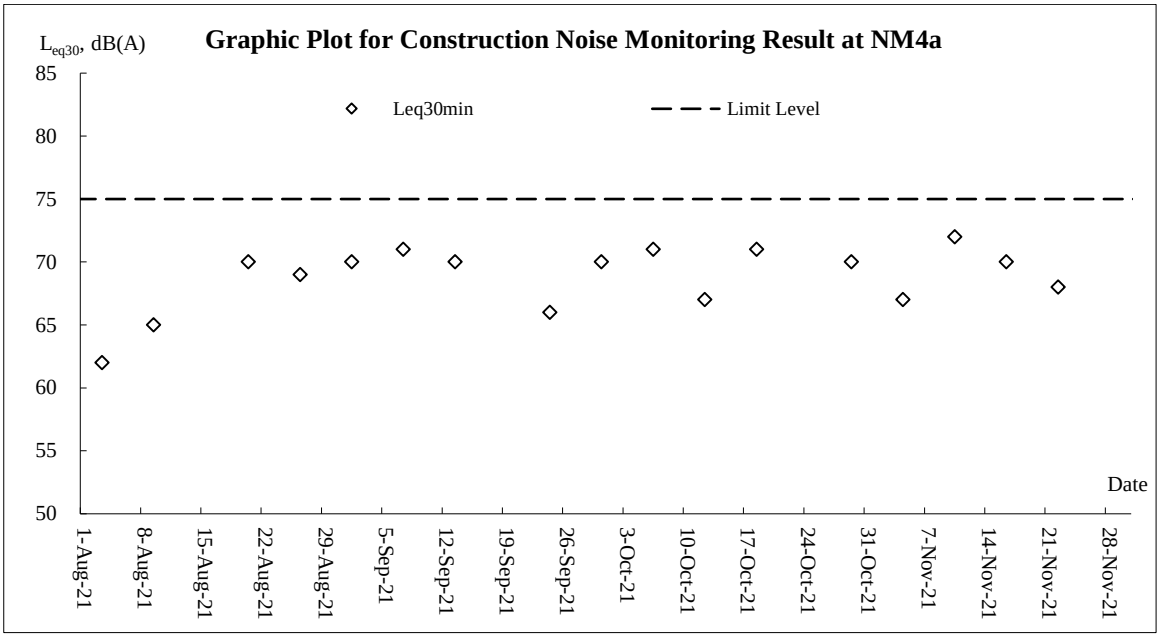
7-Nov-21
14-Nov-21
21-Nov-21
28-Nov-21


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-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
3-Oct-21
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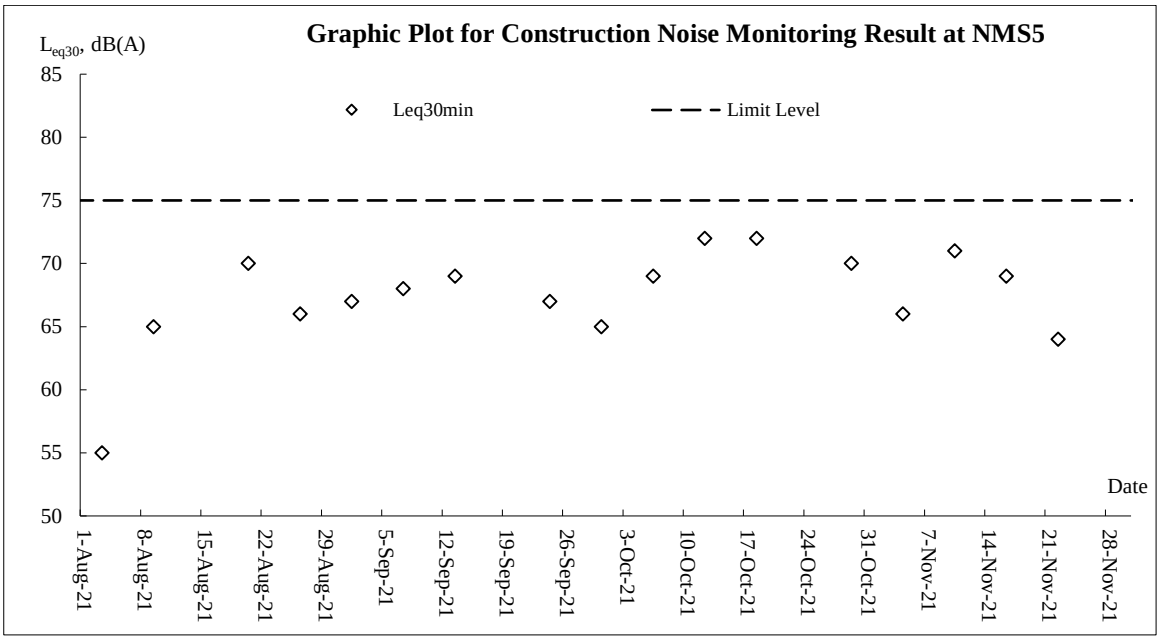
7-Nov-21
14-Nov-21
21-Nov-21
28-Nov-21


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-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
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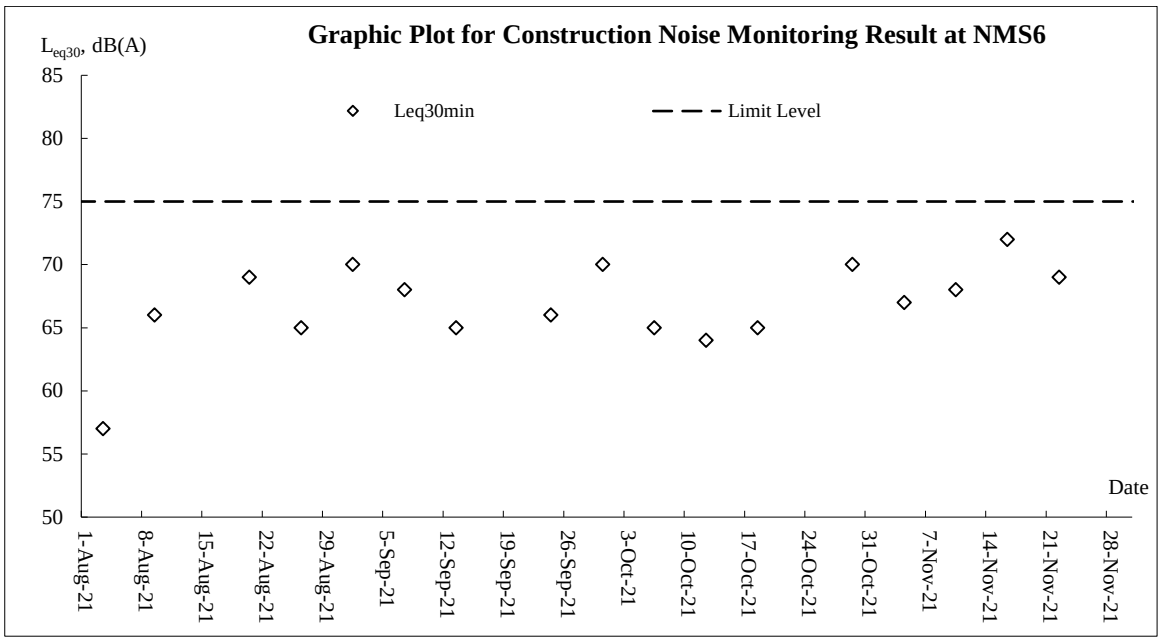
21-Nov-21
28-Nov-21


Graphic Plot for Construction Noise Monitoring Result at NMS6
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
3-Oct-21
10-Oct-21
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7-Nov-21
14-Nov-21
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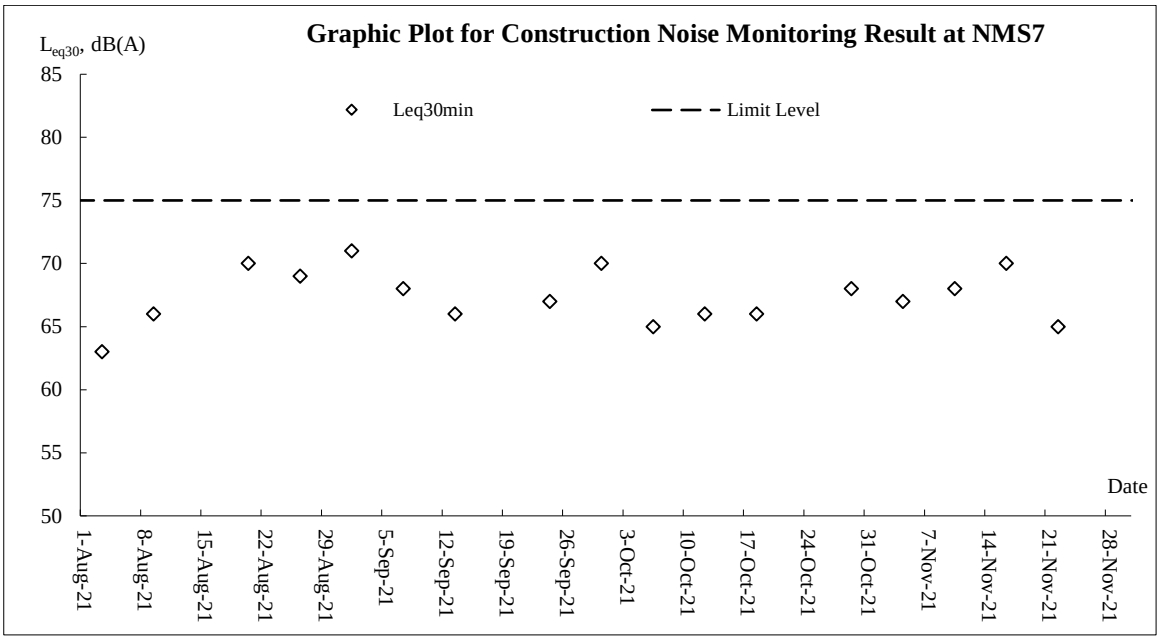
28-Nov-21


Graphic Plot for Construction Noise Monitoring Result at NMS7
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
3-Oct-21
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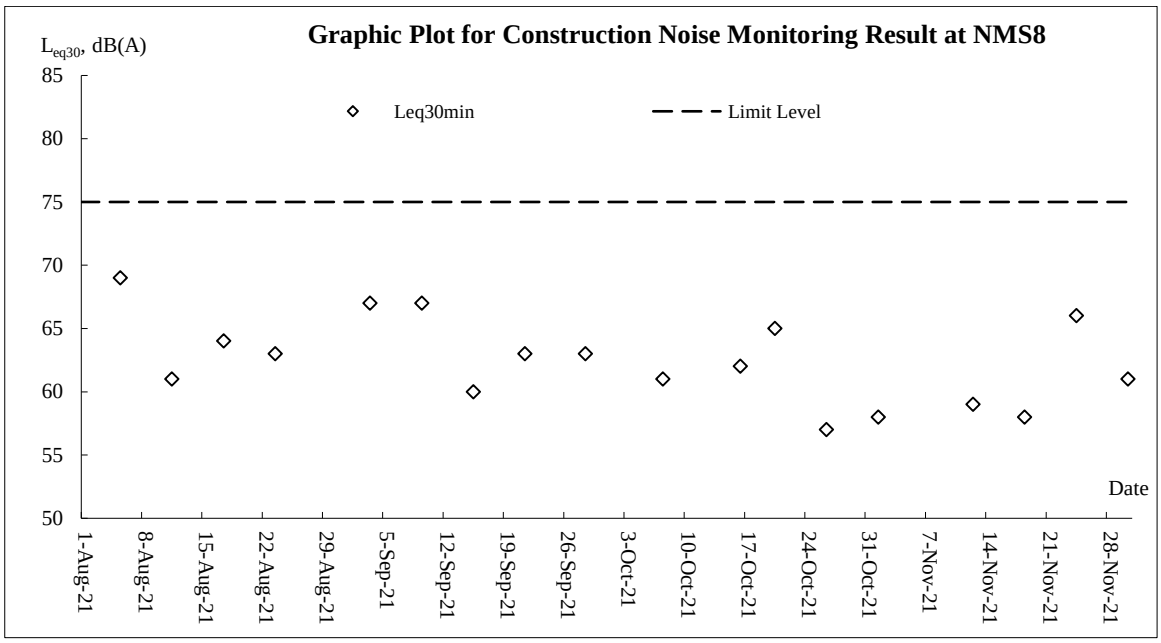
7-Nov-21
14-Nov-21
21-Nov-21
28-Nov-21


Graphic Plot for Construction Noise Monitoring Result at NMS8
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
3-Oct-21
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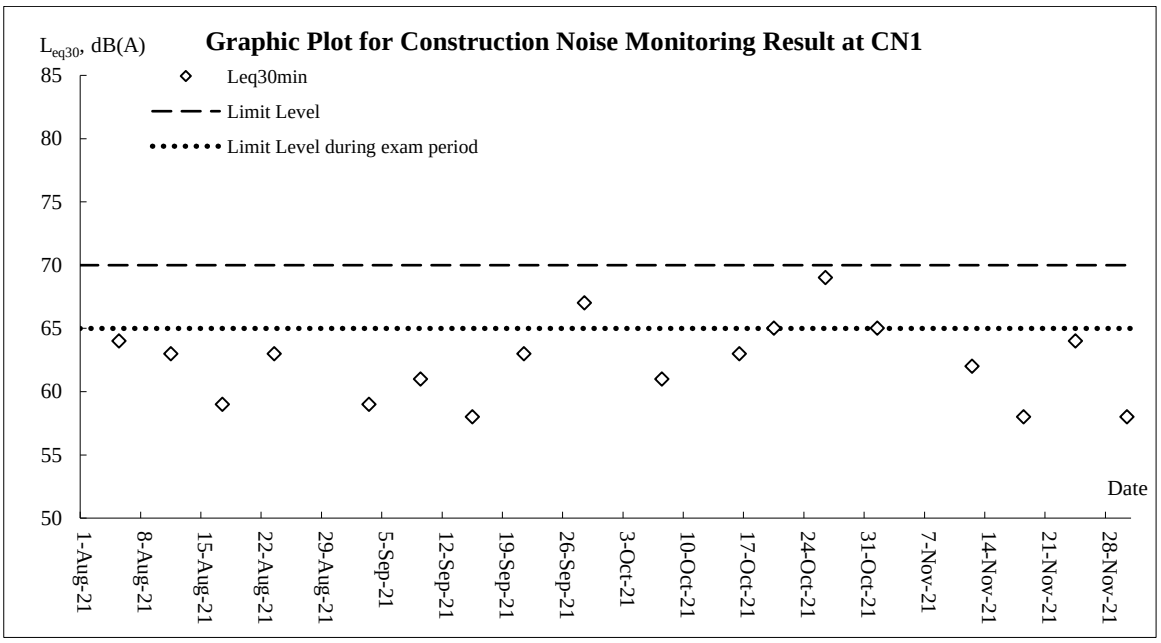
7-Nov-21
14-Nov-21
21-Nov-21
28-Nov-21


Graphic Plot for Construction Noise Monitoring Result at CN1
L_{eq30}, dB(A)
Leq30min
Limit Level
Limit Level during exam period
85
80
75
70
65
60
55
50
Date
1-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
3-Oct-21
10-Oct-21
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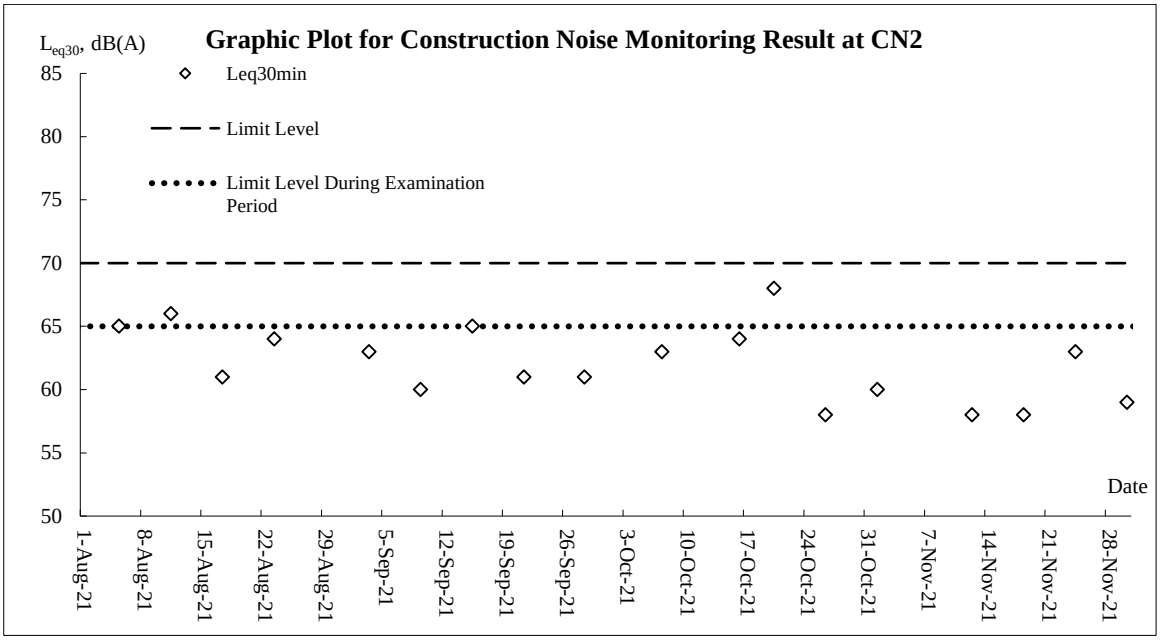
7-Nov-21
14-Nov-21
21-Nov-21
28-Nov-21


Graphic Plot for Construction Noise Monitoring Result at CN2
L_{eq30}, dB(A)
Leq30min
Limit Level
Limit Level During Examination Period
85
80
75
70
65
60
55
50
Date
1-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
3-Oct-21
10-Oct-21
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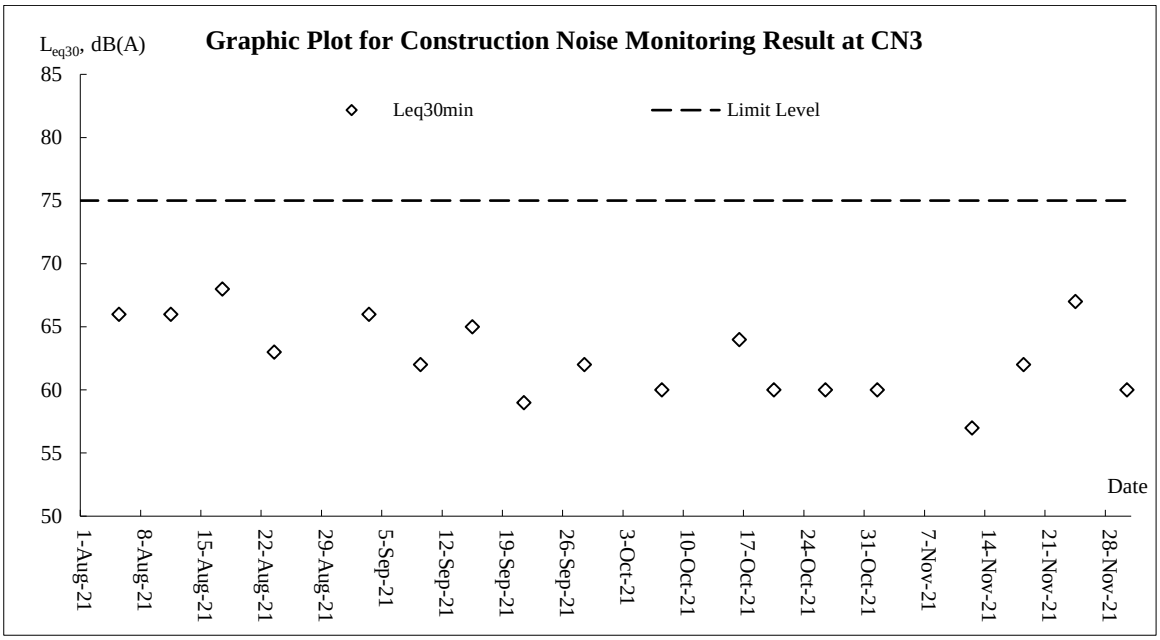
7-Nov-21
14-Nov-21
21-Nov-21
28-Nov-21


Graphic Plot for Construction Noise Monitoring Result at CN3
L_{eq30}, dB(A)
Leq30min
Limit Level
85
80
75
70
65
60
55
50
Date
1-Aug-21
8-Aug-21
15-Aug-21
22-Aug-21
29-Aug-21
5-Sep-21
12-Sep-21
19-Sep-21
26-Sep-21
3-Oct-21
10-Oct-21
17-Oct-21
24-Oct-21
31-Oct-21
7-Nov-21
14-Nov-21
21-Nov-21
28-Nov-21

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-Nov-21	Mon	Light to moderate easterly winds.	Trace	24.5	14	E/SE	75.7
2-Nov-21	Tue	Cloudy periods tonight.	Trace	25.1	16.7	E	74
3-Nov-21	Wed	Mainly fine in the afternoon.	Trace	Maintenance	14.7	E/SE	76.7
4-Nov-21	Thu	Mainly fine and rather warm tomorrow	0	Maintenance	10.7	E/NE	76.2
5-Nov-21	Fri	Light to moderate easterly winds.	0	25.9	11.2	E/NE	79.5
6-Nov-21	Sat	Mainly fine in the afternoon.	0	26.9	10.5	E	78
7-Nov-21	Sun	Moderate northerly winds	0	25.6	10	E	79.5
8-Nov-21	Mon	Mainly fine and dry.	2	20.5	11	N	74.7
9-Nov-21	Tue	Mainly fine and very dry.	0	19.4	8	N/NE	39.7
10-Nov-21	Wed	Cloudy periods tonight.	0	20	9.5	N	39.2
11-Nov-21	Thu	Mainly fine and rather warm tomorrow	0	20.8	8.7	N/NE	44.2
12-Nov-21	Fri	Light to moderate easterly winds.	0	22.5	8.7	N/NE	40.7
13-Nov-21	Sat	Mainly fine in the afternoon.	Trace	21.5	9	N/NE	51
14-Nov-21	Sun	Mainly fine and dry.	0	20.6	11.2	E/SE	56.5
15-Nov-21	Mon	Moderate east to northeasterly winds.	0	21.4	10.7	E	58
16-Nov-21	Tue	Mainly cloudy tonight.	0	22.9	10	SE	66.5
17-Nov-21	Wed	Sunny intervals in the afternoon.	0	22.7	11.2	E/SE	73.5
18-Nov-21	Thu	Very dry in the afternoon.	0	22.3	6.2	SW	64
19-Nov-21	Fri	Moderate to fresh north to northeasterly winds	Trace	22.9	7	E	72.7
20-Nov-21	Sat	Cloudy periods tonight.	0.3	23.4	8.5	E/SE	79
21-Nov-21	Sun	Moderate to fresh northerly winds	0	23.2	8.7	E/SE	81.7
22-Nov-21	Mon	One or two rain patches at first.	0.5	18.9	9.5	NW	73.7
23-Nov-21	Tue	Light to moderate easterly winds.	Trace	14.9	10	W/NW	68.5
24-Nov-21	Wed	Mainly fine in the afternoon.	0	19.1	11.2	N/NE	56
25-Nov-21	Thu	Mainly fine and dry.	0	21.7	7.5	SE	56.7
26-Nov-21	Fri	Fine. Very dry in the afternoon.	0	21.7	7.5	N	56.5
27-Nov-21	Sat	Strong offshore and on high ground.	0	21.1	10.5	N	61
28-Nov-21	Sun	Moderate to fresh northerly winds	0	21.7	11.7	E/SE	65.5
29-Nov-21	Mon	Fine and dry.	0	22.7	6.2	S/SE	57.5
30-Nov-21	Tue	It will become appreciably cooler tonight	0	20.8	13.5	N/NW	57

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 2021 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract (see Note 6)	Reused in other Projects (see Note 8)	Disposed as Public Fill	Imported Fill	Metals (see Note 9)	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	42.293	0.000	9.773	31.040	1.480	0.180	0.000	0.000	0.000	0.000	0.110
Feb	15.750	0.000	2.893	11.601	1.256	0.000	0.000	0.047	0.006	0.000	0.121
Mar	34.287	0.000	12.750	21.267	0.270	0.000	0.012	1.064	0.006	0.000	0.131
Apr	15.432	0.000	2.688	11.312	1.432	0.650	0.000	0.000	0.000	0.000	0.044
May	16.995	0.000	6.428	9.857	0.711	1.452	0.005	0.015	0.004	0.000	0.116
Jun	42.427	0.000	5.834	33.957	2.637	0.000	0.000	0.045	0.000	0.000	0.120
Sub-total	167.184	0.000	40.365	119.034	7.786	2.282	0.017	1.171	0.016	0.000	0.642
Jul	13.271	0.000	1.957	8.863	2.452	0.000	0.000	0.000	0.000	0.000	0.103
Aug	32.172	0.000	9.886	20.257	2.029	0.000	0.000	0.000	0.000	0.000	0.129
Sep	20.751	0.000	6.493	12.679	1.579	0.000	0.003	0.904	0.000	0.000	0.107
Oct	16.740	0.000	5.910	9.223	1.606	0.000	0.007	0.018	0.000	0.000	0.068
Nov	19.619	0.000	7.160	11.760	0.700	0.000	0.000	0.000	0.000	0.000	0.090
Dec	0.000										
Total	269.737	0.000	71.770	181.815	16.151	2.282	0.027	2.093	0.016	0.000	1.139

Notes:

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

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

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

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

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

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

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

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

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

Name of Department : CEDD

Contract No. : NE/2016/05

Monthly Summary Waste Flow Table for 2021 (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	0.04	0	0	0	0.04	0	0	0	0	0	0.08
Feb	0.01	0	0	0	0.01	0	0	0	0	0	0.05
Mar	0.02	0	0	0	0.02	0	0	0	0	0	0.15
Apr	0.05	0	0	0	0.05	0	0	0	0	0	0.29
May	0.12	0	0	0	0.12	0	0	0	0	0	0.09
June	0.15	0	0	0	0.15	0	0	0	0	0	0.05
Sub-total	0.39	0	0	0	0.39	0	0	0	0	0	0.71
July	0.27	0	0	0	0.27	0	0	0	0	0	0.11
Aug	0.06	0	0	0	0.06	0	0	0	0	0	0.06
Sept	0.01	0	0	0	0.01	0	0	0	0	0	0.06
Oct	0.03	0	0	0	0.03	0	0	0	0	0	0.09
Nov	0.01	0	0	0	0.01	0	0	0	0	0	0.03
Dec	-	-	-	-	-	-	-	-	-	-	-
Total	0.77	0	0	0	0.77	0	0	0	0	0	1.06

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

Monthly Summary Waste Flow Table for 2021 (year)

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract (see Note 6)	Reused in other Projects (see Note 6)	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Others, e.g. general refuse
	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000m^3)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m^3)
Jan	1.858	0.000	0.000	0.349	1.509	0.000	0.000	0.057	0.006	0.000	0.159
Feb	2.713	0.000	0.023	0.253	2.438	0.000	0.000	0.000	3.472	0.000	0.057
Mar	3.793	0.000	0.143	0.746	2.905	0.000	0.000	0.000	0.210	0.000	0.102
Apr	0.869	0.000	0.000	0.000	0.869	0.000	0.000	0.000	0.238	0.000	0.032
May	1.173	0.000	0.000	0.126	1.047	0.000	0.000	0.055	0.776	0.000	0.027
Jun	1.134	0.000	0.000	0.000	1.134	0.000	0.000	0.000	0.980	0.000	0.034
Sub-total	11.542	0.000	0.165	1.474	9.903	0.000	0.000	0.112	5.682	0.000	0.411
Jul	1.218	0.000	0.000	0.150	1.068	0.000	0.001	0.596	0.239	0.000	0.033
Aug	5.846	0.000	0.000	0.000	5.846	0.000	0.000	0.000	0.308	0.000	0.066
Sep	4.159	0.000	0.000	0.874	3.286	0.000	0.001	0.000	0.008	0.000	0.026
Oct	1.833	0.000	0.159	0.589	1.085	0.000	0.007	0.452	0.574	0.000	0.026
Nov	5.028	0.000	0.333	1.017	3.678	0.000	0.000	0.000	0.490	0.000	0.045
Dec											
Total	29.627	0.000	0.657	4.103	24.866	0.000	0.009	1.160	7.301	0.000	0.607

Notes:

(1) The performance targets are given in PS Clause 1.129 (4).

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

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

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

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

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

Contract No.: ED/2020/02

Monthly Summary Waste Flow Table

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantities of C&D Wastes Generated Monthly				
	Total Quantity of Materials Generated	Hard Rock, Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 m^3)*
Year 2021											
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Mar	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
June	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
July	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.020
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.012
Nov	83.441	38.338	0.000	0.000	45.103	0.000	0.000	0.000	0.000	0.000	0.000
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2021 Total	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**
Accumulated Total	**83.441**	**38.338**	**0.000**	**0.000**	**45.103**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.032**

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

Name of Department : CEDD Contract No. : ED/2019/02

Monthly Summary Waste Flow Table for 2021 (year)

Month	Annual Quantities of Inert C&D Materials Generated Monthly						Annual Quantities of C&D Materials Generated Monthly				
	Total Quantity Generated	Hard Rock & Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 2)	Chemicals Waste	Others, e.g. general refuse
	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 m^3)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 kg)	(in '000 m^3)
Jan	---	---	---	---	---	---	---	---	---	---	---
Feb	---	---	---	---	---	---	---	---	---	---	---
Mar	0	0	0	0	0	0	0	0	0	0	0
Apr	0	0	0	0	0	0	0	0	0	0	0
May	0	0	0	0	0	0	0	0	0	0	0.03
June	0	0	0	0	0	0	0	0	0	0	0.01
Sub-total	0	0	0	0	0	0	0	0	0	0	0.04
July	0.01	0	0	0	0.01	0	0	0	0	0	0.02
Aug	0.04	0	0	0	0.04	0	0	0	0	0	0.10
Sept	0	0	0	0	0	0	0	0	0	0	0.05
Oct	0	0	0	0	0	0	0	0	0	0	0.05
Nov	0.10	0	0	0	0.10	0	0	0	0	0	0.03
Dec	---	---	---	---	---	---	---	---	---	---	---
Total	0.15	0	0	0	0.15	0	0	0	0	0	0.29

Notes: (1) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.

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

Appendix L

Implementation Schedule for Environmental Mitigation Measures

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
Dust Impact (Contraction Phase)								
S4.7.2 to S4.7.5	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road is proposed to achieve dust removal efficiency of 91.7%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.75 L/m^2 to achieve the respective dust removal efficiencies.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	V	V	V	V
S4.7.6	The Contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction ion Dust) Regulation.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	V	V	V	V
S4.7.6	Following dust suppression measures should also be incorporated by the Contractor to control the dust nuisance throughout the construction phase: • Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading; • Any dusty materials remaining after a stockpile is removed should be wet ted with water and cleared from the surface of roads; • A stockpile of dusty material should not be extend beyond the pedestrian barriers, fencing or traffic cones; • The load of dusty materials on a vehicle leaving a construction ion site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; • Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road sect ion between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction ion period. • The port ion of any road leading only to construction ion site that is within 30m of a vehicle entrance or exit should be kept clear of dusty materials; • Surfaces where any pneumatic or power-driven drilling, cutting, polishing or other mechanical breaking operation takes place should be sprayed with water or a dust suppression chemical continuously; • Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	@	@	@	@

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
	after the activities so as to maintain the entire surface wet ; • Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding; • Any skip hoist for material transport should be totally enclosed by impervious sheeting; • Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides; • Cement or dry PFA delivered in bulk should be stored in a closed silo fit ted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed; and • Exposed earth should be properly treated by compact ion, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shortcrete or other suitable surface stabiliser within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.							
S4.7.7	Implement regular dust monitoring under EM&A programme during the Construction phase.	Control construction airborne noise	Selected Representati ve dust monitoring station	All construction sites where practicable	V	N/A	N/A	N/A
Noise Impact (Contraction Phase)								
S5.6.9	Implement the following good site management practices: • only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction ion programme; • machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; • plant known to emit noise strongly in one direct ion, where possible, be orientated so that the noise is directed away from nearby NSRs; • silencers or mufflers on construction ion equipment should be properly fit ted and maintained during the construction ion works; • mobile plant should be sited as far away from NSRs as possible and practicable; and • material stockpiles, mobile container site office and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities.	Control construction ion airborne noise	Contractor	All construction sites where practicable	@	V	V	@
S5.6.11 to	Use of " Quiet " Plant and Working Methods.	Reduce the noise	Contractor	All	V	N/A	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
S5.6.13		levels of plant items		construction sites where practicable				
S5.6.14	Install temporary site hoarding (approx 2.5m high) located on the site boundaries between noisy construction activities and NSRs. The conditions of the hoardings shall be properly maintained throughout the construction period.	Reduce the construction ion noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	V	V	V	V
S5.6.15 to S5.6.18	Install movable noise barriers, full enclosure and acoustic mat, screen the noisy plants including air compressor and generator.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction ion sites where practicable	V	V	N/A	N/A
S5.6.19	Sequencing operation of construction plants equipment.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction ion sites where practicable	V	V	N/A	N/A
S5.6.34	Implement temporary noise barrier along Road L4.	Further reduce the construction ion airborne noise	Contractor	Road L4 of ARQ	N/A	N/A	N/A	N/A
S5.6.35	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected Representative Noise monitoring stations	V	N/A	N/A	N/A
Water Quality Impact (Contraction Phase)								
S6.6.3	<u>Construction Runoff</u> In accordance with the Practice Note for Professional Persons on Construction ion Site Drainage, Environmental Protect ion Department , 1994 (ProPECC PN 1/94), best management practices should be implemented as far as practicable as below: • At the start of site establishment , perimeter cut -off drains to direct off-site water around the site should be constructed with internal drainage works. Channels (both temporary and permanent drainage pipes and culverts), earth bunds or sand bag barriers should be provided on site to direct stormwater to silt removal facilities. • Diversion of natural stormwater should be provided as far as possible. The design of temporary on-site drainage should prevent runoff going through site surface, construction machinery and equipment in order to avoid or	Control construction runoff	Contractor	All construction sites	@	@	@	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
	minimize polluted runoff. Sediment at ion tanks with sufficient capacity, constructed from preformed individual cells of approximately 6 to 8 m^3 capacities, are recommended as a general mitigation measure which can be used for set t ling surface runoff prior to disposal. The system capacity shall be flexible and able to handle multiple inputs from a variety of sources and suited to applications where the influent is pumped. • The dikes or embankments for flood protect ion should be implemented around the boundaries of earthwork areas. Temporary ditches should be provided to facilitate the runoff discharge into an appropriate watercourse, through a silt /sediment t rap. The silt /sediment t raps should be incorporated in the permanent drainage channels to enhance deposit ion rates. • The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94. The detailed design of the sand/silt traps should be undertaken by the contractor prior to the commencement of construction ion. • Construction works should be programmed to minimize surface excavation works during the rainy seasons (April to September). All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed. If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means. • All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas. • Measures should be taken to minimise the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, it should be dug and backfilled in short sect ions wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities. • All open stockpiles of construction ion materials (for example, aggregates, sand and fill material) of should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction ion materials, soil, silt or debris into any drainage system. • Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction ion materials or debris being washed into the drainage system and storm runoff being directed into foul sewers. • Precautions to be taken at any time of year when rainstorms are likely, act							

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
	ions to be taken when a rainstorm is imminent or forecasted, and act ions to be taken during or after rainstorms are summarized in Appendix A2 of ***ProPECC PN 1/94***. Particular attention should be paid to the control of silty surface runoff during storm events. • All vehicles and plant should be cleaned before leaving a construction ion site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and sited wheel washing facilities should be provided at every construction ion site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The sect ion of access road leading to, and exiting from, the wheel-wash bay to the public road should be paved with sufficient back all toward the wheel-wash bay to prevent vehicle tracking of soil and silty water to public roads and rains. • Oil interceptors should be provided in the drainage system downstream of any oil/fuel pollution sources. The oil interceptors should be emptied and cleaned regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain. • Construction ion solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts. • 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	Handling of site sewage	Contractor	All construction sites	V	V	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
	anticipated. • Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction ion phase of the Project . Regular environmental audit on the construction ion site should be conducted in order to provide an effective control of any malpractices and achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the Project would not cause water quality impact after undertaking all required measure							
S6.6.8 and 6.6.9	<u>Accidental Spillage</u> To prevent accidental spillage of chemicals, proper storage and handling facilities should be provided. All the tanks, containers and storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and storm drains. The Contractor is required to register as a chemical waste producer if chemical wastes would be generated from the construction ion activities. Storage of chemical waste arising from the construction ion activities should be well managed with suitable labels an d warnings while disposal of those chemical wastes should be comply with the requirement states in Waste Disposal Ordinance (Cap 354) as well as Waste Disposal (Chemical Waste) (General) Regulations.	Prevention of accidental spillage	Contractor	All construction sites	@	V	V	V
S6.6.11-S6.6.14	<u>Groundwater from Contaminated Area</u> The Contractor should apply for a discharge licence under the WPCO through the Regional Office of EPD for groundwater discharge. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed during the process of discharge license application. The compliancy to the TM-DSS and the existence of prohibited substance should be confirmed after further SI. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated in compliance with TMDSS or properly recharged into the ground. If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. Petroleum Carbon Ranges (PCRs)). All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be discharged into the foul sewers. If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground.	Minimize contaminated groundwater impacts	Contractor	All construction sites	NA	NA	NA	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
	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 trucks or by transporting wastes in enclosed containers; • regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;	Minimize waste generation during construction	Contractor	All construction sites	V	@	V	V
S8.5.2 (6)	The contractor should submit a Waste Management Plan (WMP) as part of the Environmental Management Plan (EMP) in accordance with the ***ETWB TC(W) No. 19/2005*** for construction ion phase. The EMP should be submit ted to the Engineer for approval. Mitigation measures proposed in the EIA Report and the EM&A Manual should be adopted.	Minimize waste generation during construction	Contractor	All construction sites	V	V	V	V
S8.5.3	Waste Reduction Measures Waste reduction is best achieved at the planning and design phase, as well as by ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction: • segregate and store different types of waste in different containers, skip or stockpiles to enhance reuse or recycling o materials and their proper disposal; • proper storage and site practices to minimize the potential for damage and contamination of construction ion materials;	Reduce waste generation	Contractor	All construction sites where practicable	V	V	V	V

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
	• 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.							
S8.5.5	Storage of Waste The following recommendation should be implemented to minimize the impacts: • waste such as soil should be handled and stored well to ensure secure containment ; • stockpiling area should be provided with covers and water spraying system to prevent materials from wind-blown or being washed away; • different locations should be designated to stockpile each material to enhance reuse;	Minimize waste impacts from storage	Contractor Contractor	All construction sites	V	V	V	V
S8.5.6	Collection and Transportation of Waste The following recommendation should be implemented to minimize the impacts: • remove waste in timely manner; • employ the trucks with cover or enclosed containers for waste • transportation; • obtain relevant waste disposal permits from the appropriate authorities; and • disposal of waste should be done at licensed waste disposal facilities.	Minimize waste impacts from storage	Contractor	All construction sites	V	@	V	@
S8.5.8	Excavated and C&D Material Wherever practicable, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at public filling areas or reclamation sites. The following mitigation measures should be implemented in handling the excavated and C&D materials: • maintain temporary stockpiles and reuse excavated fill material for backfilling; • carry out on-site sorting; • make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate; • implement a recording system for the amount of waste generated, recycled and disposed of for checking; The recommended C&D materials handling should include: • On-site sorting of C&D materials • Reuse of C&D materials • Use of Standard Formwork and Planning of Construction Materials purchasing • Provision of wheel wash facilities	Minimize waste impacts from excavated and C&D materials	Contractor	All construction sites	V	V	V	V
S8.5.15	Contaminated Soil	Remediate	Contractor	All	V	V	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
	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.	contaminated soil		construction sites where applicable				
S8.5.17	Chemical Waste • If chemical wastes are produced at the construction ion site, the Contractors should register with EPD as chemical waste producer. Chemical wastes should be stored in appropriate containers and collected by a licensed chemical waste Contractor. Chemical wastes (e.g. spent lubricant oil) should be recycled at an appropriate facility as far as possible, while the chemical waste that cannot be recycled should be disposed of at either the Chemical Waste Treatment Cent re, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Control the chemical waste and ensure proper storage, handling and disposal.	Contractor	All construction sites	V	V	V	V
S8.5.18	General Waste • General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. • Preferably enclosed and covered areas should be provided for general refuse collect ion and routine cleaning for these areas should also be implemented to keep areas clean. • A reputable waste collector should be employed to remove general refuse on a daily basis.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	@	V	V	@
S8.5.19	Sewage • The WMP should document the locations and number of portable chemical toilets depending on the number of workers, land availability, site condition and activities. • Regularly collect ion by licensed collectors should be arranged to minimize potential environmental impacts.	Minimize production of sewage impacts	Contractor	All construction sites	V	V	V	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	Northern part of the proposed Quarry Park.	N/A	N/A	N/A	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
			the planting).					
.10.7.10	Construction phase in situ mitigation measures to minimize impacts on hydrological condition and water quality of hillside watercourses include: • Temporary sewerage and drainage will be designed and installed to collect wastewater and prevent it from entering nearby watercourses; • Proper locations well away from nearby watercourses will be used for temporary storage of materials (i.e. equipment , fill materials, chemicals and fuel) and temporary stockpile of construction debris and spoil, and these will be identified before commencement of works; • To prevent muddy water entering nearby watercourses, work sites close to nearby watercourses will be isolated, using such items as sandbags or silt curtains with lead edge at bot tom and properly supported props. Other protective measures will also be taken to ensure that no pollution or siltation occurs to the water gathering grounds of the works site; • Stockpiling of construction materials, if necessary, will be properly covered and located away from nearby watercourses; • Erection of temporary geotextile silt fences will be carried out around earth-moving works to trap any sediments and prevent them from entering watercourses; • Construction debris and spoil will be covered and/or properly disposed as soon as possible to avoid being washed into nearby watercourses; • Exposed soil will be covered as quickly as possible following format ion works, followed, where appropriate, by covering with biodegradable geotextile blanket for erosion control purposes; • Where appropriate, earth-bunding will be carried out of areas where soils have been disturbed or where vegetation has been cleared, to ensure that surface runoff will not move soils off-site; • Construction ion effluent, site run-off and sewage will be probably collected and/or treated. Wastewater from any construction ion site will be minimised via the following in descending order: reuse, recycling and treatment ; • Proper locations for discharge out lets of wastewater treatment facilities well away from sensitive receivers will be identified and used; • Silt traps will be installed at points where drainage from the site enters local watercourses; • Appropriate sanitary facilities for on-site workers will be provided; • The site boundary will be clearly marked and any works beyond the boundary strictly prohibited, and • Regular water monitoring and site audit will be carried out at suitable points. If the monitoring and audit results show that pollution occurs, adequate measures including temporary cessation of works will be considered.	Minimize impacts on Hydrological condition and water quality of hillside watercourses.	Contractor	All construction sites	V	N/A	V	N/A

EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Who to implement the measures?	Location of the measure	Implementation Status			
					Contract 1	Contract 2	Contract 3	Contract 5
S.10.7.11	Implement an emergency contingency plan during the construction phase and the plan will include, but not be limited to, the following: • Potential emergency situations; • Chemicals or hazardous materials used on-site (and their location); • Emergency response team; • Emergency response procedures; • List of emergency telephone hot lines; • Locations and types of emergency response equipment , and • Training plan and testing for effectiveness.	Minimize impacts on Hydrological condition and water quality of hillside watercourses.	Contractor	All construction sites	N/A	N/A	N/A	N/A
Landscape and visual (Contraction Phase)								
S11.14.23, Table 11.9, CM1 [4]	All existing trees to be retained shall be carefully protected during construction.	Avoid disturbance and protection of the existing trees	Detailed Design Consultant /	The whole project area where applicable	V	V	V	@
S11.14.23, Table 11.9, CM2 [3]	Tree Transplantation - Should removal of trees be unavoidable due to construction impacts, trees will be transplanted or felled. Detailed transplanting proposal will be submit ted to relevant government departments for approval in accordance with **LAO GN No. 7/2007**, ***ETWB TCW No. 29/2004*** and ***10/2013***. Final locations of transplanted trees shall be agreed prior to commencement of the work.	Minimize landscape impact and retention of landscape resources	Detailed Design Consultant /	Onsite where possible. Otherwise consider offsite locations	*	N/A	V	V
S11.14.23, Table 11.9, CM3 [4]	Control of operation night -time glare with well-planned lighting operation system to minimize potential glare impact to adjacent VSRs	Minimize glare impact to adjacent VSRs	Contractor/ CEDD	The whole project area where applicable	V	V	V	N/A
S11.14.23, Table 11.9, CM [4]	Erection of decorative screen hoarding.	Minimize visual impact	Contractor/ CEDD	The whole project area where applicable	N/A	N/A	N/A	N/A
S11.14.23, Table 11.9, CM5 [2]	Minimise disturbance and limitation of run-off – temporary structures and construction works should be planned with care to minimize disturbance to adjacent landscape, vegetation, natural stream habitats.	Minimize visual impact	Contractor/ CEDD	The whole project area where applicable	V	V	V	N/A

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

Appendix M

Complaint Log

Appendix M1 Cumulative Complaint and Summons/ prosecution

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

April 2021	**1**	0
May 2021	0	0
June 2021	**1**	0
July 2021	**1**	0
August 2021	0	0
September 2021	**2**	0
October 2021	**0**	0
November 2021	**0**	0
Overall Total	**70**	**0**

Appendix M2 Complaint Log

1	23-Mar-17	8-Jun-17	On Tat Estate	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	A resident living in On Tat House reported that some night works with noise and flashing caused nuisance to nearby resident after 11:00 pm on 23 March 2017.	According the incident report conducted by the CWSTVJV, demobilization of crawler crane was undertaken on 23 March 2017 11pm and it is TD requirement to carry out demobilization of heavy machine at nighttime. It is considered this complaint was a single incident and would not be happened again in future.	no comment by IEC on 11 Oct 2017	TCS00864/16/300/F0087
2	28-Jul-17	28-Jul-17	38/F of Yin Tat House (賢達樓), On Tat Estate	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu received a complaint from a resident living in the flat on 38/F of Yin Tat House (賢達樓), On Tat Estate. The resident complained about the noise level of our works during daytime.	Noise monitoring by Contractor was conducted in Yin Tat House, On Tat Estate, at around 2 pm on 28-Jul-2017. Another noise monitoring was carried out by ET (AUES) and representatives of AECOM and JV in the presence of the complainant in her flat at 10 am on 1-Aug-2017 and was witnessed by Mr. Hsu. No exceedance of noise was recorded. The complainant was satisfied about the monitoring results.	no comment by IEC on 9 Aug 2017	TCS00864/16/300/F0060
3	29-Aug-17	29-Aug-17	Shing Tat House 24/F	Resident of On Tat Estate	Construction noise	SPRO hotline	NA	Mr. Hsu Yau Wai (Tel no.9519 5663) reported that he received complaint from a resident (Ms Cheng) living at Shing Tat House 24/F Room 22 about the noise generated from our site this week. The noise heard was mainly rock breaking noise from our site.	Noise monitoring was carried out by ET (AUES) and representatives of AECOM and JV in the presence of the complainant in her flat at 3pm on 30-Aug-2017. No exceedance of noise was recorded. The complainant was satisfied about the monitoring results.	no comment by IEC on 8 Sep 2017	TCS00864/16/300/F0081
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/000193 73-17)	day time construciton noise of breakers (8am to 6pm)	Since these two complaints were forwarded by CEDD to ET on 31 August 2017 which way after the complaint dates. Investigation would be conducted based on the site	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	information by the Contractor of Contract 1 - NE/2016/01 (CWSTVJV) as well as the observation during weekly site inspection carried out ET during June 2017. In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident and the working hour 08:00 to 18:00 did not breach any legal requirement. To eliminate the inconvenience caused to the nearby resident CWSTVJV was advised to further enhance the noise mitigation measures as appropriately.		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/000022479-17)	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/000239 86-17)	Poor control on dust emission at Anderson Road Construction Site	CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident and status of the implementation of dust mitigation measures was considered effective based on the site observation.	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0097

8	2-Aug-17	29-Aug-17	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction noise	EPD	EPD (ref.N08/RE/000245 57-17)	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 (秀雅樓) 38/F. He complained about the noise nuisance recently from August to September especially during night time after 12:00 am, even in Saturdays and Sundays. The noise nuisance caused a great disturbance to him. He made a request to conduct investigation about the source of the noise during night time.	ET has conducted an ad-hoc noise measurement for Leq (30min) on the rooftop of 秀雅樓 and 秀義樓 in the afternoon of 22 September 2017. (Photo 1 & 2) During the course of noise measurement, construction activities such as excavation and breaking were conducted in the Quarry Site. The measurement results taken at both 秀雅樓 and 秀義樓 were 63dB(A) which below the Limit Level under the EM&A Programme.	no comment by IEC on 18 Oct 2017	TCS00864/16/300/F0088

10	21-Sep-17	13-Oct-17	Sau Mau Ping Estate Sau Nga House and Sau Yee House	Resident of Sau Mau Ping Estate	Construction noise	EPD	EPD (ref.N08/RE/000310 74-17)	On 21 September 2017, the same complaint further reported that the noise can be heard at both Sau Yee House and Sau Nga House even in daytime and he strongly requested the Contractor to follow up the case immediately.	ET has conducted an ad-hoc noise measurement for Leq (30min) on the rooftop of 秀雅樓 and 秀義樓 in the afternoon of 22 September 2017. (Photo 1 & 2) During the course of noise measurement, construction activities such as excavation and breaking were conducted in the Quarry Site. The measurement results taken at both 秀雅樓 and 秀義樓 were 63dB(A) which below the Limit Level under the EM&A Programme.		TCS00864/16/300/F0088
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/000294 89-17)	The complainant questioned why there were 6 to 7 breakers operating in the monring but only 1 operating in the afternoon. He requested to shift the operation of the breakers to afternoon.	CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. According to the impact noise monitoring result obtained in September and October 2017, there were no breaches of EM&A requirement. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.		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/0003 2407-17)	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		no comment by IEC on 30 Nov 2017	TCS00864/16/300/F0106
13	25-Oct-17	26-Oct-17	Tat Kwai House, Po Tat Estate	Resident of Po Tat Estate	Dust	EPD	NA	投訴安達臣道地盤的泥車落泥，令他達貴樓的住所受到大塵影響，要求跟進及回覆	Investigation revealed that CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. Nevertheless, based on the observation during site inspection on 31 October 2017, CWSTVJV was	no comment by IEC on 15 Nov 2017	TCS00864/16/300/F0100

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

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掠鐵噪音。	As advised by the Contractor, the works that most likely induced the iron hammering noise to Shing Tat House shall be the rock breaking works to the hard rock of the Southeastern side of the Underground Stormwater Retention Tank. CWSTVJV had already deployed the acoustic mat as noise barrier at the site boundary near Shing Tat House. To enhance the noise mitigation measures, CWSTVJV deployed an acoustic mat as noise barrier for the breaking work in order to reduce construction noise affecting the upper floor of On Tat Estate Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 13 Dec 2017	TCS00864/16/300/F01110
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/000277 38-17)	Night time construction noise of hammering (around 12AM)	As advised by CWSTVJV, there was a CNP (GW-RE0763-17) in force for the subject site for operation of generator and electric submersible water pump for the wastewater treatment plant and it is considered that abovementioned PMEs should not generate significant noise. Moreover, it is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out after 19:00 at the subject site. Therefore, the complaint about noise nuisance during night time should not be related to the Project.	no comment by IEC on 14 Dec 2017	TCS00864/16/300/F01114

18	12-Sep-17	26-Oct-17	Chun Tat House, On Tat Estate	Resident of On Tat Estate	Construction Noise	EPD	EPD (ref. N08/RE/00029489-17)	Day time construction noise of breakers (8AM to 5PM)	Noise mitigation measures were implemented to reduce the noise impact to the nearby resident. According to the impact noise monitoring result in September 2017, there were no breaches of EM&A requirement. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 10 Jan 2018	TCS00864/16/300/F01117
19	15-Dec-17	21-Dec-17	Sau Yee House	Resident of Sau Mau Ping Estate	Construction Noise	EPD	NA	Resident of Sau Yee House complained suspected construction noise from Anderson Construction Site at restricted hour (7pm to 7am).	It is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out after 19:00 at the subject site. Therefore, the complaint about noise nuisance during night time should not be related to the Project.	no comment by IEC on 10 Jan 2018	TCS00864/16/300/F01118
20	20-Dec-17	21-Dec-17	On Tat Estate	Resident of On Tat Estate	Dust	EPD	NA	Resident of On Tat Estate complained that the traffic of construction vehicles generated dust problem and arouse air pollution to On Tat Estate. 投訴安達臣道信和地盤水車已經壞了十多天， 一直無灑水，四周非常大塵。 投訴人住於安達邨，投訴安達臣道石礦場有大地盤，地盤大車工作時間不停出入揚起沙塵，吹到安達邨，影響空氣環境，要求部門到場視察。	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/F01121

21	28-Dec-17	10-Jan-18	Sau Yee House	Resident of Sau Mau Ping Estate	Construction Noise	CE's office	NA	日間及凌晨均聽到轟隆聲的噪音及震動，懷疑是由附近工程引起* Thomas 先生表示居於秀茂坪邨秀義樓，指附近的安達臣道一個由土木工程拓展署管轄的石礦場不時於非允許時段(即晚上七時後至翌日早上)發出疑似打地基的轟轟聲巨響，最近一次就是今早(28/12)凌晨五時多再次聽到石礦場傳來聲響，將 Thomas 先生吵醒，懷疑有人刻意在無人監管下施工，更表示曾向環保署及土木工程署作出投訴，但環保署表示巡查後無發現在非允許時段有工程進行，而土木工程署則表示晚上七時後不會再進行工程。Thomas 指石礦場經常在晚上八至十二時，或凌晨時份發出巨響，對附近居民已造成很大的滋擾，要求相關部門儘快作出跟進及回覆。	ET has conducted an ad-hoc noise measurement for Leq (30min) in the complainant's flat in the monitoring of 17 January 2018.It was noted that the complainant's flat is not in direct line of sight to the Anderson Road Quarry Site. The measurement noise result was below the Limit Level under the EM&A Programme. Moroever, it is confirmed by CWSTVJV and checked against the site diary that no construction activities were carried out during restricted hour at the subject site. Therefore, the complaint about noise nuisance during restricted hour should not be related to the Project.	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0129
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	no comment by IEC on 8 Feb 2018	TCS00864/16/300/F0130

									project did not breach the Noise Control Ordinance.		
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	no comment by IEC on 28 Feb 2018	TCS00864/16/300/F0140

									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.		
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掠石仔噪音滋擾, 由於單位與地盤太近, 堅持環保署跟進及回覆如何處理及減低噪音, 他亦要求知道何日完工.	Breaking works at Underground Stormwater Retention Tank area which opposite to Shing Tat House was carried out from 8:00 to 18:00. The Contractor has implemented noise mitigation measures to reduce the noise impact to the nearby resident. It was advised that the rock breaking works shall tentatively be completed by end of April and it is believe that the noise impact should be minimized. Since the works were carried out within the non-restricted hours and noise monitoring noise were within acceptable level, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 19 Mar 2018	TCS00864/16/300/F0143

26	11-Apr-18	12-Apr-18	Him Tat House of On Tat Estate	Resident of Him Tat House	Construction Noise	SPRO mobile	NA	Mr. Hui Yau Wai reported that the noise irritation was becoming more severe recently and asked about the completion date of the works close to Him Tat House. The resident suspected that the noise comes from piling works nearby.	In our investigation, since construction noise was generating from other construction site next to Him Tat House, it is considered that the complaint is due to cumulative noise generated by both construction sites. However, CWSTVJV should properly provide the noise mitigation measures at works area in System B to minimize the noise impact to the resident nearby. As advised by CWSTVJV on 20 April 2018, noise barrier was being erected at works area in System B as noise mitigation measures. According to the site photo, it is considered that the coverage of noise barrier is not sufficient and CWSTVJV should enhance the measure as far as practicable. The implementation of noise mitigation measures will be kept in view in subsequent site inspection.	no comment by IEC on 7 May 2018	TCS00864/16/300/F0160b
27	25-Apr-18	7-May-18	Junction of Hiu Kwong Street and Hiu Ming Street	A school but name of school not disclosed	Construction Noise	EPD	NA	This case is considered as an enquiry and no investigation is required under the EM&A Programme.			
28	18-May-18	24-May-18	Anderson Road Quarry Site	Undisclosed	Construction Noise	EPD	NA	投訴人指安達臣道石礦場地盤(NE/2016/01)在入夜 19:00 後仍見到有長臂喉工程車在運作，及持續產生大噪音及閃燈，非常擾民。	As advised by CWSTVJV and confirmed by RE/AECOM, there were no construction activities carried out after 19:00 and concreting was completed before 19:00. It is concluded that the retracting process	no comment by IEC on 30 July 2018	TCS00864/16/300/F0174b

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

31	28-Aug-18	31-Jul-18	Anderson Road Quarry Site	Undisclosed	Construction Noise	EPD	NA	安達邨誠達樓後面地盤，2 月 26 日晚，晚上 7 時後，還在落石屎，相片拍攝時間大概晚上 9 時半，一直至晚上十一時五十分還有工程車在地盤行駛。影響居民休息。	According to the site diary which countersigned by RE, there was no concreting work carried out after 18:00 and the construction activities conducted during restricted hours with valid CNP were completed at 23:00. It is considered that the complaint was not valid to the Project. Nevertheless, CWSTVJV was reminded that in case of any work activities need to be carried out during restricted hours, CWSTVJV should strictly follow the requirements specified in the valid CNP.	no comment by IEC on 10 Oct 2018	TCS00864/16/300/F01 97a
32	6-Sep-18	7-Sep-18	Tsui Yeung House	Resident of Tsui Yeung House	Construction Noise	Verbal	NA	Mr. CHENG Keung-fung complained that the contractor has conducted the noisy works such as rock excavation beyond the normal hours.	Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. As advised by Kwan On, the rock breaking works shall tentatively be completed by end of December 2018 and the mitigation measures will implemented continuously during slope construction work and the slope construction will be carried out within the working hours at Portion 2. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 22 Oct 2018	TCS00864/16/300/F02 01
33	24-Oct-18	25-Oct-18	E3	Kwun Tong DC member Ms. So Lai-ch	Construction Noise	Whatsapp Message	NA	KTDC member, Ms. Ann So, complaining the noise of the breaker at E3	As advised by the Contractor, the acoustic material wrapped on the breaker was worn-out on 24 October 2018 and replacement of new acoustic materials has been installed on the breaker immediately on 25 October 2018. The rock breaking	no comment by IEC on 23 Nov 2018	TCS00864/16/300/F02 09a

				un					works shall tentatively be completed to the road level in the middle of November 2018 and the mitigation measures will implemented continuously during slope construction work and the slope construction will be carried out within the working hours at Portion 2. It is considered the complaint was an isolate case.		
34	12-Nov-18	13-Nov-18	Anderson Road Quarry Site	Resident of Ching Tat House(referred by Mr. Hui Yau Wai)	Construction Noise	SPRO Hotline	NA	Mr. Hui reported that he received complaint from a resident living in Ching Tat House about noise nuisance recently. Mr. Hui asked if project team can arrange some noise monitoring to check the noise level at the concerned flat or the same level at Ching Tat House.	The SPRO contacted Mr. Hiu and explained to him about the purpose and benefits of the tunnel to the residents nearby and the expected date of completion of the tunnel will be earlier than 2020. Moreover, the noise mitigation measures had implemented to reduce the noise level effectively and the work progress will be closely updated to nearby stakeholders to enhance communication. Mr. Hiu satisfied with the reply from SPRO and he agreed that the proposed noise monitoring in Ching Tat House was not needed. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no breaches of legislative requirement.	no comment by IEC on 12 Dec 2018	TCS00864/16/300/F0222a

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

37	9-Dec-18	12-Dec-18	Anderson Road Quarry Site	Undisclosed	Construction noise	1823	2-492790730 5	1823 has referred a case to CEDD on 10 December 2018, which the complainant complained that construction noise was generated from project site on Sunday and was affecting the resident at Hau Tat House, On Tat Estate. The complainant requested follow up action from related department as soon as possible.	In our investigation based on the information provided by CWSTVJV, there was no site activities undertaken at site access road as concerned by the complainant. The construction work carried out on Sunday was fully compliance with the CNP requirement. In response to the complaint, CWSTVJV was reminded to closely monitor the plant use and sequence of night work and do not to violate CNP conditions.	no comment by IEC on 10 Jan 2019	TCS00864/16/300/F0230a
38	19-Dec-18	27-Dec-18	Anderson Road Quarry Site	Undisclosed	Construction noise	1823	2-494807412 7	1823 has referred a case to CEDD on 27 December 2018, which the complainant complained that noise barriers near the round-about at On Sau Road were not enough, and construction noise generated from the project site was affecting the resident at Ming Tai House, On Tai Estate. The complainant requested follow up actions from related department as soon as possible.	Joint site inspection was carried out on 3 January 2019 the status of implemented mitigation measures provided by CWSTVJV was inspected. It was observed that noise mitigation measures including temporary noise barrier, acoustic mat and wrapped by acoustic materials are implemented on site. However, CWSTVJV was advised to extend the coverage of noise barrier as far as practicable and fully enclose the concerned works area which has been completed on 15 January 2019. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 31 Jan 2019	TCS00864/16/300/F0237a
39	24-Jan-19	29-Jan-19	Anderson Road Quarry Site	Undisclosed	waste water	Referred from DSD	NA	DSD has referred a case to CEDD on 24 January 2019 regarding suspended illegal discharge of cementitious slurry from construction site of Development of ARQ Site to nearby Public Stormwater Drainage System.	In our investigation, the concerned catchpit and U-channel mainly received the runoff from Po Lam Road as well as the discharge from the Anderson Road Quarry Site. It is suspected that the mud and silt found on the downstream has been	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0248a

									accumulated over time particularly by rainstorm as well as routine discharge from construction site. As remedial action, CWSTVJV immediately clean the affected area where accessible. Nevertheless, in order to protection the watercourse at downstream of the construction site, CWSTVJV has some enhancement measures.		
40	30-Jan-19	30-Jan-19	Anderson Road Quarry Site	Undisclosed	noise	SPRO hotline	NA	A public complaint was received by SPRO hotline on 30 January 2019 regarding the construction noise near Ma Yau Tong Village and requested to add noise barrier as soon as possible.	In our investigation, CWSTVJV had provided the noise mitigation measures to minimize the noise impact to the resident nearby. The impact monitoring result obtained at Ma Yau Tong Village revealed that the construction noise were within acceptable level. Since the works were conducted within approved normal hours with implementation of noise and dust mitigation measures, there were no breaches of legislative requirement.	no comment by IEC on 15 Mar 2019	TCS00864/16/300/F0249a
41	15-Feb-19	25-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	1823	2-494807412 7	1823 has referred a case to CEDD on 15 February 2019, which the complainant complained about the construction noise generated from the CEDD site near 法源寺 (Ma Yau Tong Village). The complainant requested for the details of works and the completion date, the complainant also requested CEDD to use other construction methods in order to re	In response to the complainant, CWSTVJV has proposed alterative quiet work method to alleviate the noise impact to the public. They will schedule the noisy activities to be carried out after 10am as far as practicable to minimize the impact to resident nearby, given that not affecting the site progress. Moreover, the coverage of acoustic barriers will be extended in view of the works programme.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0251a

42	21-Feb-19	25-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	EPD	NA	The resident from Sau Hong House complained that the noise from the Anderson Road Quarry construction site has gotten worse. In addition, sometimes even after midnight there are noise coming from the site. With the echo produces from the environment, this is not helping at all. Really a big disturbance to the residence in the area. The complainant suspecting the sound proof measure has lessen as time goes. Follow action is requested.	In our investigation, CWSTVJV has implemented noise mitigation measures to reduce the noise impact to the nearby resident. However, to eliminate the inconvenience caused to the nearby resident, CWSTVJV should properly maintain the noise mitigation measures as appropriate, such as maintain good site practices such as intermittent use of machine and plant and Sequencing operation of construction plant equipment. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.erway by ET.	no comment by IEC on 28 Mar 2019	TCS00864/16/300/F0250
43	21-Feb-19	26-Feb-19	Anderson Road Quarry Site	Undisclosed	noise	received by DEVB and referred to CEDD	NA	A public complaint was received by DEVB and referred to CEDD on 25 February 2019 regarding on the noise generated from the construction works of the Anderson Road Quarry Site affecting a local resident residing at the Anderson Road Squatter Area	Additional acoustic mat has been erected in front of the Squatter Area to minimize the noise impact. Noise mitigation measures such as acoustic barriers erected along the works area and breaker head wrapped with acoustic material were implemented continually. Alterative quiet work method was adopted such as drilling the hard rock before the breaking work to reduce the breaking duration. In our investigation, CWSTVJV had enhanced the noise mitigation measures to ease the complainant's concerns. CWSTVJV will continually implement the noise mitigation measures to reduce to noise impact to the public.	no comment by IEC on 29 Mar 2019	TCS00864/16/300/F0252a

44	1-Mar-19	26-Feb-19	E3 of Contract 2	Undisclosed	noise	CEDD	NA	A complaint is forwarded by CEDD which was received by KTDC member Mr CHENG Keung Fung from the residents of Tsui Yeung House(翠楊樓) about the noise nuisance generated and the working time up to 7:00 pm from the rock excavation of E3 lift tower. Follow up action is requested.	The representative of the engineering team explained to Mr. Cheng about the project's details and concerned site was being constructed for the future pedestrian connection facilities. The related stone drilling process is expected to be completed in mid-April to end of April 2019. Mr. Cheng was satisfied with the rapid response from CEDD and the engineering team. In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Since the works were carried out within the non-restricted hours, it is considered that the works under the project did not breach the Noise Control Ordinance.	no comment by IEC on 6 May 2019	TCS00864/16/300/F02 64
45	16-Jun-19	18-Jun-19	Anderson Road Quarry Site	Undisclosed	noise	EPD	NA	EPD referred a case to CEDD on 17 June 2019 regarding the construction noise heard at On Tat Estate on Sunday.	The Contractor explained that general cleaning by water jet was carried out in the construction site on the concerned day. Since the work did not involve the use of Powered Mechanical Equipment (PME), it would not violate the noise control ordinance. The Investigation report is underway by ET.	no comment by IEC on 21 August 2019	TCS00864/16/300/F03 01a

46	12-Jul-19	15-Jul-19	Anderson Road Quarry Site	Undisclosed	dust	EPD	NA	On 12 July 2019, a complaint was received by EPD regarding the dust impact to the residents at Po Tat Estate and On Tat Estate due to the dust emission at Anderson Road Quarry site.	In our investigation, CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident and status of implementation of dust mitigation measures was considered effective based on the site observation. Moreover, there was mostly rainy day throughout June and July 2019 in typical rainy season in Hong Kong and the dust impact was considered not significant in addition to the dust mitigation measures implemented provided by the Contractor. Nevertheless, the ET will closely monitor the environmental performance and dust mitigation measures in subsequent site inspection. The IR is under reviewed by IEC.	no comment by IEC on 12 August 2019	TCS00864/16/300/F0292b
47	6-Aug-19	14-Aug-19	Work Area Portion 2 E3 (Slope of Hiu Ming Street opposite of Tsui Yeung House)	翠屏(北)邨物業服務辦事處	Noise	1823	NA	A public complaint was received by 1823 on 6 August 2019 relating to the noise generated from construction work at the lift tower site (Slope E3) at Hui Ming Street from the residents of Tsui Yeung House. The complainant expressed that the construction works has been undertaken for 2 years and generated construction noise from 8am every day, which causing serious nuisance to the nearby residents.	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. It is concluded that the complaint was valid to the contract. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance.	no comment by IEC on 16 Sep 2019	TCS00864/16/300/F0310a

48	15-Oct-19	18-Oct-19	Work Area Portion 6 (Tseung Kwan O Tunnel Bus-Bus Interchange Pedestrian Connectivity Facilities E12)	Mr. Ng	Noise	1823	NA	A public complaint was received by 1823 on 15 October 2019 relating to the noise generated from construction work at Tseung Kwan O Tunnel Bus to Bus Interchange Pedestrian Connectivity Facilities E12. The complainant expressed that the construction noise was generated from breaking work at 8:20 am without noise mitigation measure, which causing nuisance to the nearby residents.	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 13 Nov 2019	TCS00864/16/300/F0326a
49	5-Nov-19	11-Nov-19	Work Area Portion 2&3 (lift tower construction work at Hiu Kwong Street)	NA	Noise	EPD	NA	A public complaint was received by EPD relating to the noise generated from breaking work of lift tower construction work at Hiu Kwong Street (Portion 2&3).	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 27 Dec 2019	TCS00864/16/300/F0332a

50	7-Nov-19	11-Nov-19	Work Area Portion 6	Mr. Cheng	Noise	EPD	NA	寶達邨居民鄭先生，表示將軍澳隧道出口工程，日間噪音嚴重，8:30-17:00，幾部幾同時開動，而且無防音欄，之前是有，現要求環保署向對方反映改善	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. As the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 27 Dec 2019	TCS00864/16/300/F0333a
51	10-Nov-19	12-Nov-19	Underpass	Undisclosed	Noise	EPD	NA	On 10 November 2019 投訴人為馬游塘村居民，自本年初寶林路開展掘隧道工程，每天噪音不斷，由 8 至 6，由於欠缺遮擋，聲音直向 4 至 22 號村屋，將來通車，相信噪音不只 8-6，現懇請環保署為本村居民正式評估，並向政府提出村民困擾，考慮盡快設置隔音屏。 On 11 November 2019 寶琳路近馬游塘村開掘隧道的工程地盤每日 8am-6pm 發出噪音，欠缺遮擋，聲音影響馬游塘村 4-22 號村屋。希望政府部門 1.調查地盤有否違規 2.實施減音措施以減低對附近居民的滋擾	In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement. For the complainant's concern on the operation noise after commencement of the project, it is out of the scope of the EM&A programme and the relevant department will follow up the concern.	no comment by IEC on 30 Dec 2019	TCS00864/16/300/F0337

52	11-Nov-19	20-Nov-19	Construction site near on Tai Estate Ancillary Facilities Building on On Sau Road	Mr. Wong (resident of Yung Tai House of On Tai Estate)	Noise	1823	ref. 2-597630318 3	黃先生投訴安秀道安泰邨服務設施大樓附近掘路工程已持續數年還未完成，並投訴其經常發出噪音滋擾，要求部門跟進。 On 22 November 2019, the project hotline received a call from the same complainant reported on the noise nuisance near On Sau Road and On Yan Street. He suggested to speed up the noise making works by intensely concentrate the excavation works during day time. No intermittence is suggested in order to speed up the works and to avoid waste of manpower.	In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. However, in response to the complaint, the Contractor was advised to enhance the performance of the temporary noise barriers such as increase the coverage of the noise barrier. Since the works were conducted within normal working hours with implementation of noise mitigation measures, there were no breaches of legislative requirement.	no comment by IEC on 27 Dec 2019	TCS00864/16/300/F0338a
53	5-Mar-20	6-Mar-20	Tunnel work of Anderson Road Quarry Site (the Underpass)	Resident of On Tat Estate	Noise	EPD	NA	本人是安達邨居民，隧道工程在安達臣的工程，施工至今嘈音間中改善，最近又有嘈音出現，仲係重低音，希望能加裝隔音設備，工程不知何時將嘈音減至最低 。1. A public complaint was received by EPD on 5 March 2020 regarding the construction noise generated from the tunnel work of the subject site. The complainant mentioned that the noise from construction was improved before but it became serious recently.	In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. In response to the complaint, CWSTVJV had immediately installed a layer of acoustic mat at boundary of System A. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement.	no comment by IEC on 1 Apr 2020	TCS00864/16/300/F0357a

54	4-Mar-20	17-Mar-20	Near Hiu Ming Street Playground (E8)	Undisclosed	Noise	1823	ref. 3-628323717 1	投訴人投訴有關秀茂坪邨秀安樓附近有兩個地盤 ， 地盤由星期一至五，每天早上約 9AM-5PM 持續不斷發出強烈的嘈音，投訴人表示地盤是在曉明街藍球場旁邊的位置(投訴人未能告知確實街號) ，因此要求部門盡快回覆及告知有關情況。 A public complaint was received by 1823 on 4 March 2020 regarding the construction noise. The complainant mentioned that there were two construction sites near Hiu Ming Street Playground generated construction noise continuously during 9AM to 5PM on weekdays.	In our investigation, CW-CMGCJV had implemented the noise mitigation measures for the works at upper section of E8 near Hiu Yuk Path and no noise impact was observed and anticipated in Hiu Ming Street based on the site activities and our inspection record. It is considered that the complaint is likely related to another construction site located near Hiu Ming Street Playground and not caused by the works under the Project. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement.	no comment by IEC on 15 Apr 2020	TCS00864/16/300/F0359a
55	23-Mar-20	23-Mar-20	Near Lin Tak Road (E11)	Undisclosed	Water Quality	Project hotline	NA	藍田居民梁先生反映在將軍澳道往連德道天橋的大彎位，其中有一個車輛出入口每日早上八時左右不時有泥水從地盤流出路面，估計泥水是清洗工程車輛所致，令梁先生的車輛每次駛經時被濺濕及弄污，請問有何措施改善問題？ A public complaint was received by project hotline on 23 March 2020 regarding overflow of muddy water from the construction site. The complainant mentioned that muddy water came out from site entrance, which spotted on his car, at 8am every morning.	In our investigation, the wheel washing facilities at site exit of E11 is one of the dust quality mitigation measures conducted by CW-CMGCJV and corresponding measure was implemented to prevent overflow of wastewater out of the site. In our recent site inspection, no outflow of muddy water from the site was observed and the condition of concerned Lin Tak Road was satisfactory. It is considered that the complaint was unlikely due to the project.	no comment by IEC on 15 Apr 2020	TCS00864/16/300/F0360a

56	17-Mar-20	19-Mar-20	Anderson Road Quarry Site	Resident of Yan Tat House	Noise	Project hotline	NA	許有為區議員接獲安達邨仁達樓 2613 室居民反映，安達臣道石礦場發展用地工程噪音持續兩年，要求工程團隊下周派員到有關單位視察，並採取可行的噪音緩解措施。許有為區議員要求陪同視察。 A public complaint was received by hotline on 17 March 2020 regarding the construction noise generated from the Anderson Road Quarry Site. The complainant mentioned that the construction noise generated from the Anderson Road Quarry Site had been continued for two years.	In our investigation, CW-CMGCJV has implemented noise mitigation measures to reduce the noise impact and nuisance to the public. However, to eliminate the inconvenience caused to the nearby residents, CW-CMGCJV was advised to further adopt good practices on mitigating construction noise to reduce the noise impact to the nearby residents. 5. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, CW-CMGCJV was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 11 May 2020	TCS00864/16/300/F0361a
57	1-Apr-20	20-Apr-20	Work Area Portion 2	Undisclosed	Noise	1823	NA	觀塘秀茂坪紀念公園傍及曉明街的地盤，共兩個地盤，是地政總署管轄的。投訴人表示已被工程噪音滋擾了兩年多; 另外投訴人得知完工時間要到 2021 年, 投訴人不明白為何工程頭尾要 3 年多時間. 要求地政總署直接以電郵回覆工程長的原因及有沒有措施解決地盤發出的噪音。 A public complaint was received by 1823 on 1 April 2020 and subsequently transmitted to Environmental Team (ET) on 20 April 2020, regarding the noise nuisance generated from the	In our investigation, Kwan On has implemented noise mitigation measures to reduce the noise impact to the nearby resident. Nevertheless, since the construction site is close to the residential area, adequate noise mitigation measures shall be provided to reduce to noise nuisance to the public. It is concluded that the complaint was valid to the contract. However, as the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Kwan On was reminded to implement the mitigation measures	no comment by IEC on 7 May 2020	TCS00864/16/300/F0366a

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

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

60	14-Nov-20	18-Nov-20	Near Hiu Ming Street Playground (E8)	Undisclosed	Noise	1823	NA	A public complaint was received by 1823 on 14 November 2020 regarding the construction noise. The complainant mentioned that there was piling works at Hiu Ming Street Playground, generating huge noise during 9AM to 10AM on 14 November 2020. He/she requested relevant department to follow up	In our investigation, there was no noise impact was observed and anticipated in Hiu Ming Street based on the site activities and our inspection record. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement	no comment by IEC on 4 January 2021	TCS00864/16/300/F0424
61	4-Dec-20	7-Dec-20	Opposite to On Tai Estate – lower portion of Road L4	Undisclosed	Dust	EPD	NA	A public complaint was received by EPD on 4 December 2020 regarding the dust impact. The complainant mentioned that the construction site opposite to On Tai Estate had dust emission problem due to lack of water spraying. He/she requested relevant department to follow up	In our investigation, CWSTVJV has implemented dust mitigation measures to eliminate the inconvenience caused to the nearby resident. In view of the potential traffic dust impact and implementation of dust mitigation measures, it is considered that the complaint was not valid to the Project	no comment by IEC on 4 January 2021	TCS00864/16/300/F0434
62	3-Dec-20	7-Dec-20	Ma Yau Tong Village (East Portal)	Undisclosed	Noise and dust	1823 & EPD	3-657414101 7	A public complaint was received by 1823 and EPD on 14 November 2020 regarding the construction dust and noise impact arising from the project. There were acoustic mats erected on the slope of East Portal, however, the complainant enquired about effectiveness of the noise barriers with dozens of 15 cm "X"-shaped cuts. Moreover, there was lack of water sprinkling on the site and fugitive dust was blowing to the village	In our investigation, CWSTVJV had provided the dust and noise mitigation measures to minimize the dust and noise impact to the resident nearby. To response the concern from the complainant, as enhancement noise measure, the Contractor extended the noise barrier to encircle noisy activity. Since the works were conducted within approved normal hours with implementation of noise and dust mitigation measures, there were no breaches of legislative requirement	no comment by IEC on 4 January 2021	TCS00864/16/300/F0435

63	7-Jan-21	7-Jan-21	System B	Resident of Yan Tat House	Noise	Project hotline	NA	A public complaint was referred by district Councillor Mr. HSU Yau-wai and received by project hotline on 7 January 2021 regarding the construction noise. The complainant mentioned that the construction site next to SKH St. John's Tsang Shiu Tim Primary School generated noise problem and she requested relevant department to follow up.	In our investigation, the Contractor has implemented noise mitigation measures to reduce the noise impact and nuisance to the public.6. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, the Contractor was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 19 July 2021	TCS00864/16/300/F04 41
64	18-Mar-21	18-Mar-21	Anderson Road Quarry Site (between On Tat Estate and On Tai Estate)	Undisclosed	Noise	1823 & EPD	NA	A public complaint was received by 1823 and referred by EPD on 18 March 2021 regarding the construction noise generated from construction works at Anderson Road Quarry Site between On Tat Estate and On Tai Estate. The complainant expressed that construction works of the site started from 6:45am everyday which causing noise disturbance to the nearby resident and he/ she requested relevant department to follow up	In our investigation, CWSTVJV had restricted the use of PME before 7am. There was no construction work and use of PME during the restricted hours and there should not be any non-compliance of Noise Control Ordinance. Nevertheless, as the construction site is close to the residential area, CWSTVJV was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme	no comment by IEC on 1 April 2021	TCS00864/16/300/F04 54
65	1-Apr-21	1-Apr-21	Construction site near SKH St. John's Tsang Shiu Tim Primary	Undisclosed	Noise	EPD	NA	A complaint was received by EPD and referred to CEDD on 1 April 2021 regarding the construction noise. The complainant mentioned that piling work was conducted at construction site near SKH St. John's Tsang Shiu Tim Primary School in recent week which generated noise problem.	In our investigation, the Contractor has implemented noise mitigation measures to reduce the noise impact and nuisance to the public. Since the works were carried out within the non-restricted hours, it is considered that the works under the contract did not breach the Noise Control Ordinance. Moreover, the	no comment by IEC on 19 July 2021	TCS00864/16/300/F04 58a

			School (System B under Contract 3)					Moreover, there were no noise mitigation measures provided in the construction site	Contractor has adopted noise mitigation measures to minimise noise impact to the public. Since the construction site is close to the residential area, the Contractor was reminded to implement the mitigation measures as far as practicable as recommended in the EM&A Programme		
66	28-Mar-21	30-Mar-21	Anderson Road Quarry Site (between On Tat Estate and On Tai Estate)	Resident of Tai Fung House of On Tai Estate	Noise	EPD	K13/RE/0000 7086-21	A public complaint was received by EPD on 28 March 2021 regarding the construction noise generated from construction works at Anderson Road Quarry Site until 9pm on Monday to Saturday. Moreover, the complaint concerned about the construction noise heard on 28 March 2021 which was a Sunday.	In our investigation, CWSTVJV had followed that CNP for work during restricted hour and there should not be any non-compliance of Noise Control Ordinance. Nevertheless, some site areas had been handed over to other contract and construction noise generated from others is not controlled by the project. As a reminder, CWSTVJV should implement the mitigation measures as far as practicable as recommended in the EM&A Programme.	no comment by IEC on 22 April 2021	TCS00864/ 16/300/F04 59
67	11-Jun-21	11-Jun-21	Anderson Road Quarry Site	Resident of Chi Tat House, On Tai Estate	Noise	EPD	EPD Ref.: 13208-21	A public complaint was received by EPD on 11 June 2021 and complained about noise nuisance from multiple construction sites on Anderson Road Quarry Site. The complainant stated that there were noise nuisances from different construction sites from 0800 am to 1800 pm from Monday to Saturday without adequate noise mitigation measures. On 17 June 2021, the complainant added that the noise was generated from rock breaking works in front of Chi Tai House (not from the housing sites near	6. In our investigation, CWSTVJV had implemented the noise mitigation measures to reduce to noise impact to the public. In response to the complaint, CWSTVJV had immediately installed a layer of acoustic barrier at boundary of concern works area. Since the works were conducted within approved normal hours with implementation of noise mitigation measures, there were no violation of legislative requirement.	no comment by IEC on 19 July 2021	TCS00864/ 16/300/F04 78a

								the Tai Sheung Tok slope) and no mitigation measure was implemented for the rock breaking works.			
68	20&21/June/21	23-Jul-21	Anderson Road Quarry Site	DSD	Water Quality	EPD	EPD Ref.: 13208-21	EPD received complaints from DSD on 20 and 21 July 2021 concerning about discharge of muddy water as found on Po Lam Road and at the drainage facility near Tin Hau temple.	In our investigation, CWSTVJV had implemented the water quality mitigation measures to minimise the impact arising from the construction site. In view of the site condition and inclement weather condition on the complaint days, it is considered that the complaints raised by DSD were unlikely due to the C1 Project. Nevertheless, CWSTVJV was advised to closely monitor the discharge quality to avoid non-compliance of water quality happened in the construction site. Moreover, to cope with the adverse weather condition in wet season, CWSTVJV should regularly review the drainage plan as needed.	no comment by IEC on 6 August 2021	TCS00864/16/300/F0485b
69	14&16/Sep/21	15-Sep-21	Anderson Road Quarry Site	DSD	Water Quality	EPD	NA	EPD received complaints from DSD on 14 Sep 2021 and 16 Sep 2021 concerning about discharge of muddy water as found at the catchpit SCH4003250 near Po Lam Road and catchpit SSH4001400 near Po Tat Tin Hau Temple.	In our investigation, CWSTVJV had implemented the water quality mitigation measures to minimise the impact arising from the construction site. However, there were incidents of seepage of silty water at Q2 and Q3 and rectified actions were undertaken immediately. Having investigated, the incidents were considered very short term and would not generate large amount of muddy water. In view of the inclement weather condition and there were other major sources, it is considered that the complaints raised by DSD were not fully contributed byC1 Project.	no comment by IEC on 6 October 2021	

									Nevertheless, CWSTVJV was advised to closely monitor the discharge quality to avoid non-compliance of water quality happened in the construction site. Moreover, to cope with the adverse weather condition in wet season, CWSTVJV should regularly review the drainage plan as needed.		
70	23/Sep/21	29-Sep-21	Anderson Road Quarry Site	CEDD & EPD	Noise	CEDD &EPD		A public complaint was referred by 1823 to both CEDD and EPD on 23 September2021. The complainant stated that the construction works at Anderson Road Quarry Site started before 7am, which generated construction noise and affecting the upper floor resident of On Tat Estate. EPD have contacted the complainant and clarify that the concerned about construction dust and daytime construction noise after 7am.	Our investigation revealed that there was no construction works under the Project undertaken during the concerned period by the complainant, and there were other concurrent contracts on Anderson Road Quarry Site and the contribution noise may be related to others. Therefore, it is considered that the noise complaint was unlikely to be related to the works under the Project. Nevertheless, CWSTVJV was reminded to properly maintain the noise mitigation measures as far as practicable considering the construction site is relatively close to residential area.	No comment by IEC on 15 November 2021	

Appendix N

Implementation Status for Water Quality Mitigation Measures

Water Quality Mitigation Measure

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

Impermeable cover for slope at System A.

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

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

Q6: Wastewater treatment facility 24 cu. m.

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

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