

Lam Environmental Services Limited

#### CONTRACT NO: CV/2012/07

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

#### MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT

- OCTOBER 2013 -

CLIENTS:

Lam-Po Wing Joint Venture

#### PREPARED BY:

#### Lam Environmental Services Limited

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**CERTIFIED BY:** 

2

Derek Lo Environmental Team Leader

DATE:

08 November 2013



## Ref.: OAPANDSNEM00\_0\_1120L.13

11 November 2013

By Fax (3656 3100 / 2407 8382) and Post

Engineer's Representative Ove Arup & Partners Level 5, Festival Walk 80 Tat Chee Avenue Kowloon Tong, Kowloon Hong Kong

Attention: Mr. Dennis Leung

Dear Sir,

Re: Contract No. CV/2012/07 Development at Anderson Road Footbridge D and Associated Works Area Monthly EM&A Report for October 2013

Reference is made to the Environmental Team's submission of the draft Monthly EM&A Report for October 2013 received by E-mail on 11 November 2013.

We are pleased to inform you that we have no adverse comment on the captioned report received by E-mail on 11 November 2013.

Thank you very much for your kind attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,

David Yeung Independent Environmental Checker

c.c. Lam LPWJV Attn: Mr. Derek Lo Attn: Mr. Tak-Leung Lo Fax: 2882 3331 Fax: 3171 7222

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## EXECUTIVE SUMMARY

i. This is the Environmental Monitoring and Audit (EM&A) Monthly Report – October 2013 project "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 4th month of EM&A report presenting the environmental monitoring findings and information recorded during the period 01 October 2013 to 31 October 2013. The cut-off date of reporting is at the end of each reporting month.

## Construction Activities for the Reported Period

- Cut slope
- Excavation of raft footing
- Demolish existing structure
- Site investigation
- Drainage works

## 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

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

#### Site Inspections and Audit

v. 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

- vi. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:
  - Cut slope
  - Excavation of raft footing
  - Demolish existing structure



- Site investigation
- Drainage works

# 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 01 October 2013 to 31 October 2013. 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 slop[e adjoining Footbridge D.
  - Site formation and associated slopeworks 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*:

Party	Role	Post	Name	Contact No.	Contact Fax
Ove Arup	Engineer	Chief Resident Engineer	Dennis Leung	3656 3000	3656 1000
		Resident Engineer	Kenneth Lee	3656 3000	3656 1000
Lam-Po Wing Joint Venture	Contractor under Contract	Project Manager	K.C. Wong	2318 0281	3171 7222
	no. CV/2012/07	Site Agent	T.L. Lo	2318 0281	
		Safety Officer	K.W. Lau	2318 0281	
		Environmental Officer	K.I. Ip	2318 0281	
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

 Table 2.1 Contact Details of Key Personnel

- 2.3.3. For Contract no. CV/2012/07, the principal work activities in this reporting month included:
  - Cut slope
  - Excavation of raft footing
  - Demolish existing structure
  - Site investigation
  - Drainage works
- 2.3.4. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:
  - Cut slope
  - Excavation of raft footing
  - Demolish existing structure
  - Site investigation
  - Drainage works

## 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 and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Discharge Licence	WT00015447-2013	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

#### 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<sub>eq</sub>). L<sub>eq (30 minutes)</sub> 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<sub>eq (5 minutes)</sub> 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)
4-Oct-2013	11:15 – 11:45	NM1	61.0
4-001-2013	10:15 – 10:45	NM2	65.3
10-Oct-2013	08:45 – 09:15	NM1	67.9
10-001-2013	09:45 – 10:15	NM2	66.8
16-Oct-2013	10:15 – 10:45	NM1	70.9
10-001-2013	11:15 – 11:45	NM2	60.8
22-Oct-2013	10:35 – 11:05	NM1	72.1
22-001-2013	08:58 - 09:28	NM2	63.1
28-Oct-2013	10:36 - 11:06	NM1	74.1
20-001-2013	08:33 - 09:03	NM2	69.3
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) in the reporting month.
- 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 <u>Appendix 5.2</u>.

## 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, (μg/m <sup>3</sup> )
03-Oct-2013	8:00	107
09-Oct-2013	8:00	97
15-Oct-2013	8:00	156
21-Oct-2013	8:00	160
26-Oct-2013 8:00		166
Actio	n Level	200
Limit	Level:	260

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

Date	Time	TSP Level, (μg/m³)
04-Oct-2013	8:13	142
04-Oct-2013	9:19	145
04-Oct-2013	10:26	156
10-Oct-2013	8:16	167
10-Oct-2013	9:23	161
10-Oct-2013	10:29	177
16-Oct-2013	8:23	143
16-Oct-2013	9:35	121
16-Oct-2013	10:42	154
22-Oct-2013	8:40	146
22-Oct-2013	9:45	146
22-Oct-2013	10:50	174
28-Oct-2013	13:10	170
28-Oct-2013	14:15	175
28-Oct-2013	15:20	172
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 and non-inert C&D waste were disposed of in this reporting month. Details of the waste flow table are summarized in *Table 5.4.* 



Waste Type	Quantity this month	Cumulative Quantity-to-Date	Disposal / Dumping Grounds
Inert C&D materials disposed, m <sup>3</sup>	0	109.6	TKO137
Inert C&D materials recycled, m <sup>3</sup>	0	0	N/A
Non-inert C&D materials disposed, m <sup>3</sup>	0	0	N/A
Non-inert C&D materials recycled, kg	0	0	N/A
Chemical waste disposed, kg	0	0	N/A

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



## 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 8.

## 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 sit inspections on 2, 8, 15, 22 and 29 October 2013 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* and the inspection checklist in this reporting month is attached in Appendix

Date	Observations	Follow-Up
02-Oct-2013	The contractor was reminded to provide drip tray for air compressor	Immediately
08-Oct-2013	The contractor is recommended to provide drip tray to the air compressor	Immediately
15-Oct-2013	N/A	Drip tray was provided
22-Oct-2013 Drip tray should be properly maintenance and preventing from leakage of oil Chemical container should be stored in properly place or removed as chemical waste		N/A
29-Oct-2013	Black smoke was observed form breaker	Immediately

Table 7 1 Summar	of Environmontal I	nspections for Contract n	CV/2012/07
	, oi Eilviioillileillai i	inspections for contract in	0. CV/2012/01



#### 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	
October 2013	0	
Project-to-Date	0	

#### 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 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. The scheduled construction activities and the recommended mitigation measures for the coming month are list in *Table 9.1*. The construction programmes of contract are provide in *Appendix 9.1*

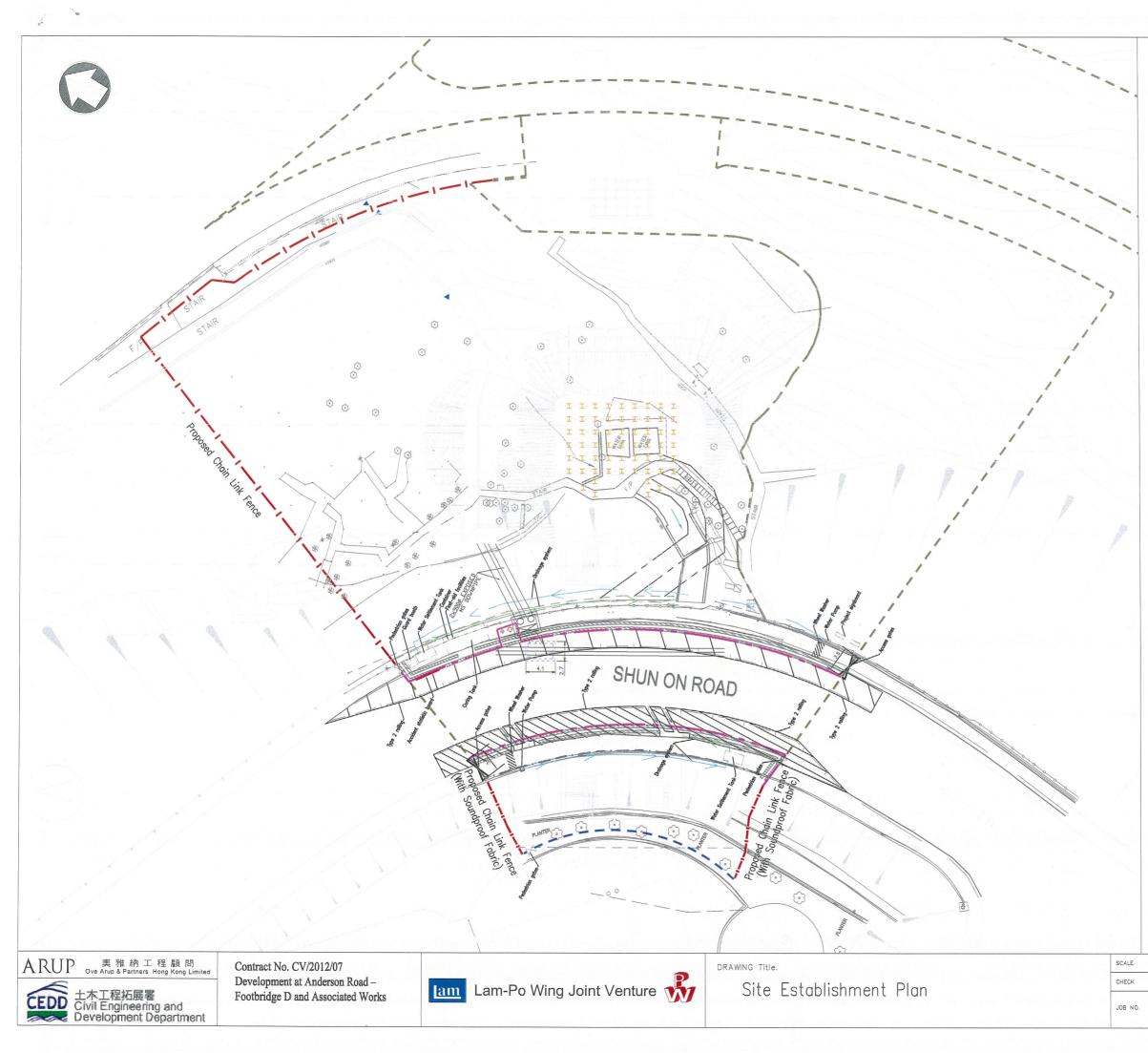
# Table 9.1 Summary of Key Construction Activities to be commenced in Coming Reporting Month

Key Construction Works	Recommended Mitigation measures
Cut slope and demolish existing structure	<ul> <li>Watering of any dust generating activities</li> <li>Noise mitigation measures should be fully implemented as accordance with the EM&amp;A requirement</li> </ul>
	requirement



Figure 2.1

Project Layout



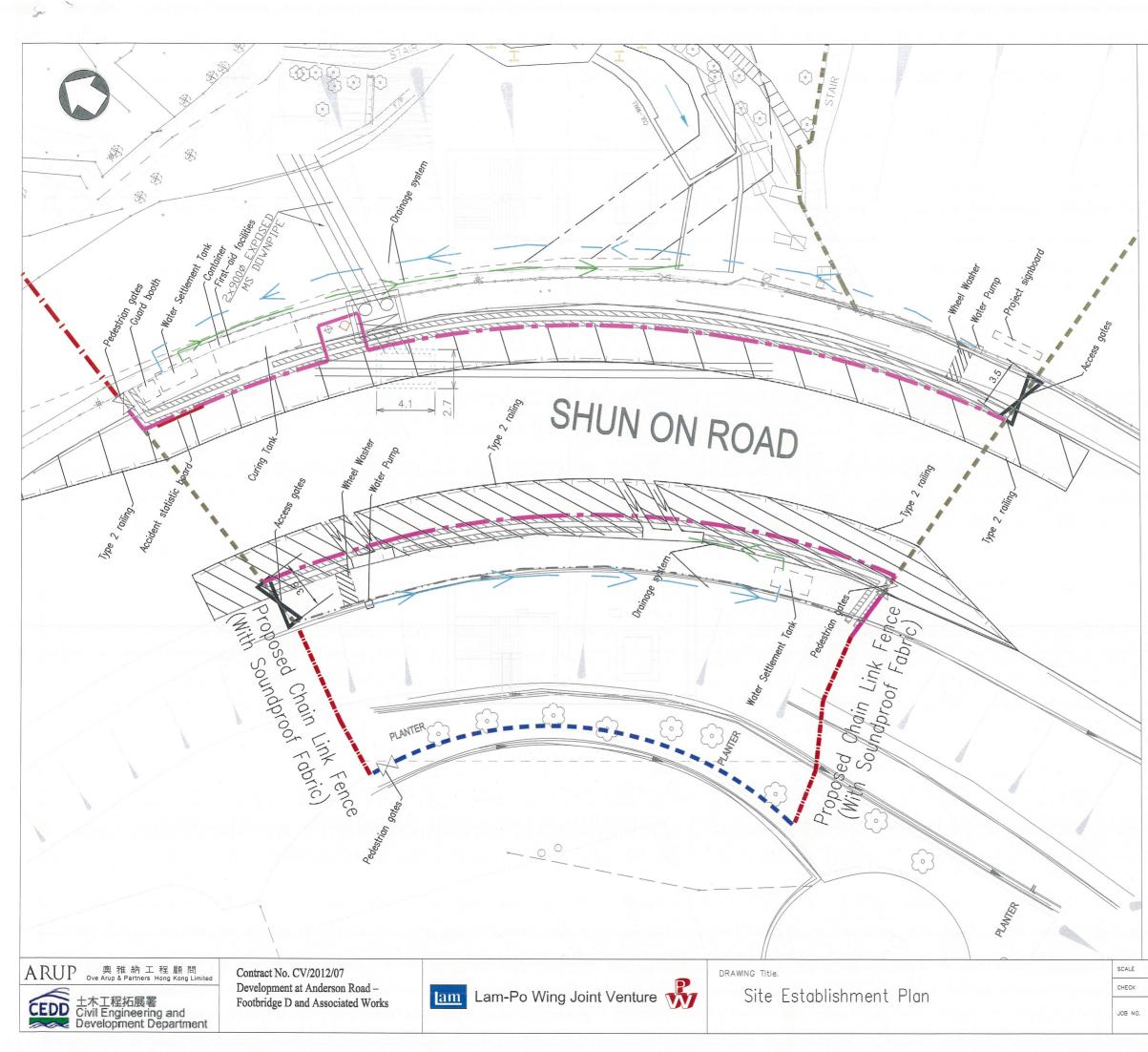
# NOTES:

- This drawing shall be read in conjunction with Drawing 24711/1052.
- The location of fencing and hoarding is indicative only. The exact location is approved on site by Engineer.
- For Detail of Access gate refer to CEDD Standard Drawing No. C1007.
- 4. Dimensions Are in Meters Unless Otherwise Shown.

# Legend

 Proposed Chain Link Fence
 Proposed Safety Fence (Type A)
 Proposed Hoarding (Type I)
 Site Boundary

1:500 @ A3	DATE	24 JULY 2013		
HUNG	DRAWN	HUNG		
	DRAWING NO.	· · · · · · · · · · · · · · · · · · ·	REV	
CV/2012/07	9	SK011	В	
		(Sheet 1/2)		



# NOTES:

- This drawing shall be read in conjunction with Drawing 24711/1052.
- The location of fencing and hoarding is indicative only. The exact location is approved on site by Engineer.
- For Detail of Access gate refer to CEDD Standard Drawing No. C1007.
- 4. Dimensions Are in Meters Unless Otherwise Shown.

## Legend

 Proposed Chain Link Fence
 Proposed Safety Fence (Type A)
 Proposed Hoarding (Type I)
 Site Boundary

1:250 @ A3	DATE	24 JULY 2013	
HUNG	DRAWN	HUNG	
	DRAWING NO.		REV
CV/2012/07		SK011	В
		(Sheet 2/2)	



Figure 2.2

**Project Organization Chart** 



#### **Project Organization Chart**

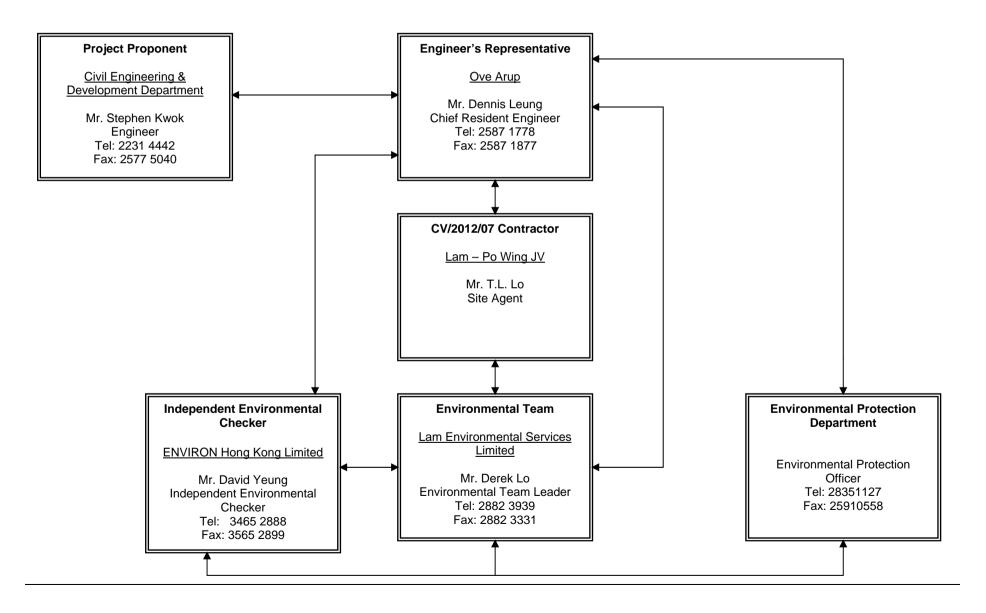
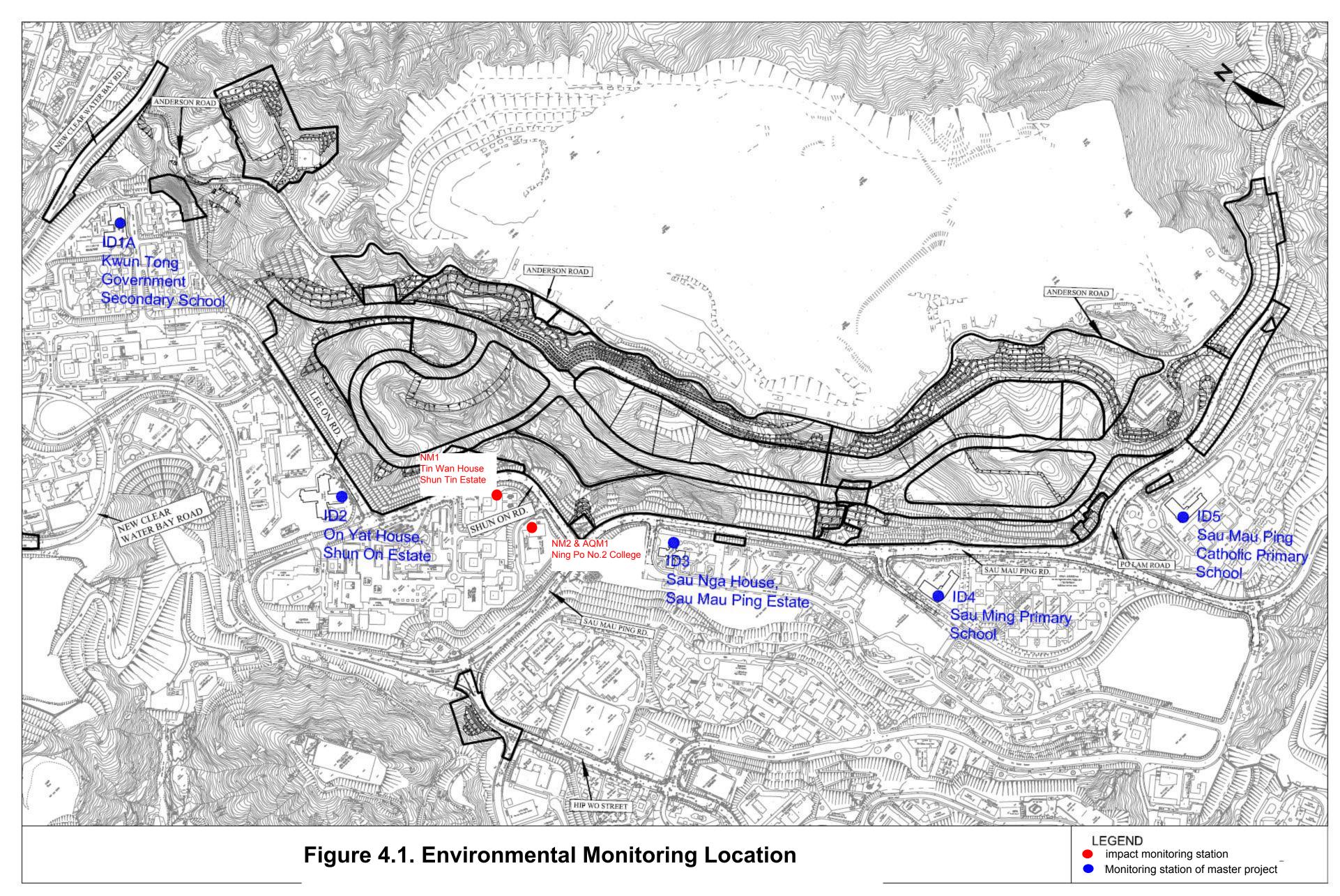




Figure 4.1

Locations of Environmental Monitoring Stations





Appendix 3.1

Environmental Mitigation Implementation Schedule



## Environmental Mitigation Implementation Schedule

Implementation Schedule for Construction Dust Control

	Log Ref. c	Location (duration/ Funding Agent completion of	Implementation Agent	Implementation Stages**		Relevant Legislation & Guidelines		
		measures)			D	С		
	S1, S2.8	<ul> <li>Site Practice <ul> <li>Mean vehicle speed of haulage trucks at 10 km/hr.</li> </ul> </li> <li>Twice daily watering of all open site areas.</li> <li>Regular watering (once every 1 hour) of all site roads and access roads with frequent truck movement.</li> <li>Tarpaulin covering of all dusty vehicle loads transported to, form and between site locations.</li> <li>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.</li> <li>Suitable side and tailboards on haulage vehicles.</li> <li>Watering of temporary stockpiles.</li> </ul> <li>Blasting <ul> <li>Use of select aggregate and fines to stem the charge with drill holes and watering of blast face.</li> <li>Use of vaccum extraction drilling methods.</li> <li>Carefully sequenced blasting.</li> </ul> </li> <li>Crushing <ul> <li>Fabric filters installed for the crushing plant.</li> <li>Water sprays on the crusher.</li> </ul> </li> <li>Loading and Unloading Points, and conyeyor Belt System</li> <li>Water sprays at all fixed loading and unloading points (at the crusher and conveyor belts).</li> <li>The loading point at the crusher is enclosed with dust curtains are used for controlling dust.</li> <li>When transferring materials from conveyor belt or crusher to the dump trucks, chutes or dust curtains are used for controlling dust.</li>	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,



EIA Ref.		og Ref.	completion of	Funding Agent	Implementation Agent	Implementation Stages**		Relevant Legislation & Guidelines
			measures)			D	С	
\$3.7	S1, S3.7	<ul> <li>Site Formation</li> <li>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.</li> <li>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.</li> </ul>	All Construction sites (late 2007 to 2016)	CEDD	Lam – Po Wing JV	J	J	TM on EIA Process, NCO, TM on Noise from Construction Work other than Percussive Pilling, ProPECC Note PN2/93

## Implementation Schedule for Construction Noise Control

\* 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,



Implementation Schedule for	Water Quality Control
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EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location (duration/ completion of measures)	Funding Agent	Implementation Agent	Implementation Stages**		Relevant Legislation & Guidelines
						D	С	
S6.4	S1	<ul> <li>Construction Phase</li> <li>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.</li> <li>Separate treatment facilities may be required for effluent from site offices, toilets (unless chemical toilets are used) and canteens.</li> <li>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.</li> <li>Relevant practice for dealing with various typr of construction discharges provided in EPD's ProPECC Note 1/94 should be adopted.</li> </ul>	All Construction sites (late 2007 to 2016)	CEDD	Lam – Po Wing JV	J	J	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,



EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location (duration/ completion of measures)	Funding Agent	Implementation Agent	Implementation Stages**		Relevant Legislation & Guidelines
						D	С	
S8.4	S1,S4	<ul> <li>Waste Disposal</li> <li>Different types of wastes should be segregated, stored, transported and disposed of proper practice of waste management.</li> <li>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.</li> <li>Excavated spoil should be used as much as possible to minimize off-site fill material requirements and disposal of spoil.</li> <li>During road transportation of excavated spoil, vehicles should be installed at all site exits together with regular qatering of the site access roads.</li> <li>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.</li> <li>Necessary mitigation measures should be adopted to prevent the uncontrolled disposal of chemical and hazardous waste into air, soil, surface waters and ground waters.</li> </ul>	All Construction sites (late 2007 to 2016)	CEDD	Lam – Po Wing JV	J	J	TM on EIA Process, WDO, DGO, Waste Disposal (Chemical Waste) (General) Regulation

## Implementation Schedule for Construction Waste Management



Waste Storage			
<ul> <li>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.</li> </ul>			
<ul> <li>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.</li> </ul>			
<ul> <li>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.</li> </ul>			

\* 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,



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) <sup>Note 1</sup>		

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 $\mu$ g/m <sup>3</sup>		24-hour TSP Level in $\mu$ g/m <sup>3</sup>		
	Action Level	Limit Level	Action Level	Limit Level	
AQM1	197	500	200	260	



Appendix 4.2

**Copies of Calibration Certificates** 

#### Lam Environmental Services Limited

### Calibration Data for High Volume Sampler (TSP Sampler)

Location	:	Ning Po No.2 College	Calbration Date :	2-Sep-13
ID	:	AQM1	Calbration Due Dat :	 2-Nov-13

#### CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition									
Temperature, T <sub>a</sub>		303		Kelvin <b>Pressure, P</b> a				1010	mmHg
Orifice Transfer Standard Information									
Equipment No.		EL086		Slope, m <sub>c</sub>	2.019	68	Intercept, b	c	-0.02746
Last Calibration Date		15-Jul-1:	3		(HxI	P <sub>a</sub> / 10	13.3 x 298	$/T_{a})^{1/2}$	
Next Calibration Date		15-Jul-14	4		=	m <sub>c</sub> >	$(Q_{std} + b_c)$		
Calibration of RSP									
Calibration	Mar	nometer R	eading	G	) <sub>std</sub>	Contin	uous Flow		IC
Point	Н(	inches of v	water)	(m <sup>3</sup>	<sup>3</sup> / min.) Recorde		order, W	der, W (W(P <sub>a</sub> /1013.3x298/T <sub>a</sub>	
	(up)	(down)	(difference)	x-	axis	(	CFM)	•	∕-axis
1	5.9	5.9	11.8	1.0	6976		58	5	7.4257
2	4.6	4.6	9.2	1.	5005		47	4	6.5346
3	3.9	3.9	7.8	1.:	3827		40	3	9.6039
4	2.4	2.4	4.8	1.0	0876		24	2	3.7624
5	1.5	1.5	3.0	0.8	8627		13	1	2.8713
By Linear Regression of	Y on X								
	Slope, m	=	53.5	754	Int	ercept, b	= -:	33.9421	
Correlation Coefficient* = 0.9		0.99	995						
Calibration Accepted = Y		Yes/	No**						
			,						

 $^{\ast}$  if Correlation Coefficient < 0.990, check and recalibration again.

\*\* Delete as appropriate.

Remarks :

Calibrated by	:	Henry	Checked by		Derek Lo
Date	: _	2-Sep-13	Date :	_	2-Sep-13

am



TISCH ENVIROMENTAL, INC. 145 SOUTH MIAMI AVE. VILLAGE OF CLEVES, OH 45002 513.467.9000 877.263.7610 TOLL FREE 513.467.9009 FAX WWW.TISCH-ENV.COM

AIR POLLUTION MONITORING EQUIPMENT ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A								
Date - Jul 15, 2013 Rootsmeter S/N       0438320       Ta (K) -       300         Operator Tisch       Orifice I.D       0005       Pa (mm) -       759.46								
======= PLATE   OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)		
1 2 3 4 5	NA NA NA NA NA	NA NA NA NA	1.00 1.00 1.00 1.00 1.00	1.3910 0.9830 0.8800 0.8380 0.6930	3.2 6.4 7.9 8.8 12.7	2.00 4.00 5.00 5.50 8.00		

#### DATA TABULATION

Vstd	(x axis) Qstd	(y axis)		Va	(x axis) Qa	(y axis)	
0.9884 0.9843 0.9822 0.9811 0.9760	0.7106 1.0013 1.1161 1.1708 1.4084	1.4090 1.9926 2.2278 2.3365 2.8180		0.9958 0.9916 0.9895 0.9884 0.9832	0.7159 1.0087 1.1244 1.1795 1.4188	0.8888 1.2570 1.4054 1.4740 1.7777	
Qstd slope (m) = 2.01968 intercept (b) = -0.02746 coefficient (r) = 0.99999 y axis = SQRT[H2O(Pa/760)(298/Ta)] y axis = SQRT[H2O(Ta/Pa)]							

### CALCULATIONS

Vstd = Diff. Vol[(Pa-Diff. Hg)/760](298/Ta) Qstd = Vstd/Time

Va = Diff Vol [(Pa-Diff Hg)/Pa] Qa = Va/Time

For subsequent flow rate calculations:

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



Certificate No.	31707		Page	1 of 2 Pages
Customer :	Lam Geotechnics Limited			
Address :	11/F, Centre Point, 181-185 Glo	oucester Road, Wand	chai, Hong Kong.	
Order No. :	Q30699		Date of receipt	: 13-Mar-13
Item Tested				
Description :	Sound Level Calibrator			
Manufacturer :	Cesva			
Model :	CB-5		Serial No.	: 0035092
Test Conditi	ions			
Date of Test :	20-Mar-13		Supply Voltage	ə :
Ambient Temp	erature : (23 ± 3)°C			lity : (50 ± 25) %
Test Specifi	cations	1.100		
Calibration cheo Calibration proc				
Test Results	3			
All results were	within the IEC 942 Class1 speci	fication.		
	shown in the attached page(s).			
Test equipment	t used:			
Equipment No.	<u>Description</u>	Cert. No.		Traceable to
S014	Spectrum Analyzer	30259		NIM-PRC & SCL-HKSAR
S024	Sound Level Calibrator	30620		NIM-PRC & SCL-HKSAR
S041	Universal Counter	28347		SCL-HKSAR
will not include allo overloading, mis-ha	this Calibration Certificate only relate to wance for the equipment long term drift, andling, or the capability of any other lab lage resulting from the use of the equipm	variations with environme oratory to repeat the measure	ntal changes, vibrati	on and shock during transportation,
	t used for calibration are traceable to Inte oly to the above Unit-Under-Test only	ernational System of Units	s (SI).	
	1.			
Calibrated by	: Man	Арр	roved by :	Attact.
	Liam Wong			Dorothy Cheuk

Date:

20-Mar-13

This Certificate is issued by: D 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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### Certificate No. 31707

Page 2 of 2 Pages

Results :

### 1. Level Accuracy

UUT Nominal Value (dB)	Measured Value (dB)	IEC 942 Class 1 Spec.
94	93.94	± 0.3 dB

Uncertainty :  $\pm 0.2 \text{ dB}$ 

### 2. Frequency

UUT Nominal Value	Measured Value	IEC 942 Class 1 Spec.
1 kHz	1.001 kHz	± 2 %

Uncertainty :  $\pm 3.6 \times 10^{-6}$ 

- Level Stability : 0.0 dB IEC 942 Class 1 Spec. : ± 0.1 dB Uncertainty : ± 0.01 dB
- Total Harmonic Distortion : < 0.3 % IEC 942 Class 1 Spec. : < 3 % Uncertainty : ± 2.3 % of reading

### Remark : 1. UUT : Unit-Under-Test

- 2. The above measured values are the mean of 3 measurements.
- 3. The uncertainty claimed is for a confidence probability of not less than 95%.
- 4. Atmospheric Pressure : 1003 hPa.

----- END -----



Certificate No. 31706		Page 1 of	3 Pages
Customer : Lam Geotechnics Limited			
Address : 11/F, Centre Point, 181-185	Gloucester Road, Wanch	ai, Hong Kong.	
Order No.: Q30699	D	ate of receipt :	13-Mar-13
Item Tested			
Description : Sound Level Meter Manufacturer : Cesva			
Model : SC-20e	S	erial No. : T217	501
Test Conditions			
Date of Test: 20-Mar-13	S	Supply Voltage :	
Ambient Temperature : (23 ± 3)°C	R	Relative Humidity : (50 ±	25) %
Test Specifications			
Calibration check.			
Ref. Document/Procedure: Z01.			
Test Results	أيوه بالمراجع والمراجع		
All results were within the IEC 651 Type1 and	IEC 804 Type1 specifica	tion.	
The results are shown in the attached page(s			
Main Test equipment used:			
Equipment No. Description	Cert. No.	Traceable	to
S017 Multi-Function Generator	C127181	SCL-HKS	AR
S024 Sound Level Calibrator	30620	NIM-PRC	& 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). The test results apply to the above Unit-Under-Test only

Calibrated by : Liam Wong

Approved	by :			
			Dorot	

thy Cheuk

Date: 20-Mar-13

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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Certificate No. 31706

Page 2 of 3 Pages

Results :

1. SPL Accuracy

6	UUT Setting		Applied Value	
Level Range (dB)	Freq. Weight	Time Weighting	(dB)	UUT Reading (dB)
0~137	L <sub>A</sub>	$L_{\rm F}$	94.0	94.1
		Ls		94.1
	L <sub>C</sub>	L <sub>F</sub>	] ^	94.1
		Ls	]	94.1
	L <sub>A</sub>	$L_{\rm F}$	114.0	114.1
		Ls	]	114.1
	$L_{C}$	L <sub>F</sub>		114.1
		L <sub>S</sub>		114.1

IEC 651 Type 1 Spec. :  $\pm$  0.7 dB Uncertainty :  $\pm$  0.1 dB

Level Stability : 0.0 dB
 IEC 651 Type 1 Spec. : ± 0.3 dB
 Uncertainty : ± 0.1 dB

### 3. Differential level linearity

UUT Range	Applied	UUT Reading		
(dB)	Value (dB)	(dB)	Variation (dB)	IEC 651 Type 1 Spec.
0~137	84.0	84.1	0.0	$\pm 0.4 \text{ dB}$
	94.0	94.1 (Ref.)		
	95.0	95.1	0.0	± 0.2 dB

Uncertainty :  $\pm 0.1 \text{ dB}$ 



Certificate No. 31706

Page 3 of 3 Pages

### 4. Frequency Weighting

A weighting

Freque	ency	Attenuation (d)	B)	IEC 651 Type 1 S	Spec.
31.5	5 Hz	-39.7		- 39.4 dB, ± 1.5	dB
63	Hz	-26.3		- 26.2 dB, ± 1.5	dB
125	Hz	-16.2		- 16.1 dB, ± 1	dB
250	Hz	-8.7		- 8.6 dB, ± 1	dB
500	Hz	-3.3		- 3.2 dB, ± 1	dB
1	kHz	0.0	(Ref.)	0 dB, ± 1	dB
2	kHz	+1.3		+ 1.2 dB, $\pm 1$	dB
4	kHz	+1.0		+ 1.0 dB ,± 1	dB
8	kHz	-1.3		- 1.1 dB, +1.5 dB	~ - 3 dB
16	kHz	-12.1		- 6.6 dB, + 3 dB	~- 8

Uncertainty :  $\pm 0.1 \text{ dB}$ 

### 5. Time Averaging

Applied Burst duty Factor	Applied Leq Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	50.0		
1/10	50.0	50.1	± 0.5 dB
$1/10^{2}$	50.0	50.1	
$1/10^{3}$	50.0	50.1	± 1.0 dB
$1/10^4$	50.0	50.2	

Uncertainty :  $\pm 0.1 \text{ dB}$ 

Remark : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric Pressure : 1003 hPa.

----- END -----



Appendix 5.1

Monitoring Schedules for Reporting Month and Coming Reporting Month

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#### Contract No. CV/2012/07 Development at Anderson Road - Footbridge D and Associated Works Area Environmental Monitoring Schedule October 2013

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

Noise Monitoring Station NM1: Tin Wan House NM2: Ning Po No. 2 College Air Monitoring Station AQM1: Ning Po No.2 College

am	
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#### Contract No. CV/2012/07 Development at Anderson Road - Footbridge D and Associated Works Area Environmental Monitoring Schedule November 2013

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

Noise Monitoring Station NM1: Tin Wan House NM2: Ning Po No. 2 College Air Monitoring Station AQM1: 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

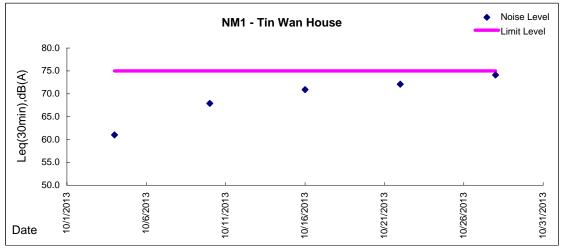
**JOB NO**: CS\_J2013-02\_CV201207 **CLIENT**: LPWJV

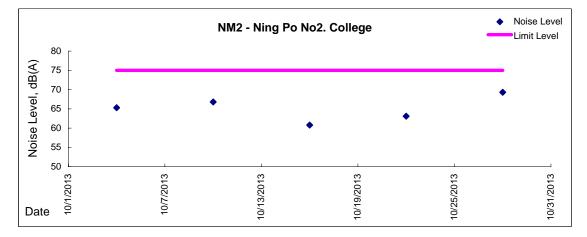
	Day	time(07:00	0-19:00)		
Date	Time	Location	Leq (dB)	L10 (dB)	L90 (dB)
4-Oct-13	11:15 - 11:45	NM1	61.0	64.6	53.5
4-001-13	10:15 - 10:45	NM2	65.3	67.8	59.0
10-Oct-13	08:45 - 09:15	NM1	67.9	71.4	60.6
10-001-13	09:45 - 10:15	NM2	66.8	71.3	59.6
16-Oct-13	10:15 - 10:45	NM1	70.9	73.1	67.4
10-001-13	11:15 - 11:45	NM2	60.8	75.1	55.4
22-Oct-13	10:35 - 11:05	NM1	72.1	76.0	62.2
22-001-13	08:58 - 09:28	NM2	63.1	73.2	59.8
28-Oct-13	10:36 - 11:06	NM1	74.1	78.5	69.6
20-001-13	08:33 - 09:03	NM2	69.3	75.1	67.5



## Graphic Presentation of Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)







Appendix 5.3

Air Quality Monitoring Results and Graphical Presentations



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

Location: AQM1-Ning Po No.2 College

#### Report on 24-hour TSP monitoring Action Level ( $\mu\,{\rm g/m3})$ - 200 Limit Level ( $\mu$ g/m3) - 260

Date	Sampling	Weather	Filter Filter Weight, g Sampling Flow Rate, m <sup>3</sup> /min		Filter Weight, g		min	Total	TSP Level,		
	Time	Condition	paper no.	Initial	Final	Time, hr	Initial, $\mathbf{Q}_{\mathrm{si}}$	Final, Q <sub>sf</sub>	Average	Volume, m <sup>3</sup>	$\mu$ g/m <sup>3</sup>
3-Oct-13	8:00	Fine	007228	2.6553	2.8567	24.00	1.31	1.31	1.31	1890	107
9-Oct-13	8:00	Fine	005325	2.8414	3.0292	24.00	1.35	1.35	1.35	1941	97
15-Oct-13	8:00	Fine	005327	2.8301	3.1284	24.00	1.33	1.33	1.33	1918	156
21-Oct-13	8:00	Fine	005511	2.8240	3.1357	24.00	1.35	1.35	1.35	1946	160
26-Oct-13	8:00	Fine	005868	2.6379	2.9706	24.00	1.39	1.39	1.39	2002	166

Report on 1-hour TSP monitoring Action Level ( $\mu$  g/m3) - 197 Limit Level ( $\mu$  g/m3) - 500

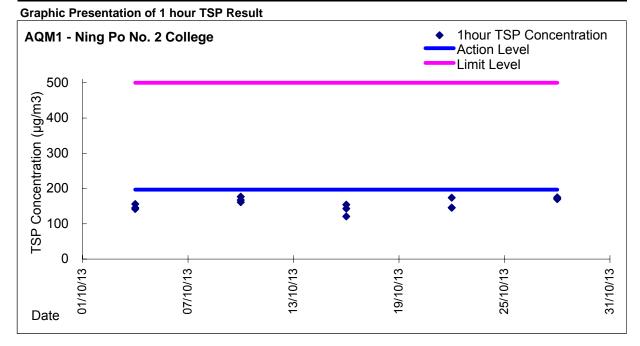
Date	Sampling	Weather	Filter	Filter Weight,	g	Sampling	Flo	w Rate, m <sup>3</sup> /	min	Total	TSP Level,
	Time	Condition	paper no.	Initial	Final	Time, hr	Initial, $Q_{si}$	Final, $Q_{sf}$	Average	Volume, m <sup>3</sup>	$\mu$ g/m <sup>3</sup>
4-Oct-13	8:13	Fine	005322	2.8419	2.8537	1.00	1.38	1.38	1.38	83	142
4-Oct-13	9:19	Fine	005323	2.8478	2.8597	1.00	1.37	1.37	1.37	82	145
4-Oct-13	10:26	Fine	005324	2.8449	2.8577	1.00	1.37	1.37	1.37	82	156
10-Oct-13	8:16	Fine	005889	2.6711	2.685	1.00	1.38	1.38	1.38	83	167
10-Oct-13	9:23	Fine	005326	2.8372	2.8506	1.00	1.38	1.38	1.38	83	161
10-Oct-13	10:29	Fine	005891	2.6321	2.6468	1.00	1.38	1.38	1.38	83	177
16-Oct-13	8:23	Fine	007198	2.5915	2.6031	1.00	1.35	1.35	1.35	81	143
16-Oct-13	9:35	Fine	007199	2.6465	2.6563	1.00	1.35	1.35	1.35	81	121
16-Oct-13	10:42	Fine	005510	2.8219	2.8344	1.00	1.35	1.35	1.35	81	154
22-Oct-13	8:40	Fine	005863	2.6815	2.6933	1.00	1.35	1.35	1.35	81	146
22-Oct-13	9:45	Fine	005864	2.6683	2.6801	1.00	1.35	1.35	1.35	81	146
22-Oct-13	10:50	Fine	005471	2.8247	2.8388	1.00	1.35	1.35	1.35	81	174
28-Oct-13	13:10	Fine	007490	2.6415	2.6553	1.00	1.35	1.35	1.35	81	170
28-Oct-13	14:15	Fine	007491	2.6346	2.6488	1.00	1.35	1.35	1.35	81	175
28-Oct-13	15:20	Fine	007492	2.6339	2.6479	1.00	1.35	1.35	1.35	81	172

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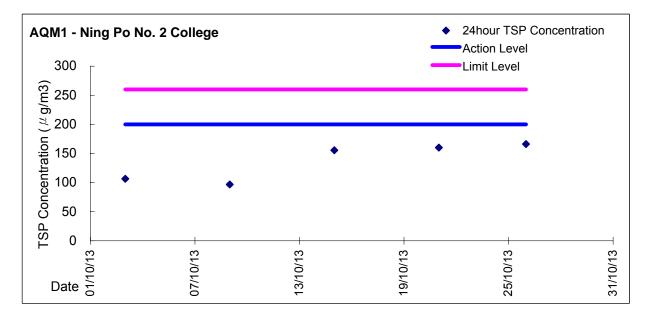
Contract No. CV/2012/07

Development at Anderson Road -

Footbridge D and Associated Works Area



### Graphic Presentation of 24 hour TSP Result





Appendix 6.1

**Event Action Plans** 



### **Event/Action Plan for Construction Noise**

EVENT		A	CTION	
	ET	IC(E)	ER	CONTRACTOR
Exceedance for Action Level	<ol> <li>Notify IC(E) and Contractor;</li> <li>Carry out investigation;</li> <li>Report the results of investigation to IC(E) and Contractor;</li> <li>Discuss with Contractor and formulate remedial measures;;</li> <li>Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol> <li>Review the analysed results submitted by ET;</li> <li>Review the proposed remedial measures by the Contractor and advise ER accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>Ensure remedial measures are properly implemented.</li> </ol>	<ol> <li>Submit noise mitigation proposals to IC(E);</li> <li>Implement noise mitigation proposals.</li> </ol>
Exceedance for Limited Level	<ol> <li>Notify IC(E), ER, EPD and Contractor;</li> <li>Identify sources;</li> <li>Repeat measurements to confirm finding;</li> <li>Increase monitoring frequency;</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Inform IC(E), ER and EPD the causes and actions taken for the exceedances;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and ER informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> </ol>	<ol> <li>Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly.</li> </ol>	<ol> <li>Confirm receipt of notification of failure in writing;</li> <li>Notify Contractor;</li> <li>Require Contractor to propose remedial measures for the analysed noise problem;</li> <li>Ensure remedial measures are properly implemented;</li> <li>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.</li> </ol>	<ol> <li>Take immediate action to avoid further exceedance;</li> <li>Submit proposals for remedial actions to IC(E) within 3 working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Resubmit proposals if problem still not under control;</li> <li>Stop the relevant portion of works as determined by the ER until the exceedance is abated.</li> </ol>



### Event / Action Plan for Construction Air Quality

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



Appendix 6.2

Summary for Notification of Exceedance

Summary for Notification of Exceedance

Ref. No.	Date	Time	Location	Measured TSP 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	N/A

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		Nature of Complaint	Outcome	Status
Nil	Nil	Nil	Nil	Nil	Nil	Closed



Appendix 9.1

**Construction Programme** 

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

D WBS	Task Name	Duration	Start	Finish Predecessors	Successors Tot	al Slack De	2013 c Jan FebMarAprMayJun Jul AugSepOctNovDe	ec Jan FebMarAprMayJun Jul AugSepOctNovDec Ja
1 1	Development at Anderson Road - Footbridge D and Associated Works		Thu 31/01/13			0 days		
2 1.1	PRELIMINARY WORK	578 days	Thu 31/01/13	Sun 01/02/15		541 days	-	
3 1.1.1	Application of XP, Site Access from Highways	140 days	Thu 31/01/13	Wed 31/07/13	88	889 days		
4 1.1.2	Tree Survey	12 days	Mon 18/02/13	Sat 02/03/13	5	0 days		
5 1.1.3	Transplant	30 days	Mon 04/03/13	Thu 11/04/13 4		0 days		
5 1.1.4	Air & noise baseline monitoring	50 days	Mon 18/02/13	Sat 20/04/13	46,47	8 days		
1.1.5	Record Survey, Condition Survey and Setting Out	90 days	Thu 31/01/13	Thu 30/05/13		1029 days		
3 1.1.6	Erect Fencing and Hoarding As Directed	48 days	Mon 08/04/13	Tue 04/06/13	16	491 days		
) 1.1.7	Design and material submission	120 days	Thu 31/01/13	Sat 06/07/13	38,79	128 days		
0 1.1.8	Handover of Portion A. B & C1	0 days	Sat 28/09/13	Sat 28/09/13	61	109 days	♦_28/09	
1 1.1.9	Handover of Portion E1	0 days	Fri 31/05/13	Fri 31/05/13		1029 days	♦ 31/05	
2 1.1.10	Handover of Portion E2	0 days	Sun 01/02/15	Sun 01/02/15		541 days		
3 1.2	Section 1		Mon 08/04/13			20 days		
4 1.2.1	Lift Tower D-A		Wed 05/06/13			491 days		
	Method statement and material submission			Tue 29/10/13 18SS-60 days		905 days		
5 1.2.1.1			Wed 05/06/13		17SS	491 days		
6 1.2.1.2	Excavation for Raft footing				1733	491 days		
7 1.2.1.3	Rock Joint Mapping for founding material of ra		Wed 05/06/13	Tue 03/12/13 16SS	19,15SS-60 days	491 days		, m
8 1.2.1.4	Construct Raft footing		Wed 04/12/13	Fri 10/01/14 17				
19 1.2.1.5	Construct RC Lift Tower and Retaining Wall	80 days	Sat 11/01/14	Sat 26/04/14 18	20,41	491 days		
20 1.2.1.6	Erect Steelwork for Lift Shaft			Tue 22/07/14 19	21,22	491 days		
1.2.1.7	Installation of Lift	100 days	Wed 23/07/14	Wed 19/11/14 20	22FF+5 days,23,24FS-60 days,54	491 days		
1.2.1.8	M&E Installation	100 days	Tue 29/07/14	Tue 25/11/14 20,21FF+5 days	s 23,24FS-60 days	550 days		
23 1.2.1.9	T & C of M&E Equipment	30 days	Wed 26/11/14	Fri 02/01/15 21,22	24FF+7 days	553 days		
1.2.1.10	Finishing and Metal Works	100 days	Mon 15/09/14	Wed 14/01/15 21FS-60 days,22FS-60 days,23FF+7 days		550 days		
25 <b>1.2.2</b>	Lift Tower D-B	480 days	Tue 08/10/13	Mon 01/06/15		439 days		
26 1.2.2.1	Method statement and material submission	30 days	Tue 08/10/13	Tue 12/11/13 27SS-60 days		893 days		
27 1.2.2.2	Excavation for Raft footing	100 days	Wed 18/12/13	Tue 29/04/14 74	28SS,26SS-60 days	379 days		
28 1.2.2.3	Rock Joint Mapping for founding material of ra	aft footing 100 days	Wed 18/12/13	Tue 29/04/14 27SS	29	379 days		
29 1.2.2.4	Construct Raft footing	30 days	Wed 30/04/14	Thu 05/06/14 28	30	379 days		
30 1.2.2.5	Construct RC Lift Tower and Retaining Wall	80 days	Fri 06/06/14	Wed 10/09/14 29	31,41	379 days		*****
31 1.2.2.6	Erect Steelwork for Lift Shaft	70 days	Thu 11/09/14	Wed 03/12/14 30	32,33	379 days		· · · · · · · · · · · · · · · · · · ·
32 1.2.2.7	Installation of Lift	100 days	Thu 04/12/14	Mon 13/04/15 31	33FF,34,35FS-60 days,54	379 days		
Date: Mon 10. Prepared By: T		Baseline Milestone ◇ Baseline Summary	*		Milestone Summary	*	Baseline Progress	
	ct Start On 31-Jan-2013						ng Joint Venture	

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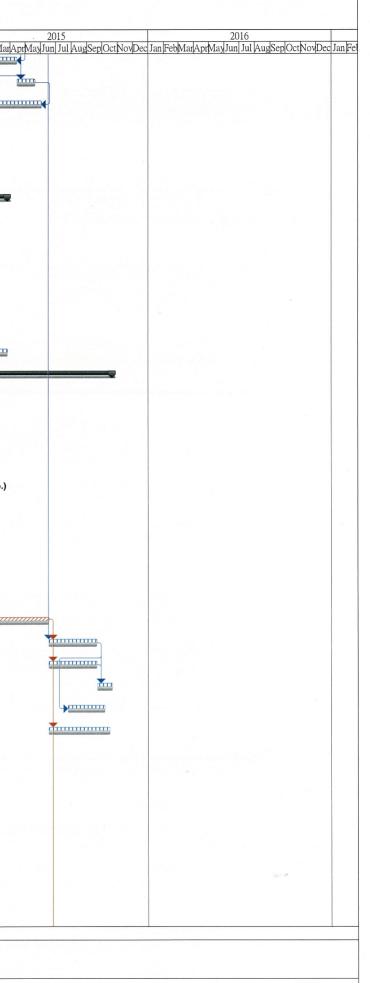
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2015 [ayJun] Jul AugSepOctNovDec	2016 Jan FebMarAprMayJun Jul AugSepOctNovDec	Jan
	9	
- Standard		
	Start of	

4/1       3.1       Bridge Deck D.AB       553 days       Ved 2400/15       Ved 2500/15       588 days         5/7       1.2.5.1       Method softwarent tod material administion       30 days       Wed 2400/15       Tot 30005133885 60 days       1020 days         5/7       1.2.5.1       Method softwarent tod material administion       30 days       Wed 2400/15       Tot 30005133885 60 days       1020 days         5/7       1.2.3.3       Concenting the Biblings on the       60 days       Fei 1400/14       425 2001/15       99,7785 60 days       125 days         1/2.3.3       Exercing Seed bridge finanz       7 days       The 1000 days       Wed 2001/14       704 5001/19       48.52 days         1/2.3.3       Exercing Seed bridge finanz       7 days       The 2010/14       45.52 days       406 days         1/2.3.4       Confing and Biblings werks on bridge       0.00 days       Fei 1000/14       50.201/14 40.301/8       40 days         1/2.3.4       Denotish the existing strenture       30 days       The 2010/15 das       40 days       40 days         1/2.4.2       Precht 1 Advoorming efficiency       30 days       The 2010/15 das       40 days       40 days         1/2.4.3       Denotish the existing strenture       30 days       The 2010/15 das       50.201/14 das </th <th></th> <th></th> <th></th> <th></th> <th></th> <th>De</th> <th>velopment at A</th> <th>nderson Road</th> <th>or Contract No. CV I - Footbridge D an (Rev. 2)</th> <th>d Associate</th> <th>d Works</th> <th></th> <th></th>						De	velopment at A	nderson Road	or Contract No. CV I - Footbridge D an (Rev. 2)	d Associate	d Works		
No.         Dist.         D		Name	Duration	Start	Finish	Predecessors	Successors	Total Slack D	ec Ian FebMarAprMayJun	13 Jul AugSepOct	NovDec Jan FebMar	2014 AprMayJun Jul Au	SepOctNovDec
S       2.3.0       Finding and Mail Wals       100 day       Ph 1500/13       Man B3503 3277-0 day       44 day         S       2.3.1       Endog Lack D.4       55 day       Vel 240403       Wel 250035       184 day         S       2.3.1       Ordering to Mail And Mail       100 day       No 1860013       78.1500/13       29.3575-60 day       12.4 day         S       2.3.2       Ordering to Mail An Static Mail       100 day       No 1860013       78.1500/13       29.3575-60 day       12.4 day         S       2.3.2       Ordering to Mail An Static Mail       100 day       No 1860013       78.1500/13       29.3575-60 day       12.4 day         S       12.4 day       Contrain to Mail An Static Mail       100 day       No 1860014       29.05013       41.8 day         S       12.1 day       Mail Mail Mail       No 1860014       20.250013 4       42.4 day         S       12.1 day       Mail Mail Mail Mail Mail       No 1860014       20.250013 4       42.4 day         S       12.1 day       Mail Mail Mail Mail Mail Mail Mail Mail		M&E Installation		Thu 04/12/14	Mon 13/04/	15 32FF,31							
All         Social State         Social State         Social State         Social State           All         2.3.3         Bodge Dash Dall         Social State         Med 2404/13         Med 2404/14	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					
No.         No. <td>35 1.2.2.10</td> <td>Finishing and Metal Works</td> <td>100 days</td> <td>Fri 30/01/15</td> <td>Mon 01/06/</td> <td>days,33FS-60 days,34FF+7</td> <td></td> <td>443 days</td> <td></td> <td></td> <td></td> <td></td> <td></td>	35 1.2.2.10	Finishing and Metal Works	100 days	Fri 30/01/15	Mon 01/06/	days,33FS-60 days,34FF+7		443 days					
IDEA         Decked Statute and Statutes         Decked St	6 1.2.3	Bridge Deck D-AB	563 days	Wed 24/04/13	Wed 25/03/	15		188 days	-				
12.22         Outman and Markan         10.000         Number 100.000         10.0000           12.33         Presention of Skill orket of aire         01.000         10.0001/80         40.000         10.2001/80         40.000         10.2001/80           12.33         Presention of Skill orket of aire         71.400         10.0001/80         40.000         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         10.2001/80         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00         40.00	7 1.2.3.1	Method statement and material submission	30 days	Wed 24/04/13	Thu 30/05/	13 38SS-60 days		1029 days					
9         12.5.5         Prantame and accent use in balance         100 days         Fit Loop /	38 1.2.3.2	Ordering of Material	100 days	Mon 08/07/13	Tue 05/11/	139	39,37SS-60 days	128 days			ካ		
Dial Lab.         Constraint get higher is the         Outget is in the intervent of	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					
Image: Construct matrix modulation         Guidan         Sci 201/14/41         43         496 days           Image: Construct modulation         Guidan         Sci 201/14/41         43         496 days           Image: Construct modulation         Guidan         Sci 201/14/41         43         496 days           Image: Construct modulation         Guidan         Sci 201/14/41         43         496 days           Image: Construct modulation         Guidan         Sci 201/14/41         Construct modulation         Guidan         Sci 201/14/41           Image: Construct modulation         Guidan         Sci 201/14/41         Construct modulation         Guidan         Sci 201/14/41         Guidan         Sci 201/14/41           Image: Construct modulation         Guidan         The 200/01/14         File 200/01/44         Sci 201/01/44         Guidan	40 1.2.3.4	Connecting the Bridge on site	60 days	Fri 14/03/14	Wed 28/05/	14 39	41	582 days			<b></b>		-
2       12.30       Exclamate infinite vectors on bridge       00 days       Million (174)       40       200001         12.12.7       Excling and finite vectors on bridge       00 days       Million (174)       90       400       12.4         12.4       Likh Tower D-C       728 days       Tuo 0200513       Tuo 2010/15       90       303 days         6       12.4.1       Medical durament and material oblishion       30 days       Tuo 0200513       Tuo 2010/15       90       303 days         67       12.4.3       Demolshic floc collars of floc datad all necessary       40 days       Tuo 0200513       Fil 2500113 46.6       48       120 days         68       12.4.4       Cemence by Environ 11 High (60 ms) (included all necessary       40 days       Mill 212/13       Sin 1207/14 47/32/24       40.4555-60 days       0 days         69       12.4.4       Cemence hypercente and len0       Modera       Tuo 0200713       Well 19/273       Sin 1207/14 47/32/24       40.4555-60 days       0 days         71       12.4.5       Fil Teoling       Modera       Meel 19/273       Sin 1207/14 47/32/24       40.4555-60 days       0 days         72       12.4.6       Construct gale cap       10 days       Tuo 10/11/14       Moe 10/11/14 50       52       0.4a	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					<b>T</b>
13.         12.1.7         Recording and Hittoring works minutage         90.000         Note 2000         Note 2000         Note 2000           14.         12.4.1         Uth Tower DC         72 days         Tow 2000/15         72 days         7000         9000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         7000/13         <	42 1.2.3.6	Irrigation system installation	60 days	Fri 19/09/14	Sat 29/11/	14 41	43	496 days					to compare the second
Interface         Number of the civiting structure:         Number	43 1.2.3.7	Roofing and finishing works on bridge	90 days	Mon 01/12/14	Wed 25/03/	15 42		496 days					
Interpretation         Prechail & determine FL (included all necessary preparation doll les)         Into QUOVI3         Wed 19/00/13 6         47.70.73         O days preparation           47         12.4.3         Demolish the existing structure         30 days         Fin 2000/13         Fin 2000/13         66         48         120 days preparation         120 days	44 <b>1.2.4</b>	Lift Tower D-C	726 days	Thu 02/05/13	Tue 20/10/	15		0 days	s <del></del> -				
Internation and test)         preparation and test)         Product of the existing structure         30 days         The 2007/13 46,6         48         120 days           47         12.4.3         Denodish the existing structure         30 days         The 2007/13 46,6         48         120 days           48         12.4.4         Construct Pre-burdel H pile (60 no) (included all necessary         100 days         Mon 1407/14         The 2008/14 48         50         0 days           51         12.4.5         Pit: Testing         40 days         Mon 1407/14         The 2008/14 48         50         0 days           51         12.4.7         Construct superstructure to level 103.8         30 days         The 2008/14 48         50         0 days           52         12.4.8         Backfilling above pile cap         12 days         The 2008/14 48         50         0 days           53         12.4.1         Construct superstructure to level 103.8         10 days         The 2017/14         Mon 1506/15 52         54.58.58.2         0 days           54         12.4.10         Mathematican of Lat         80 days         The 2010/15 54.55         327 days         37         32.4.13         Rocing Cramecian Tower D-3 & D-C         10 days         The 2010/15 54.55         327 days         331 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		<b>*</b>	9		
12.4.1       Definition the locking balance       1.0 about 1 in locking in the locking in t	46 1.2.4.2		40 days	Thu 02/05/13	Wed 19/06/	13 6	47,70,73	0 days	22223-				
12.24       Construct related in Figure (00 fb) (included all necessary)       100 alps       Not 10/2713       0.0000 (00 alps)       0.0000         44       12.45       Pile Testing       40 days       Mon 10/1714       Thu 220/074/144       50       0.0000         50       12.46       Construct pile cap       30 days       Fit 290/8714       Mon 06/10/14 49       51       0.0000         51       12.4.7       Construct pile cap       30 days       Fit 290/8714       Mon 06/10/14 49       51       0.0000         52       12.4.8       Backfilling above pile cap       12 days       Tac 11/11/14       Mon 1500/15 52       54.58.55.52       0.00000         53       12.4.9       Construct superstructure level 103.8-158.05       160 days       Tac 100/105 53.21.3.2       56.5778-49 days       327 days         54       12.4.10       Installation of Lift       80 days       Tue 1600/15       Stat 1900/15 53.3       56       327 days         55       12.4.13       Roofing Connection Tower Da Be D-C       60 days       Fit 2407/16       Mon 02/00/15       Stat 1900/15 548-49 days       331 days         59       12.4.1       Method statement and material submission       30 days       The 1200/13 follos/548-49 days       900 days       1331 days      <	47 1.2.4.3	Demolish the exixting structure	30 days	Thu 20/06/13	Fri 26/07/	13 46,6	48	120 days					
50       1.2.4.6       Construct pile cap       30 days       Fri 2908/14       Mon 09/10/14 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       1.2 days       Tue 11/11/14       Mon 20/11/14 51       53       0 days         53       1.2.4.9       Construct superstructure level 103.8-158.05       160 days       Tue 25/11/14       Mon 1506/15 52       54.58.55.82       0 days         54       1.2.4.10       Installation of Lift       80 days       Tue 1606/15       Sat 1909/15 53.21.32       56.5718-49 days       327 days         55       1.2.4.12       T.& C of M&E Equipment       24 days       Mon 2009/15       Tue 2010/15 54/75.49       331 days         56       1.2.4.12       T.& C of M&E Equipment       24 days       Mon 2009/15       Tue 2010/15 54/75.40       331 days         57       1.2.4.13       Roofing Connection Tower D-B & D-C       60 days       Thu 107/17       Mon 2002/15       Tue 201/01/15 4/75.40       331 days         59       1.2.5.1       Method statement and material submission       30 days       Thu 107/10/10       62.60558-60 days       100	48 1.2.4.4		160 days	Wed 18/12/13	Sat 12/07/	14 47,72,74	49,45SS-60 days	0 days				Bore	ed pile machine
1.2.4.7       Construct uperstructure 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 1900/15 53.21.32       56,57F8-49 days       327 days         55       1.2.4.10       Installation of Lift       80 days       Tue 16/06/15       Sat 1900/15 54,55       327 days         56       1.2.4.12       T.& C of M&E Equipment       24 days       Mon 21/101/15 54/55       327 days         57       1.2.4.13       Roofing Connection Tower D-B & D-C       60 days       Tue 201/015 54/55       327 days         58       1.2.4.14       Finishing and Metal Works       100 days       Tue 16/06/15       Tue 15/10/15 53       331 days         59       1.2.5.1       Method statement and material submission       30 days       Thu 18/07/13       Thu 22/08/13 6188-60 days       960 days         61       1.2.5.2       Slope Cutting	49 1.2.4.5	Pile Testing	40 days	Mon 14/07/14	Thu 28/08/	14 48	50	0 days					η
12.12.4.8       Baackfilling above pile cap       12 days       Tue 11/11/4       Mon 24/11/14 51       53       0 days         53       1.24.4.9       Construct superstructure level 103.8-158.0.5       160 days       Tue 25/11/14       Mon 1506/15 52       54,58,55.8.2       0 days         54       1.24.10       Installation of Lift       80 days       Tue 100/015       Sat 1909/15 53.21.32       56,57ES-49 days       327 days         55       1.24.11       M&E Installation       80 days       Tue 100/015       Sat 1909/15 53.2       327 days         56       1.24.12       T & C of M&E Equipment       24 days       Mon 21/09/15       Tue 201/01/5 54/ES-49 days       301 days         57       1.24.14       Finishing and Metal Works       100 days       Tue 160/01/5       Tue 15/01/15 53       31 days         58       1.24.14       Finishing and Metal Works       100 days       Tue 160/01/5       Tue 120/01/15 54/ES-49 days       301 days         59       1.25.       Pier D-D       450 days       Tue 160/01/13       Mon 02/02/15       169 days         61       1.25.2       Slope Cutting       10 days       5a1 28/11/13       Thu 02/08/13 61SS-60 days       109 days         62       1.25.4       Predrill & determine F/L (included all necessa	50 1.2.4.6	Construct pile cap	30 days	Fri 29/08/14	Mon 06/10/	14 49	51	0 days					2000
a 10.0       Construct superstructure level 103.8-158.05       160 days       Tue 25/11/14       Mon 1506/15 52       54,58,55,82       0 days         53       1.2.4.10       Installation of Lift       80 days       Tue 1606/15       Sat 1909/15 53,21,32       56,57FS-49 days       327 days         55       1.2.4.10       M&E Installation       80 days       Tue 1606/15       Sat 1909/15 53       56       327 days         56       1.2.4.12       T & C of M&E Equipment       24 days       Mon 2109/15       Tue 2010/15 54,55       327 days         57       1.2.4.13       Roofing Connection Tower D-B & D-C       60 days       Fri 2407/15       Mon 2020/15       31 days         59       1.2.4.14       Finishing and Metal Works       100 days       Tue 1606/15       Thu 15/10/15 53       331 days         59       1.2.5.1       Method statement and material submission       30 days       Thu 120/07/13       Thu 2208/13 61SS-60 days       960 days         61       1.2.5.2       Slope Cutting       10 days       Fri 20/12/13 62       64       109 days         62       1.2.5.4       Predrill & determine F/L (included all necessary preparation and test)       20 days       St 21/12/13       Thu 170/1/16 63       65       109 days         64       1.	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					T
35       12.4.9       Construct subjects tubelity level 105.8-158.05       100 days	52 1.2.4.8	Backfilling above pile cap	12 days	Tue 11/11/14	Mon 24/11/	14 51	53	0 days					<b>E</b>
12.4.11       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       Fri 11/10/13       Wed 27/11/13 61       63       109 days         62       1.2.5.4       Predrill & determine F/L (included all necessary preparation and test)       20 days       Thu 28/1/13       Fri 20/12/13 62       64       109 days         64       1.2.5.5       Construct mini pile (30 nos) (included all necessary       90 days       Sat 21/12/13       Thu 17/04/14 63       65       109 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					
12.4.112       T & C of M&E Equipment       24 days       Mon 21/09/15       Tue 20/10/15 54,55       327 days         17       1.2.4.12       T & C of M&E Equipment       24 days       Mon 21/09/15       Tue 20/10/15 54,55       327 days         17       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         18       1.2.4.14       Finishing and Metal Works       100 days       Tue 16/06/15       Thu 15/10/15 53       331 days         19       1.2.5.1       Method statement and material submission       30 days       Thu 18/07/13       Thu 20/8/13 61SS-60 days       960 days         10       1.2.5.2       Slope Cutting       10 days       Sat 28/09/13       Thu 10/10/13 10       62,60SS-60 days       109 days         10       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         10       41.2.5.5       Construct mini pile (30 nos) (included all necessary preparation and test)       90 days       53 10/12/13       65       109 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					
a hand       b b connection Tower D-B & D-C       60 days       Fri 24/07/15       Mon 05/10/15 54FS-49 days       340 days         57       1.2.4.13       Roofing Connection Tower D-B & D-C       60 days       Twe 160/6/15       Thu 15/10/15 53       331 days         58       1.2.4.14       Finishing and Metal Works       100 days       Twe 160/6/15       Thu 15/10/15 53       331 days         59       1.2.5       Pier D-D       450 days       Thu 18/07/13       Thu 22/08/13 61SS-60 days       960 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       1.2.5.4       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 90 days       Sat 21/12/13       Thu 17/04/14 63       65       109 days       Fri 20/12/13 62       64       109 days	55 1.2.4.11	M&E Installation	80 days	Tue 16/06/15	Sat 19/09/	15 53	56	327 days					
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	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					
Solution       Finance	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					
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	58 1.2.4.14	Finishing and Metal Works	100 days	Tue 16/06/15	Thu 15/10/	15 53		331 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 90 days       Sat 21/12/13       Thu 17/04/14 63       65       109 days	59 1.2.5	Pier D-D	450 days	Thu 18/07/13	Mon 02/02/	15		169 days					
61       1.2.5.3       Working platform for mini pile       40 days       Fri 11/10/13       Wed 27/11/13 61       63       109 days         62       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 90 days       Sat 21/12/13       Thu 17/04/14 63       65       109 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					
02       1.2.5.5       working praction into minipile       40 days       111110/15       wed 2/11115 01       05       109 days         03       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       90 days       Sat 21/12/13       Thu 17/04/14 63       65       109 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		<b>_</b>			
64     1.2.5.5     Construct mini pile (30 nos) (included all necessary     90 days     Sat 21/12/13     Thu 17/04/14 63     65     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					
1.2.5.5 Construct mini pie (50 nos) (included an necessary 50 days bla 21/12/15 mid monthes	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		- vix	<b>*</b>		
	64 1.2.5.5		90 days	Sat 21/12/13	Thu 17/04,	/14 63	65	109 days				₩_Mini pile mach	nine - A (1no)

and Finish On 30-Nov-2016 (1399 days) Duration as shown by week day

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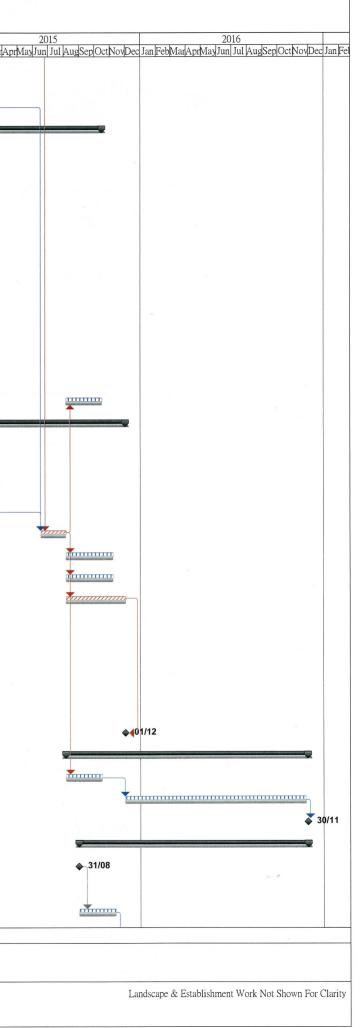
Landscape & Establishment Work Not Shown For Clarity

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

(Rev. 2) 2013 2014 2015 2016 ec Jan FebMarAprMayJun Jul AugSepOctNovDec Jan FebMarAprMayJun Jul Aug ID Task Name Total Slack Star Finish Successors WBS Duration 65 1.2.5.6 Pile Testing 40 days Tue 22/04/14 Mon 09/06/14 64 66 109 day ..... 67 109 days 66 1.2.5.7 100 days Tue 10/06/14 Thu 09/10/14 65 Construct pile cap 109 day: 82 ····· Fri 10/10/14 Mon 02/02/15 66 67 1.2.5.8 Construct pier to level 152.1 90 days 60 days 742 days Mon 08/04/13 Thu 15/10/15 68 1.2.6 Slope Works 1043 days 69 1.2.6.1 Method statement and material submission 30 days Mon 08/04/13 Mon 13/05/13 70SS-60 days Soil nail machine-A (1no. 71SS.72.69SS-60 50 days 50 days Thu 20/06/13 Mon 19/08/13 46 70 1.2.6.2 Slope Cutting, Soil Nail and Raking Drain (Row D-F) days (included all necessary preparation and test) 31nos 893 days 71 1.2.6.3 Construct Cascade and down pipe 120 days Thu 20/06/13 Tue 12/11/13 70SS Soil nail machine-A (1no.) 48 50 days Tue 20/08/13 Sat 19/10/13 70 72 1.2.6.4 Slope Cutting, Soil Nail and Raking Drain (Row C-A) 50 days (included all necessary preparation and test) 40nos 74 Soil nail machine-B (1no.) 0 days 73 1.2.6.5 Slope Cutting, Soil Nail and Raking Drain (Row S-L) 90 days Thu 20/06/13 Mon 07/10/13 46 (included all necessary preparation and test) 103nos Soil nail machine-B (1no.),Soil nail machine-A (1no.) Slope Cutting, Soil Nail and Raking Drain (Row K-G) Tue 08/10/13 Tue 17/12/13 73 75,27,48 0 days 74 1.2.6.6 60 days (included all necessary preparation and test) 102nos 743 days ...... 75 1.2.6.7 Construction of Inspection Access to Slope 120 days Wed 18/12/13 Fri 23/05/14 74 Wed 05/08/15 Thu 15/10/15 82 331 days 76 1.2.6.8 Constructio of Footpath (Portion B) 60 days 767 days Wed 24/04/13 Tue 01/12/15 208 days 77 1.2.7 Bridge Deck D-CE Wed 24/04/13 Thu 30/05/13 79SS-60 days 1029 days 78 1.2.7.1 Method statement and material submission 30 days 79 1.2.7.2 Mon 08/07/13 Tue 18/02/14 9 80,78SS-60 days 148 days ..... Ordering of Material 180 days 81 128 days 80 1.2.7.3 Fabrication of Steel work off site 150 days Fri 14/03/14 Mon 15/09/14 79,39 ...... 82 128 days Tue 16/09/14 Sat 03/01/15 80 81 1.2.7.4 Connecting the Bridge on site 90 days 83.85.93.76.84 0 days Tue 16/06/15 Tue 04/08/15 81,67,53 82 1.2.7.5 Erecting Steel bridge frame 40 days Wed 05/08/15 Fri 06/11/15 82 313 days 83 1.2.7.6 M&E Installation 78 days 313 days Wed 05/08/15 Fri 06/11/15 82 84 1.2.7.7 Irrigation system installation 78 days 85 1.2.7.8 Roofing and finishing works on bridge 99 days Wed 05/08/15 Tue 01/12/15 82 91FF 0 days Tue 20/08/13 Wed 18/02/15 526 days 86 1.2.8 Drainage Works at Shun On Road 437 days 87 1.2.8.1 Method statement and material submission 30 days Tue 20/08/13 Tue 24/09/13 88SS-60 days 933 days 88 1.2.8.2 Fri 01/11/13 Tue 25/02/14 3 87SS-60 days 813 days DN1500 drainage construction 90 days ······ 90 526 days 89 1.2.8.3 DN375 and DN225 Drainage construction 60 days Fri 19/09/14 Sat 29/11/14 41 Toluno 526 days 90 1.2.8.4 Mon 01/12/14 Wed 18/02/15 89 Road Works and Reinstatement Works 60 days 0 days Tue 01/12/15 Tue 01/12/15 85FF 91 1.2.9 Completion of Section 1 0 days 92 1.3 390 days Wed 05/08/15 Wed 30/11/16 1 day Section 2 94 42 days 93 1.3.1 Wed 05/08/15 Thu 15/10/15 82 60 days Landscape Softworks for Footbridge D 95 94 1.3.2 Establishment Works for Footbridge D 289 days Tue 01/12/15 Fri 25/11/16 93 4 days 1 day 95 1.3.3 Completion of Section 2 0 days Wed 30/11/16 Wed 30/11/16 94 369 days Mon 31/08/15 Wed 30/11/16 0 days 96 1.4 Section 3 0 days 97 1.4.1 0 days Mon 31/08/15 Mon 31/08/15 98 Notified by The Engineer for commencing (Subject to Excision) 99 20 days 60 days Mon 31/08/15 Wed 11/11/15 97 98 1.4.2 Landscape Softworks for Footbridge D Baseline Milestone Task Milestone . Baseline Date: Mon 10/06/13 mm Progress Prepared By: T.L. Lo Critical Task Summary Baseline Summary

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



						De	Master velopment at A	Programme Anderson Ro	e For Contract No. oad - Footbridge D (Rev. 2)	CV/2012/07 and Associated Wo	orks	
ID 99	WBS 1.4.3	Task Name Landscape Softworks and Establishment Works for Footbridge A, B and C	Duration 289 days	Start Thu 12/11/15	Finish Mon 07/11/	Predecessors 16 98	Successors 100	Total Slack ) 20 day		2013 Jun  Jul AugSep OctNovDec	2014 c Jan FebMarAprMayJun Jul AugSepOctNovD	ec Jan FebMarApr
100	1.4.4	Completion of Section 3	0 days	Wed 30/11/16	Wed 30/11/	16 99		0 day	/S			

Date: Mon 10/06/13     Baseline Milestone     Task     Infinition     Milestone     Baseline       Prepared By: T.L. Lo     Baseline Summary     Critical Task     Critical Task     Summary     Progress	_
Date: MOI 10/00/15 Deserve Micsione V 1 ask difference Deserve Des	
Date: Mon 10/06/13 Baseline Milestone A Task Milestone A Baseline	

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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

2015 prMayJun Jul AugSepOctNovDe	20 ec Jan FebMarAnrMay Jun	16 Jul AugSenOctN	lovDec Ian F
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