



Lam Environmental Services Limited

Contract No. CV/2012/07
Development at Anderson Road –
Footbridge D and Associated Works Area

CONTRACT NO: CV/2012/07

**DEVELOPMENT AT ANDERSON ROAD -
FOOTBRIDGE D AND ASSOCIATED WORKS AREA**

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT

-MARCH 2017 -

CLIENTS:

Lam-Po Wing Joint Venture

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A handwritten signature in blue ink, appearing to be "Derek Lo".

Derek Lo
Environmental Team Leader

DATE:

12 April 2017

Ref.: OAPANDSNEM00_0_1902L.17

13 April 2017

Engineer's Representative
Ove Arup & Partners
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80 Tat Chee Avenue
Kowloon Tong, Kowloon
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By Post and Fax: 2407 8382

Attention: Mr. Dennis Leung

Dear Sir/Madam,

Re: Contract No. CV/2012/07
Development at Anderson Road
Footbridge D and Associated Works Area
Monthly EM&A Report for March 2017

Reference is made to the Environmental Team's submission of the Monthly EM&A Report for March 2017 received by e-mail on 12 April 2017 for our review and comment.

We are pleased to inform you that we have no adverse comment on the captioned report.

Thank you very much for your attention and please feel free to contact the undersigned should you require further information.

Yours faithfully,



David Yeung
Managing Director

c.c. Lam
LPWJV

Attn.: Mr. Derek Lo
Attn.: Mr. Tak-Leung Lo

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EXECUTIVE SUMMARY

- i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – [March 2017](#) of “Development at Anderson Road – Footbridge D and Associated Works Area” (Hereafter called “this Project”). The construction works of this project was commenced on 20 July 2013. This is the [45th](#) month of EM&A report presenting the environmental monitoring findings and information recorded during the period of [1 March 2017 to 31 March 2017](#). The cut-off date of reporting is at the end of each reporting month.

Construction Activities for the Reporting Period

- [Construction of U-channel between Tower B to Tower C \(C2\)](#)
- [Concrete Buttress for cut slope to the northeast of lift tower behind Cap C \(C2\)](#)

Noise Monitoring

- ii. Noise monitoring during daytime was conducted at the stations NM1 and NM2 on a weekly basis in the reporting month. No exceedance was recorded in the reporting month.

Air Quality Monitoring

- iii. Air quality monitoring has been conducted at station AQM1. No exceedance was recorded in the reporting month.

Complaints, Notifications of Summons and Successful Prosecutions

- i. No complaint and notifications of summons or successful prosecutions were recorded in this reporting month.

Site Inspections and Audit

- ii. The Environmental Team (ET) conducted weekly site inspections for Contract no. CV/2012/07 in the reporting month. Major observations and recommendations made during the audit sessions were rectified by the Contractors. No non-conformance was identified during the site inspections.

Future Key Issues

- iii. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:
- [Construction of type 2 railings and barrier beams at Tower A&B along Shun On Road footpath \(Shun On Road\)](#)
 - [Reinstatement work of slow lane \(Shun On Road\)](#)
 - [Removal of debris and silt accumulated at cascade \(C2\)](#)



Reporting Change

- vii. There are no reporting changes in this Reporting Period.

1. Introduction

1.1 Scope of the Report

- 1.1.1. Lam Environmental Services Limited (LES) has been appointed to work as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for Development of Anderson Road.
- 1.1.2. This report presents the environmental monitoring and auditing work carried out in accordance to the Section 1.4 of EM&A Manual and “*Environmental Monitoring and Audit Requirements*” under Particular Specification Section 25.
- 1.1.3. The construction works of this project was commenced on 20 July 2013. This report documents the finding of EM&A works for this Project and during the period of [1 March 2017 to 31 March 2017](#). The cut-off date of reporting is at the end of each reporting month.

1.2 Structure of the Report

Section 1 ***Introduction*** – details the scope and structure of the report.

Section 2 ***Project Background*** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.

Section 3 ***Status of Regulatory Compliance*** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.

Section 4 ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.

Section 5 ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.

Section 6 ***Compliance Audit*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.

Section 7 ***Cumulative Construction Impact due to the Concurrent Projects*** – summarizes the relevant cumulative construction impact due to the concurrent



activities of the concurrent Projects.

Section 8 ***Site Inspection*** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.

Section 9 ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution

Section 10 ***Conclusion***

2. Project Background

2.1 Background

- 2.1.1. The main objective of the project “Development at Anderson Road – Footbridge D and Associated Works Area” (Hereafter called “this Project”) is to construct a footbridge, Footbridge D, and associated lift towers across Shun On Road between the existing Shun Tin Estate and the future development platform.
- 2.1.2. For this project, Tin Wan House (NM1) and Ning Po No.2 College (NM2 and AQM1) are the designated monitoring station during the construction period. Owing to this contract is under the master project and on the other hand, the construction area is vicinity to the monitoring station (On Yat House) ID2 and (Sau Nga House) ID3 of the master project, so that the baseline noise and air quality monitoring will adopt the baseline data from those stations instead of conducting baseline monitoring. All the baseline data are referred to the baseline report from the public domain web site (www.anderson-road.com/main.htm).
- 2.1.3. The construction works of this project was commenced on 20 July 2013. During the construction phase of the project, air quality (dust) and noise impacts from the development site itself and the adjacent Anderson Road Quarry and other nearby construction sites are identified as the major environmental issues of concern. Besides, waste management is also identified in the EIA study as another environmental issue during the construction phase of the project that requires mitigation measures.

2.2 Scope of the Project and Site Description

- 2.2.1. The Project is located mainly near Shun Tin Estate and Ning Po No.2 College, as shown in **Figure 2.1.**
- 2.2.2. The scope of the Project comprises:
- Construction of footbridge and associated lift towers between Shun On Road and future platform at +152mPD and across Shun On Road. In Conjunction with these footbridge works are the associated furniture, drainage system, irrigation system and traffic signs.
 - Construction of drainage system for diversion of an existing stream on the slope adjoining Footbridge D.
 - Site formation and associated slope works for Footbridge D adjacent to Shun On Road.

2.3 Project Organization and Contact Personnel

2.3.1. Civil Engineering and Development Department is the overall project controllers for this project. For the construction phase of the Project, Project Engineer, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.3.2. The proposed project organization and lines of communication with respect to environmental protection works are shown in **Figure 2.2**. Key personnel and contact particulars are summarized in **Table 2.1**.

Table 2.1 Contact Details of Key Personnel

Party	Role	Post	Name	Contact No.	Contact Fax
Ove Arup	Engineer	Chief Resident Engineer	Dennis Leung	2407 0300	2407 8382
		Resident Engineer	Brian Wan	3656 3000	3656 1000
Lam-Po Wing Joint Venture	Contractor under Contract no. CV/2012/07	Project Manager	K.C. Wong	2318 0281	3171 7222
		Site Agent	T.L. Lo	2318 0281	
		Safety Officer	K.W. Lau	2318 0281	
		Environmental Officer	K.I. Ip	2318 0281	
Ramboll Environ Hong Kong Limited	Independent Environmental Checker (IEC)	Independent Environmental Checker (IEC)	Mr. David Yeung	3465 2888	3465 2899
Lam Environmental Services Limited	Environmental Team (ET)	Environmental Team Leader (ETL)	Mr. Derek Lo	2882 3939	2882 3331



2.3.3. For Contract no. CV/2012/07, the principal work activities in this reporting month included:

- Construction of U-channel between Tower B to Tower C (C2)
- Concrete Buttress for cut slope to the northeast of lift tower behind Cap C (C2)

In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

- Construction of type 2 railings and barrier beams at Tower A&B along Shun On Road footpath (Shun On Road)
- Reinstatement work of slow lane (Shun On Road)
- Removal of debris and silt accumulated at cascade (C2)

3. Status of Regulatory Compliance

3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in **Table 3.1**.

Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project

Permits Licences and/or	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Discharge Licence	WT00015447-20 13	27 March 2013	31 March 2018	Valid
Billing Account under Waste Disposal Ordinance	7017083	15 March 2013	N/A	Valid
The Air Pollution Control (Construction Dust) Regulation	355705	14 February 2013	N/A	Valid
Form A – Application for Water Pollution Control Licence	355706	14 February 2013	N/A	Valid
Application for Registration as a Chemical Waste Producer	WPN5213-292-L 2825-01	28 November 2013	N/A	Valid
Application for Construction Noise Permit	GW-RE0694-16	24 July 2016	14 August 2016	Expired

4. Monitoring Requirements

4.1 Noise Monitoring

NOISE MONITORING STATIONS

- 4.1.1. The noise monitoring has been undertaken at the designated locations Tin Wan House (NM1) and Ning Po No.2 College (NM2). The detailed information of monitoring stations for the Project are listed and shown in **Table 4.1** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

Table 4.1 Noise Monitoring Stations

Station ID	Monitoring Location
NM1	G/F of Tin Wan House
NM2	G/F of Ning Po No.2 College

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

- 4.1.2. The construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). L_{eq} (30 minutes) shall be used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. For all other time periods, L_{eq} (5 minutes) shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. Supplementary information for data auditing, statistical results such as L10 and L90 shall also be obtained for reference.
- 4.1.3. Noise monitoring shall be carried out at all the designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities are underway:
- one set of measurements between 0700 and 1900 hours on normal weekdays.
- 4.1.4. If construction works are extended to include works during the hours of 1900 – 0700 as well as public holidays and Sundays, additional weekly impact monitoring shall be carried out during respective restricted hours periods. Applicable permits under NCO shall be obtained by the Contractor.

MONITORING EQUIPMENT

- 4.1.5. As referred to in the Technical Memorandum (TM) issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound

pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agree to within 1.0 dB.

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

4.2 Air Monitoring

AIR QUALITY MONITORING STATIONS

- 4.2.1. The air monitoring has been conducted at the designated location Ning Po No.2 College (AQM1). The air monitoring stations for the Project are listed and shown in **Table 4.2** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

Table 4.2 Air Monitoring Station

Station ID	Monitoring Location
AQM1	Roof Top of Ning Po No.2 College

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

- 4.2.2. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality. The 24-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.
- 4.2.3. All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and any other local atmospheric factors affecting or affected by site conditions, etc., shall be recorded down in detail.
- 4.2.4. For regular impact monitoring, the sampling frequency of at least once in every six-days, shall be strictly observed at all the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six-days should be undertaken when the highest dust impact occurs.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

- 4.2.5. High volume samplers (HVSs) in compliance with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:
- 0.6 - 1.7 m³ per minute adjustable flow range;
 - equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
 - installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;

- capable of providing a minimum exposed area of 406 cm²;
- flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
- equipped with a shelter to protect the filter and sampler;
- incorporated with an electronic mass flow rate controller or other equivalent devices;
- equipped with a flow recorder for continuous monitoring;
- provided with a peaked roof inlet;
- incorporated with a manometer;
- able to hold and seal the filter paper to the sampler housing at horizontal position;
- easily changeable filter; and
- capable of operating continuously for a 24-hour period.

4.2.6. Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually. The calibration data shall be properly documented for future reference by concerned parties such as the IEC. All the data should be converted into standard temperature and pressure equivalents.

LABORATORY MEASUREMENT / ANALYSIS

4.2.7. A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited.

4.2.8. If a site laboratory is set up or a non-HOKLAS accredited laboratory is retained for analysis, laboratory equipment shall be provided by the ER in consultation with the IC(E). Measurement performed by the laboratory shall be demonstrated to the satisfaction of the ER and the IC(E). The IC(E) shall conduct regular audit to the measurement performed by the laboratory to ensure the accuracy of measurement results. The ET leader shall provide the ER with one copy of the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), and Appendix B for his reference.

4.2.9. Filter paper of size 8" x 10" shall be labelled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24-hours and be pre-weighed before use for the sampling.

4.2.10. After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.

4.2.11. All the collected samples shall be kept in a good condition for 6 months prior to disposal.

5. Monitoring Results

5.0.1. The environmental monitoring will be implemented based on the sensitive receivers which would be mostly affected. Overall layout showing the work area, latest status of work commencement and monitoring stations are shown in **Figure 2.1** and **Figure 4.1**.

5.0.2. The environment monitoring schedules for reporting month and coming month are presented in **Appendix 5.1**.

5.1 Noise Monitoring Results

5.1.1. The noise monitoring results for Contract no. CV/2012/07 are summarized in **Table 5.1** below:

Table 5.1 Summary of Noise Monitoring Results at NM1 and NM2

Date	Time	Location	Leq (dB)	Limit Level
2/3/2017	8:14	NM1	63.0	75
	9:10	NM2	64.3	70
8/3/2017	10:40	NM1	66.7	75
	9:40	NM2	66.3	70
14/3/2017	14:56	NM1	64.0	75
	14:22	NM2	65.6	70
20/3/2017	14:05	NM1	67.1	75
	13:00	NM2	63.0	70
31/3/2017	11:20	NM1	67.5	75
	10:15	NM2	63.5	70
Limit Level			65 / 70 /75*	

Note :

- 70dB(A) and 65 dB(A) for schools during normal teaching periods and school examination periods, respectively.

5.1.2. Day time period noise monitoring was conducted at the Tin Wan House (NM1) and Ning Po No.2 College (NM2).

5.1.3. Noise monitoring results measured in this reporting period are reviewed and summarized. No exceedance was recorded in reporting month. Details of noise monitoring results and graphical presentation can be referred in **Appendix 5.2**.

5.2 Air Monitoring Results

5.2.1. The air monitoring results are summarized in **Table 5.2** and **Table 5.3** below. No exceedance was recorded in the reporting month.

Table 5.2 Summary of Air Monitoring Results at AQM1 - 24 hr TSP Monitoring

Date	Time	TSP Level, ($\mu\text{g}/\text{m}^3$)
1-Mar-17	8:00	189
7-Mar-17	8:00	135
13-Mar-17	8:00	83
18-Mar-17	8:00	115
24-Mar-17	8:00	81
30-Mar-17	8:00	133
Action Level		200
Limit Level:		260

Table 5.3 Summary of Air Monitoring Results at AQM1 - 1 hr TSP Monitoring

Date	Time	TSP Level, ($\mu\text{g}/\text{m}^3$)
2-Mar-17	8:09	105
2-Mar-17	9:11	113
2-Mar-17	10:17	148
8-Mar-17	8:10	72
8-Mar-17	9:20	92
8-Mar-17	10:26	67
14-Mar-17	13:00	93
14-Mar-17	14:05	61
14-Mar-17	15:15	23
20-Mar-17	13:00	38
20-Mar-17	14:05	82
20-Mar-17	15:15	82
25-Mar-17	8:03	140
25-Mar-17	9:05	141
25-Mar-17	10:09	114
31-Mar-17	10:00	110
31-Mar-17	13:00	85

31-Mar-17	14:02	58
Action Level		197
Limit Level:		500

- 5.2.2. Air monitoring results measured in this reporting period are reviewed and summarized. No exceedance was recorded in reporting month. Details of air monitoring results can be referred in [Appendix 5.3](#).

5.3 Waste Monitoring Results

- 5.3.1. Inert C&D waste and general refuse were disposed in this reporting month. Details of the waste flow table are summarized in **Table 5.4**.

Table 5.4 Details of Waste Disposal for Contract no. CV/2012/07

Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m ³	0.01315	12.254234	TKO137
Inert C&D materials recycled, m ³	0	0	N/A
Non-inert C&D materials disposed, m ³	0	0	N/A
Non-inert C&D materials recycled, kg	0	34.5436	N/A
Chemical waste disposed, kg	0	0	N/A
General refuse, m ³	0.003165	0.954175	NENT



6. Compliance Audit

- 6.0.1. The Event Action Plan for construction noise, air quality and water quality are presented in [Appendix 6.1.](#)

6.1 Noise Monitoring

- 6.1.1. No exceedance was recorded in the reporting month.

6.2 Air Monitoring

- 6.2.1. No exceedance was recorded in the TSP monitoring in the reporting month.

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

- 6.3.1. There was no non-compliance from the site audits in the reporting period. The observations and recommendations made in each individual site audit session were presented in Section 7.

6.4 Summary of action taken in the event of and follow-up on non-compliance

- 6.4.1. There was no particular action taken since no project-related non-compliance was recorded from the site audits and environmental monitoring in the reporting period.

7. Environmental Site Audit

7.0.1. According to EM&A Manual stipulation, the regular weekly site inspections on **07, 14, 21 and 28 March 2017** were carried out by ET, IEC, the Contractor and ARUP for Contracts no. CV/2012/07 to ensure the environmental performance. Observations and findings are summarized in **Table 7.1**.

Table 7.1 Summary of Environmental Inspections for Contract no. CV/2012/07

Date	Observations	Follow-Up
7 – Mar - 2017	<ul style="list-style-type: none"> ● Debris inside the U-channel should be cleaned up regularly at Shun On Road. ● Drip tray should be provided to chemical container at Shun On Road. ● Breaking tips should be covered with acoustic materials. 	The findings have been rectified during inspection on 14 Mar 2017
14 – Mar - 2017	<ul style="list-style-type: none"> ● No finding. 	NA
21 – Mar – 2017	<ul style="list-style-type: none"> ● Accumulated water in the drip tray should be cleaned up regularly. ● Dusty stockpile at Portion C2, should be covered with impervious sheeting. 	Pending for Contractor follow up action
28 – Mar – 2017	<ul style="list-style-type: none"> ● No finding. 	NA

8. Complaints, Notification of Summons and Prosecution

- 8.0.1. No complaint and notification of summons or successful prosecutions were recorded in this reporting month.
- 8.0.2. The details of cumulative complaint log and updated summary of complaints are presented in **Appendix 8.1**.
- 8.0.3. Cumulative statistic on complaints and successful prosecutions are summarized in **Table 8.1** and **Table 8.2** respectively.

Table 8.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints
March 2017	0
Project-to-Date	1

Table 8.2 Cumulative Statistics on Successful Prosecutions

Environmental Parameters	Cumulative No. Brought Forward	No. of Successful Prosecutions this month (Offence Date)	Cumulative No. Project-to-Date
Air	-	0	0
Noise	-	0	0
Waste	-	0	0
Total	-	0	0



9. Conclusion

- 9.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.
- 9.0.2. No construction air and noise monitoring results that triggered the Action and Limit Level was recorded. No complaint of air and noise were received by the ARUP and the contractor. Furthermore, no notification of summons or successful prosecution was received in this reporting month.
- 9.0.3. Dismantling and paving were the key works of the current construction works. Vehicle loads transport should be the potential construction dust and noise impact since the construction site located nearby residential area of Shun Tin Estate. It is reminded that mitigation measures for dust and noise should be properly implemented.



Figure 2.1

Project Layout



Figure 2.2

Project Organization Chart



Project Organization Chart

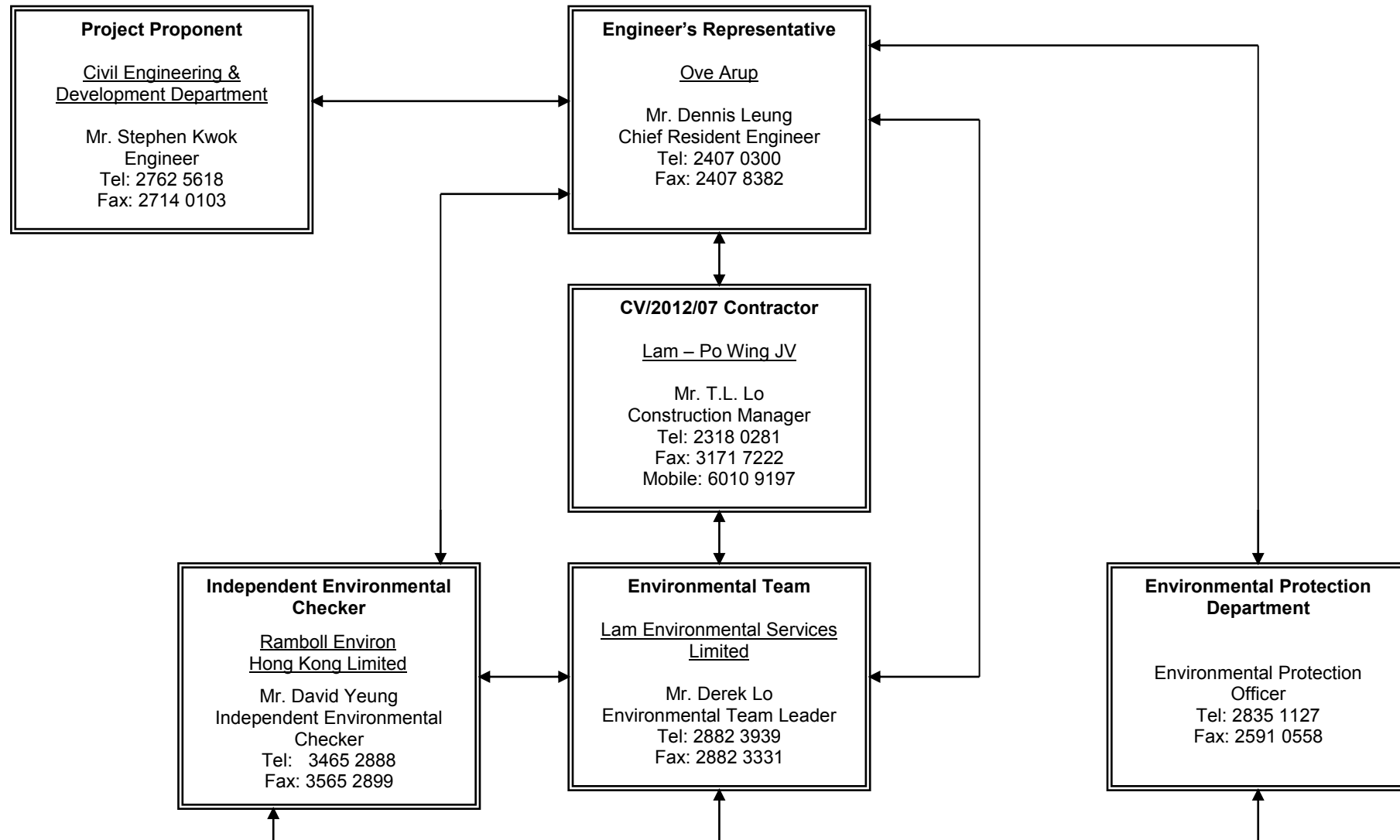
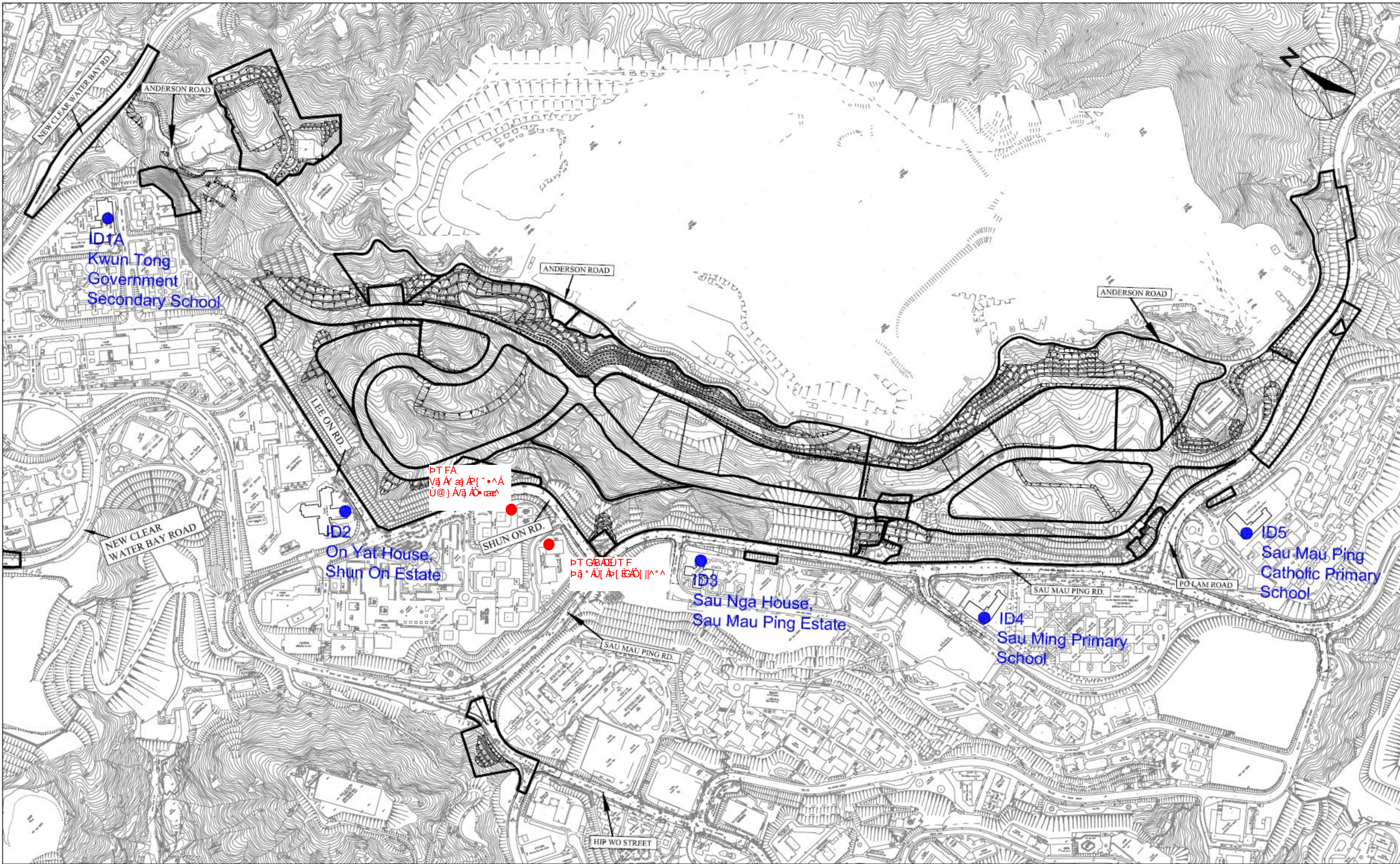




Figure 4.1

Locations of Environmental Monitoring Stations



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Appendix 3.1

Environmental Mitigation Implementation Schedule



Environmental Mitigation Implementation Schedule

Implementation Schedule for Construction Dust Control

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location (duration/ completion of measures)	Funding Agent	Implementation Agent	Implementation Stages**		Relevant Legislation & Guidelines
						D	C	
S2.7	S1, S2.8	<p><i>Site Practice</i></p> <ul style="list-style-type: none"> • Mean vehicle speed of haulage trucks at 10 km/hr. • Twice daily watering of all open site areas. • Regular watering (once every 1 hour) of all site roads and access roads with frequent truck movement. • Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. • Establishment and use of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary. • Suitable side and tailboards on haulage vehicles. • Watering of temporary stockpiles. <p><i>Blasting</i></p> <ul style="list-style-type: none"> • Use of select aggregate and fines to stem the charge with drill holes and watering of blast face. • Use of vacuum extraction drilling methods. • Carefully sequenced blasting. <p><i>Crushing</i></p> <ul style="list-style-type: none"> • Fabric filters installed for the crushing plant. • Water sprays on the crusher. <p><i>Loading and Unloading Points, and conveyor Belt System</i></p> <ul style="list-style-type: none"> • Water sprays at all fixed loading and unloading points (at the crusher and conveyor belts). • The loading point at the crusher is enclosed with dust curtains are used for controlling dust. • When transferring materials from conveyor belt or crusher to the dump trucks, chutes or dust curtains are used for controlling dust. • Cover the conveyor belts with steel roof and canvas sides. 	All Construction sites (late 2007 to 2016)	CEDD	Lam – Po Wing JV	√	√	TM on EIA Process, APCO, Air Pollution Control (Construction Dust) Regulation

* All recommendations and requirements are summarized from approved EIA resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project,

** D=Design, C=Construction



Implementation Schedule for Construction Noise Control

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location (duration/ completion of measures)	Funding Agent	Implementation Agent	Implementation Stages**		Relevant Legislation & Guidelines
						D	C	
S3.7	S1, S3.7	<i>Site Formation</i> <ul style="list-style-type: none">• Silenced powered mechanical equipment (PME) for most equipment5 (including drill rig, backhoe, dump truck, breaker and crane) and the decrease of percentage on time usage of drill rig among the Central Area form 50% to 40% is prosed.• Temporary movable noise barrier shall be used to shield the noise emanating from the drilling rig in order to provide adequate shielding for the affected NSRs.	All Construction sites (late 2007 to 2016)	CEDD	Lam – Po Wing JV	√	√	TM on EIA Process, NCO, TM on Noise from Construction Work other than Percussive Pilling, ProPECC Note PN2/93

* All recommendations and requirements are summarized from approved EIA resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project,

** D=Design, C=Construction



Implementation Schedule for Water Quality Control

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location (duration/ completion of measures)	Funding Agent	Implementation Agent	Implementation Stages**		Relevant Legislation & Guidelines
						D	C	
S6.4	S1	<p><i>Construction Phase</i></p> <ul style="list-style-type: none">• All active working areas should be bounded to retain storm water with sufficient retention time to ensure that suspended solids are not discharged from the site in concentrations above those specified in the TM for the Victor Harbour (Phase I) WCZ. All fuel storage areas should be bounded with drainage directed to an oil interceptor.• Separate treatment facilities may be required for effluent from site offices, toilets (unless chemical toilets are used) and canteens.• Discharged wastewater from the construction sites to surface water and /or public drainage systems should be controlled through licensing. Discharges should follow fully the terms and conditions in the licences.• Relevant practice for dealing with various type of construction discharges provided in EPD's ProPECC Note 1/94 should be adopted.	All Construction sites (late 2007 to 2016)	CEDD	Lam – Po Wing JV	✓	✓	TM on EIA Process, WPCO, ProPECC Note PN 1/94

* All recommendations and requirements are summarized from approved EIA resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project,

** D=Design, C=Construction



Implementation Schedule for Construction Waste Management

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location (duration/ completion of measures)	Funding Agent	Implementation Agent	Implementation Stages**		Relevant Legislation & Guidelines
						D	C	
S8.4	S1,S4	<p><i>Waste Disposal</i></p> <ul style="list-style-type: none">• Different types of wastes should be segregated, stored, transported and disposed of proper practice of waste management.• Sorting of wastes should be done on-site. Different types of wastes should be segregated and stored in different stockpiles, containers or skips to enhance recycling of materials and proper disposal of wastes.• Excavated spoil should be used as much as possible to minimize off-site fill material requirements and disposal of spoil.• During road transportation of excavated spoil, vehicles should be covered to avoid dust impact. Wheel washing facilities should be installed at all site exits together with regular qatering of the site access roads.• Chemical waste should be recycled on-site or removed by licenced companies. It should be handled according to the Code of practice on the packaging, Labelling and Storage of Chemical Wastes. When off-site disposal is required, it should be collected and delivered by licenced contractors to Tsing Yi Chemical Waste Treatment Facility and disposed of in accordance with the Chemical Waste (General) Regulation.• Necessary mitigation measures should be adopted to prevent the uncontrolled disposal of chemical and hazardous waste into air, soil, surface waters and ground waters.	All Construction sites (late 2007 to 2016)	CEDD	Lam – Po Wing JV	√	√	TM on EIA Process, WDO, DGO, Waste Disposal (Chemical Waste) (General) Regulation



		<p><i>Waste Storage</i></p> <ul style="list-style-type: none">• Chemical material storage areas should be bounded, constructed of impervious materials, and have the capacity to contain 120 percent of the total volume of the containers. Indoor storage areas must have sufficient ventilation to prevent the build-up of fumes, and must be capable of evacuating the space in the event of an accidental release. Outdoor storage areas must be covered with a canopy or contain provisions for the safe removal of rainwater. In both cases, storage areas must not be connected to the foul or stormwater sewer system.• Dangerous materials as defined under the DGO, including fuel, oil and lubricants, should be stored and properly labeled on site in accordance with the requirements in the DGO. If transportation of hazardous materials is necessary, hazardous materials, chemical wastes and fuel should be packed or stored in containers or vessels of suitable design and construction to prevent leakage, spillage or escape.• Human waste should be discharged into septic tanks provided by the contractors and removed regularly by a hygiene services company. Refuse containers such as open skips should be provided at every work site for use by the workforce; On-site refuse collection points must also be provided.						
--	--	--	--	--	--	--	--	--

* All recommendations and requirements are summarized from approved EIA resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project,

** D=Design, C=Construction



Appendix 4.1

Action and Limit Level



Action and Limit Level

Action and Limit Level for Noise Monitoring

Time Period	Action Level	Limit Level
07:00 – 19:00 hours on normal weekdays	When one documented complaint is received.	75 dB(A)/ 70 dB(A)/ 65 dB(A) ^{Note 1}

Note 1:

- 70dB(A) and 65 dB(A) for schools during normal teaching periods and school examination periods, respectively.
- If works are to be carried out during the restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

Action and Limit Level for Air Monitoring

Monitoring Location	1-hour TSP Level in $\mu\text{g}/\text{m}^3$		24-hour TSP Level in $\mu\text{g}/\text{m}^3$	
	Action Level	Limit Level	Action Level	Limit Level
AQM1	197	500	200	260



Appendix 4.2

Copies of Calibration Certificates

Calibration Certificate

Certificate Number 2016005141

Customer:

LAM Environmental Services Ltd

11/F Centre Point

181-185 Gloucester Road

Wanchai, , Hong Kong

Model Number LxT SE

Serial Number 0004797

Test Results Pass

Initial Condition As Manufactured

Description Sound Expert LxT

Procedure Number D0001.8384

Technician Ron Harris

Calibration Date 8 Jun 2016

Calibration Due

Temperature 22.36 °C ± 0.01 °C

Humidity 50.5 %RH ± 0.5 %RH

Static Pressure 86.11 kPa ± 0.03 kPa

Evaluation Method

Tested with:

PRMLxT1L. S/N 042622

377B02. S/N 163704

Data reported in dB re 20 µPa.

Compliance Standards

Compliant to Manufacturer Specifications and the following standards when combined with Calibration Certificate from procedure D0001.8378:

IEC 60651:2001 Type 1

IEC 60804:2000 Type 1

IEC 61252:2002

IEC 61260:2001 Class 1

IEC 61672:2013 Class 1

ANSI S1.4-2014 Class 1

ANSI S1.4 (R2006) Type 1

ANSI S1.11 (R2009) Class 1

ANSI S1.25 (R2007)

ANSI S1.43 (R2007) Type 1

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005.

Test points marked with a ‡ in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2008.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
SRS DS360 Ultra Low Distortion Generator	06/24/2015	06/24/2016	006311
Hart Scientific 2626-H Temperature Probe	06/17/2015	06/17/2016	006798
Larson Davis CAL200 Acoustic Calibrator	08/12/2015	08/12/2016	007027
Larson Davis Model 831	03/01/2016	03/01/2017	007182
1/2 inch Microphone - P - 0V	03/07/2016	03/07/2017	007185
Larson Davis CAL291 Residual Intensity Calibrator	09/24/2015	09/24/2016	007287

Larson Davis, a division of PCB Piezotronics, Inc
1681 West 820 North
Provo, UT 84601, United States
716-684-0001



Acoustic Calibration

Measured according to IEC 61672-3:2013 10 and ANSI S1.4-2014 Part 3: 10

Measurement	Test Result [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
1000 Hz	114.00	113.80	114.20	0.14	Pass

Acoustic Signal Tests, C-weighting

Measured according to IEC 61672-3:2013 12 and ANSI S1.4-2014 Part 3: 12 using a comparison coupler with Unit Under Test (UUT) and reference SLM using S-time-weighted sound level

Frequency [Hz]	Test Result [dB]	Expected [dB]	Lower Limit [dB]	Upper Limit [dB]	Expanded Uncertainty [dB]	Result
125	-0.21	-0.20	-1.20	0.80	0.21	Pass
1000	0.03	0.00	-0.70	0.70	0.21	Pass
8000	-2.39	-3.00	-5.50	-1.50	0.21	Pass

-- End of measurement results--

Self-generated Noise

Measured according to IEC 61672-3:2013 11.1 and ANSI S1.4-2014 Part 3: 11.1

Measurement	Test Result [dB]
Low Range, 20 dB gain	64.17

-- End of measurement results--

-- End of Report--

Signatory: Ron Harris

Calibration Certificate

Certificate Number 2016010424

Customer:

LAM Environmental Services Ltd
11/F Centre Point
181-185 Gloucester Road
Wanchai, , Hong Kong

Model Number CAL200
Serial Number 13128
Test Results **Pass**
Initial Condition Inoperable
Description Larson Davis CAL200 Acoustic Calibrator

Procedure Number D0001.8386
Technician Scott Montgomery
Calibration Date 22 Nov 2016
Calibration Due 22 Nov 2017
Temperature 24 °C ± 0.3 °C
Humidity 30 %RH ± 3 %RH
Static Pressure 101.4 kPa ± 1 kPa

Evaluation Method The data is acquired by the insert voltage calibration method using the reference microphone's open circuit sensitivity. Data reported in dB re 20 µPa.

Compliance Standards Compliant to Manufacturer Specifications per D0001.8190 and the following standards:
IEC 60942:2003 ANSI S1.40-2006

Issuing lab certifies that the instrument described above meets or exceeds all specifications as stated in the referenced procedure (unless otherwise noted). It has been calibrated using measurement standards traceable to the SI through the National Institute of Standards and Technology (NIST), or other national measurement institutes, and meets the requirements of ISO/IEC 17025:2005.

Test points marked with a ± in the uncertainties column do not fall within this laboratory's scope of accreditation.

The quality system is registered to ISO 9001:2008.

This calibration is a direct comparison of the unit under test to the listed reference standards and did not involve any sampling plans to complete. No allowance has been made for the instability of the test device due to use, time, etc. Such allowances would be made by the customer as needed.

The uncertainties were computed in accordance with the ISO Guide to the Expression of Uncertainty in Measurement (GUM). A coverage factor of approximately 2 sigma (k=2) has been applied to the standard uncertainty to express the expanded uncertainty at approximately 95% confidence level.

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Standards Used

Description	Cal Date	Cal Due	Cal Standard
Agilent 34401A DMM	09/07/2016	09/07/2017	001021
Sound Level Meter / Real Time Analyzer	04/07/2016	04/07/2017	001051
Microphone Calibration System	08/17/2016	08/17/2017	005446
1/2" Preamplifier	10/06/2016	10/06/2017	006506
Larson Davis 1/2" Preamplifier 7-pin LEMO	08/22/2016	08/22/2017	006507
1/2 inch Microphone - RI - 200V	03/15/2016	03/15/2017	006510
Pressure Transducer	07/01/2016	07/01/2017	007368

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Provo, UT 84601, United States
716-684-0001



LARSON DAVIS
A PCB PIEZOTRONICS DIV.

Output Level

Nominal Level [dB]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
94	101.4	94.00	93.80	94.20	0.14	Pass
114	101.4	114.00	113.80	114.20	0.13	Pass

-- End of measurement results--

Frequency

Nominal Level [dB]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
94	101.4	999.97	990.00	1,010.00	0.20	Pass
114	101.4	999.95	990.00	1,010.00	0.20	Pass

-- End of measurement results--

Total Harmonic Distortion + Noise (THD+N)

Nominal Level [dB]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
114	101.4	0.30	0.00	2.00	0.25	Pass
94	101.4	0.41	0.00	2.00	0.25	Pass

-- End of measurement results--

Level Change Over Pressure

Tested at: 114 dB, 24 °C, 30 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [dB]	Lower limit [dB]	Upper limit [dB]	Expanded Uncertainty [dB]	Result
101.3	101.1	0.00	-0.30	0.30	0.04 ‡	Pass
108.0	108.0	-0.05	-0.30	0.30	0.04 ‡	Pass
92.0	91.9	0.04	-0.30	0.30	0.04 ‡	Pass
83.0	83.0	0.04	-0.30	0.30	0.04 ‡	Pass
74.0	74.0	-0.03	-0.30	0.30	0.04 ‡	Pass
65.0	64.9	-0.21	-0.30	0.30	0.04 ‡	Pass

-- End of measurement results--

Frequency Change Over Pressure

Tested at: 114 dB, 24 °C, 30 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [Hz]	Lower limit [Hz]	Upper limit [Hz]	Expanded Uncertainty [Hz]	Result
101.3	101.1	0.00	-10.00	10.00	0.20 ‡	Pass
92.0	91.9	0.00	-10.00	10.00	0.20 ‡	Pass
108.0	108.0	-0.02	-10.00	10.00	0.20 ‡	Pass
83.0	83.0	0.00	-10.00	10.00	0.20 ‡	Pass
74.0	74.0	0.00	-10.00	10.00	0.20 ‡	Pass
65.0	64.9	0.01	-10.00	10.00	0.20 ‡	Pass

-- End of measurement results--

Total Harmonic Distortion + Noise (THD+N) Over Pressure

Tested at: 114 dB, 24 °C, 30 %RH

Nominal Pressure [kPa]	Pressure [kPa]	Test Result [%]	Lower limit [%]	Upper limit [%]	Expanded Uncertainty [%]	Result
101.3	101.1	0.30	0.00	2.00	0.25 ‡	Pass
92.0	91.9	0.30	0.00	2.00	0.25 ‡	Pass
108.0	108.0	0.31	0.00	2.00	0.25 ‡	Pass
83.0	83.0	0.28	0.00	2.00	0.25 ‡	Pass
74.0	74.0	0.27	0.00	2.00	0.25 ‡	Pass
65.0	64.9	0.27	0.00	2.00	0.25 ‡	Pass

-- End of measurement results--

Signatory: Scott Montgomery

Larson Davis, a division of PCB Piezotronics, Inc
 1681 West 820 North
 Provo, UT 84601, United States
 716-684-0001



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Calibration Data for High Volume Sampler (TSP Sampler)

Location : Ning Po No.2 College

Calibration Date : 08-Feb-17

ID : HVS003

Calibration Due Date : 08-May-17

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	291	Kelvin	Pressure, P _a
			1017 mmHg

Orifice Transfer Standard Information					
Equipment No.	Ori002	Slope, m _c	2.10714	Intercept, b _c	-0.05158
Last Calibration Date	20-May-16	$\left(H \times P_a / 1013.3 \times 298 / T_a \right)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	20-May-17				

Calibration of TSP						
Calibration Point	Manometer Reading			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	H (inches of water)					
	(up)	(down)	(difference)			
1	1.2	1.2	2.4	0.7698	26	26.3588
2	2.0	2.0	4.0	0.9867	32	32.4417
3	3.1	3.1	6.2	1.2225	40	40.5521
4	4.0	4.0	8.0	1.3853	44	44.6073
5	5.4	5.4	10.8	1.6056	50	50.6901

By Linear Regression of Y on X

Slope, m = 29.4381 Intercept, b = 3.7810
 Correlation Coefficient* = 0.9988
 Calibration Accepted = Yes/No**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : As per client's provided information, the equipment reference no. of the calibrated High Volume Sampler has been re-assigned from EL086 to HVS003 with respect to the update in quality management system.

Calibrated by : Jackey MA

Checked by : Pauline Wong

Date : 08-Feb-17

Date : 08-Feb-17

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 20, 2016 Rootsmeter S/N 0438320 Ta (K) - 293
Operator Tisch Orifice I.D. - 3166 Pa (mm) - 748.03

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4270	3.2	2.00
2	NA	NA	1.00	1.0220	6.4	4.00
3	NA	NA	1.00	0.9100	7.9	5.00
4	NA	NA	1.00	0.8730	8.8	5.50
5	NA	NA	1.00	0.7180	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9967	0.6985	1.4150	0.9957	0.6977	0.8851
0.9925	0.9711	2.0010	0.9915	0.9701	1.2517
0.9904	1.0883	2.2372	0.9893	1.0872	1.3995
0.9892	1.1332	2.3464	0.9882	1.1320	1.4678
0.9840	1.3705	2.8299	0.9830	1.3691	1.7702
Qstd slope (m) = 2.10714			Qa slope (m) = 1.31946		
intercept (b) = -0.05158			intercept (b) = -0.03226		
coefficient (r) = 0.99978			coefficient (r) = 0.99978		
y axis = SQRT[H2O (Pa/760) (298/Ta)]			y axis = SQRT[H2O (Ta/Pa)]		

CALCULATIONS

$$Vstd = \text{Diff. Vol}[(Pa - \text{Diff. Hg})/760] (298/Ta)$$

$$Qstd = Vstd/Time$$

$$Va = \text{Diff Vol} [(Pa - \text{Diff Hg})/Pa]$$

$$Qa = Va/Time$$

For subsequent flow rate calculations:

$$Qstd = 1/m\{[\text{SQRT}(H2O(Pa/760)(298/Ta))]-b\}$$

$$Qa = 1/m\{[\text{SQRT } H2O(Ta/Pa)]-b\}$$



Appendix 5.1

Monitoring Schedules for Reporting Month and Coming Reporting Month



Contract No. CV/2012/07
Development at Anderson Road - Footbridge D and Associated Works Area
Tentative Environmental Monitoring Schedule
March 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26-Feb			1-Mar 24 hr TSP	2-Mar 1hr TSP x 3 Noise	3-Mar	4-Mar
5-Mar	6-Mar	7-Mar 24 hr TSP	8-Mar 1hr TSP x 3 Noise	9-Mar	10-Mar	11-Mar
12-Mar	13-Mar 24 hr TSP	14-Mar 1hr TSP x 3 Noise	15-Mar	16-Mar	17-Mar	18-Mar 24 hr TSP
19-Mar	20-Mar 1hr TSP x 3 Noise	21-Mar	22-Mar	23-Mar	24-Mar 24 hr TSP	25-Mar 1hr TSP x 3
26-Mar	27-Mar	28-Mar	29-Mar	30-Mar 24 hr TSP	31-Mar 1hr TSP x 3 Noise	

Noise Monitoring Station
 NM1: Tin Wan House
 NM2: Ning Po No. 2 College

Air Monitoring Station
 AQM1: Ning Po No.2 College



Contract No. CV/2012/07
Development at Anderson Road - Footbridge D and Associated Works Area
Tentative Environmental Monitoring Schedule
April 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
26-Mar						1-Apr
2-Apr	3-Apr	4-Apr	5-Apr	6-Apr	7-Apr	8-Apr
		24 hr TSP	1hr TSP x 3 Noise			
9-Apr	10-Apr	11-Apr	12-Apr	13-Apr	14-Apr	15-Apr
	24 hr TSP	1hr TSP x 3 Noise				
16-Apr	17-Apr	18-Apr	19-Apr	20-Apr	21-Apr	22-Apr
24 hr TSP	1hr TSP x 3 Noise					24 hr TSP
23-Apr	24-Apr	25-Apr	26-Apr	27-Apr	28-Apr	29-Apr
1hr TSP x 3 Noise				24 hr TSP	1hr TSP x 3	
30-Apr						

Noise Monitoring Station
NM1: Tin Wan House
NM2: Ning Po No. 2 College

Air Monitoring Station
AQMI: Ning Po No.2 College



Appendix 5.2

Noise Monitoring Results and Graphical Presentations



Contract No. CV/2012/07
Development at Anderson Road -
Footbridge D and Associated Works Area

JOB NO : CS_J2013-02_CV201207

CLIENT : LPWJV

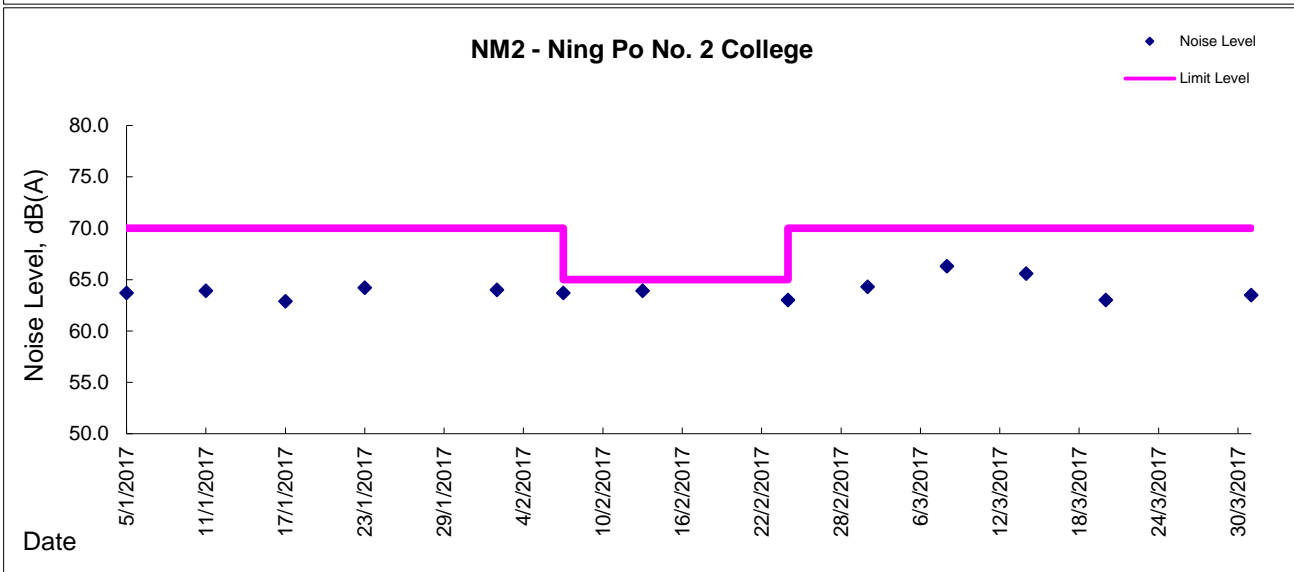
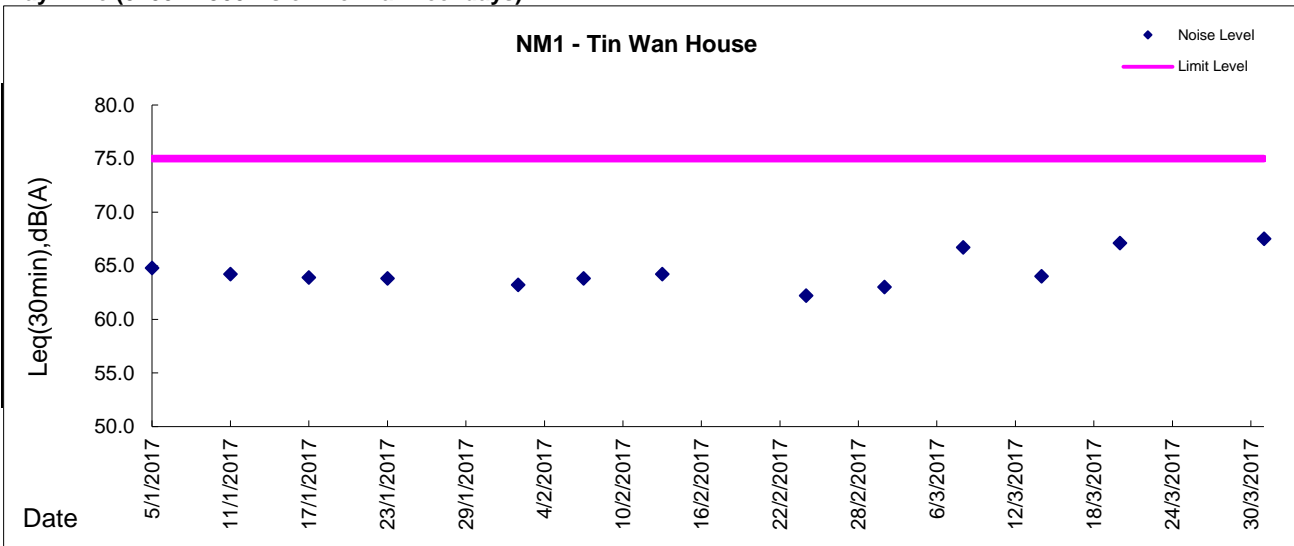
Daytime(07:00-19:00)					
Date	Time	Location	Leq (dB)	L10 (dB)	L90 (dB)
2-Mar-17	8:14	NM1	63.0	64.8	59.1
	9:10	NM2	64.3	65.6	60.7
8-Mar-17	10:40	NM1	66.7	68.5	62.5
	9:40	NM2	66.3	68.0	58.5
14-Mar-17	14:56	NM1	64.0	65.5	60.3
	14:22	NM2	65.6	66.3	58.2
20-Mar-17	14:05	NM1	67.1	69.5	63.0
	13:00	NM2	63.0	65.5	57.5
31-Mar-17	11:20	NM1	67.5	69.5	64.0
	10:15	NM2	63.5	65.0	57.0

NM1 - Tin Wan House

NM2 - Ning Po No. 2 College

Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)





Appendix 5.3

Air Quality Monitoring Results and Graphical Presentations



Location: AQM1-Ning Po No.2 College

Report on 24-hour TSP monitoring
Action Level ($\mu\text{g}/\text{m}^3$) - 200
Limit Level ($\mu\text{g}/\text{m}^3$) - 260

Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, Q_{si}	Final, Q_{sf}	Average		
1-Mar-17	8:00	Cloudy	19401	2.8262	3.1680	6346.80	6370.80	24.00	1.26	1.26	1.26	1813	189
7-Mar-17	8:00	Cloudy	19538	2.8688	3.1145	6373.80	6397.80	24.00	1.26	1.26	1.26	1817	135
13-Mar-17	8:00	Cloudy	19660	2.8266	2.9806	6400.80	6424.80	24.00	1.28	1.29	1.28	1850	83
18-Mar-17	8:00	Cloudy	19307	2.8621	3.0746	6427.81	6451.81	24.00	1.29	1.28	1.29	1851	115
24-Mar-17	8:00	Fine	19698	2.8456	2.9965	6454.81	6478.81	24.00	1.29	1.29	1.29	1852	81
30-Mar-17	8:00	Fine	19606	2.8466	3.0930	6481.81	6505.81	24.00	1.28	1.29	1.29	1851	133

Report on 1-hour TSP monitoring
Action Level ($\mu\text{g}/\text{m}^3$) - 197
Limit Level ($\mu\text{g}/\text{m}^3$) - 500

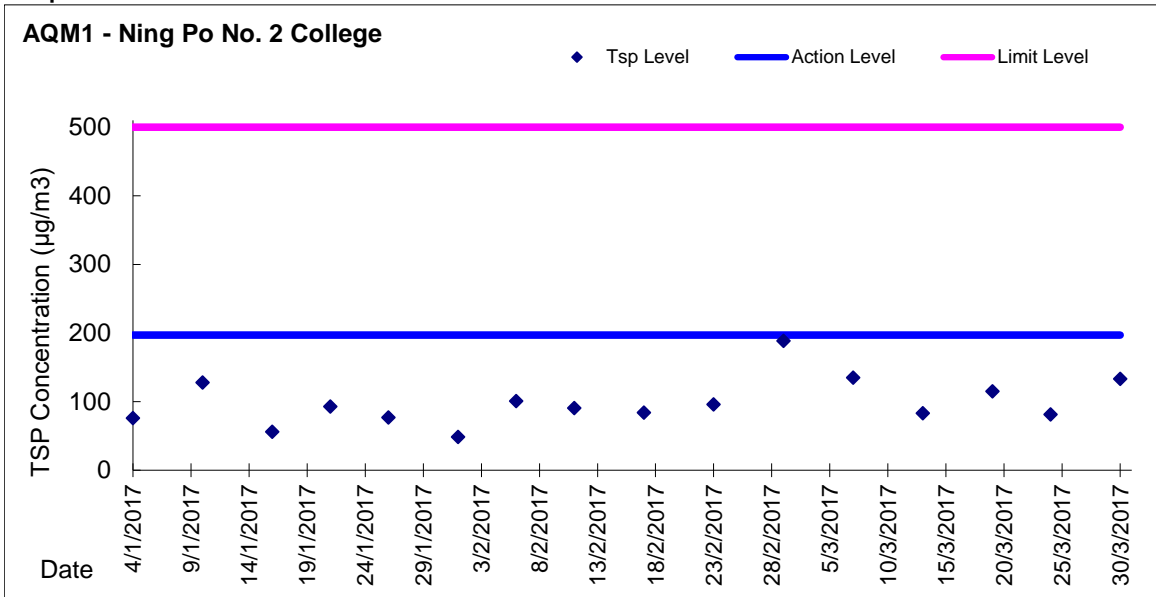
Date	Sampling Time	Weather Condition	Filter paper no.	Filter Weight, g		Elapse Time, hr		Sampling Time, hr	Flow Rate, m^3/min			Total Volume, m^3	TSP Level, $\mu\text{g}/\text{m}^3$
				Initial	Final	Initial	Final		Initial, Q_{si}	Final, Q_{sf}	Average		
2-Mar-17	8:09	Fine	19541	2.8166	2.8245	6370.80	6371.80	1.00	1.26	1.26	1.26	76	105
2-Mar-17	9:11	Fine	19540	2.8485	2.8570	6371.80	6372.80	1.00	1.26	1.26	1.26	76	113
2-Mar-17	10:17	Fine	19539	2.8389	2.8501	6372.80	6373.80	1.00	1.26	1.26	1.26	76	148
8-Mar-17	8:10	Cloudy	19326	2.8535	2.8590	6397.80	6398.80	1.00	1.26	1.26	1.26	76	72
8-Mar-17	9:20	Cloudy	19662	2.8335	2.8405	6398.80	6399.80	1.00	1.26	1.26	1.26	76	92
8-Mar-17	10:26	Cloudy	19661	2.8074	2.8125	6399.80	6400.80	1.00	1.26	1.26	1.26	76	67
14-Mar-17	13:00	Cloudy	19311	2.8098	2.8170	6424.81	6425.81	1.00	1.29	1.29	1.29	77	93
14-Mar-17	14:05	Cloudy	19309	2.8286	2.8333	6425.81	6426.81	1.00	1.29	1.29	1.29	77	61
14-Mar-17	15:15	Cloudy	19308	2.8521	2.8539	6426.81	6427.81	1.00	1.29	1.29	1.29	77	23
20-Mar-17	13:00	Cloudy	19701	2.8418	2.8447	6451.81	6452.81	1.00	1.28	1.28	1.28	77	38
20-Mar-17	14:05	Cloudy	19700	2.8241	2.8304	6452.81	6453.81	1.00	1.28	1.28	1.28	77	82
20-Mar-17	15:15	Cloudy	19699	2.8272	2.8335	6453.81	6454.81	1.00	1.28	1.28	1.28	77	82
25-Mar-17	8:03	Fine	19604	2.8668	2.8776	6478.81	6479.81	1.00	1.29	1.29	1.29	77	140
25-Mar-17	9:05	Fine	19608	2.8271	2.8380	6479.81	6480.81	1.00	1.29	1.29	1.29	77	141
25-Mar-17	10:09	Fine	19607	2.8294	2.8382	6480.81	6481.81	1.00	1.29	1.29	1.29	77	114
31-Mar-17	10:00	Fine	19925	2.9370	2.9455	6505.81	6506.81	1.00	1.29	1.29	1.29	77	110
31-Mar-17	13:00	Fine	19924	2.9371	2.9437	6506.81	6507.81	1.00	1.29	1.29	1.29	77	85
31-Mar-17	14:02	Fine	19923	2.9235	2.9280	6507.81	6508.81	1.00	1.29	1.29	1.29	77	58



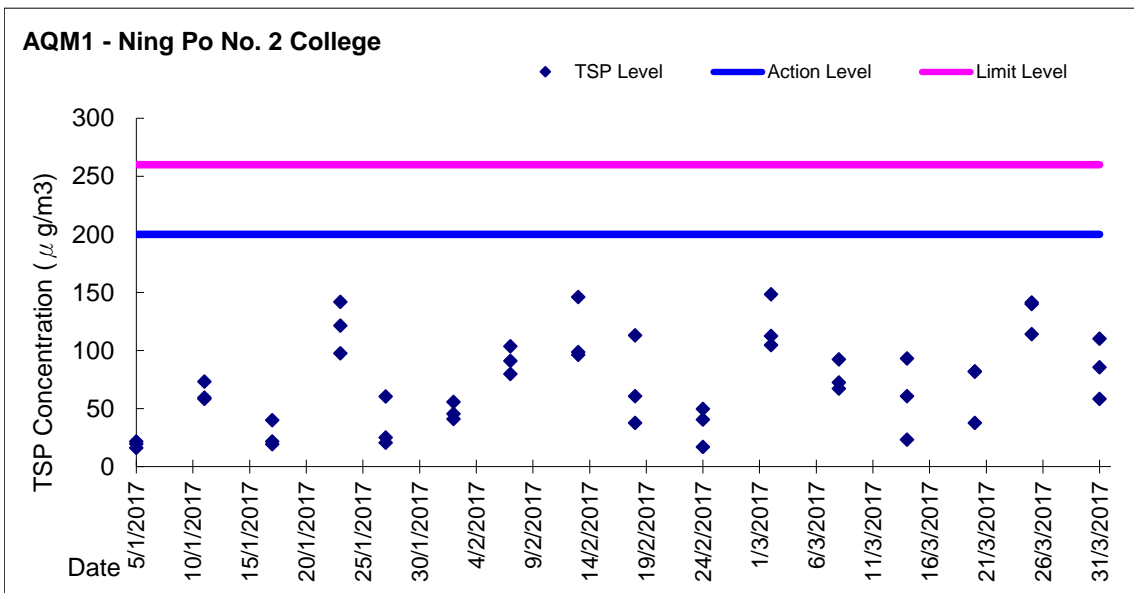
Contract No. CV/2012/07

Development at Anderson Road -
Footbridge D and Associated Works Area

Graphic Presentation of 24 hour TSP Result



Graphic Presentation of 1 hour TSP Result





Appendix 6.1

Event Action Plans



Event/Action Plan for Construction Noise

EVENT	ACTION			
	ET	IC(E)	ER	CONTRACTOR
Exceedance for Action Level	<ol style="list-style-type: none">1. Notify IC(E) and Contractor;2. Carry out investigation;3. Report the results of investigation to IC(E) and Contractor;4. Discuss with Contractor and formulate remedial measures;5. Increase monitoring frequency to check mitigation effectiveness.	<ol style="list-style-type: none">1. Review the analysed results submitted by ET;2. Review the proposed remedial measures by the Contractor and advise ER accordingly;3. Supervise the implementation of remedial measures.	<ol style="list-style-type: none">1. Confirm receipt of notification of failure in writing;2. Notify Contractor;3. Require Contractor to propose remedial measures for the analysed noise problem;4. Ensure remedial measures are properly implemented.	<ol style="list-style-type: none">1. Submit noise mitigation proposals to IC(E);2. Implement noise mitigation proposals.
Exceedance for Limited Level	<ol style="list-style-type: none">1. Notify IC(E), ER, EPD and Contractor;2. Identify sources;3. Repeat measurements to confirm finding;4. Increase monitoring frequency;5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;6. Inform IC(E), ER and EPD the causes and actions taken for the exceedances;7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results;8. If exceedance stops, cease additional monitoring.	<ol style="list-style-type: none">1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly.	<ol style="list-style-type: none">1. Confirm receipt of notification of failure in writing;2. Notify Contractor;3. Require Contractor to propose remedial measures for the analysed noise problem;4. Ensure remedial measures are properly implemented;5. If exceedance continues, consider what portion of the work is responsible and instruct Contractor to stop that portion of work until the exceedance is abated.	<ol style="list-style-type: none">1. Take immediate action to avoid further exceedance;2. Submit proposals for remedial actions to IC(E) within 3 working days of notification;3. Implement the agreed proposals;4. Resubmit proposals if problem still not under control;5. Stop the relevant portion of works as determined by the ER until the exceedance is abated.



Event / Action Plan for Construction Air Quality

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



Appendix 6.2

Summary for Notification of Exceedance_Air and Noise

[illegible]



Lam Environmental Services Limited

Contract No. CV/2012/07
Development at Anderson Road – Footbridge D and Associated Works Area

Summary for Notification of Exceedance

Ref. No.	Date	Time	Location	Construction Noise Level	Unit	Action Level	Limit Level	Follow-up action
N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A



Appendix 8.1

Complaint Log



Environmental Complaints Log

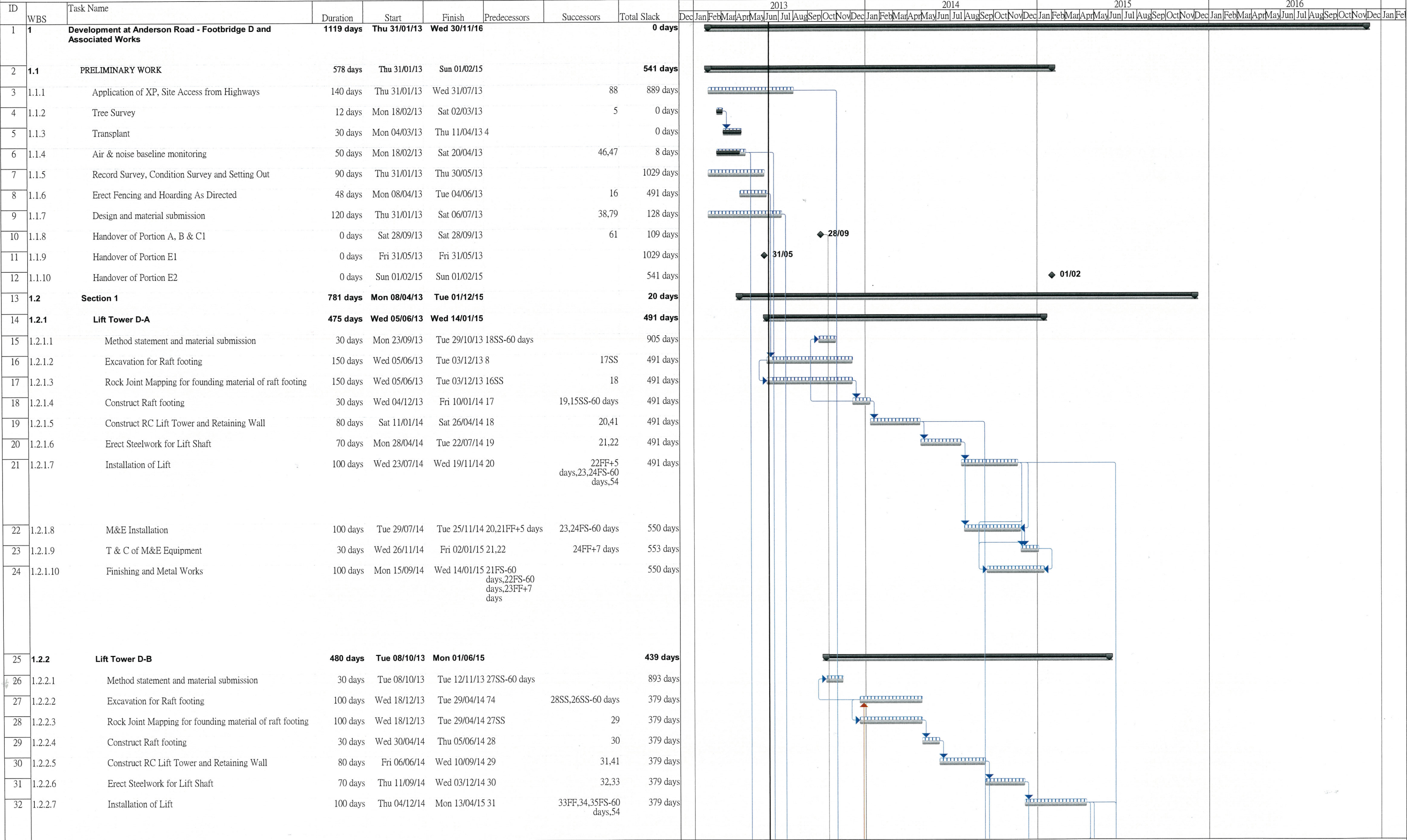
Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
140813	13 Aug 2014	Resident complained via hotline by RE	The slope opposite to Tin Wan House, Shun Tin Estate, Kowloon	Noise was emanated from the construction site at the slope opposite to Tin Wan House, Shun Tin Estate, Kowloon at around 1620 hrs on 13 Aug 2014 and requested follow up action by relevant department.	<ol style="list-style-type: none">1) RSS notified ET on 15 Aug 20142) ET confirmed with site staff the major noise generating construction activities undertaken at works area at the slope opposite to Tin Wan House including slope works3) After reviewing the noise monitoring data at monitoring stations (NM1 - Tin Wan House and NM2 - Ning Po No.2 College), no limit level exceedances were recorded during routine noise monitoring event on 14 Aug 2014. As similar construction works activities conducted on 13 Aug 2014 was continued across the above monitoring period, the noise emanated from the construction activities under Contract CV/2012/07 was considered to comply with the statutory requirement.4) In addition, weekly environmental site inspection was conducted on 12 Aug 2014 at around 10:00. According to the inspection record, no particular observation regarding noise impact was recorded and the mitigation measures including erection of temporary noise barrier was observed in place.	Closed



Appendix 9.1

Construction Programme

Master Programme For Contract No. CV/2012/07
Development at Anderson Road - Footbridge D and Associated Works
(Rev. 2)



Master Programme For Contract No. CV/2012/07
Development at Anderson Road - Footbridge D and Associated Works
(Rev. 2)

ID	WBS	Task Name	Duration	Start	Finish	Predecessors	Successors	Total Slack
33	1.2.2.8	M&E Installation	100 days	Thu 04/12/14	Mon 13/04/15	32FF,31	34,35FS-60 days	443 days
34	1.2.2.9	T & C of M&E Equipment	30 days	Tue 14/04/15	Tue 19/05/15	32,33	35FF+7 days	446 days
35	1.2.2.10	Finishing and Metal Works	100 days	Fri 30/01/15	Mon 01/06/15	32FS-60 days, 33FS-60 days, 34FF+7 days		443 days
36	1.2.3	Bridge Deck D-AB	563 days	Wed 24/04/13	Wed 25/03/15			188 days
37	1.2.3.1	Method statement and material submission	30 days	Wed 24/04/13	Thu 30/05/13	38SS-60 days		1029 days
38	1.2.3.2	Ordering of Material	100 days	Mon 08/07/13	Tue 05/11/13	9	39,37SS-60 days	128 days
39	1.2.3.3	Fabrication of Steel work off site	100 days	Wed 06/11/13	Thu 13/03/14	38	40,80	128 days
40	1.2.3.4	Connecting the Bridge on site	60 days	Fri 14/03/14	Wed 28/05/14	39	41	582 days
41	1.2.3.5	Erecting Steel bridge frame	7 days	Thu 11/09/14	Thu 18/09/14	40,30,19	89,42	496 days
42	1.2.3.6	Irrigation system installation	60 days	Fri 19/09/14	Sat 29/11/14	41	43	496 days
43	1.2.3.7	Roofing and finishing works on bridge	90 days	Mon 01/12/14	Wed 25/03/15	42		496 days
44	1.2.4	Lift Tower D-C	726 days	Thu 02/05/13	Tue 20/10/15			0 days
45	1.2.4.1	Method statement and material submission	30 days	Tue 08/10/13	Tue 12/11/13	48SS-60 days		893 days
46	1.2.4.2	Predrill & determine F/L (included all necessary preparation and test)	40 days	Thu 02/05/13	Wed 19/06/13	6	47,70,73	0 days
47	1.2.4.3	Demolish the existng structure	30 days	Thu 20/06/13	Fri 26/07/13	46,6	48	120 days
48	1.2.4.4	Construct Pre-bored H pile (60 no) (included all necessary preparation and test)	160 days	Wed 18/12/13	Sat 12/07/14	47,72,74	49,45SS-60 days	0 days
49	1.2.4.5	Pile Testing	40 days	Mon 14/07/14	Thu 28/08/14	48	50	0 days
50	1.2.4.6	Construct pile cap	30 days	Fri 29/08/14	Mon 06/10/14	49	51	0 days
51	1.2.4.7	Construct superstructure to level 103.8	30 days	Tue 07/10/14	Mon 10/11/14	50	52	0 days
52	1.2.4.8	Backfilling above pile cap	12 days	Tue 11/11/14	Mon 24/11/14	51	53	0 days
53	1.2.4.9	Construct superstructure level 103.8~158.05	160 days	Tue 25/11/14	Mon 15/06/15	52	54,58,55,82	0 days
54	1.2.4.10	Installation of Lift	80 days	Tue 16/06/15	Sat 19/09/15	53,21,32	56,57FS-49 days	327 days
55	1.2.4.11	M&E Installation	80 days	Tue 16/06/15	Sat 19/09/15	53	56	327 days
56	1.2.4.12	T & C of M&E Equipment	24 days	Mon 21/09/15	Tue 20/10/15	54,55		327 days
57	1.2.4.13	Roofing Connection Tower D-B & D-C	60 days	Fri 24/07/15	Mon 05/10/15	54FS-49 days		340 days
58	1.2.4.14	Finishing and Metal Works	100 days	Tue 16/06/15	Thu 15/10/15	53		331 days
59	1.2.5	Pier D-D	450 days	Thu 18/07/13	Mon 02/02/15			169 days
60	1.2.5.1	Method statement and material submission	30 days	Thu 18/07/13	Thu 22/08/13	61SS-60 days		960 days
61	1.2.5.2	Slope Cutting	10 days	Sat 28/09/13	Thu 10/10/13	10	62,60SS-60 days	109 days
62	1.2.5.3	Working platform for mini pile	40 days	Fri 11/10/13	Wed 27/11/13	61	63	109 days
63	1.2.5.4	Predrill & determine F/L (included all necessary preparation and test)	20 days	Thu 28/11/13	Fri 20/12/13	62	64	109 days
64	1.2.5.5	Construct mini pile (30 nos) (included all necessary preparation and test)	90 days	Sat 21/12/13	Thu 17/04/14	63	65	109 days

Landscape & Establishment Work Not Shown For Clarity

[illegible]

Baseline

Progress 

Landscape & Establishment Work Not Shown For Clarity

Master Programme For Contract No. CV/2012/07
Development at Anderson Road - Footbridge D and Associated Works
(Rev. 2)

[illegible]

Date: Mon 10/06/13
Prepared By: T.L. Lo

Baseline Milestone

Baseline Summary

Task

Critical Task 

- Milestone
-  Summary

Baseline

Progress

Baseline 

Progress

Assume Contract Start On 31-Jan-2013
and Finish On 30-Nov-2016 (1399 days)
Duration as shown by week day

Lam - Po Wing Joint Venture

Landscape & Establishment Work Not Shown For Clarity