Gammon Construction Limited

EP-457/2013/D

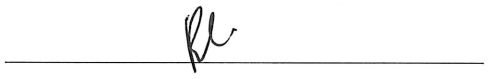
Contract No. HY/2019/13 Central Kowloon Route – Buildings, Electrical and Mechanical Works

Final Environmental Monitoring and Audit (EM&A) Review Report

October 2020 to April 2026

Version 1.3

Date of Report: 18 June 2026

Certified By	
	(Environmental Team Leader: Ms. Betty Choi)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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主要工程管理處
MAJOR WORKS PROJECT MANAGEMENT OFFICE

ERM

Environmental Permit No. EP-457/2013/D

Central Kowloon Route

Independent Environmental Checker Verification

Works Contract:	**Buildings, Electrical and Mechanical Works (HY/2019/13)**

Reference Document/Plan

Document/~~Plan~~ to be ~~Certified~~/ Verified:	Final Environmental Monitoring and Audit (EM&A) Review Report
Date of Report:	18 June 2026
Date received by IEC:	18 June 2026

Reference EP Condition

Environmental Permit Condition: 3.1

Submission of Final EM&A Review Report of the Project

3.1 The EM&A programme shall be implemented in accordance with the procedures and requirements as set out in the EM&A Manual. Any change to the EM&A requirements or programme shall be justified by the ET Leader and verified by the IEC as conforming to the relevant requirements set out in the EM&A Manual and shall seek the prior approval from the Director before implementations.

IEC Verification

I hereby verify that the above referenced document/~~plan~~ complies with the above referenced condition of EP-457/2013/D.

Ms Mandy To Date: 22 June 2026

Independent Environmental Checker

Our ref: 0436942_IEC Verification Cert_BEM_Final EM&A Review Rpt_20260622.docx

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EXECUTIVE SUMMARY

Introduction

1. This is the Final Environmental Monitoring and Audit (EM&A) Review Report prepared by the Environmental Team (ET), Cinotech Consultants Ltd., for Contract No. HY/2019/13 "Central Kowloon Route – Buildings, Electrical and Mechanical Works" (hereafter referred to as "the Project"). The Project is a part of the Central Kowloon Route project under the Environmental Permit (EP) No. EP-457/2013/D, which majorly comprises the construction work and electrical and mechanical (E&M) works of Yau Ma Tei Ventilation Building (YVB), Ho Man Tin Ventilation Building (HVB), Kai Tak Ventilation Building (KVB) and Central Kowloon Route Administration Building (ADB) for the CKR. This Final EM&A Review Report summarises the findings of the EM&A programme described above during the reporting period from 12 October 2020 to 30 April 2026.

2. The major works for the Project at the Kai Tak area and Yau Ma Tei area commenced on 12 October 2020 and were completed on 31 December 2025.

3. The major works for the Project at the Ho Man Tin area were taken over from Contract No. HY/2018/08 CKR – Central Tunnel on 1 January 2024, and were completed on 30 April 2026.

4. As confirmed by the Contractor on 28 April 2026, all construction works of the Project have been completed. The termination of the EM&A Programme under the Project was justified by the ET Leader and agreed by the Engineer Representative (ER) on 30 April 2026 and the Independent Environmental Checker (IEC) on 7 May 2026.

Environmental Monitoring Works

5. Environmental monitoring for the Project was performed in accordance with the EM&A Manual, and the monitoring results were checked and reviewed. Site Inspections/Audits were conducted once per week. The implementation of the environmental mitigation measures, Event and Action Plans and environmental complaint handling procedures was checked and reviewed. The performance of the environmental management system was considered satisfactory. All EM&A activities conducted are summarised in **Table I**. Summary of the non-compliance during the reporting period for the Project is tabulated in **Table II** and **III**.

Table I Summary of EM&A Activities Conducted during Reporting Period

EM&A Activity	Location	No. of Events per year						
		2020	2021	2022	2023	2024	2025	2026
Weekly Environmental Site Inspections	KVB, ADB, YVB, & HVB	12	52	52	52	53	52	17
Bi-Weekly Landscape and Visual Audit	KVB, ADB, YVB, & HVB	6	26	26	26	27	26	9
Air Quality Impact Monitoring (1-hr TSP)	HVB	0	0	0	0	68	66	22
Air Quality Impact Monitoring (24-hr TSP)	HVB	0	0	0	0	66	66	22
Noise Impact Monitoring	HVB	0	0	0	0	53	52	17

Table II Non-compliance Record in the Reporting Period (Site Inspections/Audits)

Event	No. of Non-compliance Recorded	Action Taken
Site Inspections/Audits	0	N/A

Table III Non-compliance Record in the Reporting Period (Impact Monitoring)

Parameter	No. of Exceedance		Action Taken
	Action Level	Limit Level	
1-hr TSP	0	0	N/A
24-hr TSP	0	0	N/A
Noise	6	0	Six (6) action levels exceedance were recorded due to Environmental Complaints regarding noise nuisance were received. After investigation, two (2) non-project related complaints and four (4) project-related complaints were considered, which are located at the Ho Man Tin site. The mitigation measures were mainly installing additional temporary noise barriers and operating the PMEs intermittently. All complaint cases were investigated and closed.

Key Information during the Reporting Period

6. Summary of complaint/summons/prosecution during the reporting period is tabulated in **Table IV.**

Table IV Summary of Complaint/Summons/Prosecution in the Reporting Period

Event	Event Details		Status
	Number	Nature	
Complaint Received	11	2 Air Nuisance 5 Noise Nuisance 2 Water Discharge 1 Light Nuisance 1 Odour and Noise Nuisance	All complaints were investigated and closed
Reporting Changes	0	-	N/A
Notifications of any Summons & Prosecutions Received	0	-	N/A

1 INTRODUCTION

Background

1.1 Central Kowloon Route (CKR) is a 4.7km long dual 3-lane trunk road across Central Kowloon linking Yau Ma Tei Interchange in West Kowloon and the road network at Kai Tak Development and Kowloon Bay in East Kowloon. The underground tunnel section will be about 3.9km long. In particular, an underground tunnel of about 370m long in Kowloon Bay to the north of To Kwa Wan Typhoon Shelter will be constructed.

1.2 The Environmental Impact Assessment Report for Central Kowloon Route – Design and Construction (Register No.: AEIAR-171/2013) was approved under the Environmental Impact Assessment Ordinance (EIAO) on 11 July 2013. An Environmental Permit (EP No.: EP-457/2013) was issued on 9 August 2013. Variations of Environmental Permit (VEP) was subsequently applied and an EP (EP No. EP-457/2013/C) was issued on 16 January 2017. The latest EP (EP No. EP-457/2013/D) was issued by the Environmental Protection Department (EPD) on 15 June 2021.

1.3 The construction of the CKR had been divided into different sections. This Contract No. HY/2019/13 – Central Kowloon Route – Buildings, Electrical and Mechanical Works ("The Project") include the architectural, civil and structural construction works of Yau Ma Tei Ventilation Building (YVB), Ho Man Tin Ventilation Building (HVB), Kai Tak Ventilation Building (KVB) and Central Kowloon Route Administration Building (ADB) for the CKR. The landscaping, and electrical and mechanical (E&M) works within the building sites are involved as well.

1.4 Cinotech Consultants Limited was assigned as the Environmental Team (ET) to undertake the EM&A works for the Project. The construction works of the Project in the Kai Tak and Yau Ma Tei area were commenced on 12 October 2020, and all construction works were completed on 31 December 2025.

1.5 The works of the Project in the Ho Man Tin area commenced on 1 January 2024, which took over from Contract No. HY/2018/08 Central Kowloon Route – Central Tunnel, and all construction works were completed on 30 April 2026. The construction period of the Project is summarised in **Table 1.1**.

Table 1.1 Summary of the Construction Period of the Project

Contract No.	Site Location	Commence Date	Completed Date
HY/2019/13	KVB & ADB	12 October 2020	31 December 2025
	YVB	12 October 2020	31 December 2025
	HVB	1 January 2024	30 April 2026

1.6 As confirmed by the Contractor on 28 April 2026, all construction works of the Project have been completed. The termination of the EM&A Programme under the Project was justified by the ET Leader and agreed by the Engineer Representative (ER) on 30 April 2026 and the Independent Environmental Checker (IEC) on 7 May 2026.

1.7 This is the Final EM&A Review Report, which summarises the impact monitoring results and audit findings for the EM&A programme of the area under the Project during the reporting period

from 12 October 2020 to 30 April 2026. The site layout plan for the Project in the Kai Tak area, Yau Ma Tei area, and Ho Man Tin area is shown in **Figures 1 to 3**, respectively.

Project Organizations

1.8 Different Parties with different levels of involvement in the project organisation include:

- Project Proponent – Highways Department (HyD)
- Engineer Representative (ER) – Arup – Mott MacDonald Joint Venture (AMMJV)
- Environmental Team (ET) – Cinotech Consultants Limited (Cinotech)
- Independent Environmental Checker (IEC) – Environmental Resources Management – Hong Kong Limited (ERM)
- Contractor – Gammon Construction Limited (GCL)

1.9 The key contacts of the Project are shown in **Table 1.2**. The Organisational Structure for Environmental Management is shown in **Figure 4**.

Table 1.2 Key Project Contacts

Party	Role	Contact Person	Phone No.
AMMJV	Engineer Representative	Mr. Tommy Wong	3695 0419
Cinotech	Environmental Team Leader	Ms. Betty Choi	2151 2072
ERM	Independent Environmental Checker	Ms. Mandy To	2271 3113
GCL	Contractor	Mr. William Chan	5408 3045

Construction Activities Undertaken during the Reporting Period

1.10 The construction works undertaken by the Project commenced on 12 October 2020. All construction works were also completed on 30 April 2026. The scope of construction works completed by the Project under EP-457/2013/D is listed below:

- Tunnel ventilation system and air purification system, and associated ventilation buildings, adits and shafts.

1.11 The construction programme and summary of major site activities undertaken during the reporting period are shown in **Appendix L**.

Summary of EM&A Requirements

1.12 The EM&A programme requires air quality monitoring, noise monitoring, landscape and visual monitoring, and environmental site audit. The EM&A requirements for each parameter are described in the following sections, including:

- Environmental mitigation measure, as recommended in the project EIA Report;
- Environmental impact hypotheses tested;
- Environmental quality performance limits (Action and Limit levels);
- All monitoring parameters;
- Event Action Plans.

Weather Condition

1.13 The weather conditions during the reporting period are summarised in **Appendix C**.

2 AIR QUALITY

Monitoring Requirements

2.1 According to the EM&A Manual under the EP, 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality for this Project. For regular impact monitoring, a sampling frequency of at least once every six days is required at all of the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six days shall be undertaken when the highest dust impact occurs.

2.2 As all of the air quality (1-hour TSP and 24-hour TSP) monitoring works in the Kai Tak area and the Yau Ma Tei area are respectively covered under Contract No. HY/2018/02 (Central Kowloon Route - Kai Tak East) and Contract No. HY/2014/20 (Central Kowloon Route - Yau Ma Tei West). Therefore, only monitoring works in the Ho Man Tin area are conducted under the Project.

2.3 The baseline air quality monitoring for the Ho Man Tin area was conducted in January 2018 by Contract No. HY/2014/09 (Central Kowloon Route - Ho Man Tin Access Shaft). The baseline monitoring results are presented in the Approved Baseline Monitoring Reports in accordance with EP-457/2013/C Condition 3.3 under Contract No. HY/2014/09. This baseline report established the Action/Limit Levels. **Appendix B** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

2.4 Only one designated monitoring station for the Ho Man Tin area was selected for the 1-hour and 24-hour TSP impact monitoring programme. The monitoring station and works were undertaken by the ET of Contract No. HY/2014/09 from 20 February 2018 to 19 September 2019. Monitoring stations and works relevant to Contract No. HY/2014/09 were then handed over to the ET of Contract No. HY/2018/08 (Central Kowloon Route - Central Tunnel) from 20 September 2019 until 31 December 2023. Monitoring stations and works of Contract No. HY/2018/08 were then handed over to the ET of this Contract on 1 January 2024 until 30 April 2026. Therefore, the monitoring data of this Contract only covered from 1 January 2024 to 30 April 2026. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 5**.

Table 2.1 Locations for Air Quality Monitoring

Monitoring Stations	Locations	Location of Measurement
M-A3	S.K.H. Tsoi Kung Po Secondary School, 101 Chung Hau Street, Ho Man Tin, Kowloon	Rooftop (above 3/F) Area

Note: According to the baseline monitoring report submitted by the Environmental Team of Contract No. HY/2014/09 in January 2018, the monitoring works at Ko Fai House, Kwun Fai Court (M-A6) proposed by the EM&A Manual under the EP was rejected by the premises owners. Therefore, the monitoring work at the alternative air monitoring station (M-A3) was proposed and agreed upon by the IEC and EPD.

Monitoring Parameters, Frequency and Duration

2.5 **Table 2.2** summarises the monitoring parameters and frequencies of impact dust monitoring for the whole construction period, and is detailed in **Appendix A**.

Table 2.2 Impact Dust Monitoring Parameters, Frequency and Duration

Parameters	Frequency
1-hour TSP	Three times / 6 days
24-hour TSP	Once / 6 days

Monitoring Methodology and QA/QC Procedure

1-hour TSP Monitoring

Measuring Procedures

2.6 The measuring procedures of the 1-hour dust meters were in accordance with the Manufacturer's Instruction Manual as follows: *(OC-9200 Dust Monitoring System)*

- The 1-hour dust meter is placed at least 1.3 meters above ground.
- Set POWER to "ON" and make sure that the battery level was not flash or in low level.
- Allow the instrument to stand for about 3 minutes and then the cap of the air sampling inlet has been released.
- Push the knob at MEASURE position.
- Set time/mode setting to [BG] by pushing the time setting switch. Then, start the background measurement by pushing the start/stop switch once. It will take 6 sec. to complete the background measurement.
- Push the time setting switch to change the time setting display to [MANUAL] at the bottom left of the liquid crystal display.
- Finally, push the start/stop switch to stop the measuring after 1 hour sampling.
- Information such as sampling date, time, count value and site condition were recorded during the monitoring period.

Maintenance/Calibration

2.7 The following maintenance/calibration was required for the direct dust meters:

- Check and calibrate the meter by HVS to check the validity and accuracy of the results measured by direct reading method at 2-month intervals throughout all stages of the air quality monitoring.

24-hour TSP Monitoring

Instrumentation

2.8 High volume (HVS) samplers (Model TE-5170), completed with appropriate sampling inlets, were employed for 24-hour TSP monitoring. The sampler was composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complied with that required by USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50). Moreover, the HVS also met all the requirements in section 2.5 of the updated EM&A Manual.

2.9 The positioning of the HVS samplers are as follows:

- A horizontal platform was provided with appropriate support to secure the samplers against gusty wind.
- No two samplers were placed less than 2 meters apart.
- The distance between the sampler and an obstacle, such as buildings, was at least twice the height that the obstacle protrudes above the sampler.
- A minimum of 2 meters of separation from walls, parapets and penthouses was required for rooftop samples.
- A minimum of 2 meters separation from any supporting structure, measured horizontally was required.
- No furnaces or incineration flues were nearby.
- Airflow around the sampler was unrestricted.
- The sampler was more than 20 meters from the drip line.
- Any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

Operating/analytical procedures for the operation of HVS

2.10 Operating/analytical procedures for the air quality monitoring are highlighted as follows:

- Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m^3/min. and 1.4 m^3/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.
- For TSP sampling, fiberglass filters have a collection efficiency of > 99% for particles of 0.3μm diameter were used.
- The power supply was checked to ensure the sampler worked properly. On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.
- The filter holding frame was then removed by loosening the four nuts and a weighted and conditioned filter was carefully centred with the stamped number upwards, on a supporting screen.
- The filter was aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- The shelter lid was closed and secured with the aluminium strip.
- The timer was then programmed. Information was recorded on the record sheet, which included the starting time, the weather condition and the filter number (the initial weight of the filter paper can be found by using the filter number).
- After sampling, the filter was removed and sent to the HOKLAS laboratory (High Precision Chemical Testing Ltd.) for weighing. The elapsed time was also recorded.
- Before weighing, all filters were equilibrated in a conditioning environment for 24 hours.
- The conditioning environment temperature should be between 25°C and 30°C and not vary by more than ±3°C; the relative humidity (RH) should be < 50% and not vary by more than ±5%. A convenient working RH is 40%.

Maintenance/Calibration

2.11 The following maintenance/calibration was required for the HVS:

- The high-volume motors and their accessories were properly maintained. Appropriate maintenance such as routine motor brushes replacement and electrical wiring checking were made to ensure that the equipment and necessary power supply are in good working condition.
- High volume samplers were calibrated at bi-monthly intervals using TE-5025A Calibration Kit throughout all stages of the air quality monitoring.

Results and Observations

2.12 **Table 2.3 and 2.4** summarise the data of the 1-hour TSP and 24-hour TSP monitoring results, respectively. The graphical presentations of 1-hour TSP and 24-hour TSP monitoring results are shown in **Appendix D and E**, respectively.

Table 2.3 Summary of 1-hr TSP Monitoring Data

Monitoring Stations	Measured 1-hr TSP Concentration (Jan 2024 to Apr 2026), µg/m^3		Baseline, µg/m^3		Action Level, µg/m^3	Limit Level, µg/m^3
	Average	Range	Average	Range		
M-A3	57.2	5.8 – 255.0	128	72 - 223	333	500

Table 2.4 Summary of 24-hr TSP Monitoring Data

Monitoring Stations	Measured 24-hr TSP Concentration (Jan 2024 to Apr 2026), µg/m^3		Baseline, µg/m^3		Action Level, µg/m^3	Limit Level, µg/m^3
	Average	Range	Average	Range		
M-A3	28.5	2.9 – 109.9	36	11 - 87	153	260

2.13 The summary of the exceedance record during the reporting period is shown in **Appendix G**. Should non-compliance of the construction dust occur, action as per the Event and Action Plan presented in **Appendix H** would be performed.

2.14 No Action/Limit Level exceedances were recorded for the 1-hour TSP monitoring during the reporting period.

2.15 No Action/Limit Level exceedances were recorded for the 24-hour TSP monitoring during the reporting period.

2.16 The weather conditions for the reporting period are summarised in **Appendix C**.

2.17 Site audits were carried out weekly to monitor and audit the timely implementation of air quality mitigation measures within the site boundaries of the Project.

2.18 According to our field observations during the monitoring, the major dust sources identified at the designated air quality monitoring station are road traffic dust, exposed site area, open stockpiles, excavation works and site vehicle movements.

3 NOISE

Monitoring Requirements

3.1 According to the EM&A Manuals under the EP, construction noise monitoring was conducted to monitor the construction noise arising from the construction activities. The regular monitoring frequency for each monitoring station shall be on a weekly basis, and one set of measurements shall be taken between 07:00 and 19:00 on normal weekdays.

3.2 As all of the construction noise monitoring works in the Kai Tak area and the Yau Ma Tei area are respectively covered under Contract No. HY/2018/02 (Central Kowloon Route - Kai Tak East) and Contract No. HY/2014/20 (Central Kowloon Route - Yau Ma Tei West). Therefore, only monitoring works in the Ho Man Tin area are conducted under the Project.

3.3 The baseline construction noise monitoring for the Ho Man Tin area was conducted in January 2018 by Contract No. HY/2014/09 (Central Kowloon Route - Ho Man Tin Access Shaft). The baseline monitoring results are presented in the Approved Baseline Monitoring Reports in accordance with EP-457/2013/C Condition 3.3 under Contract No. HY/2014/09. This baseline report established the Action/Limit Level. **Appendix B** shows the established Action/Limit Levels for the environmental monitoring works.

Monitoring Locations

3.4 Only one designated monitoring station for the Ho Man Tin area was selected for the construction noise impact monitoring programme. The monitoring station and works were undertaken by the ET of Contract No. HY/2014/09 (Central Kowloon Route - Ho Man Tin Access Shaft) from 20 February 2018 to 19 September 2019. Monitoring stations and works relevant to Contract No. HY/2014/09 were then handed over to the ET of Contract No. HY/2018/08 on 20 September 2019 until 31 December 2023. Monitoring stations and works of Contract No. HY/2018/08 were then handed over to the ET of this Contract on 1 January 2024 until 30 April 2026. Therefore, the monitoring data of this Contract only covered from 1 January 2024 to 30 April 2026. **Table 3.1** describes the construction noise monitoring locations, which are also depicted in **Figure 5**.

Table 3.1 Locations for Construction Noise Monitoring

Monitoring Stations	Locations	Location of Measurement
M-N3	S.K.H. Tsoi Kung Po Secondary School, 101 Chung Hau Street, Ho Man Tin, Kowloon	Rooftop (above 3/F) Area

Note: According to the baseline monitoring report submitted by the Environmental Team of Contract No. HY/2014/09 in January 2018, the monitoring works at Ko Fai House, Kwun Fai Court (M-N6) proposed by the EM&A Manual under the EP was rejected by the premises owners. Therefore, the monitoring work at the alternative noise monitoring station (M-N3) was adopted and agreed upon by the IEC and EPD.

Monitoring Parameters, Frequency and Duration

3.5 **Table 3.2** summarises the monitoring parameters, frequency and total duration of monitoring for the whole construction period, and is detailed in **Appendix A**.

Table 3.2 Noise Monitoring Parameters, Frequency and Duration

Monitoring Stations	Parameter	Period	Frequency	Measurement
M-N3	L_{10}(30 min.) dB(A) L_{90}(30 min.) dB(A) L_{eq}(30 min.) dB(A)	0700-1900 hrs on normal weekdays	Once per week	Façade

Monitoring Methodology and QA/QC Procedure

3.6 The procedures for noise monitoring were as follows:

- The Sound Level Meter was set on a tripod at a height of 1.2 m above the ground.
- The battery condition was checked to ensure the correct functioning of the meter.
- Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:
  — frequency weighting : A
  — time weighting : Fast
  — time measurement : 30 minutes
- Prior to and after each noise measurement, the meter was calibrated using a Calibrator for 94.0 dB at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1.0 dB, the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
- The wind speed was frequently checked with the portable wind meter.
- At the end of the monitoring period, the L_{eq}, L_{90} and L_{10} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
- Noise measurement was paused temporarily during periods of high intrusive noise if possible and observation was recorded when intrusive noise was not avoided.
- Noise monitoring was cancelled in the presence of fog, rain, and wind with a steady speed exceeding 5 m/s, or wind with gusts exceeding 10 m/s.

Maintenance and Calibration

3.7 The microphone head of the sound level meter and calibrator were cleaned with a soft cloth at quarterly intervals.

3.8 The sound level meter and calibrator were checked and calibrated at yearly intervals.

3.9 Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration levels from before and after the noise measurement agree to within 1.0 dB.

Results and Observations

3.10 **Table 3.3** summarises the data of the Construction Noise monitoring results. The graphical presentations of construction noise monitoring results are shown in **Appendix F**.

Table 3.3 Summary of Construction Noise Monitoring Data

Monitoring Stations	Measured Construction Noise Level (Jan 2024 to Apr 2026), $L_{eq\ 30min}$, dB(A)		Baseline, $L_{eq\ 30min}$, dB(A)		Action Level	Limit Level, dB(A)
	Average	Range	Average	Range		
M-N3	64.7	51.4 – 69.7	67.7	50.3 – 84.9	- [1]	70 (65) [2]

Remark:
[1] Action level exceedance record when one documented complaint is received.
[2] Limit Level for Construction Noise monitoring for school is 70 dB(A) during the normal teaching period and 65 dB(A) during the examination period.

3.11 The summary of the exceedance record during the reporting period is shown in **Appendix G**. Should non-compliance with the construction noise occur, action as per the Event and Action Plan presented in **Appendix H** would be performed.

3.12 Six (6) Action Level exceedances were recorded due to the environmental complaints regarding noise nuisance were documented in the construction phase of the project. After investigation, two (2) complaints were considered as non-project related and four (4) complaints were considered as project related. The details, investigation, and mitigation actions for the noise-related complaints are summarised in **Appendix J**.

3.13 No Limit Level exceedance was recorded for daytime construction noise monitoring during the reporting period.

3.14 Site audits were carried out weekly to monitor and audit the timely implementation of construction noise mitigation measures within the site boundaries of the Project.

3.15 According to our field observations during the monitoring, the major noise sources identified at the designated noise monitoring stations are road traffic noise, site vehicle movement, excavation works and daily school activities.

4 WASTE MANAGEMENT

Monitoring Requirements

4.1 Waste generated from the Project includes inert construction and demolition (C&D) materials and non-inert C&D materials. Inert C&D waste includes soil, broken rock, broken concrete and building debris, while non-inert C&D materials are made up of C&D waste which cannot be reused or recycled and has to be disposed of at the designated landfill sites.

4.2 The amount of waste generated by the major site activities of the Project during the reporting period is summarised in **Appendix K**.

4.3 Site audits were carried out weekly to monitor and audit to ensure that proper storage, transportation, and disposal practices of waste materials generated during construction activities, such as construction and demolition (C&D) materials and general refuse, are being implemented.

4.4 The on-site C&D materials and waste collection, sorting and recording system was properly maintained. The reuse / recycle of C&D materials and waste was also implemented.

4.5 The chemical waste containers were properly treated and stored temporarily in a designated chemical waste storage area on site in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.

5 LANDSCAPE AND VISUAL

Monitoring Requirements

5.1 According to the EM&A Manual, site audits were undertaken during the construction phase of the Project to check that the proposed landscape and visual mitigation measures are properly implemented and maintained as per their intended objectives. Site inspections of the implementation of landscape and visual mitigation measures were undertaken at least once every two weeks during the construction period.

Results and Observations

5.2 Bi-weekly inspection of the implementation of landscape and visual mitigation measures within the site boundaries of the Project was conducted. The implementation status of the landscape and visual mitigation measures during the reporting period is summarised in **Appendix I**.

5.3 No non-compliance with the landscape and visual impact was recorded during the reporting period.

5.4 Should non-compliance of the landscape and visual impact occur, action in accordance with the action plan presented in **Appendix H** shall be performed.

6 ENVIRONMENTAL AUDIT

Site Audits

6.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

6.2 All the follow-up actions requested by Contractor's ET and IEC during the site inspections were undertaken as reported by the Contractor and confirmed in the following weekly site inspection conducted during each reporting month.

Review of Environmental Monitoring Procedures

6.3 The monitoring works conducted by the monitoring team were inspected regularly. The following observations have been recorded for the monitoring works:

Air Quality Monitoring

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site.
- The monitoring team recorded the temperature and weather conditions on the monitoring days.

Noise Monitoring

- The monitoring team recorded all observations around the monitoring stations within and outside the construction site, specifically related to mitigation measures for construction noise control.
- Major noise sources were identified and recorded. Other intrusive noise contributing to the result was trimmed off by pausing the monitoring temporarily.

Implementation Status of Environmental Mitigation Measures

6.4 According to the EP, the approved EIA Report (AEIAR-171/2013) and the EM&A Manual of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. An Environmental Mitigation Implementation Schedule (EMIS) is provided in **Appendix I**.

6.5 The EM&A programme was found effective in monitoring the environmental impacts of the Project. Data collection was useful in determining whether the project has caused unacceptable impacts on the sensitive receivers. The impact monitoring data indicated whether exceedances would occur and helped determine whether the works' exceedances were due.

7 ENVIRONMENTAL NON-COMPLIANCE

Review of the Reasons for and the Implications of Non-compliance

7.1 There was no non-compliance under the Project during the reporting period. The observations and recommendations made in each individual site audit session were attached in the Monthly EM&A Reports.

Summary of Complaint

7.2 Eleven (11) environmental complaints on site activities were received during the reporting period. Three (3) complaints were received in the Kai Tak area, and eight (8) complaints were received in the Ho Man Tin area. No complaint was received in the Yau Ma Tei area.

7.3 The Cumulative Complaint Log is presented in **Appendix J**. The summary table records the complaint details of liaison and consultation undertaken, actions and follow-up procedures taken.

Summary of Environmental Notification of any Summons and Successful Prosecution

7.4 No summonses and prosecutions regarding site activities under the Project were received during the reporting period. The summary of environmental complaints, warnings, summonses and notification of successful prosecution for the Project is presented in **Appendix J**.

Review of Environmental Outcomes

7.5 The monitoring results on air quality during the reporting period were below the Action and Limit levels. However, the maximum results were higher than the EIA prediction with the implementation of mitigation measures. The maximum results were due to the extreme weather event and road traffic, which may not have been considered in the prediction.

7.6 The monitoring results on construction noise during the reporting period were below the Limit level, but a few exceedances of the Action level due to complaints about some short noise-related events. The results were mostly in line with the EIA prediction with the implementation of mitigation measures, and no shortcomings in EIA recommendations were identified.

7.7 The landscape and visual impact were recorded with no non-compliance during the reporting period with the implemented landscape and visual mitigation measures. The results were mostly in line with the EIA prediction with the implementation of mitigation measures, and no shortcomings in EIA recommendations were identified.

7.8 The waste management mitigation measures were implemented during the reporting period. The results were mostly in line with the EIA prediction with the implementation of mitigation measures, and no shortcomings in EIA recommendations were identified.

8 CONCLUSIONS

8.1 This is the Final EM&A Review Report, which summarises the impact monitoring results and audit findings for the EM&A programme of the Kai Tak, Yau Ma Tei, and Ho Man Tin area under Contract No. HY/2019/13 during the reporting period from 12 October 2020 to 30 April 2026 in accordance with the EM&A Manual and the requirements under the EP-457/2013/D.

Effectiveness of Monitoring Methodology and Mitigation Measures

8.2 The EM&A programme requires monitoring for construction air quality, construction noise and regular environmental site audit. All monitoring and audit/inspection were conducted in compliance with the requirements stipulated in the EM&A Manual. All EM&A activities conducted are summarised in **Table 8.1**.

Table 8.1 Summary of EM&A Activities Conducted during Reporting Period

EM&A Activity	Location	No. of Events per year						
		2020	2021	2022	2023	2024	2025	2026
Weekly Environmental Site Inspections	KVB, ADB, YVB, & HVB	12	52	52	52	53	52	17
Bi-Weekly Landscape and Visual Audit	KVB, ADB, YVB, & HVB	6	26	26	26	27	26	9
Air Quality Impact Monitoring (1-hr TSP)	HVB	0	0	0	0	68	66	22
Air Quality Impact Monitoring (24-hr TSP)	HVB	0	0	0	0	66	66	22
Noise Impact Monitoring	HVB	0	0	0	0	53	52	17

8.3 According to the environmental monitoring data obtained during this project and Event Action Plans, investigations of non-compliance (exceedance) were conducted, and timely mitigation measures were implemented. In addition, weekly site inspections were conducted to ensure the implementation and efficiency of the mitigation measures. As a result, environmental nuisances to the public were reduced to a minimum.

8.4 Therefore, the overall performance of the monitoring methodology adopted and the environmental management system in the Project was effective.

Overall EM&A Data

8.5 No non-compliance was identified during site inspections under the Project.

Air Quality Monitoring

8.6 No Action / Limit Level exceedance was recorded for the 1-hour TSP monitoring during the reporting period under the Project.

8.7 No Action/Limit Level exceedance was recorded for the 24-hour TSP monitoring during the reporting period under the Project.

Construction Noise Monitoring

8.8 Six (6) Action Level exceedances were recorded due to the document noise complaint received under the Project. After investigation, two (2) non-project related complaints and four (4) project-related complaints were considered. The enhanced mitigation measures were implemented properly and promptly. All complaint cases were investigated and closed.

8.9 No Limit Level exceedance was recorded for the construction noise monitoring during the reporting period under the Project.

Complaint, Notification of Summons and Successful Prosecution

8.10 Eleven (11) environmental complaints on site activities were received during the reporting period under the Project. Three (3) complaints were received in the Kai Tak area, and eight (8) complaints were received in the Ho Man Tin area. No complaint was received in the Yau Ma Tei area. All complaints were investigated and closed.

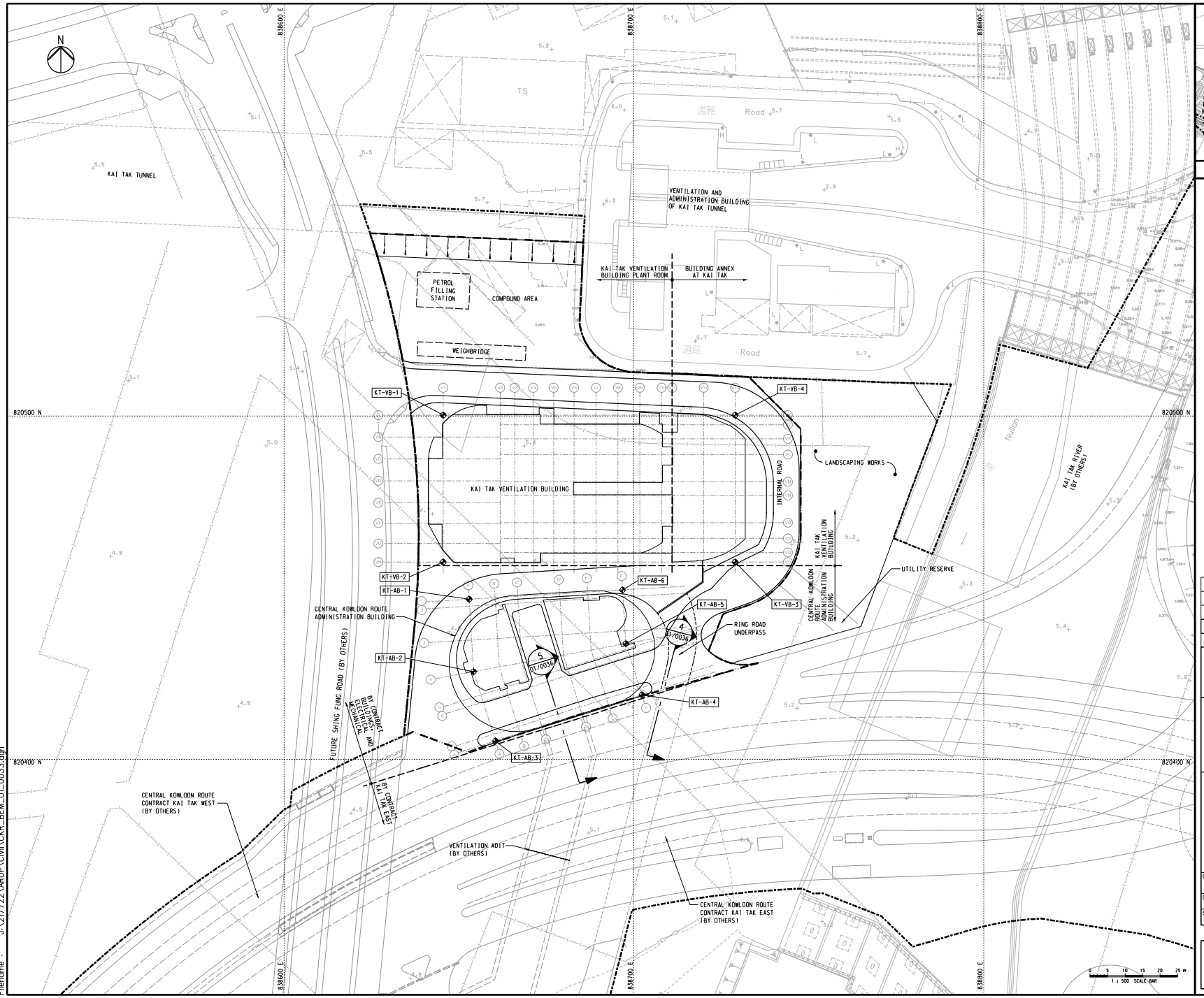
8.11 No notifications of summons and successful prosecutions were received during the reporting period under the Project.

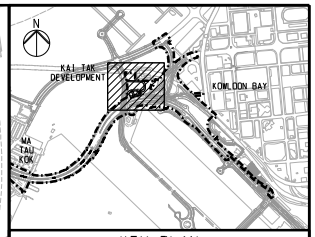
Recommendation

8.12 The recommended environmental mitigation measures, as proposed in the EIA reports and EM&A Manuals, were effectively implemented to minimise the potential environmental impacts from the Project. The EM&A programme has effectively monitored the environmental impacts generated from the construction activities and ensured the proper implementation of mitigation measures based on observations from the site inspections, landscape and visual audits, and the air quality and noise impact monitoring results recorded.

8.13 With the success of the overall EM&A programme, the deterioration of the environment caused by the Project was effectively identified, and effective mitigation measures were implemented to avoid any unacceptable impacts. In conclusion, the Project was environmentally acceptable.

FIGURES





KEY PLAN

NOTES

1. FOR NOTES AND LEGEND, REFER TO DRAWING NO. CKR/BEM/01/0011.

LEGEND

BOUNDARIES OF THE SITE

BUILDING SITE BOUNDARY

SETTING OUT TABLE OF BUILDING GRID LINES

SETTING OUT POINT	CO-ORDINATES	
	EASTING	NORTHING
KT-VB-1	838645.490	820500.230
KT-VB-2	838645.490	820458.230
KT-VB-3	838728.940	820458.230
KT-VB-4	838728.940	820500.230
KT-AB-1	838652.940	820447.607
KT-AB-2	838654.192	820426.883
KT-AB-3	838660.424	820407.065
KT-AB-4	838702.302	820420.233
KT-AB-5	838697.687	820434.911
KT-AB-6	838696.760	820450.255

Rev. 修訂	Description 內容摘要	By 改訂	Date 日期
00	ISSUE FOR TENDER	LFM	09/19

ARUP M MOTT MACDONALD M

Arup-Mott MacDonald Joint Venture

Project title 工程名稱

Contract No. HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical

Drawing title 圖紙名稱

GENERAL LAYOUT PLAN
KAI TAK VENTILATION BUILDING AND CENTRAL KOWLOON ROUTE ADMINISTRATION BUILDING

Drawing no. 圖紙編號		Rev. 修訂
	1	00

Drawn By 繪圖	Checked By 檢查	Approved By 批准人
RY	KKC	EC

Scale 比例	Status 階段
1:500 @ A1	TENDER

路政署 HIGHWAYS DEPARTMENT
主要工程管理處 MAJOR WORKS PROJECT MANAGEMENT OFFICE

Printed by : 10/2/2019
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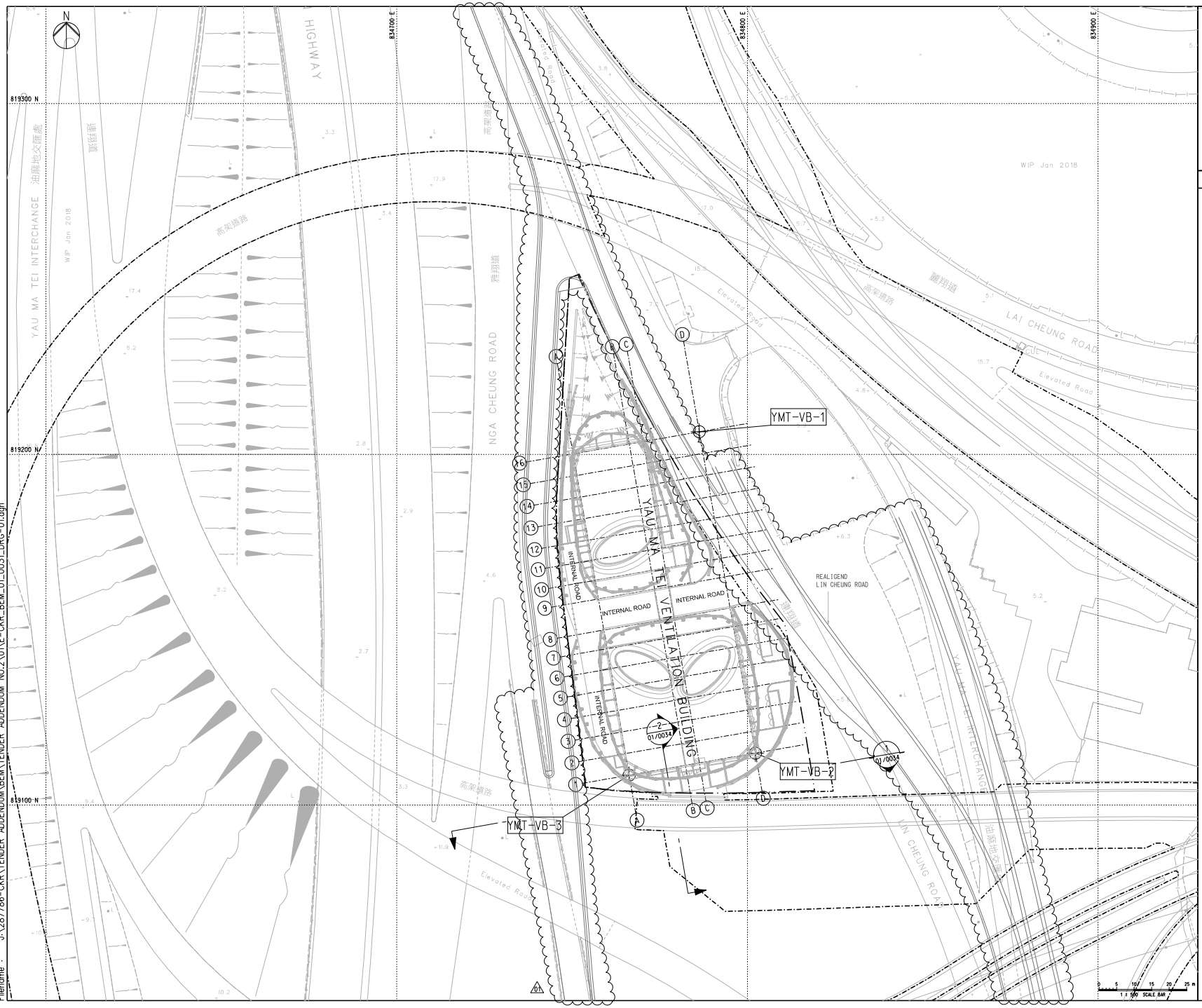

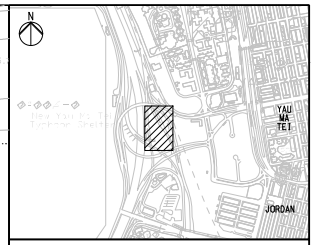

KEY PLAN

NOTES:

1. FOR NOTES AND LEGEND, REFER TO DRAWING NO. CKR/BEM/01/0011.

LEGEND:

BOUNDARIES OF THE SITE

BUILDING SITE BOUNDARY

SETTING OUT TABLE

SETTING OUT POINT	COORDINATES EASTING	NORTHING
YMT-VB-1	834786.297	819206.422
YMT-VB-2	834802.292	819114.808
YMT-VB-3	834766.286	819108.522

Rev. 修訂	Description 內容摘要	By 核准	Date 日期
01	TENDER ADDENDUM NO. 2	ML	11/19
00	ISSUE FOR TENDER	AL	09/19

ARUP M MOTT MACDONALD M

Arup-Mott MacDonald Joint Venture

Project title 工程名稱

Contract No. HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical

Drawing title 圖紙名稱

GENERAL LAYOUT PLAN
YAU MA TEI VENTILATION BUILDING

Drawing no. 圖紙編號	Rev. 修訂
2	01

Drawn By 繪圖	Checked By 檢核	Approved By 批准人
ML	JC	RC

Scale 比例 1:500 @ A1 Status 階段 TENDER

路政署 HIGHWAYS DEPARTMENT
主要工程管理處 MAJOR WORKS PROJECT MANAGEMENT OFFICE

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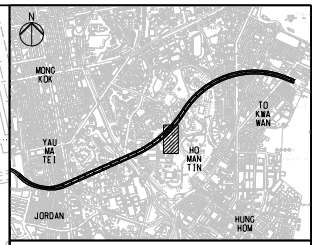

KEY PLAN

NOTES:

1. FOR NOTES AND LEGEND, REFER TO DRAWING NO. CKR/BEM/01/0011.

LEGEND:

---------- BOUNDARIES OF THE SITE

— — · — — BUILDING SITE BOUNDARY

SETTING OUT TABLE

SETTING OUT POINT	COORDINATES	
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HMT-VB-2	836760.139	819437.827
HMT-VB-3	836722.349	819406.371

Rev. 修訂	Description 內容摘要	By 設計	Date 日期
01	TENDER ADDENDUM NO. 3	ML	12/19
00	ISSUE FOR TENDER	ML	09/19

ARUP MOTT MACDONALD

Arup-Mott MacDonald Joint Venture

Project title 工程名稱

Contract No. HY/2019/13

Central Kowloon Route -
Buildings, Electrical and Mechanical

Drawing title 圖紙名稱

GENERAL LAYOUT PLAN
HO MAN TIN VENTILATION
BUILDING

Drawing no. 圖紙編號		Rev. 修訂
	3	01

Drawn By 繪圖	Checked By 核對	Approved By 批准人
ML	AC	RC

Scale 比例	Status 現況
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路政署
HIGHWAYS DEPARTMENT
主要工程管理處
MAJOR WORKS PROJECT MANAGEMENT OFFICE

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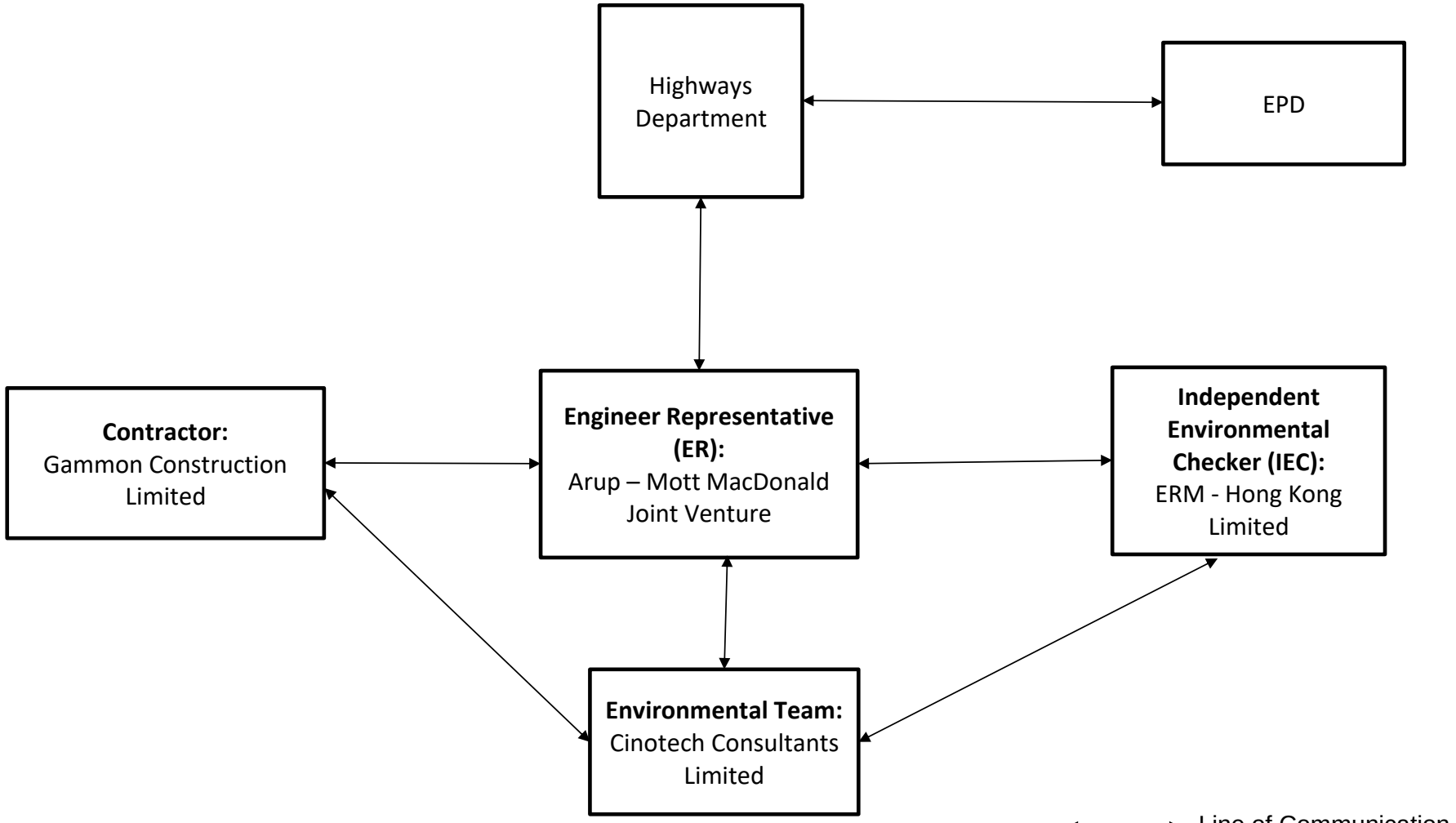

CINOTECH

Contract No. HY/2019/13
Central Kowloon Route – Buildings, Electrical and Mechanical Works

Project Organisation For Environmental Monitoring and Audit

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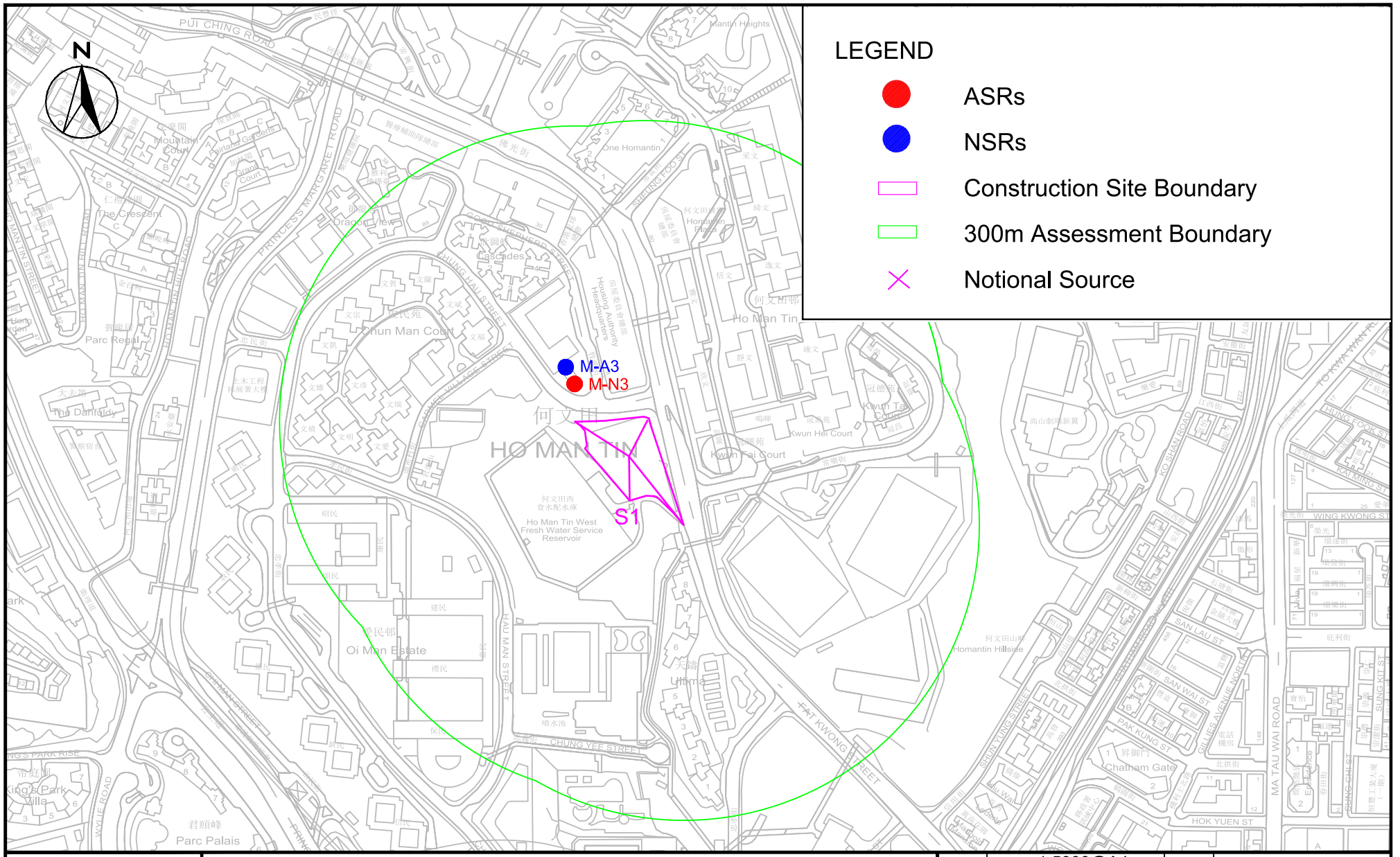
JOB NO.	MA20024	**FIGURE NO.**	4



CINOTECH
Cinotech Consultants Limited

Contract No. HY/2019/13
Central Kowloon Route - Buildings, Electrical and Mechanical Works

Site Plan with Monitoring Locations - Ho Man Tin Area

SCALE	1:5000@A4	DATE	DEC 2023
CHECK	KC	DRAWN	DC
JOB No.	MA20024	FIGURE NO. 5	REV -

APPENDIX A
MONITORING PARAMETERS

Appendix A - Environmental Impact Monitoring Requirements

Table A-1 Monitoring Requirements on Air Quality Monitoring

Type of Monitoring	Parameter	Frequency	Location	Location of Measurement
Air Quality	1 hour TSP	Three times / 6 days	• M-A3 - S.K.H. Tsoi Kung Po Secondary School	• M-A3 – Rooftop (above 3/F)
	24-hour TSP	Once / 6 days		

Remark:

- As all of the air quality (1-hour TSP and 24-hour TSP) monitoring works in the Kai Tak area and the Yau Ma Tei area are respectively covered under Contract No. HY/2018/02 (Central Kowloon Route - Kai Tak East) and Contract No. HY/2014/20 (Central Kowloon Route - Yau Ma Tei West). Therefore, only monitoring works in the Ho Man Tin area are conducted under this Contract.
- According to the baseline monitoring report submitted by the Environmental Team of Contract No. HY/2014/09 in January 2018, the monitoring works at Ko Fai House, Kwun Fai Court (M-A6) proposed by the EM&A Manual under the EP was rejected by the premises owners. Therefore, the monitoring work at the alternative air monitoring station (M-A3) was adopted and agreed upon by the IEC and EPD.

Table A-2 Monitoring Requirements on Construction Noise Monitoring

Type of Monitoring	Parameter	Frequency	Location	Location of Measurement
Construction Noise	Leq, L90 & L10 at 30-minute intervals during (07:00 to 19:00 on normal weekdays)	Once / week	• M-N3 - S.K.H. Tsoi Kung Po Secondary School	• M-N3 – Rooftop (above 3/F)

Remark:

- As all of the construction noise monitoring works in the Kai Tak area and the Yau Ma Tei area are respectively covered under Contract No. HY/2018/02 (Central Kowloon Route - Kai Tak East) and Contract No. HY/2014/20 (Central Kowloon Route - Yau Ma Tei West). Therefore, only monitoring works in the Ho Man Tin area are conducted under this Contract.
- According to the baseline monitoring report submitted by the Environmental Team of Contract No. HY/2014/09 in January 2018, the monitoring works at Ko Fai House, Kwun Fai Court (M-N6) proposed by the EM&A Manual under the EP was rejected by the premises owners. Therefore, the monitoring work at the alternative noise monitoring station (M-N3) was adopted and agreed upon by the IEC and EPD.

APPENDIX B
ACTION AND LIMIT LEVELS FOR AIR QUALITY AND NOISE

Appendix B – Action and Limit Levels

Table B-1 Action and Limit Levels for 1-Hour TSP

Monitoring Stations	Action Level, µg/m^3	Limit Level, µg/m^3
M-A3	333	500

Table B-2 Action and Limit Levels for 24-Hour TSP

Monitoring Stations	Action Level, µg/m^3	Limit Level, µg/m^3
M-A3	153	260

Table B-3 Action and Limit Levels for Construction Noise

Monitoring Stations	Action Level	Limit Level
M-N3	When one documented complaint is received	For Schools: 70dB(A) during normal teaching period and 65 dB(A) during examination periods

APPENDIX C
WEATHER INFORMATION

Appendix C – Weather Conditions During Monitoring Period

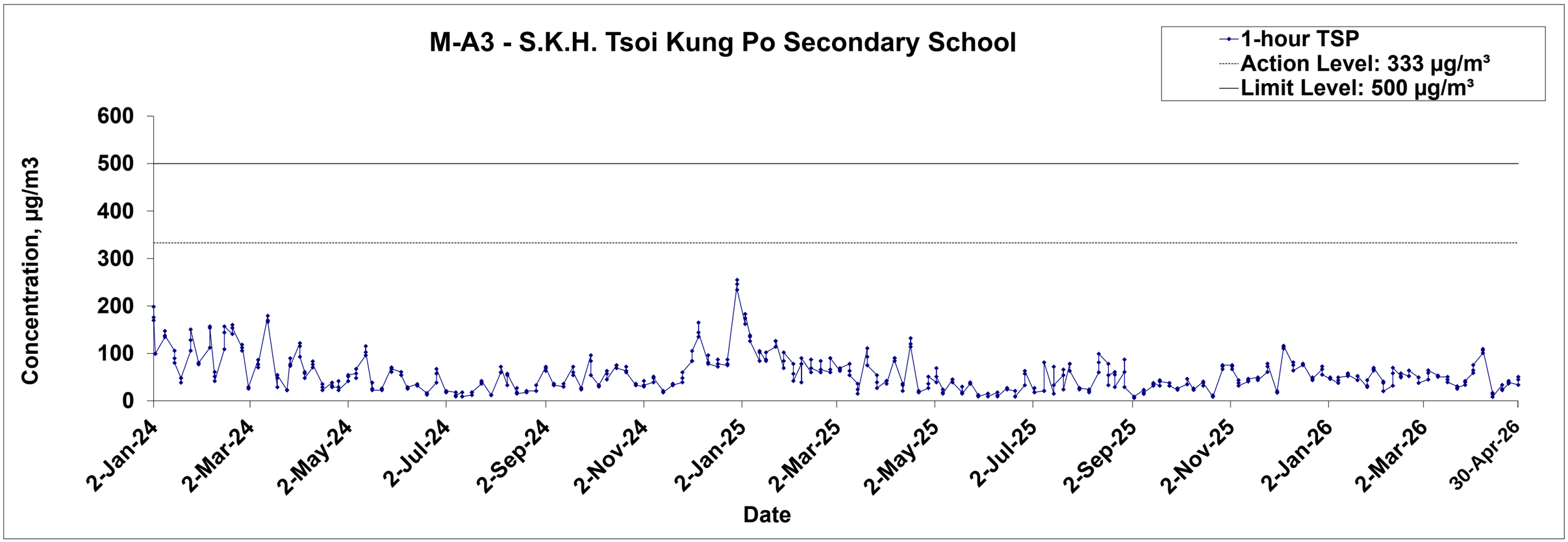
Reporting Month	General Weather Conditions
October 2020	Sunny
November 2020	Sunny, Overcast
December 2020	Sunny, Overcast
January 2021	Sunny, Overcast
February 2021	Sunny, Overcast
March 2021	Sunny, Overcast
April 2021	Sunny, Overcast
May 2021	Sunny, Rain
June 2021	Sunny, Overcast
July 2021	Sunny, Rain
August 2021	Sunny, Overcast, Rain
September 2021	Sunny, Rain
October 2021	Sunny, Rain
November 2021	Sunny
December 2021	Sunny, Fine
January 2022	Sunny, Fine
February 2022	Fine, Overcast, Rain
March 2022	Sunny, Fine, Rain
April 2022	Sunny
May 2022	Sunny
June 2022	Sunny, Fine, Rain
July 2022	Sunny, Rain
August 2022	Sunny, Rain
September 2022	Sunny
October 2022	Sunny, Rain
November 2022	Sunny, Overcast, Rain
December 2022	Sunny, Drizzle
January 2023	Sunny, Fine, Overcast, Drizzle
February 2023	Sunny, Fine, Overcast
March 2023	Sunny, Overcast, Drizzle
April 2023	Fine, Overcast, Drizzle
May 2023	Sunny, Fine, Overcast, Rain
June 2023	Sunny, Fine, Rain
July 2023	Sunny, Drizzle, Rain
August 2023	Sunny, Storm,
September 2023	Sunny, Overcast, Rain

Appendix C – Weather Conditions During Monitoring Period

Reporting Month	General Weather Conditions
October 2023	Sunny, Overcast
November 2023	Sunny, Overcast
December 2023	Sunny, Fine, Overcast
January 2024	Sunny, Fine, Overcast, Drizzle
February 2024	Sunny, Fine, Overcast, Drizzle
March 2024	Sunny, Fine
April 2024	Sunny, Fine, Overcast, Rain
May 2024	Sunny, Fine, Overcast, Rain
June 2024	Fine, Overcast
July 2024	Sunny, Fine, Overcast
August 2024	Sunny, Overcast, Drizzle
September 2024	Sunny, Storm
October 2024	Sunny, Fine, Overcast
November 2024	Sunny, Fine, Drizzle
December 2024	Sunny, Fine, Overcast
January 2025	Sunny, Fine, Overcast
February 2025	Sunny, Fine, Overcast
March 2025	Sunny, Overcast
April 2025	Sunny, Fine, Overcast
May 2025	Fine, Overcast
June 2025	Sunny, Fine, Rain
July 2025	Sunny, Fine, Overcast, Rain
August 2025	Sunny, Drizzle, Rain
September 2025	Sunny, Fine, Overcast, Drizzle
October 2025	Fine, Overcast, Drizzle
November 2025	Sunny, Fine, Overcast
December 2025	Sunny, Fine, Overcast
January 2026	Sunny, Fine
February 2026	Sunny, Fine, Overcast
March 2026	Fine, Drizzle
April 2026	Fine, Overcast, Drizzle

APPENDIX D
1-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

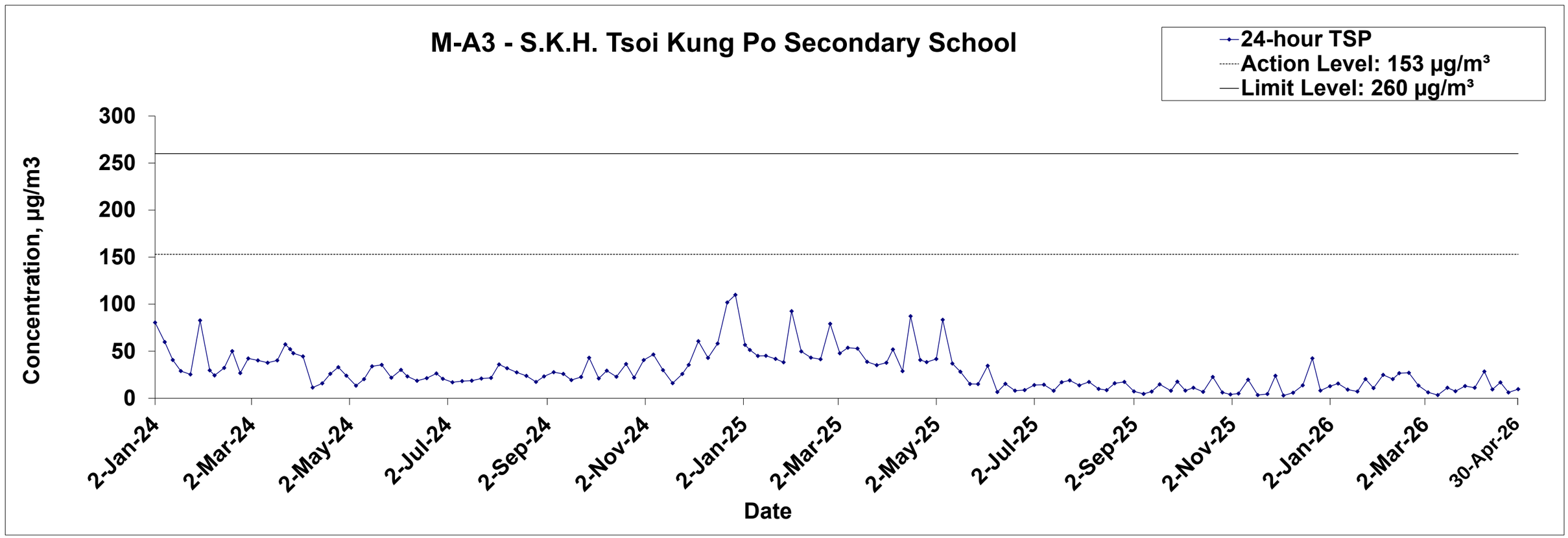
1-hr TSP Concentration Levels



Contract No. HY/2019/13 Central Kowloon Route – Buildings, Electrical and Mechanical Works	Scale N.T.S	Project No. MA20024	CINOTECH
Graphical Presentation of 1-hour TSP Monitoring Results	Date Jan 2024 to Apr 2026	Appendix D	

APPENDIX E
24-HOUR TSP MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

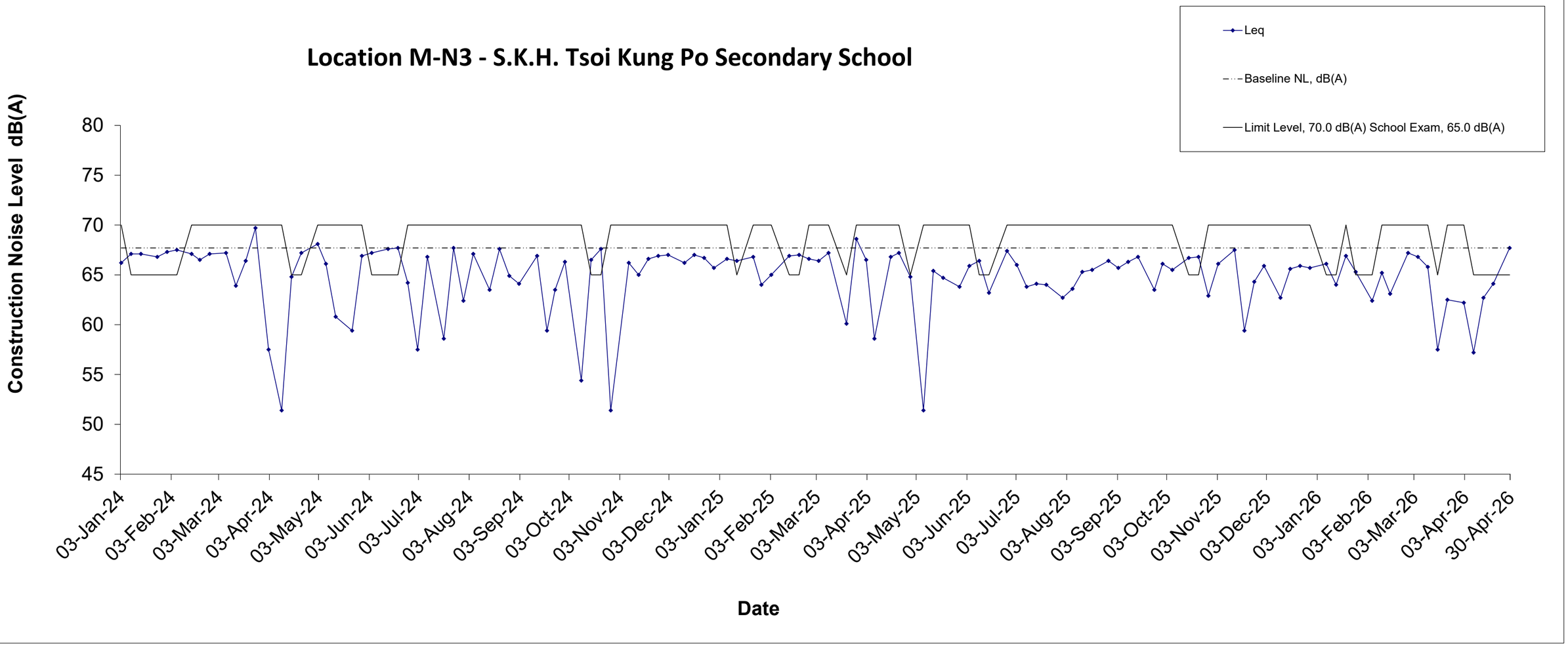
24-hr TSP Concentration Levels



Contract No. HY/2019/13 Central Kowloon Route – Buildings, Electrical and Mechanical Works	Scale N.T.S	Project No. MA20024	CINOTECH
Graphical Presentation of 24-hour TSP Monitoring Results	Date Jan 2024 to Apr 2026	Appendix E	

APPENDIX F
NOISE MONITORING RESULTS AND GRAPHICAL PRESENTATIONS

Noise Levels



Contract No. HY/2019/13 Central Kowloon Route – Buildings, Electrical and Mechanical Works	Scale N.T.S	Project No. MA20024	CINOTECH
Graphical Presentation of Construction Noise Monitoring Results	Date Jan 2024 to Apr 2026	Appendix F	

APPENDIX G
SUMMARY OF EXCEEDANCE

Appendix G – Summary of Exceedance

Exceedance Record for Contract No. HY/2019/13
Reporting Period: October 2020 to April 2026

(A) Exceedance Record for Air Quality:

No Action/Limit Level exceedances were recorded for the 1-hour TSP monitoring during the reporting period.

No Action/Limit Level exceedances were recorded for the 24-hour TSP monitoring during the reporting period.

(B) Exceedance Record for Construction Noise:

Six (6) Action Level exceedances were recorded due to the environmental complaints regarding noise nuisance were documented in the construction phase of the project. After investigation, two (2) complaints were considered as **non-project related** and four (4) complaints were considered as **project related**. The mitigation measures were mainly installing additional temporary noise barriers and operating the PMEs intermittently. All complaint cases were investigated and closed.

No Limit Level exceedance was recorded for daytime construction noise monitoring during the reporting period.

(C) Exceedance Record for Landscape and Visual:

No non-compliance with the landscape and visual impact was recorded during the reporting period.

APPENDIX H
EVENT ACTION PLANS

Table H-1 Event / Action Plan for Air Quality

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
ACTION LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER;	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate.

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	8. If exceedance stops, cease additional monitoring.			
LIMIT LEVEL				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; 4. Amend proposal if appropriate.
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and	1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 3. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.		work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.	works as determined by the ER until the exceedance is abated.

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

Table H-2 Event / Action Plan for Construction Noise

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

EVENT	ACTION			
	ET	**IEC**	**ER**	**CONTRACTOR**
	causes and actions taken for the exceedances; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring.		instruct the Contractor to stop that portion of work until the exceedance is abated.	abated.

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

Table H-3 Event / Action Plan for Landscape and Visual during construction phase

Action Level	ET	IEC	ER	Contractor
Non-conformity on one occasion	1. Identify source(s) 2. Inform the Contractor, IEC and ER 3. Discuss remedial actions and preventive measures with IEC, ER and Contractor 4. Monitor remedial action(s) and preventive measures until rectification has been completed	1. Check inspection report 2. Check Contractor's working method 3. Discuss with ET, ER and Contractor on possible remedial measure(s) and preventive measure(s) 4. Advise ER on effectiveness of proposed remedial measure(s) and preventive measure(s) 5. Check implementation of proposed remedial measure(s) and preventive measure(s)	1. Confirm receipt of notification of non-conformity in writing 2. Notify the Contractor 3. Review and agree on the remedial measure(s) and preventive measures proposed by the Contractor 4. Check implementation of remedial measure(s) and preventive measures	1. Identify source and investigate the non-conformity 2. Implement remedial measure(s) and preventive measure(s) 3. Amend working methods agreed with ER as appropriate 4. Rectify damage and undertake any necessary replacement
Repeated Non-conformity	1. Identify source(s) 2. Inform Contractor, IEC and ER 3. Discuss inspection frequency 4. Discuss remedial action(s) and preventive measures with IEC, ER and Contractor 5. Monitor remedial action(s) and preventive measure(s) until rectification has been completed 6. If non-conformity stops, cease any	1. Check inspection report 2. Check Contractor's working method 3. Discuss with ET, ER and Contractor on possible remedial measure(s) and preventive measure(s) 4. Advise ER on effectiveness of proposed remedial measure(s) and preventive measures 5. Supervise implementation of proposed remedial measure(s) and preventive measure(s)	1. Notify the Contractor 2. In consultation with the ET and IEC, agree with the Contractor on the remedial measure(s) and preventive measure(s) to be implemented 3. Supervise implementation of remedial measure(s) and preventive measure(s)	1. Identify source and investigate the non-conformity 2. Implement remedial measure(s) and preventive measure(s) 3. Amend working methods agreed with ER as appropriate 4. Rectify damage and undertake any necessary replacement. Stop relevant portion of works as determined by ER until the non-conformity is abated.

Action Level	ET	IEC	ER	Contractor
	additional monitoring			

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

APPENDIX I
ENVIRONMENTAL MITIGATION
IMPLEMENTATION SCHEDULE (EMIS)

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
Construction Dust Impact								
S4.3.10	D1	The contractor shall follow the procedures and requirements given in the Air Pollution Control (Construction Dust) Regulation	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	- APCO - To control the dust impact to meet HKAQO and TM-EIA criteria	^
S4.3.10	D2	Mitigation measures in form of regular watering under a good site practice should be adopted. Watering once per hour on exposed worksites and haul road should be conducted to achieve dust removal efficiencies of 91.7%. While the above watering frequencies are to be followed, the extent of watering may vary depending on actual site conditions but should be sufficient to maintain an equivalent intensity of no less than 1.3 L/m2 to achieve the dust removal efficiency.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	- APCO - To control the dust impact to meet HKAQO and TM-EIA criteria	^
S4.3.10	D3	Proper watering at exposed spoil should be undertaken throughout the construction phase.	Minimize dust impact at the nearby sensitive receivers	Contractor	All construction sites	Construction stage	- APCO - To control the dust impact to meet HKAQO and TM-EIA criteria	^
		Any excavated or stockpile of dusty material should be covered entirely by impervious sheeting or sprayed with water to maintain the entire surface wet and then removed or backfilled or reinstated where practicable within 24 hours of the excavation or unloading.						^
		Any dusty materials remaining after a stockpile is removed should be 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.						^
		Where practicable, vehicle washing facilities with high pressure water jet should be provided at every discernible or designated vehicle exit point. The area where vehicle washing takes place and the road section between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.						^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		When there are open excavation and reinstatement works, hoarding of not less than 2.4m high should be provided and properly maintained as far as practicable along the site boundary with provision for public crossing. Good site practice shall also be adopted by the Contractor to ensure the conditions of the hoardings are properly maintained throughout the construction 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 a dust suppression chemical continuously.						^
		Any area that involves demolition activities should be sprayed with water or a dust suppression chemical immediately prior to, during and immediately after the activities so as to maintain the entire surface wet						^
		Where a scaffolding is erected around the perimeter of a building under construction, effective dust screens, sheeting or netting should be provided to enclose the scaffolding from the ground floor level of the building, or a canopy should be provided from the first floor level up to the highest level of the scaffolding.						N/A
		Any skip hoist for material transport should be totally enclosed by impervious sheeting.						^
		Every stock of more than 20 bags of cement or dry-pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides						^
		Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed.						^
		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 control system.						^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		Exposed earth should be properly treated by compaction, turfing, hydroseeding, vegetation planting or sealing with latex, vinyl, bitumen, shotcrete or other suitable surface stabilizer within six months after the last construction activity on the construction site or part of the construction site where the exposed earth lies.						N/A
S4.3.10	D6	Implement regular dust monitoring under EM&A programme during the construction stage.	Monitoring of dust impact	Contractor	Selected rep. dust monitoring station	Construction stage	- TM-EIA	^
Construction Noise (Airborne)								
S5.4.1	N1	Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction programme.	Control construction airborne noise	Contractor	All construction sites	Construction stage	- Annex 5, TM-EIAO	^
		Machines and plant (such as trucks, cranes) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum.						^
		Plant known to emit noise strongly in one direction, where possible, be orientated so that the noise is directed away from nearby NSRs.						^
		Silencers or mufflers on construction equipment should be properly fitted and maintained during the construction works.						^
		Mobile plant should be sited as far away from NSRs as possible and practicable.						^
		Material stockpiles, mobile container site office and other structures should be effectively utilized, where practicable, to screen noise from on-site construction activities.						^
S5.4.1	N2	Install temporary hoarding located on the site boundaries between noisy construction activities and NSRs. The conditions of 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	Construction stage	- Annex 5, TM-EIAO	^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S5.4.1	N3	Install movable noise barriers (typical design is wooden framed barrier with a small-cantilevered on a skid footing with 25mm thick internal sound absorptive lining), acoustic mat or full enclosure, screen the noisy plants including air compressors, generators and handheld breakers, etc.	Sreen the noisy plant items to be used at all construction sites	Contractor	All construction sites where practicable	Construction stage	- Annex 5, TM-EIAO	^
S5.4.1	N4	Use 'Quiet plants'	Reduce the noise levels of plant items	Contractor	All construction sites where practicable	Construction stage	- Annex 5, TM-EIAO	^
S5.4.1	N5	Loading/ unloading activities should be carried out inside the full enclosure of mucking out points.	Reduce the noise levels of loading/ unloading activities	Contractor	Mucking out locations	Construction stage	- Annex 5, TM-EIAO	^
S5.4.1	N6	Sequencing operation of construction plants where practicable.	Operate sequentially within the same work site to reduce the construction airborne noise	Contractor	All construction sites where practicable	Construction stage	- Annex 5, TM-EIAO	^
S5.4.1	N7	Implement a noise monitoring programme under EM&A programme.	Monitor the construction noise levels at the selected representative locations	Contractor	Selected rep. noise monitoring station	Construction stage	- TM-EIAO	^
Water Quality (Construction Phase)								
S6.9.1.1	W1	Construction Runoff At the start of site establishment, perimeter cut-off drains to direct off-site water around the site should be constructed with internal drainage works 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.	To minimize water quality impact from the construction site runoff and general construction activities	Contractor	All construction sites where practicable	Construction stage	- Water Pollution Control Ordinance - ProPECC PN 1/94 - TM-EIAO - TM-DSS	^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		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 silt/ sediment trap. The sediment/ silt traps should be incorporated in the permanent drainage channels to enhance deposition rates.						^
		The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC PN 1/94, which states that the retention time for silt/ sand traps should be 5 minutes under maximum flow conditions. Sizes may vary depending upon the flow rate, but for a flow rate of 0.1 m3/s a sedimentation basin of 30 m3 would be required and for a flow rate of 0.5 m3/s the basin would be 150 m3. The detailed design of the sand/ silt traps shall be undertaken by the contractor prior to the commencement of construction.						^
		All exposed earth areas should be completed and vegetated as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable. Exposed slope surfaces should be covered by tarpaulin or other means.						^
		The overall slope of the site should be kept to a minimum to reduce the erosive potential of surface water flows, and all traffic areas and access roads protected by coarse stone ballast. An additional advantage accruing from the use of crushed stone is the positive traction gained during prolonged periods of inclement weather and the reduction of surface sheet flows.						^
		All drainage facilities and erosion and sediment control structures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rainstorms. Deposited silt and grit should be removed regularly and disposed of by spreading evenly over stable, vegetated areas.						^
		Measures should be taken to minimize the ingress of site drainage into excavations. If the excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.						^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		Open stockpiles of construction materials (for example, aggregates, sand and fill material) of more than 50m3 should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.						^
		Manholes should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being 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 or after rainstorms are summarized in Appendix A2 of ProPECC PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.						^
		All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited by them on roads. An adequately designed and site wheel washing facilities should be provided at every construction site exit where practicable. Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process. The section of 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 regularly to prevent the release of oil and grease into the storm water drainage system after accidental spillage. A bypass should be provided for the oil interceptors to prevent flushing during heavy rain.						^
		Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid water quality impacts.						^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		All fuel tanks and storage areas should be provided with locks and sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank to prevent spilled fuel oils from reaching water sensitive receivers nearby.						^
		Adopt best management practices.						^
		All earth works should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.						^
S6.9.1.2	W2	<u>Tunneling Works and Underground Works</u> Cut-&-cover tunneling work should be conducted sequentially to limit the amount of construction runoff generated from exposed areas during the wet season (April to September) as far as practicable.	To minimize construction water quality impact from tunneling works	Contractor	All tunneling portion	Construction stage	- Water Pollution Control Ordinance - ProPECC PN 1/94 - TM-EIAO - TM-DSS	N/A
		Uncontaminated discharge should pass through sedimentation tanks prior to off-site discharge.						N/A
		The wastewater with a high concentration of SS should be treated (e.g. by sedimentation tanks with sufficient retention time) before discharge. Oil interceptors would also be required to remove the oil, lubricants and grease from the wastewater.						N/A
		Direct discharge of the bentonite slurry (as a result of D-wall) is not allowed. It should be reconditioned and reused wherever practicable. Temporary storage locations (typically a properly closed warehouse) should be provided on site for any unused bentonite that needs to be transported away after all the related construction activities area completed. The requirements in ProPECC PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.						N/A
S6.9.1.3	W3	<u>Sewage Effluent</u> Portable chemical toilets and sewage holding tanks are recommended for handling the construction sewage generated by the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be responsible for appropriate disposal and maintenance.	To minimize water quality from sewage effluent	Contractor	All construction sites where practicable	Construction stage	- Water Pollution Control Ordinance - TM-DSS	^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S6.9.1.5	W4	<u>Groundwater from Potential Contaminated Area:</u> No direct discharge of groundwater from contaminated areas should be adopted.	To minimize groundwater quality impact from contaminated area	Contractor	Excavation areas where contamination is found	Construction stage	- Water Pollution Control Ordinance - TM-EIAO - TM-DSS	^
		A discharge license under the WPCO through the Regional Office of EPD for groundwater discharge should be applied. Prior to the excavation works within these potentially contaminated areas, the groundwater quality should be reviewed during the process of discharge license application. The compliance to the Technical Memorandum on Standards for Effluents Discharged into Drainage on Sewerage Systems, Inland and Coastal Waters (TM-DSS) and the existence of prohibited substance should be confirmed. If the review results indicated that the groundwater to be generated from the excavation works would be contaminated, the contaminated groundwater should be either properly treated in compliance with the requirements of the TM-DSS or properly recharged into the ground.						^
		If wastewater treatment is deployed, the wastewater treatment unit shall deploy suitable treatment process (e.g. oil interceptor / activated carbon) to reduce the pollution level to an acceptable standard and remove any prohibited substances (e.g. TPH) to undetectable range. All treated effluent from wastewater treatment plant shall meet the requirements as stated in TM-DSS and should be discharged into the foul sewers.						^
		If groundwater recharging wells are deployed, recharging wells should be installed as appropriate for recharging the contaminated groundwater back into the ground. The recharging wells should be selected at places where the groundwater quality will not be affected by the recharge operation as indicated in the Section 2.3 of TM-DSS. The baseline groundwater quality shall be determined prior to the selection of the recharge wells, and submit a working plan (including the laboratory analytical results showing the quality of groundwater at the proposed recharge location(s) as well as the pollutant levels of groundwater to be recharged) to EPD for agreement. Pollution levels of groundwater to be recharged shall not be higher than pollutant levels of ambient groundwater at the recharge well. Prior to recharge, any prohibited substances such as TPH products should be removed as necessary by installing the petrol interceptor.						N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S6.9.1.6	W6	<u>Accidental Spillage</u> All the tanks, containers, storage area should be bunded and the locations should be locked as far as possible from the sensitive watercourse and stormwater drains.	To minimize water quality impact from accidental spillage	Contractor	All construction site where practicable	Construction stage	- Water Pollution Control Ordinance - ProPECC PN 1/94 - TM-EIAO - TM-DSS	^
		The Contractor should register as a chemical waste producer if chemical wastes would be generated. Storage of chemical waste arising from the construction activities should be stored with suitable labels and warnings.						^
		Disposal of chemical wastes should be conducted in compliance with the requirements as stated in the Waste Disposal (Chemical Waste) (General) Regulation.						^
Waste Management (Construction Waste)								
S7.4.1	WM1	<u>On-site sorting of C&D material</u> Geological assessment should be carried out by competent persons on site during excavation to identify materials which are not suitable to use as aggregate in structural concrete (e.g. volcanic rock, Aplite dyke rock, etc.). Volcanic rock and Aplite dyke rock should be separated at the source sites as far as practicable and stored at designated stockpile area preventing them from delivering to crushing facilities. The crushing plant operator should also be reminded to set up measures to prevent unsuitable rock from ending up at concrete batching plants and be turned into concrete for structural use. Details regarding control measures at source site and crushing facilities should be submitted by the Contractor for the Engineer to review and agree. In addition, site records should also be kept for the types of rock materials excavated and the traceability of delivery will be ensured with the implementation of Trip Ticket System and enforced by site supervisory staff as stipulated under DEVB TC(W) No. 6/2010 for tracking of the correct delivery to the rock crushing facilities for processing into aggregates. Alternative disposal option for the reuse of volcanic rock and Aplite Dyke rock, etc. should be explored.	Separation of unsuitable rock from ending up at concrete batching plants and be turned into concrete for structural use	Contractor	All construction sites	Construction stage	· DEVB (W) No. 6/2010	^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S7.5.1	WM2	Construction and Demolition Material Maintain temporary stockpiles and reuse excavated fill material for backfilling and reinstatement.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	· Land (Miscellaneous Provisions) Ordinance · Waste Disposal Ordinance · ETWB TCW No. 19/2005	^
		Carry out on-site sorting.						^
		Make provisions in the Contract documents to allow and promote the use of recycled aggregates where appropriate						^
		Adopt 'selective demolition' technique to demolish the existing structures and facilities with a view to recovering broken concrete effectively for recycling purpose, where possible.						N/A
		Implement a trip-ticket system for each works contract to ensure that the disposal of C&D materials are properly documented and verified.						^
		Implement an enhanced Waste Management Plan similar to ETWBTC (Works) No. 19/2005 – "Environmental Management on Construction Sites" to encourage on-site sorting of C&D materials and to minimize their generation during the course of construction.						^
S7.5.1	WM3	C&D Waste Standard formwork or pre-fabrication should be used as far as practicable in order to minimize the arising of C&D materials. The use of more durable formwork or plastic facing for the construction works should be considered. Use of wooden hoardings should not be used, as in other projects. Metal hoarding should be used to enhance the possibility of recycling. The purchasing of construction materials will be carefully planned in order to avoid over ordering and wastage.	Good site practice to minimize the waste generation and recycle the C&D materials as far as practicable so as to reduce the amount for final disposal	Contractor	All construction sites	Construction stage	· Land (Miscellaneous Provisions) Ordinance · Waste Disposal Ordinance · ETWB TCW No. 19/2005	^
		The Contractor should recycle as much of the C&D materials as possible on-site. Public fill and C&D waste should be segregated and stored in different containers or skips to enhance reuse or recycling of materials and their proper disposal. Where practicable, concrete and masonry can be crushed and used as fill. Steel reinforcement bar can be used by scrap steel mills. Different areas of the sites should be considered for such segregation and storage.						^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S7.5.1	WM4	Excavated Contaminated Soils Details of the mitigation measures on handling of the contaminated soil shall be referred to Section on Land Contamination below.	The contaminated soil will be excavated for on-site reuse	Contractor	PBH4	Prior to commencement of construction works within the contaminated area	· Practice Guide (PG) for Investigation and Remediation of Contaminated Land · GN/GM for land contamination	^
S7.5.1	WM5	Land-based and Marine-based Sediment All construction plant and equipment shall be designed and maintained to minimize the risk of silt, sediments, contaminants or other pollutants being released into the water column or deposited in the locations other than designated location.	To control pollution due to marine sediment	Contractor	Along CKR alignment	Construction stage	· ETWB TCW No. 34/2002	^
		All vessels shall be sized such that adequate draft is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.						N/A
		Before moving the vessels which are used for transporting dredged material, excess material shall be cleaned from the decks and exposed fittings of vessels and the excess materials shall never be dumped into the sea except at the approved locations.						N/A
		Adequate freeboard shall be maintained on barges to ensure that decks are not washed by wave action.						N/A
		The Contractors shall monitor all vessels transporting material to ensure that no dumping outside the approved location takes place. The Contractor shall keep and produce logs and other records to demonstrate compliance and that journeys are consistent with designated locations and copies of such records shall be submitted to the engineers.						N/A
		The Contractors shall comply with the conditions in the dumping licence.						^
		All bottom dumping vessels (Hopper barges) shall be fitted with tight fittings seals to their bottom openings to prevent leakage of material.						N/A
		The material shall be placed into the disposal pit by bottom dumping.						N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		Contaminated marine mud shall be transported by spit barge of not less than 750m3 capacity and capable of rapid opening and discharge at the disposal site.						N/A
		Discharge shall be undertaken rapidly and the hoppers shall be closed immediately. Material adhering to the sides of the hopper shall not be washed out of the hopper and the hopper shall remain closed until the barge returns to the disposal site.						N/A
		For Type 3 special disposal treatment, sealing of contaminant with geosynthetic containment before dropping designated mud pit would be a possible arrangement. A geosynthetic containment method is a method whereby the sediments are sealed in geosynthetic containers and, the containers would be dropped into the designated contaminated mud pit where they would be covered by further mud disposal and later by the mud pit capping at the disposal site, thereby fulfilling the requirements for fully confined mud disposal.						N/A
S7.5.1	WM6	<u>Chemical Waste</u> Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.	Control the chemical waste and ensure proper storage, handling and disposal	Contractor	All construction sites	Construction stage	· Waste Disposal (Chemical Waste) (General) Regulation · Code of Practice on the Packaging, Labelling and Storage of Chemical Waste	^
		Containers used for the storage of chemical wastes should be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed, have a capacity of less than 450 L unless the specification has been approved by EPD, and display a label in English and Chinese in accordance with instructions prescribed in Schedule 2 of the regulation.						^
		The storage area for chemical wastes should be clearly labelled and used solely for the storage of chemical waste, enclosed on at least 3 sides, have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest, have adequate ventilation, covered to prevent rainfall entering, and arranged so that incompatible materials are adequately separated.						^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
		Disposal of chemical waste should be via a licensed waste collector, be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Centre which also offers a chemical waste collection service and can supply the necessary storage containers, or be to a reuser of the waste, under approval from EPD.						^
S7.5.1	WM7	General Refuse General refuse generated on-site should be stored in enclosed bins or compaction units separately from construction and chemical wastes.	Minimize production of the general refuse and avoid odour, pest and litter impacts	Contractor	All construction sites	Construction stage	· Waste Disposal Ordinance	^
		A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from construction and chemical wastes, on a daily basis to minimize odour, pest and litter impacts. Burning of refuse on construction sites is prohibited by law.						^
		Aluminum cans are often recovered from the waste stream by individual collectors if they are segregated and made easily accessible. Separate labelled bins for their deposit should be provided if feasible.						^
		Office wastes can be reduced through the recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered by the Contractor.						^
Land Contamination								
S8.9 & Appendix 8.4	LC2	Excavation of the Contaminated Soil Prior to commencement of the excavation works at the contamination zone, the zone should be clearly marked out on site and the surface levels recorded. Excavation of contaminated material should be undertaken using dedicated earth-moving plant.	The contaminated soil will be excavated for on-site reuse	Contractor	PBH4	Prior to commencement of construction works within the contaminated area	· Practice Guide (PG) for Investigation and Remediation of Contaminated Land - Guidance Notes for Contaminated Land Assessment and Remediation · Guidance Manual for Use of Risk-Based Remediation Goals (RBRGs) for Contaminated Land Management	N/A
		The excavated contaminated soils would be stockpiled at designated area on site and covered by sheet to prevent dispersion of contamination during stockpiling.						N/A
		The Contractor should pay attention to the selection of suitable groundwater lowering schemes and discharge points if the groundwater table is higher than the contaminated soils during excavation. The Contractor should also obtain a valid Water Pollution Control Ordinance (WPCO) discharge licence from EPD where applicable.						N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
Hazard to Life								
S9.18	H8	The driver and his assistant should be physically healthy, experienced and have good safe driving records. The driver should hold a proper driving licence for the approved transport truck. Dedicated training programme and regular road safety briefing sessions/ workshops should be provided to enhance their safe driving attitude and practice. Smoking should be strictly prohibited.	To reduce the risk during explosives transport	Contractor	Works areas at which explosives would be used	Construction stage	/	^
S9.18	H9	Emergency response plans in case of road accident should be prepared and implemented. The driver and his assistant should be familiar with the emergency procedures including evacuation, and proper communication/ fire-fighting equipment should be provided to the driver and his assistant.	To reduce the risk during explosives transport	Contractor	Works areas at which explosives would be used	Construction stage	/	^
Landscape and Visual								
S10.10.1 Table 10.11	LV3	<u>Good Site Management</u> Large temporary stockpiles of excavated material shall be covered with unobtrusive sheeting to prevent dust and dirt spreading to adjacent landscape areas and vegetation, and to create a neat and tidy visual appearance.	Minimize visual impact	Contractor	Within Project site	Construction Phase	/	^
		Construction plant and building material shall be orderly and carefully stored in order to create a neat and tidy visual appearance.						^
S10.10.1 Table 10.11	LV4	<u>Screen Hoarding</u> Decorative screen hoarding should be erected to screen the public from the construction area. It should be designed to be compatible with the existing urban context.	Minimize visual impact	Contractor	Within Project site	Construction Phase	/	^
S10.10.1 Table 10.11	LV5	<u>Lighting Control during Construction</u> All lighting in the construction site shall be carefully controlled to minimize light pollution and night-time glare to nearby residencies and GIC. The Contractor shall consider other security measures, which shall minimize the visual impacts.	Minimize visual impact	Contractor	Within Project site	Construction Phase	/	^
S10.10.1 Table 10.11	LV6	<u>Erosion Control</u> The potential for soil erosion shall be reduced by minimizing the extent of vegetation disturbance on site and by providing a protective cover over newly exposed soil.	Minimize landscape impact	Contractor	Within Project site	Construction Phase	/	^

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S10.10.1 Table 10.11	LV7	Tree Protection & Preservation Carefully protected during construction. Tree protection measures will be detailed at the Tree Removal Application stage and plans submitted to the relevant Government Department for approval in due course in accordance with ETWB TC no. 3/2006.	Minimize landscape and visual impact	Contractor	Within Project site	Construction Phase	· 'Guidelines for Tree Risk Management and Assessment Arrangement on an Area Basis and on a Tree Basis', Greening, Landscape and Tree Management (GLTM) Section, DEVB · Latest recommended horticultural practices from GLTM Section	N/A
S10.10.1 Table 10.11	LV8	Tree Transplantation For trees unavoidably affected by the Project that have to be removed, where practical transplantation will be chosen as the top priority method of removal. If this is not possible or practical compensatory planting will be provided for trees unavoidably felled (See LV10). For trees unavoidably affected by the Project works that are transplanted, transplantation must be carried out in accordance with ETWB TCW 2/2004 and 3/2006.	Minimize landscape and visual impact	Contractor	Within Project site and designated off-site locations	Prior to Construction Phase	· ETWB TCW 3/2006 · Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DEVB · ETWB TCW 2/2004	N/A
S10.10.1 Table 10.11	LV9	Compensatory Planting For trees unavoidably affected by the Project that have to be removed, where practical transportation will be chosen as the top priority method of removal but if this is not possible or practical compensatory planting will be provided for trees unavoidably felled. All felled trees shall be compensated for by planting trees to the satisfaction of relevant Government projects. Required numbers and locations of compensatory trees shall be determined and agreed separately with Government during the Tree Felling Application process under ETWBTC 3/2006.	Minimize visual impact and also enhance landscape	Contractor	Within Project site	Construction Phase	· ETWB TCW 3/2006 · Latest recommended horticultural practices from Greening, Landscape and Tree Management (GLTM) Section, DEVB · ETWB TCW 2/2004	N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
S10.10.1 Table 10.11	LV10	Screen Planting Tall screen/buffer trees, shrubs and climbers should be planted, in so far as is possible, to soften and screen proposed structures such as roads and central strip, vertical edges and buildings and to enhance streetscape greening effect where appropriate. Indiscriminate use of trees for screening must be avoided and the principle of 'right tree for the right place' must be followed. This detail will be provided at the Detailed Design stage. This measure may additionally form part of the compensatory planting and will improve and create a pleasant pedestrian environment.	Minimize visual impact and also enhance landscape	Contractor	Within Project site	Construction Phase	· Guidelines on Greening of Noise Barriers, issued April 2012, GLTMS, DevB · ETWB TCW 2/2004	^
S10.10.1 Table 10.11	LV11	Green Roof Roof greening will be established on ventilation and administration buildings to reduce exposure to untreated concrete surfaces and particularly mitigate visual impact to VSRs at high levels.	Minimize landscape and visual impact	Contractor	Within Project site	Construction Phase	/	^
S10.10.1 Table 10.11	LV12	Reinstatement All works areas, excavated areas and disturbed areas for tunnel construction and temporary road diversion or any other proposed works shall be reinstated to former conditions or better, with reasonable landscape treatment and to the satisfaction of the relevant Government departments. (Specific mitigation for disturbance to public open space is detailed separately under LV14)	Minimize landscape impact	Contractor	Within Project site	Construction Phase	/	^
S10.10.1 Table 10.11	LV13	Reprovising of Public Open Space All areas of public open space affected by the Project will be reprovisioned either at the same location following the completion of temporary works, or at a separate site, as agreed with relevant Government departments. Open space should be re-provisioned in an enhanced manner.	Minimize landscape impact	Contractor	Within Project site	Construction Phase	Open space should be re-provided in an enhanced manner.	N/A
Cultural Heritage Impact (Construction Phase)								
S11.4.4	CH1	The contractor should be alerted during the construction on the possibility of locating archaeological remains and as a precautionary measure, AMO shall be informed immediately in case of discovery of antiquities or supposed antiquities in the subject sites.	To preserve any cultural heritage items which may be removed and damaged by the excavation	Contractor	During construction works for cut and cover tunnels	During the Construction Phase	· AMOs requirements	N/A

EIA Ref.	EM&A Ref.	Recommended Mitigation Measures	Objectives of the Recommended Measures & Main Concern to Address	Implementation Agent	Location / Timing	Implementation Stage	Requirements and/ or standards to be achieved	Implementation Status
EM&A Project								
S13.2	EM1	An Independent Environmental Checker needs to be employed as per the EM&A Manual	Control EM&A Performance	Highways Department	All construction sites	Construction stage	· EIAO Guidance Note No. 4/2010 · TM-EIAO	^
S13.2-13.4	EM2	An Environmental Team needs to be employed as per the EM&A Manual.	Perform environmental monitoring & auditing	Highways Department/ Contractor	All construction sites	Construction stage	· EIAO Guidance Note No. 4/2010 · TM-EIAO	^
		Prepare a systematic Environmental Management Plan to ensure effective implementation of the mitigation measures;						^
		An environmental impact monitoring needs to be implemented by the Environmental Team to ensure all the requirements given in the EM&A Manual are fully complied with.						^

Remarks: EM&A Programme under EP-457/2013/D	
^	Compliance of mitigation measure;
N/A N/A(1)	Not applicable at this stage; Not observed;
*	Recommendation was made during site audit but improved/retified by the contractor;
#	Recommendation was made during site audit but not yet improved/retified by the contractor;
X	Non-compliance of mitigation measure;
●	Non-compliance but rectified by the contractor.

APPENDIX J
SUMMARIES OF ENVIRONMENTAL COMPLAINT, WARNING, SUMMON AND NOTIFICATION OF SUCCESSFUL PROSECUTION

Table J-1 Cumulative Statistics on Complaints, Notifications of Summons and Successful Prosecutions and Public Engagement Activities

Reporting Period	Site Location	Item	Cumulative
October 2020 – December 2025	Kai Tak Ventilation Building and Administrative Building (KVB & ADB)	Environmental Complaint Statistics	3
		Environmental Non-compliance Statistic	0
		Environmental Summons and Prosecution Statistics	0
October 2020 – December 2025	Yau Ma Tei Ventilation Building (YVB)	Environmental Complaint Statistics	0
		Environmental Non-compliance Statistic	0
		Environmental Summons and Prosecution Statistics	0
January 2024 – April 2026	Ho Man Tin Ventilation Building (HVB)	Environmental Complaint Statistics	8
		Environmental Non-compliance Statistic	0
		Environmental Summons and Prosecution Statistics	0

Table J-2 Complaint Log on Reporting Period

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
EC001_CKRBEM20220414_001	BEM Site Office at Muk Long Street, Kai Tak	14 Apr 2022	A complaint was received from EPD on 14 Apr 2022 regarding noise nuisance from the site office at Muk Long Street.	As no major construction works were conducted, the complaint was considered as **non-project-related**.	The Complaint Investigation Report was finalised on 25 May 2022. Complaint Closed.
EC001_CKRBEM20221207_001	BEM Site Office at Muk On Street, Kai Tak	7 Dec 2022	A complaint was received from EPD on 7 Dec 2022 regarding dust nuisance from demolition works of the site office at Muk On Street.	Enhanced mitigation measures have been implemented, including watering more frequently, installing additional water sprinklers and a hose for watering	The Complaint Investigation Report was finalised on 21 Dec 2022. Complaint Closed.
EC003_CKRBEM20240115_002	Kai Tak Site near Shing Fung Road, Kai Tak	15 Jan 2024	A complaint was received from EPD on 15 Jan 2024 regarding light nuisance from the Kai Tak site.	Enhanced mitigation measures have been implemented, including adjusting the angle of the relevant lighting and turning off most of the lighting with non-emergency use after work every night at 8 pm	The Complaint Investigation Report was finalised on 26 Jan 2024. Complaint Closed.
EC004_CKRBEM20240207_004	HVB	7 Feb 2024	A complaint was received from 1823 on 7 Feb 2024 regarding noise nuisance caused by mechanical equipment at the construction site near Chung Hau St. and Fat Kwong St. after 7 pm.	An excavator has been used for the emergency works to repair the burst temporary water pipe. No non-compliance has been recorded. The Contractor shall minimise adverse construction noise nuisance to the nearby sensitive receivers.	The Complaint Investigation Report was finalised on 19 Feb 2024. Complaint Closed.
EC005_CKRBEM20240306_005	HVB	6 Mar 2024	A complaint was received from 1823 on 6 March 2024 regarding noise nuisance from the generator at the Ho Man Tin site.	Enhanced mitigation measures have been implemented, including the installation of an additional noise barrier for the generator.	The Complaint Investigation Report was finalised on 13

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
					Mar 2024. Complaint Closed.
EC006_CKRBEM20240522_006	HVB	22 May 2024	A complaint was received from 1823 on 22 May 2024 regarding a suspected muddy water discharge near Chung Hau Street from the Ho Man Tin site.	Due to the pumping system of the sewage well having accumulated silt, the overflow of surface runoff occurred. The pumping system was maintained promptly. Enhanced mitigation measures have been implemented, including providing sandbags near the gate to prevent overflowing.	The Complaint Investigation Report was finalised on 31 May 2024. Complaint Closed.
EC007_CKRBEM20240807_008	HVB	7 Aug 2024	A complaint was received from 1823 on 7 August 2024 regarding water leakage to the storm drains, and a follow-up comment on the odour of sewage continues emanating from the site	Due to the blockage of the U channel by plastic bags and leaves, the water pond and leaks to the broken channel gap along the concerned slope to the storm drain. The U channel was cleaned up and the broken part was filled in. The odour was suspect from the work of faecal suction. Enhanced mitigation measures have been implemented, including providing a deodorant and rearranging the schedule to minimise the effect on the work of faecal suction.	The Complaint Investigation Report was finalised on 30 Sep 2024. Complaint Closed.
EC008_CKRBEM20250312_009	HVB	12 Mar 2025	A complaint was received from 1823 on 12 March 2025 regarding white smoke being exhausted from the ventilation building at Ho Man Tin Site.	The white smoke was investigated as due to the accumulated construction dust instantly drawn out by the TVFs. There is no continuous air impact from the site to the sensitive receiver. Enhanced mitigation measures have been implemented, including providing water-spraying fog cannons and cleaning the plenum room before testing.	The Complaint Investigation Report was finalised on 20 Mar 2025. Complaint Closed.

Log Ref.	Location	Received Date	Details of Complaint	Investigation/ Mitigation Action	Status
EC009_CKRBEM20250407_010	HVB	7 Apr 2025	A complaint was received from 1823 on 7 April 2025 regarding an odour impact caused by the desludging service in the morning and its noise nuisance that impacts the nearby residents at the Ho Man Tin site.	Enhanced mitigation measures have been implemented, including scheduling the desludging service after 10:00 am, providing a deodorant and providing air blowers to ensure sufficient ventilation, and relocating the work area of the desludging vehicle to minimise the direct noise and odour impact.	The Complaint Investigation Report was finalised on 16 Apr 2025. Complaint Closed.
EC010_CKRBEM20250811_011	HVB	11 Aug 2025	A complaint was received from 1823 on 11 August 2025 regarding a noise nuisance from the Ho Man Tin site at 2:00 am and 7:00 am that impacts the nearby residents.	There is no site work during the complaint period. The complaint was considered as **non-project-related**.	The Complaint Investigation Report was finalised on 27 Aug 2025. Complaint Closed.
EC011_CKRBEM20251210_012	HVB	10 Dec 2025	A complaint was referred from WSD and received on 10 December 2025 regarding a noise nuisance from breaking works at the Ho Man Tin site that impacts the nearby residents.	Enhanced mitigation measures have been implemented, including installing additional noise barriers on the hoarding and the breaker tip of the excavator, ensuring only one breaker operates at a time and operates it intermittently. The noise impact monitoring result at the nearest monitoring station has been reviewed after implementing the mitigation measures, and no Limit Level exceedance was recorded.	The Complaint Investigation Report was finalised on 19 Dec 2025. Complaint Closed.

APPENDIX K
SUMMARY OF WASTE GENERATION AND DISPOSAL RECORDS

Monthly Summary Waste Flow Table

Name of Department: HyD

Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Kai Tak Site Area

Monthly Summary Waste Flow Table for 2020 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 5)	Reused in the Contract (see Note 5)	Reused in other Projects (see Note 5)	Disposed as Public Fill (see Note 5)	Imported Fill (see Note 5)	Metals	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Marine Sediment (see Note 7)	Others, e.g. general refuse (see Note 5)
Month	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)	(in '000m3)
Jan	N/A						N/A					
Feb												
Mar												
Apr												
May												
Jun	0	0	0	0	0	0	0	0	0	0	0	0
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Jul	0	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0	0.0042
Sep	0	0	0	0	0	0	0	0	0	0	0	0
Oct	4.851	0	0	0	4.851	0	0	0	0	0	0	0.0232
Nov	1.291	0	0	0	1.291	0	0	0	0	0	0	0.015
Dec	1.631	0	0	0	1.631	0	0	0	0	0	0	0.017
Total	**7.773**	**0**	**0**	**0**	**7.773**	**0**	**0**	**0**	**0**	**0**	**0**	**0.060**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.45
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

Name of Department: HyD

Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Yau Ma Tei Site Area

Monthly Summary Waste Flow Table for 2020 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 5)	Reused in the Contract (see Note 5)	Reused in other Projects (see Note 5)	Disposed as Public Fill (see Note 5)	Imported Fill (see Note 5)	Metals	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Marine Sediment (see Note 7)	Others, e.g. general refuse (see Note 5)
Month	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)	(in '000m3)
Jan	N/A						N/A					
Feb												
Mar												
Apr												
May												
Jun	0	0	0	0	0	0	0	0	0	0	0	0
Sub-Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Jul	0	0	0	0	0	0	0	0	0	0	0	0
Aug	0	0	0	0	0	0	0	0	0	0	0	0
Sep	0.0074	0	0	0.0074	0	0	0	0	0	0	0	0.0434
Oct	1.855	0	0	0.059	1.796	0	0	0	0	0	0	0.186
Nov	9.716	0	0	7.895	1.821	0	0	0	0	0	0	0.000
Dec	11.501	0	0	2.970	8.531	0	0	0	0	0	0	0.007
Total	**23.079**	**0**	**0**	**10.932**	**12.147**	**0**	**0**	**0**	**0**	**0**	**0**	**0.236**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.45
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

Name of Department: HyD

Contract No.: HY/2019/13
Central Kowloon Route - Buildings, Electrical and Mechanical Works
Kai Tak Site Area

Monthly Summary Waste Flow Table for 2021 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
Month	Total Quantity Generated (in '000m3)	Hard Rock and Large Broken Concrete (see Note 5) (in '000m3)	Reused in the Contract (see Note 5) (in '000m3)	Reused in other Projects (see Note 5) (in '000m3)	Disposed as Public Fill (see Note 5) (in '000m3)	Imported Fill (see Note 5) (in '000m3)	Metals (in '000kg)	Paper / cardboard packaging (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (see Note 5) (in '000kg)	Marine Sediment (see Note 7) (in '000m3)	Others, e.g. general refuse (see Note 5) (in '000m3)
Jan	0.698	0	0	0	0.698	0	0	0	0	0	0	0.009
Feb	0.412	0	0	0	0.412	0	0	0	0	0	0	0.014
Mar	0.790	0	0	0	0.790	0	0	0	0	0	0	0.021
Apr	0.994	0	0	0	0.994	0	0	0	0	0	0	0.008
May	1.075	0	0	0	1.075	0	0	0	0	0	0	0.007
Jun	1.580	0	0	0	1.580	0	0	0	0	0	0	0.007
Sub-Total	**5.550**	**0**	**0**	**0**	**5.550**	**0**	**0**	**0**	**0**	**0**	**0**	**0.065**
Jul	1.548	0	0	0	1.548	0	0	0	0	0	0	0.023
Aug	1.439	0	0	0	1.439	0	0	0	0	0	0	0.009
Sep	2.548	0	0	0	2.548	0	0	0	0	0	0	0.020
Oct	0.103	0	0	0	0.103	0	0	0	0	0	0	0.030
Nov	0.180	0	0	0	0.180	0	0	0	0	0	0	0.043
Dec	1.048	0	0	0	1.048	0	0	0	0	1.2	0	0.019
Total (2021)	**12.416**	**0**	**0**	**0**	**12.416**	**0**	**0**	**0**	**0**	**1.2**	**0**	**0.209**
Total (whole)	**19.208**	**0**	**0**	**0**	**19.208**	**0**	**0**	**0**	**0**	**1.2**	**0**	**0.269**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

Name of Department: HyD

Contract No.: HY/2019/13
Central Kowloon Route - Buildings, Electrical and Mechanical Works
Yau Ma Tei Site Area

Monthly Summary Waste Flow Table for 2021 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
Month	Total Quantity Generated (in '000m3)	Hard Rock and Large Broken Concrete (see Note 5) (in '000m3)	Reused in the Contract (see Note 5) (in '000m3)	Reused in other Projects (see Note 5) (in '000m3)	Disposed as Public Fill (see Note 5) (in '000m3)	Imported Fill (see Note 5) (in '000m3)	Metals (in '000kg)	Paper / cardboard packaging (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (see Note 5) (in '000kg)	Marine Sediment (see Note 7) (in '000m3)	Others, e.g. general refuse (see Note 5) (in '000m3)
Jan	0.300	0	0	0	0.300	0	0	0	0	0	0	0.017
Feb	0.306	0	0	0	0.306	0	0	0	0	0	0	0.011
Mar	0.399	0	0	0	0.399	0	0	0	0	0	0	0.005
Apr	0.405	0	0	0	0.405	0	0	0	0	0	0	0.004
May	0.646	0	0	0	0.646	0	0	0	0	0	0	0.008
Jun	1.148	0	0	0	1.148	0	0	0	0	0	0	0.006
Sub-Total	**3.204**	**0**	**0**	**0**	**3.204**	**0**	**0**	**0**	**0**	**0**	**0**	**0.051**
Jul	1.650	0	0	0	1.650	0	0	0	0	0	0	0.017
Aug	0.842	0	0	0	0.842	0	0	0	0	0	0	0.009
Sep	0.751	0	0	0	0.751	0	0	0	0	0	0	0.005
Oct	0.877	0	0	0	0.877	0	0	0	0	0	0	0.003
Nov	0.790	0	0	0	0.790	0	0	0	0	0	0	0.003
Dec	0.973	0	0	0	0.973	0	0	0	0	0	0	0.004
Total (2021)	**9.086**	**0**	**0**	**0**	**9.086**	**0**	**0**	**0**	**0**	**0**	**0**	**0.092**
Total (whole)	**31.963**	**0**	**0**	**10.932**	**21.031**	**0**	**0**	**0**	**0**	**0**	**0**	**0.328**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Kai Tak Site Area

Monthly Summary Waste Flow Table for 2022 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
Month	Total Quantity Generated (in '000m3)	Hard Rock and Large Broken Concrete (see Note 5) (in '000m3)	Reused in the Contract (see Note 5) (in '000m3)	Reused in other Projects (see Note 5) (in '000m3)	Disposed as Public Fill (see Note 5) (in '000m3)	Imported Fill (see Note 5) (in '000m3)	Metals (in '000kg)	Paper / cardboard packaging (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (see Note 5) (in '000kg)	Marine Sediment (see Note 7) (in '000m3)	Others, e.g. general refuse (see Note 5) (in '000m3)
Jan	1.451	0.000	0.000	0.000	1.451	0.000	0.000	0.000	0.000	0.000	0.000	0.017
Feb	1.121	0.000	0.000	0.000	1.121	0.000	0.000	0.000	0.000	0.000	0.000	0.029
Mar	1.462	0.000	0.000	0.000	1.462	0.000	0.000	0.000	0.000	0.000	0.000	0.033
Apr	2.606	0.000	0.000	0.000	2.606	0.000	0.000	0.000	0.000	0.000	0.000	0.042
May	2.446	0.000	0.000	0.821	1.625	0.000	0.000	0.000	0.000	0.000	0.000	0.037
Jun	1.888	0.000	0.000	0.495	1.393	0.000	0.000	0.000	0.000	0.000	0.000	0.014
Sub-Total	**10.976**	**0.000**	**0.000**	**1.317**	**9.659**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.171**
Jul	1.932	0.000	0.000	0.000	1.932	0.000	0.000	0.000	0.000	0.000	0.000	0.042
Aug	7.567	0.000	0.000	0.208	7.359	0.000	0.000	0.000	0.000	0.000	0.000	0.047
Sep	10.133	0.000	0.000	1.027	9.106	0.000	0.000	0.000	0.000	0.000	0.000	0.068
Oct	6.025	0.000	0.000	0.000	6.025	0.000	0.000	0.000	0.000	0.000	0.000	0.026
Nov	3.281	0.000	0.000	0.064	3.218	0.000	0.000	0.000	0.000	0.000	0.000	0.098
Dec	9.817	0.000	0.782	0.000	9.035	0.000	0.000	0.000	0.000	0.000	0.000	0.076
Total (2022)	**49.730**	**0.000**	**0.782**	**2.615**	**46.333**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.528**
Total (whole)	**68.939**	**0.000**	**0.782**	**2.615**	**65.541**	**0.000**	**0.000**	**0.000**	**0.000**	**1.080**	**0.000**	**0.797**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

Name of Department: HyD

Contract No.: HY/2019/13
Central Kowloon Route - Buildings, Electrical and Mechanical Works
Yau Ma Tei Site Area

Monthly Summary Waste Flow Table for 2022 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 5)	Reused in the Contract (see Note 5)	Reused in other Projects (see Note 5)	Disposed as Public Fill (see Note 5)	Imported Fill (see Note 5)	Metals	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Marine Sediment (see Note 7)	Others, e.g. general refuse (see Note 5)
Month	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)	(in '000m3)
Jan	0.421	0.000	0.000	0.000	0.421	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Feb	2.031	0.000	0.000	1.884	0.147	0.000	0.000	0.000	0.000	0.000	0.000	0.009
Mar	0.112	0.000	0.000	0.109	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Apr	5.930	0.000	0.000	5.802	0.128	0.000	0.000	0.000	0.000	0.000	0.000	0.002
May	1.724	0.000	0.000	1.724	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.009
Jun	14.784	0.000	0.000	10.134	4.649	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-Total	**25.002**	**0.000**	**0.000**	**19.653**	**5.349**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.020**
Jul	1.295	0.000	0.000	0.893	0.401	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	11.771	0.000	0.000	11.771	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.006
Sep	5.118	0.000	0.000	5.099	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.015
Oct	2.611	0.000	0.000	2.611	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015
Nov	6.789	0.000	0.000	6.595	0.194	0.000	0.000	0.000	0.000	0.000	0.000	0.033
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.036
Total (2022)	**52.586**	**0.000**	**0.000**	**46.622**	**5.963**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.124**
Total (whole)	**84.548**	**0.000**	**0.000**	**57.554**	**26.994**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.452**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Kai Tak Site Area

Monthly Summary Waste Flow Table for 2023 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
Month	Total Quantity Generated (in '000m3)	Hard Rock and Large Broken Concrete (see Note 5) (in '000m3)	Reused in the Contract (see Note 5) (in '000m3)	Reused in other Projects (see Note 5) (in '000m3)	Disposed as Public Fill (see Note 5) (in '000m3)	Imported Fill (see Note 5) (in '000m3)	Metals (in '000kg)	Paper / cardboard packaging (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (see Note 5) (in '000kg)	Marine Sediment (see Note 7) (in '000m3)	Others, e.g. general refuse (see Note 5) (in '000m3)
Jan	1.576	0.000	0.000	0.000	1.576	0.000	0.000	0.000	0.000	0.000	0.000	0.087
Feb	10.209	0.000	0.000	0.000	10.209	0.000	0.000	0.000	0.000	0.000	0.000	0.066
Mar	12.409	0.000	0.000	0.000	12.409	0.000	0.000	0.000	0.000	0.000	0.000	0.135
Apr	5.538	0.000	0.000	0.000	5.538	0.000	0.000	0.000	0.000	0.000	0.000	0.248
May	3.511	0.000	0.000	0.000	3.511	0.000	0.000	0.000	0.000	0.000	0.000	0.355
Jun	1.507	0.000	0.000	0.000	1.507	0.000	0.000	0.000	0.000	0.000	0.000	0.426
Sub-Total	**34.750**	**0.000**	**0.000**	**0.000**	**34.750**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.317**
Jul	0.055	0.000	0.000	0.000	0.055	0.000	0.000	0.000	0.000	0.000	0.000	0.453
Aug	0.072	0.000	0.000	0.000	0.072	0.000	0.000	0.000	0.000	0.000	0.000	0.538
Sep	0.110	0.000	0.000	0.000	0.110	0.000	0.000	0.000	0.000	0.000	0.000	0.409
Oct	0.308	0.000	0.000	0.000	0.308	0.068	0.000	0.000	0.000	0.000	0.000	0.768
Nov	0.574	0.000	0.000	0.000	0.574	0.222	0.000	0.000	0.000	0.000	0.000	0.615
Dec	0.426	0.000	0.000	0.000	0.426	0.000	0.000	0.000	0.000	0.000	0.000	0.460
Total (2023)	**36.296**	**0.000**	**0.000**	**0.000**	**36.296**	**0.290**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**4.560**
Total (whole)	**105.234**	**0.000**	**0.782**	**2.615**	**101.837**	**0.290**	**0.000**	**0.000**	**0.000**	**1.080**	**0.000**	**5.357**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Yau Ma Tei Site Area

Monthly Summary Waste Flow Table for 2023 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
Month	Total Quantity Generated (in '000m3)	Hard Rock and Large Broken Concrete (see Note 5) (in '000m3)	Reused in the Contract (see Note 5) (in '000m3)	Reused in other Projects (see Note 5) (in '000m3)	Disposed as Public Fill (see Note 5) (in '000m3)	Imported Fill (see Note 5) (in '000m3)	Metals (in '000kg)	Paper / cardboard packaging (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (see Note 5) (in '000kg)	Marine Sediment (see Note 7) (in '000m3)	Others, e.g. general refuse (see Note 5) (in '000m3)
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.076
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.169
Mar	2.292	0.000	0.000	0.000	2.292	0.000	0.000	0.000	0.000	0.000	0.000	0.127
Apr	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.174
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.225
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.214
Sub-Total	**2.292**	**0.000**	**0.000**	**0.000**	**2.292**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.984**
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.274
Aug	0.049	0.000	0.000	0.000	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.443
Sep	0.049	0.000	0.000	0.000	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.522
Oct	0.141	0.000	0.000	0.000	0.141	0.000	0.000	0.000	0.000	0.000	0.000	0.310
Nov	0.152	0.000	0.000	0.000	0.152	0.000	0.000	0.000	0.000	0.000	0.000	0.395
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.248
Total (2023)	**2.683**	**0.000**	**0.000**	**0.000**	**2.683**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**3.176**
Total (whole)	**87.232**	**0.000**	**0.000**	**57.554**	**29.678**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**3.629**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4)

The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Ho Man Tin Site Area

Monthly Summary Waste Flow Table for 2024 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 5)	Reused in the Contract (see Note 5)	Reused in other Projects (see Note 5)	Disposed as Public Fill (see Note 5)	Imported Fill (see Note 5)	Metals	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Marine Sediment (see Note 7)	Others, e.g. general refuse (see Note 5)
Month	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)	(in '000m3)
Jan	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.314
Feb	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.429
Mar	0.063	0.000	0.000	0.000	0.063	0.000	0.000	0.000	0.000	0.000	0.000	0.349
Apr	0.091	0.000	0.000	0.000	0.091	0.000	0.000	0.000	0.000	0.000	0.000	0.466
May	0.082	0.000	0.000	0.000	0.082	0.000	0.000	0.000	0.000	0.000	0.000	0.485
Jun	0.049	0.000	0.000	0.000	0.049	0.000	0.000	0.000	0.000	0.000	0.000	0.598
Sub-Total	**0.285**	**0.000**	**0.000**	**0.000**	**0.285**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**2.641**
Jul	0.430	0.000	0.000	0.000	0.430	0.000	0.000	0.000	0.000	0.000	0.000	0.585
Aug	0.192	0.000	0.000	0.000	0.192	0.000	0.000	0.000	0.000	0.000	0.000	0.713
Sep	0.442	0.000	0.000	0.000	0.442	0.000	0.000	0.000	0.000	0.000	0.000	0.688
Oct	0.301	0.000	0.000	0.000	0.301	0.000	0.000	0.000	0.000	0.000	0.000	0.669
Nov	0.167	0.000	0.000	0.000	0.167	0.000	0.000	0.000	0.000	0.000	0.000	0.404
Dec	0.321	0.000	0.000	0.000	0.321	0.000	0.000	0.000	0.000	0.000	0.000	0.400
Total (2024)	**2.137**	**0.000**	**0.000**	**0.000**	**2.137**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**6.099**
Total (whole)	**2.137**	**0.000**	**0.000**	**0.000**	**2.137**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**6.099**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Kai Tak Site Area

Monthly Summary Waste Flow Table for 2024 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
Month	Total Quantity Generated (in '000m3)	Hard Rock and Large Broken Concrete (see Note 5) (in '000m3)	Reused in the Contract (see Note 5) (in '000m3)	Reused in other Projects (see Note 5) (in '000m3)	Disposed as Public Fill (see Note 5) (in '000m3)	Imported Fill (see Note 5) (in '000m3)	Metals (in '000kg)	Paper / cardboard packaging (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (see Note 5) (in '000kg)	Marine Sediment (see Note 7) (in '000m3)	Others, e.g. general refuse (see Note 5) (in '000m3)
Jan	0.145	0.000	0.000	0.000	0.145	0.000	0.000	0.000	0.000	0.000	0.000	0.733
Feb	0.169	0.000	0.000	0.000	0.169	0.000	0.000	0.000	0.000	0.000	0.000	0.623
Mar	0.254	0.000	0.000	0.000	0.254	0.000	0.000	0.000	0.000	0.000	0.000	1.138
Apr	0.483	0.000	0.000	0.000	0.483	0.000	0.000	0.000	0.000	0.000	0.000	1.455
May	0.437	0.000	0.000	0.000	0.437	0.000	0.000	0.000	0.000	0.000	0.000	1.995
Jun	1.095	0.000	0.000	0.000	1.095	0.000	0.000	0.000	0.000	0.000	0.000	0.903
Sub-Total	**2.582**	**0.000**	**0.000**	**0.000**	**2.582**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**6.847**
Jul	0.488	0.000	0.000	0.000	0.488	0.000	0.000	0.000	0.000	0.000	0.000	0.993
Aug	0.639	0.000	0.000	0.000	0.639	0.000	0.000	0.000	0.000	0.000	0.000	0.884
Sep	0.348	0.000	0.000	0.000	0.348	0.000	0.000	0.000	0.000	0.000	0.000	0.819
Oct	0.258	0.000	0.000	0.000	0.258	0.000	0.000	0.000	0.000	0.000	0.000	1.112
Nov	0.614	0.000	0.000	0.000	0.614	0.000	0.000	0.000	0.000	0.000	0.000	0.917
Dec	0.169	0.000	0.000	0.000	0.169	0.000	0.000	0.000	0.000	0.000	0.000	1.130
Total (2024)	**5.097**	**0.000**	**0.000**	**0.000**	**5.097**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**12.702**
Total (whole)	**110.427**	**0.000**	**0.782**	**2.615**	**107.030**	**0.000**	**0.000**	**0.000**	**0.000**	**1.080**	**0.000**	**18.223**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Yau Ma Tei Site Area

Monthly Summary Waste Flow Table for 2024 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
Month	Total Quantity Generated (in '000m3)	Hard Rock and Large Broken Concrete (see Note 5) (in '000m3)	Reused in the Contract (see Note 5) (in '000m3)	Reused in other Projects (see Note 5) (in '000m3)	Disposed as Public Fill (see Note 5) (in '000m3)	Imported Fill (see Note 5) (in '000m3)	Metals (in '000kg)	Paper / cardboard packaging (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (see Note 5) (in '000kg)	Marine Sediment (see Note 7) (in '000m3)	Others, e.g. general refuse (see Note 5) (in '000m3)
Jan	0.019	0.000	0.000	0.000	0.019	0.000	0.000	0.000	0.000	0.000	0.000	0.413
Feb	0.153	0.000	0.000	0.000	0.153	0.000	0.000	0.000	0.000	0.000	0.000	0.215
Mar	0.550	0.000	0.000	0.000	0.550	0.000	0.000	0.000	0.000	0.000	0.000	0.334
Apr	0.147	0.000	0.000	0.000	0.147	0.000	0.000	0.000	0.000	0.000	0.000	0.312
May	0.010	0.000	0.000	0.000	0.010	0.000	0.000	0.000	0.000	0.000	0.000	0.327
Jun	0.004	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.252
Sub-Total	**0.884**	**0.000**	**0.000**	**0.000**	**0.884**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.853**
Jul	0.060	0.000	0.000	0.000	0.060	0.000	0.000	0.000	0.000	0.000	0.000	0.294
Aug	0.150	0.000	0.000	0.000	0.150	0.000	0.000	0.000	0.000	0.000	0.000	0.195
Sep	0.364	0.000	0.000	0.000	0.364	0.000	0.000	0.000	0.000	0.000	0.000	0.121
Oct	0.075	0.000	0.000	0.000	0.075	0.000	0.000	0.000	0.000	0.000	0.000	0.374
Nov	0.035	0.000	0.000	0.000	0.035	0.000	0.000	0.000	0.000	0.000	0.000	0.184
Dec	0.206	0.000	0.000	0.000	0.206	0.000	0.000	0.000	0.000	0.000	0.000	0.187
Total (2024)	**1.772**	**0.000**	**0.000**	**0.000**	**1.772**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**3.208**
Total (whole)	**89.053**	**0.000**	**0.000**	**57.554**	**31.499**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**7.000**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Ho Man Tin Site Area

Monthly Summary Waste Flow Table for 2025 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
Month	Total Quantity Generated (in '000m3)	Hard Rock and Large Broken Concrete (see Note 5) (in '000m3)	Reused in the Contract (see Note 5) (in '000m3)	Reused in other Projects (see Note 5) (in '000m3)	Disposed as Public Fill (see Note 5) (in '000m3)	Imported Fill (see Note 5) (in '000m3)	Metals (in '000kg)	Paper / cardboard packaging (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (see Note 5) (in '000kg)	Marine Sediment (see Note 7) (in '000m3)	Others, e.g. general refuse (see Note 5) (in '000m3)
Jan	0.069	0.000	0.000	0.000	0.069	0.000	0.000	0.000	0.000	0.000	0.000	0.382
Feb	0.125	0.000	0.000	0.000	0.125	0.000	0.000	0.000	0.000	0.000	0.000	0.134
Mar	0.140	0.000	0.000	0.000	0.140	0.000	0.000	0.000	0.000	0.000	0.000	0.215
Apr	0.233	0.000	0.000	0.000	0.233	0.000	0.000	0.000	0.000	0.000	0.000	0.129
May	0.112	0.000	0.000	0.000	0.112	0.000	0.000	0.000	0.000	0.000	0.000	0.100
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.104
Sub-Total	**0.679**	**0.000**	**0.000**	**0.000**	**0.679**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.064**
Jul	0.033	0.000	0.000	0.000	0.033	0.000	0.000	0.000	0.000	0.000	0.000	0.035
Aug	0.122	0.000	0.000	0.000	0.122	0.000	0.000	0.000	0.000	0.000	0.000	0.097
Sep	0.028	0.000	0.000	0.000	0.028	0.000	0.000	0.000	0.000	0.000	0.000	0.082
Oct	0.190	0.000	0.000	0.000	0.190	0.000	0.000	0.000	0.000	0.000	0.000	0.067
Nov	0.242	0.000	0.000	0.000	0.242	0.000	0.000	0.000	0.000	0.000	0.000	0.200
Dec	0.623	0.000	0.000	0.000	0.623	0.000	0.000	0.000	0.000	0.000	0.000	0.132
Total (2025)	**1.917**	**0.000**	**0.000**	**0.000**	**1.917**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.677**
Total (whole)	**4.054**	**0.000**	**0.000**	**0.000**	**4.054**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**7.777**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Kai Tak Site Area

Monthly Summary Waste Flow Table for 2025 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 5)	Reused in the Contract (see Note 5)	Reused in other Projects (see Note 5)	Disposed as Public Fill (see Note 5)	Imported Fill (see Note 5)	Metals	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Marine Sediment (see Note 7)	Others, e.g. general refuse (see Note 5)
Month	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)	(in '000m3)
Jan	0.084	0.000	0.000	0.000	0.084	0.000	0.000	0.000	0.000	0.000	0.000	0.805
Feb	0.016	0.000	0.000	0.000	0.016	0.000	0.000	0.000	0.000	0.000	0.000	0.753
Mar	0.015	0.000	0.000	0.000	0.015	0.000	0.000	0.000	0.000	0.000	0.000	0.618
Apr	0.004	0.000	0.000	0.000	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.480
May	0.467	0.000	0.000	0.000	0.467	0.000	0.000	0.000	0.000	0.000	0.000	0.534
Jun	0.009	0.000	0.000	0.000	0.009	0.000	0.000	0.000	0.000	0.000	0.000	0.368
Sub-Total	**0.595**	**0.000**	**0.000**	**0.000**	**0.595**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**3.557**
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.173
Aug	0.031	0.000	0.000	0.000	0.031	0.000	0.000	0.000	0.000	0.000	0.000	0.304
Sep	0.231	0.000	0.000	0.000	0.231	0.000	0.000	0.000	0.000	0.000	0.000	0.168
Oct	0.201	0.000	0.000	0.000	0.201	0.000	0.000	0.000	0.000	0.000	0.000	0.310
Nov	0.668	0.000	0.000	0.000	0.668	0.000	0.000	0.000	0.000	0.000	0.000	0.197
Dec	0.214	0.000	0.000	0.000	0.214	0.000	0.000	0.000	0.000	0.000	0.000	0.206
Total (2025)	**1.940**	**0.000**	**0.000**	**0.000**	**1.940**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**4.915**
Total (whole)	**112.367**	**0.000**	**0.782**	**2.615**	**108.970**	**0.000**	**0.000**	**0.000**	**0.000**	**1.080**	**0.000**	**23.137**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Yau Ma Tei Site Area

Monthly Summary Waste Flow Table for 2025 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
	Total Quantity Generated	Hard Rock and Large Broken Concrete (see Note 5)	Reused in the Contract (see Note 5)	Reused in other Projects (see Note 5)	Disposed as Public Fill (see Note 5)	Imported Fill (see Note 5)	Metals	Paper / cardboard packaging	Plastics (see Note 3)	Chemical Waste (see Note 5)	Marine Sediment (see Note 7)	Others, e.g. general refuse (see Note 5)
Month	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000m3)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000m3)	(in '000m3)
Jan	0.085	0.000	0.000	0.000	0.085	0.000	0.000	0.000	0.000	0.000	0.000	0.092
Feb	0.193	0.000	0.000	0.000	0.193	0.000	0.000	0.000	0.000	0.000	0.000	0.079
Mar	0.005	0.000	0.000	0.000	0.005	0.000	0.000	0.000	0.000	0.000	0.000	0.046
Apr	0.027	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.000	0.000	0.000	0.043
May	0.021	0.000	0.000	0.000	0.021	0.000	0.000	0.000	0.000	0.000	0.000	0.086
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.038
Sub-Total	**0.332**	**0.000**	**0.000**	**0.000**	**0.332**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.384**
Jul	0.003	0.000	0.000	0.000	0.003	0.000	0.000	0.000	0.000	0.000	0.000	0.020
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.015
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.024
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.007
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.059
Dec	0.044	0.000	0.000	0.000	0.044	0.000	0.000	0.000	0.000	0.000	0.000	0.035
Total (2025)	**0.379**	**0.000**	**0.000**	**0.000**	**0.379**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.545**
Total (whole)	**89.432**	**0.000**	**0.000**	**57.554**	**31.878**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**7.545**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

Monthly Summary Waste Flow Table

[PS Clauses 25.24(11)S & 25.34(16)(a)] Annex 4 to Appendix C

Name of Department: HyD Contract No.: HY/2019/13

Central Kowloon Route - Buildings, Electrical and Mechanical Works

Ho Man Tin Site Area

Monthly Summary Waste Flow Table for 2026 (year)

	Actual Quantites of Inert C&D Materials Generated Monthly						Actual Quantites of C&D Waste Generated Monthly					
Month	Total Quantity Generated (in '000m3)	Hard Rock and Large Broken Concrete (see Note 5) (in '000m3)	Reused in the Contract (see Note 5) (in '000m3)	Reused in other Projects (see Note 5) (in '000m3)	Disposed as Public Fill (see Note 5) (in '000m3)	Imported Fill (see Note 5) (in '000m3)	Metals (in '000kg)	Paper / cardboard packaging (in '000kg)	Plastics (see Note 3) (in '000kg)	Chemical Waste (see Note 5) (in '000kg)	Marine Sediment (see Note 7) (in '000m3)	Others, e.g. general refuse (see Note 5) (in '000m3)
Jan	0.394	0.000	0.000	0.000	0.394	0.000	0.000	0.000	0.000	0.000	0.000	0.130
Feb	0.034	0.000	0.000	0.000	0.034	0.000	0.000	0.000	0.000	0.000	0.000	0.053
Mar	0.259	0.000	0.000	0.000	0.259	0.000	0.000	0.000	0.000	0.000	0.000	0.353
Apr	0.029	0.000	0.000	0.000	0.029	0.000	0.000	0.000	0.000	0.000	0.000	0.497
May	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Jun	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sub-Total	**0.715**	**0.000**	**0.000**	**0.000**	**0.715**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.033**
Jul	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Aug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sep	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Oct	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Nov	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Dec	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Total (2025)	**0.715**	**0.000**	**0.000**	**0.000**	**0.715**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**1.033**
Total (whole)	**4.769**	**0.000**	**0.000**	**0.000**	**4.769**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**0.000**	**8.810**

Note:

(1) The performance targets are given in PS Clause 25.24

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

(3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging materials, and water barriers

(4) The summary table shall be submitted to the Project Manager monthly together with the Waste Flow Table for review and monitoring in accordance with the PS Clause 25.24

(5) Density values and Bulk Factors adopted:

Hard Rock and Large Broken Concrete:	2.4 T/m3 (in-situ)	Bulk Factor:	1.25
Soil / Fill:	2.0 T/m3 (in-situ)	Bulk Factor:	1.1
Marine Sediment:	1.7 T/m3 (in-situ)	Bulk Factor:	1.3
General Refuse:	400 kg/m3		
Chemical Waste (mainly used lubricant):	900 kg/m3		
Tree Trunk / Tree Stump:	850 kg/m3 (in-situ)	Bulk Factor:	1.1

(6) The reported and forecast volume figures are in "bulk" volume, with Bulk Factor applied as per Note (5)

(7) This figure refers to marine sediment disposed via dumping at sea. Treated Sediment for Reuse on-site will be categorized into "Reused in the Contract"

APPENDIX L
CONSTRUCTION PROGRAMME AND MAJOR SITE ACTIVITIES

Appendix L – Summary Table of Major Site Activities under the Contract

Summary Table of Major Site Activities under Contract No. HY/2019/13

Location	Reporting Period	Site Activities
Kai Tak Ventilation Building (KVB) and Administration Building (ADB)	October 2020 to December 2025	● Pre-Drilling Works ● Hoarding Installation ● Site Open-Up Breaking Works ● Ground Investigation ● Plant Assembly ● Piling Works (Pipe Piles and Sheet Piles) ● Entrusted Drainage Works - Excavation and Lateral Support (ELS), Drainage Pipes/Manhole Casting ● Excavation & Sub-Structure Works ● Super-Structure Works ● ABWF Works ● E&M Installation ● Testing And Commissioning ● Fire Service Inspection
Yau Ma Tei Ventilation Building (YVB)	October 2020 to December 2025	● Tree Felling ● Site Preparation Works ● Site Formation ● Ground Investigation ● Plant Assembly ● Piling Works (Pipe Piles) ● Excavation & Sub-Structure Works ● Super-Structure Works ● ABWF Works ● E&M Installation ● Testing And Commissioning ● Fire Service Inspection
Ho Man Tin Ventilation Building (HVB)	January 2024 to April 2026	● Super-Structure Works ● Sub-Structure Works ● ABWF Works ● E&M Installation ● Testing And Commissioning ● Fire Service Inspection ● Defect Rectification and Reinstatement Work

Gammon

Ref. Detailed Programme (Dec-2022)

Contract No. HY/2019/13
Central Kowloon Route – Buildings, Electrical and Mechanical Works
Summary Programme

HIGHWAYS DEPARTMENT
主要工程管理處
MAJOR WORKS PROJECT MANAGEMENT OFFICE