JOB NO.: TCS01062/19

EPD CONTRACT NO. EP/SP/86/15
ORGANIC WASTE TREATMENT FACILITIES PHASE 2

MONTHLY ENVIRONMENTAL MONITORING AND AUDIT REPORT (JULY 2025)

PREPARED FOR

AJA JOINT VENTURE

Date	Reference No.	Prepared By	Certified By
13 August 2025	TCS01062/19/600/R475v2	Martin Li (Environmental Consultant)	Tam Tak Wing (Environmental Team Leader)

Version	Date	Remarks
1	11 August 2025	First Submission
2	13 August 2025	Amended as per IEC's comments

Your ref TCS1062/19/300/L0476
Our ref 271491/02-09/RC/NL-6152
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Attn: Mr. Samuel Wu

14 August 2025

Dear Sir

Contract No. EP/SP/86/15
Organic Waste Treatment Facilities Phase 2
Monthly Environmental Monitoring & Audit Report (July 2025)

Referring to your letter referenced above dated 13 August 2025, pursuant to Permit Condition 3.4 of the Environmental Permit No.EP-01/460/2013/A and Further Environmental Permit No.FEP-01/460/2013/A, we hereby verify that the report ref. no. TCS01062/19/600/R475v2 dated 13 August 2025 complied in general with the requirements as set out in the EM&A Manual.

Should you have any queries, please contact the undersigned at 2268 3437.

Yours faithfully

Ricky Chui
Independent Environmental Checker

cc	EPD –	Ms. Winnie Chu, Mr. Jason Tsang, Mr. Gilbert Wong, Mr. David Ng Ms. Anita Chan
	AECOM –	Mr. Desmond Ng, Mr. K. C. Chu, Mr. YW Mok, Mr. Joe Lam Ms. Rachel Zu
	AJA JV –	Mr. Lee Wing Yan, Mr. Joe Mak, Mr. Larsson Sun, Mr. Eric Chau Ms. Beth Biddle, Ms. Tso So Fong, Ms. Cindy Kam Mr. Gabriel Wong
	AUES –	Mr. T.W. Tam, Mr. Martin Li

EXECUTIVE SUMMARY

ES01 Environmental Protection Department (hereinafter referred as "EPD") is the Project Proponent for the Project *"Organic Waste Treatment Facilities Phase 2"* (hereinafter referred as "the Project"). The Project is a Designated Project to be implemented under Environmental Permit No. EP-460/2013 (hereinafter referred as "the EP"). In accordance with the Works Contract requirements, the Contractor shall take over the responsibility of the EP. Based on the requirement, Further Environmental Permit FEP-01/460/2013/A (hereinafter referred as "the FEP") was applied by AJA Joint Venture (hereinafter referred as "AJAJV").

ES02 Action-United Environmental Services & Consulting (hereinafter referred as "AUES") was employed as Environmental Team (hereinafter referred as "ET") to implement monitoring programmes and as well as the associated duties.

ES03 This is the monthly EM&A report presenting the environmental monitoring results and inspection findings for the reporting period from **1 to 31 July 2025** (hereinafter 'the Reporting Period').

ENVIRONMENTAL MONITORING AND AUDIT ACTIVITIES

ES04 Environmental monitoring activities under the EM&A program in this Reporting Period are summarized in the following table.

Table ES-1 Summary of Environmental Monitoring Activities Undertaken in the Reporting Period

Issues	Environmental Monitoring Parameters / Inspection	Sessions
Construction Noise	Leq (30min) Daytime	16
	Leq (5min) restricted hours 19:00-07:00 including public holidays and Sundays	0
Inspection / Audit	ET Regular Environmental Site Inspection	5

BREACH OF ACTION AND LIMIT (A/L) LEVELS

ES05 No construction noise monitoring exceedance was recorded in this Reporting Period. The statistics of environmental exceedance and investigation of exceedance are summarized in the following table.

Table ES-2 Summary of Environmental Monitoring Parameter Exceedance in the Reporting Period

Environmental Issues	Monitoring Parameters	Action Level	Limit Level	Event & Action	
				Investigation Results	Corrective Actions
Construction Noise	Leq_{30min} Daytime	0	0	NA	NA
	Leq_{5min} Restricted hour	0	0	NA	NA

SITE INSPECTION

ES06 In the Reporting Period, weekly joint site inspections to evaluate the site environmental performance had been carried out by the representative of the Consultants, Independent Environmental Checker (IEC), ET and the Contractor on ***3, 10, 15, 23, and 30 July 2025.*** No non-compliance was recorded during the site inspections.

ENVIRONMENTAL COMPLAINT

ES07 No environmental complaint was recorded in this Reporting Period for the Project. The statistics of environmental complaint are summarized in the following table.

Table ES-3 Summary of Environmental Complaint Records in the Reporting Period

Reporting Period	Environmental Complaint Statistics			Related with the Works Contract
	Frequency	Cumulative	Complaint Nature	
1 – 31 July 2025	0	8	NA	NA

NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

ES08 No environmental summons or prosecutions was received in this Reporting Period for the Project. The statistics of environmental summons or prosecutions are summarized in the following tables.

Table ES-4 Summary of Environmental Summons Records in the Reporting Period

Reporting Period	Environmental Summons Statistics			Related with the Works Contract
	Frequency	Cumulative	Complaint Nature	
1 – 31 July 2025	0	0	NA	NA

Table ES-5 Summary of Environmental Prosecutions Records in the Reporting Period

Reporting Period	Environmental Prosecution Statistics			Related with the Works Contract
	Frequency	Cumulative	Complaint Nature	
1 – 31 July 2025	0	0	NA	NA

REPORTING CHANGE

ES09 No reporting change was made in this Reporting Period.

FUTURE KEY ISSUES

ES10 Construction noise would be a key environmental issue during construction work of the Project. Noise mitigation measures such as using quiet plants and noise barriers should be implemented in accordance with the EM&A requirement.

ES11 In addition, all effluent discharge from the construction site shall fulfill the discharge license stipulation.

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 Environmental Protection Department (hereinafter referred as "EPD") is the Project Proponent for the Project *"Organic Waste Treatment Facilities Phase 2"* (hereinafter referred as "the Project"). The Project is a Designated Project to be implemented under Environmental Permit No. FEP-460/2013 (hereinafter referred as "the EP"). The major construction work of the Project included:

(i) Demolition and removal of the existing above ground structures of the Sha Ling Livestock Waste Composting Plant (SLCP);
(ii) Construction of superstructure for an administration building and enclosed waste reception area;
(iii) Installation of treatment facilities including waste pre-treatment equipment, digesters, biogas holding tanks, granulator/granulation building, wastewater treatment, air treatment systems; and
(iv) Facilities for biogas processing, utilization and transmission;

1.1.2 AJA Joint Venture (hereinafter referred as "AJAJV") has been awarded the *EPD Contract No. EP/SP/86/15 "Organic Waste Treatment Facilities Phase 2"*. In accordance with the Works Contract requirements, AJAJV shall take over the responsibility of the EP. Based on the requirement, Further Environmental Permit application was submitted by AJAJV to EPD on 10 September 2019 and granted on 2 October 2019. A variation of Further Environmental Permit was granted on 14 September 2020. The Further Environmental Permit is named as FEP-01/460/2013/A (hereinafter referred as "the FEP").

1.1.3 According to the approved Environmental Monitoring and Audit Manual (hereinafter referred as "the EM&A Manual"), AJAJV employed Action-United Environmental Services & Consulting (hereinafter referred as "AUES") as Environmental Team (hereinafter referred as "ET") to implement monitoring programme and as well as the associated duties.

1.1.4 According to the EM&A Manual, construction noise was identified as the only key environmental issue during the construction phase of the Project and it is required to carry out construction noise monitoring throughout the construction phase. Furthermore, baseline noise monitoring as part of the EM&A programmes shall be conducted prior to the commencement of the construction works under the Project. Thus, baseline noise monitoring was conducted by ET from ***25 September 2019*** to ***8 October 2019.*** The baseline monitoring report compiled by the ET was verified by Independent Environmental Checker (hereinafter the "IEC') and was submitted to EPD on 19th November 2019 for endorsement.

1.1.5 The Project works was commenced on ***3rd December 2019***. This is the **68th** EM&A monthly report presenting the construction noise monitoring results and site inspection findings from **1 to 31 July 2025** (hereinafter the "Reporting Period").

1.2 REPORT STRUCTURE

1.2.1 The Monthly Environmental Monitoring and Audit (EM&A) Report is structured into the following sections:-

Section 1	*Introduction*
Section 2	*Project Organization and Construction Progress*
Section 3	*Summary of Impact Monitoring Requirements*
Section 4	*Construction Noise Monitoring*
Section 5	*Waste Management*
Section 6	*Site Inspections*
Section 7	*Environmental Complaints and Non-Compliance*
Section 8	*Implementation Status of Mitigation Measures*
Section 9	*Conclusions and Recommendations*

2. PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

2.1 PROJECT ORGANIZATION AND CONSTRUCTION PROGRESS

2.1.1 Organization structure and contact details of relevant parties with respect to on-site environmental management are shown in ***Appendix B***. The responsibilities of respective parties are:

Engineer or Engineers Representative (ER)

2.1.2 The ER is responsible for overseeing the construction works and for ensuring that the works are undertaken by the Contractor in accordance with the specification and contract requirements. The duties and responsibilities of the ER with respect to EM&A include:

- to monitor the Contractor's compliance with Contract Specifications, including the effective implementation and operation of the environmental mitigation measures;
- to employ an Independent Environmental Checker (IEC) to audit the results of the EM&A works carried out by the Environmental Team (ET);
- to monitor Contractors', ET's and IEC's compliance with the requirements in the Environmental Permit (EP) and EM&A Manual;
- to facilitate ET's implementation of the EM&A programme;
- participate in joint site inspection by the ET and IEC;
- to oversee the implementation of the agreed Event / Action Plan in the event of any exceedance; and,
- to adhere to the procedures for carrying out complaint investigation.

The Contractor

2.1.3 The Contractor should report to the ER. The duties and responsibilities of the Contractor include:

- to comply with the relevant contract conditions and specifications on environmental protection;
- to employ an ET to undertake monitoring, laboratory analysis and reporting of EM&A;
- to facilitate ET's monitoring and site inspection activities;
- to participate in the site inspections undertaken by the ET and IEC, and undertake any corrective actions;
- to provide information / advice to the ET regarding works programme and activities which may contribute to the generation of adverse environmental impacts;
- to submit proposals on mitigation measures in case of exceedance of Action and Limit levels in accordance with the Event / Action Plans;
- to implement measures to reduce impact where Action and Limit levels are exceeded; and,
- to adhere to the procedures for carrying out complaint investigation.

Environmental Team (ET)

2.1.4 The ET will be led and managed by the ET Leader. ET Leader should have relevant professional qualifications in environmental control and possess at least 7 years of experience in EM&A. Suitably qualified staff should be included in the ET, and resources for the implementation of the EM&A programme should be allocated in the time under the Contract, to enable fulfilment of the Project's EM&A requirements as specified in the EM&A Manual during construction of the Project. The ET should report to Project Proponent and the duties should include:

- to monitor and audit various environmental parameters as required in this EM&A Manual;
- to analyse the environmental monitoring and audit data, review the success of EM&A programme and the adequacy of mitigation measures implemented, confirm the validity of the EIA predictions and identify any adverse environmental impacts arising;
- to monitor compliance with conditions in the EP, environmental protection, pollution prevention and control regulations and contract specifications;
- to audit environmental conditions on site;
- to report on the environmental monitoring and audit results to EPD, the ER, the IEC and Contractor or their delegated representatives;

- to recommend suitable mitigation measures to the Contractor in the case of exceedance of Action and Limit levels in accordance with the Event and Action Plans;
- to liaise with the IEC on all environmental performance matters, and ensure timely submission of all relevant EM&A pro forma for IEC's approval;
- to provide advice to the Contractor on environmental improvement, awareness and enhancement matters, etc on site;
- to adhere to the procedures for carrying out complaint investigation;
- to prepare reports on the environmental monitoring data and the site environmental conditions;
- to submit the EM&A report to Director of Environmental Protection (DEP) timely;
- to review proposals of mitigation measures from the Contractor in case of exceedance of Action and Limit levels, in accordance with Event and Action Plan; and,
- to carry out site inspection to investigate and audit the Contractor's site practice, equipment and work methodologies with respect to pollution control and mitigation measures.

Independent Environmental Checker (IEC)

2.1.5 The IEC is empowered to audit the environmental performance of construction, but is independent from the management of construction works. As such, the IEC should not be in any way an associated body of the Contractor or the ET for the Project. The IEC should be a person who has relevant professional qualifications in environmental control and at least 7 years' experience in EM&A and environmental management. The duties and responsibilities of the IEC are:

- to provide proactive advice to the ER on EM&A matters related to the project;
- to review and verify the monitoring data and all submissions in connection with the EP and EM&A Manual submitted by the ET;
- to arrange and conduct regular, at least monthly site inspections of the works during the construction phase, and to carry out ad hoc inspections if significant environmental problems are identified;
- to check compliance with the agreed Event / Action Plan in the event of any exceedance;
- to check compliance with the procedures for carrying out complaint investigation;
- to check the effectiveness of corrective measures;
- to feedback audit results to the ET by signing off relevant EM&A pro forma;
- to check that mitigation measures are effectively implemented;
- to report the works conducted, and the findings, recommendations and improvements of the site inspections, after reviewing ET's and Contractor's works, to the ER on a monthly basis;
- to verify the investigation result of the environmental complaint cases and the effectiveness of corrective measures;
- to verify EM&A report that has been certified by ET leader; and,
- to audit EIA recommendations and requirements against the status of implementation of environmental mitigation measures on site.

2.2 CONSTRUCTION PROGRESS

2.2.1 Remaining construction program of the Project is enclosed in ***Appendix D***; and the major construction activities undertaken in the Reporting Period is presented as below:

- Reception Building:
  - Painting works
  - Testing and Commissioning works
- Granulation Building:
  - Signatures Installation works
  - Testing and Commissioning works
- AD Tank:
  - External Cladding Installation works

2.3 SUMMARY OF ENVIRONMENTAL SUBMISSIONS

2.3.1 The required submission under Environmental Permit is listed in ***Table 2-1***.

Table 2-1 Submission under Environmental Permit Requirement

EP condition	Submission to EPD	Requirement	Situation
2.3	Vegetation Survey Report	No later than 1 month before commencement of construction of the Project	• Vegetation Survey Report was submitted to EPD on 1 November 2019

2.3.2 Summary of the relevant permits, licenses, and/or notifications on environmental protection for the Project of contract 1 are presented in ***Tables 2-2***.

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

Item	Description	License/Permit Status			
		Permit no./ account no./ Ref. no.	Valid Period		Status
			From	To	
1	Notification pursuant to Air pollution Control (Construction Dust) Regulation	Application No. 448863	9 Sep 2019	NA	Valid
2	Chemical Waste Producer Registration	Ref. No. 5211-641-A2957-01	9 Oct 2019	NA	Valid
3	Water Pollution Control Ordinance - Discharge License	Application No. 448913	--	--	Application made on 10 Sep 2019
4	Waste Disposal Regulation - Billing Account for Disposal of Construction Waste	Account No. 7035307	2 Oct 2019	NA	Valid
5	Further Environmental Permit	FEP-01/460/2013/A	14 Sep 2020	NA	Valid
6	Waste Water Discharge License	WT00045315-2024	7 Oct 2024	31 Jan 2029	Valid

3 SUMMARY OF IMPACT MONITORING REQUIREMENTS

3.1 MONITORING PARAMETERS

3.2.1 According to Environmental Monitoring and Audit requirements set out in the Approved EM&A manual, construction noise was identified as the only key environmental issues during the construction phase of the Project.

3.2.2 The construction noise monitoring requirement stated in the approved EM&A Manual is summarized in ***Table 3-1.***

Table 3-1 Summary of EM&A Requirements

Environmental Issue	Parameters
Noise	• Leq(30min) in normal working days (Monday to Saturday) 07:00-19:00 except public holiday • Supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference. • Leq(5min) if construction works are extended to restricted hours 19:00-07:00 including public holidays and Sundays

3.3 MONITORING LOCATIONS

3.3.1 According to the EM&A Manual Section 4.2.3, four (4) designated noise sensitive receivers (NSR) were recommended as construction noise monitoring stations. Since two of the designated monitoring locations N2 and N3 were found not accessible, alternative monitoring locations N2a and N3a were therefore proposed for the noise monitoring and were approved by EPD on 1 June 2021. Details of the locations for construction noise monitoring in the Reporting Period is listed in ***Table 3-2*** and showed in ***Appendix C.***

Table 3-2 Impact Monitoring Stations – Construction Noise

ID	Location
N1	Village House No. 308, Sha Ling
N2a	Village House No. 318, Sha Ling
N3a	Village House No. 261, Sha Ling
N4	Village House in Sha Ling

3.4 MONITORING FREQUENCY AND PERIOD

3.4.1 Noise monitoring shall be conducted at the all available designated monitoring stations or alternative locations. The monitoring frequency shall depend on scale of the construction activities. According to EM&A manual, regular noise monitoring should be carried out once a week when noise generating activities are underway and the monitoring requirement is presented below:

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

3.4.2 If construction works are extended to restricted hours 19:00-07:00 in normal working days (Monday to Saturday), and 00:00-24:00 during public holidays including Sunday, additional weekly impact monitoring should be carried out during the respective restricted hour periods. $Leq_{(5min)}$ measurements should be employed during the restricted hours.

3.5 MONITORING EQUIPMENT

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

3.5.2 Equipment used for construction noise monitoring is listed in ***Table 3-3***.

Table 3-3 Construction Noise Monitoring Equipment

Equipment	Model
Integrating Sound Level Meter	Rion NL-52
Calibrator	Rion NC-73
Portable Wind Speed Indicator	Anemometer AZ Instrument 8908 Wind Speed Indicator

3.6 MONITORING METHODOLOGY

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

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

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

3.6.4 Noise measurements will not be made in fog, rain, wind with a steady speed exceeding 5m/s or wind with gusts exceeding 10m/s. The wind speed will be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

3.6.5 The sound level meter and calibrator are calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme at yearly basis. Calibration certificates of all the noise monitoring equipment used for the impact monitoring program will be provided in each EM&A Monthly Report.

3.7 ACTION/LIMIT (A/L) LEVELS

3.7.1 Action and Limit levels for construction noise as stipulated in the approved Environmental Monitoring and Audit Manual are listed in ***Tables 3-4***.

Table 3-4 Action and Limit Levels for Construction Noise

Monitoring Location	Action Level	Limit Level in dB(A)
Time Period:	**0700-1900 hours on normal weekdays**	
N1	When one or more documented complaints are received	***75*** dB(A)
N2a		
N3a		
N4		
Time Period:	**19:00-07:00 in normal working days (Monday to Saturday), and 00:00-24:00 during public holidays including Sunday**	
N1	When one or more documented complaints are received	***60*** dB(A)
N2a		
N3a		
N4		

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

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

3.8 DATA MANAGEMENT AND DATA QA/QC CONTROL

3.7.1 All monitoring data will be handled by the ET's in-house data recording and management system. The monitoring data recorded in the equipment will be downloaded directly from the equipment at the end of each monitoring day. The downloaded monitoring data will be input into a computerized database properly maintained by the ET.

4. CONSTRUCTION NOISE MONITORING

4.1 GENERAL

4.1.1 In the Reporting Period, construction noise monitoring was performed at monitoring location N1, N2a, N3a and N4. Since no construction works were carried out during restricted hours, no additional weekly noise monitoring during restricted hours was performed in the reporting period. The noise monitoring schedule is presented in ***Appendix F***.

4.1.2 Valid calibration certificates of monitoring equipment are shown in ***Appendix G*** and the construction noise monitoring results are summarized in the following sub-sections.

4.2 RESULTS OF NOISE MONITORING

4.2.1 ***16*** sessions of daytime construction noise monitoring were performed at the agreed monitoring locations in the reporting period. Since the noise measurement was made under free field condition, a façade correction of + 3 dB (A) was added according to acoustical principles and EPD guidelines. For the approved alternative monitoring locations N2a and N3a, an additional distance correction of + 1 dB (A) and +3 dB(A) respectively were applied. The daytime noise monitoring results are summarized in ***Table 4-1 to Table 4-4.*** The detailed noise monitoring data are presented in ***Appendix H*** and the relevant graphical plots are shown in ***Appendix I***.

Table 4-1 Daytime Construction Noise Impact Monitoring Results at N1

Date	Time of Starting	Time of Finishing	Measurement Result (dB(A))
			$L_{eq30min}$
4-Jul-25	13:00	13:30	61.9
9-Jul-25	9:50	10:20	65.4
14-Jul-25	9:50	10:20	64.2
21-Jul-25	10:00	10:30	61.7

Table 4-2 Daytime Construction Noise Impact Monitoring Results at N2a

Date	Time of Starting	Time of Finishing	Measurement Result (dB(A))
			$L_{eq30min}$
4-Jul-25	13:33	14:03	55.5
9-Jul-25	10:30	11:00	56.4
14-Jul-25	13:05	13:35	56.2
21-Jul-25	13:10	13:40	56.8

Table 4-3 Daytime Construction Noise Impact Monitoring Results at N3a

Date	Time of Starting	Time of Finishing	Measurement Result (dB(A))
			$L_{eq30min}$
4-Jul-25	14:42	15:12	69.7
9-Jul-25	9:00	9:30	69.8
14-Jul-25	9:05	9:35	69.8
21-Jul-25	9:10	9:40	69.5

Table 4-4 Daytime Construction Noise Impact Monitoring Results at N4

Date	Time of Starting	Time of Finishing	Measurement Result (dB(A))
			$L_{eq30min}$
4-Jul-25	15:17	15:47	63.2
9-Jul-25	11:20	11:50	60.4
14-Jul-25	13:50	14:20	59.3
21-Jul-25	14:00	14:30	60.8

4.2.2 As shown in ***Table 4-1 to 4-4***, all the measured results during normal daytime were below 75dB(A) of the acceptance criteria.

4.2.3 No adverse weather condition which may affect the monitoring result was encountered during the course of noise monitoring in the reporting period. Furthermore, no documented noise complaint is received, indicating no exceedance of Action Level.

5. WASTE MANAGEMENT

5.1 GENERAL WASTE MANAGEMENT

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

5.2 RECORDS OF WASTE QUANTITIES

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

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

5.2.2 The quantities of waste for disposal in this Reporting Period are summarized in ***Tables 5-1*** and ***5-2***.

Table 5-1 Summary of Quantities of Inert C&D Materials

Type of Waste	Quantity	Disposal Location
C&D Materials (Inert) ('000m^3)	0	-
Reused in this Contract (Inert) ('000m^3)	0	-
Reused in other Projects (Inert) ('000m^3)	0	-
Disposal as Public Fill (Inert) ('000m^3)	0	-

Table 5-2 Summary of Quantities of C&D Wastes

Type of Waste	Quantity	Disposal Location
Recycled Metal ('000kg)	0	-
Recycled Paper / Cardboard Packing ('000kg)	0	-
Recycled Plastic ('000kg)	0	-
Chemical Wastes ('000kg)	0	-
General Refuses ('000m^3)	0.003	NENT

6. Site Inspection

6.1 REQUIREMENTS

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

6.2 FINDINGS / DEFICIENCIES DURING THE REPORTING PERIOD

6.2.1 In the Reporting Period, joint site inspection for the Project to evaluate site environmental performance was carried out by the ER, IEC representative, ET and the Contractor on ***3, 10, 15, 23, and 30 July 2025.*** No non-compliance was noted.

6.2.2 The findings / deficiencies of the Project observed during the weekly site inspection are listed in ***Table 6-1***.

Table 6-1 Site Observations during the Weekly Inspection

Date	Findings / Deficiencies	Follow-Up Status
3 July 2025	• No environmental issue was observed during site inspection.	NA
10 July 2025	• No environmental issue was observed during site inspection.	NA
15 July 2025	• The contractor was reminded to remove general refuse on site regularly.	Reminder Only
23 July 2025	• No environmental issue was observed during site inspection.	NA
30 July 2025	• No environmental issue was observed during site inspection.	NA

7. Environmental Complaint, Notifications of Summons and Successful Prosecutions

7.1 ENVIRONMENTAL COMPLAINT, SUMMONS AND PROSECUTION

7.1.1 In the Reporting Period, no environmental complaint, summons and prosecution under the EM&A Programme was lodged for the project. The statistical summary table of environmental complaint is presented in ***Tables 7-1, 7-2*** and ***7-3***.

Table 7-1 Statistical Summary of Environmental Complaints

Reporting Period	Environmental Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1 – 31 July 2025	0	8	NA

Table 7-2 Statistical Summary of Notification of Summons

Reporting Period	Environmental Summons Statistics		
	Frequency	Cumulative	Summons Nature
1 – 31 July 2025	0	0	NA

Table 7-3 Statistical Summary of Successful Prosecutions

Reporting Period	Environmental Prosecution Statistics		
	Frequency	Cumulative	Prosecution Nature
1 – 31 July 2025	0	0	NA

8. Environmental Mitigation Implementation Schedule

8.1 General Requirements

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

8.1.2 AJAJV had been implementing the required environmental mitigation measures according to the Environmental Monitoring and Audit Manual subject to the site condition. Environmental mitigation measures generally implemented by AJAJV in this Reporting Period are summarized in ***Table 8-1***.

Table 8-1 Environmental Mitigation Measures

Issues	Environmental Mitigation Measures
Water Quality	• Any wastewater generated was appropriately treated by treatment facilities; • Drainage channels were provided to convey run-off into the treatment facilities; and • Drainage systems were regularly and adequately maintained.
Air Quality	• Regular watering to reduce dust emissions from all exposed site surface, particularly during dry weather; • Frequent watering for particularly dusty construction areas and areas close to air sensitive receivers; • Cover all excavated or stockpile of dusty material by impervious sheeting or sprayed with water to maintain the entire surface wet; • Public roads around the site entrance/exit had been kept clean and free from dust; and • Tarpaulin covering of any dusty materials on a vehicle leaving the site.
Noise	• Good site practices to limit noise emissions at the sources; • Use of quite plant and working methods; • Use of site hoarding or other mass materials as noise barrier to screen noise at ground level of NSRs; • Use of shrouds/temporary noise barriers to screen noise from relatively static PMEs; • Alternative use of plant items within one worksite, where practicable.
Waste Management	• Any excavated material should be reused on site as far as possible to minimize off-site disposal. Scrap metals or abandoned equipment should be recycled if possible; • Waste arising should be kept to a minimum and be handled, transported and disposed of in a suitable manner; • Trip ticket system for the disposal of C&D materials to any designed public filling facility and/or landfill was implemented; and • Chemical waste shall be handled in accordance with the Code of Practice on the Packaging, Handling and Storage of Chemical Wastes.
General	• The site was generally kept tidy and clean.

8.2 Tentative Construction Activities in the Coming Month

8.2.1 Tentative construction activities to be undertaken in **August 2025** should be included:

- Granulation Building:
  - Testing and Commissioning works
- Reception Building:
  - Painting works
  - Soft Landscape works
  - Testing and Commissioning works

9. Conclusions and Recommendations

9.1 CONCLUSIONS

9.1.1 This is the monthly EM&A report presenting the monitoring results and inspection findings for the reporting period from **1 to 31 July 2025**.

9.1.2 In the Reporting Period, no construction noise limit level exceedance during daytime and restricted hours was recorded. In addition, no noise complaint (which is an Action Level exceedance) was received by the Project Consultant, EPD and the Contractors.

9.1.3 In this Reporting Period, joint site inspection to evaluate the site environmental performance for the Project was carried out by the ER, IEC representative, ET and Contractor on **3, 10, 15, 23, and 30 July 2025.** No non-compliance was noted during the site inspection.

9.1.4 No documented complaint, notification of summons or successful prosecution was received under the Project in the reporting period.

9.2 RECOMMENDATIONS

9.2.1 Construction noise should be a key environmental impact during the works. The noise mitigation measures such as use of quiet plants or temporary noise barrier installation at the construction noise predominated area should be implemented in accordance with the EM&A requirement and the latest CNP.

9.2.2 In addition, all effluent discharge shall be ensured to fulfill the discharge license stipulation.

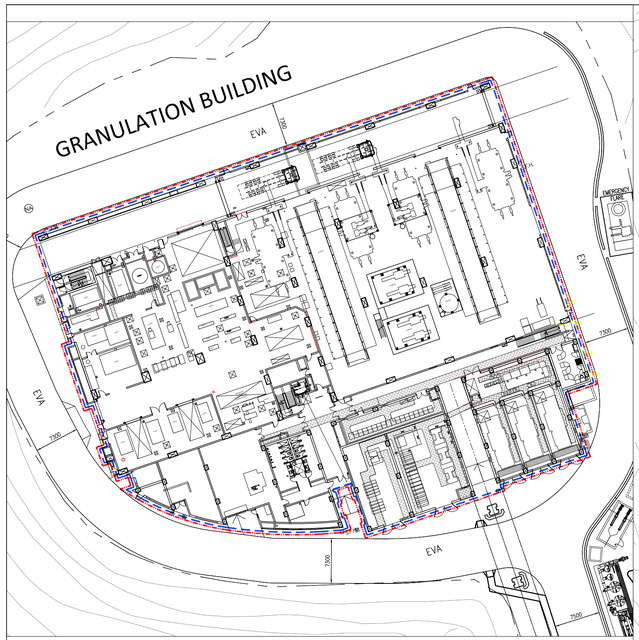
9.2.3 All the trees proposed to be retained in-situ should be properly preserved and protected during the construction works. Tree Preservation and Protection Works for these retained trees shall follow Section 3 and 26 of CEDD's General Specification for Engineering Works and Section 26 of Contract Specification Part B.

9.2.4 Trees to be felled shall be in accordance with the Tree Preservation and Removal Proposal (TPRP) to be approved by relevant approval authority.

9.2.5 Contract Specification Part B Section 1.78 "Waste Management" and DEVB's "Guidelines on Yard Waste Reduction and Treatment" should be referred before tree removal and plan the necessary arrangement.

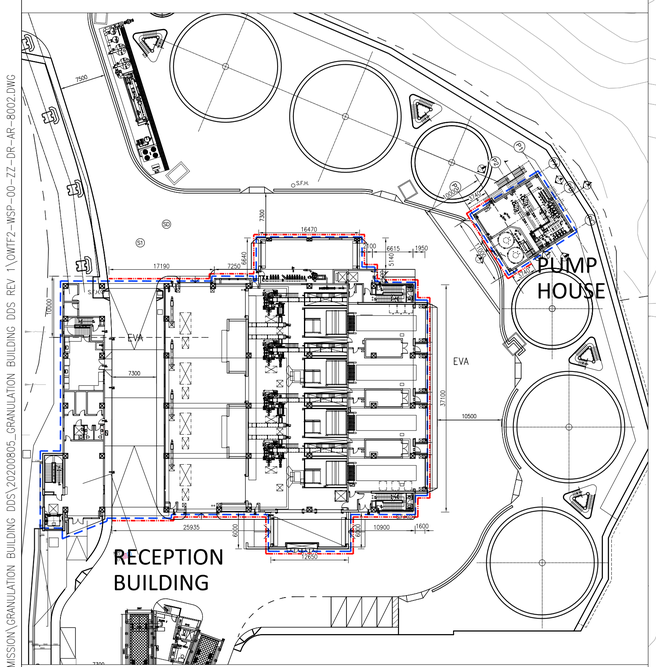
Appendix A

Layout plan of the Project



EVA CALCULATION (GRANULATION BUILDING)

TOTAL FACADE LENGTH OF THE GRANULATION BUILDING = 290.09m
FACADE LENGTH THAT CAN BE REACHED BY FIRE ENGINE = 290.09m
PERCENTAGE OF FACADE LENGTH THAT CAN BE REACHED BY FIRE ENGINE = 290.09/290.09 m = 100%



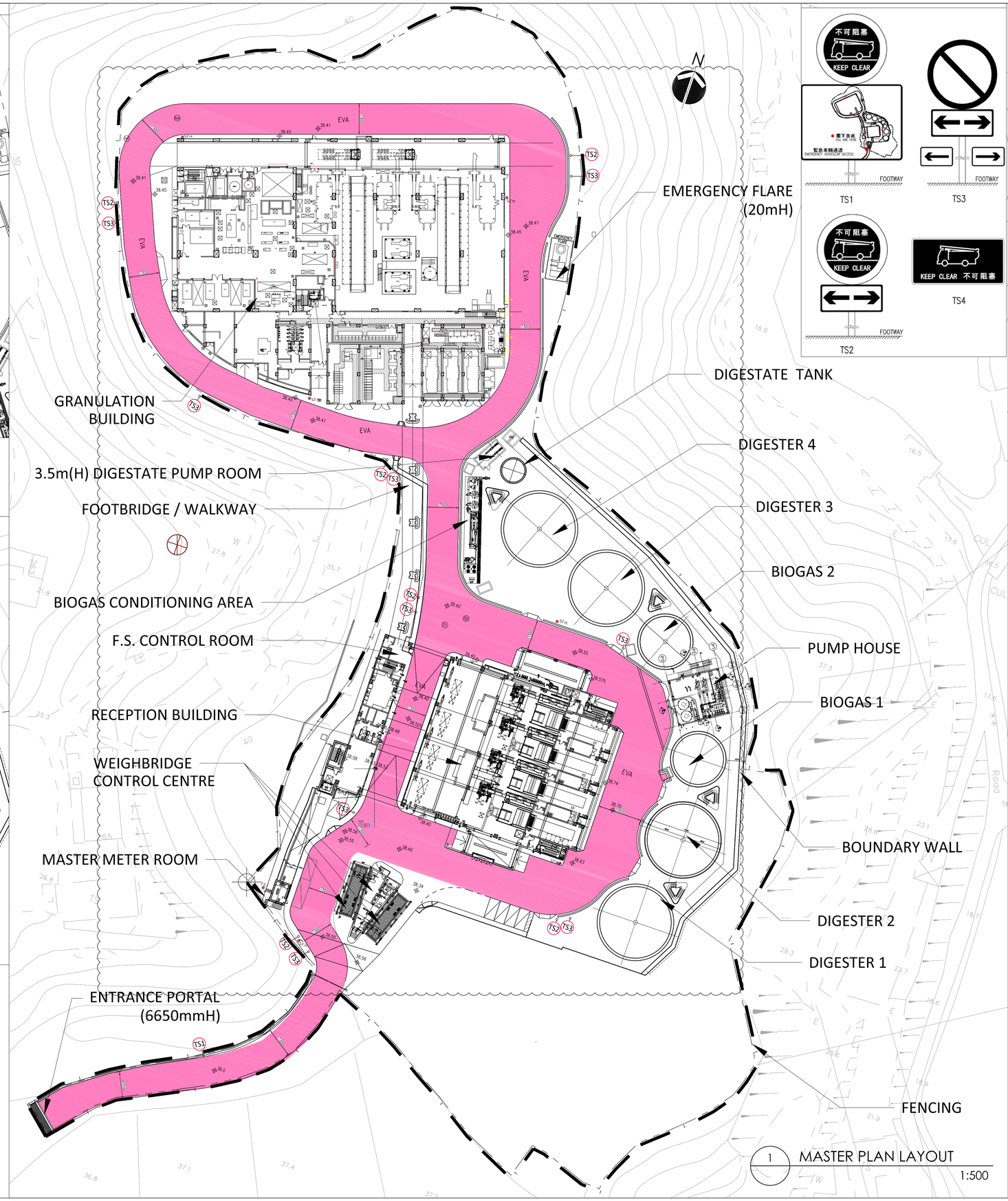
EVA CALCULATION (RECEPTION BUILDING)

TOTAL FACADE LENGTH OF THE RECEPTION BUILDING = 233.31 m
FACADE LENGTH THAT CAN BE REACHED BY FIRE ENGINE
= 17.19 + 7.25 + 6.64 + 16.47 + 5.14 + 2.10 +2.50 + 6.615
+ 1.95 + 37.10 + 1.60 + 10.90 + 6.00 + 12.65 + 6.00 + 25.935 = 166.04 m

PERCENTAGE OF FACADE LENGTH THAT CAN BE REACHED BY FIRE ENGINE = 166.04/233.31 m = 71.17%

EVA CALCULATION (PUMP HOUSE)

TOTAL FACADE LENGTH OF THE PUMP HOUSE BUILDING = 46.80 m
FACADE LENGTH THAT CAN BE REACHED BY FIRE ENGINE = 3.74 + 3.74 + 11.0 = 18.48m
PERCENTAGE OF FACADE LENGTH THAT CAN BE REACHED BY FIRE ENGINE = 18.48/46.80 m = 39.49%



1 MASTER PLAN LAYOUT
1:500

NOTES :

Check all measurement on site. Do not scale off drawings.

This drawing to be read in conjunction with the Specification and other related drawings. Any discrepancies are to be immediately reported to the Architect.

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LEGENDS :

- SITE BOUNDARY
- TOTAL BUILDING FACADE LENGTH
- EVA FACADE LENGTH TO BE REACHED BY FIRE ENGINE
- EVA
- TS1–TS4 TRAFFIC SIGN NO.
- S.F.H. STREET FIRE HYDRANT

EVA NOTE:

1. ALL COORDINATES ARE TO HONG KONG METRIC GRID (1980).
2. CLEAR HEADROOM FORM EVA TO SOFFIT OF THE FOOTBRIDGE TO BE NOT LESS THAN 4.5M
3. MINIMUM WIDTH OF NEW ACCESS ROAD WITH TWO-WAY TRAFFIC AND ONE WAT TRAFFIC TO BE 7.3M AND 6.0M RESPECTIVELY.
4. EVA SHALL BE PROVIDED IN ACCORDANCE WITH THE CODE OF FIRE SAFETY IN BUILDING 2011.
5. THE EVA SHALL ALLOW SAFE AND UNOBSTRUCTED ACCESS AND SAFE OPERATION OF A FIRE APPLIANCE WITH GROSS WEIGHT OF 30,000 KILOGRAMS.
6. THE EVA SHALL SERVE TWO OPPOSITE SIDES BUILDING FACADE THAT ARE REMOTE FROM EACH OTHER AND EACH HAVING A LENGTH OF NOT LESS THAN ONE-FOURTH OF THE TOTAL LENGTH OF ALL PERIMETER WALLS. THE HORIZONTAL DISTANCE FROM FACADE TO EVA DOES NOT EXCEED 10M.
7. STREET FIRE HYDRANT AS INDICATED WITHIN WORKS AREA SHALL BE CONNECTED TO FRESH WATER SUPPLY.
8. THE STREET FIRE HYDRANT SHALL BE CAPABLE OF DELIVERING NOT LESS THAN 4,000 LITRES PRE MINUTES WITH A MINIMUM RUNNING PRESSURE OF 170KPA AT OUTLET.

Rev	Description	By	Date
1	REVISION 1	AL	05/08/20
0	REVISION 0	AL	18/03/20

Employer
環境保護署 Environmental Protection Department

Employer's Representative
AECOM

Independent Consultant
ARUP

Contractor
JEC AJA JOINT VENTURE

Designer
wsp
In Associated with A.Lead

Project title
CONTRACT NO. EP/SP/86/15
ORGANIC WASTE TREATMENT FACILITIES
PHASE 2

Drawing title
GENERAL BUILDING PLAN – MASTER LAYOUT PLAN AND EVA CALCULATION

Drawing no.			Rev.
OWTF2-WSP-00-ZZ-DR-AR-8002			1
Author AL	Date 18/03/20	Checker KB	Approver ACT
Scale 1:500 @A1		Status DETAIL DESIGN SUBMISSION	

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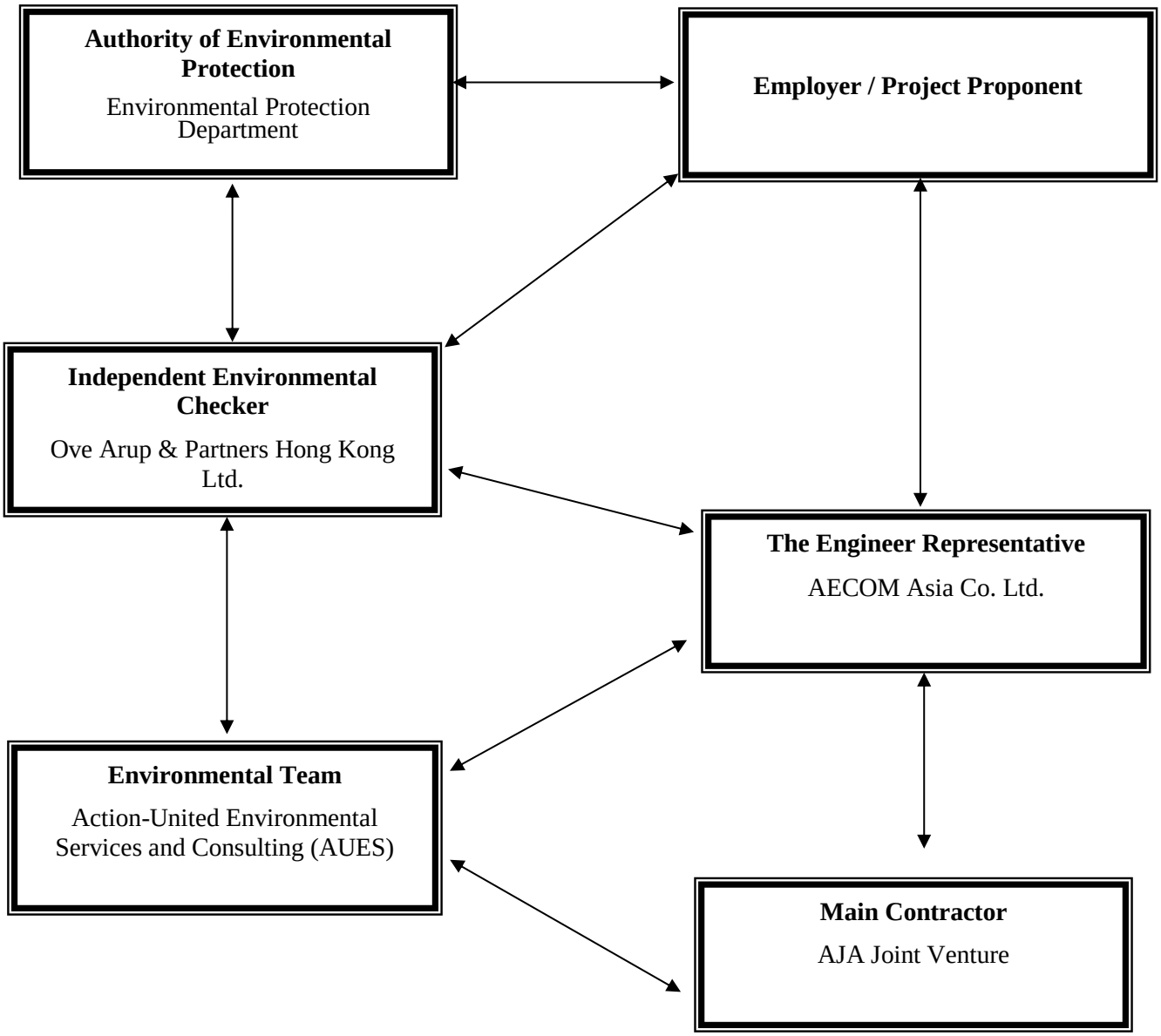
DATE: 05/Aug/2020 5:24:07 PM
FILENAME : S:\S1701-OWTF2\04_DRAWINGS\10_DETAIL DESIGN SUBMISSION\GRANULATION BUILDING DDS\20200805_GRANULATION BUILDING DDS REV 1\OWTF2-WSP-00-ZZ-DR-AR-8002.DWG

Appendix B

Organization Chart

Project Organization Chart



Contact Details of Key Personnel for the Project

Organization	Project Role	Name of Key Staff	Tel No.	Fax No.
EPD	Project Proponent	Sunny Chiu	3151 7209	3528 0492
AECOM	Resident Engineer	Terrence Lam	5579 5239	3010 8507
AECOM	Resident Engineer	Ivan Yung	5723 7750	3010 8507
ARUP	Independent Environmental Checker	Ricky Chui	2268 3437	2268 3380
ARUP	Engineer (Safety, Environment and Planning)	Roy Ng	2268 3588	2268 3588
AJAJV	Project Manager	Victor Wu	2862 5013	2862 5013
AJAJV	Construction Manager	Ethan Wong	9805 7325	9805 7325
AJAJV	Project Environmental Manager	Samuel Tsui	9455 5865	9455 5865
AJAJV	Environmental Officer	Harry Lam	9353 6141	9353 6141
AUES	Environmental Team Leader	T. W. Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Nicola Hon	2959 6059	2959 6079
AUES	Environmental Consultant	Ben Tam	2959 6059	2959 6079
AUES	Environmental Consultant	Martin Li	2959 6059	2959 6079

Legend:

EPD (Employer) – Environmental Protection Department

AECOM (Engineer Representative) – AECOM Asia Co. Ltd.

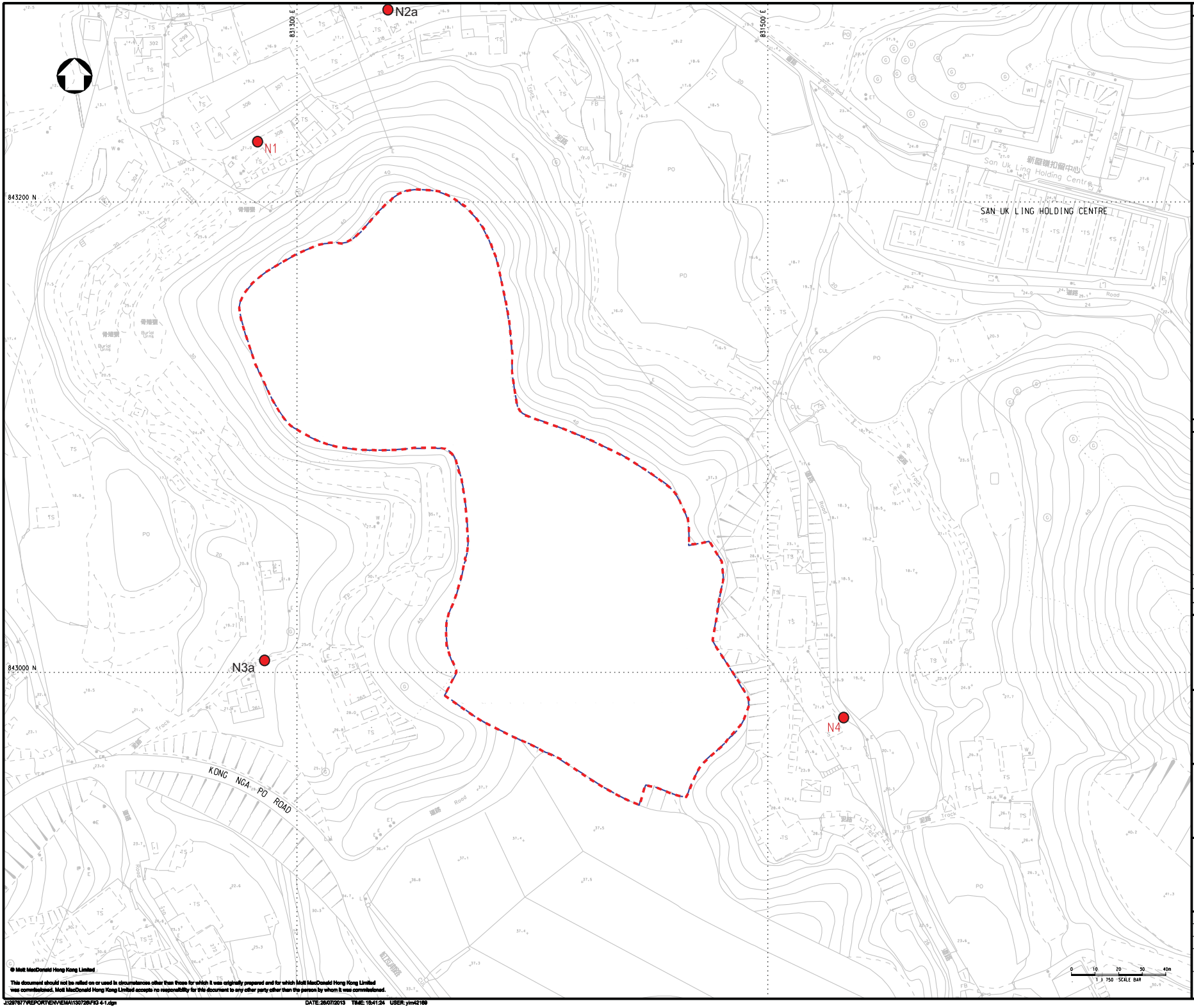
AJAJV (Main Contractor) – AJA Joint Venture

ARUP (IEC) – Ove Arup & Partners Hong Kong Ltd.

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

Appendix C

Monitoring Locations for Impact Monitoring



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J:\297677\REPORT\ENV\EIA\130726\Fig 4-1.dgn DATE: 26/07/2013 TIME: 18:41:24 USER: yim42169

Notes

Key to symbols

Construction Site Boundary

Noise Monitoring Station

Reference drawings

Rev	Date	Drawn	Description	Ch'k'd	App'd
P2	JUL 13	MING	GENERAL REVISION	AM	AFK
P1	DEC 12	MING	FIRST ISSUE	SC	AFK

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Hong Kong
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Client

Environmental Protection Department
The Government of the Hong Kong Special Administrative Region

Project

AGREEMENT NO. CE34/2011(EP) DEVELOPMENT OF ORGANIC WASTE TREATMENT FACILITIES PHASE 2 - FEASIBILITY STUDY

Title

PROPOSED LOCATIONS OF CONSTRUCTION NOISE MONITORING STATIONS

Designed	SC		Eng check	AT	
Drawn	MING		Coordination	AT	
Dwg check	EY		Approved	AFK	
Scale at A1 1:750		Status PRE		Rev P2	

Drawing Number

FIGURE 4.1

Appendix D

Remaining Rolling Construction Programme

Construction Programme (Jul 2025 to Oct 2025)

Construction Activities	2025			
	Jul	Aug	Sep	Oct
Reception Building				
- Painting works				
- Testing and Commissioning works				
Granulation Building				
- Signatures Installation works				
- Testing and Commissioning works				
AD Tank				
- External Cladding Installation works				

Appendix E

Event and Action Plan

Event and Action Plan for Construction Noise

Event	Action			
	ET	IEC	ER	Contractor
Action Level Exceedance	1. Notify IEC and Contractor; 2. Carry out investigation; 3. Report the results of investigation to the IEC and Contractor; 4. Discuss with the Contractor and formulate remedial measures; 5. Increase monitoring frequency to check mitigation effectiveness.	1. Review the investigation results submitted by the ET; 2. Review the proposed remedial measures by the Contractor and advise the ER accordingly; 3. Advise the ER on the effectiveness of the proposed remedial measures.	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consultation with the IEC, agree with the Contrator on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures	1. Submit noise mitigation proposals to IEC; 2. Implement noise mitigation proposals.
Limit Level Exceedance	1. Inform IEC, ER, EPD and Contractor; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with IEC, Contractor and ER on remedial measures requried; 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.	1. Discuss amongst ER, ET Leader and Contractor on the potential remedial actions; 2. Review Contractors remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly;	1. Confirm receipt of notification of exceedance in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes exceedance until the exceedance is abated.	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.

Appendix F

Impact Monitoring Schedule of the Reporting Period and Coming Month

Impact Monitoring Schedule for reporting period – July 2025

Date		Noise Monitoring (L_{eq}30min)
Tue	1-Jul-25	
Wed	2-Jul-25	
Thu	3-Jul-25	
Fri	4-Jul-25	✓
Sat	5-Jul-25	
Sun	6-Jul-25	
Mon	7-Jul-25	
Tue	8-Jul-25	
Wed	9-Jul-25	✓
Thu	10-Jul-25	
Fri	11-Jul-25	
Sat	12-Jul-25	
Sun	13-Jul-25	
Mon	14-Jul-25	✓
Tue	15-Jul-25	
Wed	16-Jul-25	
Thu	17-Jul-25	
Fri	18-Jul-25	
Sat	19-Jul-25	
Sun	20-Jul-25	
Mon	21-Jul-25	✓
Tue	22-Jul-25	
Wed	23-Jul-25	
Thu	24-Jul-25	
Fri	25-Jul-25	
Sat	26-Jul-25	
Sun	27-Jul-25	
Mon	28-Jul-25	
Tue	29-Jul-25	
Wed	30-Jul-25	
Thu	31-Jul-25	

Remark:

	Public Holiday or Sunday

✓ Impact noise monitoring in normal working days (Monday to Saturday) 07:00 – 19:00 except public holiday

Impact Monitoring Schedule for coming month – August 2025

Date		Noise Monitoring (L_{eq}30min)
Fri	1-Aug-25	✓
Sat	2-Aug-25	
Sun	3-Aug-25	
Mon	4-Aug-25	
Tue	5-Aug-25	
Wed	6-Aug-25	✓
Thu	7-Aug-25	
Fri	8-Aug-25	
Sat	9-Aug-25	
Sun	10-Aug-25	
Mon	11-Aug-25	
Tue	12-Aug-25	✓
Wed	13-Aug-25	
Thu	14-Aug-25	
Fri	15-Aug-25	
Sat	16-Aug-25	
Sun	17-Aug-25	
Mon	18-Aug-25	✓
Tue	19-Aug-25	
Wed	20-Aug-25	
Thu	21-Aug-25	
Fri	22-Aug-25	
Sat	23-Aug-25	
Sun	24-Aug-25	
Mon	25-Aug-25	
Tue	26-Aug-25	
Wed	27-Aug-25	
Thu	28-Aug-25	
Fri	29-Aug-25	✓
Sat	30-Aug-25	
Sun	31-Aug-25	

Remark:

	Public Holiday or Sunday

✓ Impact noise monitoring in normal working days (Monday to Saturday) 07:00 – 19:00 except public holiday

Appendix G

Calibration Certificates of Equipment

Certificate of Calibration

for

Description:	*Sound Level Meter*
Manufacturer:	*RION*
Type No.:	*NL-52 (Serial No.: 00464681)*
Microphone:	*RION UC-59 (Serial No.: 25372)*
Preamplifier:	*NH-25 (Serial No.: 21406)*

Submitted by:

Customer:	*Action-United Environmental Services & Consulting*
Address:	*Unit A, 20/F, Gold King Industrial Building*
	35-41 Tai Lin Pai Road, Kwai Chung,
	New Territories, Hong Kong

Upon receipt for calibration, the instrument was found to be:

☑ **Within (31.5Hz – 4kHz)**
☐ **Outside**
the allowable tolerance.

The test equipment used for calibration are traceable to National Standards via:
- The Government of The Hong Kong Special Administrative Region Standard & Calibration Laboratory

Date of receipt: 16 December 2024

Date of calibration: 20 December 2024

Date of NEXT calibration: 19 December 2025

*Calibrated by:*_____
Calibration Technician

*Certified by:*_____
Mr. Ng Yan Wa
Laboratory Manager

Date of issue: **20 December 2024**

ACOUSTICS AND AIR TESTING LABORATORY CO. LTD. (A+A) *L

Room 422,Leader Industrial Centre,57-59 Au Pui Wan Street ,Fo Tan, Shatin,N.T.,Hong Kong
Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

1. *Calibration Precaution:*

- The unit-under-test (UUT) was allowed to stabilize in the laboratory for over 24 hours, and switched on to warm up for over 10 minutes before the commencement of the test.
- The results presented are the mean of 3 measurements at each calibration point.

2. *Calibration Conditions:*

Air Temperature: 23.3 °C
Air Pressure: 1005 hPa
Relative Humidity: 25.1 %

3. *Calibration Equipment:*

	Type	Serial No.	Calibration Report Number	Traceable to
Multifunction Calibrator	B&K 4226	2288467	AV240081	HOKLAS

4. *Calibration Results*

Sound Pressure Level

Reference Sound Pressure Level

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.0	±0.4

Linearity

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.0	Ref
			104		104.0	±0.3
			114		114.0	±0.3

Time Weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	1000	94.0	Ref
		Slow			94.0	±0.3

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Frequency Response

Linear Response

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dB SPL	Fast	94	31.5	93.9	±2.0
				63	94.1	±1.5
				125	93.9	±1.5
				250	94.1	±1.4
				500	94.0	±1.4
				1000	94.0	Ref
				2000	93.6	±1.6
				4000	92.6	±1.6

A-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBA SPL	Fast	94	31.5	54.6	-39.4 ±2.0
				63	67.9	-26.2 ±1.5
				125	78.0	-16.1 ±1.5
				250	85.4	-8.6 ±1.4
				500	90.8	-3.2 ±1.4
				1000	94.0	Ref
				2000	94.8	+1.2 ±1.6
				4000	93.6	+1.0 ±1.6

C-weighting

Setting of Unit-under-test (UUT)			Applied value		UUT Reading, dB	IEC 61672 Class 1 Specification, dB
Range, dB	Freq. Weighting	Time Weighting	Level, dB	Frequency, Hz		
30-130	dBC SPL	Fast	94	31.5	90.9	-3.0 ±2.0
				63	93.3	-0.8 ±1.5
				125	93.9	-0.2 ±1.5
				250	94.0	-0.0 ±1.4
				500	94.1	-0.0 ±1.4
				1000	94.0	Ref
				2000	93.5	-0.2 ±1.6
				4000	91.8	-0.8 ±1.6

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Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

5. *Calibration Results Applied*

The results apply to the particular unit-under-test only. All calibration points are within manufacture's specification as IEC 61672 Class 1.

Uncertainties of Applied Value:

94 dB	31.5 Hz	± 0.05
	63 Hz	± 0.10
	125 Hz	± 0.05
	250 Hz	± 0.05
	500 Hz	± 0.05
	1000 Hz	± 0.05
	2000 Hz	± 0.05
	4000 Hz	± 0.05
104 dB	1000 Hz	± 0.05
114 dB	1000 Hz	± 0.05

The uncertainties are evaluated for a 95% confidence level.

Note:
The values given in this certification only related to the values measured at the time of the calibration and any uncertainties quoted will not allow for the equipment long-term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the calibration. (A+A)*L shall not be liable for any loss or damage resulting from the use of the equipment.

ACOUSTICS AND AIR TESTING LABORATORY CO LTD. (A+A) *L

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Tel: (852) 2668 3423 Fax:(852) 2668 6946
Homepage: http://www.aa-lab.com E-mail : inquiry@aa-lab.com

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. **411107**

Customer : Action-Unltod Environmental Services & consulting

Address : Unit A, 20/F, Gold King Industrial Building, 35-41 Tai Lin Pai Road, Kwai Chung, New Territories, Hong Kong

Order No. : Q44140 **Date of receipt :** 25-Oct-24

Item Tested

Description : Sound Level Calibrator

Manufacturer : Rion **I.D. :** EQ085

Model : NC-73 **Serial No. :** 10655561

Test Conditions

Date of Test : 8-Nov-24 **Supply Voltage :** --

Ambient Temperature : (23 ± 3)°C **Relative Humidity :** (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure : F21, Z02, IEC 60942:2017.

Test Results

The results are shown in the attached page(s).

Main Test equipment used:

Equipment No.	Description	Cert. No.	Traceable to
S014	Spectrum Analyzer	405219	NIM-PRC & SCL-HKSAR
S240	Sound Level Calibrator	405380	NIM-PRC & SCL-HKSAR
S041	Universal Counter	402289	SCL-HKSAR
S206	Sound Level Meter	405379	SCL-HKSAR

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

The test equipment used for calibration are traceable to International System of Units (SI), or by reference to a natural constant.
The test results apply to the above Unit-Under-Test only

Calibrated by : Elva Chong

Approved by : Kin Wong

Date: 8-Nov-24

This Certificate is issued by:
Hong Kong Calibration Ltd.
Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street,Kwai Chung, NT,Hong Kong.
Tel: 2425 8801 Fax: 2425 8646

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E

Hong Kong Calibration Ltd.
香港校正有限公司

Calibration Certificate

Certificate No. **411107**

Results :

1. **Generated Sound Pressure Level**

UUT Nominal Value (dB)	Measured Value (dB)	Tolerance (Ref: IEC 60942 Class 2 Spec.)
94.0	94.1	± 0.4 dB

Uncertainty : ± 0.2 dB

2. **Short-term Level Fluctuation** : 0.0 dB
Tolerance (Ref: IEC 60942 Class 2 Spec.) : ± 0.15 dB
Uncertainty : ± 0.05 dB

3. **Frequency**

UUT Nominal Value (kHz)	Measured Value (kHz)	Tolerance (Ref: IEC 60942 Class 2 Spec.)
1	*0.952	± 1.7 %

Uncertainty : ± 3.6×10^{-6}

4. **Total Distortion + Noise** : < 0.1 %
Tolerance (Ref: IEC 60942 Class 2 Spec.) : < 3.0 %
Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test
2. The uncertainty claimed is for a confidence probability of not less than 95%.
3. Atmospheric Pressure : 1 008 hPa.
4. *Out of Tolerance.

---------- END ----------

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Appendix H

Database of Monitoring Results

Daytime Noise Measurement Results (dB) of N1

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Façade Correction
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-Jul-25	13:00	57.9	60.7	55.1	56.9	57.5	55.2	59.6	63.1	55.7	55.1	56.5	55.1	54.8	56.5	55.2	63.1	64.2	56.1	58.9	61.9
9-Jul-25	9:50	61.8	63.3	52.3	62.4	64.6	53.8	62.6	65.2	53.9	63.5	66.4	547.0	62.2	64.7	53.2	61.3	63.8	52.0	62.4	65.4
14-Jul-25	9:50	60.3	625.0	51.6	61.7	63.9	52.1	60.9	62.6	51.7	61.2	63.0	51.4	62.1	64.4	53.5	60.6	62.3	51.8	61.2	64.2
21-Jul-25	10:00	58.7	60.2	50.5	59.3	61.8	52.4	57.5	61.3	51.9	58.1	62.5	52.6	57.4	61.1	51.5	60.3	63.6	54.3	58.7	61.7

Daytime Noise Measurement Results (dB) of N2a

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Distance & Façade Correction
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-Jul-25	13:33	52.3	56.0	44.9	49.9	52.3	44.1	49.2	49.9	46.1	50.6	54.3	45.9	53.3	57.0	47.7	52.3	55.3	46.9	51.5	55.5
9-Jul-25	10:30	50.9	53.8	47.1	53.1	55.4	48.9	52.7	54.5	47.3	51.9	53.5	46.8	52.4	55.0	47.6	52.9	55.3	47.9	52.4	56.4
14-Jul-25	13:05	53.8	56.0	47.6	51.3	54.1	45.8	52.0	55.4	46.1	52.5	55.7	46.4	51.8	54.9	45.6	51.2	54.5	46.0	52.2	56.2
21-Jul-25	13:10	52.4	54.7	49.1	53.8	55.5	50.4	53.2	55.3	50.0	51.7	53.8	47.9	52.6	54.3	49.3	53.0	55.9	50.6	52.8	56.8

Daytime Noise Measurement Results (dB) of N3a

Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Distance & Façade Correction
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-Jul-25	14:42	64.1	66.8	60.6	64.4	67.0	61.2	64.5	66.6	61.5	63.9	66.1	61.5	63.1	65.0	57.9	61.9	63.9	58.8	63.7	69.7
9-Jul-25	9:00	64.7	67.3	55.5	63.9	66.5	54.7	63.5	66.8	54.3	64.1	67.0	55.2	62.8	65.7	53.9	63.6	66.3	54.1	63.8	69.8
14-Jul-25	9:05	64.8	67.2	56.7	64.2	67.5	56.4	63.6	66.4	55.2	62.7	66.0	55.1	63.2	66.3	55.8	64.0	67.1	55.9	63.8	69.8
21-Jul-25	9:10	64.3	66.5	55.2	62.9	65.0	53.7	63.6	65.4	54.5	63.8	66.1	54.9	62.4	64.7	53.2	64.0	66.2	55.8	63.5	69.5

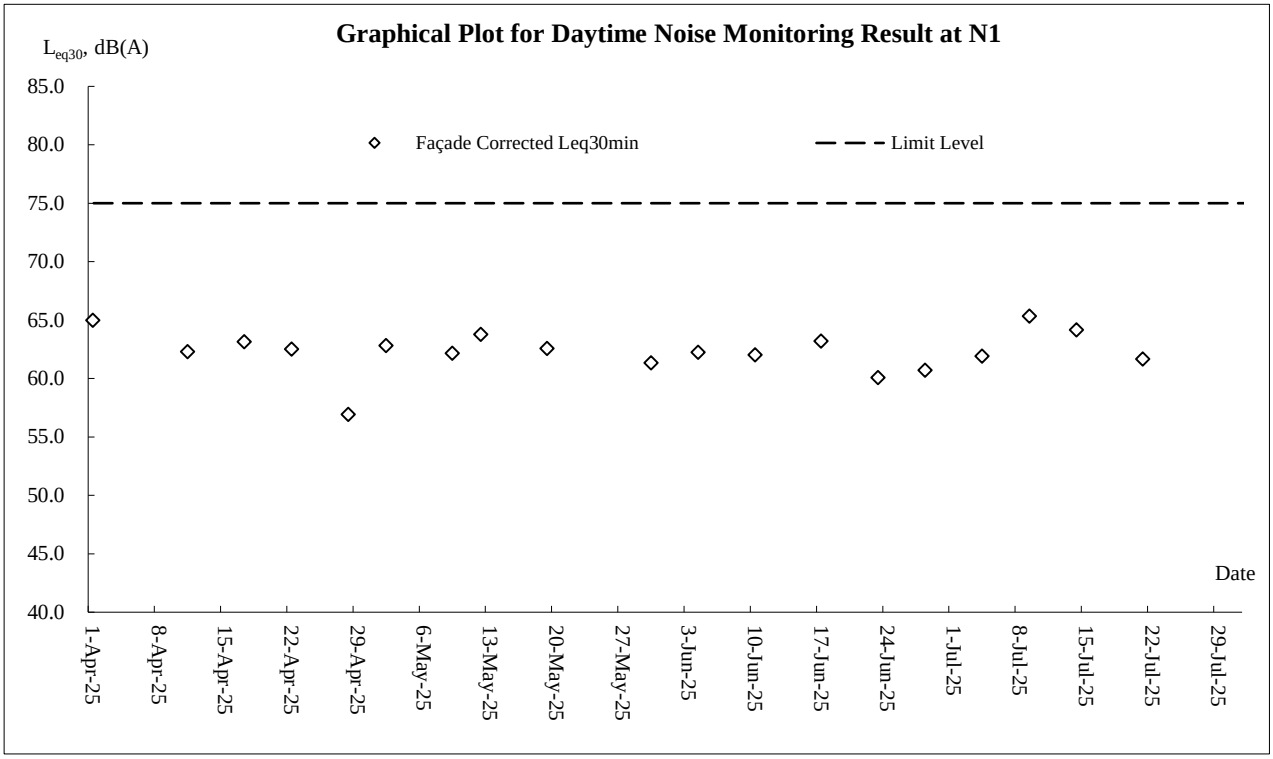
Daytime Noise Measurement Results (dB) of N4

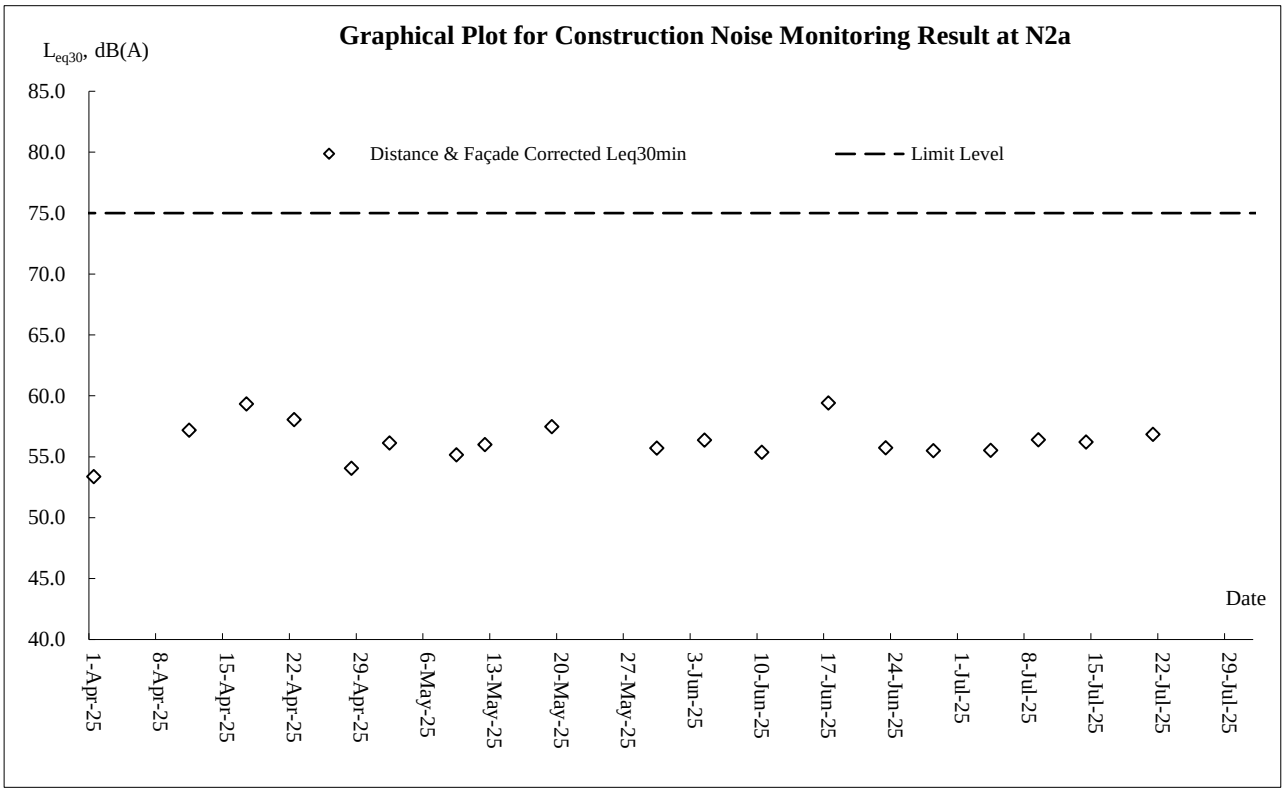
Date	Start Time	1st Leq (5min)			2nd Leq (5min)			3rd Leq (5min)			4th Leq (5min)			5th Leq (5min)			6th Leq (5min)			Leq30min, dB(A)	Façade Correction
		Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)	Leq, dB(A)	L10, dB(A)	L90, dB(A)		
4-Jul-25	15:17	67.7	69.8	46	49.3	53.6	43.7	47.5	50.1	43.9	49.8	52	45.3	48	51.6	46.6	47.9	50.7	44.2	60.2	63.2
9-Jul-25	11:20	58.3	62.6	51.3	56.9	60.4	50.7	57.4	61.8	51.9	57.7	52.1	51.3	56.2	60	50.4	57.5	61.3	50.9	57.4	60.4
14-Jul-25	13:50	56.9	59.7	51.4	56.4	59	50.8	55.7	58.6	50.2	57.3	60.5	52.4	55.4	58.9	50.1	56.1	59.3	51.6	56.3	59.3
21-Jul-25	14:00	57.2	59.4	48.6	58.4	60.3	49.7	58.8	61.1	49.5	56.7	58.9	47.3	57.5	59.7	48.8	58	60.9	49.4	57.8	60.8

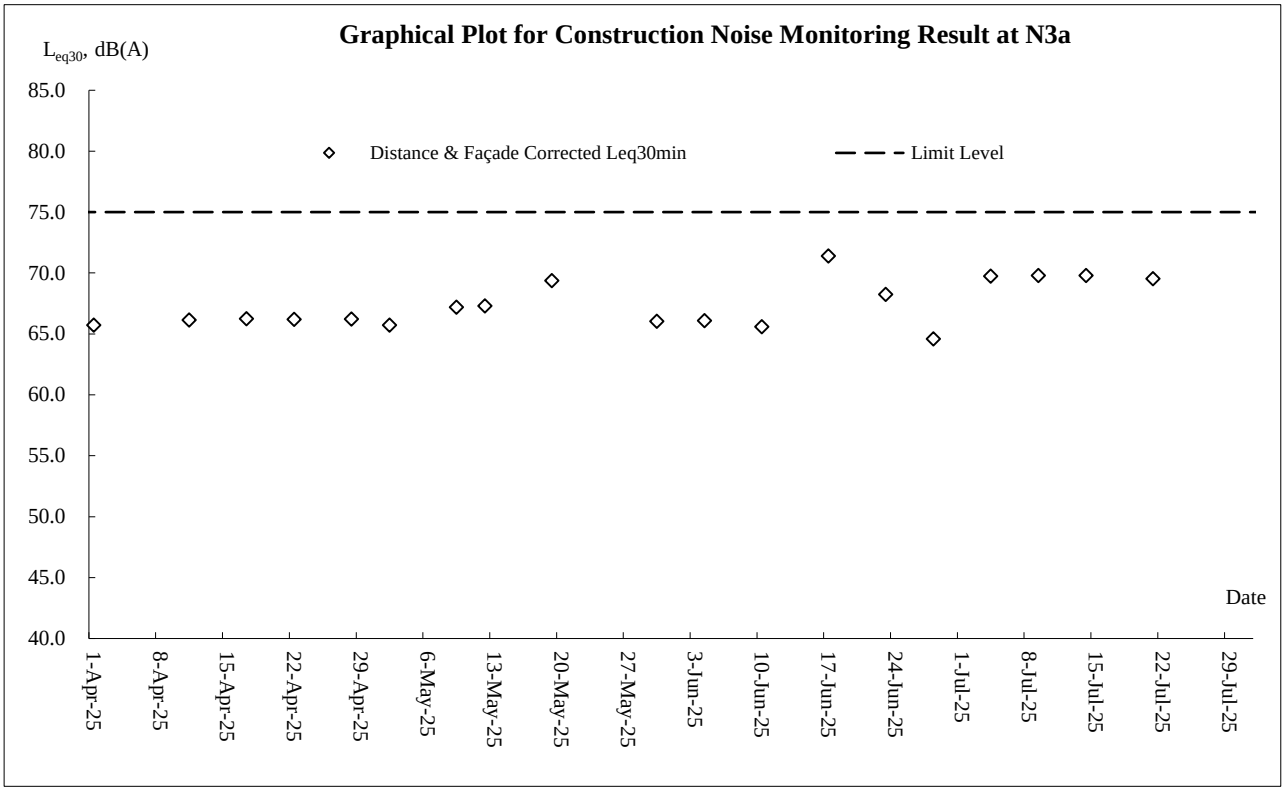
Appendix I

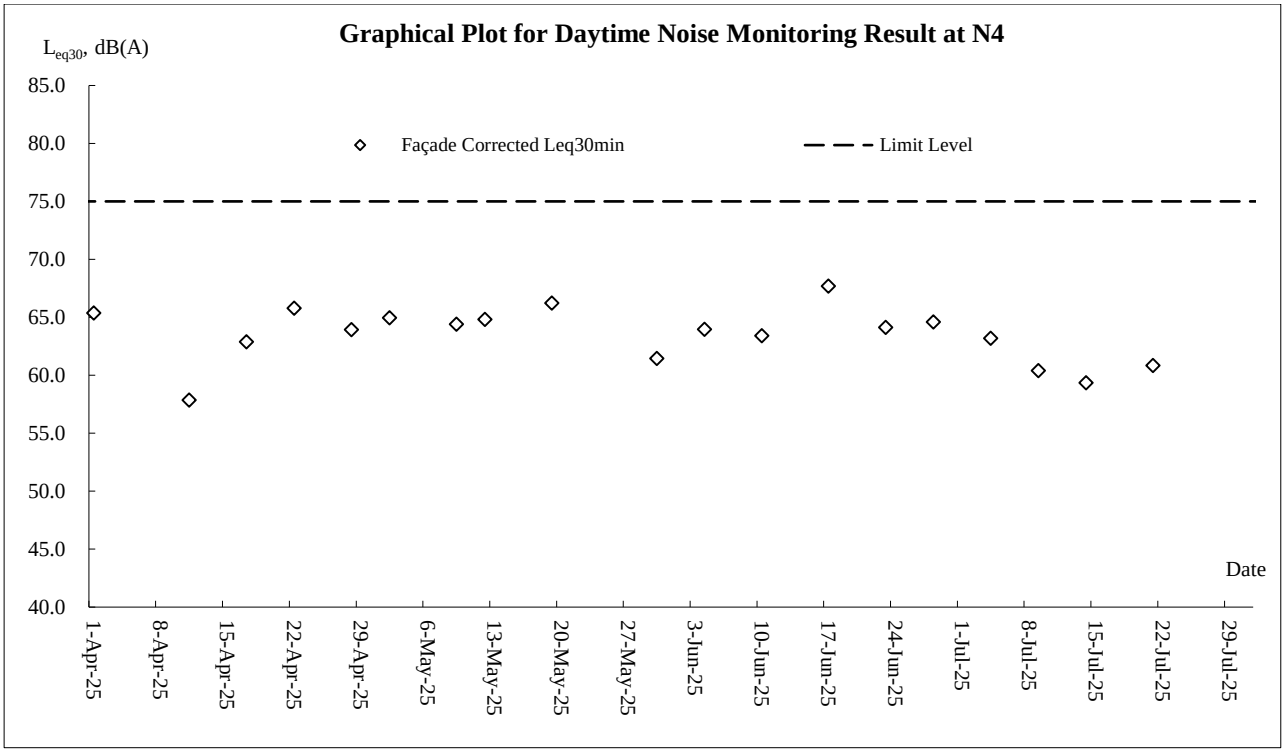
Graphical Plots of Monitoring Results

Construction Noise - Daytime






Graphical Plot for Construction Noise Monitoring Result at N3a
Leq30, dB(A)
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
Distance & Façade Corrected Leq30min
Limit Level
Date
1-Apr-25
8-Apr-25
15-Apr-25
22-Apr-25
29-Apr-25
6-May-25
13-May-25
20-May-25
27-May-25
3-Jun-25
10-Jun-25
17-Jun-25
24-Jun-25
1-Jul-25
8-Jul-25
15-Jul-25
22-Jul-25
29-Jul-25


Graphical Plot for Daytime Noise Monitoring Result at N4
Leq30, dB(A)
85.0
80.0
75.0
70.0
65.0
60.0
55.0
50.0
45.0
40.0
Façade Corrected Leq30min
Limit Level
Date
1-Apr-25
8-Apr-25
15-Apr-25
22-Apr-25
29-Apr-25
6-May-25
13-May-25
20-May-25
27-May-25
3-Jun-25
10-Jun-25
17-Jun-25
24-Jun-25
1-Jul-25
8-Jul-25
15-Jul-25
22-Jul-25
29-Jul-25

Appendix J

Waste Flow Table

Name of Department : EPD

Contract No: EP/SP/86/15

Monthly Summary Waste Flow Table for 2025

Version: 0

Month	Actual Quantities of Inert C&D Materials Generated Monthly						Actual Quantity of C&D Wastes Generated Monthly				
	Total Quantity Generated	**Hard Rock and Large Broken Concrete**	**Reused in the Contract**	**Reused in other Projects (see Note 10)**	**Disposed as Public Fill**	**Imported Fill**	**Metals**	**Paper/ cardboard packaging (see Notes 4)**	**Plastics (see Notes 2 &4)**	**Chemical Waste**	**Others, eg. general refuse**
	(in '000m3)	**(in '000m3)**	**(in '000m3)**	**(in '000m3)**	**(in '000m3)**	**(in '000m3)**	**(in '000kg)**	**(in '000kg)**	**(in '000kg)**	**(in '000kg)**	**(in '000m3)**
sub-total up to 2024	**102.399**	0.000	0.000	83.508	18.658	0.233	337.486	1.500	0.700	0.000	5.660
Jan-25	**0.334**	0.000	0.000	0.000	0.334	0.000	0.000	0.000	0.000	0.000	0.027
Feb-25	**0.152**	0.000	0.000	0.000	0.152	0.000	0.000	0.000	0.000	0.000	0.021
Mar-25	**0.027**	0.000	0.000	0.000	0.027	0.000	0.000	0.000	0.000	0.000	0.023
Apr-25	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
May-25	**0.017**	0.000	0.000	0.000	0.017	0.000	0.000	0.000	0.000	0.000	0.010
Jun-25	**0.006**	0.000	0.000	0.000	0.006	0.000	0.000	0.000	0.000	0.000	0.024
Sub total (since 2019)	102.935	0.000	0.000	83.508	19.194	0.233	337.486	1.500	0.700	0.000	5.765
Jul-25	**0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.003
Aug-25											
Sep-25											
Oct-25											
Nov-25											
Dec-25											
Total (since 2019)	102.935	0.000	0.000	83.508	19.194	0.233	337.486	1.500	0.700	0.000	5.769

Note 1	The waste flow table shall also include C&D materials that are not specified in the Contract to be imported for use at the Site
2	Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
3	The Contractor shall also submit the latest forecast of the amount of C&D materials expected to be generated from the Works, together with a breakdown of the nature where the total amount of C&D materials expected to be generated from the Works is equal to or exceeding 50,000m3.
4	All recyclable materials, including metals, paper / cardboard packaging, plastics, etc. will be collected by registered collector for recycling.
5	Conversion factors for reporting purpose:
	in-situ: rock = 2.5 tonnes/m^3; soil = 2.0 tonnes/m^3
	excavated: rock = 2.0 tonnes/m^3; soil = 1.8 tonnes/m^3; broken concrete and bitumen = 2.4 tonnes/m^3
	C&D Waste (including tree waste) = 0.9 tonnes/m^3; bentonite slurry = 2.8 tonnes/m^3
6	Numbers are rounded off to the nearest three decimal places
7	The "Total Quantity Generated" equals to the sum of "Reuse in the Contract", "Reuse in Other Projects" and "Disposed as Public Fill"
8	The "Hard Rock and Large Broken Concrete" were disposed as public fill
9	The amount in "Disposed as Public Fill" includes the "Hard Rock and Large Broken Concrete" disposed as public fill
10	The "Reused in other projects" include C&D inert material and hard rock and large broken concrete

Appendix K

Environmental Mitigation Implementation Schedule (Extracted from EM&A Manual)

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage[1] Des	Con	Op	Dec	Relevant Legislation & Guidelines	Implement Status
Air Quality Impact (Construction)										
3.8.1.1	2.4	**General Dust Control Measures** Dust emissions could be suppressed by regular water spraying on site. In general, water spraying twice a day could reduce dust emission from active construction area by 50%. However, for the Project more frequent water spraying is proposed. Watering eight times per day, or once every 1.5 hours, is suggested at all active works areas in order to achieve a higher dust suppression efficiency of 87.5%.	Within construction site / Duration of the construction phase	Contractor		✓			EIA Recommendation and Air Pollution Control (Construction Dust) Regulation	V
3.8.1.2	2.4	**Best Practice For Dust Control** The relevant best practices for dust control as stipulated in the *Air Pollution Control (construction Dust) Regulation* should be adopted to further reduce the construction dust impacts of the Project. These best practices include: *Good Site Management* ▪ Good site management is important to help reducing potential air quality impact down to an acceptable level. As a general guide, the Contractor should maintain a high standard of housekeeping to prevent emissions of fugitive dust. Loading, unloading, handling and storage of raw materials, wastes or by-products should be carried out in a manner so as to minimise the release of visible dust emission. Any piles of materials accumulated on or around the work areas should be cleaned up regularly. Cleaning, repair and maintenance of all plant facilities within the work areas should be carried out in a manner minimising generation of fugitive dust emissions. The material should be handled properly to prevent fugitive dust emission before cleaning. *Disturbed Parts of the Roads* ▪ Each and every main temporary access should be paved with concrete, bituminous hardcore materials or metal plates and kept clear of dusty materials; or ▪ Unpaved parts of the road should be sprayed with water or a dust suppression chemical so as to keep the entire road	Within construction site / Duration of the construction phase	Contractor		✓			EIA Recommendation and Air Pollution Control (Construction Dust) Regulation	V

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

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage[1]				Relevant Legislation & Guidelines	Implement Status
					Des	Con	Op	Dec		
		surface wet. *Exposed Earth* ▪ Exposed earth should be properly treated by compaction, hydroseeding, vegetation planting or seating with latex, vinyl, bitumen within six months after the last construction activity on the site or part of the site where the exposed earth lies. *Loading, Unloading or Transfer of Dusty Materials* ▪ All dusty materials should be sprayed with water immediately prior to any loading or transfer operation so as to keep the dusty material wet. *Debris Handling* ▪ Any debris should be covered entirely by impervious sheeting or stored in a debris collection area sheltered on the top and the three sides. ▪ Before debris is dumped into a chute, water should be sprayed so that it remains wet when it is dumped. *Transport of Dusty Materials* ▪ Vehicle used for transporting dusty materials/spoils should be covered with tarpaulin or similar material. The cover should extend over the edges of the sides and tailboards. *Wheel washing* ▪ Vehicle wheel washing facilities should be provided at each construction site exit. Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. *Use of vehicles* ▪ The speed of the trucks within the site should be controlled to about 10km/hour in order to reduce adverse dust impacts and secure the safe movement around the site. ▪ Immediately before leaving the construction site, every vehicle should be washed to remove any dusty materials from its body and wheels. ▪ Where a vehicle leaving the construction site is carrying a load of dusty materials, the load should be covered entirely								

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

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage[1] Des	Con	Op	Dec	Relevant Legislation & Guidelines	Implement Status
		by clean impervious sheeting to ensure that the dusty materials do not leak from the vehicle. *Site hoarding* ▪ Where a site boundary adjoins a road, street, service lane or other area accessible to the public, hoarding of not less than 2.4m high from ground level should be provided along the entire length of that portion of the site boundary except for a site entrance or exit.								
Air Quality Impact (Operation)										
3.8.2	2.3	**Odour patrol at site boundary of the Project**	Site boundary / During operation stage (the need to continue the odour patrol after the end of the 2-year monitoring period would depend on the monitoring results and should be agreed with EPD)	OWTF Operator	✓		✓		EIAO-TM	NA
3.8.2	2.4	**Install gas cleaning equipment and stack on the CHP and odour treatment unit** ▪ The preliminary design suggests the use of a two stage process involving either a biofilter or Ultraviolet Light (UV-C) together with ozone treatment as the first stage, and an activated carbon filter as the second stage for the odour treatment unit. It is recommended to install the UV-C and ozone treatment system with second stage active carbon filters as this has a lower footprint requirement than the biofilter option. However, the actual unit installed depends on the final design by the contractor in the design phase. ▪ The preliminary design incorporates a combination of thermal and catalytic treatment processes to remove pollutants from the exhaust gasses from the CHP. ▪ Both the odour treatment unit and the CHP emissions are suggested to be directed to a flue to aid the dispersion and minimise effects on ASRs.	CHP and odour treatment unit	Design Consultant / OWTF Operator	✓		✓		EIA Recommendation	NA
Hazard Risk Assessment (Operation)										

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

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage[1] Des	Con	Op	Dec	Relevant Legislation & Guidelines	Implement Status
4.9	3.2	The HA has assumed that the following "Good Practices" and "recommended design measures" for the safe operation of OWTF 2 shall be carried out as far as reasonably practicable: ▪ The process plant building will be provided with adequate number of gas detectors distributed over the various areas of potential leak sources to provide adequate coverage. ▪ All electrical equipment inside the building will be classified in accordance with the electrical area classification requirements. No unclassified electrical equipment will be used during operations or maintenance. ▪ Reference can be made to Codes of Practice and guidance issued in Europe that applies to places where explosive atmospheres may occur (called 'ATEX' requirements). These are covered as part of the European Directive: the Explosive Atmospheres Directive (99/92/EC) and the UK regulations, Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR). Where potentially explosive atmospheres may occur in the workplace, the requirements include, identifying and classifying (zoning) areas where potentially explosive atmospheres may occur; avoiding ignition sources in zoned areas, in particular those from electrical and mechanical equipment; where necessary, identifying the entrances to zoned areas; providing appropriate anti-static clothing for employees; and before they come into operation, verifying the overall explosion protection safety of areas where explosive atmospheres may occur. ▪ All safety valves design shall take into account discharging any released fluid to a safe location, or stopping misdirection of fluid flows in order to avoid hazardous outcome. ▪ Safety markings and crash barriers will be provided to the aboveground piping, digesters and the gas holder near the entrance. ▪ Lightning protection installations will be installed following IEC 62305, BS EN 62305, AS/NZS 1768, NFPA 780 or equivalent standards. ▪ A 10m high boundary wall with fire resistance will be	During design and operation phases	Design Consultant / OWTF Operator	✓		✓		EIAO & EIAO TM Annex 4	NA

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

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage[1] Des	Con	Op	Dec	Relevant Legislation & Guidelines	Implement Status
		provided in the vicinity of the digester tanks, gasholders and gas purification equipment to protect the equipment against external fires, and to provide some protection to external areas from the effects of fire/explosion. ▪ Suitable fire extinguishers will be provided within the site. An External Water Spray System (EWSS) will be installed in appropriate areas, such as around the gasholders, gas purification, desulphurisation units, and digester areas. The facilities will also be equipped with fire and gas detection system and fire suppression system. Stringent procedures are implemented to prohibit smoking or naked flames to be used on-site. ▪ Fixed crash barriers will be provided in areas where process equipment is adjacent to the internal roadway to protect against vehicle collision. Adequate warning signage and lighting will also be provided and maximum speed limit will also be in place.								
Noise Impact (Construction)										
5.9.1	4.2.7	**Good Site Practice** Good site practice and noise management can significantly reduce the impact of construction site activities on nearby NSRs. The following package of measures should be followed during each phase of construction: ▪ only well-maintained plant to be operated on-site and plant should be serviced regularly during the construction works; ▪ machines and plant that may be in intermittent use to be shut down between work periods or should be throttled down to a minimum; ▪ plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from the NSRs; ▪ mobile plant should be sited as far away from NSRs as possible; and ▪ material stockpiles and other structures to be effectively utilised, where practicable, to screen noise from on-site	Within construction site / During construction phase	Contractor		✓			EIAO, EIAO-TM and Noise Control Ordinance	V

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

EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage[1] Des	Con	Op	Dec	Relevant Legislation & Guidelines	Implement Status
		construction activities.								
5.9.1	4.2.7	**Selection of Quieter PME** The recommended quieter PME adopted in the assessment were taken from the EPD's QPME Inventory and British Standard, namely *Noise Control on Construction and Open Sites, BS 5228: Part 1: 2009* . It should be noted that the silenced PME selected for assessment can be found in Hong Kong.	Within construction site / During construction phase	Contractor		✓			EIAO, EIAO-TM and Noise Control Ordinance	V
5.9.1	4.2.7	**Use of Movable Noise Barriers** Movable noise barriers can be very effective in screening noise from particular items of plant when constructing the Project. Noise barriers located along the active works area close to the noise generating component of a PME could produce at least 10 dB(A) screening for stationary plant and 5 dB(A) for mobile plant provided the direct line of sight between the PME and the NSRs is blocked.	Within construction site / During construction phase	Contractor		✓			EIAO, EIAO-TM and Noise Control Ordinance	V
5.9.1	4.2.7	**Use of Noise Enclosure/ Acoustic Shed** The use of noise enclosure or acoustic shed is to cover stationary PME such as air compressor and generator. With the adoption of the noise enclosure, the PME could be completely screened, and noise reduction of 15 dB(A) can be achieved according to the EIAO Guidance Note No.9/2010.	Within construction site / During construction phase	Contractor		✓			EIAO, EIAO-TM and Noise Control Ordinance	V
5.9.1	4.2.7	**Use of Noise Insulating Fabric** Noise insulating fabric can also be adopted for certain PME (e.g. pilling machine etc). The fabric should be lapped such that there are no openings or gaps on the joints. According to the approved Tsim Sha Tsui Station Northern Subway EIA report (AEIAR-127/2008), a noise reduction of 10 dB(A) can be achieved for the PME lapped with the noise insulating fabric.	Within construction site / During construction phase	Contractor		✓			EIAO, EIAO-TM and Noise Control Ordinance	V
Noise Impact (Operation)										
5.9.2	4.2.7	**Fixed Plant Noise** Specification of the maximum allowable sound power levels of the proposed fixed plants should be followed. The following noise reduction measures should be considered as far as practicable during operation: ▪ Choose quieter plant such as those which have been effectively silenced;	Within construction site / During operation phase / Throughout operation phase	Design Consultant / Contractor	✓		✓		EIAO, EIAO-TM and Noise Control Ordinance	NA

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		▪ Include noise levels specification when ordering new plant (including chillier and E/M equipment); ▪ Locate fixed plant/louver away from any NSRs as far as practicable; ▪ Locate fixed plant in walled plant rooms or in specially designed enclosures; ▪ Locate noisy machines in a completely separate building; ▪ Install direct noise mitigation measures including silencers, acoustic louvers and acoustic enclosure where necessary; and ▪ Develop and implement a regularly scheduled plant maintenance programme so that equipment is properly operated and serviced in order to maintain a controlled level of noise.								
Water Quality Impact (Construction)										
6.8.1.1	5.3	**Construction site runoff** The site practices outlined in ProPECC Note PN 1/94 should be followed as far as practicable in order to minimise surface runoff and the chance of erosion. The following measures are recommended to protect water quality and sensitive uses of the coastal area, and when properly implemented should be sufficient to adequately control site discharges so as to avoid water quality impacts: ▪ 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, earth bunds or sand bag barriers should be provided on site to direct storm water to silt removal facilities. The design of the temporary on-site drainage system should be undertaken by the Contractor prior to the commencement of construction; ▪ Sand/silt removal facilities such as sand/silt traps and sediment basins should be provided to remove sand/silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of efficient silt	Within construction site / Duration of the construction phase	Contractor		✓			ProPECC Note PN 1/94	V

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		removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94. Sizes may vary depending upon the flow rate. The detailed design of the sand/silt traps should be undertaken by the Contractors prior to the commencement of construction. ▪ 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 during rainstorms. Deposited silt and grit should be regularly removed, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. ▪ Measures should be taken to minimize the ingress of site drainage into excavations. If excavation of trenches in wet periods is necessary, they should be dug and backfilled in short sections wherever practicable. Water pumped out from foundation excavations should be discharged into storm drains via silt removal facilities. ▪ 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 sited wheel washing facility should be provided at construction site exit where practicable. Wash-water should have sand and silt settled out and removed regularly 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. ▪ Open stockpiles of construction materials or construction wastes on-site 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 (including newly constructed ones) should be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and stormwater runoff being directed into								

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		foul sewers. ▪ Precautions should be taken at any time of the year when rainstorms are likely. Actions should 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 Note 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. ▪ Bentonite slurries used in piling or slurry walling should be reconditioned and reused wherever practicable. Temporary enclosed storage locations should be provided on-site for any unused bentonite that needs to be transported away after all the related construction activities are completed. The requirements in ProPECC Note PN 1/94 should be adhered to in the handling and disposal of bentonite slurries.								
6.8.1.2	5.3	**General construction activities** Construction solid waste, debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering any nearby storm water drain. Stockpiles of cement and other construction materials should be kept covered when not being used.	Within construction site / During construction phase	Contractor		✓			ProPECC Note PN 1/94	V
6.8.1.3	5.3	**Excavation works** The construction programme should be properly planned to minimise excavation works during the wet season (April to September), temporarily exposed slope/soil surfaces should be covered by a tarpaulin or other means, as far as practicable. Interception channels should be provided (e.g. along the crest/edge of the excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm. Other measures that need to be implemented before, during and after rainstorms are summarized in ProPECC PN 1/94.	Within construction site / During construction phase	Contractor		✓			ProPECC Note PN 1/94	NA
6.8.1.4	5.3	**Accidental spillage** ▪ The Contractor should register as a chemical waste producer	Within construction site / During construction phase	Contractor		✓			ProPECC Note PN 1/94 and Waste Disposal	V

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		if chemical wastes are produced from construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes. ▪ Maintenance of vehicles and equipment, involving activities with potential for leakage and spillage, should only be undertaken within areas appropriately equipped to control these discharges. ▪ Oils and fuels should only be stored in designated areas which have pollution prevention facilities. To prevent spillage of fuels and solvents to any nearby storm water drain, all fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event. ▪ Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: – Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. – Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. – Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.							Ordinance	
6.8.1.5	5.3	**Sewage effluent from construction workforce** Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site where necessary to handle sewage from the workforce. A licensed contractor should be employed to provide appropriate and adequate portable toilets and be	Within construction site / During construction phase	Contractor		✓			ProPECC Note PN 1/94	V

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		responsible for appropriate disposal and maintenance.								
Water Quality Impact (Operation)										
6.8.2.1	5.3	**Sewage effluent and sewerage impact** In order to minimise the risk of exceeding capacity of the sewerage system, on-site underground storage of effluent is recommended for the OWTF 2, with a capacity of 6 hours of peak flow. Using the values presented in the preliminary design, the on-site storage required to buffer excess capacity would be equivalent to 30 m^3. A below ground effluent retention tank would function to store effluent produced during peak periods when usage of the Sha Ling pumping station is high. Effluent stored during such periods could then be pumped out of the retention tank and discharged into the public sewer during off-peak times when capacity is sufficient.	Within construction site / During design and operation phase	Design Consultant / OWTF Operator	✓		✓		EIA recommendations	NA
6.8.2.2	5.3	**Wastewater generation from organic waste treatment processes** Wastewater must be collected and diverted to the wastewater treatment plant (WWTP). An adequately sized WWTP with technologies such as membrane bioreactor, reverse osmosis or multi-phase separation process or system should be provided for the OWTF 2. Polluting parameters in the effluent should be in compliance with the requirements as specified in the TM-DSS. *Leachate from the waste reception and composting process* ▪ A drainage system will be provided at the reception area connecting to the proposed onsite WWTP. The leachate would be treated in the WWTP and there would be no direct discharge of leachate. *Dewatering of the digestate from the separators* ▪ The wastewater generated from the dewatering of digestate from the digesters is expected to be around 229.18 m^3/day and a peak flow of 5.31L/s. The on-site WWTP will deploy suitable treatment process in order to reduce the pollution level to an acceptable standard. The effluent shall be treated according to the TM-DSS standard before discharging to foul sewers.	Within construction site / During design and operation phase	Design Consultant / OWTF Operator	✓		✓		TM-DSS, Water Pollution Control Ordinance	NA

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		Condensate from biogas drying, odour treatment and ventilation system ▪ Condensate from biogas handling and wastewater from the odour treatment process would be collected and transferred to the WWTP. There is no direct discharge of wastewater to the sewer. *Washing of waste delivery trucks* ▪ Surplus wastewater generated from the vehicle washing facilities would be collected and transferred to the WWTP for further treatment before discharging to the foul sewer. *Untreated wastewater from wastewater treatment plant* ▪ Maintenance of the WWTP and its connection pipe work would be conducted regularly to confirm the condition of the holding tank and pipes. This will ensure early detection of any damage for repair or replacement. *Leakage of materials from WWTP* ▪ Regular scheduled maintenance of the WWTP will be carried out to confirm the condition of the facility and detect any damages at an early stage for repair or replacement.								
6.8.2.3	5.3	**Contaminated stormwater runoff and accidental spillages** Regular maintenance of plant facilities, as recommended in **Section 6.8.2.2** of the EIA report, will be performed to confirm the condition of plant facilities and detect any damage for repair or replacement. Training should be provided to the employees on handling accidental spillage, so that in such cases, actions can be carried out quickly to avoid runoff to nearby streams/drains.	Within construction site / During operation phase / Throughout operation phase	OWTF Operator			✓		TM-DSS; Water Pollution Control Ordinance	NA
Waste Management Implications (Construction)										
7.6.1.1	6.3	**Good Site Practices** Recommendations for good site practices during the construction activities include: ▪ Obtain the relevant waste disposal permits from appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and subsidiary Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap. 28);	Project construction site / Throughout construction stage / Until completion of all construction activities	Contractor		✓			Waste Disposal Ordinance; Regulation and the Land (Miscellaneous Provisions) Ordinance;	V

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		▪ Provide staff training for proper waste management and chemical handling procedures; ▪ Provide sufficient waste disposal points and regular waste collection; ▪ Provide appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; ▪ Carry out regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; ▪ Separate chemical wastes for special handling and disposal to licensed facilities for treatment; and ▪ Employ licensed waste collectors to collect waste.							Waste Disposal (Chemical Wastes) (General) Regulation; Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site	
7.6.1.2	6.3	**Waste Reduction Measures** Recommendations to achieve waste reduction include: ▪ Design foundation works to minimise the amount of excavated material to be generated; ▪ Provide training on the importance of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling; ▪ Sort demolition debris and excavated materials from demolition works to recover reusable/recyclable portions ▪ Segregation and storage of different types of waste in different containers or skips to enhance reuse or recycling of materials and their proper disposal ▪ Encourage collection of recyclable waste such as waste paper and aluminium cans by providing separate labelled bins to enable such waste to be segregated from other general refuse generated by the work force ▪ Plan the use of construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste	Project construction site / Throughout construction stage / Until completion of all construction activities	Contractor	✓	✓			Waste Disposal Ordinance	V
7.6.1.3	6.3	**Excavated and C&D Materials** In order to minimise impacts resulting from collection and transportation of C&D material for off-site disposal, the	Project construction site / Throughout construction stage / Until completion	Contractor	✓	✓			Waste Disposal Ordinance ; DEVB Technical	NA

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		excavated materials should be reused on-site as fill material as backfilling material and for landscaping works far as practicable. Other mitigation requirements are: ▪ A Waste Management Plan (WMP), which becomes part of the Environmental Management Plan (EMP), should be prepared in accordance with ETWB TC(W) No.19/2005; ▪ A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) should be adopted for easy tracking; and ▪ In order to monitor the disposal of excavated and non-inert C&D material at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be adopted (refer to DEVB TC(W) No. 6/2010).	of all construction activities						Circular (Works) No.6/2010 for Trip Ticket System for Disposal of Construction & Demolition Materials; Technical Circular (Works) No. 19/2005 Environmental Management on Construction Site	
7.6.1.4	6.3	**Chemical Waste** Should chemical wastes be produced at the construction site, the Contractor would be required to register with EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste (such as explosive, flammable, oxidizing, irritant, toxic, harmful, or corrosive). The Contractor should employ a licensed collector to transport and dispose of the chemical wastes, to either the CWTC in Tsing Yi, or any other licensed facilities, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Project construction site / Throughout construction stage / Until completion of all construction activities	Contractor		✓			Code of Practice on the Packaging Labelling and Storage of Chemical Wastes; Waste Disposal (Chemical Waste) (General) Regulation	NA
7.6.1.5	6.3	**General Refuse** General refuse should be stored in enclosed bins or compaction units separated from excavated and non-inert C&D materials. A reputable waste collector should be employed by the Contractor to remove general refuse from the site, separately from inert C&D materials. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	Project construction site / Throughout construction stage / Until completion of all construction activities	Contractor		✓			Waste Disposal Ordinance and Public Health and Municipal Services Ordinance - Public Cleansing and Prevention of Nuisances	V

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									Regulation	
Waste Management Implications (Operation)										
7.6.2.1	6.3	**Good site practices** Adoption of the following good operational practices should be recommended to minimise waste management impacts: ▪ Obtain the necessary waste disposal permits from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354), Waste Disposal (Chemical Waste) (General) Regulation and the Land (Miscellaneous Provision) Ordinance (Cap. 28); ▪ Nomination of an approved person to be responsible for good site practice, arrangements for collection and effective disposal to an appropriate facility of all wastes generated at the site; ▪ Use of a waste haulier licensed to collect specific category of waste; ▪ A trip-ticket system should be included as one of the contractual requirements and implemented by the Environmental Team to monitor the disposal of solid wastes at public filling facilities and landfills, and to control fly tipping. Reference should be made to DEVB TC(W) No. 6/2010. ▪ Training of site personnel in proper waste management and chemical waste handling procedures; ▪ Separation of chemical wastes for special handling and appropriate treatment at a licensed facility; ▪ Routine cleaning and maintenance programme for drainage systems, sumps and oil interceptors; ▪ Provision of sufficient waste disposal points and regular collection for disposal; ▪ Adoption of appropriate measures to minimise windblown litter and dust during transportation of waste, such as covering trucks or transporting wastes in enclosed containers; and, ▪ Implementation of a recording system for the amount of	Construction site / On a regular basis / Throughout operation stage	OWTF Operator			✓		Waste Disposal Ordinance; Waste Disposal (Chemical Waste) (General); Regulation and the Land (Miscellaneous Provision) Ordinance; DEVB Technical Circular (Works) No. 6/2010.	NA

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		wastes generated, recycled and disposed of (including the disposal sites).								
7.6.2.2	6.3	**Waste reduction measures** Adoption of the following good operational practices should be recommended to ensure waste reduction: ▪ Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; ▪ Encourage collection of aluminium cans, plastic bottles and packaging material (e.g. carton boxes) and office paper by individual collectors. Separate labelled bins should be provided to help segregate this waste from other general refuse generated by the work force; and ▪ Any unused chemicals or those with remaining functional capacity should be reused as far as practicable.	Construction site / On a regular basis / Throughout operation stage	OWTF Operator			✓		Waste Disposal Ordinance; Waste Disposal (Chemical Waste) (General); Regulation and the Land (Miscellaneous Provision) Ordinance	NA
7.6.2.3	6.3	**Waste generated from pre-treatment process** Wastes generated from pre-treatment process should be recycled as far as possible. Wastes generated from pre-treatment process should also be separated from any chemical waste and stored in covered skips. The recyclables should be collected by licensed collectors, while the rest of the waste should be removed from the site on a daily basis to minimise odour, pest and litter impacts. Open burning must be strictly prohibited.	Pre-treatment process / Throughout operation stage	OWTF Operator			✓		Waste Disposal (Chemical Waste) (General)	NA
7.6.2.4	6.3	**Chemical Waste** ▪ Chemical waste generated from machinery maintenance and servicing should be managed in accordance with the Code of Practice on the Packaging, Labelling and storage of Chemical Wastes under the provisions of Waste Disposal (Chemical Waste) (General) Regulation. The chemical waste should be collected by drum-type containers and, when transported off-site, removed by licensed chemical waste contractors. Alternatively, some of the chemical waste may be retained on-site for re-use by the Project in the manufacture of biogas or other products, subject to their composition being confirmed as suitable for such application.	Construction site Throughout operation stage	OWTF Operator			✓		Code of Practice on the Packaging Labelling and Storage of Chemical Wastes; Waste Disposal (Chemical Waste) (General) Regulation	NA

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		▪ Plant / equipment maintenance schedules should be planned in order to minimise the generation of chemical waste. ▪ Non-recyclable chemical wastes and lubricants should be disposed of at appropriate facilities, such as CWTC. Copies or counterfoils from collection receipts issued by the licensed waste collector should be kept for recording purpose. ▪ Recyclable chemical waste will be transported off-site for treatment by a licensed collector. The Contractor will need to register with EPD as a chemical waste producer.								
7.6.2.5	6.3	**General Refuse** ▪ Waste generated in site offices should be reduced through segregation and collection of recyclables. To promote the recycling of wastes such as used paper, aluminium cans and plastic bottles, it is recommended that recycling bins should be clearly labelled and placed at locations with easy access. For the collection of recyclable materials, they should be collected by licensed collectors. ▪ General refuse, other than segregated recyclable wastes, should be separated from any chemical waste and stored in covered skips. The general refuse should be removed from the site on a daily basis to minimise odour, pest and litter impacts. Also, open burning of refuse must be strictly prohibited.	Construction site / On a regular basis / Throughout operation stage	OWTF Operator			✓		Waste Disposal Ordinance	NA
Ecological Impact (Construction)										
8.7	7.3	For precautionary purposes and to further ensure that no wild flora species of conservation interest will be affected, prior to commencement of any construction works, it is recommended to conduct a detailed vegetation survey as baseline monitoring to update the exact locations, number and condition of individuals of *Aquilaria sinensis* and any other floral species of conservation interest within the Project Area. A Vegetation Survey Report summarizing the findings and recommendations of the detailed vegetation survey should be prepared and submitted to AFCD for approval no later than one month prior to commencement of construction works.	Before Project commencement	OWTF Operator	✓				EIAO-TM	NA
8.7	7.3	During construction phase, erection of a temporary protective	Throughout construction	OWTF Operator		✓			EIAO-TM	V

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		fence along the plantation area where trees and vegetation, including those of conservation concern identified under the detailed vegetation survey, would be retained within the Project Area is recommended for precautionary purposes to avoid any potential impact from construction activities such as vehicle movement and materials storage. Establishment of the protective fence could also raise the awareness of personnel to be present and protection of the plants. While the protective fence should be properly maintained, monitoring of individuals of *Aquilaria sinensis* and any other floral species of conservation interest identified in the detailed vegetation survey during construction phase on a monthly basis should be conducted to make sure that they are not affected by the construction works of the Project.	stage							
Ecological Impact (Operation)										
		No mitigation measure is required.								
Landscape and Visual Impact (Construction)										
Table 10.7 (CP1)	Table 8.1 (CP1)	**Preservation of Existing Vegetation** The development proposals would avoid disturbance to the existing trees as far as practicable within the confines of the development site. A preliminary tree survey has been undertaken to establish the existing resources. A tree survey review with formal tree removal application will be submitted to the relevant government departments for approval in accordance with ETWB TC(W) 03/2006 Tree Preservation, during the detailed design phase of the Project. Based on the preliminary findings it would be possible to retain 441 of the existing trees. If possible, all trees which are not in conflict with the proposals would be retained and shall be protected through the means of fencing, where appropriate, to prevent potential damage to tree canopies and root zones from vehicles and materials storage. Specifications for the protection of existing trees will be circulated to the relevant government authorities for approval together with the formal tree removal application.	Construction site / Throughout construction stage / Until completion of all construction activities	Contractor	✓	✓			Technical Circular (Works) No. 3/2006	V
Table 10.7 (CP2)	Table 8.1 (CP2)	**Control of site construction activities** ▪ Storage of materials should be carefully arranged to minimise potential landscape and visual impact.	Construction site / Throughout construction stage / Until completion	Contractor	✓	✓			EIAO-TM	V

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		▪ The location and appearance of site accommodation should be carefully designed to minimise potential landscape and visual impact. ▪ Site lighting should be carefully designed to prevent light spillage, ▪ Extent of the works area and construction period should be minimised as far as practicable. ▪ Screen hoarding with compatible design to blend into the surrounding natural environmental should be considered. ▪ Temporary works areas should be reinstated at the earliest possible opportunity.	of all construction activities							
Table 10.7 (CP3)	Table 8.1 (CP3)	**Transplantation of existing trees** Under current proposal, no tree is recommended to be transplanted since the trees in conflict with the proposed works are not suitable to be transplanted. However, should transplantation be proposed in the detailed design stage after an update tree survey, the recommended final recipient sites should be adjacent to their current locations. Enough time should be reserved for tree transplantation works to increase the survival rate of the transplanting trees. To ensure the survival of transplanted trees, protection work should be considered. The tree transplantation proposal will be submitted to relevant authorities for approval together with the formal tree removal application.	Construction site / Throughout construction stage / Until completion of all construction activities	Contractor	✓	✓			Technical Circular (Works) No. 3/2006	NA (No tree is recommended to be transplanted)
Landscape and Visual Impact (Operation)										
Table 10.8 (OP1)	Table 8.2 (OP1)	**Design of the Proposed OWTF** OWTF will incorporate design features as part of design mitigation measures including ▪ **Integrated design approach** - the location of OWTF should be within the existing Livestock Waste Composting Plant, as far as technically feasible. The location and orientation of the OWTF should be away from landscape and visually sensitive areas such as ponds and woodlands. ▪ **Building massing** – the proposed use of simple responsive design includes having specific height profile requirement	Construction site / During design stage	Design Consultant / OWTF Operator	✓				EIAO-TM	NA

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		such as, single-storey, lower than the adjacent building structures, and avoiding large built structure for supporting facilities to reduce the intrusion of mass in the rural areas. ▪ **Treatment of built structures** – the structural design should seek to reduce the apparent visual mass of the facilities further through the use of natural materials such as wooden frames or other sustainable materials such as recycled plastics. ▪ **Responsive building finishes** – Natural tones should be considered for the colour palette for proposed structures. Non-reflective finishes are recommended on the outward facing building facades to reduce glare effect. ▪ **Responsive lighting design –** Aesthetic design of architectural and lighting with following glare design measures: – Directional and full cut off lighting is recommended within the boundaries of OWTF to minimise light spillage to the surroundings; – Minimise geographical spread of lighting, only applying for safety at the key access points and staircases; and Limited lighting intensity to meet the minimum safety and operation requirement.								
Table 10.8 (OP2)	Table 8.2 (OP2)	**Amenity / Compensatory Planting** Tree retention within the works area is considered to be important. New tree plantings will be concentrated in the proposed amenity areas along the boundaries of the site and along the exterior of OWTF buildings. Although a preliminary planting proposal is not yet available at the moment of producing this EIA Report, anticipated new tree planting within the Project site should be able to fully compensate for the loss of 14 trees proposed to be felled in terms of both quantity and quality. 441 existing trees will be retained through preserving them at their current locations. Establishment of newly planted trees is expected. Trees with high amenity value will be placed along the access routes to provide shade and soften the hard structures of OWFT buildings. Amenity plantings will utilise native tree species found on existing neighbouring slopes or	Construction site / during design and operation stage	Design Consultant / OWTF Operator	✓		✓		Technical Circular (Works) Nos. 7/2002 and 3/2006	NA

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EIA Ref.	EM&A Ref.	Environmental Protection Measures	Location / Duration of measures / Timing of completion of measures	Implementation Agent	Implementation Stage[1] Des	Con	Op	Dec	Relevant Legislation & Guidelines	Implement Status
		woodland areas to improve the ecological connectivity between existing habitats and create a coherent landscape network. Tree species with aggressive roots should be avoided to prevent damage to OWTF buildings and structures. Trees with high or moderate amenity value and low to medium maintenance should be considered as part of landscape resource enhancement. Recommended tree species include *Celtis sinensis* and *Liquidambar formosana*. These proposals will be subjected to review at detail design stage of the Project.								
Table 10.8 (OP3)	Table 8.2 (OP3)	**Treatment of Slopes** In accordance with GEO Publication No. 1/2011 "Technical Guidelines on Landscape Treatment for Slopes", these engineering structures will be aesthetically enhanced through the use of soft landscape works including tree and shrub planting to give man-made slopes a natural appearance, blending into the natural landscape. Whip-sized plantings are preferred on the face of soil cut slopes, at the crest and toe of the slope and within berm planters. These smaller, younger plants can adapt to their new growing conditions quicker than larger sized stock and establish a naturalistic effect rapidly. Recommended tree species include *Mallotus paniculatus, Broussonetia papyrifera* and *Alangium chinense*.	Construction site / during design and operation stage	Design Consultant / OWTF Operator	✓		✓		GEO Publication No. 1/2011 "Technical Guidelines on Landscape Treatment for Slopes	NA
Table 10.8 (OP4)	Table 8.2 (OP4)	**Amenity enhancement** Rooftop greening and vertical greening to mitigate the visual impact of taller structures can soften the façade of OWTF structures. Frameworks utilised for vertical greening should appear naturalistic.	Construction site / during design and operation stage	Design Consultant / OWTF Operator	✓		✓		Technical Circular (Works) No. 7/2002	NA

Remarks:
1. Des – Design Stage, C – Construction Stage, O – Operation, Dec - Decommissioning

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