

Our ref AFK/TK/bw/T264022/22.01/L-0210

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Your ref

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> 15 September 2014 By Fax (2805 5028) and Post

Attn.: Mr. James Penny

Dear Sir,

Widening of Tolo Highway between Island House Interchange and Tai Hang Environmental Permit (EP) No.: EP-324/2008/B Condition 3.3 – Submission of Monthly EM&A Report for August 2014 (Stage 1)

We refer to the captioned Monthly EM&A Report submitted by Environmental Team (ET) on 15 September 2014 via email. Pursuant to EP Condition 3.3, I hereby verify the Monthly EM&A Report for August 2014 (Stage 1) for the Project.

Yours faithfully for MOTT MACDONALD HONG KONG LIMITED

In Konf

Terence Kong Independent Environmental Checker

c.c. HyD – Mr. Raymond T W Kong / Mr. Dennis Wong ETL, AECOM – Mr. Y T Tang

(Fax: 2714 5198) (Fax: 2317 7609)

TABLE OF CONTENTS

			Page
EXE	ECUTI	VE SUMMARY	1
	Rep	orting Change	1
1	INTF	RODUCTION	3
	1.1 1.2 1.3 1.4 1.5	Project Organization	3 4 4 5 5
2	AIR	QUALITY MONITORING	6
	2.1 2.2 2.3 2.4 2.5 2.6 2.7 2.8	Monitoring Requirements Monitoring Equipment Monitoring Locations Monitoring Parameters and Frequency Monitoring Methodology Monitoring Schedule for the Reporting Month Monitoring Results Results and Observations	6 6 7 7 8 9 9
3	NOIS	SE MONITORING	10
	3.1 3.2 3.3 3.4 3.5 3.6 3.7	Monitoring Requirements Monitoring Equipment Monitoring Locations Monitoring Parameters and Frequency Monitoring Methodology Monitoring Schedule for the Reporting Month Monitoring Results	10 10 11 11 12 12
4	ENV	IRONMENTAL SITE INSPECTION AND AUDIT	13
	4.1 4.2 4.3 4.4 4.5 4.6	Site Inspection Advice on the Solid and Liquid Waste Management Status Environmental Licenses and Permits Implementation Status of Environmental Mitigation Measures Summary of Exceedances of the Environmental Quality Performance Limit Summary of Complaints, Notification of Summons and Successful Prosecutions	13 13 14 16 16 16
5	FUT	URE KEY ISSUES	17
	5.1 5.2 5.3	Construction Programme for the Coming Month Key Issues for the Coming Month Monitoring Schedule for the Coming Month	17 17 17
6	CON	ICLUSIONS AND RECOMMENDATIONS	18
	6.1 6.2	Conclusions Recommendations	18 18



List of Tables

- Table 1.1
 Contact Information of Key Personnel
- Table 2.1Air Quality Monitoring Equipment
- Table 2.2
 Locations of Impact Air Quality Monitoring Stations
- Table 2.3
 Air Quality Monitoring Parameters and Frequency
- Table 2.4Summary of 1-hour TSP Monitoring Results in the Reporting Period
- Table 2.5
 Summary of 24-hour TSP Monitoring Results in the Reporting Period
- Table 3.1 Noise Monitoring Equipment
- Table 3.2 Locations of Impact Noise Monitoring Stations
- Table 3.3
 Noise Monitoring Parameters and Frequency
- Table 3.4
 Summary of Construction Noise Monitoring Results in the Reporting Period
- Table 4.1
 Summary of Environmental Licensing and Permit Status

Figures

- Figure 1.1 General Project Layout Plan
- Figure 2.1 EM&A Monitoring Locations
- Figure 4.1 Environmental Complaint Handling Procedures

List of Appendices

- Appendix A Project Organization Structure
- Appendix B Construction Programmes
- Appendix C Implementation Schedule of Environmental Mitigation Measures (EMIS)
- Appendix D Summary of Action and Limit Levels
- Appendix E Calibration Certificates of Monitoring Equipments
- Appendix F EM&A Monitoring Schedules
- Appendix G Impact Air Quality Monitoring Results and their Graphical Presentation
- Appendix H Meteorological Data for the Reporting Month
- Appendix I Impact Daytime Construction Noise Monitoring Results and their Graphical Presentation
- Appendix J Event Action Plan
- Appendix K Site Inspection Summaries
- Appendix L Statistics on Complaints, Notifications of Summons and Successful Prosecutions



EXECUTIVE SUMMARY

The proposed widening of Tolo Highway and Fanling Highway between Island House Interchange and Fanling (the Project) is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is governed by an Environmental Permit (EP-324/2008)(EP) issued by EPD on 23 December 2008. Subsequently, EPD issued a Variation of Environmental Permit (EP-324/2008/A) (VEP) on 31 January 2012. The VEP (EP-324/2008/B) was subsequently granted on 17 March 2014 which superseded the previous EP (EP-324/2008/A). The most recent variation of the EP does not cover Stage 1 (between Island House Interchange and Tai Hang) of the Project.

The Project aims to widen Tolo Highway and Fanling Highway to dual 4-lane carriageway in order to alleviate the current traffic congestion problems and to cope with the increasing transport demands to and from the urban areas and also cross boundary traffic.

The construction works for this Project will be delivered in 2 stages i.e. Stage 1 (between Island House Interchange and Tai Hang) and Stage 2 (between Tai Hang and Wo Hop Shek Interchange). The construction works of Stage 1 were commenced on 23 November 2009 and will tentatively be completed in October 2014. This report focuses on Stage 1 of the Project only.

The construction phase of Stage 1 under the EP and the Environmental Monitoring and Audit (EM&A) programme for Stage 1 of the Project commenced on 23 November 2009. The impact environmental monitoring and audit includes air quality and noise monitoring.

This report documents the findings of EM&A works conducted in the period between 1 and 31 August 2014.

As informed by the Contract 1 Contractor (China State Construction Engineering (Hong Kong) Ltd.), construction activities in the reporting period were:-

- Asphalt laying;
- Installation of drainage pipes; and
- Landscape softworks.

The construction works carried out by the Contract 2 Contractor (Gammon Construction Ltd.) in the reporting period were:-

- Temporary traffic arrangements;
- Slope outstanding and remedial works;
- Noise barrier outstanding and remedial works;
- Entrusted watermains works;
- Road and drainage outstanding and remedial works; and
- Landscaping works.

Reporting Change

There was no reporting change required in the reporting month.

Breaches of Action and Limit Levels for Air Quality

No exceedance of Action and Limit Level was recorded for 1-hour and 24-hour TSP monitoring in the reporting month.

Breaches of Action and Limit Levels for Noise

No Action Level exceedance of construction noise was recorded in the reporting month since no noise complaints related to 0700 – 1900 hours on normal weekdays was received and followed by the Environmental Team in the reporting month.

No Limit Level exceedance of construction noise was recorded in the reporting month.

Complaint, Notification of Summons and Successful Prosecution

No complaint, notification of summons and successful prosecution was received in the reporting month.

Future Key Issues

Key issues to be considered in the coming month included:-

- Properly store and label oils and chemicals on site;
- Chemical, chemical waste and waste management;
- Collection of construction waste should be carried out regularly;
- Site runoff should be properly collected and treated prior to discharge;
- Properly maintain all drainage facilities and wheel washing facilities on site;
- Exposed slopes should be covered up properly if no temporary work will be conducted;
- Suppress dust generated from excavation, breaking and drilling activities, haul road traffic and grout mixing;
- Quieter powered mechanical equipment should be used;
- Closely check and replace the sound insulation materials wrapped at the concrete breaker tip regularly;
- Better scheduling of construction works to minimize noise nuisance; and
- Tree protective measures for all retained trees should be well maintained.

1 INTRODUCTION

1.1 Background

- 1.1.1. Tolo Highway and Fanling Highway are expressways in the North East New Territories connecting Sha Tin, Tai Po and Fanling. These highways form a vital part of the strategic Route 9, which links other major strategic routes to Shenzhen. At present, this section of Route 9 is dual 3-lane carriageway. However, at several major interchanges along this section of Route 9, the highway is only dual-2 lane. Severe congestion is a frequent occurrence during peak periods, particularly in the Kowloon bound direction.
- 1.1.2. The objective of the Project "Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling" is to widen Tolo Highway and Fanling Highway to dual 4-lane carriageway in order to alleviate the current traffic congestion problems and to cope with the increasing transport demands to and from the urban areas and also cross boundary traffic.
- 1.1.3. The Project is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is governed by an Environmental Permit (EP-324/2008)(EP) issued by EPD on 23 December 2008. Subsequently, EPD issued a Variation of Environmental Permit (EP-324/2008/A) (VEP) on 31 January 2012. The VEP (EP-324/2008/B) was subsequently granted on 17 March 2014 which superseded the previous EP (EP-324/2008/A). The most recent variation of the EP does not cover Stage 1 (between Island House Interchange and Tai Hang) of the Project.
- 1.1.4. The scope of the Project comprises mainly:-
 - (i) Widening of a 5.7 km section of Tolo Highway and 3.0 km section of Fanling Highway between Island House Interchange and Wo Hop Shek Interchange from the existing dual 3-lane to dual 4-lane, including construction of new vehicular bridges;
 - Widening of interchange sections at Island House Interchange, Tai Po North Interchange, and Lam Kam Road Interchange from dual 2-lane to dual 3-lane, except Sha Tin bound carriageway at Tai Po North Interchange, which is widened from 3-lane to 4-lane, including realignment of various slip roads;
 - (iii) Modification and reconstruction of highways, vehicular bridges, underpasses and footbridges.
- 1.1.5. The construction works for this Project will be delivered in 2 stages i.e. Stage 1 (between Island House Interchange and Tai Hang) and Stage 2 (between Tai Hang and Wo Hop Shek Interchange). The construction works of Stage 1 commenced on 23 November 2009 and will tentatively be completed in October 2014; while the construction works of Stage 2 commenced on 21 November 2013. This report focuses on Stage 1 of the Project only.
- 1.1.6. The construction works for Stage 1 of the Project will be implemented under 2 works contracts (Contract 1 and Contract 2). Contract 1 covers the section of Tolo Highway between Island House Interchange and Ma Wo, Contract 2 covers the section of Tolo Highway between Ma Wo and Tai Hang.
- 1.1.7. Hyder-Arup-Black and Veatch Joint Venture (HABVJV) are appointed by Highways Department (HyD) as the consultants for the design and construction assignment for the Tolo project under Agreement No. CE 58/2000 Supplementary Agreement No. 3 (SA3) (i.e. the Engineer for the Contracts).
- 1.1.8. China State Construction Engineering (Hong Kong) Ltd. (CSHK) was commissioned as the Contractor of Contract 1 of Stage 1 of the Project, while Gammon Construction Limited (GCL) was commissioned as the Contractor of Contract 2 of Stage 1 of the Project.
- 1.1.9. AECOM Asia Co. Ltd. was employed by HyD as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) works for Stage 1 of the Project and Mott MacDonald Hong Kong Ltd. acts as the Independent Environmental Checker (IEC) for the Contracts.
- 1.1.10. The construction phase of Stage 1 under the EP commenced on 23 November 2009.

1.1.11. According to the updated EM&A Manual of Stage 1 of the Project, there is a need of an EM&A programme including air quality and noise monitoring. The EM&A programme for Stage 1 of the Project commenced on 23 November 2009.

1.2 Scope of Report

1.2.1 This is the fifty-eighth monthly EM&A Report under the Agreement No. CE 20/2009 (EP) - Widening of Tolo Highway between Island House Interchange and Tai Hang – Investigation. This report presents a summary of the environmental monitoring and audit works, list of activities and mitigation measures proposed by the ET for Stage 1 of the Project in August 2014.

1.3 Project Organization

1.3.1 The project organization structure is shown in Appendix A. The key personnel contact names and numbers are summarized in Table 1.1.

Table 1.1	Contact Information of Key Personne	
	contact information of Key Tersonne	

Party	Position	Name	Telephone	Fax
ER of Stage 1, Contract 1 (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer /TOLO1	James Tsang	9038 8797	26674000
ER of Stage 1, Contract 2 (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer /TOLO2	Paul Appleton	9097 5833	2653 2348
IEC of Stage 1 (Mott MacDonald Hong Kong Limited)	Independent Environmental Checker	Terence Kong	2828 5919	2827 1823
Contractor of Stage 1, Contract 1	Site Agent	Eddie Tang	9863 7686	2667 5666
(China State Construction Engineering (Hong	Environmental Officer	Michael Tsang	9277 4956	2667 5666
Kong) Limited)	Environmental Oncer	M L Lam	9489 4641	2667 5666
	Site Agent	John Chan	3126 1202	2559 3410
Contractor of Stage 1, Contract 2		Thomson Chang	9213 6569	2559 3410
(Gammon Construction Limited)) Environmental Officer	Crispin Ao	9223 8773	2559 3410
		Jimmy Tsang	9720 9738	2559 3410



Party	Position	Name	Telephone	Fax
ET of Stage 1	ET Leader	Y T Tang	3922 9393	3922 9797
(AECOM Asia Company Limited)				

1.4 Summary of Construction Works

- 1.4.1 The construction phase of Stage 1 under the EP commenced on 23 November 2009.
- 1.4.2 Details of the construction works carried out by the Contract 1 Contractor (China State Construction Engineering (Hong Kong) Ltd.) in this reporting period are listed below:-
 - Asphalt laying;
 - Installation of drainage pipes; and
 - Landscape softworks.
- 1.4.3 Details of the construction works carried out by the Contract 2 Contractor (Gammon Construction Ltd.) in this reporting period are listed below:-
 - Temporary traffic arrangements;
 - Slope outstanding and remedial works;
 - Noise barrier outstanding and remedial works;
 - Entrusted watermains works;
 - Road and drainage outstanding and remedial works; and
 - Landscaping works.
- 1.4.4 The Construction Programmes are shown in Appendix B. For Contract 1
- 1.4.5 The general layout plan of the Project site showing the contract areas is shown in Figure 1.1.
- 1.4.6 The environmental mitigation measures implementation schedule are presented in Appendix C.

1.5 Summary of EM&A Programme Requirements

- 1.5.1 The EM&A programme required environmental monitoring for air quality, noise and environmental site inspections for air quality, water quality, noise, waste management, ecology, and landscape and visual impact. The EM&A requirements for each parameter described in the following sections include:-
 - All monitoring parameters;
 - Monitoring schedules for the reporting month and forthcoming months;
 - Action and Limit levels for all environmental parameters;
 - Event / Action Plan;
 - Environmental mitigation measures, as recommended in the Project EIA study final report; and
 - Environmental requirement in contract documents.

2 AIR QUALITY MONITORING

2.1 Monitoring Requirements

2.1.1 In accordance with the updated EM&A Manual, baseline 1-hour and 24-hour TSP levels at 4 air quality monitoring stations were established. Impact 1-hour TSP monitoring will be conducted for at least three times every 6 days; while impact 24-hour TSP monitoring will be carried out for at least once every 6 days. The Action and Limit level of the air quality monitoring is provided in Appendix D.

2.2 Monitoring Equipment

2.2.1 24-hour TSP air quality monitoring was performed using High Volume Sampler (HVS) located at each designated monitoring station. The HVS meets all the requirements of the updated EM&A Manual. Portable direct reading dust meters were used to carry out the 1-hour TSP monitoring. Brand and model of the equipment is given in Table 2.1.

 Table 2.1
 Air Quality Monitoring Equipment

Equipment	Brand and Model
Portable direct reading dust meter (1-hour TSP)	Sibata Digital Dust Monitor (Model No. LD-3 and LD-3B)
High Volume Sampler (24-hour TSP)	Tisch Total Suspended Particulate Mass Flow Controlled High Volume Air Sampler (Model No. TE-5170 & GMW-2310)

2.3 Monitoring Locations

- 2.3.1 Monitoring locations AM2 and AM3 were set up at the proposed locations in accordance with updated EM&A Manual. However, for monitoring locations: Dynasty View and Tai Po Garden, proposed in the updated EM&A Manual, as approval could not be obtained from the owner's corporation of the premises, baseline and impact air quality monitoring was conducted at 13 Ha Wun Yiu (AM1) and Tai Kwong Secondary School (AM4) respectively. The monitoring station at 13 Ha Wun Yiu (AM1) was relocated to Fan Sin Temple, 3 Sheung Wun Yiu (AM1A) in February 2010. Also, the monitoring station at Tai Kwong Secondary School (AM4) was relocated to 168 Shek Kwu Lung Village (AM4A) in September 2011.
- 2.3.2 Figure 2.1 shows the locations of monitoring stations. Table 2.2 describes the details of the monitoring stations.

Table 2.2	Locations of Impact Air Quality Monitoring Stations
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Monitoring Station	Location	Description	
AM1A	3 Sheung Wun Yiu	Ground floor at the boundary outside Fan Sin Temple	
AM2 12 Shan Tong New Village		Ground floor outside the premises	
AM3	Riverain Bayside	Roof of the switch room	
AM4A	168 Shek Kwu Lung Village	Roof of the switch room	

2.4 Monitoring Parameters and Frequency

2.4.1 Table 2.3 summarizes the monitoring parameters, frequency and duration of impact TSP monitoring.

Table 2.3Air Quality Monitoring Parameters and Frequency

Parameter	Frequency
1-hour TSP	Three times every 6 days while the highest dust impact was expected
24-hour TSP	Once every 6 days

2.5 Monitoring Methodology

- 2.5.1 24-hour TSP Monitoring
 - (a) The HVS was installed in the vicinity of the air sensitive receivers. The following criteria were considered in the installation of the HVS.
 - (i) A horizontal platform with appropriate support to secure the sampler against gusty wind was provided.
 - (ii) The distance between the HVS and any obstacles, such as buildings, was at least twice the height that the obstacle protrudes above the HVS.
 - (iii) A minimum of 2 meters separation from walls, parapets and penthouse for rooftop sampler.
 - (iv) A minimum of 2 meters separation from any supporting structure, measured horizontally.
 - (v) No furnace or incinerator flues nearby.
 - (vi) Airflow around the sampler was unrestricted.
 - (vii) Permission was obtained to set up the samplers and access to the monitoring stations.
 - (viii) A secured supply of electricity was obtained to operate the samplers.
 - (ix) The sampler was located more than 20 meters from any dripline.
 - (x) Any wire fence and gate, required to protect the sampler, did not obstruct the monitoring process.
 - (xi) Flow control accuracy was kept within ±2.5% deviation over 24-hour sampling period.
 - (b) Preparation of Filter Papers
 - (i) Glass fibre filters, G810 were labelled and sufficient filters that were clean and without pinholes were selected.
 - (ii) All filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ±3 °C; the relative humidity (RH) was < 50% and not variable by more than ±5%. A convenient working RH was 40%.
 - (iii) All filter papers were prepared and analysed by ALS Technichem (HK) Pty Ltd., which is a HOKLAS accredited laboratory and has comprehensive quality assurance and quality control programmes.
 - (c) Field Monitoring
 - (i) The power supply was checked to ensure the HVS works properly.
 - (ii) The filter holder and the area surrounding the filter were cleaned.
 - (iii) The filter holder was removed by loosening the four bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully.
 - (iv) The filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter.
 - (v) The swing bolts were fastened to hold the filter holder down to the frame. The pressure applied was sufficient to avoid air leakage at the edges.
 - (vi) Then the shelter lid was closed and was secured with the aluminum strip.



- (vii) The HVS was warmed-up for about 5 minutes to establish run-temperature conditions.
- (viii) A new flow rate record sheet was set into the flow recorder.
- (ix) On site temperature and atmospheric pressure readings were taken and the flow rate of the HVS was checked and adjusted at around 1.1 m³/min, and complied with the range specified in the updated EM&A Manual (i.e. 0.6-1.7 m³/min).
- (x) The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
- (xi) The initial elapsed time was recorded.
- (xii) At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
- (xiii) The final elapsed time was recorded.
- (xiv) The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
- (xv) It was then placed in a clean plastic envelope and sealed.
- (xvi) All monitoring information was recorded on a standard data sheet.
- (xvii) Filters were then sent to ALS Technichem (HK) Pty Ltd. for analysis.
- (d) Maintenance and Calibration
 - (i) The HVS and its accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
 - (ii) 5-point calibration of the HVS was conducted using TE-5025A Calibration Kit prior to the commencement of baseline monitoring. Bi-monthly 5-point calibration of the HVS will be carried out during impact monitoring.
 - (iii) Calibration certificate of the HVSs are provided in Appendix E.
- 2.5.2 1-hour TSP Monitoring
 - (a) Measuring Procedures

The measuring procedures of the 1-hour dust meter were in accordance with the Manufacturer's Instruction Manual as follows:-

- (i) Turn the power on.
- (ii) Close the air collecting opening cover.
- (iii) Push the "TIME SETTING" switch to [BG].
- (iv) Push "START/STOP" switch to perform background measurement for 6 seconds.
- (v) Turn the knob at SENSI ADJ position to insert the light scattering plate.
- (vi) Leave the equipment for 1 minute upon "SPAN CHECK" is indicated in the display.
- (vii) Push "START/STOP" switch to perform automatic sensitivity adjustment. This measurement takes 1 minute.
- (viii) Pull out the knob and return it to MEASURE position.
- (ix) Push the "TIME SETTING" switch the time set in the display to 3 hours.
- (x) Lower down the air collection opening cover.
- (xi) Push "START/STOP" switch to start measurement.
- (b) Maintenance and Calibration
 - The 1-hour TSP meter was calibrated at 1-year intervals against a continuous particulate TEOM Monitor, Series 1400ab. Calibration certificates of the Laser Dust Monitors are provided in Appendix E.
 - (ii) 1-hour validation checking of the TSP meter against HVS is carried out yearly at the air quality monitoring locations.

2.6 Monitoring Schedule for the Reporting Month

2.6.1 The schedule for environmental monitoring in August 2014 is provided in Appendix F.



2.7 Monitoring Results

2.7.1 The baseline condition of air quality in the Project site was reviewed in October and November 2009. A baseline monitoring of air quality, in terms of 1-hour Total Suspended Particulates (TSP) and 24-hour TSP, was carried out from 20 October 2009 to 4 November 2009 for 14 days. The baseline monitoring report was submitted by ETL and approved by the ER and the IEC on 9 November 2009. Action Levels for air quality were established and are summarized in Table 2.4, Table 2.5 and Appendix D.

2.8 Results and Observations

2.8.1 The monitoring results for 1-hour TSP and 24-hour TSP are summarized in Table 2.4 and 2.5 respectively. Detailed impact air quality monitoring results are presented in Appendix G.

 Table 2.4
 Summary of 1-hour TSP Monitoring Results in the Reporting Period

	Average (μg/m³)	Range (µg/m³)	Action Level (μg/m³)	Limit Level (µg/m³)
AM1A				
AM2	 Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014. No monitoring has been carried out beyond 15 July 2014. 			
AM3				
AM4A	73.9	61.7 – 81.0	302.3	500

Table 2.5 Summary of 24-hour TSP Monitoring Results in the Reporting Period

	Average (µg/m³)	Range (µg/m³)	Action Level (μg/m³)	Limit Level (µg/m³)
AM1A				
AM2	Construction Phase EM&A Programme for Contract 1 of the Project was completed or 15 July 2014. No monitoring has been carried out beyond 15 July 2014.			
AM3				
AM4A	21.5	9.3 – 30.1	198.5	260

- 2.8.2 Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014. No monitoring has been carried out at AM1A, AM2 and AM3 beyond 15 July 2014.
- 2.8.3 The major dust source in the reporting period included construction activities from Stage 1 of the Project, as well as nearby traffic emissions.
- 2.8.4 All 1-hour and 24-hour TSP results were below the Action and Limit Level at all monitoring locations in the reporting month.
- 2.8.5 The event action plan is annexed in Appendix J.
- 2.8.6 Weather information including wind speed and wind direction is annexed in Appendix H. The information was obtained from Hong Kong Observatory Sha Tin and Tai Mei Tuk Automatic Weather Station. As some of the weather data in August 2014 from the Tai Mei Tuk Automatic Weather Station were missing, the weather data from Tai Po Automatic Weather Station in August 2014 are included in Appendix H for supplementary purpose.

3 NOISE MONITORING

3.1 Monitoring Requirements

3.1.1 In accordance with the EM&A Manual, impact noise monitoring was conducted for at least once per week during the construction phase of Stage 1 of the Project. The Action and Limit level of the noise monitoring is provided in Appendix D.

3.2 Monitoring Equipment

3.2.1 Noise monitoring was performed using sound level meter at each designated monitoring station. The sound level meters deployed comply with the International Electrotechnical Commission Publications (IEC) 651:1979 (Type 1) and 804:1985 (Type 1) specifications. Acoustic calibrator was deployed to check the sound level meters at a known sound pressure level. Brand and model of the equipment is given in Table 3.1.

Table 3.1	Noise Monitoring	Equipment
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Equipment	Brand and Model
Integrated Sound Level Meter	Rion NL-31 / B&K 2238
Acoustic Calibrator	Rion NC-73

3.3 Monitoring Locations

- 3.3.1 Monitoring stations NM3, NM6 and NM7 were set up at the proposed locations in accordance with updated EM&A Manual. However, for monitoring locations: Tai Po Garden (NM1), Dynasty View (NM2), Hong Kong Teachers' Association Lee Heng Kwei Secondary School (NM4) and Grand Palisades (NM5), proposed in the updated EM&A Manual, impact noise monitoring was conducted at alternative monitoring locations, as approval of access could not be obtained from the owner's corporation of the premises or the principal of the education institutes. The monitoring station at Tai Kwong Secondary School (NM1) was relocated to 168 Shek Kwu Lung Village (NM1A) in September 2011.
- 3.3.2 Figure 2.1 shows the locations of the monitoring stations. Table 3.2 describes the details of the monitoring stations.

Table 3.2	Locations of Impact Noise Monitoring Stations	

Monitoring Station	Location	Description
NM1A	168 Shek Kwu Lung Village	1m from the exterior wall of the village house
NM2	38 Ha Wun Yiu	1.2m from the ground floor free-field of the village house
NM3	Wong Shiu Chi Middle School	1m from the exterior of the roof top façade of the New Wing
NM4	Uptown Plaza	1m from the exterior of the roof top façade of Block 4
NM5	The Paragon	1m from the exterior of the roof top façade of the club house
NM6	PLK Tin Ka Ping Primary School	1.2m ground floor free-field near the entrance
NM7	Riverain Bayside	1m from the exterior of the roof façade of the switch room

3.4 Monitoring Parameters and Frequency

3.4.1 Table 3.3 summarizes the monitoring parameters, frequency and duration of impact noise monitoring.

Table 3.3 Noise Monitoring Parameters and Frequency

Parameter	Frequency
30-mins measurement at each monitoring station between 0700 and 1900 on normal weekdays. L_{eq} , L_{10} and L_{90} would be recorded.	At least once per week

3.5 Monitoring Methodology

- 3.5.1 Monitoring Procedure
 - (a) Façade measurements were made at all monitoring locations, except monitoring stations NM2 and NM6.
 - (b) The sound level meter was set on a tripod at a height of 1.2 m above the ground for free-field measurements at NM2 and NM6.
 - (c) The battery condition was checked to ensure the correct functioning of the meter.
 - (d) Parameters such as frequency weighting, the time weighting and the measurement time were set as follows:-
 - (i) frequency weighting: A
 - (ii) time weighting: Fast
 - (iii) time measurement: L_{eq(30-minutes)} during non-restricted hours i.e. 07:00 1900 on normal weekdays; L_{eq(5-minutes)} during restricted hours i.e. 19:00 – 23:00 and 23:00 – 07:00 of normal weekdays, whole day of Sundays and Public Holidays
 - (e) Prior to and after each noise measurement, the meter was calibrated using the acoustic calibrator for 94dB(A) at 1000 Hz. If the difference in the calibration level before and after measurement was more than 1 dB(A), the measurement would be considered invalid and repeat of noise measurement would be required after re-calibration or repair of the equipment.
 - (f) During the monitoring period, the L_{eq} , L_{10} and L_{90} were recorded. In addition, site conditions and noise sources were recorded on a standard record sheet.
 - (g) Noise measurement was paused during periods of high intrusive noise (e.g. dog barking, helicopter noise) if possible. Observations were recorded when intrusive noise was unavoidable.
 - (h) Noise monitoring was cancelled in the presence of fog, rain, wind with a steady speed exceeding 5m/s, or wind with gusts exceeding 10m/s.

3.5.2 Maintenance and Calibration

- (a) The microphone head of the sound level meter was cleaned with soft cloth at regular intervals.
- (b) The meter and calibrator were sent to the supplier or HOKLAS laboratory to check and calibrate at yearly intervals.
- (c) Calibration certificates of the sound level meters and acoustic calibrators are provided in Appendix E.

3.6 Monitoring Schedule for the Reporting Month

3.6.1 The schedule for environmental monitoring in August 2014 is provided in Appendix F.

3.7 Monitoring Results

3.7.1 The monitoring results for construction noise are summarized in Table 3.4 and the monitoring data is provided in Appendix I.

Table 3.4 Summary of Construction Noise Monitoring Results in the Reporting P

	Average, dB(A),	Range, dB(A),	Limit Level, dB(A),
	L _{eg (30 mins)}	L _{eg} (30 mins)	L _{eq (30 mins)}
NM1A	61.7	60.2 – 64.1	75
NM2			
NM3			
NM4		M&A Programme for Contra	-
NM5	completed on 15 July 2	014. No monitoring has bee July 2014.	en carried out beyond 15
NM6		,	
NM7			

*+3dB(A) Façade correction included

Limit Level of 70dB(A) applies to education institutes while 65dB(A) applies during school examination period.

- 3.7.2 Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014. No monitoring has been carried out at NM 2, NM3, NM4, NM5, NM6 and NM7 beyond 15 July 2014.
- 3.7.3 No noise complaint related to 0700 1900 hours on normal weekdays was received and followed up by the Environmental Team in the reporting period. Hence, no Action Level exceedance was recorded.
- 3.7.4 No noise monitoring result exceeding the Limit Level was recorded at all monitoring stations in the reporting month.
- 3.7.5 Major noise sources during the noise monitoring included construction activities of Stage 1 of the Project and nearby traffic noise and general school activities.
- 3.7.6 The event action plan is annexed in Appendix J.

4 ENVIRONMENTAL SITE INSPECTION AND AUDIT

4.1 Site Inspection

- 4.1.1 Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for Stage 1 of the Project. Since Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014, no weekly site inspection for Contract 1 has been carried out beyond 15 July 2014.
- 4.1.2 In the reporting month, 4 site inspections for Contract 2 of the Project were carried out on 7, 14, 21 and 29 August 2014.
- 4.1.3 The environmental site inspections summaries are provided in Appendix K.
- 4.1.4 Particular observations and reminder during the site inspections for Contract 2 are described below:

Air Quality

4.1.5 Exposed slope was observed. The Contractor was reminded to cover the slopes after daily construction activities. (Reminder)

Noise

4.1.6 No adverse observation was identified in the reporting month.

Water Quality

4.1.7 No adverse observation was identified in the reporting month.

Chemical and Waste Management

4.1.8 No adverse observation was identified in the reporting month.

Landscape and Visual Impact

4.1.9 No adverse observation was identified in the reporting month.

Miscellaneous

4.1.10 The Contractor was reminded to clear the stagnant water. (Reminder)

4.2 Advice on the Solid and Liquid Waste Management Status

- 4.2.1 The Contract 1 Contractor (CSHK) and the Contract 2 Contractor (GCL) are registered as chemical waste producers for Stage 1 of the Project. C&D material sorting was carried out on site. Sufficient numbers of receptacles were available for general refuse collection.
- 4.2.2 As advised by the Contract 1 Contractor (CSHK), 45m³ of inert C&D materials was disposed of to the public fill at Tuen Mun 38 (of which 0m³ was broken concrete), while 65m³ of general refuse was disposed of at the NENT landfill. 57kg of paper/cardboard packaging, 6,733kg of plastics and 127,750kg of metals were collected by recycling contractors in the reporting month. 302m³ and 0m³ of inert C&D materials were reused on site and reused in other projects respectively. 0kg of chemical waste was collected by the licensed contractor in the reporting period.
- 4.2.3 As advised by the Contract 2 Contractor (GCL), 15m³ of inert C&D materials was disposed of to Tuen Mun 38 and 165m³ of general refuse was disposed of to the NENT landfill in the reporting period. No paper/cardboard packaging, plastics or metals was collected by the recycling contractors in the reporting month. 0m³ and 0m³ of inert C&D materials were reused on site and reused in other projects



respectively. Besides, no chemical waste was collected by the licensed contractor in the reporting period.

4.2.4 The Contractors have been advised to maintain on site waste sorting and recording system, and maximize the reuse / recycling of C&D wastes.

4.3 Environmental Licenses and Permits

4.3.1 The environmental licenses and permits for Stage 1 of the Project and valid in the reporting month is summarized in Table 4.1.

Statutory Reference	License/ Permit	License or Permit No.	Valid	Period	License/ Permit	Remarks
Reference	Fernin	Fernit NO.	From	То	Holder	
	Environmental					Tolo Highway/Fanling Highway between Island House Interchange and Ma Wo
EIAO	Permit	EP- 324/2008/B	17/03/2014	N/A	HyD	The VEP (EP- 324/2008/B) was granted on 17 March 2014 which superseded the previous EP (EP- 324/2008/A).
	Discharge License (Office)	WT00005096 -2009	03/12/2009	31/12/2014	CSHK	Discharge at Site Office
MIDOO	Discharge License (Site)	WT00005445 -2009	15/12/2009	31/12/2014	CSHK	Discharge of Construction Runoff
WPCO	Discharge License (Office)	WT00006782 -2010	25/06/2010	30/06/2015	GCL	Discharge at Site Office
	Discharge License (Site)	WT00007162 -2010	09/08/2010	31/07/2015	GCL	Discharge of Construction Runoff
WDO	Chemical Waste Producer	5213-727- C3249-46	25/09/2009	N/A	СЅНК	Chemical waste produced in Contract HY/2008/09
	Registration	5213-722- G2347-18	18/05/2010	N/A	GCL	Chemical waste produced in Contract HY/2009/08
WDO	Billing Account for Disposal of	7009328	08/09/2009	N/A	CSHK	Waste disposal in Contract HY/2008/09
	Construction Waste	7010320	02/03/2010	N/A	GCL	Waste disposal in Contract HY/2009/08

 Table 4.1
 Summary of Environmental Licensing and Permit Status



Agreement No. CE 20/2009 (EP) Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang – Investigation

Monthly EM&A Report for August 2014

Statutory Reference	License/ Permit	License or Permit No.	Valid	Period	License/ Permit	Remarks
Relefence	Fernin	Fernit NO.	From	То	Holder	
		GW- RN0210-14	11/04/2014	09/10/2014	СЅНК	Modification of Sign Gantries G13, 16, 66 & 70
		GW- RN0320-14	04/06/2014	30/08/2014	СЅНК	Noise Barrier Installation Works on Tolo Highway
		GW- RN0336-14	30/05/2014	30/09/2014	сѕнк	Construction wroks at Island House Interchange
		GW- RN0341-14	04/06/2014	30/08/2014	СЅНК	Road Re-pavement at Tolo Highway Between Yuen Chau Tsai and Ma Wo
		GW- RN0347-14	08/06/2014	17/08/2014	СЅНК	Road pavement for Slip Road N
		GW- RN0389-14	29/06/2014	31/08/2014	СЅНК	Road Paving Works at Slip Road L
		GW- RN0390-14	26/06/2014	30/08/2014	CSHK	Paving and Road Marking for Slip Road A
		GW- RN0398-14	03/07/2014	30/08/2014	СЅНК	Installation of Noise Barrier on Kwong Fuk West Viaduct
NCO	Construction Noise Permit	GW- RN0080-14	07/02/2014	02/08/2014	GCL	(Renewal of GW- RN0530-13) General Works at a section of Tolo Highway near Tai Po Tau Raw Water Pumping Station
		GW- RN0314-14	31/05/2014	09/08/2014	GCL	Road reconstruction at a section between Lam Kam Interchange and Tai Wo Service Road West (Stage 1 & 2) near Fanling Highway Slip Road
		GW- RN0337-14	28/05/2014	09/08/2014	GCL	Road reconstruction at Tolo Highway CH21 to CH17.96 South bound near Fanling Highway
		GW- RN0412-14	04/07/2014	03/09/2014	GCL	Renewal of GW- RN0225-14 for road reconstruction at 2 sections of Tolo Highway (Shatin and Fanling Bound)
		GW- RN0490-14	12/08/2014	19/09/2014	GCL	A section of Fanling Highway, Tai Wo Service Road West and Hong Lok Yuen Road near Wai Tau



Statutory Reference	License/ Permit	License or Permit No.	Valid	Period	License/ Permit	Remarks
Kelefence	i ennit	Terrint No.	From	То	Holder	
						Tsuen, Tai Po, N.T.
		GW- RN0503-14	20/08/2014	13/09/2014	GCL	Tolo Highway (South Bound) between Ma Wo and Tai Hang, Tai Po, New Territories
		GW- RN0509-14	14/08/2014	19/09/2014	GCL	Tolo Highway and Fanling Highway near Tai Po Tai Wo Road, Lam Kam Interchange & Tai Wo Service Road West, Tai Po, N.T.

4.4 Implementation Status of Environmental Mitigation Measures

- 4.4.1 In response to the site audit findings, the Contractors carried out corrective actions.
- 4.4.2 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in Appendix C. Most of the necessary mitigation measures were implemented properly.

4.5 Summary of Exceedances of the Environmental Quality Performance Limit

- 4.5.1 All 1-hour and 24-hour TSP monitoring results complied with the Action / Limit Levels in the reporting period.
- 4.5.2 For construction noise, no Action and Limit Level exceedance was recorded at all monitoring stations in the reporting period.

4.6 Summary of Complaints, Notification of Summons and Successful Prosecutions

- 4.6.1 The Environmental Complaint Handling Procedure is annexed in Figure 4.1.
- 4.6.2 No complaint, notification of summons and successful prosecution was received in the reporting month. Statistics on complaints, notifications of summons and successful prosecutions are summarized in Appendix L.

5 FUTURE KEY ISSUES

5.1 Construction Programme for the Coming Month

- 5.1.1 The major construction works for Contract 1 in September 2014 will be:-
 - Asphalt laying; and
 - Landscape softworks.
- 5.1.2 The major construction works for Contract 2 in September 2014 will be:-
 - Temporary traffic arrangements;
 - Slope outstanding and remedial works;
 - Noise barrier outstanding and remedial works;
 - Entrusted watermains works;
 - Road and drainage outstanding and remedial works; and
 - Landscaping works.

5.2 Key Issues for the Coming Month

- 5.2.1 Key issues to be considered in September 2014:-
 - Properly store and label oils and chemicals on site;
 - Chemical, chemical waste and waste management;
 - Collection of construction waste should be carried out regularly;
 - Site runoff should be properly collected and treated prior to discharge;
 - Properly maintain all drainage facilities and wheel washing facilities on site;
 - Exposed slopes should be covered up properly if no temporary work will be conducted;
 - Suppress dust generated from excavation, breaking and drilling activities, haul road traffic and grout mixing process;
 - Quieter powered mechanical equipment should be used;
 - Closely check and replace the sound insulation materials wrapped at the concrete breaker tip regularly;
 - Better scheduling of construction works to minimize noise nuisance; and
 - Tree protective measures for all retained trees should be well maintained.

5.3 Monitoring Schedule for the Coming Month

5.3.1 The tentative schedule for environmental monitoring in September 2014 is provided in Appendix F.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

- 6.1.1 The construction phase EM&A programme of Stage 1 of the project commenced on 23 November 2009. The Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014.
- 6.1.2 1-hour TSP, 24-hour TSP and noise monitoring were carried out in the reporting period.
- 6.1.3 All 1-hour and 24-hour TSP monitoring results complied with the Action / Limit Levels in the reporting period.
- 6.1.4 No Action and Limit Level exceedance for construction noise was recorded at all monitoring stations in the reporting month.
- 6.1.5 Environmental site inspection was carried out 4 times in August 2014. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audits.
- 6.1.6 No new complaint, notification of summons or prosecution was received in the reporting period.

6.2 Recommendations

6.2.1 According to the environmental site inspections performed in the reporting month, the following recommendations were provided:-

Air Quality Impact

- The soil stockpiles should be properly covered.
- The grouting station should be properly sheltered as one of the dust control measures

Construction Noise Impact

- Properly erect the temporary noise barriers in accordance with the Environmental Permit requirement.
- Noisy operations should be oriented to a direction away from sensitive receivers as far as possible.
- Sound insulation materials shall be wrapped at the breaker tip for concrete breaking works.

Water Quality Impact

- Preventive measures should be implemented to avoid the spread of mud trails on the public road.
- Silty effluent should be treated/desilted before discharged. Untreated effluent should be prevented from entering public drain channel.
- Proper drainage channels/bunds should be provided at the site boundaries to collect/intercept the surface run-off from works areas.
- Stagnant water accumulated within works area should be removed.

Chemical and Waste Management

- C&D materials and wastes, general refuse should be sorted properly and removed timely.
- All chemical containers and oil drums should be properly stored.

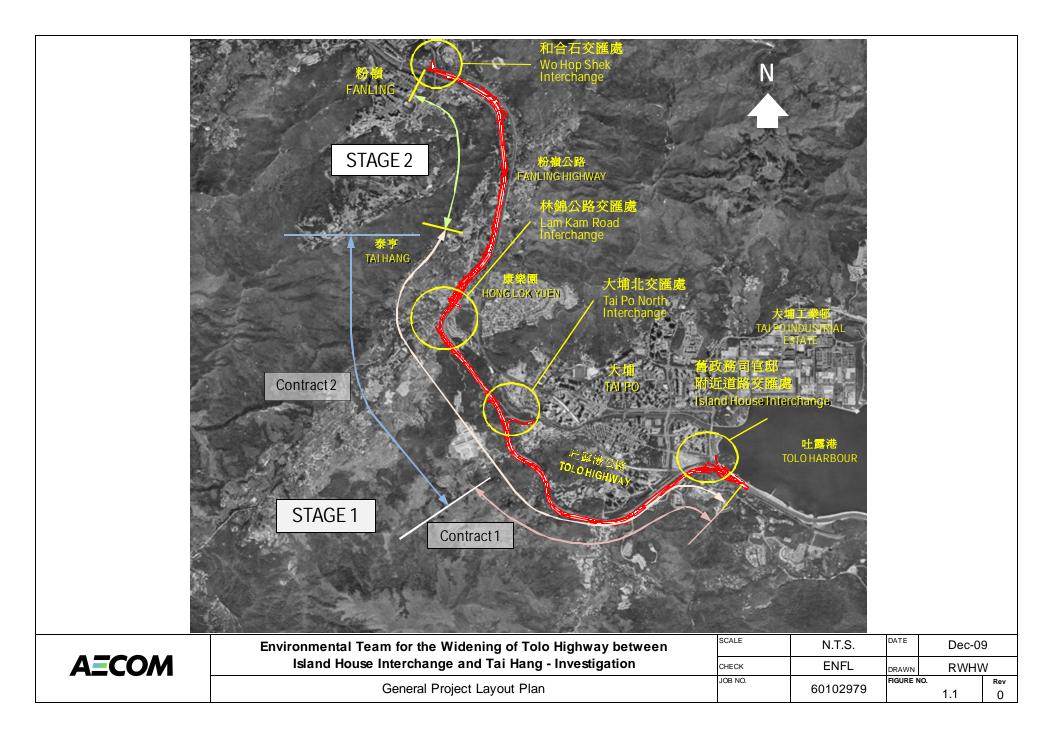


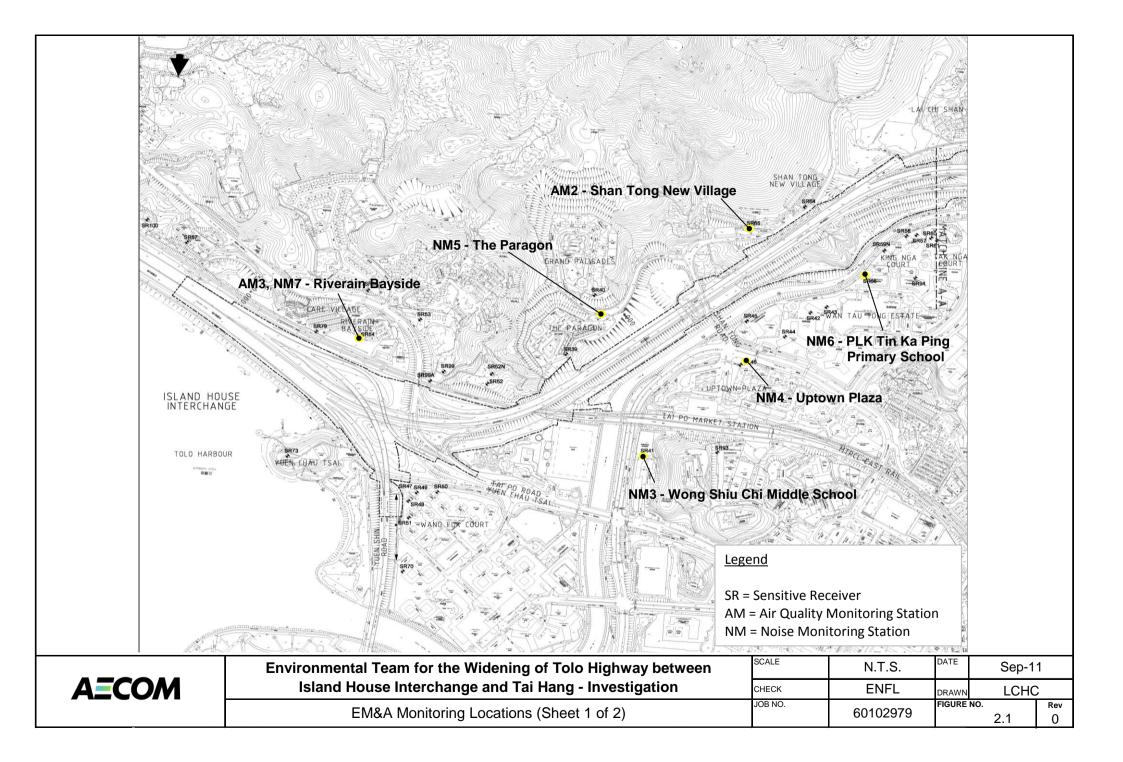
- All plants and vehicles on site should be properly maintained to prevent oil leakage.
- All drain holes of the drip trays utilized within works areas should be properly plugged to avoid any oil leakage.
- Oil stains on soil surface and empty chemical containers should be cleared and disposed of as chemical waste.
- Drip tray should be provided to prevent oil leakage.
- Only the recycling materials should be dumped into the appropriate recycling bins.

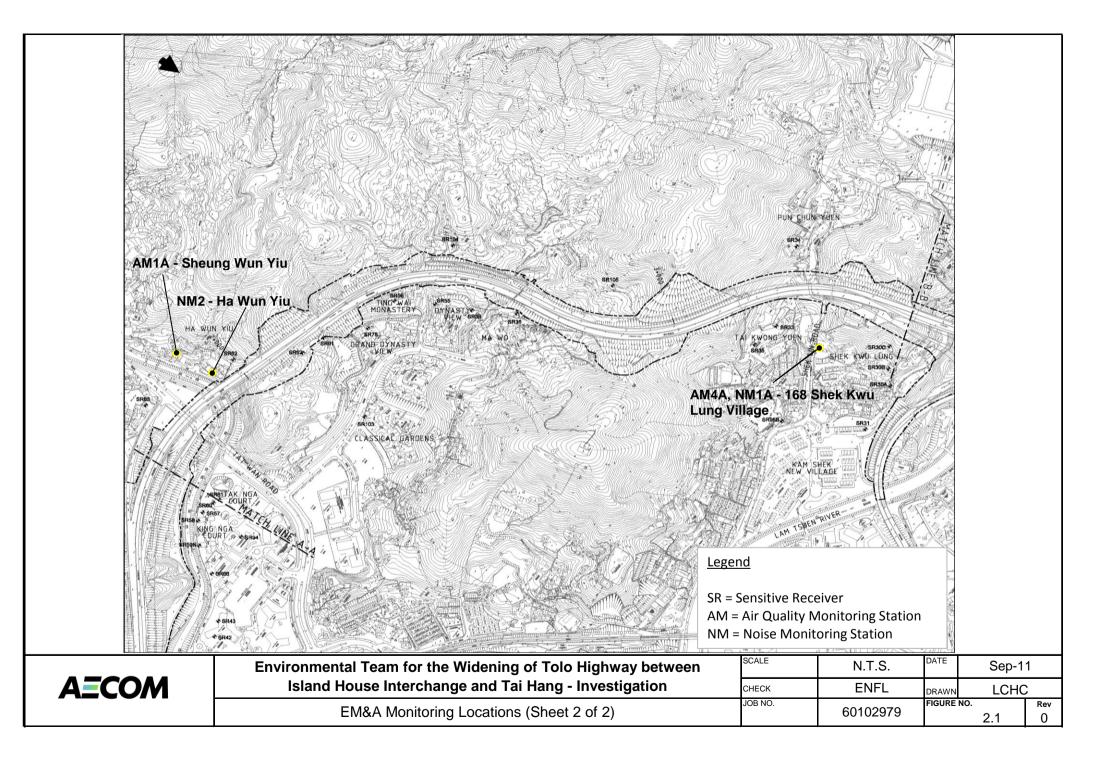
Landscape and Visual Impact

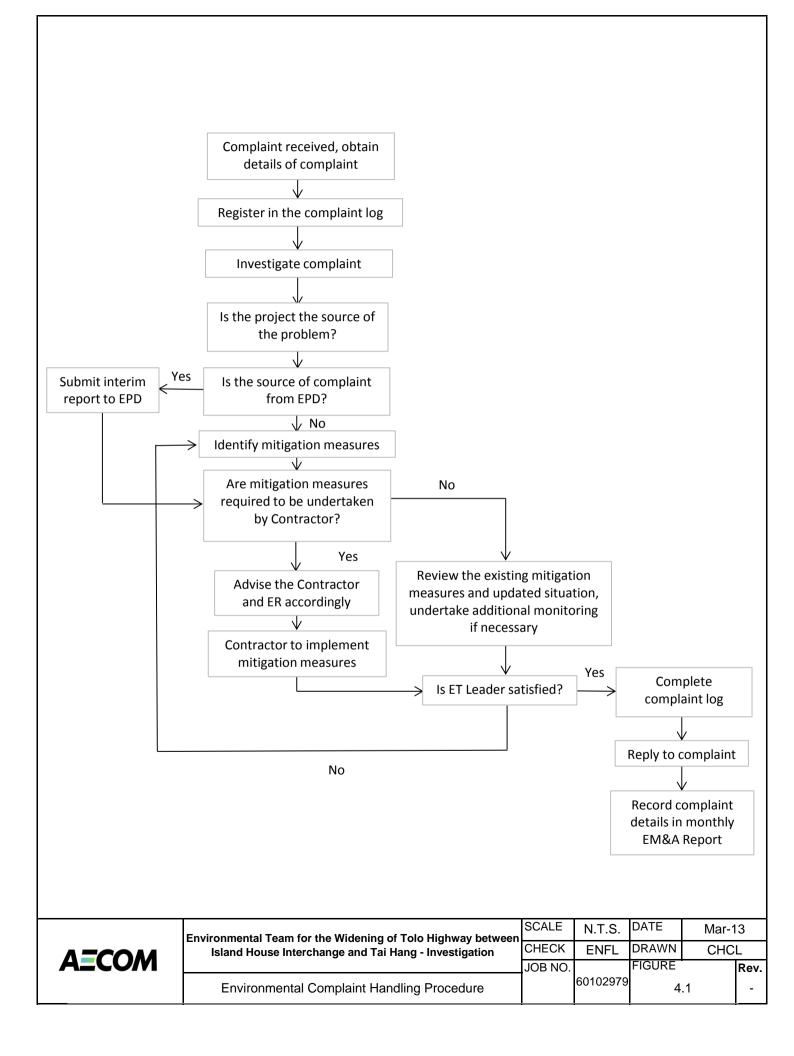
• All retained trees should be properly fenced off at the works area.

FIGURES

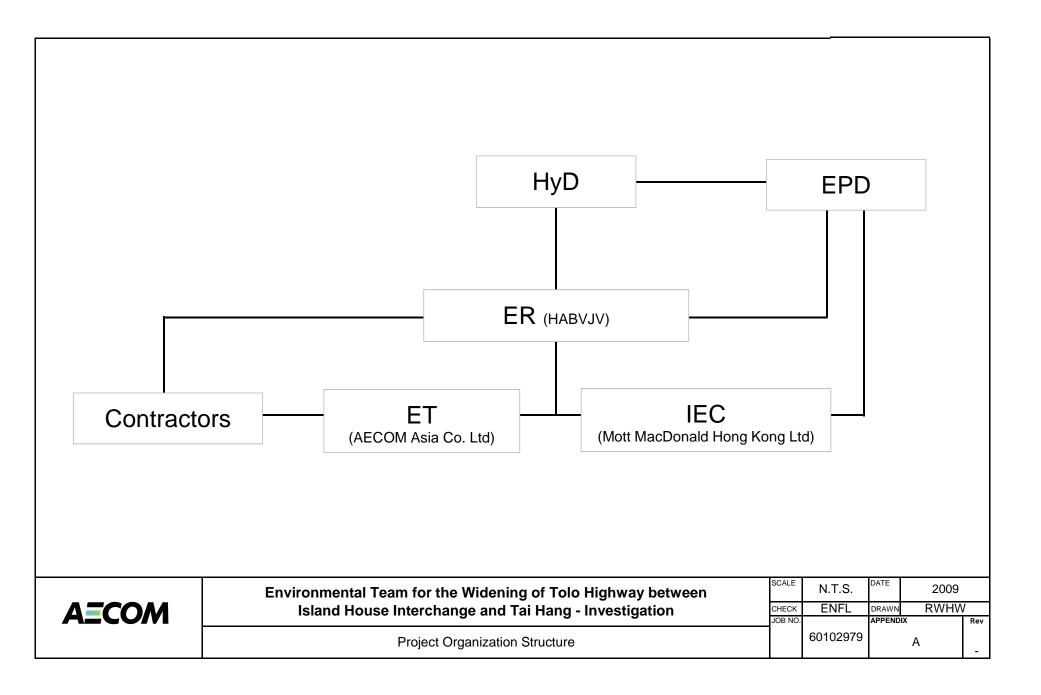








APPENDIX A PROJECT ORGANIZATION STRUCTURE



APPENDIX B CONSTRUCTION PROGRAMMES

Activity ID	Activity Name	Origi		Start	Finish		May		Jı	2014 Ine		Ju	lv	Augus
KEY DATES			a			20 27 04		25 0			2 29			
Section Comple	etion													
Section Comple														
Key Date														
KD-300900	KD9 Section 9 Area SA1, 3 to 9A Road Maintena	, ,			23-May-14*		•	• KD9 \$	Sectio				1 1	aintenan
KD-300200	KD2 Section 2 Areas SA8,SA9 + SA9A Work (10	,			24-Jun-14*					•	1	: :	1 1	\$A8,\$A9
KD-300100 KD-300500	KD1 Section 1 Area SA1 Work, Except LS + EW KD5 Section 5 Area SA1 Landscape Softwork (1	, ,	-		30-Jun-14* 30-Jul-14*						• • •	D1 Sec	1 1	ea SA1 V KD5 Se
KD-300600	KD6 Section 6 Remainder Landscape Softwork (30-Jul-14*									KD6 Se
KD-300400	KD4 Section 4 Remainder of the Work (1328d)	0)		16-Aug-14*									
SOFT LANDS	SCAPE IN SA1: SECT. 5 WORKS													
Landscaping W									-		-			
Landscape Wor	rks													
S5-212800	Aroos SA1 Irrigation + Landagana Soft Works	30	0	01-Jul-14	30-Jul-14	_								
	Areas SA1 Irrigation + Landscape Soft Works OF SOFT LANDSCAPE: SECT. 6		0	01-301-14	30-Jul-14									Areas S
Landscaping W		WORKS												
Landscape Wor														
								1 1 1	1					
S6-212800	Remainder Irrigation + Landscape Soft Works	30	0	01-Jul-14	30-Jul-14							<u> </u>		Remain
ESTABLISH	MENT WORKS AT SA1: SECT. 7 W	/ORKS												
Establishment	Works													
Landscape and	Establishment Works													
07.0440.00			_											
S7-211800	Area SA1 Establishment Works		55	31-Jul-14	30-Jul-15						-	<u> </u>		
	OF ESTABLISHMENT WORKS: S	ECT. 8 WORKS							-					
Establishment	WORKS Establishment Works										-			
S8-214800	Remainder - Establishment Works	36	65	31-Jul-14	30-Jul-15									
ROUTINE MA	AINTENANCE: SECT. 9 WORKS	· · · · · · · · · · · · · · · · · · ·			1									
Road Maintena	nce													
Routine Mainte	nance of Road Network													
					1									
S9-100000	Road Maintenance of Road Network	140	01	22-Feb-10 A	23-May-14*			Road	Maint	enance	e of Ro	ad Net	work	
	CH 500: SECT. 1 WORKS											. I I I		
	t Kwong Fuk West t Kwong Fuk West Viaduct										-			
	oundation Works						1 1 1 1 1 1	1 1 1				1 1 1 1		
S1-180700A	KFWV structural steel, (bay 1-5)	18	8	08-Apr-14 A	14-Jun-14					KFW	Vstru	ctural s	teel, (ba	1-5)
S1-180810	KFWV structural steel, (bay 5-7)	26	6	08-Apr-14 A	14-Jun-14	- 1 1 - 1		1 1	1	KFW	V¦stru	ctural s	teel, (ba	(5-7)
S1-180820	KFWV Panel Installation, (bay 5-7)	24	4	03-Jun-14*	30-Jun-14				1		1.1	I I		tallation, (
S1-180800	KFWV Panel Installation, (bay 1-5)	24		03-Jun-14*	30-Jun-14	_			-			с I	1 I.	tallation, (
S1-180900 TCSS Works/Ot	Completion of NB Kwong Fuk West Viaduct	0)		30-Jun-14						•	omplet	ion of NI	B Kwong F
S1-180905	Civl prov. works (CPW)- TCSS Pillar Box B	18	8	22-Apr-14 A	13-May-14 A		Civl	prov. w	orks ((CPW)-	TCSS	Pillar F	Box B	
TCSS Works			<u> </u>	p	10 110 1			-		,				
TCSS E&M Wor	rks & Handover													
											-			
S1-700080	T&C - power supply system to TCSS	20	-	05-May-14 A	19-May-14 A		1 1	Г&С - рс	1		1.1	i i i	S	
S1-700090 S1-700075	Handover to TCSS Contractor T&C - Lighting	0		17-Jun-14	20-May-14 A 09-Jul-14	-		Handov	er to I	cssc	ontrac		C - Light	in a
	ork- Ret. Wall, Noise B, Rd	20	0	17-Jun-14	09-301-14						-		C - Ligin	y
NB6, and Slope	· · ·													
Noise Barrier N											-			
S1-208060	NB6 NB Panels	8	3	22-Apr-14 A	23-May-14 A			NB6 N	IB Par	els				
Road Lighting/ d									-					
S1-700050 S1-700070	Cabling works for utilities/Lighting Pillar Box + MCB Board in stallation	20		20-Feb-14 A 15-Mar-14 A	16-Jun-14 20-May-14 A	- : :		Pillar Bo			1 T		ruˈtilitieˈs/	Lighting
Cut Slope S4			0	15-1viai-14 A	20-101ay-14 A									
S1-031060B	Cut Slope S4 - drainage/ u channels	20	0	15-Oct-13 A	16-Jun-14					Cut	Slope	S4 - d	rainage/	channel
SB Road & Drai	in, Ch 0-300, after NB3				1									
TCSS Works/Ot	her Utlities													
S1-035045	TCSS P57 - footing	14	4	20-Nov-13 A	30-Apr-14 A	тс	SS P57 -	footing						
Road Lighting/ o				00 Ann 44 A	10 hur 11									
S1-051215A S1-051215B	Public Lighting - cabling works Public Lighting - power supply connection & test	8		22-Apr-14 A 22-Apr-14 A	16-Jun-14 16-Jun-14							i 1	cabling v power ⁱ su	orks pply conn
	S4A, after TB1 demolition										'9			
	B6 (remaining 1 bay after TB1 removal)													
S1-208135	NB6 NB Panels	6	6	22-Mar-14 A	23-May-14 A			NB61	N₿Pa	nels	-			
			Co	ontract: HY/20	08/09			;						
						21/					-			
		widening o	10	io nignway / F	anling Highwa	ау			Three	Mont	ns Ro	ling Pr	rogramn	ne
		Between Isla	and	House Interch	ange and Fanl	ing		for t	he Pe	riod of	21 Ma	iy 2014	to 20 A	ug 2014
		(Stage 1 - Betwee	n Is	and House In	terchange and	Ma Wo)								
		(Stage 1 - Betwee			-	-								

tivity ID	Activity Name	Original	Start	Finish				2014				
		Durat			20 27 0	May 04 11 1	8 25 0	June 1 08 15 2	22 29	Jul 06 13		Augus / 03 10
Cut Slope S4A				•								
S1-208140B	Cut Slope S4A - u channels	20	22-Apr-14 A	15-May-14 A		C	utSlope	S4A - u chai	nnels			
NB11, Slope S4	B & F124, after TB2 dem.											
Noise Barrier NE	311											
S1-208110	NB11 NB Panels	10	28-Mar-14 A	23-May-14 A	- I I		NB11	NB Panels				
Cut Slope S4B, S	S4C											
S1-031040A	Cut Slope S4B, S4C - excavation	21	04-Mar-14 A	30-May-14				Cut Slope S4	B, S4C	- excav	ation	
S1-031040B	Cut Slope S4B, S4C - drainage/ channels	48	20-Mar-14 A	16-Jun-14				Cu	t Slope	S4B, S	4C - drai	hage/cha
South Bound Re	oad and Drain, Ch 300-500											
Firemain												
S1-051305	Firemain- excav, pipe install + pit/new hydrants	14	01-Mar-14 A	16-Jun-14				Fir	emain-	excav,	pipe in st	all + pit/ne
Road Lighting/ o	or High Mast		1									
S1-051350	Public Lighting - Lamp Pole + Lamps	18	26-Nov-13 A	16-Jun-14				Pu	bliċ Lig	nting - I	amp Po	e + Lạmp
S1-051350A	Public Lighting - cabling works	18	17-Mar-14 A	16-Jun-14			1	Pu	blic Ligh	nting - c	ablinģ w	orks
S1-051350B	Public Lighting - power supply connection & test	18	17-Mar-14 A	16-Jun-14	- : :			Pu	blic Ligh	nting - r	owersu	pply conn
Central Median	Work- Noise Barrier + Road/Drain											
Noise Barrier N												
Road Lighting/ o												
S1-208040	Public Lighting - Lamp Pole + Lamps	18	22-Aug-13 A	16-Jun-14				Pu	blic Liat	ntina - I	amp Pol	e + Lamp
S1-208040A	Public Lighting - cabling works	18	22-Aug-13 A	16-Jun-14	_ : :		1		-	1	abling w	
S1-208040B	Public Lighting - power supply connection & test	23	20-May-14*	16-Jun-14	-				-	-		oply conn
	ork- Ret. Wall, Noise B, Rd	20					1 1 1			9 - F	1 1	
Noise Barrier NE	61, NB2 Ch200-300											
		0	00 May 44				N a stale is a					
S1-208015	Northbound work Complete	0	20-May-14					ound work Co	ompiete			
Cut Slope S1					_							
S1-031015020	Fill Slope S1- drainage	26	18-Oct-13 A	21-May-14 A	- : :	1 1	1	pe S1 , drain	-			
S1-031015015	Fill Slope S1- backfilling (remaining 50% after relocation of HM7)	57	20-Nov-13 A	21-May-14 A			Fill Slo	pe S1- back	filling (r	emainir	ng 50% a	fter reloca
	Banyan West Completion											
Slip Rd A												
S1-051155	Slip Road A - drainage + road reconstruction	175	20-Oct-12 A	21-May-14 A			Slip Ro	ad A - draina	agę + ro	ad reco	phstructio	n
	after TB1 demolition											
Cut Slope S2												
S1-031025B	Cut Slope S2- channel (Pending for Slope Profile design)	24	01-Apr-14 A	30-Jun-14					C C	ut Slop	e S2- ch	annel (Pe
NB9, Slope F12	1, S5, (after TB2 demolition)											
Cut Slope S5												
S1-200140	Slope F121 + S5 (Pending for Slope Profile design)	24	01-Apr-14 A	30-Jun-14			1		S S	ope F1	21 + \$5	(Pending
North Bound Ro	oad and Drain, Ch 300-500											
Firemain												
S1-200170	Firemain- excav, pipe install + pit/new hydrants	10	22-Apr-14 A	16-Jun-14				Fir	emain-	excav,	pipe in st	all + pit/ne
TCSS Works/Oth	her Utlities		1	,								
S1-200180	Utilities & TCSS buried ducts	15	10-Jan-14 A	20-May-14 A			Ütilities	& TCSS bur	ied duct	S		
Road Lighting/ o	br High Mast											
S1-200205	Public Lighting - Lamp Pole + Lamps	15	10-Dec-13 A	16-Jun-14	- : :			Pu	blicLig	nting - I	amp Po	e + Lamp
S1-200175	Public Lighting - buried ducts	20	22-Apr-14 A	20-May-14 A			Public L	ighting - bur	1 1	ī		
Roadworks			•									
S1-200215	complete	0	16-Jun-14					• cor	nplete			
		Ū										
	OCH 1100: SECT. 4 WORKS											
	to Ch1100 (Section 4 Works)											
VO No.28 (VO 2	11) - Diversion of Existing Stormwater Drain in Kwong Fuk Pa	rk										
VO28-1085	Town Gas installation works (from main to complete connection to	50	05-Dec-13 A	31-Jul-14		· · · ·	1				1	Town C
VO28-1090	Backfill Topsoil Manhole Z to P	14	01-Aug-14	16-Aug-14								1 I 1 I
VO28-1150	Completion of VO28	0		16-Aug-14								
WM Test+Drain	CCTV+ E&M Works											
TCSS E&M Wor												
S4-208355	Cabling works for Utilities/TCSS/Lighting	22	20-Sep-13 A	31-May-14			-	Cabling work	s for I It	ilities/T	CSS/Lin	ntina
S4-208355 S4-208370	T&C - power supply system to TCSS/Lighting	6	20-3ep-13 A 26-May-14	31-May-14 31-May-14	-			T&C - power		1		
		U	20 Way-14	01-101ay-14					Sappiy			, Erginung
Section Comple												
Section Comple	tion Date											
				1								
KD-300400A	ZONE 2 COMPLETE - KD4 Section 4	0		16-Aug-14		1 1					1 1	

KD-300400A	ZONE 2 COMPLETE - KD4 Section 4	0		16-Aug-14			•
Stage 1: South	oound Work- Ret. Wall, Noise B, Rd						
NLKRB - Bridge	Deck + Noise Barrier						
Bridge Deck							
S4-N01385	Noise barrier panel	8	22-Apr-14 A	30-Apr-14 A	Noise barrier panel		
RW W4-W7+Slo	pe S7+NB15, NB12+Slip Rd L						
Noise Barrier NE	312						
S4-208270	NB12 (bay 1-3) NB Panel	8	22-Apr-14 A	30-Apr-14 A	NB12 (bay 1-3) NB	Panel	
Cut Slope S6 and	d Slip Rd L			-			
S1-203065A	Cut slope S6 - excavation	403	01-Feb-12 A	15-May-14 A	Cut slope	S6 - excavation	
			Contract: HY/20	08/09			
		Widening of ⁻	Tolo Highway / F	Fanling Highwa	у	Three Months Rolling F	rogramme
		Between Islan	d House Interch	ange and Fanli	ng for	the Period of 21 May 201	4 to 20 Aug 2014
		(Stage 1 - Between	Island House In	terchange and	Ma Wo)		

:y ID	Activity Name	Original Durat	Start	Finish	2014 May June July Aug 20 27 04 11 18 25 01 08 15 22 29 06 13 20 27 03 0
S1-203065B	Cut slope S6 - drainage/U-channels	20	22-Apr-14 A	30-Jun-14	20 27 04 11 18 25 01 08 15 22 29 06 13 20 27 03 Cut slope S6 - dranage/
Fill Slope S7					
S4-031070B	Fill Slope S7- backfilling to road level	1016	20-Jul-10 A	30-Apr-14 A	Fill Slope S7- backfilling to road leve
S4-031070C	Fill Slope S7- u channels	20	22-Apr-14 A	30-Jun-14	Fill Slope S7- u channel:
S4-031070D	Fill Slope S7- metal works + hand rails etc.	15	13-Jun-14	30-Jun-14	Fill Slope S7- metal wor
), Road&Drain+Utilities				
TCSS Works/Oth	1		1		
S4-512850	Civl prov. works (CPW)-TCSS Pillar Box C	20	20-Sep-13 A	30-Apr-14 A	Civl prov. works (CPW)- TCSS Pillar Box C
S4-512880	Utilities+TCSS+CPW-SC 63/S63	14	16-Oct-13 A	30-Apr-14 A	Utilities+TCSS+CPW-SC 63/S63
S4-031160	Power supply cable ducts	31	20-Nov-13 A	30-Apr-14 A	Power supply cable ducts
Road Lighting/ o			1		
S4-031178	Public lighting - Lamp Pole + Lamps	12	18-Oct-13 A	16-Jun-14	Public lighting - Lamp Pole + Lam
S4-031178A	Public Lighting - cabling works	6	18-Oct-13 A	16-Jun-14	Public Lighting - cabling works
S4-031178A10	Public Lighting - cabling works	23	20-May-14	16-Jun-14	Public Lighting - cabling works
S4-031178B10	Public Lighting - power supply connection & test	8	07-Jun-14	16-Jun-14	Public Lighting - power supply co
S4-512930	Public lighting - Lamp Pole + Lamps	8	07-Jun-14	16-Jun-14	Public lighting - Lamp Pole + Lam
S4-031178B	Public Lighting - power supply connection & test	4	12-Jun-14	16-Jun-14	Public Lighting - power supply co
tage 2: Northb	oound Work- Ret. Wall, Noise B, Rd				
Mod. Existing L	am Kam Railway Br. +Noise B.				
S4-193900	LKRB NB plinth at slow lane (besides W4A)	75	13-Jan-14 A	16-May-14 A	LKRB NB plinth at slow lare (besides W4A)
S4-193910	NB steel post installation	8	05-May-14 A	22-May-14 A	NB steel post installation
S4-193920	NB panel installation	5	21-May-14	30-May-14	NB panel installation
Noise Barrier NE					
Noise Barrier Fo	undation Works				
S4-513145	NB16 - (5-7) bay Remaining Wall Stem & plinth	42	06-Dec-13 A	30-May-14	NB16 - (5-7) bay Remaining Wall Stem & pl
S4-513150	NB16 - Drainage work	26	16-Dec-13 A	16-Jun-14	NB16 - Drainage work
S4-513160	NB16 - Backfilling	12	18-Mar-14 A	16-Jun-14	NB16 - Backfilling
Noise Barrier Str	ructural Steel & Panels				
S4-207160	NB16 Structural Steel	10	17-Jun-14	27-Jun-14	NB16 Structural Steel
S4-208160	NB16 NB Panels	10	17-Jun-14	27-Jun-14	NB16 NB Panels
Retaining Wall V	N4A & NB13 & Slip Rd M				
Retaining Wall W	/4A				
S4-03504A040	RW W4A (last 4 bays) excavation + base slab+wall thickening	30	06-Jan-14 A	07-Jun-14	RW W4A (last 4 bays) excavation + ba
S4-03504A070	VO164 - L3 Containment barrier	31	22-Apr-14 A	10-Jul-14	VO164 - L3 Conta
S4-03504A050	RW W4A (last 4 bays), wall stem	12	09-Jun-14	21-Jun-14	RW W4A (last 4 bays), wall st
S4-03504A055	RW W4A, Backfill (last 4 bays)-1st 3m	7	21-Jun-14	30-Jun-14	RW W4A, Backfill (last
S4-03504A060	RW W4A, Backfill (last 4 bays)	8	02-Jul-14	10-Jul-14	RW W4A, Backfill
Noise Barrier NB	313		1		
S4-208140	NB13 Structural Steel (last 2 bays)	5	11-Jul-14	16-Jul-14	NB13 Structur
S4-208170	NB13 NB Panels (last 2 bays)	8	17-Jul-14	25-Jul-14	
NB: CH500-1100	, Road&Drain+Utilities			1	
Road Drainage					
S4-031210	Road Drainage - pipela yinng + manhole	44	02-Jul-13 A	16-Jun-14	Road Drainage - pipelayinng + m
Firemain			<u> </u>		
S4-031220	Firemain- excav, pipe install + pit/new hydrants	36	25-Jul-13 A	16-Jun-14	Firemain-lexcav, pipe install + pit
TCSS Works/Oth	ner Utlities		1		
S4-031225	Utilities + TCSS + CPW- SC 20/S20	36	17-Jul-13 A	20-May-14 A	Utilities + TCSS + CPW SC 20/S20
S4-031230	Power supply cable ducts	36	20-Jul-13 A	20-May-14 A	Power supply cable ducts
Road Lighting/ o			<u> </u>		
S4-031250A	Public Lighting - cabling works	18	04-Oct-13 A	16-Jun-14	Public Lighting - cabling works
S4-031250	Public lighting - Lamp Pole + Lamps	24	20-Dec-13 A	16-Jun-14	Public lighting - Lamp Pole + Lam
S4-031250B	Public Lighting - power supply connection & test	18	26-May-14	16-Jun-14	Public Lighting - power supply co
Roadworks					
A1170	NB16 - Road Re-construction for (HS)	27	29-May-14	30-Jun-14	NB16 - Road Re-constru
S4-031260	Northbound road substantial completed in Zone 2	0	17-Jun-14		◆ Northbound road substantial con
A1210	Road Work for Slip Road M (HS)	22	28-Jun-14	23-Jul-14	Road Wo
A1210 A1220		0	20°Ju11-14	23-Jul-14 23-Jul-14	Road Wo
		U		23-JUI-14	
	o CH 2000: SECT. 4 WORKS				
ection Comple					
Section Comple	tion Date				
KD-300400B	ZONE 3 COMPLETE - KD4 Section 4	0		28-Jun-14	♦ ZÓNE 3 CÓMPLETE - KI
CSS Works	ks & Handover				
CSS Works <mark> CSS E&M Wor</mark> l					
		24	20-Sep-13 A	28-Jun-14	Cabling works for Utilities
	Cabling works for Utilities/TCSS/Lighting	24	20-Sep-13 A	28-Jun-14	T&C - power supply syste
CSS E&M Worl	Cabling works for Utilities/TCSS/Lighting T&C - power supply system to TCSS/Lighting	36	· ·	00 1 44	
CSS E&M Worl S4-0512765				28-Jun-14	♦ Handover to TCSS Contra
CSS E&M Worl S4-0512765 S4-0512780 S4-0512785	T&C - power supply system to TCSS/Lighting	36		28-Jun-14	◆ Handover to TCSS Contr
CSS E&M Worl S4-0512765 S4-0512780 S4-0512785	T&C - power supply system to TCSS/Lighting Handover to TCSS Contractor I Median - Ret. Wall, Noise B, Rd	36		28-Jun-14	◆ Handover to TCSS Contr
CSS E&M Worl S4-0512765 S4-0512780 S4-0512785 tage 3: Centra	T&C - power supply system to TCSS/Lighting Handover to TCSS Contractor I Median - Ret. Wall, Noise B, Rd	36		28-Jun-14	◆ Handover to TCSS Contr
CSS E&M Worl S4-0512765 S4-0512780 S4-0512785 tage 3: Centra N20A + Slope S	T&C - power supply system to TCSS/Lighting Handover to TCSS Contractor I Median - Ret. Wall, Noise B, Rd	36 0			Handover to TCSS Contr
CSS E&M Worl S4-0512765 S4-0512780 S4-0512785 tage 3: Centra N20A + Slope S	T&C - power supply system to TCSS/Lighting Handover to TCSS Contractor I Median - Ret. Wall, Noise B, Rd	36 0	ontract: HY/20		Handover to TCSS Contr
CSS E&M Worl S4-0512765 S4-0512780 S4-0512785 tage 3: Centra N20A + Slope S	T&C - power supply system to TCSS/Lighting Handover to TCSS Contractor I Median - Ret. Wall, Noise B, Rd 20	36 0	ontract: HY/20	008/09	Ay Three Months Rolling Programme
CSS E&M Worl S4-0512765 S4-0512780 S4-0512785 tage 3: Centra N20A + Slope S	T&C - power supply system to TCSS/Lighting Handover to TCSS Contractor I Median - Ret. Wall, Noise B, Rd 20	36 0 C Widening of To	ontract: HY/20 blo Highway /	008/09 Fanling Highwa	Ay Three Months Rolling Programme
CSS E&M Worl S4-0512765 S4-0512780 S4-0512785 tage 3: Centra V20A + Slope S	T&C - power supply system to TCSS/Lighting Handover to TCSS Contractor I Median - Ret. Wall, Noise B, Rd 20	36 0	ontract: HY/20 blo Highway /	008/09 Fanling Highwa	ay Three Months Rolling Programme

	Activity Name	Original	Start	Finish					2014				
		Durat			20 27 (May 04 11 1	8 25 (une 15 22	29	July 06 13	20 27	August
S4-03120AA S4-03120AB	Cut Slope S20A - excavation	30	20-Jan-14 A	30-Jun-14	_			1	· · ·	1		1 I I	excavatio
	Cut Slope S20A - drainage/channels	30	26-May-14	30-Jun-14							ut Stope	S20A -	drain age/
	ixisting Bridge No. 10 + Noise B												
Bridge Roadworks													
S4-194899	Road Surfacing & Fumitures	18	18-Apr-14 A	20-Apr-14 A		urfacing 8							
S4-194990	Bridge No. 10 Modification Completion	0		20-Apr-14 A	► Bridge N	lo. 10 Mo	dificatio	n Com	letion				
	Existing Bridge No.11 + Noise B												
Bridge Roadworks	is & Furnitures	30	22-Mar-14 A	25-Apr-14 A		I Noise b		nol	1 1 1 1 1 1 1				
S4-195910	Bridge No. 11 Modification Completion	0	22-Mai-14 A	25-Apr-14 A 25-Apr-14 A		e No. 11			ompletior	1			
	9, & Noise Barrier NB19, NB22	, °											
Noise Barrier NB1									1 1 1 1 1 1				
S4-207190	NB19 Structural Steel, 10 bays	35	01-Apr-14 A	17-May-14 A			VB19 Sti	ucțura	Steel, 1	o bays	;		
S4-207190A	NB19 Structural Steel, 21 bays	35	01-Apr-14 A	17-May-14 A		1			Steel, 2		5		
S4-208190	NB19 NB Panels, 10 bays	10	01-Apr-14 A	17-May-14 A			1	1	s, 10 bay	1 1			
S4-208190A Fill Slope S9	NB19 NB Panels, 21 bays	10	01-Apr-14 A	30-May-14				NB19 I	IB Panel	\$, 21;	bays		
S4-031095A	Fill Slope S9- backfilling	24	01-Apr-14 A	31-May-14	_			FillSlo	pe S9- b	ackfil	ina		
S4-031095B	Fill Slope S9 - drainage	12	01-Apr-14 A	31-May-14			1		pe S9 - (1 I I	-		
NB: CH1260-1750	, L=410m, Road&Drain+Utilities		· ·	,									
Firemain													
S4-0512630	Firemain- excav, pipe install+pit/new hydrants	24	17-Sep-13 A	16-Jun-14				_	🛛 Firen	hain- e	excav, p	pe inst	all+pit/new
TCSS Works/Othe		1	1						1 1 1 1 1 1				
S4-0512635	Utilities +TCSS buried ducts + civil prov. works	36	21-Oct-13 A	30-Apr-14 A		ilities +T(SS buri	edduc	ts + civil	1 1			
S4-0512640	Power supply cable ducts	34	20-May-14*	28-Jun-14			1		I I I I	Pov	ver sup	bly cabl	elducts
Road Lighting/ or S4-0512660	High Mast Public lighting - Lamp Pole + Lamps	36	21-Oct-13 A	12-Jun-14	_				Public l	ighting		Dolo	Lampe
S4-051266A	Public Lighting - cabling works	36	21-Oct-13 A 21-Oct-13 A	12-Jun-14					Public L			i i i	1 1 1
S4-051266B	Public Lighting - power supply connection & test	12	29-May-14	12-Jun-14				:	i i	11 1	-	-	v conhecti
Roadworks	· · · · · · · · · · · · · · · · · · ·										5		
S4-0512645	Roadworks +Slip Road N- Resurfacing	26	18-Oct-13 A	12-Jun-14					Roadwo	orks+	Slip Roa	ad N+ R	esurfacing
S4-0512655	Roadworks +Slip Road N- road marking + furnitures	6	06-Jun-14	12-Jun-14				Ė	Roadwo	orks +	Slip Roa	d N- ro	ad marking
Z4: CH 2000 to	CH 2400: SECT. 2 WORKS												
Stage 1A: South	bound - S14-, RW21-28, TP7,Rd/Dr												
SB Road & Drain	, Ch 2000-2200, L=200m												
TCSS Works/Othe		1	1	1									
S2-031295	Power supply cable ducts	277	25-Jul-12 A	30-Apr-14 A	P(ower supp	ly cable	ducts					
Cut Slope S14													
S2-031140E10	Slope S14 - Soil nail & remaining drainage work (VO343-additional	61	10-Jun-13 A	16-Jun-14			1		Slone	\$14	- Soil n	hil & ror	naining dra
	bound- S15-S19, RW31-33, Rd/Dr	01	10-5011-1574	10-5011-14				1					
	/30, W31, W32(Piled), W33												
Retaining Wall W3													
S2-GCL036	Northbound - GCL interfacing work completion for Lane 1,2,3 open	0		20-May-14*		•	Northb	ound -	GCL inte	erfacir	ig work	comple	tion for Lar
S2-GCL046	Completion of works subject to GCL works completion	30	20-May-14	24-Jun-14						Çomp	letion o	works	subject to
	bound- S17, RW 29-34, NB27-29												
Noise Barrier NB													
Noise Barrier NB2		7	16 Oct 12 A	16 him 14									
S2-035350	NB29 NB Panels V29 & NB27(@W29)	7	16-Oct-13 A	16-Jun-14					INB25		anels		
Retaining Wall, W													
S2-03529AB	RW W29A facing panel structure (bay 1)	34	22-Apr-14 A	16-Jun-14			1	1	RW \	N29A	facing	banels	tructure (b
SB: CH2200-2400), L=200m, Road&Drain+Utilities		·										
Road Drainage													
S2-031250	W29A bay 1 road drainage after GCL TTA stage 6A	20	29-May-14	21-Jun-14				_	— w	/29A t	ay 1 roa	ad drair	age after (
TCSS Works/Othe	er Utlities												
S2-031287	TCSS S160 (VDS) - footing	23	14-Sep-13 A	30-Apr-14 A	†	CSS S160	(VDS)	- footin	g				
Roadworks		1	1	1									
S2-031255	W29A bay 1 road work after GCL TTA stage 6A	20	29-May-14	21-Jun-14	_			1	1 1	1. 1.	- T +		after GCL
S2-031265	Remaining roadwork to final pavement level after GCL TTA stage 6A	6	23-Jun-14	28-Jun-14						Rei	naining	roadwo	rk to final
Stade 3: Central	Median- NB26, NB29 +Road&Drain 8 L=400m & Road&Drain+Utilities												
CM: NB26 & NB28		0	20-May-14		-		Implen	nent TT	A- divert	ttraffic	tonew	SB. NE	8 & CM
	Implement TTA- divert traffic to new SB, NB & CM	1											
CM: NB26 & NB2 Noise Barrier Stru	Implement TTA- divert traffic to new SB, NB & CM								1 1 1 1 1 1				
CM: NB26 & NB2 Noise Barrier Stru S2-208395					1 1 1			1	1 C			i i	
CM: NB26 & NB23 Noise Barrier Stru S2-208395 TCSS Works													
CM: NB26 & NB23 Noise Barrier Stru S2-208395 TCSS Works TCSS E&M Works S2-208420	s & Handover Lighting & T&C	24	15-Oct-13 A	30-Apr-14 A	— i i	ghting & ⊺	- i						
CM: NB26 & NB20 Noise Barrier Stru S2-208395 TCSS Works TCSS E&M Works S2-208420 S2-208450	s & Handover Lighting & T&C T&C - power supply system to TCSS	24 8	15-Oct-13 A 22-Apr-14 A	30-Apr-14 A		&C - powe	er supply	-		s			
CM: NB26 & NB23 Noise Barrier Stru S2-208395 TCSS Works TCSS E&M Works S2-208420	s & Handover Lighting & T&C			· ·			er supply	-		S			
CM: NB26 & NB20 Noise Barrier Stru S2-208395 TCSS Works TCSS E&M Works S2-208420 S2-208450	s & Handover Lighting & T&C T&C - power supply system to TCSS	8 0	22-Apr-14 A	30-Apr-14 A 30-Apr-14 A		&C - powe	er supply	-		S			
CM: NB26 & NB20 Noise Barrier Stru S2-208395 TCSS Works TCSS E&M Works S2-208420 S2-208450	s & Handover Lighting & T&C T&C - power supply system to TCSS	8 0		30-Apr-14 A 30-Apr-14 A		&C - powe	er supply	-		S			
CM: NB26 & NB20 Noise Barrier Stru S2-208395 TCSS Works TCSS E&M Works S2-208420 S2-208450	s & Handover Lighting & T&C T&C - power supply system to TCSS Handover to TCSS Contractor	8 0 C	22-Apr-14 A ontract: HY/20	30-Apr-14 A 30-Apr-14 A		&C - powe	er supply	Contra			ing Pro	gramm	e
CM: NB26 & NB20 Noise Barrier Stru S2-208395 TCSS Works TCSS E&M Works S2-208420 S2-208450	s & Handover Lighting & T&C T&C - power supply system to TCSS Handover to TCSS Contractor Wideni	8 0 C ng of To	22-Apr-14 A ontract: HY/20 olo Highway / I	30-Apr-14 A 30-Apr-14 A 08/09 Fanling Highwa	/ay	&C - powe	er supply	Contra	ctor	s Roll	-	-	
CM: NB26 & NB20 Noise Barrier Stru S2-208395 TCSS Works TCSS E&M Works S2-208420 S2-208450	s & Handover Lighting & T&C T&C - power supply system to TCSS Handover to TCSS Contractor Wideni	8 0 C ng of To	22-Apr-14 A ontract: HY/20 olo Highway / I	30-Apr-14 A 30-Apr-14 A 08/09	/ay	&C - powe	er supply	Contra	ctor	s Roll	-	-	

	1								
ctivity ID	Activity Name	Total	Activity %	Original Start	Finish	2013		2014	00
		Float	Float Complete Duration		47	48	Q1 49 50	Q2 51	
HY/2009/08	8 TOLO HIGHWAY WIDENING, Based on U	VP Jan ⁻	14, upto	Feb progress					
EXECUTI	VE SUMMARY								
Construction	on								
Section 1									
A1010	SA21 - South Bound	-57	99.96%	814 15-Oct-10 A	26-Aug-14				
Section 2								+	·
A1040	SA22 - South Bound	-91	95.47%	1037 01-Apr-10 A	11-Oct-14				
A1070	SA24 - North Bound	-161	99.36%	787 25-Aug-10 A	30-Aug-14				
A1080	SA25 - South Bound	-170	98.91%	777 20-Oct-10 A	03-Sep-14				
A1100	SA26 - South Bound	-177	98.27%	1216 26-Feb-10 A	15-Sep-14			· · · · ·	
Section 3									
A1110	SA26A - North Bound	-107	98.45%	1191 26-Feb-10 A	13-Sep-14			· · · · · · · · · · · · · · · · · · ·	1
A1120	SA26A - South Bound	-20	97.9%	879 26-Feb-10 A	13-Sep-14				
Section 4									
A1150	SA28 - North Bound	-238	92%	1216 26-Feb-10 A	01-Dec-14				
A1160	SA28 - South Bound	-92	99.67%	1099 23-Jun-10 A	29-Aug-14				
Section 7									
A1200	SA41 - Site Office	-19	85.65%	1581 26-Feb-10 A	09-Apr-15				
A1210	SA42 - Temporary Contractor's Works Area	-61	100%	1582 25-Feb-10 A	26-Aug-14				
Section 17	7 (Subject to Excision, Engineer may instruct within	819 days)						
A1300	Validity Period	198	98.6%	819 25-Feb-10 A	06-Sep-14				
KEY DATE	ES/ MILESTONES								
Key Dates	(include EOT GCL submitted and awarded upto Dec	2013)							
HDS01000	KD1: Completion of Section 1 - (Day1216) - Overall Completion of Works	-217	0%	0	30-Aug-14*				
HDS01100	KD1: Completion of Section 1 - (Day1216) - Substantial Completion for Road		100%	0	25-Jan-14 A		♦ KD	1: Completion of Section 1 - (Day1216) - Su	bstantial Completion for R
HDS02000	KD2: Completion of Section 2 - (Day1216) - Overall Completion of Works	-203	0%	0	11-Oct-14*				
HDS03000	KD3: Completion of Section 3 - (Day1216) - Overall Completion of Works	-206	0%	0	22-Sep-14*				
HDS04000	KD4: Completion of Section 4 - (Day1216) - Overall Completion of Works	-275	0%	0	01-Dec-14*				
HDS07000	KD7: Completion of Section 7 - (Day1581)	-61	0%	0	26-Aug-14*				
HDS08000	KD8: Completion of Section 8 - (Day1581)	-92	0%	0	27-Apr-15*				
HDS09000	KD9: Completion of Section 9 - (Day1581)	-80	0%	0	11-Jun-15*				
HDS10000	KD10: Completion of Section 10 - (Day1581)	-91	0%	0	31-May-15*				
HDS11000	KD11: Completion of Section 11 - (Day1581)	-91	0%	0	31-May-15*				
HDS12000	KD12: Completion of Section 12 - (Day1581)	-61	0%	0	26-Aug-14*				
HDS13000 HDS14000	KD13: Completion of Section 13 - (Day1581) KD14: Completion of Section 14 - (Day1581)	-92	0% 0%	0	26-May-15* 26-Aug-14*			· · · · · · · · · · · · · · · · · · ·	
		10-	U%		20-Aug-14				
	UCTION PHASE								
Section 1									
Site Area S	SA21								
						1			
	09/08 TOLO HIGHWAY	Hi	ghways	Department - Contra	act No. HY/2009/08			Date R	UWP Revision evision Checked Ap
IDENING int Date:03-Sep-14	Level of Effort		Widenin	g of Tolo Highway∕ I	Fanling Highway			27-Jan-14 3MRP Janua	ry 2014 WY JC
ta Date: 26-Aug-14				1 - Between Ma Wo					
ge 1 of 6			0		-				
				3 MRP, 26 August	+ 201 <i>4</i>				

	2										
Activity ID	Activity Name		Activity %	Original Start Duration	Finish	2013 2014					
			Complete			Q1 Q2 47 48 49 50 51					
SA210000	Site Area SA21 Works Period	209	99.97%	1076 16-Jul-10 A	26-Aug-14						
SA210010	Site Area SA21 Works Completion	209	0%	0	26-Aug-14						
SA210020	Temporary Traffic Management (Detail shall refer to supplementary informatio	171	99.96%	872 16-Jul-10 A	26-Aug-14						
North Bou	und										
Noise Barri	iers & Road Barriers										
Noise Barri	rier NB31										
S21N3100	Remaining NB31 Installation of Panel	-176	85%	33 27-Jun-13 A	30-Aug-14						
South Bou	und										
Noise Barri	iers										
Noise barri	ier NB30										
S21S3029	NB30 : Installing Panel	-174	95%	50 17-Oct-13 A	28-Aug-14	I I I I I I					
Landscapir	ng										
S21S6000	Landscaping Works	-171	99%	35 26-Nov-13 A	26-Aug-14						
Section 2					, 						
Site Area S	SA22										
SA220010	Site Area SA22 Works Completion	208	0%	0	26-Aug-14						
SA220020	Temporary Traffic Management (Detail shall refer to supplementary informatio	208	99.9%	985 25-Feb-10 A	26-Aug-14						
South Bou											
Slopework											
	Slope Reinstatement Works (Bridge 12B)	-164	50%	40 27-Jan-14 A	18-Sep-14						
	onstruction Works, Roadworks & Drainage				•						
S22S4441	Claim 40: Revised Traffic signs & road markings	-127	95%	8 28-Jun-14 A	26-Aug-14						
S22S4442	Claim 41: Revised kerb & fencing layout	-127	90%	6 28-Jun-14 A	26-Aug-14						
S22S4500	Roadworks for Realignment of Existing Shek Lin Road	-164	0%	18 19-Sep-14	11-Oct-14						
Landscapir											
	Landscaping Works	-147	98%	30 23-Sep-13 A	19-Sep-14						
Site Area S					·						
SA230010	Site Area SA23 Works Completion	209	0%	0	26-Aug-14						
Site Area S	· · · · · ·										
SA240000	SA24 Site Area SA24 Works Period	-161	99.37%	788 04-May-10 A	30-Aug-14						
SA240000 SA240010	Site Area SA24 Works Completion	204	99.37%	0	30-Aug-14						
		204	0 /0	0	30-Aug-14						
North Bou											
Landscapir	ng Landscaping Works	-131	90%	50 27-Jan-14 A	30-Aug-14						
		- 131	30 /0	00 21-0011-14A							
Site Area S		404	07.000/	770 04 May 40 A	10 Car 11						
SA250000	Site Area SA25 Works Period (incl, Provision of hoarding at site boundary of S	194	97.99%	770 04-May-10 A	10-Sep-14						
SA250010	Site Area SA25 Works Completion	194	0%	0	10-Sep-14						
SA250020	Temporary Traffic Management (Detail shall refer to supplementary informatio	159	98.37%	765 04-May-10 A	10-Sep-14						
South Bou											
Slopework		100	000/	05 00 0 40 4	07 Aug 44						
S25S5110	Slope Reinstatement Works (Bridge 13A)	-139	93%	25 26-Sep-13 A	27-Aug-14						
S25S5140	Slope Reinstatement Works (Bridge LB1)	-139	85%	25 26-Sep-13 A	02-Sep-14						
S25S5150	Slope Reinstatement Works (S30A)	-139	85%	25 28-Sep-13 A	08-Sep-14						
	onstruction Works, Roadworks & Drainage		1000/								
S25S4000	Roadworks, Drainages & Utilities (CH 3400 - 3600)	171	100%	109 27-Feb-13 A	26-Aug-14						
Site Area S		,									
SA260000	Site Area SA26 Works Period	-177	98.27%	1216 26-Feb-10 A	15-Sep-14						

	3					
Activity ID	Activity Name	Total	Activity %	Original Start	Finish	2013 2014
	Activity Name	Float	Complete	Duration	Fillisti	Q1 Q2
SA260010	Site Area SA26 Works Completion	-177	0%	0	15-Sep-14	<u>47 48 49 50 51</u>
SA260020	Temporary Traffic Management (Detail shall refer to supplementary informatio	-143	98.27%	983 26-Feb-10 A	15-Sep-14	
North Bou			0012770			
Landscapi						
S26N6040	Landscaping Works (CH3400 - 3720)	-131	95%	50 16-Sep-13 A	28-Aug-14	
		101	5578		20 Aug 14	
South Bou						
Slopework		140	00.170/		15 Can 14	
\$26\$5000	Slopeworks Fill(S32)	-143	29.17%	24 18-Feb-13 A	15-Sep-14	
S26S5020	Slopeworks Fill (S32) - Stage 2 (Upper +45mPD)	-143	90%	20 08-Jun-13 A	15-Sep-14	
S26S5110 S26S5120 S26S5130 Construction Retaining V S26S1606 Noise Barri S26S3030 Landscapin S26S6000	Slope Reinstatement Works (besides LB3)	-134	66.67%	24 04-Mar-13 A	03-Sep-14	
S26S5120	Slope Reinstatement Works (besides LB3) - Lower: below +24mPD	-134	85%	20 04-Mar-13 A	28-Aug-14	
S26S5130	Slope Reinstatement Works (besides LB3) - Upper: above +24mPD	-134	85%	20 27-Aug-13 A	02-Sep-14	
Constructio	on of Retaining Wall					
	Wall RWTW3, (VO)					
S26S1606	VO 51.1: Remaining Rockfill below LB3	169	93%	20 19-Jun-13 A	27-Aug-14	
Noise Barri	iers & Road Barriers					
Noise Barr						
S26S3030	Remaining Works of NB35	-143	75%	50 27-Aug-13 A	10-Sep-14	
Landscapi	ng		;			
S26S6000	Landscaping Works	-143	71.67%	60 26-Nov-13 A	15-Sep-14	
S26S6010	Landscaping Works - Stage 1, East of B13A	-143	99%	30 26-Nov-13 A	13-Sep-14	
S26S6040	Landscaping Works - Stage 2, West of B13A	-143	99%	30 26-Nov-13 A	13-Sep-14	
Section 3						
Site Area S	SA26A					
SA26A000	Site Area SA26A Works Period	-178	99%	1215 26-Feb-10 A	07-Sep-14	
SA26A010	Site Area SA26A Works Completion	-178	0%	0	26-Aug-14	
SA26A020	Temporary Traffic Arrangement (Detail shall refer to supplementary informatio	-145	99%	983 26-Feb-10 A	05-Sep-14	
North Bou	und					
Boad Be-C	construction Works, Roadworks & Drainage					
S26AN447	Construction Slip Road J (Under Bridge 15A)	-168	90%	45 27-Aug-13 A	30-Aug-14	
Landscapii				Ŭ		
S26AN610	Landscaping Works	-146	95%	29 15-Mar-13 A	27-Aug-14	
South Bou						
Slopework						
Siopework S26AS515		-150	98%	65 08-Aug-13 A	27-Aug-14	
		-150	30 /0	00 00-Aug-10 A	27 'Aug-14	
Landscapii S26AS600	ng Landscaping	162	80%	30 27-Jan-14 A	05-Sep-14	
Bood Do C		102	00%	50 21-Jall-14 A	00°0 0 p-14	
	Construction Works, Roadworks, Drainage & Utilities	101	07 070/	200 14 Ech 10 A	04 Son 14	
	Roadworks, Drainages & Utilities (CH 4020 - 4500)	-161	97.87%	399 14-Feb-12 A	04-Sep-14	
S27S4110	Slip Road S (utilities, drainage & roadwork)	-161	98%	85 04-Oct-13 A	27-Aug-14	
S27S4111	Claim 40: Revised traffic signs & road markings	-161	0%	5 04-Sep-14	11-Sep-14	
S27S4112	Claim 41: Revised kerb & fencing layout	-161	0%	2 11-Sep-14	13-Sep-14	
Site Area S						
SA270000	Site Area SA27 Works Period	-178	100%	1187 26-Mar-10 A	26-Aug-14	
SA270010	Site Area SA27 Works Completion	-178	0%	0	26-Aug-14	
SA270020	Temporary Traffic Arrangement (Detail shall refer to supplementary informatio	-145	100%	959 26-Mar-10 A	26-Aug-14	
SA270030	Overall Utilities Diversion (Detail shall refer to supplementary information)	-145	100%	959 26-Mar-10 A	26-Aug-14	
					<u> </u>	

ty ID	Activity Name	Total	Activity %	Original	Start	Finish		2013			2014		
		Float	Complete	Duration				47	48	Q1 49	50		
South Bou	ind												
Landscapin	ng												
S27S6010	Landscaping	-150	98%	40	11-Feb-14 A	30-Aug-14			L			·	
Section 4													
Site Area S	\$428												
SA280000	Site Area SA28 Works Period	112	92%	1216	26-Feb-10 A	01-Dec-14			1 1 1			1	
SA280010	Site Area SA28 Works Completion	112	0%	0		01-Dec-14							
SA280030	Temporary Traffic Arrangement (Detail shall refer to supplementary informatio	91	91.84%	-	26-Feb-10 A	01-Dec-14			i 				
SA280040	Overall Utilities Diversion (Detail shall refer to supplementary information)	91	91.84%		26-Feb-10 A	01-Dec-14							
		31	31.0478	303	20-1 60-10 A	01-Dec-14							
North Bou													
	onstruction Works, Roadworks, Drainage & Utilities	454	700/	00	00 1-1 11 1	01.0							
S28N4024	Road and Drainage Works (along W74 and NB38)	-151	70%		08-Jan-14 A	01-Sep-14				- !		·	
S28N4030	300d, 1200d watermain (chA9.00-ch182.00) & Firemains	162	97.51%		06-Aug-10 A	04-Sep-14			- - 	1			
S28N4260	Remaining Works for Water Pipe installation (DN1200 CH183 - 227 cross roa	-213	80%		06-Sep-13 A	23-Sep-14	:		1	1	1	1	
S28N4310	Remaining Works for Water Pipe installation (DN300 CH183 - 227 cross road	-213	80%		26-Nov-13 A	27-Sep-14						I	
S28N4330	Roadwork, Drainages & Utilities at TWSRW Road from NB38 to NB41-bay6 (-225	0%		26-Nov-12 A	27-Sep-14			- 			1	
S28N4360	Road Works and Road surfacing at Tai Wo Service Road West from NB38 to	-225	60%		01-Apr-14 A	11-Sep-14						·	
S28N4370	Road Works and Road Surfacing at Slip Road T (Slow Lane)	-225	30%		15-Feb-14 A	27-Sep-14							_
S28N4380	Roadworks, Drainages & Utilities at TWSRW Road from NB38 to NB41- bay6	-225	23.16%		15-Feb-14 A	29-Oct-14					1		_
S28N4390	Removal existing paving, Drainage & Utilities (incl.TTA case 50 stage 9 & 10 ar	-218	50%		15-Feb-14 A	16-Sep-14			1 1 1		1	1	
S28N4400	Road Works and Road surfacing at Tai Wo Service Road West from NB38 to	-218	40%	18	17-Mar-14 A	04-Oct-14						1	
S28N4410	Road Works and Road Surfacing at Slip Road T (Fast Lane)	-225	35%	25	01-Apr-14 A	20-Oct-14			 	 	, , ,		
S28N4420	Remaining Road Works at Slip Road T and TWSRW Road from NB38 to NB4	-225	80%	40	27-Jan-14 A	29-Oct-14							
S28N4421	Claim 40: Revised traffic signs & road marking	-225	0%	12	29-Oct-14	12-Nov-14							
S28N4422	Claim 41: Revised kerb & fencing layout	-225	0%	2	12-Nov-14	14-Nov-14							
Noise Barri	iers & Road Barriers												
Noise Barri	ier NB38, NB39, NB40 & NB41 (AD5)								, , , ,	, , , ,			
	Noise barrier Construction NB39 (Wall)	-156	70%	30	27-Feb-13 A	04-Sep-14							
S28N2350	Erection of steel and panel (NB39)	-156	80%	10	03-Mar-14 A	06-Sep-14							
South Bou	Ind												
Roadworks	s, Drainage & Utilities												
S28S4010	Roadworks, Drainages & Utilities (CH4820 - Ch5700)(incl. VO20: Revised Fire	-149	99.69%	454	11-May-12 A	27-Aug-14							
S28S4031	Road Surface and Roadmark - Stage 2 (Fast Lane)	-149	98%	30	13-Aug-13 A	26-Aug-14							_
S28S4085	Remaining Road Works at Slip Road W	-149	98%	40	27-Aug-13 A	27-Aug-14						1	_
Road Const	truction and Road Resufacing												
S28S4960	Road Construction and Resurfacing S/B for SA28	-149	95%	60	26-Sep-13 A	29-Aug-14			1 7 1		1		
Site Area S	SA29												
	Site Area SA29 Works Period (incl. VO002 & VO0011: Fencing details along si	209	100%	946	27-Jul-10 A	26-Aug-14			L	- 1			
SA290010	Site Area SA29 Works Completion	209	0%	0		26-Aug-14							
SA290020	Temporary Traffic Arrangement (Detail shall refer to supplementary informatio	171	100%	764	27-Jul-10 A	26-Aug-14			1 1 1				
SA290030	Overall Utilities Diversion (Detail shall refer to supplementary information)	171	100%	764	27-Jul-10 A	26-Aug-14							
Site Area S													
SA320010	Site Area SA32 Works Completion	-178	0%	0		26-Aug-14						·	
		170	070	0									
Section 5													
Site Area S													
SA310000	Site Area SA31 Works Period (incl. VO42, VO52, VO59 & VO65)	207	99.77%	884	26-Feb-10 A	27-Aug-14			 	1	1		_
SA310010	Site Area SA31 Works Completion	207	0%	0		27-Aug-14							

	5				
vity ID	Activity Name	Total	Activity %	Original Start	Finish
		Float	Complete	Duration	
South Bo	und			· · · ·	
Roadwork	s, Drainage & Utilities				
Portion 3					
S31S5120	Traffic Lights	169	60%	5 30-May-14 A	27-Aug-14
Section 7					
Site Area	SA41				
SA410000	Site Area SA41 Works Period	-19	85.65%	1581 26-Feb-10 A	09-Apr-15
SA410010	Site Area SA41 Works Completion	-18	0%	0	09-Apr-15
Temporar	y Site Office				
S41G9100	Temp Warehouse, Fabrication & Equip Yard	-289	90%	1419 13-May-10 A	14-Jan-15
S41G9120	Dismantle of ER & Contractor's Office	-13	0%	68 14-Jan-15	09-Apr-15
Site Area	SA42 (Core Storage & Works Area)				
SA410040	Site Area SA42 Works Period	-61	100%	1581 26-Feb-10 A	26-Aug-14
SA420010	Site Area SA42 Works Completion	-61	0%	0	26-Aug-14*
Site Area	SA43				
SA410020	Site Area SA43 Works Period	-288	84.79%	1492 04-May-10 A	09-Apr-15
SA410030	Site Area SA43 Works Completion	-288	0%	0	09-Apr-15*
	Production Area				
S41G050	Temp Warehouse, Fabrication & Equip Yard (Site allcated for period till 8 May	209	100%	1260 13-Sep-10 A	26-Aug-14
S41G260	Dismantle of Mulching Production Yard	-235	0%	68 14-Jan-15	09-Apr-15
S41G270	Dismantle of Mulching Production Yard : Removing Mulching Office	-235	0%	48 14-Jan-15	13-Mar-15
S41G280	Dismantle of Mulching Production Yard : Removing Security Fence and Securit	-235	0%	20 13-Mar-15	09-Apr-15
Section 8					
	ment Works				
S21G8000	SA21 Establishment Works	-92	33%	365 26-Jan-14 A	27-Apr-15
		52	0078	505 20 ball 14A	
Section 9					
	ment Works				
S22G8000	SA22 Establishment Works	-80	33.9%	365 24-Mar-14 A	11-Jun-15
S23G8000	SA23 Establishment Works	-80	33.9%	365 24-Mar-14 A	11-Jun-15
S24G8000	SA24 Establishment Works	-80	33.9%	365 24-Mar-14 A	11-Jun-15
S25G8000	SA25 Establishment Works	-80	33.9%	365 24-Mar-14 A	11-Jun-15
S26G8000	SA26 Establishment Works	-80	33.9%	365 24-Mar-14 A	11-Jun-15
Section 10					
Establish	ment Works				
S26AG800	SA26A Establishment Works	-91	23.8%	365 01-Mar-14 A	31-May-15
S27G8000	SA27 Establishment Works	-91	23.8%	365 01-Mar-14 A	31-May-15
Section 11					
Establish	ment Works				
S28G8000	SA28 Establishment Works	-91	23.8%	365 01-Mar-14 A	31-May-15
S29G8000	SA29 Establishment Works	-91	23.8%	365 01-Mar-14 A	31-May-15
Section 12					
	Ment Works SA30A Establishment Works	150	00/	265 06 Aug 14	
S30AG800	SA30A Establishment Works SA30 Establishment Works	-156 -156	0%	365 26-Aug-14 365 26-Aug-14	25-Aug-15 25-Aug-15
CONCONN	DADUT SIDUELLI WOLKS	-156	0%	303 ZO-AUQ-14	LZO-AU0-15
S30G8000					

	6										
Activity ID	Activity Name	Total	Activity %	Original	Start	Finish	2013		2014		
			Complete						Q1		Q2
							47	48	49	50	51
Establishm	Establishment Works										
S30AG810	Remainder of Establishment Works (Exclude Section 8 to 12)	-92	25%	365	25-Jan-14 A	26-May-15				1 1	

APPENDIX C IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

Appendix C - Implementation Schedule of Environmental Mitigation Measures (EMIS)

Air Quality - Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Air Quality during	• Restricting heights from which materials are dropped, as far as practicable to minimize the fugitive dust arising from unloading/loading.	During construction	V
Construction	• All stockpiles of excavated materials or spoil of more than 50m ³ shall be enclosed, covered or dampened during dry or windy conditions.		V
	• Effective water sprays shall be used to control potential dust emission sources such as unpaved haul roads and active construction areas.		V
	All spraying of materials and surfaces shall avoid excessive water usage.		V
	• Vehicles that have the potential to create dust while transporting materials shall be covered, with the cover properly secured and extended over the edges of the side and tail boards.		V
	Materials shall be dampened, if necessary, before transportation.		V
	• Travelling speeds shall be controlled to reduce traffic induced dust dispersion and resuspension within the site from the operating haul trucks.		V
	• Vehicle washing facilities shall be provided to minimize the quantity of material deposited on public roads.		V

Noise - Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Noise during	• Use of silenced plant or plant equipped with mufflers or dampers in substitute of ordinary plant.	During	V
Construction	Reduce the number of equipment and their percentage on-time.	construction	V
	• 3.5 m and 5.5 m high temporary noise barrier at culvert construction work area (Figure 2a of the Environmental Permit).		V
	• 3 m high temporary noise barrier along the northern edge of Bridge 12 at ground level (Figure 2b of the Environmental Permit).		V
	• 2 m high temporary noise barrier along the northern edge of Bridge 12 at bridge level (Figure 2b of the Environmental Permit).		In progress
	• 2.5 m high temporary noise barrier along Tai Wo Service Road West (Figure 2c of the Environmental Permit).		V
	 3.5m high temporary noise barrier along Tai Wo Services Road West near Tai Hang (Figure2c of the Environmental Permit). 		In progress

Impact	Mitigation Measures	Timing	Implementation Status
Water quality	Demolition and reconstruction of bridges	During	
during	Prevent off-site migration through use of sheet piles.	construction	V
Construction	Minimize duration of works as far as practical.		V
	• All sewer and drainage connections should be sealed to prevent debris, soil, sand, etc, from entering public sewers/drains.		V
	• Site surface runoff should be settled to remove sand/silt before it is discharged into the existing storm drains.		V
	River training works		
	 Inspection and testing of water quality in the nullah on the Tai Po River. 		N/A
	Road Widening Works and Earthworks		
	 Wastewater generated from any concrete batching washdown of equipment or similar activities should be discharged into foul sewers, after the removal of settable solids, and pH adjustment as necessary. All sewage discharges from the study area should meet the TM standards and approval from EPD through the licensing process is required. 		V
	• Sand traps, oil interceptors and other pollution prevention installations should be provided, properly cleaned and maintained.		V
	• Runoff from exposed working areas, unfinished slopes and from unlined temporary channels should be directed to stilling basins and/or silt traps before discharging to the drainage outfalls.		
	• Regular inspections of stilling basins and/or silt traps are required to ensure that sediment is not conveyed into the existing drainage system.		V
	Open stockpiles should be covered with a tarpaulin cover.		V
	• During the wet season, any exposed top soils should be covered with a tarpaulin, shotcreted or hydroseeded.	1	V
	• Sand and silt from wash-water from vehicle washing should be settled out before discharging into storm drains.		V
	Fuels should be stored in bunded areas such that spillage can be easily collected.		V

Water Quality - Schedule of Recommended Mitigation Measures

Waste - Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Waste	General Waste	During	
Management	 Transport of wastes off site as soon as possible. 	construction	V
during	Maintenance of accurate waste records		V
Construction	 Minimization of waste generation for disposal (via reduction/recycling/re-use). 		V
	 No on-site burning will be permitted. 		V
	 Use of re-useable metal hoardings/signboards. 		V
	Vegetation from site clearance		
	 Segregation of materials to facilitate disposal. 		V
	 Mulching to reduce bulk and where possible review opportunities for the possible beneficial use within landscaping areas. 		V
	Demolition Wastes		
	 Segregation of materials to facilitate disposal. 		V

Appropriate stockpile management.	V
Excavated Materials	
 Segregation of materials to facilitate disposal / reuse. 	V
Appropriate stockpile management.	V
Re-use of excavated material on or off site (where possible).	V
Special handling and disposal procedures in the event that contaminated materials are excavated.	N/A
Construction Wastes	
Segregation of materials to facilitate recycling/reuse (within designated area in appropriate containers/stockpiles).	V
Appropriate stockpile management.	V
Planning to reduce over ordering and waste generation.	V
Recycling and re-use of materials where possible (e.g. metal, wood from formwork)	V
• For material which cannot be re-used/recycled, collection should be carried out by an approved waste contractor for landfill disposal.	V
Bentonite Slurries	
Bentonite slurries should be reused as far as possible.	N/A
Disposal in accordance with Practice Note For Professional Persons ProPECC PN 1/94.	N/A
Chemical Wastes	
Storage within locked, covered and bunded area.	V
The storage area shall not be located adjacent to sensitive receivers e.g. drains.	V
Minimize waste production and recycle oils/solvents where possible.	V
• A spill response procedure shall be in place and absorption material available for minor spillages.	V
Use appropriate and labelled containers.	V
Educate site workers on site cleanliness/waste management procedures.	V
• If chemical wastes are to be generated, the contractor must register with EPD as a Chemical Waste Producer.	V
The chemical wastes shall be collected by a licensed chemical waste collector.	V
Municipal Wastes	
Waste shall be stored within a temporary refuse collection facility, in appropriate containers prior to collection and disposal.	V
Regular, daily collections are required by an approved waste collector.	V

Ecology - Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Ecology	Accurate Delineation of Works Area	During	
during Construction	 Boundaries of proposed works areas shall be clearly identified and separated from external areas by a physical barrier to prevent encroachment of adjacent habitats. 	construction	V
	 Individual trees which fall within the works areas but which work plans show do not require removal are to be retained and fenced off to maximize protection. 		V
	Vegetation Clearance		
	 No fires shall be lit within the works area for the purpose of burning cleared vegetation. 		V
	• The Contractor shall give consideration to mulching the cleared vegetation for recycling within the works area /		V

adjacent land.	
Dust generation	
 Vehicle washing facilities to be provided at every discernible or designated vehicle exit point; 	V
 All temporary site access roads shall be sprayed with water to suppress dust as necessary; 	V
All dusty materials should be sprayed with water immediately prior to any handling; and	V
• All debris should be covered entirely by impervious sheeting or stored in a sheltered debris collection area.	V
Surface Run-off	
 Bund and cover stockpiles to avoid run-off; 	V
 Channel any run-off through a system of oil, grease and sediment / silt traps and reuse water on site where ever practical; 	V
All vehicle maintenance to be undertaken within a bunded area; and	N/A
Maximize vegetation retention on-site to maximize absorption (minimize transport).	V

Landscape and Visual Impact - Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Landscape	Preservation of Existing Vegetation	During	
and Visual	 Trees identified for retention within the project limit would be protected during the works 	construction	V
Impact	 The tree transplanting and planting works shall be implemented by approved Landscape Contractors 		V
during	Temporary Works Areas		
Construction	 Where feasible the works areas would be screened using hoarding and existing vegetation would be retained where possible to reduce the landscape and visual impacts arising from the construction activity. The landscape of these works areas would be restored following the completion of the construction phase. 		V
	Hoarding		
	 A hoarding would be erected where practicable in the most visually sensitive locations to screen the temporary construction works from the local VSR's. 		V
	Top Soils		
	• The works will result in disturbance to extensive areas of topsoil. Topsoil worthy of retention should be stockpiled for use following completion of the civil engineering works. It should either be temporarily vegetated with hydroseeded grass or turned over on a regular basis.		N/A
	Protection of Important Landscape Features		
	 Important features such as temples, Island House and kilns within the study area, although remote from the proposed works retained and adequately protected. 		V

Legend: V = implemented; x = not implemented;

@ = partially implemented; N/A = not applicable - No such work was undertaken or no such material was used on site.

APPENDIX D SUMMARY OF ACTION AND LIMIT LEVELS

Appendix D - Summary of Action and Limit Levels

Location	Action Level	Limit Level
AM1A	302.1 μg/m3	500 μg/m3
AM2	301.9 μg/m3	500 μg/m3
AM3	301.9 μg/m3	500 μg/m3
AM4A	302.3 μg/m3	500 μg/m3

Table 1 – Action and Limit Levels for 1-hour TSP

Table 2 – Action and Limit Levels for 24-hour TSP

Location	Action Level	Limit Level
AM1A	176.6 μg/m3	260 μg/m3
AM2	178.6 μg/m3	260 μg/m3
AM3	193.1 μg/m3	260 μg/m3
AM4A	198.5 μg/m3	260 μg/m3

Table 3 – Action and Limit Levels for Construction Noise (0700-1900 hrs of normal weekdays)

Location	Action Level	Limit Level
NM1A	When one documented	75 dB(A)
NM2	complaint, related to 0700 –	75 dB(A)
NM3	1900 hours on normal	65/70 dB(A)*
NM4		75 dB(A)
NM5	weekdays, is received	75 dB(A)
NM6	from any one of the sensitive	70 dB(A)*
NM7	receivers	75 dB(A)

*Daytime noise Limit Level of 70 dB(A) applies to education institutions, while 65dB(A) applies during school examination period

APPENDIX E CALIBRATION CERTIFICATES OF MONITORING EQUIPMENTS

AECOM Asia Company Limited <u>TSP High Volume Sampler</u> <u>Field Calibration Report</u>

Station	168 Shek Kwu Lung Village (AM4A)	Operator:	Gary Choi					
Cal. Date:	11-Jul-14	Next Due Date:	11-Sep-14					
Equipment No.:	A-001-70T	Serial No.	10273					
Ambient Condition								

Pressure, Pa (mmHg)

Temperature, Ta (K)

303

Orifice Transfer Standard Information							
Serial No:	988	Slope, mc	1.97518	Intercept, bc	-0.01001		
Last Calibration Date:	28-May-14	mc x Qstd + bc = [DH x (Pa/760) x (298/Ta)] ^{1/2}					
Next Calibration Date:	28-May-15	Qstd = {[DH x (Pa/760) x (298/Ta)] ^{1/2} -bc} / mc					

		Calibration of	of TSP Sampler	La strange	
		Orfice		HVS	S Flow Recorder
Resistance Plate No.	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] ^{1/2}	Qstd (m ³ /min) X · axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	8.4	2.86	1.45	47.0	46.40
13	6.4	2.50	1.27	40.0	39.49
10	4.7	2.14	1.09	33.0	32.58
7	3.3	1.79	0.91	26.0	25.67
5	2.2	1.46	0.75	21.0	20.73
By Linear Regre					
By Linear Regre Slope , mw = Correlation Coe	36.8171	0.9981	Intercept, bw =	-7.3	137
Slope , mw = Correlation Coe	36.8171 fficient* =	0.9981 heck and recalibrate.	Intercept, bw =	-7.3	137
Slope , mw = Correlation Coe	36.8171 fficient* =	heck and recalibrate.	-	-7.3	137
Slope , mw = Correlation Coe *If Correlation Co	36.8171 fficient* = efficient < 0.990, c	heck and recalibrate.	Intercept, bw = Calculation	-7.3	137
Slope , mw = Correlation Coe *If Correlation Co From the TSP Fie	36.8171 fficient* = efficient < 0.990, c eld Calibration Curv	heck and recalibrate. Set Point	-	-7.3	137
Slope , mw = Correlation Coe *If Correlation Co From the TSP Fie	36.8171 fficient* = efficient < 0.990, c eld Calibration Curv	heck and recalibrate. Set Point ve, take Qstd = 1.30m ³ /min "Y" value according to	Calculation		137
Slope , mw = Correlation Coe *If Correlation Co From the TSP Fie	36.8171 fficient* = efficient < 0.990, c eld Calibration Curv	heck and recalibrate. Set Point ve, take Qstd = 1.30m ³ /min	Calculation		137
Slope , mw = Correlation Coe *If Correlation Co From the TSP Fie From the Regres	36.8171 fficient* = efficient < 0.990, c eld Calibration Curv sion Equation, the	heck and recalibrate. Set Point ve, take Qstd = 1.30m ³ /min "Y" value according to	Calculation x [(Pa/760) x (298/1		41.07

D:\HVS Calibration Certificate (Existing)\60

753.1



TISCH ENVIRONMENTAL, INC. 145 SOUTH MIAMI AVE VILLAGE OF CLEVES, OH 45002 513.467.9000 877.263.7610 TOLL FREE 513.467.9009 FAX

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Ma Operator		Rootsmeter Orifice I.I		438320 0988	Ta (K) - Pa (mm) -	296 - 751.84
PLATE OR Run # 1 2 3 4 5	VOLUME START (m3) NA NA NA NA NA	VOLUME STOP (m3) NA NA NA NA NA NA	DIFF VOLUME (m3) 1.00 1.00 1.00 1.00 1.00	DIFF TIME (min) 1.3790 0.9720 0.8690 0.8260 0.6830	METER DIFF Hg (mm) 3.2 6.4 7.9 8.8 12.8	ORFICE DIFF H2O (in.) 2.00 4.00 5.00 5.50 8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9917 0.9875 0.9854 0.9843 0.9790	0.7191 1.0159 1.1339 1.1916 1.4333	1.4113 1.9959 2.2315 2.3405 2.8227	0.9957 0.9915 0.9894 0.9883 0.9829	0.7221 1.0201 1.1385 1.1965 1.4392	$\begin{array}{c} 0.8874 \\ 1.2549 \\ 1.4030 \\ 1.4715 \\ 1.7747 \end{array}$
Qstd slog intercep coefficie	t (b) = ent (r) =	1.97518 -0.01001 0.99998 Pa/760) (298/'	Qa slop intercep coeffici	t (b) =	1.23683 -0.00630 0.99998

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

EQUIPMENT CALIBRATION RECORD

Laser Dust Monitor
SIBATA
LD-3
A.005.07a
557 CPM

Mike Shek (MSKM)

Standard Equipment

Operator:

-

Equipment:	Rupprecht & Patashnick TEOM [®]				
Venue:	Cyberport (Pui Ying Secondary School)				
Model No.:	Series 1400AB				
Serial No:	Control: 140AB219899803				
	Sensor:	1200C143659803	K _o :	12500	
Last Calibration Date*:	10 May 2014				

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): Sensitivity Adjustment Scale Setting (After Calibration): 557 CPM 557 CPM

Hour	Date (dd-mm-yy)	Time			bient dition	Concentration ¹ (mg/m ³)	Total Count ²	Count/ Minute ³	
					Temp	R.H.	Y-axis		X-axis
					(°C)	(%)			
1	11-05-14	09:30	-	10:30	26.7	75	0.04434	1775	29.58
2	11-05-14	10:30	-	11:30	26.7	75	0.04716	1880	31.33
3	11-05-14	11:30	-	12:30	26.8	76	0.04927	1964	32.73
4	11-05-14	12:30	-	13:30	26.8	75	0.05035	2015	33.58

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®

2. Total Count was logged by Laser Dust Monitor

3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X

Data and a

Slope (K-factor):	0.0015
Correlation coefficient:	0.9982
Validity of Calibration Record:	11 May 2015

Remarks:					
QC Reviewer:	YW Fung	Signature:	-y/	Date:	12 May 2014

EQUIPMENT CALIBRATION RECORD

Laser Dust Monitor
SIBATA
LD-3
A.005.09a
797 CPM

Mike Shek (MSKM)

	Stan	dard	Eaui	pment
--	------	------	------	-------

Operator:

Equipment:	_Rupprecht & Patashnick TEOM [®]					
Venue:	Cyberport (Pui Ying Secondary School)					
Model No.:	Series 1400AB					
Serial No:	Control: 140AB219899803	-				
	Sensor: 1200C143659803 Ko: 12500	-				
Last Calibration Date*:	10 May 2014	-				

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): Sensitivity Adjustment Scale Setting (After Calibration):

797 CPM 797 CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition	Concentration ¹ (mg/m ³)	Total Count ²	Count/ Minute ³
			Temp R.H. (°C) (%)	Y-axis		X-axis
1	11-05-14	13:30 - 14:30	26.8 75	0.05034	2017	33.62
2	11-05-14	14:30 - 15:30	26.9 76	0.05211	2084	34.73
3	11-05-14	15:30 - 16:30	26.9 76	0.05163	2066	34,43
4	11-05-14	16:30 - 17:30	26.9 76	0.05272	2113	35.22
Noto:	d BAnuthentury			0.00272	2110	z.

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®

2. Total Count was logged by Laser Dust Monitor

3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X Slope (K-factor)

Slope (K-factor):	0.0015	
Correlation coefficient:	0.9965	
Validity of Calibration Record:	11 May 2015	
Remarks:		

Re	mar	ks:

QC Reviewer: YW Fung Signature: Date: 12 May 2014

EQUIPMENT CALIBRATION RECORD

Laser Dust Monitor
SIBATA
LD-3B
A.005.13a
643 CPM

Mike Shek (MSKM)

Standard Equipment

Operator:

Equipment:	Rupprecht & Patashnick TEOM [®]					
Venue:	Cyberport (Pui Ying Secondary School)					
Model No.:	Series 1400AB					
Serial No:	Control:	140AB219899803				
	Sensor:	1200C143659803	K _o :	12500		
Last Calibration Date*:	_ <u>10 May 20</u>	14				

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): Sensitivity Adjustment Scale Setting (After Calibration): 643 CPM 643 CPM

Hour	Date (dd-mm-yy)	Time			bient dition	Concentration ¹ (mg/m ³)	Total Count ²	Count/ Minute ³
				Temp (°C)	R.H. (%)	Y-axis		X-axis
1	18-05-14	09:30 -	10:30	28.3	77	0.04614	1846	30.77
2	18-05-14	10:30 -	11:30	28.3	77	0.04823	1934	32.23
3	18-05-14	11:30 -	12:30	28.3	77	0.05152	2053	34.22
4	18-05-14	12:30 -	13:30	28.4	77	0.05391	2162	36.03

Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®

2. Total Count was logged by Laser Dust Monitor

3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X

Slope (K-factor):	0.0015	
Correlation coefficient:	0.9981	
Validity of Calibration Record:	18 May 2015	

Remarks:		·		
QC Reviewer: YW Fung	Signature:		Date:	19 May 2014
		V		

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综合試驗有限公司 SOILS & MATERIALS ENGINEERING CO., LTD.

G/F., 9/F., 12/F., 13/F. & 20/F., Leader Centre, 37 Wong Chuk Hang Road, Aberdeen, Hong Kong. 香港黃竹坑道37號利達中心地下,9樓,12樓,13樓及20樓 E-mail: smec@cigismec.com Website: www.cigismec.com

Tel : (852) 2873 6860 Fax : (852) 2555 7533



CERTIFICATE OF CALIBRATION

Certificate No.:	14CA0305 06-01			Page	1	of	2
Item tested							
Description: Manufacturer: Type/Model No.: Serial/Equipment No.: Adaptors used:	Sound Level Mete B & K 2238 2285692	er (Type 1) /,009,04	, , , ,	Microphone B & K 4188 2250420			
Item submitted by							
Customer Name: Address of Customer: Request No.: Date of receipt:	AECOM ASIA CC - - 05-Mar-2014). LTD.					
Date of test:	07-Mar-2014						
Reference equipment	used in the calib	ration					
Description: Multi function sound calibrator Signal generator Signal generator	Model: B&K 4226 DS 360 DS 360	Serial No. 2288444 33873 61227		Expiry Date: 22-Jun-2014 15-Apr-2014 15-Apr-2014		Traceabl CIGISME(CEPREI CEPREI	
Ambient conditions							
^r emperature: Relative humidity: Nir pressure:	22 ± 1 °C 60 ± 10 % 1000 ± 10 hPa						

- The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
 The electrical tests were performed uping an electrical tests.
- The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.
 The acoustic calibration was performed using an Park too
- 3. The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory:

Huang Jian Min/Feng Jun Qi

12-Mar-2014 Company Chop:



Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

Date:

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Form No.CARP152-1/Issue 1/Rev.C/01/02/2007

Hong Kong Accreditation Service (HKAS) has accredited this laboratory under the Hong Kong Laboratory Accreditation Scheme (HOKLAS) for specific laboratory activities as listed in the HOKLAS Directory of Accredited Laboratories. The results shown in this certificate were determined by this laboratory in accordance with its terms of accreditation. Such terms of accreditation stipulate that the results shall be traceable to the International System of Units (S.I.) or recognised measurement standards. This certificate shall not be reproduced excent in full



Website: www.cigismec.com

E-mail: smec@cigismec.com

Tel : (852) 2873 6860 Fax : (852) 2555 7533



CERTIFICATE OF CALIBRATION

Certificate No.:	13CA1107 01-01			Page	1	of	2
Item tested							
Description: Manufacturer: Type/Model No.: Serial/Equipment No.: Adaptors used:	Sound Level Meter Rion Co., Ltd. NL-31 00320528 / N.007.0 -))) 2	Microphone Rion Co., Ltd. UC-53A 90565 -			
Item submitted by							
Customer Name: Address of Customer: Request No.: Date of receipt:	AECOM ASIA CO., - - 07-Nov-2013	LTD.					
Date of test:	08-Nov-2013						
Reference equipment	used in the calibr	ation					
Description: Multi function sound calibrator Signal generator Signal generator	Model: B&K 4226 DS 360 DS 360	Serial No. 2288444 33873 61227		Expiry Date: 22-Jun-2014 15-Apr-2014 15-Apr-2014		Traceat CIGISME CEPREI CEPREI	
Ambient conditions							
Temperature: Relative humidity: Air pressure:	22 ± 1 °C 60 ± 10 % 1000 ± 10 hPa						

Test specifications

- 1, The Sound Level Meter has been calibrated in accordance with the requirements as specified in BS 7580: Part 1: 1997 and the lab calibration procedure SMTP004-CA-152.
- 2, The electrical tests were performed using an electrical signal substituted for the microphone which was removed and replaced by an equivalent capacitance within a tolerance of ±20%.
- 3, The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

Test results

This is to certify that the Sound Level Meter conforms to BS 7580: Part 1: 1997 for the conditions under which the test was performed.

Details of the performed measurements are presented on page 2 of this certificate.

Actual Measurement data are documented on worksheets.

Approved Signatory:

Huang Jian Min/Feng Jun Qi

Company Chop:



Comments: The results reported in this certificate refer to the condition of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

Date: 11-Nov-2013

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Form No.CARP152-1/Issue 1/Rev.C/01/02/2007

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Tel : (852) 2873 6860 Fax : (852) 2555 7533



CERTIFICATE OF CALIBRATION

Certificate No.:	13CA1107 01-02		Page:	1 of	2
Item tested					
Description:	Acoustical Calibrat	tor (Class 1)			
Manufacturer:	Rion Co., Ltd.				
Type/Model No.:	NC-73				
Serial/Equipment No.:	10307223 / N.004.	08			
Adaptors used:					
Item submitted by					
Curstomer:	AECOM ASIA CO.	, LTD.			
Address of Customer:	-	28			
Request No.:	12	×			
Date of receipt:	07-Nov-2013				
Date of test:	08-Nov-2013				
		ration			
Date of test: Reference equipment Description:		ration Serial No.	Expiry Date:	Traceab	le to:
Reference equipment Description: Lab standard microphone	used in the calib Model: B&K 4180	Serial No. 2341427	17-Apr-2014	SCL	
Reference equipment Description: Lab standard microphone Preamplifier	used in the calib Model:	Serial No.	17-Apr-2014 16-Apr-2014	SCL CEPREI	
Reference equipment Description: Lab standard microphone Preamplifier Measuring amplifier	used in the calib Model: B&K 4180 B&K 2673 B&K 2610	Serial No. 2341427 2239857 2346941	17-Apr-2014 16-Apr-2014 24-Apr-2014	SCL CEPREI CEPREI	
Reference equipment Description: Lab standard microphone Preamplifier Measuring amplifier Signal generator	used in the calib Model: B&K 4180 B&K 2673 B&K 2610 DS 360	Serial No. 2341427 2239857 2346941 61227	17-Apr-2014 16-Apr-2014 24-Apr-2014 15-Apr-2014	SCL CEPREI CEPREI CEPREI	
Reference equipment Description: Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter	used in the calib Model: B&K 4180 B&K 2673 B&K 2610 DS 360 34401A	Serial No. 2341427 2239857 2346941 61227 US36087050	17-Apr-2014 16-Apr-2014 24-Apr-2014 15-Apr-2014 10-Dec-2013	SCL CEPREI CEPREI CEPREI CEPREI	
Reference equipment Description: Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter Audio analyzer	used in the calib Model: B&K 4180 B&K 2673 B&K 2610 DS 360 34401A 8903B	Serial No. 2341427 2239857 2346941 61227 US36087050 GB41300350	17-Apr-2014 16-Apr-2014 24-Apr-2014 15-Apr-2014 10-Dec-2013 15-Apr-2014	SCL CEPREI CEPREI CEPREI CEPREI CEPREI	
Reference equipment Description: Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter Audio analyzer	used in the calib Model: B&K 4180 B&K 2673 B&K 2610 DS 360 34401A	Serial No. 2341427 2239857 2346941 61227 US36087050	17-Apr-2014 16-Apr-2014 24-Apr-2014 15-Apr-2014 10-Dec-2013	SCL CEPREI CEPREI CEPREI CEPREI	
Reference equipment Description: Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter Audio analyzer Universal counter	used in the calib Model: B&K 4180 B&K 2673 B&K 2610 DS 360 34401A 8903B	Serial No. 2341427 2239857 2346941 61227 US36087050 GB41300350	17-Apr-2014 16-Apr-2014 24-Apr-2014 15-Apr-2014 10-Dec-2013 15-Apr-2014	SCL CEPREI CEPREI CEPREI CEPREI CEPREI	
Reference equipment Description: Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter	used in the calib Model: B&K 4180 B&K 2673 B&K 2610 DS 360 34401A 8903B	Serial No. 2341427 2239857 2346941 61227 US36087050 GB41300350	17-Apr-2014 16-Apr-2014 24-Apr-2014 15-Apr-2014 10-Dec-2013 15-Apr-2014	SCL CEPREI CEPREI CEPREI CEPREI CEPREI	
Reference equipment Description: Lab standard microphone Preamplifier Measuring amplifier Signal generator Digital multi-meter Audio analyzer Universal counter Ambient conditions	used in the calib Model: B&K 4180 B&K 2673 B&K 2610 DS 360 34401A 8903B 53132A	Serial No. 2341427 2239857 2346941 61227 US36087050 GB41300350	17-Apr-2014 16-Apr-2014 24-Apr-2014 15-Apr-2014 10-Dec-2013 15-Apr-2014	SCL CEPREI CEPREI CEPREI CEPREI CEPREI	

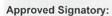
Test specifications

- 1, The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- 2, The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results are rounded to the nearest 0.01 dB and 0.1 Hz and have not been corrected for variations from a reference pressure of 1013.25 hectoPascals as the maker's information indicates that the instrument is insensitive to pressure changes.

Test results

This is to certify that the sound calibrator conforms to the requirements of annex B of IEC 60942: 1997 for the conditions under which the test was performed. This does not imply that the sound calibrator meets IEC 60942 under any other conditions.

Details of the performed measurements are presented on page 2 of this certificate.



Huang Jian Min/Feng Jun Qi

Date: 11-Nov-2013

Company Chop:



Comments: The results reported in this certificate refer to the conditon of the instrument on the date of calibration and carry no implication regarding the long-term stability of the instrument.

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Form No.CARP156-1/Issue 1/Rev.D/01/03/2007

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APPENDIX F EM&A MONITORING SCHEDULES

Widening of Tolo Highway / Fanling Highway (Stage 1) Between Island House Interchange and Tai Hang - Investigation Impact Monitoring and Audit Schedule for August 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1-Aug	2-Aug
					24-hour TSP 1-hour TSP & Noise	
3-Aug	4-Aug	5-Aug	6-Aug	7-Aug	8-Aug	9-Aug
				Site inspection (Contract 2) 24-hour TSP 1-hour TSP & Noise		
10-Aug	11-Aug	12-Aug	13-Aug	14-Aug	15-Aug	16-Aug
			24-hour TSP 1-hour TSP & Noise	Site inspection (Contract 2)		
17-Aug	18-Aug	19-Aug	20-Aug	21-Aug	22-Aug	23-Aug
		24-hour TSP 1-hour TSP & Noise		Site inspection (Contract 2)		
24-Aug	25-Aug	26-Aug	27-Aug	28-Aug	29-Aug	30-Aug
	24-hour TSP 1-hour TSP & Noise				Site inspection (Contract 2)	24-hour TSP 1-hour TSP
31-Aug						

Widening of Tolo Highway / Fanling Highway (Stage 1) Between Island House Interchange and Tai Hang - Investigation Tentative Impact Monitoring and Audit Schedule for September 2014

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1-Sep	2-Sep	3-Sep	4-Sep	5-Sep	6-Sep
					24-hour TSP 1-hour TSP & Noise	
7-Sep	8-Sep	9-Sep	10-Sep	11-Sep	12-Sep	13-Sep
				Site inspection (Contract 2) 24-hour TSP 1-hour TSP & Noise		
14-Sep	15-Sep	16-Sep	17-Sep	18-Sep	19-Sep	20-Sep
	24-hour TSP 1-hour TSP & Noise			Site inspection (Contract 2)		24-hour TSP 1-hour TSP
21-Sep	22-Sep	23-Sep	24-Sep	25-Sep	26-Sep	27-Sep
				Site inspection (Contract 2)	24-hour TSP 1-hour TSP & Noise	
28-Sep	29-Sep	30-Sep				
		24-hour TSP 1-hour TSP & Noise				

The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

APPENDIX G IMPACT AIR QUALITY MONITORING RESULTS AND THEIR GRAPHICAL PRESENTATION

1-hour TSP Monitoring Results at Station AM1A (Fan Sin Temple, 3 Sheung Wun Yiu G/F)

	Start	1st Hour	2nd Hour	3rd Hour
	Time	Conc.	Conc.	Conc.
Date	(hh:mm)	(µg/m³)	(µg/m³)	(µg/m³)
of	the Project v	vas completed	amme for Con on 15 July 20 t beyond 15 Ju	14.

1-hour TSP Monitoring Results at Station AM2 (12 Shan Tong New Village G/F)

	Start	1st Hour	2nd Hour	3rd Hour
	Time	Conc.	Conc.	Conc.
Date	(hh:mm)	(µg/m³)	(µg/m³)	(µg/m³)
of	the Project w	as completed	amme for Con on 15 July 20 t beyond 15 Ju	14.

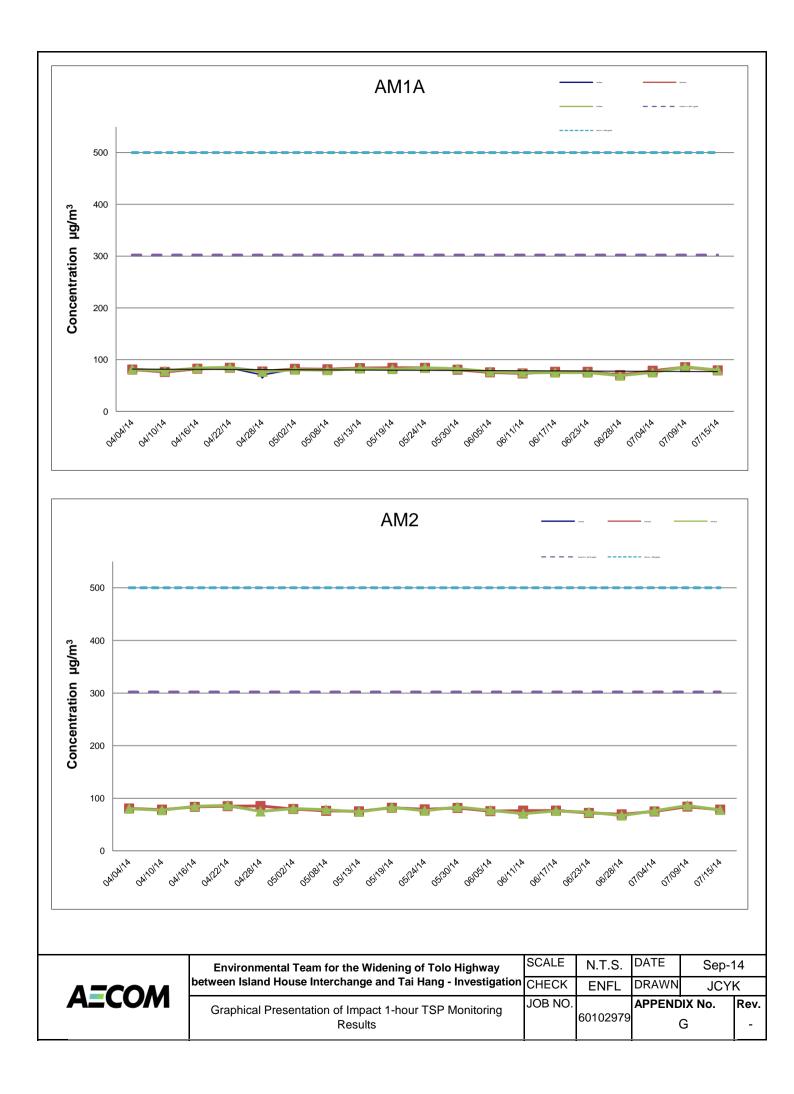
1-hour TSP Monitoring Results at Station AM3 (Roof of Switch Room at Riverain Bayside)

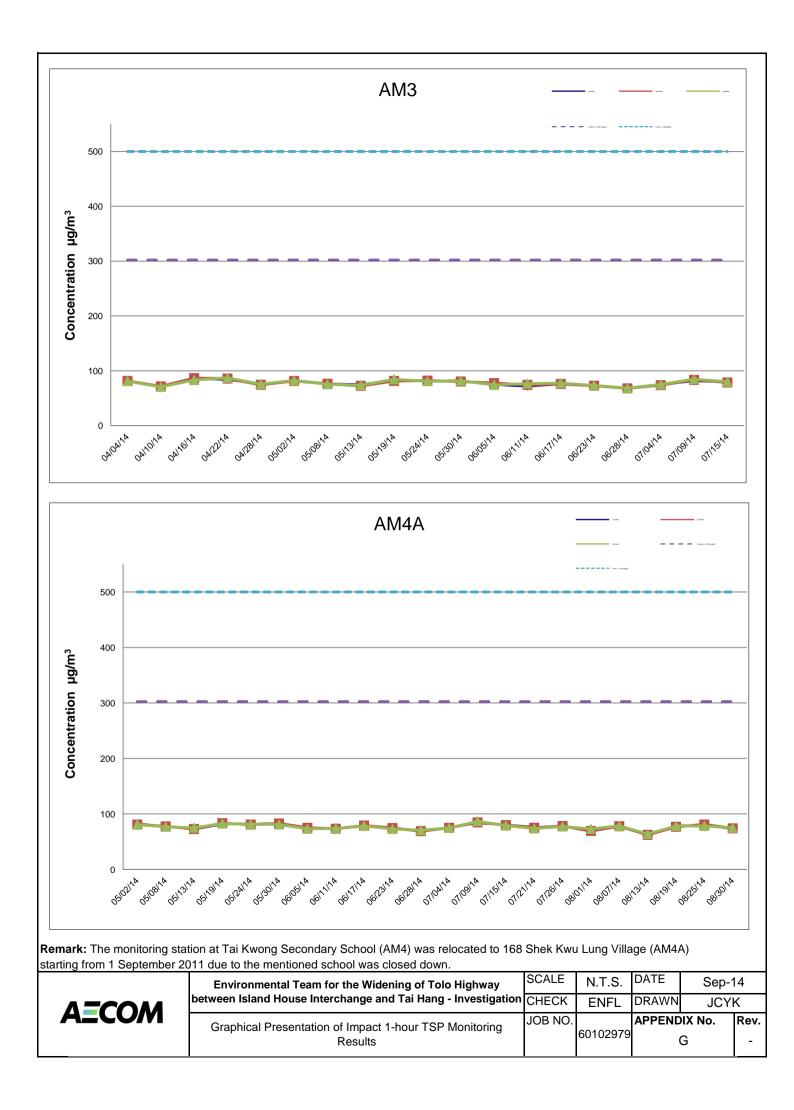
	Start	1st Hour	2nd Hour	3rd Hour
	Time	Conc.	Conc.	Conc.
Date	(hh:mm)	(µg/m³)	(µg/m ³)	(µg/m³)

Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014. No monitoring has been carried out beyond 15 July 2014.

1-hour TSP Monitoring Results at Station AM4A (Roof of Switch Room at 168 Shek Kwu Lung Village)

	Start	1st Hour	2nd Hour	3rd Hour
	Time	Conc.	Conc.	Conc.
Date	(hh:mm)	(µg/m ³)	(µg/m ³)	(µg/m ³)
1-Aug-14	13:10	71.1	69.4	73.0
7-Aug-14	12:19	76.1	77.9	78.4
13-Aug-14	11:00	61.7	62.4	63.9
19-Aug-14	13:05	80.0	76.9	78.2
25-Aug-14	12:38	79.6	81.0	78.4
30-Aug-14	10:25	72.2	74.1	75.0
			Average	73.9
			Min	61.7
			Max	81.0





Impact Air Quality Monitoring Results

24-hour TSP Monitoring Results at Station AM1A (Fan Sin Temple, 3 Sheung Wun Yiu G/F)

Date	Weather	Air	Atmospheric	Flow Rate	(m ³ /min.)	Av. flow	Total vol.	Filter W	Veight (g)	Particulate	Elapse	e Time	Sampling	Conc.
	Condition T	emp. (°C)	Pressure(hPa)	Initial	Final	(m ³ /min)	(m ³)	Initial	Final	weight(g)	Initial	Final	Time(hrs.)	(µg/m ³)
	Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014.													
					No monitor	ing has beer	n carried out	beyond 15 J	July 2014.					

24-hour TSP Monitoring Results at Station AM2 (12 Shan Tong New Village G/F)

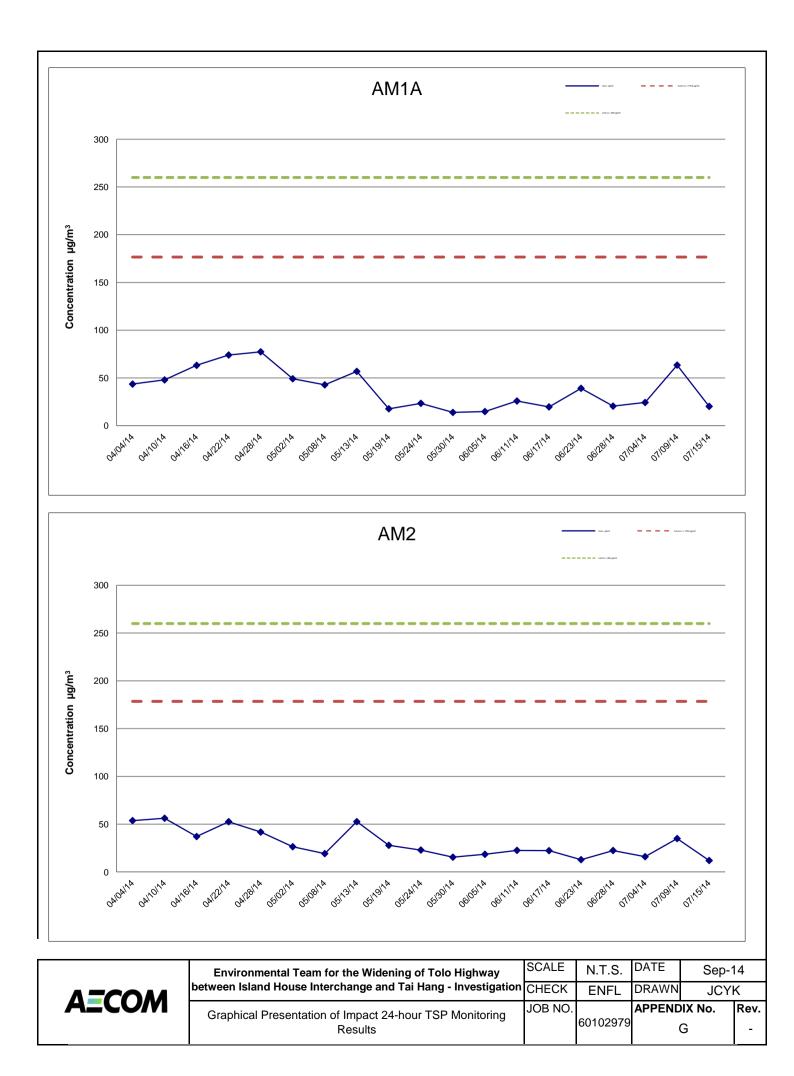
Date	Weather	Air	Atmospheric	Flow Rate	(m ³ /min.)	Av. flow	Total vol.	Filter W	/eight (g)	Particulate	Elapse	e Time	Sampling	Conc.
	Condition	Temp. (°C)	Pressure(hPa)	Initial	Final	(m ³ /min)	(m ³)	Initial	Final	weight(g)	Initial	Final	Time(hrs.)	(µg/m ³)
	Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014.													
	No monitoring has been carried out beyond 15 July 2014.													

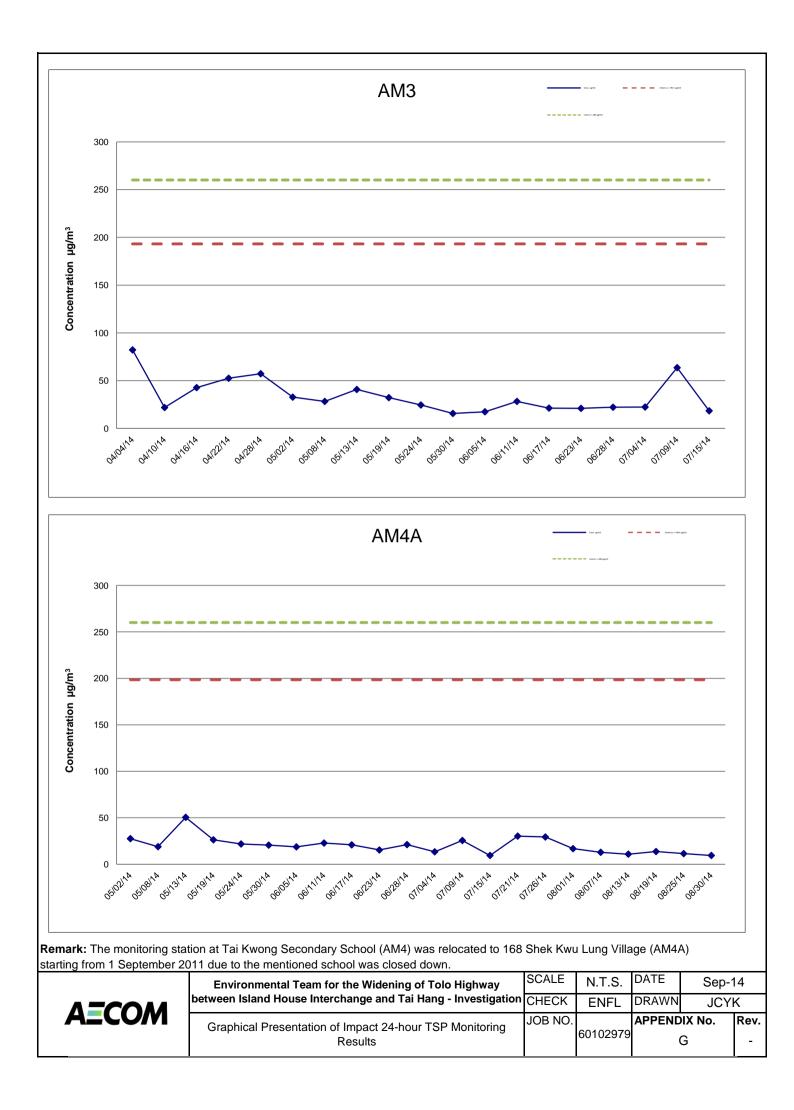
24-hour TSP Monitoring Results at Station AM3 (Roof of Switch Room at Riverain Bayside)

Date	Weather	Air	Atmospheric	Flow Rate	(m ³ /min.)	Av. flow	Total vol.	Filter W	/eight (g)	Particulate	Elapse	e Time	Sampling	Conc.
	Condition	Temp. (°C)	Pressure(hPa)	Initial	Final	(m ³ /min)	(m ³)	Initial	Final	weight(g)	Initial	Final	Time(hrs.)	(µg/m ³)
			Constructi	amme for C	ontract 1 of	he Project w	as completed	on 15 July 2	014.					
					No monitor	ing has beer	n carried out	beyond 15 J	luly 2014.					

24-hour TSP Monitoring Results at Station AM4A (Roof of Switch Room at 168 Shek Kwu Lung Village)

Date	Weather	Air	Atmospheric	Flow Rate	e (m ³ /min.)	Av. flow	Total vol.	Filter W	/eight (g)	Particulate	Elapse	e Time	Sampling	Conc.
	Condition	Temp. (°C)	Pressure(hPa)	Initial	Final	(m ³ /min)	(m ³)	Initial	Final	weight(g)	Initial	Final	Time(hrs.)	(µg/m³)
1-Aug-14	Sunny	30.2	1001.0	1.33	1.33	1.33	1918.1	2.7186	2.7505	0.0319	17698.59	17722.59	24.00	16.6
7-Aug-14	Sunny	29.0	1003.3	1.33	1.33	1.33	1918.1	2.6650	2.6894	0.0244	17722.59	17746.59	24.00	12.7
13-Aug-14	Rainy	26.0	1003.5	1.33	1.33	1.33	1918.1	2.7202	2.7408	0.0206	17746.59	17770.59	24.00	10.7
19-Aug-14	Sunny	27.4	1008.7	1.33	1.33	1.33	1918.1	2.6934	2.7194	0.0260	17770.59	17794.59	24.00	13.6
25-Aug-14	Fine	29.9	1010.1	1.33	1.33	1.33	1918.1	2.6648	2.6865	0.0217	17794.59	17818.59	24.00	11.3
30-Aug-14	Fine	30.1	1011.1	1.33	1.33	1.33	1918.1	2.7416	2.7595	0.0179	17818.59	17842.59	24.00	9.3
													Average	12.4
													Min	9.3
													Max	16.6





APPENDIX H METEOROLOGICAL DATA FOR THE REPORTING MONTH

Extract of Meteorological Observations for Tai Mei Tuk Automatic Weather Station, August 2014

Date	Mean Pressure at M.S.L.	Ai	r Temperatu	re	Mean Dew Point Temperature	Relative Humidity			
	(hPa)	Max. (deg C)	Mean (deg C)	Min. (deg C)	(deg C)	Max. (%)	Mean (%)	Min. (%)	
1-Aug	*****	35.7	30.3	24.8	* * * *	***	***	***	
2-Aug	* * * * * *	34	29.8	25	* * * *	***	***	***	
3-Aug	*****	34	28.9	25.5	****	***	***	***	
4-Aug	* * * * * *	34.8	29.6	27.8	* * * *	***	* * *	* * *	
5-Aug	*****	34	29.5	27.5	****	***	***	***	
6-Aug	* * * * * *	32.6	28.4	26.4	* * * *	***	* * *	* * *	
7-Aug	*****	32.6	28.7	27.2	****	***	***	***	
8-Aug	*****	34.5	29.8	26.8	****	***	***	***	
9-Aug	*****	34.1	30.1	27.4	****	***	***	***	
10-Aug	*****	32.6	29.9	27.7	****	***	***	***	
11-Aug	* * * * * *	34.6	29.4	27.1	* * * *	***	* * *	* * *	
12-Aug	* * * * * *	33.1	28.6#	25.6	* * * *	***	* * *	* * *	
13-Aug	* * * * * *	27.7	25.9	24.9	* * * *	***	* * *	* * *	
14-Aug	*****	31.6	27.9	25.5	****	***	***	***	
15-Aug	* * * * * *	33.2	29.4	26.6	* * * *	***	* * *	* * *	
16-Aug	*****	33.3	29.6	27	****	***	***	***	
17-Aug	*****	34	29.8	26	****	***	***	***	
18-Aug	*****	34	30.1	26.7	****	***	***	* * *	
19-Aug	* * * * * *	32.2	28	24.8	* * * *	***	***	* * *	
20-Aug	*****	27.4	25	23.7	****	***	***	* * *	
21-Aug	* * * * * *	31.3	27	24.1	* * * *	***	***	* * *	
22-Aug	*****	32.3	28.1	26.2	****	***	***	* * *	
23-Aug	*****	32.7	28.7	25.8	****	***	***	* * *	
24-Aug	*****	34	29.1	26	* * * *	***	***	***	
25-Aug	*****	34.4	29.7	26.5	****	***	***	* * *	
26-Aug	*****	34.5	29.7	26.9	****	***	***	* * *	
27-Aug	*****	30.9	29	27	* * * *	***	***	***	
28-Aug	*****	31.9	29	27.1	****	***	***	* * *	
29-Aug	*****	33.7	29.6	26.8	****	***	***	* * *	
30-Aug	*****	34.2	29.7	27.1	****	***	***	***	
31-Aug	*****	31.3	28.6	26.5	****	***	***	***	
Mean	*****	32.9	28.9#	26.3	* * * *	***	***	* * *	
Maximum	*****	35.7	30.3#	27.8	* * * *	***	***	***	
Minimum	*****	27.4	25.0#	23.7	****	***	***	* * *	

Extract of Meteorological Observations for Tai Mei Tuk Automatic Weather Station, August 2014

Date	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind (km/h)
1-Aug	9.0	270	14.7
2-Aug	1.0	240	8.8
3-Aug	24.5	260	5.8
4-Aug	3.5	60	5.4
5-Aug	0.0	70	6.5
6-Aug	1.0	270	6.0
7-Aug	1.5	260	6.0
8-Aug	0.0	230	9.1
9-Aug	0.0	240	11.9
10-Aug	0.0	260	15.8
11-Aug	15.5	260	8.0
12-Aug	26.0#	240#	8.5#
13-Aug	55.0	50	7.8
14-Aug	2.5	240	10.3
15-Aug	0.0	260	9.8
16-Aug	0.0	260	12.3
17-Aug	0.0	260	11.0
18-Aug	0.0	260	11.0
19-Aug	7.0	270	11.8
20-Aug	20.5	140	5.8
21-Aug	2.5	50	5.4
22-Aug	1.5	50	4.7
23-Aug	0.0	150	5.0
24-Aug	0.0	120	5.4
25-Aug	0.0	140	6.8
26-Aug	0.0	40	12.8
27-Aug	1.0	70	30.8
28-Aug	0.5	90	22.4
29-Aug	0.0	70	10.6
30-Aug	0.0	90	10.8
31-Aug	2.5	90	17.7
Mean		260#	10.3#
Total	175.0#		
Maximum	55.0#		30.8#
Minimum	0.0#		4.7#

*** unavailable

missing (less than 24 hourly observations a day)

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Extract of Meteorological Observations for Tai Po Automatic Weather Station, August 2014

Date	Mean Pressure at M.S.L.	Ai	r Temperatu	re	Mean Dew Point Temperature	Relative Humidity			
	(hPa)	Max. (deg C)	Mean (deg C)	Min. (deg C)	(deg C)	Max. (%)	Mean (%)	Min. (%)	
1-Aug	1000.2	35.6	29.8	24.7	24.5	97	75	48	
2-Aug	1000.5	34.1	29.3	24.4	25	96	78	56	
3-Aug	1001	31	27.9	25.3	25.3	96	86	74	
4-Aug	1001.6	30.6	28.3	25.3	25.8	98	86	73	
5-Aug	1002.6	30.9	28.8	26.8	25.9	95	85	70	
6-Aug	1002.8	29.1	27.7	25.8	25.7	97	89	77	
7-Aug	1002.4	32.1	27.7	25.6	25.9	96	90	69	
8-Aug	1002.1	32.2	29.1	26	25.2	93	80	62	
9-Aug	1003.3	33.5	29.4	26.4	25.3	96	80	57	
10-Aug	1003.6	32.8	29.8	28	25	88	76	63	
11-Aug	1002.3	31.7	29	27.2	25.4	95	81	61	
12-Aug	1001.1	31.6	28.2	26	25.9	97	88	72	
13-Aug	1002.8	26.8	25.5	24.7	25	99	97	91	
14-Aug	1007.2	30.3	27.5	25.1	25.2	98	87	73	
15-Aug	1009.2	32.9	28.8	25.7	24.9	96	81	61	
16-Aug	1007.6	33	29.1	26.3	24.6	92	77	59	
17-Aug	1006.2	33.4	29.1	25.1	24.2	90	75	56	
18-Aug	1007.2	33.5	29.6	26.5	24.3	90	74	53	
19-Aug	1007.7	31.7	27.2	24.4	24.7	98	87	68	
20-Aug	1009.7	25.8	24.5	23.4	23.6	98	95	88	
21-Aug	1010	29.1	26.1	23.5	24	99	89	73	
22-Aug	1009.9	30.2	27.1	25.4	24.8	96	88	69	
23-Aug	1009	31.1	27.8	25.2	24.7	94	83	70	
24-Aug	1008.9	31.8	28.3	25.2	24.1	93	79	60	
25-Aug	1009.4	33	28.9	25.6	24.7	93	79	57	
26-Aug	1010	32.5	29.2	26.4	25	94	79	61	
27-Aug	1009.6	30.4	29.1	27.3	24.9	93	78	67	
28-Aug	1011.6	30.6	29	28	25.1	89	80	66	
29-Aug	1011.8	32	29.1	26.6	24.5	95	77	58	
30-Aug	1010.4	31.9	29	26.2	24.3	90	77	59	
31-Aug	1008.9	30.4	28.7	26.8	25.2	92	81	71	
Mean	1006.1	31.5	28.3	25.8	24.9	95	82	66	
Maximum	1011.8	35.6	29.8	28	25.9	99	97	91	
Minimum	1000.2	25.8	24.5	23.4	23.6	88	74	48	

Extract of Meteorological Observations for Tai Po Automatic Weather Station, August 2014

Date	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind (km/h)
1-Aug	****	***	****
2-Aug	****	***	****
3-Aug	****	***	****
4-Aug	****	***	****
5-Aug	****	* * *	****
6-Aug	****	* * *	****
7-Aug	****	* * *	****
8-Aug	****	***	****
9-Aug	****	* * *	****
10-Aug	****	* * *	****
11-Aug	****	* * *	****
12-Aug	****	* * *	****
13-Aug	****	* * *	****
14-Aug	****	* * *	****
15-Aug	****	***	****
16-Aug	****	***	****
17-Aug	****	***	****
18-Aug	****	* * *	****
19-Aug	****	***	****
20-Aug	****	***	****
21-Aug	****	* * *	****
22-Aug	****	***	****
23-Aug	****	***	****
24-Aug	****	***	****
25-Aug	****	***	****
26-Aug	****	* * *	****
27-Aug	****	***	****
28-Aug	****	* * *	****
29-Aug	****	***	****
30-Aug	****	***	****
31-Aug	****	* * *	****
Mean		***	****
Total	****		
Maximum	****		****
Minimum	****		****

*** unavailable

missing (less than 24 hourly observations a day)

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

Extract of Meteorological Observations for Sha Tin Automatic Weather Station, August 2014

Date	Mean Pressure at M.S.L.	Ai	r Temperatu	re	Mean Dew Point Temperature	Relative Humidity			
	(hPa)	Max. (deg C)	Mean (deg C)	Min. (deg C)	(deg C)	Max. (%)	Mean (%)	Min. (%)	
1-Aug	1000.6	36.2	30.3	25.5	24.5	92	72	49	
2-Aug	1001.1	33.7	29.3	24.6	24.9	94	78	63	
3-Aug	1001.6	32.5	28.9	25.5	25.1	92	81	68	
4-Aug	1002.2	32.5	29	25	25.7	97	82	64	
5-Aug	1003.3	32	28.6	25.9	25.7	97	85	67	
6-Aug	1003.5	31.3	28.1	25.5	25.1	99	85	63	
7-Aug	1003	32.2	28.7	26.5	25.5	98	84	63	
8-Aug	1002.7	32.3	29.4	26.1	25	96	78	63	
9-Aug	1004.1	33	29.7	27.1	25.4	92	79	53	
10-Aug	1004.4	32.4	29.7	28	25.4	88	78	64	
11-Aug	1002.9	32.8	29.6	26.9	25.6	90	79	63	
12-Aug	1001.7	31.8	28.6	24.9	25.8	95	85	71	
13-Aug	1003.3	28.1	25.7	24.5	24.6	98	94	83	
14-Aug	1007.8	31.7	27.8	25.1	25.1	97	86	68	
15-Aug	1009.7	32.3	29	25.1	24.9	96	80	63	
16-Aug	1008.2	32.3	29.3	26.2	24.8	95	77	59	
17-Aug	1006.9	32.8	29.2	25.5	24.6	92	77	59	
18-Aug	1007.8	33.3	29.8	26.7	24.5	89	74	57	
19-Aug	1008.3	31.5	27.4	24.1	24.6	97	85	67	
20-Aug	1010.1	27.3	24.7	22.9	23.2	99	92	79	
21-Aug	1010.4	30.5	26.6	23.4	23.8	98	85	66	
22-Aug	1010.4	30.7	27	25	24.6	97	87	67	
23-Aug	1009.5	31.3	27.7	24.5	24.4	98	83	64	
24-Aug	1009.5	32	27.8	24.2	23.9	97	80	61	
25-Aug	1009.9	32.3	28.4	24.8	24.4	97	80	54	
26-Aug	1010.5	32.4	28.7	25.6	24.5	95	79	59	
27-Aug	1010.2	31.5	29.2	27.2	23.9	89	73	60	
28-Aug	1012.1	31.2	29	27.5	24.7	89	78	66	
29-Aug	1012.3	32.6	29.1	26.1	24.1	94	76	55	
30-Aug	1011	32.6	28.9	25.3	24.1	93	76	53	
31-Aug	1009.6	30.9	28.7	26	24.8	92	80	69	
Mean	1006.7	31.9	28.5	25.5	24.7	95	81	63	
Maximum	1012.3	36.2	30.3	28	25.8	99	94	83	
Minimum	1000.6	27.3	24.7	22.9	23.2	88	72	49	

Extract of Meteorological Observations for Sha Tin Automatic Weather Station, August 2014

Date	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind (km/h)
1-Aug	21.0	210	8.1
2-Aug	1.5	210	8.3
3-Aug	4.5	220	6.6
4-Aug	19.0	60	5.1
5-Aug	0.5	60	3.8
6-Aug	42.5	210	4.5
7-Aug	17.5	210	7.0
8-Aug	0.5	220	9.1
9-Aug	8.0	220	11.0
10-Aug	0.0	210	14.0
11-Aug	4.0	210	11.8
12-Aug	27.5	210	10.2
13-Aug	71.5	210	5.2
14-Aug	8.5	220	8.6
15-Aug	0.0	210	9.5
16-Aug	0.0	220	9.8
17-Aug	0.0	220	9.5
18-Aug	0.0	210	11.9
19-Aug	38.0	210	10.6
20-Aug	42.5	220	3.6
21-Aug	1.5	80	4.2
22-Aug	18.0	220	4.4
23-Aug	2.0	170	4.8
24-Aug	0.0	100	4.3
25-Aug	0.0	120	5.1
26-Aug	0.0	110	5.3
27-Aug	6.0	70	10.5
28-Aug	0.5	100	8.5
29-Aug	0.0	70	4.5
30-Aug	0.0	100	5.5
31-Aug	5.0	80	6.0
Mean		210	7.5
Total	340		
Maximum	71.5		14.0
Minimum	0.0		3.6

*** unavailable

missing (less than 24 hourly observations a day)

Rainfall measured in increment of 0.5 mm. Amount of < 0.5 mm cannot be detected

APPENDIX I IMPACT DAYTIME CONSTRUCTION NOISE MONITORING RESULTS AND THEIR GRAPHICAL PRESENTATION

Appendix I Impact Daytime Construction Noise Monitoring Results Location : NM1A (168 Shek Kwu Lung Village G/F- Façade) Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

	Measured	Noise Lev	el for 30-r	nin, dB(A)	Baseline Noise	Corrected Construction	Limit Level,	Exceedance
Date	Start Time	Leq	L10	L90	Level, dB(A)	Noise Level, dB(A) **	dB(A)	(Y/N)
1-Aug-14	13:15	60.2	61.4	57.0	64.2	60.2	75	N
7-Aug-14	14:40	64.1	66.2	62.7	64.2	64.1	75	N
13-Aug-14	13:30	60.7	62.0	57.5	64.2	60.7	75	N
19-Aug-14	13:10	60.6	61.5	58.4	64.2	60.6	75	N
25-Aug-14	14:45	66.2	68.0	62.5	64.2	61.9	75	N

	Corrected Noise Level dB(A)
Average	61.7
Max	64.1
Min	60.2

Location : NM2 (38 Ha Wun Yiu G/F - Free Field) Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

	Measured	Measured Noise Level for 30-min, dB(A)			Baseline Noise	Corrected Construction	Limit Level,	Exceedance
Date	Start Time	Leq*	L10*	L90*	Level, dB(A)*	Noise Level, dB(A) **	dB(A)	(Y/N)
0	Construction				Contract 1 of the F een carried out bey	Project was completed on ond 15 July 2014.	15 July 2014.	

Location : NM3 (Wong Shiu Chi Middle School Rooftop - Façade) Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

				min, dB(A)	Baseline Noise	Corrected Construction	Limit Level,	Exceedance
Date	Start Time	Leq	L10	L90	Level, dB(A)	Noise Level, dB(A) **	dB(A) [#]	(Y/N)
C	Construction F				Contract 1 of the F een carried out bey	Project was completed on ond 15 July 2014.	15 July 2014	

Location : NM4 (Uptown Plaza Block 4 Rooftop - Façade) Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

				nin, dB(A)	Baseline Noise	Corrected Construction	Limit Level,	Exceedance
Date	Start Time	Leq	L10	L90	Level, dB(A)	Noise Level, dB(A) **	dB(A)	(Y/N)
C	Construction				Contract 1 of the F en carried out bey	Project was completed on and 15 July 2014.	15 July 2014	

Location : NM5 (The Paragon Clubhouse Rooftop - Façade) Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

	Measured Noise	Measured Noise Level for 30-min, dB(A)			Corrected Construction	Limit Level,	Exceedance
Date	Start Time Le	q L10	L90	Level, dB(A)	Noise Level, dB(A) **	dB(A)	(Y/N)
(Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014.						
		No monito	ring has be	een carried out bey	ond 15 July 2014.	, .	

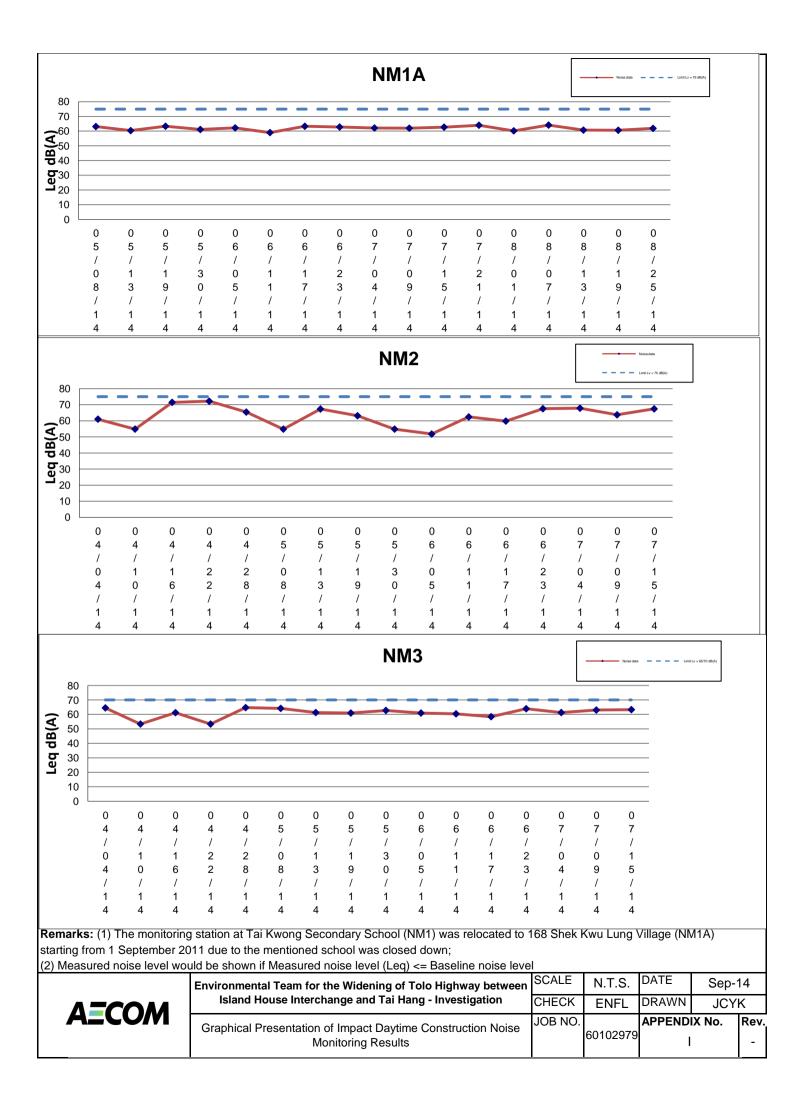
Location : NM6 (PLK Tin Ka Ping Primary School near the entrance - Free Field) Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

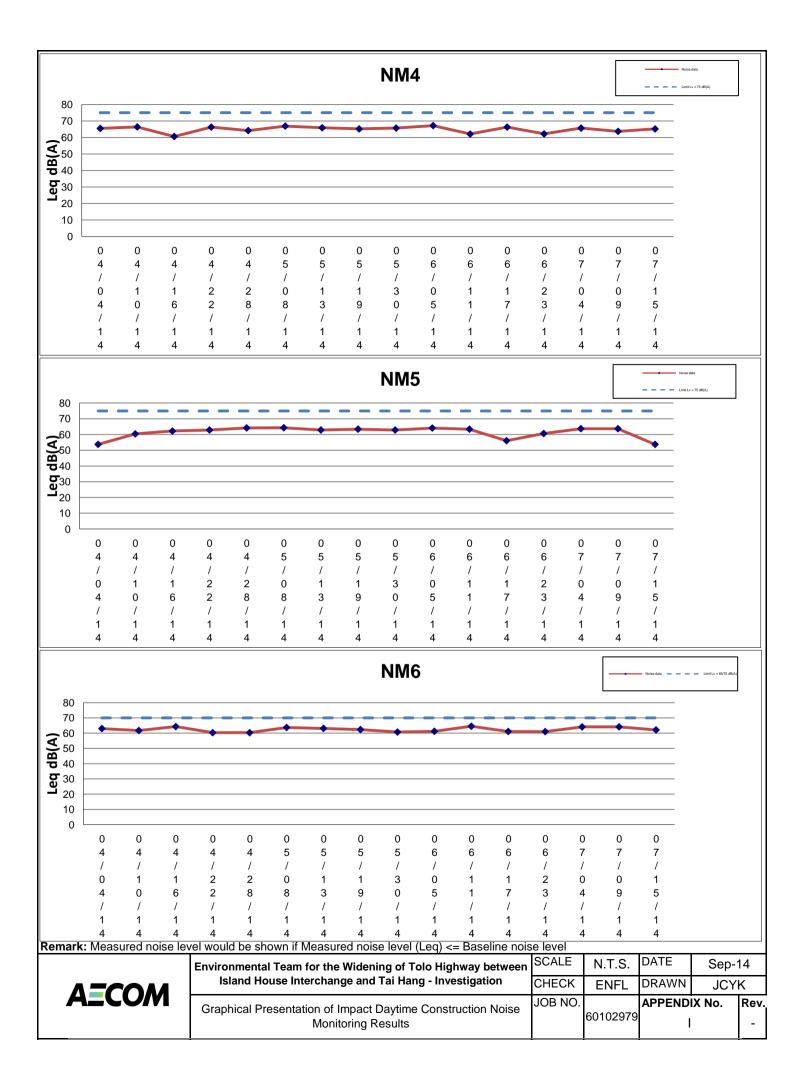
	Measured N	Measured Noise Level for 30-min, dB(A)			Baseline Noise	Corrected Construction	Limit Level,	Exceedance
Date	Start Time	Leq*	L10*	L90*	Level, dB(A)*	Noise Level, dB(A) **	dB(A)#	(Y/N)
	Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014.							
	Construction mase Emick Programme for Contract For the Project was completed on 15 July 2014.							

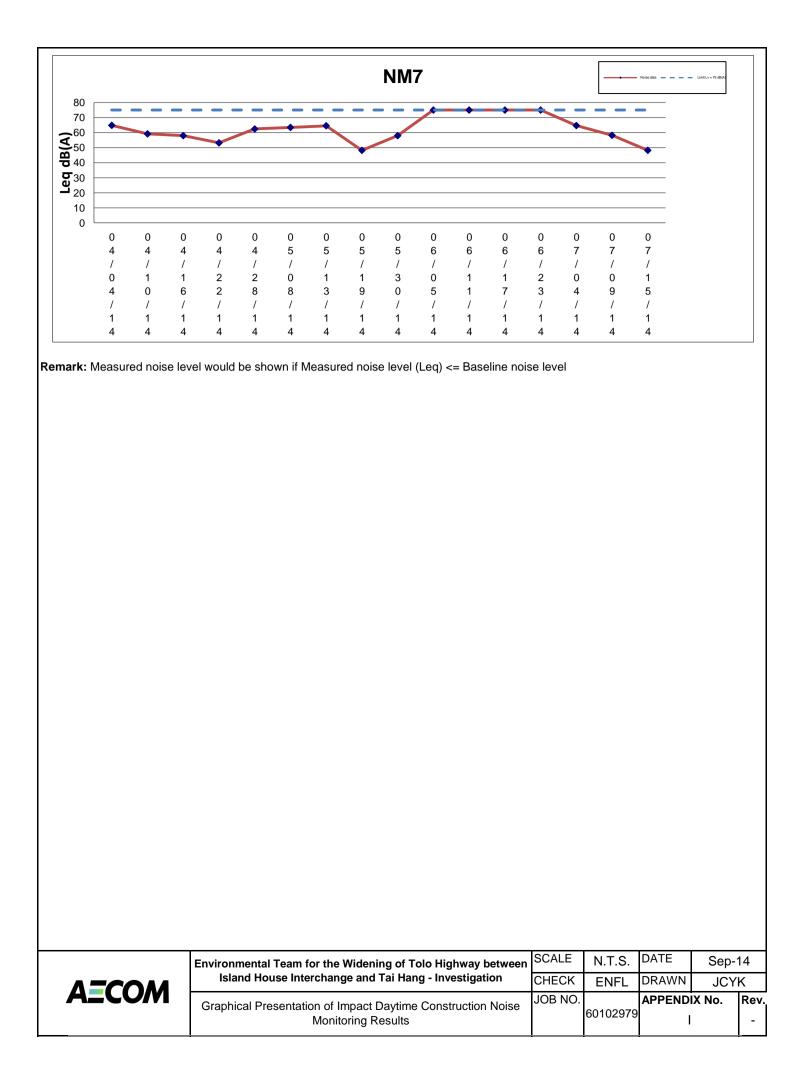
Location : NM7 (Riverain Bayside Switch Room Rooftop - Façade) Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

 Measured Noise Level for 30-min, dB(A)
 Baseline Noise
 Corrected Construction
 Limit Level, Exce

 Start Time
 Leq
 L10
 L90
 Level, dB(A)
 Noise Level, dB(A) **
 dB(A)
 (*
 ceedance (Y/N) Date Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014. No monitoring has been carried out beyond 15 July 2014.







APPENDIX J EVENT ACTION PLAN

Appendix J – Event Action Plan

Event / Action Plan for Air Quality

Event		Action	n		
	ET Leader	ET Leader IEC ER		Contractor	
Action Level				1	
Exceedance for one sample	 Identify source; Inform IEC and ER; Repeat measurement to confirm finding; Increase monitoring frequency to dailv. 	 Check monitoring data submitted by ET; Check Contractor's working method. 	1. Notify Contractor.	 Rectify any unacceptable practice; Amend working methods if appropriate. 	
Exceedance for two or more consecutive samples	 Identify source; Inform IEC and ER; Repeat measurements to confirm findings; Increase monitoring frequency to daily; Discuss with IEC and Contractor on remedial actions required; If exceedance continues, arrange meeting with IEC and ER; If exceedance stops, cease additional monitoring. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise Implementation of remedial measures. 	 Confirm receipt of notification of failure in writing; Notify Contractor; Ensure remedial measures properly implemented. 	 Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate. 	

Event / Action Plan for Air Quality

Event		Action	ı	
Action Level	ET Leader	ET Leader IEC ER		
Limit Level	·		·	·
Exceedance for one sample	 Identify source; Inform IEC, ER, Contractor and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. 	 Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise ER on the effectiveness of the proposed remedial measures; Supervise implementation of remedial measures. 	 Confirm receipt of notification of exceedance in writing; Notify Contractor; Ensure remedial measures properly implemented. 	 Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate.
Exceedance for two or more consecutive samples	 Notify IEC, ER, Contractor and EPD; Identify source; Repeat measurement to confirm findings; Increase frequency to daily; Analyse Contractor's working procedures to determine possible mitigation to be; Arrange meeting with IEC and ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. 	 Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly; Supervise the implementation of remedial measures. 	 Confirm receipt of notification of exceedance in writing; Notify Contractor; In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented; Ensure remedial measures properly implemented; 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. 	 proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by ER until the exceedance is

Event / Action Plan for Noise Impact

Event		Action	n	
Limit Level	ET Leader	IEC	ER	Contractor
Action Level	 Notify IEC and the Contractor. Carry out investigation. Report the results of investigation to IEC and the Contractor. Discuss with the Contractor and formulate remedial measures. Increase monitoring frequency to check mitigation effectiveness. 	 Review with analysed results submitted by ET. Review the proposed remedial measures by the Contractor and advise ER accordingly. Supervise the implement of remedial measures. 	 Confirm receipt of notification of failure in writing. Notify the Contractor. Require the Contractor to propose remedial measures for the analysed noise problem. Ensure remedial measures are properly implemented. 	 Submit noise mitigation proposals to IEC. Implement noise mitigation proposals.
Limit Level	 Notify, IEC, ER, EPD and the Contractor. Identify the source. Repeat measurement to confirm findings. Increase monitoring frequency. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented. Inform IEC, ER, and EPD the causes & actions taken for the exceedances. Assess effectiveness of the Contractor's remedial actions and keep IEC, EPD and ER informed of the results. If exceedance stops, cease additional monitoring. 	 Discuss amongst ER, ET Leader and the Contractor on the potential remedial actions. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly. Supervise the implementation of remedial measures. 	 Confirm receipt of notification of failure in writing. Notify the Contractor. Require the Contractor to propose remedial measures for the analysed noise problem. Ensure remedial measures are properly implemented. If exceedance continues, consider what activity of the work is responsible and instruct the Contractor to stop that activity of work until the exceedance is abated. 	 Take immediate action to avoid further exceedance. Submit proposals for remedial actions to IEC within 3 working days of notification. Implement the agreed proposals. Resubmit proposals if problem still not under control. Stop the relevant activity of works as determined by the ER until the exceedance is abated.

APPENDIX K SITE INSPECTION SUMMARIES



Inspection Information

Contract No.	HY/2009/08 (Between Ma Wo and Tai Hang)
Date:	7 August 2014
Time:	14:00
Inspection No.:	462

Non-compliance

Nil

Observations

Follow Up Observations

1. Open stockpiles were removed (Closed).

2. Mud on the footpath was cleared (Closed).

New Observations

Nil.

Remarks

Nil

AECOM

EM&A Environmental Inspection Record WIDENING OF TOLO HIGHWAY (STAGE 1) BETWEEN ISLAND HOUSE INTERCHANGE AND TAI HANG - INVESTIGATION

Inspection Information

Contract No.	HY/2009/08 (Between Ma Wo and Tai Hang)
Date:	14 August 2014
Time:	14:00
Inspection No.:	463

Non-compliance

Nil

Observations

Follow Up Observations
Nil.
New Observations
New Observations
Nil.
Reminders
The Contractor was reminded to clear the stagnant water.
Remarks

Nil



EM&A Environmental Inspection Record

WIDENING OF TOLO HIGHWAY (STAGE 1) BETWEEN ISLAND HOUSE INTERCHANGE AND TAI HANG - INVESTIGATION

Inspection Information

Contract No.	HY/2009/08 (Between Ma Wo and Tai Hang)
Date:	21 August 2014
Time:	14:00
Inspection No.:	464

AECOM

Non-compliance

Nil

Observations

Follow Up Observations

Nil.

New Observations

Nil.

Reminders

Exposed slope was observed. The Contractor was reminded to cover the slopes after daily construction activities.

Remarks

Nil

EM&A Environmental Inspection Record WIDENING OF TOLO HIGHWAY (STAGE 1) BETWEEN ISLAND HOUSE INTERCHANGE AND TAI HANG - INVESTIGATION

Inspection Information

Contract No.	HY/2009/08 (Between Ma Wo and Tai Hang)
Date:	29 August 2014
Time:	14:00
Inspection No.:	465

Non-compliance

Nil

Observations

Follow Up Observations

Nil.

New Observations

Nil.

Remarks

Nil

APPENDIX L STATISTICS ON COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

Appendix L

Statistics on Complaints, Notifications of Summons and Successful Prosecutions

	Date Received	Subject	Status	Total no. followed up by ET this month	Total no. followed up by ET since project commencement
Environmental complaints	_	-	-	0	39
Notification of summons	-	-	_	0	0
Successful Prosecutions	-	-	-	0	0