

JOB NO.: TCS00881/18 & TCS00944/18

SITE FORMATION AND ASSOCIATED INFRASTRUCTURAL WORKS FOR DEVELOPMENT OF COLUMBARIUM, CREMATORIUM AND RELATED FACILITIES AT SANDY RIDGE CEMETERY

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT Report (No.57) – April 2023

PREPARED FOR HSIN CHONG TSUN YIP JOINT VENTURE & SANG HING CIVIL CONTRACTORS CO., LTD

Date	Reference No.	Prepared By	Certified By
15 May 2023	TCS00881/18/600/R0745v2	Anh	An

Nicola Hon Tam Tak Wing (Environmental Consultant) (Environmental Team Leader)

Version	Date	Remarks
1	11 May 2023	First Submission
2	15 May 2023	Amended according to the IEC's comment



Our Ref: TCS00881/18/300/L0748

Civil Engineering and Development Department 2/F, Civil Engineering and Development Building, 101 Princess Margaret Rd, Homantin, Kowloon

Attn: Mr. SHUM Ngai Hung, Steven

15 May 2023 By e-mail

Dear Sirs,

Re: Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery Monthly Environmental Monitoring & Audit Report (No.57) – April 2023

We confirmed that the captioned report has complied with the requirement set out in the EM&A Manual, we hereby certify the captioned report pursuant to Specific Condition 3.4 of the Environmental Permit No. FEP-01/534/2017/A and EP-534/2017/A.

Should you have any queries, please feel free to contact the undersigned at Tel: 2959-6059 or Fax: 2959-6079 or Email: <u>twtam@fordbusiness.com</u>.

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

T. W. Tam Environmental Team Leader TW/nh

cc

ARUP (RE of Contracts 1 and 2) HCTY-JV (Contractor of Contract 1) Sang Hing (Contractor of Contract 2) Acuity (IEC) Mr. Anthony Lau Mr. Ho Man To Mr. Elvin Lam Mr. Jacky Leung

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aurecon

Our Ref.: PL-202305027

Hsin Chong Tsun Yip Joint Venture (CV/2016/10) Hsin Chong Centre 107 – 109 Wai Yip Street Kwun Tong, Kowloon Hong Kong

Attention: Mr. HO Man-to

15 May 2023

Dear Sir,

Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery Monthly Environmental Monitoring and Audit Report (No. 57) April 2023

I refer to the email of the ET regarding the captioned Monthly Report. According to Section 3.4 of the EP-534/2017/A and the FEP-01/534/2017/A, I hereby verify the Monthly EM&A Report for April 2023 (Version 2) with Ref. No. TCS00881/18/600/R0745v2.

You are required to follow up the comments from EPD and IEC on the relevant EPs requirement and provide supplementary information of this report for our further review as soon as possible.

Yours faithfully,

CH Leung

Leung CH Jacky Independent Environmental Checker



EXECUTIVE SUMMARY

ES.01. This is the 57th Monthly Environmental Monitoring and Audit (EM&A) Report summarizing the monitoring results and inspection findings under the Project for the period from 1st to 30th April 2023 (the Reporting Month).

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES.02. In the Reporting Month, the major construction works under the Project included Contract CV/2016/10 (hereinafter named "Contract 1") and Contract CV/2017/02 (hereinafter named "Contract 2"). Environmental monitoring activities under the EM&A programme in this Reporting Month are summarized in the following table.

Issues	Environmental Monitoring	Monitoring Locations		Total Occasions/	
155405	Parameters / Inspection	CV/2016/10	CV/2017/02	dates	
Air Quality	1-hour TSP	ASR-1	ASR-2	54	
Air Quality	24-hour TSP	ASK-1	ASR-3	15	
Construction Noise	L _{eq (30min)} Daytime	CN-1 CN-2	CN-3 CN-4	12	
Water Quality	In-situ measurement and Water sampling	M3	M1, M2 and M4	13	
Ecology	Sensitive Habitat	Transect within site area of CV/2016/10	Transect within site area of CV/2017/02	11 th April 2023	
Landscape & Visual	Site Inspection	Site area of CV/2016/10	Site area of CV/2017/02	28 th April 2023	
Inspection & Audit	Environmental Team (ET) Regular Environmental Site Inspection Independent Environmental Checker (IEC) Monthly Environmental Site Audit	Site area of CV/2016/10	Site area of CV/2017/02	4	

 Table ES-1
 Summary of EM&A Programme in the Reporting Month

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES.03. In the Reporting Month, no exceedance of air quality and water quality monitoring was recorded. No noise complaint (which triggered Action Level) was received and Limit Level exceedance for noise monitoring exceedance was recorded. The statistics of environmental exceedance, Notification and investigation of exceedance are summarized in the following table.

Environmental	Monitoring	Action	Limit	Event & Action		
Issues	Parameters			Investigation Findings	Corrective Actions	
	1-hour TSP	0	0	-	-	
Air Quality	24-hour TSP	0	0	-	-	
Construction Noise	Leq _{30min} Daytime	0	0	-	-	
	DO	0	0	-	-	
Water Quality	Turbidity	0	0			
Water Quanty	Suspended Solids (SS)	0	0	-	-	

 Table ES-2
 Breach of Action and Limit (A/L) Levels in the Reporting Month

ES.04. Monthly ecological monitoring for sensitive habitat for area of Contract 1 and Contract 2 were undertaken on 11th April 2023. After analysing survey results in April from 2019 to 2023 for Contract 1, the species richness and abundance for wetland habitat were unstable and a rapid rebound from 2022 was recorded recently. This could be benefited by some positive factors such as the major construction works were completed and most of the PME has been removed from site. For Contract 2, there was approximate 30% decrease in species richness and abundance for wetland and non-wetland habitats in April 2023 when comparing to the April of 2022. Since Action Level of



respond Measures have been triggered, investigation of cause for decrease was conducted and according to the on-site observation, there are new built workshops by others situated on both sides of Lin Ma Hang Road so the disturbance to fauna species from construction works could be increased. Due to the cause identified was not related to this project remedial action to remove or reduce source of disturbance is limited.

- ES.05. Besides, compensation planting works have been conducted in early Jan 2023. Therefore, disturbance to fauna species from construction works have been largely minimised. In addition, woodland compensation and grassland reinstatement would be implemented in the second and third quarter of 2023. Hence, the habitat of fauna species would be gradually recovered and expectation of increase in the species richness and abundance for wetland habitat is high.
- ES.06. In the Reporting Period, there was no vegetation clearance for both Contract 1 and Contract 2, and precautionary check for the presence of nesting birds was not required to carry out.
- ES.07. Landscape and visual inspection at both Contracts were undertaken on 28th April 2023. The Contractor was reminded to prevent the construction material pile within Tree Protection Zone and ensure no works is allowed within the TPZ.

ENVIRONMENTAL COMPLAINT

ES.08. No environmental complaint was recorded in this Reporting Month. The statistics of summons or successful prosecutions are summarized in the following tables.

Table ES-3	Environmental Complaint Summaries in the Reporting Month	
Benarting Month		Environmental Complaint Statistic

Reporting Month		Environmental Complaint Statistics		
		Frequency	Cumulative	Complaint Nature
	Contract 1	0	2	(1) Air Quality (1) Noise
1 st – 30 th April 2023	Contract 2	0	5	 (1) Water (2) Air Quality (1) Noise (1) soil/ muddy water

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES.09. No environmental summons or successful prosecution was recorded in this Reporting Month. The statistics of summons or successful prosecutions are summarized in the following tables.

 Table ES-4
 Environmental Summons Summaries in the Reporting Month

Reporting Month		Environmental Summons Statistics		
		Frequency	Cumulative	Summons Nature
1st 20th A == 1 2022	Contract 1	0	0	NA
1 st – 30 th April 2023	Contract 2	0	0	NA

Table ES-5 Environmental Prosecution Summaries in the Reporting Month

Reporting Month		Environmental Prosecution Statistics		
		Frequency	Cumulative	Prosecution Nature
1 st – 30 th April 2023	Contract 1	0	0	NA
1" – 50" April 2025	Contract 2	0	0	NA

ES.010. In addition, no complaint and emergency event relating to violation of environmental legislation for illegal dumping and landfilling was received.

REPORTING CHANGE

ES.011. No reporting change was made in the Reporting Month.

SITE INSPECTION



ES.012. In the Reporting Month, joint site inspections for Contract 1 to evaluate the site environmental performance were carried out by the Resident Engineer, ET and the Contractor of the Contract 1 on 6^{th} , 13^{th} , 20^{th} and 27^{th} April 2023. Moreover, joint site inspections for Contract 2 by the RE, ET and the Contractor of Contract 2 were carried out 6^{th} , 13^{th} , 20^{th} and 27^{th} April 2023. IEC attended joint site inspection for both Contracts on 20^{th} April 2023. No non-compliance was noted during the site inspections.

FUTURE KEY ISSUES

- ES.013. During wet season, water quality mitigation measures as recommended in the EM&A Manual should be fully implemented, in particular to prevent surface runoff and other pollutants from flowing to local stream and Conservation Area.
- ES.014. The Contractors are reminded to pay special attention on the air quality mitigation measures such as wheel wash facilities, watering of haul roads, loose soil construction surface and covering of dusty materials with tarpaulin sheet should be implemented as far as practicable.
- ES.015. Construction noise would be a key environmental issue during construction phase of the Project. Noise mitigation measures such as using quiet plants and mobile noise barriers should be implemented in accordance with the EM&A requirement.



TOC

Table of Contents

1.	INTRODUCTION	1
	1.1 PROJECT BACKGROUND	1
	1.2 REPORT STRUCTURE	2
2.	PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS	4
	2.1 CONSTRUCTION CONTRACT PACKAGING	4
	2.2 CONSTRUCTION PROGRESS	4
	2.3 SUMMARY OF ENVIRONMENTAL SUBMISSIONS	4
	2.4 SUMMARY OF SUBMISSION UNDER THE ENVIRONMENTAL PERMIT REQUIREMENTS	5
3.	SUMMARY OF IMPACT MONITORING REQUIREMENT	7
	3.1 GENERAL	7
	3.2 MONITORING PARAMETERS3.3 MONITORING LOCATIONS	7 7
	3.4 MONITORING FREQUENCY AND PERIOD	9
	3.5 MONITORING EQUIPMENT	9
	3.6 EQUIPMENT CALIBRATION	12
	3.7 DATA MANAGEMENT AND DATA QA/QC CONTROL	12
	3.8 DETERMINATION OF ACTION/LIMIT (A/L) LEVELS	12
4.	AIR QUALITY	14
	4.1 MONITORING RESULTS	14
	4.2 AIR MONITORING EXCEEDANCE	14
5.	CONSTRUCTION NOISE	15
	5.1 MONITORING RESULTS	15
	5.2 NOISE MONITORING EXCEEDANCE	15
6.	WATER QUALITY	16
	6.1 MONITORING RESULTS	16
	6.2 WATER QUALITY MONITORING EXCEEDANCE	17
7.	ECOLOGY MONITORING	18
	7.1 REQUIREMENT	18
	7.2 METHODOLOGY7.3 ECOLOGICAL MONITORING SURVEY FINDINGS (CONTRACT 1)	18 19
	7.4 Ecological Monitoring Survey Findings (Contract 2)	21
	7.5 MONITORING OF FLORA SPECIES OF CONSERVATION INTEREST	
	7.5 MONITORING OF FLORA SPECIES OF CONSERVATION INTEREST7.6 MEASURE FOR PROTECTION OF NESTING BIRD	23 23
8.	7.6 MEASURE FOR PROTECTION OF NESTING BIRD	23 23
8.		23
8.	7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL	23 23 24
	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH 	23 23 24 24 24
8. 9.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 	23 23 24 24
	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE MANAGEMENT 	23 23 24 24 24 24 25
9.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE WANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 	23 23 24 24 24 24 25 25
9.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE MANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 9.2 RECORDS OF WASTE QUANTITIES SITE INSPECTION 10.1 REQUIREMENT 	23 23 24 24 24 25 25 25 25 25 26 26
9.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE WANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 9.2 RECORDS OF WASTE QUANTITIES SITE INSPECTION 	23 23 24 24 24 25 25 25 25 25 26
9. 10.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE MANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 9.2 RECORDS OF WASTE QUANTITIES SITE INSPECTION 10.1 REQUIREMENT 	23 23 24 24 24 25 25 25 25 26 26
9. 10.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE WANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 9.2 RECORDS OF WASTE QUANTITIES SITE INSPECTION 10.1 REQUIREMENT 10.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH 	23 23 24 24 24 25 25 25 25 25 26 26 26
9. 10. 11.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE MANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 9.2 RECORDS OF WASTE QUANTITIES SITE INSPECTION 10.1 REQUIREMENT 10.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE 	23 23 24 24 24 25 25 25 25 26 26 26 26 26 27
9. 10. 11.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE MANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 9.2 RECORDS OF WASTE QUANTITIES SITE INSPECTION 10.1 REQUIREMENT 10.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE 11.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION IMPLEMENTATION STATUS OF MITIGATION MEASURES 12.1 GENERAL REQUIREMENTS 	23 23 24 24 24 25 25 25 25 25 26 26 26 26 26 27 27 27 28 28
9. 10. 11.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE MANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 9.2 RECORDS OF WASTE QUANTITIES SITE INSPECTION 10.1 REQUIREMENT 10.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE 11.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION IMPLEMENTATION STATUS OF MITIGATION MEASURES 12.1 GENERAL REQUIREMENTS 12.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH 	23 23 24 24 24 25 25 25 25 26 26 26 26 26 26 27 27 27 28 28 28 29
9. 10. 11.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE MANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 9.2 RECORDS OF WASTE QUANTITIES SITE INSPECTION 10.1 REQUIREMENT 10.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE 11.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION IMPLEMENTATION STATUS OF MITIGATION MEASURES 12.1 GENERAL REQUIREMENTS 	23 23 24 24 24 25 25 25 25 25 26 26 26 26 26 27 27 27 28 28
9. 10. 11. 12.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE MANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 9.2 RECORDS OF WASTE QUANTITIES SITE INSPECTION 10.1 REQUIREMENT 10.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE 11.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION IMPLEMENTATION STATUS OF MITIGATION MEASURES 12.1 GENERAL REQUIREMENTS 12.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH 12.3 KEY ISSUES FOR THE COMING MONTH CONCLUSIONS AND RECOMMENTATIONS 	23 23 24 24 24 25 25 25 25 25 26 26 26 26 26 26 26 27 27 27 28 28 29 29 29 31
9. 10. 11. 12.	 7.6 MEASURE FOR PROTECTION OF NESTING BIRD LANDSCAPE AND VISUAL 8.1 REQUIREMENT 8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH WASTE MANAGEMENT 9.1 GENERAL WASTE MANAGEMENT 9.2 RECORDS OF WASTE QUANTITIES SITE INSPECTION 10.1 REQUIREMENT 10.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE 11.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION IMPLEMENTATION STATUS OF MITIGATION MEASURES 12.1 GENERAL REQUIREMENTS 12.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH 12.3 KEY ISSUES FOR THE COMING MONTH 	 23 23 24 24 24 25 25 25 26 26 26 26 27 27 28 28 29 29



LIST OF TABLES

LIST OF TAD	
TABLE 2-1	STATUS OF ENVIRONMENTAL LICENSES AND PERMITS FOR CONTRACT 1
TABLE 2-2	STATUS OF ENVIRONMENTAL LICENSES AND PERMITS FOR CONTRACT 2
TABLE 2-3	STATUS OF SUBMISSION AS UNDER FEP FOR CONTRACT 1
TABLE 2-4	STATUS OF SUBMISSION AS UNDER FEP FOR CONTRACT 2
TABLE 3-1	SUMMARY OF EM&A REQUIREMENTS
TABLE 3-2	DESIGNATED AIR QUALITY MONITORING LOCATION UNDER THE PROJECT
TABLE 3-3	DESIGNATED CONSTRUCTION NOISE MONITORING LOCATION UNDER THE PROJECT
TABLE 3-4	DESIGNATED WATER QUALITY MONITORING STATIONS UNDER THE PROJECT
TABLE 3-5	AIR QUALITY MONITORING EQUIPMENT
TABLE 3-6	NOISE MONITORING EQUIPMENT
TABLE 3-7	WATER QUALITY MONITORING EQUIPMENT
TABLE 3-8	ACTION AND LIMIT LEVELS FOR AIR QUALITY MONITORING
TABLE 3-9	ACTION AND LIMIT LEVELS FOR CONSTRUCTION NOISE
TABLE 3-10	ACTION AND LIMIT LEVELS FOR WATER QUALITY
TABLE 4-1	SUMMARY OF AIR QUALITY MONITORING RESULTS AT ASR-1 UNDER CONTRACT 1
TABLE 4-2	SUMMARY OF AIR QUALITY MONITORING RESULTS AT ASR-2 UNDER CONTRACT 2
TABLE 4-3	SUMMARY OF AIR QUALITY MONITORING RESULTS AT ASR-3A UNDER CONTRACT 2
TABLE 5-1	SUMMARY OF CONSTRUCTION NOISE MONITORING RESULTS UNDER CONTRACT 1
TABLE 5-2	SUMMARY OF CONSTRUCTION NOISE MONITORING RESULTS UNDER CONTRACT 2
TABLE 6-1	SUMMARY OF WATER QUALITY MONITORING RESULTS – M3 UNDER CONTRACT 1
TABLE 6-2	Summary of Water Quality Monitoring Results (M1, M2 and M4) under Contract 2 $$
TABLE 6-3	SUMMARY OF FIELD MEASUREMENTS FOR WATER QUALITY
TABLE 6-4	ACTION AND LIMIT (A/L) LEVELS EXCEEDANCE RECORD
TABLE 6-5	SUMMARY OF INVESTIGATION OF WATER QUALITY EXCEEDANCE IN THE REPORTING MONTH
TABLE 7-1	ACTION AND LIMIT LEVELS FOR WET WOODLAND HABITATS MONITORING
TABLE 7-2	ACTION AND LIMIT LEVELS FOR NON-WET WOODLAND HABITATS MONITORING
TABLE 7-3	SCHEDULE OF FAUNAL SURVEYS IN EACH YEAR DURING CONSTRUCTION PHASE
TABLE 7-4	RESULT OF FAUNAL SURVEY UNDER CONTRACT 1
TABLE 7-5	RESULT OF FRESHWATER COMMUNITIES SURVEY UNDER CONTRACT 1
TABLE 7-6	RESULT OF FAUNAL SURVEY UNDER CONTRACT 2
TABLE 7-7	RESULT OF FRESHWATER COMMUNITIES SURVEY UNDER CONTRACT 2
TABLE 8-1	LANDSCAPE & VISUAL INSPECTION FINDING FOR CONTRACT 1
TABLE 8-2	LANDSCAPE & VISUAL INSPECTION FINDING FOR CONTRACT 2
TABLE 9-1	SUMMARY OF QUANTITIES OF INERT C&D MATERIALS
TABLE 9-2	SUMMARY OF QUANTITIES OF C&D WASTES
TABLE 10-1	SITE OBSERVATIONS FOR THE WORKS OF CONTRACT 1
TABLE 10-2	SITE OBSERVATIONS FOR THE WORKS OF CONTRACT 2
TABLE 11-1	STATISTICAL SUMMARY OF ENVIRONMENTAL COMPLAINTS
TABLE 11-2	STATISTICAL SUMMARY OF ENVIRONMENTAL SUMMONS
TABLE 11-3	STATISTICAL SUMMARY OF ENVIRONMENTAL PROSECUTION
TABLE 12-1	ENVIRONMENTAL MITIGATION MEASURES
TABLE 12-2	WORK UNDERTAKEN AND MITIGATION MEASURES FOR CONTRACT 1
TABLE 12-3	WORK UNDERTAKEN AND MITIGATION MEASURES FOR CONTRACT 2

 TABLE 12-3
 WORK UNDERTAKEN AND MITIGATION MEASURES FOR CONTRACT 2



LIST OF APPENDICES

APPENDIX A	LAYOUT PLAN OF THE PROJECT
APPENDIX B	ORGANIZATION STRUCTURE AND CONTACT DETAILS OF RELEVANT PARTIES
APPENDIX C	THREE MONTHS ROLLING PROGRAMME
APPENDIX D	DESIGNATED MONITORING LOCATIONS
APPENDIX E	CALIBRATION CERTIFICATES OF MONITORING EQUIPMENT AND LABORATORY CERTIFICATE
APPENDIX F	EVENT AND ACTION PLAN OF AIR QUALITY, NOISE AND WATER QUALITY
APPENDIX G	MONITORING SCHEDULES OF THE REPORTING MONTH AND COMING MONTH
APPENDIX H	MONITORING DATA OF 24-HOUR TSP AIR QUALITY, NOISE AND WATER QUALITY
APPENDIX I	GRAPHICAL PLOTS OF AIR QUALITY, NOISE AND WATER QUALITY
APPENDIX J	METEOROLOGICAL DATA OF THE REPORTING MONTH
APPENDIX K	ECOLOGICAL SURVEY REPORT
APPENDIX L	LANDSCAPE & VISUAL INSPECTION CHECKLIST
APPENDIX M	MONTHLY SUMMARY WASTE FLOW TABLE
APPENDIX N	COMPLAINT LOG
APPENDIX O	IMPLEMENTATION SCHEDULE FOR ENVIRONMENTAL MITIGATION MEASURES (ISEMM)
APPENDIX P	ILLUSTRATIONS OF SITE ACTIVITIES



1. INTRODUCTION

1.1PROJECT BACKGROUND

1.1.1 Civil Engineering and Development Department (CEDD) is the Project Proponent for the Project "Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery". The Project is a Designated Project to be implemented under Environmental Permit No. EP-534/2017/A and FEP-01/534/2017/A. The layout plan of the Project is shown in Appendix A. Major works to be executed under the Project shall include to the following:

Designated Works under EP-534/2017/A

- (i) Site formation of about 5.5 hectares of land and associated drainage, sewerage and landscape works for development of Columbarium and Crematorium facilities at the Sandy Ridge Cemetery;
- (ii) Construction of a new road (about 800m) connecting the Crematorium and Man Kam To Road and the pick-up/drop-off point at Man Kam To Road;
- (iii) Widening two sections of the existing Sha Ling Road (about 900m and 500m respectively);
- (iv) Widening of about 1.4km of the existing Lin Ma Hang Road; and
- (v) Improvement works to the existing barging point at Siu Lam (the barging point is rejected by Tuen Mun DC and no improvement works required)

Designated Works under FEP-01/534/2017/A

- (i) Site formation works for a formed platform of about 1.8 hectares and associated drainage, sewerage and landscape works for development of Columbarium at the Sandy Ridge Cemetery;
- (ii) Construction of the pick-up/drop-off point at Man Kam To Road;
- (iii) Widening of 900m of the existing Sha Ling Road;
- (iv) Improvement works to the existing barging point at Siu Lam (the barging point is rejected by Tuen Mun DC and no improvement works required)
- 1.1.2 To facilitate the Project management, the Project works were separated into three Contracts to be executed which are described in below sub-sections.
- 1.1.3 Contract No. CV/2016/10 Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery (hereinafter named "Contract 1"):-
 - Site formation of about 1.77 ha of land for the proposed pick-up and drop-off area for shuttle bus operation;
 - Upgrading of a section of 900m existing Sha Ling Road from 3m wide carriageway to 7.3m wide carriageway with footpath at both sides;
 - Construction of one EVA with a total length of about 160m;
 - Construction of noise barriers along Sha Ling Road;
 - Modification of junction between Man Kam To Road and Sha Ling Road;
 - Construction of a new pick up / drop off point at Man Kam To Road;
 - Relocation and construction of a new refuse collection point near junction between Man Kam To Road and Sha Ling Road;
 - Associated geotechnical works including cut and fill slopes, soil nailing works and retaining structures;
 - Associated drainage, sewerage and waterworks along Sha Ling Road; and
 - Associated landscaping works.
- 1.1.4 Contract No. CV/2017/02 Infrastructural Works at Man Kam To Road and Lin Ma Hang Road for Development of Columbarium at Sandy Ridge Cemetery (hereinafter named "Contract 2"):-
 - Construction of a new road connecting Columbarium site to Crematorium site;
 - Construction of one EVA with a total length of about 300m;
 - Widening of a section of 1.4 km long Lin Ma Hang Road (between Man Kam To Road and Ping Yuen River) from 6m wide carriageway to 7.3m with 2m width footpath on both sides;
 - Provision of a pair of lay-by at Lin Ma Hang Road;
 - Construction of a new vehicular access connecting the Sheung Shui Landmark North PTI and Lung Sum Avenue;



- Construction of covered walkway along Fanling Station Road;
- Removal of planters and central divider along Fanling Station Road and San Wan Road;
- Associated drainage, sewerage, waterworks and utility works along Man Kam To Road and Lin Ma Hang Road;
- Associated geotechnical works including cut and fill slopes, soil nailing works and retaining structures; and
- Associated landscaping works.
- 1.1.5 CEDD Contract No. (to be confirmed):-
 - Site Formation for the platform of the columbarium site;
 - Construction of two 2 at-grade access roads;
 - Construction of road junction between Man Kam To Road and the new access road;
 - Associated drainage, sewerage and waterworks along the two new access roads;
 - Associated geotechnical works including cut and fill slopes, soil nailing works and retaining structures; and
 - Associated landscaping works
- 1.1.6 Hsin Chong Tsun Yip Joint Venture (hereafter referred as "HCTYJV") has been awarded Contract 1 on 5 December 2017. According to the Contract requirement, HCTYJV shall take over the responsibility for part of the Environmental Permit No. EP-534/2017 for ease of management, therefore application for Further Environmental Permit was submitted by HCTYJV to EPD on 26 January 2018 and Further Environmental Permit No. FEP-01/534/2017 was granted to HCTYJV by EPD on 23 February 2018. Furthermore, EPD issued Environmental Permit No. FEP-01/534/2017/A on 24 December 2018.
- 1.1.7 Sang Hing Civil Contractors Company Limited (hereinafter referred as "Sang Hing") was awarded Contract 2 on 23 May 2018. The Contract Works is a Designated Project as under Environmental Permit (EP) No. EP-534/2017. Furthermore, EPD issued Environmental Permit No. EP-534/2017/A on 24 December 2018.
- 1.1.8 Action-United Environmental Services & Consulting (AUES) has been commissioned by the Contractors as an Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme in accordance with the approved EM&A Manual as well as the associated duties. As part of the EM&A programme, baseline monitoring to determine the ambient environmental conditions was completed before construction work commencement. The Baseline Monitoring Report (air, noise and water) certified by ET Leader (ETL) and verified by Independent Environmental Checker (IEC) was submitted to Environmental Protection Department (EPD) and it was approved by EPD on 25 October 2018.
- 1.1.9 Major construction work of Contract 1 and Contract 2 was commenced on 16 August 2018 and 5 November 2018 respectively.
- 1.1.10 This is the 57th Monthly EM&A Report summarizing the monitoring results and inspection findings for the period from 1st to 30th April 2023.

1.2 REPORT STRUCTURE

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

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Section 1	Introduction
Section 2	Project Organization and Construction Progress
Section 3	Summary of Monitoring Requirements
Section 4	Air Quality Monitoring Results
Section 5	Noise Monitoring Results
Section 6	Water Quality Monitoring Results
Section 7	Ecology Monitoring Results
Section 8	Landscape & Visual
Section 9	Waste Management
Section 10	Site Inspections



Section 11 Environmental Complaints and Non-Compliance

- Section 12 Implementation Status of Mitigation Measures
- Section 13 Conclusions and Recommendation



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 the following contracts:
 - Contract 1 (Contract No. CV/2016/10)
 - Contract 2 (Contract No. CV/2017/02)
 - Contract 3 (Contract No. TBA)
- 2.1.2 Organization structure and contact details of relevant parties with respect to on-site environmental management are shown in *Appendix B*.

2.2 CONSTRUCTION PROGRESS

2.2.1 The three-month rolling construction programme for Contract 1 and Contract 2 are enclosed in *Appendix C*. Construction activities of the Contract 1 and Contract 2 undertaken in the Reporting Month are presented below.

Contract 1 (CV/2016/10)

- Paint Road Marking
- Planting works

Contract 2 (CV/2017/02)

- Construction of footpath at Lin Ma Hang Road
- Watermain pipe and sewer installation at Man Kam To Road North Slow Lane
- Planting works at Sandy Ridge and Lin Ma Hang Road

2.3SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.3.1 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project in this Reporting Month is presented in *Tables 2-1 and 2-2*.

Table 2-1 Status of Environmental Licenses and Permits for C	Contract 1
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Item	Description	License/ Permit ref no.	License/ Permit Status
1	Air Pollution Control	Ref. no. 428909	Valid
	(Construction Dust) Regulation	Acknowledged by EPD on 20/12/2017	
2	Chemical waste Producer	WPN: 5231-641-H3937-01	Valid
	Registration	Issued by EPD on 27/03/2018	
3	Water Pollution Control	License no. WT00030795-2018	Valid
	Ordinance	Issued date: 9/5/2018	
		Expire Date: 31/5/2023	
4	Billing Account for Disposal	Account no.: 7029769	Valid
	of Construction Waste		

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

Item	Description	License/ Permit ref no.		License/ Permit Status
1	Air Pollution Control	Ref. no. 440406	Man Kam To Road	Valid
	(Construction Dust)	Acknowledged by EPD on	(near Sha Ling Road to	
	Regulation	14/12/2018	Kong Nga Po Road	
		Ref. no. 440405	Fanling Station Road	Valid
		Acknowledged by EPD on		
		14/12/2018		
		Ref. no. 440404	Sa Ling Road (Sandy	Valid
		Acknowledged by EPD on	Ridge Cemetery)	



Item	Description	License/ Permit ref no.		License/ Permit Status
		14/12/2018		
		Ref. no. 440401	Lin Ma Hang Road	Valid
		Acknowledged by EPD on	(San Uk Ling – Muk	
		14/12/2018	Wu Nga Yiu)	
		Ref. no. 440402	Lung Sum Avenue	Valid
		Acknowledged by EPD on	(near Landmark North)	
		14/12/2018		
2	Chemical waste	WPN: 5213-641-S4151-01		Valid
	Producer Registration	Issued by EPD on 04/02/20)19	
3	Water Pollution	License no:	Man Kam To Road &	Valid
	Control Ordinance	WT00032936-2018	Lin Ma Hang Road,	
		Issued date: 16/01/2019	Man Kam To	
		Expire Date: 31/01/2024		
		License no:	Columbarium at	Valid
		WT00033335-2019	Sandy Ridge	
		Issued date: 29/03/2019	Cemetery	
		Expire Date: 31/03/2024		
		License no:	Fanling Station Road	Valid
		WT00034717-2019		
		Issued date: 9/10/2019		
		Expire Date: 31/10/2024		
4	Billing Account for	Account no.: 7031098		Valid
	Disposal of			
	Construction Waste			

2.4SUMMARY OF SUBMISSION UNDER THE ENVIRONMENTAL PERMIT REQUIREMENTS

2.4.1 *Tables 2-3 to 2-4* summarized the submission status under the EP and/or FEP stipulation in the Reporting Month.

Table 2-3Status of Submission as under FEP

Item	EP and / or FEP Stipulation	Description	Status
1	Condition 2.10 of FEP	Management organization of : i) the main construction companies; ii) ET; and iii) IEC and the supporting team	Submitted and no approval is required.
2	Condition 2.11 of FEP	i) Detailed phasing programme of all construction works; and ii) Location plan of all construction works	Submitted and no approval is required.
3	Condition 2.12 of FEP	Contamination Assessment Plan (CAP)	Approved by EPD on 27 May 2019
4	Condition 2.13 of FEP	Grassland Reinstatement Plan	Pending approval
5	Condition 2.14 to 2.16 of FEP	Vegetation Survey Report and Vegetation Transplantation Proposal for Contract 1	Approved by EPD on 12 October 2018
6	Condition 2.17 of FEP	Woodland Compensation Plan (Rev.05)	Approved by EPD on 30 Jun 2020
7	Condition 2.18 of FEP	Monitoring and Survey Plan for Golden-headed Cisticola for Contract 1 (Rev.02)	Approved by EPD on 22 Oct 2019
8		Landscape & Visual Mitigation and Tree Preservation Plan(s) Contract 1 (Rev.04)	Pending approval
9	Condition 2.22 of FEP	Traffic Noise Mitigation Plan Contract 1 (Rev. 4)	Pending approval
10	Condition 3.3 of the FEP	Baseline Monitoring Report (Air, Noise and Water)	Approved by EPD on 25 October 2018



Item	EP and / or FEP Stipulation	Description	Status
11	Condition 4.2 of the FEP		Internet website address has notified EPD on 15 Jun 2018 and no approval is required.

Table 2-4Status of Submission as under EP

Item	EP and / or FEP Stipulation	Description	Status
1	Condition 2.10 of EP	Management organization of : i) the main construction companies; ii) ET; and iii) IEC and the supporting team	Submitted and no approval is required.
2	Condition 2.11 of EP	i) Detailed phasing programme of all construction works; and ii) Location plan of all construction works	Submitted and no approval is required.
3	Condition 2.12 of EP	Layout Plan for the proposed footpath at Lin Ma Hang Road	Approved by EPD on 25 April 2022
4	Condition 2.13 of EP	Contamination Assessment Plan (CAP)	Approved by EPD on 27 May 2019
5	Condition 2.14 of EP	Grassland Reinstatement Plan	Pending approval
6	Condition 2.15 to 2.17 of EP	Vegetation Survey Report and Vegetation Transplantation Proposal under Contract 2	Approved by EPD on 15 June 2022
7	Condition 2.18 of EP	Woodland Compensation Plan (Rev.05)	Approved by EPD on 30 Jun 2020
8	Condition 2.19 of EP	Monitoring and Survey Plan for Golden-headed Cisticola Contract 2	Approved by EPD on 9 Nov 2022
9	Condition 2.21 – 2.22 of EP	Landscape & Visual Mitigation and Tree Preservation Plan(s) Contract 2	Pending approval
10	Condition 2.23 of EP	Traffic Noise Mitigation Plan Contract 2	Pending approval
11	Condition 3.3 of the EP	Baseline Monitoring Report (Air, Noise and Water)	Approved by EPD on 25 October 2018
12	Condition 4.2 of the EP	The Contract Internet website	Internet website address has notified EPD on 15 June 2018 and no approval is required.



3. SUMMARY OF IMPACT MONITORING REQUIREMENT

3.1 GENERAL

- 3.1.1 The EM&A requirements are set out in the Approved EM&A Manual. Environmental issues such as air quality, construction noise, water quality and ecology 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.

3.2MONITORING PARAMETERS

- 3.2.1 The EM&A impact monitoring shall cover the following environmental aspect:
 - Air quality;
 - Construction noise;
 - Water quality;
 - Ecology; and
 - Landscape and visual

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

Table 3-1 Summary of EM&A Requirements

Environmental Issue	Parameters
Air Quality	• 1-hour TSP;
	• 24-hour TSP
Noise	• Leq _(30min) during normal working hours.; and
110150	• Leq _(15min) during the construction works undertaken in Restricted Hours
	In-situ Measurements
	• Dissolved Oxygen Concentration (mg/L) & Saturation (%);
	• Temperature (°C);
	• Turbidity (NTU);
Water Quality	• Salinity (ppm)
water Quality	• pH unit;
	• Water depth (m); and
	• Stream Flow Velocity (m/sec).
	Laboratory Analysis
	• Suspended Solids (mg/L)
Ecology	Ecologically sensitive habitats (wetland habitats and non-wetland habitats)

3.3MONITORING LOCATIONS

- 3.3.1 According to the Approved EM&A Manual of the Project *Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery*, the designated monitoring locations for air quality, noise, water quality and ecology under the monitoring programme, is shown in *Appendix D*.
- 3.3.2 Since the Project was divided into three Works Contracts and all Contracts will be commenced at different time, the construction phase impact monitoring will only be performed at the Contract-related monitoring stations upon commencement of each Contract Works.

Air Quality

3.3.3 There were three (3) designated air quality monitoring stations recommended in the Approved EM&A Manual Section 5.6.1.1. There was proposed relocation of air quality monitoring location ASR-3 in October 2018 since the landlord refused to set up the HVS at his premises and nearby Conservation Area due to noise nuisance and Muk Wu Nga Yiu House No. 2A was proposed as alternative location ASR-3a. The proposal dated on 9 November 2018 which verified by IEC was submitted to EPD for approval. Based on rationale in Section 3.3.2, the Contract-related air quality monitoring location for construction phase were summarized in *Table 3-2* and illustrated in *Appendix D*.



Location ID	Description in EM&A Manual	Location	Related Work Contract
ASR-1	Village House along Man Kam To Road	Sha Ling Village House No.6	Contract 1
ASR-2	Village House at San Uk Ling	San Uk Ling Village House No.1	Contract 2
ASR-3	Village House at Muk Wu Nga Yiu	Muk Wu Nga Yiu House No.28	Contract 2
ASR-3a (#)	Village House at Muk Wu Nga Yiu	Muk Wu Nga Yiu House No.2A	Contract 2

Table 3-2 Designated Air Quality Monitoring Location under the Project

Remark: (#) There was proposed relocation of air quality monitoring location ASR-3 in October 2018. The proposal dated on 9 November 2018 after verified by IEC was submitted to EPD for approval.

3.3.4 If the designated monitoring location is required to relocate, alternative monitoring location shall agree with IEC and seek for EPD approval which shall meet the following criteria:

- i) Be at the site boundary or such locations close to the major dust emission source;
- ii) Close to the sensitive receptors;
- iii) Take into account the prevailing meteorological conditions;
- iv) For monitoring location located in the vicinity of the ASRs, care shall be taken to cause minimal disturbance to the occupants during monitoring.
- v) When positioning the HVS, the following points shall be noted:
 - a. a horizontal platform with appropriate support to secure the samples against gusty wind shall be provided;
 - b. no two samplers shall be placed less than 2m apart;
 - c. the distance between the HVS and an obstacle, such as buildings, must be at least twice the height that the obstacle protrudes above the HVS;
 - d. a minimum of 2 m separation from walls, parapets and penthouses is required for HVS at the rooftop;
 - e. a minimum of 2 m separation from any supporting structure, measures horizontally is required;
 - f. no furnace or incinerator flue is nearby;
 - g. airflow around the sampler is unrestricted;
 - h. the HVS is more than 20 m from the dripline;
 - i. any wire fence and gate to protect the HVS, shall not cause any obstruction during monitoring;
 - j. permission must be obtained to set up the HVS and to obtain access to the monitoring stations; and
 - k. a secured supply of electricity is needed to operate the HVS.

Construction Noise

3.3.5 There were four (4) designated noise monitoring locations recommended in the Approved EM&A Manual Section 6.5.1.1. Based on rationale in Section 3.3.2, the Contract-related noise quality monitoring location for construction phase were summarized in *Table 3-3* and illustrated in *Appendix D*.

 Table 3-3
 Designated Construction Noise Monitoring Location under the Project

Locatio n ID	Description in EM&A Location		Related Work Contract
CN-1	Village house to the west of	Village house to the west of Sha Ling	Contract 1
	Sha Ling Road	Road (free field condition)	
CN-2	Village house to the north of	Sha Ling Village House No. 25 (free	Contract 1
	Man Kam To Road	field condition)	& 3
CN-3	Village house near San Uk	San Uk Ling Village House No. 18 (free	Contract 2
	Ling	field condition)	
CN-4	Village house of Muk Wu	Muk Wu Village House No. 267 (1m	Contract 2
		façade from the building)	



Water Quality

3.3.6 There were four (4) water quality monitoring locations recommended in the Approved EM&A Manual Section 7.6.1.2. The locations and coordinates of water quality monitoring were listed in *Table 3-4*. Based on rationale in Section 3.3.2, the Contract-related water quality monitoring location for construction phase were summarized in *Table 3-4* and illustrated in *Appendix D*.

 Table 3-4
 Designated Water Quality Monitoring Stations under the Project

Proposed	Co-ore	linates	Description	Related Work
Location ID	North	East	Description	Contract
M1	843 431	831 308	Midstream of Nam Hang Stream	Contract 2
M2	843 840	831 101	Downstream of Nam Hang Stream	Contract 2
М3	843 509	830 040	Wetland in the Conservation Area near Yuen Leng Chai	Contract 1
M4	843 997	831 783	Watercourse across Lin Ma Hang Road, running from east of San Uk Ling to Man Kam To Boundary Control Point	Contract 2

3.4 MONITORING FREQUENCY AND PERIOD

3.4.1 The requirements of impact monitoring were stipulated in *Sections 5.8.1.1, 6.7.1.1* and *7.8.1.4* of the approved *EM&A Manual* and presented as follows.

Air Quality Monitoring

- 3.4.2 Monitoring frequency for air quality impact monitoring is as follows:
 - 1-Hour TSP 3 sets of 1-hour TSP monitoring shall be carried out once every six days during construction periods
 - 24-Hour TSP 24-hour TSP monitoring shall be carried out every six days during construction periods

Noise Monitoring

3.4.3 Noise impact monitoring shall be carried out once per week during construction periods. The noise measurement for the time period between 0700 and 1900 hours shall be measured in terms of L_{eq} (30 minutes) or 6 sets of L_{eq} (5mins).

Water Quality Monitoring

3.4.4 The monitoring frequency shall be 3 days per week during construction phase and the interval between two sets of monitoring shall not be less than 36 hours.

3.5 MONITORING EQUIPMENT

3.5.1 The monitoring equipment using for the EM&A program as proposed by the ET shall be verified by the IEC.

Air Quality Monitoring

- 3.5.2 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 ET proposes to use a direct reading dust meter to measure 1-hour TSP levels, it shall submit sufficient information to IEC for approval.
- 3.5.3 The filter paper of 24-hour TSP measurement shall be determined by HOKLAS accredited laboratory.
- 3.5.4 All equipment used by ET for air quality monitoring is listed in *Table 3-5*.

Table 3-5Air Quality Monitoring Equipment

Equipment	Model
24-hour TSP	
High Volume Air Sampler (HVAS)	TISCH High Volume Air Sampler, HVS Model TE-5170
Calibration Kit	TISCH Model TE-5025A
1-Hour TSP	
Portable Dust Meter	Laser Dust Monitor, Model AM510



Equipment	Model		
	/ Sibata LD-3 Laser Dust monitor Particle Mass Profiler & Counter		

Wind Data Monitoring Equipment

- 3.5.5 According to the approved EM&A Manual, wind data monitoring equipment shall also be provided and set up for logging wind speed and wind direction near the dust monitoring locations. The equipment installation location shall be proposed by the ET and agreed with the IEC. For installation and operation of wind data monitoring equipment, the following points shall be observed:
 - 1) The wind sensors should be installed 10 m above ground so that they are clear of obstructions or turbulence caused by buildings.
 - 2) The wind data should be captured by a data logger. The data shall be downloaded for analysis at least once a month.
 - 3) The wind data monitoring equipment should be re-calibrated at least once every six months.
 - 4) Wind direction should be divided into 16 sectors of 22.5 degrees each.
- 3.5.6 ET has liaised with the premises owners/ landlords to grant the permission for the HVS installation. However, they rejected to set up wind data monitoring equipment installation in their premises.
- 3.5.7 Under this situation, the ET proposed to obtain representative wind data from the Hong Kong Observatory Ta Kwu Ling Weather Station. Ta Kwu Ling Station is located near the Project site which situated at the sea level above 15mPD and the wind data monitoring equipment is installed 10 m above the existing ground.

Noise Monitoring

- 3.5.8 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 before each noise monitoring event. Noise measurements should not be made in fog, rain, wind with a steady speed exceeding 5 m s⁻¹ or wind with gusts exceeding 10 m s⁻¹.
- 3.5.9 Noise monitoring equipment used for impact monitoring is listed in *Table 3-6*.

Equipment	Model				
Integrating Sound Level Meter	Rion NL-52 Sound Level Meter /Rion NL-31 Sound				
Integrating Sound Dever Weter	Level Meter				
Calibrator	Rion NC-73 Acoustical Calibrator				
Portable Wind Speed Indicator	Testo Anemometer				

Table 3-6Noise Monitoring Equipment

3.5.10 Sound level meters listed above comply with the *International Electrotechnical Commission Publications 651:1979 (Type 1)* and *804:1985 (Type 1)* specifications, as recommended in TM issued under the NCO.

Water Quality Monitoring

3.5.11 Water quality parameters include dissolved oxygen, water temperature & depth, turbidity, salinity, pH and stream flow velocity shall be measured *in-situ*, and suspended solids shall be analyzed by a HOKLAS-accredited testing laboratory.

Dissolved Oxygen and Temperature Measurement

3.5.12 The dissolved oxygen (DO) measuring instruments should be portable and weatherproof. The equipment should also complete with cable and sensor, and DC power source. It should be capable of measuring:



- A DO level in the range of 0 20 mg/L and 0 200% saturation; and
- A temperature of 0 45 degree Celsius.
- 3.5.13 The equipment should have a membrane electrode with automatic temperature compensation complete with a cable.
- 3.5.14 Should salinity compensation not be built-in to the DO equipment, in-situ salinity should be measured to calibrate the DO measuring instruments prior to each measurement.

Turbidity Measurement

3.5.15 The turbidity measuring instruments should be a portable and weatherproof with DC power source. It should have a photoelectric sensor capable of measuring turbidity level between 0–1000 NTU (for example, Hach model 2100Q or an approved similar instrument).

Salinity Measurement

3.5.16 A portable salinometer capable of measuring salinity in the range of 0–40 parts per thousand (ppt) should be provided for measuring salinity of the water at each monitoring location.

<u>pH Measurement</u>

3.5.17 A portable pH meter capable of measuring a range between 0.0 and 14.0 should be provided to measure pH under the specified conditions accordingly to the APHA Standard Methods.

Water Depth Measurement

3.5.18 A portable, battery-operated echo sounder or an approved similar instrument should be used for water depths determination at each designated monitoring station.

Stream Flow Velocity Equipment

3.5.19 Since the EM&A Manuals do not specified instrument to use stream flow velocity measurement, the monitoring of stream flow velocity is therefore proposed to be conducted by using a flow probe which is a digital water velocity meter.

Water Sampling Equipment

- 3.5.20 A water sampler is required for suspended solid (SS) monitoring. A water sampler e.g. Kahlsico Water Sampler, which is a transparent PVC cylinder with capacity not less than 2 litres, will be used for water sampling if water depth over than 0.5m.
- 3.5.21 For sampling from very shallow water depths e.g. <0.5 m, water sample will be collected from water surface below 100mm using plastic bottle to avoid inclusion of bottom sediment or humus. Moreover, Teflon/stainless steel bailer or self-made sampling buckets maybe used for water sampling. The equipment used for sampling will be depended the sampling location and depth situations.

Sample Containers and Storage

- 3.5.22 Water samples for suspended solid should be stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen) and delivered to the laboratory within 24 hours of collection and be analyzed as soon as possible after collection.
- 3.5.23 Analysis of suspended solids should be carried out in a HOKLAS or other accredited laboratory. Water samples of about 1L should be collected at the monitoring stations for carrying out the laboratory suspended solids determination. The SS determination work should start within 24 hours after collection of the water samples. The SS analyses should follow the *APHA Standard Methods* 2540D with Limit of Reporting of 2 mg/L.
- 3.5.24 Details of the equipment used for water quality monitoring are listed in *Table 3-7* below.



Equipment	Model
Water Depth Detector	Tape measures
Water Sampler	A 2-litre transparent PVC cylinder with latex cups at both ends or Teflon/stainless steel bailer or self-made sampling bucket
Thermometer & DO meter	YSI Professional DSS
pH meter	YSI Professional DSS
Turbidimeter	YSI Professional DSS
Salinometer	YSI Professional DSS
Stream Flow Velocity	FP211 Global Flow Probe
Sample Container	High density polythene bottles (provided by laboratory)
Storage Container	'Willow' 33-litter plastic cool box with Ice pad

Table 3-7Water Quality Monitoring Equipment

3.5.25 Furthermore, Suspended Solids (SS) analysis was carried out by *ALS Technichem (HK) Pty Ltd*. Which is one a local HOKLAS-accredited laboratory

3.6EQUIPMENT CALIBRATION

- 3.6.1 The HVAS is operated and calibrated on a regular basis in accordance with the manufacturer's instruction using Tisch Calibration Kit Model TE-5025A. Calibration would carry out at fortnightly interval. The calibration data are properly documented and the records are maintained by ET for future reference. Furthermore, Tisch Calibration Kit will be calibrated by the manufacturer in yearly basis.
- 3.6.2 The 1-hour TSP meter calibrated by a local HOKLAS-accredited laboratory would be undertaken in yearly basis. Zero response of the equipment was checked before and after each monitoring event.
- 3.6.3 The sound level meter and acoustic calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis.
- 3.6.4 The multi-parameter Water Quality Monitoring System is calibrated by HOKLAS accredited laboratory of three month intervals.
- 3.6.5 All updated calibration certificates of the monitoring equipment used for the impact monitoring program in this Reporting Month are attached in *Appendix E*.

3.7 DATA MANAGEMENT AND DATA QA/QC CONTROL

- 3.7.1 The impact monitoring data are handled by the ET's systematic data recording and management, which complies with in-house Quality Management System. Standard Field Data Sheets (FDS) are used in the impact monitoring program.
- 3.7.2 The monitoring data recorded in the equipment e.g. 1-hour TSP meter, noise meter and Multi-parameter Water Quality Monitoring System are downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data are input into a computerized database properly maintained by the ET. The laboratory results are input directly into the computerized database and QA/QC checked by personnel other than those who input the data. For monitoring activities require laboratory analysis, the local laboratory follows the QA/QC requirements as set out under the HOKLAS scheme for all laboratory testing.

3.8DETERMINATION OF ACTION/LIMIT (A/L) LEVELS

3.8.1 The baseline monitoring results form the basis for determining the environmental acceptance criteria for the impact monitoring. The air quality, construction noise and water quality criteria, namely Action and Limit levels were established according to Approved EM&A Manual, and they are listed in *Tables 3-8, 3-9* and *3-10* below.

Table 3-8Action and Limit Levels for Air Quality Monitoring

Monitoring Station	Action I	Level (µg /m ³)	Limit Level (µg/m ³)		
	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP	



Monitoring Station	Action 1	Level (µg /m ³)	Limit Level (µg/m ³)		
Monitoring Station	1-hour TSP	24-hour TSP	1-hour TSP	24-hour TSP	
ASR-1	331	181	500	260	
ASR-2	316	165	500	260	
ASR-3	307	160	500	260	

Table 3-9Action and Limit Levels for Construction Noise

Monitoring Logotion	Action Level	Limit Level in dB(A)	
Monitoring Location	Time Period: 0700-1900 hours on normal weekdays		
CN-1,CN-2, CN-3, CN-4	When one or more documented complaints are received	75 dB(A)	

Note: * *Reduces to 70 dB(A) for schools and 65 dB(A) during the school examination periods.*

Table 3-10 Action and Limit Levels for Water Quality

Parameter	Performance				
Parameter	criteria	M1	M2	M3	M4
$\mathbf{DO}(\mathbf{m}\mathbf{a}/\mathbf{I})$	Action Level	3.03	4.99	4.58	3.62
DO (mg/L)	Limit Level	2.97	4.90	4.49	3.52
Turbidity	Action Level	7.1	39.7	5.6	5.4
(NTU)	Limit Level	7.6	42.2	5.9	5.9
	Action Level	8.5	29.0	9.3	4.8
SS (mg/L)	Limit Level	10.1	31.0	9.5	5.0

Notes:

• For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits

• For turbidity and SS, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.

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



4. AIR QUALITY

4.1 MONITORING RESULTS

- 4.1.1 In the Reporting Month, air quality monitoring was performed at all designated locations. Impact monitoring schedule provided to all relevant parties was shown in *Appendix G*.
- 4.1.2 In this Reporting Month, there were 6 sessions of 24-hour TSP and 18 sessions of 1-hour TSP undertaken at each designated station for air quality monitoring. The air quality monitoring results are summarized in *Tables 4-1* to 4-3. The database of 24-hour TSP is shown in *Appendix H* and the graphical plots of monitoring result are shown in *Appendix I*.

	24-hour	1-hour TSP (μ g/m ³)				
Date	TSP (μg/m ³)	Date	Start Time	1 st hour measured	2 nd hour measured	3 rd hour measured
1 Apr 23	42	4-Apr-23	13:00	82	83	80
6 Apr 23	25	6-Apr-23	13:05	71	75	78
11 Apr 23	18	12-Apr-23	13:00	85	89	82
17 Apr 23	62	18-Apr-23	13:15	87	91	89
22 Apr 23	54	24 Apr 23	9:20	64	59	57
28 Apr 23	60	29-Apr-23	13:07	73	78	75
Average	44	Average		78		
(Range)	(18 – 62)	(Range)		(57 – 91)	

 Table 4-1
 Summary of Air Quality Monitoring Results at ASR-1 under Contract 1

Table 4-2 Summary of An Quanty Monitoring Results at ASR-2 under Contract 2	Table 4-2	Summary of Air Quality Monitoring Results at ASR-2 under Contract 2
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	24-hour	1-hour TSP (μg/m ³)				
Date	TSP (µg/m ³)	Date	Start Time	1 st hour measured	2 nd hour measured	3 rd hour measured
1 Apr 23	47	4-Apr-23	13:06	78	83	80
6 Apr 23	29	6-Apr-23	13:09	71	76	82
11 Apr 23	79	12-Apr-23	13:05	82	86	90
17 Apr 23	57	18-Apr-23	13:20	88	91	85
22 Apr 23	65	24 Apr 23	9:24	60	56	63
28 Apr 23	50	29-Apr-23	13:15	68	64	70
Average (Range)	55 (29 – 79)	Averag (Range			76 (56 - 91)	

Table 4-3	Summary of Air Quality Monitoring Results at ASR-3a under Contract 2
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	24-hour	1-hour TSP (µg/m ³)				
Date	TSP (µg/m ³)	Date	Start Time	1 st hour measured	2 nd hour measured	3 rd hour measured
1 Apr 23	42	4-Apr-23	13:14	72	70	68
6 Apr 23	63	6-Apr-23	13:15	68	65	62
11 Apr 23	45	12-Apr-23	13:14	70	75	76
17 Apr 23	62	18-Apr-23	13:26	86	92	89
22 Apr 23	35	24 Apr 23	9:32	54	51	58
28 Apr 23	31	29-Apr-23	13:30	57	63	65
Average	46	Averag	ge	69		
(Range)	(31 - 63)	(Range	e)		(51 – 92)	

4.2AIR MONITORING EXCEEDANCE

4.2.1 As shown in *Tables 4-1 to 4-3*, the monitoring results of 24-hour and 1-hour TSP monitoring in the Reporting Month were below the Action/ Limit Level. No Notification of Exceedance (NOE) of air quality monitoring criteria was issued and therefore corrective action was not required. The meteorological data during the impact monitoring days are summarized in *Appendix J*.



5. CONSTRUCTION NOISE

5.1 MONITORING RESULTS

- 5.1.1 In the Reporting Month, noise monitoring was performed at all designated locations. Impact monitoring schedule provided to all relevant parties was shown in *Appendix G*.
- 5.1.2 In this Reporting Month, *4* sessions of noise monitoring were undertaken at each designated noise monitoring location. The sound level were set in a free field situation for CN1, CN2 and CN3 and therefore a façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines. The monitoring result of noise monitoring is show in *Tables 5-1 and 5-2* and the graphical plots are shown in *Appendix I*.

Table 5-1	Summary of Construction Noise Monitoring Results under Contract 1
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	Construct	ion Noise Level	(Leq30min), dB(A)		
Date	Start Time	CN1(*)	Start Time	CN2 (*)	
4 Apr 23	13:00	65	13:36	60	
12 Apr 23	13:00	67	13:28	65	
18 Apr 23	15:16	66	14:40	59	
24 Apr 23	13:15	68	10:13	68	
Limit Level	75 dB(A)				

(*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

Table 5-2	Summary of Construction Noise Monitoring Results und	ler Contract 2
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	Construc	tion Noise Level	(Leq30min), dB(A)		
Date	Start Time	CN3 ^(*)	Start Time	CN4	
4 Apr 23	14:12	63	15:00	63	
12 Apr 23	15:15	58	16:05	58	
18 Apr 23	14:03	63	13:26	62	
24 Apr 23	14:15	61	15:41	63	
Limit Level	75 dB(A)				

(*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

5.1.3 Prior and after noise monitoring, the accuracy of the sound level meter has been checked by an acoustic calibrator to ensure the measurement within acceptance range of ± 0.5 dB. Moreover, wind speed checked by portable wind speed meter has been performed before noise monitoring. No noise measurement was performed in fog, rain, wind with a steady speed exceeding 5 m s⁻¹ or wind with gusts exceeding 10 m s⁻¹.

5.2NOISE MONITORING EXCEEDANCE

5.2.1 As shown in *Tables 5-1 and 5-2*, no noise complaint (which triggered Action Level) and Limit Level exceedance for noise monitoring exceedance was recorded in the Reporting Month.



6. WATER QUALITY

6.1 MONITORING RESULTS

- 6.1.1 In the Reporting Month, water quality monitoring was performed at all designated locations. Impact monitoring schedule provided to all relevant parties was shown in *Appendix G*.
- 6.1.2 In the Reporting Month, a total of 12 monitoring days were carried out for water quality impact monitoring. The monitoring result of key parameters including Dissolved Oxygen, Turbidity and Suspended Solids are summarized in *Tables 6-1* and *6-2*. Detailed monitoring results including in-situ measurements and laboratory analysis data are shown in *Appendix H* and graphical plots for monitoring result are shown in *Appendix I*.

		Parameters	
Date	DO (Averaged) (mg/L)	Turbidity (Averaged) (NTU)	Suspended Solids (Averaged) (mg/L)
1 Apr 23	6.65	3.4	7.5
4 Apr 23	7.40	4.9	7.5
6 Apr 23	7.40	4.9	6.5
11 Apr 23	6.86	3.1	7.0
13 Apr 23	6.98	3.1	6.5
15 Apr 23	7.08	3.1	5.5
18 Apr 23	6.66	1.9	3.0
20 Apr 23	6.95	5.5	6.0
22 Apr 23	7.18	5.1	3.5
25 Apr 23	7.09	2.6	3.0
27 Apr 23	7.35	2.7	3.5
29 Apr 23	7.21	3.3	3.5

 Table 6-1
 Summary of Water Quality Monitoring Results – M3 under Contract 1

				Pa	rameter	'S			
Date		(Average (mg/L)	d)	Turbid	ity (Ave (NTU)	raged)	-	pended (raged) (
	M1	M2	M4	M1	M2	M4	M1	M2	M4
1 Apr 23	8.02	7.77	7.82	6.3	1.4	4.9	6.5	7.0	4.0
4 Apr 23	7.58	7.71	7.31	4.2	4.1	4.7	6.5	8.5	4.0
6 Apr 23	7.72	7.78	7.80	3.8	4.5	5.2	2.5	6.5	4.5
11 Apr 23	7.54	7.64	6.25	2.9	4.8	5.3	3.5	9.5	4.0
13 Apr 23	7.46	7.42	6.51	2.6	4.5	2.7	3.0	7.0	3.5
15 Apr 23	7.53	7.60	5.99	2.5	3.2	5.4	3.5	6.5	4.5
18 Apr 23	7.33	7.79	5.82	2.1	1.4	4.8	2.0	2.5	4.5
20 Apr 23	7.18	7.55	6.24	6.6	4.5	3.8	7.0	4.0	4.0
22 Apr 23	7.30	7.57	6.43	5.4	7.0	4.3	3.5	3.5	3.5
25 Apr 23	7.36	7.80	5.40	2.5	7.3	3.9	3.5	4.0	4.0
27 Apr 23	7.45	7.51	5.93	2.5	3.3	4.2	3.5	3.0	4.5
29 Apr 23	7.51	8.37	5.44	2.4	3.4	4.6	3.5	4.0	2.5

6.1.3 During the Reporting Month, field measurements including temperature of stream water, salinity concentrations, pH values and the stream flow velocity for all monitoring locations are summarized in *Table 6-3*.



-

		Parameters of field measurements						
Monitoring	pH (Ave	eraged)	Salinity (Averaged) T		Temp (Averaged)		Water Flow	
Location	(un	nit)	(ppt	t)	(°C	C)	(Averaged	l) (m/s)
	min	max	min	max	min	max	min	max
M1	7.0	7.7	0.03	0.07	19.8	23.9	< 0.1	< 0.1
M2	7.1	7.5	0.07	0.10	20.3	25.2	< 0.1	< 0.1
M3	7.1	7.7	0.01	0.03	20.5	25.0	< 0.1	< 0.1
M4	7.1	7.5	0.05	0.10	20.9	25.4	< 0.1	< 0.1

Table 6-3 Summary of Field Measurements for Water Qualit	ummary of Field Measurements for Water Qual	ity
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6.2 WATER QUALITY MONITORING EXCEEDANCE

6.2.1 In this Reporting Month, no water quality exceedances were recorded. The summary of non-compliance of water quality performance is shown in Table 6-4.

Table 6-4	4 Action and	l Limit (A/L) Leve	els Exceedance Re	ecord
	DO	Turbidity	88	Total

Station.	D	0	Turb	oidity	S	SS		otal edance	Project excee	Related
Station	Action	Limit	Action	Limit	Action	Limit	Action	Limit	Action	Limit
M1	0	0	0	0	0	0	0	0	0	0
M2	0	0	0	0	0	0	0	0	0	0
M3	0	0	0	0	0	0	0	0	0	0
M4	0	0	0	0	0	0	0	0	0	0

6.2.1 Notification of Exceedance and the investigation for exceedance in the Reporting Month is summarized in *Table 6-5*.

Table 6-5	Summary of Investigation of Water Q	uality Exceedance in the Reporting Month
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Date of	Exceeded	Exceeded	Cause of Water Quality Exceedance
Exceedance	Location	Parameter	



7. ECOLOGY MONITORING

7.1 REQUIREMENT

- 7.1.1 According to approved EIA report (AEIAR-198/2016), habitat types within project boundary comprise of watercourse, grassland, upland grassland, plantation, woodland and developed area. Natural habitats were of moderate ecological value in terms of species diversity, species rarity, species abundance, ecological linkage as well as nursery. Moreover, 0.3ha of wet woodland on the northern side of Sandy Ridge was deemed habitat with high ecological value. Four types of habitats were regarded as ecologically sensitive habitats, namely wet woodland, watercourses, upland grassland and woodland. Considering human disturbance in upcoming construction and operation phases, ecologically sensitive habitats shall be monitored in accordance with EM&A Manual.
- 7.1.2 The objective of ecologically sensitive habitats monitoring is to evaluate the effectiveness of measures to minimize impacts on concerned habitats from disturbance and pollution. In order to monitor the effectiveness of the measures to the minimize impact on ecologically sensitive habitats from disturbance and pollution, monthly monitoring during construction and operation phases is required as specified in EM&A Manual. Standard faunal transect and sampling surveys cover both wetland habitats (*wet woodland and watercourse*) and non-wetland habitats (*upland grassland and woodland*).

7.2 METHODOLOGY

7.2.1 Wetland habitats include wet woodland and watercourses. Monitoring surveys using standardized quantitative methodology will conduct at fixed points. For seasonal watercourse, the survey will be conducted whenever the habitat appears. Measures to respond to decreases in numbers of aquatic fauna using the wetland habitats and Action/Limit levels to trigger these measures are detailed in *Table 7-1*.

Table 7-1 AC	tion and Emilt Devels for we	t woodialia Habit	
Action Level	Response	Limit Level	Response
	6	taxa diversity by	Investigate cause and if cause identified as related to the project instigate remedial action.

 Table 7-1
 Action and Limit Levels for Wet Woodland Habitats Monitoring

Remarks: Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna

7.2.2 Non-wetland habitats consist of upland grassland and woodland. Monthly quantitative surveys of non-aquatic fauna will be conducted using standard route transect counts. Measures to respond to decreases in numbers of non-aquatic fauna using the non-wetland habitats and Action/Limit levels to trigger these measures are detailed in *Table 7-2*.

 Table 7-2
 Action and Limit Levels for Non-Wet Woodland Habitats Monitoring

Action Level	Response	Limit Level	Response
	e	species diversity	Investigate cause and if cause identified as related to the project instigate remedial action.

Remarks: Action and Limit Levels and Responses to Evidence of Declines in Non-Aquatic Fauna

7.2.3 The ecological survey includes all taxa being investigated in accordance with EIA report. Schedule of faunal surveys in each year during construction phase is presented in *Table 7-3*.

Table 7-3Schedule of Faunal Surveys in each year During Construction Phase

Tuble / C	Tuste ; e Senedule of Fuddul Suffeys in each year During Construction Finase											
Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mammals	\checkmark											
Birds (day)	\checkmark											\checkmark



Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Birds (night)								\checkmark				
Herpetofauna								\checkmark				
Dragonflies												
Butterflies								\checkmark				
Aquatic fauna								\checkmark				\checkmark

Mammal Survey

7.2.4 Mammal surveys will be conducted along the proposed transects (shown in *Appendix K* - Ecological Survey Reports) in during both daytime and night time periods. Along with direct observations, other field signs, such as scats and tracks, will be searched and recorded if present.

<u>Bird Survey</u>

7.2.5 Bird surveys will be conducted along the transects (shown in *Appendix K* - Ecological Survey Reports) during the surveys, species and their vocalizing individuals recorded will be enumerated and recorded according to the habitat(s) they are utilizing.

Herpetofauna Survey

7.2.6 Reptile and amphibian surveys will be conducted along transects (shown in *Appendix K* - Ecological Survey Reports) during surveys careful searches of appropriate microhabitats and refugia for reptiles and their vocalizing individuals will be undertaken and all reptiles observed will be identified and counted.

Dragonfly and Butterfly Survey

7.2.7 Dragonfly and Butterfly surveys will be conducted along transects (shown in *Appendix K* - Ecological Survey Reports) during surveys all dragonflies and Butterflies seen will be identified and counted as accurately as possible.

Aquatic Fauna Survey

- 7.2.8 Freshwater fishes and macro-invertebrates will be recorded by direct observation. All species trapped/recorded will be enumerated and identified (to the lowest taxonomic level possible), and the species of conservation importance photographed.
- 7.2.9 After each ecological monitoring survey, a monthly report of the survey result and data collected will be provided with reference to EM&A Manual. An annual analysis of data will be carried out in order to study if there is any significant reduction in taxa diversity and abundance.

7.3 ECOLOGICAL MONITORING SURVEY FINDINGS (CONTRACT 1)

7.3.1 In the Reporting Month, ecological monitoring was undertaken on *11th April 2023*, a sunny day. The day and night survey covered wetland and non-wetland areas. The survey was conducted by transect and at fixed points. All species seen would be identified and counted as accurately as possible. Results of the monitoring survey are presented below:

Monitoring Result for Contract 1

Mammal

7.3.2 There was no mammal species recorded in the monitoring area.

Birds

7.3.3 There were a total of 43 bird individuals from 13 species recorded in the monitoring area. No Golden-headed Cisticola was observed during the bird survey.

<u>Herpetofauna</u>

7.3.4 There was no reptile species recorded in monitoring area. There was no amphibian species recorded in the monitoring area.

<u>Butterfly</u>



7.3.5 There were a total of 4 butterfly individuals from 2 species recorded in the monitoring area.

<u>Dragonfly</u>

7.3.6 There were a total of 2 dragonfly individuals from 1 specie recorded in the monitoring area.

Aquatic Fauna Survey (Freshwater communities)

- 7.3.7 There was no freshwater community recorded in the monitoring area.
- 7.3.8 The summaries of faunal survey result are shown in *Tables 7-4* and 7-5.

Table 7-4Result of Faunal Survey under Contract 1

Scientific Name	Common /	Chinese Name	Conservation	Non-w	vetland	W	'etlan	d
Scientific Name	Engineer Name	Chinese Name	Status	UG	WL	MA	WW	WC
Mammal Survey								
Avifauna Survey								
Francolinus	Chinese Francolin	中華鷓鴣		1				
pintadeanus	Constant Constant	<u> 구</u> 터 수치 파습 티슈			1			
Centropus sinensis	Greater Coucal	褐翅鴉鵑			1			
Spilopelia chinensis	Spotted Dove	珠頸斑鳩		2				
Eudynamys scolopaceus	Asian Koel	噪鵑		1				
Cacomantis merulinus	Plaintive Cuckoo	八聲杜鵑		1				
Hierococcyx sparverioides	Large Hawk Cuckoo	大鷹鵑		1				
Apus nipalensis	House Swift	小白腰雨燕		8			1	
Corvus macrorhynchos	Large-billed Crow	大嘴烏鴉		1				
Lanius schach	Long-tailed Shrike	棕背伯勞					1	
Pycnonotus jocosus	Red-whiskered Bulbul	紅耳鵯					15	
Pycnonotus sinensis	Chinese Bulbul	白頭鵯					4	
Prinia flaviventri	Yellow-bellied Prinia	黃腹鷦鶯					3	
Orthotomus	Common	長尾縫葉鶯		2			1	
sutorius	Tailorbird			2			1	
Reptile Survey			1		1			
<i>N/A</i>								
Amphibian Survey								
N/A								
Butterfly Survey	Dark Brand Bush	小田田晴						
Mycalesis mineus	Brown	小眉眼蝶		2			1	
Abisara echerius	Plum Judy	蛇目褐蜆蝶		1				
Odonate Survey								
Orthetrum pruinosum	Common Red Skimmer	赤褐灰蜻						2
L	1	I	1	<u>i</u>			1	<u> </u>

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

Table 7-5 Result of Freshwater Communities Survey under Contract 1

Scientific Name	Common	Chinese Name	Conservatio	Non-w	etland	V	Vetlaı	nd
Scientific Mame	Name	Chinese Manie	n Status	UG	WL	MA	WW	WC
N/A								



Discussion

- 7.3.9 After analysing survey results in April from 2019 to 2023, the species richness and abundance for wetland habitat were unstable. A rapid rebound from 2022 was recorded recently. This could be benefited by some positive factors such as the major construction works were completed and most of the PME has been removed from site. Besides, compensation planting works have been conducted in early Jan 2023. Therefore, disturbance to fauna species from construction works have been largely minimised. In addition, woodland compensation and grassland reinstatement would be implemented in the second and third quarter of 2023. Hence, the habitat of fauna species would be gradually recovered and expectation of increase in the species richness and abundance for wetland habitat is high.
- 7.3.10 Yet, good site practice during construction, with reference to EM&A Manual, is still required to prevent or alleviate environmental impacts. Continuous monitoring is also recommended to inspect any changes in species diversity.

7.4 ECOLOGICAL MONITORING SURVEY FINDINGS (CONTRACT 2)

7.4.1 In the Reporting Month, ecological monitoring was undertaken at work area of Contract 2 on 11th *April 2023*, a sunny day. The day and night survey covered wetland and non-wetland areas. The survey was conducted by transect and at fixed point. All species seen would be identified and counted as accurately as possible. Results of the monitoring survey are presented below:

Monitoring Result for Contract 2

<u>Mammal</u>

7.4.2 There was no mammal recorded in the monitoring area

<u>Birds</u>

7.4.3 There were a total of 7 bird individuals from 4 species recorded in the monitoring area. No Golden-headed Cisticola was observed during the bird survey.

<u>Herpetofauna</u>

7.4.4 There was no reptile recorded in the monitoring area. There was no amphibian recorded in the monitoring area.

<u>Butterfly</u>

7.4.5 There were total of 3 butterfly individuals from 2 species recorded in the monitoring area.

Dragonfly

7.4.6 There were total of 2 dragonfly individuals from 1 specie recorded in the monitoring area.

Aquatic Fauna Survey (Freshwater communities)

7.4.7 There were 2 species of freshwater fish were recorded in the monitoring area.

7.4.8 The summaries of faunal survey result are shown in *Tables 7-6* and 7-7.

Table 7-6Result of Faunal Survey under Contract 2

Scientific Name	Common / Engineer Name	Chinese Name	Conservation	Non- wetland		Wetland		
	Name	Iname	Status	UG	WL	MA	WW	WC
Mammal Survey								
Avifauna Survey								
Amaurornis	White-breasted	白胸苦惡鳥				2		
phoenicurus	Waterhen					2		
Pycnonotus	Red-whiskered Bulbul	紅耳鵯					ſ	
jocosus							2	
Prinia flaviventris	Yellow-bellied Prinia	黃腹鷦鶯		1				



Scientific Name	Common / Engineer	Common / Engineer Chinese C Name Name		No wetl		v	Vetlar	ıd
	Name	Iname	Status	UG	WL	MA	WW	WC
Orthotomus	Common Tailorbird	長尾縫葉鶯		2				
sutorius				Z				
Reptile Survey								
Amphibian Survey								
Butterfly Survey								
Papilio polytes	Common Mormon	玉帶鳳蝶		1				
Pieris canidia	Indian Cabbage White	東方菜粉蝶		2				
Odonate Survey								
Pantala flavescens	Wandering Glider	黄蜻				2		

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

Table 7-7 Result of Freshwater Communities Survey under C	Contract 2
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Scientific Name	Common Name	Chinese Name	Conservation Status	Non- wetland		Wetland		
	Iname		Status	UG	WL	MA	WW	WC
Gambusia affinis	Mosquito fish	食蚊魚						+
Puntius	Chinese Barb	五線無鬚鰓						
semifasciolatus								Ť

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse +: Species appeared but uncountable.

Discussion

- 7.4.9 After analysing survey results in April from 2019 to 2023, there was approximate 30% decrease in species richness and abundance for wetland and non-wetland habitats in April 2023 when comparing to the April of 2022. Since Action Level of respond Measures have been triggered, investigation of cause for decrease was conducted and according to the on-site observation, there are new built workshops by others situated on both sides of Lin Ma Hang Road so the disturbance to fauna species from construction works could be increased. Due to the cause identified was not related to this project remedial action to remove or reduce source of disturbance is limited.
- 7.4.10 Nevertheless, the situation could be benefited by some positive factors such as the major construction works in this contract were completed and most of the PME has been removed from site. Besides, compensation planting works have been conducted in early Jan 2023. Therefore, disturbance to fauna species from construction works have been largely minimized internally. In addition, woodland compensation and grassland reinstatement would be implemented in the second and third quarter of 2023. Hence, the habitat of fauna species would be gradually recovered and expectation of increase in the species richness and abundance for wetland habitat is high.
- 7.4.11 Still, a good site practice during construction, with reference to EM&A Manual, is required to prevent or alleviate environmental impacts. For instance, the size of work areas should be minimized and disturbed areas should be reinstated immediately after completion of construction works. In addition, implementing proper waste disposal is necessary to reduce contamination to water and soil. Continuous monitoring is also recommended to inspect any significant decrease in species diversity.
- 7.4.12 The detailed Ecological Survey Reports for Contract 1 and Contract 2 are attached in Appendix K.
- 7.4.13 The tentative ecology inspection and monitoring in the next Reporting Month (May 2023) is scheduled on 13th May 2023.



7.5 MONITORING OF FLORA SPECIES OF CONSERVATION INTEREST UNDER CONTRACT 1

- 7.5.1 According to the approved vegetation survey report and transplantation proposal under FEP-01/534/2017/A, an individual of flora species of conservation interest (the transplanted T-2928) was identified and transplanted to the receptor site.
- 7.5.2 According to approved vegetation survey report and transplantation proposal, post-transplantation monitoring was conducted once per week in the first three months after the transplantation in Oct 2018 and once in each of the following month in the remaining establishment period for 12 month. During the remaining construction phase of the project, the transplanted T-2928 would be monitored on quarterly basis.
- 7.5.3 A landscape sub-contractor was employed by the Contractor to monitor the health condition of transplanted species and provide advice on necessary weeding, fertilizing and pest control. The monitoring records were submitted to ET and IEC for review and record. Moreover, inspection of the transplanted T-2928 was undertaken by ET as part of the weekly site inspection. No construction activity and disturbance were observed at the location of the transplanted T-2928. The health condition of the transplanted T-2928 was fair with normal foliage color and density.

7.6 MEASURE FOR PROTECTION OF NESTING BIRD

- 7.6.1 Pursuant to FEP-01/534/2017/A condition 2.19 and EP-534/2017/A condition 2.20, precautionary checks for the presence of nesting birds shall be carried out in the breeding season (February to July) before vegetation clearance.
- 7.6.2 In the Reporting Period, there was no vegetation clearance for both Contract 1 and Contract 2, and precautionary check for the presence of nesting birds was not required to carry out.



Page 24

8. LANDSCAPE AND VISUAL

8.1 REQUIREMENT

- 8.1.1 The EIA has recommended EM&A for landscape and visual resources to be undertaken during the design, construction and operational stages of the project. The design, implementation and maintenance of landscape mitigation measures is a key aspect of this and should be checked to ensure that they are fully realized and that potential conflicts between the proposed landscape measures and any other project works let its are resolved at the earliest possible date and without compromise to the intention of the mitigation measures. In addition, implementation of the mitigation measures recommended by the EIA will be monitored through the site audit programme.
- 8.1.2 A number of mitigation measures to ameliorate the landscape and visual impacts of the Project implementation is summarized in the EMIS of *Appendix 13.1* of the EIA Report.
- 8.1.3 The landscape and visual mitigation measures proposed should be incorporated in the landscape and engineering design. Mitigation measures to be implemented during construction should be adopted from the start of construction and be in place throughout the entire construction period. Mitigation measures to be implemented during operation should be integrated into the detailed design and built as part of the construction works so that they are in place on commissioning of the Project. Tree transplantation and compensatory planting should be carried out as early as possible in the Project with transplantation carried out prior to construction starting in any particular area.
- 8.1.4 During construction phase, Landscape & Visual Monitoring of the contractor's operations should be conducted monthly and reported by ET, and countersigned by IEC.

8.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH

8.2.1 In the Reporting Month, landscape & visual inspection was carried out by the Registered Landscape Architect for works area of Contract 1 and Contract 2 on 28th April 2023. The findings / reminders recorded during the inspection are presented in *Tables 8-1 and 8-2*.

Date	Findings and Reminder	Follow-Up Status
28 th April 2023	1. The Contractor is reminded to set up TPZ of proper size and with appropriate material around retain trees according to approved method statement.	Reminded only
	2. The Contractor is reminded to prevent the construction material pile within TPZ and ensure no works is allowed within the TPZ.	Reminder only
	3. Transplanted tree T2465 and T2928 were in fair health condition with normal foliage color and density. Contractor is reminded to provide proper maintenance according to the method statement.	Reminder only

 Table 8-1
 Landscape & Visual Inspection Finding for Contract 1

Table 8-2 Landscape & Visual Inspection Finding for Contract 2

Date	Findings and Reminder	Follow-Up
		Status
28 th April 2023	1. Contractor is reminded to set up TPZ of proper size and with appropriate material around retain trees according to approved method statement. Contractor should prevent any construction material pile within TPZ and ensure no works is allowed within the TPZ.	Reminder only

8.2.2 Inspection checklist of Landscape & Visual signed by RLA is attached in *Appendix L*.



9. WASTE MANAGEMENT

9.1 GENERAL WASTE MANAGEMENT

9.1.1 Waste management was carried out by an on-site Environmental Officer or an Environmental Supervisor from time to time in accordance with the Waste Management Plan (WMP).

9.2 RECORDS OF WASTE QUANTITIES

- 9.2.1 All types of waste arising from the construction work are classified into the following:
 - Construction & Demolition (C&D) Material;
 - Chemical Waste;
 - General Refuse; and
 - Excavated Soil.
- 9.2.2 The quantities of waste for disposal in this Reporting Month are summarized in *Table 9-1* and *9-2* and the Monthly Summary Waste Flow Table is shown in *Appendix M*. Whenever possible, materials were reused on-site as far as practicable.

	Contr	ract 1	Contract 2	
Type of Waste	Quantity	Disposal Location	Quantity	Disposal Location
Total generated C&D Materials (Inert) ('000m ³)	0.120		87.490 (#)	
Reused in this Contract (Inert) ('000m ³)	0		0	
Reused in other Projects (Inert) ('000m ³)	0		0	
Disposal as Public Fill (Inert) ('000m ³)	0.120	Tuen Mun Area 38	87.490 (#)	Tuen Mun Area 38

Table 9-1Summary of Quantities of Inert C&D Materials

Remark: the unit is '000kg

Table 9-2Summary of Quantities of C&D Wastes

	Con	tract 1	Contract 2	
Type of Waste	Quantity	Disposal Location	Quantity	Disposal Location
Recycled Metal ('000kg)	0		0	
Recycled Paper / Cardboard Packing ('000kg)	0		0	
Recycled Plastic ('000kg)	0		0	
Chemical Wastes ('000kg)	0		0	
General Refuses ('000m ³)	0.010	NENT Landfill	2.090 (#)	NENT Landfill

Remark: (#) the unit is in '000kg

9.2.3 Since canteen and/or kitchen are not allowed setting on the Project site, no domestic wastewater was generated from the Project.



10. SITE INSPECTION

10.1 REQUIREMENT

10.1.1 According to the approved EM&A Manual, environmental site inspection should be led by RE and attended by the Contractor and ET at least once per week. Regular environmental site inspections shall be carried out to assess the environmental performance.

10.2 FINDINGS / DEFICIENCIES DURING SITE INSPECTION IN THE REPORTING MONTH

Contract 1

10.2.1 In the Reporting Month, joint site inspections for Contract 1 to evaluate the site environmental performance were carried out by the RE, ET and the Contractor on 6th, 13th, 20th and 27th April 2023 and IEC attended joint site inspection on 20th April 2023. No non-compliance was noted in the Reporting Month. The findings / deficiencies that observed during the weekly site inspection are listed in *Table 10-1*.

Date	Findings / Deficiencies	Follow-Up Status
6 th April 2023	• No adverse environmental issue was observed.	N/A
13th April 2023	• The Contractor was reminded to provide protection	Reminder
	for transplanted tree.	only.
20 th April 2023	• No adverse environmental issue was observed.	N/A
27 th April 2023	• No adverse environmental issue was observed.	N/A

Table 10-1Site Observations for the Works of Contract 1

Contract 2

10.2.2 In the Reporting Month, joint site inspections for Contract 2 to evaluate the site environmental performance carried out by the RE, ET and the Contractor was on 6th, 13th, 20th and 27th April 2023 and IEC attended joint site inspection on 20th April 2023. No non-compliance was noted in the Reporting Month. The findings / deficiencies that observed during the weekly site inspection are listed in *Table 10-2*.

Table 10-2 Site Observations for the Works of Contract
--

Date	Findings / Deficiencies	Follow-Up Status
6 th April 2023	• No adverse environmental issue was observed.	N/A
13th April 2023	• The Contractor was reminded maintain the housekeeping of the site.	Reminder only.
20th April 2023	• No adverse environmental issue was observed.	N/A
27 th April 2023	• No adverse environmental issue was observed.	N/A



11. ENVIRONMENTAL COMPLAINT AND NON-COMPLIANCE

11.1 Environmental Complaint, Summons and Prosecution

11.1.1 In the Reporting Month, no environmental complaint was received for the project. No summons and prosecution was lodged for the Contract. The statistical summary table of the environmental complaint, summons and prosecution are presented in *Tables 11-1, 11-2* and *11-3*. The complaint log for the Project is shown in *Appendix N*.

Table 11-1 Statistical Summary of Environmental Complaints

	4	Environmental Complaint Statistics		
Reporting Mon	ith	Frequency	Cumulative	Complaint Nature
1 st - 30 th April 2023	Contract 1	0	2	(1) Air Quality (1) Noise
1 st – 30 th April 2023	Contract 2	0	5	(1) Water (2) Air Quality (1) Noise (1) Soil / muddy water

Table 11-2 Statistical Summary of Environmental Summons

Depending Men	41.	Environmental Summons Statistics		
Reporting Month		Frequency	Cumulative	Complaint Nature
1 st - 30 th April 2023	Contract 1	0	0	NA
1st - 30th April 2023	Contract 2	0	0	NA

Table 11-3 Statistical Summary of Environmental Prosecution

Donorting Mon	th	Environmental Prosecution Statistics		
Reporting Month		Frequency	Cumulative	Complaint Nature
1 st – 30 th April 2023	Contract 1	0	0	NA
1 st - 30 th April 2023	Contract 2	0	0	NA

11.1.2 In addition, no complaints received and emergency event relating to violation of environmental legislation for illegal dumping and landfilling were received.



12. IMPLEMENTATION STATUS OF MITIGATION MEASURES

12.1 GENERAL REQUIREMENTS

- 12.1.1 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.
- 12.1.2 The Works of Contract 1 and Contract 2 under the Project shall be implementing the required environmental mitigation measures according to the approved EM&A Manual subject to the site condition. Environmental mitigation measures implemented in this Reporting Month is summarized in *Table 12-1*. The status of the Environmental mitigation measures are presented in *Appendix O*.

Issues	Environmental Mitigation Measures
Water	• Provided efficient silt removal facilities to reduce SS level before effluent
Quality	discharge.
	• Provided ditches, earth bunds or sand bag barriers to minimize polluted runoff.
	• Temporary drainage was provided to prevent runoff going through site surface
	and minimize polluted runoff.
	• Provided perimeter cut-off drains at site boundaries to intercept storm runoff from
	crossing the site.
	• Exposed slopes surface were compacted and covered with tarpaulin or similar
	Provided portable chemical toilets on site.
Air Quality	 Maintain damp / wet surface on access road.
	 Maintain low vehicular speed within the works areas.
	 Provided vehicle wheel washing facilities at each construction site exit;
	 Provided water spraying every hour for all active works area.
	• Stockpiles of dusty material were covered with impervious sheeting.
	• Provided workers to clear dusty materials at the vehicle entrance or exit regularly.
	• Stockpile more than 20 bags of cement or dry pulverized fuel ash (PFA) has been
	covered entirely by impervious sheeting or placed in an area sheltered on the top
	and the 3 sides.
Noise	• Restricted 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.
	Placed noisy plants away from residence and school.
	• Provided noise barriers or hoarding to enclose the noisy plants or works.
Waste and	Shut down the plants when not in used. Provided on site corting prior to dispessel
Chemical	Provided on-site sorting prior to disposal.Followed requirements and procedures of the "Trip-ticket System"
Management	 Predicted required quantity of concrete accurately.
Wanagement	Collected the unused fresh concrete at designated locations in the sites for
	subsequent disposal.
Ecology	 Implementing water control measures (ETWB TCW No. 5/2005) to avoid direct
200085	or indirect impacts any watercourses and impact to any aquatic fauna during the
	construction phase.
	• Demarcation fencing has been erected to prevent unauthorised encroachment into
	the riparian corridor by constructions works and traffic.
	• The construction work and site formation have been phased in order to reduce
	overall noise disturbance impacts in particular areas.
	• Works have been restricted to daytime and any construction lighting was designed
	and positioned as to not impact on adjacent ecologically sensitive areas.
General	• The site was generally kept tidy and clean.
Contrai	Environmental Permit was displayed at site entrance.

 Table 12-1
 Environmental Mitigation Measures



12.2 TENTATIVE CONSTRUCTION ACTIVITIES IN THE COMING MONTH

- 12.2.1 According to the information provided by HCTYJV, the forthcoming construction activities for Contract 1 are listed below:
 - Planting works
 - Hydroseeding work
 - Paint Road Marking
- 12.2.2 According to the information provided by Sang Hing, the forthcoming construction activities for Contract 2 are listed below:
 - Construction of footpath at Lin Ma Hang Road
 - Watermain pipe and sewer installation work at Man Kam To Road
 - Planting works at Sandy Ridge and Lin Ma Hang Road

12.3 KEY ISSUES FOR THE COMING MONTH

12.3.1 The construction activities are illustrated in *Appendix P*. Key issues to be considered in the coming month for the works of Contract 1 and 2 shown in *Table 12-2* and *Table 12-3*.

Table 12-2	Work Undertaken and Illustrations of Mitigation Measures for Contract 1
D • •	

Description of Construction Activities	Used on PME	Environmental Mitigation Measures
Planting works	• Excavator	 Provided efficient silt removal facilities to reduce SS level before effluent discharge. Exposed slopes surface were compacted and covered with tarpaulin or similar means. Maintain damp / wet surface on access road. Maintain low vehicular speed within the works areas. Provided vehicle wheel washing facilities at each construction site exit; Stockpiles of dusty material were covered with impervious sheeting. Provided workers to clear dusty materials at the vehicle entrance or exit regularly. Restricted 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. Provided noise barriers or hoarding to enclose the noisy plants or works. Shut down the plants when not in used. Followed requirements and procedures of the "Trip-ticket System" Works have been restricted to daytime and any construction lighting was designed and positioned as to not impact on adjacent ecologically sensitive areas. The site was generally kept tidy and clean.

Table 12-3 Work Undertaken and Illustrations of Mitigation Measures for Contract 2

Construction Activities	Used on PME	Environmental Mitigation Measures
Construction of	• Dump	• Provided efficient silt removal facilities to reduce SS level
footpath at Lin Ma	truck	before effluent discharge.
Hang Road	 Excavator 	• Exposed slopes surface were compacted and covered with



Page 30

Construction Activities	Used on PME	Environmental Mitigation Measures
Activities Watermain pipe and sewer installation works at Man Kam To Road Planting works at Sandy Ridge and Lin Ma Hang Road	 PME Excavator Excavator Roller 	 tarpaulin or similar means. Maintain damp / wet surface on access road. Maintain low vehicular speed within the works areas. Provided vehicle wheel washing facilities at each construction site exit. Provided water spraying for all active works area, in particular for the soil nail works. Stockpiles of dusty material were covered with impervious sheeting. Provided workers to clear dusty materials at the vehicle entrance or exit regularly. Restricted 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. Placed noisy plants away from residence and school. Provided noise barriers or hoarding to enclose the noisy plants or works. Shut down the plants when not in used. Provided on-site sorting prior to disposal. Followed requirements and procedures of the "Trip-ticket System" Demarcation fencing has been erected to prevent unauthorised encroachment into the riparian corridor by constructions works and traffic. Works have been restricted to daytime and any construction
		lighting was designed and positioned as to not impact on adjacent ecologically sensitive areas.The site was generally kept tidy and clean.

12.3.2 The Contractors are reminded to pay special attention on water quality mitigation measures and should fully implement the measures as recommended in the EM&A Manual, in particular to prevent surface runoff and other pollutants from flowing to local stream and Conservation Area.



13. CONCLUSIONS AND RECOMMENTATIONS

13.1 CONCLUSIONS

- 13.1.1 This is the 57th Monthly EM&A Report presenting the monitoring results and inspection findings for the period of 1st to 30th April 2023.
- 13.1.2 In the Reporting Month, no 24-hour or 1-hour TSP monitoring result that triggered the Action or Limit Levels was recorded. No NOEs or the associated corrective action was therefore required.
- 13.1.3 In the Reporting Month, no noise complaint (which triggered Action Level) was received and no Limit Level exceedance for noise monitoring exceedance was recorded.
- 13.1.4 In the Reporting Month, no water quality monitoring exceedance was recorded.
- 13.1.5 Monthly ecological monitoring for sensitive habitat for area of Contract 1 and Contract 2 were undertaken on 11th April 2023. After analysing survey results in April from 2019 to 2023 for Contract 1, the species richness and abundance for wetland habitat were unstable and a rapid rebound from 2022 was recorded recently. This could be benefited by some positive factors such as the major construction works were completed and most of the PME has been removed from site. For Contract 2, there was approximate 30% decrease in species richness and abundance for wetland and non-wetland habitats in April 2023 when comparing to the April of 2022. Since Action Level of respond Measures have been triggered, investigation of cause for decrease was conducted and according to the on-site observation, there are new built workshops by others situated on both sides of Lin Ma Hang Road so the disturbance to fauna species from construction works could be increased. Due to the cause identified was not related to this project remedial action to remove or reduce source of disturbance is limited.
- 13.1.6 Besides, compensation planting works have been conducted in early Jan 2023. Therefore, disturbance to fauna species from construction works have been largely minimised. In addition, woodland compensation and grassland reinstatement would be implemented in the second and third quarter of 2023. Hence, the habitat of fauna species would be gradually recovered and expectation of increase in the species richness and abundance for wetland habitat is high.
- 13.1.7 In the Reporting Period, there was no vegetation clearance for both Contract 1 and Contract 2, and precautionary check for the presence of nesting birds was not required to carry out.
- 13.1.8 Landscape and visual inspection at both Contracts were undertaken on 28th April 2023. The Contractor was reminded to prevent the construction material pile within Tree Protection Zone and ensure no works is allowed within the TPZ.
- 13.1.9 In the Reporting Month, no environmental complaints, summons and prosecution were received. In addition, no complaints received and emergency events relating to violation of environmental legislation for illegal dumping and landfilling were received.
- 13.1.10 In the Reporting Month, joint site inspections for Contract 1 to evaluate the site environmental performance were carried out by the Resident Engineer, ET and the Contractor of the Contract 1 on 6th, 13th, 20th and 27th April 2023. Moreover, joint site inspections for Contract 2 by the RE, ET and the Contractor of Contract 2 were carried out on 6th, 13th, 20th and 27th April 2023. IEC attended the both Contract joint site inspection on 20th April 2023. No non-compliance was noted during the site inspections.

13.2 RECOMMENDATIONS

13.2.1 During wet season, water quality mitigation measures as recommended in the EM&A Manual should be fully implemented, in particular to prevent surface runoff and other pollutants from flowing to local stream and Conservation Area.



- 13.2.2 The Contractors are reminded to pay special attention on the air quality mitigation measures such as wheel wash facilities, watering of haul roads, loose soil construction surface and covering of dusty materials with tarpaulin sheet should be implemented as far as practicable.
- 13.2.3 Construction noise would be a key environmental issue during construction phase of the Project. Noise mitigation measures such as using quiet plants and mobile noise barriers should be implemented in accordance with the EM&A requirement.

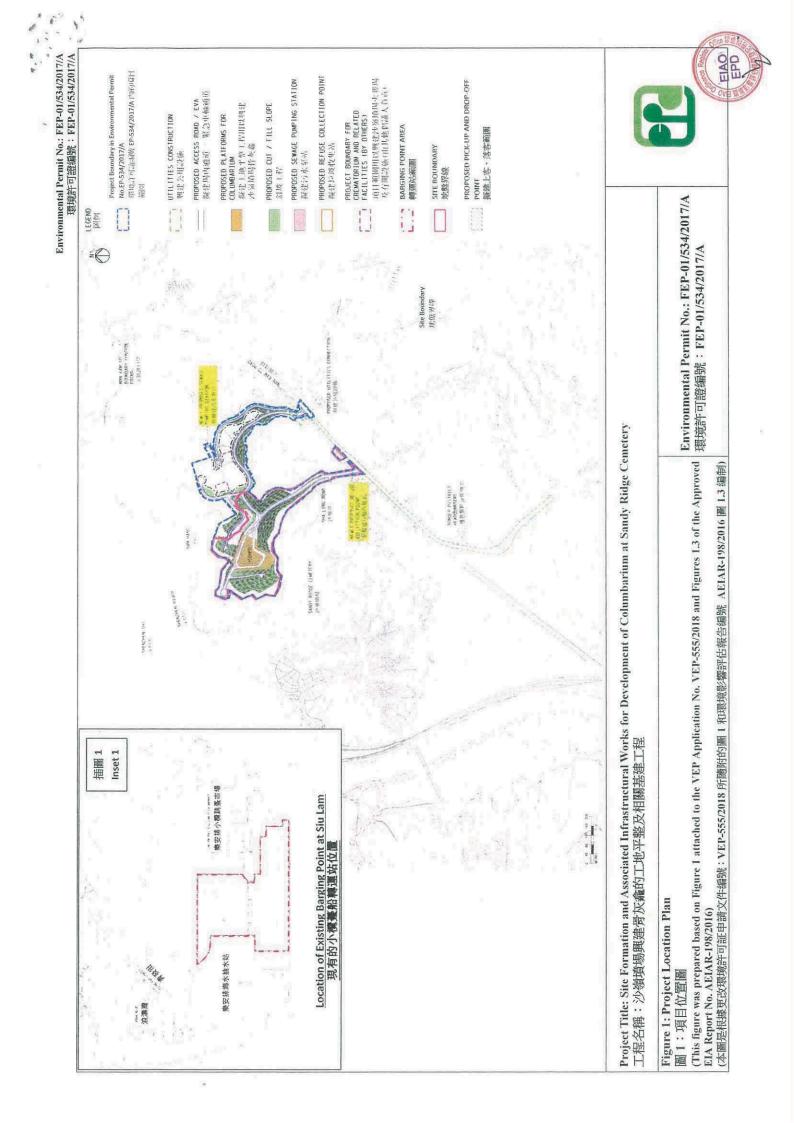


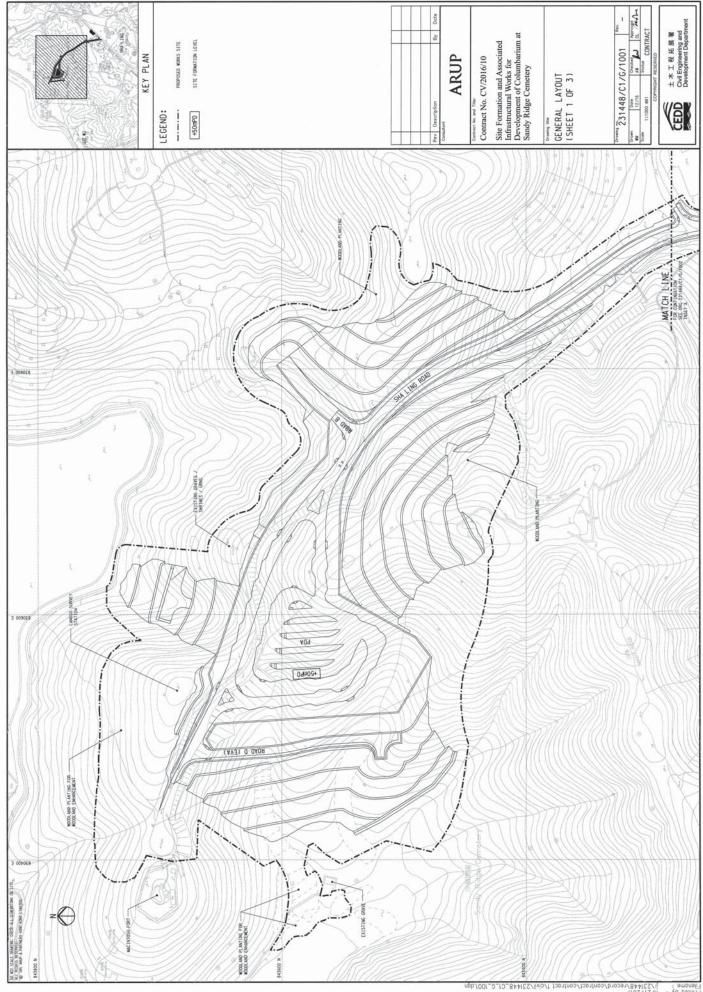
Appendix A

Layout Plan of the Project

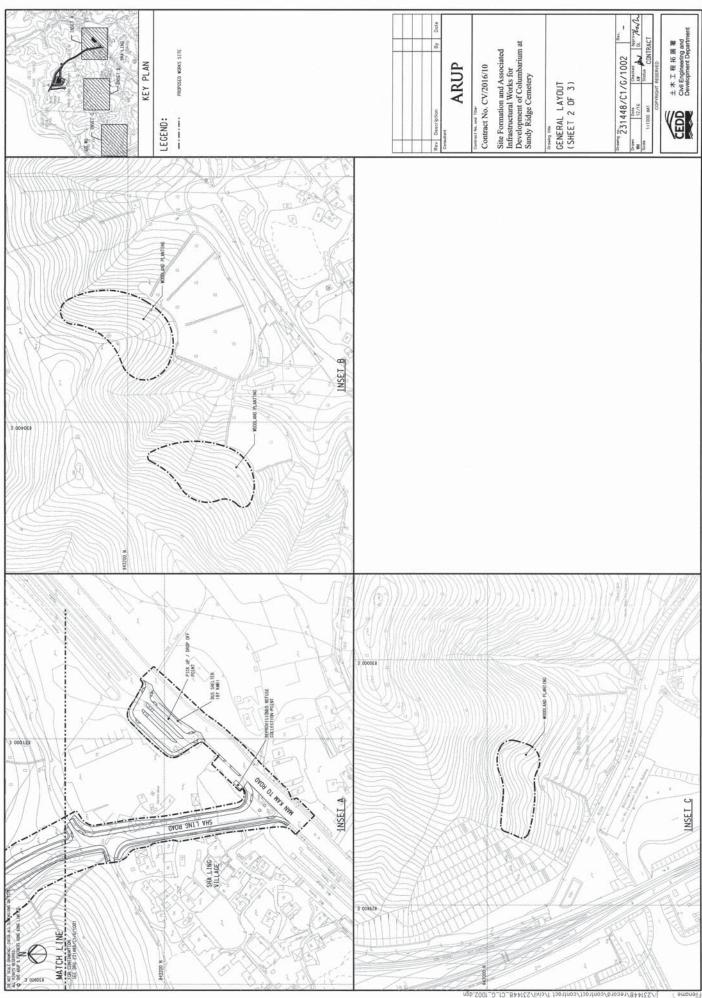


Layout Plan of Contract CV/2016/10

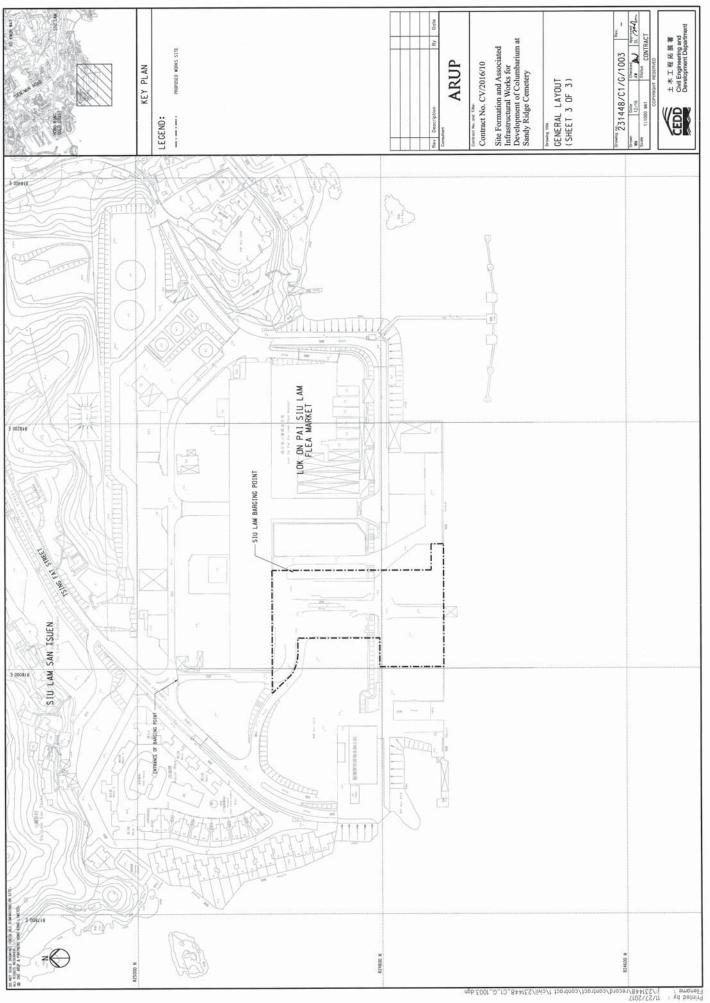




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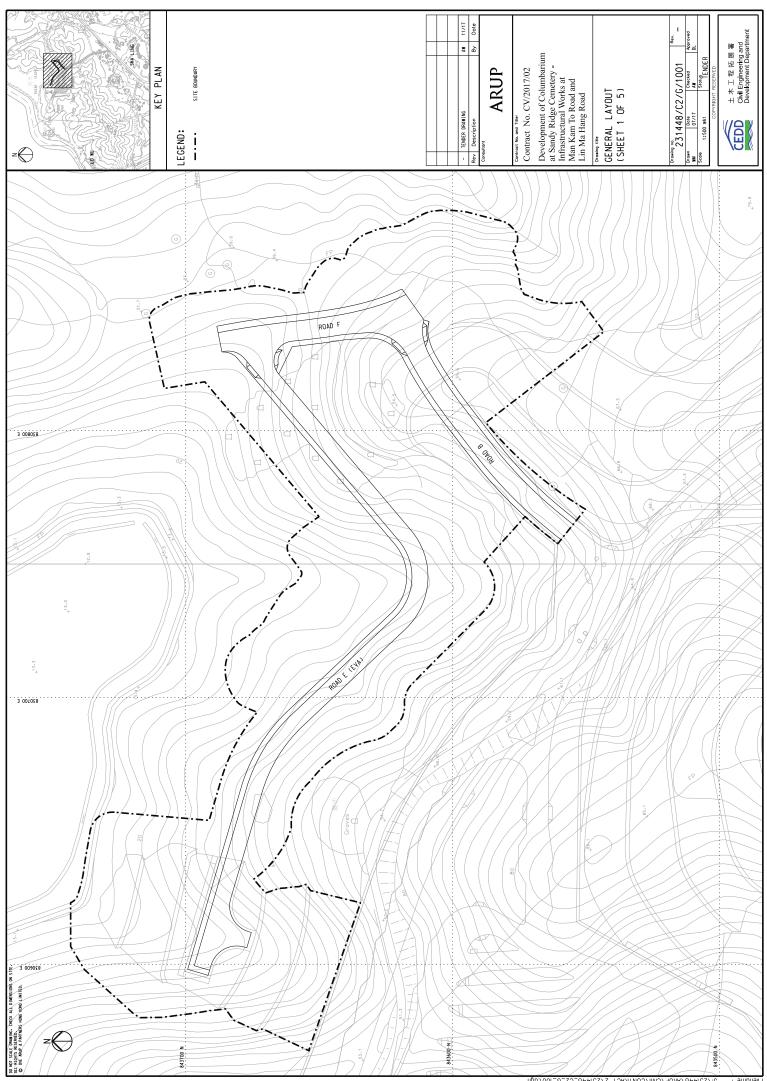
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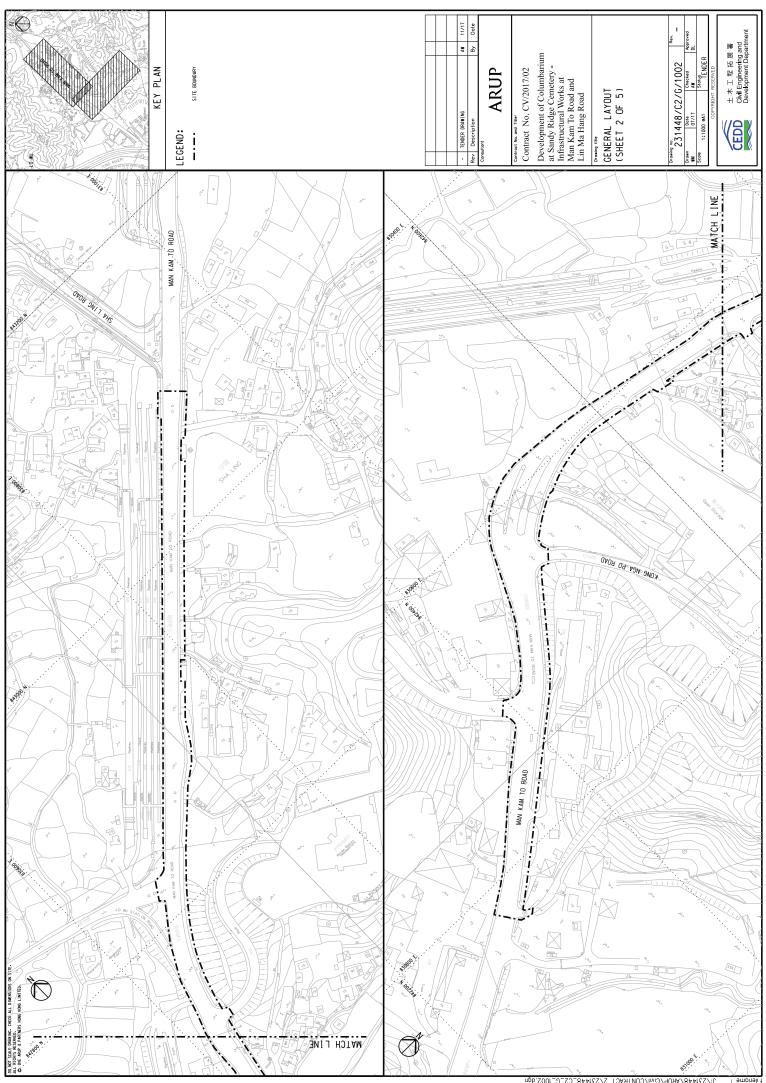


Layout Plan of Contract CV/2017/02

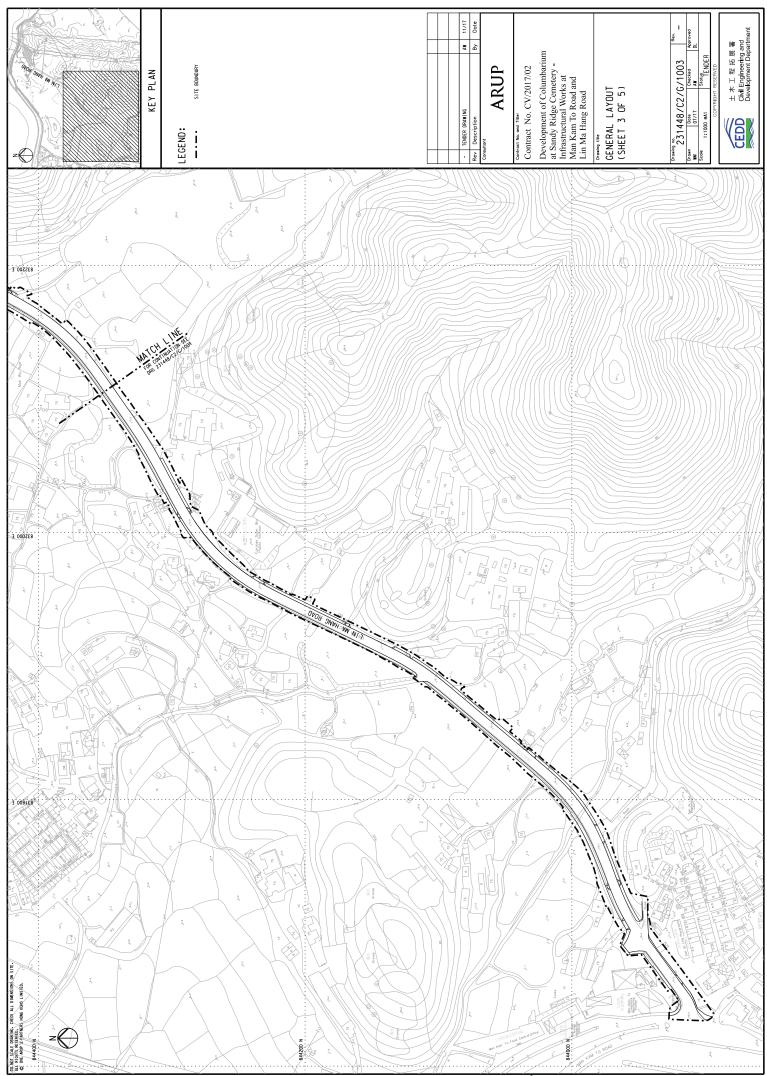
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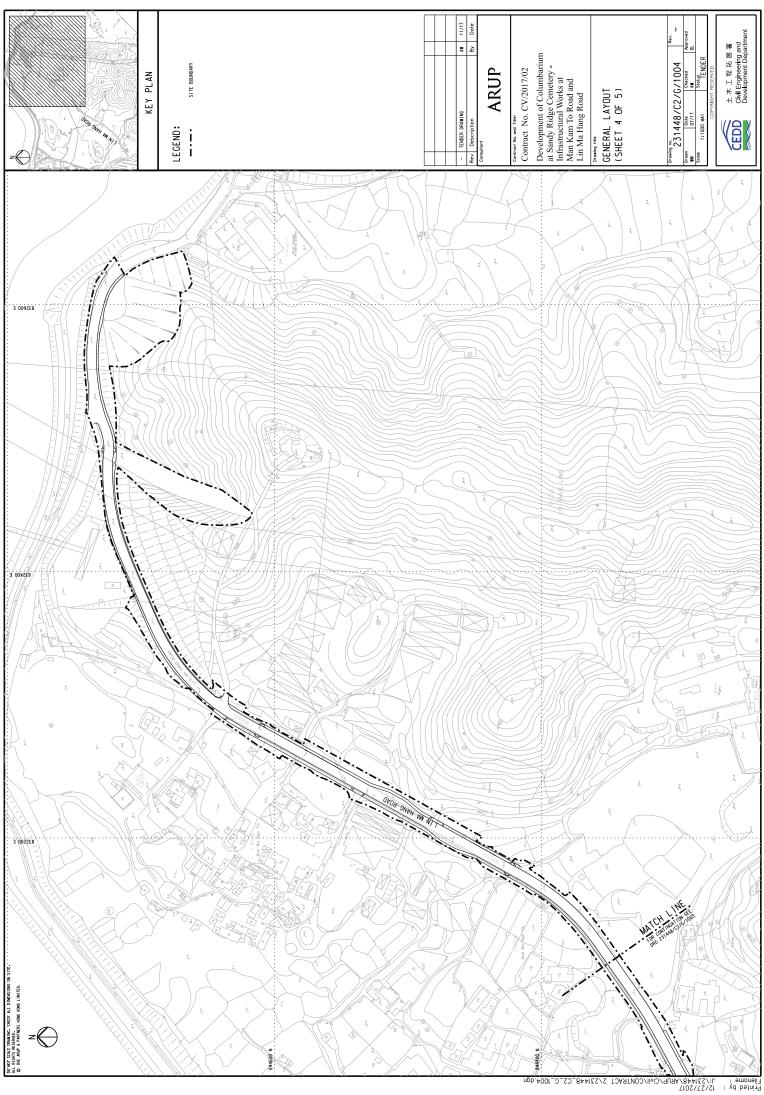
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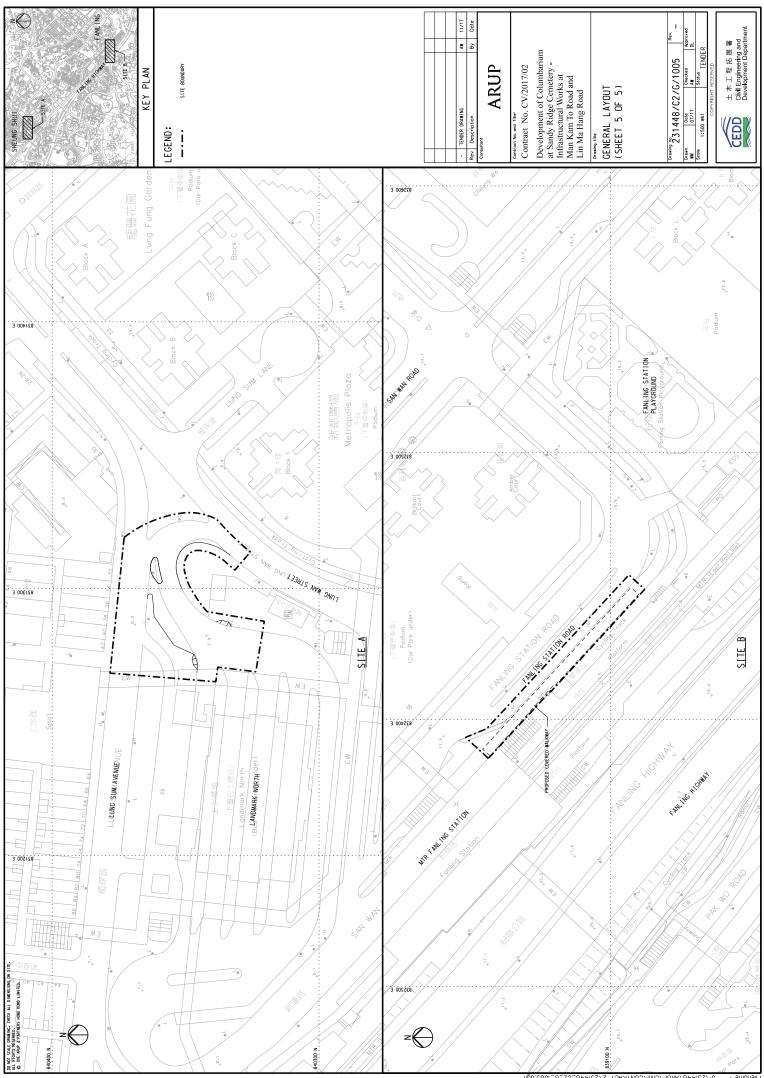


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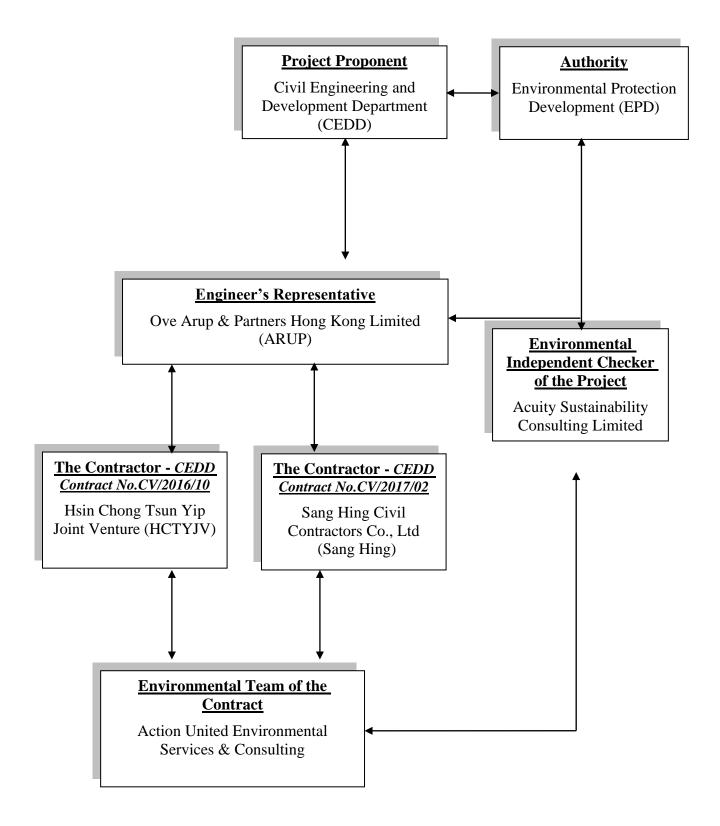


Appendix B

Organization Structure and Contact Details of Relevant Parties



The Contract's Environmental Management Organization





Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Employer	BOK Kwok-ming, Aaron	2762-5624	2714-0695
ARUP	Engineer's Representative	Steve Tang	6190-1513	2268-3950
ACUITY	Independent Environmental Checker	Mr. Leung CH Jacky	2698-6833	2698-9383
HCTYJV	Project Director	Mr. Keniel Kwong	9495-2408	2633-4691
HCTYJV	Construction Manager	Mr. Ho Man To	9620-9794	2633-4691
HCTYJV	Environmental Officer	To be	e advised	
HCTYJV	Environmental supervisor	Mr. Leung Pak Sum	9437-3606	2633-4691
AUES	Environmental Team Leader	Mr. T.W. Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Mr. Ben Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Ms. Nicola Hon	2959-6059	2959-6079
AUES	Environmental Site Inspector	Mr. Martin Li	2959-6059	2959-6079
AUES	Qualified Ecologist	Mr. Leung Wing Keung, Mike	2959-6059	2959-6079
AUES	Qualified Ecologist	Mr. Keith L.W. Kei	2959-6059	2959-6079
AUES	Registered Landscape Architect	Mr. Shui Yau Bun, Ivan	2959-6059	2959-6079

Contact Details of Key Personnel for CV/2016/10 (Contract 1)

Legend:

- CEDD (Employer) Civil Engineering and Development Department
 ARUP (Engineer) Ove Arup & Partners Hong Kong Limited
 HCTYJV (Main Contractor) Hsin Chong Tsun Yip Joint Venture
 ACUITY (IEC) Acuity Sustainability Consulting Limited
- AUES (ET) Action-United Environmental Services & Consulting



Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
CEDD	Employer	BOK Kwok-ming, Aaron	2762-5624	2714-0695
ARUP	Engineer's Representative	Anthony Lau	6190-1513	2268-3950
ACUITY	Independent Environmental Checker	Ir. Leung CH Jacky	2698-6833	2698-9383
SANG HING	Project Director	Edwin Au	9208-7329	2403-1162
SANG HING	Construction Manager	Raymond Wong	9272-1831	2403-1162
SANG HING	Site Agent	Elvin Lam	6285-0803	2403-1162
SANG HING	Environmental Officer	Keibi Chan	6090-0183	2403-1162
SANG HING	Environmental Supervisor	Kenny Chan	6115-0120	2403-1162
AUES	Environmental Team Leader	Mr. T.W. Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Mr. Ben Tam	2959-6059	2959-6079
AUES	Environmental Consultant	Ms. Nicola Hon	2959-6059	2959-6079
AUES	Environmental Site Inspector	Mr. Martin Li	2959-6059	2959-6079
AUES	Qualified Ecologist	Mr. Leung Wing Keung, Mike	2959-6059	2959-6079
AUES	Qualified Ecologist	Mr. Keith L.W. Kei	2959-6059	2959-6079
AUES	Qualified Ecologist	Mr. N.L Lam, Alan	2959-6059	2959-6079
AUES	Registered Landscape Architect	Mr. Shui Yau Bun, Ivan	2959-6059	2959-6079

Contact Details of Key Personnel for CV/2017/02 (Contract 2)

Legend:

- CEDD (Employer) Civil Engineering and Development Department
- ARUP (Engineer) Ove Arup & Partners Hong Kong Limited
- Sang Hing (Main Contractor) Sang Hing Civil Contractors Co., Ltd
- ACUITY (IEC) Acuity Sustainability Consulting Limited
- AUES (ET) Action-United Environmental Services & Consulting



Appendix C

Three Months Rolling Programme



Three Months Rolling Programme of

Contract CV/2016/10

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3 Month Rolling Programme (April 2023 to June 2023)

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n Zone p Works for Rolling by Pass Surface g Works for Rolling by Pass Surface fill Layer (7.5m/1m per 5 day) d Maintenance Access (at and below+27.5 mpD) ling Stage 3 (~7.5m height, +27.5 to ~+35mPD) Task Milestone Manual Task Milestone Manual Task Manual Task		Filling (Rolling by Pass)(~7.5m, 0.5m per day)		
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Task Summary Progress Inactive Milestone Manual Task Milestone Critical Inactive Task Inactive Summary Duration-only		Drainage and Maintenance Access (at and below+27.5 mpD)		
Milestone Inactive Task Inactive Summary Duration-only		FS1 middle Filling Stage 3 (~7.5m height, +27.5 to ~+35mPD)	283 days	Sat 14/3/20
Milestone Critical Inactive Task Inactive Summary Duration-only	_	Task	Progress	
1		Milestone Critical	Inacuve Task	

	Hsin Chong Tsun Yip Joint Venture Updated Date : March 2023
	2023
6	7

Manual Progress

3 Month Rolling Programme (April 2023 to June 2023)

	Filling (Rolling by Pass)(~7.5m, 0.5m per day) Filling in 3m Zone	130 days 133 days	Sat 14/3/20 Sat 22/8/20							
	Benching Works for Rolling by Pass Surface	3 days	Sat 22/8/20							
	Lay Rockfill Layer (7.5m/1m per 5 day)	130 days	Wed 26/8/20							
	Drainage and Maintenance Access (at and below +35 mpD)	20 days	Mon 1/2/21				l.			
	FS1 middle Filling Stage 4 (~7.5m height, +35 to +42.5mPD)	241 days	Sat 22/8/20							
	Filling (Rolling by Pass)(~7.5m, 0.5m per day) Filling in 3m Zone	15 days 41 days	Sat 22/8/20 Sat 27/2/21							
	Benching Works for Rolling by Pass Surface	3 days	Sat 27/2/21							
	Lay Rockfill Layer (7.5/1m per 5 days)	38 days	Wed 3/3/21							
	Drainage and Maintenance Access (+35 to +42.5mpD)	35 days	Tue 20/4/21				1			
3	FS1 middle Filling Stage 5 below +42.5mPD and +50mPD)	30 days	Tue 20/4/21							
)	Filling (Rolling by Pass)(~15m, 0.5m per day)	30 days	Tue 20/4/21							
)	Slope Surface forming/ Drainage and Maintenance Access	20 days	Tue 20/4/21							
l	Fill Slope FS1 North (Section 14 at Drawing C1/GE/1030)	<mark>900 days</mark>	Wed 11/7/18							
2	CE16	264 days	Wed 11/7/18							
3	FS1 North Filling Works Stage 1 (+15 to+19.7mPD)	204 days	Sat 1/6/19							
-	Drainage and Maintenance Access (+15 to +20 mpD)	28 days	Sat 25/1/20							
	Construction of Outfall CP2X	14 days	Thu 27/2/20							
5	FS1North , Filling (Rolling by Pass) (+19.7 to +22.4mPD) FS1 North Filling Stage 2 (+20 to +27.5 mPD)	20 days 100 days	Sat 14/3/20 Tue 7/4/20							
3	Drainage and Maintenance Access (+20 to +27.5 mpD)	65 days	Sat 1/8/20							
,)	Filling in 3m Zone (below +27.5mPD)	58 days	Mon 9/3/20							
0	Benching Works for Rolling by Pass Surface	3 days	Mon 9/3/20							
1	Lay Filter Layer	5 days	Thu 12/3/20							
)2	Filling by SRT (7.5m/ 3 day per 5 day)	50 days	Wed 18/3/20							
3	Filling in 3m Zone (below +27.5mPD) (Rockfill)	23 days	Mon 9/3/20				1			
4	Benching Works for Rolling by Pass Surface	3 days	Mon 9/3/20							
5	Lay Rockfill Layer (7.5m/1m per 5 day)	20 days	Thu 12/3/20				· · · · · ·			
5	Drainage and Maintenance Access	22 days	Sat 2/5/20							
7 18	FS1 North Filling Stage 3 (+27 to +35 mPD)	171 days	Tue 26/11/19 Tue 26/11/19							
)9	Filling (Rolling by Pass)(~3m, 0.5m per day) Drainage and Maintenance Access (+27.5 to +35 mpD)	6 days 30 days	Fri 8/5/20							
0	FS1 North Filling Stage 4 (+35 to +42.5 mPD), Upgrading of Existing Slope Feature 3NW-C/F37	229 days	Fri 12/6/20							
1	Filling (Rolling by Pass)(~3m, 0.5m per day)	20 days	Fri 12/6/20				1			
12	Drainage and Maintenance Access (+35 to +42.5 mpD)	30 days	Sat 30/1/21							
3	FS1 North Filling Stage 5 (+42.5 to +50mPD), Upgrading of Existing Slope Feature 3NW-C/F37	62 days	Wed 12/5/21							
4	Filling (Rolling by Pass)(~3m, 0.5m per day)	30 days	Wed 12/5/21							
15	Drainage and Maintenance Access (+42.5 to +50 mpD)	<mark>30 days</mark>	Fri 18/6/21							
6	Civil Works for Pick-up/Drop-off area (Part A1, M011 CH020 to CH140)	162 days	Sat 6/3/21							
17	Waterworks / Drainage / Sewerage/ Utilities Works	131 days	Sat 6/3/21							
18	Sewerage Works / Drainage Works	90 days	Sat 6/3/21				1			
19	Watermain FW1a (CH29-100)	20 days	Wed 31/3/21							
20	Road Lighting Civil Works Provision	20 days	Thu 22/7/21				I			
21	Utilities (by others)	10 days	Wed 31/3/21							
22 23	Carriageway and Footway Backfilling to Formation Level	72 days	Sat 26/6/21							
.5 14	Backfilling to Formation Level Carriageway	30 days 30 days	Sat 26/6/21 Mon 2/8/21				L.			
+ 5	Carriageway Footpath, Road Marking and Street Furniture	12 days	Mon 2/8/21 Mon 6/9/21							
5 6	Landscape Works	12 days 172 days	Sat 6/3/21							
7	Shrubs Planting at RW1	30 days	Wed 18/8/21							
8	Woodland Planting at Site 3	10 days	Wed 18/8/21							
9	Hydroseeding at Fill Slope	80 days	Sat 6/3/21				1			
0	Shrubs Planting at Pick-up/ Drop Off	10 days	Fri 23/7/21							
31	Irrigation System and Water Points (Except Water Connection)	24 days	Mon 2/8/21							
2	Tree Planting Works	10 days	Mon 20/9/21							
3	Section 2 of the Works (Parts B1, B2, C, D, F, G1 & G2)	1232 days	Fri 15/12/17							
4	Part B1	1103 days	Sat 28/4/18							
5	Ground Investigation and Geotechnical instrumentation for Commencement of Slopework	96 days	Sat 28/4/18							
6	Verification Drillholes (10 Nos., VDH3, 6, 10-15,19-20) and Preliminary Results Submission	95 days	Sat 28/4/18				· · · · · ·			
7 8	Design Review	36 days 170 days	Thu 12/7/18							
8 9	Cut Slopes CS1 & CS2 Excavation (crest to +55mPD)	4 days	Fri 12/10/18 Fri 12/10/18							
0	Excavation (crest to +55mPD) Excavation (+55 to+50mPD)	4 days 11 days	Fri 12/10/18							
1	Drainage and Maintenance Access (at +55mPD berm)	55 days	Tue 16/10/18							
2	Drainage and Maintenance Access (+55 to +50 slope surface)	180 days	Tue 16/10/18				L.			
3	Cut Slope CS3	251 days	Wed 4/11/20							
4	Excavation (crest to toe)	15 days	Wed 4/11/20							
5	Drainage and Maintenance Access	29 days	Sat 21/11/20							
6	Southern End of CS13	95 days	Mon 17/5/21							
7	Slope Cutting and Soil Nail	60 days	Mon 17/5/21				1			
18	Construction of toe wall (5 bays, approx. 66m) (4 days/ bay)	20 days	Thu 29/7/21							
19	Backfilling and drainage	15 days	Sat 21/8/21				1			
50 51	Cut Slopes CS11, CS12 and CS13 Slope Cutting (crest to+94.5mPD)	880 days 31 days	Thu 23/8/18 Thu 23/8/18							
52	Drainage and Maintenance Access (at crest)	29 days	Tue 2/10/18							
53	Slope Cutting and Soil Nail (+94.5 to +87mPD, 59 nos. of Soil Nail)	40 days	Sat 6/10/18							
	Task Summary	Progress		Inactive Milestone	\diamond	Manual Task		Manual Su	ummary Rollup	Start-only
				Inactive Summary					ummary	Finish-only

	Hsin Chong Tsun Yip Joint Ventur Updated Date : March 202
	2023
6	7

Manual Progress

3 Month Rolling Programme (April 2023 to June 2023)

) Ta	ask Name	Duration	Start
154	Drainage and Maintenance Access (at +94.5mPD berm)	7 days	Fri 26/10/18
155	Drainage and Maintenance Access (+94.5 to +87mPD slope surface)+ GI Works	24 days	Fri 26/10/18
156	Slope Cutting and Soil Nail (+87 to+79.5mPD, 84Nos. of Soil Nail)	40 days	Thu 8/11/18
57	Drainage and Maintenance Access (at +87mPD berm)	33 days	Fri 26/10/18
58	RFI50 (Waiting Instruction / Abortive Works / Additional Earthwork+25m Uchannel at CS13crest)	61 days	Thu 22/11/18
159	RFI(Slope Cutting and Soil Nail - additional 24 Nos. of Soil Nail)	39 days	Fri 11/1/19
160 161	RFI50(Additional Drainage and Mantenance Access (at 87mPD berm) Drainage and Maintenance Access (+79.5 to +87mPD slope surface)+ GI Works	13 days 10 days	Fri 1/2/19 Fri 8/2/19
162	Slope Cutting and Soil Nail (+72 to +79.5,115+21Nos. of Soil Nail)	90 days	Mon 21/1/19
163	Drainage and Maintenance Access (at +79.5mPD berm)	42 days	Fri 1/2/19
164	Drainage and Maintenance Access (47 2 to +79.5mPD slope surface, CS13 crest)+ GI Works	13 days	Thu 2/5/19
165	Slope Cutting and Soil Nail (+64.5 to +72 mPD, ,192 Nos. of Soil Nail)	67 days	Mon 8/4/19
166	Drainage and Maintenance Access (at +72mPD berm)	29 days	Sat 13/4/19
167	Drainage and Maintenance Access (+64.5 to +72mPD slope surface)+ GI Works	17 days	Wed 3/7/19
168	Slope Cutting and Soil Nail (+57 to +64.5mPD, 521 nos. of Soil Nail, 96 nos. of Raking Drain)	180 days	Tue 2/7/19
169	Drainage and Maintenance Access (at +64.5mPD berm)	40 days	Tue 6/8/19
170	Drainage and Maintenance Access (+57 to +64.5mPD slope surface)+ GI Works	17 days	Fri 7/2/20
171	Slope Cutting and Soil Nail for CS11 (+57 to +49.5 mPD, 88 nos. of Soil Nail, 19 nos. of Raking Drain)	38 days	Thu 12/3/20
172 173	Drainage and Maintenance Access for CS11 (at +57mPD berm) Drainage and Maintenance Access for CS11 (below57 mPD slope surface/ on RW11)+ GI Works	20 days 17 days	Thu 26/3/20 Sat 2/5/20
174	Slope Cutting and Soil Nail for CS12/CS13 (+57 to +49.5 mPD, 497 nos. of Soil Nail, 80 nos. of Raking Drain)	85 days	Fri 7/2/20
175	Drainin Drainage and Maintenance Access for CS12/13 (at +57mPD berm)	35 days	Wed 11/3/20
176	Drainage and Maintenance Access for CS12/CS13 (+49.5 to + 57mPD slope surface)+ GI Works	20 days	Sat 23/5/20
177	Slope Cutting and Soil Nail for CS12/CS13 (+42 to +49.5 mPD, 383 nos. of Soil Nail, 87 nos. of Raking	170 days	Tue 2/6/20
178	Drain) Drainage and Maintenance Access for CS12/13 (at +49.5mPD berm)	42 days	Fri 3/7/20
170	Drainage and Maintenance Access for CS12/CS13 (+42 to +49.5mPD slope surface)+ GI Works	17 days	Sat 29/8/20
180	Slope Cutting and Soil Nail for CS13 (+42 to +34.5 mPD, 126 nos. of Soil Nail, 55 nos. of Raking Drain)	59 days	Wed 23/12/20
181	Drainage and Maintenance Access for CS13 (at +42mPD berm)	28 days	Tue 19/1/21
182	Drainage and Maintenance Access for CS13 (+34.5 to +42mPD slope surface)+ GI Works	25 days	Tue 9/3/21
183	Slope Cutting and Soil Nail for CS13 (+34.5 mPDto toe, 73 nos. of Soil Nail, 27 nos. of Raking Drain)	100 days	Tue 16/3/21
184	Drainage and Maintenance Access for CS13 (at +34.5mPD berm)	27 days	Mon 12/4/21
185	Drainage and Maintenance Access for CS13 (below+34.5 mPD slope surface)+ GI Works	21 days	Mon 19/7/21
186	Retaining Wall RW11	98 days	Tue 12/11/19
187	General Excavation with ELS to Formation Level RW11 Bay 1-4	30 days	Tue 12/11/19
188	Plate Load Test and Blinding Layer for RW11 Bays 1-4	5 days	Tue 17/12/19
189	Base slab of Retaining Wall RW11 Bay 1-4	10 days	Sun 22/12/19 Mon 13/1/20
190 191	Wall Stem of Retaining Wall RW11 Bay 1-4 Plate Load Test and Blinding Layer for RW11 Bays 5-6	20 days	Mon 13/1/20 Tue 17/12/19
191	Plate Load Test and Blinding Layer for RW11 Bays 5-6 Base slab of Retaining Wall RW11 Bay 5-6	5 days 10 days	Sun 22/12/19
192	Wall Stem of Retaining Wall RW11 Bay 5-6	20 days	Tue 7/1/20
194	Protective Coating / Subsoil Drain / Filter Layer	5 days	Sat 8/2/20
195	Filling Works behind Retaining Wall RW11, (~5.8m, up to +54.8mPD)	23 days	Fri 14/2/20
196	Existing Slope Upgrading Works	210 days	Tue 1/12/20
197	Existing Feature 3NW-C/C256 Rock Joint Mapping, drainage and maintenance access	150 days	Tue 1/12/20
198 199	Existing Feature 3NW-C/C258 Slope Upgrading Works	200 days	Mon 28/12/20
200	Slope Cutting and Soil Nail (Crest to To, 29 Nos. of Soil Nail) Drainage and Maintenance Access (Crest)	100 days 100 days	Mon 28/12/20 Fri 23/4/21
200	Cut Slope CS15, CS16 and CS17	753 days	Thu 16/8/18
202	Slope Cutting and Soil Nail (crest to+69.5mPD,25 nos. of Soil Nail)	36 days	Thu 16/8/18
203	Drainage and Maintenance Access (at crest)	15 days	Mon 20/8/18
204	Slope Cutting and Soil Nail (+62 to +69.5mPD, 99 nos. of Soil Nail, 37 nos. of Raking Drain)	62 days	Mon 3/9/18
205	Drainage and Maintenance Access (at +69.5mPD berm)	49 days	Mon 3/9/18
206 207	Drainage and Maintenance Access (+62 to +69.5mPD slope surface)+ GI Works Slope Cutting and Soil Nail (+54.5 to +62mPD, 237 nos. of Soil Nail, 58 nos. of Raking Drain)	36 days	Fri 26/10/18
207	Slope Cutting and Soil Nail (+54.5 to +62mPD, 237 nos. of Soil Nail, 58 nos. of Raking Drain) Drainage and Maintenance Access (at +62mPD berm)	66 days 26 days	Wed 7/11/18 Wed 7/11/18
208	Drainage and Maintenance Access (at +62mPD bern) Drainage and Maintenance Access (+54.5 to +62mPD slope surface)+ GI Works	26 days 38 days	Sat 29/12/18
210	Slope Cutting and Soil Nail (+47 to +54.5mPD, 548 nos. of Soil Nail, 86 nos. of Raking Drain)	155 days	Mon 7/1/19
211	Drainage and Maintenance Access (at +54.5mPD berm)	61 days	Sat 19/1/19
212	Drainage and Maintenance Access (+54.5 to +47mPD slope surface)+ GI Works	90 days	Wed 3/4/19
213	Slope Cutting and Soil Nail (+39.5 to +47mPD, 490 nos. of Soil Nail, 107 nos. of Raking Drain)	94 days	Mon 6/5/19
214	Drainage and Maintenance Access (at +47mPD berm)	38 days	Tue 2/7/19
215 216	Drainage and Maintenance Access (+39.5 to +47mPD slope surface)+ GI Works Slope Cutting and Soil Nail (+39.5 to toe, 83 nos. of Soil Nail, 18nos. of Raking Drain)	23 days 59 days	Tue 27/8/19 Mon 4/5/20
210	Drainage and Maintenance Access (at +39.5mPD berm and Slope Surface) + GI Works	45 days	Tue 5/1/21
218	Fill Slope FS17	52 days	Fri 2/7/21
219	Drainage and Maintenance Access at toe	28 days	Fri 2/7/21
220	FS17 Filling Stage 1 (~2.5m max)	24 days	Wed 4/8/21
221	Civil Works for Sha Ling Road (M001 CH710 to CH825, M011 CH00 to CH20, M014)	224 days	Mon 28/12/20
222 223	Waterworks / Drainage / Sewerage/ Utilities Works	27 days	Mon 28/12/20
223	Sewerage Works / Drainage Works Watermain FW1 (CH532-637), FW1a (CH000-029) and FW2 (CH530-618)	18 days 15 days	Mon 28/12/20 Tue 12/1/21
224	Road Lighting Civil Works Provision	8 days	Tue 12/1/21 Tue 12/1/21
			140 12/1/21
		rogress	
	Milestone Critical In	nactive Task	

	Hsin Chong Tsun Yip Joint Venture Updated Date : March 2023
	2023
6	7

Manual Progress

3 Month Rolling Programme (April 2023 to June 2023)

Task	Name	Duration	Ctt
	. Valie	Duration	Start
	Utilities (by others)	3 days	Tue 12/1/21
	Carriageway and Footway	57 days	Fri 23/7/21
	Backfilling to Formation Level	11 days	Fri 23/7/21
	Carriageway	28 days	Thu 5/8/21
	Footpath, Road Marking and Street Furniture	18 days	Tue 7/9/21
_	Civil Works for PDA (PT04, PT05, PT06, PT07 and PT08)		Fri 5/6/20
	Waterworks / Drainage / Sewerage/ Utilities Works	238 days	Fri 5/6/20
	Drainage Works (with Petrol Interceptor)	200 days	Fri 5/6/20 Thu 11/3/21
	Road Lighting Civil Works Provision	10 days	
	Carriageway and Footway		Tue 23/3/21
	Backfilling to Formation Level	80 days	Tue 23/3/21
	Carriageway	60 days	Sat 10/4/21 Thu 19/8/21
_	Footpath, Road Marking and Street Furniture Civil Works for PDA (M011 CH140-215,M08 CH70-102)	22 days 161 days	Tue 9/3/21
_	Waterworks / Drainage / Sewerage/ Utilities Works	90 days	Tue 9/3/21
_	Sewerage Works / Drainage Works	60 days	Tue 9/3/21
-	Road Lighting Civil Works Provision	10 days	Mon 29/3/21
	Utilities (by others)	10 days	Thu 17/6/21
	Carriageway and Footway	71 days	Tue 29/6/21
-	Backfilling to Formation Level	30 days	Tue 29/6/21
1	Carriageway	30 days	Wed 4/8/21
	Footpath, Road Marking and Street Furniture	11 days	Wed 8/9/21
	Civil Works for Sha Ling Road (M001 CH610-710)	114 days	Tue 9/3/21
	Waterworks / Drainage / Sewerage/ Utilities Works	44 days	Tue 9/3/21
	Sewerage Works / Drainage Works	30 days	Tue 9/3/21
	Watermain FW1 (CH433-532) and FW2 (CH433-530)	30 days	Thu 25/3/21
	Road Lighting Civil Works Provision	10 days	Thu 25/3/21
	Utilities (by others)	10 days	Thu 25/3/21
	Carriageway and Footway	70 days	Tue 4/5/21
	Backfilling to Formation Level	30 days	Tue 4/5/21
_	Carriageway	30 days	Wed 9/6/21
_	Footpath, Road Marking and Street Furniture	10 days	Fri 16/7/21
	Civil Works for Sha Ling Road (M001 CH480-610, M08 CH00-70)	555 days	Tue 3/3/20
	Sewage Detention Tank Civil and Structural Works	549 days	Tue 3/3/20
-	Civil and Structural Works Excavation by open cut	74 days 25 days	Tue 3/3/20 Tue 3/3/20
_	Blinding layer concreting	1 day	Wed 1/4/20
2	Construction of base slab	7 days	Thu 2/4/20
	Construction of wall and top slab	20 days	Wed 15/4/20
_	Construction of manhole	7 days	Mon 11/5/20
5	Backgilling	14 days	Tue 19/5/20
7	VDS and AMS for Sewage Detention Tank (Permanment Design and Submission Approval)	350 days	Mon 18/5/20
;	VDS and AMS for Sewage Detention Tank	140 days	Wed 21/7/21
	Waterworks / Drainage / Sewerage/ Utilities Works	146 days	Tue 4/5/21
	Sewerage Works / Drainage Works	40 days	Wed 8/9/21
	Watermain FW1 and FW2 (CH310-433)	17 days	Tue 4/5/21
	Road Lighting Civil Works Provision	18 days	Tue 25/5/21
	Utilities (by others)	17 days	Wed 16/6/21
	Carriageway and Footway	64 days	Thu 28/10/21
	Backfilling to Formation Level	12 days	Thu 28/10/21
	Carriageway	32 days	Thu 11/11/21
	Footpath, Road Marking and Street Furniture	20 days	Sat 18/12/21
	Civil Works for Sha Ling Road (M001 CH360-480)	104 days	Wed 28/7/21
	Waterworks / Drainage / Sewerage/ Utilities Works	67 days	Wed 28/7/21
	Sewerage Works / Drainage Works	28 days	Wed 28/7/21
	Watermain FW1 and FW2 (CH175-310)	18 days	Thu 19/8/21
	Additional rising main (CE No. 181)	30 days	Thu 9/9/21
-	Road Lighting Civil Works Provision Utilities (by others)	15 days	Thu 19/8/21
	Utilities (by others) Carriageway and Footway	11 days	Thu 19/8/21 Mon 18/10/21
-	Carriageway and Footway Backfilling to Formation Level	37 days	
	6	7 days	Mon 18/10/21
_	Carriageway	18 days	Tue 26/10/21
_	Footpath, Road Marking and Street Furniture	12 days	Tue 16/11/21
1	Civil Works for Sha Ling Road (M001 CH180-360) Waterworks / Drainage / Sewerage/ Utilities Works	109 days	Fri 6/8/21 Fri 6/8/21
_		59 days	
-	Drainage and Sewerage Works Watermain FW1 and FW2 (CH000-175)	40 days	Fri 6/8/21
-	Road Lighting Civil Works Provision	23 days	Tue 7/9/21
-	Utilities (by others)	22 days 32 days	Tue 7/9/21 Tue 7/9/21
-	Carriageway and Footway	32 days 50 days	Mon 18/10/21
	Backfilling to Formation Level	10 days	Mon 18/10/21
16 17	Carriageway	24 days	Fri 29/10/21
8	Footpath, Road Marking and Street Furniture	16 days	Fri 26/11/21
	Port B2, G1 and G2		Fri 15/12/17
	Access Date for Part G1 and G2	0 days	Tue 5/2/19
	Task	Progress	

	Hsin Chong Tsun Yip Joint Ver Updated Date : March	
	2023	
6	7	

Manual Progress

Page 4

3 Month Rolling Programme (April 2023 to June 2023)

301	Land Decontamination Works	293 days	Tue 2/10/18
302	Re-appraisal and Contamination Assessment Plan (CAP) Submission to EPD	10 days	Tue 2/10/18
)3)4	EPD Review and Acceptance for CAP Environmental SI for Determination of Decontamination and SI Testing	195 days 70 days	Fri 12/10/18 Tue 28/5/19
-	Contamination Assessment Report (CAR) Submission to EPD	18 days	Tue 20/8/19
	EPD Review and Acceptance for CAR	14 days	Tue 10/9/19
	Civil Works for Sha Ling Road (M001 CH40-110) Objection from Local Village (EW16 & 18)	717 days 355 days	Tue 21/5/19 Tue 21/5/19
	Application for Road Closure / Road Divertion	17 days	Thu 30/7/20
	Noise Barrier Bay 5 to Bay 8	322 days	Wed 19/8/20
!	General Excavation with ELS to Formation Level Bay 5 to Bay 8	15 days 30 days	Wed 19/8/20 Thu 20/8/20
3	Base slab of Noise Barrier Bay 5 to Bay 8 Wall Stem of Noise Barrier Bay 5 to Bay 8	30 days	Thu 24/9/20
14	Protective Coating /Temp Fill	5 days	Mon 2/11/20
5	Installation of panel Waterworks / Drainage / Sewerage/ Utilities Works	10 days 70 days	Mon 6/9/21 Thu 13/5/21
517	Sewerage Works / Drainage Works	35 days	Thu 13/5/21
18	Watermain FW3 (CH045-105)	20 days	Wed 14/7/21
19	Road Lighting Civil Works Provision	10 days	Fri 25/6/21
20 21	Utilities (by others) Carriageway and Footway	15 days 59 days	Fri 25/6/21 Fri 6/8/21
22	Backfilling to Formation Level	10 days	Fri 6/8/21
23	Carriageway	42 days	Wed 18/8/21
24	Footpath, Road Marking and Street Furniture	7 days	Fri 8/10/21
25 26	Ground Investigation and Geotechnical instrumentation for Commencement of Slopework Trial Pit Excavation / Installation of Instruments and Preliminary Results Submission	45 days 45 days	Fri 8/2/19 Fri 8/2/19
.0	Fill Slope FS13 and FS14	56 days	Fri 6/8/21
8	Drainage and Maintenance Access at toe	32 days	Fri 6/8/21
9	FS13 and FS14 Filling Stage 1 (~2.5m max)	24 days	Mon 13/9/21
0	Cut Slope CS14 Slope Cutting (crest totoe)	20 days 3 days	Wed 13/10/21 Wed 13/10/21
32	Drainage and Maintenance Access (at crest)	17 days	Mon 18/10/21
33 34	Civil Works for Sha Ling Road (M001 CH110-180)	104 days	Fri 8/10/21
4 5	Waterworks / Drainage / Sewerage/ Utilities Works Sewerage Works / Drainage Works	45 days 30 days	Fri 8/10/21 Fri 8/10/21
36	Watermain FW3 (CH105-175)	12 days	Sat 13/11/21
37	Road Lighting Civil Works Provision	10 days	Sat 13/11/21
338	Utilities (by others)	15 days	Sat 13/11/21
339 340	Carriageway and Footway Backfilling to Formation Level	59 days 10 days	Wed 1/12/21 Wed 1/12/21
341	Carriageway	42 days	Mon 13/12/21
342	Footpath, Road Marking and Street Furniture	7 days	Mon 7/2/22
43	Man Kam To Road Bus Shelter (PT01, PT02 and PT03)	1175 days	Fri 15/12/17
44 45	Used as Temporary Site Office / Storage Area Investigation for DongJiang Watermain(CE23)	340 days 82 days	Fri 15/12/17 Thu 10/1/19
16	Works Area Handing Over to WSD as Request	198 days	Mon 15/4/19
7	Interface Issue with C2 (As request by Arup to delay XP application) (Including Temp. Road Diversion)	290 days	Tue 28/5/19
-8	TTA and XP Application at Man Kam To Road	14 days	Wed 20/5/20
9	Works Area Handling to WSD for DongJiang Watermain Works	37 days	Wed 25/11/20
50 51	Waterworks / Drainage / Sewerage/ Utilities Works Sewerage Work (Petrol Interceptor)	180 days 15 days	Mon 11/1/21 Fri 16/7/21
52	Sewerage Work (Petrol Interceptor) Sewerage Works / Drainage Works	15 days 150 days	Mon 11/1/21
53	Road Lighting Civil Works Provision	11 days	Fri 16/7/21
4	Utilities (by others)	30 days	Fri 16/7/21
55 56	Carriageway and Footway	117 days	Fri 16/7/21
57	Backfilling to Formation Level Carriageway	12 days 56 days	Fri 20/8/21 Fri 3/9/21
58	Footpath, Road Marking and Street Furniture	19 days	Thu 11/11/21
59	Reinstatement to existing Man Kam To Road	5 days	Fri 16/7/21
50	Civil Works for Sha Ling Road (M001 CH00-40)	985 days	Thu 30/8/18
61 62	TTA and XP Application at Man Kam To Road Works Area Handing Over to WSD as Request	14 days 120 days	Fri 15/1/21 Mon 6/5/19
63	Work Area Handling to Sang Hing for Turn Around	190 days	Mon 6/4/20
864	Works Area Handling to WSD for DongJiang Watermain Works	41 days	Wed 25/11/20
365 366	Consent from WSD for Works Near Dong Jing Watermain	325 days	Thu 30/8/18
365	Investigation works / Trial Pits for Watermains Submission for Tempworks	150 days 104 days	Thu 30/8/18 Thu 21/2/19
68	Approval from WSD	80 days	Tue 2/7/19
369	Noise Barrier Bay 1-4	196 days	Mon 1/2/21
370 371	General Excavation with ELS to Formation Level Bay 1-4 Base slab of Noise Barrier Bay 1-4	30 days 30 days	Mon 1/2/21 Thu 11/3/21
372	Base siab of Noise Barrier Bay 1-4 Wall Stem of Noise Barrier Bay 1-4	30 days 15 days	Mon 19/4/21
373	Protective Coating /Temp Fill	5 days	Fri 7/5/21
374 375	Installation of panel Waterworks / Drainage / Sewerage/ Utilities Works (PHS + Map Kap To EB Slow Lane)	10 days	Fri 17/9/21
75	Waterworks / Drainage / Sewerage/ Utilities Works (RHS + Man Kam To EB Slow Lane) Sewerage Works / Drainage Works	62 days 54 days	Thu 13/5/21 Thu 13/5/21
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	Task Summary	Progress	
	Milestone Critical	Inactive Task	

	Hsin Chong Tsun Yip Joint Venture Updated Date : March 2023
	2023
6	7

Manual Progress

Page 5

3 Month Rolling Programme (April 2023 to June 2023)

system B days Mon 197/21 15* Man Kan To EB Slow Lane) 38 days Wed 287/21 16 days Wed 287/21 17 days Mon 69/21 16 days Wed 287/21 17 days Mon 69/21 16 days Mon 69/21 17 days Mon 69/21 17 days Mon 69/21 18 days Mon 69/21 19 days Mon 69/21 10 days The 281/021 10 days The 281/021 10 days The 281/021 10 days Stat 181/221 10 days Stat 181/221 10 days Stat 181/221 11 days Stat 181/221 12 days Stat 181/221 13 days The 281/021 14 days Stat 181/221 15 days The 482/21 16 days Stat 181/221 17 days The 282/21 17 days The 282/21 17 days The 482/21 17 days The 482/21 <td< th=""><th></th><th>hent of Columbarium at Sandy Ridge Cemetery</th><th>1</th><th></th></td<>		hent of Columbarium at Sandy Ridge Cemetery	1	
vision 8 days Mon 197/21 1S* Man Kan To EB Slow Lane) 38 days Wod 287/21 10 days Wod 287/21 10 days Wod 287/21 10 days Wod 287/21 24 days Mon 99/21 A days Mon 99/21 Norks 54 days Tue 28/10/21 Street Furnhure 44 days Sat 191/21 10 days Tue 39/11/21 24 days Sat 191/21 Street Furnhure 44 days Sat 191/21 24 days Sat 191/21 Street Furnhure 44 days Sat 191/21 24 days Sat 191/21 Vatermans 100 days Sat 22/11 20 days Sat 22/11 Street Furnhure 24 days Sat 191/21 24 days Sat 191/21 Vatermans 100 days Sat 22/11 56 days 100 days Sat 22/11 Formation 15 days) Ta	sk Name	Duration	Start
25 days Thu 13/8/21 10 days Wed 28/721 24 days Mon 98/21 Street Furniture 4 days application 5 days Mon 69/21 52 days Street Furniture 4 days voision 10 days Thu 28/10/21 solution 5 days Mon 69/21 solution 5 days Mon 69/21 solution 10 days Thu 28/10/21 solution 10 days Thu 28/10/21 solution 10 days Thu 28/10/21 street Furniture 44 days Sat 161/21 ar Dong Jing Watermain 702 days Sat 161/21 street Furniture 46 days Sat 161/21 street Furniture 46 days Sat 161/21 ar Dong Jing Watermain 702 days Sat 161/21 street Furniture 46 days Sat 161/21 street Furniture 46 days Sat 161/21 street Furniture 46 days Sat 161/21 street Furniture 17 days <t< td=""><td>377</td><td>Watermain FW3 (CH000-045)</td><td></td><td></td></t<>	377	Watermain FW3 (CH000-045)		
IS- Man Kan To EB Slow Lane) 38 days Wed 287/21 10 days Wed 287/21 24 days Mon 98/21 Strete Furniture 44 days rage/Utilities Works (LHS) 52 days Mon 98/21 Yeas 42 days Mon 98/21 Works 42 days Mon 98/21 Yeas 10 days True 28/10/21 System 44 days Sat 19/12/16 Street Furniture 44 days Sat 19/12/16 ar Oong Jing Watermain 702 days Sat 19/12/16 Watermains 100 days True 4/5/21 Formation 10 days Sat 23/22/19 Ar Mood System 20 days Mon 98/21 10 days True 45/21 Sot days True 45/21 Formation 10 days Mon 98/21 Sot days Mon 98/21 <	378	Road Lighting Civil Works Provision		
10 days Wed 28721 24 days Mon 09821 Street Furniture 4 days 4 days Mon 0921 52 days Mon 0921 9 5 days 10 days Thu 2810021 10 days Thu 2810021 10 days Thu 2810021 5 38 days Thu 281021 9 38 days Thu 281021 10 days Thu 281021 10 days Thu 281021 10 days Stat 191221 24 days Sat 191226 27 days Sat 191276 27 days Sat 191276 28 days Wed 28021 29 days Sat 191276 20 days Sat 191276	379 380	Utilities (by others) Carriageway and Footway (RHS+ Man Kan To EB Slow Lane)		
24 days Mon 98/21 Stret Fundure 4 days Mon 98/21 Yorkis 42 days Mon 98/21 Yorkis 42 days Mon 98/21 Yorkis 5 days Thu 28/10/21 Si 35 days Thu 28/10/21 Si 36 days Thu 28/10/21 Si 44 days Sat 18/12/15 Street Fundure 44 days Sat 18/12/16 ar Dog Jing Watermain 702 days Sat 18/12/16 ar Dog Jing Watermain 702 days Sat 18/12/16 Yatermains 100 days Sat 22/19 Formation 102 days Sat 22/19 Formation 103 days Sat 22/19 Formation 103 days Sat 22/19 ar Addition 20 days Mon 98/21 20 days Mon 98/21 <td< td=""><td>381</td><td>Backfilling to Formation Level</td><td></td><td></td></td<>	381	Backfilling to Formation Level		
Sheet Fundure 4 days Mone 99/21 Sorter Fundure 4 days Mone 99/21 Works 42 days Mone 99/21 Norks 42 days Mone 99/21 Sorter 10 days Thu 28/10/21 So 38 days True 9/11/21 Sorter Fundure 42 days Sat 10/12/21 Steet Fundure 42 days Sat 10/12/21 Steet Fundure 902 days Sat 19/12/21 Steet Fundure 902 days Sat 19/12/11 Steet Fundure 902 days Sat 19/12/11 Steet Fundure 60 days Sat 19/12/11 Steet Fundure 42 days Sat 19/12/11 Steet Fundure 902 days Sat 19/12/11 Steet Fundure 100 days Tue 4/52/11 Steet Fundure 100 days Tue 4/52/11 Steet Fundure 100 days Tue 4/	382	Carriageway		
rage/ Unities Works (LHS) Sciences 2012 Provision 5 days True 201021 s) 10 days True 201021 s days 201121 Street Furniture 4 days 3 21201121 Street Furniture 4 days 3 21511221 set furniture 202 days 3 21512218 ar Dog Jing Watermain 722 days 3 2152221 ar Dog Jing Watermain 722 days 4 215221 ar Dog Jing Watermain 722 days 4 215221 ar Dog Jing Watermain 722 days 4 215221 ar Dog Jing Watermain 722 days 4 2019221 ar Dog Jing Watermain 722 days 4 215221 ar Dog Jing Watermain 723 days 4 110211 ar Jing Jing Jing Jing Jing 4 223 days 4 110211 ar Jing Jing Jing 4 23	383	Footpath, Road Marking and Street Furniture		
vision 5 days Thu 22/10/21 S) 38 days Thu 22/10/21 S) 38 days Thu 99/11/21 Ud days Sat 12/121 Steet Furniture 4 days Sat 12/128 ar Dong Jing Watermain 702 days Sat 15/1218 r/ Watermains 60 days Sat 15/1218 102 days Sat 15/1218 The 45/21 104 days Sat 22/19:1 The 45/21 104 days West 16/0/21 Sat 15/12/18 104 days West 16/0/21 Sat 15/12/18 104 days West 16/0/21 Sat 15/12/18 104 days West 21/12 Sat 15/12/18 104	384	Waterworks / Drainage / Sewerage/ Utilities Works (LHS)		
iii) 10 days The 24/1021 S) 38 days Tue 9/11/21 24 days Sat 19/12/1 Job days Sat 18/12/18 street Furniture 902 days Sat 18/12/18 ar Dong Jing Watermain 902 days Sat 18/12/18 r Watermains 60 days Sat 18/12/18 it & Re-design the arrangement 546 days Tue 4/5/21 it & Re-design the arrangement 200 days Sat 22/21 it & Addays Tue 4/5/21 Tue 4/5/21 r = 0 days Tue 4/5/21 Tue 4/5/21 r = 0 days Tue 4/5/21 Tue 4/5/21 r = 0 days Wed 18/62/1 Tue 4/5/21 r = 0 days Wed 18/62/1 Tue 2/2/21 r = 0 days Wed 18/02/1 Tue 2/2/21 r = 0 days Wed 38/21 Tue 2/2/21 r = 0 days Wed 38/21 Tue 2/2/21 r = 0 days Tue 2/2/21 Sot days r = 0 days Tue 2/2/21 Sot days r = 0 days Wed 319/02/1 Sot 38/2/21 <	385	Sewerage Works / Drainage Works	42 days	Mon 6/9/21
s)	386	Road Lighting Civil Works Provision		
10 days Tue 9/11/21 24 days Sat 20/11/21 24 days Sat 20/11/21 90 days Sat 15/12/18 90 days Sat 15/12/18 90 days Sat 15/12/18 90 days Sat 15/12/18 10 days Sat 15/12/18 10 days Sat 15/12/18 11 days Tue 4/521 Formation 15 days Tue 4/521 Formation 15 days Tue 4/521 nt 90 days Tue 4/521 120 days Tue 4/521 120 days nt 90 days Tue 4/521 120 days Tue 4/521 120 days nt 90 days Tue 2/321 90 days Tue 2/321 120 days 90 days Tue 2/321 120 days Tue 3/3/10 120 days Tue 3/3/11 120 days Tue 3/3/11 120 days Tue 3/3/12 120 days Tue 3/3/12 120 days Tue 3/3/12 120 days	387	Utilities (by others)		
24 days Sat 18/12/1 Street Furniture 4 days Sat 18/12/1 ar Dong Jing Watermain 702 days Sat 15/12/18 702 days Sat 15/12/18 502 days Sat 15/12/18 102 days Sat 15/12/18 502 days Sat 15/12/18 102 days Sat 15/12/18 502 days Sat 15/12/18 102 days Sat 15/12/18 Tue 4/521 200 days Tue 4/521 102 days Tue 4/521 102 days Wed 16/6/21 102 days Wed 16/6/21 110 days Wed 16/21 102 days Mon 9/9/21 120 days Mon 9/9/21 120 days Tue 2/3/21 120 days Tue 2/3/21 Mon 9/9/21 120 days </td <td>388</td> <td>Carriageway and Footway (LHS)</td> <td></td> <td></td>	388	Carriageway and Footway (LHS)		
Street Furniture 4 days Sat 18/12/21 ar Dong Jing Watermain 902 days Sat 15/12/18 r/Vatermains 800 days Sat 15/12/18 12 design the arrangement 646 days Tue 4/5/21 Formation 15 days Tue 4/5/21 Formation 15 days Tue 4/5/21 rd 45 days Watermains 90 days Sat 22/19 Tue 4/5/21 rd 45 days Wot 16/6/21 12 days Mon 18/221 120 days Mon 18/221 120 days Mon 18/221 120 days Mon 18/221 120 days Mon 18/221 120 days Mon 18/221 120 days Mon 18/221 120 days Mon 18/221 121 dat 90 days Tue 2/3/21 90 days Tue 2/3/21 ad 30 days Thu 3/10/21 30 days Tue 3/12/21 ad 30 days Thu 3/10/21 30 days Thu 3/10/21 ad 30 days Thu 3/10/21 30 days Thu 3/10/21	389 390	Backfilling to Formation Level	· · · ·	
space space space space space ar Dong Jing Watermain 722 days Sat 15/12/18 in D2 days Tute 2/2/19 Formation 15 days Tute 4/521 in D2 days Wed 16/21 in D2 days Tut 2/3/21 in D3 days Tut 2/3/21 in D4 days Tut 2/3/21 in D4 days Tut 2/3/21 in D4 days Tut 3/3/718 in D4 days Tut 3/3/718 in D4 days Tut 3/3/718 in D4 days	390 391	Carriageway Footpath, Road Marking and Street Furniture	•	
ar Dong Jing Watermain r Watermains f Watermains f Watermains f Watermains f Watermains f	391	Pott C		
r Watermains 102 days 5at 15/12/18 102 days 5at 23/21/91 546 days Tue 4/5/21 546 days Tue 4/5/21 546 days Tue 4/5/21 20 days Tue 4/5/21 20 days Wed 16/21 10 days Mon 9/8/21 120 days Tue 2/3/21 90 days Tue 2/3/21 90 days Tue 2/3/21 90 days Tue 2/3/21 120 days The 3/1/218 120 days Tue 2/3/21 120 days Tue 2/3/21 120 days Tue 2/3/21 120 days The 3/1/218 120 days Tue 2/3/21 120 days Tue 2/3/19 120 days Tue 2/3/1	393	Consent from WSD for Works Near Dong Jing Watermain		
Skedesign the arrangement 546 days Tue 2/7/19 Formation 15 days Tue 4/5/21 Pormation 16 days Tue 4/5/21 20 days Stat 22/5/21 45 days Wed 16/5/21 120 days Mon 9/8/21 120 days Mon 9/8/21 120 days Mon 9/8/21 120 days Mon 9/8/21 120 days Wed 19/2/21 90 days Tue 2/3/21 90 days Tue 2/3/21 90 days Tue 2/3/21 120 days Tue 3/3/1/2/21 90 days Tue 3/3/1/221 120 days Med 13/10/21 30 days Thu 3/15/18 121 days Thu 3/15/18 13/15/18 13/15/18 121 days Thu 3/15/18 13/15/18 13/15/18 121 days Thu 3/15/18 13/15/18 13/15/18 121 days Thu 3/15/18 13	394	Investigation works / Trial Pits for Watermains	-	
Pormation 200 days Tue 4/5/21 20 days Sta 22/5/21 16 days Nue 4/6/21 20 days Sta 22/5/21 11 90 days Mon 9/8/21 120 days Tue 2/3/21 90 days Tue 2/3/21 90 days Thu 12/8/21 90 days Thu 12/8/21 90 days Thu 12/8/21 90 days Thu 2/3/221 cad 30 days Thu 12/8/21 add 30 days Thu 3/10/21 cad 7.8.9 170 days Tue 2/3/21 ital Instrumentation for Commencement of Slopework 64 days Thu 3/15/18 44/5) and Preliminary Results Submission 43 days Thu 3/15/18 itags Thu 3/15/18 Mon 8/10/18 dipe toe 11 days Thu 3/15/18 itags Sta 16/2/19 12 days Sta 16/2/19	395	Submission for Tempworks		
Formation 16 days Tue 4/6/21 20 days Sat 22/5/21 45 days Wed 16/6/21 120 days Mon 9/8/21 120 days Mon 9/8/21 120 days Mon 9/8/21 120 days Mon 9/8/21 120 days Wed 8/9/21 90 days Wed 8/9/21 90 days The 2/3/21 91 days The 3/16/18 92 d/16/21/03 442 days The 3/16/18 4-5) and Preliminary Results Submission 30 days The 3/16/18 92 d/16/21/053 424 days Wed 11/7/18 90 days The 2/3/21 100 days Wed 11/7/18 91 days The 6/17/18 100 days The 6/16/19 92 d/16/21/053	396	Approval from WSD (RFI No.66) & Re-design the arrangement	546 days	Tue 2/7/19
20 days Sat 22/52/1 45 days Wed 16/621 90 days Mon 9/82/1 120 days Mon 9/82/1 120 days Mon 9/82/1 120 days Mon 9/82/1 90 days The 2/3/21 90 days The 2/3/21 90 days The 2/3/21 90 days The 2/3/21 cad 30 days Thu 2/8/21 cad 30 days Thu 2/3/21 cad 30 days Thu 2/3/21 cad 30 days Thu 3/1/18 cical Instrumentation for Commencement of Slopework 44 days Thu 3/1/18 4-5) and Preliminary Results Submission 43 days Thu 3/1/18 sidep toe 63 days St 162/19 afg C1/GE/1053) 424 days Wed 11/7/18 sidep toe 63 days St 162/19 afg St 300 12 days Mon 71/19 ptD) 12 days Thu 6/12/18 sidep toe 63 days St 162/19 afg C1/GE/1053) 12 days St	397	Refuse Collection Point	-	
45 days Wed 16/621 120 days Mon 9/821 120 days Mon 9/821 120 days Mon 9/821 120 days Mon 9/821 120 days Won 9/821 120 days Won 9/821 120 days Won 9/821 120 days Won 9/821 120 days Wod 8/821 90 days Tue 2/321 60 days Tue 2/321 cad 30 days Tue 31/2/21 cad 30 days Tue 31/2/18 sical Instrumentation for Commencement of Slopework 64 days Tue 31/5/18 45 and Preliminary Results Submission 36 days Tue 1/7/18 sig C1/GE/053) 12 days Tue 3/2/11 idope toe 63 days Sat 16/2/19 g1/ days Tue 3/2/11 14 days Sat 16/2/19 g2 d	398	General Excavation with ELS to Formation		
nt 90 days Mon 9/8/21 120 days Mon 9/8/21 120 days Mon 9/8/21 120 days Tue 2/3/21 90 days Tue 2/3/21 90 days Tue 2/3/21 60 days Tue 2/3/21 61 days Tue 2/3/21 62 days Thue 3/1/21 63 days Tiue 3/1/21 64 days Thue 3/1/21 64 days Thue 3/1/21 64 days Thue 3/1/81 64 days Thue 3/1/81 64 days Thue 3/1/81 65 days Thue 3/1/81 66 days Thue 3/1/81 67 days Thue 3/1/81 66 days Thue 3/1/81 67 days Thue 3/1/81 69 days Thue 3/1/81 60 days Wed 11/1/18 69 days Thue 3/1/81 60 days Wed 11/1/18 60 days Thue 3/1/81 60 days Thue 3/1/91 70 days Wed 11/1/18 70 days Thue 6/1/91 70 days Thue 6/1/91 70 days Thue 6/1/91 70 days Thue 6/1/91 70 days Wed 30/10/19 71 days Thue 6/1/91 71 days Thue 6/1/91 72 days Thue 6/1/91 72 days Thue 71/91 71 days Thue 2/1/191 71 days Thue 2/1/191 72 days Thue 1/10/191 73 days Thue 1/10/191 74 days Thue 2/1/191 74 days Thue 2/1/191 74 days Thue 2/1/191 74 days Thue 2/1/191 75 days Thue 2/1/191 75 days Thue 2/1/191 75 days Thue 2/1/191 75 days Thue 2/191 75 days Thue 2/191	399	Substructure Construction		
120 days Mon 9/021 120 days Mon 9/021 124 days The 2/321 90 days Wed 8/021 90 days The 2/321 91 days The 3/1/221 92 days Thu 3/1/38 4-5) and Preliminary Results Submission 36 days 36 days Thu 3/1/38 4-5) and Preliminary Results Submission 36 days 36 days Thu 5/1/18 sippe toe 11 days 110 days Wed 11/7/18 90 bays Thu 6/1/18 91 pers 12 days 92 pess 12 days 93 pess 12 days 94 pess 100 days	400	Superstructure Construction		
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7, 8, 9 170 days Tue 2/3/21 (Except Water Connection) 30 days Fin 3/1/21 ideal Instrumentation for Commencement of Slopework 64 days Thu 31/5/18 4-5) and Preliminary Results Submission 43 days Thu 31/5/18 ads ys Thu 31/5/18 36 days Thu 31/5/18 ags C1/GE/1053.) 424 days Wed 11/7/18 100 days Wed 11/7/18 100 days Wed 11/7/18 ags C1/GE/1053.) 121 days Mon 8/10/18 36 days Sat 15/2/19 islope toe 63 days Sat 16/2/19 111 days Mon 8/10/18 36 days Sat 3/6/19 ipD 121 days Thu 6/12/18 12 days Sat 3/6/19 12 days Sat 3/6/19 ipD 121 days Thu 23/5/19 12 days Sat 3/6/19 14 days Sat 17/6/19 ipD 12 days Sat 3/6/19 12 days Sat 3/6/19 19 days Thu 23/5/19 ipd apt as 5.5 mpD) 10 days Wed 30/10/19 14 days Sat 17/6/19 17 days Thu 21/1/19 ice Retaining Wall Bays 3-8 for Retaining Wall Bays 3-8 5 days	408 409	at Fill Slope FS13, FS14, FS17 Sha Ling Road and Man Kam To Road		
(Except Water Connection) 30 days Fri 3/12/21 457 days Thu 31/5/18 ical Instrumentation for Commencement of Slopework 64 days Thu 31/5/18 4-5) and Preliminary Results Submission 43 days Thu 31/5/18 36 days Web 31/5/18 36 days Thu 31/5/18 37 days Web 31/5/18 36 days Web 31/5/18 36 days Stat 31/5/17 100 days Web 31/5/18 36 days Stat 16/2/18 11 days Mon 71/19 PD) 121 days Fti 26/4/19 60 days Thu 23/5/19 9 Pass) 12 days Stat 17/6/19 12 days Stat 17/6/19 9 PD) 19 days Tue 8/10/19 12 days Stat 17/6/19 (+22 to +23 5 mpD) 10 days Web 30/10/19 12 days Stat 17/6/19 9 fat As Stat 17/6/19 <	410	Woodland Planting at Site 1,2,4, 7, 8, 9		
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4-5) and Preliminary Results Submission 43 days Thu 31/5/18 36 days Thu 57/718 36 days Wed 11/7/18 100 days Wed 11/7/18 47 days Mon 8/10/18 3100 days Wed 11/7/18 47 days Mon 8/10/18 47 days Mon 8/10/18 11 days Mon 7/119 121 days Thu 6/12/18 12 days Sat 1/8/19 9D) 41 days Sat 17/8/19 19 days Tue 8/10/19 28.5 mPD) 10 days Wed 30/10/19 17 days Thu 21/1/19 Sat 17/8/19 96 days Sat 17/8/19 Sat 17/8/19 97 days Thu 21/11/19 Sat 17/8/19 98 days Sat 17/8/19 Sat 3/8/19 16 restaining Wall Bays 3-8 5 days Sat 17/8/19 16 restaining Wall Bays 1-2 Says Fri 20/9/19 3ay 1-4 16 days Tru 10/10/19 <		ection 3 of the Works (Part E)		
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100 days Wed 11/7/18 47 days Mon 8/10/18 slope toe 63 days Sat 16/2/19 11 days Mon 7/1/19 1PD) 121 days Thu 6/12/18 12 days Fri 26/4/19 gby Pass) 60 days Thu 23/5/19 gby Pass) 12 days Sat 3/8/19 PD) 41 days Sat 17/8/19 (+21 to +28.5 mpD) 19 days Tue 8/10/19 28.5 mPD) 10 days Wed 30/10/19 (+28.5 to +35.5mpD) 15 days Fri 22/11/19 o days Sat 17/8/19 Sat 3/8/19 for Retaining Wall Bays 3-8 5 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Fri 20/9/19 jay 1-4 30 days Fri 13/9/19 jay 5-8 16 days Thu 26/9/19 jay 1-4 30 days Fri 11/10/19 jay 5-8 20 days Sat 11/1/19 filter Layer 5 days Sat 9/11/19 jay 5-8 16 days Thu 27/10/19	415	Design Review		
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hPD) 121 days Thu 6/12/18 12 days Fit 26/4/19 oling by Pass) 60 days Thu 23/5/19 g by Pass) 12 days Sat 3/8/19 hPD) 41 days Sat 17/8/19 hPD 41 days Sat 17/8/19 hPD 19 days Tue 8/10/19 (+21 to +28.5 mpD) 10 days Wed 30/10/19 cit 28.5 mPD) 15 days Fri 22/11/19 o 35.5 mPD) 15 days Sat 17/8/19 evel(Bay1-2) 23 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Sri 13/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 3ay 1-4 16 days Thu 26/9/19 3ay 5-8 30 days Thu 17/10/19 Filter Layer 5 days Sat 9/11/19 (+35.5 to +43.0 mpD) 12 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+43.0 to +50 mpD) 19 days Thu 17/10/19 (+43.0 to +50 mpD) 20 days Fri 15/11/19 (+43.0 to +50 mpD) 19 days Mon 25/2/19 <	419	Construction of Outfall CP14X		
12 days Fri 26/4/19 obling by Pass) 60 days Thu 23/5/19 g by Pass) 12 days Sat 3/8/19 pPD) 41 days Sat 3/8/19 (+21 to +28.5 mpD) 19 days Tue 8/10/19 (+21 to +28.5 mpD) 10 days Wed 30/10/19 (+25 to +35.5mpD) 15 days Fri 22/11/19 o 35.5 mPD) 17 days Thu 21/11/19 evel(Bay1~2) 23 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Fri 20/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 3ay 1-4 16 days Thu 26/9/19 3ay 1-4 30 days Fri 11/10/19 say 1-4 30 days Fri 11/10/19 say 1-4 30 days Fri 11/10/19 say 5-8 6 days Thu 17/10/19 sys 5-8 20 days Thu 17/10/19 g pFS4 (~8m up to +35.5 mPD) 22 days Fri 11/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+45.0 mpD) 19 days Thu 17	420	FS3 Filling Stage 1(~+16 to+17.6 mPD)		
billing by Pass) 60 days Thu 23/5/19 g by Pass) 12 days Sat 3/8/19 hPD) 41 days Sat 17/8/19 (+21 to +28.5 mpD) 19 days Tue 8/10/19 28.5 mPD) 10 days Wed 30/10/19 (+28.5 to +35.5mpD) 15 days Fri 22/11/19 o 35.5 mPD) 17 days Thu 21/11/19 evel(Bay1-2) 23 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Fri 13/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 3ay 1-4 16 days Thu 26/9/19 3ay 5-8 16 days Thu 17/10/19 Filter Layer 5 days Sat 9/11/19 op +S4 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+33.0 to +50 mpD) 20 days Thu 17/10/19 (+34.3 mPD) 20 days Thu 17/10/19 (+43.0 to +50 mpD) 19 days Wed 20/11/19 (crest)+ GI Works 30 days Wed 27/2/19 (crest)+ GI Works 30 days Wed 27/2/19 (c	422	CE50-No Fine at Slope Toe		
PD) 41 days Sat 17/8/19 (+21 to +28.5 mpD) 19 days Tue 8/10/19 28.5 mPD) 10 days Wed 30/10/19 (+28.5 to +35.5mpD) 15 days Fri 22/11/19 o 35.5 mPD) 17 days Tuu 21/11/19 evel(Bay1~2) 23 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Fri 13/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 3ay 1-4 16 days Tru 26/9/19 3ay 5-8 16 days Thu 26/9/19 3ay 5-8 20 days Thu 17/10/19 Filter Layer 5 days Fri 11/10/19 yap 5-8 20 days Thu 17/10/19 filter Layer 5 days Sat 17/8/19 ot +33 mPD) 19 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+43.0 to +50 mpD) 20 days Thu 17/10/19 (+43.0 to +50 mpD) 18 days Wed 20/11/19 (crest)+ Gl Works 8 days Wed 27/2/19 (crest)+ Gl Works 8 days Wed 27/2/19 (rest)+ Gl Works	423	FS Filling (+16.9 to +27.6 mPD) (Rolling by Pass)	60 days	Thu 23/5/19
(+21 to +28.5 mpD) 19 days Tue 8/10/19 28.5 mPD) 10 days Wed 30/10/19 (+28.5 to +35.5mpD) 15 days Fri 22/11/19 o 35.5 mPD) 17 days Thu 21/11/19 96 days Sat 17/8/19 evel(Bay1~2) 23 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Fri 20/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 Bay 1-4 16 days Fri 20/9/19 Bay 5-8 16 days Thu 26/9/19 Say 5-8 20 days Thu 17/10/19 Filter Layer 5 days Sat 9/1/19 priot F54 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+30 nPD) 19 days Wed 20/11/19 (+30 nPD) 23 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 30 days Wed 27/2/19 (rb 454.5 to +62mPD slope surface/berm)+ GI Works 30 days Mon 25/2/19 <t< td=""><td>424</td><td>FS Filling (+27.6to 30 mPD) (Rolling by Pass)</td><td></td><td></td></t<>	424	FS Filling (+27.6to 30 mPD) (Rolling by Pass)		
28.5 mPD) 10 days Wed 30/10/19 (+28.5 to +35.5mpD) 15 days Fri 22/11/19 o 35.5 mPD) 17 days Thu 21/11/19 evel(Bay1~2) 23 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Fri 13/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 Bay 1-4 16 days Fri 20/9/19 Bay 1-4 30 days Fri 11/10/19 Bay 5-8 16 days Fri 11/10/19 Bay 5-8 20 days Thu 17/10/19 Filter Layer 5 days Sat 17/8/19 op FS4 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+33.0 t+50 mpD) 19 days Thu 17/10/19 (+43.0 t+50 mpD) 235 days Wed 20/11/19 +50 mPD) 235 days Wed 20/11/19 (crest)+ GI Works 8 days Wed 20/21/219 at CS18/19 (NCE29) 30 days Wed 27/2/19 (rest)+ GI Works 8 days Wed 27/2/19 (rb1/14) 110 days Mon 25/2/19 (rb2/14) <td>425</td> <td>FS3 Filling Stage 1 (+16.9 to +21 mPD)</td> <td></td> <td></td>	425	FS3 Filling Stage 1 (+16.9 to +21 mPD)		
(+28.5 to +35.5mpD) 15 days Fri 22/11/19 o 35.5 mPD) 17 days Thu 21/11/19 96 days Sat 17/8/19 evel(Bay1~2) 23 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Fri 20/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 Bay 1-4 16 days Fri 20/9/19 Bay 5-8 16 days Fri 11/10/19 Bay 5-8 20 days Fri 11/10/19 Say 5-8 20 days Fri 15/11/19 Filter Layer 5 days Sat 9/11/19 o +43 mPD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+43.0 to +50 mpD) 20 days Thu 17/10/19 (+43.0 to +50 mpD) 20 days Thu 17/10/19 (+30. to +50 mpD) 30 days Thu 17/10/19 (crest)+ GI Works 8 days Wed 20/11/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 30 days Mon 25/2/19 (rest)+ GI Works 30 days Thu 4/4/19 T/mPD to toe, 18 nos. of Raking Drain)	426	Drainage and Maintenance Access (+21 to +28.5 mpD)	· · · · · · · · · · · · · · · · · · ·	
o 35.5 mPD) 17 days Thu 21/11/19 96 days Sat 17/8/19 evel(Bay1~2) 23 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Fri 13/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 Bay 1-4 5 days Fri 20/9/19 Bay 1-4 30 days Fri 11/10/19 Bay 5-8 16 days Thu 2f/11/19 Bay 5-8 20 days Thu 17/10/19 Start C-8m up to +35.5 mPD) 22 days Fri 15/11/19 yp FS4 (~8m up to +35.5 mPD) 22 days Fri 8/11/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+43.0 to +50 mpD) 18 days Wed 20/11/19 235 days Mon 25/2/19 30 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 113 days Mon 25/2/19 yt to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 113 days Mon 25/2/19 yt to +54.5mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 17/2/19 (rest)+ GI Works	427 428	FS3 Filling Stage 2 (~7.5m, 21 to +28.5 mPD) Drainage and Maintenance Access (+28.5 to +35.5mpD)		
96 days Sat 17/8/19 evel(Bay1~2) 23 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Fri 13/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 Bay 1-4 16 days Fri 20/9/19 Bay 1-4 30 days Fri 11/0/19 Bay 5-8 20 days Thu 126/9/19 Bay 1-4 30 days Fri 11/10/19 Bay 5-8 20 days Thu 17/10/19 Filter Layer 5 days Sat 9/11/19 op FS4 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+35.4 to +50 mpD) 20 days Thu 17/10/19 (+43.0 to +50 mpD) 18 days Wed 20/11/19 450 mPD) 18 days Wed 20/11/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 3/4/19 F7 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD Slope surface/berm)+ GI Works 30 days Thu 4/4/19	428	FS3 Filling Stage 3 (~7.5m, +28.5 to 35.5 mPD)	· · · · ·	
evel(Bay1~2) 23 days Sat 17/8/19 for Retaining Wall Bays 3-8 5 days Fri 13/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 Bay 1-4 16 days Fri 20/9/19 Bay 5-8 16 days Thu 26/9/19 Bay 1-4 30 days Fri 11/10/19 Bay 1-4 30 days Fri 11/10/19 Bay 5-8 20 days Thu 17/10/19 Filter Layer 5 days Sat 9/11/19 op FS4 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+3.0 to +50 mpD) 19 days Thu 17/10/19 (+3.0 to +50 mpD) 18 days Wed 20/11/19 (+3.0 to +50 mpD) 18 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 3/4/19 47 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 J/mPD to toe, 18 nos. of Raking Drain)	430	Retaining Wall RW4		
for Retaining Wall Bays 3-8 5 days Fri 13/9/19 for Retaining Wall Bays 1-2 5 days Fri 20/9/19 Bay 1-4 16 days Fri 20/9/19 Bay 5-8 16 days Thu 26/9/19 Bay 1-4 30 days Fri 11/10/19 Bay 5-8 20 days Thu 17/10/19 Filter Layer 5 days Sat 9/11/19 pp FS4 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 47 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+35.5 to +43.0 mpD) 20 days Thu 17/10/19 (+34.0 to +50 mpD) 20 days Thu 17/10/19 (+43.0 to +50 mpD) 235 days Wed 20/11/19 (crest)+ GI Works 30 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 3/4/19 (rts +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (rts +54.5mPD, 13 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 Wed 20/19 110 days Mon 6/5/19 (below +47mP	431	General Excavation to Formation Level(Bay1~2)		
for Retaining Wall Bays 1-2 5 days Fri 20/9/19 Bay 1-4 16 days Fri 20/9/19 Bay 5-8 16 days Thu 26/9/19 Bay 1-4 30 days Fri 11/10/19 Bay 1-4 30 days Fri 11/10/19 Bay 5-8 20 days Thu 17/10/19 Filter Layer 5 days Sat 9/11/19 pop FS4 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 47 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+43.0 to +50 mpD) 20 days Fri 8/11/19 (+43.0 to +50 mpD) 20 days Thu 17/10/19 +50 mPD) 20 days Wed 20/11/19 235 days Mon 25/2/19 30 days (crest)+ GI Works 30 days Wed 27/2/19 (crest)+ GI Works 30 days Wed 3/4/19 (r54.5 to +62.mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (r54.5 to +62.mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 t7mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI	432	Plate Load Test and Blinding Layer for Retaining Wall Bays 3-8		
3ay 5-8 16 days Thu 26/9/19 3ay 1-4 30 days Fri 11/10/19 3ay 5-8 20 days Thu 17/10/19 Filter Layer 5 days Sat 9/11/19 p FS4 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 22 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+35.5 to +43.0 mpD) 20 days Fri 8/11/19 (+43.0 to +50 mpD) 20 days Thu 17/10/19 (+43.0 to +50 mpD) 30 days Thu 17/10/19 +50 mPD) 30 days Wed 20/11/19 235 days Mon 25/2/19 30 days wed 27/2/19 30 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 3/4/19 VT to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 VmPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	433	Plate Load Test and Blinding Layer for Retaining Wall Bays 1-2		
Bay 1-4 30 days Fri 11/10/19 Bay 5-8 20 days Thu 17/10/19 Filter Layer 5 days Sat 9/11/19 p FS4 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 22 days Fri 15/11/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 (+43.0 to +50 mpD) 20 days Fri 8/11/19 0 +43 mPD) 20 days Fri 11/10/19 (+43.0 to +50 mpD) 30 days Thu 17/10/19 +50 mPD) 30 days Wed 20/11/19 235 days Mon 25/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 3/4/19 17 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (r54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 (rbmPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	434	Base Slab of Retaining Wall RW4 Bay 1-4		Fri 20/9/19
Bay 5-8 20 days Thu 17/10/19 Filter Layer 5 days Sat 9/11/19 pp FS4 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 47 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 o +43 mPD) 20 days Fri 8/11/19 (+30. to +50 mpD) 20 days Fri 8/11/19 (+50 mPD) 30 days Thu 17/10/19 +50 mPD) 18 days Wed 20/11/19 235 days Mon 25/2/19 30 days at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 27/2/19 Ya to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 (rmPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	435	Base Slab of Retaining Wall RW4 Bay 5-8		
Filter Layer 5 days Sat 9/11/19 op FS4 (~8m up to +35.5 mPD) 22 days Fri 15/11/19 47 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 0 +43 mPD) 20 days Fri 8/11/19 (+30. to +50 mpD) 20 days Fri 8/11/19 (+30. to +50 mpD) 30 days Thu 17/10/19 +50 mPD) 18 days Wed 20/11/19 235 days Mon 25/2/19 30 days at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 3/4/19 47 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 /JmPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	436	Wall Stem of Retaining Wall RW4 Bay 1-4		
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47 days Thu 17/10/19 (+35.5 to +43.0 mpD) 19 days Thu 17/10/19 o +43 mPD) 20 days Fri 8/11/19 (+43.0 to +50 mpD) 30 days Thu 17/10/19 +50 mPD) 30 days Wed 20/11/19 235 days Mon 25/2/19 30 days Wed 27/2/19 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 3/4/19 I7 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 I7mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	438	Protective Coating / Subsoil Drain / Filter Layer		
(+35.5 to +43.0 mpD) 19 days Thu 17/10/19 o +43 mPD) 20 days Fri 8/11/19 (+43.0 to +50 mpD) 30 days Thu 17/10/19 +50 mPD) 18 days Wed 20/11/19 235 days Mon 25/2/19 30 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 3/4/19 I7 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 I7mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	439	Backfilling behind RW4 and Fill Slop FS4 (~8m up to +35.5 mPD)		
o +43 mPD) 20 days Fri 8/11/19 (+43.0 to +50 mpD) 30 days Thu 17/10/19 +50 mPD) 18 days Wed 20/11/19 235 days Mon 25/2/19 30 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 3/4/19 I7 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 I7mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	440	Fill Slope FS2	•	
(+43.0 to +50 mpD) 30 days Thu 17/10/19 +50 mPD) 18 days Wed 20/11/19 235 days Mon 25/2/19 30 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 30 days Wed 27/2/19 // To to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 H7mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	441 442	Drainage and Maintenance Access (+35.5 to +43.0 mpD) FS2 Filling Stage 1 (~7.5m, +35.5 to +43 mPD)	· · · · · · · · · · · · · · · · · · ·	
+50 mPD) 18 days Wed 20/11/19 235 days Mon 25/2/19 30 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 30 days Wed 27/2/19 (To t>54.5 mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 17mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	442	Drainage and Maintenance Access (+43.0 to +50 mpD)		
235 days Mon 25/2/19 30 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 27/2/19 I7 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 J7mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	445	FS2 Filling Stage 2 (~7.5m, +43 to +50 mPD)		
30 days Wed 27/2/19 at CS18/19 (NCE29) 30 days Wed 27/2/19 (crest)+ GI Works 8 days Wed 3/4/19 I7 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 I/mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	445	Cut Slope CS18 and CS19	•	
(crest)+ GI Works 8 days Wed 3/4/19 I7 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 I7mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	446	Slope Cutting (+54.5 to crest)		
17 to +54.5mPD, 13 nos. of Raking Drain) 113 days Mon 25/2/19 (+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 I7mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	447	Confirmation of Interface Details at CS18/19 (NCE29)	30 days	Wed 27/2/19
(+54.5 to +62mPD slope surface/berm)+ GI Works 30 days Thu 4/4/19 ImpD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19 Summary Progress Progress	448	Drainage and Maintenance Access (crest)+ GI Works		
T/mPD to toe, 18 nos. of Raking Drain) 110 days Mon 6/5/19 (below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19	449	Slope Cutting and Raking Drain (+47 to +54.5mPD, 13 nos. of Raking Drain)		
(below +47mPD slope surface/berm)+ GI Works 70 days Sat 14/9/19 Summary Progress	450 451	Drainage and Maintenance Access (+54.5 to +62mPD slope surface/berm)+ GI Works		
Summary Progress	451	Slope Cutting and Raking Drain (+47mPD to toe, 18 nos. of Raking Drain) Drainage and Maintenance Access (below +47mPD slope surface/berm)+ GI Works		
			. • ••••	
		Task Summary	Progress	
			inactive rask	

	Hsin Chong Tsun Yip Joint Venture Updated Date : March 2023
	2023
6	7

Manual Progress

Page 6

Contract No. CV/2016/10 Site Formation and Associated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery		Hsin Chong Tsun Yip Joint Venture Updated Date : March 2023							
ID Task Name	Duration	Start	1	2	3	4	5	6	2023
453 Landscape Works	67 days	Mon 16/9/19							r
454 at Fill Slope FS2, FS3	50 days	Tue 8/10/19							
455 at Cut Slope CS18, CS19	60 days	Mon 16/9/19							

	Task Milestone		Summary	1	Progress	 Inactive Milestone 	\diamond	Manual Task	Manual Summary Rol	lup	Start-only	C
	Milestone	•	Critical		Inactive Task	Inactive Summary	1	Duration-only	Manual Summary		Finish-only	Э
	•							7				

Manual Progress



Three Months Rolling Programme of

Contract CV/2017/02

3 Month Rolling Programme (from 26/12/2022 to 25/2/2023)

	structural	Works at Man Kam To Road and Lin Ma Hang	Ruau				(•)	
ID	WBS 7	Task Name	Duration	Start Date	Completion				Qtr 4, 2	2010	
					Date			November	Qu +, 2	June	
						24/9		1/7	7/4	12/1	18/10
1	1	Letter of Accordance	0 dava	20/5/2010	20/5/2010	2479		1//	//4	12/1	16/10
1		Letter of Acceptance	0 days	30/5/2018	30/5/2018	1					
2		Starting Date	0 days	31/5/2018	31/5/2018	• • • • • • • • • • • • • • • • • • •					
5		ET Submissions	9 days	26/9/2018	5/10/2018		H				
12	4	Applications to Government Department	27 days	4/6/2018	30/6/2018	B0					
20	5	Submissions & acceptances	835 days	4/6/2018	15/9/2020	B			_		
44		Liaison with Utility Undertakers	979 days		3/2/2021						i
47		•	979 days		3/2/2021						
.,		A1 to A4 (refer PS Appendix A1)	575 uuys	1/0/2010	5/2/2021						
48			200 dave	4/0/0040	04/0/0040						
40		Liaison Meeting with Interface and associated	389 days	1/6/2018	24/6/2019						
50		contractors									
		Tree Survey Reporting	164 days		11/11/2018			1			
			671 days		1/4/2020	<u> </u>			-		
66	11	Provision of Project Manager's Site Accommodation	28 days	1/6/2018	28/6/2018						
		(PS1.08A(b) & 1.49)									
67	12	Design of irrigation system within the Sandy Ridge	21 davs	20/12/2019	10/1/2020					BK	
		Cemetery (LS/2021, 2041, 2042, W/1041,1011)									
70		Condition Survey	81 dave	23/8/2018	11/11/2018			4			
		section 1 of the works - Completion of all works			3/2/2021		-				
//			515 uays	51/5/2010	JIZIZUZI						
		within Parts A1, A2 and B of the Site except									
70		Establishment works	050	00/0/00 10	0/0/000		<u> </u>				_
	14.1	Parts A1	859 days		3/2/2021						
79	14.1.1	access date for section 1 (Parts A1) - not more	0 days	28/9/2018	28/9/2018						
		than 120 days after the starting date									
80	14.1.2	form temporary haul road from the south side	14 days	2/10/2018	22/10/2018						
		to Parts A1									
81	14.1.3	general site clearance	30 days	23/10/2018	28/11/2018		l l				
82	14.1.4	initial survey		29/11/2018	2/1/2019						
	14.1.5	construction of temporary drainage	21 days		26/1/2019						
	14.1.6							_			
04	14.1.0		258 days	28/1/2019	23/12/2019					-	
101		Parts A1)									
	14.1.7	A1) Construction of Retaining Wall RW13 (bay			12/12/2019					I	
125	14.1.8	Site Formation works for Fill Slope FS18	231 days	15/4/2019	3/2/2020						
136	14.1.9	CS21 - slope cutting	7 days	20/12/2019	30/12/2019					•	
137	14.1.10	install instrument for CS21		31/12/2019	6/1/2020					K	
138	14.1.11	placement of erosion control mat/ hydroseeding		7/1/2020	8/1/2020					k −	
	14.1.12	minor cutting CS26 (Parts A1) (for Road E)		9/1/2020	16/1/2020						
		- · · · · · · ·	7 days							· ·	
	14.1.13	Drainage works at Road E	43 days	17/1/2020	10/3/2020					<u> </u>	
143	14.1.14	Waterworks at Road E	24 days	11/3/2020	14/4/2020						
	14.1.15	CS23 - slope cutting & 300U channel	17 days	11/3/2020	1/4/2020						
145	14.1.16	install instrument for CS23	5 days	2/4/2020	8/4/2020					Г Г	
146	14.1.17	placement of erosion control mat/ hydroseeding		9/4/2020	14/4/2020					A A A A A A A A A A A A A A A A A A A	
	14.1.18	backfilling of pipe trench to formation	9 days	15/4/2020	25/4/2020					l K	
		(including SRT test)									
148	14.1.19	300U channel behind RW13	4 days	27/4/2020	2/5/2020						
	14.1.20	300U channel and planter wall at south side of		4/5/2020	6/6/2020						
		Road E	Ju uays	71 51 2020	0/0/2020						
150	14.1.21		161	01610000	20/40/0000						
		Roadworks of Road E (A1-ch66-243)	164 days		30/12/2020					<u> </u>	
151	14.1.21.1	ducting for road lighting (RD/2091) &	20 days	8/6/2020	2/7/2020						
		construction of irrigation system									
152	14.1.21.2	kerbing, sub-base (include subbase SRT	24 days	3/7/2020	30/7/2020					—	
		test) & cross road duct (RD/2061, 2081)									
153	14.1.21.3	concrete pavement	45 days	31/7/2020	21/9/2020						h
154	14.1.21.4				26/11/2020						
		emergency crash gate, beam barriers									
155	14.1.21.5	concrete footpath	27 dave	27/11/2020	30/12/2020						
	14.1.22	•		31/12/2020	16/1/2020						
	14.1.22	street lighting (Drg/ RD/2091)									_ }
		landscaping (hydroseeding)	5 days	18/1/2021	22/1/2021						₽
	14.1.24	landscaping (shrub planting)	10 days		3/2/2021					_	F 1
	14.2	Parts A2		31/12/2019	3/2/2021					↓	
160	14.2.1	access date for section 1 (Parts A2) - not more	0 days	31/12/2019	31/12/2019						
		than 580 days after the starting date								Ш	
161	14.2.2	form temporary haul road to Parts A2	6 days	2/1/2020	8/1/2020	\				₩	
162	14.2.3	general site clearance	18 days		1/2/2020						
		contractors Company Limited			• • • • • •	I		Page 1/	0	1 1	I I

Sang Hing Civil Contractors Company Limited

		Qtr 1, 2023
January 25/7	1/5	August 5/2
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3 Month Rolling Programme (from 26/12/2022 to 25/2/2023)

	ii works at mari kani to Roau anu Lin ma hang					(
ID WBS	Task Name	Duration	Start Date	Completion				Qtr 4, 2019					Qtr 1, 2023
				Date		1	November	Qu 7, 2019	June		January		August
					24/9		1/7	7/4	12/1	18	8/10 25/7	1/5	5/2
163 14.2.4	initial survey	12 days	3/2/2020	15/2/2020				· · · · · · · · · · · · · · · · · · ·					
164 14.2.5	construction of temporary drainage		17/2/2020	10/3/2020					Ě				
165 14.2.6	Site Formation works for Cut Slope CS22 (in Pa		11/3/2020	30/3/2020					н				
174 14.2.7	Construction of Retaining Wall RW13 Bay 6 to			10/8/2020					—				
199 14.2.8	(west) drainage works at Road E (ch250 to		8/8/2020	26/8/2020									
	300)	ie aaye	0/0/2020	20/0/2020									
200 14.2.9	(west) waterworks at Road E (ch250 to 300)	15 days	27/8/2020	12/9/2020					La contra c				
		io aayo	2110/2020	12/0/2020					_				
201 14.2.10	construction of Irrigation System	5 days	12/9/2020	17/9/2020					, i i i i i i i i i i i i i i i i i i i				
202 14.2.11	U channel for Road E	3 days	17/9/2020	19/9/2020					1	•			
203 14.2.12	Roadworks of Road E (A2-ch243-300)	42 days	19/9/2020	17/11/2020					F				
209 14.2.13	street lighting for Road E (Drg/ RD/2091)		17/11/2020	26/11/2020						•			
210 14.2.14	landscaping (shrub planting)		27/11/2020	1/12/2020						K			
211 14.2.15			8/8/2020	4/9/2020									
212 14.2.16	site formation works for Cut Slope CS25 (A2)		5/9/2020	18/9/2020									
213 14.2.17	placement of erosion control mat/ hydroseeding		19/9/2020	21/9/2020									
214 14.2.18	drainage works at Road B & sewerage works		19/9/2020	28/10/2020									
	at Road B	Lo dayo	10,012020	20,10,2020									
215 14.2.19	waterworks at Road B	25 days	29/10/2020	30/11/2020									
		_0 00y0											
216 14.2.20	backfill formation for Road B	3 days	1/12/2020	3/12/2020						†			
217 14.2.21	street lighting ducts and drawpits at Road B	9 days	1/12/2020	10/12/2020						x			
218 14.2.22	arrange Town Gas to lay cables (NOT YET		11/12/2020	16/12/2020						K			
	AGREED)	,.											
219 14.2.23	planter wall for Road B	5 days	17/12/2020	22/12/2020						ξ			
220 14.2.24	arrange HKT to lay PCCW cables (NOT YET		23/12/2020	30/12/2020						κ			
	AGREED)												
221 14.2.25	Roadworks of Road B (A2-ch28.5-90)	19 days	31/12/2020	22/1/2021						⊨ -I			
222 14.2.25.1	kerbing & sub-base (include sub-base SRT t			9/1/2021						Т.			
223 14.2.25.2	DBM (Roadbase)	2 days	11/1/2021	12/1/2021						5			
224 14.2.25.3	base course and wearing course	2 days	13/1/2021	14/1/2021						Б, I			
225 14.2.25.4	directional sign, roadmarkings & footpath	7 days	15/1/2021	22/1/2021						T I			
226 14.2.26	landscaping (hydroseeding)	17 days	13/1/2021	1/2/2021						–			
227 14.2.27	landscaping (shrub planting)	3 days	1/2/2021	3/2/2021						- F			
228 14.3	Parts B - refer Appendix MKTR01A &	979 days	31/5/2018	3/2/2021		P							
	Appendix MKTR01B												
229 14.3.1	access date for section 1 (Parts B) - the	0 days	31/5/2018	31/5/2018									
222	starting date												
230 14.3.2			1/6/2018	4/10/2018									
231 14.3.3	utility detection and submit reports		5/10/2018	9/11/2018									
232 14.3.4	Temporary Traffic Arrangement (TTA) Scheme	134 days	1/6/2018	9/11/2018									
236 14.3.5	for Man Kam Road	250	10/11/00/10	47/4/0000									
250 14.3.5		352 days	10/11/2018	17/1/2020									
237 14.3.5.1	(DN400)-refer to Drawings No. MKTR	50 davia	10/11/0010	10/1/0010									
237 14.3.5.1 246 14.3.5.2	Phase 1: TTA 1s		10/11/2018	12/1/2019									
240 14.3.5.2 255 14.3.5.3	Phase 1: TTA 8s Phase 1: TTA 15s		14/11/2018 20/11/2018	12/1/2019 12/1/2019									
264 14.3.5.4	Phase 1: TTA 155 Phase 2: TTA 2s		15/1/2018	4/3/2019									
273 14.3.5.5	Phase 2: TTA 2s Phase 2: TTA 9s		15/1/2019	4/3/2019									
273 14.3.5.6 282 14.3.5.6	Phase 2: TTA 9s Phase 2: TTA 16s	39 days 40 days	14/1/2019	4/3/2019									
282 14.3.5.7 291 14.3.5.7	Phase 3: TTA3s	39 days	5/3/2019	23/4/2019									
<u> </u>	Phase 3: TTA3s Phase 3: TTA10s		5/3/2019	23/4/2019									
309 14.3.5.9	Phase 3: TTATos	39 days 39 days	5/3/2019	23/4/2019									
318 14.3.5.10	Phase 4: TTA4s		29/4/2019	14/6/2019									
327 14.3.5.11	Phase 4: TTA4s Phase 4: TTA11s		29/4/2019	14/6/2019									
336 14.3.5.12			29/4/2019	14/6/2019									
345 14.3.5.13	Phase 5: TTA5s		19/6/2019	7/8/2019				· •					
354 14.3.5.14	Phase 5: TTA5s Phase 5: TTA12s		15/6/2019	7/8/2019									
363 14.3.5.15			15/6/2019	7/8/2019									
372 14.3.5.16		45 days 46 days	9/8/2019	3/10/2019									
381 14.3.5.17	Phase 6: TTA13s		14/8/2019	3/10/2019									
390 14.3.5.18			8/8/2019	3/10/2019									
390 14.3.5.18 399 14.3.5.19		47 days	8/8/2019 8/10/2019	27/11/2019									
577 14.5.5.19	F110501.11A15	44 uays	0/10/2019	21/11/2019									<u> </u>

3 Month Rolling Programme (from 26/12/2022 to 25/2/2023)

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ID	WBS	Task Name	Duration	Start Date	Completion	Qtr 4, 2019
					Date	November June
400	44.0 5.00		10.1		0=14,4,00,4,0	24/9 1/7 7/4 12/1
408	14.3.5.20	Phase 7: TTA14s	46 days		27/11/2019	
417	14.3.5.21	Phase 7: additional TTA21s		24/10/2019	27/11/2019	
427 437	14.3.5.22	additional Phase 8: additional TTA 0s		27/11/2019	17/1/2020	
	14.3.6	Construction of Sewerage (DN630) - refer to Drawing No. MKTR Programme/DR/001	311 days	18/1/2020	3/2/2021	
438	14.3.6.1	Phase A: TTA 1n	50 days	21/1/2020	21/3/2020	
447	14.3.6.2	Phase A: TTA 7n	52 days	18/1/2020	21/3/2020	
456	14.3.6.3	Phase B: TTA 2n	52 days	23/3/2020	28/5/2020	
465	14.3.6.4	Phase B: TTA 8n	52 days	23/3/2020	28/5/2020	
474	14.3.6.5	Phase C: TTA 3n	52 days	29/5/2020	30/7/2020	
483	14.3.6.6	Phase C: TTA 9n	52 days	29/5/2020	30/7/2020	
492	14.3.6.7	Phase D: TTA 4n	52 days	31/7/2020	29/9/2020	
501	14.3.6.8	Phase D: TTA 10n	52 days	31/7/2020	29/9/2020	
510	14.3.6.9	Phase E: TTA 5n	52 days	30/9/2020	2/12/2020	
519	14.3.6.10	Phase E: TTA 11n	52 days	30/9/2020	2/12/2020	
528	14.3.6.11	Phase F: TTA 6n	51 days	3/12/2020	3/2/2021	
537	14.3.6.12	Phase F: additional TTA 12s	38 days	18/12/2020	3/2/2021	
546	14.3.6.13	Phase F: additional TTA 0n	38 days	18/12/2020	3/2/2021	
555	15	Planned Completion for section 1 of the works	0 days	3/2/2021	3/2/2021	
556	16	Completion Date for section 1 of the works	0 days	3/2/2021	3/2/2021	
557		section 2 of the works - Completion of all works within Parts C1 and C2 of the Site except Establishment works	979 days		3/2/2021	
	17.1	access date for section 2 (Part C1)	0 days	31/5/2018	31/5/2018	
559	17.2	Temporary Traffic Arrangement (TTA) Scheme for Lin Ma Hang Road	162 days	1/6/2018	9/11/2018	
565	17.3	works at Lin Ma Hang Road (section 2 Part C1) refer Appendice LMHR01a to d	817 days	10/11/2018	3/2/2021	
566	17.3.1	Phase I (stage 1)-south lane (chainage 240-28	23 days	10/11/2018	6/12/2018	
577	17.3.2	Phase I (stage 2)-north lane (chainage 240-28		7/12/2018	27/12/2018	н
587	17.3.3	Phase I (stage 3)-south lane (chainage 283-33		28/12/2018	28/1/2019	
598	17.3.4	Phase I (stage 4)-north lane (chainage 283-33	17 days	29/1/2019	20/2/2019	
608	17.3.5	Phase I (stage 5)-south lane (chainage 335-38	18 days	21/2/2019	13/3/2019	
618	17.3.6	Phase I (stage 6)-north lane (chainage 335-38	(16 days	14/3/2019	1/4/2019	н
627	17.3.7	Phase I (stage 7)-south lane (chainage 380-43	23 days	2/4/2019	3/5/2019	
638	17.3.8	Phase I (stage 8)-north lane (chainage 380-43	٤ 15 days	4/5/2019	22/5/2019	H
648	17.3.9	Phase I (stage 9)-south lane (chainage 190-24	18 days	23/5/2019	13/6/2019	H H
659	17.3.10	Phase I (stage 10)-north lane (chainage 190-2	4 16 days	14/6/2019	3/7/2019	
669	17.3.11	Phase II (stage 1)-south lane (chainage 32-85)-Noise Barrier MM6 (bays 1-3) & MM7 (bays 1-2)	95 days	4/7/2019	25/10/2019	
703	17.3.12	Phase II (stage 2)-north lane (chainage 32-85)-Noise Barrier MM9 (bays 1-4)	84 days	26/10/2019	7/2/2020	
735	17.3.13	Phase II (stage 3)-south lane (chainage 85-138	8 38 days	8/2/2020	23/3/2020	
746	17.3.14	Phase II (stage 4)-north lane (chainage 85-138)-Noise Barrier MM10 (bays 1-4)	68 days	24/3/2020	17/6/2020	
776	17.3.15	Phase II (stage 5)-south lane (chainage 138-19	36 days	18/6/2020	31/7/2020	
787	17.3.16	Phase II (stage 6)-north lane (chainage 138-190)-Noise Barrier MM10 (bays 5-9)	85 days	1/8/2020	11/11/2020	
818	17.3.17	Phase II (stage 7)-south lane (chainage	53 days	12/11/2020	15/1/2021	
851	17.3.18	0-32)-Noise Barrier MM5 (bays 1-2)	16 days	16/1/0004	2/2/2024	
862	17.3.10	Phase II (stage 8)-north lane (chainage 0-32)	16 days	16/1/2021	3/2/2021 18/1/2021	
891	17.3.19	Noise Barrier MM8 (bays 1-3)	140 days			
		Street lighting (drawpits, abandon existing public lighting & cable, 100uPVC ducts) (ch0-435)	-	14/12/2020	9/1/2021	
892	17.3.21	tree planting	3 days	11/1/2021	13/1/2021	
893	17.3.22	Street furniture & construction of footpath (ch0-435)	22 days	9/1/2021	3/2/2021	
894	17.3.23	Phase Ia (stage 101)-south lane (chainage 633		10/11/2018	3/12/2018	
904	17.3.24	Phase Ia (stage 102)-north lane (chainage 633		4/12/2018	21/12/2018	H
0.1.1	17.3.25	Phase Ia (stage 103)-south lane (chainage 685	1 25 days	22/12/2018	23/1/2019	
914 925	17.3.26	Phase Ia (stage 104)-north lane (chainage 685			15/2/2019	

		Qtr 1, 2023
January 25/7	1/5	August 5/2
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3 Month Rolling Programme (from 26/12/2022 to 25/2/2023)

No. No. <th>- Innastructural</th> <th>Works at Marrian To Road and Lin Ma hang Road</th> <th></th> <th></th> <th>· · · · · · · · · · · · · · · · · · ·</th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>	- Innastructural	Works at Marrian To Road and Lin Ma hang Road			· · · · · · · · · · · · · · · · · · ·								
Note: Lips Lips <thlips< th=""> Lips Lips <th< th=""><th>ID WBS</th><th>Task Name Duration</th><th>Start Date</th><th>Completion</th><th></th><th></th><th></th><th>Otr 4 2</th><th>019</th><th></th><th></th><th>Ot</th><th>r 1, 2023</th></th<></thlips<>	ID WBS	Task Name Duration	Start Date	Completion				Otr 4 2	019			Ot	r 1, 2023
No. Processes of the relating W2 and the relation W2 and the relat				Date		Novem	ber				Januarv		August
13 52 Pack helps (2) solution (2) marge (2) All (2) 50000 50000 24 Pack helps (2) solution (2) 50000 50000 50000 24 Pack helps (2) solution (2) 50000 50000 50000 24 Pack helps (2) solution (2) 50000 50000 50000 24 Pack helps (2) solution (2) 50000 50000 50000 24 Pack helps (2) solution (2) 50000 50000 50000 24 Pack helps (2) solution (2) 50000 50000 50000 24 Pack helps (2) solution (2) 50000 50000 50000 24 Pack helps (2) solution (2) 50000 50000 50000 25 Pack helps (2) solution (2) 50000 50000 50000 26 12 Pack helps (2) solution (2) 50000 50000 26 12 Pack helps (2) solution (2) 50000 50000 26 12 Pack helps (2) solution (2) 50000 50000 50000 26 12 Pack helps (2) solution (2) 500000 500000 50000<					24/9			7/4		18/10		1/5	5/2
17 15.3.3. Product high (signal high (signa high (signal high (signal high (signal high		Phase la (stage 105)-south lane (chainage 740 24 days	16/2/2019	15/3/2019			H						
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188 10.28 Proce Hange 1 (Sec) The damage 30.44 10.8 10.7001 108 10.24 Proce Hange 1 (Sec) The damage 30.44 10.8 10.7001 108 10.24 Proce Hange 1 (Sec) The damage 30.44 10.8 10.7001 108 10.24 Proce Hange 1 (Sec) The damage 30.44 10.7001 10.7001 108 10.24 Proce Hange 1 (Sec) The damage 30.45 10.7001 10.7001 108 10.24 Proce Hange 1 (Sec) The damage 30.45 10.7001 10.7000 108 10.44 Proce Hange 1 (Sec) The damage 30.45 10.7000 10.7000 109 10.44 Proce Hange 1 (Sec) The damage 30.40 10.7000 10.7000 109 10.44 Proce Hange 1 (Sec) The damage 30.40 10.7000 10.7000 109 10.44 Proce Hange 1 (Sec) The damage 30.40 10.7000 10.7000 109 10.44 Proce Hange 1 (Sec) The damage 30.40 10.7000 10.7000 100 10.44 Proce Hange 1 (Sec) The damage 30.40 10.7000 10.7000 100 10.44 Proce Hange 1 (Sec) The damage 30.40 10.7000 10.7000							1						
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1389 Phase V (stage P) south and Change 1067- 20 days 233/2020 144/2020 1379 1738 Phase V (stage P) south and Change 1016-11 days 236/2020 163/2020 1379 1738 Phase V (stage P) south and Change 1131- 20 days 95/2020 163/2020 1379 1738 Phase V (stage P) south and Change 1131- 20 days 95/2020 163/2020 1379 1738 Phase V (stage P) south and Change 1131- 20 days 155/2020 163/2020 1379 1738 Phase V (stage P) south and Change 1131- 20 days 155/2020 163/2020 1379 1738 Phase V (stage P) south and Change 1132- 20 days 38/2020 163/2020 1379 1738 Phase V (stage P) south and Change 1232- 20 days 28/20200 17/10200 1379 1738 Phase V (stage P) south and Change 1232- 20 days 10/10200 28/20200 1379 1738 Phase V (stage P) south and Change 1332- 20 days 10/10200 28/120200 11/10201 1280 1743 Phase V (stage P) south and Change 1322- 20 days 10/10202 28/120200 11/10201 1271 1748 tteop laning 1 days 1 days													
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1208 17.4.7.3 Phase M (stage 2)-orth line (change 1260-16 days 119/2007 18/2020 121 17.4.3 Phase M (stage 4)-orth line (change 1260-16 days 119/2007 119/2000 28/90200 123 17.2.4 Phase M (stage 4)-orth line (change 1260-16 days 119/2007 111/2020 28/90200 124 17.2.8 Phase M (stage 4)-orth line (change 1262-16 days 119/2007 28/90200 111/2020 125 17.2.8 Phase M (stage 4)-orth line (change 1322-17 days 10/2007 29/10200 29/10200 1275 17.2.8 Phase M (stage 4)-orth line (change 1332-16 days 10/2007 29/10200 29/10200 1275 17.2.8 Phase M (stage 6)- north line (change 1332-16 days 10/2007 29/10200 29/10200 1275 17.2.4 Steet (stimulie & construction of footpet sectorial stubornator to days 29/10201 3/20201 1276 17.4 Steet (stimulie & construction of Moopet sectorial stubornator to days 16/2019 26/2019 1280 17.4 propes design f PM scage and stage special stubornator to days 16/2019 26/2019 1281 17.4.3 sconstruction of Physe Marage stubornator to Physe Marage stubornator to Physe Marage stuborator to Physe Marage stubornator to Physe Marage stubornator to Ph													
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12/27 172.86 Phase VI (stage 6)-north lane (chanage 1322 27 days 9/11/2020 12/36 172.80 Phase VI (stage 6)-north lane (chanage 1322 27 days 9/11/2020 12/36 172.80 Street lighting (drawpits, stanchor existing public lighting acube; 100/PVC ducts) 101/20202 29/12/2020 12/37 173.84 Street lighting (drawpits, stanchor existing (ch304-1377) 1 day 6/1/2021 6/1/2021 12/37 174.8 Street lumiting & construction of footpath (ch304-1377) 1 day 6/1/2021 6/1/2021 12/37 174.4 Soles turniture & construction of footpath substructure of the noise barrier exoits above the concrete (ch304-1377) 6/1/402; 29/10/2018 22/2021 12/37 174.4 seek specialist subcontractor to M for acceptance 0 days 28/10/2019 28/10/2019 12/38 174.4 sacetting of propes specialist subcontractor to M Propes design for MN s comment 0 days 16/8/2019 28/10/2019 12/38 174.5 submit 1 propess design for MN s acceptance 0 days 16/8/2019 16/1/2019 12/38 174.4 submit 1 propess design for MN sacceptance 0 days 16/1/2019 16/1/2019 16/1/2019 16/1/20													
12341 17.3.82 Phase VI (stage 7/south lane (chanage 1332- 27 days 91120200 92122020 1255 17.3.84 Stheet [stimu] (stage 8) shorth lane (chanage 1332- 27 days 91120200 92122020 1275 17.3.44 Stheet [stimu] (stage 8) shorth lane (chanage 1332- 27 days 91120200 6112021 1276 17.3.45 Stheet [stimu] (stage 8) shorth lane (chanage 1332- 27 days 91120200 6112021 1276 17.3.46 Stheet [stimu] (stage 8) shorth lane (chanage 1332- 27 days 9112020 6112021 1276 17.3.46 Stheet [stimu] (stage 8) shorth lane (chanage 1332- 27 days 9112020 6112021 1276 17.3.46 Stheet [stimu] (stage 8) shorth lane (chanage 1332- 27 days 9112020 3212021 1278 17.4 substructure of the nose above the concrete (chanage 132) 6152019 26152019 1280 17.42 proppose specialist subcontractor to PM for or days 26152019 26152019 1281 17.43 subcontractor by Prigot Namage 1 120 days 15102019 28102019 1281 17.43 subcontractor by Prigot Namage 1 120 days 19112019 18112019 1284 1													
1266 17.4.80 Phase V) (stage 8)-ordinane (change 1332) 15 days 10/12/2020 29/12/2020 1275 17.3.84 Steet [juhting facangt, abunch existing public [phing 6 cable, 100/PVC ducb] 7 days 29/12/2020 6/1/2021 1276 17.3.64 Tree planing 1 day 6/1/2021 6/1/2021 1277 17.3.68 Steet [juhting 6 cable, 100/PVC ducb] 26 days 6/1/2021 1277 17.3.68 Steet funiture & construction of footpath 2 days 6/1/2021 1278 17.4 Sets specialist subcontractor to design and bul 21 days 29/10/2018 2/2/2021 1280 17.4.1 seck specialist subcontractor to PM or 0 2/8/20219 2/8/20219 1281 17.4.3 accoptance of propose specialist 0 days 16/6/2019 2/8/10/2019 1281 17.4.5 subcontractor to PMs comment 0 days 16/1/2019 2/8/10/2019 1285 17.4.7 subcontractor to PMs comment 0 days 18/11/2019 18/11/2019 1285 17.4.8 runke comments 2 days 19/1/2019 18/11/2019 1286 17.4.8 runke comments<													
1275 17.3.64 Street lighting (drawpits, abandon exising public lighting & able, 100µPVC ducts) (ch890-1377) 7 days 29/12/2020 6/1/2021 1276 17.3.65 there planting (able, 100µPVC ducts) (ch890-1377) 1 day 6/1/2021 6/1/2021 6/1/2021 1277 17.3.65 there planting (able, 100µPVC ducts) (ch890-1377) 1 day 6/1/2021 3/2/2021 1278 17.4 Noise Barter works above the concrete substructure of the noise barter (section 2 Part substructure of the noise barter (section 2 Part substructure of the noise barter (section 2 Part substructure of the noise part ob 12/10 days 29/10/2018 3/2/2021 1280 17.4.2 propose specialist subcontractor to PM for acceptance acceptance acceptance acceptance acceptance asserts (section 2 Part substructure of the noise specialist subcontractor to PM for acceptance accecptance acceptance accecptance acceptance acce													
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127 173.66 Street furniture & construction of footpath (ch890-1377) 25 days 6/1/2021 3/2/2021 1278 17.4 Noise Barrier works above the concrete substructure of the noise barrier (section 2 Part 3/2/2021 3/2/2021 1279 17.4.1 seek specialist subcontractor to design and bui 210 days 29/10/2018 28/5/2019 1280 17.4.2 propose specialist subcontractor to PM for acceptance 0 days 16/6/2019 1281 17.4.3 acceptance of propose specialist subcontractor by Project Manager 0 days 16/6/2019 1281 17.4.4 prepare design & liaise with designer & PM 120 days 17/6/2019 14/10/2019 1281 17.4.4 subontractor by Project Manager 0 days 16/6/2019 28/10/2019 1283 17.4.5 submit 15 design for PM's comment 0 days 28/10/2019 28/10/2019 1284 17.4.6 submit 15 design for PM's comment 0 days 21/0/2019 1285 17.4.7 PM's coestifue acceptance 0 days 19/11/2019 1286 17.4.9 revise design 28 days 19/11/2019 23/12/2019 1286	1276 17.3 65		6/1/2021	6/1/2021						, ★			
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1282 17.4.4 prepare design & liaise with designer & PM 120 days 17/6/2019 14/10/2019 1283 17.4.5 submit a proposal detailing the changes to PM's design, if any 14 days 15/10/2019 28/10/2019 1284 17.4.6 submit 1st design for PM's comment 0 days 28/10/2019 28/10/2019 1285 17.4.7 PM's comments 21 days 29/10/2019 18/11/2019 1286 17.4.8 revise design for PM's acceptance 0 days 16/12/2019 1287 17.4.9 re-submit design for PM's acceptance 0 days 16/12/2019 1288 17.4.10 submit 3 sample panels for each type & colour 7 days 17/12/2019 1289 17.4.11 PM's k relevant authorities' acceptance 0 days 13/1/2020	1201 11.4.0		10/0/2019	10/0/2019]					
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1285 17.4.7 PM's comments 21 days 29/10/2019 18/11/2019 1286 17.4.8 revise design 28 days 19/11/2019 16/12/2019 1287 17.4.9 re-submit design for PM's acceptance 0 days 16/12/2019 1288 17.4.10 submit 3 sample panels for each type & colour for acceptance 7 days 17/12/2019 23/12/2019 1289 17.4.11 PM's & relevant authorities' acceptance 0 days 13/1/2020 13/1/2020	1284 1746		28/10/2010	28/10/2010									
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	1280 17 / 11		12/1/0000	12/1/2020									
	1270 11.4.12	ordening of holse partier parter 0 days	13/1/2020	13/1/2020					↓ ▼]				

Sang Hing Civil Contractors Company Limited

3 Month Rolling Programme (from 26/12/2022 to 25/2/2023)

	Works at Main Rain To Road and Lin Ma hang	Noau				(
ID WBS	Task Name	Duration	Start Date	Completion			Qtr 4, 2	2019			O	tr 1, 2023
				Date –		Novemb		June		January	Q	August
					24/9	1/7	7/4	12/1	18/10	25/7	1/5	5/2
1291 17.4.13	fabricating of panel and steelworks	180 days	16/1/2020	13/7/2020								
1292 17.4.14			14/7/2020	27/9/2020								
1293 17.4.15	completion of concrete curing of substructure			19/1/2021			 					
	of Nosie Barriers	-										
1301 17.4.16			28/9/2020	25/11/2020				F				
1005	substructure of the noise barrier MM6, MM7 &											
1308 17.4.17		54 days	26/11/2020	30/1/2021					BB			
1215 47440	substructure of the noise barrier MM10 (app.	40.1	0011/0001	00///0000/								
1315 17.4.18	construction works above the concrete	10 days	20/1/2021	30/1/2021					F			
1322 17.4.19	substructure of the noise barrier MM5 & MM8	0 days	3/2/2021	3/2/2021								
т. IJ	submit as-built drawings & design calculation & 2 sets of velographs for noise barrier works	0 days	JIZIZUZI	JIZIZUZI								
	a 2 sets of verographs for holse battler WOINS											
1323 17.5	access date for section 2 (Part C2)	0 days	24/2/2019	24/2/2019			*					
1324 17.6	additional site possession for areas outside	0 days		24/2/2019			*					
	site boundary {for 3NW-C/C470 (existing	,.										
	D-DH7), C224 (existing D-DH11) & C225 new											
	drillholes DHA1,A2 & A3 }											
1325 17.7			25/2/2019	3/2/2021								
1326 17.7.1			25/2/2019	18/4/2019								
1327 17.7.2			11/4/2019	8/6/2019								
1328 17.7.3 1329 17.7.4			22/5/2019	15/6/2019								
1529 11.1.4	drilling of verification boreholes DHA1,A2 & A3	21 days	17/6/2019	11/7/2019								
1330 17.7.5	baseline monitoring for 3NW-C/C230 (DH15 &	30 dava	12/7/2019	15/8/2019								
1550 11.1.0	16) & C225 (DH3 & 17) on existing drillholes &		12/1/2019	15/0/2019								
	3NW-C/C470 (existing D-DH7), C224 (existing											
	D-DH11) & C225 proposed verification											
	drillholes DHA1,A2 & A3											
1331 17.7.6	submit 4 sets of initial readings of baseline	0 days	15/8/2019	15/8/2019			▲					
	monitoring and preliminary logs to the Project											
	Manager to the Project Manager											
1332 17.7.7	• • • •	59 days		26/10/2019								
1333 17.7.7.1	removal of existing trees	10 days	16/8/2019	27/8/2019			–					
1224 47770	hearding 0.4	0.1	00/0/00 10	0/0/0040								
1334 17.7.7.2	hoarding & fencing	6 days	28/8/2019	3/9/2019								
1335 17.7.7.3	slope excavation works	1 day	4/9/2019	4/9/2019								
1555 11.1.1.0	Siche excavation mores	1 day	4/3/2013	41312019								
1336 17.7.7.4	temporary scaffolding	5 days	5/9/2019	10/9/2019								
1337 17.7.5	proposed slope stripping for mapping or	8 days		20/9/2019								
	rock and relict discontinuities (AS5-A,B,											
1338 17.7.7.6	Phase I	8 days	21/9/2019	30/9/2019			н					
1339 17.7.7.6.1	install test nail PN02 & pull out test		21/9/2019	27/9/2019			l 👗					
	-											
1340 17.7.7.6.2	drill, install steel bars and grout soil nails	2 days	28/9/2019	30/9/2019			۲ - F					
1041	(B01-12)	•										
1341 17.7.7.7	Phase II		2/10/2019	11/10/2019			₩					
1342 17.7.7.1	install test nail PN01 & pull out test	6 days	2/10/2019	9/10/2019								
1343 17.7.7.2	duil install start have and security (1)	م مام	10/10/0010	11/10/0010			↓ ↓					
1545 11.1.1.2	drill, install steel bars and grout soil nails (A01-17)	∠ days	10/10/2019	11/10/2019			٦ ا					
1344 17.7.7.8	(A01-17) raking drains	1 day	12/10/2019	12/10/2019								
1345 17.7.7.9	TDR Test (including test & wait issue result)			15/10/2019								
1346 17.7.7.10	soil nail head works		16/10/2019	18/10/2019								
1347 17.7.7.11			19/10/2019	24/10/2019								
1348 17.7.7.12			25/10/2019				, interest in the second se					
	hydroseeding	,0										
1349 17.7.8	Slopeworks: - 3NW-C/C230 (ch1240-1330S/I	130 days	28/10/2019	2/4/2020								
1350 17.7.8.1	removal of existing trees		28/10/2019	7/11/2019			l 👗					
	•											
1351 17.7.8.2	hoarding & fencing	9 days	8/11/2019	18/11/2019								
10.50												
1352 17.7.8.3	temporary scaffolding	7 days	19/11/2019	26/11/2019			Ă					

Sang Hing Civil Contractors Company Limited

3 Month Rolling Programme (from 26/12/2022 to 25/2/2023)

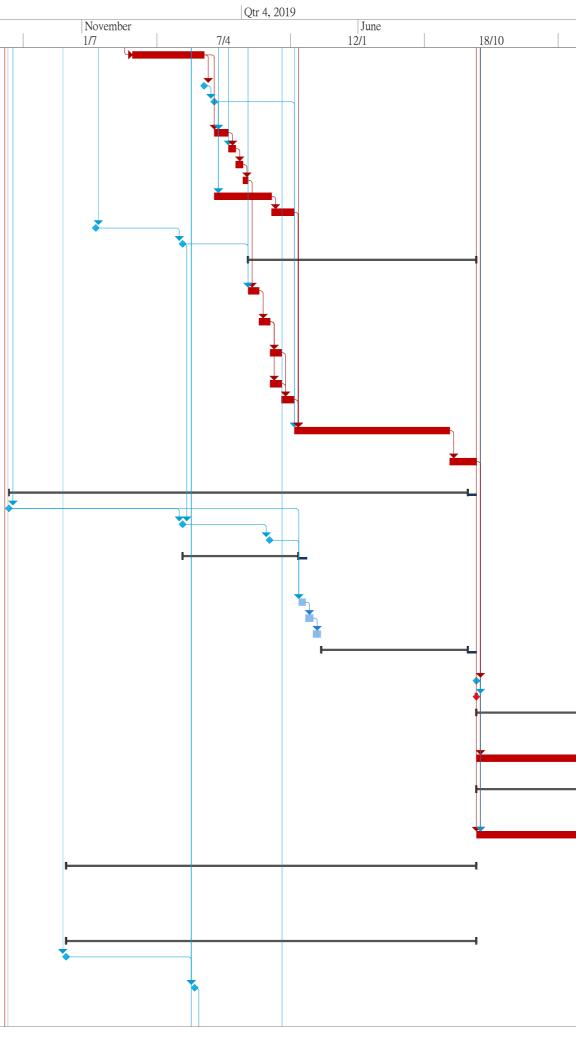
	Works at Main Rain To Road and Ein Ma hang	Jittoau				(
ID WBS	Task Name	Duration S	Start Date 0	Completion				Qtr 4, 2019						Qtr 1, 2023
				Date		Novemb			June			January		August
10.50					24/9	1/7		7/4	12/1		18/10	25/7	1/5	5/2
1353 17.7.8.4	proposed slope stripping for mapping or rock and relict discontinuities (AS3-A,B,	8 days 2		5/12/2019										
1354 17.7.8.5	slope excavation works	1 day 6	6/12/2019	6/12/2019				ĥ						
1355 17.7.8.6	Phase I	25 days 7	7/12/2019	8/1/2020				B → →B						
1356 17.7.8.6.1	install test nail PN22 & pull out test	6 days 7	7/12/2019 1	13/12/2019				ř						
1357 17.7.8.6.2	drill, install steel bars and grout soil nails (K01-22, N01-05, M01-11, J01-25)	10 days 14	4/12/2019 2	27/12/2019				F						
1358 17.7.8.6.3	TDR Test (including test & wait issue resu	u 2 days 2		30/12/2019				Ķ						
1359 17.7.8.6.4	soil nail head works	7 days 3		8/1/2020				Б.						
1360 17.7.8.7	Phase II			6/2/2020				H						
1361 17.7.8.7.1	install test nail PN21 & pull out test	6 days	9/1/2020	15/1/2020										
1362 17.7.8.7.2	drill, install steel bars and grout soil nails (H01-25, L01-16)	8 days 1	16/1/2020	24/1/2020				T						
1363 17.7.8.7.3	raking drains	2 days 2	29/1/2020	30/1/2020										
1364 17.7.8.7.4	TDR Test (including test & wait issue resu			1/2/2020				i i i i i i i i i i i i i i i i i i i						
1365 17.7.8.7.5	soil nail head works			6/2/2020				 - -						
1366 17.7.8.8	225UC, 300SC & catchpits			2/3/2020										
1367 17.7.8.9	600mm width concrete maintenance staircase with handrailing	9 days	3/3/2020	12/3/2020										
1368 17.7.8.10	soil replacement by no-fines concrete	6 days 1	13/3/2020	19/3/2020					н					
1369 17.7.8.10.1	stage 1			14/3/2020					1					
1370 17.7.8.10.1	temporary cut & excavation of soil			13/3/2020					5					
1371 17.7.8.10.1	placement of no-fine concrete			14/3/2020					5					
1372 17.7.8.10.2	stage 2	2 days 1	16/3/2020	17/3/2020					I					
1373 17.7.8.10.2				16/3/2020					5					
1374 17.7.8.10.2				17/3/2020					ĥ					
1375 17.7.8.10.3				19/3/2020					•					
1376 17.7.8.10.3	·· · · · · · · · · · · · · ·			18/3/2020					5					
137717.7.8.10.3137817.7.8.11				19/3/2020					1					
	biodegradable erosion control mat with hydroseeding & shrub planting			2/4/2020					•					
137917.7.9140417.7.10	Slopeworks: - 3NW-C/C224 (ch1040-1120N/			22/8/2020										
1404 17.7.10 1438 17.7.11	Slopeworks: - 3NW-C/C225 (ch1300-1376N/			3/2/2021				. –						
	Slopeworks: - 3NW-C/C231 (ch1220-1240N/			3/2/2021										
	Planned Completion for section 2 of the works Completion Date for section 2 of the works			3/2/2021 3/2/2021						1				
1507 20	section 3 of the works - Completion of all works within Parts D and E of the Site			3/2/2021	ŀ									
1508 20.1		800 days 2	6/11/2018	3/2/2021										
1509 20.1.1	access date for section 3 (Parts D) - not more than 180 days after the starting date			26/11/2018										
1510 20.1.2	seek specialist for design, supply and installation of the covered walkway	59 days 2		24/1/2019										
1511 20.1.3	acceptance of specialist	0 days 1		14/2/2019			`							
1512 20.1.4	design for approval for lighting system for the covered walkway	-		14/7/2019										
1513 20.1.5	submit for approval for lighting system for the covered walkway	0 days 1	14/7/2019	14/7/2019										
1514 20.1.6	acceptance of lighting system for the covered walkway	-		4/8/2019				1						
1515 20.1.7	Coordination with CLP to obtain the electricity supply for the street lighting system (Design for Road B, Road E, Road F(part), Lin Ma Hang Road and Sheung Shui Landmark PTI & Lighting system for the covered walkway)		5/8/2019	19/1/2020										
1516 20.1.8	design for glazing system of the proposed covered walkway at Fanling Station Road	150 days 1		14/7/2019										
1517 20.1.9	submission of glazing system			14/7/2019										
1518 20.1.10	acceptance of glazing system and fall arrest system by Project Manager	0 days	4/8/2019	4/8/2019										

Sang Hing Civil Contractors Company Limited

3 Month Rolling Programme (from 26/12/2022 to 25/2/2023)

24/9

- IIIIa	Siluciula	I WORKS at Mail Nath TO Noau and Lin Ma hang	Nuau		
ID	WBS	Task Name	Duration	Start Date	Completion Date -
	20.1.11	design for fall arrest system of the proposed covered walkway at Fanling Station Road	150 days	15/2/2019	14/7/2019
	20.1.12 20.1.13	submission of fall arrest system acceptance of fall arrest system by Project	0 days 0 days	14/7/2019 4/8/2019	14/7/2019 4/8/2019
1522	20.1.14	Manager Liaison with MTRC for the works arrangement	30 days	5/8/2019	3/9/2019
	20.1.15	general site clearance	12 days	4/9/2019	18/9/2019
	20.1.16	initial survey	12 days	19/9/2019	3/10/2019
	20.1.17	utility detection and submit reports	8 days	4/10/2019	14/10/2019
	20.1.18	Fabrication of Steelworks & glass panel	100 days	5/8/2019	2/12/2019
1527	20.1.19	delivery steelworks & glass panel to site	38 days	3/12/2019	18/1/2020
1528	20.1.20	application of XP (for Parts D)	0 days	29/11/2018	29/11/2018
1529	20.1.21	acceptance of XP (for Parts D)	0 days	30/5/2019	30/5/2019
1530	20.1.22	Construction of Covered Walkway at Fanling Station	390 days	15/10/2019	3/2/2021
1531	20.1.22.1	construct the concrete foundation of covered walkway (first 20m)	20 days	15/10/2019	6/11/2019
	20.1.22.2	construct the concrete foundation of covered walkway (2nd 20m)	20 days	7/11/2019	29/11/2019
	20.1.22.3	construct the concrete foundation of covered walkway (3rd 20m)	20 days	30/11/2019	23/12/2019
	20.1.22.4	demolished existing planter (drg.WY/1051)	20 days	30/11/2019	23/12/2019
	20.1.22.5	construct the concrete foundation of covered walkway (4th 20m)	20 days	24/12/2019	18/1/2020
	20.1.22.6	construction of covered walkway including steelworks, glass panel and electrical works	265 days	20/1/2020	9/12/2020
	20.1.22.7	Reinstatement of the pavement and street furniture	45 days	10/12/2020	3/2/2021
	20.2	Parts E	782 days	31/5/2018	16/1/2021
	20.2.1	access date for section 3 (Parts E)	0 days	31/5/2018	31/5/2018
	20.2.2	application of XP (for Parts E)	0 days	30/5/2019	30/5/2019
	20.2.3 20.2.4	acceptance of XP (for Parts E)	0 days	28/11/2019	28/11/2019
1342	20.2.4	Temporary Traffic Arrangement (TTA) Scheme for Sheung Shui Landmark North PTI and Fanling Station Road	242 days	31/5/2019	27/1/2020
1546	20.2.5	general site clearance	12 days	29/1/2020	11/2/2020
1547	20.2.6	initial Survey	14 days	12/2/2020	27/2/2020
1548	20.2.7	utility detection and submit reports	14 days	28/2/2020	14/3/2020
1549	20.2.8	Road Improvement works at Sheung Shui Landmark North PTI	250 days	16/3/2020	16/1/2021
	21	Planned Completion for section 3 of the works	0 days	3/2/2021	3/2/2021
	22	Completion Date for section 3 of the works	0 days	3/2/2021	3/2/2021
1561	23	section 4 of the works - Completion of Establishment works for the Landscape Softworks within Parts A1, A2 and B of the Site	1095 days	4/2/2021	3/2/2024
1562	23.1	Establishment works for the Landscape Softworks within Parts A1, A2 and B of the Site	1095 days	4/2/2021	3/2/2024
1565	26	section 5 of the works - Completion of Establishment works for the Landscape Softworks within Parts C1 and C2 of the Site	1095 days	4/2/2021	3/2/2024
1566	26.1	Establishment works for the Landscape Softworks within Parts C1 and C2 of the Site	1095 days	4/2/2021	3/2/2024
1569	29	section 6 of the works (section Subject to Excision) - Completion of all works within Parts A3 and A4 of the Site except Establishment works. Extent of works under section 6 of the works is defined in Drawing No.:	859 days	28/9/2018	3/2/2021
	29.1	Parts A3	859 days	28/9/2018	3/2/2021
	29.1.1	access date for section 6 (Part A3) - not more than 120 days after the starting date	0 days	28/9/2018	28/9/2018
1572	29.1.2	The time for ordering the "section Subject to Excision" for section 6 and 7 is within 390 days commencing from and including the starting	0 days	24/6/2019	24/6/2019



		Qtr 1, 2023	
January 25/7		5/2	August
2311	1/5	512	

3 Month Rolling Programme (from 26/12/2022 to 25/2/2023)

	WORKS at Wall Kall TO KOau and Lin Wa hang	Ittoau				(
ID WBS 7	Fask Name	Duration	Start Date	Completion			Qtr 4, 2019					Qtr 1, 2023
				Date		November	Zu 1, 2017	June		January	I	August
					24/9	1/7	7/4	12/1	18/10	25/7	1/5	5/2
1573 29.1.3		5 days	25/6/2019	29/6/2019			H					
	to Parts A3											
1574 29.1.4	general site clearance & tree felling	12 days	2/7/2019	15/7/2019			Ĩ. Internet and the second se					
1575 29.1.5	initial survey	12 days	2/7/2019	15/7/2019								
1576 29.1.6	construction of temporary drainage		15/7/2019	30/7/2019								
1577 29.1.7	Construction of Retaining Wall RW14 (Bay			22/8/2020			I					
	1-Bay 6)	· · · , ·										
1602 29.1.8	backfilling works behind Retaining Wall RW14	90 days	22/8/2020	15/12/2020					•			
1602 00 4 0	(bay1 to 6) (include SRT tests)	07.1	001010000	0/44/0000								
1603 29.1.9			30/9/2020	9/11/2020				н				
1613 29.1.10		30 days	10/11/2020	15/12/2020								
1614 00 4 44	(include SRT tests)			10/10/0000					_			
1614 29.1.11	install instrument for RW14		11/12/2020	16/12/2020								
1615 29.1.12	construct 300U channel & catchpit in front of R	,		19/12/2020					₽			
1616 29.1.13	site formation works for fill slope FS19 and FS20 (including in "backfilling works behind Retaining Wall RW14 (bay1 to 6)")	90 days	22/8/2020	15/12/2020				•				
1617 29.1.14	300U channel & stepped channel for FS19 & 2	3 days	16/12/2020	18/12/2020								
1618 29.1.15	install instrument for FS19 & FS20	5 days	16/12/2020	21/12/2020								
1619 29.1.16	minor site formation works for cut slope CS25		16/12/2020	16/12/2020					H			
1620 29.1.17	minor site formation works for cut slope CS26	3 days	17/12/2020	19/12/2020					F			
1621 29.1.18	install instruments for CS25 & CS26	5 davs	21/12/2020	28/12/2020					X			
1622 29.1.19	waterworks at Road E		21/12/2020	6/1/2021					The second secon			
		12 duys	21/12/2020	0/1/2021								
1623 29.1.20	drainage works at Road E	10 days	31/12/2020	12/1/2021								
1624 29.1.21	U channels at Road E	7 days	5/1/2021	12/1/2021					1 I I I I I I I I I I I I I I I I I I I			
1625 29.1.22	Roadworks of Road E (ch20-60)	19 days	13/1/2021	3/2/2021					н			
1631 29.1.23	Site Formation works for Cut Slope CS24 (include temporary cutting from top of RW12 to toe of CS24) (for RW12 bays 1-3)	4 days	17/9/2019	20/9/2019			ĥ					
1632 29.1.24	install instrument for CS24	5 days	23/9/2019	27/9/2019			The second se					
1633 29.1.25	temporary soil nails between CS20 & RW12 (for RW12 bays 1-3)	30 days	23/9/2019	4/11/2019								
1634 29.1.26		67 days	5/11/2019	24/1/2020			F					
1657 29.1.27		40 davs	4/6/2020	22/7/2020								
1658 29.1.28	Completion of Site Formation works for Cut Slope 25	2 days	21/7/2020	22/7/2020								
1659 29.1.29	Waterworks at Road F	24 days	23/7/2020	19/8/2020				μ.				
1660 29.1.30			20/8/2020	17/9/2020				1				
1661 29.1.31	planter wall for Road E and Road F in Parts A3		18/9/2020	3/10/2020				i				
1662 29.1.32	UU-Arrange Town Gas & PCCW to lay across			22/10/2020				Ě.				
	Road F (not yet agree)											
1663 29.1.33		55 days	23/10/2020	4/1/2021				F				
1664 29.1.33.1	kerbing and cross road duct (RD/2061, 2081)		23/10/2020	6/11/2020				۱. Element of the second se				
1665 29.1.33.2	ducting for road lighting & construction of	12 days	9/11/2020	23/11/2020								
1666 29.1.33.3	irrigation system	10 de	04/44/0000	7/10/0000					T			
1667 29.1.33.3	bituminous pavement		24/11/2020	7/12/2020								
	traffic signs, directional signs, type 2 railing & footpath			4/1/2021								
1668 29.1.34	street lighting (Drg/ RD/2091)	6 days	5/1/2021	11/1/2021					l f			
1669 29.1.35	landscaping (hydroseeding)	9 days	12/1/2021	21/1/2021					L L			
1670 29.1.36			22/1/2021	3/2/2021					i i i			
1671 29.2	Parts A4		24/6/2019	3/2/2021			P					
1672 29.2.1	access date for section 6 (Parts A4) - not more than 580 days after the starting date			31/12/2019								
1673 29.2.2		0 davs	24/6/2019	24/6/2019								
	Excision" for section 6 and 7 is within 390 days											
	commencing from and including the starting											

Sang Hing Civil Contractors Company Limited

3 Month Rolling Programme (from 26/12/2022 to 25/2/2023)

		· ·					-		-						
ID	WBS	Task Name	Duration	Start Date	Completion Date			Qtr 4, 20	019						Qtr 1, 2023
1					Daie		November		June				January		August
						24/9	1/7	7/4	12/1		18/10	2	5/7	1/5	5/2
	29.2.3	general site clearance	15 days	2/1/2020	18/1/2020				■						
1675		initial survey	11 days	11/1/2020	23/1/2020										
	29.2.5	construction of temporary drainage	15 days	16/1/2020	5/2/2020				■ ́h						
1677	29.2.6	Site Formation works for Cut Slope CS24	7 days	29/1/2020	5/2/2020										
		(include temporary cutting from top of RW12 to toe of CS24) (for RW12 bays 4-6)													
1678		install instrument for CS24	3 days	6/2/2020	8/2/2020				h						
1679	29.2.8	temporary soil nails between CS20 & RW12 (for RW12 bays 4-6)	35 days	6/2/2020	17/3/2020										
1680	29.2.9	Construction of Retaining Wall RW12 CH 21-40	58 days	18/3/2020	3/6/2020				—						
1703	29.2.10		125 days		3/11/2020				I						
1737	29.2.11	Site Formation works for Cut Slope CS26 (A4)		13/10/2020	22/10/2020					B					
			,												
	29.2.12	Site Formation works for Cut Slope CS25 (A4)	9 days	23/10/2020	5/11/2020					Ť					
	29.2.13	complete the construction of U channel at CS 25 and 26	15 days	4/11/2020	23/11/2020										
1740	29.2.14	planter wall	10 days	18/11/2020	28/11/2020					- F					
1741	29.2.15	Waterworks at Road B		24/11/2020	2/12/2020					Ť					
			,												
	29.2.16	Sewerage works at Road B	7 days	27/11/2020	4/12/2020					ľ					
	29.2.17	Drainage works at Road B	7 days	30/11/2020	7/12/2020										
	29.2.18	UU - Arrange Town Gas & PCCW to lay cables (not agreed yet)	14 days	8/12/2020	23/12/2020					Ť					
	29.2.19	Roadworks of Road B (A4-ch90-130)	23 days	23/12/2020	21/1/2021					F	4				
	29.2.20	street lighting (Drg/ RD/2091)	4 days	21/1/2021	25/1/2021						Ы				
	29.2.21	landscaping (hydroseeding)	7 days	25/1/2021	1/2/2021						K				
	29.2.22	landscaping (shrub planting)	5 days	29/1/2021	3/2/2021						ъ т				
1753		Planned Completion for section 6 of the works	0 days	3/2/2021	3/2/2021						1				
1754	31	Completion Date for section 6 of the works	0 days	3/2/2021	3/2/2021						4				
1755		section 7 of the works (section Subject to	1095	4/2/2021	3/2/2024										
		Excision) - Completion of Establishment works for the Landscape Softworks within Parts A3	days												
1756	32.1	Establishment works for the Landscape Softworks within Parts A3 and A4 of the Site	1095 days	4/2/2021	3/2/2024						*				

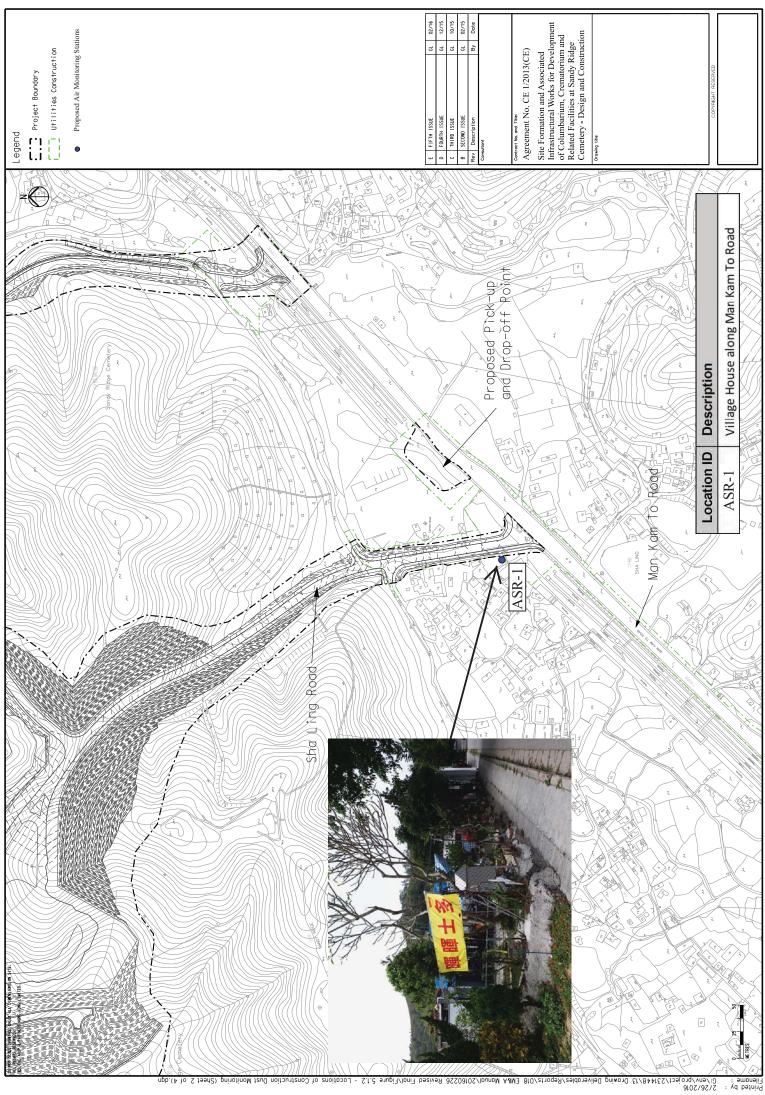


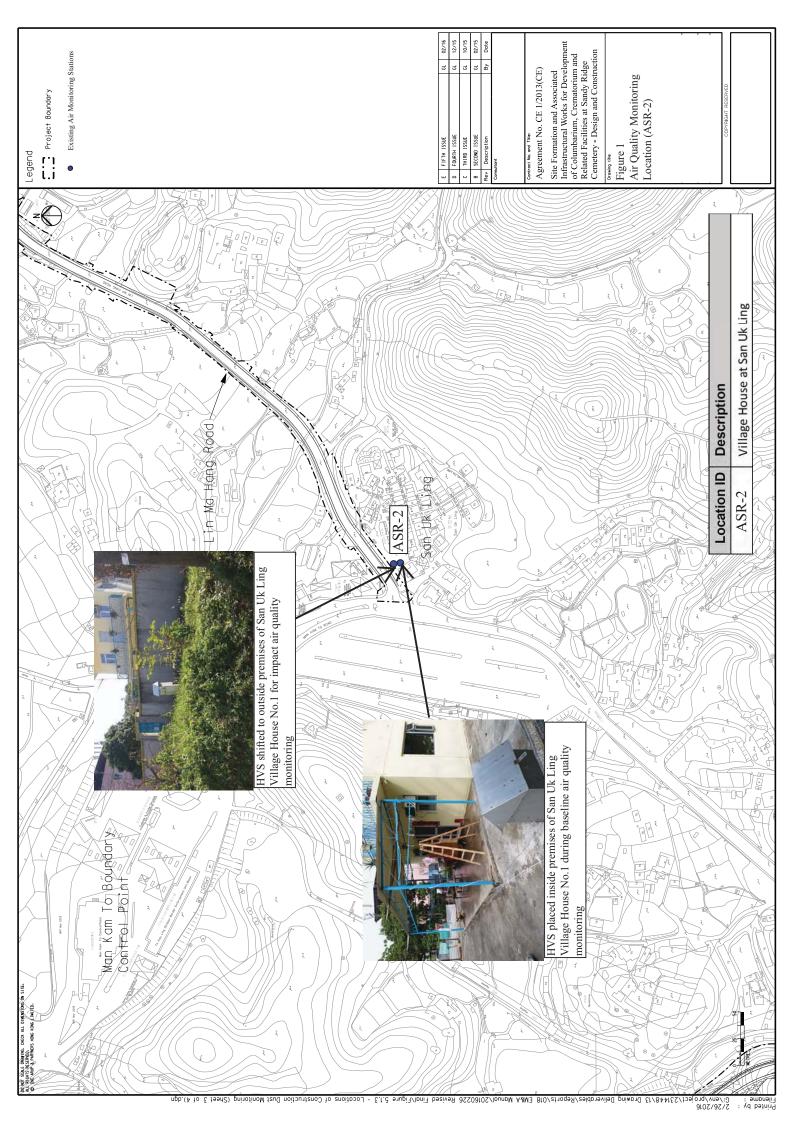
Appendix D

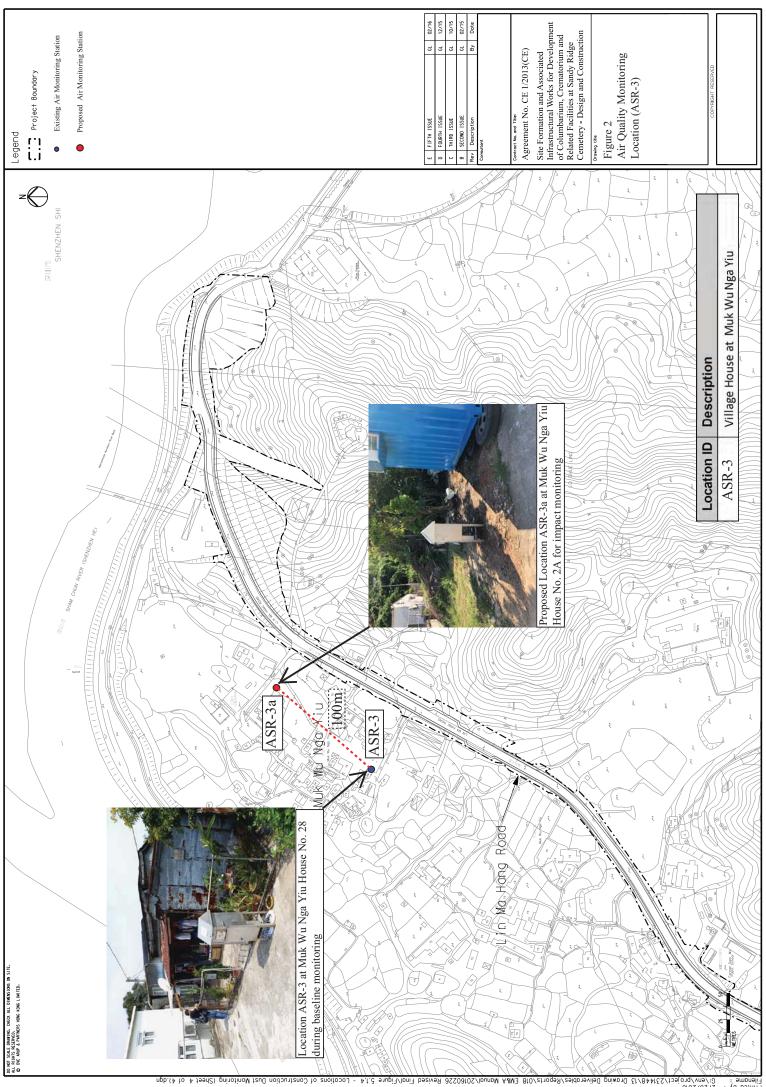
Monitoring Locations



Air Quality Monitoring Location

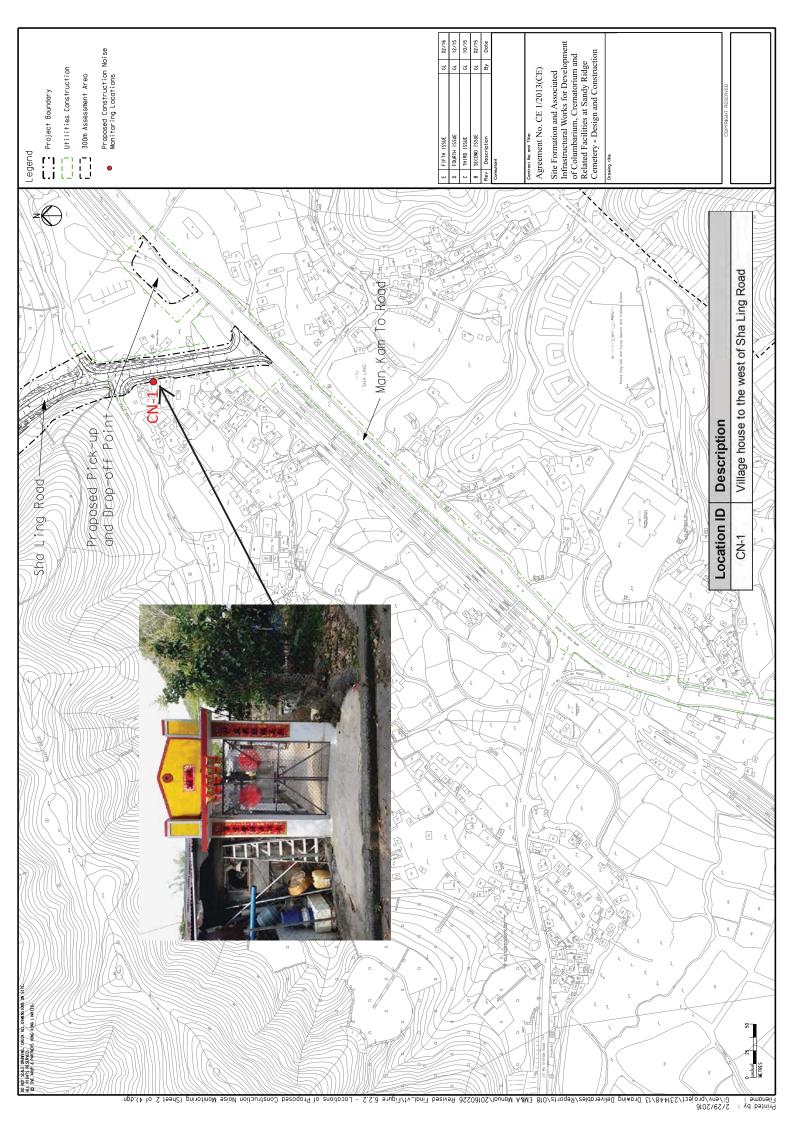


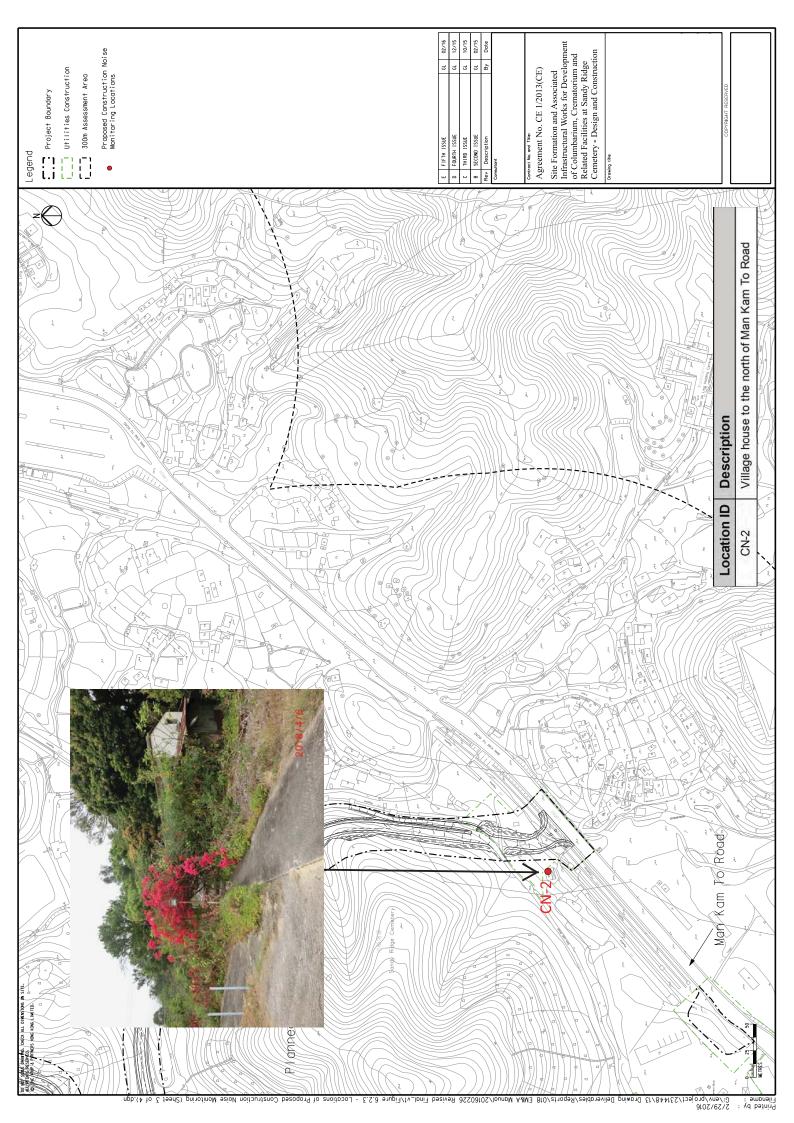


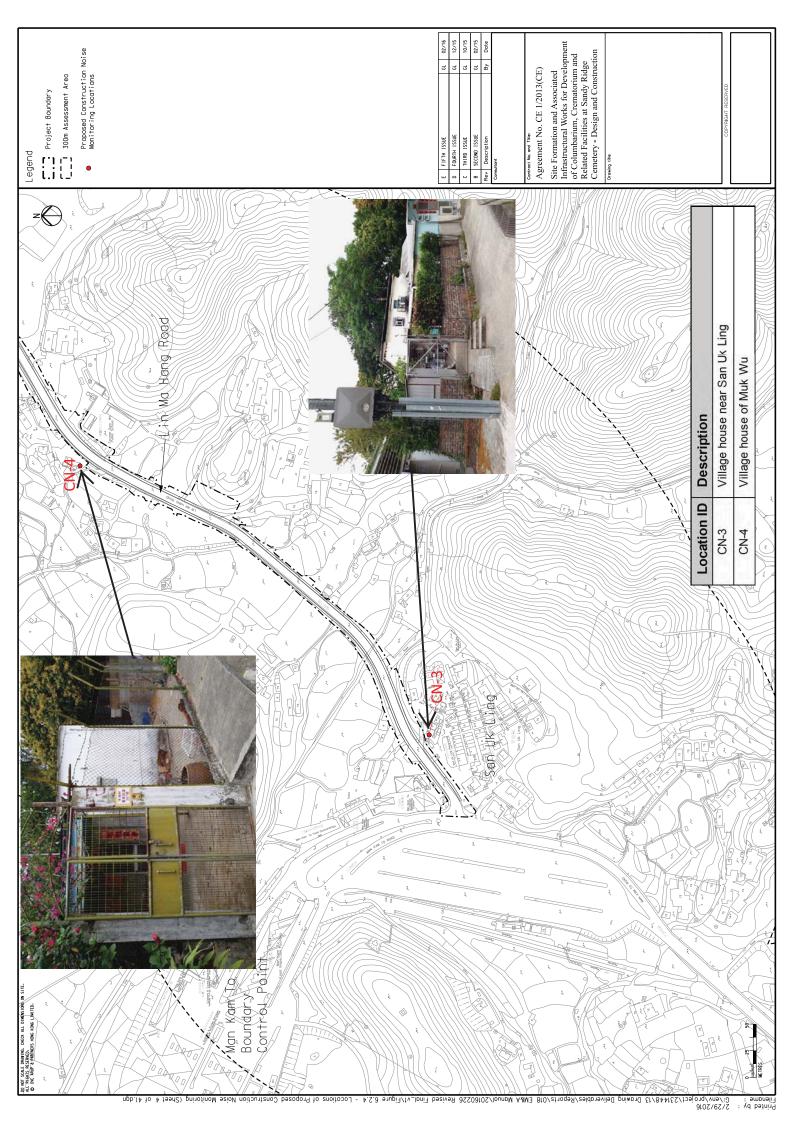




Noise Monitoring Location

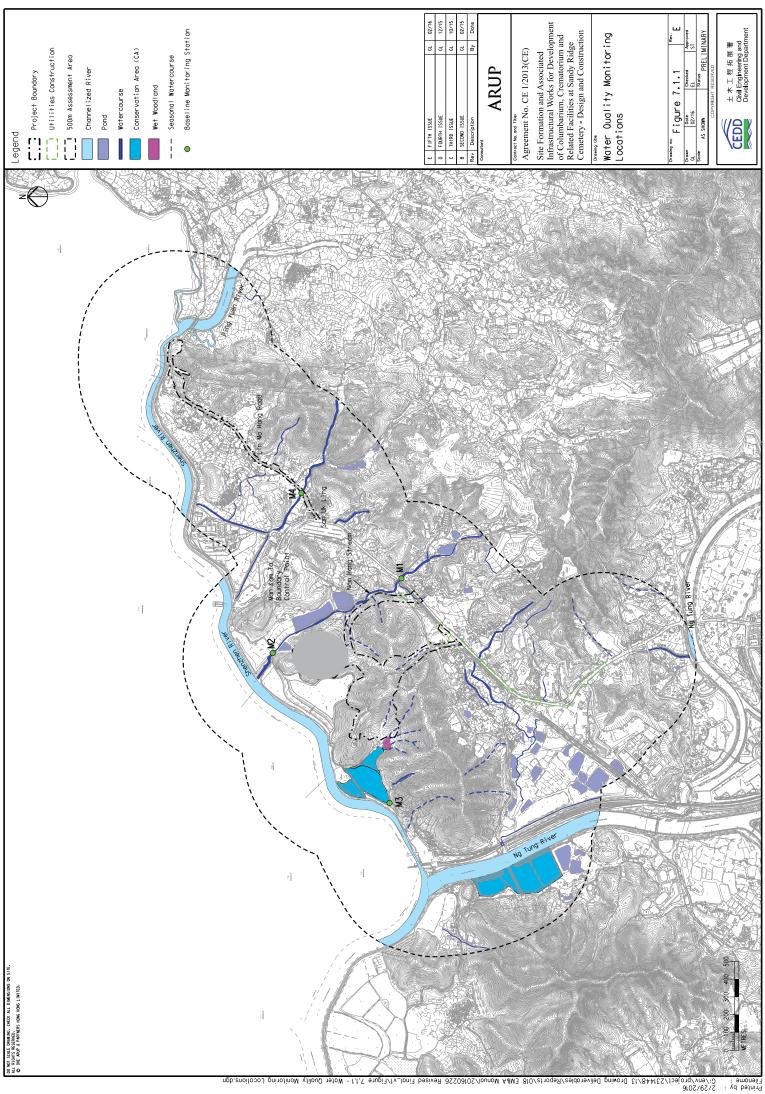








Water Quality Monitoring Station





Appendix E

Calibration Certificate of Monitoring Equipment and

Laboratory Certificate

 $Z: \label{eq:loss} 2018 \ CV-2016-10) \ 600 \ EM\&A\ Report\ Submission\ Monthly\ Report\ 2023\ 57th\ Month\ (April\ 2023) \ R0745v2. doc Monthly\ Report\ 2023\ 57th\ Month\ (April\ 2023) \ R0745v2. doc Monthly\ Report\ 2023\ 57th\ Month\ (April\ 2023) \ R0745v2. doc Monthly\ Report\ 2023\ 57th\ Month\ (April\ 2023) \ R0745v2. doc Monthly\ Report\ 2023\ 57th\ Month\ (April\ 2023) \ R0745v2. doc Monthly\ Report\ 2023\ 57th\ Month\ (April\ 2023\ 57th\ Month\ Month\ (April\ 2023\ 57th\ Month\ Month\ (April\ 2023\ 57th\ Month\ Mont\ Month\ Month\ Month\$



CALIBRATION CERTIFICATES FOR MONITORING EQUIPMENT USED IN THE REPORTING MONTH

Items	Aspect	Description of Equipment	Date of Calibration	Date of Next Calibration
1a		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-1	31 Mar 23	13 Apr 23
1b		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-1	15 Apr 23	29 Apr 23
2a		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-2	31 Mar 23	13 Apr 23
2b		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-2	15 Apr 23	29 Apr 23
3a	Air	TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-3a	31 Mar 23	13 Apr 23
3b		TISCH High Volume Air Sampler, HVS Model TE-5170 TSP Sampler Calibration Spreadsheet for ASR-3a	15 Apr 23	29 Apr 23
4		Calibration Kit TISCH Model TE-5025A Orifice ID 4064 and Rootsmeter S/N 438320	15 Dec 22	15 Dec 23
5		Laser Dust Monitor, Model LD-3B (Serial No. 366407) – EQ107	13 Feb 23	13 Feb 24
6		Laser Dust Monitor, Model LD-3B (Serial No. 366418) – EQ108	13 Feb 23	13 Feb 24
7		Laser Dust Monitor, Model LD-3B (Serial No. 366410) – EQ110	13 Feb 23	13 Feb 24
9		Rion NL-52 Sound Level Meter (Serial No. 00921191) – EQ013	19 Nov 22	19 Nov 23
10	Noise	Rion NL-52 Sound Level Meter (Serial No. 00142581) – EQ015	19 Nov 22	19 Nov 23
11		Rion NC-73 Acoustical Calibrator (Serial No. 10655561) – EQ085	20 Aug 22	20 Aug 23
12		YSI Professional DSS (Serial No.20J101862)	27 Jan 23	27 Apr 23
12a	Water	YSI Professional DSS (Serial No.17B102764)	18 Apr 23	18 Jul 23
13		Global Water FP211 Flow Meter (Serial No. 22B106785)	3 May 22	3 May 23

Location : Location I		g Village ASR-1	House	No.6		N		Calibration: 31 Mar 23 ation Date: 13 Apr 23
			IVS Mo	del TE-517()	1		'echnician: Eric Chan
					(CON	IDITIONS	
	Se	ea Level I Temp	Pressure perature	. ,		. <u>3.3</u> 20.3		Corrected Pressure (mm Hg)759.975Temperature (K)293
					CALIE	BRA	TION ORIF	ICE
				Make-> Model-> Serial # ->	5025A			Qstd Slope -> 2.10977 Qstd Intercept -> -0.03782
					C	ALI	BRATION	
Plate		H2O (R)		Qstd	I	()	IC	LINEAR
<u>No.</u> 18	(in) 6.50	(in) 6.50	(in) 13.0	(m3/min) 1.741	(chai 57	t)	corrected 57.91	REGRESSION Slope = 37.5294
13	5.10	5.10	10.2	1.544	50		50.80	Intercept = -7.4538
10	4.20	4.20	8.4	1.403	44		44.70	Corr. coeff. = 0.9998
7 5	2.40 1.60	2.40 1.60	4.8 3.2	1.065 0.873	32 25		32.51 25.40	
		1.00	5.2	0.073			23.40	FLOW RATE CHART
Calculation Qstd = 1/r		$2 \Omega (D_0 / D_0)$	td)(Tatd	/Ta)) b1				FLOW RATE CHART
Qsta = 1/1 IC = I[Sqr	·			[a))-0]			70.00	
			, _				60.00	
Qstd = sta IC = corre	cted cha	rt respone	es			IC)	50.00	y = 37.529x - 7.454
I = actual m = calibi		_				response (I		y - 07.0297 - 1.404
b = calibra	-	-	t			respo	40.00	
	-		_	oration (deg		chart	20.00	
Pstd = act	ual press	ure durin	g calibra	ation (mm]	Hg)	Actual chart	30.00	
For subse	equent ca	alculatio	n of sam	pler flow:		Ā	20.00	
1/m((I)[S	Sqrt(298/	Tav)(Pav	/760)]-b)				
m = samp	ler clone						10.00	
h = samp b = samp		ept						
I = chart r		£ -					0.00	0.500 1.000 1.500 2.000
Tav = dail		-						Standard Flow Rate (m3/min)
Pav = dail	y averag	e pressur	е					

-														
Location :	San Uk	Ling V	illage H	ouse No.1			Date o	f Calib	oration: 3	31 Mar	23			
Location I	D:	ASR-2					Next Cali	ibratior	n Date: 1	13 Apr	23			
Name and	Model: T	TISCH H	IVS Mo	del TE-517()				nician: I	-				
						ON	DITIONS							
	Sea	Level	Pressure	(hPa)	10	13.3	s		Correct	ed Pres	sure (n	nm Ho)	750	.975
	500		erature	. ,		20.3				'empera		0,	157	293
		TCIII	Clature	(\mathbf{C})		20.2	<u>'</u>		1	cmpera	uure (P	Σ)		293
				C	ALIB	RAT		FICE						
				Make->	TISC	H	7		Os	td Slop	e ->		2.109	77
				Model->			1		-	Intercep			-0.037	
				Serial # ->		1	-		Qui				0.007	02
					C	ALIE	BRATION							
Plate	H20 (L)	H2O (R)	H20	Qstd	Ι		IC				LINEA	AR		
No.	(in)	(in)	(in)	(m3/min)	(cha	art)	correcte	ed		RE	GRES	SION		
18	6.60	6.60	13.2	1.754	59)	59.94		Slope = 38.3950					
13	5.40	5.40	10.8	1.588	54		54.86			Interce	-	-6.641		
10	4.10	4.10	8.2	1.386	4'		47.75		Co	orr. coe	-	0.996		
7	2.50	2.50	5.0	1.086	33		33.53		00			0.770		
5	1.60	1.60	3.2	0.873	2		27.43							
	1.00	1.00	5.2	0.075		/	27.13	, 						
Calculatio	ons:						70.00		FLOV	V RATE	CHAR	T		
Qstd = 1/r		$\Omega(D_{2}/D_{c})$	td)(Tetd	/Ta)) bl			70.00							
IC = I[Sqn		•	<i>,</i> ,	(1 <i>a))</i> -0]										
IC = I[Sql	i(ra/rsiu))(1Stu/1)	a)]				60.00							
Out 1 sta												*	/	
Qstd = sta							50.00		v	= 38 395	x - 6 642			
IC = correction		-	es			ŝ	00.00		, ,	00.000	0.012	◆		
I = actual	-					chart response (IC)								
m = calibr	-	-				spor	40.00							
b = calibra	-	-				t re								
	-		_	pration (deg		char	30.00			/	/ ·			
Pstd = act	ual pressu	ire durin	g calibra	ation (mm]	Hg)	ual o				•				
						Actual	00.00							
For subse	equent ca	Iculatio	n of sam	pler flow:			20.00							
1/m((I)[S	Sqrt(298/1	Tav)(Pav	/760)]-b)										
							10.00							$\left \right $
m = samp	ler slope													
b = samp	ler interce	ept					0.00							
I = chart r							0.000	1	0.500	1.(000	1.500	2.	000
Tav = dail	-	e temper	ature						Standar	d Flow R	ate (m3/	min)		
Pav = dail		-			L									
	, a orage	10100001	-											

Location :		_		No.2A						ation: 31 Ma					
Location I	D :	ASR-3a					Next			Date: 13 Ap					
Name and	Model:	FISCH H	IVS Mo	del TE-517()			Т	'echn	ician: Eric C	'han				
					С	OND	ΙΤΙΟΙ	NS							
	Se	a Level 1	Pressure	(hPa)	1	013.3	3		(Corrected Pr	essure (mr	n Hg)	759.975		
		Temp	berature	(°C)		20.3	3			Tempe	rature (K)		293		
				CA	ALIB	RATI	ON C	RIFICE							
					1		_								
				Make->	TISC	CH				Qstd Slo	ope ->	2.	10977		
				Model->	5025	бA				Qstd Interc	ept ->	-0	.03782		
				Serial # ->	4064	1									
					C/	ALIBR	RATI	ON							
					•,										
Plate															
No.	(in)	(in)	(in)	(m3/min)	(cł	nart)				RF	EGRESSIC	ON			
18	6.40	6.40	12.8	1.727	4	54	4	64.86		Slope = 31.5443					
13	5.40	5.40	10.8	1.588	Z	48	2	8.77		Intercept = -0.2829					
10	4.10	4.10	8.2	1.386	Z	43				Corr. co	-).9985			
7	2.40	2.40	4.8	1.065		33	2	3.53							
5	1.40	1.40	2.8	0.817		25		25.40							
Calculatio	ons :				ſ										
Qstd = 1/r	n[Sqrt(H	20(Pa/Ps	td)(Tstd/	/Ta))-b]		6	60.00	<u> </u>		FLOW RATE	CHART		—		
IC = I[Sqn												•			
			. –			F	50.00								
Qstd = sta	indard flo	w rate					50.00								
IC = corrections	ected char	t respon	es							y = 31.54	4x - 0.283 🗲				
I = actual	chart resp	ponse				Ω ⁴	40.00	<u> </u>							
m = calibi	ator Qstd	l slope				esponse (IC)									
b = calibra	ator Qstd	intercep	t			suoc					۶				
Ta = actua	al tempera	ature dur	ing calib	oration (deg	g K 🛛	lsəu	30.00								
				ation (mm]		hart				•					
						Actual char	20.00	-				_			
For subse	equent ca	alculatio	n of sam	pler flow:		Acti									
1/m((I)[S	Sqrt(298/	Гav)(Pav	/760)]-b)											
						1	10.00								
m = samp	ler slope														
b = samp	ler interco	ept					0.00								
I = chart r	response							000	0.5	500 1.0	. 000 [,]	1.500	2.000		
Tav = dail	ly average	ature						s	tandard Flow F	Rate (m3/min)				
Pav = dail	y average	e pressur	e						-		•	-			

Location ID : ASR-1 Location ID : ASR-1 Name and Model: TISCH HVS Model TE-5170 Technician: Eric Chan CONDITIONS Sea Level Pressure (hPa) Temperature (°C) CONDITIONS CALIBRATION ORIFICE Make-5 CALIBRATION ORIFICE Make-5 CALIBRATION CALIBRATION Plate H20 (L)H2O (R H20 Qstd 1 No. Gin) Gin Gin Gin (m) (m) Temperature (°C) Plate H20 (L)H2O (R H20 Qstd 1 No. Gin) Gin (m) (m) Temperature (°C) Plate H20 (L)H2O (R H20 Qstd 1 No. Gin) Gin (m) (m) Temperature (°C) CALIBRATION CALIBRATION Plate H20 (L)H2O (R H20 Qstd 1 No. Gin) Gin (m) (m) Temperature (°C) Plate H20 (L)H2O (R H20 Qstd 1 No. Gin) Gin (m) (m) Temperature during calibration (chart) corrected REGRESSION Temperature (°C) REGRESSION CALIBRATION CALIBRATION CALIBRATION CALIBRATION CALIBRATION CALIBRATION Calibration (Chart) Corrected REGRESSION Temperature during calibration (chart) corrected REGRESSION Temperature during calibration (mm Hg) Gad = l/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] C = [ISqrt(Pa/Pstd)(Tstd/Ta)] Qstd = standard flow rate C = corrected chart response m = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd directored For subsequent calculation of sampler flow: l/m((1)[Sqrt(298/Tav)(Pav/F60]-b) m = sampler intercept I = chart response m = calibrator Qstd slope b =	τ	C1	. T 7'11	ττ	NL (Data of C	1-1:hundiana 15 Ann 22
Name and Model: TISCH HVS Model TE-5170Technician: Eric ChanCONDITIONSSea Level Pressure (hPa)1009.3 26.9Corrected Pressure (nm Hg)756.975 300CALIBRATION ORIFICEMake-> TISCH Model-> $5025A$ Serial # >> 4064 Qstd Slope > Qstd Intercept .>2.10977 0.03782CALIBRATION ORIFICECALIBRATION ORIFICEName and Model: $^{-5}5025A$ Serial # >> 4064 Qstd Slope > Qstd Intercept .>2.10977 0.03782Plate H20 (L)H20 (R H20 (n) (in) (in) (in:3/min) (chart) corrected (in:3/min) (chart) corrected REGRESSIONREGRESSION186.506.5013.01.7185756.53Slope = 37.659037.6590135.1010.21.5245251.57Intercept = 37.65907.473372.402.404.81.0513130.74Calculations : Qstd = I/mISqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = [ISqrt(Pa/Pstd)(Tstd/Ta))-b] IC = [ISqrt(Pa/Pstd)(Tstd/Ta))-b] IC = corrected chart response I = actual chart response Ta = actual temperature during calibration (deg K) Pid = actual pressure during calibration (deg K) Pid = actual pressure during calibration (deg K) Pid = actual pressure during calibration (deg K) Pid = actual response Ta = actual response Ta = actual response Ta = actual feroprest 				House	N0.6		N		_
CONDITIONS Sea Level Pressure (hPa) 1009.3 26.9 Corrected Pressure (mm Hg) 756.975 300 CALIBRATION ORIFICE Make-> TISCH Model-> 5025A Scrial # > 4064 Qstd Slope -> 2.10977 0.03782 CALIBRATION ORIFICE Make-> 11SCH Model-> 5025A Scrial # > 4064 CALIBRATION CALIBRATION Plate H20 (L)H20 (R H20 (R)H20 (R H20 (R)H20 (R H20 (R)H20 (R				IVS Mo	del TE_517()	Γ		_
Sea Level Pressure (hPa)1009.3 26.9Corrected Pressure (mm Hg)756.975 300Temperature (°C)26.9Corrected Pressure (mm Hg)756.975 300CALIBRATION ORIFICEMake-> TISCH Model-> $5025A$ Serial # -> 4064 Qstd Slope -> Qstd Intercept ->2.10977 4003782CALIBRATION ORIFICEPlateH20 (D) H2O (R H20 (D) H2O (R (in) (in) (m3/min) (chart)IIC correctedLINEAR REGRESSION186.506.5013.01.7185756.53Slope = 37.659037.6590186.506.5013.01.7185756.53Slope = 37.659037.6590135.1010.01.5245251.57Intercept = -7.4733Corrected Area44 43.6330.74Corrected chart response72.402.404.81.05131 3 0.74Corrected chart response1Corrected chart response1Corrected chart response122.000997CorrectedREGRESSION0000000 <t< td=""><td></td><td>WIUUCI.</td><td>1150111</td><td></td><td></td><td></td><td>CON</td><td></td><td></td></t<>		WIUUCI.	1150111				CON		
Temperature (°C) 26.9 Temperature (K) 300 CALIBRATION ORIFICE Make>> TISCH Model> 5025A Serial # > 4064 Qstd Slope -> Qstd Intercept -> Qstd Intercept -> Qstd Intercept -> Qstd Intercept -> Qstd Intercept -> Qstd Intercept -> Qstd Slope => Qstd Slope => Qstd Slope => Qstd Slope => Qstd Slope => Qstd Slope => REGRESSION 210977 -0.03782 Plate H20 (D, H20 (R in) H20 (R in) H20 (R in) H20 (R in) H20 (R in) Qstd I IC LINEAR REGRESSION INEAR REGRESSION 18 6.50 6.50 13.0 1.718 57 56.53 Slope = 37.6590 13 5.10 10.2 1.524 52 51.57 Intercept = -7.4733 7 2.40 2.40 4.8 1.051 31 30.74 200 0.09959 24.79 Calculations : Qstd = standard flow rate IC = corrected chart response I = actual chart response I = actual chart response Ta = calibrator Qstd slope b = sampler slope Ta = daity average temperature Image: Image demperature Image demperature Image demperature 2.000 Image demperatur							-		
CALIBRATION ORIFICE Made> <tisch Model>5025A Serial # > 4064 Qstd Slope -> Qstd Intercept -> 2.10977 .0.03782 VEXALIBRATION Plate H20 (L)H20 (R H20 Qstd I IC LINEAR REGRESSION 18 6.50 6.50 13.0 1.718 57 56.53 Slope = 37.6590 13 5.10 5.10 10.2 1.524 52 51.57 Intercept = -7.4733 7 2.40 2.40 4.8 1.051 31 30.74 5 1.50 1.50 3.0 0.835 25 24.79 Calculations : Qstd = I/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] Qstd = standard flow rate IC = corrected chart response I = actual chart response I = actual temperature during calibration (deg K) Pstd = actual temperature during calibration (deg K) Pstd = actual pressure during calibration (deg K) Pstd = actual temperature during calibration (deg K) Im((1)[Sqrt(298/Tav)(Pav/760]-b) Immode pstd intercept I = chart response Tav = daily average temperature Job 2.000</tisch 		Se	ea Level I	Pressure	(hPa)	100)9.3		Corrected Pressure (mm Hg) 756.975
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$			Temp	berature	(°C)	/ 	26.9		Temperature (K) 300
$\begin{tabular}{ c c c c c c c c c c c c c c c c c c c$									
Model-> 5025A Serial # -> 4064 Qstd Intercept -> 0.03782 CALIBRATION Plate H20 (L) H2O (R H20 Qstd I IC LINEAR REGRESSION 18 6.50 6.50 13.0 1.718 57 56.53 Slope = 37.6590 13 5.10 5.0 10.0 1.524 52 51.57 Intercept = -7.4733 10 4.10 4.2 1.368 44 43.63 Corr. coeff. = 0.9959 7 2.40 2.44 8.10.51 31 30.74 5 1.50 1.50 3.0 0.835 25 24.79 Calculations : Qstd = l/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta)]-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] FLOW RATE CHART Qstd = standard flow rate IC = corrected chart response m = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd intercept Ta = actual pressure during calibration (deg K) Pstd = actual pressure during calibration (mm Hg) 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 <td></td> <td></td> <td></td> <td></td> <td></td> <td>CALI</td> <td>BRA</td> <td>TION ORIF</td> <td>ICE</td>						CALI	BRA	TION ORIF	ICE
Model-> 5025A Serial # -> 4064 Qstd Intercept -> 0.03782 CALIBRATION Plate H20 (L) H2O (R H20 Qstd I IC LINEAR REGRESSION 18 6.50 6.50 13.0 1.718 57 56.53 Slope = 37.6590 13 5.10 5.0 10.0 1.524 52 51.57 Intercept = -7.4733 10 4.10 4.2 1.368 44 43.63 Corr. coeff. = 0.9959 7 2.40 2.44 8.10.51 31 30.74 5 1.50 1.50 3.0 0.835 25 24.79 Calculations : Qstd = l/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta)]-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] FLOW RATE CHART Qstd = standard flow rate IC = corrected chart response m = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd intercept Ta = actual pressure during calibration (deg K) Pstd = actual pressure during calibration (mm Hg) 9 9 9 9 9 9 9 9 9 9 9 9 9 9 9 <td></td> <td></td> <td></td> <td></td> <td>Molto</td> <td>TICCI</td> <td>т</td> <td></td> <td>Octd Slope > 2 10077</td>					Molto	TICCI	т		Octd Slope > 2 10077
Serial # -> 4064 CALIBRATION Plate H20 (L) H21 (L) Corrected REGRESSION Corrected A 43 (L) A 30 (L) A 30 (L) Corrected H20 (L)									
CALIBRATION CALIBRATION Plate H20 (L)H2O (R) H20 (m) (m) (m3/min) I IC LINEAR No. (in) (in) (m3/min) (chart) corrected REGRESSION 18 6.50 6.50 13.0 1.718 57 56.53 Slope = 37.6590 13 5.10 5.10 10.2 1.524 52 51.57 Intercept = -7.4733 10 4.10 8.2 1.368 44 43.63 Corr. coeff. = 0.9959 7 2.40 2.40 4.8 1.051 31 30.74 5 1.50 3.0 0.835 25 24.79 FLOW RATE CHART Qstd = standard flow rate (corrected chart respones (corrected chart respones 1 = actual chart respones 1 = actual pressure during calibration (deg K) (au)							1		Qstu Intercept -> -0.05782
Plate H20 (L) H2O (R) H20 Qstd I IC LINEAR No. (in) (in) (in) (m3/min) (chart) corrected REGRESSION 18 6.50 6.50 13.0 1.718 57 56.53 Slope = 37.6590 13 5.10 5.10 10.2 1.524 52 51.57 Intercept = -7.4733 10 4.10 8.2 1.368 44 43.63 Corr. coeff. = 0.9959 7 2.40 2.40 4.8 1.051 31 30.74 5 1.50 1.50 3.0 0.835 25 24.79 FLOW RATE CHART Qstd = 1/m[Sqrt(Pa/Pstd)(Tstd/Ta)]-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] 70.00 9 9 = 37.659x - 7.473 Qstd = standard flow rate IC = corrected chart response m = calibrator Qstd slope 9 30.00 9 30.00 9 9 = 37.659x - 7.473 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0					bollul # >	1001			
No. (in) (in) (m3/min) (chart) corrected REGRESSION 18 6.50 6.50 13.0 1.718 57 56.53 Slope = 37.6590 13 5.10 5.01 10.2 1.524 52 51.57 Intercept = -7.4733 10 4.10 8.2 1.368 44 43.63 Corr. coeff. = 0.9959 7 2.40 2.40 4.8 1.051 31 30.74 5 1.50 1.50 3.0 0.835 25 24.79 FLOW RATE CHART Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] 60.00 9 9 50.00 $y = 37.659x - 7.473$ 60.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9						C	CALI	BRATION	
No. (in) (in) (m3/min) (chart) corrected REGRESSION 18 6.50 6.50 13.0 1.718 57 56.53 Slope = 37.6590 13 5.10 5.01 10.2 1.524 52 51.57 Intercept = -7.4733 10 4.10 8.2 1.368 44 43.63 Corr. coeff. = 0.9959 7 2.40 2.40 4.8 1.051 31 30.74 5 1.50 1.50 3.0 0.835 25 24.79 FLOW RATE CHART Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] 60.00 9 9 50.00 $y = 37.659x - 7.473$ 60.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9 30.00 9 9	Plate	H20 (L)	H2O (R)	H20	Qstd	Ι		IC	LINEAR
13 5.10 5.10 10.2 1.524 52 51.57 Intercept = -7.4733 10 4.10 4.10 8.2 1.368 44 43.63 Corr. coeff. = 0.9959 7 2.40 2.40 4.8 1.051 31 30.74 5 1.50 1.50 3.0 0.835 25 24.79 Calculations : Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = [ISqrt(Pa/Pstd)(Tstd/Ta)] 0.00 60.00 9	No.			(in)	-	(cha	rt)	corrected	REGRESSION
10 4.10 4.10 8.2 1.368 44 43.63 Corr. coeff. = 0.9959 7 2.40 2.40 4.8 1.051 31 30.74 24.79 Calculations : Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta)]-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] FLOW RATE CHART Qstd = standard flow rate IC = corrected chart response 60.00 9 = 37.659×-7.473 60.00 I = actual chart response actual temperature during calibration (deg K) 9 = 30.00 9 = 37.659×-7.473 9 For subsequent calculation of sampler flow: 1/m((1)[Sqrt(298/Tav)(Pav/760)]-b) 9 30.00 0.000 0.500 1.000 1.500 2.000 m = sampler slope b = sampler intercept 1.500 2.000 0.000 0.500 1.000 1.500 2.000 10.00 0.000 0.500 1.000 1.500 2.000 11/m = chart response actual pressure temperature 2.000 3.000 2.000 3.000 2.000 12/m = chart response 3.000 0.000 0.500 1.000 1.500 2.000 13/m = chart response	18	6.50	6.50	13.0	1.718	57		56.53	Slope = 37.6590
72.402.404.81.0513130.7451.501.503.00.8352524.79 Calculations : Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] FLOW RATE CHART Qstd = standard flow rate IC = corrected chart response m = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd slope Ta = actual temperature during calibration (deg K) Pstd = actual pressure during calibration (mm Hg)50.00 $y = 37.659 \times -7.473$ FLOW RATE CHART 70.000.0090.00	13	5.10	5.10	10.2	1.524	52	,	51.57	_
51.501.503.00.8352524.79Calculations :Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b]IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)]Qstd = standard flow rateIC = corrected chart responseI = actual chart responseI = actual chart responsem = calibrator Qstd slopeb = calibrator Qstd slopeb = calibrator Qstd slopeb = calibrator Qstd interceptTa = actual temperature during calibration (deg K)Pstd = actual pressure during calibration (mm Hg)Note that the sponseImm((I)[Sqrt(298/Tav)(Pav/760)]-b)m = sampler slopeb = sampler interceptI = chart responseTav = daily average temperature									Corr. coeff. = 0.9959
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 response I = actual chart response m = calibrator Qstd slope b = calibrator Qstd slope 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									
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((1)[Sqrt(298/Tav)(Pav/760)]-b) m = sampler slope b = sampler intercept I = chart response Tav = daily average temperature	5	1.50	1.50	3.0	0.835	25	-	24.79	
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	Calculatio	ns :							FLOW RATE CHART
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	Qstd = 1/r	n[Sqrt(H	20(Pa/Ps	td)(Tstd	/Ta))-b]			70.00	
Qstd = standard flow rate IC = corrected 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	-				,, 1			10.00	
Qstd = standard flow rate IC = corrected 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								60.00	
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	Qstd = sta	ndard flo	ow rate					00.00	
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Ta = actual temperature during calibration (deg K) Pstd = actual pressure during calibration (mm Hg) For subsequent calculation of sampler flow: 1/m((I)[Sqrt(298/Tav)(Pav/760)]-b) m = sampler slope b = sampler intercept I = chart response Tav = daily average temperature		-	-				spon	40.00	
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		-	-		ration (day	ч K)	irt re		
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		-		_			l cha	30.00	•
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	1 stu – det	uui piess	ure durm	g cuitore		.15)	ctua		
m = sampler slope b = sampler intercept I = chart response Tav = daily average temperature	For subse	quent ca	alculatio	n of sam	pler flow:		4		
m = sampler slope b = sampler intercept I = chart response Tav = daily average temperature	1/m((I)[S	Sqrt(298/	Tav)(Pav	/760)] - b)				
b = sampler intercept I = chart response Tav = daily average temperature 0.00 0.000 0.500 1.000 1.500 2.000 Standard Flow Rate (m3/min)								10.00	
I = chart response0.001.0001.5002.000Tav = daily average temperatureStandard Flow Rate (m3/min)									
Tav = daily average temperature Standard Flow Rate (m3/min)			ept						
Tav = daily average temperature		-		- 1				0.000	
rav = dany average pressure			-						·····,
	rav = uall	y averag	e piessur	U					

Location	Son III	LingV	lloco U	ougo No 1			Data a	of Colibration, 15 Apr 22			
Location Location		ASR-2	mage H	JUSC INO.1]		of Calibration: 15 Apr 23 libration Date: 29 Apr 23			
Name and	Model:	TISCH H	IVS Mo	del TE-517(0			Technician: Eric Chan			
					C	ONE	DITIONS				
	Se	a Level I Temp	Pressure perature	. ,	1()09.3 26.9		Corrected Pressure (mm Hg) 756.9 Temperature (K) 2	975 300		
				C	CALIB	RAT		IFICE			
				Make-> Model-> Serial # ->	5025	А]	Qstd Slope -> 2.10977 Qstd Intercept -> -0.0378			
					С	ALIB	BRATION	1			
Plate		H2O (R)		Qstd]		IC	LINEAR			
No. 18	(in) 6.50	(in) 6.50	(in) 13.0	(m3/min) 1.718	(ch 5		correcter 58.51				
13	5.40	5.40	10.8	1.568	5		53.55	-			
10	4.00	4.00	8.0	1.352	4		44.63	1			
7	2.40	2.40	4.8	1.051	3		31.73				
5	1.60	1.60	3.2	0.861	2		26.78				
Calculatio	ne :							FLOW RATE CHART			
Qstd = 1/i IC = I[Sqi	n[Sqrt(H	-		/Ta))-b]			60.00				
Qstd = sta IC = corre I = actual	ected char	rt respone	es			(IC)	50.00	y = 38.398x - 7.261			
m = calibrb = calibr	ator Qst	i slope	t			chart response (IC)	40.00				
	-		-	oration (deg ation (mm		Actual chart	30.00 —	▲			
<i>For subse</i> 1/m((I)[5	•			pler flow:		Ac	20.00 —				
m = samp		1 av A1 av	, , UU)] - L)			10.00 —				
b = samp	-	ept					0.00				
I = chart r							0.00	0 0.500 1.000 1.500 2.00	10		
	Standard Flow Rate (m3/min)Standard Flow Rate (m3/min)										
Pav = dai					l						

Location :				e No.2A						ation: 15 Ap					
Location I		ASR-3a				l	Next			Date: 29 Ap					
Name and	Model:	TISCH F	IVS Mo	del TE-5170					echn	ician: Eric C	Chan				
					CC	ONDI	TION	IS							
	C	T 1	D		10	00.0	3				,	TT \	756	075	
	Se	a Level I			1(09.3			(Corrected Pr	-		756.		
		Temp	berature	(°C)		26.9)			Tempe	erature (K)			300	
				CA	LIBR	ATIC	о ис	RIFICE							
				Make->	TISC	H	1			Qstd Slo	ope ->		2.1097	7	
				Model->	5025.	A				Qstd Interc	ept ->	-	0.0378	32	
				Serial # ->	4064										
					СА	LIBR	RATIO	ON	N						
Plate	H20 (L)	H2O (R)	H20	Qstd]	-	I	IC			LINEAR				
No.	(in)	(in)	(in)	(m3/min)	(ch				REGRESSION						
18	6.50	6.50	13.0	1.718	5		corrected 53.55			Slope = 30.4544					
13	5.40	5.40	10.8	1.568	4			7.60			-).5337			
10	4.10	4.10	8.2	1.368	4			1.65		Corr. coeff. = 0.9981					
7	2.30	2.30	4.6	1.029	3		3	2.73							
5	1.40	1.40	2.8	0.807	2		2	4.79							
Calculatio	ons :									FLOW RATE					
Qstd = 1/n				/Ta))-b]		6	0.00 -								
IC = I[Squ	rt(Pa/Pstd	l)(Tstd/T	a)]									•	•		
						5	0.00					+/			
Qstd = sta										y = 30.454	v + 0 534				
IC = correction		-	es				0.00 -			y = 30.434	× + 0.004				
I = actual m = calibi	-	-				<u>ତ</u>	0.00								
b = calibra	-	-	t			response (IC)									
	-	-		oration (deg	, K	3	0.00			/	/				
				ation (mm I											
1 510 – 401	uur press	ure durm	ig cuitore		.15)	Actual chart 5	0.00 -								
For subse	equent ca	alculatio	n of sam	pler flow:		Actu	.0.00								
1/m((I)[S	Sqrt(298/	Tav)(Pav	r/760)]-b)		•									
			· · ·	•		1	0.00 -								
m = samp	ler slope														
b = samp	ler interc					0.00 -									
I = chart r	esponse							000	0.5	500 1.0	000	1.500	2.0	000	
Tav = dai		_							s	tandard Flow F	Rate (m3/min	1)			
Pav = dail	y average	e pressur	e		L										



RECALIBRATION DUE DATE:

December 15, 2023

nmental Certificate of Calibration

- 1 -			Calibration					°K	*approximation
Cal. Date:				meter S/N:	438320	Ta:	Ta: 295		
Operator:	Jim Tisch					748.0	mm Hg	1	
Calibration	Model #:	TE-5025A	Calil	prator S/N:	4064				1
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΗ	1	×
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)		
	1	1	2	1	1.4430	3.2	2.00		
	2	3	4	1	1.0210	6.4	4.00	1	
	3	5	6	1	0.9170	7.9	5.00		
	4	7	8	1	0.8730	8.8	5.50	1	
	5	9	10	1	0.7210	12.8	8.00]	
	-			Data Tabula	tion)'	1	
				V Total V				1	
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$)(<u>Tstd</u>)		Qa	√∆H(Ta/Pa)		
	(m3)	(x-axis)	(y-ax	is)	Va	(x-axis)	(y-axis)		
	0.9900	0.6861	1.41	01	0.9957	0.6900	0.8881	.]	
	0.9858	0.9655	1.99		0.9914	0.9711	1.2560	-	
	0.9838 1.0728 2.229 0.9826 1.1255 2.338 0.9772 1.2554 2.938				1.0790	1.4042	-		
					0.9882	1.1320 1.3632	1.4728	-	
	0.9772	1.3554 2.8203 m= 2.10977			0.9829	-			
	OCTD	m= b=	-0.03	All source into party or construction of the second	0.4	m= b=	1.32110	-	
	QSTD	r=	0.999		QA	r=	0.99998	-	
			ana da kana da	Calculatio	ns			ī	
	Vstd=	ΔVol((Pa-ΔP)	/Pstd)(Tstd/T						
	Qstd=	Vstd/∆Time			the second se	Va/∆Time			
			For subsequ	ent flow ra	te calculatio	ns:]	
	Qstd=	1/m ((√∆H(Pa <u>Tstd</u> Pstd Ta	-))-b)	Qa=	1/m ((√∆ł	H(Ta/Pa))-b)		
	Standard	Conditions						_	
Tstd						RECA	LIBRATION		
Pstd		mm Hg			LIS EDA rocc	ommende o	nnual recalibrati	on por 1	202
AH. calibrat		(ey ter reading (i	n H2O)				Regulations Part	-	
		eter reading (i					, Reference Met		
		perature (°K)							
		ressure (mm			Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30				
b: intercept	t				u u	слатоэри		50	
m: slope									

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER HK2307087
CLIENT	ACTION-UNITED ENVIRONMENTAL	
	SERVICES & CONSULTING	
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41	SUB-BATCH : 1
	TAI LIN PAI ROAD, KWAI CHUNG, N.T.	DATE RECEIVED : 20-FEB-2023
	······································	DATE OF ISSUE : 27-FEB-2023
PROJECT	:	NO. OF SAMPLES : 1
		CLIENT ORDER

General Comments

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the • item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

- Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.
- 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 Juny.		
Richard Fung	Managing Director	

This report supersedes any previous report(s) with the same work order 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 Kwai Tsing Hong Kong

WORK ORDER SUB-BATCH

CLIENT

PROJECT

: HK2307087

: 1 : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING :



ALS Lab ID	Client's Sample ID	Sample Type	Sample Date	External Lab Report No.
HK2307087-001	S/N: 366407	AIR	20-Feb-2023	S/N: 366407

Equipment Verification Report (TSP)

Equipment Calibrated:

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366407
Equipment Ref:	EQ107

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018 & HVS 019
Last Calibration Date:	14 December 2022 & 10 January 2023

Equipment Verification Results:

Verification Date:

10, 11 &12 January 2023

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
10-Jan-23	2hr1min	14:41 ~ 16:42	18.2	1018.8	7.6	613	5.1
11-Jan-23	2hr01min	13:16 ~ 15:17	18.1	1017.6	25.2	1786	14.8
11-Jan-23	2hr01min	15:25 ~ 17:26	18.1	1017.6	15.8	1206	10.0
12-Jan-23*	61mins	09:31 ~ 10:32	18.8	1014.5	112.8	3679	60.1
12-Jan-23*	61mins	10:36 ~ 11:37	18.8	1014.5	81.5	2077	33.9

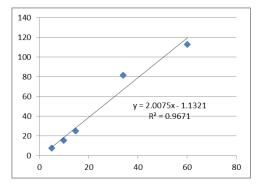
(*) Suspended particle was added into calibration room of HVS019 for high concentration test.

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration) <u>565 (CPM)</u> 565 (C

Linear Regression of Y or X

Slope (K-factor): Correlation Coefficient (R)

<u>2.0075 (µg/m³)/CPM</u> 0.9834 13 February 2023



(CPM)

Remarks:

Date of Issue

1. **Strong** Correlation (R>0.8)

2. Factor 2.0075 (µg/m³)/CPM should be apply for TSP monitoring

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

Operator :	Fai So	Signature :	Ja	Date :	13 February 2023
QC Reviewer :	Ben Tam	Signature : _	\$6	Date :	13 February 2023

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	Location : Gold King Industrial Building, Ky Location ID : Calibration Room(HVS 018)	wai Chung		Date of Calibration: 14-Dec-22 Next Calibration Date: 14-Mar-23
Temperature (°C) 12.5 Temperature (K) 286 CALIBRATION ORIFICE Make-> Model-> TISCH 5025A 27-Dec-21 Qstd Slope -> Qstd Intercept -> 27-Dec-22 1.99838 4.000903 27-Dec-22 CALIBRATION ORIFICE Temperature (K) 286 Plate H20 (D) H20 (R H20 Qstd I IC LINEAR No. (in) (in) (in) (m3/min) (chart) corrected REGRESSION REGRESSION Slope = 29.6312 13 4.8 4.8 9.6 1.595 48 49.23 Intercept = 2.5287 10 3.8 3.8 7.6 1.420 44 45.13 Corr. coeff. = 0.9991 8 2.5 2.5 5.0 1.152 36 36.93 Calculations : (Std = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] Graduat flow rate IC = corrected chart response m = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd slope for the calibration (deg K) Pstd = actual temperature during calibration (deg K) Pstd = actual pressure during calibration (deg K) Im = sampler slope FLOW RATE CHART		CONDITIO	NS	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				
Model-> 5025A Qstd Intercept -> 0.00903 27-Dec-21 Expiry Date-> 27 -Dec-22 CALIBRATION INTERCENTION CALIBRATION CALIBRATION CALIBRATION CALIBRATION INTERCENT OF CONTRACT ON TABLE CHART Control of any of the standard flow rate [C = corrected chart response m = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd intercept Ta = actual temperature during calibration (deg K) PStd = actual pressure during calibration (mm Hg) Model > 10.00 Model > 2000 Image: Calibration of sampler flow: I/m((1) [Sqrt(298/Tav)(Pav/760)]-b) <td>CALIE</td> <td>BRATION</td> <td>ORIFICE</td> <td>E</td>	CALIE	BRATION	ORIFICE	E
Plate H20 (L)H2O (R) H20 Qstd I IC LINEAR No. (in) (in) (in) (m3/min) (chart) corrected REGRESSION 18 6 6 12.0 1.783 54 55.39 Slope = 29.6312 13 4.8 4.8 9.6 1.595 48 49.23 Intercept = 2.5287 10 3.8 3.8 7.6 1.420 44 45.13 Corr. coeff. = 0.9991 8 2.5 2.5 5.0 1.152 36 36.93 28 28 28.72 28 28.72 28 28.72 Calculations : Qstd = standard flow rate IC = corrected chart respones I I IC = corrected chart respones I I = actual chart response m = calibrator Qstd slope b = calibrator Qstd slope 0 0 0 0 90 90.00 90.00 90.00 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Model-> 502	25A		Qstd Intercept -> -0.00903
No. (in) (in) (m ² /min) (chart) corrected REGRESSION 18 6 6 12.0 1.783 54 55.39 Slope = 29.6312 13 4.8 4.8 9.6 1.595 48 49.23 Intercept = 2.5287 10 3.8 3.8 7.6 1.420 44 45.13 Corr. coeff. = 0.9991 8 2.5 2.5 5.0 1.152 36 36.93 5 1.5 1.5 3.0 0.894 28 28.72 Calculations : Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] 60.00 60.0	C	CALIBRAT	ION	
18 6 6 12.0 1.783 54 55.39 Slope = 29.6312 13 4.8 4.8 9.6 1.595 48 49.23 Intercept = 2.5287 10 3.8 3.8 7.6 1.420 44 45.13 Corr. coeff. = 0.9991 8 2.5 2.5 5.0 1.152 36 36.93 Corr. coeff. = 0.9991 State 1.5 1.5 3.0 0.894 28 28.72 Corr. coeff. = 0.9991 Calculations : Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] FLOW RATE CHART IC = corrected chart response 60.00 50.00 50.00 50.00 m = calibrator Qstd intercept Ta = actual temperature during calibration (deg K) 9 9 9 90.00 9 Pstd = actual pressure during calibration (mm Hg) 10.00 10.00 10.00 10.00 10.00 10.00				
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] Qstd = standard flow rate IC = corrected chart response I = actual chart response m = calibrator Qstd slope b = calibrator Qstd slope b = 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	18 6 6 12.0 1.783 5.7 13 4.8 4.8 9.6 1.595 4 10 3.8 3.8 7.6 1.420 4 8 2.5 2.5 5.0 1.152 3	8 49 4 4 <u>4</u> 6 30	9.23 5.13 6.93	Intercept = 2.5287
b = sampler intercept $I = chart response$ $0.00 + + + + + + + + + + + + + + + + + +$	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 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	- 00.05 - 00.05 - 00.05 - 00.02 - 00.01 - 00.01		



RECALIBRATION DUE DATE:

December 27, 2022

	Ce	rtifa	Calibration				ntion			
Cal. Date:	December	27 2021				annan an ann an Adres An Inne Aigeine Inne Station	295	°K		
		er 27, 2021 Rootsmeter			436320					
Operator:	Jim Tisch					Pa:	740.4	mm Hg		
Calibration	Model #:	TE-5025A	Cali	brator S/N:	1612					
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΗ			
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)			
	1	1	2	1	1.3890	3.2	2.00			
	2	3	4	1	0.9760	6.4	4.00			
	3	5	6	1	0.8740	7.9	5.00			
	4	7	8	1	0.8320	8.8	5.50			
	5	9	10	1	0.6870	12.7	8.00			
				Data Tabula	tion					
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$)(Tstd)		Qa	√∆H(Ta/Pa)			
	(m3)	(x-axis)	y (y-ax		Va	(x-axis)	(y-axis)			
	0.9799	0.7055	1.40	1	0.9957	0.7168	0.8927			
	0.9756	0.9996	1.98		0.9914	1.0157	1.2624			
	0.9736	1.1140	2.21	1	0.9893	1.1320	1.4114			
	0.9724	1.1688	2.32	2.3265		1.1876	1.4803			
	0.9673	1.4079	2.80	1	0.9828	1.4306 1.7853 m= 1.25135				
		m=	1.998							
	QSTD	b=	-0.00		QA	b= r=	-0.00574 0.99999			
		r=	0.999	999						
			(m		Calculations					
		ΔVol((Pa-ΔP) Vstd/ΔTime	/Pstd)(Tstd/T	a)	Conception of the local division of the loca	ΔVol((Pa-Δ Va/ΔTime	P)/Pa)			
	Q3tu-	vstu/Anne	For subsequ	lent flow ra	te calculation					
	Qstd=	1/m ((\\ \ \ \ \ \ \ \ \ \ \ \ \ (Pa <u>Tstd</u> Pstd Ta	The second s		1/m ((√∆H	l(Ta/Pa))-b)			
		Conditions						I		
Tstd:	298.15	°K		Ι		RECA	LIBRATION			
Pstd:	Contraction of the second seco	mm Hg			LIS EPA reco	mmende	nnual recalibratio	n ner 1000		
AH: calibrat		(ey ter reading (i	n H2O)				Regulations Part 5			
		eter reading					, Reference Meth			
Ta: actual al	osolute tem	perature (°K)					ended Particulate			
		ressure (mm	Hg)				ere, 9.2.17, page 3			
b: intercept				l			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
m: slope										

Tisch Environmental, Inc.

145 South Miami Avenue

Village of Cleves, OH 45002

<u>www.tisch-env.com</u> TOLL FREE: (877)263-7610 FAX: (513)467-9005

Location : Location I	D :		-	strial Buildi m(HVS 019		wai Cł	nung	Date of Calibration: 10-Jan-23 Next Calibration Date: 9-Apr-23
						COND	ITIONS	
	Se	a Level I Temp	Pressure erature	. ,	1	018.8 18.2		Corrected Pressure (mm Hg) 764.1 Temperature (K) 291
					CALI	BRATI	ON ORIFIC	CE
			Calibrat	Make-> Model-> ion Date->		25A		Qstd Slope ->2.10977Qstd Intercept ->-0.03782Expiry Date->15-Dec-23
					C	CALIB	RATION	
			H20 (in)	Qstd (m3/min)		[art)	IC corrected	LINEAR REGRESSION
No. (in) (in) (in) (m3/min) (c 18 6 6 12.0 1.683 13 1.9 4.9 9.8 1.523 10 3.9 3.9 7.8 1.361 8 2.4 2.4 4.8 1.071 5 1.5 1.5 3.0 0.851 1					5 4 4 3	5 8	55.79 48.69 44.63 36.52 28.40	Slope = 31.4802 Intercept = 1.9499 Corr. coeff. = 0.9967
Pstd = actu For subse 1/m((I)[S m = sampl b = sampl I = chart re	n[Sqrt(H t(Pa/Pstc ndard flo cted cha chart res ator Qstd tor Qstd l temper ual press quent ca qrt(298/ er slope er interc esponse	d)(Tstd/T ow rate rt respon ponse d slope intercep ature durin ure durin alculation Tav)(Pav	a)] es t ting cali g calibr n of san t/760)]-t	bration (de ation (mm apler flow:		00 905 905 905 905 901 901 901	0.00 0.00 0.00 0.00 0.00 0.000	FLOW RATE CHART
Tav = dail Pav = dail						<u> </u>		



RECALIBRATION DUE DATE:

December 15, 2023

nmental Certificate of Calibration

- 1 -			Calibration					°K	
Cal. Date:				meter S/N:	438320	Ta:	Ta: 295		
Operator:	Jim Tisch					748.0	mm Hg	1	
Calibration	Model #:	TE-5025A	Calil	prator S/N:	4064				1
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΗ	1	×
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)		
	1	1	2	1	1.4430	3.2	2.00		
	2	3	4	1	1.0210	6.4	4.00	1	
	3	5	6	1	0.9170	7.9	5.00		
	4	7	8	1	0.8730	8.8	5.50	1	
	5	9	10	1	0.7210	12.8	8.00]	
	-			Data Tabula	tion)'	1	
				V Total V				1	
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$)(<u>Tstd</u>)		Qa	√∆H(Ta/Pa)		
	(m3)	(x-axis)	(y-ax	is)	Va	(x-axis)	(y-axis)		
	0.9900	0.6861	1.41	01	0.9957	0.6900	0.8881	.]	
	0.9858	0.9655	1.99		0.9914	0.9711	1.2560	-	
	0.9838 1.0728 2.229 0.9826 1.1255 2.338 0.9772 1.2554 2.938				1.0790	1.4042	-		
					0.9882	1.1320 1.3632	1.4728	-	
	0.9772	1.3554 2.8203 m= 2.10977			0.9829	-			
	OCTD	m= b=	-0.03	All source into party or construction of the second	0.4	m= b=	1.32110	-	
	QSTD	r=	0.999		QA	r=	0.99998	-	
			ana da kana da	Calculatio	ns			ī	
	Vstd=	ΔVol((Pa-ΔP)	/Pstd)(Tstd/T						
	Qstd=	Vstd/∆Time			the second se	Va/∆Time			
			For subsequ	ent flow ra	te calculatio	ns:]	
	Qstd=	1/m ((√∆H(Pa Pstd Tstd	-))-b)	Qa=	1/m ((√∆ł	H(Ta/Pa))-b)		
	Standard	Conditions						_	
Tstd						RECA	LIBRATION		
Pstd		mm Hg			LIS EDA rocc	ommende o	nnual recalibrati	on por 1	202
AH. calibrat		(ey ter reading (i	n H2O)				Regulations Part	-	
		eter reading (i					, Reference Met		
		perature (°K)							
		ressure (mm			Determination of Suspended Particulate Matter in the Atmosphere, 9.2.17, page 30				
b: intercept	t				u u	слатоэри		50	
m: slope									

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER HK2307088
CLIENT	ACTION-UNITED ENVIRONMENTAL	
	SERVICES & CONSULTING	
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41	SUB-BATCH : 1
	TAI LIN PAI ROAD, KWAI CHUNG, N.T.	DATE RECEIVED : 20-FEB-2023
		DATE OF ISSUE : 27-FEB-2023
PROJECT	:	NO. OF SAMPLES : 1
		CLIENT ORDER :

General Comments

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the • item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

- Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.
- 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	
Kirland Jong .		
Richard Fung	Managing Director	

This report supersedes any previous report(s) with the same work order 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 Kwai Tsing Hong Kong

WORK ORDER SUB-BATCH

CLIENT

PROJECT

: HK2307088

: 1 : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING :



ALS Lab **Client's Sample ID** Sample Sample Date External Lab Report No. ID Туре HK2307088-001 AIR 20-Feb-2023 S/N: 366418 S/N: 366418

Equipment Verification Report (TSP)

Equipment Calibrated:

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366418
Equipment Ref:	EQ108

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018 & HVS 019
Last Calibration Date:	14 December 2022 & 10 January 2023

Equipment Verification Results:

Verification Date:

10, 11 &12 January 2023

Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
10-Jan-23	2hr1min	14:41 ~ 16:42	18.2	1018.8	7.6	584	4.8
11-Jan-23	2hr01min	13:16 ~ 15:17	18.1	1017.6	25.2	1677	13.9
11-Jan-23	2hr01min	15:25 ~ 17:26	18.1	1017.6	15.8	1106	9.1
12-Jan-23*	61mins	09:31 ~ 10:32	18.8	1014.5	112.8	3546	57.9
12-Jan-23*	61mins	10:36 ~ 11:37	18.8	1014.5	81.5	2110	34.5

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

Sensitivity Adjustment Scale Setting (Before Calibration) Sensitivity Adjustment Scale Setting (After Calibration) <u>685 (CPM)</u> 685 (C

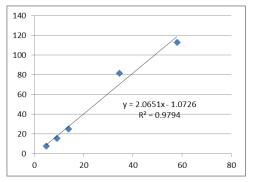
Linear Regression of Y or X

Slope (K-factor):

Correlation Coefficient (R)

0.9896 13 February 2023

2.0651 (µg/m³)/CPM



(CPM)

Remarks:

Date of Issue

1. **Strong** Correlation (R>0.8)

2. Factor 2.0651 (µg/m³)/CPM should be apply for TSP monitoring

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

Operator :	Fai So	Signature :	Ja	Date :	13 February 2023
QC Reviewer :	Ben Tam	Signature : _	\$6	Date :	13 February 2023

Location : Gold King Industrial Building, Ky Location ID : Calibration Room(HVS 018)							wai Chung Date of Calibration: 14-Dec-2 Next Calibration Date: 14-Mar-2			
						COND	ITIONS			
	Se	a Level I Temp	Pressure erature	. ,	1	021.4 12.5		Corrected Pressure (mm Hg) 766.05 Temperature (K) 286		
					CALI	BRATI	ON ORIFIC	CE		
			Calibrat	Make-> Model-> ion Date->	502	CH 25A ec-21		Qstd Slope -> 1.99838 Qstd Intercept -> -0.00903 Expiry Date-> 27-Dec-22		
					(CALIB	RATION			
		H2O (R) (in)	H20 (in)	Qstd (m3/min)		I art)	IC corrected	LINEAR REGRESSION		
18 13 10 8 5	No. (in) (in) (in) (m3/min) (ch 18 6 6 12.0 1.783 5 13 4.8 4.8 9.6 1.595 4 10 3.8 3.8 7.6 1.420 4 8 2.5 2.5 5.0 1.152 3					iiii) control coll iiii) 55.39 ii8 49.23 ii4 45.13 ii6 36.93 ii8 28.72		Slope = 29.6312 Intercept = 2.5287 Corr. coeff. = 0.9991		
	n[Sqrt(H t(Pa/Pstc ndard flc cted cha chart res ator Qstd tor Qstd il temper ual press quent ca Sqrt(298/ er slope er interc	d)(Tstd/T ow rate rt respond ponse d slope intercep rature dur ure durin alculatior Tav)(Pav	a)] es t ing cali g calibr n of san	bration (de ation (mm apler flow:		00 Actual chart response (IC) 00 01 01		FLOW RATE CHART		
Tav = dail Pav = dail						<u> </u>				



RECALIBRATION DUE DATE:

December 27, 2022

	Ce	rtifa	Calibration				ntion						
Cal Date:	Cal. Date: December 27, 2021 Rootsmeter S/N: 438320 Ta: 295 °K												
		27, 2021	ROOLS	meter 5/14.	436320								
Operator:	Jim Tisch					Pa:	740.4	mm Hg					
Calibration	Model #:	TE-5025A	Cali	brator S/N:	1612								
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΗ]					
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)						
	1	1	2	1	1.3890	3.2	2.00						
	2	3	4	1	0.9760	6.4	4.00	1					
	3	5	6	1	0.8740	7.9	5.00	-					
	4	7	8	1	0.8320	8.8	5.50	4					
	5	9	10	1	0.6870	12.7	8.00]					
				Data Tabula	tion]					
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$)(Tstd)		Qa	√∆H(Ta/Pa)						
	(m3)	(x-axis)	y (y-ax		Va	(x-axis)	(y-axis)						
	0.9799	0.7055	1.40	1	0.9957	0.7168	0.8927						
	0.9756	0.9996	1.98		0.9914	1.0157	1.2624						
	0.9736	1.1140	2.21	1	0.9893	1.1320	1.4114						
	0.9724	1.1688	2.32	65	0.9881	1.1876	1.4803						
	0.9673	1.4079	2.80	1	0.9828	1.4306	1.7853	1					
		m=	1.998			m= 1.25135 b= -0.00574		1					
	QSTD	b=	-0.00		QA	b=	3						
		r=	0.999	999		r=]						
				Calculation									
	been service and service on the service of the serv	the local data and the second	/Pstd)(Tstd/T	a)	Conception of the owner owner owner owner owner	ΔVol((Pa-Δ Va/ΔTime	P)/Pa)						
	Qstd=	Vstd/∆Time	For subcos	ont flow no									
	Qstd=	1/m ((1/DH(For subsequence of the subsequen	The second s									
		Conditions		. / /		//.		1					
Tstd:	298.15	°K		ſ		RECA	LIBRATION						
Pstd:	Contractor and the second seco	mm Hg		ľ				4000					
AH: calibrat		(ey ter reading (i	n H2O)				nnual recalibratio						
		eter reading (I					Regulations Part ! , Reference Meth						
		perature (°K)					ended Particulat						
Pa: actual b	arometric pi	ressure (mm					erided Particulation and Part						
b: intercept						- Autoophe	, J.2.17, page						
m: slope				-									

Tisch Environmental, Inc.

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TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Location I	D :		-	strial Buildi m(HVS 019		wai Cł	nung	Date of Calibration: 10-Jan-23 Next Calibration Date: 9-Apr-23
						COND	ITIONS	
	Se	a Level I Temp	Pressure erature	. ,	1	018.8 18.2		Corrected Pressure (mm Hg) 764.1 Temperature (K) 291
					CALI	BRATI	ON ORIFIC	CE
			Calibrat	Make-> Model-> ion Date->		25A		Qstd Slope -> 2.10977 Qstd Intercept -> -0.03782 Expiry Date-> 15-Dec-23
					C	CALIB	RATION	
			H20 (in)	Qstd (m3/min)		[art)	IC corrected	LINEAR REGRESSION
					5 4 4 3	5 8	55.79 48.69 44.63 36.52 28.40	Slope = 31.4802 Intercept = 1.9499 Corr. coeff. = 0.9967
Qstd = $1/n$ IC = I[Sqr Qstd = stat IC = corre I = actual m = calibra Ta = actua Pstd = actua Pstd = actua For subse 1/m((I)[S] m = sampl b = sampl I = chart re	n[Sqrt(H t(Pa/Pstc ndard flo cted cha chart res ator Qstd tor Qstd l temper ual press quent ca qrt(298/ er slope er interc esponse	d)(Tstd/T ow rate rt respon ponse d slope intercep ature durin ure durin alculation Tav)(Pav	a)] es t ting cali g calibr n of san t/760)]-t	bration (de ation (mm apler flow:		00 905 905 905 905 901 901 901	0.00 0.00 0.00 0.00 0.00 0.000	FLOW RATE CHART
Tav = dail Pav = dail						<u> </u>		



RECALIBRATION DUE DATE:

December 15, 2023

nmental Certificate of Calibration

- 1 -			Calibration					017	*approximation
Cal. Date:	December	15, 2022	Roots	meter S/N:	438320	Ta:	295	°K	
Operator:	Jim Tisch					748.0	mm Hg	1	
Calibration	Model #:	TE-5025A	Calil	prator S/N:			1		
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΡ ΔΗ		
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)		
	1	1	2	1		3.2	2.00		
	2	3	4	1	1.0210	6.4	4.00	1	
	3			1	0.9170	7.9	5.00		
	4	7	8	1	0.8730	8.8	5.50	1	
	5	9	10	1	0.7210	12.8	8.00]	
	-			Data Tabula	tion)'	1	
				V Total V				1	
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$)(<u>Tstd</u>)		Qa	√∆H(Ta/Pa)		
	(m3)	(x-axis)	(y-ax	is)	Va	(x-axis)	(y-axis)		
	0.9900	0.6861	1.41	01	0.9957	0.6900	0.8881	.]	
	0.9858	0.9655	1.99		0.9914	0.9711	1.2560	-	
	0.9838	1.0728	2.22		0.9894	1.0790	1.4042	-	
		0.9826 1.1255 2.33 0.9772 1.3554 2.82			0.9882	1.1320	1.4728	-	
	0.9772				0.9829	1.3632	1.3632 1.7762 m= 1.32110		
	OCTD	m= b=	-0.03	All source into party or construction of the second	0.4			-	
	QSTD	r=	0.999		QA	r=	0.99998	-	
			ana da kana da	Calculatio	ns			ī	
	Vstd=	ΔVol((Pa-ΔP)	/Pstd)(Tstd/T		procession of the second se	ΔVol((Pa-Δ	P)/Pa)	1	
	Qstd=	Vstd/∆Time			the second se	Va/∆Time	1		
			For subsequ	ent flow ra	te calculatio	ns:]	
	Qstd=	1/m ((√∆H(Pa <u>Tstd</u> Pstd Ta	-))-b)	Qa=	$Qa = 1/m\left(\left(\sqrt{\Delta H(Ta/Pa)}\right)-b\right)$			
	Standard	Conditions						_	
Tstd						RECA	LIBRATION		
Pstd		mm Hg			LIS EDA rocc	ommende o	nnual recalibrati	on por 1	202
AH. calibrat		(ey ter reading (i	n H2O)				Regulations Part	-	
		eter reading (i					, Reference Met		
		perature (°K)					ended Particulat		
		ressure (mm				-	ere, 9.2.17, page		111
b: intercept	t				u u	слатоэри		50	
m: slope									

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

ALS Technichem (HK) Pty Ltd

ALS Laboratory Group

ANALYTICAL CHEMISTRY & TESTING SERVICES



SUB-CONTRACTING REPORT

CONTACT	: MR BEN TAM	WORK ORDER HK2307089
CLIENT	ACTION-UNITED ENVIRONMENTAL	
	SERVICES & CONSULTING	
ADDRESS	: RM A 20/F., GOLD KING IND BLDG, NO. 35-41	SUB-BATCH : 1
	TAI LIN PAI ROAD, KWAI CHUNG, N.T.	DATE RECEIVED : 20-FEB-2023
		DATE OF ISSUE : 27-FEB-2023
PROJECT	:	NO. OF SAMPLES : 1
		CLIENT ORDER

General Comments

Sample(s) was/ were submitted by client. Sample(s) arrived laboratory in ambient condition. The result(s) related only to the • item(s) tested.

Sample information (Project name, Sample ID, Sampling date/time, etc.) is provided by client.

- Result(s) of sample(s) is/are reported on as received basis, unless otherwise specified.
- 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 Juny.		
Richard Fung	Managing Director	

This report supersedes any previous report(s) with the same work order 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 Kwai Tsing Hong Kong

WORK ORDER SUB-BATCH

CLIENT

PROJECT

: HK2307089

: 1 : ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING :



ALS Lab **Client's Sample ID** Sample Sample Date External Lab Report No. ID Туре HK2307089-001 AIR 20-Feb-2023 S/N: 366410 S/N: 366410

Equipment Verification Report (TSP)

Equipment Calibrated:

Туре:	Laser Dust monitor
Manufacturer:	Sibata LD-3B
Serial No.	366410
Equipment Ref:	EQ110

Standard Equipment:

Standard Equipment:	Higher Volume Sampler (TSP)
Location & Location ID:	AUES office (calibration room)
Equipment Ref:	HVS 018 & HVS 019
Last Calibration Date:	14 December 2022 & 10 January 2023

Equipment Verification Results:

Verification Date:

10, 11 &12 January 2023

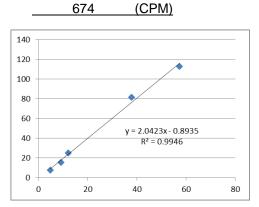
Date	Hour	Time	Mean Temp °C	Mean Pressure (hPa)	Concentration in ug/m ³ (Standard Equipment)	Total Count (Calibrated Equipment)	Count/Minute (Total Count/min)
10-Jan-23	2hr1min	14:41 ~ 16:42	18.2	1018.8	7.6	584	4.8
11-Jan-23	2hr01min	13:16 ~ 15:17	18.1	1017.6	25.2	1470	12.2
11-Jan-23	2hr01min	15:25 ~ 17:26	18.1	1017.6	15.8	1103	9.1
12-Jan-23*	61mins	09:31 ~ 10:32	18.8	1014.5	112.8	3507	57.3
12-Jan-23*	61mins	10:36 ~ 11:37	18.8	1014.5	81.5	2311	37.8

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

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

Linear Regression of Y or X

Slope (K-factor):2.0423 (µg/m³)/CPMCorrelation Coefficient (R)0.9973Date of Issue13 February 2023



Remarks:

1. **Strong** Correlation (R>0.8)

2. Factor 2.0423 (µg/m³)/CPM should be apply for TSP monitoring

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

Operator :	Fai So	Signature :	Ja	Date :	13 February 2023
QC Reviewer :	Ben Tam	Signature :		Date :	13 February 2023

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

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	Location : Gold King Industrial Building, Ky Location ID : Calibration Room(HVS 018)	wai Chung		Date of Calibration: 14-Dec-22 Next Calibration Date: 14-Mar-23
Temperature (°C) 12.5 Temperature (K) 286 CALIBRATION ORIFICE Make-> Model-> TISCH 5025A 27-Dec-21 Qstd Slope -> Qstd Intercept -> 27-Dec-22 1.99838 4.000903 27-Dec-22 CALIBRATION ORIFICE Temperature (K) 286 Plate H20 (D) H20 (R H20 Qstd I IC LINEAR No. (in) (in) (in) (m3/min) (chart) corrected REGRESSION REGRESSION Slope = 29.6312 13 4.8 4.8 9.6 1.595 48 49.23 Intercept = 2.5287 10 3.8 3.8 7.6 1.420 44 45.13 Corr. coeff. = 0.9991 8 2.5 2.5 5.0 1.152 36 36.93 Calculations : (Std = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] Graduat flow rate IC = corrected chart response m = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd slope b = calibrator Qstd slope for the calibration (deg K) Pstd = actual temperature during calibration (deg K) Pstd = actual pressure during calibration (deg K) Im = sampler slope FLOW RATE CHART		CONDITIO	NS	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $				
Model-> 5025A Qstd Intercept -> 0.00903 27-Dec-21 Expiry Date-> 27 -Dec-22 CALIBRATION Image: Calibration (in) (in) (in) (m3/min) (chart) corrected REGRESSION Image: Calibration (in) (in) (m3/min) (chart) corrected REGRESSION Image: Calibration (in) (in) (m3/min) (chart) corrected REGRESSION Image: Calibration (in) (in) (m3/min) (chart) (chart) (chart) (chart) (corrected REGRESSION Image: Calibration (in) (in) (in) (m3/min) (chart) (c	CALIE	BRATION	ORIFICE	E
Plate H20 (L)H2O (R) H20 Qstd I IC LINEAR No. (in) (in) (in) (m3/min) (chart) corrected REGRESSION 18 6 6 12.0 1.783 54 55.39 Slope = 29.6312 13 4.8 4.8 9.6 1.595 48 49.23 Intercept = 2.5287 10 3.8 3.8 7.6 1.420 44 45.13 Corr. coeff. = 0.9991 8 2.5 2.5 5.0 1.152 36 36.93 28 28 28.72 28 28.72 28 28.72 Calculations : Qstd = standard flow rate IC = corrected chart respones I I IC = corrected chart respones I I = actual chart response m = calibrator Qstd slope b = calibrator Qstd slope 0 0 0 0 90 90.00 90.00 90.00 90.00 0 0 0 0 0 0 0 0 0 0 0 0 0	Model-> 502	25A		Qstd Intercept -> -0.00903
No. (in) (in) (m ² /min) (chart) corrected REGRESSION 18 6 6 12.0 1.783 54 55.39 Slope = 29.6312 13 4.8 4.8 9.6 1.595 48 49.23 Intercept = 2.5287 10 3.8 3.8 7.6 1.420 44 45.13 Corr. coeff. = 0.9991 8 2.5 2.5 5.0 1.152 36 36.93 5 1.5 1.5 3.0 0.894 28 28.72 Calculations : Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] 60.00 60.0	C	CALIBRAT	ION	
18 6 6 12.0 1.783 54 55.39 Slope = 29.6312 13 4.8 4.8 9.6 1.595 48 49.23 Intercept = 2.5287 10 3.8 3.8 7.6 1.420 44 45.13 Corr. coeff. = 0.9991 8 2.5 2.5 5.0 1.152 36 36.93 Corr. coeff. = 0.9991 Calculations : Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] 60.00 60.00 60.00 Qstd = standard flow rate IC = corrected chart response 60.00 50.00 50.00 50.00 IC = corrected chart response m = calibrator Qstd intercept 70.00 50.00				
Qstd = 1/m[Sqrt(H20(Pa/Pstd)(Tstd/Ta))-b] IC = I[Sqrt(Pa/Pstd)(Tstd/Ta)] Qstd = standard flow rate IC = corrected chart response I = actual chart response m = calibrator Qstd slope b = calibrator Qstd slope b = 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	18 6 6 12.0 1.783 5.7 13 4.8 4.8 9.6 1.595 4 10 3.8 3.8 7.6 1.420 4 8 2.5 2.5 5.0 1.152 3	8 49 4 4 <u>4</u> 6 30	9.23 5.13 6.93	Intercept = 2.5287
b = sampler intercept $I = chart response$ $0.00 + + + + + + + + + + + + + + + + + +$	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 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	- 00.05 - 00.05 - 00.05 - 00.02 - 00.01 - 00.01		



RECALIBRATION DUE DATE:

December 27, 2022

	Ce	rtifa	Calibration				ntion	
Cal. Date:	December	27 2021		meter S/N:		annan an ann an Adres An Inne Aigeine Inne Station	295	°K
		27, 2021	ROOLS	meter 5/14.	436320			
Operator:	Jim Tisch					Pa:	740.4	mm Hg
Calibration	Model #:	TE-5025A	Cali	brator S/N:	1612			
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΗ	
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)	
	1	1	2	1	1.3890	3.2	2.00	
	2	3	4	1	0.9760	6.4	4.00	
	3	5	6	1	0.8740	7.9	5.00	
	4	7	8	1	0.8320	8.8	5.50	
	5	9	10	1	0.6870	12.7	8.00	
				Data Tabula	tion			
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$)(Tstd)		Qa	√∆H(Ta/Pa)	
	(m3)	(x-axis)	y (y-ax		Va	(x-axis)	(y-axis)	
	0.9799	0.7055	1.40	1	0.9957	0.7168	0.8927	
	0.9756	0.9996	1.98		0.9914	1.0157	1.2624	
	0.9736	1.1140	2.21	1	0.9893	1.1320	1.4114	
	0.9724	1.1688	2.32	65 0.98		1.1876 1.4803		
	0.9673	1.4079	2.80	1	0.9828	1.4306	1.7853 1.25135	
		m=	1.998			m=		
	QSTD	b=	-0.00		QA	b= r=		
		r=	0.999	999				
			(m	Calculation				
		ΔVol((Pa-ΔP) Vstd/ΔTime	/Pstd)(Tstd/T	a)	Conception of the local division of the loca	ΔVol((Pa-Δ Va/ΔTime	P)/Pa)	
	Q3tu-	vstu/Anne	For subsequ	lent flow ra	te calculation			
	Qstd=	1/m ((\\ \ \ \ \ \ \ \ \ \ \ \ \ (Pa <u>Tstd</u> Pstd Ta	The second s		1/m ((√∆H	l(Ta/Pa))-b)	
		Conditions						I
Tstd:	298.15	°K		Ι		RECA	LIBRATION	
Pstd:	Contraction of the second seco	mm Hg			LIS EPA reco	mmende	onual recalibratio	n ner 1000
AH: calibrat		(ey ter reading (i	n H2O)		US EPA recommends annual recalibration per 199 40 Code of Federal Regulations Part 50 to 51,			
		eter reading					, Reference Meth	
Ta: actual al	osolute tem	perature (°K)					ended Particulate	
		ressure (mm	Hg)				ere, 9.2.17, page 3	
b: intercept				l			,	
m: slope								

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<u>www.tisch-env.com</u> TOLL FREE: (877)263-7610 FAX: (513)467-9005

TSP SAMPLER CALIBRATION CALCULATION SPREADSHEET

Location : Location I	D :		-	strial Buildi m(HVS 019		wai Cł	nung	Date of Calibration: 10-Jan-23 Next Calibration Date: 9-Apr-23
						COND	ITIONS	
	Se	a Level I Temp	Pressure erature	. ,	1	018.8 18.2		Corrected Pressure (mm Hg) 764.1 Temperature (K) 291
					CALI	BRATI	ON ORIFIC	CE
			Calibrat	Make-> Model-> ion Date->		25A		Qstd Slope -> 2.10977 Qstd Intercept -> -0.03782 Expiry Date-> 15-Dec-23
					C	CALIB	RATION	
			H20 (in)	Qstd (m3/min)		[art)	IC corrected	LINEAR REGRESSION
					5 4 4 3	5 8	55.79 48.69 44.63 36.52 28.40	Slope = 31.4802 Intercept = 1.9499 Corr. coeff. = 0.9967
Qstd = $1/n$ IC = I[Sqr Qstd = stat IC = corre I = actual m = calibra Ta = actua Pstd = actua For subse 1/m((I)[S] m = sampl b = sampl I = chart re	n[Sqrt(H t(Pa/Pstc ndard flc cted cha chart res ator Qstd tor Qstd l temper ual press quent ca qrt(298/ er slope er interc esponse	d)(Tstd/T ow rate rt respon ponse d slope intercep ature durin ure durin alculation Tav)(Pav	a)] es t ting cali g calibr n of san t/760)]-t	bration (de ation (mm apler flow:		00 905 905 905 905 901 901 901	0.00 0.00 0.00 0.00 0.00 0.000	FLOW RATE CHART
Tav = dail Pav = dail						<u> </u>		



RECALIBRATION DUE DATE:

December 15, 2023

nmental Certificate of Calibration

- 1 -			Calibration					017	*approximation
Cal. Date:	December	15, 2022	Roots	meter S/N:	438320	Ta:	295	°K	
Operator:	Jim Tisch					748.0	mm Hg	1	
Calibration	Model #:	TE-5025A	Calil	prator S/N:			1		
		Vol. Init	Vol. Final	ΔVol.	ΔTime	ΔΡ	ΔΡ ΔΗ		
	Run	(m3)	(m3)	(m3)	(min)	(mm Hg)	(in H2O)		
	1	1	2	1		3.2	2.00		
	2	3	4	1	1.0210	6.4	4.00	1	
	3			1	0.9170	7.9	5.00		
	4	7	8	1	0.8730	8.8	5.50	1	
	5	9	10	1	0.7210	12.8	8.00]	
	-			Data Tabula	tion)'	1	
				V Total V				1	
	Vstd	Qstd	$\sqrt{\Delta H \left(\frac{Pa}{Pstd}\right)}$)(<u>Tstd</u>)		Qa	√∆H(Ta/Pa)		
	(m3)	(x-axis)	(y-ax	is)	Va	(x-axis)	(y-axis)		
	0.9900	0.6861	1.41	01	0.9957	0.6900	0.8881	.]	
	0.9858	0.9655	1.99		0.9914	0.9711	1.2560	-	
	0.9838	1.0728	2.22		0.9894	1.0790	1.4042	-	
		0.9826 1.1255 2.33 0.9772 1.3554 2.82			0.9882	1.1320	1.4728	-	
	0.9772				0.9829	1.3632	1.3632 1.7762 m= 1.32110		
	OCTD	m= b=	-0.03	All source into party or construction of the second	0.4			-	
	QSTD	r=	0.999		QA	r=	0.99998	-	
			ana da kana da	Calculatio	ns			ī	
	Vstd=	ΔVol((Pa-ΔP)	/Pstd)(Tstd/T		procession of the second se	ΔVol((Pa-Δ	P)/Pa)	1	
	Qstd=	Vstd/∆Time			the second se	Va/∆Time	1		
			For subsequ	ent flow ra	te calculatio	ns:]	
	Qstd=	1/m ((√∆H(Pa <u>Tstd</u> Pstd Ta	-))-b)	Qa=	$Qa = 1/m\left(\left(\sqrt{\Delta H(Ta/Pa)}\right)-b\right)$			
	Standard	Conditions						_	
Tstd						RECA	LIBRATION		
Pstd		mm Hg			LIS EDA rocc	ommende o	nnual recalibrati	on por 1	202
AH. calibrat		(ey ter reading (i	n H2O)				Regulations Part	-	
		eter reading (i					, Reference Met		
		perature (°K)					ended Particulat		
		ressure (mm				-	ere, 9.2.17, page		111
b: intercept	t				u u	слатоэри		50	
m: slope									

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



Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C226777 證書編號

ITEM TESTED / 送檢項目		(Job No. / 序引編號:IC22-2282)	Date of Receipt / 收件日期: 8 November 2022
Description / 儀器名稱	:	Sound Level Meter (EQ013)	
Manufacturer / 製造商	:	Rion	
Model No. / 型號	:	NL-52	
Serial No. / 編號	:	00921191	
Supplied By / 委託者	:	Action-United Environmental Services a	and Consulting
		Unit A, 20/F., Gold King Industrial Buil	ding,
		35-41 Tai Lin Pai Road, Kwai Chung, N	I.T.
TEST CONDITIONS /) 비나구너	ht III-	

TEST CONDITIONS / 測試條件

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

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 19 November 2022

TEST RESULTS / 測試結果

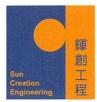
The results apply to the particular unit-under-test only. The results do not exceed manufacturer's specification. The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試	:H T Wong Assistant Engineer		
Certified By 核證	: KCLee Engineer	Date of Issue : 簽發日期	21 November 2022

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C226777 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- 2. Self-calibration was performed before the test.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C220381
CL281	Multifunction Acoustic Calibrator	AV210017

- 5. Test procedure : MA101N.
- 6. Results :
- 6.1 Sound Pressure Level
- 6.1.1 Reference Sound Pressure Level

	UUT Setting					UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 130	L _A	А	Fast	94.00	1	93.8	± 1.1

6.1.2 Linearity

	UU	Γ Setting	Applied Value		UUT	
Range	ange Function Frequency			Level	Freq.	Reading
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)
30 - 130	L _A	А	Fast	94.00	1	93.8 (Ref.)
				104.00		103.9
				114.00		113.9

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

6.2 Time Weighting

		Applied Value		UUT	IEC 61672		
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 130	L _A	А	Fast	94.00	1	93.8	Ref.
			Slow			93.8	± 0.3

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C226777 證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

		Setting		Applied Value		UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
30 - 130	L _A	А	Fast	94.00	63 Hz	67.6	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.1	-8.6 ± 1.4
					500 Hz	90.5	-3.2 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	95.0	$+1.2 \pm 1.6$
					4 kHz	94.8	$+1.0 \pm 1.6$
					8 kHz	92.8	-1.1 (+2.1 ; -3.1)
					16 kHz	85.8	-6.6 (+3.5 ; -17.0)

6.3.2 <u>C-Weighting</u>

		Setting		Appli	ed Value	UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
30 - 130	L _C	C	Fast	94.00	63 Hz	92.9	$\textbf{-0.8} \pm 1.5$
					125 Hz	93.6	-0.2 ± 1.5
					250 Hz	93.8	0.0 ± 1.4
					500 Hz	93.8	0.0 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	93.6	-0.2 ± 1.6
					4 kHz	93.0	-0.8 ± 1.6
>					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					16 kHz	83.9	-8.5 (+3.5 ; -17.0)

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



Certificate of Calibration 校正證書

Certificate No. : C226777 證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 12910

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :	94 dB :	63 Hz - 125 Hz 250 Hz - 500 Hz	
		1 kHz	$\pm 0.20 \text{ dB}$
		2 kHz - 4 kHz	$\pm 0.35 \text{ dB}$
		8 kHz	$\pm 0.45 \text{ dB}$
		16 kHz	$\pm 0.70 \text{ dB}$
	104 dB :	1 kHz	: ± 0.10 dB (Ref. 94 dB)
	114 dB :	1 kHz	: \pm 0.10 dB (Ref. 94 dB)

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

Note :

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

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

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C226779 證書編號

ITEM TESTED / 送檢項	目	(Job No. / 序引編號:IC22-2282)	Date of Receipt / 收件日期: 8 November 2022
Description / 儀器名稱 :		Sound Level Meter (EQ015)	
Manufacturer / 製造商 :		Rion	
Model No. / 型號 :		NL-52	
Serial No. / 編號 :		00142581	
Supplied By / 委託者 :		Action-United Environmental Services a	nd Consulting
		Unit A, 20/F., Gold King Industrial Buil	ding,
		35-41 Tai Lin Pai Road, Kwai Chung, N	Г.Т.

TEST CONDITIONS / 測試條件

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

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 19 November 2022

TEST RESULTS / 測試結果

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

The test equipment used for calibration are traceable to National Standards via :

- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory
- Agilent Technologies / Keysight Technologies
- Fluke Everett Service Center, USA

Tested By 測試

H T Wong

Assistant Engineer

Certified By 核證 K 🕻 Lee Engineer

Date of Issue 簽發日期 :

21 November 2022

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No.: C226779 證書編號

- 1. The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 12 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- 2. Self-calibration was performed before the test.
- 3. The results presented are the mean of 3 measurements at each calibration point.
- 4. Test equipment :

Equipment ID	Description	Certificate No.
CL280	40 MHz Arbitrary Waveform Generator	C220381
CL281	Multifunction Acoustic Calibrator	AV210017

- 5. Test procedure : MA101N.
- 6. Results :
- 6.1 Sound Pressure Level
- 6.1.1 Reference Sound Pressure Level

		Applied Value		UUT	IEC 61672		
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 130	L _A	Α	Fast	94.00	1	93.8	± 1.1

6.1.2 Linearity

	UU	Г Setting	Applie	d Value	UUT	
Range	Function	Frequency	Time	Level	Freq.	Reading
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)
30 - 130	L _A	А	Fast	94.00	1	93.8 (Ref.)
				104.00		103.8
				114.00		113.7

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

6.2 Time Weighting

UUT Setting				Applie	d Value	UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)	(kHz)	(dB)	(dB)
30 - 130	L _A	А	Fast	94.00	1	93.8	Ref.
			Slow			93.8	± 0.3

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



Sun Creation Engineering Limited

Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No. : C226779 證書編號

6.3 Frequency Weighting

6.3.1 A-Weighting

	UUT Setting				ied Value	UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
30 - 130	L _A	А	Fast	94.00	63 Hz	67.5	-26.2 ± 1.5
					125 Hz	77.6	-16.1 ± 1.5
					250 Hz	85.1	-8.6 ± 1.4
					500 Hz	90.6	-3.2 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	95.0	$+1.2 \pm 1.6$
					4 kHz	94.8	$+1.0 \pm 1.6$
					8 kHz	92.8	-1.1 (+2.1 ; -3.1)
					16 kHz	85.8	-6.6 (+3.5 ; -17.0)

6.3.2 C-Weighting

UUT Setting				Appli	ed Value	UUT	IEC 61672
Range	Function	Frequency	Time	Level	Freq.	Reading	Class 1 Spec.
(dB)		Weighting	Weighting	(dB)		(dB)	(dB)
30 - 130	L _C	С	Fast	94.00	63 Hz	92.9	-0.8 ± 1.5
					125 Hz	93.6	-0.2 ± 1.5
					250 Hz	93.8	0.0 ± 1.4
					500 Hz	93.8	0.0 ± 1.4
					1 kHz	93.8	Ref.
					2 kHz	93.6	-0.2 ± 1.6
					4 kHz	93.0	-0.8 ± 1.6
					8 kHz	90.9	-3.0 (+2.1 ; -3.1)
					16 kHz	83.9	-8.5 (+3.5 ; -17.0)

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



Certificate of Calibration 校正證書

Certificate No. : C226779 證書編號

Remarks : - UUT Microphone Model No. : UC-59 & S/N : 20044

- Mfr's Spec. : IEC 61672 Class 1

- Uncertainties of Applied Value :	250 Hz - 50 1 kHz 2 kHz - 4 kH 8 kHz 16 kHz	$\begin{array}{llllllllllllllllllllllllllllllllllll$
		: \pm 0.70 dB
	104 dB : 1 kHz	$\pm 0.10 \text{ dB} (\text{Ref. 94 dB})$
	114 dB : 1 kHz	$\pm 0.10 \text{ dB} (\text{Ref. 94 dB})$

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

Note :

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

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

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory



Calibration & Testing Laboratory

Certificate of Calibration 校正證書

Certificate No.: C224779 證書編號

ITEM TESTED / 送檢功	頁目	(Job No. / 序引編號: IC22-1539)	Date of Receipt / 收件日期: 4 August 2022
Description / 儀器名稱	:	Sound Level Calibrator (EQ085)	
Manufacturer / 製造商	:	Rion	
Model No. / 型號	:	NC-73	
Serial No. / 編號	:	10655561	
Supplied By / 委託者	:	Action-United Environmental Services a	nd Consulting
		Unit A, 20/F., Gold King Industrial Build	ding,
		35-41 Tai Lin Pai Road, Kwai Chung, N	.т.
		55-41 Tai Lin Fai Koad, Kwai Chung, N	.1.

TEST CONDITIONS / 測試條件

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

TEST SPECIFICATIONS / 測試規範

Calibration check

DATE OF TEST / 測試日期 : 20 August 2022

TEST RESULTS / 測試結果

The results apply to the particular unit-under-test only.

The results do not exceed manufacturer's specification & user's specified acceptance criteria.

The results are detailed in the subsequent page(s).

The test equipment used for calibration are traceable to National Standards via :

1

- 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	: H T Wong Assistant Engineer			
Certified By 核證	: K C Lee Engineer	Date of Issue 簽發日期	:	23 August 2022

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



Certificate of Calibration 校正證書

Certificate No. : C224779 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 CL130 CL281 TST150A

Description Universal Counter Multifunction Acoustic Calibrator Measuring Amplifier <u>Certificate No.</u> C223647 AV210017 C221750

- 4. Test procedure : MA100N.
- 5. Results :
- 5.1 Sound Level Accuracy

UUT	Measured Value	Mfr's Spec.	Uncertainty of Measured Value
Nominal Value	(dB)	(dB)	(dB)
94 dB, 1 kHz	94.0	± 0.5	± 0.2

5.2 Frequency Accuracy

UUT Nominal Value	Measured Value	User's	Uncertainty of Measured Value
(kHz)	(kHz)	Spec.	(Hz)
1	0.953	1 kHz ± 6 %	± 1

Remarks : - The user's specified acceptance criteria (user's spec.) is a customer pre-defined operating tolerance of the UUT, suitable for one's own intended use.

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

Note :

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

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

The test equipment used for calibration is traceable to the National Standards as specified in this certificate. This certificate shall not be reproduced except in full, without the prior written approval of this laboratory.



ALS Technichem (HK) Pty Ltd 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong **T:** +852 2610 1044 **F:** +852 2610 2021 www.alsglobal.com

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT: CLIENT:	MR BEN TAM ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING	WORK ORDER:	HK2303241
ADDRESS:	RM A 20/F., GOLD KING IND BLDG,	SUB-BATCH:	0
	NO. 35-41 TAI LIN PAI ROAD,	LABORATORY:	HONG KONG
	KWAI CHUNG, N.T.	DATE RECEIVED:	21-Jan-2023
		DATE OF ISSUE:	31-Jan-2023

SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principle as practised by the

laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:	Multifunctional Meter
Service Nature:	Performance Check
Scope:	Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature
Brand Name/ Model No.:	[YSI]/ [Professional DSS]
Serial No./ Equipment No.:	[20J101862/ 15H103928]/ [EQW018]
Date of Calibration:	27-January-2023

GENERAL COMMENTS

This report superseded any previous report(s) with same work order number.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganics

This report may not be reproduced except with prior written approval from ALS Technichem (HK) Pty Ltd.



WORK ORDER:	HK2303241				
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 31-Jan-2023 ACTION-UNITED ENVIRONMEN	NTAL SERVICES & CONSULTING			
Equipment Type: Brand Name/	Multifunctional Meter				
Model No.: Serial No./ Equipment No.:	[YSI]/ [Professional DSS]				
	[20J101862/ 15H103928]/ [EQW018]				
Date of Calibration:	27-January-2023	Date of Next Calibration:	27-April-2023		

PARAMETERS:

Conductivity

Method Ref: APHA (23rd edition), 2510B

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	145.7	-0.8
6667	6485	-2.7
12890	12675	-1.7
58670	54694	-6.8
	Tolerance Limit (%)	±10.0

Dissolved Oxygen

Method Ref: APHA (23rd edition), 4500O: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)	
2.64	2.84	+0.20	
4.85	5.01	+0.16	
6.89	7.03	+0.14	
	Tolerance Limit (mg/L)	±0.20	

pH Value

Method Ref: APHA (23rd edition), 4500H: B

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)
4.0	3.88	-0.12
7.0	7.08	+0.08
10.0	9.96	-0.04
	Tolerance Limit (pH unit)	±0.20

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganics



WORK ORDER:	HK2303241		
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 31-Jan-2023 ACTION-UNITED ENVIRONMEN	NTAL SERVICES & CONSULTING	
Equipment Type: Brand Name/ Model No.: Serial No./ Equipment No.:	Multifunctional Meter [YSI]/ [Professional DSS] [20J101862/ 15H103928]/ [EQ\	W018]	
Date of Calibration:	27-January-2023	Date of Next Calibration:	27-April-2023

PARAMETERS:

Turbidity

Method Ref: APHA (23rd edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	0.75	
4	4.31	+7.7
40	36.22	-9.5
80	74.31	-7.1
400	395.27	-1.2
800	772.08	-3.5
	Tolerance Limit (%)	±10.0

Salinity

Method Ref: APHA (23rd edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	
10	10.25	+2.5
20	20.81	+4.0
30	30.80	+2.7
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganics



WORK ORDER:	HK2303241		
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 31-Jan-2023 ACTION-UNITED ENVIRONMEN	TAL SERVICES & CONSULTING	
Equipment Type:	Multifunctional Meter		
Brand Name/ Model No.:	[YSI]/ [Professional DSS]		
Serial No./ Equipment No.:	[20J101862/ 15H103928]/ [EQW	/018]	
Date of Calibration:	27-January-2023	Date of Next Calibration:	27-April-2023

PARAMETERS:

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)	
9.0	8.6	-0.4	
19.5	18.8	-0.7	
40.0	38.6	-1.4	
	Tolerance Limit (°C)	±2.0	

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganics



ALS Technichem (HK) Pty Ltd 11/F., Chung Shun Knitting Centre, 1 - 3 Wing Yip Street, Kwai Chung, N.T., Hong Kong **T:** +852 2610 1044 **F:** +852 2610 2021 www.alsglobal.com

REPORT OF EQUIPMENT PERFORMANCE CHECK/CALIBRATION

CONTACT: CLIENT:	MR BEN TAM ACTION-UNITED ENVIRONMENTAL SERVICES & CONSULTING	WORK ORDER:	HK2312949
ADDRESS:	RM A 20/F., GOLD KING IND BLDG, NO. 35-41 TAI LIN PAI ROAD,	SUB-BATCH: LABORATORY:	0 HONG KONG
	KWAI CHUNG, N.T.	DATE RECEIVED: DATE OF ISSUE:	04-Apr-2023 18-Apr-2023

SPECIFIC COMMENTS

Equipment information (Brand name, Model No., Serial No. and Equipment No.) is provided by client. The performance of the equipment stated in this report is checked with independent reference material and results compared against a calibrated secondary source.

The "Tolerance Limit" quoted is the acceptance criteria applicable for similar equipment used by the laboratory or quoted from relevant international standards.

The "Next Calibration Date" is recommended according to best practice principle as practised by the

laboratory or quoted from relevant international standards.

The validity of equipment/ meter performance only applies to the result(s) stated in the report.

Equipment Type:	Multifunctional Meter
Service Nature:	Performance Check
Scope:	Conductivity, Dissolved Oxygen, pH Value, Turbidity, Salinity and Temperature
Brand Name/ Model No.:	[YSI]/ [Professional DSS]
Serial No./ Equipment No.:	[17B102764/17B100758]/ [EQW019]
Date of Calibration:	18-April-2023

GENERAL COMMENTS

This report superseded any previous report(s) with same work order number.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganics

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WORK ORDER:	HK2312949		
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 18-Apr-2023 ACTION-UNITED ENVIRONMEN	NTAL SERVICES & CONSULTING	
Equipment Type:	Multifunctional Meter		
Brand Name/ Model No.:	[YSI]/ [Professional DSS]		
Serial No./ Equipment No.:	[17B102764/17B100758]/[EQV	V019]	
Date of Calibration:	18-April-2023	Date of Next Calibration:	18-July-2023

PARAMETERS:

Conductivity

Method Ref: APHA (23rd edition), 2510B

Expected Reading (µS/cm)	Displayed Reading (µS/cm)	Tolerance (%)
146.9	155.6	+5.9
6667	7056	+5.8
12890	13643	+5.8
58670	57773	-1.5
	Tolerance Limit (%)	±10.0

Dissolved Oxygen

Method Ref: APHA (23rd edition), 4500O: G

Expected Reading (mg/L)	Displayed Reading (mg/L)	Tolerance (mg/L)
2.65	2.71	+0.06
5.61	5.59	-0.02
7.08	7.05	-0.03
	Tolerance Limit (mg/L)	±0.20

pH Value

Method Ref: APHA (23rd edition), 4500H: B

Expected Reading (pH unit)	Displayed Reading (pH unit)	Tolerance (pH unit)			
4.0	3.86	-0.14			
7.0	6.97	-0.03			
10.0	10.07	+0.07			
	Tolerance Limit (pH unit)	±0.20			

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganics



WORK ORDER:	HK2312949		
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 18-Apr-2023 ACTION-UNITED ENVIRONMEI	NTAL SERVICES & CONSULTING	
Equipment Type:	Multifunctional Meter		
Brand Name/ Model No.:	[YSI]/ [Professional DSS]		
Serial No./ Equipment No.:	[17B102764/17B100758]/ [EQV	V019]	
Date of Calibration:	18-April-2023	Date of Next Calibration:	18-July-2023

PARAMETERS:

Turbidity

Method Ref: APHA (23rd edition), 2130B

Expected Reading (NTU)	Displayed Reading (NTU)	Tolerance (%)
0	-0.04	
4	4.22	+5.5
40	39.62	-1.0
80	75.70	-5.4
400	397.80	-0.5
800	736.18	-8.0
	Tolerance Limit (%)	±10.0

Salinity

Method Ref: APHA (23rd edition), 2520B

Expected Reading (ppt)	Displayed Reading (ppt)	Tolerance (%)
0	0.00	
10	10.43	+4.3
20	21.18	+5.9
30	32.17	+7.2
	Tolerance Limit (%)	±10.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganics



WORK ORDER:	HK2312949		
SUB-BATCH: DATE OF ISSUE: CLIENT:	0 18-Apr-2023 ACTION-UNITED ENVIRONMEN	TAL SERVICES & CONSULTING	
Equipment Type:	Multifunctional Meter		
Brand Name/ Model No.:	[YSI]/ [Professional DSS]		
Serial No./ Equipment No.:	[17B102764/17B100758]/ [EQW	019]	
Date of Calibration:	18-April-2023	Date of Next Calibration:	18-July-2023

PARAMETERS:

Temperature

Method Ref: Section 6 of International Accreditation New Zealand Technical Guide No. 3 Second edition March 2008: Working Thermometer Calibration Procedure.

Expected Reading (°C)	Displayed Reading (°C)	Tolerance (°C)
6.5	7.2	+0.7
24.5	23.9	-0.6
44.0	43.4	-0.6
	Tolerance Limit (°C)	±2.0

Remark: "Displayed Reading" presents the figures shown on item under calibration / checking regardless of equipment precision or significant figures.

Ms. Lin Wai Yu, Iris Assistant Manager - Inorganics



Manufacturing Certificate

This product has been tested in accordance with procedures established through Global Water Instrumentation's Quality Management System. This product meets or exceeds its manufacturing acceptance criteria.

ITEM DESCRIPTION:	Flow Probe, 5.5 - 14'
MODEL NAME/ NUMBER:	FP211
PART NUMBER:	BB1100
SERIAL NUMBER:	22B106785
ACCURACY:	± 0.1 FPS (0.03 MPS)
POWER REQUIRED:	Internal Lithium Coin Cell Battery
CABLE LENGTH:	N/A
CERTIFICATES:	CE Compliant
RANGE:	0.3 - 19.9 FPS (0.1 - 6.1 MPS)
OUTPUT:	Flow Display, FPS/MPS
CALIBRATION FACTOR:	318

Technician Barnette, Melinda

Inspector Wineberg, Josh

Date 3/5/2022

NOTE: Global Water Instrumentation warrants that its products are free from defects in material & workmanship under normal use & service for a period of one year from date of original shipment from factory. Repaired components are warranted for a period of 90 days from shipment. Contact us for complete warranty details.

Global Water a xylem brand

In the U.S. call toll free at 1-800-876-1172 International: 1-979-690-5560 Fax: 1-979-690-0440 Email: globalw@globalw.com Visit our online catalog at: www.globalw.com Our Service Address: 151 Graham Rd College Station, TX 77845



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



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

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:

L001934



Appendix F

Event and Action Plan of Air Quality, Noise and Water Quality

Event and Action Plan for air quality

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

Note: ET – Environmental Team IEC – Independent Environmental Checker ER – Engineer's Representative

Event and Action Plan for Construction Noise

Event	Action				
Event	ET	IEC	ER	Contractor	
Action Level Exceedance	 Notify IEC, ER and Contractor; Carry out investigation; Report the results of investigation to the IEC, ER and Contractor; Discuss with the Contractor and formulate remedial measures; Increase monitoring frequency to check mitigation effectiveness 	3. Supervise the implementation of remedial measures.	 failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; 4. Ensure remedial measures are properly implemented 	IEC and ER; 2. Implement noise mitigation proposals	
Limit Level Exceedance	 I.Identify source; Inform IEC, ER, EPD and Contractor; Repeat measurements to confirm findings; Increase monitoring frequency; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Inform IEC, ER and EPD the causes and actions taken for the exceedances; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 	actions; 2. Review Contractors remedial actions whenever necessary to assure their	 failure in writing; 2. Notify Contractor; 3. Require Contractor to propose remedial measures for the analyzed noise problem; 4. Ensure remedial measures properly 	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;	

Note:

ET – Environmental Team

IEC – Independent Environmental Checker

ER – Engineer's Representative

Event and Action Plan for Water Quality

Event			Action	
Event	ET	IEC	ER	Contractor
Action level exceedance for one sampling day	 Inform IEC, Contractor and ER; Check monitoring data, all plant, equipment and Contractor's working methods; and Discuss remedial measures with IEC and Contractor and ER. 	 Discuss with ET, ER and Contractor on the implemented mitigation measures; Review proposals on remedial measures submitted by Contractor and advise the ER accordingly; and Review and advise the ET and ER on the effectiveness of the implemented mitigation measures. 	 Discuss with IEC, ET and Contractor on the implemented mitigation measures; Make agreement on the remedial measures to be implemented; Supervise the implementation of agreed remedial measures. 	 Identify source(s) of impact; Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ER, ET and IEC and purpose remedial measures to IEC and ER; and Implement the agreed mitigation measures.
Action level exceedance for more than one consecutive sampling days	 Repeat in-situ measurement on next day of exceedance to confirm findings; Inform IEC, contractor and ER; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss remedial measures with IEC, contractor and ER Ensure remedial measures are implemented 	 Discuss with ET, Contractor and ER on the implemented mitigation measures; Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and Review and advise the ET and ER on the effectiveness of the implemented mitigation measures. 	 Discuss with ET, IEC and Contractor on the proposed mitigation measures; Make agreement on the remedial measures to be implemented; and Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures. 	 Identify source(s) of impact; Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Discuss with ET, IEC and ER and submit proposal of remedial measures to ER and IEC within 3 working days of notification; and Implement the agreed mitigation measures.
Limit level exceedance for one sampling day	 Repeat measurement on next day of exceedance to confirm findings; Inform IEC, contractor and ER; Rectify unacceptable practice; Check monitoring data, all plant, equipment and Contractor's working methods; Consider changes of working methods; Discuss mitigation measures with IEC, ER and Contractor; and Ensure the agreed remedial measures are implemented 	 Discuss with ET, Contractor and ER on the implemented mitigation measures; Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and Review and advise the ET and ER on the effectiveness of the implemented mitigation measures. 	 Discuss with ET, IEC and Contractor on the implemented remedial measures; Request Contractor to critically review the working methods; Make agreement on the remedial measures to be implemented; and Discuss with ET, IEC and Contractor on the effectiveness of the implemented remedial measures. 	 Identify source(s) of impact; Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and Implement the agreed remedial measures.
Limit level exceedance for more than one consecutive sampling days	 Inform IEC, contractor and ER; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IEC, ER and Contractor; Ensure mitigation measures are implemented; and Increase the monitoring frequency to daily until no exceedance of Limit Level for two consecutive days 	 Discuss with ET, Contractor and ER on the implemented mitigation measures; Review the proposed remedial measures submitted by Contractor and advise the ER accordingly; and Review and advise the ET and ER on the effectiveness of the implemented mitigation measures. 	 Discuss with ET, IEC and Contractor on the implemented remedial measures; Request Contractor to critically review the working methods; Make agreement on the remedial measures to be implemented; Discuss with ET and IEC on the effectiveness of the implemented mitigation measures; and Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level. 	 Identify source(s) of impact; Inform the ER and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment and consider changes of working methods; Discuss with ET, IEC and ER and submit proposal of additional mitigation measures to ER and IEC within 3 working days of notification; and Implement the agreed remedial measures; and As directed by the ER, to slow down or stop all or part of the construction activities until no exceedance of Limit level.

Note: ET - Environmental Team IEC - Independent Environmental Checker ER - Engineer's Representative Each step of actions required shall be implemented within 1 working day unless otherwise specified or agreed with EPD.



Appendix G

Monitoring Schedules of the Reporting Month and Coming Month



Dete			Air Quality	Monitoring	
	Date	Noise Monitoring	1-Hour TSP	24-Hour TSP	Water Quality
Sat	1-Apr-23			✓	✓
Sun	2-Apr-23				
Mon	3-Apr-23				
Tue	4-Apr-23	✓	\checkmark		✓
Wed	5-Apr-23				
Thu	6-Apr-23		\checkmark	✓	✓
Fri	7-Apr-23				
Sat	8-Apr-23				
Sun	9-Apr-23				
Mon	10-Apr-23				
Tue	11-Apr-23			✓	✓
Wed	12-Apr-23	✓	\checkmark		
Thu	13-Apr-23				✓
Fri	14-Apr-23				
Sat	15-Apr-23				✓
Sun	16-Apr-23				
Mon	17-Apr-23			✓	
Tue	18-Apr-23	✓	\checkmark		✓
Wed	19-Apr-23				
Thu	20-Apr-23				✓
Fri	21-Apr-23				
Sat	22-Apr-23			✓	✓
Sun	23-Apr-23				
Mon	24-Apr-23	✓	√		
Tue	25-Apr-23				✓
Wed	26-Apr-23				
Thu	27-Apr-23				✓
Fri	28-Apr-23			✓	
Sat	29-Apr-23		\checkmark		✓
Sun	30-Apr-23				

Impact Monitoring Schedule of Air Quality, Noise and Water Quality – April 2023

✓	Monitoring Day	
	Sunday or Public Holiday	



Impact Monitoring Schedule of Air Quality, Noise and Water Quality – May 2023

	D-4:	Noise Monitoring	Air Quality Monitoring		
	Date		1-Hour TSP	24-Hour TSP	Water Quality
Mon	1-May-23				
Tue	2-May-23				\checkmark
Wed	3-May-23				
Thu	4-May-23			✓	\checkmark
Fri	5-May-23	✓	✓		
Sat	6-May-23				\checkmark
Sun	7-May-23				
Mon	8-May-23				\checkmark
Tue	9-May-23				
Wed	10-May-23			✓	✓
Thu	11-May-23	✓	✓		
Fri	12-May-23				\checkmark
Sat	13-May-23				
Sun	14-May-23				
Mon	15-May-23				\checkmark
Tue	16-May-23			✓	
Wed	17-May-23	✓	✓		\checkmark
Thu	18-May-23				
Fri	19-May-23				\checkmark
Sat	20-May-23				
Sun	21-May-23				
Mon	22-May-23			✓	\checkmark
Tue	23-May-23	✓	\checkmark		
Wed	24-May-23				\checkmark
Thu	25-May-23				
Fri	26-May-23				
Sat	27-May-23			✓	√
Sun	28-May-23				
Mon	29-May-23	✓	\checkmark		√
Tue	30-May-23				
Wed	31-May-23				\checkmark

✓	Monitoring Day	
	Sunday or Public Holiday	



Appendix H

Monitoring Data

- 24-hour TSP Air Quality
- Noise
- Water Quality



Air Quality (24-hour TSP)



						24-Н	our TSI	P Monito	ring Data f	or ASR-1					
DATE	SAMPLE NUMBER		APSED TI	ME	CHAI	RT REA	DING	AVG TEMP	AVG AIR PRESS	STANDARD FLOW RATE	AIR VOLUME	FILTER V (g	r)	DUST WEIGHT COLLECTED	24-Hr TSP (μg/m ³)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m ³ /min)	(std m ³)	INITIAL	FINAL	(g)	
1 Apr 23	29249	26878.71	26902.71	1440.00	39	39	39.0	20.3	1012.7	1.25	1794	2.7126	2.7886	0.0760	42
6 Apr 23	29264	26902.00	26926.00	1440.00	39	39	39.0	25.4	1011	1.24	1780	2.7080	2.7530	0.0450	25
11 Apr 23	29266	26926.71	26950.71	1440.00	39	39	39.0	24.2	1012.9	1.24	1784	2.7071	2.7385	0.0314	18
17 Apr 23	29300	26950.71	26974.71	1440.00	39	39	39.0	26.1	1011.5	1.23	1773	2.7143	2.8241	0.1098	62
22 Apr 23	29318	26974.71	26998.71	1440.00	39	39	39.0	23.1	1010.5	1.24	1780	2.7044	2.8004	0.0960	54
28 Apr 23	29325	26998.71	27022.71	1440.00	39	39	39.0	24.1	1013.8	1.24	1780	2.7093	2.8155	0.1062	60

						24-Ho	ur TSP	Monitori	ng Data fo	r ASR-2					
DATE	SAMPLE NUMBER		APSED TIN	ИE	CHAP	RT REA	DING	AVG TEMP	AVG AIR PRESS		AIR VOLUME	FILTER V (g		DUST WEIGHT COLLECTED	24-Hr TSP (μg/m ³)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m ³ /min)	(std m ³)	INITIAL	FINAL	(g)	
1 Apr 23	29248	24295.36	24319.36	1440.00	41	41	41.0	20.3	1012.7	1.25	1799	2.7134	2.7979	0.0845	47
6 Apr 23	29265	24319.36	24343.36	1440.00	41	41	41.0	25.4	1011	1.24	1784	2.7037	2.7558	0.0521	29
11 Apr 23	29288	24343.36	24367.36	1440.00	41	41	41.0	24.2	1012.9	1.24	1789	2.7146	2.8554	0.1408	79
17 Apr 23	29299	24367.36	24391.36	1440.00	41	41	41.0	26.1	1011.5	1.25	1806	2.7049	2.8077	0.1028	57
22 Apr 23	29317	24391.36	24415.36	1440.00	42	42	42.0	23.1	1010.5	1.28	1850	2.7104	2.8311	0.1207	65
28 Apr 23	29326	24415.36	24439.36	1440.00	42	42	42.0	24.1	1013.8	1.28	1850	2.7210	2.8137	0.0927	50

						24-Но	our TSP	Monitor	ing Data fo	or ASR-3a					
DATE	SAMPLE NUMBER		APSED TI	ME	CHAI	RT REA	DING	AVG TEMP	AVG AIR PRESS	$H^{(1)}(M)$	AIR VOLUME	FILTER V (g	r)	DUST WEIGHT COLLECTED	24-Hr TSP (μg/m ³)
		INITIAL	FINAL	(min)	MIN	MAX	AVG	(°C)	(hPa)	(m ³ /min)	(std m ³)	INITIAL	FINAL	(g)	
1 Apr 23	29247	18085.11	18109.11	1440.00	1440.00 39 39 3		39	20.3	1012.7	1.25	1807	2.7154	2.7919	0.0765	42
6 Apr 23	29263	18109.11	18133.11	1440.00	39	39	39	25.4	1011	1.24	1790	2.6999	2.8132	0.1133	63
11 Apr 23	29289	18133.11	18157.11	1440.00	39	39	39	24.2	1012.9	1.25	1795	2.7252	2.8059	0.0807	45
17 Apr 23	29298	18157.11	18181.11	1440.00	39	39	39	26.1	1011.5	1.26	1814	2.7167	2.8300	0.1133	62
22 Apr 23	29316	18181.11	18205.11	1440.00	39	39	39	23.1	1010.5	1.27	1822	2.7092	2.7737	0.0645	35
28 Apr 23	29327	18205.11	18229.11	1440.00	39	39	39	24.1	1013.8	1.27	1822	2.7161	2.7734	0.0573	31



Noise



								Noise 2	Measu	rement	Results	(dB (A))	of CN-	1							
Date	Start Time	1 st Leq _{5min}	L10	L90	2 nd Leq _{5min}	L10	L90	3 nd Leq _{5min}	L10	L90	4 th Leq _{5min}	L10	L90	5 th Leq _{5min}	L10	L90	6 th Leq _{5min}	L10	L90	Leq ₃₀ min	Façade Correction (*)
4 Apr 23	13:00	60.4	66.3	56.2	63.4	68.2	59.6	62.8	65.2	57.9	63.3	65.6	57.4	61.8	63.7	57.5	62.2	64.8	58.0	62	65
12 Apr 23	13:00	62.3	63.5	60.8	64.7	65.9	63.4	64.8	67.1	59.7	62.1	63.0	61.2	64.2	65.5	62.2	64.7	65.5	63.9	64	67
18 Apr 23	15:16	65.3	67.5	59.3	63.9	67.5	58.5	62.8	68.0	59.5	61.7	64.0	57.0	60.8	63.5	57.0	62.2	64.5	58.0	63	66
24 Apr 23	13:15	65.2	68.2	61.7	64.1	65.9	58.8	63.7	67.1	58.0	66.0	69.2	61.3	65.8	68.2	61.3	62.8	65.0	58.5	65	68

(*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

								Noise	Measu	rement	Results ((dB(A))	of CN-2								
Date	Start Time	1 st Leq _{5min}	L10	L90	2 nd Leq _{5min}	L10	L90	3 nd Leq _{5min}	L10	L90	4 th Leq _{5min}	L10	L90	5 th Leq _{5min}	L10	L90	6 th Leq _{5min}	L10	L90	Leq ₃₀ min	Façade Correction (*)
4 Apr 23	13:36	57.2	62.6	52.4	56.6	63.5	53.2	58.3	63.1	52	53.9	61.2	49.8	55.6	60.3	48.4	56.2	61.5	49.6	57	60
12 Apr 23	13:28	60.8	65.3	51.9	63	66.1	53.2	61	64	51.7	63.3	66.7	53.5	63.7	67.1	54.2	62.2	63	52	62	65
18 Apr 23	14:40	56.2	62.5	52	56.3	63	51.5	56.8	63	51	55.6	59.5	50	53.8	59.5	49.5	58.6	61.5	68.5	56	59
24 Apr 23	10:13	64.5	67.5	57	63.8	66.8	55.7	62.4	66.5	54	66.7	69.5	58.6	66.5	69.2	57.3	62.3	66.4	54.5	65	68

(*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

								Noise	Measu	rement	Results	(dB (A))	of CN-3								
Date	Start Time	1 st Leq _{5min}	L10	L90	2 nd Leq _{5min}	L10	L90	3 nd Leq _{5min}	L10	L90	4 th Leq _{5min}	L10	L90	5 th Leq _{5min}	L10	L90	6 th Leq _{5min}	L10	L90	Leq ₃₀ min	Façade Correction (*)
4 Apr 23	14:12	59.6	64.8	56.2	58.7	63.3	54.8	58.6	63.8	55.5	59.8	65.6	57.7	61.2	64.5	58.3	60.5	63.8	56.6	60	63
12 Apr 23	15:15	58.5	60.5	51.5	52.8	58.7	48.2	52.5	57.6	48.3	53	58.9	50	51.7	56.2	48.6	56.8	59.3	49.5	55	58
18 Apr 23	14:03	61.5	65	56	59.4	63	55	60.5	63	55.5	58.6	62.5	55.5	59.8	65	57.5	60.3	64.5	56	60	63
24 Apr 23	14:15	52.2	56.6	47.3	54.9	57.4	48.2	54.1	56.6	51.1	53.5	55.5	50.6	59.3	65.5	48.7	63.7	66.3	48.6	58	61

(*) A façade correction of +3dB(A) has been added according to acoustical principles and EPD guidelines.

								Noise	Measu	rement	Results ((dB (A))	of CN-4							
Date	Start Time	1 st Leq _{5min}	L10	L90	2 nd Leq _{5min}	L10	L90	3 nd Leq _{5min}	L10	L90	4 th Leq _{5min}	L10	L90	5 th Leq _{5min}	L10	L90	6 th Leq _{5min}	L10	L90	Leq _{30min}
4 Apr 23	15:00	62.8	65.2	57.3	63.7	65.8	56.8	61.9	65	57.5	63.2	65.6	57.3	60.8	64.7	56.6	62.4	65.3	56.5	63
12 Apr 23	16:05	60.5	62.5	51.5	56.6	58	43.5	58.4	59.8	44.9	56.9	59.4	43.8	58.6	60.5	50.8	56	58.9	44.8	58
18 Apr 23	13:26	62.6	65	56	63.2	65.5	56	60.8	65	55.5	62.7	65	56	63.2	65.5	56.5	60.5	64.5	55.5	62
24 Apr 23	15:41	61.0	64.8	45.4	62.5	65.0	45.2	63.8	66.8	45.4	62.5	65.5	45.7	63.5	65.8	44.5	61.4	63.5	44.2	63



Water Quality



Monthly Environmental Monitoring & Audit Report (No.57) – April 2023

Date

1 Apr 23

Water Quality Impact Monitoring Result for M1

Date	1 Api 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pН	Salinity	SS(mg/L)
M1	9:30	0.15	<u>19.8</u> 19.8 19.8	<u><0.1</u> <0.1 <0.1	8.05 7.98 8.02	93.1 92.4 92.8	<u>6.37</u> <u>6.2</u> 6.3	7.31 7.31 7.3	$\begin{array}{c c} 0.05 \\ \hline 0.05 \\ \end{array} 0.05 \\ \end{array}$	<u>6</u> 7 6.5
Date	4 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	рН	Salinity	SS(mg/L)
M1	9:30	0.14	$ \begin{array}{c} 20.8 \\ 20.8 \end{array} $ 20.8	<u><0.1</u> <0.1 <0.1	7.58 7.57 7.58	87.7 87.6 87.7	<u>4.17</u> 4.23 4.2	7.07 7.07 7.1	0.07 0.07 0.07	$\frac{6}{7}$ 6.5
Date	6 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pН	Salinity	SS(mg/L)
M1	12:40	0.13	20.9 20.9 20.9	<u><0.1</u> <0.1 <0.1	7.72 7.71 7.72	89.7 89.6 89.7	3.9 3.64 3.8	7.34 7.34 7.3	0.03 0.03 0.03	$\frac{3}{2}$ 2.5
Date	11 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pН	Salinity	SS(mg/L)
M1	9:30	0.13	23.1 23.1 23.1	<u><0.1</u> <0.1 <0.1	7.54 7.53 7.54	90.2 90.1 90.2	2.86 2.88 2.9	7.32 7.32 7.3	0.07 0.07	$\frac{3}{4}$ 3.5
Date	13 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pН	Salinity	SS(mg/L)
M1	10:30	0.13	23.6 23.6 23.6	<u><0.1</u> <0.1 <0.1	7.48 7.43 7.46	<u>91.4</u> 90.7 91.1	2.61 2.59 2.6	7.24 7.24 7.2	0.07 0.07	$\frac{3}{3}$ 3.0
Date	15 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	рН	Salinity	SS(mg/L)
M1	15:30	0.13	23.6 23.6 23.6	<u><0.1</u> <0.1 <0.1	7.51 7.55 7.53	<u>92.0</u> 92.7 92.4	2.48 2.51 2.5	7.17 7.17 7.2	0.07 0.07 0.07	$\frac{3}{4}$ 3.5
Date	18 Apr 23									
	18 Apr 23 Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	рН	Salinity	SS(mg/L)
		Depth (m) 0.13	Temp (oC) 23.5 23.5	Flow Velocity (m/s) <0.1	DO (mg/L) 7.33 7.32 7.33	DO (%) 90.6 90.5 90.6	Turbidity (NTU) 2.12 2.1	pH 7.30 7.30 7.3	Salinity 0.07 0.07 0.07 0.07	2
Location	Time	• • • •	23.5 22.5	<0.1	7.33 7.22	90.6 00.6	2.12 2.1	7.30 7.2	0.07	
Location M1	Time 9:30	• • • •	23.5 22.5	<0.1	7.33 7.22	90.6 00.6	2.12 2.1	7.30 7.2	0.07	

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery



Monthly Environmental Monitoring & Audit Report (No.57) – April 2023

			23.9	<0.1	7.18	88.3	6.7	7.00	0.06	7
Date	22 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	рН	Salinity	SS(mg/L)
M1	9:30	0.15	$\begin{array}{r} 23.7\\ \hline 23.7\end{array}$ 23.7	<u><0.1</u> <0.1 <0.1	7.31 7.29 7.30	89.3 89.1 89.2	<u>5.27</u> 5.52 5.4	7.50 7.45 7.5	0.06 0.06	$\frac{4}{3}$ 3.5
Date	25 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pН	Salinity	SS(mg/L)
M1	9:40	0.13	22.9 22.9 22.9	<0.1 <0.1	7.36 7.35 7.36	89.8 89.7 89.8	2.61 2.47 2.5	7.42 7.4	0.06 0.06	<u>4</u> <u>3</u> 3.5
		•				• •	•		• •	
Date	27 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pН	Salinity	SS(mg/L)
M1	9:30	0.14	$\begin{array}{c c} 21.4 \\ \hline 21.4 \end{array}$ 21.4	<0.1 <0.1	7.45 7.45	88.8 88.8 88.8	2.43 2.54 2.5	7.09 7.09 7.1	0.04 0.04	3 3.5

Date	29 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	elocity (m/s)	DO (1	ng/L)	DO	(%)	Turbidi	ity (NTU)	р	H	Sali	nity	SS(1	mg/L)
M	0.20	0.14	23	22.0	< 0.1	-0.1	7.51	7.51	91.8	01.8	2.48	2.4	7.73		0.06	0.06	4	25
MI	9:30	0.14	23	23.0	< 0.1	<0.1	7.5	7.51	91.7	91.8	2.39	2.4	7.73	1.1	0.06	0.06	3	3.5



Monthly Environmental Monitoring & Audit Report (No.57) – April 2023

Water Quality Impact Monitoring Result for M2

Date	1 Apr 23				1													
Location	Time	Depth (m)	Temp	o (oC)	Flow V	elocity (m/s)	DO (n	ng/L)	DO	(%)		bidity TU)	р	н	Sali	inity	SS(mg/L)
M2	10:00	0.10	20.3 20.3	20.3	<0.1 <0.1	<0.1	7.77 7.76	7.77	90.1 90.0	90.1	1.44 1.4	1.4	7.17 7.17	7.2	0.08 0.08	0.08	7 7	7.0
Date	4 Apr 23																	
Location	Time	Depth (m)	Temp) (oC)	Flow V	velocity (m/s)	DO (n	ng/L)	DO	(%)		bidity TU)	р	Н	Sali	inity	SS	mg/L)
M2	10:10	0.10	21.3 21.3	21.3	<0.1 <0.1	<0.1	7.73 7.68	7.71	89.6 89.0	89.3	4.09 4.02	4.1	7.10 7.10	7.1	0.09 0.09	0.09	9 8	8.5
Date	6 Apr 23																	
Location	Time	Depth (m)	Temp) (oC)	Flow V	/elocity (m/s)	DO (n	ng/L)	DO	(%)		bidity TU)	р	Н	Sali	inity	SS	mg/L)
M2	13:30	0.09	21 21	21.0	<0.1 <0.1	<0.1	7.78 7.77	7.78	90.6 90.5	90.6	4.56 4.48	4.5	7.27 7.27	7.3	0.09 0.09	0.09	7 6	6.5
Date	11 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	/elocity (m/s)	DO (n	ng/L)	DO	(%)		bidity TU)	р	Н	Sali	inity	SS	mg/L)
M2	10:30	0.08	23.8 23.8	23.8	<0.1 <0.1	<0.1	7.64 7.6+1	7.64	92.0 91.7	91.9	4.82 4.79	4.8	7.35 7.35	7.4	0.1	0.10	9 10	9.5
Date	13 Apr 23	•						•	•					•				
Location	Time	Depth (m)	Temp	o (oC)	Flow V	/elocity (m/s)	DO (n	ng/L)	DO	(%)		bidity TU)	р	н	Sali	inity	SS	mg/L)
M2	11:20	0.08	24.1 24.1	24.1	<0.1 <0.1	<0.1	7.42 7.42	7.42	91.3 91.2	91.3	4.46	4.5	7.32 7.32	7.3	0.1	0.10	7 7	7.0
Date	15 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	/elocity (m/s)	DO (n	ng/L)	DO	(%)		bidity TU)	р	Н	Sali	inity	SS	mg/L)
M2	16:00	0.08	24.2 24.2	24.2	<0.1 <0.1	<0.1	7.57 7.63	7.60	93.7 94.3	94.0	3.2 3.11	3.2	7.24	7.2	0.07	0.07	7 6	6.5
Date	18 Apr 23	-						•	-		-		-	-	•		-	·
Location	Time	Depth (m)	Temp	(oC)	Flow V	elocity (m/s)	DO (n	ng/L)	DO	(%)	Tur	bidity	р	H	Sal	inity	SS(mg/L)

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery



Monthly Environmental Monitoring & Audit Report (No.57) – April 2023

										(N	TU)						
M2	10:15	0.08	25.2 25.2 25.2	<0.1 <0.1	<0.1	7.79 7.79	7.79	97.9 97.8	97.9	1.42 1.38	1.4	7.22	7.2	0.07	0.07	23	2.5

	Date	20 Apr 23																	
1	Location	Time	Depth (m)	Temp	Temp (oC) Flow Velocity (m/s) 24 <0.1				ng/L)	DO	(%)		bidity TU)	р	Н	Sali	nity	SS(1	mg/L)
	M2	14:30	0.10	24 24	24.0	<0.1 <0.1	<0.1	7.56 7.54	7.55	92.2 92.0	92.1	4.7 4.3	4.5	7.15 7.15	7.2	0.08	0.08	4 4	4.0

Date	22 Apr 23																	
Location	Time	Depth (m)	Temj	o (oC)	Flow V	velocity (m/s)	DO (r	ng/L)	DO	(%)		bidity TU)	p	Н	Sali	nity	SS(1	mg/L)
M2	10:15	0.09	24.1 24.1	24.1	<0.1 <0.1	<0.1	7.57 7.56	7.57	92.2 92.0	92.1	7.2 6.8	7.0	7.20 7.25	7.2	0.07 0.07	0.07	3 4	3.5

Date	25 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	elocity (m/s)	DO (n	ng/L)	DO	(%)		bidity TU)	p	H	Sali	nity	SS(n	ng/L)
M2	10:15	0.08	23.1 23.1	23.1	<0.1 <0.1	<0.1	7.8 7.79	7.80	95.9 95.8	95.9	7.43 7.09	7.3	7.45 7.45	7.5	0.07	0.07	4	4.0

Date	27 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	/elocity (m/s)	DO (r	ng/L)	DO	(%)		bidity TU)	p	H	Sali	nity	SS(1	mg/L)
MO	10.05	0.08	22.2	22.2	< 0.1	<0.1	7.51	7.51	91.1	01.1	3.2	2.2	7.41	74	0.08	0.08	3	2.0
M2	10:05	0.08	22.2	22.2	< 0.1	<0.1	7.5	7.51	91.0	91.1	3.48	3.3	7.41	7.4	0.08	0.08	3	5.0

Date	29 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	Velocity (m/s)	DO (r	ng/L)	DO	(%)		bidity TU)	p	H	Sali	nity	SS(1	mg/L)
M2	10:20	0.08	23.7 23.7	23.7	<0.1 <0.1	<0.1	7.39 7.38	7.39	92.3 92.2	92.3	3.35 3.38	3.4	7.53 7.53	7.5	0.08 0.08	0.08	4 4	4.0



Monthly Environmental Monitoring & Audit Report (No.57) – April 2023

Water Quality Impact Monitoring Result for M3

Date	1 Apr 23																	
Location	Time	Depth (m)	Temp	• (oC)	Flow V	elocity (m/s)	DO (mg/L)	DO	(%)		bidity TU)	p]	H	Sali	nity	SS(mg/L)
M3	10:10	2.36	20.5 20.5	20.5	<0.1 <0.1	<0.1	6.66 6.64	6.65	74.3 73.9	74.1	3.37 3.33	3.4	7.68 7.68	7.7	0.01 0.01	0.01	7 8	7.5

Date	4 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	/elocity (m/s)	DO (mg/L)	DO	(%)		bidity TU)	p]	H	Sali	nity	SS(mg/L)
M3	10:20	2.36	21 21	21.0	<0.1 <0.1	<0.1	7.44 7.36	7.40	87.1 86.0	86.6	4.89 4.87	4.9	7.12 7.12	7.1	0.03 0.03	0.03	7 8	7.5

Date	6 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	Velocity (m/s)	DO (mg/L)	DO	(%)		bidity TU)	p]	H	Sali	nity	SS(I	mg/L)
M3	13:40	2.35	20.8 20.8	20.8	<0.1 <0.1	<0.1	7.4 7.39	7.40	86.7 86.6	86.7	4.96 4.93	4.9	7.26 7.26	7.3	0.01 0.01	0.01	6 7	6.5

Date	11 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	/elocity (m/s)	DO (mg/L)	DO	(%)		bidity TU)	p]	H	Sali	nity	SS(I	mg/L)
M3	10:40	2.31	23.7 23.7	23.7	<0.1 <0.1	<0.1	6.86 6.85	6.86	82.5 82.3	82.4	3.09 3.03	3.1	7.08 7.08	7.1	0.02 0.02	0.02	7 7	7.0

Date	13 Apr 23																	
Location	Time	Depth (m)	Temp	• (oC)	Flow V	velocity (m/s)	DO (mg/L)	DO	(%)		bidity TU)	p	H	Sali	nity	SS(mg/L)
M3	11:30	2.34	24.3	243	< 0.1	< 0.1	6.97	6.98	85.5	85.5	3.08	3.1	7.08	71	0.01	0.01	7	6.5
IVI.5	11.50	2.34	24.3	24.3	< 0.1	<0.1	6.98	0.98	85.5	65.5	3.13	5.1	7.08	/.1	0.01	0.01	6	6.5

Date	15 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	/elocity (m/s)	DO (mg/L)	DO	(%)		bidity TU)	pl	H	Sali	nity	SS(1	mg/L)
M3	16:10	2.33	24.3 24.3	24.3	<0.1 <0.1	<0.1	7.09 7.07	7.08	86.9 86.7	86.8	3.2 3.04	3.1	7.06 7.06	7.1	0.01 0.01	0.01	5 6	5.5

Date 18 Apr 23

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery



Monthly Environmental Monitoring & Audit Report (No.57) – April 2023

Location	Time	Depth (m)	Temp	o (oC)	Flow V	/elocity (m/s)	DO ((mg/L)	DO	(%)		bidity TU)	p	H	Sali	nity	SS(1	mg/L)
M2	10:25	2.21	25	25.0	< 0.1	<0.1	6.66	6.66	82.6	827	1.91	19	7.25	7 2	0.02	0.02	3	3.0
M3	10:25	2.51	25	23.0	< 0.1	<0.1	6.66	0.00	82.7	02.7	1.95	1.9	7.23	1.2	0.02	0.02	3	3.0

Date	20 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	Velocity (m/s)	DO (mg/L)	DO	(%)		bidity TU)	p]	H	Sali	nity	SS(1	mg/L)
M3	14:44	2.42	23.7 23.7	23.7	<0.1 <0.1	<0.1	6.95 6.94	6.95	85.6 85.5	85.6	5.5 5.4	5.5	7.12 7.15	7.1	0.02 0.02	0.02	6 6	6.0

Date	22 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	Velocity (m/s)	DO (mg/L)	DO	(%)		bidity TU)	p	Н	Sali	nity	SS(mg/L)
M3	10:25	2.41	24.3	24.2	< 0.1	<0.1	7.18	7.18	88.0	88.1	5.1	5 1	7.22	7.2	0.03	0.03	3	2.5
1115	10:25	2.41	24.3	24.5	< 0.1	<0.1	7.18	1.10	88.1	00.1	5.01	5.1	7.22	1.2	0.03	0.05	4	5.5

Date	25 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	Velocity (m/s)	DO (mg/L)	DO	(%)		bidity TU)	p]	H	Sali	nity	SS(mg/L)
M3	10:25	2.37	23 23	23.0	<0.1 <0.1	<0.1	7.09 7.08	7.09	86.7 86.6	86.7	2.69 2.41	2.6	7.11 7.10	7.1	0.03 0.03	0.03	3 3	3.0

Date	27 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow V	Velocity (m/s)	DO	(mg/L)	DO	(%)		bidity TU)	p	H	Sali	nity	SS(mg/L)
M3	10:15	2.37	21.8 21.8	21.8	<0.1 <0.1	<0.1	7.35 7.34	7.35	87.4 87.3	87.4	2.71 2.76	2.7	7.33 7.33	7.3	0.03 0.03	0.03	43	3.5

Date	29 Apr 23																	
Location	Time	Depth (m)	Temp	0 (0C)	Flow V	/elocity (m/s)	DO ((mg/L)	DO	(%)		bidity TU)	p	H	Sali	nity	SS(mg/L)
M3	10:30	2.37	23.6 23.6	23.6	<0.1 <0.1	<0.1	7.21 7.21	7.21	88.6 88.5	88.6	3.32 3.18	3.3	7.37 7.37	7.4	0.03 0.03	0.03	43	3.5



Monthly Environmental Monitoring & Audit Report (No.57) – April 2023

Date

1 Apr 23

Water Quality Impact Monitoring Result for M4

Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pH	Salinity	SS(mg/L)
M4	10:30	0.40	20.9 20.9 20.9	<0.1 <0.1	7.88 7.82 7.76 7.82	<u>90.7</u> <u>89.6</u> 90.2	<u>4.4</u> 5.3 4.9	7.26 7.26 7.3	0.09 0.09 0.09	$\frac{4}{4}$ 4.0
Date	4 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pН	Salinity	SS(mg/L)
M4	10:40	0.41	20.9 20.9 20.9	0 <0.1 <0.1	7.31 7.3 7.31	84.7 84.5 84.6	<u>4.8</u> 4.5 4.7	7.32 7.22 7.3	0.1 0.1 0.10	4 4.0
Date	6 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pН	Salinity	SS(mg/L)
M4	13:55	0.43	21.1 21.1 21.1	<0.1 <0.1	7.8 7.79 7.80	90.5 90.4 90.5	<u>5.1</u> 5.2 5.2	7.10 7.10 7.1	$\begin{array}{c} 0.05 \\ 0.05 \end{array} 0.05 \end{array}$	<u>4</u> 5 4.5
Date	11 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pН	Salinity	SS(mg/L)
M4	11:00	0.42	$\begin{array}{c c} 24 \\ \hline 24 \\ \hline 24 \end{array} 24.0$	$) \frac{<0.1}{<0.1} <0.1$	6.28 6.21 6.25	75.5 74.5 75.0	5.4 5.1 5.3	7.09 7.09 7.1	0.05 0.05 0.05	$\begin{array}{c c} 4 \\ \hline 4 \\ \hline 4 \end{array}$ 4.0
Date	13 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pH	Salinity	SS(mg/L)
M4	11:50	0.42	<u>24.5</u> 24.5 24.5	<0.1 <0.1 <0.1	<u>6.54</u> 6.48 6.51	80.1 79.4 79.8	2.5 2.8 2.7	7.05 7.05 7.1	0.09 0.09 0.09	$\frac{3}{4}$ 3.5
Date	15 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pH	Salinity	SS(mg/L)
M4	16:25	0.42	24.5 24.5 24.5	<0.1 <0.1	6.01 5.96 5.99	73.6 73.0 73.3	5.5 5.4	7.05 7.1 7.05 7.1	0.09 0.09 0.09	<u>4</u> 5 4.5
Date	18 Apr 23									
Location	Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	pH	Salinity	SS(mg/L)
M4	10:45	0.41		<01	5.82 5.81 5.82	72.4 72.3 72.4	4.7 4.8 4.8	7.15 7.16 7.2	0.09 0.09 0.09	4 5 4.5
		1						- 1		1
Date	20 Anr 23									
Date Location	20 Apr 23 Time	Depth (m)	Temp (oC)	Flow Velocity (m/s)	DO (mg/L)	DO (%)	Turbidity (NTU)	рН	Salinity	SS(mg/L)

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery



Monthly Environmental Monitoring & Audit Report (No.57) – April 2023

Γ			23.9		< 0.1		6.23	76.3	3.8		7.12		0.06		4	
Date	22 Apr 23														1	
Location	Time	Depth (m)	Temp	(oC)	Flow Velo	city (m/s)	DO (mg/L)	DO (%)	Turbidity	(NTU)	pF	I	Sali	nity	SS(mg/L)
M4	10:45	0.43	24.2 24.2	24.2	<0.1	< 0.1	6.43 6.42 6.43	79.1 78.9 78.9	4.3	4.3	7.45	7.5	0.06	0.06	3	3.5
			24.2		< 0.1		0.42	10.9	7.7		7.45		0.00		4	
Date	25 Apr 23		24.2		<0.1		0.42	70.7	7.7		7.43		0.00		4	
Date Location	25 Apr 23 Time	Depth (m)	Z4.2) (oC)		city (m/s)	DO (mg/L)	DO (%)	Turbidity	(NTU)	pH	I	Sali	nity	4 SS(mg/L)
		Depth (m) 0.43		0 (0C) 23.2	<0.1 Flow Veloc <0.1 <0.1	city (m/s)	-			(NTU) 3.9		H 7.2		nity 0.05	4 SS(4 4	mg/L) 4.0
Location	Time		Temp 23.2		Flow Veloc		DO (mg/L) 5.41 5.40	DO (%) 66.2 66 1	Turbidity 4.0		pI 7.22	7.0	Sali 0.05	v	4	
Location	Time		Temp 23.2		Flow Veloc		DO (mg/L) 5.41 5.40	DO (%) 66.2 66 1	Turbidity 4.0		pI 7.22	7.0	Sali 0.05	v	4	

M4 10:30 0.43 $\frac{21.9}{21.9}$ 21.9 <0.1 <0.1 5.95 5.93 71.0 70.8 4.2 4.2 7.17 7.2 0.06 0.06 5 4.5	Location	Time	Depth (m)	Temp	D (OC)	Flow veloc	лу (m/s)	DO (1	mg/L)	DO	(%)	I urbia	$(\mathbf{N}\mathbf{I}\mathbf{U})$	р	H	San	шіу		mg/L)
	M4	10.20	0.42	21.9	21.0	< 0.1	<0.1	5 95	5.02	71.0	70.9	4.2	4.2		7.2	0.06	0.06	5	15
	114	10:50	0.45	21.9	21.9	< 0.1	<0.1		5.95	70.6	70.8	4.1	4.2		1.2	0.06	0.00	4	4.3

Date	29 Apr 23																	
Location	Time	Depth (m)	Temp	o (oC)	Flow Veloc	city (m/s)	DO (1	ng/L)	DO	(%)	Turbid	ity (NTU)	р	H	Sali	nity	SS(1	mg/L)
M4	10.50	0.40	23.8	22.0	< 0.1	-0.1	5.49	5 4 4	67.2	((7	4.6	1.0	7.07	7.1	0.06	0.00	3	2.5
M4	10:50	0.40	23.8	23.8	< 0.1	<0.1	5.38	5.44	66.1	66./	4.5	4.0	7.07	/.1	0.06	0.06	2	2.5

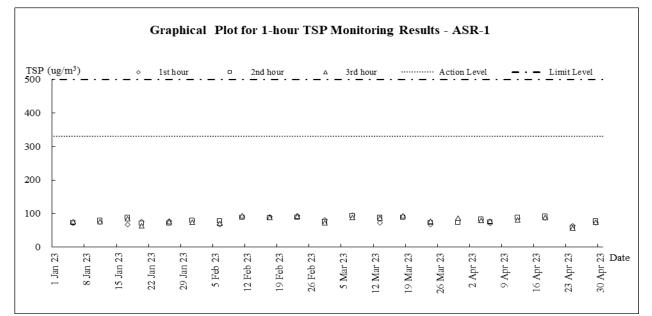


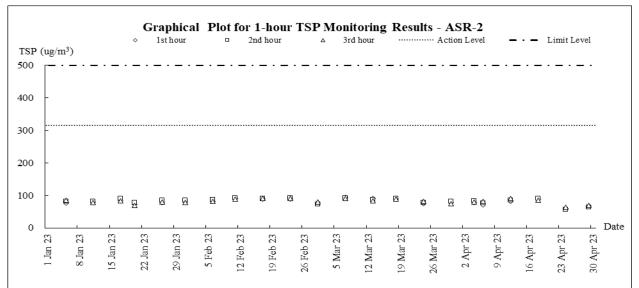
Appendix I

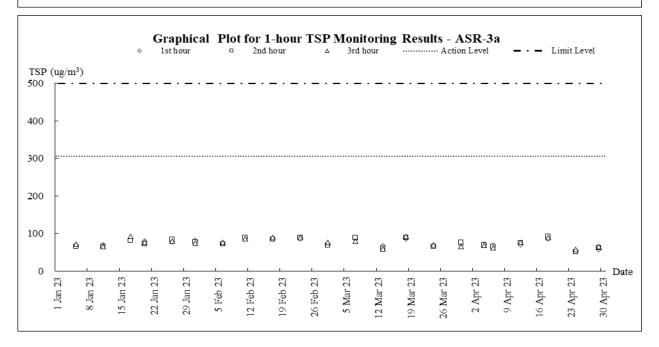
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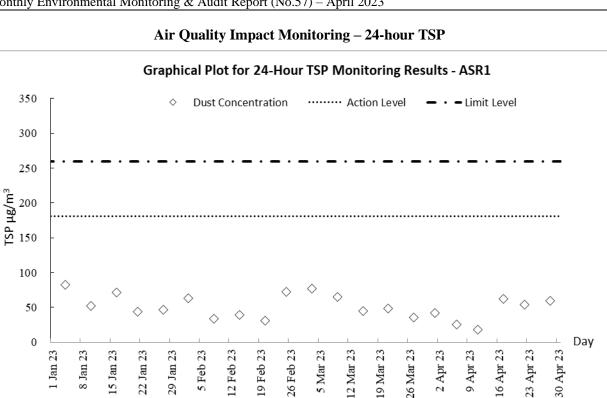


Air Quality Impact Monitoring – 1-hour TSP

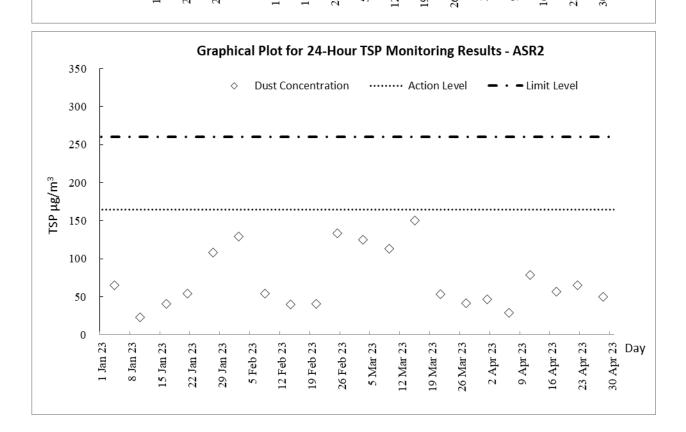






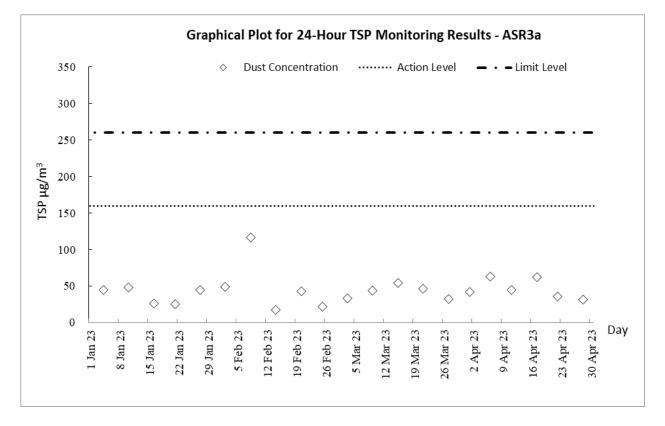


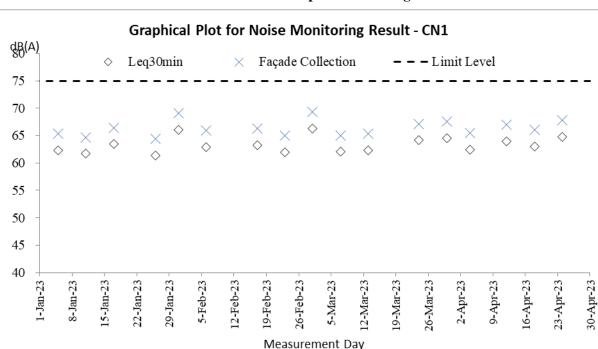
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Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery Monthly Environmental Monitoring & Audit Report (No.57) – April 2023

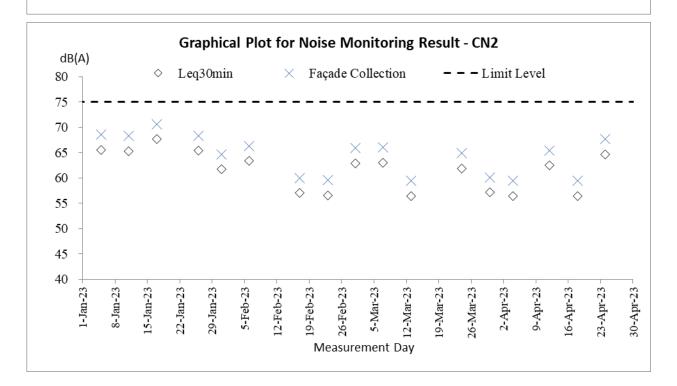




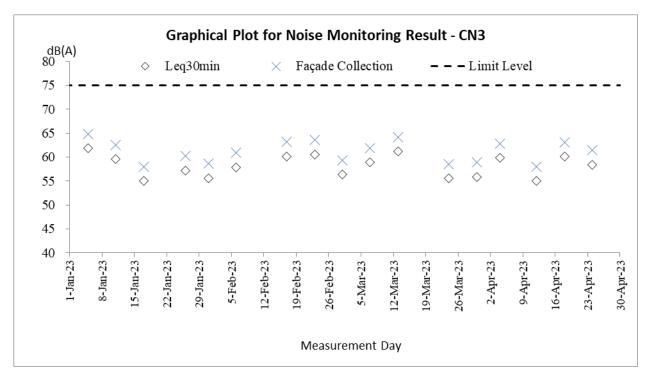


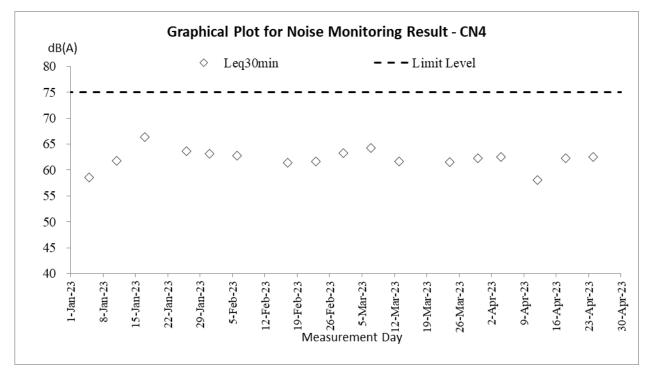
Construction Noise Impact Monitoring

AUES



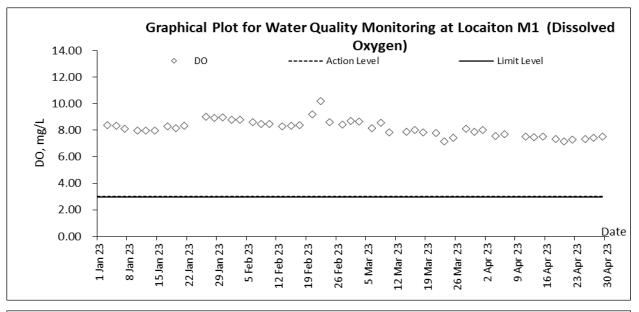


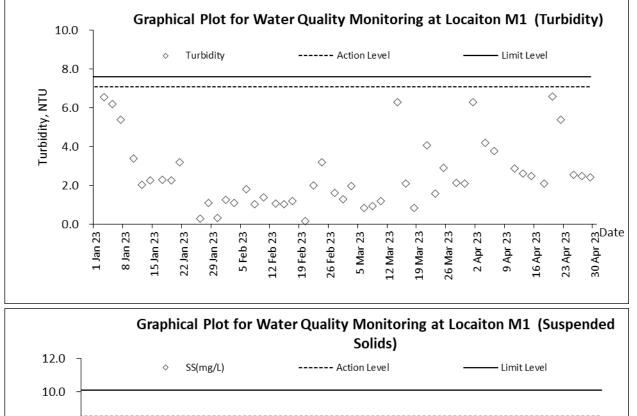


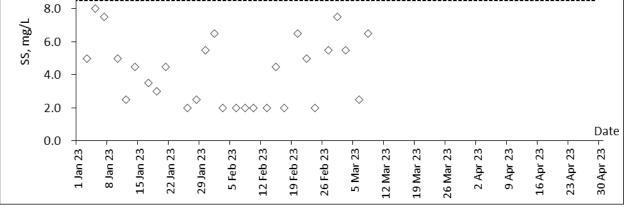




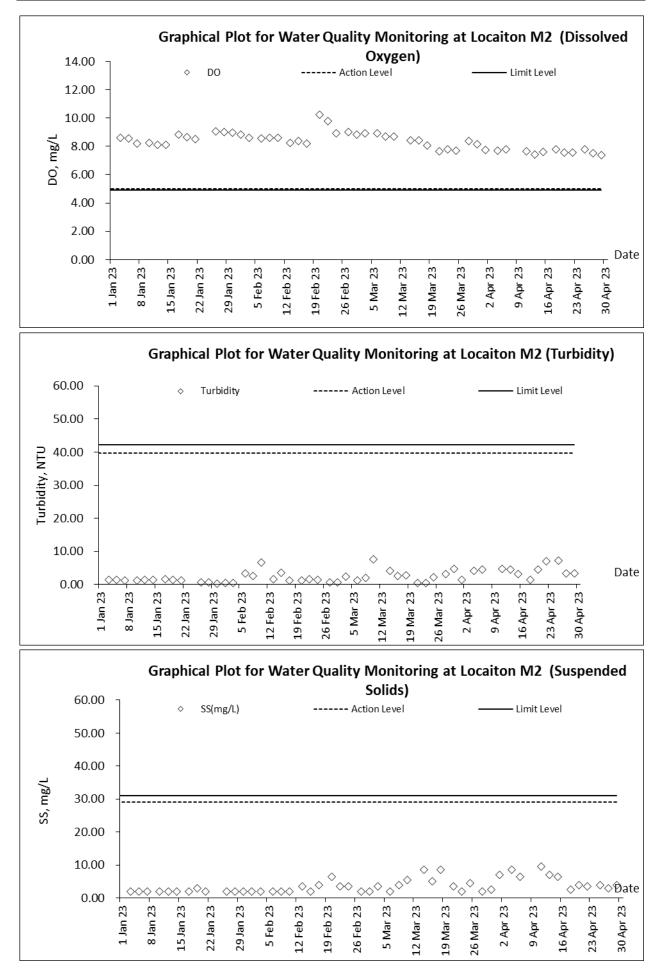
Water Quality Impact Monitoring



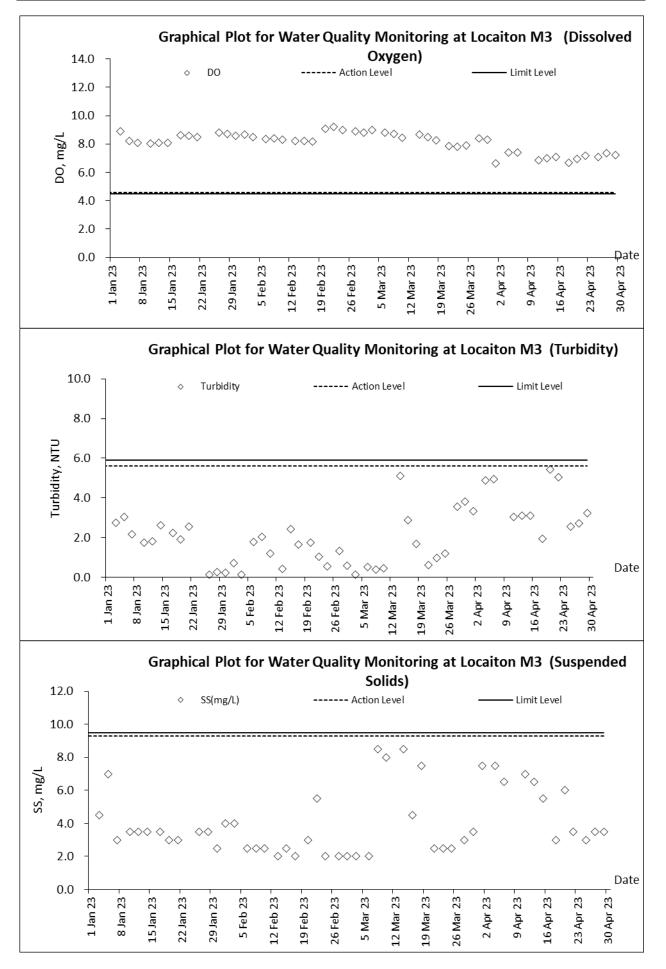




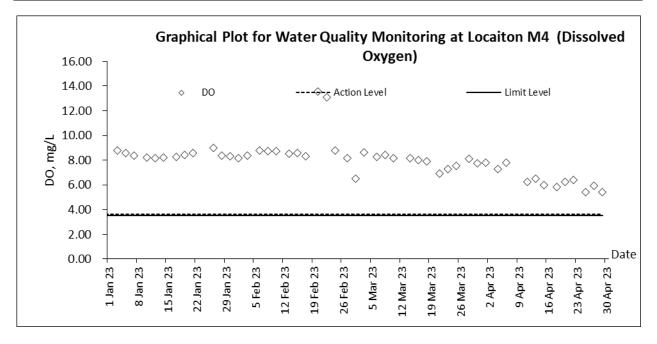


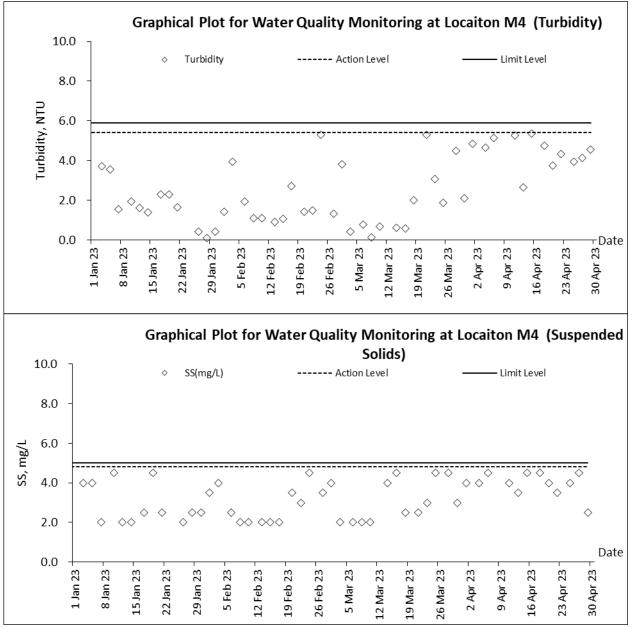














Appendix J

Meteorological Data of the Reporting Month



				,	Ta Kwu	Ling Statio	n
Date		Weather	Total Rainfall (mm)	Mean Air Temp. (°C)	Wind Speed (km/h)	Mean Relative Humidity (%)	Wind Direction
1-Apr-23	Sat	Mainly cloudy with a few showers.	0.7	20.8	10.7	82.0	E/SE
2-Apr-23	Sun	Moderate to fresh east to southeasterly winds	0.7	20.7	11.2	87.5	E/SE
3-Apr-23	Mon	Mainly cloudy with a few showers.	2.1	21.0	14.5	86.7	E/SE
4-Apr-23	Tue	Mainly cloudy with a few showers.	4	23.4	12	89.2	S/SE
5-Apr-23	Wed	Mainly cloudy with a few showers.	0.4	24.4	6	93.2	S
6-Apr-23	Thu	Sunny intervals in the morning.	5.9	24.8	7.5	83.2	S/SW
7-Apr-23	Fri	Moderate southerly winds	4.4	21.5	8	82.0	S/SE
8-Apr-23	Sat	Mainly cloudy. Sunny periods	Trace	19.5	10.2	84.5	S
9-Apr-23	Sun	Sunny intervals in the morning.	2.6	20.1	9.7	79.0	E/SE
10-Apr-23	Mon	Moderate southerly winds	0	21.9	11.5	74.5	E/SE
11-Apr-23	Tue	Light to moderate east to southeasterly winds.	0	25.1	10	76.2	E/SE
12-Apr-23	Wed	Light to moderate east to southeasterly winds.	0	25.0	6.2	75.5	Е
13-Apr-23	Thu	Moderate southerly winds	0	24.7	11.5	73.2	E/SE
14-Apr-23	Fri	Mainly cloudy with a few showers.	0	25.3	6.7	88.5	E/NE
15-Apr-23	Sat	Mainly cloudy. Sunny intervals and a few showers	0	26.9	7.5	80.0	SE
16-Apr-23	Sun	Moderate easterly winds	0	25.8	9.2	68.0	E/SE
17-Apr-23	Mon	Sunny intervals and a few showers tomorrow.	Trace	25.9	9.2	80.0	Е
18-Apr-23	Tue	Mainly cloudy. Sunny intervals and a few showers	Trace	27.0	10	81.0	Е
19-Apr-23	Wed	Mainly cloudy with showers and severe squally thunderstorms.	26.5	24.6	11.2	87.5	SW
20-Apr-23	Thu	Mainly cloudy with a few showers.	18.2	24.8	6.2	88.7	E/SE
21-Apr-23	Fri	Light to moderate southeasterly winds.	4.3	24.2	9.2	90.0	E/SE
22-Apr-23	Sat	Isolated squally thunderstorms at first.	0.7	23.5	10.5	81.0	E/SE
23-Apr-23	Sun	Showers will be heavier with a few squally thunderstorms in the afternoon.	0.4	23.5	13.5	85.0	E/SE
24-Apr-23	Mon	Mainly cloudy with a few showers.	1	23.5	9.2	86.2	E/SE
25-Apr-23	Tue	Mainly cloudy with one or two rain patches	4.4	21.1	5	90.7	Ν
26-Apr-23	Wed	Dry with sunny periods.	0	21.5	14	68.0	N
27-Apr-23	Thu	Mainly cloudy with sunny intervals.	0.3	23.0	12	71.0	N
28-Apr-23	Fri	Moderate easterly winds.	0.9	25.6	9.2	78.0	E/SE
29-Apr-23	Sat	Hot with sunny periods during the day.	Trace	26.1	11.7	81.0	Е
30-Apr-23	Sun	Mainly cloudy. Isolated showers tomorrow morning.	0	24.5	10.5	79.2	Е



Appendix K

Ecological Survey Report

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Ecological Survey Report for Contract CV/2016/10



Contract No. CV/2016/10 Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery

Monthly Report of Ecologically Sensitive Habitats Monitoring – April 2023

Revision Date of issue	0 28 April 2023	
Prepared by	Alan Lam	A
Reviewed by	Rachel Siu	Ps.
Verified by	Mike Leung	A



Table of Contents

1	INT	RODUCTION	4
	1.1	BACKGROUND	4
	1.2	OBJECTIVE	4
2	ECC	DLOGICALLY SENSITIVE HABITATS	5
	2.1	DESCRIPTION OF HABITATS	5
	2.2	MONITORING MEASURES OF WETLAND HABITATS	6
	2.3	MONITORING MEASURES OF NON-WETLAND HABITATS	6
3	ME	THODOLOGY	7
	3.1	MAMMAL SURVEY	7
	3.2	BIRD SURVEY	7
	3.3	HERPETOFAUNA SURVEY	7
	3.4	DRAGONFLY SURVEY	7
	3.5	BUTTERFLY SURVEY	8
	3.6	AQUATIC FAUNA SURVEY	8
4	RES	ULT	9
5	DIS	CUSSION	14
Арр	endix I	- Transect Routes for Contract CV/2016/10	17



LIST OF TABLE	
Table 1	Action and Limit Levels and Responses to Evidence of Declines
	in Aquatic Fauna
Table 2	Action and Limit Levels and Responses to Evidence of Declines
	in Non-Aquatic Fauna
Table 3	Survey Schedule
Table 4	Result of mammal in survey
Table 5	Result of Avifauna in survey
Table 6	Result of reptile in survey
Table 7	Result of amphibian in survey
Table 8	Result of butterfly in survey
Table 9	Result of Odonate in survey
Table 10	Result of freshwater communities in survey

LIST OF APPENDIX					
Appendix I	Transect Routes for Contract CV/2016/10				

LIST OF FIGURES					
Figure 1	Bar chart showing the total species richness within site boundary				
	from 2019 to 2023				
Figure 2	Bar chart showing the total abundance within site boundary from				
	2019 to 2023				
Figure 3	Bar chart showing the species richness within site boundary by				
	taxa from 2019 to 2023				
Figure 4	Bar chart showing the species richness based on habitat type				
	from 2019 to 2023				
Figure 5	Bar chart showing the abundance based on habitat type from				
	2019 to 2023				



1 INTRODUCTION

1.1 <u>BACKGROUND</u>

- 1.1.1 The main objective of the proposed site formation and associated infrastructural works for development of columbarium, crematorium (C&C) and related facilities at Sandy Ridge Cemetery is to increase the public cremation services and supply of public niches to meet the future demand.
- 1.1.2 The project includes site formation and associated works for development of C&C facilities at the Sandy Ridge Cemetery, road works within Sandy Ridge Cemetery, widening a section of Lin Ma Hang Road (from 6.5m to 7.3m), provision of off-site pick-up/drop-off points for shuttle buses as well as barging point at Siu Lam, Lok On Pai.
- 1.1.3 The Environmental Impact Assessment (EIA) report, including Environmental Monitoring and Audit Manual (EM&A Manual), was approved with conditions on 8 August 2016 (Register No.: AEIAR-198/2016). EPD issued an Environmental Permit (EP) for the Project (EP-534/2017) on 7 April 2017. A Further Environment Permit (FEP) for the Project (FEP-01/534/2017) was issued on 23 February 2018, variation of EP (EP-534/2017/A) and variation of FEP (FEP-01/534/2017/A) were issued on 24 December 2018.
- 1.1.4 According to Clause 3.1 of the FEP (FEP-01/534/2017/A), "The Permit Holder shall implement the EM&A programme in accordance with the procedures and requirements as set out in the EM&A Manual. Any changes to the programme shall be justified by the ET Leader and verified by the IEC as conforming to the information and requirements contained in the EM&A Manual before submission to the Director for approval".
- 1.1.5 This Ecologically Sensitive Habitats Monitoring Methodology articulates the protocol of monitoring the ecology of concerned habitats as specified in EM&A Manual.

1.2 <u>OBJECTIVE</u>

- 1.2.1 According to approved EIA report (AEIAR-198/2016), habitat types within project boundary comprise of watercourse, grassland, upland grassland, plantation, woodland and developed area. Natural habitats were of moderate ecological value in terms of species diversity, species rarity, species abundance, ecological linkage as well as nursery. Moreover, 0.3ha of wet woodland on the northern side of Sandy Ridge was deemed habitat with high ecological value. Four types of habitats were regarded as ecologically sensitive habitats, namely wet woodland, watercourses, upland grassland and woodland. Considering human disturbance in upcoming construction and operation phases, ecologically sensitive habitats shall be monitored in accordance with EM&A Manual.
- 1.2.2 The objective of ecologically sensitive habitats monitoring is to evaluate the effectiveness of measures to minimize impacts on concerned habitats from disturbance and pollution.



2 ECOLOGICALLY SENSITIVE HABITATS

2.1 DESCRIPTION OF HABITATS

2.1.1 In order to monitor the effectiveness of the measures to the minimise impact on ecologically sensitive habitats from disturbance and pollution, monthly monitoring during construction and operation phases is required as specified in EM&A Manual. Standard faunal transect and sampling surveys cover both wetland and non-wetland habitats:

Wetland habitats	Non-wetland habitats
Wet Woodland	Upland Grassland
Watercourses	Woodland

- 2.1.2 Wet woodland is small patch present on northwest of the project boundary, and is confined by the marsh area to the north and the secondary woodland to the east, south and south-west parts. A number of mature trees *Cleistocalyx nervosum* and *Acronychia pedunculata* form the tree canopy, with other self-sown shrubs (including *Psychotria asiatica, Ligustrum sinense* and *Glochidion lanceolarium*) and trees (*Aporosa dioica* and *Litsea monopetala*). Whilst botanically it comprises of naturally regenerated secondary woodland and ground level are a series of small braided streams and weep points which even during the dry season remain wet. This creates a rather uncommon habitat in Hong Kong offering suitable conditions for a good assemblage of common wetland species. The wet woodland provides a good assemblage of micro-habitats, which is relatively undisturbed and has good linkages to other natural habitats. Several species of conversation importance were recorded in EIA report from this habitat: East Asian Porcupine, Leopard Cat, Red Muntjac, Two-striped Grass Frog, Small Snakehead, *Somanniathelphusa zanklon*, Dancing Shadow-emerald.
- 2.1.3 Seasonal watercourse running west to east in the eastern part of the area inside the Project boundary is shallower in gradient than those running off the hillside. This seasonal watercourse is heavily vegetated with wetland-associated herbs including *Commelina diffusa*, *Polygonum chinense*, *Colocasia esculenta* and *Dracaena sanderiana*. A mature tree of *Aquilaria sinensis* was recorded at the bank of the seasonal watercourse to the west of the Sandy Ridge Cemetery Office. Seasonal watercourses are restricted to the steeper slopes within the project boundary and are characterised by being entirely dry for much of the dry season. However, endemic crab *S. zanklon* population is supported by ephemeral watercourses close to the project boundary.
- 2.1.4 Upland grassland is the major habitat within the project boundary. The semi-natural habitat is dominated by typical upland grassland species: fern *Dicranopteris pedata*, grass *Neyraudia reynaudiana*, *Miscanthus floridulus*, climbing vines *Smilax china*, *Smilax glabra*, and shrubs such as *Rhodomyrtus tomentosa*, *Breynia fruticosa* and *Helicteres angustifolia*. Approximately 30 flowering spikes of two orchid species Bamboo Orchid and Toothed Habenaria were recorded near the hill top in the northern part of this upland grassland. Golden-headed Cisticola, which is considered as Local Concern by Fellowes *et al.* (2002), was also recorded in upland grassland on Sandy Ridge, including a proved breeding record of fledged young in September 2013. In addition, numerous species of conservation interest were recorded in EIA report, such as East Asian Porcupine, Leopard Cat, Red Muntjac, Great Swift, Tamil Grass Dart, Small Three-ring and Small Grass Yellow.



2.1.5 Scattered patches of woodland are present throughout the assessment area, with the largest contiguous block located immediately to the east of the project boundary. These woodlands are relatively young with single-layered of canopy dominants (~10 – 15m tall) including *A. dioica*, *Bridelia tomentosa*, *Cinnamomum burmannii*, *Daphniphyllum calycinum*, *Litsea glutinosa*, *Rhus succedanea*, and *Zanthoxylum avicennae*. Such areas comprise secondary woodland which is largely derived from natural regeneration and colonisation of trees as a result of seed dispersal by birds and/or bats. A mature tree of *A. sinensis* is located at the woodland edge at the central part of the Project according to EIA report.

2.2 MONITORING MEASURES OF WETLAND HABITATS

- 2.2.1 Wetland habitats include wet woodland and watercourses. Monitoring surveys using standardised quantitative methodology will be conducted at fixed points. For seasonal watercourse, survey shall be conducted whenever the habitat appears.
- 2.2.2 Measures to respond to decreases in numbers of aquatic fauna using the wetland habitats and action and limit levels to trigger these measures are detailed in Table 1.

Action Level	Response	Limit Level	Response			
Reduction in	Investigate cause and if	Reduction	Investigate cause and if			
taxa diversity	cause identified as related	in taxa	cause identified as related			
by 30%	to the project instigate	diversity	to the project instigate			
	remedial action to remove	by 50%	remedial action.			
	or reduce source of					
	disturbance.					

Table 1 Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna

2.3 MONITORING MEASURES OF NON-WETLAND HABITATS

- 2.3.1 Non-wetland habitats consist of upland grassland and woodland. Monthly quantitative surveys of non-aquatic fauna will be conducted using standard route transect counts.
- 2.3.2 Measures to respond to decreases in numbers of non-aquatic fauna using the non-wetland habitats and action and limit levels to trigger these measures are detailed in Table 2.

Action Level	Response	Limit Level	Response			
Reduction in	Investigate cause and if	Reduction	Investigate cause and if			
species diversity	cause identified as related	in species	cause identified as related			
by 30%	to the project instigate	diversity by	to the project instigate			
	remedial action to remove	50%	remedial action.			
	or reduce source of					
	disturbance.					

Table 2 Action and Limit Levels and Responses to Evidence of Declines in Non-Aquatic Fauna



3 METHODOLOGY

The ecological survey includes all taxa being investigated in EIA report. Table 3 summarizes schedule of faunal surveys.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mammals	\checkmark											
Birds (day)	\checkmark											
Birds (night)				\checkmark								
Herpetofauna				\checkmark		\checkmark	\checkmark	\checkmark	\checkmark	\checkmark		
Dragonflies			\checkmark									
Butterflies			\checkmark									
Aquatic fauna	\checkmark											

Table 3 Survey Schedule

3.1 MAMMAL SURVEY

3.1.1 Mammal surveys will be conducted along the transects shown in Appendix 1 during both daytime and night time periods. Along with direct observations, other field signs, such as scats and tracks, will be searched and recorded if present.

3.2 BIRD SURVEY

3.2.1 Bird surveys will be conducted along the transects shown in Appendix 1 during the surveys, species and their vocalizing individuals recorded will be enumerated and recorded according to the habitat(s) they are utilising.

3.3 HERPETOFAUNA SURVEY

3.3.1 Reptile and amphibian surveys will be conducted along transects shown in Appendix 1 during surveys careful searches of appropriate microhabitats and refugia for reptiles and their vocalizing individuals will be undertaken and all reptiles observed will be identified and counted.

3.4 DRAGONFLY SURVEY

3.4.1 Dragonfly surveys will be conducted along transects shown in Appendix 1 during surveys all dragonflies seen will be identified and counted as accurately as possible.



3.5 BUTTERFLY SURVEY

3.5.1 Butterfly surveys will be conducted along transects shown in Appendix 1 during surveys all butterflies seen will be identified and counted as accurately as possible.

3.6 AQUATIC FAUNA SURVEY

3.6.1 Freshwater fishes and macro-invertebrates will be recorded by direct observation. All species trapped/recorded will be enumerated and identified (to the lowest taxonomic level possible), and the species of conservation importance photographed.



4 RESULT

This monitoring survey started on 11th April 2023, a sunny day. The day and night survey covered wetland and non-wetland areas. The survey was conducted by transect and at fixed points. All species seen would be identified and counted as accurately as possible.

Mammal

There was no mammal species recorded in the monitoring area.

Bird

There were a total of 43 birds individuals from 13 species recorded in the monitoring area. No Golden-headed Cisticola was observed during the bird survey.

Herpetofauna

There was no reptile species recorded in the monitoring area. There was no amphibian species recorded in the monitoring area.

■ Butterfly

There were a total of 4 butterfly individuals from 2 species recorded in the monitoring area.

Dragonfly

There were a total of 2 dragonfly individuals from 1 species recorded in the monitoring area.

■ Freshwater communities

There was no freshwater community recorded in the monitoring area.



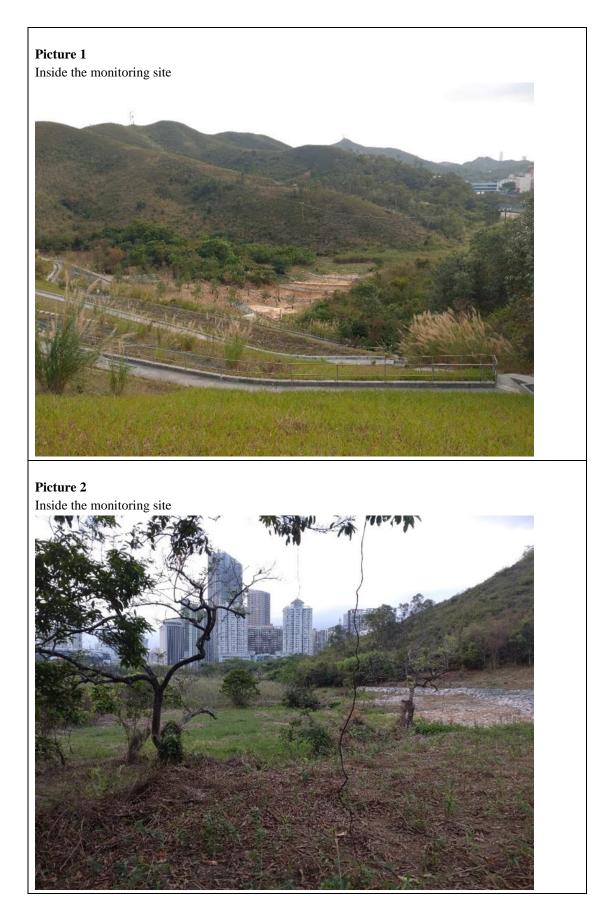




Table 4Result of mammal in survey

					11	/4/202	23	
Scientific Name	Common Name	Chinese Name	Conservation Status		on- land	V	Vetlan	d
				UG	WL	MA	ww	WC
		N/A						

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

Table 5Result of Avifauna in survey

				11/4/2023					
Scientific Name	Common Name	Chinese Name	Conservation Status	Non- wetland		Wetland			
				UG	WL	MA	ww	WC	
Francolinus pintadeanus	Chinese Francolin	中華鷓鴣		1					
Centropus sinensis	Greater Coucal	褐翅鴉鵑			1				
Spilopelia chinensis	Spotted Dove	珠頸斑鳩		2					
Eudynamys scolopaceus	Asian Koel	噪鵑		1					
Cacomantis merulinus	Plaintive Cuckoo	八聲杜鵑		1					
Hierococcyx sparverioides	Large Hawk Cuckoo	大鷹鵑		1					
Apus nipalensis	House Swift	小白腰雨燕		8			1		
Corvus macrorhynchos	Large-billed Crow	大嘴烏鴉		1					
Lanius schach	Long-tailed Shrike	棕背伯勞					1		
Pycnonotus jocosus	Red-whiskered Bulbul	紅耳鵯					15		
Pycnonotus sinensis	Chinese Bulbul	白頭鵯					4		
Prinia flaviventris	Yellow-bellied Prinia	黃腹鷦鶯					3		
Orthotomus sutorius	Common Tailorbird	長尾縫葉鶯		2			1		

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse



Table 6Result of reptile in survey

					1	1/4/202	23	
Scientific Name	Common Name	Chinese Name	Conservation Status	-	on- land	V	Vetlan	d
				UG	WL	MA	ww	WC
		N/A						

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

Table 7Result of amphibian in survey

					11	/4/202	23	
Scientific Name	Common Name	Chinese Name	Conservation Status		on- land	v	Vetlan	d
				UG	WL	MA	ww	WC
		N/A						

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse + Species appeared but uncountable

Table 8Result of butterfly in survey

				11/4/2023					
Scientific Name	Common Name	Chinese Name	Conservation Status	Non- wetland		Wetland		d	
				UG	WL	MA	ww	WC	
Mycalesis mineus	Dark Brand Bush Brown	小眉眼蝶		2			1		
Abisara echerius	Plum Judy	蛇目褐蜆蝶		1					

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

Table 9Result of Odonate in survey

					11	/4/202	23	
Scientific Name	Common Name		Conservation Status	Non- wetland		Wetland		d
				UG	WL	MA	ww	WC
Orthetrum pruinosum	Common Red Skimmer	赤褐灰蜻						2

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse



Table 10Result of freshwater communities in survey

					1	1/4/20	23	
Scientific Name	Common Name	Chinese Name	Conservation Status	-	on- land	v	Vetlan	d
				UG	WL	MA	ww	WC
		N/A						

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse



5 DISCUSSION

Data analysis was carried out to compare with the biodiversity within the site boundary in the same month over years. General description of the ecological conditions is first revealed in terms of abundance as well as species richness, following by statistical analysis of the existing database. The result is considered as significant whenever the drop of diversity indexes exceeds the percentages mentioned in previous sections 2.2 and 2.3.

5.1

Total abundance and species richness in April over years were compared to show the trends. Figures 1 and 2 indicate the total species richness and total abundance within the site boundary respectively.

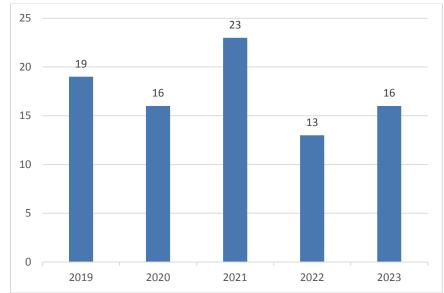


Figure 1: Bar chart showing the total species richness within site boundary from 2019 to 2023 (Actual quantity annotated at the top of each bar)

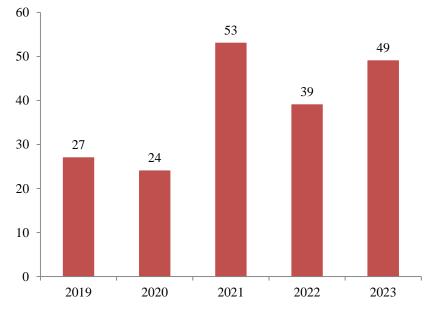


Figure 2: Bar chart showing the total abundance within site boundary from 2019 to 2023 (Actual quantity annotated at the top of each bar)

13

8

Bird

12



2019

2020

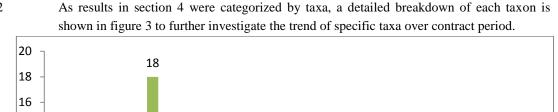
2021

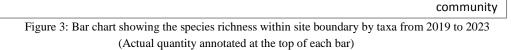
2022

2023

00000

Freshwater





2

Amphibian

0.0

Butterfly

Dragonfly

00000

Reptile

According to EM&A Manual, monitoring measures was determined by the species diversity of types of sensitive habitats, i.e. non-wetland and wetland habitats. Abundance and species richness by habitat type in April over years were compared in Figures 4 and 5.

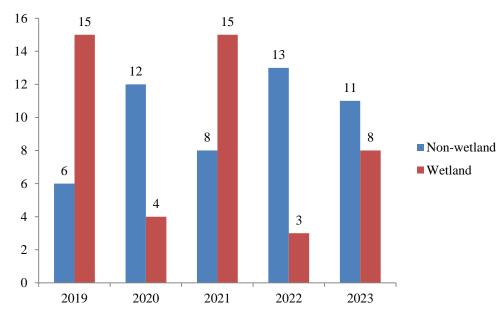


Figure 4: Bar chart showing the species richness based on habitat type from 2019 to 2023 (Actual quantity annotated at the top of each bar)

14

12

10

8

6

4

2

0

5.3

00000

Mammal

15



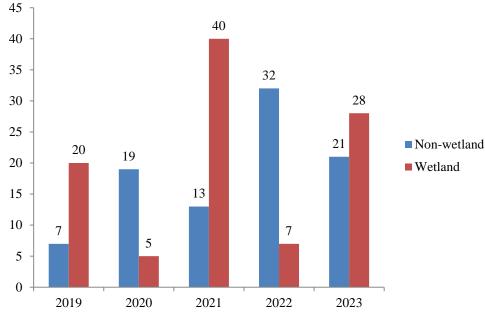


Figure 5: Bar chart showing the abundance based on habitat type from 2019 to 2023 (Actual quantity annotated at the top of each bar)

5.4

After analysing survey results in April from 2019 to 2023, the species richness and abundance for wetland habitat were unstable. A rapid rebound from 2022 was recorded recently. This could be benefited by some positive factors such as the major construction works were completed and most of the PME has been removed from site. Besides, compensation planting works have been conducted in early Jan 2023. Therefore, disturbance to fauna species from construction works have been largely minimised. In addition, woodland compensation and grassland reinstatement would be implemented in the second and third quarter of 2023. Hence, the habitat of fauna species would be gradually recovered and expectation of increase in the species richness and abundance for wetland habitat is high.

Yet, good site practice during construction, with reference to EM&A Manual, is still required to prevent or alleviate environmental impacts. Continuous monitoring is also recommended to inspect any changes in species diversity.



Appendix I – Transect Routes for Contract CV/2016/10

1 Man Kam To Boundary Control Point Shenzhen River Station Boundary of Contract 1 Survey Transect for Contract 1 **Fixed Point for** Contract 1



Ecological Survey Report for Contract CV/2017/02



Contract No. CV/2017/02 Development of Columbarium at Sandy Ridge Cemetery – Infrastructural Works at Man Kam To Road and Lin Ma Hang Road

Monthly Report of Ecologically Sensitive Habitats Monitoring – April 2023

Revision	0	
Date of issue	28 April 2023	
Prepared by	Alan Lam	未
Reviewed by	Rachel Siu	Ps.
Verified by	Mike Leung	N



Table of Contents

1	INTI	RODUCTION	4
	1.1	BACKGROUND	4
	1.2	OBJECTIVE	4
2	ECO	LOGICALLY SENSITIVE HABITATS	5
	2.1	DESCRIPTION OF HABITATS	5
	2.2	MONITORING MEASURES OF WETLAND HABITATS	6
	2.3	MONITORING MEASURES OF NON-WETLAND HABITATS	6
3	мет	THODOLOGY	7
	3.1	MAMMAL SURVEY	7
	3.2	BIRD SURVEY	7
	3.3	HERPETOFAUNA SURVEY	7
	3.4	DRAGONFLY SURVEY	7
	3.5	BUTTERFLY SURVEY	8
	3.6	AQUATIC FAUNA SURVEY	8
4	RES	ULT	9
5	DISC	CUSSION	13
Appen	dix I	– Transect Routes for Contract CV/2017/02	16



LIST OF TABLE	
Table 1	Action and Limit Levels and Responses to Evidence of Declines
	in Aquatic Fauna
Table 2	Action and Limit Levels and Responses to Evidence of Declines
	in Non-Aquatic Fauna
Table 3	Survey Schedule
Table 4	Result of mammal in survey
Table 5	Result of Avifauna in survey
Table 6	Result of reptile in survey
Table 7	Result of amphibian in survey
Table 8	Result of butterfly in survey
Table 9	Result of Odonate in survey
Table 10	Result of freshwater communities in survey

LIST OF APPENDIX			
Appendix I	Transect Routes for Contract CV/2017/02		

LIST OF FIGURE	<u>ES</u>
Figure 1	Bar chart showing the total species richness within site boundary
	from 2019 to 2023
Figure 2	Bar chart showing the total abundance within site boundary from
	2019 to 2023
Figure 3	Bar chart showing the species richness within site boundary by
	taxa from 2019 to 2023
Figure 4	Bar chart showing the species richness based on habitat type
	from 2019 to 2023
Figure 5	Bar chart showing the abundance based on habitat type from
	2019 to 2023



1 INTRODUCTION

1.1 <u>BACKGROUND</u>

- 1.1.1 The main objective of the proposed site formation and associated infrastructural works for development of columbarium, crematorium (C&C) and related facilities at Sandy Ridge Cemetery is to increase the public cremation services and supply of public niches to meet the future demand.
- 1.1.2 The project includes site formation and associated works for development of C&C facilities at the Sandy Ridge Cemetery, road works within Sandy Ridge Cemetery, widening a section of Lin Ma Hang Road (from 6.5m to 7.3m), provision of off-site pick-up/drop-off points for shuttle buses as well as barging point at Siu Lam, Lok On Pai.
- 1.1.3 The Environmental Impact Assessment (EIA) report, including Environmental Monitoring and Audit Manual (EM&A Manual), was approved with conditions on 8 August 2016 (Register No.: AEIAR-198/2016). EPD issued an Environmental Permit (EP) for the Project (EP-534/2017) on 7 April 2017, variation of EP (EP-534/2017/A) were issued on 24 December 2018.
- 1.1.4 According to Clause 3.1 of the EP (EP-534/2017/A), "The Permit Holder shall implement the EM&A programme in accordance with the procedures and requirements as set out in the EM&A Manual. Any changes to the programme shall be justified by the ET Leader and verified by the IEC as conforming to the information and requirements contained in the EM&A Manual before submission to the Director for approval".
- 1.1.5 This Ecologically Sensitive Habitats Monitoring Methodology articulates the protocol of monitoring the ecology of concerned habitats as specified in EM&A Manual.

1.2 <u>OBJECTIVE</u>

- 1.2.1 According to approved EIA report (AEIAR-198/2016), habitat types within project boundary comprise of watercourse, grassland, upland grassland, plantation, woodland and developed area. Natural habitats were of moderate ecological value in terms of species diversity, species rarity, species abundance, ecological linkage as well as nursery. Moreover, 0.3ha of wet woodland on the northern side of Sandy Ridge was deemed habitat with high ecological value. Four types of habitats were regarded as ecologically sensitive habitats, namely wet woodland, watercourses, upland grassland and woodland. Considering human disturbance in upcoming construction and operation phases, ecologically sensitive habitats shall be monitored in accordance with EM&A Manual.
- 1.2.2 The objective of ecologically sensitive habitats monitoring is to evaluate the effectiveness of measures to minimize impacts on concerned habitats from disturbance and pollution.



2 ECOLOGICALLY SENSITIVE HABITATS

2.1 DESCRIPTION OF HABITATS

2.1.1 In order to monitor the effectiveness of the measures to the minimise impact on ecologically sensitive habitats from disturbance and pollution, monthly monitoring during construction and operation phases is required as specified in EM&A Manual. Standard faunal transect and sampling surveys cover both wetland and non-wetland habitats:

Wetland habitats	Non-wetland habitats
Wet Woodland	Upland Grassland
Watercourses	Woodland

- 2.1.2 Wet woodland is small patch present on northwest of the project boundary, and is confined by the marsh area to the north and the secondary woodland to the east, south and south-west parts. A number of mature trees *Cleistocalyx nervosum* and *Acronychia pedunculata* form the tree canopy, with other self-sown shrubs (including *Psychotria asiatica, Ligustrum sinense* and *Glochidion lanceolarium*) and trees (*Aporosa dioica* and *Litsea monopetala*). Whilst botanically it comprises of naturally regenerated secondary woodland and ground level are a series of small braided streams and weep points which even during the dry season remain wet. This creates a rather uncommon habitat in Hong Kong offering suitable conditions for a good assemblage of common wetland species. The wet woodland provides a good assemblage of micro-habitats, which is relatively undisturbed and has good linkages to other natural habitats. Several species of conversation importance were recorded in EIA report from this habitat: East Asian Porcupine, Leopard Cat, Red Muntjac, Two-striped Grass Frog, Small Snakehead, *Somanniathelphusa zanklon*, Dancing Shadow-emerald.
- 2.1.3 Seasonal watercourse running west to east in the eastern part of the area inside the Project boundary is shallower in gradient than those running off the hillside. This seasonal watercourse is heavily vegetated with wetland-associated herbs including *Commelina diffusa*, *Polygonum chinense*, *Colocasia esculenta* and *Dracaena sanderiana*. A mature tree of *Aquilaria sinensis* was recorded at the bank of the seasonal watercourse to the west of the Sandy Ridge Cemetery Office. Seasonal watercourses are restricted to the steeper slopes within the project boundary and are characterised by being entirely dry for much of the dry season. However, endemic crab *S. zanklon* population is supported by ephemeral watercourses close to the project boundary.
- 2.1.4 Upland grassland is the major habitat within the project boundary. The semi-natural habitat is dominated by typical upland grassland species: fern *Dicranopteris pedata*, grass *Neyraudia reynaudiana*, *Miscanthus floridulus*, climbing vines *Smilax china*, *Smilax glabra*, and shrubs such as *Rhodomyrtus tomentosa*, *Breynia fruticosa* and *Helicteres angustifolia*. Approximately 30 flowering spikes of two orchid species Bamboo Orchid and Toothed Habenaria were recorded near the hill top in the northern part of this upland grassland. Golden-headed Cisticola, which is considered as Local Concern by Fellowes *et al.* (2002), was also recorded in upland grassland on Sandy Ridge, including a proved breeding record of fledged young in September 2013. In addition, numerous species of conservation interest were recorded in EIA report, such as East Asian Porcupine, Leopard Cat, Red Muntjac, Great Swift, Tamil Grass Dart, Small Three-ring and Small Grass Yellow.



2.1.5 Scattered patches of woodland are present throughout the assessment area, with the largest contiguous block located immediately to the east of the project boundary. These woodlands are relatively young with single-layered of canopy dominants (~10 – 15m tall) including *A. dioica, Bridelia tomentosa, Cinnamomum burmannii, Daphniphyllum calycinum, Litsea glutinosa, Rhus succedanea,* and *Zanthoxylum avicennae*. Such areas comprise secondary woodland which is largely derived from natural regeneration and colonisation of trees as a result of seed dispersal by birds and/or bats. A mature tree of *A. sinensis* is located at the woodland edge at the central part of the Project according to EIA report.

2.2 MONITORING MEASURES OF WETLAND HABITATS

- 2.2.1 Wetland habitats include wet woodland and watercourses. Monitoring surveys using standardised quantitative methodology will be conducted at fixed points. For seasonal watercourse, survey shall be conducted whenever the habitat appears.
- 2.2.2 Measures to respond to decreases in numbers of aquatic fauna using the wetland habitats and action and limit levels to trigger these measures are detailed in Table 1.

Action Level	Response	Limit Level	Response
Reduction in	Investigate cause and if	Reduction	Investigate cause and if
taxa diversity	cause identified as related	in taxa	cause identified as related
by 30%	to the project instigate	diversity	to the project instigate
	remedial action to remove	by 50%	remedial action.
	or reduce source of		
	disturbance.		

Table 1 Action and Limit Levels and Responses to Evidence of Declines in Aquatic Fauna

2.3 MONITORING MEASURES OF NON-WETLAND HABITATS

- 2.3.1 Non-wetland habitats consist of upland grassland and woodland. Monthly quantitative surveys of non-aquatic fauna will be conducted using standard route transect counts.
- 2.3.2 Measures to respond to decreases in numbers of non-aquatic fauna using the non-wetland habitats and action and limit levels to trigger these measures are detailed in Table 2.

Action Level	Response	Limit Level	Response
Reduction in	Investigate cause and if	Reduction	Investigate cause and if
species diversity	cause identified as related	in species	cause identified as related
by 30%	to the project instigate	diversity by	to the project instigate
	remedial action to remove	50%	remedial action.
	or reduce source of		
	disturbance.		

Table 2 Action and Limit Levels and Responses to Evidence of Declines in Non-Aquatic Fauna



3 METHODOLOGY

The ecological survey includes all taxa being investigated in EIA report. Table 3 summarizes schedule of faunal surveys.

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Mammals	\checkmark											
Birds (day)	\checkmark											
Birds (night)				\checkmark								
Herpetofauna				\checkmark								
Dragonflies			\checkmark									
Butterflies			\checkmark									
Aquatic fauna	\checkmark											

 Table 3 Survey Schedule

3.1 MAMMAL SURVEY

3.1.1 Mammal surveys will be conducted along the transects shown in Appendix 1 during both daytime and night time periods. Along with direct observations, other field signs, such as scats and tracks, will be searched and recorded if present.

3.2 BIRD SURVEY

3.2.1 Bird surveys will be conducted along the transects shown in Appendix 1 during the surveys, species and their vocalizing individuals recorded will be enumerated and recorded according to the habitat(s) they are utilising.

3.3 HERPETOFAUNA SURVEY

3.3.1 Reptile and amphibian surveys will be conducted along transects shown in Appendix 1 during surveys careful searches of appropriate microhabitats and refugia for reptiles and their vocalizing individuals will be undertaken and all reptiles observed will be identified and counted.

3.4 DRAGONFLY SURVEY

3.4.1 Dragonfly surveys will be conducted along transects shown in Appendix 1 during surveys all dragonflies seen will be identified and counted as accurately as possible.



3.5 BUTTERFLY SURVEY

3.5.1 Butterfly surveys will be conducted along transects shown in Appendix 1 during surveys all butterflies seen will be identified and counted as accurately as possible.

3.6 AQUATIC FAUNA SURVEY

3.6.1 Freshwater fishes and macro-invertebrates will be recorded by direct observation. All species trapped/recorded will be enumerated and identified (to the lowest taxonomic level possible), and the species of conservation importance photographed.



4 RESULT

This monitoring survey started on 11th April 2023, a sunny day. The day and night survey covered wetland and non-wetland areas. The survey was conducted by transect and at fixed point. All species seen would be identified and counted as accurately as possible.

Mammal

There was no mammal recorded in the monitoring area.

Bird

There were total of 7 bird individuals from 4 species recorded in the monitoring area. No Golden-headed Cisticola was observed during the bird survey.

Herpetofauna

There was no reptile recorded in the monitoring area. There was no amphibian recorded in the monitoring area.

■ Butterfly

There were total of 3 butterfly individuals from 2 species recorded in the monitoring area.

Dragonfly

There were a total of 2 dragonfly individuals from 1 species recorded in the monitoring area.

Freshwater communities

There were 2 species of freshwater fish recorded in the monitoring area.



Picture 1 Watercourse in monitoring area.



Picture 2

Watercourse in monitoring area.





Table 4Result of mammal in survey

Scientific Name	Common Name		Conservation Status	11/4/2023					
				UG	WL	MA	ww	WC	
		N/A							

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

Table 5Result of Avifauna in survey

Scientific Name	Common Name			11/4/2023					
				UG	WL	MA	ww	WC	
Amaurornis phoenicurus	White-breasted Waterhen	白胸苦惡鳥				2			
Pycnonotus jocosus	Red-whiskered Bulbul	紅耳鵯					2		
Prinia flaviventris	Yellow-bellied Prinia	黃腹鷦鶯		1					
Orthotomus sutorius	Common Tailorbird	長尾縫葉鶯		2					

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

Table 6Result of reptile in survey

Scientific Name	Common Name		Conservation Status	11/4/2023					
			~ ~ ~ ~ ~ ~ ~	UG	WL	MA	ww	WC	
		N/A							

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

Table 7Result of amphibian in survey

Scientific Name	Common Name	nmon Name	Conservation Status	11/4/2023					
				UG	WL	MA	ww	WC	
		N/A							

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

+ Species appeared but uncountable



Table 8Result of butterfly in survey

Scientific Name	ime Common Name		Conservatio n Status	11/4/2023					
				UG	WL	MA	ww	WC	
Papilio polytes	Common Mormon	玉帶鳳蝶		1					
Pieris canidia	Indian Cabbage White	東方菜粉蝶		2					

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

Table 9Result of Odonate in survey

Scientific Name	Common Name		Conservation Status	11/4/2023					
				UG	WL	MA	WW	WC	
Pantala flavescens	Wandering Glider	黃蜻				2			

*UG: Upland Grassland | WL: Woodland | MA: Marsh | WW: Wet Woodland | WC: Watercourse

Table 10Result of freshwater communities in survey

Scientific Name	Name Common Name		Conservatio n Status	11/4/2023					
	rune			UG	WL	MA	ww	WC	
Gambusia affinis	Mosquito fish	食蚊魚						+	
Puntius semifasciolatus	Chinese Barb	五線無鬚鮑						+	

 $* UG: Upland \ Grassland \ | \ WL: \ Woodland \ | \ MA: \ Marsh \ | \ WW: \ Wet \ Woodland \ | \ WC: \ Watercourse$

+ Species appeared but uncountable



5 DISCUSSION

Data analysis was carried out to compare with the biodiversity within the site boundary in the same month over years. General description of the ecological conditions is first revealed in terms of abundance as well as species richness, following by statistical analysis of the existing database. The result is considered as significant whenever the drop of diversity indexes exceeds the percentages mentioned in previous sections 2.2 and 2.3.

5.1

Total abundance and species richness in April over years were compared to show the trends. Figures 1 and 2 indicate total species richness and total abundance within the site boundary respectively.

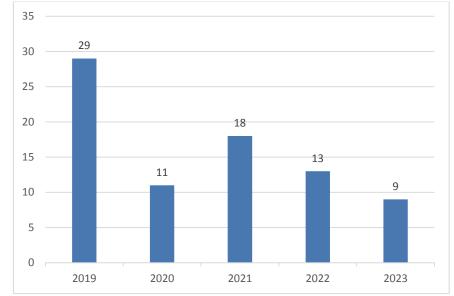


Figure 1: Bar chart showing the total species richness within site boundary from 2019 to 2023 (Actual quantity annotated at the top of each bar)

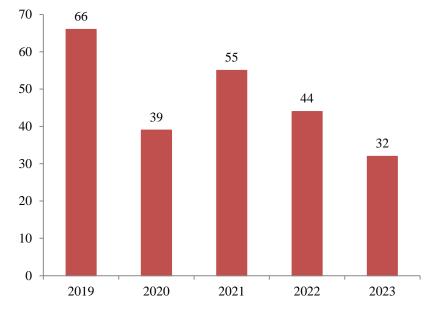
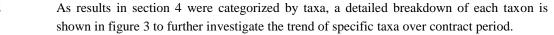


Figure 2: Bar chart showing the total abundance within site boundary from 2019 to 2023 (Actual quantity annotated at the top of each bar)





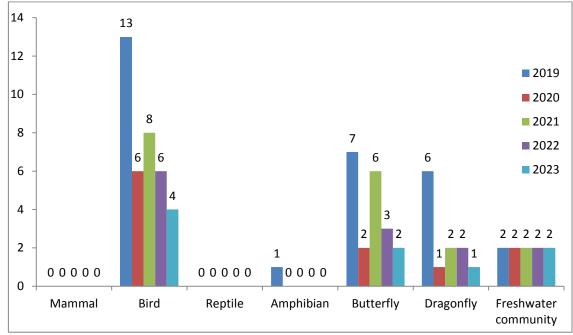


Figure 3: Bar chart showing the species richness within site boundary by taxa from 2019 to 2023 (Actual quantity annotated at the top of each bar)

5.3 According to EM&A Manual, monitoring measures was determined by the species diversity of types of sensitive habitats, i.e. non-wetland and wetland habitats. Abundance and species richness by habitat type in April over years were compared in figures 4 and 5.

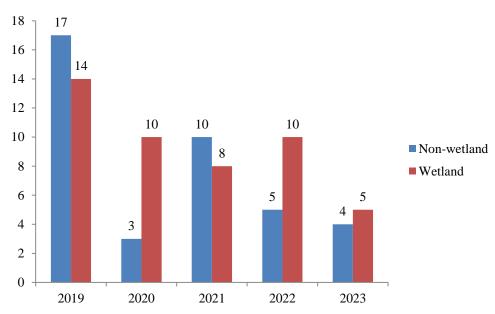
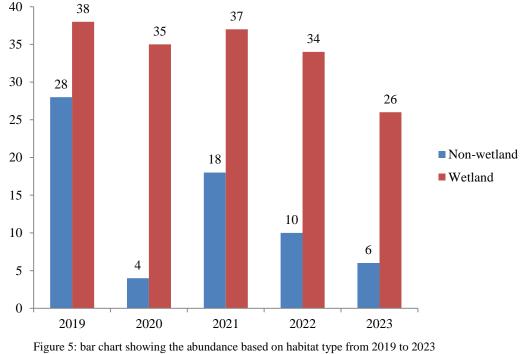


Figure 4: bar chart showing the species richness based on habitat type from 2019 to 2023 (Actual quantity annotated at the top of each bar)





(Actual quantity annotated at the top of each bar)

5.4

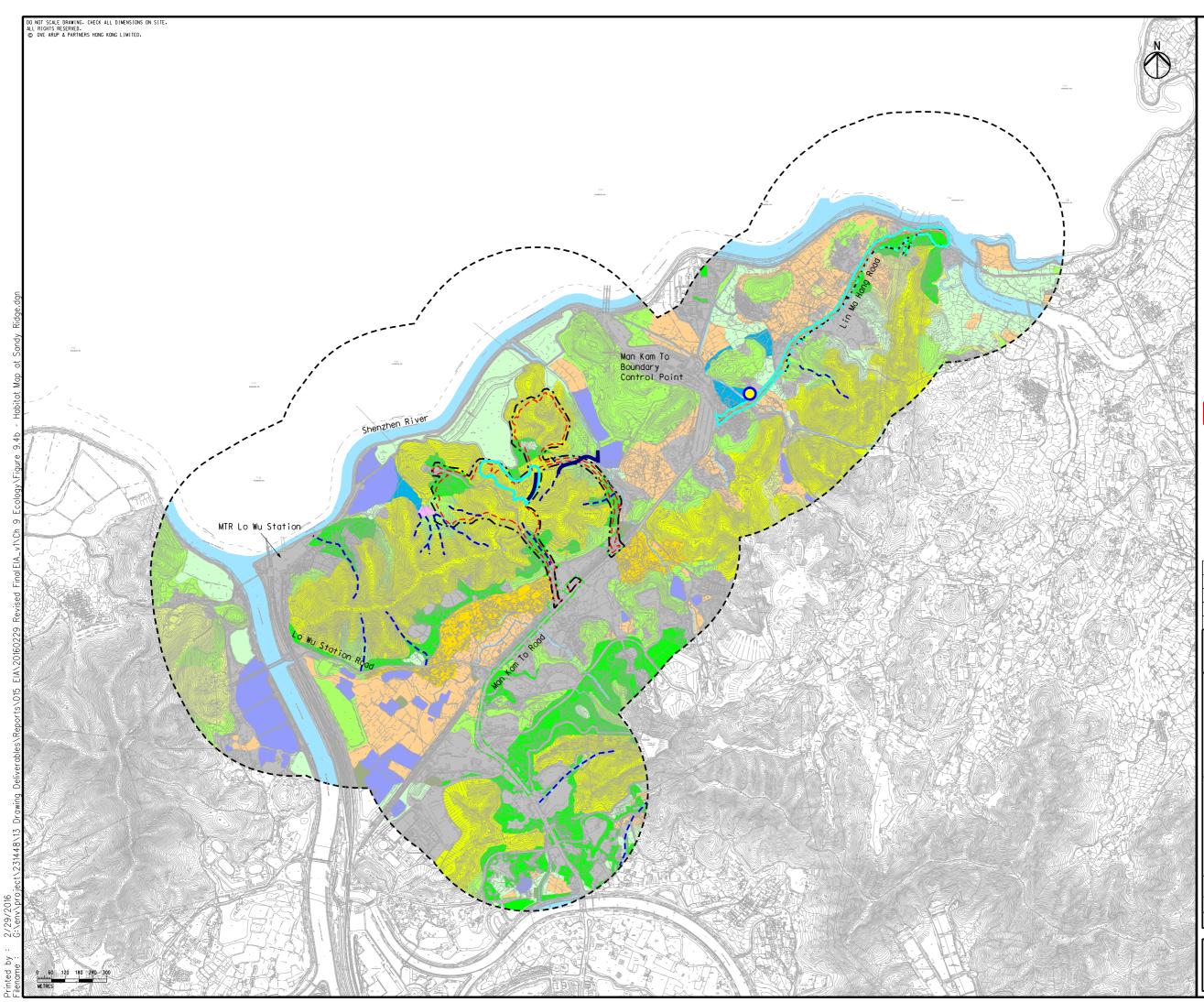
After analysing survey results in April from 2019 to 2023, there was approximate 30% decrease in species richness and abundance for wetland and non-wetland habitats in April 2023 when comparing to the April of 2022. Since Action Level of respond Measures have been triggered, investigation of cause for decrease was conducted and according to the on-site observation, there are new built workshops by others situated on both sides of Lin Ma Hang Road so the disturbance to fauna species from construction works could be increased. Due to the cause identified was not related to this project remedial action to remove or reduce source of disturbance is limited.

Nevertheless, the situation could be benefited by some positive factors such as the major construction works in this contract were completed and most of the PME has been removed from site. Besides, compensation planting works have been conducted in early Jan 2023. Therefore, disturbance to fauna species from construction works have been largely minimized internally. In addition, woodland compensation and grassland reinstatement would be implemented in the second and third quarter of 2023. Hence, the habitat of fauna species would be gradually recovered and expectation of increase in the species richness and abundance for wetland habitat is high.

Still, a good site practice during construction, with reference to EM&A Manual, is required to prevent or alleviate environmental impacts. For instance, the size of work areas should be minimized and disturbed areas should be reinstated immediately after completion of construction works. In addition, implementing proper waste disposal is necessary to reduce contamination to water and soil. Continuous monitoring is also recommended to inspect any significant decrease in species diversity.



Appendix I – Transect Routes for Contract CV/2017/02



egeno	ť
::2	Project Boundary
	Utilities Construction
111	Sandy Ridge Works Area
11	Lin Ma Hang Road Works Area
	500m Assessment Area
	Watercourse
	Seasonal Watercourse
	Pond
	Developed Area
	Agricultural Land
	Marsh
	Wasteland
	Grassland
	Upland Grassland
	Shrubland
	Plantation
	Woodland
	Wet Woodland
	Village Area
_	Site boundary of Contract 2
	Survey Transect for Contract 2
0	Fixed Point for Contract 2

G	SEVENTH ISSUE	GL	02/16	
F	SIXTH ISSUE	GL	01/16	
Ε	FIFTH ISSUE	GL	12/15	
D	FOURTH ISSUE	GL	10/15	
Rev	Description	By	Date	
Consultant				

ARUP

Contract No. and Title:

Agreement No. CE 1/2013(CE)

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery - Design and Construction

Drawing tit

Habitat	Мар	at	Sandy	Ridge			
Drowing no. Figure 9.4b							
	ate 2/16	E	hecked L	Approved ST			
Scole AS SHOWN			Stotus PREL IMINARY				
COPYRIGHT RESERVED							



Appendix L

Landscape & Visual Inspection Checklist



Contract No. CV/2016/10

Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery Landscape and Visual Impact Assessment Checklist for Site Audit

Item	Mitigation Measures	Implementation			Actions/ Remarks
		Yes		N/A	
1	Landscape and Visual	1			1
1.1	Is the construction period become shortened?			\checkmark	Under review.
1.2	Is the work site confined within site boundaries and without encroaching into the landscape resources offsite?	~			
1.3	Is the site kept clean and tidy (E.g. storage of materials, location and appearance of site accommodation being well positioned)	~			
1.4	Is the construction site screened properly by hoardings or noise barriers in visually unobstructed colours?	~			
1.5	Is the erosion and dust control for exposed soil well performed during excavation work? (E.g. Exposed soil shall be covered or "camouflaged" and watered frequently. Areas that are expected to be left with bare soil for a long period of time should be hydro seeded and / or covered with suitable protective fabrics.)	~			
1.6	Are the woodland, plantation and other vegetation being protected and preserved in accordance with DEVB TC(W) No. 07/2015(E.g. Set up Tree Protection Zone)?	~			
1.7	Are the trees which are in direct conflict with the development proposal being transplanted as far as practical in accordance with and DEVB TC(W) No. 07/2015?	~			
1.8	Are compensatory planting for trees being provided to compensate the trees felled in accordance with DEVB TC(W) No. 07/2015?			~	Tree planting works have not yet been commenced.
1.9	Are precautionary control measures to protect natural streams and rivers from adverse impact being implemented in accordance with ETWWB TCW No. 5/2005? (E.g. Construction debris and spoil should be covered up and properly disposed)	~			
1.10	Is light and glare control such as hooding being implemented during construction and operation to minimize light pollution and night time glare? (E.g. All security floodlights for construction sites should be equipped with adjustable shield, frosted diffusers and reflective covers)	~			

Summary / Remarks:



Follow up actions taken by Contractor for previous comments:

N/A

New observation:

N/A

Reminders:

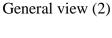
- 1. Contractor is reminded to set up TPZ of proper size and with appropriate material around retain trees according to approved method statement.
- 2. Contractor is reminded to prevent the construction material pile within TPZ and ensure no works is allowed within the TPZ.
- 3. Transplanted trees T2465 and T2928 were in fair health condition with normal foliage color and density. Contractor is reminded to provide proper maintenance according to approved method statement.

Photo Record:

Fig B.



General view (1)





General view (3)

General view (4)





Transplanted tree (T-2465)



Transplanted tree (T-2928)

Summary / Remarks:



Follow up actions taken by Contractor for previous comments:

N/A

New Observation:

N/A

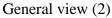
Reminders:

1. Contractor is reminded to set up TPZ of proper size and with appropriate material around retain trees according to approved method statement. Contractor should prevent any construction material pile within TPZ and ensure no works is allowed within the TPZ.

Photo Record:



General view (1)





General view (3)

General view (4)



Contract No. CV/2017/02 Site Formation and Associated Infrastructural Works for Development of Columbarium, Crematorium and Related Facilities at Sandy Ridge Cemetery Development of Columbarium at Sandy Ridge Cemetery – Infrastructural Works at Man Kam To Road and Lin Ma Hang Road Landscape and Visual Impact Assessment Checklist for Site Audit

Date/ Time: 28/04/2023 16:30 Weather: Fine/ Overcast/ Rain/ Windy

Item	Mitigation Measures	Implementation			Actions/ Remarks
		Yes	No	N/A	_
1	Landscape and Visual	1			
1.1	Is the construction period become shortened?			\checkmark	Under review
1.2	Is the work site confined within site boundaries and without encroaching into the landscape resources offsite?	~			
1.3	Is the site kept clean and tidy (E.g. storage of materials, location and appearance of site accommodation being well positioned)	~			
1.4	Is the construction site screened properly by hoardings or noise barriers in visually unobstructed colours?	~			
1.5	Is the erosion and dust control for exposed soil well performed during excavation work? (E.g. Exposed soil shall be covered or "camouflaged" and watered frequently. Areas that are expected to be left with bare soil for a long period of time should be hydro seeded and / or covered with suitable protective fabrics.)	~			
1.6	Are the woodland, plantation and other vegetation being protected and preserved in accordance with DEVB TC(W) No. 07/2015(E.g. Set up Tree Protection Zone)?	~			
1.7	Are the trees which are in direct conflict with the development proposal being transplanted as far as practical in accordance with and DEVB TC(W) No. 07/2015?			~	
1.8	Are compensatory planting for trees being provided to compensate the trees felled in accordance with DEVB TC(W) No. 07/2015?			~	
1.9	Are precautionary control measures to protect natural streams and rivers from adverse impact being implemented in accordance with ETWWB TCW No. 5/2005? (E.g. Construction debris and spoil should be covered up and properly disposed)			~	
1.10	Is light and glare control such as hooding being implemented during construction and operation to minimize light pollution and night time glare? (E.g. All security floodlights for construction sites should be equipped with adjustable shield, frosted diffusers and reflective covers)			~	



Signature:

		Signatifie Signatifie Signatifie LAR SHU, Yau	Bun Ess
Recorded by	Registered Landscape Architect	SHIU, Yau million SHUU, Yau	2 192 May 2023
Checked by	Environmental Team Leader	Am	10 May 2023
Checked by	Independent Environmental Checker	h	13 May 2023



Appendix M

Monthly Summary Waste Flow Table

Monthly Summary Waste Flow Table for 2023

 Department:
 Civil Engineering and Development Department
 Contract No.:
 CV/2016/10

 Contract Title:
 Site Formation and Assoicated Infrastructural Works for Development of Columbarium at Sandy Ridge Cemetery

 Commencement Date:
 15-Dec-2017
 Estimated completion Date
 22-Dec-2023
 Estimated Contract Sum:
 780M

		Actual Quantitie	s of Inert C&D N	faterials Generated	l Monthly			Actual Quantities	s of C&D Wastes	Generated Monthly	7
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000 kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
Jan	0.360	0.000	0.000	0.000	0.340	0.000	0.000	0.000	0.000	0.000	0.020
Feb	0.290	0.000	0.000	0.000	0.300	0.000	0.000	0.000	0.000	0.000	0.015
Mar	0.172	0.000	0.000	0.000	0.157	0.000	0.000	0.000	0.000	0.000	0.015
Apr	0.135	0.000	0.000	0.000	0.120	0.000	0.000	0.000	0.000	0.000	0.010
May											
June											
Sub-total	0.957	0.000	0.000	0.000	0.917	0.000	0.000	0.000	0.000	0.000	0.060
July											
Aug											
Sept											
Oct											
Nov											
Dec											
Total	0.957	0.000	0.000	0.000	0.917	0.000	0.000	0.000	0.000	0.000	0.060

Notes: (1) The waste flow table should cover the whole construction period of the Contract.

(2) The original estimates of the C&D materials should be the estimates at contract commencement and should not be altered during construction.

(3) Inert C&D materials that are specified in the Contract to be imported for use at the Site shall be separately indicated.

(4) The yearly estimates of the C&D materials should be updated as appropriate taking into account the latest works programme etc.

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

(6) Broken concrete for recycling into aggregates.

Name of Department: CEDD

	А	ctual Quantities	of Inert C&D N	Aterials Gener	ated Monthly	y	Actual Q	uantities of C	C&D Wastes	Generated	Monthly
Month	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard packaging	Plastics	Chemical Waste	Others, e.g. general refuse
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in Litre)	(in '000kg)
JAN	191.800	0.000	0.000	0.000	191.800	0.000	0.000	0.000	0.000	0.000	5.800
FEB	356.600	0.000	0.000	0.000	356.600	0.000	0.000	0.000	0.000	0.000	9.600
MAR	352.230	0.000	0.000	0.000	352.230	0.000	0.000	0.000	0.000	0.000	4.640
APRIL	87.490	0.000	0.000	0.000	87.490	0.000	0.000	0.000	0.000	0.000	2.090
MAY											
JUN											
Sub Total	988.120	0.000	0.000	0.000	988.120	0.000	0.000	0.000	0.000	0.000	22.130
JUL											
AUG											
SEP											
OCT											
NOV											
DEC											
Total	988.120	0.000	0.000	0.000	988.120	0.000	0.000	0.000	0.000	0.000	22.130

Monthly Summary Waste Flow Table for 2023

Notes: * estimated quantity (pending from EPD NENT (soil) to update the actual quantity)

Name of Department: CEDD

	Fore	cast of Total Qu	antities of C&	D Materials	to be Generat	ed from the	Contract (see	e Note 4)		
Total Quantity Generated	Hard Rocks and Large Broken Concrete	Reused in the Contract	Reused in Other Projects	Disposed as Public Fill	Imported Fill	Metal	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste	Others, e.g. general refuse
(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000m ³)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m ³)
0	0	0	0	0	0	0	0	0	1	0

Notes:

(1) The performance targets are given in PS clause 6(14) above.

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

(3) Plastic 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

- Hard Rocks and Large Broken Concrete = Cannot be defined at this stage
- Imported Fill = Estimated by the Contractor
- Metal = Estimated by the Contractor
- Paper/cardboard packaging = Estimated by the Contractor
- Plastics = Estimated by the Contractor

- Chemical Waste = Estimated by the Contractor (Spent lubricating oil, assume density 0.9kg/L)

- Other, e.g. general refuse = Estimated by the Contractor



Appendix N

Complaint Log



h			Complaint Log I	or contract	1	
Log ref.	Date of complaint	Complaint route	Reference no.	Complaint nature	Investigation fining	Status
1	15-Apr-21	EPD	EPD Ref.: EP3/N07/RN/8770-21	Air Quality	Non-project related	Interim IR was submitted to EPD on 22 April 2021 and included in EM&A Report – Apr 2021
2	11-Feb-22	EPD	EPD Ref.: EP3/N07/RN/03921-22	Noise	Non-project related	Interim IR was submitted to EPD on 25 Feb 2022 and included in EM&A Report – Feb 2021

Complaint Log for Contract 1

Complaint Log for Contract 2

Log ref.	Date of complaint	Complaint route	Reference no.		Investigation fining	Status
1	4-Sep-20	EPD	EPD Ref.: EP/RN/419300	Water quality	Non-project related	Interim IR was submitted to EPD on 14 Sep 2020 and included in EM&A Report – Sep 2020
2	15-Apr-21	EPD	EPD Ref.: EP3/N07/RN/8770-21	Air Quality	Non-project related	Interim IR was submitted to EPD on 22 April 2021 and Included in EM&A Report – Apr 2020
3	11-Feb-22	EPD	EPD Ref.: EP3/N07/RN/03921-22	Noise	Non-project related	Interim IR was submitted to EPD on 25 Feb 2022 and included in EM&A Report – Feb 2021
4	14-July-22	EPD	EPD Ref.: N07/RN/00014141-22	Soil/muddy water	Non-project related	Interim IR was submitted to EPD on 19 Aug 2022 and included in EM&A Report – Aug 2022
5	23-9-22	EPD	EPD Ref.: N07/RN/00020415-22	Air Quality	Non-project related	Interim IR was submitted to EPD on 30 Sep 2022 and included in EM&A Report – Sep 2022



Appendix O

Implementation Schedule for Environmental Mitigation Measures

	Environmental Mitigation Implementation Schedule	on Implementatior	Т	Sandy Ridge			
EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Mcasures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
Common A	Common Mitigation Measures (Applicable to ALL Project Components, including DPs and Non-DPS)	(Sa					
Constructic	Construction Dust Impact						
S4.4.5.2	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	Minimise dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	APCO To control the dust impact to meet HKAQO and TM-EIAO criteria	Implemented.
S4.4.5.3	Water spraying every hour for all active works area.	Minimise dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction phase	APCO APCO To control the dust impact to meet HKAQO and TM-EIAO criteria	Implemented. *2 nos. of water truck were running on haul road for sufficient water spraying
	 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 wetted with water and cleared from the surface of roads; A stockpile of dusty material should not be extended beyond the pedestrian barriers, fencing or traffic cones; The load of dusty materials on a vehicle leaving a construction site should be covered entirely by impervious sheeting to ensure that the dusty materials do not leak from the vehicle; Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels; 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. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction period; The portion of any road leading only to construction 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 	at the nearby sensitive receivers		construction sites	phase	• To control the dust impact to meet HKAQO and TM-EIAO criteria	Implemented Implemented Implemented Implemented Implemented Implemented
	 a dust suppression chemical continuously; Any area that involves demolition activities should be sprayed with water or a 						

EIA Ref.	Recommended Mitigation Measures	Objectives of the	Implementation	Location /	Implementation	Requirements	Implementation
		Recommended Measures & Main Concerns to address	Agent	Timing	Stage	and / or standards to be achieved	status and remark*
	dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet;						Implemented
	 Any skip hoist for material transport should be totally enclosed by impervious sheeting; 						Implemented
	• 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;						Implemented
	• Loading, unloading, transfer, handling or storage of bulk cement or dry PFA						
	should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution						Implemented
	control system;						
	Exposed earth should be properly treated by compaction, 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						Implemented
	the construction site or part of the construction site where the exposed earth lies.						
S4.4.5.1	Implement regular dust monitoring under $EM\&A$ programme during the construction	Monitoring of dust	Contractor	Selected	Construction	• TM-EIAO	Implemented.
	stage.	impact		representative	phase		3 dust
				dust			monitoring
				monitoring			stations were Implemented
S4.4.5.3	 All road surface within the barging facilities will be paved. 	Minimise dust impact	Contractor	Barging point	Construction	• TM-EIAO	No Applicable.
	 Dust enclosures will be provided for the loading ramp, installation of 3- sided 	at the nearby sensitive		at Siu Lam	phase		* Barging point
	screen with top cover and the provision of water sprays at the discharge point	receivers					at Siu Lam is not in
	would be provided.						used.
	 Vehicles will be required to pass through designated wheel wash facilities. 						
	 Continuous water spray at the loading point. 						
Construction Noise							
<i>с.с.с.</i> сс	 Implement the following good site management practices: only well-maintained plant should be operated on-site and plant should be 	Control construction noise	Contractor	All construction	Construction phase	• Annex 3, 1M-EIAO	Implemented
	serviced regularly during the construction programme;			sites	4		4
	 machines and plant (such as trucks, cranes) that may be in intermittent use should 						Implemented
	be shut down between work periods or should be throttled down to a minimum;						
	 plant known to emit noise strongly in one direction, where possible, be orientated 						Implemented
	so that the noise is directed away from nearby NSRs;						
	 silencers or mufflers on construction equipment should be properly fitted and 						Implemented
	maintained during the construction works;						
	 mobile plant should be sited as far away from NSRs as possible and practicable; 						Implemented
	 material stockpiles, mobile container site office and other structures should be effectively utilised where macricable to screen noise from onsite construction 						Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
	activities.						
S5.5.5	Adopt quiet plants during the construction of viaduct, widening of Sha Ling Road, construction of platform for crematorium and widening of Lin Ma Hang Road. The quiet plants should be made reference to the PME listed in the TM or the QPME/ other commonly used PME listed in EPD web pages or taken from BS5228: Part 1: 2009 Noise Control on Construction and Open Sites as far as possible.	Reduce the noise levels of plant items	Contractor	Works area for construction of viaduct, widening of Sha Ling Road, construction of platform for crematorium and widening of Lin Ma Hang Road	Construction phase	• Amex 5, TM-EIAO	Implemented * Quiet plants were in used.
S5.5.5.6	Install temporary noise barriers (in the form of site hoardings, approx. 2.4m 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 noise levels at low-level zone of NSRs through partial screening.	Contractor	All construction sites where practicable	Construction phase	Annex 5, TM-EIAO	Implemented where necessary. * Temporary noise barriers are not practicable due to site constraint.
\$5.5.5.7 - \$5.5.5.12	Install movable noise barriers (typical design is wooden framed barrier with a small-cantilevered upper portion of superficial density no less than $7kg/m2$ on a skid footing with $25mm$ thick internal sound absorptive lining), acoustic mat or full enclosure, screen the noisy plants including air compressors, generators etc.	Screen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction phase	Annex 5, TM-EIAO	Implemented where necessary. * Movable noise barriers are not practicable due to site constraint.
S5.5.5.13	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction noise	Contractor	All construction sites where practicable	Construction phase	Amex 5, TM-EIAO	Implemented

Neuronest Main Agen Long Monitor the contractor Selected Construction construction noise nonitoring phase levels at the selected construction noise nonitoring locations contractor Selected Construction locations noise from representative phase noise from Figures of the Project for road traffic 5.6.13 representative noise from S.6.9 - ceisting	EIA Ref.	Recommended Mitigation Measures	Objectives of the	Implementation	Location /	Implementation Store	Requirements	Implementation
Informed to a first of indication under EN&A programme. Montion Contraction Contraction Addret Abord Traffic Noted Addret Abord Traffic Noted Exected Exected <th></th> <th></th> <th>Measures & Main Concerns to address</th> <th>Agent</th> <th>20</th> <th>0 0 0</th> <th>anu / or stanuarus to be achieved</th> <th></th>			Measures & Main Concerns to address	Agent	20	0 0 0	anu / or stanuarus to be achieved	
Provide a series of noise miligition measures including absorptive noise burries and here noise consist and might measures including absorptive noise burries and before operation of the proposed project for existing and pland typestentiate to before operation of the proposed project for existing and pland typestentiate by the project for the project for the moise of noise miligition measures are stard as following: Locations of noise miligition measures are stard as following: Each contractor Refer to 5.6.3 Prior to operation of the EIA proposed project for existing and NMD; A prov. 1.2 mo (noise miligition measures are stard as following: Read (AMD); A prov. 2.1 mo (noise) milition for a proper at a long Sha Ling Read (AMD); S (A) = existing and (AMD); Proper the Properation of the project for existing and (AMD); Proper the Properation of Properation of Properation of Properation of the project food mean Sha Ling Read (AMD); Proper the Properation of Properation of Proprot and Ling (AMM);	S13.2.1.1 - S13.4.1.2	Implement a noise monitoring under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected representative noise monitoring station	Construction phase	TM-EIAO	Implemented. * 4 noise monitoring stations were Implemented.
Provide a series of noise miligation measures including absorptive noise burners Reduce operation Provide a series of noise miligation measures including absorptive noise burner Provide a series of noise miligation measures are stated as following: Provide a series of molecular and such and solar ling keed Provide a series of molecular and such and solar ling keed Provide a series of molecular and solar ling keed Provide a series of molecular and solar ling keed Provide a series of molecular and solar ling keed Provide a series of molecular and solar ling keed Provide a series and solar ling keed Provide a series S stating a series of molecular and solar ling keed Provide a series S stating a series of molecular and solar ling keed Provide a series S stating a series of molecular and solar ling keed Provide a series S stating a series Provide a series S stating a series S statin series S stating a series	Operation	al Noise (Road Traffic Noise)						
road traffic 5.69 - existing 5.613 representative of the EIA NSRs. While Report planned representative NSRs, it shou constructed planned representative NSRs.	S5.6.6.4	Provide a series of noise mitigation measures including absorptive noise barriers and low noise road surfacing materials along Lin Ma Hang Road and Sha Ling Road	Reduce operation noise from	Contractor	Refer to Figures	Prior to operation of the Project for	• TM-EIAO	Shall be implemented Prior
S.6.13 representative level along Sha Ling of the EIA NSRs. While level along Sha Ling Report barriers to protiplanted representative NSRs, it shot constructed vel along Project Road Project Road representative vel along Project Road NSRs, it shot NSRs, it shot vel along Project Road Project Road representative vel along Lin Ma Hang NSRs. NSRs.		before operation of the proposed project for existing and planned representative NSRs.	road traffic		5.6.9 -	existing		0
oilse barrier 2.5m above road level along Sha Ling of the EIA NRRs. While oilse barrier 2.5m above road level along Sha Ling noise barrier 2.5m above road level along Sha Ling barriers to prot oilse barrier 2.5m above road level along Sha Ling noise barrier 2.5m above road level along Project Road barriers to prot oilse barrier 3.m above road level along Project Road noise barrier 3m above road level along Lin Ma Hang NSRs, it shot oilse barrier 4m above road level along Lin Ma Hang NSRs, it shot NSRs, it shot oilse barrier 4m above road level along Lin Ma Hang NSRs, it shot NSRs, it shot oilse barrier 4m above road level along Lin Ma Hang NSRs, it shot NSRs, it shot oilse barrier 4m above road level along Lin Ma Hang NSRs, it shot NSRs, it shot oilse barrier 4m above road level along Lin Ma Hang NSRs, it shot NSRs, it shot f(f) NSR NSR NSRs, it shot f(f) NOIS NSR NSRs, it shot f(f) NSR NSR NSRs, it shot f(f) NOIS NSR NSR f(f) NOIS NSR N		Locations of noise mitigation measures are stated as following:			5.6.13			Project.
Approx. 12m of absorptive noise barrier 2.5m above road level along Sha Ling keport Road (MM1); Approx. 20m of absorptive noise barrier 2.5m above road level along Sha Ling keport Approx. 20m of absorptive noise barrier 2.5m above road level along Sha Ling keport keport Approx. 21m of absorptive noise barrier 7.5m above road level along Project Road keport keport Approx. 25m of absorptive noise barrier 7m above road level along Project Road keport keport Approx. 25m of absorptive noise barrier 7m above road level along Lin Ma Hang keport keport Approx. 25m of absorptive noise barrier 4m above road level along Lin Ma Hang keport keport Approx. 25m of absorptive noise barrier 4m above road level along Lin Ma Hang keport keport Road near San Uk Ling (MM6); Approx. 14m of absorptive noise barrier 4m above road level along Lin Ma Hang keport Road near San Uk Ling (MM6); Approx. 14m of absorptive noise barrier 4m above road level along Lin Ma Hang kead near San Uk Ling (MM7); Approx. 14m of absorptive noise barrier 4m above road level along Lin Ma Hang kead near San Uk Ling (MM7); Approx. 15m of absorptive noise barrier 4m above road level along Lin Ma Hang Road near San Uk Ling (MM7); Approx. 18m of absorptive noise barrier 4m above road level along temporary kead near San Uk Ling		For existing representative NSRs			of the EIA	NSRs. While for		
la l					Keport	barriers to protect planned		
bove road level along Project Road bove road level along Project Road bove road level along Lin Ma Hang bove road level along Lin Ma Hang		• Approx. 92m of absorptive noise barrier 2.5m above road level along Sha Ling				representative		
bove road level along Project Road bove road level along Lin Ma Hang bove road level along Lin Ma Hang		Road (MM2);				NSRs, it should		
bove road level along Project Road bove road level along Lin Ma Hang bove road level along Lin Ma Hang		Approx. 28m of absorptive noise barrier 3m above road level along Project Road				cted		
bove road level along Lin Ma Hang bove road level along Lin Ma Hang		near Sha Ling Road (MM3);				intake		
bove road level along Lin Ma Hang bove road level along Lin Ma Hang is along Lin Ma Hang bove road level along Lin Ma Hang		 Approx. 51m of absorptive noise barrier 3m above road level along Project Road near Sha Ling Road (MM4); 				planned representative		
 Read near San Uk Ling (MM5); Approx. 21 mo f absorptive noise barrier 4m above road level along Lin Ma Hang Road near San Uk Ling (MM6); Approx. 14 mo f absorptive noise barrier 4m above road level along Lin Ma Hang Road near San Uk Ling (MM7); Approx. 18 m of absorptive noise barrier 4m above road level along Lin Ma Hang Road near San Uk Ling (MM8); Approx. 18 m of absorptive noise barrier 3m above road level along Lin Ma Hang Road near San Uk Ling (MM8); Approx. 18 m of absorptive noise barrier 3m above road level along Lin Ma Hang Road near San Uk Ling (MM9); Approx. 32 m of absorptive noise barrier 3m above road level along Lin Ma Hang Road near San Uk Ling (MM10); Approx. 18 m of now noise surfacing materials along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36 m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near San Uk Ling (MM11); Approx. 36 m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near San Uk Ling (M11); Approx. 36 m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near San Uk Ling (M11); Approx. 36 m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near San Uk Ling (M11); Approx. 36 m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near San Uk Ling (M11); 		• Approx. 25m of absorptive noise barrier 4m above road level along Lin Ma Hang				NSRs.		
 Approx. 21m of absorptive noise barrier 4m above road level along Lin Ma Hang Road near San Uk Ling (MM6); Approx. 14m of absorptive noise barrier 4m above road level along Lin Ma Hang Road near San Uk Ling (MM7); Approx. 18m of absorptive noise barrier 3m above road level along Lin Ma Hang Road near San Uk Ling (MM9); Approx. 42m of absorptive noise barrier 3m above road level along temporary pullover space opposite San Uk Ling (MM9); Approx. 93m of absorptive noise barrier 3m above road level along Lin Ma Hang Road opposite San Uk Ling (MM10); Approx. 185m of low noise barrier 3m above road level along Lin Ma Hang Road opposite San Uk Ling (MM10); Approx. 185m of now noise barrier 3m above road level along Lin Ma Hang Road opposite San Uk Ling (MM10); Approx. 185m of low noise surfacing materials along Lin Ma Hang Road opposite San Uk Ling (MM11); Cpr planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road deposite San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu NM12); 		Road near San Uk Ling (MM5);						
 Approx. 14m of absorptive noise barrier 4m above road level along Lin Ma Hang Raad near San Uk Ling (MMT); Approx. 18m of absorptive noise barrier 3m above road level along Lin Ma Hang Raad near San Uk Ling (MMB); Approx. 42m of absorptive noise barrier 3m above road level along temporary pullover space opposite San Uk Ling (MM9); Approx. 93m of absorptive noise barrier 3m above road level along temporary pullover space opposite San Uk Ling (MM10); Approx. 185m of how noise surfacing materials along Lin Ma Hang Road opposite San Uk Ling (MM10); Approx. 185m of low noise surfacing materials along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Nuk Wu Nga Yiu (MM112); 		 Approx. 21m of absorptive noise barrier 4m above road level along Lin Ma Hang Road near San UR 1 ino (MM6). 						
 Road near San Uk Ling (MM7); Approx. 18m of absorptive noise barrier 3m above road level along Lin Ma Hang Road near San Uk Ling (MM8); Approx. 42m of absorptive noise barrier 3m above road level along temporary pullover space opposite San Uk Ling (MM9); Approx. 33m of absorptive noise barrier 3m above road level along Lin Ma Hang Road opposite San Uk Ling (MM10); Approx. 185m of low noise surfacing materials along Lin Ma Hang Road opposite San Uk Ling (MM10); Approx. 185m of low noise surfacing materials along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 56m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM12); 		Approx. 14m of absorptive noise barrier 4m above road level along Lin Ma Hang						
 Approx. 18m of absorptive noise barrier 3m above road level along Lin Ma Hang Road near San Uk Ling (MM8); Approx. 42m of absorptive noise barrier 3m above road level along temporary pullover space opposite San Uk Ling (MM9); Approx. 93m of absorptive noise barrier 3m above road level along Lin Ma Hang Road opposite San Uk Ling (MM10); Approx. 185m of low noise surfacing materials along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near NW kU Nga Yiu (MM12); 		Road near San Uk Ling (MM7);						
 Road near San Uk Ling (MM8); Approx. 42m of absorptive noise barrier 3m above road level along temporary pullover space opposite San Uk Ling (MM10); Approx. 93m of absorptive noise barrier 3m above road level along Lin Ma Hang Road opposite San Uk Ling (MM10); Approx. 185m of low noise surfacing materials along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Arran of the Nu Nga Yiu (MM12); 		• Approx. 18m of absorptive noise barrier 3m above road level along Lin Ma Hang						
 Approx. 4211 of absorptive noise barrier 3m above road level along Lin Ma Hang pullover space opposite San Uk Ling (MM10); Approx. 185m of low noise barrier 3m above road level along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Nuk Wu Nga Yiu (MM12); 		 Road near San Uk Ling (MM8); Annow ADm Af observatives makes how is a phone remained of the formation of the second second						
 Approx. 93m of absorptive noise barrier 3m above road level along Lin Ma Hang Road opposite San Uk Ling (MM10); Approx. 185m of low noise surfacing materials along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM12); Account Arrow of Action absorptive noise barrier for the above road level along Lin Ma Hang 		Approx. +2111 of absorptive fiolse barrier J111 above foat fevet arong tentpotary millover ensee onnocite San LILE I ing (MMO).						
 Road opposite San UK Ling (MM10); Approx. 185m of low noise surfacing materials along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM12); Account of the content of the planned level along Lin Ma Hang 		Approx. 93m of absorptive noise barrier 3m above road level along Lin Ma Hang						
 Approx. 185m of low noise surfacing materials along Lin Ma Hang Road near San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM12); Association of the planned level along Lin Mo Lines 		Road opposite San Uk Ling (MM10);						
 San Uk Ling (MM11); For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM12); Access of the character of house house road long lober 1 in Mo Hang 		 Approx. 185m of low noise surfacing materials along Lin Ma Hang Road near 						
 For planned representative NSRs Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM12); Anone of the characteristic provides for above road lavel along Lin Ma Hang 		San Uk Ling (MM11);						
 Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM12); Ammer A Transfer and an and a provide along Lin Ma Units 		 For planned representative NSRs 						
• Amount Mark Wu Nga Yiu (MMI2);		• Approx. 36m of absorptive noise barrier 5m above road level along Lin Ma Hang						
		 Koad near Muk Wu Nga Yiu (MIM12); Amnox 47m of absorntive noise barrier 5m above road level along 1 in Ma Hang 						

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
	 Road near Muk Wu Nga Yiu (MM13); Approx. 31m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM14); Approx. 31m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM15); Approx. 41m of absorptive noise barrier 5m above road level along Lin Ma Hang Road near Muk Wu Nga Yiu (MM16); Approx. 340m of low noise barrier 5m above road level along Lin Ma Hang Nuk Wu Nga Yiu (MM16); 						
Water Qua	Water Quality (Construction Phase)						
S6.4.4.1 - S6.4.4.3	ac nst nst	To minimise water quality impact from construction site runoff and general	Contractor	All construction sites where applicable	Construction phase	Water Pollution Control Ordinance ProPECC PN1/94 TM-EIAO	
	 At the start of site establishment, perimeter cut-off drains to direct offisite water around the site should be constructed with internal drainage works and erosion and sedimentation control facilities implemented. 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. The design of the temporary on-site drainage system will be undertaken by the contractor prior to the commencement of construction; 	construction activities				• TM-DSS	Implemented
	 Diversion of natural stormwater should be avoided 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 minimise polluted runoff. Sedimentation tanks with sufficient capacity, constructed from pre-formed individual cells of approximately 6 to 8 ms capacities are recommended as a general mitigation measure which can be used for settling 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: 						Implemented
	• The dikes or embankments for flood protection 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 site/sediment trap. The sediment/silt traps should be incorporated in the						Implemented
	 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 shall be undertaken by the contractor prior to the commencement of construction; Construction works should be programmed to minimise surface excavation works during the evicy construction (Ansil to Construction). 						Implemented Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the	Implementation	Location /	Implementation	Requirements	Implementation
		Recommended	Agent	Timing	Stage	and / or standards to	status and remark*
		Measures & Main				be achieved	
		Concerns to address					
	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						
	• If the excavation of trenches in wet periods is necessary, it should be dug and						Implemented
	backfilled in short sections wherever practicable. Water pumped out from						
	trenches or foundation excavations should be discharged into storm drains via silt						
	removal facilities;						
	All drainage facilities and erosion and sediment control structures should be						Implemented
	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;						
	All open stockpiles of construction materials (for example, aggregates, sand and						
	fill material) of more than 50m3 should be covered with tarnaulin or similar fabric						Implemented
	during rainctorms. Measures chould be taken to nevent the washing away of						
	 Manholes (including newly constructed ones) should always be covered and 						
	temporarily sealed so as to prevent silt, construction materials or debris being						Implemented
	washed into the drainage system and storm runoff being directed into foul						
	sewers;						
	Precautions be taken at any time of year when rainstorms are likely, actions to be						
	taken when a rainstorm is imminent or forecasted, and actions to be taken during						Implemented
	or after rainstorms are summarised in Amendix A2 of ProPFCC PN 1/94						
	Derricular attention chould be need to the control of eith curface much during						
	a arreation arreated or parts to fail to the control of the second second solutions and the						
							-
	ensure no earth, mud, debris and the like is deposited by them on roads. An						Implemented
	adequately designed and sited wheel washing facilities should be provided at						
	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 section of						Implemented
	access road leading to, and exiting from, the wheel-wash bay to the public road						
	should be paved with sufficient backfall toward the wheel-wash bay to prevent						
	vehicle tracking of soil and silty water to public roads and drains;						
	Oil interceptors should be provided in the drainage system downstream of any						
	oil/fuel pollution sources. The oil interceptors should be emptied and cleaned						Implemented
	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;						

EIA Kef.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main	Implementation Agent	Location / Timing	Implementation Stage	Kequirements and / or standards to be achieved	Implementation status and remark*
		Concerns to address					
	Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts;						Implemented
	All thet tarks and storage areas should be provided with locks and shed on search areas, within bunds of a capacity equal to 110% of the storage capacity of the brock tool to measure traillad field field field from mothing trater consisting reading						Implemented
	 Regular environmental audit on the construction site should be carried out in 						
	order to prevent any malpractices. Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into						Implemented
	the water bodies, marsh and ponds;Adopt best management practices.						Terra Journand
S6.4.4.4	Sewage from workforce	To minimise water	Contractor	All	Construction	Water Pollution	minipitati
	 Portable chemical toilets and sewage holding tanks are recommended for 	quality from		construction	nhase	Control Ordinance	Implemented
S6.4.4.5	handling the construction sewage generated by the workforce. A licensed	sewage effluent		sites where	Sound	• TM-DSS	
	contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance;			practicable			
	 Notices should be posted at conspicuous locations to remind the workers not to 						
	discharge any sewage or wastewater into the nearby environment during the						Implemented
	 Construction phase of the Project; Regular environmental audit on the construction site should be conducted in order 						
	to provide an effective control of any malpractices and achieve continual						
	improvement of environmental performance on site.						Implemented
S6.4.4.6	Operation of Barging Point at Siu Lam	To minimise water	Contractor	All	Construction	• Water Pollution	No Applicable.
	 All barges should be fitted with tight bottom seals to prevent leakage of materials 	quality from		construction	phase	Control Ordinance	* Barging point
		operation of barging		sites where		• TM-DSS	at Siu Lam is not in
	 Barges or hoppers should not be filled to a level that will cause overflow of 	point at Siu		practicable			used.
	materials or polluted water during loading or transportation;	Lam					
	vessels and the seabed in all tide conditions, to ensure that undue turbidity is not						
	generated by turbulence from vessel movement or propeller wash; and						
	 Loading of barges and hoppers should be controlled to prevent splashing of 						
	material into the surrounding water.						
	 Mitigation measures for land-based activities as outlined in Section 6.4.4 should 						
	be applied to minimise water quality impacts from site runoff and open stockpile						
C m	bours at the proposed barging rachines where appropriate.						
Water Uuu	Water Quality (Operational Phase)						

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
S6.5.4.1 - S6.5.4.6	 The following mitigation measures during operational phase are recommended: Sewage and wastewater discharge should be connected to foul sewerage system; Proper drainage systems with silt traps and oil interceptors should be installed; The design of road gullies with silt traps should be incorporated especially for the catchment leading to the existing wet woodland area located at the north of the site; The silt traps and oil interceptors should be cleaned and maintained regularly, especially before peak seasons of the visitors in Ching Ming Festival and Chung Yeung Festival; Energy dissipaters should be installed at the seasonally wet watercourses to reduce the magnitude of the first flush in order to minimise the erosion impact to the wet woodland. 	To minimise the road runoff, wastewater discharge and erosion of seasonal watercourse during the operational phase	Highways Department /Contractors	Whole alignment	Construction / Operational Phase	• Water Pollution Control Ordinance • TM-DSS	For Operational phase
Waste Mar	Waste Management (Construction Waste)						
S7.3.3.8	Construction & Demolition Material Management Plan (C&DMMP) • A C&DMMP shall be submitted to the Public Fill Committee for approval in the case of C&D materials disposal exceeding 50,000ms.	To enhance the management of construction and demolition (C&D) material including rock in public works projects	Contractor	All construction sites	Construction phase	• Project Administrative Handbook for Civil Engineering Works, 2012 Edition	
S7.3.4.2	 Good Site Practice The following good site practices are recommended throughout the construction activities: nomination of an approved personnel, such as a site manager, to be responsible for the implementation of good site practices, arrangements for collection 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 collection for disposal; appropriate measures to minimise 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; a Waste Management Plan (WMP) should be prepared by the contractor and exhisted code a contractor and containers; 	Minimise waste generation during construction	Contractor	All construction sites	Phase	• Waste Disposal Ordinance	Implemented Implemented Implemented Implemented Implemented

ETA Dof	Docommondad Mitteration Monormoo	Obioatives of the	Tumlomontotion	I addion /	Importation	Dominomoto	Imulamontation
	veconnicueu o trugadon iveasures	Recommended	Agent	Timing	Stage	and / or standards to	status and remark*
		Measures & Main Concerns to address				be achieved	
S7.3.4.3		Reduce waste generation	Contractor	All construction	Construction phase	• Waste Disposal Ordinance	
	ensuring the implementation of good site practices. The following recommendations are proposed to achieve reduction:			sites			Implemented
	 segregate and store different types of waste in different containers, skip or 						4
	 stockpiles to enhance reuse or recycling of materials and their proper disposal; proper storage and site practices to minimise the notential for damage and 						Implemented
	contamination of construction materials;						Implemented
	 plan and stock construction materials carefully to minimise amount of waste 						
	 generated and avoid unnecessary generation of waste; sort out demolition debris and excavated materials from demolition works to 						Implemented
	recover reusable/recyclable portions (i.e. soil, broken concrete metal etc.);						Implemented
	 provide training to workers on the importance of appropriate waste management procedures, including waste reduction, reuse and recycling. 						
S7.3.4.5	Storage of Waste	Good site practice to	Contractor	All	Construction	• Land	
	The following recommendation should be implemented to minimise the	minimise the		construction	phase	(Miscellaneous	
	impacts:	waste generation and		sites		Provisions)	
	 non-inert C&D materials such as soil should be handled and stored well to ensure 	recycle the				Ordinance	Implemented
	secure containment;	C&D materials as far				 Waste Disposal 	
	spraying system to	as				Ordinance	Implemented
	prevent materials from wind-blown or being washed away;	practicable so as to				• ETWB TCW No.	
	 different locations should be designated to stockpile each material to enhance 	reduce the				19/2005	Implemented
	reuse;	amount for final disposal					
S7.3.4.6	Collection and Transportation of Waste	Minimise waste	Contractor	All	Construction	 Waste Disposal 	
	The following recommendation should be implemented to minimise the	impacts from		construction	phase	Ordinance	
	impacts:	storage		sites			
	 remove waste in timely manner; 						Implemented
	 employ the trucks with cover or enclosed containers for waste transportation; 						Implemented
	• obtain relevant waste disposal permits from the appropriate authorities; and						Implemented
C7 2 1 0	disposal of waste should be done at licensed waste disposal facilities.	Minimico wooto	Contractor	× 11	Constantotion	• I and	Implemented
0.+.0.10	staniolo charuld ha carmanatad fram athan wortao ta avaid	MILLING WASIC	CUIIII ACIUI	All	CUISUACIOI	• Lanu	
_ S7.3.4.15	whetever practications, C&D materials should be segregated from other wastes to avoid contamination and ensure acceptability at public filling areas or reclamation sites. The	excavated and C&D		sites	putase	(Intractions) Provisions)	
		materials				Ordinance	
	implemented in handling the excavated and C&D materials:					 Waste Disposal 	
	 maintain temporary stockpiles and reuse excavated fill material for backfilling; 					Ordinance	Implemented
	 carry out on-site sorting; make provisions in the Contract documents to allow and promote the 						Implemented Implemented
		_					

EIA Ref.	Recommended Mitigation Measures	Objectives of the	Implementation	Location /	Implementation	Requirements	Implementation
		Recommended Measures & Main Concerns to address	Agent	Timing	Stage	and / or standards to be achieved	status and remark*
	 use of recycled aggregates where appropriate; and 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; and Use of Standard Formwork and Planning of Construction Material purchasing. 						Implemented Implemented Implemented Implemented Implemented Implemented
S7.3.4.17 - S7.3.4.18	<u>Chemical Waste</u> If chemical Waste If chemical wastes are produced at the construction 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 Centre, 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	Construction phase	 Waste Disposal (Chemical Waste) General) Regulation Code of Practice on the Packaging, Labelling and Storage of Chemical Waste 	Implemented
S7.3.4.19	 <u>General Refuse</u> General refuse should be stored in enclosed bins separately from construction and chemical wastes. Recycling bins should also be placed to encourage recycling. Preferably enclosed and covered areas should be provided for general refuse collection 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. 	Minimise production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction phase	• Waste Disposal Ordinance	Implemented Implemented Implemented
S7.3.4.20	 <u>Sewage</u> 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 collection by licensed collectors should be arranged to minimise potential environmental impacts. 	Minimise production of sewage impacts	Contractor	All construction sites	Construction phase	• Waste Disposal Ordinance	Implemented Implemented
Waste Man S7.4.4.1	Waste Management (Operational Waste) S7.4.4.1 General Refuse A reputable waste collector should be employed to remove general refuse on a daily basis.	Remove general refuse during routine road cleaning activities on the roads network and avoid odour, pest and litter impacts	Highways Department /Contractor	Roads network for the C&C facilities and Lin Ma Hang Road	Operational phase	Waste Disposal Ordinance	Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the	Implementation	Location /	Implementation	Requirements	Implementation
		Recommended Measures & Main Concerns to address	Agent	Timing	Stage	and / or standards to be achieved	status and remark*
Land Contamination	mination						
S8.9.1.1	Re-appraisal of the potentially contaminated site (SRC-1)	Identify any hot spots for SI within the southeast and western portions of SRC-1	Project Proponent / Detailed Design Consultant	Potentially contaminated site (SRC-1)	Once the works area for the Project is confirmed and site access is available (e.g. after land resumption)	 Annex 19 of the TM-EIAO, Guidelines for Assessment of Impact On Sites of Cultural Heritage and Other Impacts (Section 3 : Potential Contaminated Land Issues); Guidance Manual for Use of Risk-Based Remediation Goals (RBRGs) for Contaminated Land Management; Guidance Notes for Contaminated Land Management; Guidance Notes for Contaminated Land Assessment and Remediation of Remediation of Remediation and Remediation of Remediation and Remediation and Remediation and Remediation and Remediation of Contaminated Land Assessment Assessment Assessment Assessment Assessment 	Implemented
S8.11.1.1	Preparation and submission of Contamination Assessment Plan (CAP) to EPD for review and approval, if required	Present the findings of the reappraisal and strategy of the recommended SI, if required	Project Proponent / Detailed Design Consultant	Potentially contaminated site (SRC-1)	After land resumption and prior to the construction phase	Ditto	Implemented
S8.11.1.2	Preparation and submission of Contamination Assessment Report (CAR) to EPD for review and approval, if required	Present the findings of SI, if any, and evaluate the level and extent of potential contamination	Project Proponent / Detailed Design Consultant	Potentially contaminated site (SRC-1)	Prior to the construction phase	Ditto	Implemented
S8.11.1.2	Preparation and submission of Remediation Action Plan (RAP) to EPD for review and approval if contamination is identified	Recommend appropriate mitigation	Project Proponent	Potentially contaminated	Prior to the construction	Ditto	Not required as no contamination is

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
		measures for the contaminated soil and groundwater identified in the assessment if remediation is required	Detailed Design Consultant	site (SRC-1)	phase		identified.
S8.11.1.2	Preparation and submission of Remediation Report (RR) to EPD for review and approval following the completion of any necessary remediation works	Demonstrate that the decontamination work is adequate and is carried out in accordance with the endorsed CAR and RAP	Project Proponent / Detailed Design Consultant	Potentially contaminated site (SRC-1)	Prior to the construction phase	Ditto	Not required as no contamination is identified.
Ecology (C	Ecology (Construction Phase)		_	-	-		
S9.7.2.3	Preparation and submission of Upland Grassland Reinstatement Plan to EPD for agreement.	An Upland Grassland Reinstatement Plan will be prepared by a qualified ecologist/botanist with full details of the findings of a baseline grassland survey, the practical details and methodology of the physical excavation, transport and storage or turves/topsoil and their subsequent treinstatement once the receptor sites have been established, along with an implementation programme of reinstatement, post- reinstatement monitoring and maintenance programme. A contingency plan	Project Proponent/ Detailed Design Consultant (qualified ecologist/ botanist) for Upland Grassland Reinstatement Plan	Engineered slopes Of Crematorium Indicative locations for Grassland Reinstatement should be referred to Figure 9.11 of the EIA Report	Prior to construction phase	Reinstatement and establishment requirements to be detailed in Upland Grassland Reinstatement Plan TM-EIAO TM-EIAO	Implemented *Upland Grassland Reinstatement Plan was submitted to EPD.

EIA Ref.	Recommended Mitigation Measures	Objectives of the	Implementation	Location /	Implementation	Requirements	Implementation
		Recommended	Agent	Timing	Stage	and / or standards to	status and remark*
		Measures & Main Concerns to address				be achieved	
		should be proposed in					
		The Grassland					
		as to describe the					
		action and limit					
		levels and the action					
		plan if certain					
		performance criteria					
		breferred habitat) are					
		not met during the					
		monitoring and					
		maintenance period.					
S9.7.2.5	Preparation and submission of a Vegetation Survey Report and	The Vegetation Survey	Project Proponent/	Within the	Prior to	 Survey findings and 	Implemented
I	Transplantation Proposal (if needed as concluded in the Vegetation Survey Report) to	will report the	Detailed Design	Project	construction	transplantation	* Vegetation Survey
S9.7.2.6	EPD for agreement.	presence, as well as	Consultant	Area where	phase	methodology to be	Report and
		update the conditions,	(qualified	applicable		detailed in Vegetation	Transplantation
		number, locations and	ecologist/			Survey Report and	Proposals for
		habitat types of any	botanist) for			Transplantation Plan	Contract 1 and
		identified floral	Vegetation Survey			respectively.	Contract 2 were
		species of	Report and			• TM-EIAO.	submitted to EPD.
		conservation	Transplantation				
		importance to be	Proposal.				
		impacted by the					
		development, and					
		evaluate suitability					
		and/or practicality of					
		transplantation.					
		The Transplantation					
		Proposal will					
		recommend locations					
		of the receptor site(s),					
		transplantation					
		methodology,					
		implementation					
		programme of					
		transplantation and					
		post-transplantation					
		monitoring			_		

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
		and maintenance programme.					
S9.7.5.3 S9.7.5.5, S9.8.1.6	Preparation and submission of Enhancement Woodland Proposal to EPD for agreement.	Recommend appropriate enhancement planting programme, planting and post-transplantation monitoring methodology, action plan for monitoring the enhancement planting and maintenance programme.	Project Proponent/ Detailed Design Consultant (qualified ecologist/ botanist) for Wooded Area Proposal.	Filled slope west of the platform, and north west of the platform in the valley below MacIntosh Fort Indicative locations for Enhancement Woodland should be referred to Figure 9.11 of the EIA Report	Prior to construction phase	• Enhancement planting and establishment requirements to be detailed in Wooded Enhancement Proposal. • TM-EIAO	Implemented *Woodland compensation plan was submitted to EPD.
S9.7.3.1 - S9.7.3.3	Indirect impacts due to potential changes in water quality, hydrology and sedimentation could occur to a series of downstream watercourses and wetland systems (including the wet woodland, marsh and mitigation ponds) during both the construction (for the Platform and LMHR widening works) and operational stages. Generally, indirect water impact to any aquatic fauna during the construction phase should easily be avoided by implementing water control measures (ETWB TCW No. 5/2005) to avoid direct or indirect impacts any watercourses and good site practices (further details are discussed in Section 6 of the EIA Report). In addition, construction phase impacts on the watercourses, riparian corridor and fauna using these areas will be minimised by erection of a 2m high, solid, dull green site boundary fence on the edge of any active works area, 30m from the watercourse. Where this is not practicable due to site constraints, demarcation fencing will need to be erected to prevent unauthorised encroachment into the riparian corridor by constructions works and traffic. Detailed mitigation measures will be designed at the detailed design stage.	Minimise the indirect impacts to Water Quality and Hydrology	Contractor /detailed design consultant.	On the edge of any active works area, 30m from The watercourse	Prior to commencement and during construction phase	• ETWB TCW No. 5/2005 • TM-EIAO	Implemented.

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
S9.7.3.4 - S9.7.3.6	Mitigation for noise disturbance (details refer to S5.5.5 to S5.6.6 of this table). Site formation and construction are tentatively proposed to cover a 65-month period from mid 2017 to late 2022. As a precautionary approach, consideration should be given at the detailed design stage to avoid the use of highly reflective materials in the design and implementing the use of opaque materials, fritting, breaking up external reflections with stickers or plastic wrap and/or any other birdfriendly design for noise barriers. Works will be restricted to daytime and any construction lighting should be designed and positioned as to not impact on adjacent ecologically sensitive areas.	The construction work and site formation will be phased in order to reduce overall noise disturbance impacts in particular areas. Collisions usually occurs as a result of birds perceiving a clear path through an object that is transparent or appears to be transparent at some distance, or if the noise barrier is highly reflective which would appear to be composed of the adjacent natural vegetation. Furthermore, mitigation measures to control noise disturbance during this phase will involve the selection of movable noise barriers and erection of hoarding and fencing to demarcate the site boundary	Project Proponent	All construction sites	Prior to commencement and during phase phase	• TM-EIAO.	
.9.7.3.7	 In order to demonstrate ecological awareness and to minimise the risk of indirect impacts from water pollution and hill fires, a series of good site practices should be adopted by site staff throughout the construction phase at each works site. These are as follows: Put up signs to alert site staff about any locations which are ecologically sensitive and measures to prevent accidental impacts; Erection of temporary geotextile silt or sediment fences/oil traps around any earth-moving works to trap any sediments and prevent them from entering 	Minimise impacts on hydrological condition and water quality of hillside watercourses and reduce chances of hillfires.	Contractor	All construction sites	Prior to commencement and during construction phase	• TM-EIAO.	Implemented Implemented

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
	 watercourses; Prohibition of soil storage against trees or close to waterbodies; Delineation of works site to prevent encroachment onto adjacent habitats and fence off areas which have some ecological value; No smoking, hot works or sources of fire close to upland grassland; No on-site burning of waste; and Waste and refuse in appropriate receptacles. 						Implemented Implemented Implemented Implemented Implemented
S.9.7.3.9	Precautionary checks by a suitably experienced ecologist of the vegetation for the presence of nesting birds should be carried out in the breeding season (February to July) before vegetation clearance. These impacts can be avoided by conducting vegetation clearance during the non-breeding season (tentatively August-January) and phased through the project period to minimise impacts.	Minimise the impacts to breeding birds within the works areas.	Contractor	All construction sites	Prior to site clearance	• TM-EIAO • WAPO	Implemented during breeding season.
Ecology (G	Ecology (Operational Phase)						
S9.7.2	Establishment, maintenance and monitoring of a Upland Grassland Reinstatement Area	Reinstatement of upland grassland and to maintain connectivity in Sandy Ridge. Ridge.	Project Proponent/ Contractor / Maintenance Authority	Engineered slopes of Crematorium Indicative locations for Grassland Reinstatement should be referred to Figure 9.11 of the EIA Report	Operational phase	 Monitoring methodology and successfulness of survival of upland grassland should follow Upland Grassland Reinstatement Plan. TM-EIAO. 	Upland Grassland Reinstatement Area will be implemented by other contract.
S9.7.5.3 - S9.7.5.6	Establishment, maintenance and monitoring of an enhancement woodland	Recommend appropriate enhancement planting programme, planting and post-transplantation monitoring methodology, action plan for monitoring the enhancement planting and	Project Proponent/ Detailed Design Consultant (qualified ecologist/ botanist) for Wooded Area Proposal.	Filled slope west of the platform, and north west of the platform in the valley below MacIntosh Fort	Operational phase	 Enhancement planting and establishment requirements to be detailed in Wooded Area Proposal. TM-EIAO. 	

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
		maintenance programme.		Indicative locations for Enhancement Woodland should be referred to Figure 9.11 of the EIA Report			
S9.7.4.1 - S9.7.4.5	Mitigation for Impacts to Water Ouality and Hydrology (Operational Phase) • Stormwater drainage system will be further developed in detailed design stage to collect dusty materials from water collected from the platform and associated road system. Silt traps will be installed to ensure removal of dusty materials. Regular cleaning will be conducted to avoid debris entering downstream rivers during first flush; and • The proposed small diameter bore pile system at the foundation of the proposed platform structure.	Specific mitigation measures will be implemented to prevent indirect impacts wetland habitats and fauna. Mitigation measures are to be further developed in the detailed design stage to address any water quality impacts due to the drainage from the proposed platform, and any erosion issues due to the drainage from the proposed platform. The surface runoff collected on the platform will be further developed at the detailed design stage. The proposed small diameter bore pile system at the foundation of the	Detailed Design Consultant	Wet woodland (and further down mitigation ponds) and the seasonal watercourse to the Project boundary	Detailed Design phase/Operational phase	• TM-EIAO	Implemented before Operational phase

ELA Ref.	Recommended Mitigation Measures	Ohiectives of the	Imnlementation	Location /	Imnlementation	Requirements	Imnlementation
		Recommended	Agent	Timing	Stage	and / or standards to	status and remark*
		Measures & Main	I	1		be achieved	
		Concerns to address					
		proposed platform					
		structure would allow					
		a notional free area of					
		about $87 - 91\%$ for					
		groundwater to pass					
		through.					
S9.7.4.6	Minimise the potential indirect light disturbance on the Street Lighting on	Reduce light pollution	Detailed Design/	The whole	Detailed Design	• TM-EIAO	Implemented before
Ι	fireflies surrounding the Project Site during operational phase	and impact on the	Consultant/	Project	phase/Operational		Operational phase
S9.7.4.7	• It is considered that at the detailed design stage, street lighting of similar lux/light	nearby habitats and	Operator	area	phase		
	intensity as to what is currently present is utilised.	their associated					
	Furthermore, as a precautionary measure, it is suggested that deflectors are fixed to	wildlife groups,					
	the back of the street lights to prevent additional light reaching the marsh and	particularly nocturnal					
	causing adverse impacts to fireflies.	fireflies.					
S9.7.4.9	The increase in visitors to the columbarium allows greater public access to the upland	Minimise the risk of	Detailed Design/	The whole	Detailed Design	• TM-EIAO	Implemented before
I	grassland of Sandy Ridge and in turn, the potential for hill fires is also increased. Fires	hill fires.	Consultant/	Project	phase/Operational		Operational phase
S9.7.4.9	may emanate from discarded cigarettes and from specific practices during festivals or		Operator	area	phase		
	grave-sweeping.						
	In order to reduce the risk of hill fires, sufficient educational signage should be						
	displayed throughout the columbarium warning people of the risks of fire and strictly						
	prohibits practices that could cause hill fires.						
	This will require input in the detailed design phase.						
Fisheries							
S10.5.1.1	No loss of fish ponds is anticipated and no <i>in situ</i> mitigation is required.			1	1		Not applicable
	However, mitigation measures for water quality (S6.4.4 - S6.5.4 in this						
	table) proposed are also pertinent in ensuring that fisheries impacts of the						
	Project do not occur downstream of the Project area either locally or in						
	Inner Deep Bay.						
Landscape & Visual	e & Visual						
S11.8.1.3	CM1 - The construction area and contractor's temporary works areas should be	Minimise landscape	Funded by CEDD	Work site/	Construction		Implemented.
, Table	minimised to avoid impacts on adjacent landscape, and the reliance on off-site	impact and	and	during	phase		
11.9	construction.	visual impact	implemented by	construction			
			Contractor				

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
S11.8.1.3 , Table 11.9	CM3 – Screening of construction works by hoardings/noise barriers around works area in visually unobtrusive colours and to screen construction works. It is proposed that screening be compatible with the surrounding environment and non-reflective, recessive colours be used. Hoarding should be taken down at the end of the construction period.	Minimise visual impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Construction phase		Implemented.
S11.8.1.3 , Table 11.9	CM4 – Dust and Erosion Control for Exposed Soil - Excavation works anddemolition of existing building blocks shall be well planned with precautions to suppress dust. Exposed soil shall be covered or watered often. Areas that are expected to be left with bare soil for a long period of time after excavation shall be properly covered with suitable protective fabric. Suitable drainage shall be provided around construction sites to avoid discharge of contaminants and sediments into sensitive water-based habitat.	Minimise indirect landscape impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Construction phase		Implemented.
S11.8.1.3 , Table 11.9	CM5 – Control night-time lighting and glare by hooding all lights.	Minimise visual impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Construction phase		Implemented.
11.8.1.3, Table 11.9	CM6 – Tree Protection and Preservation – Woodland, plantation and other vegetation within the Study Area will be protected and preserved as far as possible in accordance with ETWB TCW No. 29/2004 - Registration of Old and Valuable Trees, and Guidelines for their Preservation and DEVB TCW No.07/2015 – Tree Preservation. Detailed Design Considerations are made to avoid impacts to trees, e.g. proper viaduct/ bridge design routing to avoid majority of the woodland, locating the columbarium buildings in areas with less trees and ensuring design of the buildings has as small a footprint as practical.	Minimise landscape impact and visual impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	phase	• DEVB TC(W) 07/2015 • Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DevB	Implemented.
S11.8.1.3 , Table 11.9	CM7 - Tree Transplantation - Tree(s) will be affected according to the Tree Preservation and Removal Proposal to be carried out in a later stage. Established trees of value are to be re-located where practically feasible.	Minimise landscape and visual impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Design and Construction phase	 'Guidelines for Tree Risk Management And Assessment Arrangement on an Arrae Basis and on a Tree Basis', issued January 2011, Greening, Landscape and Tree Management 	Implemented.

EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
						(GLTM) Section, DevB • Latest recommended horticultural practices from GLTM Section, DevB	
S11.8.1.3 , Table 11.9	CM8 - Implementing precautionary control measures during construction stage accordingly to ETWB TCW No. 5/2005 – Protection of natural streams/rivers from adverse impacts arising from construction works to avoid direct or indirect impacts any watercourses and good site practices.	Minimize landscape impact	Funded by CEDD and implemented by Contractor	Work site/ during construction	Design and Construction phase	• ETWB TCW No. 5/2005 – Protection of natural streams/rivers from adverse impacts arising from construction works	Implemented.
S11.8.1.3 , Table 11.9	OM1 – Compensatory Woodland Planting - The arrangement of compensatory planting (e.g. areas of woodland to be compensated and space to be allowed within the Project Site) will be subject to detailed engineering design, landscape design and planting plan, and is recommended to be implemented prior to the construction activities as far as practical.	Compensate the loss of landscape greenery and enhance the overall visual value of the site.	Funded by CEDD and implemented by Contractor	Within Project Site	Prior to Construction phase	 DEVB TC(W) 07/2015 - Tree Preservation Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DevB DEVB TCW No. 06/2015 - Maintenance of Vegetation and Hard Landscape Features 	Implemented
S11.8.1.3 , Table 11.9	OM2 – Compensatory Tree Planting for Plantation and Other Vegetated Areas - Compensatory planting should be provided in accordance with DEVB TCW No. 07/2015 to compensate for those trees felled. According to the preliminary design, compensatory trees will be planted on the cut/fill slopes, along new roads and in car parks. The selection of planting species shall be made with reference to the species identified in the future Detailed Tree Survey and be native to Hong Kong or the South China region.	Compensate the loss of landscape greenery and enhance the overall visual value of the site.	Funded by CEDD and implemented by Contractor	Within Project Site	Construction phase	 DEVB TC(W) 07/2015 - Tree Preservation Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DevB DEVB TCW No. 06/2015 - 	Implemented

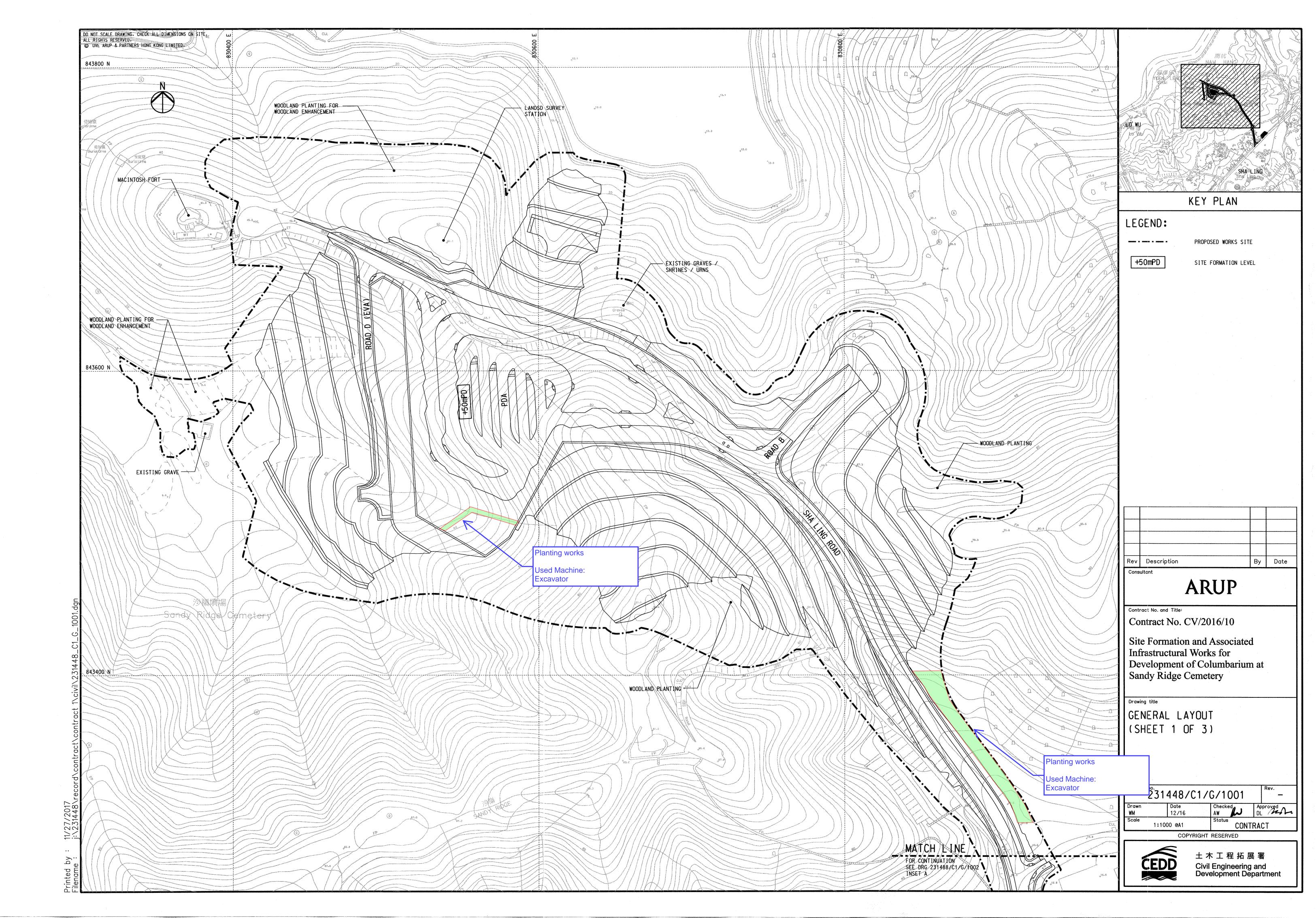
EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
						Maintenance of Vegetation and Hard Landscape Features	
S11.8.1.3 , Table 11.9	OM3 – Amenity Planting and aesthetic streetscape design of hard landscaping for Pedestrian Walkway, Roadside - Roadside amenity planting should be provided along Sha Ling Road, Lin Ma Hang Road, as well as the internal road within Sandy Ridge columbarium and crematorium site; to enhance the landscape quality of the existing and proposed transport routes. Climbers are proposed to cover vertical, hard surfaces of the piers of the proposed viaducts, and also the newly formed retaining wall within the site. Shade tolerant plants will be planted, where light is sufficient, to improve aesthetic value of areas under viaducts.	Minimise visual impact and also enhance landscape.	Funded by CEDD and implemented by Contractor	Within Project Site	Construction phase	 Guidelines on Greening of Noise Barriers, issued April 2012, GLTMS, DevB DEVB TCW No. 06/2015 – Maintenance of Vegetation and Hard Landscape Features 	Implemented
S11.8.1.3 , Table 11.9	OM4 – Greening Works and Contour Grading Works on Cut/ Fill Slopes - Greening works such as hydroseeding/ terraces of shrub or tree planting will be provided where slope gradient allows, according to Geotechnical Engineering Office (GEO) Publication No.1/2011 Technical Guidelines on Landscape Treatment for Slopes.	Minimise landscape and visual impact	Funded by CEDD and implemented by Contractor	Within Project Site	Construction phase	Geotechnical Engineering Office (GEO) Publication No.1/2011 Technical Guidelines on Landscape Treatment for Slopes.	Implemented
S11.8.1.3 , Table 11.9	OM5 – Landscape design treatment to be provided by relevant government department.	Mitigate the loss of greenery and enhance the overall landscape and visual value	Funded by FEHD and implemented by Contractor	Within Project Site	After handover to the relevant department		Implemented after handover to the relevant department
S11.8.1.3 , Table 11.9	OM6 – Architectural and chromatic treatment of the hard architectural and engineering structures and facilities.	Mitigate the loss of greenery and enhance the overall landscape and visual value	Funded by FEHD and implemented by Contractor	Within Project Site	After handover to the relevant department		Implemented after handover to the relevant department
S11.8.1.3 , Table 11.9	OM7 – Aesthetic design of the proposed noise barriers.	Mitigate the visual impact	Funded by CEDD and implemented by Contractor	Along Sha Ling Road and Lin Ma Hang Road	Construction phase	 WBTC No. 36/2004 ACABAS - submission is required to ACABAS for approval of any bridges and associated structures within the public highway 	Implemented

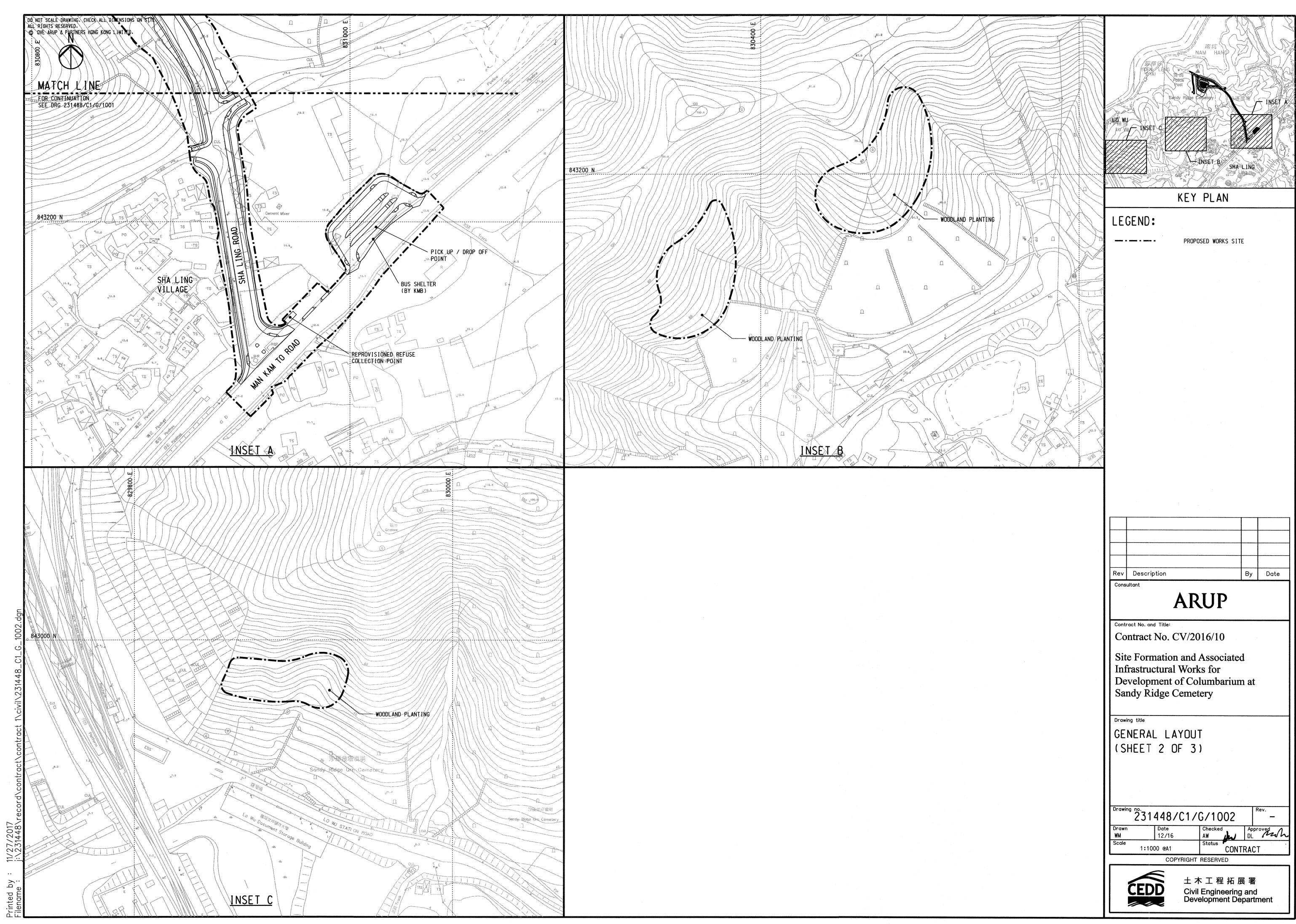
EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and / or standards to be achieved	Implementation status and remark*
						system.	
S11.8.1.3 , Table 11.9	OM8 - Silt traps should also be incorporated into design of road gullies for the natural water stream(s).	Minimise the landscape impact on natural stream	Funded by CEDD and implemented by Contractor	Within Project Site	Construction Phase		Implemented
Notes: (a) A deta (b) Wood (c) Contra	A detailed Tree Survey Report showing all identified valuable trees and OVT will be undertaken in a separate Tree Preservation and Removal Proposal. Wood resulting from tree removal should be recycled as mulch or soil conditioner for re-use within the Project or in other projects as far as possible e.g. for the construction of soft landscape work, were practical. Contractor is responsible for landscaping during the agreed establishment and maintenance period. Other designated management and maintenance agents to take up maintenance and management of landscaping after end of agreed	n a separate Tree Preservation and Removal Proposal. n the Project or in other projects as far as possible e.g. Other designated management and maintenance ager	tion and Removal Pro rojects as far as possil sment and maintenand	oposal. ble e.g. for the cons ce agents to take up	truction of soft lands(cape work, were practical. nagement of landscaping <i>z</i>	after end of agreed
perrou (d) Highw:	periou Highways Department (HyD) is responsible for maintenance and management of landscaping of public road side slope, Leisure and Cultural Services Department (LCSD) is responsible for the management and maintenance of soft	ublic road side slope, Leis	ure and Cultural Serv	vices Department (1	CCSD) is responsible	for the management and m	naintenance of soft
— .	andscapes along non-expressway public roads outside Country Park and Food and Environmental Hygiene Department (FEHD) is responsible for maintenance and management of landscaping of other areas allocated to FEHD.	Hygiene Department (FE	(HD) is responsible fo	or maintenance and	management of lands	caping of other areas alloc	ated to FEHD
(e) The la	1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.	rks:					
- Aest	- Aesthetic landscape treatment including both soft and hard landscape features shall be provided.						
- Vert	- Vertical greening shall be provided as far as practicable.						
- At-£ - Arcł	 - At-grade tree planting shall be provided as far as possible while planting space is allowed, to enhance the overall environment. - Architectural design shall blend in with the surrounding environment. 	ance the overall environm	rent.				
- Ove	- Overall greening ratio shall comply with TC(W) No.3/2012 Site coverage of Greenery for Government Building Projects	nment Building Projects.					
EIA Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concerns to address	Implementation Agent	Location / Timing	Implementation Stage	1 Requirements and / or standards to be achieved	Implementation status and remark*
The compe- will be agre	The compensatory woodland planting shall be included woodland mixed whips, seeding, and shrubs. The principle of the location shall be the extension of the existing woodland, as well as the original lost woodland location. The proposal will be agreed with AFCD, the woodland enhancement planting shall refer to Chapter 9.	e principle of the location	shall be the extensio	n of the existing w	oodland, as well as th	e original lost woodland lc	cation. The proposal
EM&A Project	iject						
S13.1.1.1 , S13.2.1.2	An Independent Environmental Checker needs to be employed as per the EM&A Manual.	Control EM&A Performance	Highways Department	All construction sites	Construction phase	EIAO Guidance Note No.4/2010 TM-EIAO	Implemented
S13.2.1.1	1	Perform	Highways	All	Construction	EIAO Guidance	Implemented
- S13.4.1.2	 2) Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures. 3) An environmental impact monitoring needs to be implementing by the Environmental Team to ensure all the requirements given in the EM&A Manual are 	environmental monitoring & auditing	Department / Contractor	construction sites	phase	Note No.4/2010 • TM-EIAO	
	fully complied with.						



Appendix P

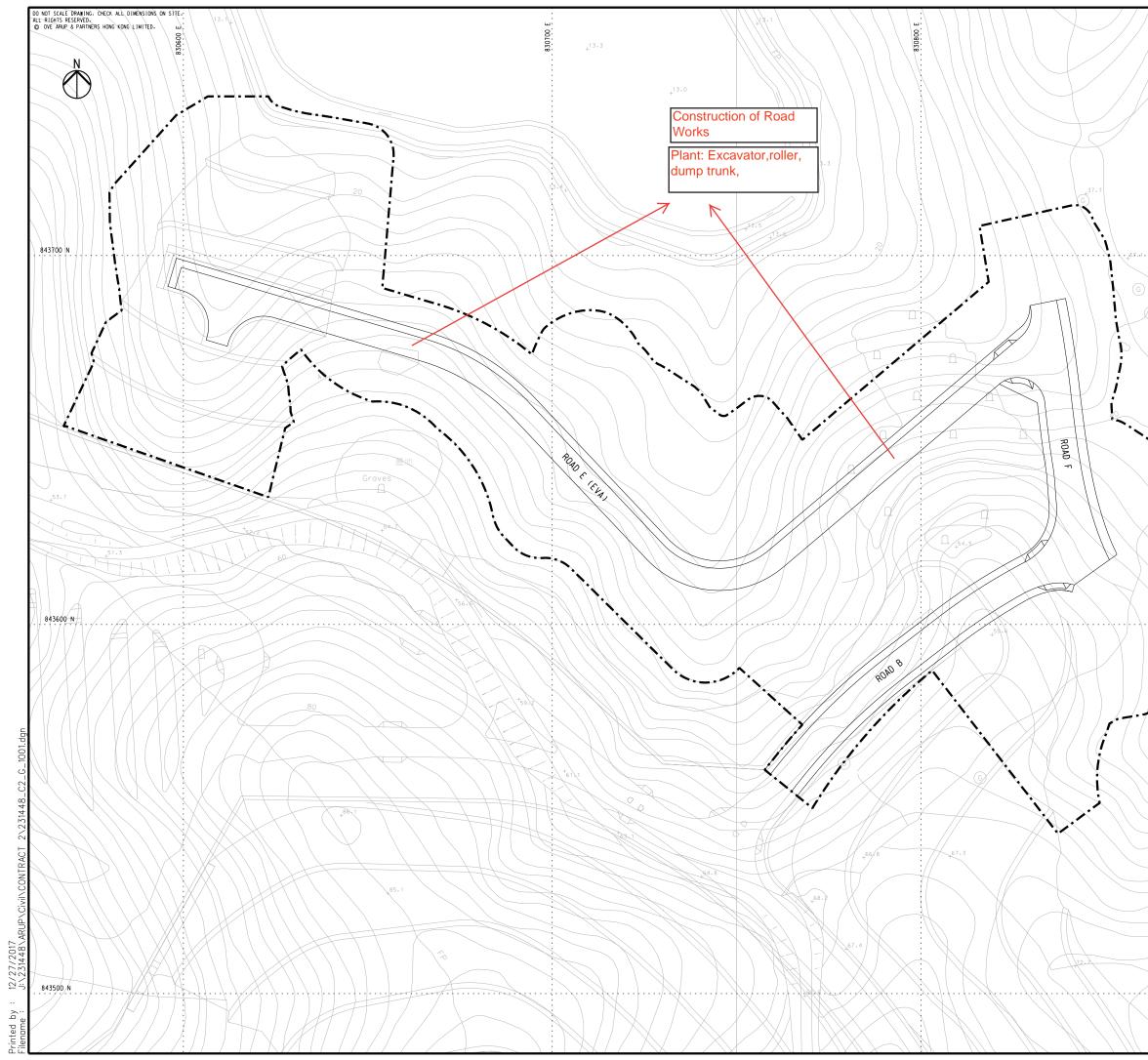
Illustrations of Site Activities



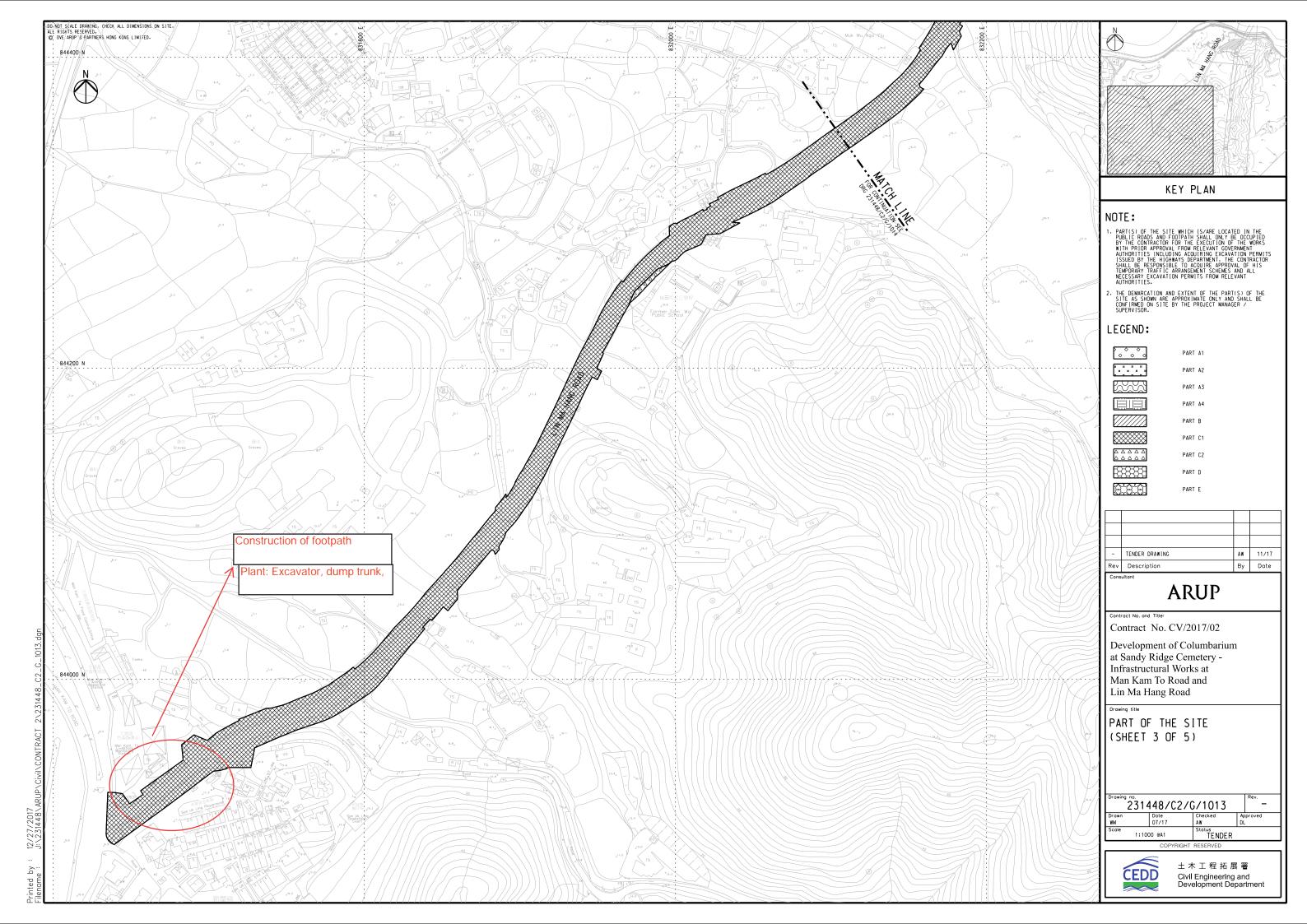


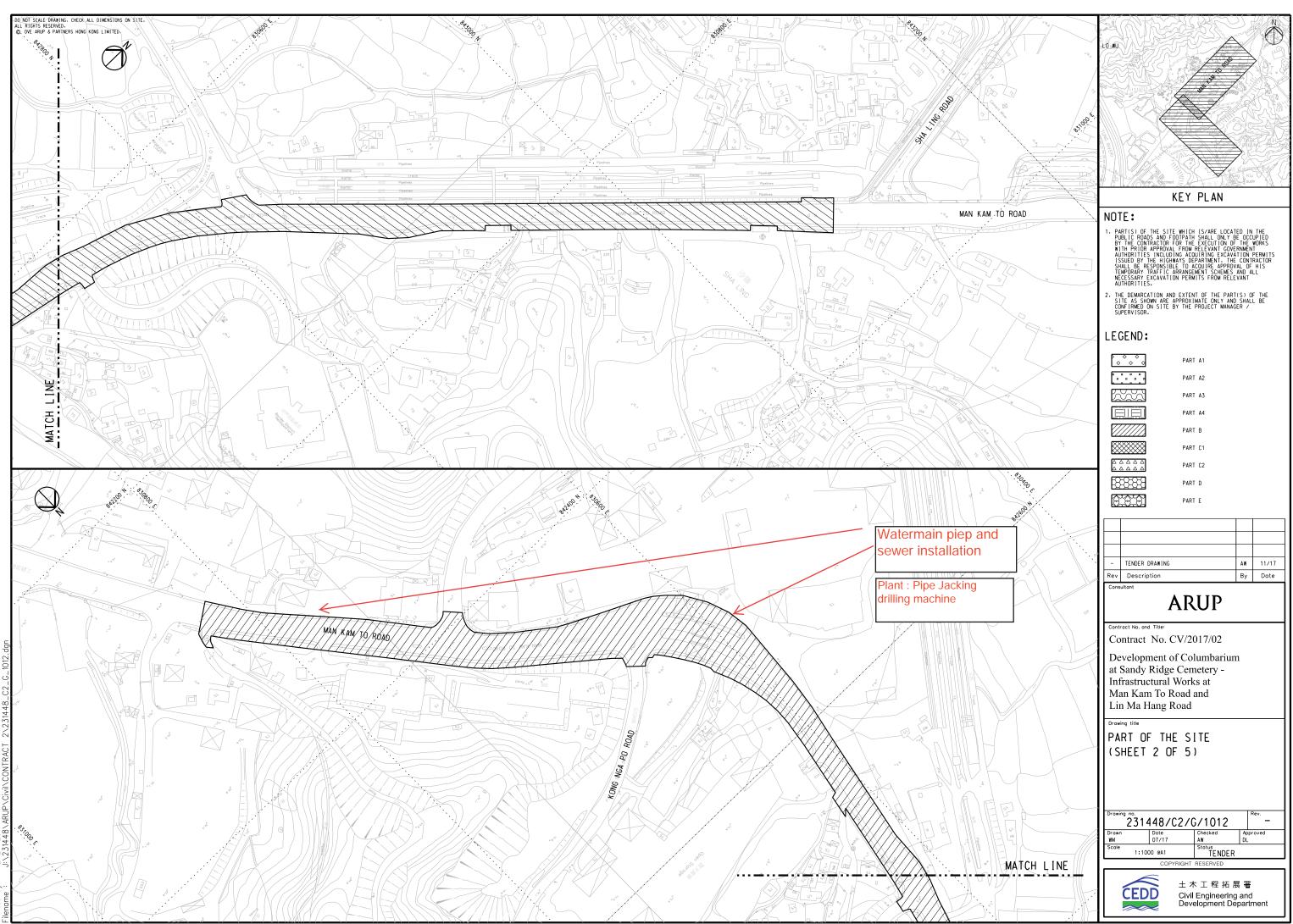
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