香港電燈有限公司
The Hongkong Electric Co., Ltd.

Lamma Power Station Extension
Construction Phase
Monthly Environmental Monitoring & Audit Report

May 2025

香港電燈有限公司
The Hongkong Electric Co., Ltd.

港燈
HK Electric

ENVIRONMENTAL IMPACT ASSESSMENT (EIA) ORDINANCE, CAP. 499

ENVIRONMENTAL PERMIT NO. EP-071/2000/D

LAMMA POWER STATION EXTENSION ENVIRONMENTAL MONITORING & AUDIT PROGRAMME AT CONSTRUCTION PHASE

Report Title	Lamma Power Station Extension – Unit L13 Monthly EM&A Report (May 2025)
Date	13 June 2025
Certified by	(Mr. CHAN Hon Yeung, Environmental Team Leader)
Verified by	Mr. Y. W. Fung (AECOM Asia Company Limited, Independent Environmental Checker)

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EXECUTIVE SUMMARY

This is the 181st monthly Environmental Monitoring and Audit (EM&A) report for the Project "Construction of Lamma Power Station Extension" prepared by the Environmental Team (ET). This report presents the results of impact monitoring on air quality and noise for the said project in May 2025.

The reclamation and submarine pipeline works were completed with the first gas-fired combined cycle unit (viz. Unit L9) commissioned in October 2006, working currently on base load operation. To cope with the scheduled retirement of the existing units at Lamma Power Station, the second gas-fired combined cycle unit (viz. Unit L10) L10 was commissioned for reliable operation in February 2020.

In September 2016, the Government approved HK Electric to construct the third combined cycle gas-fired generating unit (Unit L11) to implement the 2020 Fuel Mix Target. L11 was commissioned for reliable operation effective in May 2022.

With the Government's approval to build the fourth combined cycle gas-fired generating unit (L12) in July 2018, the associated construction work commenced in April 2019. L12 was commissioned for reliable operation effective on 31/3/2024. The operational EM&A work for L9, L10, L11 and L12 is recorded in the separate monthly EM&A report for the Project "Operation of Lamma Power Station Extension".

With the Government's approval to build the fifth combined cycle gas-fired generating unit (L13) in November 2023, the associated construction work commenced in end January 2024.

Air and noise monitoring were performed. The results were checked against the established Action/Limit (AL) levels. An on-site audit was conducted once per week. The implementation status of the environmental mitigation measures, Event/Action Plan and environmental complaint handling procedures were also checked.

Construction Activities Undertaken

Construction activities for Lamma Extension during the reporting month are tabulated as follows:

Item	Construction Activities
Unit L13 Foundation Works	Bored pile work

Environmental Monitoring Works

All monitoring work at designated stations was performed as scheduled satisfactorily.

Air Quality

No exceedance of Action/Limit levels on 1-hour TSP and 24-hour TSP for air quality was recorded in the month.

Noise

No exceedance of Action and Limit levels for noise arising from the construction of Lamma Extension was recorded in the month.

Site Environmental Audit

EPD officials from Regional Office (South) visited Lamma Power Station on 7/5/2025. There was no adverse comment from EPD regarding the construction site.

Site audits were carried out on a weekly basis to monitor environmental issues on the construction site. The site conditions were generally satisfactory.

Environmental Licensing and Permitting

Description	Permit No.	Valid Period		Issued To	Date of Issuance
		From	To		
Varied Environmental Permit	EP-071/2000/D	28/09/20	-	HK Electric	28/09/20
Construction Noise Permit	GW-RS1025-24	15/11/24	11/05/25	Contractor	07/11/24
WPCO Discharge Licence	WT10002799-2024	17/05/24	31/05/29	Contractor	17/05/24
Waste Disposal Billing Account	Account No.: 7049726	09/01/24	-	Contractor	09/01/24

Implementation Status of Environmental Mitigation Measures

Environmental mitigation measures for the construction activities as recommended in the EM&A manual were implemented in the reporting month.

Environmental Complaints

No complaint in relation to the environmental impact of the construction activities was received in the reporting month.

Future Key Issues

The future key issues to be considered in the coming month are as follows:

Unit L13 Foundation Works

- to continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the performance;
- to monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary;
- to treat wastewater in sedimentation pit and tanks for reuse on water spraying and to ensure compliance with the WPCO discharge licence already obtained.

Concluding Remarks

The environmental performance of the project was generally satisfactory.

1. INTRODUCTION

1.1 Background

The Environmental Team (hereinafter called the "ET") was formed within the Hongkong Electric Co. Ltd (HEC) to undertake Environmental Monitoring and Audit for "Construction of Lamma Power Station Extension" (hereinafter called the "Project"). Under the requirements of Section 6 of Environmental Permit EP-071/2000/D, an EM&A programme for impact environmental monitoring set out in the EM&A Manual (Construction Phase) is required to be implemented. In accordance with the EM&A Manual, environmental monitoring of air quality, noise and water quality and regular environmental audits are required for the Project. With the completion of reclamation and submarine pipeline works, no further marine water quality monitoring would be required.

The Project involves the construction of a gas-fired power station employing combined cycled gas turbine technology, forming an extension to the existing Lamma Power Station. The key elements of the Project including the construction activities associated with the transmission system and submarine gas pipeline are outlined as follows.

- dredging and reclamation to form approximately 22 hectares of usable area;
- construction of six 300MW class gas-fired combined cycle units;
- construction of a gas receiving station;
- construction of a transmission system linking the Lamma Extension to load centres on Hong Kong Island;
- laying of a gas pipeline for the supply of natural gas to the new power station

This report summarizes the environmental monitoring and audit work for the Project for the month of May 2025.

1.2 Project Organisation

An Environmental Management Committee (EMC) has been set up in HEC to oversee the Project. The management structure includes the following:

- Environmental Protection Department (The Authority);
- Environmental Manager (The Chairman of the Environmental Management Committee);
- Engineer;
- Independent Environmental Checker (IEC);
- Environmental Team (ET);
- Contractor.

The project organisation chart for the construction EM&A programme is shown in Appendix A.

1.3 Construction Works undertaken during the Reporting Month

Construction activities for Unit L13 foundation works were bored pile work. Layout plan for construction site is shown in Figure 1.1.

The main construction activities carried out during the reporting month and the corresponding environmental mitigation measures are summarized in Table 1.1. The implementation of major mitigation measures in the month is provided in Appendix I.

Table 1.1 Construction Activities and Their Corresponding Environmental Mitigation Measures

Item	Construction Activities	Environmental Mitigation Measures
Unit L13 Foundation Works		
1.	Bored Pile Work	**Air** – Dust suppression in the main haul road. – Using ULSD for PMEs. – Cover dusty stockpile with tarpaulin and water spraying. – Wheel-washing was installed in site **Noise** – General noise mitigation measure employed at all work sites throughout the construction phase. – Following all requirement of Construction Noise Permit issued by EPD **Wastewater** – All wastewater will be pumped to the sedimentation ponds for desilting process. After that, wastewater will be re-used for construction activities or pumped for storage. – All wastewater will be treated before discharge to fulfill the requirement of wastewater discharge licence. **Waste Management** – Waste Management Plan submitted and implemented – Construction waste will be store in the proposed storage area for recycled or disposal

1.4 Summary of EM&A Requirements

The detailed EM&A monitoring work for air quality and noise are described in Sections 2 and 3 respectively. Regular environmental site audits for air quality, noise, water quality and waste management were carried out.

The following environmental audits are summarized in Section 4 of this report:

- Environmental monitoring results;
- Waste Management Records;
- Weekly site audit results;
- The status of environmental licensing and permits for the Project;
- The implementation status of environmental protection and pollution control/ mitigation measures.

Future key issues will be reported in Section 5 of this report.

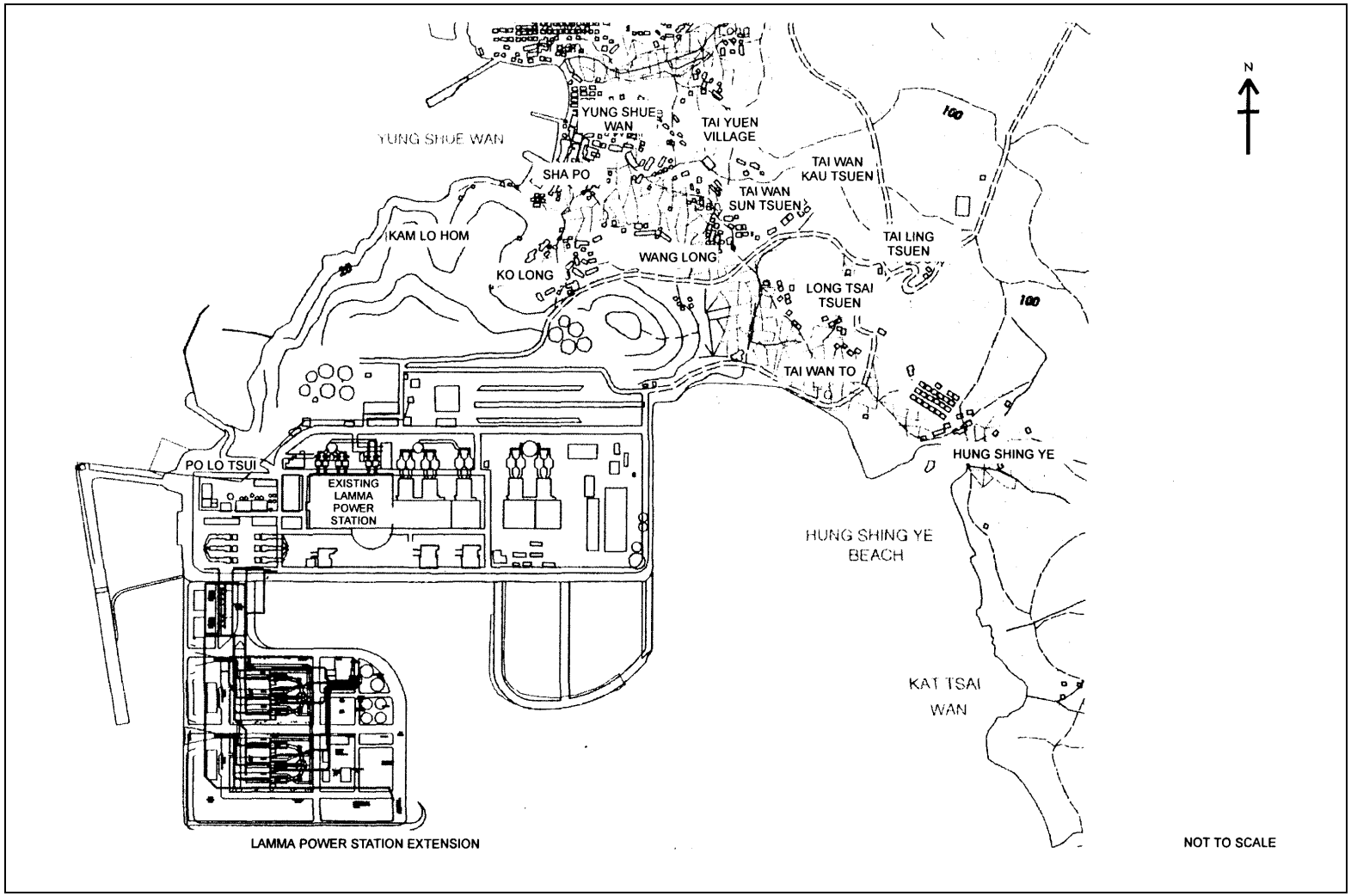


Figure 1.1 Layout of Work Site

2. AIR QUALITY

2.1 Monitoring Requirements

1-hour and 24-hour TSP monitoring at agreed frequencies were conducted to monitor air quality. The impact monitoring data were checked against the Action/Limit Levels as determined in the Baseline Monitoring Report (Construction Phase). Appendix B shows the established Action/Limit Levels for Air Quality.

2.2 Monitoring Locations

Three dust monitoring locations were selected for 1-hour TSP sampling (AM1, AM2 & AM3) while four monitoring locations were selected for 24-hour TSP sampling (AM1, AM2, AM3 and AM4). Table 2.1 tabulates the monitoring stations. The locations of the monitoring stations are shown in Figure 2.1.

Table 2.1 Air Quality Monitoring Locations

Location I.D.	Description
AM1	Reservoir
AM2	East Gate
AM3	Ash Lagoon
AM4	Tai Yuen Village

2.3 Monitoring Equipment

It is agreed with EPD that continuous 24-hour TSP air quality monitoring would be performed using TEOM continuous dust monitor and the MINIVOL Portable Sampler at AM1,2&3 and AM4 respectively. TEOM continuous dust monitors were used to carry out 1-hour TSP monitoring at AM1, AM2 and AM3. Table 2.2 summarises the equipment used in dust monitoring.

Table 2.2 Air Quality Monitoring Equipment

Equipment	Model and Make
24-hour sampling:	
Continuous TSP Dust Meter	TEOM continuous dust monitor Thermo Scientific
MINIVOL Portable Sampler	AIRMETRICS
1-hour sampling: Continuous TSP Dust Meter	TEOM continuous dust monitor Thermo Scientific

2.4 Monitoring Parameters, Frequency and Duration

Table 2.3 summarises the monitoring parameters, duration and frequency of air quality monitoring. The monitoring schedule for the reporting month is shown in Appendix C.

Table 2.3 Air Quality Monitoring Parameter, Duration and Frequency

Monitoring Stations	Parameter	Duration	Frequency
AM1	1-hour TSP	1	3 hourly samples every 6 days
	24-hour TSP	24	Once every 6 days
AM2	1-hour TSP	1	3 hourly samples every 6 days
	24-hour TSP	24	Once every 6 days
AM3	1-hour TSP	1	3 hourly samples every 6 days
	24-hour TSP	24	Once every 6 days
AM4	24-hour TSP	24	Once every 6 days

2.5 Monitoring Procedures and Calibration Details

MINIVOL (24- hour TSP Monitoring):

Preparation of Filter Papers

- Visual inspection of filter papers was carried out to ensure that there were no pinholes, tears and creases;
- The filter papers were then labeled before sampling.
- The filter papers were equilibrated at room temperature and relative humidity < 50% for at least 24 hours before weighing.

Field Monitoring

- During collection of the sampled filter paper, the information on the elapse timer was logged. Site observations around the monitoring stations, which might have affected the monitoring results, were also recorded. Major pollution sources, if any, would be identified and reported.
- The post-sampling filter papers were removed carefully from the filter holder and folded to avoid loss of fibres or dust particles from the filter papers;
- The filter holder and its surrounding were cleaned;
- A pre-weighed blank filter paper for the next sampling was put in place and aligned carefully. The filter holder was then tightened firmly to avoid leakage;
- The programmable timer was set for the next 24 hrs sampling period;
- The post-sampling filter papers were equilibrated at room temperature and relative humidity < 50% for at least 24 hours before weighing.

TEOM continuous dust monitor (24- hour TSP and 1- hour TSP Monitoring):

- The following parameters of the TEOM model dust meters are regularly checked to ensure proper functionality:

    - Operation Mode;
    - Frequency of the tapered element;
    - Main flow;
    - Bypass flow.

Maintenance & Calibration

- The monitoring equipment and their accessories are maintained in good working conditions.

- Monitoring equipment is calibrated at monthly intervals. Calibration details are shown in Appendix F.

2.6 Results and Observations

All dust monitoring works were conducted on schedule. All monitoring data and graphical presentation of the monitoring results are provided in Appendix D. Key findings and observations are provided below:

1-hour TSP

No exceedance of 1-hour TSP Action/Limit Level was recorded in the month.

24-hour TSP

No exceedance of 24-hour TSP Action/Limit Level was recorded in the month.

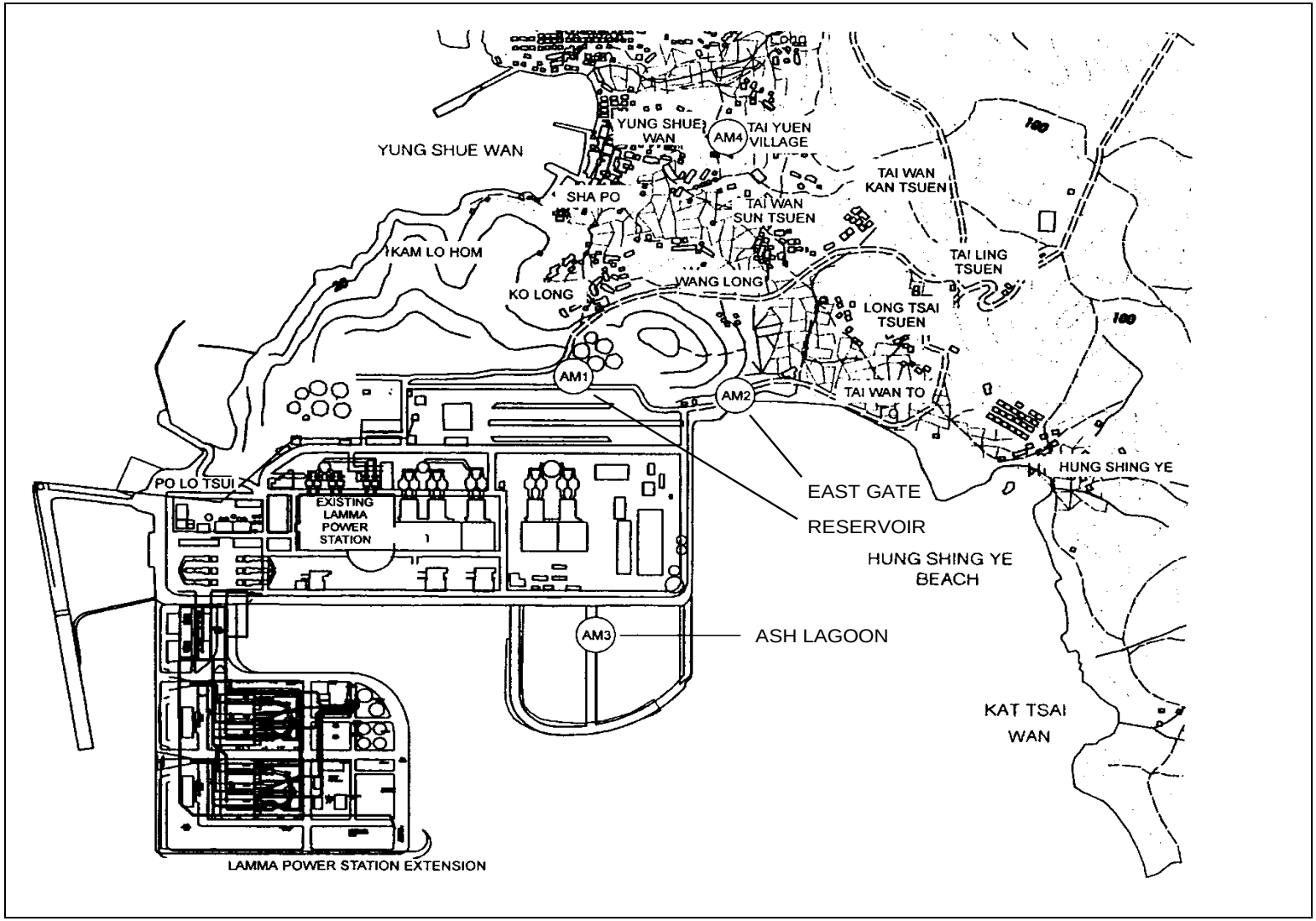


Figure 2.1 Location of Air Quality Monitoring Stations

3. NOISE

3.1 Monitoring Requirements

Continuous noise alarm monitoring at Ash Lagoon/Ching Lam were carried out to calculate the noise contributed by the construction activities at the two critical NSR's, viz. Long Tsai Tsuen/Hung Shing Ye and the school within the village of Tai Wan San Tsuen. The impact monitoring data for construction noise were checked against the limit levels specified in the EM&A Manual. With the availability of the construction noise permits, impact monitoring for the construction work during the restricted hours was also carried out. Section 3 presents the details of the construction noise permits.

The impact noise monitoring data were checked against the limit levels specified in the EM&A Manual. Appendix B shows the established Action/Limit Levels for noise.

3.2 Monitoring Locations

In accordance with the EM&A manual, the identified noise monitoring locations of Ash Lagoon and Ching Lam are shown in Figure 3.1.

3.3 Monitoring Equipment

The sound level meters used for noise monitoring complied with International Electrotechnical Commission Publications 651:1979 (Type 1) and 804:1985 (Type 1). The noise monitoring equipment used is shown in Table 3.1.

Table 3.1 Noise Monitoring Equipment

Equipment	Model
Sound level meters	B&K 2250
Sound level calibrator	B&K 4231

3.4 Monitoring Parameters, Frequency and Duration

Continuous alarm monitoring was carried out at Ash Lagoon and Ching Lam. The measurement duration and parameter of noise monitoring were presented in Table 3.2 as follows:

Table 3.2 Noise Monitoring Duration and Parameter

Location	Time Period	Frequency	Parameter

Ash Lagoon Ching Lam	Day-time: 0700-1900 hrs on normal weekdays Evening-time & holidays: 0700-2300 hrs on holidays; and 1900-2300 hrs on all other days Night-time: 2300-0700 hrs of next day	Day-time: 30 minutes Evening-time & holidays: 5 minutes Night-time: 5 minutes	30-min L_{Aeq} 5-min L_{Aeq} 5-min L_{Aeq}

3.5 Monitoring Procedures and Calibration Details

Monitoring Procedures

Continuous Noise Monitoring for Lamma Extension Construction

The measured noise levels (MNL's) were collected at the noise alarm monitoring stations at Ash Lagoon and Ching Lam. The notional background noise levels (viz. baseline noise data at Ash Lagoon and Ching Lam) were applied to correct the corresponding MNL's in 30-min/5-min L_{Aeq}.

A wind speed sensor was installed at Station Building Rooftop. The wind speed signal was used to determine whether the data from Ash Lagoon and Ching Lam noise alarm monitoring stations were affected. The instantaneous data was discarded in case the instantaneous wind speed exceeded 10 m/s. The 30-min/5-min L_{Aeq} was considered valid only if the amount of valid data was equal to or above 70%.

Equipment Calibration

The sound level meters and calibrators were verified by the manufacturer or accredited laboratory. With the endorsement of the Independent Environmental Checker, the enhancement of calibration of sound level meter at the noise monitoring stations was implemented. The monthly manual on-site calibration using sound level calibrator was replaced by the daily auto charge injection calibration function of the sound level meter. For additional quality assurance, manual on-site calibration would still be conducted for the noise monitoring stations once every 6 months. The manual on-site calibrations for Ash Lagoon and Ching Lam noise monitoring stations were both carried out in February 2025. The next calibrations for the two corresponding noise monitoring stations were both scheduled in August 2025.

3.6 Results and Observations

Continuous noise monitoring was conducted at the two monitoring stations at Ash Lagoon and Ching Lam.

All monitoring results and their graphical presentations are provided in Appendix E. No exceedance of noise Action/Limit Level was recorded in the month.

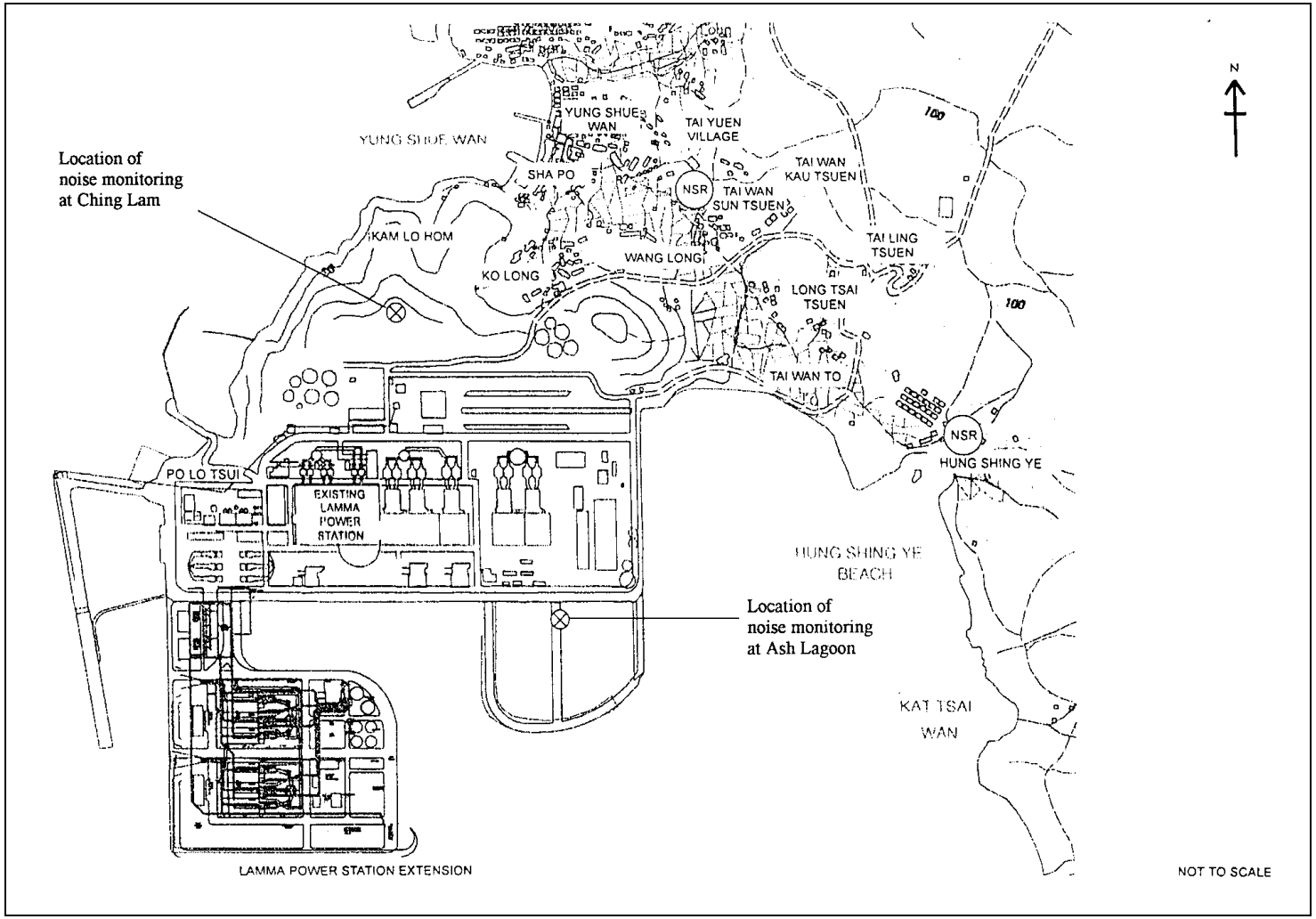


Figure 3.1 Location of Noise Monitoring Stations

4. ENVIRONMENTAL AUDIT

4.1 Review of Environmental Monitoring Procedures

The environmental monitoring procedures were regularly reviewed by the Environmental Team. No modification to the existing monitoring procedures was recommended.

4.2 Assessment of Environmental Monitoring Results

Monitoring results for Air Quality and Noise

The environmental monitoring results for Air Quality and Noise in the reporting month presented in Sections 2 and 3 respectively are summarized in Table 4.1.

Table 4.1 Summary of AL Level Exceedances on Monitoring Parameters

Item	Parameter Monitored	Monitoring Period	No. of Exceedances In		Event/Action Plan Implementation Status and Results
			Action Level	Limit Level	
Air					
1	Ambient TSP (24-hour)	01/05/2025-31/05/2025	0	0	
2	Ambient TSP (1-hour)	01/05/2025-31/05/2025	0	0	
Noise					
1	Noise level at the critical NSR's predicted by the noise alarm monitoring system	01/05/2025-31/05/2025	0	0	

4.3 Waste Management

Wastes generated from this Project include inert construction and demolition (C&D) materials and non-inert C&D materials. Inert C&D materials comprise excavated materials and broken concrete. Non-inert C&D materials comprise general refuse, metals and paper/ cardboard packaging, plastics, chemical waste, etc.

Inert C&D material and non-inert C&D material disposed of in May 2025 are shown in Table 4.2.

Table 4.2 Estimated Amounts of Waste in May 2025

Total Inert C&D Waste Materials	Non-inert C&D Materials		
	C&D Materials Recycled	C&D Waste Disposed of at Landfill	Chemical Waste
0 Tonnes	0 Tonnes	0 Tonnes	0 Tonnes

The monthly waste flow tables prepared by the contractors are attached in Appendix K

4.4 Site Environmental Audit

EPD officials from Regional Office (South) visited Lamma Power Station on 7/5/2025. There was no adverse comment from EPD regarding the construction site.

Site audits were carried out by ET on a weekly basis to monitor environmental issues at the construction sites to ensure that all mitigation measures were implemented timely and properly. The site audit findings for the reporting month are summarized in Appendix H. The site conditions were generally satisfactory. All required mitigation measures were implemented.

4.5 Status of Environmental Licensing and Permitting

All permits/licenses obtained for the project are summarised in Table 4.3.

Table 4.3 Summary of Environmental Licensing and Permit Status

Description	Permit No.	Valid Period		Highlights	Status
		From	To		
Varied Environmental Permit	EP-071/2000/D	28/09/20	-	The whole construction work site	Valid
Construction Noise Permit	GW-RS1025-24	15/11/24	11/05/25	Foundation works for Unit L13. Operation of PME during restricted hours.	Valid up to 11/05/25
WPCO Discharge Licence	WT10002799-2024	17/05/24	31/05/29	Foundation works for Unit L13	Valid
Waste Disposal Billing Account	Account No.: 7049726	09/01/24	-	Foundation works for Unit L13	Valid

4.6 Implementation Status of Environmental Mitigation Measures

Mitigation measures detailed in the permits and the EM&A Manual (Construction Phase) are required to be implemented. An updated summary of the Environmental Mitigation Implementation Schedule (EMIS) is presented in Appendix I.

4.7 Implementation Status of Event/Action Plans

The Event/Action Plans extracted from the EM&A Manual (Construction Phase) are presented in Appendix G.

4.8 Implementation Status of Environmental Complaint Handling Procedures

In May 2025, no complaint in relation to the environmental impact of the construction activities was received.

Table 4.4 Environmental Complaints Received in May 2025

Case Reference / Date, Time Received / Date, Time Concerned	Descriptions / Actions Taken	Conclusion / Status
Nil	N/A	N/A

Table 4.5 Outstanding Environmental Complaints Carried Over

Case Reference / Date, Time Received / Date, Time Concerned	Descriptions / Actions Taken	Conclusion / Status
Nil	N/A	N/A

5. FUTURE KEY ISSUES

5.1 Key Issues for the Coming Month

Key issues to be considered in the coming month include:

Unit L13 Foundation Works

Noise Impact

- To continue executing the preventive measures for avoiding noise exceedance and keep monitoring/ reviewing the noise performance.

Air Impact

- To monitor and review the sufficiency of the dust suppression measures provided and increase the resources accordingly if necessary.

Water Impact

- To treat wastewater in sedimentation pit and tanks for reuse on water spraying and to ensure compliance with the WPCO discharge licence already obtained.

5.2 Monitoring Schedules for the Next 3 Months

The tentative environmental monitoring schedules for the next 3 months are shown in Appendix C.

5.3 Construction Program for the Next 3 Months

The tentative construction programs for the next 3 months are shown in Appendix J.

6. CONCLUSION

All monitoring work at designated stations was performed as scheduled satisfactorily. The environmental monitoring works and site inspection were performed as scheduled in the reporting month. All monitoring results were checked and reviewed.

No Action/Limit level exceedance on 1-hour and 24-hour TSP level was recorded in the reporting month.

No Action/Limit level exceedance on noise was recorded in the reporting month.

Environmental mitigation measures recommended in the EM&A manual for the construction activities were implemented in the reporting month. No complaint in relation to the environmental impact of the construction activities was received in the reporting month. No prosecution was received for this Project in the reporting period.

The environmental performance of the Project was generally satisfactory.

Appendix A Organization Chart

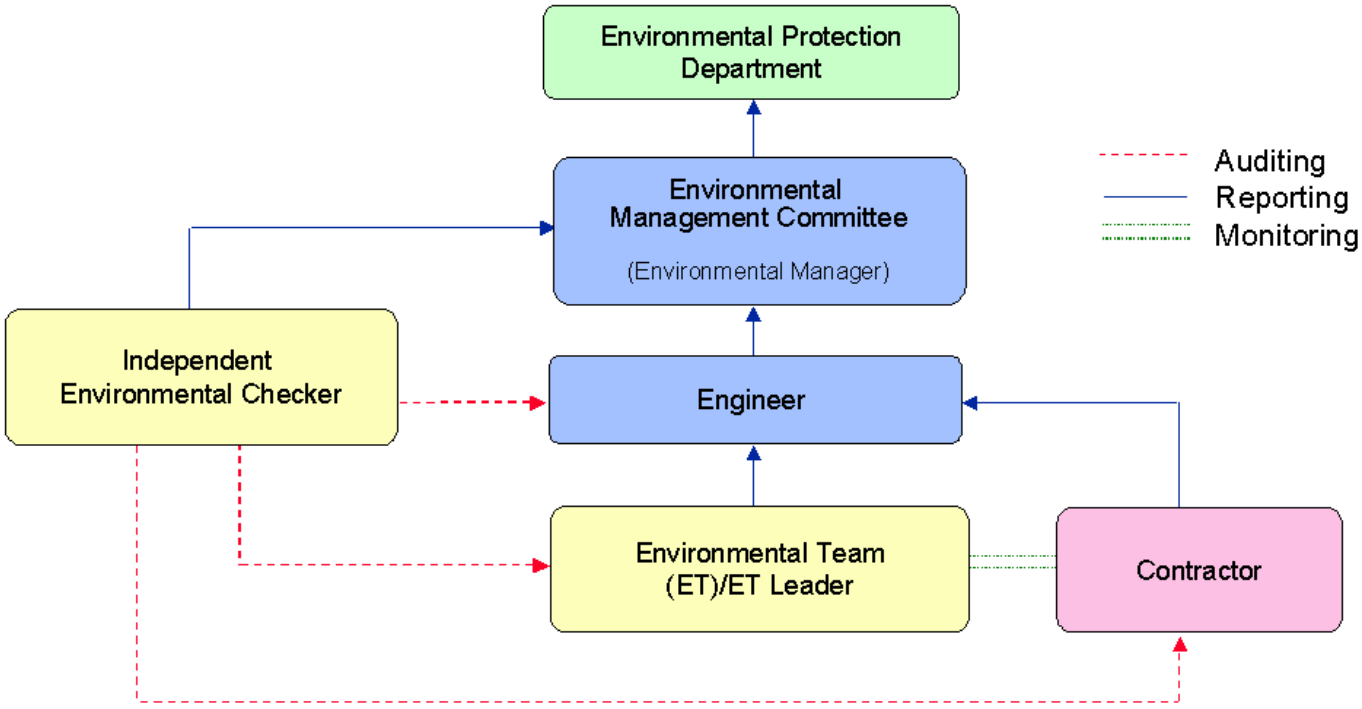


Figure A.1 Organisation of EM&A Programme at Construction Phase

Appendix B Action and Limit Levels for Air Quality and Noise Monitoring

B.1. Air

Table B.1 Action and Limit Levels for 1-hour and 24-hour TSP

	Action Level, $\mu g/m^3$	**Limit Level, $\mu g/m^3$**
1-hour TSP*	340	500
24-hour TSP	190	260

❄ No Action/Limit Level for 1-hour TSP is applied to AM4 where no real time dust monitor is installed.

B.2. Noise

Table B.2 AL Levels for Construction Noise (Other than Percussive Piling)

Parameters	**Action**	**Limit**
Noise Levels at the NSR's at Long Tsai Tsuen/Hung Shing Ye and school within the village of Tai Wan San Tsuen predicted by the noise alarm monitoring system	When one or more documented complaints are received	a. 75 dB(A) in $L_{Aeq,30\ min}$ (07:00-19:00 hrs on normal weekdays) (Note 1) b. subject to statutory control under the Noise Control Ordinance (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days). Set to 60 dB(A) in $L_{Aeq,5\ min}$ c. subject to statutory control under the Noise Control Ordinance (23:00-07:00 hrs of next day). Set to 45 dB(A) in $L_{Aeq,5\ min}$
Manual noise monitoring at the nearest Pak Kok Tsui residences to cable landing points N4 and N5		
Note: 1. For educational institution, the limit level shall be 70 dB(A), reduced to 65 dB(A) during examination periods.		

Appendix C Environmental Monitoring Schedule

Table C.1 Monitoring schedule for 24hr and 1hr TSP monitoring for Lamma Extension Construction (May 2025 to August 2025)

24hr TSP Monitoring	1hr TSP Monitoring
3/May/2025	3/May/2025 1500hr to 1800hr
9/May/2025	9/May/2025 1500hr to 1800hr
15/May/2025	15/May/2025 1500hr to 1800hr
21/May/2025	21/May/2025 1500hr to 1800hr
27/May/2025	27/May/2025 1500hr to 1800hr
2/June/2025	2/June/2025 1500hr to 1800hr
8/June/2025	8/June/2025 1500hr to 1800hr
14/June/2025	14/June/2025 1500hr to 1800hr
20/June/2025	20/June/2025 1500hr to 1800hr
26/June/2025	26/June/2025 1500hr to 1800hr
2/July/2025	2/July/2025 1500hr to 1800hr
8/July/2025	8/July/2025 1500hr to 1800hr
14/July/2025	14/July/2025 1500hr to 1800hr
20/July/2025	20/July/2025 1500hr to 1800hr
26/July/2025	26/July/2025 1500hr to 1800hr
1/August/2025	1/August/2025 1500hr to 1800hr
7/August/2025	7/August/2025 1500hr to 1800hr
13/August/2025	13/August/2025 1500hr to 1800hr
19/August/2025	19/August/2025 1500hr to 1800hr
25/August/2025	25/August/2025 1500hr to 1800hr
31/August/2025	31/August/2025 1500hr to 1800hr

APPENDIX D AIR QUALITY MONITORING RESULTS

Site: Lamma Power Station Extension

Month: May 2025
24 hour TSP Measurement:-

Date	TSP concentration (μg/m³)				Weather Information (From Hong Kong Observatory)		
	Reservoir (AM1)	East Gate (AM2)	Ash Lagoon (AM3)	Tai Yuen Village (AM4)	Mean Wind Speed (km/hr)	Prevailing Wind Dir. (°)	Mean R.H. (%)
3/5/2025	42	31	35	8	8.7	50	81
9/5/2025	33	37	35	4	8.0	10	83
15/5/2025	22	39	45	58	12.6	60	78
21/5/2025	22	19	21	11	12.9	190	76
27/5/2025	38	42	34	33	30.4	70	67

1 hour TSP Measurement:-

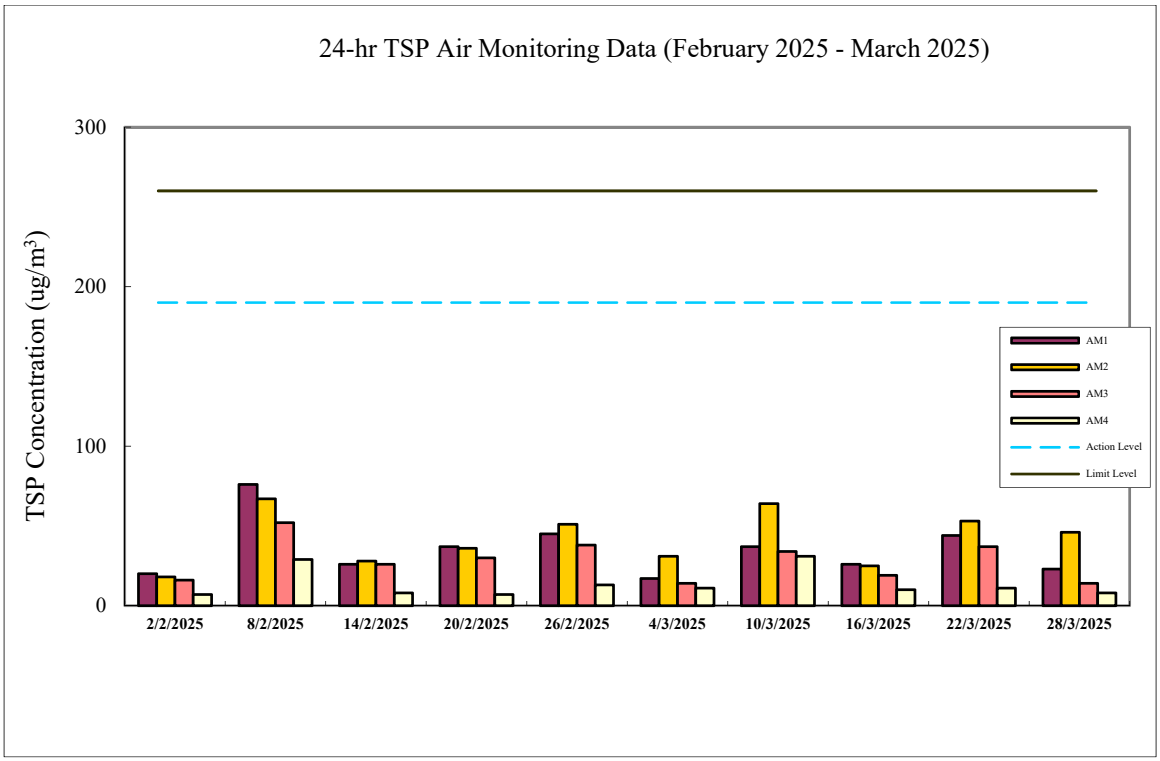
Date	Time	TSP concentration (μg/m³)		
		Reservoir (AM1)	East Gate (AM2)	Ash Lagoon (AM3)
3/5/2025	15:00 - 15:59	39	36	31
	16:00 - 16:59	54	37	32
	17:00 - 17:59	55	33	32
9/5/2025	15:00 - 15:59	28	18	32
	16:00 - 16:59	23	21	29
	17:00 - 17:59	26	28	45
15/5/2025	15:00 - 15:59	20	32	41
	16:00 - 16:59	15	33	32
	17:00 - 17:59	20	43	34
21/5/2025	15:00 - 15:59	32	25	22
	16:00 - 16:59	23	21	21
	17:00 - 17:59	18	25	23
27/5/2025	15:00 - 15:59	40	58	26
	16:00 - 16:59	20	24	19
	17:00 - 17:59	33	33	27

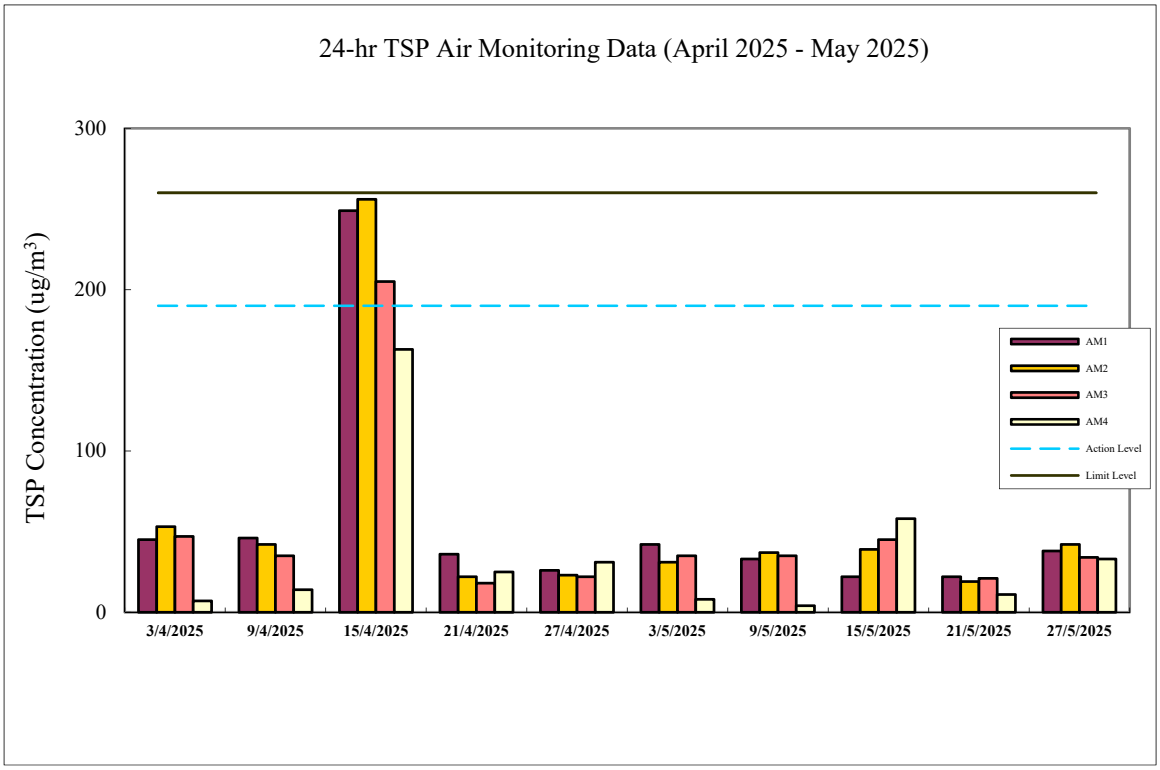
	1-hr TSP (μg/m³)	24-hr TSP (μg/m³)
Action Level	340	190
Limit Level	500	260

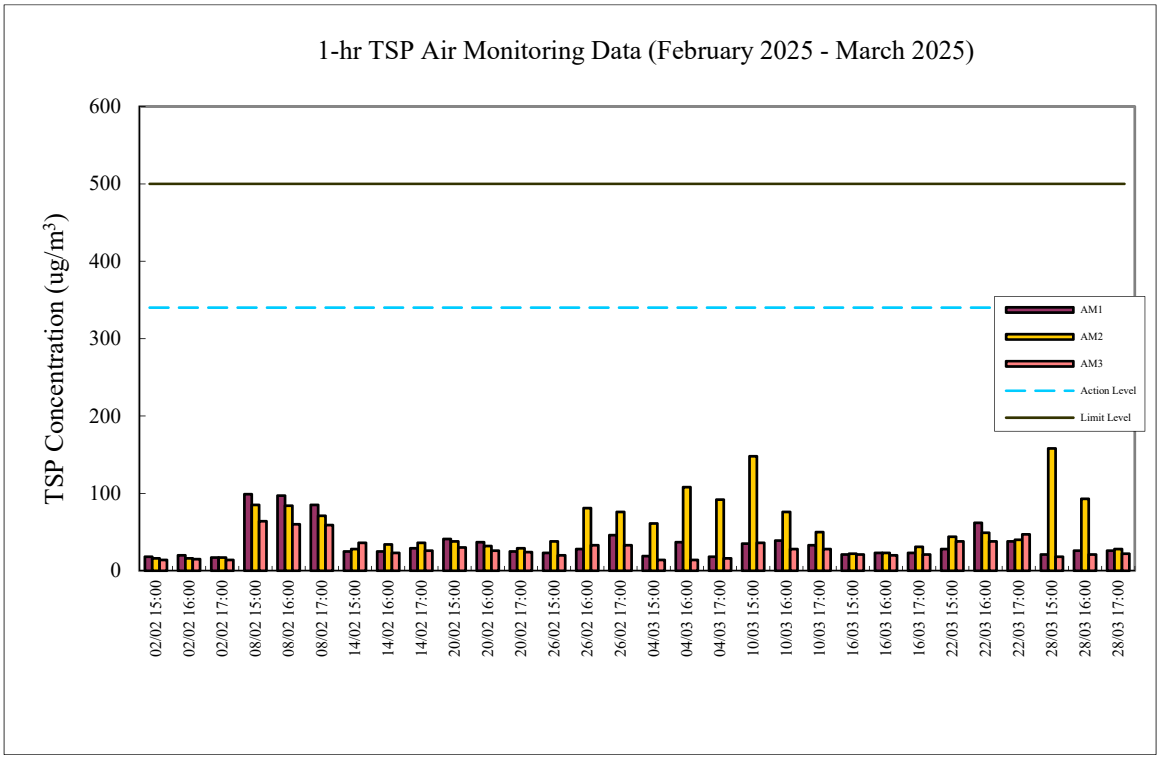
Calibration: Calibration details are shown in appendix F.

Equipment used:

Location	1-hr TSP	24-hr TSP
Reservoir, East Gate and Ash Lagoon	TEOM	TEOM
Tai Yuen Village	-	MINIVOL Portable Sampler


24-hr TSP Air Monitoring Data (February 2025 - March 2025)
TSP Concentration (ug/m3)
300
200
100
0
2/2/2025
8/2/2025
14/2/2025
20/2/2025
26/2/2025
4/3/2025
10/3/2025
16/3/2025
22/3/2025
28/3/2025
AM1
AM2
AM3
AM4
Action Level
Limit Level


24-hr TSP Air Monitoring Data (April 2025 - May 2025)
TSP Concentration (ug/m3)
300
200
100
0
3/4/2025
9/4/2025
15/4/2025
21/4/2025
27/4/2025
3/5/2025
9/5/2025
15/5/2025
21/5/2025
27/5/2025
AM1
AM2
AM3
AM4
Action Level
Limit Level


1-hr TSP Air Monitoring Data (February 2025 - March 2025)
TSP Concentration (ug/m3)
600
500
400
300
200
100
0
AM1
AM2
AM3
Action Level
Limit Level
02/02 15:00
02/02 16:00
02/02 17:00
08/02 15:00
08/02 16:00
08/02 17:00
14/02 15:00
14/02 16:00
14/02 17:00
20/02 15:00
20/02 16:00
20/02 17:00
26/02 15:00
26/02 16:00
26/02 17:00
04/03 15:00
04/03 16:00
04/03 17:00
10/03 15:00
10/03 16:00
10/03 17:00
16/03 15:00
16/03 16:00
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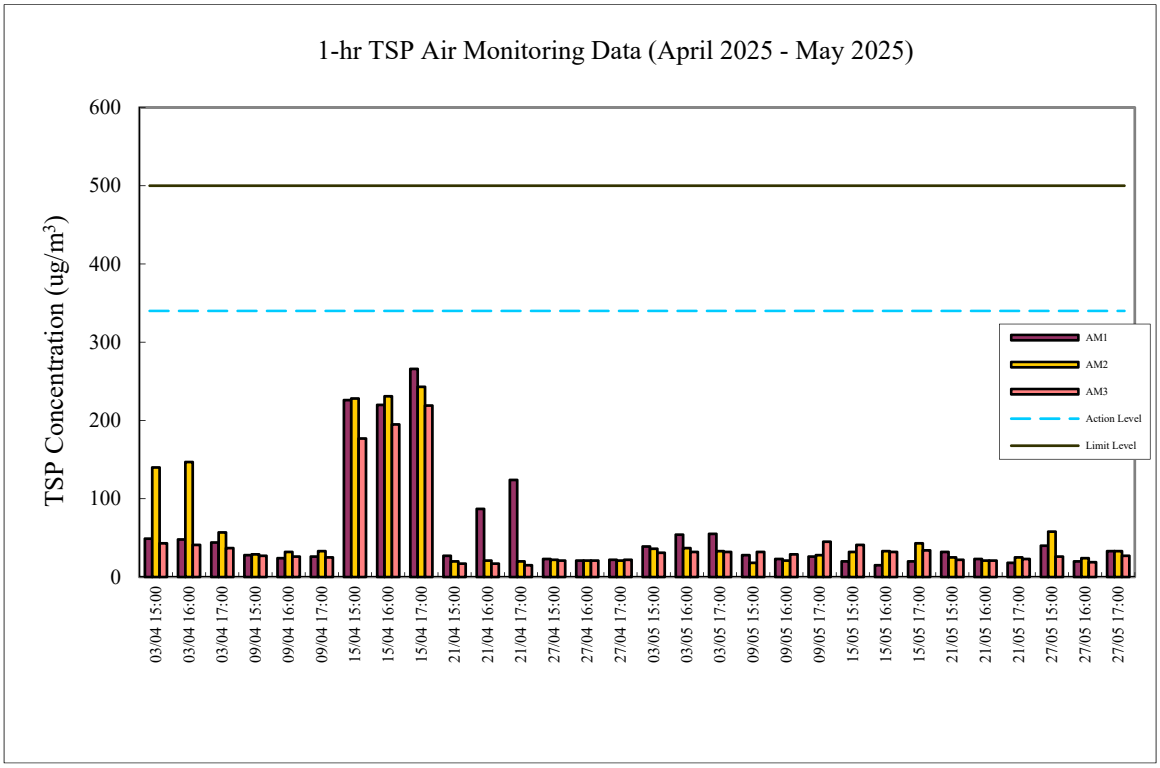
28/03 15:00
28/03 16:00
28/03 17:00


1-hr TSP Air Monitoring Data (April 2025 - May 2025)
TSP Concentration (ug/m3)
600
500
400
300
200
100
0
AM1
AM2
AM3
Action Level
Limit Level
03/04 15:00
03/04 16:00
03/04 17:00
09/04 15:00
09/04 16:00
09/04 17:00
15/04 15:00
15/04 16:00
15/04 17:00
21/04 15:00
21/04 16:00
21/04 17:00
27/04 15:00
27/04 16:00
27/04 17:00
03/05 15:00
03/05 16:00
03/05 17:00
09/05 15:00
09/05 16:00
09/05 17:00
15/05 15:00
15/05 16:00
15/05 17:00
21/05 15:00
21/05 16:00
21/05 17:00
27/05 15:00
27/05 16:00
27/05 17:00

Appendix E Continuous Noise Monitoring Results for May 2025

Site: Lamma Power Station Extension Construction
Measurement Location: Ash Lagoon and Ching Lam
Measurement Parameter: 30-min Leq (07:00-19:00 hrs on normal weekdays)
5-min Leq (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days, and 23:00-07:00 hrs of next day)
Noise Equipment: B&K 2250 sound level meters and B&K 4231 sound Level calibrator
Lab. Calibration Date: B&K 2250 sound level meters - 20/9/2023 (Ash Lagoon)
15/8/2023 (Ching Lam)
B&K 4231 calibrator (7/5/2025)

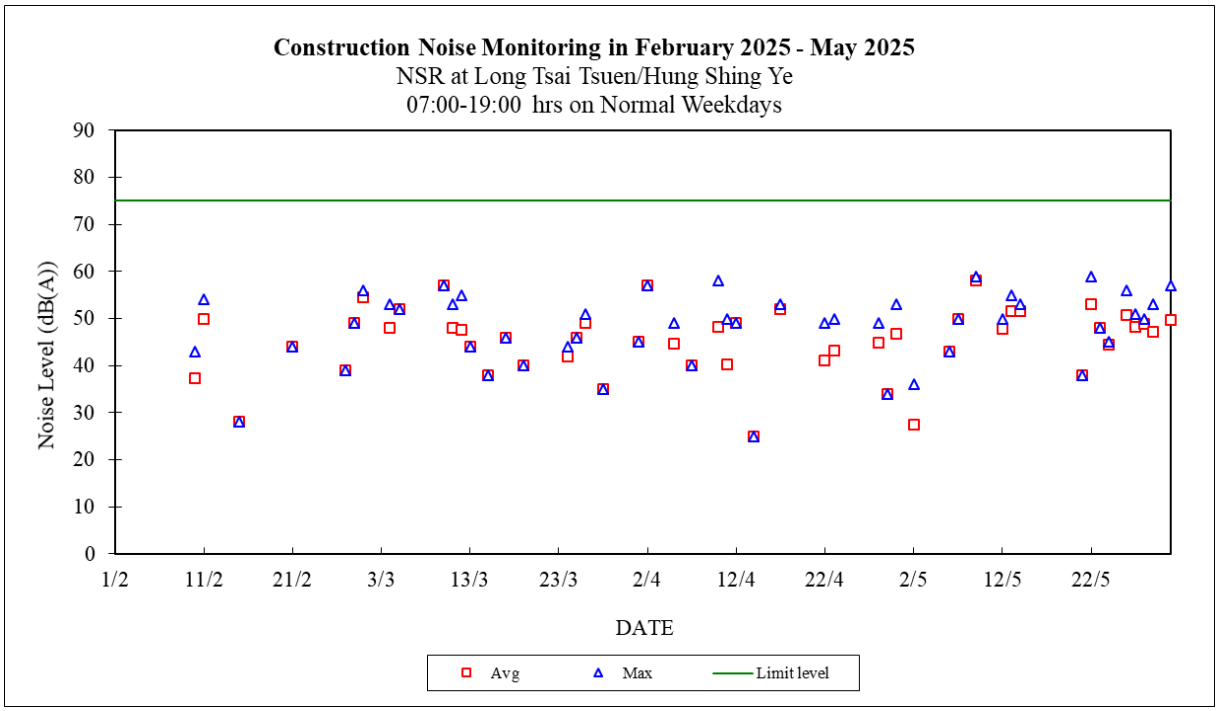
Date	Time	Calculated Noise Level at NSR at Long Tsai Tsuen/Hung Shing Ye (dB(A))		Limit Noise Level (dB(A))	Calculated Noise Level at NSR at the school within Tai Wan San Tsuen (dB(A))		Limit Noise Level (dB(A))
		Max	Avg		Max	Avg	
1/05/2025	07:00-23:00	53	42	60	42	36	60
1/05/2025	23:00-07:00	43	38	45	34	30	45
2/05/2025	07:00-19:00	36	28	75	34	33	70
2/05/2025	19:00-23:00	35	35	60	41	37	60
2/05/2025	23:00-07:00	32	32	45	43	39	45
3/05/2025	07:00-19:00	---	---	75	---	---	70
3/05/2025	19:00-23:00	35	34	60	22	22	60
3/05/2025	23:00-07:00	41	39	45	---	---	45
4/05/2025	07:00-23:00	53	40	60	47	41	60
4/05/2025	23:00-07:00	22	22	45	43	36	45
5/05/2025	07:00-23:00	49	37	60	43	39	60
5/05/2025	23:00-07:00	41	38	45	41	37	45
6/05/2025	07:00-19:00	43	43	75	42	35	70
6/05/2025	19:00-23:00	42	37	60	34	34	60
6/05/2025	23:00-07:00	45	36	45	37	29	45
7/05/2025	07:00-19:00	50	50	75	42	36	70
7/05/2025	19:00-23:00	42	33	60	48	39	60
7/05/2025	23:00-07:00	42	36	45	45	39	45
8/05/2025	07:00-19:00	---	---	75	45	41	70
8/05/2025	19:00-23:00	40	33	60	42	32	60
8/05/2025	23:00-07:00	43	38	45	45	37	45
9/05/2025	07:00-19:00	59	58	75	48	48	70
9/05/2025	19:00-23:00	---	---	60	37	35	60
9/05/2025	23:00-07:00	43	41	45	40	37	45
10/05/2025	07:00-19:00	---	---	75	---	---	70
10/05/2025	19:00-23:00	45	36	60	49	38	60
10/05/2025	23:00-07:00	43	42	45	40	38	45
11/05/2025	07:00-23:00	52	45	60	45	37	60
11/05/2025	23:00-07:00	38	38	45	---	---	45
12/05/2025	07:00-19:00	50	48	75	42	40	70
12/05/2025	19:00-23:00	37	32	60	42	37	60
12/05/2025	23:00-07:00	44	39	45	45	40	45
13/05/2025	07:00-19:00	55	52	75	39	39	70
13/05/2025	19:00-23:00	---	---	60	41	36	60
13/05/2025	23:00-07:00	44	40	45	42	40	45
14/05/2025	07:00-19:00	53	52	75	---	---	70
14/05/2025	19:00-23:00	31	28	60	20	20	60

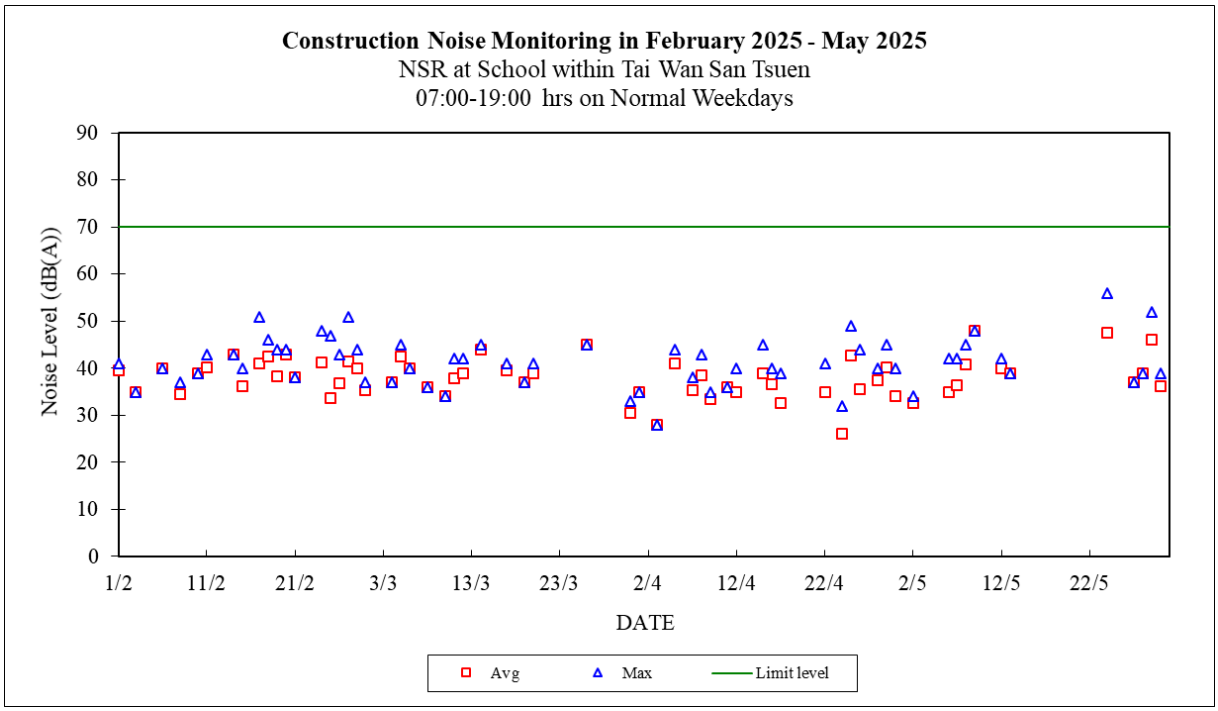
14/05/2025	23:00-07:00	45	39	45	29	29	45
15/05/2025	07:00-19:00	---	---	75	---	---	70
15/05/2025	19:00-23:00	---	---	60	---	---	60
15/05/2025	23:00-07:00	43	41	45	---	---	45
16/05/2025	07:00-19:00	---	---	75	---	---	70
16/05/2025	19:00-23:00	37	37	60	46	39	60
16/05/2025	23:00-07:00	45	39	45	33	26	45
17/05/2025	07:00-19:00	---	---	75	---	---	70
17/05/2025	19:00-23:00	33	33	60	---	---	60
17/05/2025	23:00-07:00	39	36	45	32	29	45
18/05/2025	07:00-23:00	47	40	60	39	31	60
18/05/2025	23:00-07:00	45	43	45	---	---	45
19/05/2025	07:00-19:00	---	---	75	---	---	70
19/05/2025	19:00-23:00	44	44	60	---	---	60
19/05/2025	23:00-07:00	45	44	45	40	30	45
20/05/2025	07:00-19:00	---	---	75	---	---	70
20/05/2025	19:00-23:00	49	49	60	---	---	60
20/05/2025	23:00-07:00	44	40	45	35	30	45
21/05/2025	07:00-19:00	38	38	75	---	---	70
21/05/2025	19:00-23:00	---	---	60	---	---	60
21/05/2025	23:00-07:00	43	38	45	---	---	45
22/05/2025	07:00-19:00	59	53	75	---	---	70
22/05/2025	19:00-23:00	40	40	60	---	---	60
22/05/2025	23:00-07:00	45	40	45	---	---	45
23/05/2025	07:00-19:00	48	48	75	---	---	70
23/05/2025	19:00-23:00	45	45	60	---	---	60
23/05/2025	23:00-07:00	41	34	45	---	---	45
24/05/2025	07:00-19:00	45	45	75	56	48	70
24/05/2025	19:00-23:00	43	35	60	48	44	60
24/05/2025	23:00-07:00	43	35	45	41	35	45
25/05/2025	07:00-23:00	53	42	60	53	43	60
25/05/2025	23:00-07:00	42	42	45	---	---	45
26/05/2025	07:00-19:00	56	51	75	---	---	70
26/05/2025	19:00-23:00	40	33	60	35	25	60
26/05/2025	23:00-07:00	43	43	45	---	---	45
27/05/2025	07:00-19:00	51	48	75	37	37	70
27/05/2025	19:00-23:00	45	34	60	39	38	60
27/05/2025	23:00-07:00	---	---	45	32	32	45
28/05/2025	07:00-19:00	50	49	75	39	39	70
28/05/2025	19:00-23:00	37	35	60	38	33	60
28/05/2025	23:00-07:00	43	38	45	41	33	45
29/05/2025	07:00-19:00	53	47	75	52	46	70
29/05/2025	19:00-23:00	52	43	60	42	35	60
29/05/2025	23:00-07:00	41	41	45	43	36	45
30/05/2025	07:00-19:00	---	---	75	39	36	70
30/05/2025	19:00-23:00	41	37	60	43	36	60
30/05/2025	23:00-07:00	43	43	45	43	33	45
31/05/2025	07:00-19:00	57	50	75	---	---	70
31/05/2025	19:00-23:00	30	30	60	---	---	60
31/05/2025	23:00-07:00	45	40	45	41	30	45

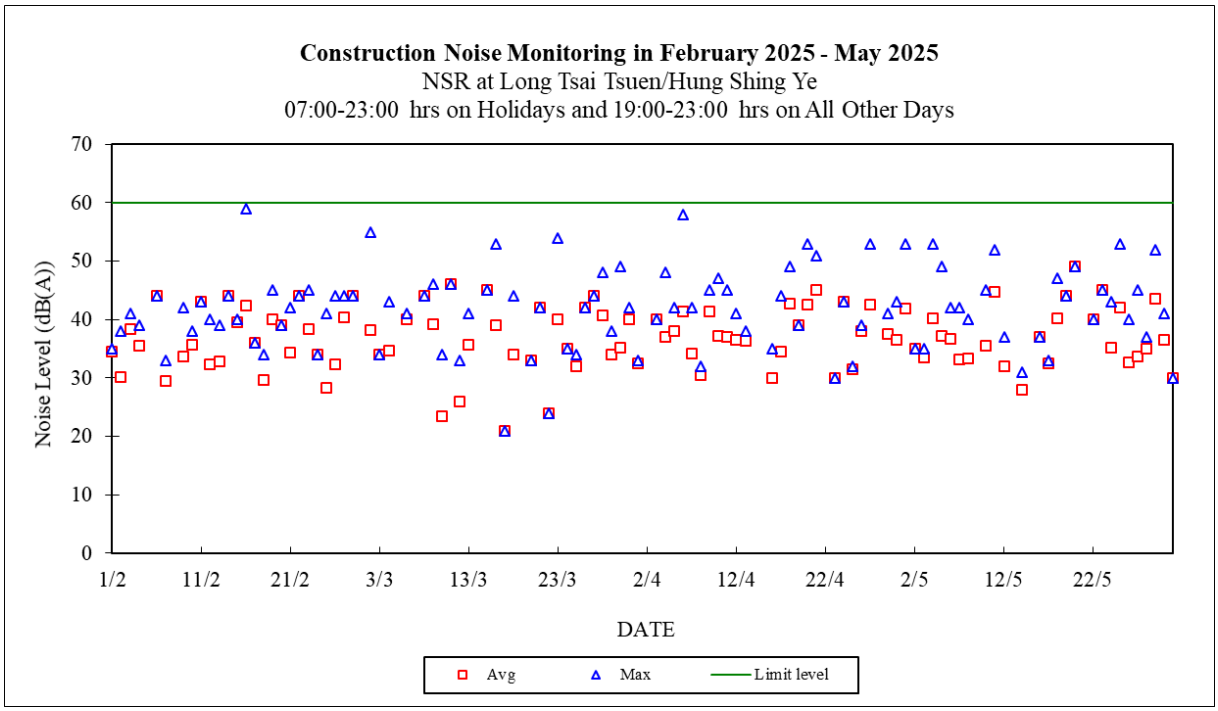
Note:

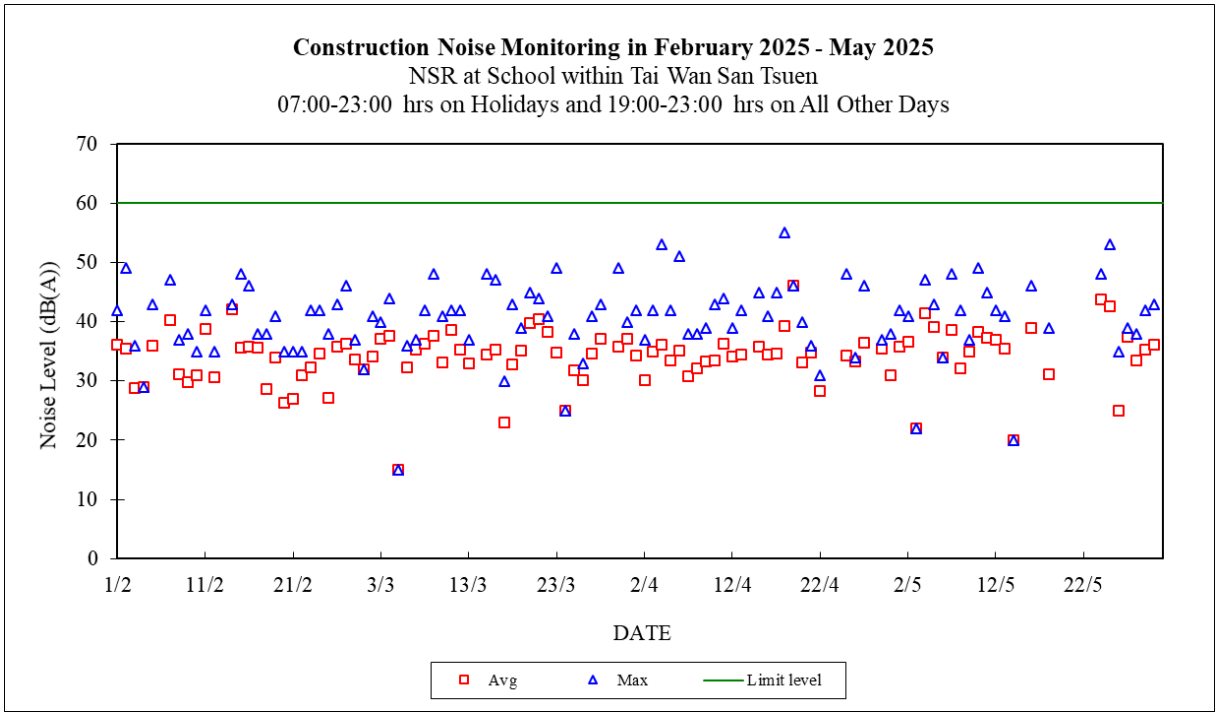
a. "---" represents the measured noise monitoring data lower than the established notional background level/discarded under strong wind.

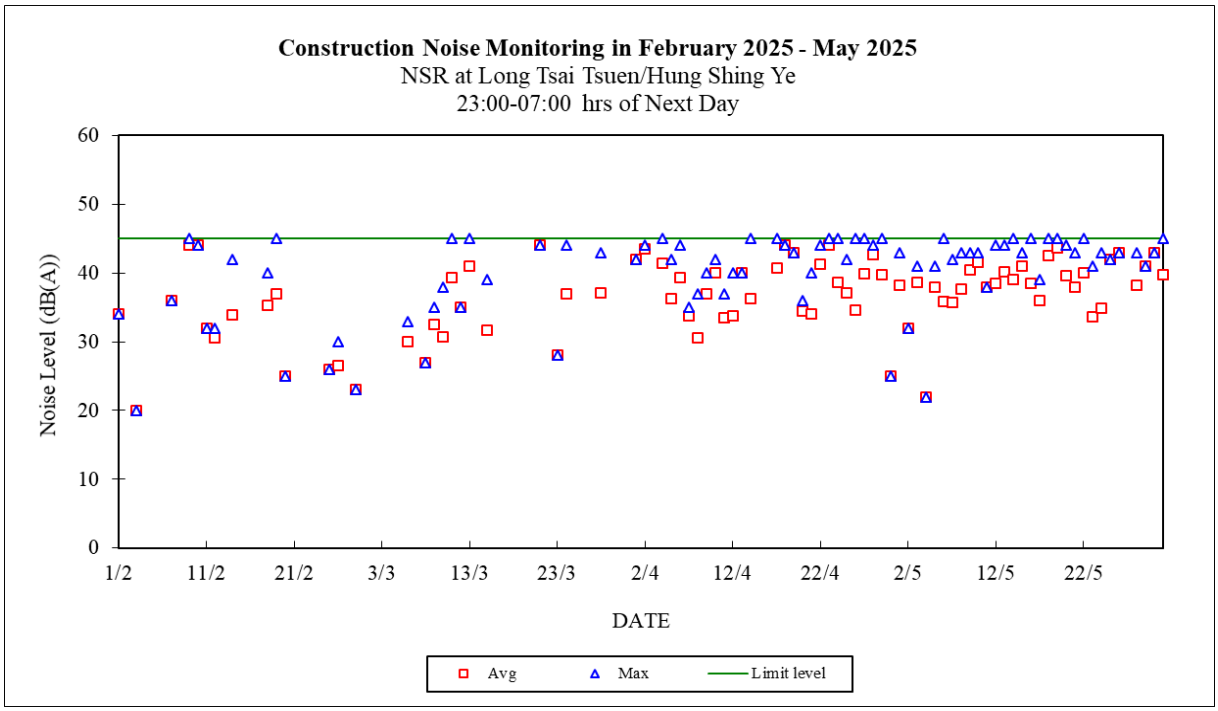
b. Continuous noise monitoring was also carried out at holidays & evening-time (07:00-23:00 hrs on holidays and 19:00-23:00 hrs on all other days) and night-time (23:00-07:00 hrs of next day).

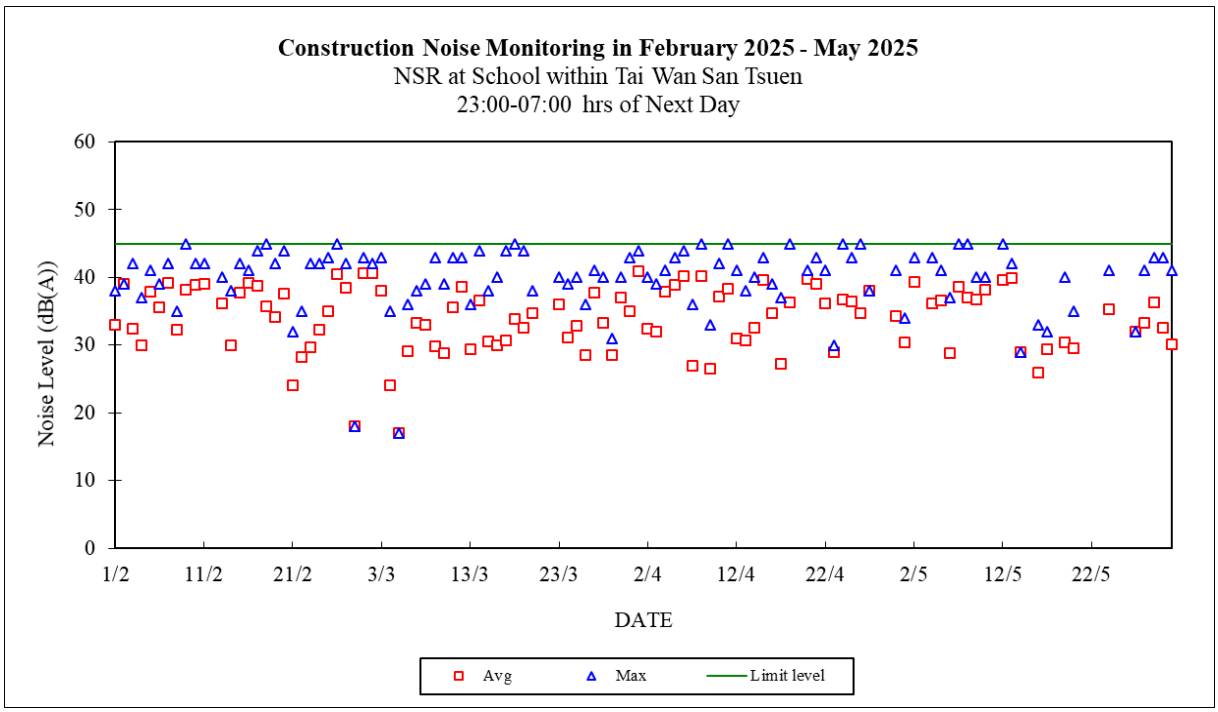

Construction Noise Monitoring in February 2025 - May 2025
NSR at Long Tsai Tsuen/Hung Shing Ye
07:00-19:00 hrs on Normal Weekdays
Noise Level (dB(A))
90
80
70
60
50
40
30
20
10
0
1/2
11/2
21/2
3/3
13/3
23/3
2/4
12/4
22/4
2/5
12/5
22/5
DATE
Avg
Max
Limit level


Construction Noise Monitoring in February 2025 - May 2025
NSR at School within Tai Wan San Tsuen
07:00-19:00 hrs on Normal Weekdays
Noise Level (dB(A))
90
80
70
60
50
40
30
20
10
0
1/2
11/2
21/2
3/3
13/3
23/3
2/4
12/4
22/4
2/5
12/5
22/5
DATE
Avg
Max
Limit level


Construction Noise Monitoring in February 2025 - May 2025
NSR at Long Tsai Tsuen/Hung Shing Ye
07:00-23:00 hrs on Holidays and 19:00-23:00 hrs on All Other Days
Noise Level (dB(A))
70
60
50
40
30
20
10
0
1/2
11/2
21/2
3/3
13/3
23/3
2/4
12/4
22/4
2/5
12/5
22/5
DATE
Avg
Max
Limit level


Construction Noise Monitoring in February 2025 - May 2025
NSR at School within Tai Wan San Tsuen
07:00-23:00 hrs on Holidays and 19:00-23:00 hrs on All Other Days
Noise Level (dB(A))
70
60
50
40
30
20
10
0
1/2
11/2
21/2
3/3
13/3
23/3
2/4
12/4
22/4
2/5
12/5
22/5
DATE
Avg
Max
Limit level


Construction Noise Monitoring in February 2025 - May 2025
NSR at Long Tsai Tsuen/Hung Shing Ye
23:00-07:00 hrs of Next Day
Noise Level (dB(A))
60
50
40
30
20
10
0
1/2
11/2
21/2
3/3
13/3
23/3
2/4
12/4
22/4
2/5
12/5
22/5
DATE
Avg
Max
Limit level


Construction Noise Monitoring in February 2025 - May 2025
NSR at School within Tai Wan San Tsuen
23:00-07:00 hrs of Next Day
Noise Level (dB(A))
60
50
40
30
20
10
0
1/2
11/2
21/2
3/3
13/3
23/3
2/4
12/4
22/4
2/5
12/5
22/5
DATE
Avg
Max
Limit level

Appendix F

The QA/QC Procedures and Results

The Hongkong Electric Co., Ltd.
Lamma Power Station Extension
TEOM Continuous Dust Monitor
Data Quality Assurance Log Sheet

Month: May Year: 2025

Reservoir (AM1)				
Date	Frequency (Hz) (240 - 275)	Operation Mode (Mode 4)	Main Flow (l/min) (2.70 - 3.30)	Bypass Flow (l/min) (12.30 - 15.04)
3/5/2025	259.651	4	3.00	13.66
9/5/2025	260.387	4	2.99	13.63
15/5/2025	259.876	4	3.00	13.66
21/5/2025	259.674	4	2.97	13.51
27/5/2025	259.293	4	3.02	13.75

East Gate (AM2)				
Date	Frequency (Hz) (240 - 275)	Operation Mode (Mode 4)	Main Flow (l/min) (2.70 - 3.30)	Bypass Flow (l/min) (12.30 - 15.04)
3/5/2025	263.330	4	2.92	13.31
9/5/2025	262.995	4	2.92	13.28
15/5/2025	271.000	4	2.82	12.68
21/5/2025	270.825	4	3.00	12.83
27/5/2025	270.289	4	3.00	12.89

Ash Lagoon (AM3)				
Date	Frequency (Hz) (240 - 275)	Operation Mode (Mode 4)	Main Flow (l/min) (2.70 - 3.30)	Bypass Flow (l/min) (12.30 - 15.04)
3/5/2025	258.149	4	2.97	13.40
9/5/2025	257.749	4	2.97	13.52
15/5/2025	260.008	4	3.00	13.67
21/5/2025	259.976	4	3.00	13.67
27/5/2025	259.645	4	3.00	13.67

Maintenance Record			
	Reservoir	East Gate	Ash Lagoon
TEOM Filter Exchange	✓	✓	✓
Clean TSP Inlet	✓	✓	✓
Replace flow in-line filter	✓	✓	✓
Pump Repair			
Leak Check			
Flow audit			
Flow Controller Calibration			
A/C filter cleaning			

Remarks:

Prepared by: Chris Chan

Checked by: HY Chan

The Hongkong Electric Co., Ltd.
Mini Volume Air Sampler Site Visit Log Sheet

Attendance Log

Site Name: Tai Yuen Village (AM4)

Date/Time	Staff Name
23/5/2025 / 15:00	Donald Kwan

Equipment / Item

Equipment / Item	Serial No. / No.
MINIVOL	3393
Used Filter Paper No.	MT84
New Filter Paper No.	MT85

Type of Filter: Glass-fibre

I. Calibration is performed by using Drycal DC-2 Flow Calibrator
5 std. L/min set point is recommended

Before:	5.00
After:	5.00 (No Adjustment)

II. General Services

1. Clean Rotameter:	Yes
2. Clean / Replace Pump Valves:	No
3. Clean / Replace Pump Diaphragms:	No
4. Clean Impaction Inlet:	Yes
5. Replace Timer Battery Every 6 months:	Yes
6. Replace Inlet Filter:	Yes

III. Remarks

Conducted by: Donald Kwan Checked by: SM Hon

The Hongkong Electric Co., Ltd.
Lamma Power Station Extension
Noise Monitoring Station
Daily Calibration Records

Date	Location: Ash Lagoon		Location: Ching Lam	
	Calibration Results	Deviation from Reference (dB)	Calibration Results	Deviation from Reference (dB)
01/05/2025	Passed	0.03	Passed	0.00
02/05/2025	Passed	0.03	Passed	-0.02
03/05/2025	Passed	0.04	Passed	0.01
04/05/2025	Passed	0.05	Passed	0.00
05/05/2025	Passed	0.04	Passed	0.00
06/05/2025	Passed	0.05	Passed	0.08
07/05/2025	Passed	0.01	Passed	-0.01
08/05/2025	Passed	0.04	Passed	0.03
09/05/2025	Passed	0.04	Passed	-0.01
10/05/2025	Passed	0.06	Passed	0.01
11/05/2025	Passed	0.06	Passed	-0.02
12/05/2025	Passed	0.07	Passed	-0.03
13/05/2025	Passed	0.06	Passed	-0.01
14/05/2025	Passed	0.03	Passed	-0.02
15/05/2025	Passed	0.04	Passed	0.04
16/05/2025	Passed	0.05	Passed	0.06
17/05/2025	Passed	0.05	Passed	0.06
18/05/2025	Passed	0.05	Passed	0.07
19/05/2025	Passed	0.05	Passed	0.03
20/05/2025	Passed	0.06	Passed	0.06
21/05/2025	Passed	0.06	Passed	0.03
22/05/2025	Passed	0.06	Passed	0.07
23/05/2025	Passed	0.06	Passed	0.02
24/05/2025	Passed	0.04	Passed	0.04
25/05/2025	Passed	0.07	Passed	-0.01
26/05/2025	Passed	0.07	Passed	-0.01
27/05/2025	Passed	0.08	Passed	-0.02
28/05/2025	Passed	0.03	Passed	-0.02
29/05/2025	Passed	0.05	Passed	-0.02
30/05/2025	Passed	0.02	Passed	-0.02
31/05/2025	Passed	0.04	Passed	-0.01

Remarks:

1. The B&K sound level meter at the noise monitoring station has an advanced feature of internal calibration checking (viz. Charge Injection Calibration (CIC)). CIC is a B&K patented method for in situ verification of the integrity of the entire sound measurement chain (including microphone, preamplifier and cabling).

2. The acceptance criterion of deviation from reference is ± 0.5 dB.

Appendix G Event/Action Plans

Table G.1 Event and Action Plans for Air Quality

Event	Monitoring		Action	
	ET Leader	**IEC**	**Engineer**	**Contractor**
Action Level				
Exceedance of one sample	Identify source Inform Engineer and IEC verbally Repeat measurement to confirm finding	Check monitoring data submitted by ET and advise Engineer.	Notify Contractor Checking monitoring data and contractor's working methods	Rectify any unacceptable practice amend any working methods if appropriate
Exceedance of two or more consecutive samples	Identify source Inform Engineer and IEC verbally Repeat measurement to confirm finding Increase monitoring frequency Discuss with Engineer and Contractor on remedial actions required If exceedance continues, arrange meeting with Engineer If exceedance stops, discontinue additional monitoring	Check monitoring data submitted by ET and advise Engineer. Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Confirm receipt of notification of failure in writing Notify contractor Checking monitoring data and contractor's working methods Discuss proposed remedial actions with the ET and Contractor Ensure remedial actions properly implemented	Submit proposals for remedial actions to Engineer within 3 working days of notifications Implement the agreed proposals Amend proposal if appropriate
Limit level				
Exceedance of one sample	Repeat measurement to confirm finding. Identify the source(s) of the impact. If the exceedance is found to be valid and due to the Construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance, as soon as practicable. Increase monitoring frequency to daily Assess the effectiveness of the contractor's remedial actions and keep Engineer, IEC and EPD informed of the results	Check monitoring data submitted by ET and advise Engineer Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Confirm receipt of notification of failure in writing Notify Contractor Checking monitoring data and Contractor's working method Discuss with ET and Contractor on remedial actions to be provided Ensure remedial measures properly implemented	Take immediate action to avoid further exceedance Submit proposals for remedial actions to Engineer within 3 working days of notifications Implement the agreed proposals Amend proposal if appropriate
Exceedance of two or more	Identify source	Provide feedback to the Engineer on the remedial actions proposed by the	Confirm receipt of notification of	Take immediate action to

Event	Monitoring		Action	
	ET Leader	**IEC**	**Engineer**	**Contractor**
consecutive samples	If the exceedance is found to be valid and due to the construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance as soon as practicable. Repeat measurement to confirm finding Increase monitoring frequency to daily Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented Arrange meeting with Engineer and Contractor to discuss the remedial actions to be taken If exceedance stops, discontinue additional monitoring	ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	failure in writing Checking monitoring data and Contractor's working methods Notify Contractor Discuss proposed remedial actions with ET and Contractor Ensure remedial measures properly implemented If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop the portion of work until the exceedance is abated	avoid further exceedance Submit proposals for remedial actions to Engineer within 3 working days of notifications Implement the agreed proposals Resubmit proposals if problem still not under control Stop the relevant portion of works as determined by the Engineer until the exceedance is abated

Table G.2 Event and Action Plans for Construction Noise

Exceedance	ET Leader	IEC	Engineer	Contractor
Action Level	Undertake noise measurement/check monitoring data to establish validity of complaint.	Review the analysed results submitted by the ET.	Notify Contractor of the complaint if proven.	Submit proposals for remedial actions to Engineer.
	If the complaint is valid, inform Engineer and IEC verbally.	Review the remedial measures proposed by the Contractor and advise the Engineer and ET accordingly.	Check Contractor's working methods and advise IEC and ET accordingly.	Amend proposals if required by the Engineer.
	Identify the source(s) of the noise.	Verify the implementation of the remedial measures.	Remind the Contractor of his contractual obligations and discuss remedial actions.	Implement the remedial actions immediately upon instruction from the Engineer.
	Discuss remedial actions required with Contractor and Engineer.		Keep the Contractor informed of the efficacy of remedial actions.	Liaise with the Engineer to optimise the effectiveness of the agreed mitigation.
	Increase manual monitoring frequency to assess efficacy of remedial measures.			
	If exceedance continues, review implementation of appropriate mitigation measures.			
Limit Level	Repeat manual measurement/check monitoring data to confirm findings.	Agree potential remedial actions with Engineer, ET and Contractor.	Notify Contractor of exceedance.	Take immediate action to avoid further exceedance.
	Identify the source(s) of the impact. If the exceedance is found to be valid and due to the Construction works, verbally advise the Contractor, Engineer and IEC, and inform the EPD of the exceedance, as soon as practicable.	Review Contractor's remedial actions / measures to ensure their effectiveness and advise the Engineer and ET accordingly.	Check Contractor's working methods and advise IEC and ET accordingly.	Submit proposals for remedial actions to Engineer.
			Discuss with Contractor the remedial actions to be implemented.	Amend proposals if required by the Engineer.
		Verify the implementation of the remedial measures	Keep the Contractor informed of the efficacy of remedial actions.	Implement remedial actions immediately upon instruction from the Engineer.
	Discuss remedial actions required with Engineer.		If the exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop the portion of work until the exceedance is abated	If the exceedance continues, consider what portion of the work is responsible and, as instructed by the Engineer, stop the portion of work until the exceedance is abated
	Increase manual monitoring frequency to assess efficacy of remedial measures.			

Table G.3 Event and Action Plans for Water Quality

Exceedance	ET Leader	IEC	Engineer	Contractor
Action level exceeded on one sampling day	Verbally inform the Contractor, and IEC. Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with Engineer and Contractor; Repeat measurement on next day of exceedance.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose and discuss mitigation measures with Engineer; Implement the agreed mitigation measures.
Action level exceeded on more than one consecutive sampling day	Repeat in-situ measurements to confirm findings; Identify source(s) of impact; Inform Contractor and IEC; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measure with Engineer and Contractor; Ensure mitigation measures are implemented; Prepare to increase the monitoring frequency to daily; Repeat measurement on next day of exceedance.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with ET and Contractor on the proposed mitigation measures; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer within 3 working days and discuss with ET and Engineer; Implement the agreed mitigation measures.
Limit level exceeded on one sampling day	Verbally inform the Contractor, IEC and the EPD of the exceedance; Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Check monitoring data, all plant,	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer

Exceedance	ET Leader	IEC	Engineer	Contractor
	equipment and Contractor's working methods; Discuss mitigation measure with Engineer and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level.		implemented mitigation measures.	within 3 working days and discuss with Engineer; Implement the agreed mitigation measures.
Limit level exceeded by more than one consecutive sampling day	Repeat in-situ measurement to confirm findings; Identify source(s) of impact; Inform Contractor, IEC and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measure with Engineer and Contractor; Ensure mitigation measures are implemented; Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days.	Provide feedback to the Engineer on the remedial actions proposed by the ET / Contractor Advise Engineer on the effectiveness of the proposed remedial measures Verify the implementation of the remedial measures	Discuss with Contractor on the proposed mitigation measures; Request Contractor to critically review the working methods; Make agreement on the mitigation measures to be implemented; Assess the effectiveness of the implemented mitigation measures; Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine works until no exceedance of the Limit Level.	Inform the Engineer and confirm notification of the non-compliance in writing; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Propose mitigation measures to Engineer within 3 working days and discuss with Engineer; Implement the agreed mitigation measures.. As directed by the Engineer, to slow down or to stop all or part of the marine work

Appendix H Summary of Site Audit Findings

L13 Foundation Works

Dates of Inspection: 7/5/2025, 14/5/2025, 21/5/2025 and 28/5/2025

Summary of Findings

General

- No environmental deficiency identified.

Air Quality

- No environmental deficiency identified.

Noise

- No environmental deficiency identified.

Water Quality

- No environmental deficiency was identified.

Waste Management

- No environmental deficiency identified.

Summary of EMIS

Power Station – (Part B of EIA Report)

Construction Phase Mitigation Measures and their Implementation

EM&A Log Ref.	Mitigation Measures	Implementation Status
	AIR QUALITY	
A1	For general construction works, the dust control measures stipulated under the Air Pollution Control (Construction Dust) Regulation shall be complied with, such as:	
	• the haul roads shall be sprayed with water to keep the entire road surface wet.	C
	• the load carried by vehicle shall be covered by impervious sheeting to ensure no leakage of dusty materials from the vehicle.	C
	• the heights from which fill materials are dropped shall be controlled to a practical level to minimise the fugitive dust arising from unloading.	C
A2	For the concrete batching plant, the following control measures are recommended:	
	• loading, unloading, handling, transfer or storage or any dusty materials shall be carried out in a totally enclosed system.	C
	• The materials which may generate airborne dust emissions shall be wetted by water spray system.	C
	• All receiving hoppers shall be enclosed on three sides up to 3m above unloading point.	C
	• All conveyor transfer points shall be totally enclosed.	C
	WATER QUALITY	
B1	Silt curtains shall be installed on the eastern, southern and north western sides of the reclamation site during dredging for the reclamation construction. This is a required mitigation measure for the construction works and shall be implemented prior to the commencement of bulk dredging. **	N/A
B3	As a necessary operational constraint combined bulk dredging and sand filling for site formation shall not be permitted at any time. In addition, sand filling for site platform shall take place behind constructed sea walls which pierce the water surface. **	N/A
B4	HEC shall ensure design to divert all storm drains away from Hung Shing Ye Bay. **	N/A
B5	Sand fill for the rubble mound seawalls shall be placed by controlled pumping down the trailer arm. **	N/A
B6	EM&A shall confirm the acceptability of any impacts during construction and should any unacceptable impacts be found then one or more of the following mitigation measures shall be implemented: ** • reducing the number of dredgers working at any one time; • reducing the rate of working of the dredgers; • temporary suspension of operations; • phasing of the works so that dredging / filling is only undertaken at certain stages of the tidal cycle.	N/A

EM&A Log Ref.	Mitigation Measures	Implementation Status
B7	In addition to the above specific measures the following general working procedures shall be adopted. **	
	• fully-enclosed or watertight grabs shall be used to minimise loss of sediment during the raising of loaded grabs through the water column;	N/A
	• the descent speed of grabs shall be controlled to minimise the seabed impact speed and to reduce the volume of over dredging;	N/A
	• barges shall be loaded carefully to avoid splashing of material;	N/A
	• all barges used for the transport of dredged materials shall be fitted with tight bottom seals in order to prevent leakage of material during loading and transport;	N/A
	• all barges shall be filled to a level which ensures that material does not spill over during loading and transport to the disposal site and that adequate freeboard is maintained to ensure that the decks are not washed by wave action;	N/A
	• the speed of trailer dredgers shall be controlled to prevent propeller wash from stirring up the sea bed sediments;	N/A
	• "rainbowing" sand fill from trailer dredgers shall not be permitted; and	N/A
	• the works shall cause no visible foam, oil, grease or litter or other objectionable matter to be present in the water within and adjacent to the dredging site and along the route to the disposal site.	N/A
B8	Cumulative impacts shall be assessed through EM&A. Co-ordination with the EM&A consultants for other projects to determine if any exceedances are caused by the other projects or by HEC's activities. Should monitoring results indicate exceedances at sensitive receivers due to HEC's activities, then the above described mitigation measures shall be implemented until impacts reduce to acceptable levels. **	N/A
	NOISE	
C1	General noise mitigation measures shall be employed at all work sites throughout the construction phase.	C
C2	Mitigate against general construction noise during Sunday's and public holidays, either at source with portable noise barriers, or by rescheduling of some PMEs to less sensitive time periods.	C
C3	Mitigate against night time noise from dredging equipment, with silencers or mufflers. **	N/A
	LANDSCAPE & VISUAL IMPACTS	
D1	The following mitigation measures shall be allowed for landscape and visual improvement:	
	• Use rubble mound seawall along south and west edges of the reclamation to provide a more natural look.	C
	• Break the mass of main buildings by varying the height/division into smaller units.	C
	• Plant trees and vegetation for screening.	C
	• Adopt colour scheme to blend the buildings into the scenery.	C

EM&A Log Ref.	Mitigation Measures	Implementation Status
	WASTE MANAGEMENT	
E1	HEC to submit a Waste Management Plan for the construction phase to EPD. The Plan shall be verified by the IEC and shall describe the arrangements for avoidance, reuse, recovery and recycling, storage, collection, treatment and disposal of different categories of waste to be generated from the construction activities and shall take into account the recommendations of the EIA report.	C
	Dredging Waste	
E2	All vessels for marine transportation of dredged sediment shall be fitted with tight fitting seals to their bottom openings to prevent leakage of materials. In addition, loading of barges and hoppers shall be controlled to prevent splashing of dredged material into the surrounding water, and barges or hoppers should under no circumstances be filled to a level which shall cause the overflowing of materials or polluted water during loading or transportation**	N/A
	Storage, Collection and Transport of Waste	
E3	• Minimise windblown litter and dust during transportation by either covering trucks or transporting wastes in enclosed containers.	C
	• Obtain the necessary waste disposal permits from the appropriate authorities, if they are required, in accordance with the Waste Disposal Ordinance (Cap.354), Waste Disposal (Chemical Waste) (General) Regulation (Cap.354), the Crown Land Ordinance (Cap 28), Dumping at Sea Ordinance (Cap 466) and Work Branch Technical Circular No. 22/92, Marine Disposal of Dredged Mud.	C
	• Disposal of waste at Licensed sites;	C
	• Develop procedures such as a ticketing system to facilitate tracking of marine mud and chemical waste, and to ensure that illegal disposal does not occur;	C

	• Segregate and sort the waste materials into 3 categories:
	  • public fill (e.g. concrete and rubble) for re-use on-site or disposal at a public filling area;
	  • re-use and/or recycling waste (e.g. steel and other metals);
	  • waste which cannot be re-used and/or recycled (e.g. wood, glass and plastic) for landfill disposal.
	  • The sorting process shall be carefully monitored to avoid missing of the 3 categories. Different types of wastes shall be stockpiled and stored in different containers or skips to enhance re-use or recycling of materials and their proper disposal.
		C

	• Maintain records of the quantities of wastes generated and disposed off-site for each category of waste.	C
E4	Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation, shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes	C
	LAND CONTAMINATION	
F1	No land Contamination mitigation measures are required during the construction phase.	N/A
	MARINE ECOLOGY	

EM&A Log Ref.	Mitigation Measures	Implementation Status
G1	All percussive piling works shall be conducted on reclaimed land to avoid noise impact to marine mammals**	N/A
G2	All construction related vessels shall approach the extension site from the north and via the East Lamma Channel to avoid disturbance to the finless porpoise**	N/A
G3	Rubble mound seawall to the south and west edges of the reclamation to enhance recolonisation of marine organisms**	N/A
G4	Artificial Reefs of a volume not less than 400 m^3 shall be deployed in a location to be decided upon consultation with the Director of Agriculture and Fisheries to serve the purpose of an Additional Habitat Enhancement Measure.**	N/A
	FISHERIES	
H1	No Fisheries-specific mitigation measures are required during the construction phase.	N/A
	RISK ASSESSMENT	
I1	No risk mitigation measures are required during the construction phase.	N/A

Remarks:

** - No dredging and reclamation work would be involved for L13 construction

C - Compliance with mitigation measure

NC - Non-compliance with mitigation measure

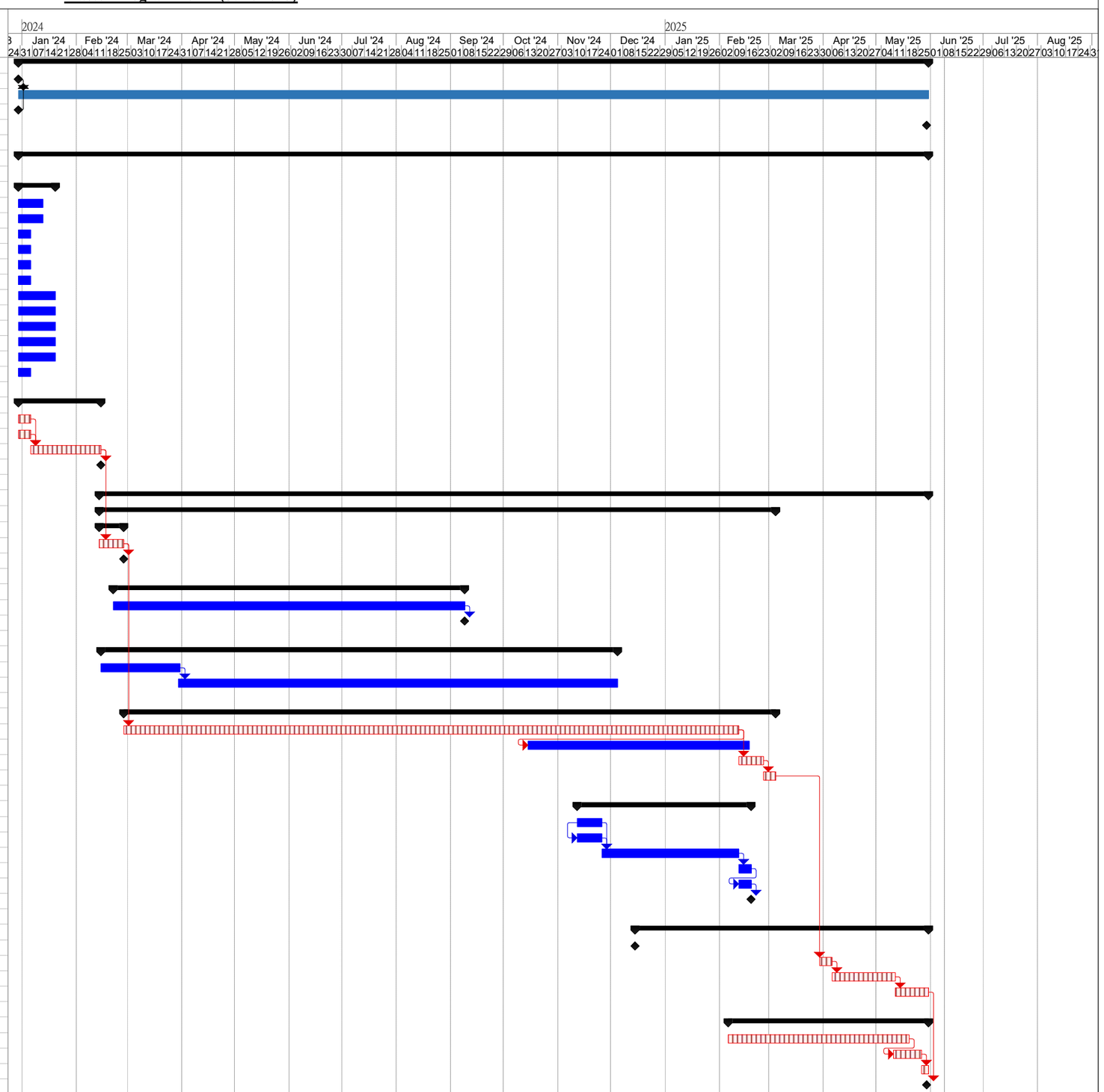
N/A - Not Applicable

SUNLEY ENGINEERING & CONSTRUCTION CO., LTD.

Contract No. 23/83004 - Lamma Power Station Extension Preparatory Field Works for L13

Master Programme V1 (June 2025)

ID	Task Name	Duration	Start	Finish
1	**Key Date**	**518 days**	**30 Dec '23**	**30 May '25**
2	Commencement date	0 days	30 Dec '23	30 Dec '23
3	Duration of works	518 days	30 Dec '23	30 May '25
4	Site possession date	0 days	30 Dec '23	30 Dec '23
5	Completion of the Contract	0 days	30 May '25	30 May '25
6				
7	**Total Contract Period**	**518 days**	**30 Dec '23**	**30 May '25**
8				
9	**Preliminaries**	**21 days**	**30 Dec '23**	**19 Jan '24**
10	Coordination with utility companies	14 days	30 Dec '23	12 Jan '24
11	Pre-construction condition survey	14 days	30 Dec '23	12 Jan '24
12	Notification of commencement of works to Labour Department	7 days	30 Dec '23	05 Jan '24
13	Notification of air pollution control for commencement of works to EPD	7 days	30 Dec '23	05 Jan '24
14	Application of water discharge licence from EPD	7 days	30 Dec '23	05 Jan '24
15	Application for billing account for disposal of construction waste from EPD	7 days	30 Dec '23	05 Jan '24
16	CCTV for existing underground drainage pipe around site boundary	21 days	30 Dec '23	19 Jan '24
17	Utility detection for existing underground cables	21 days	30 Dec '23	19 Jan '24
18	Site clearance	21 days	30 Dec '23	19 Jan '24
19	Set up contractor's site office	21 days	30 Dec '23	19 Jan '24
20	Installation of monitoring checkpoints	21 days	30 Dec '23	19 Jan '24
21	Submission of BA10 for ELS & foundation works	7 days	30 Dec '23	05 Jan '24
22				
23	**Predrilling Works**	**47 days**	**30 Dec '23**	**14 Feb '24**
24	BA10 submission	7 days	30 Dec '23	05 Jan '24
25	Drilling rigs & materials mobilization	7 days	30 Dec '23	05 Jan '24
26	Predrilling works (39 holes)	40 days	06 Jan '24	14 Feb '24
27	Completion of predrilling works	0 days	14 Feb '24	14 Feb '24
28				
29	**Construction Works**	**472 days**	**14 Feb '24**	**30 May '25**
30	**Bored Pile Works**	**385 days**	**14 Feb '24**	**04 Mar '25**
31	**Plant Mobilization for Bored Pile Construction**	**14 days**	**14 Feb '24**	**27 Feb '24**
32	Crawler crane, oscillator & RCD	14 days	14 Feb '24	27 Feb '24
33	Completion of plant mobilization for bored pile construction	0 days	27 Feb '24	27 Feb '24
34				
35	**Delivery of Temporary Steel Casing for Bored Pile Construction**	**200 days**	**22 Feb '24**	**08 Sep '24**
36	Duration for delivery of temporary steel casing	200 days	22 Feb '24	08 Sep '24
37	Completion of delivery of temporary steel casing for bored pile construction	0 days	08 Sep '24	08 Sep '24
38				
39	**Delivery of Permanent Casing, Single Wall & Double Wall Liners**	**294 days**	**15 Feb '24**	**04 Dec '24**
40	Testing for liner	45 days	15 Feb '24	30 Mar '24
41	Duration for delivery of permanent casing and liner	250 days	30 Mar '24	04 Dec '24
42				
43	**Bored Pile Construction**	**371 days**	**28 Feb '24**	**04 Mar '25**
44	Bored Pile (39 nos.)	350 days	28 Feb '24	11 Feb '25
45	Interface & sonic test	126 days	15 Oct '24	17 Feb '25
46	Prepare & submit as-built record plan	14 days	12 Feb '25	25 Feb '25
47	Submission of BA14	7 days	26 Feb '25	04 Mar '25
48				
49	**Sheet Pile Works**	**99 days**	**12 Nov '24**	**18 Feb '25**
50	Plant mobilization	14 days	12 Nov '24	25 Nov '24
51	Delivery of sheet pile material	14 days	12 Nov '24	25 Nov '24
52	Installation of sheet pile (approx. 430 piles) (2 rigs)	78 days	26 Nov '24	11 Feb '25
53	Prepare & submit as-built record plan	7 days	12 Feb '25	18 Feb '25
54	Submission of BA14	7 days	12 Feb '25	18 Feb '25
55	Completion of sheet pile works	0 days	18 Feb '25	18 Feb '25
56				
57	**Bored Pile Testing**	**167 days**	**15 Dec '24**	**30 May '25**
58	Milestone for BD's selection of pile for concrete full core test	0 days	15 Dec '24	15 Dec '24
59	Plant mobilization	7 days	30 Mar '25	05 Apr '25
60	Concrete full core test	36 days	06 Apr '25	11 May '25
61	Laboratory testing for concrete core	19 days	12 May '25	30 May '25
62				
63	**Pumping Test (Variation Order)**	**114 days**	**06 Feb '25**	**30 May '25**
64	Construction of wells for Pumping Test	103 days	06 Feb '25	19 May '25
65	Pumping Test	16 days	11 May '25	26 May '25
66	Submission of Pumping Test Report	4 days	27 May '25	30 May '25
67	Contract completion	0 days	30 May '25	30 May '25



Master Programme

Task | Critical Task | Milestone | Summary

Demolition/ Construciton Waste Reduction

Project: Lamma Power Station Extension Foundation Works for Unit L13
Type of Works: Foundation works
Record by: Sunley Engineering & Construction Co., Ltd.
Year of Record: 2024 to 2025
Objective: Encourage best practices in the management of waste, including sorting, recycling and disposal of demolition/ construction waste.

Monthly Waste Flow Table

Month	Total Quantity Generated	Total Quantity Generated (Excluded Excavated Material)	Actual Quantities of Inert C&D Materials Generated Monthly								Actual Quantities of C&D Materials Generated Monthly						Remarks
			Excavated Materials			Non-excavated Materials					Metals (steel bar / metal strip)(1)	Metals (aluminum can)(1)	Paper / cardboard packaging (1)	Plastics (1) & (4)	Chemical waste (wasted lubricant oil/ oil container)	Other, e.g. general refuse	
			Disposed in Public Fill	Disposed in Sorting Facilities	Others (e.g Reused in the Contract / Other Projects)	Broken Concrete or Construction Waste Collected by Recycled Company	Reused in the Contract	Reused in other Projects	Disposed in Public Fill	Disposed in Sorting Facilities							
	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	(in '000kg)	
	a1	a2	b	b	b	c	d	e	f	g	h	i	j	k	l	m	
Dec-23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Feb-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mar-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr-24	8328.84	0.00	8328.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
May-24	9143.91	0.00	9143.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jun-24	9012.08	0.00	9012.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jul-24	13185.82	0.00	13185.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Aug-24	13024.25	0.00	13024.25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Sep-24	8993.86	0.00	8993.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Oct-24	5199.19	0.00	5199.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Nov-24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Dec-24	5411.28	0.00	5411.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Jan-25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Feb-25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Mar-25	3222.89	0.00	3222.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Apr-25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
May-25	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Total	75522.12	0.00	75522.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

Total C&D waste generated	75522.12	tonne	a1=b+c+d+e+f+g+h+i+j+k+l+m
Total C&D waste generated (excluding excavated materials)	0.00	tonne	a2=c+d+e+f+g+h+i+j+k+l+m
Total recycled C&D waste	0.0	tonne	a3=c+d+e+h+i+j+k
% of recycled C&D waste		%	a4=a3/a2 x 100%

Notes:
(1) Metal, paper & plastic were collected by recycler.
(2) The performance target of waste recycling are specified in the Contract.
(3) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
(4) Plastics refer to plastic bottles/ containers, plastic/ foam from packaging material.
(5) Broken concrete for recycling into aggregates.
(6) Excavated materials/waste will NOT be considered as part of construction waste. It should be excluded in the calculation.
(7) Disposal of inert waste to public fill or sorting facilities will NOT be considered as recycled waste.