

## Highways Department

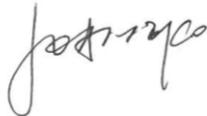
Agreement No. CE 20/2009 (EP)

### Environmental Team for the Widening of Tolo Highway / Fanling Highway between Island House Interchange and Fanling

#### (Stage 1) Between Island House Interchange and Tai Hang - Investigation

#### Monthly EM&A Report for July 2014

[08/2014]

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Version: Rev. 0 Date: 14 August 2014

#### Disclaimer

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14 August 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 July 2014 (Stage 1)**

We refer to the captioned Monthly EM&A Report received on 13 and 14 August 2014 submitted by Environmental Team (ET) via email. Pursuant to EP Condition 3.3, I hereby verify the Monthly EM&A Report for July 2014 (Stage 1) for the Project.

Yours faithfully  
for MOTT MACDONALD HONG KONG LIMITED

A handwritten signature in black ink, appearing to read 'Terence Kong'.

Terence Kong  
Independent Environmental Checker

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

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## 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 The VEP (EP-324/2008/B) was subsequently granted on 17 March 2014 which superseded the previous EP (EP-324/2008/A).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 September 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 July 2014.

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

- Temporary shoring, sheetpiling and excavation;
- 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**

One (1) water-related complaint was received on 23 June 2014 and followed up by the Environmental Team in June and the reporting month. The summary of the follow-up site visits carried out on 25 June 2014 and 9 July 2014 is reported in Section 4.6.

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;
  - (ii) 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 July 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-seventh 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 July 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 Personnel**

Party	Position	Name	Telephone	Fax
<b>ER of Stage 1, Contract 1</b> (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer /TOL01	James Tsang	9038 8797	26674000
<b>ER of Stage 1, Contract 2</b> (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer /TOL02	Paul Appleton	9097 5833	2653 2348
<b>IEC of Stage 1</b> (Mott MacDonald Hong Kong Limited)	Independent Environmental Checker	Terence Kong	2828 5919	2827 1823
<b>Contractor of Stage 1, Contract 1</b> (China State Construction Engineering (Hong Kong) Limited)	Site Agent	Eddie Tang	9863 7686	2667 5666
	Environmental Officer	Michael Tsang	9277 4956	2667 5666
		M L Lam	9489 4641	2667 5666
<b>Contractor of Stage 1, Contract 2</b> (Gammon Construction Limited)	Site Agent	John Chan	3126 1202	2559 3410
	Environmental Officer	Thomson Chang	9213 6569	2559 3410
		Crispin Ao	9223 8773	2559 3410
		Jimmy Tsang	9720 9738	2559 3410

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

#### 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:-

- Temporary shoring, sheetpiling and excavation;
- 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.

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**

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 2.3 Air 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  $\pm 2.5\%$  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  $\pm 3$  °C; the relative humidity (RH) was < 50% and not variable by more than  $\pm 5\%$ . 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 m<sup>3</sup>/min, and complied with the range specified in the updated EM&A Manual (i.e. 0.6-1.7 m<sup>3</sup>/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

- (i) 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 July 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 ( $\mu\text{g}/\text{m}^3$ )	Range ( $\mu\text{g}/\text{m}^3$ )	Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
<b>AM1A</b>	80.4	75.1 – 85.9	302.1	500
<b>AM2</b>	79.4	74.9 – 86.2	301.9	500
<b>AM3</b>	78.9	73.9 – 84.9	301.9	500
<b>AM4A</b>	78.7	73.8 – 86.7	302.3	500

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

	Average ( $\mu\text{g}/\text{m}^3$ )	Range ( $\mu\text{g}/\text{m}^3$ )	Action Level ( $\mu\text{g}/\text{m}^3$ )	Limit Level ( $\mu\text{g}/\text{m}^3$ )
<b>AM1A</b>	36.0	20.2 – 63.4	176.6	260
<b>AM2</b>	20.9	12.0 – 34.9	178.6	260
<b>AM3</b>	34.8	18.4 – 63.6	193.1	260
<b>AM4A</b>	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. Thus, the average and range of the reporting month for AM1A, AM2 and AM3, respectively, are calculated based on the results obtained on 4, 9 and 15 July 2014 only.

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 July 2014 from the Tai Mei Tuk Automatic Weather Station were missing, the weather data from Tai Po Automatic Weather Station in July 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**

Equipment	Brand and Model
Integrated Sound Level Meter	Rion NL-31 / B&K 2250
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:  $L_{eq(30\text{-minutes})}$  during non-restricted hours i.e. 07:00 – 1900 on normal weekdays;  $L_{eq(5\text{-minutes})}$  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 July 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 Period**

	Average, dB(A), $L_{eq}$ (30 mins)	Range, dB(A), $L_{eq}$ (30 mins)	Limit Level, dB(A), $L_{eq}$ (30 mins)
NM1A	62.8	62.0 – 64.0	75
NM2	66.6	63.7 – 67.8	75
NM3	62.6	61.3 – 63.3	70/65 <sup>#</sup>
NM4	64.9	63.7 – 65.7	75
NM5	62.2	53.7 – 63.7	75
NM6	63.5*	62.1 – 64.1*	70 <sup>#</sup>
NM7	60.9	48.2 – 64.7	75

\*+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. Thus, the average and range of the reporting month for at NM 2, NM3, NM4, NM5, NM6 and NM7, respectively, are calculated based on the results obtained on 4, 9 and 15 July 2014 only.

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 has been carried out beyond 15 July 2014.

4.1.2 In the reporting month, 2 site inspections were carried out on 2 and 9 July 2014 for Contract 1 of the Project, and 5 site inspections for Contract 2 of the Project were carried out on 3, 10, 17, 24 and 31 July 2014.

4.1.3 The environmental site inspections summaries are provided in Appendix K.

4.1.4 Particular observations during the site inspections for Contract 1 are described below:

#### ***Air Quality***

4.1.5 No adverse observation was identified in the reporting month.

#### ***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 No adverse observation was identified in the reporting month.

4.1.11 Particular observations and reminder during the site inspections for Contract 2 are described below:

#### ***Air Quality***

4.1.12 Exposed slopes were observed without dust suppression measures. The Contractor was reminded to cover the slopes after work for rainstorm protection. (Reminder)

4.1.13 Exposed slope was observed. The Contractor should cover the exposed slope for rainstorm protection by impervious sheeting.

4.1.14 Open stockpiles were observed without dust suppression measures. The Contractor should cover the stockpiles with tarpaulin sheets or carry out equivalent dust suppression measures.

#### ***Noise***

4.1.15 No adverse observation was identified in the reporting month.

### ***Water Quality***

- 4.1.16 Mud was observed on the footpath. The Contractor should clear the mud regularly.

### ***Chemical and Waste Management***

- 4.1.17 Stagnant water and general refuse were observed on Bridge 18A. The Contractor should clear the stagnant water to prevent mosquito breeding and clear the refuse to maintain site cleanliness.
- 4.1.18 General refuse was observed. The Contractor should clear the general refuse to maintain site tidiness.

### ***Landscape and Visual Impact***

- 4.1.19 No adverse observation was identified in the reporting month.

### ***Miscellaneous***

- 4.1.20 Stagnant water and general refuse were observed on Bridge 18A. The Contractor should clear the stagnant water to prevent mosquito breeding and clear the refuse to maintain site cleanliness.

## **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), 32m<sup>3</sup> of inert C&D materials was disposed of to the public fill at Tuen Mun 38 (of which 0m<sup>3</sup> was broken concrete), while 72m<sup>3</sup> of general refuse was disposed of at the NENT landfill. 65kg of paper/cardboard packaging, 4,553kg of plastics and 0kg of metals were collected by recycling contractors in the reporting month. 565m<sup>3</sup> and 0m<sup>3</sup> 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), 30m<sup>3</sup> of inert C&D materials was disposed of to Tuen Mun 38 and 160m<sup>3</sup> 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. 0m<sup>3</sup> and 0m<sup>3</sup> 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.

**Table 4.1 Summary of Environmental Licensing and Permit Status**

Statutory Reference	License/ Permit	License or Permit No.	Valid Period		License/ Permit Holder	Remarks
			From	To		
EIAO	Environmental Permit	EP-324/2008/B	17/03/2014	N/A	HyD	Tolo Highway/Fanling Highway between Island House Interchange and Ma Wo  The VEP (EP-324/2008/B) was granted on 17 March 2014 which superseded the previous EP (EP-324/2008/A).
WPCO	Discharge License (Office)	WT00005096-2009	03/12/2009	31/12/2014	CSHK	Discharge at Site Office
	Discharge License (Site)	WT00005445-2009	15/12/2009	31/12/2014	CSHK	Discharge of Construction Runoff
	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 Registration	5213-727-C3249-46	25/09/2009	N/A	CSHK	Chemical waste produced in Contract HY/2008/09
		5213-722-G2347-18	18/05/2010	N/A	GCL	Chemical waste produced in Contract HY/2009/08
WDO	Billing Account for Disposal of Construction Waste	7009328	08/09/2009	N/A	CSHK	Waste disposal in Contract HY/2008/09
		7010320	02/03/2010	N/A	GCL	Waste disposal in Contract HY/2009/08
NCO	Construction Noise Permit	GW-RN0039-14	27/01/2014	26/07/2014	CSHK	Construction works at Island House Interchange
		GW-RN0210-14	11/04/2014	09/10/2014	CSHK	Modification of Sign Gantries G13, 16, 66 & 70
		GW-RN0320-14	04/06/2014	30/08/2014	CSHK	Noise Barrier Installation Works on Tolo Highway
		GW-RN0336-14	30/05/2014	30/09/2014	CSHK	Construction works at Island House

Statutory Reference	License/ Permit	License or Permit No.	Valid Period		License/ Permit Holder	Remarks
			From	To		
						Interchange
		GW-RN0341-14	04/06/2014	30/08/2014	CSHK	Road Re-pavement at Tolo Highway Between Yuen Chau Tsai and Ma Wo
		GW-RN0347-14	08/06/2014	17/08/2014	CSHK	Road pavement for Slip Road N
		GW-RN0352-14	01/06/2014	27/07/2014	CSHK	Installation of Noise Barrier on Slip Road to Tat Wan Road
		GW-RN0372-14	17/06/2014	31/07/2014	CSHK	Road pavement for Slip Road C
		GW-RN0373-14	17/06/2014	31/07/2014	CSHK	Road pavement for Slip Road D
		GW-RN0389-14	29/06/2014	31/08/2014	CSHK	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	CSHK	Installation of Noise Barrier on Kwong Fuk West Viaduct
		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-RN0293-14	11/05/2014	20/07/2014	GCL	Lane shifting and modification of road marking at Tolo Highway (South Bound) CH21.1 to 20.8 A/B near Lam Kam Flyover
		GW-RN0313-14	17/05/2014	09/07/2014	GCL	Road Re-construction at Tolo Highway CH17.96 to CH21.0 Northbound near Fanling Highway
		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

Statutory Reference	License/ Permit	License or Permit No.	Valid Period		License/ Permit Holder	Remarks
			From	To		
		GW-RN0319-14	21/05/2014	29/07/2014	GCL	Renewal of GW-RN0115-14 Maintenance works at Tolo Highway and Fanling Highway near Tai Po Tai Wo Road, Lam Kam Interchange and TWSRW
		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)

#### 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 One (1) water-related complaint was received on 23 June 2014 and followed up by the Environmental Team in June and the reporting month. The summary of the follow-up site visits carried out on 25 June 2014 and 9 July 2014 is reported as follows.
- 4.6.3 A follow-up site visit was made on 25 June 2014 to audit the condition of the complained construction site and check the implementation status of rectification measures.
- 4.6.4 During the follow-up visit on 25 June 2014 morning, no works were observed under W10 and Bridge 11A (opposite to Hong Kong Teachers' Association Lee Heng Kwei Secondary School). Several rectification measures were implemented:
- Slopes were covered to prevent soil erosion by rainfall;
  - Sand bags were laid in the U-channel to form silt traps to improve the quality of surface runoff;
  - Sand bags were laid at low-lying areas where muddy water easily deposits to prevent muddy water from flowing out from the site area to Tai Po River and nearby areas;
- 4.6.5 On the day of the follow-up site visit, it was raining. The Contractor was reminded to clear the blockage of the U-channel right after the rain as a remedial action.
- 4.6.6 The Contractor was further reminded to clear the deposited mud upstream of the sand bags, both placed in the U-channel and at low-lying areas, regularly.
- 4.6.7 During the visit, conditions of Tai Po River, upstream and downstream of the outfall opposite to Lee Heng Kwei Secondary School, were observed. It was observed that the colours of river water upstream and downstream were similar.
- 4.6.8 With the implementation of muddy water control measures under W10 and Bridge 11A, no muddy water was observed from the complained outfall on the day of follow-up site visit.
- 4.6.9 A follow-up site visit was further made on 9 July 2014 to confirm that the deposited mud upstream of the sand bags has been cleared, audit the condition of the complained construction site and check the implementation status of rectification measures.
- 4.6.10 During the follow-up visit on 9 July 2014 morning, no works were observed under W10 and Bridge 11A (opposite to Hong Kong Teachers' Association Lee Heng Kwei Secondary School). Several rectification measures were implemented:
- Water pumps were used to pump water in the catch pits to sedimentation tanks, with one especially placed in the catch pit which leads to the complained outfall;
  - The slope along the U-channel was reinforced with concrete to prevent eroded soil from washing into the U-channel;
  - The mud in the U-channel was constantly cleared to prevent the overflowing of muddy runoff; and
  - The deposited mud upstream of the sand bags was cleared.
- 4.6.11 With the implementation of muddy water control measures under W10 and Bridge 11A, no muddy water was observed from the complained outfall.
- 4.6.12 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 August 2014 will be:-

- Asphalt laying; and
- Landscape softworks.

5.1.2 The major construction works for Contract 2 in August 2014 will be:-

- Temporary traffic arrangements;
- Slope outstanding and remedial works;
- Noise barrier outstanding and remedial works;
- Entrusted watermain 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 August 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 August 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 7 times in July 2014. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audits.
- 6.1.6 One (1) water-related complaint was received on 23 June 2014 and followed up by the Environmental Team in June and the reporting month. The summary of the follow-up site visits carried out on 25 June 2014 and 9 July 2014 is reported in Section 4.6.
- 6.1.7 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.

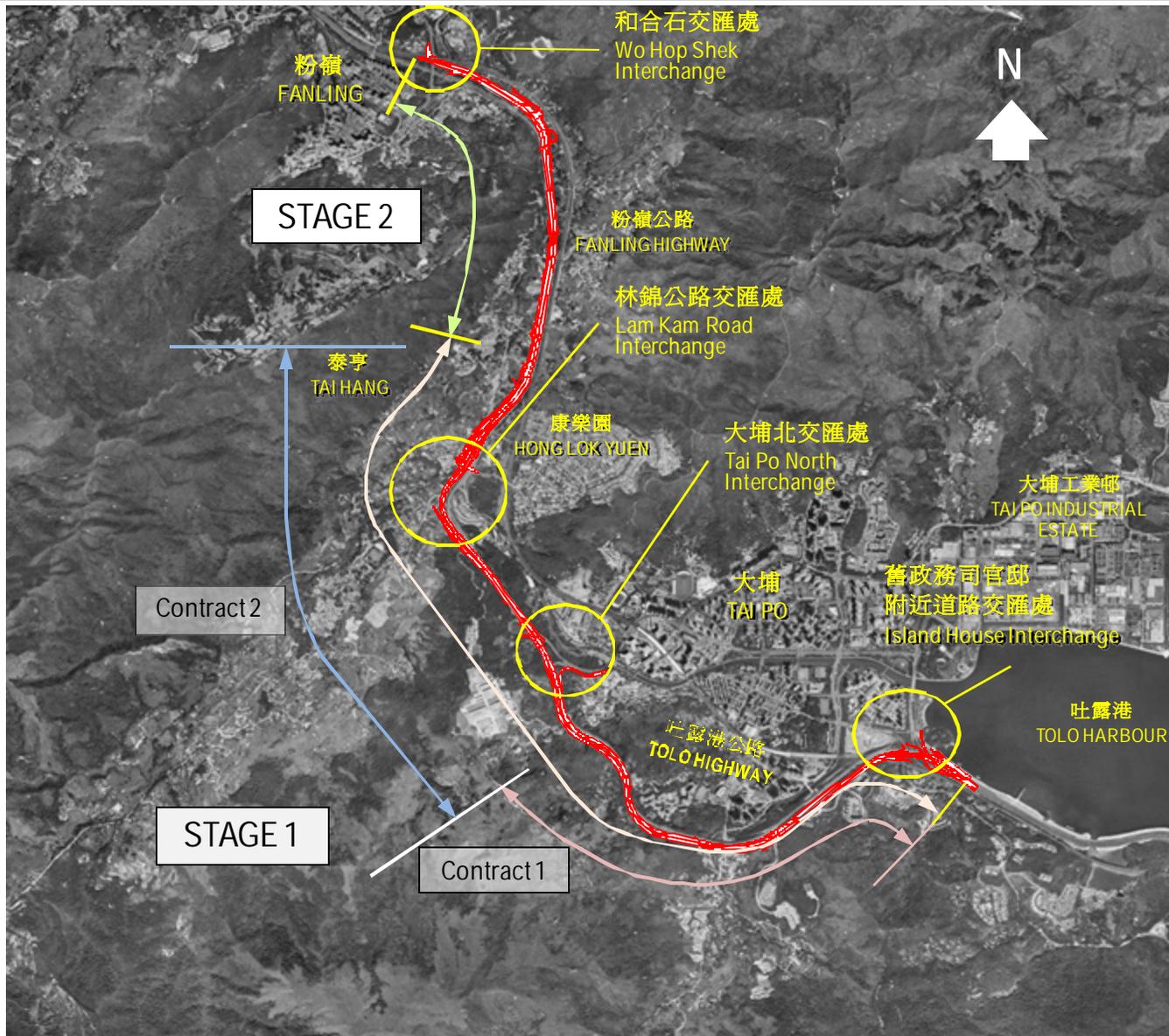
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## FIGURES

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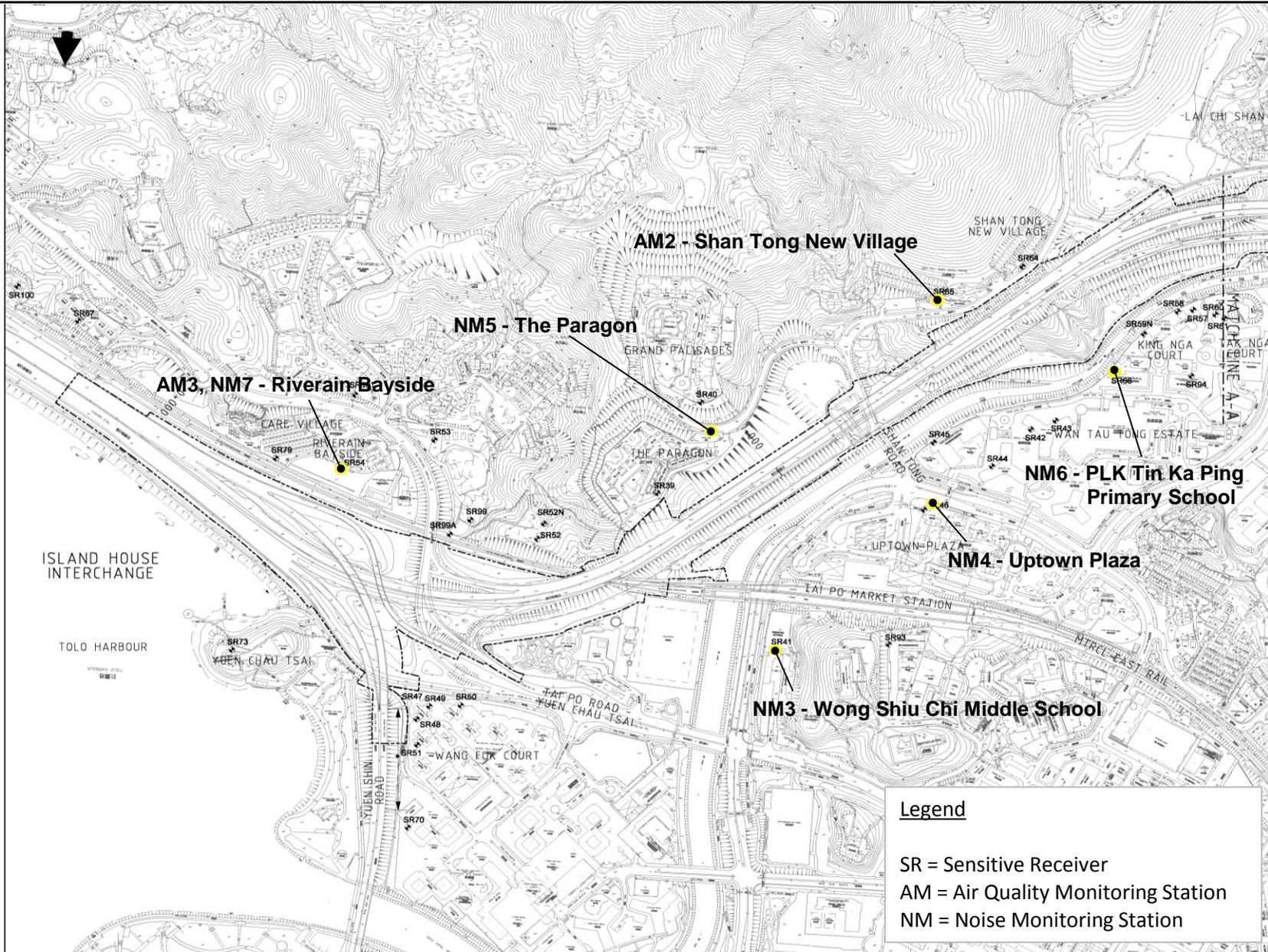
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Environmental Team for the Widening of Tolo Highway between  
Island House Interchange and Tai Hang - Investigation

General Project Layout Plan

SCALE	N.T.S.	DATE	Dec-09	
CHECK	ENFL	DRAWN	RWHW	
JOB NO.	60102979	FIGURE NO.	1.1	Rev 0



**Legend**

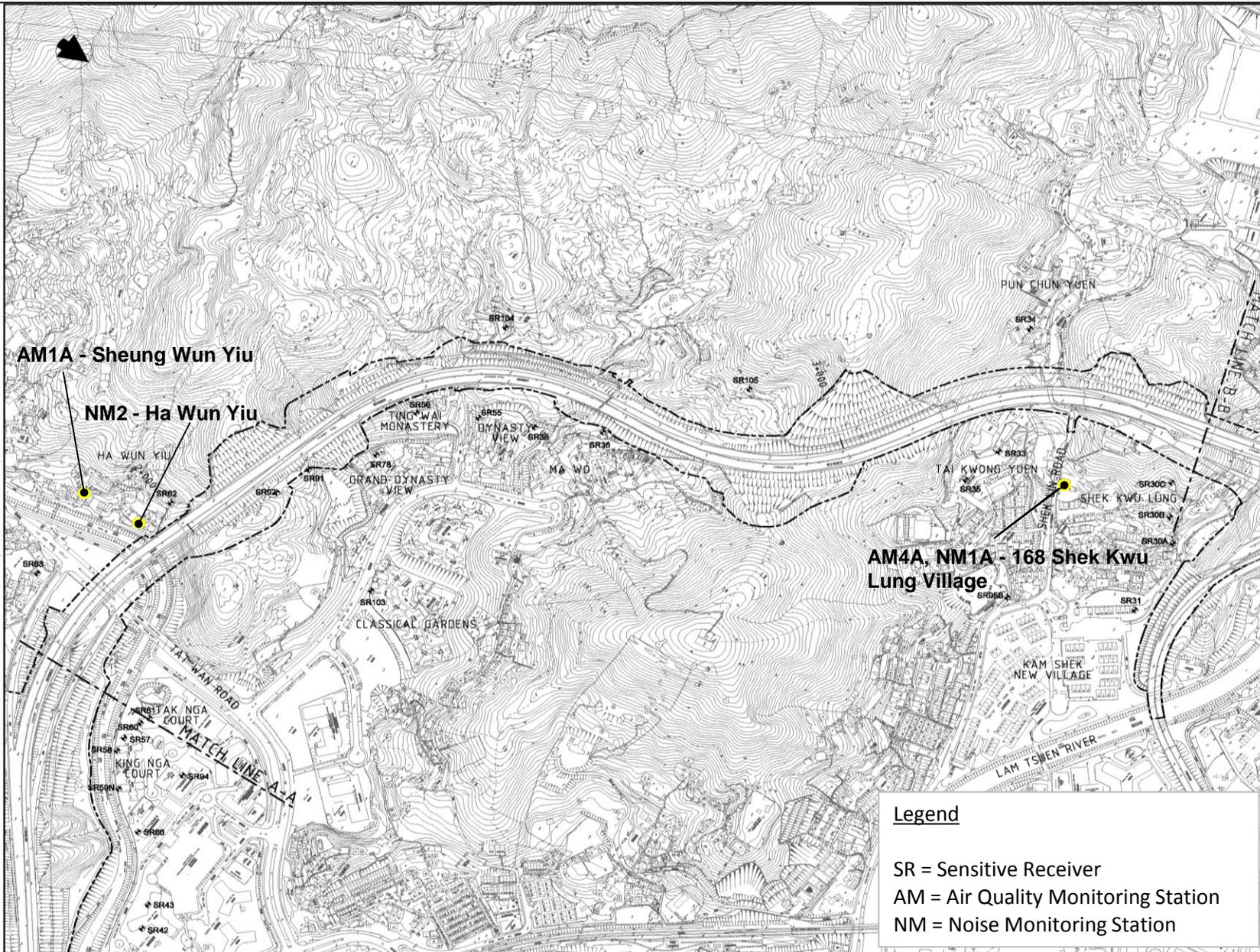
SR = Sensitive Receiver  
 AM = Air Quality Monitoring Station  
 NM = Noise Monitoring Station



**Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation**

EM&A Monitoring Locations (Sheet 1 of 2)

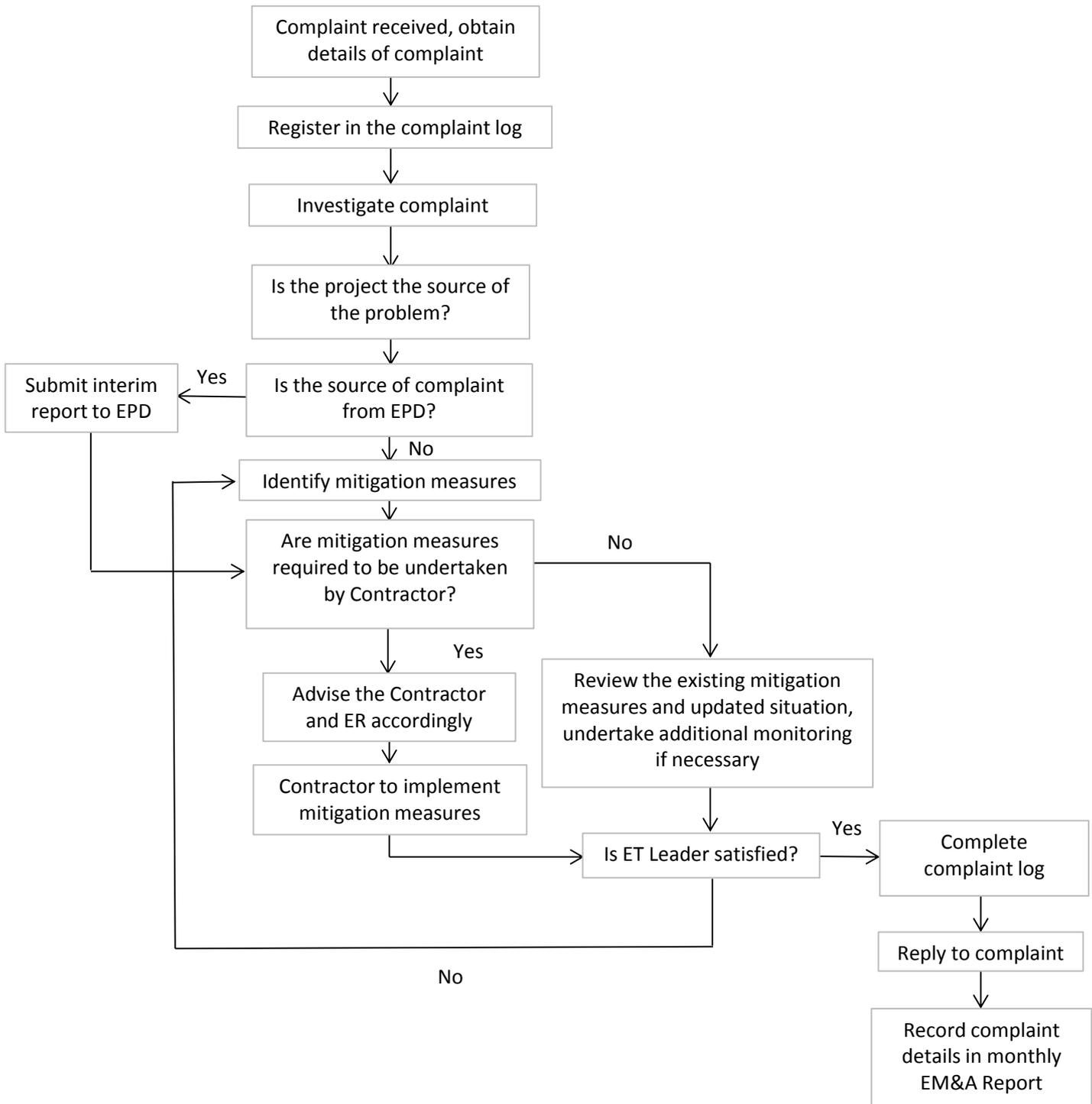
SCALE	N.T.S.	DATE	Sep-11
CHECK	ENFL	DRAWN	LCHC
JOB NO.	60102979	FIGURE NO.	2.1
			Rev 0



**Legend**

SR = Sensitive Receiver  
 AM = Air Quality Monitoring Station  
 NM = Noise Monitoring Station

	<b>Environmental Team for the Widening of Tolo Highway between          Island House Interchange and Tai Hang - Investigation</b>		SCALE	N.T.S.	DATE	Sep-11
	<b>EM&amp;A Monitoring Locations (Sheet 2 of 2)</b>		CHECK	ENFL	DRAWN	LCHC
			JOB NO.	60102979	FIGURE NO.	2.1



Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation

Environmental Complaint Handling Procedure

SCALE	N.T.S.	DATE	Mar-13
CHECK	ENFL	DRAWN	CHCL
JOB NO.	60102979	FIGURE	Rev.
		4.1	-

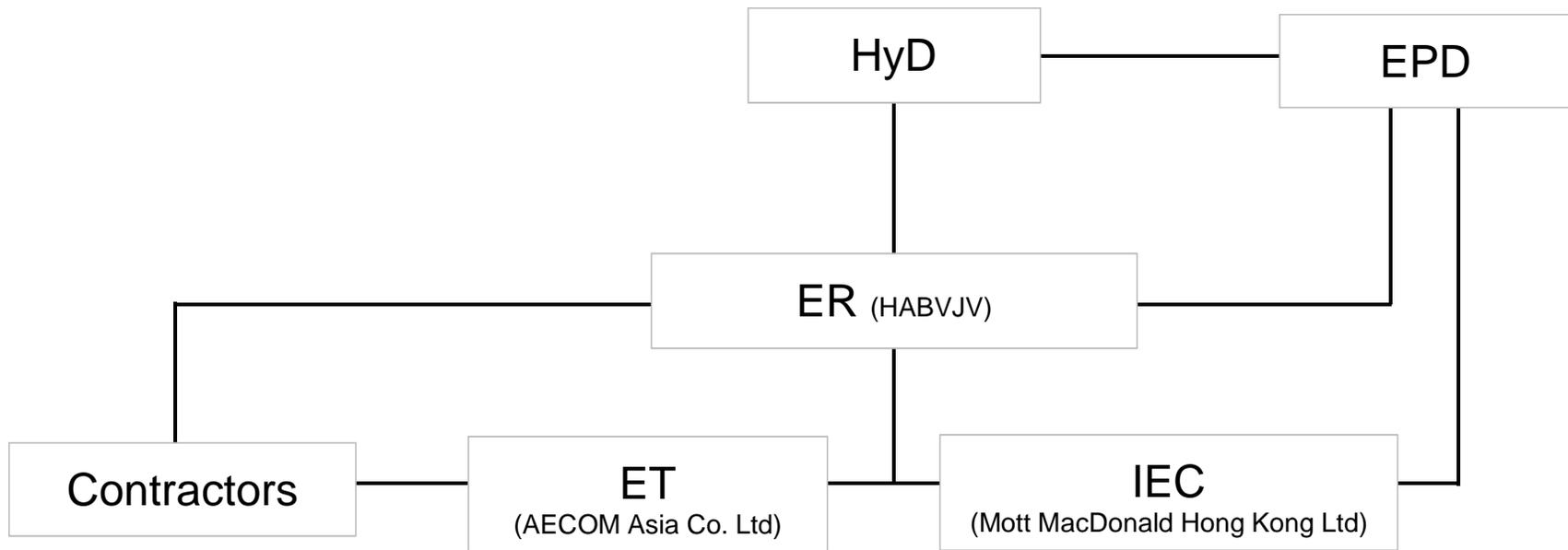
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**APPENDIX A  
PROJECT ORGANIZATION STRUCTURE**

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**Environmental Team for the Widening of Tolo Highway between  
Island House Interchange and Tai Hang - Investigation**

Project Organization Structure

SCALE	N.T.S.	DATE	2009
CHECK	ENFL	DRAWN	RWHW
JOB NO.	60102979	APPENDIX	Rev
		A	-

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**APPENDIX B  
CONSTRUCTION PROGRAMMES**

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Activity ID	Activity Name	Original Durat...	Start	Finish	2014													
					May					June				July				August
					20	27	04	11	18	25	01	08	15	22	29	06	13	20
<b>KEY DATES</b>																		
<b>Section Completion</b>																		
<b>Section Completion Date</b>																		
<b>Key Date</b>																		
KD-300900	KD9 Section 9 Area SA1, 3 to 9A Road Maintenance (1580)	0		23-May-14*	◆ KD9 Section 9 Area SA1, 3 to 9A Road Maintenance													
KD-300200	KD2 Section 2 Areas SA8,SA9 + SA9A Work (1052d)	0		24-Jun-14*	◆ KD2 Section 2 Areas SA8,SA9 +													
KD-300100	KD1 Section 1 Area SA1 Work, Except LS + EW (1311d)	0		30-Jun-14*	◆ KD1 Section 1: Area SA1 Wor													
KD-300500	KD5 Section 5 Area SA1 Landscape Softwork (1337d)	0		30-Jul-14*	◆ KD5: Sectio													
KD-300600	KD6 Section 6 Remainder Landscape Softwork (1355d)	0		30-Jul-14*	◆ KD6: Sectio													
KD-300400	KD4 Section 4 Remainder of the Work (1328d)	0		16-Aug-14*	◆													
<b>SOFT LANDSCAPE IN SA1: SECT. 5 WORKS</b>																		
<b>Landscaping Works</b>																		
<b>Landscape Works</b>																		
S5-212800	Areas SA1 Irrigation + Landscape Soft Works	30	01-Jul-14	30-Jul-14	Areas SA1													
<b>REMAINDER OF SOFT LANDSCAPE: SECT. 6 WORKS</b>																		
<b>Landscaping Works</b>																		
<b>Landscape Works</b>																		
S6-212800	Remainder Irrigation + Landscape Soft Works	30	01-Jul-14	30-Jul-14	Remainder													
<b>ESTABLISHMENT WORKS AT SA1: SECT. 7 WORKS</b>																		
<b>Establishment Works</b>																		
<b>Landscape and Establishment Works</b>																		
S7-211800	Area SA1 Establishment Works	365	31-Jul-14	30-Jul-15														
<b>REMAINDER OF ESTABLISHMENT WORKS: SECT. 8 WORKS</b>																		
<b>Establishment Works</b>																		
<b>Landscape and Establishment Works</b>																		
S8-214800	Remainder - Establishment Works	365	31-Jul-14	30-Jul-15														
<b>ROUTINE MAINTENANCE: SECT. 9 WORKS</b>																		
<b>Road Maintenance</b>																		
<b>Routine Maintenance of Road Network</b>																		
S9-100000	Road Maintenance of Road Network	1401	22-Feb-10 A	23-May-14*	Road Maintenance of Road Network													
<b>Z1: CH 0 to CH 500: SECT. 1 WORKS</b>																		
<b>Noise Barrier at Kwong Fuk West</b>																		
<b>Noise Barrier at Kwong Fuk West Viaduct</b>																		
<b>Noise Barrier Foundation Works</b>																		
S1-180700A	KFWV structural steel, (bay 1-5)	18	08-Apr-14 A	14-Jun-14	KFWV structural steel, (bay 1-5)													
S1-180810	KFWV structural steel, (bay 5-7)	26	08-Apr-14 A	14-Jun-14	KFWV structural steel, (bay 5-7)													
S1-180820	KFWV Panel Installation, (bay 5-7)	24	03-Jun-14*	30-Jun-14	KFWV Panel Installation, (bay													
S1-180800	KFWV Panel Installation, (bay 1-5)	24	03-Jun-14*	30-Jun-14	KFWV Panel Installation, (bay													
S1-180900	Completion of NB Kwong Fuk West Viaduct	0		30-Jun-14	◆ Completion of NB Kwong Fuk													
<b>TCSS Works/Other Utilities</b>																		
S1-180905	Civil prov. works (CPW)- TCSS Pillar Box B	18	22-Apr-14 A	13-May-14 A	Civil prov. works (CPW)- TCSS Pillar Box B													
<b>TCSS Works</b>																		
<b>TCSS E&amp;M Works &amp; Handover</b>																		
S1-700080	T&C - power supply system to TCSS	20	05-May-14 A	19-May-14 A	T&C - power supply system to TCSS													
S1-700090	Handover to TCSS Contractor	0		20-May-14 A	◆ Handover to TCSS Contractor													
S1-700075	T&C - Lighting	20	17-Jun-14	09-Jul-14	T&C - Lighting													
<b>Southbound Work- Ret. Wall, Noise B, Rd NB6, and Slope S4</b>																		
<b>Noise Barrier NB6</b>																		
S1-208060	NB6 NB Panels	8	22-Apr-14 A	23-May-14 A	NB6 NB Panels													
<b>Road Lighting/ or High Mast</b>																		
S1-700050	Cabling works for utilities/Lighting	20	20-Feb-14 A	16-Jun-14	Cabling works for utilities/Lighting													
S1-700070	Pillar Box + MCB Board installation	18	15-Mar-14 A	20-May-14 A	Pillar Box + MCB Board installation													
<b>Cut Slope S4</b>																		
S1-031060B	Cut Slope S4 - drainage/ u channels	20	15-Oct-13 A	16-Jun-14	Cut Slope S4 - drainage/ u channels													
<b>SB Road &amp; Drain, Ch 0-300, after NB3</b>																		
<b>TCSS Works/Other Utilities</b>																		
S1-035045	TCSS P57 - footing	14	20-Nov-13 A	30-Apr-14 A	TCSS P57 - footing													
<b>Road Lighting/ or High Mast</b>																		
S1-051215A	Public Lighting - cabling works	8	22-Apr-14 A	16-Jun-14	Public Lighting - cabling works													
S1-051215B	Public Lighting - power supply connection & test	8	22-Apr-14 A	16-Jun-14	Public Lighting - power supply connect													
<b>NB6 and Slope S4A, after TB1 demolition</b>																		
<b>Noise Barrier NB6 (remaining 1 bay after TB1 removal)</b>																		
S1-208135	NB6 NB Panels	6	22-Mar-14 A	23-May-14 A	NB6 NB Panels													

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Activity ID	Activity Name	Original Durat...	Start	Finish	2014													
					May				June				July				August	
					20	27	04	11	18	25	01	08	15	22	29	06	13	20
<b>Cut Slope S4A</b>																		
S1-208140B	Cut Slope S4A - u channels	20	22-Apr-14 A	15-May-14 A	Cut Slope S4A - u channels													
<b>NB11, Slope S4B &amp; F124, after TB2 dem.</b>																		
<b>Noise Barrier NB11</b>																		
S1-208110	NB11 NB Panels	10	28-Mar-14 A	23-May-14 A	NB11 NB Panels													
<b>Cut Slope S4B, S4C</b>																		
S1-031040A	Cut Slope S4B, S4C - excavation	21	04-Mar-14 A	30-May-14	Cut Slope S4B, S4C - excavation													
S1-031040B	Cut Slope S4B, S4C - drainage/ channels	48	20-Mar-14 A	16-Jun-14	Cut Slope S4B, S4C - drainage/ chann													
<b>South Bound Road and Drain, Ch 300-500</b>																		
<b>Firemain</b>																		
S1-051305	Firemain- excav, pipe install + pit/new hydrants	14	01-Mar-14 A	16-Jun-14	Firemain- excav, pipe install + pit/new													
<b>Road Lighting/ or High Mast</b>																		
S1-051350	Public Lighting - Lamp Pole + Lamps	18	26-Nov-13 A	16-Jun-14	Public Lighting - Lamp Pole + Lamps													
S1-051350A	Public Lighting - cabling works	18	17-Mar-14 A	16-Jun-14	Public Lighting - cabling works													
S1-051350B	Public Lighting - power supply connection & test	18	17-Mar-14 A	16-Jun-14	Public Lighting - power supply connect													
<b>Central Median Work- Noise Barrier + Road/Drain</b>																		
<b>Noise Barrier NB3 CH0-357</b>																		
<b>Road Lighting/ or High Mast</b>																		
S1-208040	Public Lighting - Lamp Pole + Lamps	18	22-Aug-13 A	16-Jun-14	Public Lighting - Lamp Pole + Lamps													
S1-208040A	Public Lighting - cabling works	18	22-Aug-13 A	16-Jun-14	Public Lighting - cabling works													
S1-208040B	Public Lighting - power supply connection & test	23	20-May-14*	16-Jun-14	Public Lighting - power supply connect													
<b>Northbound Work- Ret. Wall, Noise B, Rd</b>																		
<b>RW W1+ NB1+S1, NB2 Ch200-300</b>																		
<b>Noise Barrier NB1</b>																		
S1-208015	Northbound work Complete	0	20-May-14		◆ Northbound work Complete													
<b>Cut Slope S1</b>																		
S1-031015020	Fill Slope S1- drainage	26	18-Oct-13 A	21-May-14 A	Fill Slope S1- drainage													
S1-031015015	Fill Slope S1- backfilling (remaining 50% after relocation of HM7)	57	20-Nov-13 A	21-May-14 A	Fill Slope S1- backfilling (remaining 50% after relocati													
<b>Slip Rd A after Banyan West Completion</b>																		
<b>Slip Rd A</b>																		
S1-051155	Slip Road A - drainage + road reconstruction	175	20-Oct-12 A	21-May-14 A	Slip Road A - drainage + road reconstruction													
<b>NB2 &amp; Slope S2, after TB1 demolition</b>																		
<b>Cut Slope S2</b>																		
S1-031025B	Cut Slope S2- channel (Pending for Slope Profile design)	24	01-Apr-14 A	30-Jun-14	Cut Slope S2- channel (Pend													
<b>NB9, Slope F121, S5, (after TB2 demolition)</b>																		
<b>Cut Slope S5</b>																		
S1-200140	Slope F121 + S5 (Pending for Slope Profile design)	24	01-Apr-14 A	30-Jun-14	Slope F121 + S5 (Pending for													
<b>North Bound Road and Drain, Ch 300-500</b>																		
<b>Firemain</b>																		
S1-200170	Firemain- excav, pipe install + pit/new hydrants	10	22-Apr-14 A	16-Jun-14	Firemain- excav, pipe install + pit/new													
<b>TCSS Works/Other Utilities</b>																		
S1-200180	Utilities & TCSS buried ducts	15	10-Jan-14 A	20-May-14 A	Utilities & TCSS buried ducts													
<b>Road Lighting/ or High Mast</b>																		
S1-200205	Public Lighting - Lamp Pole + Lamps	15	10-Dec-13 A	16-Jun-14	Public Lighting - Lamp Pole + Lamps													
S1-200175	Public Lighting - buried ducts	20	22-Apr-14 A	20-May-14 A	Public Lighting - buried ducts													
<b>Roadworks</b>																		
S1-200215	complete	0	16-Jun-14		◆ complete													
<b>Z2: CH 500 to CH 1100: SECT. 4 WORKS</b>																		
<b>Zone 2: CH500 to Ch1100 (Section 4 Works)</b>																		
<b>VO No.28 (VO 211) - Diversion of Existing Stormwater Drain in Kwong Fuk Park</b>																		
VO28-1085	Town Gas installation works (from main to complete connection to ...	50	05-Dec-13 A	31-Jul-14	Town Gas													
VO28-1090	Backfill Topsoil Manhole Z to P	14	01-Aug-14	16-Aug-14														
VO28-1150	Completion of VO28	0		16-Aug-14	◆													
<b>WM Test+Drain CCTV+ E&amp;M Works</b>																		
<b>TCSS E&amp;M Works &amp; Handover</b>																		
S4-208355	Cabling works for Utilities/TCSS/Lighting	22	20-Sep-13 A	31-May-14	Cabling works for Utilities/TCSS/Lighting													
S4-208370	T&C - power supply system to TCSS/Lighting	6	26-May-14	31-May-14	T&C - power supply system to TCSS/Lighting													
<b>Section Completion</b>																		
<b>Section Completion Date</b>																		
KD-300400A	ZONE 2 COMPLETE - KD4 Section 4	0		16-Aug-14	◆													
<b>Stage 1: Southbound Work- Ret. Wall, Noise B, Rd</b>																		
<b>NLKR - Bridge Deck + Noise Barrier</b>																		
<b>Bridge Deck</b>																		
S4-N01385	Noise barrier panel	8	22-Apr-14 A	30-Apr-14 A	Noise barrier panel													
<b>RW W4-W7+Slope S7+NB15, NB12+Slip Rd L</b>																		
<b>Noise Barrier NB12</b>																		
S4-208270	NB12 (bay 1-3) NB Panel	8	22-Apr-14 A	30-Apr-14 A	NB12 (bay 1-3) NB Panel													
<b>Cut Slope S6 and Slip Rd L</b>																		
S1-203065A	Cut slope S6 - excavation	403	01-Feb-12 A	15-May-14 A	Cut slope S6 - excavation													

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Activity ID	Activity Name	Original Durat...	Start	Finish	2014													
					May					June				July				August
					20	27	04	11	18	25	01	08	15	22	29	06	13	20
S1-203065B	Cut slope S6 - drainage/U-channels	20	22-Apr-14 A	30-Jun-14	Cut slope S6 - drainage/U-channels													
<b>Fill Slope S7</b>																		
S4-031070B	Fill Slope S7- backfilling to road level	1016	20-Jul-10 A	30-Apr-14 A	Fill Slope S7- backfilling to road level													
S4-031070C	Fill Slope S7- u channels	20	22-Apr-14 A	30-Jun-14	Fill Slope S7- u channels													
S4-031070D	Fill Slope S7- metal works + hand rails etc.	15	13-Jun-14	30-Jun-14	Fill Slope S7- metal works + h													
<b>SB: CH500-1100, Road&amp;Drain+Utilities</b>																		
<b>TCSS Works/Other Utilities</b>																		
S4-512850	Civil prov. works (CPW)- TCSS Pillar Box C	20	20-Sep-13 A	30-Apr-14 A	Civil 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													
<b>Road Lighting/ or High Mast</b>																		
S4-031178	Public lighting - Lamp Pole + Lamps	12	18-Oct-13 A	16-Jun-14	Public lighting- Lamp Pole + Lamps													
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 connect													
S4-512930	Public lighting - Lamp Pole + Lamps	8	07-Jun-14	16-Jun-14	Public lighting- Lamp Pole + Lamps													
S4-031178B	Public Lighting - power supply connection & test	4	12-Jun-14	16-Jun-14	Public Lighting - power supply connect													
<b>Stage 2: Northbound Work- Ret. Wall, Noise B, Rd</b>																		
<b>Mod. Existing Lam Kam Railway Br. +Noise B.</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 lane (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													
<b>Noise Barrier NB16</b>																		
<b>Noise Barrier Foundation Works</b>																		
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 & plinth													
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													
<b>Noise Barrier Structural Steel &amp; Panels</b>																		
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													
<b>Retaining Wall W4A &amp; NB13 &amp; Slip Rd M</b>																		
<b>Retaining Wall W4A</b>																		
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 + base slab													
S4-03504A070	VO164 - L3 Containment barrier	31	22-Apr-14 A	10-Jul-14	VO164 - L3 Containment barrier													
S4-03504A050	RW W4A (last 4 bays), wall stem	12	09-Jun-14	21-Jun-14	RW W4A (last 4 bays), wall stem													
S4-03504A055	RW W4A, Backfill (last 4 bays)-1st 3m	7	21-Jun-14	30-Jun-14	RW W4A, Backfill (last 4 bays)													
S4-03504A060	RW W4A, Backfill (last 4 bays)	8	02-Jul-14	10-Jul-14	RW W4A, Backfill (last													
<b>Noise Barrier NB13</b>																		
S4-208140	NB13 Structural Steel (last 2 bays)	5	11-Jul-14	16-Jul-14	NB13 Structural Steel													
S4-208170	NB13 NB Panels (last 2 bays)	8	17-Jul-14	25-Jul-14	NB13 NB Panels													
<b>NB: CH500-1100, Road&amp;Drain+Utilities</b>																		
<b>Road Drainage</b>																		
S4-031210	Road Drainage - pipelaying + manhole	44	02-Jul-13 A	16-Jun-14	Road Drainage - pipelaying + manhol													
<b>Firemain</b>																		
S4-031220	Firemain- excav, pipe install + pit/new hydrants	36	25-Jul-13 A	16-Jun-14	Firemain- excav, pipe install + pit/new													
<b>TCSS Works/Other Utilities</b>																		
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													
<b>Road Lighting/ or High Mast</b>																		
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 + Lamps													
S4-031250B	Public Lighting - power supply connection & test	18	26-May-14	16-Jun-14	Public Lighting - power supply connect													
<b>Roadworks</b>																		
A1170	NB16 - Road Re-construction for (HS)	27	29-May-14	30-Jun-14	NB16 - Road Re-construction													
S4-031260	Northbound road substantial completed in Zone 2	0	17-Jun-14		◆ Northbound road substantial complete													
A1210	Road Work for Slip Road M (HS)	22	28-Jun-14	23-Jul-14	Road Work for													
A1220	Complete	0		23-Jul-14	◆ Complete													
<b>Z3: CH 1100 to CH 2000: SECT. 4 WORKS</b>																		
<b>Section Completion</b>																		
<b>Section Completion Date</b>																		
KD-300400B	ZONE 3 COMPLETE - KD4 Section 4	0		28-Jun-14	◆ ZONE 3 COMPLETE - KD4 Section 4													
<b>TCSS Works</b>																		
<b>TCSS E&amp;M Works &amp; Handover</b>																		
S4-0512765	Cabling works for Utilities/TCSS/Lighting	24	20-Sep-13 A	28-Jun-14	Cabling works for Utilities/TCSS													
S4-0512780	T&C - power supply system to TCSS/Lighting	36	20-Sep-13 A	28-Jun-14	T&C - power supply system to													
S4-0512785	Handover to TCSS Contractor	0		28-Jun-14	◆ Handover to TCSS Contractor													
<b>Stage 3: Central Median - Ret. Wall, Noise B, Rd</b>																		
<b>W20A + Slope S20</b>																		
<b>Cut Slope S20A</b>																		

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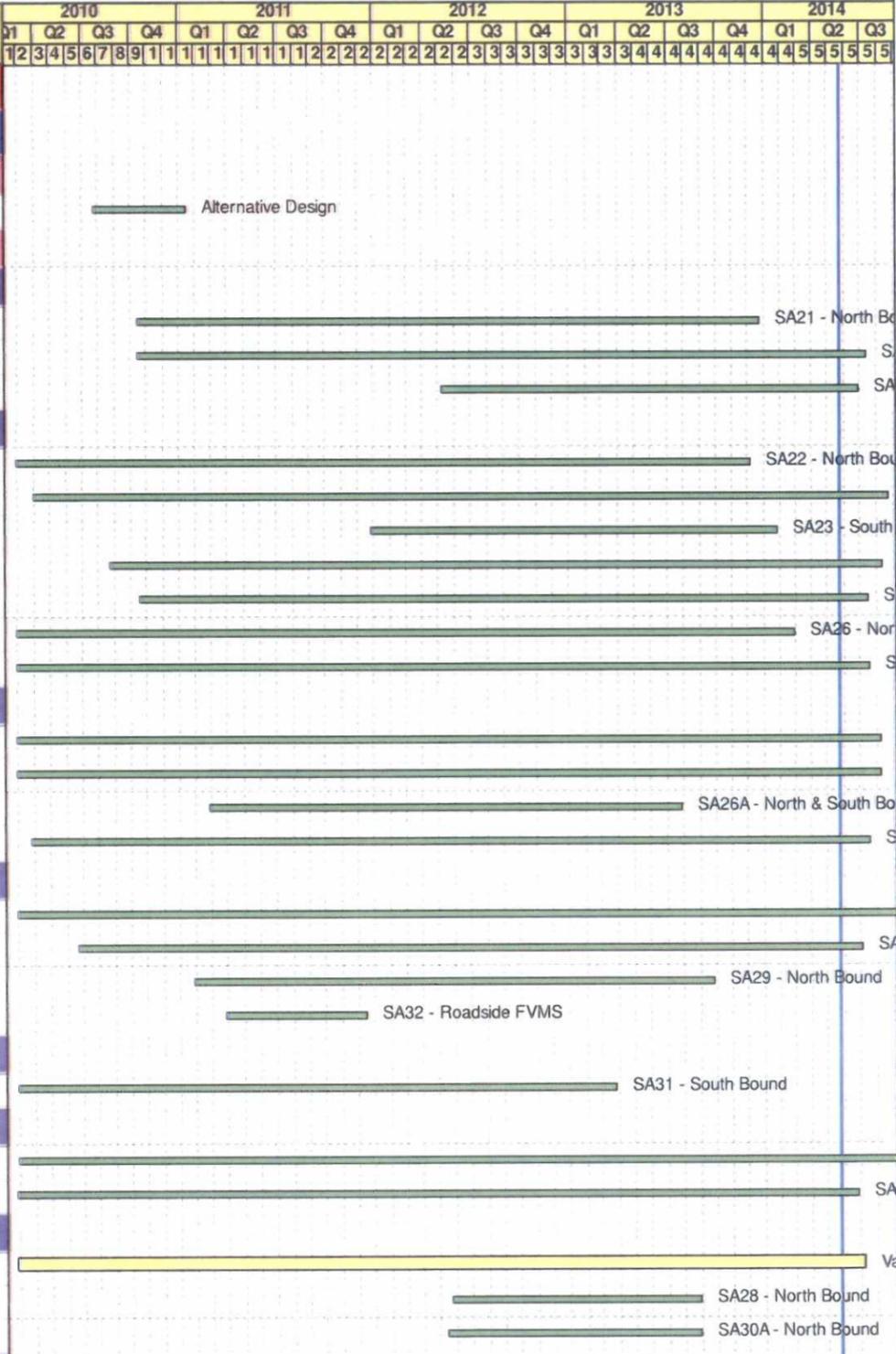
Activity ID	Activity Name	Original Durat...	Start	Finish	2014															
					May				June				July				August			
					20	27	04	11	18	25	01	08	15	22	29	06	13	20	27	03
S4-03120AA	Cut Slope S20A - excavation	30	20-Jan-14 A	30-Jun-14	Cut Slope S20A - excavation															
S4-03120AB	Cut Slope S20A - drainage/channels	30	26-May-14	30-Jun-14	Cut Slope S20A - drainage/ch															
<b>Stage 2: Northbound Work- Ret. Wall, Noise B, Rd</b>																				
<b>Modification of Existing Bridge No. 10 + Noise B</b>																				
<b>Bridge Roadworks &amp; Furnitures</b>																				
S4-194899	Road Surfacing & Furnitures	18	18-Apr-14 A	20-Apr-14 A	Road Surfacing & Furnitures															
S4-194990	Bridge No. 10 Modification Completion	0		20-Apr-14 A	Bridge No. 10 Modification Completion															
<b>Modification of Existing Bridge No.11 + Noise B</b>																				
<b>Bridge Roadworks &amp; Furnitures</b>																				
S4-195910	Install Noise barrier panel	30	22-Mar-14 A	25-Apr-14 A	Install Noise barrier panel															
S4-195900	Bridge No. 11 Modification Completion	0		25-Apr-14 A	Bridge No. 11 Modification Completion															
<b>RW W9, Slope S9, &amp; Noise Barrier NB19, NB22</b>																				
<b>Noise Barrier NB19</b>																				
S4-207190	NB19 Structural Steel, 10 bays	35	01-Apr-14 A	17-May-14 A	NB19 Structural Steel, 10 bays															
S4-207190A	NB19 Structural Steel, 21 bays	35	01-Apr-14 A	17-May-14 A	NB19 Structural Steel, 21 bays															
S4-208190	NB19 NB Panels, 10 bays	10	01-Apr-14 A	17-May-14 A	NB19 NB Panels, 10 bays															
S4-208190A	NB19 NB Panels, 21 bays	10	01-Apr-14 A	30-May-14	NB19 NB Panels, 21 bays															
<b>Fill Slope S9</b>																				
S4-031095A	Fill Slope S9- backfilling	24	01-Apr-14 A	31-May-14	Fill Slope S9- backfilling															
S4-031095B	Fill Slope S9 - drainage	12	01-Apr-14 A	31-May-14	Fill Slope S9 - drainage															
<b>NB: CH1260-1750, L=410m, Road&amp;Drain+Utilities</b>																				
<b>Firemain</b>																				
S4-0512630	Firemain- excav, pipe install+pit/new hydrants	24	17-Sep-13 A	16-Jun-14	Firemain- excav, pipe install+pit/new h															
<b>TCSS Works/Other Utilities</b>																				
S4-0512635	Utilities +TCSS buried ducts + civil prov. works	36	21-Oct-13 A	30-Apr-14 A	Utilities +TCSS buried ducts + civil prov. works															
S4-0512640	Power supply cable ducts	34	20-May-14*	28-Jun-14	Power supply cable ducts															
<b>Road Lighting/ or High Mast</b>																				
S4-0512660	Public lighting - Lamp Pole + Lamps	36	21-Oct-13 A	12-Jun-14	Public lighting - Lamp Pole + Lamps															
S4-051266A	Public Lighting - cabling works	36	21-Oct-13 A	12-Jun-14	Public Lighting - cabling works															
S4-051266B	Public Lighting - power supply connection & test	12	29-May-14	12-Jun-14	Public Lighting - power supply connection															
<b>Roadworks</b>																				
S4-0512645	Roadworks +Slip Road N- Resurfacing	26	18-Oct-13 A	12-Jun-14	Roadworks +Slip Road N- Resurfacing															
S4-0512655	Roadworks +Slip Road N- road marking + furnitures	6	06-Jun-14	12-Jun-14	Roadworks +Slip Road N- road marking															
<b>Z4: CH 2000 to CH 2400: SECT. 2 WORKS</b>																				
<b>Stage 1A: Southbound - S14-, RW21-28, TP7,Rd/Dr</b>																				
<b>SB Road &amp; Drain, Ch 2000-2200, L=200m</b>																				
<b>TCSS Works/Other Utilities</b>																				
S2-031295	Power supply cable ducts	277	25-Jul-12 A	30-Apr-14 A	Power supply cable ducts															
<b>Cut Slope S14</b>																				
S2-031140E10	Slope S14 - Soil nail & remaining drainage work (VO343-additional ...	61	10-Jun-13 A	16-Jun-14	Slope S14 - Soil nail & remaining drain															
<b>Stage 1B: Northbound- S15-S19, RW31-33, Rd/Dr</b>																				
<b>Retaining Wall W30, W31, W32(Piled), W33</b>																				
<b>Retaining Wall W31,32, 33</b>																				
S2-GCL036	Northbound - GCL interfacing work completion for Lane 1,2,3 open	0		20-May-14*	Northbound - GCL interfacing work completion for Lane															
S2-GCL046	Completion of works subject to GCL works completion	30	20-May-14	24-Jun-14	Completion of works subject to G															
<b>Stage 2A: Southbound- S17, RW 29-34, NB27-29</b>																				
<b>Noise Barrier NB27, NB29</b>																				
<b>Noise Barrier NB29</b>																				
S2-035350	NB29 NB Panels	7	16-Oct-13 A	16-Jun-14	NB29 NB Panels															
<b>Retaining Wall, W29 &amp; NB27(@W29)</b>																				
<b>Retaining Wall W29A</b>																				
S2-03529AB	RW W29A facing panel structure (bay 1)	34	22-Apr-14 A	16-Jun-14	RW W29A facing panel structure (bay															
<b>SB: CH2200-2400, L=200m, Road&amp;Drain+Utilities</b>																				
<b>Road Drainage</b>																				
S2-031250	W29A bay 1 road drainage after GCL TTA stage 6A	20	29-May-14	21-Jun-14	W29A bay 1 road drainage after GC															
<b>TCSS Works/Other Utilities</b>																				
S2-031287	TCSS S160 (VDS) - footing	23	14-Sep-13 A	30-Apr-14 A	TCSS S160 (VDS) - footing															
<b>Roadworks</b>																				
S2-031255	W29A bay 1 road work after GCL TTA stage 6A	20	29-May-14	21-Jun-14	W29A bay 1 road work after GCL T															
S2-031265	Remaining roadwork to final pavement level after GCL TTA stage 6A	6	23-Jun-14	28-Jun-14	Remaining roadwork to final pa															
<b>Stage 3: Central Median- NB26, NB29 +Road&amp;Drain</b>																				
<b>CM: NB26 &amp; NB28 L=400m &amp; Road&amp;Drain+Utilities</b>																				
<b>Noise Barrier Structural Steel &amp; Panels</b>																				
S2-208395	Implement TTA- divert traffic to new SB, NB & CM	0	20-May-14		Implement TTA- divert traffic to new SB, NB & CM															
<b>TCSS Works</b>																				
<b>TCSS E&amp;M Works &amp; Handover</b>																				
S2-208420	Lighting & T&C	24	15-Oct-13 A	30-Apr-14 A	Lighting & T&C															
S2-208450	T&C - power supply system to TCSS	8	22-Apr-14 A	30-Apr-14 A	T&C - power supply system to TCSS															
S2-208425	Handover to TCSS Contractor	0		30-Apr-14 A	Handover to TCSS Contractor															

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for the Period of 21 May 2014 to 20 Aug 2014

Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010				2011				2012				2013				2014		
							Q1	Q2	Q3	Q4	Q1	Q2	Q3												
<b>HY/2009/08 TOLO HIGHWAY WIDENING, Based on UWP Jan 14, upto Feb progress</b>																									
<b>EXECUTIVE SUMMARY</b>																									
<b>Design</b>																									
A1330	Alternative Design		100%	292	26-Jul-10 A	14-Jan-11 A																			
<b>Construction</b>																									
<b>Section 1</b>																									
A1000	SA21 - North Bound		100%	959	15-Oct-10 A	25-Dec-13 A																			
A1010	SA21 - South Bound	-155	95.68%	814	15-Oct-10 A	12-Jul-14																			
A1020	SA21 - Middle Lane	-122	99.13%	275	08-May-12 A	26-Jun-14																			
<b>Section 2</b>																									
A1030	SA22 - North Bound		100%	1016	26-Feb-10 A	07-Dec-13 A																			
A1040	SA22 - South Bound	-122	94.41%	1037	01-Apr-10 A	21-Aug-14																			
A1060	SA23 - South Bound		100%	388	28-Dec-11 A	25-Jan-14 A																			
A1070	SA24 - North Bound	-112	93.9%	787	25-Aug-10 A	12-Aug-14																			
A1080	SA25 - South Bound	-92	97.68%	777	20-Oct-10 A	14-Jul-14																			
A1090	SA26 - North Bound		100%	1216	26-Feb-10 A	28-Feb-14 A																			
A1100	SA26 - South Bound	-119	95.52%	1216	26-Feb-10 A	17-Jul-14																			
<b>Section 3</b>																									
A1110	SA26A - North Bound	-131	96.24%	1191	26-Feb-10 A	08-Aug-14																			
A1120	SA26A - South Bound	-131	94.91%	879	26-Feb-10 A	08-Aug-14																			
A1130	SA26A - North & South Bound		100%	612	26-Feb-11 A	30-Jul-13 A																			
A1140	SA27 - South Bound	-121	95.72%	826	27-Mar-10 A	19-Jul-14																			
<b>Section 4</b>																									
A1150	SA28 - North Bound	-191	88.36%	1216	26-Feb-10 A	11-Oct-14																			
A1160	SA28 - South Bound	-72	97.95%	1099	23-Jun-10 A	04-Jul-14																			
A1170	SA29 - North Bound		100%	909	26-Jan-11 A	26-Sep-13 A																			
A1180	SA32 - Roadside FVMS		100%	265	26-Mar-11 A	15-Dec-11 A																			
<b>Section 5</b>																									
A1190	SA31 - South Bound		100%	884	26-Feb-10 A	28-Mar-13 A																			
<b>Section 7</b>																									
A1200	SA41 - Site Office	75	85.77%	1581	26-Feb-10 A	05-Feb-15																			
A1210	SA42 - Temporary Contractor's Works Area	0	98.04%	1582	25-Feb-10 A	26-Jun-14																			
<b>Section 17 (Subject to Excision, Engineer may instruct within 819 days)</b>																									
A1300	Validity Period	290	98.6%	819	25-Feb-10 A	07-Jul-14																			
A1310	SA28 - North Bound		100%	34	24-May-12 A	31-Aug-13 A																			
A1320	SA30A - North Bound		100%	155	14-May-12 A	31-Aug-13 A																			



**KEY DATES/ MILESTONES**

**Portion Handover Dates**

**Section 1 (Site Area SA21)**

Project ID: J3318-UPDATE 2014FEB  
 Project Name: HY/2009/08 TOLO HIGHWAY WIDENING...  
 Print Date: 03-Jul-14  
 Data Date: 26-May-14  
 Page 1 of 46

- Current Bar
- Level of Effort
- Critical
- Milestone

**Highways Department - Contract No. HY/2009/08**

**Widening of Tolo Highway/ Fanling Highway**

**Stage 1 - Between Ma Wo and Tai Hang**

**Updated Works Programme, 24 May 2014**

UWP Revision			
Date	Revision	Checked	Approved
27-Jan-14	UWP January, 2014	WY	JC

Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010												2011				2012				2013				2014		
							Q1			Q2			Q3			Q4			Q1		Q2		Q3		Q4		Q1		Q2		Q3		
							1	2	3	4	5	6	7	8	9	10	11	12	1	2	1	2	1	2	1	2	1	2	1	2	1	2	3
PHSA2100	Possession of SA21 (Day365)		100%	0	16-Jul-10 A		◇ Possession of SA21 (Day365)																										
<b>Section 3 (Site Area SA26A and SA 27)</b>																																	
PHSA26A0	Possession of SA26A (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA26A (Day0)																										
PHSA2700	Possession of SA27 (Day 90)		100%	0	26-Mar-10 A		◇ Possession of SA27 (Day 90)																										
<b>Section 2 (Site Area SA22, SA23, SA24, SA25 and SA26)</b>																																	
PHSA2200	Possession of SA22 (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA22 (Day0)																										
PHSA2300	Possession of SA23 (Day180)		100%	0	04-May-10 A		◇ Possession of SA23 (Day180)																										
PHSA2400	Possession of SA24 (Day180)		100%	0	04-May-10 A		◇ Possession of SA24 (Day180)																										
PHSA2500	Possession of SA25 (Day270)		100%	0	04-May-10 A		◇ Possession of SA25 (Day270)																										
PHSA2600	Possession of SA26 (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA26 (Day0)																										
<b>Section 4 (Site Area SA28, SA29 and SA32)</b>																																	
PHSA2800	Possession of SA28 (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA28 (Day0)																										
PHSA2900	Possession of SA29 (Day270)		100%	0	27-Jul-10 A		◇ Possession of SA29 (Day270)																										
PHSA3200	Possession of SA32 (Day365)		100%	0	25-Feb-11 A		◇ Possession of SA32 (Day365)																										
<b>Section 5 (Site Area SA31)</b>																																	
PHSA3100	Possession of SA31 (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA31 (Day0)																										
<b>Section 7 (All Works Except Works Included in Other Sections)</b>																																	
PHSA4100	Possession of SA41 (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA41 (Day0)																										
PHSA4200	Possession of SA42 (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA42 (Day0)																										
PHSA4300	Possession of SA43 (Day90)		100%	0	04-May-10 A		◇ Possession of SA43 (Day90)																										
<b>Section 8 (Establishment Works in Site Area SA21)</b>																																	
PHSA2110	Possession of SA21 (Day1217)		100%	0	26-Jan-14 A		◇ Possession of SA21 (Day1217)																										
<b>Section 9 (Establishment Works in Site Area SA22, SA23, SA24, SA25 and SA26)</b>																																	
PHSA2210	Possession of SA22 (Day1217)		100%	0	23-Mar-14 A		◇ Possession of SA22 (Day1217)																										
PHSA2310	Possession of SA23 (Day1217)		100%	0	23-Mar-14 A		◇ Possession of SA23 (Day1217)																										
PHSA2420	Possession of SA24 (Day1217)		100%	0	23-Mar-14 A		◇ Possession of SA24 (Day1217)																										
PHSA2510	Possession of SA25 (Day1217)		100%	0	23-Mar-14 A		◇ Possession of SA25 (Day1217)																										
PHSA2610	Possession of SA26 (Day1217)		100%	0	23-Mar-14 A		◇ Possession of SA26 (Day1217)																										
<b>Section 10 (Establishment Works in Site Area SA26A and SA27)</b>																																	
PHSA26A1	Possession of SA26A (Day1217)		100%	0	01-Mar-14 A		◇ Possession of SA26A (Day1217)																										
PHSA2710	Possession of SA27 (Day1217)		100%	0	01-Mar-14 A		◇ Possession of SA27 (Day1217)																										
<b>Section 11 (Establishment Works in Site Area SA28 and SA29)</b>																																	
PHSA2810	Possession of SA28 (Day1217)		100%	0	01-Mar-14 A		◇ Possession of SA28 (Day1217)																										
PHSA2910	Possession of SA29 (Day1217)		100%	0	01-Mar-14 A		◇ Possession of SA29 (Day1217)																										
<b>Section 12 (Establishment Works in Site Area SA30 and SA30A)</b>																																	
PHSA3000	Possession of SA30 (Day1217)		100%	0	24-May-12 A		◇ Possession of SA30 (Day1217)																										
PHSA30A0	Possession of SA30A (Day1217)		100%	0	24-May-12 A		◇ Possession of SA30A (Day1217)																										
<b>Section 13 (Remainder of Establishment Works)</b>																																	
PHSA3110	Possession of SA31 (Day1217)		100%	0	29-Mar-13 A		◇ Possession of SA31 (Day1217)																										
PHSA3220	Possession of SA32 (Day1217)		100%	0	01-Mar-14 A		◇ Possession of SA32 (Day1217)																										
PHSA4120	Possession of SA41 (Day1217)		100%	0	23-Mar-14 A		◇ Possession of SA41 (Day1217)																										
PHSA4220	Possession of SA42 (Day1217)		100%	0	23-Mar-14 A		◇ Possession of SA42 (Day1217)																										
PHSA4330	Possession of SA43 (Day1217)		100%	0	23-Mar-14 A		◇ Possession of SA43 (Day1217)																										
<b>Section 14 Comprises Routine Maintenance of Road Network in Site Area SA21 to SA31)</b>																																	
PHSA2130	Possession of SA21 for Routine Maintenance (Day365)		100%	0	16-Jul-10 A		◇ Possession of SA21 for Routine Maintenance (Day365)																										
PHSA2230	Possession of SA22 for Routine Maintenance (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA22 for Routine Maintenance (Day0)																										

Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010				2011				2012				2013				2014		
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
PHSA2330	Possession of SA23 for Routine Maintenance (Day180)		100%	0	04-May-10 A		◇ Possession of SA23 for Routine Maintenance (Day180)																		
PHSA2430	Possession of SA24 for Routine Maintenance (Day180)		100%	0	04-May-10 A		◇ Possession of SA24 for Routine Maintenance (Day180)																		
PHSA2530	Possession of SA25 for Routine Maintenance (Day270)		100%	0	04-May-10 A		◇ Possession of SA25 for Routine Maintenance (Day270)																		
PHSA2630	Possession of SA26 for Routine Maintenance (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA26 for Routine Maintenance (Day0)																		
PHSA26A3	Possession of SA26A for Routine Maintenance (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA26A for Routine Maintenance (Day0)																		
PHSA2730	Possession of SA27 for Routine Maintenance (Day90)		100%	0	26-Mar-10 A		◇ Possession of SA27 for Routine Maintenance (Day90)																		
PHSA2830	Possession of SA28 for Routine Maintenance (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA28 for Routine Maintenance (Day0)																		
PHSA2930	Possession of SA29 for Routine Maintenance (Day270)		100%	0	27-Jul-10 A		◇ Possession of SA29 for Routine Maintenance (Day270)																		
PHSA3060	Possession of SA30 for Routine Maintenance (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA30 for Routine Maintenance (Day0)																		
PHSA30A4	Possession of SA30A for Routine Maintenance (Day180)		100%	0	27-Jul-10 A		◇ Possession of SA30A for Routine Maintenance (Day180)																		
PHSA3130	Possession of SA31 for Routine Maintenance		100%	0	26-Feb-10 A		◇ Possession of SA31 for Routine Maintenance																		

**Section 17 (Subject to Excision and Instruct by Engineer within 819 days)**

PHSA3030	Earliest Date to Possession of SA30		100%	0	26-Feb-10 A		◇ Earliest Date to Possession of SA30																		
PHSA30A3	Earliest Date to Possession of SA30A		100%	0	27-Jul-10 A		◇ Earliest Date to Possession of SA30A																		

**Key Dates (include EOT GCL submitted and awarded upto Dec 2013)**

HDS01000	KD1: Completion of Section 1 - (Day1216) - Overall Completion of Works	-172	0%	0	31-Jul-14*		◇																		
HDS01100	KD1: Completion of Section 1 - (Day1216) - Substantial Completion for Road Opening		100%	0	25-Jan-14 A		◇ KD1: Comple																		
HDS02000	KD2: Completion of Section 2 - (Day1216) - Overall Completion of Works	-122	0%	0	21-Aug-14*		◇																		
HDS02100	KD2: Completion of Section 2 - (Day1216) - Substantial Completion for Road Opening		100%	0	22-Mar-14 A		◇ KD2: Con																		
HDS03000	KD3: Completion of Section 3 - (Day1216) - Overall Completion of Works	-131	0%	0	08-Aug-14*		◇																		
HDS03100	KD3: Completion of Section 3 - (Day1216) - Substantial Completion for Road Opening		100%	0	28-Feb-14 A		◇ KD3: Comp																		
HDS04000	KD4: Completion of Section 4 - (Day1216) - Overall Completion of Works	-228	0%	0	11-Oct-14*		◇																		
HDS04100	KD4: Completion of Section 4 - (Day1216) - Substantial Completion for Road Opening		100%	0	28-Feb-14 A		◇ KD4: Comp																		
HDS05000	KD5: Completion of Section 5 - (Day884)		100%	0	28-Mar-13 A		◇ KD5: Completion of Section 5 - (Da																		
HDS07000	KD7: Completion of Section 7 - (Day1581)	0	0%	0	26-Jun-14*		◇ KD																		
HDS08000	KD8: Completion of Section 8 - (Day1581)	0	0%	0	25-Feb-15*																				
HDS09000	KD9: Completion of Section 9 - (Day1581)	0	0%	0	21-Apr-15*																				
HDS10000	KD10: Completion of Section 10 - (Day1581)	0	0%	0	31-Mar-15*																				
HDS11000	KD11: Completion of Section 11 - (Day1581)	0	0%	0	31-Mar-15*																				
HDS12000	KD12: Completion of Section 12 - (Day1581)	0	0%	0	26-Jun-14*		◇ KD																		
HDS13000	KD13: Completion of Section 13 - (Day1581)	0	0%	0	26-Mar-15*																				
HDS14000	KD14: Completion of Section 14 - (Day1581)	0	0%	0	26-Jun-14*		◇ KD																		
HDS17000	KD17: Latest Date to Compl of Section 17 - (Day397) Subject to Excision		100%	0	02-Sep-13 A		◇ KD17: Latest Date to Co																		

**DESIGN SUBMISSION**

**Alternative Design**

**Ground Investigation & Reporting**

AD000010	Ground Investigation for Alternative Design		100%	54	22-Mar-10 A	29-May-10 A
AD000020	Report of Ground Investigation		100%	56	12-Apr-10 A	18-Jun-10 A

**Package AD1: W56B**

AD000110	AD1 - Design Period		100%	80	29-Mar-10 A	08-Jul-10 A
AD000120	AD1 - Full Package to ICE for Certification		100%	20	09-Jul-10 A	31-Jul-10 A
AD000130	AD1 - Approval by ER/CLIENT/CEDD (GEO)		100%	101	09-Jul-10 A	06-Nov-10 A

**Package AD2: W57B**

AD000210	AD2 - Design Period		100%	72	14-Apr-10 A	10-Jul-10 A
AD000220	AD2 - Full Package to ICE for Certification		100%	44	12-Jul-10 A	31-Aug-10 A
AD000230	AD2 - Approval by ER/CLIENT/CEDD (GEO)		100%	172	26-Nov-10 A	26-Apr-11 A

- Ground Investigation for Alternative Design
- Report of Ground Investigation
- AD1 - Design Period
- AD1 - Full Package to ICE for Certification
- AD1 - Approval by ER/CLIENT/CEDD (GEO)
- AD2 - Design Period
- AD2 - Full Package to ICE for Certification
- AD2 - Approval by ER/CLIENT/CEDD (GEO)



Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010												2011				2012				2013				2014		
							Q1			Q2			Q3			Q4			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3				
							1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
PR001246	Issurance of Excavation Permit form Hyd		100%	7	26-Feb-10 A	03-Mar-10 A	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
PR001256	Complete All General Submission		100%	0		30-May-10 A																											
<b>Technical Submission</b>																																	
PR001250	Submit Draft Traffic Management Contingency		100%	45	26-Feb-10 A	10-Apr-10 A																											
PR001260	Submit Sch of Const Seq/TTA in Prin Agreement		100%	14	26-Feb-10 A	10-Mar-10 A																											
PR001270	Submit TIA/TTA to ER, TD, HKPF etc for Approval		100%	60	26-Feb-10 A	25-Apr-10 A																											
PR001280	Prepare/Submit Sch of Util Arrangement		100%	60	26-Feb-10 A	25-Apr-10 A																											
PR001290	Prepare/Submit Conc Mix Design and Trial Test		100%	70	26-Feb-10 A	05-May-10 A																											
PR001300	Perform Slope / Topographic Survey		100%	95	26-Feb-10 A	30-May-10 A																											
PR001310	Perform Natural Terrain Survey		100%	200	01-Jan-11 A	19-Jul-11 A																											
PR001320	Perform Tree Survey		100%	125	26-Feb-10 A	29-Jun-10 A																											
PR001330	Perform Existing Structural Survey		100%	95	26-Feb-10 A	30-May-10 A																											
PR001340	Install Geotechnical Instrumentation		100%	90	26-Feb-10 A	25-May-10 A																											
PR001350	Design for Temporary Noise Barrier		100%	120	26-Feb-10 A	24-Jun-10 A																											
PR001360	Approval for Temporary Noise Barrier		100%	30	26-Jun-10 A	24-Jul-10 A																											
PR001370	Design for Irrigation System		100%	150	26-Feb-10 A	24-Jul-10 A																											
PR001380	Approval for Irrigation System		100%	24	26-Feb-11 A	21-Mar-11 A																											
PR001385	Detail review of the natural terrain hazard assessment by GEO		100%	90	26-Oct-11 A	23-Jan-12 A																											
PR001390	Design for Permanent Debris Catch Fence		100%	90	26-Oct-11 A	23-Jan-12 A																											
PR001400	Approval for Debris Catch Fence System Design		100%	30	24-Jan-12 A	22-Feb-12 A																											
PR001410	Temporary Works Design		100%	200	26-Feb-10 A	12-Sep-10 A																											
PR001420	Complete All Technical Submission		100%	0		22-Feb-12 A																											
<b>Specialist Consultants</b>																																	
PR001220	Nominate/Submit Horticulturist for Approval		100%	45	26-Feb-10 A	10-Apr-10 A																											
PR001230	Nominate/Submit IIC (Highway Structures)		100%	45	26-Feb-10 A	10-Apr-10 A																											
PR001240	Nominate/Submit Traffic Consultant for Approval		100%	7	26-Feb-10 A	03-Mar-10 A																											
PR001440	Complete Engagement of Specialist Consultants		100%	0		10-Apr-10 A																											
<b>QSHE Submission</b>																																	
PR001120	Prepare/Submit Quality Plan		100%	28	26-Feb-10 A	24-Mar-10 A																											
PR001130	Prepare/Submit Draft Health & Safety Plan		100%	14	26-Feb-10 A	10-Mar-10 A																											
PR001140	Prepare/Submit Final Health & Safety Plan		100%	35	26-Feb-10 A	31-Mar-10 A																											
PR001150	Prepare/Submit Draft Env Management Plan		100%	21	26-Feb-10 A	17-Mar-10 A																											
PR001160	Prepare/Submit Final Env Management Plan		100%	45	26-Feb-10 A	10-Apr-10 A																											
PR001180	Submit Site Management Plan for Trip Ticket Sys		100%	45	26-Feb-10 A	10-Apr-10 A																											
PR001430	Complete All QSHE Submission		100%	0		10-Apr-10 A																											
<b>Variation Orders</b>																																	
VO000010	VO. 1: Revised layout of Piles, NLKP5		100%	0	17-Jun-10 A																												
VO000020	VO. 2: Fencing Details Along Site Boundaries of SA29		100%	0	20-Aug-10 A																												
VO000030	VO. 3: Existing Bridge 12 Pilecap Concrete Testing (P5/6/8)		100%	0	17-Sep-10 A																												
VO000040	VO. 4: Revised Setting Out Plan of Slip Road W in SA28 & SA31		100%	0	15-Sep-10 A																												
VO000050	VO. 5: Revised Setting Out Plan of Slip Road W in Site Area SA30		100%	0	15-Sep-10 A																												
VO000060	VO. 6: Bridge 15A Pilecap Sleeving Details		100%	0	19-Oct-10 A																												
VO000070	VO. 7: Modification of Noise Barrier Footing for NB42 & NB44		100%	0	14-Dec-10 A																												
VO000080	VO. 8: Revised Layout of Southen Trunk Sewer		100%	0	15-Dec-10 A																												
VO000090	VO. 9: Relocation and Deletion of Access Door at Noise Barrier		100%	0	04-Jan-11 A																												
VO000100	VO. 10: Fencing details along Site Boundaries of Section subject to Excision		100%	0	04-Jan-11 A																												
VO000110	VO. 11: Fencing details along Site Boundaries of Section subject to Excision		100%	0	04-Jan-11 A																												









Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010												2011				2012				2013				2014		
							Q1			Q2			Q3			Q4			Q1		Q2		Q3		Q4		Q1		Q2		Q3		
							1	2	3	4	5	6	7	8	9	10	11	12	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
<b>Road Re-Construction Works, Roadworks &amp; Drainage</b>																																	
S21N4000	Road works Slow Lane (Ch2400 ~ 2650)		100%	20	14-Dec-12 A	04-Jan-13 A																											
S21N4010	Road works Slow Lane (Ch2650 ~ 2840)		100%	20	10-Jan-13 A	11-Apr-13 A																											
S21N4100	Roadworks, Drainages & Utilities (CH 2400 - 2840)	-94	99.73%	133	06-Aug-11 A	05-Jun-14																											
S21N4110	Removal of existing paving		100%	25	06-Aug-11 A	13-Jul-13 A																											
S21N4120	Drainages (incl. VO 33 : Drainage details at W48)		100%	25	06-Aug-12 A	05-Apr-13 A																											
S21N4130	Utilities (incl. VO 26: Permanent Diversion of existing DN80 WSD Watermain at Ma WO Subway T)	-95	95%	25	08-Jul-13 A	27-Jun-14																											
S21N4135	Road Surface (Stage 1: CH2400 - CH2520)		100%	75	26-Dec-11 A	24-Feb-12 A																											
S21N4140	Road Surface (Stage 2: CH2520 - CH2840)		100%	75	08-Jan-13 A	14-Dec-13 A																											
S21N4141	Road Construction Works (CH2600 - CH3000) for traffic diversion stage 4B-1		100%	75	10-Jan-13 A	04-May-13 A																											
S21N4142	Road Construction Works (Fast Lane) for C1/ C2 Interface stage 6B		100%	40	21-Jan-13 A	11-May-13 A																											
S21N4143	Road Construction Works (Mid Lane) for C1/ C2 Interface stage 7B		100%	28	13-May-13 A	09-Jun-13 A																											
S21N4144	Road Construction Works (Slow Lane) for C1/ C2 Interface stage 8B		100%	27	10-Jun-13 A	06-Jul-13 A																											
S21N4145	Road Construction Works for C1/ C2 Interface Final stage	-94	99%	36	08-Jul-13 A	04-Jun-14																											
S21N4150	Shift lane for C1/ C2 Interface (Stage 1)		100%	0	27-Feb-12 A																												
S21N4152	Shift lane for C1/ C2 interface (Stage 2: North Bound along W38 to W46)		100%	0	20-Jan-13 A																												
S21N4153	Shift lane for (CH2600 - CH3000) stage 4B-1		100%	0	05-May-13 A																												
S21N4155	Shift lane for C1/ C2 Interface stage 6B		100%	0	12-May-13 A																												
S21N4156	Shift lane for C1/ C2 Interface stage 7B		100%	0	09-Jun-13 A																												
S21N4157	Shift lane for C1/ C2 Interface stage 8B		100%	0	07-Jul-13 A																												
S21N4160	Shift lane for C1/ C2 interface Final stage	-94	0%	0	05-Jun-14																												
<b>Noise Barriers &amp; Road Barriers</b>																																	
<b>Noise Barrier NB31</b>																																	
S21N3010	NB31 (CH 0-183.6, W39 - W49)		100%	80	07-Nov-12 A	17-Jan-13 A																											
S21N3060	NB31 : Excavation and Footing (Bay 1-4)		100%	24	07-Nov-12 A	05-Jan-13 A																											
S21N3070	NB31 : Excavation and Footing (Bay 5 - 7)		100%	24	01-Dec-12 A	08-Jan-13 A																											
S21N3080	NB31 : Erecting H-Column		100%	18	02-Jan-13 A	10-Jan-13 A																											
S21N3090	NB31 (CH 90-183.6) : Installation Panel		100%	18	11-Jan-13 A	17-Jan-13 A																											
S21N3100	Remaining NB31 Installation of Panel	-124	10%	33	27-Jun-13 A	31-Jul-14																											
<b>Traffic Control &amp; Surveillance System</b>																																	
S21N4800	TCSS (incl. VO73 Revised Sign Gantry Details)		100%	50	10-Jan-13 A	07-Sep-13 A																											
S21N4810	TCSS G23A Gantry Footing		100%	7	20-Feb-14 A	27-Feb-14 A																											
S21N4820	TCSS G23A gantry mounting		100%	1	27-Feb-14 A	27-Feb-14 A																											
S21N4830	TCSS G23A E&M installation		100%	1	27-Feb-14 A	27-Feb-14 A																											
<b>Landscaping</b>																																	
S21N6000	Landscaping Works	-108	60%	28	02-Nov-13 A	12-Jul-14																											
<b>South Bound</b>																																	
<b>Preliminaries</b>																																	
S21S0000	Site Clearance/Access Rd		100%	48	15-Oct-10 A	10-Dec-10 A																											
S21S0010	Site Clearance		100%	36	15-Oct-10 A	26-Nov-10 A																											
S21S0030	Access Road		100%	34	02-Nov-10 A	10-Dec-10 A																											
<b>Slopeworks</b>																																	
S21S5000	Slopeworks Fill(S26)	-123	98.31%	40	25-Mar-13 A	26-Jun-14																											
S21S5010	Slopeworks Fill(S26) - Lower +50mPD		100%	15	25-Mar-13 A	10-May-13 A																											
S21S5020	Slopeworks Fill(S26) - Upper +55mPD	-123	97.07%	23	13-May-13 A	26-Jun-14																											
S21S5100	Slopeworks Fill(S27)		100%	120	09-Jan-13 A	25-Jan-14 A																											
S21S5110	Slopeworks Fill(S27) - Lower +50mPD		100%	60	09-Jan-13 A	17-Jan-13 A																											
S21S5120	Slopeworks Fill(S27) - Lower +55mPD		100%	60	18-Jan-13 A	25-Jan-14 A																											

Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010												2011				2012				2013				2014			
							Q1			Q2			Q3			Q4			Q1		Q2		Q3		Q4		Q1		Q2		Q3			
							1	2	3	4	5	6	7	8	9	10	11	12	1	2	1	2	1	2	3	4	1	2	3	4	1	2	3	
<b>Extension of Culverts</b>																																		
S21S1100	Extension of Box Culvert (TP9), Downstream		100%	60	20-Dec-12 A	06-Feb-13 A																												
S21S5130	Temporary Water Diversion		100%	12	20-Dec-12 A	28-Dec-12 A																												
S21S5140	Construction of Base Slab, Wall & Top Slab		100%	48	29-Dec-12 A	06-Feb-13 A																												
<b>Construction of Retaining Wall</b>																																		
<b>Retaining Wall W50</b>																																		
S21S2000	Sheet Pile/Excavate & Construct W50 (w/SP)		100%	215	21-May-12 A	23-Apr-13 A																												
S21S2010	Sheet Pile & ELS Works		100%	24	21-May-12 A	07-Sep-12 A																												
S21S2020	Construction of W50 Structure		100%	75	02-Jan-13 A	19-Mar-13 A																												
S21S2030	Backfilling		100%	50	20-Mar-13 A	23-Apr-13 A																												
<b>Retaining Wall W51-56 (CSD 3)</b>																																		
S21S2100	Sheet Pile / Excavate & Construct W51-56 (w/SP)		100%	216	25-Feb-11 A	27-Dec-12 A																												
S21S2110	Sheet Pile & ELS Works (W51)		100%	24	25-Feb-11 A	11-May-11 A																												
S21S2120	Construction of W51 Structure		100%	42	19-Apr-11 A	14-Jun-11 A																												
S21S2130	Sheet Pile & ELS Works (W52 & W53)		100%	24	28-Jul-11 A	16-Sep-11 A																												
S21S2140	Construction of W52 & W53 Structure		100%	42	17-Oct-11 A	05-Dec-11 A																												
S21S2150	Backfilling of W51, W52 & W53		100%	24	17-Jan-12 A	27-Dec-12 A																												
S21S2160	Sheet Pile & ELS Works (W54, 55 & 56)		100%	24	17-Feb-12 A	03-Mar-12 A																												
S21S2170	Construction of W54, 55 & 56 Structure		100%	75	15-Feb-12 A	06-Jul-12 A																												
S21S2180	Backfilling of W54, 55 & 56		100%	30	02-Aug-12 A	27-Dec-12 A																												
S21S2190	Backfilling behind W51 to W56 and drainage works		100%	70	04-Mar-13 A	25-Nov-13 A																												
<b>Retaining Wall W51A (CSD 3)</b>																																		
S21S2163	Excavate to cut-off level		100%	8	17-Jan-11 A	25-Jan-11 A																												
S21S2164	Capping/Walling for W51A		100%	18	12-Jul-11 A	01-Aug-11 A																												
S21S2165	Backfilling		100%	30	28-Dec-11 A	04-Feb-12 A																												
<b>Retaining Wall W35A, (CSD 2)</b>																																		
S21S2211	Construction of W35A (w/MP)		100%	198	13-Apr-12 A	05-Dec-12 A																												
S21S2212	Removal of existing concrete structure at W35A		100%	35	13-Apr-12 A	03-Jul-12 A																												
S21S2218	Mini Piles for W35A (8 nos.)		100%	30	25-Jul-12 A	14-Aug-12 A																												
S21S2230	Excavation and tie back installation		100%	25	15-Aug-12 A	09-Oct-12 A																												
S21S2240	Capping/Walling for W35A		100%	40	10-Oct-12 A	24-Nov-12 A																												
S21S2250	Backfilling		100%	6	29-Nov-12 A	05-Dec-12 A																												
<b>Road Re-construction Works, Roadworks &amp; Drainage</b>																																		
S21S3895	Roadwork (South Bound slow lane along W35A)		100%	6	06-Dec-12 A	09-Dec-12 A																												
S21S3896	Roadwork (South Bound slow lane along W50 - W56)		100%	30	01-Feb-13 A	29-Apr-13 A																												
S21S3900	Roadworks, Drainages & Utilities (CH 2400 - 2840)	-94	99.7%	150	25-Jan-13 A	26-Jun-14																												
S21S4001	Removal of Existing Paving		100%	40	25-Jan-13 A	25-Jan-14 A																												
S21S4002	Drainages (incl. VO33: Drainage details at W48)	-95	99%	30	14-Sep-13 A	26-Jun-14																												
S21S4003	Utilities (incl. VO 26 & VO69)	-95	99%	30	27-Jul-13 A	26-Jun-14																												
S21S4010	Road Surface (CH2400 - CH2840)	-94	99%	65	04-Mar-13 A	26-Jun-14																												
S21S4011	Road Construction Works (Fast Lane) for C1/ C2 Interface stage 4A		100%	40	21-Jan-13 A	13-Apr-13 A																												
S21S4012	Road Construction Works (Mid Lane) for C1/ C2 Interface stage 5A		100%	27	15-Apr-13 A	25-May-13 A																												
S21S4013	Road Construction Works (Slow Lane) for C1/ C2 Interface stage 6A		100%	39	27-May-13 A	30-Jun-13 A																												
S21S4014	Road Construction Works for C1/ C2 Interface Final stage	-94	99%	45	02-Jul-13 A	26-Jun-14																												
S21S4030	Shift lane for C1/ C2 interface (South Bound along W35A)		100%	0	09-Dec-12 A																													
S21S4031	Shift lane for C1/ C2 Interface stage 4A		100%	0	14-Apr-13 A																													
S21S4032	Shift lane for C1/ C2 Interface stage 5A		100%	0	26-May-13 A																													
S21S4033	Shift lane for C1/ C2 Interface stage 6A		100%	0	30-Jun-13 A																													







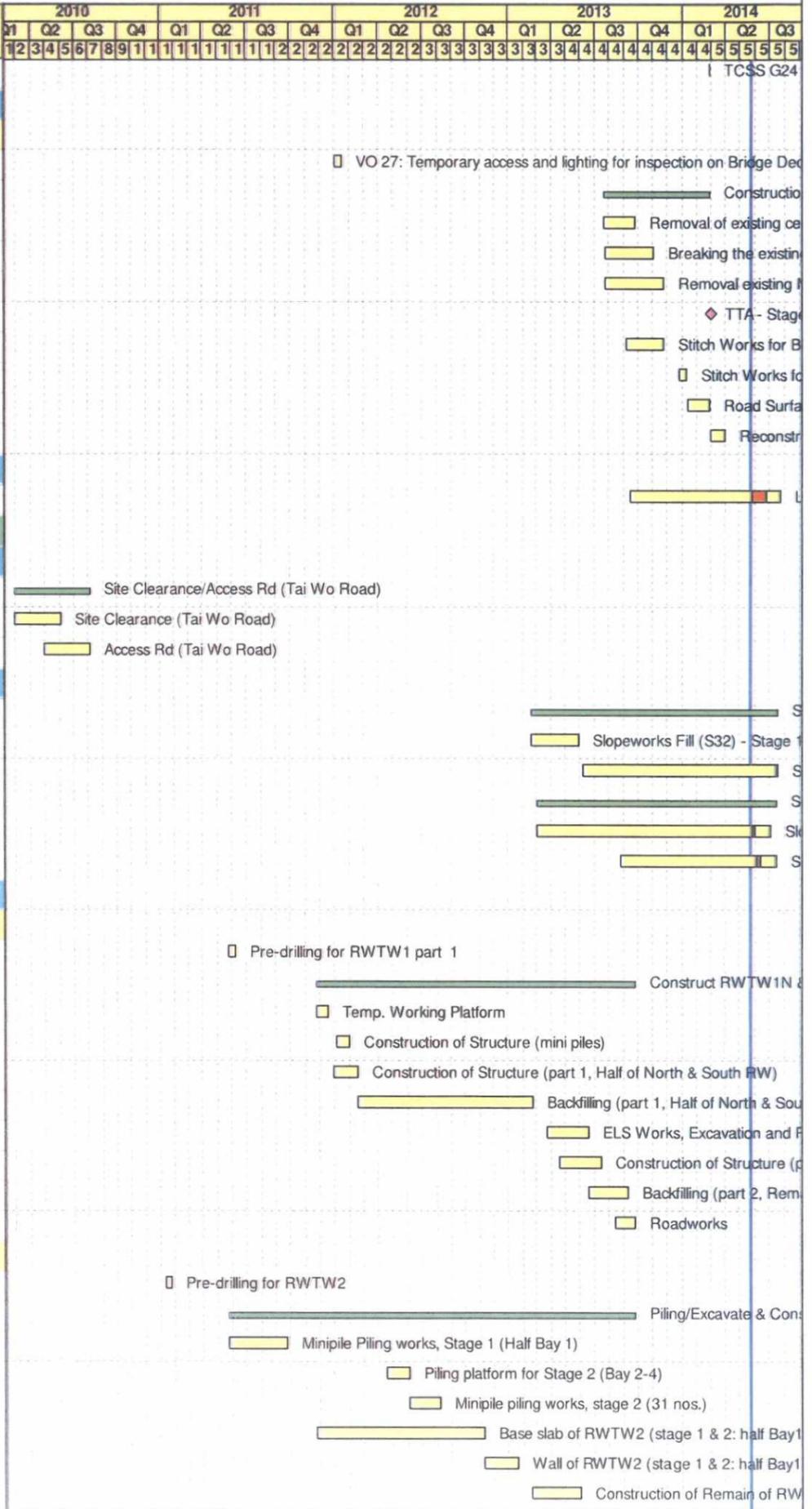




Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010				2011				2012				2013				2014			
							Q1	Q2	Q3	Q4	Q1	Q2	Q3													
<b>Retaining Wall RWB12A</b>																										
S24N1500	Piling & Construct RWB12A		100%	195	04-Jun-11 A	31-Jan-12 A																				
S24N1510	Piling of RWB12A, Stage 1 (28/34 nos)		100%	60	04-Jun-11 A	31-Aug-11 A																				
S24N1515	Piling of RWB12A, Stage 2 (6nos)		100%	24	01-Sep-11 A	23-Sep-11 A																				
S24N1517	Piles Load Test		100%	36	26-Nov-11 A	10-Jan-12 A																				
S24N1520	Construction of Base Slab, RWB12A		100%	60	23-Apr-12 A	17-Apr-13 A																				
S24N1522	Construction of Wall, RWB12A		100%	40	18-Apr-13 A	07-Jun-13 A																				
S24N1530	Backfilling		100%	20	09-May-13 A	25-Jun-13 A																				
S24N1540	Construction the wing slab of RWB12A		100%	30	16-Sep-13 A	09-Nov-13 A																				
<b>Roadworks, Drainage &amp; Utilities</b>																										
S24N4000	Roadworks, Drainages & Utilities (ch3140-3400, exclude B12A)		100%	109	19-Aug-13 A	07-Dec-13 A																				
S24N4015	Road and Drainage Works		100%	10	19-Aug-13 A	14-Sep-13 A																				
S24N4025	Road Surface Works for Mid and Slow Lane		100%	14	27-Aug-13 A	14-Sep-13 A																				
S24N4026	TTA - Stage 4B-3		100%	0		14-Sep-13 A																				
S24N4035	Road Construction Fast Lane and Remaining Works (along CH3140 - 3400)		100%	50	26-Oct-13 A	07-Dec-13 A																				
<b>Landscaping</b>																										
S24N6000	Landscaping Works	-89	50%	50	27-Jan-14 A	12-Aug-14																				
<b>Site Area SA25</b>																										
PHSA2520	Possession of SA25 (Day270)		100%	0	04-May-10 A																					
SA250000	Site Area SA25 Works Period (incl, Provision of hoarding at site boundary of SA25)	272	96.27%	770	04-May-10 A	24-Jul-14																				
SA250010	Site Area SA25 Works Completion	272	0%	0		24-Jul-14																				
SA250020	Temporary Traffic Management (Detail shall refer to supplementary information)	224	96.9%	765	04-May-10 A	24-Jul-14																				
SA250030	Overall Utility Diversion (Detail shall refer to supplementary information)	224	96.9%	765	04-May-10 A	24-Jul-14																				
<b>South Bound</b>																										
<b>Preliminaries</b>																										
S25S0000	Site Clearance/Access Rd (ch3400-3600)		100%	97	20-Oct-10 A	16-Feb-11 A																				
S25S0010	Site Clearance (ch3400-3600)		100%	75	20-Oct-10 A	18-Jan-11 A																				
S25S0020	Access Road (ch3400-3600)		100%	75	15-Nov-10 A	16-Feb-11 A																				
<b>Sloperworks</b>																										
S25S5000	Sloperworks Fill(S30A)		100%	60	15-Oct-12 A	10-Nov-12 A																				
S25S5010	Sloperworks Fill (S30A) - Stage 1: +53.5mPD		100%	30	15-Oct-12 A	30-Oct-12 A																				
S25S5020	Sloperworks Fill (S30A) - Stage 2: 55.8mPD		100%	30	31-Oct-12 A	10-Nov-12 A																				
S25S5110	Slope Reinstatement Works (Bridge 13A)	-73	75%	25	26-Sep-13 A	04-Jul-14																				
S25S5140	Slope Reinstatement Works (Bridge LB1)	-73	65%	25	26-Sep-13 A	14-Jul-14																				
S25S5150	Slope Reinstatement Works (S30A)	-73	65%	25	28-Sep-13 A	24-Jul-14																				
<b>Construction of Retaining Wall</b>																										
<b>Retaining Wall W58B, (CSD 2)</b>																										
S25S2020	Site Formation		100%	25	01-Nov-10 A	30-Nov-10 A																				
S25S2030	Excavate to cut-off level		100%	10	01-Nov-10 A	31-Dec-10 A																				
S25S2050	Construction of Structure W58B		100%	75	13-May-11 A	15-Sep-12 A																				
S25S2060	Backfilling		100%	45	05-Nov-12 A	08-Feb-13 A																				
<b>Road Re-construction Works, Roadworks &amp; Drainage</b>																										
S25S4000	Roadworks, Drainages & Utilities (CH 3400 - 3600)	248	100%	109	27-Feb-13 A	26-Jun-14																				
S25S4025	Road Works for Mid and Slow Lane		100%	60	27-Feb-13 A	03-Jun-13 A																				
S25S4030	Drainages Works		100%	60	04-Mar-13 A	19-Apr-13 A																				
S25S4040	Road Surface for Mid and Slow Lane		100%	10	31-May-13 A	21-Jun-13 A																				
S25S4060	Removal of existing central barrier and forming temporary road (CH 3350 - CH 3550)		100%	12	24-Jun-13 A	09-Jul-13 A																				

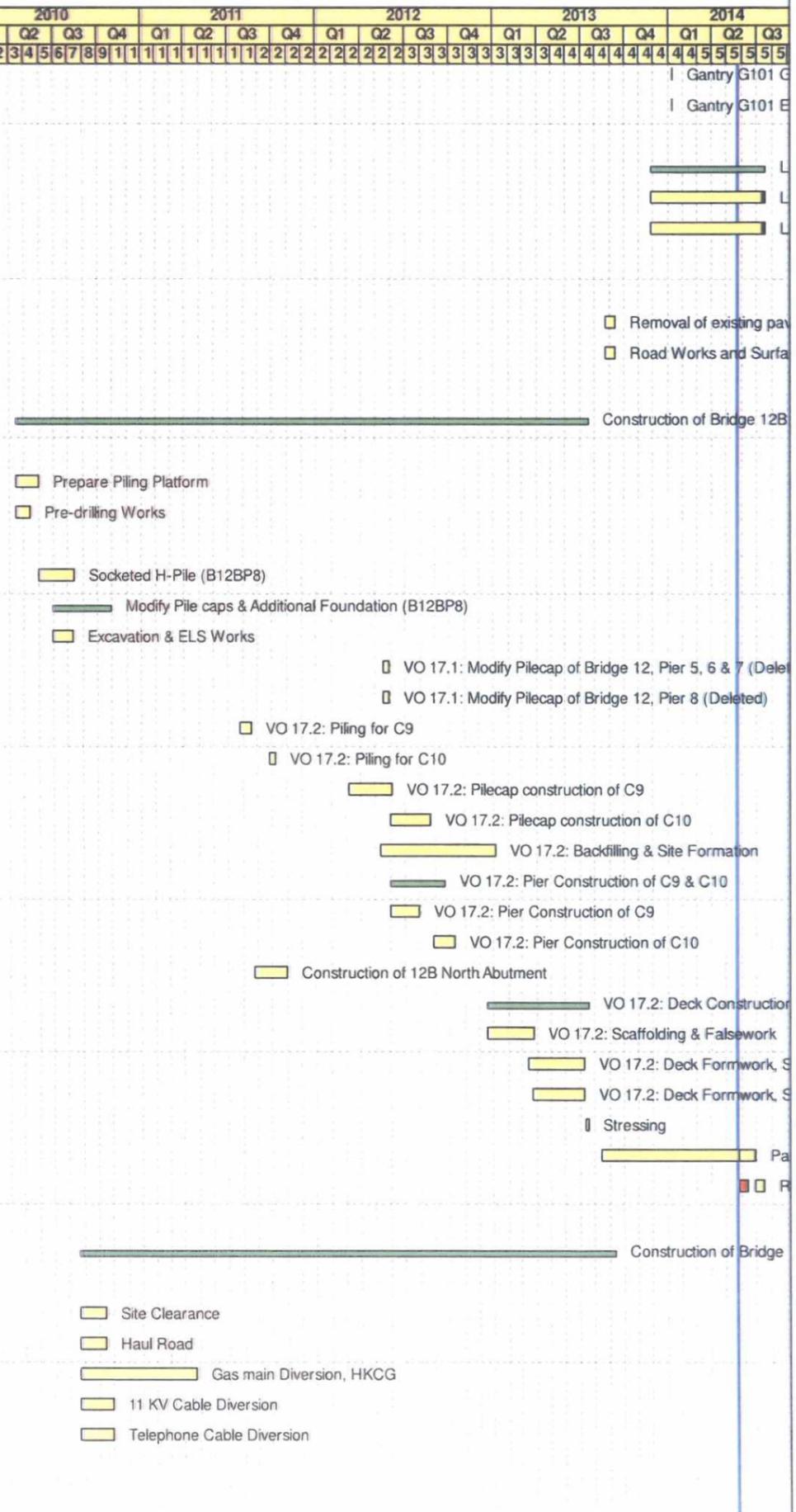


Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010				2011				2012				2013				2014		
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
							1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
S26N4840	TCSS G24 E&M installation		100%	1	27-Feb-14 A	27-Feb-14 A																			
<b>Modification of Existing Bridge</b>							<b>Modification of Existing Bridge 13</b>																		
S26N1200	VO 27: Temporary access and lighting for inspection on Bridge Deck interior of Existing Bridge 13		100%	10	02-Jan-12 A	17-Jan-12 A																			
S26N1210	Construction of Temporary Pier supports & Installation of Jacks		100%	134	22-Jul-13 A	28-Feb-14 A																			
S26N1260	Removal of existing central barrier along B13, Erection breaking platform and re-construction of exi		100%	14	22-Jul-13 A	25-Sep-13 A																			
S26N1270	Breaking the existing stitch of B13 and conditional survey		100%	25	27-Jul-13 A	04-Nov-13 A																			
S26N1330	Removal existing M.J, Bridge Jacking and replacement bearing & M.J		100%	35	27-Jul-13 A	23-Nov-13 A																			
S26N1340	TTA - Stage 4B-4		100%	0		28-Feb-14 A																			
S26N1350	Stitch Works for B13 (Rebar and Formwork)		100%	35	07-Sep-13 A	25-Nov-13 A																			
S26N1355	Stitch Works for B13 (Concreting)		100%	12	27-Dec-13 A	11-Jan-14 A																			
S26N1360	Road Surfacing and Road Diversion		100%	35	13-Jan-14 A	28-Feb-14 A																			
S26N1370	Reconstruction of steel parapet		100%	20	01-Mar-14 A	31-Mar-14 A																			
<b>Landscaping</b>							S26N6040 Landscaping Works (CH3400 - 3720)																		
<b>South Bound</b>							<b>Preliminaries</b>																		
S26S0000	Site Clearance/Access Rd (Tai Wo Road)		100%	129	26-Feb-10 A	04-Aug-10 A																			
S26S10	Site Clearance (Tai Wo Road)		100%	80	26-Feb-10 A	05-Jun-10 A																			
S26S20	Access Rd (Tai Wo Road)		100%	80	29-Apr-10 A	04-Aug-10 A																			
<b>Slopeworks</b>							S26S5000 Slopeworks Fill(S32)																		
S26S5010	Slopeworks Fill (S32) - Stage 1 (Lower +42mPD)		100%	20	18-Feb-13 A	30-May-13 A																			
S26S5020	Slopeworks Fill (S32) - Stage 2 (Upper +45mPD)		85%	20	08-Jun-13 A	17-Jul-14																			
S26S5110	Slope Reinstatement Works (besides LB3)		37.5%	24	04-Mar-13 A	14-Jul-14																			
S26S5120	Slope Reinstatement Works (besides LB3) - Lower: below +24mPD		70%	20	04-Mar-13 A	03-Jul-14																			
S26S5130	Slope Reinstatement Works (besides LB3) - Upper: above +24mPD		55%	20	27-Aug-13 A	14-Jul-14																			
<b>Construction of Retaining Wall</b>							<b>Retaining Wall RWTW1, (CSD 1)</b>																		
S26S1289	Pre-drilling for RWTW1 part 1		100%	11	26-May-11 A	08-Jun-11 A																			
S26S1290	Construct RWTW1N & RWTW1S		100%	325	26-Nov-11 A	25-Sep-13 A																			
S26S1391	Temp. Working Platform		100%	30	26-Nov-11 A	17-Dec-11 A																			
S26S1392	Construction of Structure (mini piles)		100%	60	04-Jan-12 A	31-Jan-12 A																			
S26S1394	Construction of Structure (part 1, Half of North & South RW)		100%	50	29-Dec-11 A	17-Feb-12 A																			
S26S1395	Backfilling (part 1, Half of North & South RW)		100%	30	18-Feb-12 A	23-Feb-13 A																			
S26S1401	ELS Works, Excavation and Protection Existing Gas Main		100%	20	25-Mar-13 A	21-Jun-13 A																			
S26S1402	Construction of Structure (part 2, Remaining RW )		100%	35	19-Apr-13 A	17-Jul-13 A																			
S26S1403	Backfilling (part 2, Remaining RW)		100%	15	21-Jun-13 A	11-Sep-13 A																			
S26S1404	Roadworks		100%	18	15-Aug-13 A	25-Sep-13 A																			
<b>Retaining Wall RWTW2, (CSD 1)</b>							S26S1379 Pre-drilling for RWTW2																		
S26S1380	Piling/Excavate & Construct RWTW2		100%	609	26-May-11 A	25-Sep-13 A																			
S26S1381	Minipile Piling works, Stage 1 (Half Bay 1)		100%	50	26-May-11 A	24-Sep-11 A																			
S26S1382	Piling platform for Stage 2 (Bay 2-4)		100%	9	19-Apr-12 A	04-Jun-12 A																			
S26S1383	Minipile piling works, stage 2 (31 nos.)		100%	58	04-Jun-12 A	06-Aug-12 A																			
S26S1384	Base slab of RWTW2 (stage 1 & 2: half Bay1 & Bay 2-4)		100%	75	26-Nov-11 A	10-Nov-12 A																			
S26S1386	Wall of RWTW2 (stage 1 & 2: half Bay1 & Bay 2-4)		100%	48	12-Nov-12 A	22-Jan-13 A																			
S26S1520	Construction of Remain of RWTW2 (stage 3: Remaining Half Bay 1, Connection to LB2)		100%	50	18-Feb-13 A	04-Jun-13 A																			





Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010				2011				2012				2013				2014						
							Q1	Q2	Q3	Q4	Q1	Q2	Q3																
S26S4850	Gantry G101 Gantry mounting		100%	1	10-Jan-14 A	10-Jan-14 A																							
S26S4860	Gantry G101 E&M installation		100%	1	10-Jan-14 A	10-Jan-14 A																							
<b>Landscaping</b>																													
S26S6000	Landscaping Works	-95	24.17%	60	26-Nov-13 A	17-Jul-14																							
S26S6010	Landscaping Works - Stage 1, East of B13A	-95	80%	30	26-Nov-13 A	17-Jul-14																							
S26S6040	Landscaping Works - Stage 2, West of B13A	-95	80%	30	26-Nov-13 A	17-Jul-14																							
<b>Middle Lane</b>																													
<b>Road Re-construction Works, Roadworks &amp; Drainage</b>																													
S26S4014	Removal of existing paving (CH3400 - CH3720)		100%	25	26-Aug-13 A	13-Sep-13 A																							
S26S4019	Road Works and Surface Works (CH3400 - 3720)		100%	30	26-Aug-13 A	13-Sep-13 A																							
<b>Construction of Bridge 12B</b>																													
S22S1310	Construction of Bridge 12B		100%	367	15-Apr-10 A	20-Jul-13 A																							
<b>Preparatory and Enabling Works</b>																													
S22S1210	Prepare Piling Platform		100%	38	15-Apr-10 A	31-May-10 A																							
S22S1220	Pre-drilling Works		100%	26	15-Apr-10 A	15-May-10 A																							
<b>Construction Works of Bridge 12B</b>																													
S22S1230	Socketed H-Pile (B12BP8)		100%	62	01-Jun-10 A	13-Aug-10 A																							
S22S1250	Modify Pile caps & Additional Foundation (B12BP8)		100%	101	02-Jul-10 A	30-Oct-10 A																							
S22S1251	Excavation & ELS Works		100%	36	02-Jul-10 A	12-Aug-10 A																							
S22S1260	VO 17.1: Modify Pilecap of Bridge 12, Pier 5, 6 & 7 (Deleted)		100%	48	18-May-12 A	28-May-12 A																							
S22S1270	VO 17.1: Modify Pilecap of Bridge 12, Pier 8 (Deleted)		100%	48	18-May-12 A	28-May-12 A																							
S22S1280	VO 17.2: Piling for C9		100%	24	26-Jul-11 A	20-Aug-11 A																							
S22S1290	VO 17.2: Piling for C10		100%	20	26-Sep-11 A	08-Oct-11 A																							
S22S1340	VO 17.2: Pilecap construction of C9		100%	60	06-Mar-12 A	02-Jun-12 A																							
S22S1350	VO 17.2: Pilecap construction of C10		100%	54	01-Jun-12 A	21-Aug-12 A																							
S22S1400	VO 17.2: Backfilling & Site Formation		100%	24	11-May-12 A	05-Jan-13 A																							
S22S1410	VO 17.2: Pier Construction of C9 & C10		100%	94	01-Jun-12 A	20-Sep-12 A																							
S22S1420	VO 17.2: Pier Construction of C9		100%	60	01-Jun-12 A	31-Jul-12 A																							
S22S1430	VO 17.2: Pier Construction of C10		100%	75	28-Aug-12 A	13-Oct-12 A																							
S22S1440	Construction of 12B North Abutment		100%	75	26-Aug-11 A	31-Oct-11 A																							
S22S1450	VO 17.2: Deck Construction (Bearings, Drainage & MJ included)		100%	179	20-Dec-12 A	20-Jul-13 A																							
S22S1460	VO 17.2: Scaffolding & Falsework		100%	35	20-Dec-12 A	28-Mar-13 A																							
S22S1470	VO 17.2: Deck Formwork, Steel Fixing and Concreting - C9 - C10 (Stage 1)		100%	65	14-Mar-13 A	12-Jul-13 A																							
S22S1480	VO 17.2: Deck Formwork, Steel Fixing and Concreting - NA to C9 (Stage 2)		100%	65	23-Mar-13 A	12-Jul-13 A																							
S22S1500	Stressing		100%	5	15-Jul-13 A	20-Jul-13 A																							
S22S1520	Parapet (Steel Barrier)	-82	95%	15	15-Aug-13 A	26-Jun-14																							
S22S1540	Road surface & road work	-82	0%	14	26-Jun-14	14-Jul-14																							
<b>Construction of Bridge 12A</b>																													
S24S1280	Construction of Bridge 12A (incl. VO29 & VO37: revised piling details and pile caps sleeving details)		100%	451	25-Aug-10 A	14-Sep-13 A																							
<b>Preparatory and Enabling Works</b>																													
S24N1210	Site Clearance		100%	42	25-Aug-10 A	14-Oct-10 A																							
S24N1220	Haul Road		100%	42	25-Aug-10 A	14-Oct-10 A																							
S24N1230	Gas main Diversion, HKCG		100%	55	25-Aug-10 A	22-Apr-11 A																							
S24N1240	11 KV Cable Diversion		100%	55	25-Aug-10 A	30-Oct-10 A																							
S24N1250	Telephone Cable Diversion		100%	55	25-Aug-10 A	30-Oct-10 A																							
<b>Substructure and Pier Construction</b>																													
<b>South Abutment</b>																													



Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010												2011				2012				2013				2014							
							Q1			Q2			Q3			Q4			Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3									
							1	2	3	4	5	6	7	8	9	10	11	12	1	1	1	1	1	1	2	2	2	2	2	2	3	3	3	3	3	3	4	4
S24N1260	Piling-South Abutment		100%	29	15-Oct-10 A	19-Jan-11 A	Piling-South Abutment																															
S24N1261	Preparing piling platform		100%	18	15-Oct-10 A	05-Nov-10 A	Preparing piling platform																															
S24N1262	Pre-drilling		100%	18	15-Oct-10 A	05-Nov-10 A	Pre-drilling																															
S24N1263	Piling (21nos)		100%	43	27-Nov-10 A	19-Jan-11 A	Piling (21nos)																															
S24N1310	Excavation & Cap-South Abutment		100%	35	04-May-11 A	04-Jun-11 A	Excavation & Cap-South Abutment																															
S24N1360	Pier & backfill, South Abutment		100%	36	27-Jun-11 A	17-Aug-11 A	Pier & backfill, South Abutment																															
<b>Pier 1</b>																																						
S24N1270	Piling-Pier 1 (15nos)		100%	30	02-Mar-11 A	07-Apr-11 A	Piling-Pier 1 (15nos)																															
S24N1320	Cap-Pier 1 & Backfill		100%	36	23-May-11 A	05-Jul-11 A	Cap-Pier 1 & Backfill																															
S24N1370	Pier 1 (Pierhead included)		100%	96	26-Sep-11 A	17-Dec-11 A	Pier 1 (Pierhead included)																															
<b>Pier 2</b>																																						
S24N1280	Piling-Pier 2 (15nos)		100%	38	02-Aug-10 A	15-Sep-10 A	Piling-Pier 2 (15nos)																															
S24N1330	Cap-Pier 2 & Backfill		100%	38	20-Nov-10 A	19-Jan-11 A	Cap-Pier 2 & Backfill																															
S24N1380	Pier 2 (Pierhead included)		100%	96	14-Apr-11 A	12-Aug-11 A	Pier 2 (Pierhead included)																															
<b>Pier 3</b>																																						
S24N1290	Piling-Pier 3 (15nos)		100%	38	16-Feb-11 A	27-Apr-11 A	Piling-Pier 3 (15nos)																															
S24N1340	Cap-Pier 3 & Backfill		100%	32	26-May-11 A	04-Jul-11 A	Cap-Pier 3 & Backfill																															
S24N1390	Pier 3 (pierhead included)		100%	96	11-Jul-11 A	02-Nov-11 A	Pier 3 (pierhead included)																															
<b>North Abutment</b>																																						
S24N1300	Pre-drilling & Preparation for Piling (incl. VO 39: Revised Foundation for North Abutment)		100%	24	26-May-11 A	23-Jun-11 A	Pre-drilling & Preparation for Piling (incl. VO 39: Revised Foundation for North Abutment)																															
S24N1302	ELS for North abutment		100%	75	19-Jan-12 A	07-Nov-12 A	ELS for North abutment																															
S24N1350	Cap-North Abutment		100%	25	08-Nov-12 A	20-Nov-12 A	Cap-North Abutment																															
S24N1400	Abutment, Drainage & backfill, North Abutment		100%	75	21-Nov-12 A	25-Jun-13 A	Abutment, Drainage & backfill, North Abutment																															
<b>Decking and Finishing</b>																																						
S24N1410	Deck-South Abutment to Pier 1		100%	62	07-Dec-11 A	26-Apr-12 A	Deck-South Abutment to Pier 1																															
S24N1420	Deck-Pier 1 to Pier 2		100%	75	23-Apr-12 A	30-Aug-12 A	Deck-Pier 1 to Pier 2																															
S24N1430	Deck-Pier 2 to Pier 3		100%	75	02-Jun-12 A	22-Dec-12 A	Deck-Pier 2 to Pier 3																															
S24N1434	Erection of Falsework		100%	25	29-Dec-12 A	22-Jan-13 A	Erection of Falsework																															
S24N1440	Deck-Pier 3 to North Abutment		100%	60	22-Jan-13 A	30-Apr-13 A	Deck-Pier 3 to North Abutment																															
S24N1444	Dismantling of Falsework		100%	25	14-May-13 A	07-Dec-13 A	Dismantling of Falsework																															
S24N1450	Parapet (incl. precast concrete skin)		100%	21	18-Feb-13 A	09-Jul-13 A	Parapet (incl. precast concrete skin)																															
S24N1457	Erecting Railing (Short Column and barrier)		100%	10	13-Aug-13 A	14-Sep-13 A	Erecting Railing (Short Column and barrier)																															
S24N1463	Noise Barrier (Erecting H-Column and Panel)		100%	15	06-Jun-13 A	14-Sep-13 A	Noise Barrier (Erecting H-Column and Panel)																															
S24N1470	Road Lighting		100%	12	27-Aug-13 A	14-Sep-13 A	Road Lighting																															
S24N1480	Surfacing		100%	12	30-Jul-13 A	11-Sep-13 A	Surfacing																															
S24N1490	Inspection and Handover of Bridge 12A		100%	3	12-Sep-13 A	14-Sep-13 A	Inspection and Handover of Bridge 12A																															
<b>Construction of Bridge LB2</b>																																						
S26S1200	Construction of Bridge LB2 (incl. VO29 & 37: revised piling details and pile caps sleeving details)		100%	641	16-Apr-11 A	25-Sep-13 A	Construction of Bridge LB2																															
<b>Preparatory and Enabling Works</b>																																						
S26S1205	Gas main Diversion at East Abutment (No Connection)		100%	15	24-Jan-13 A	28-Feb-13 A	Gas main Diversion at East Abutment																															
S26S1215	Temporary Traffic Arrangement for Piling Work		100%	75	28-Dec-11 A	04-Jun-12 A	Temporary Traffic Arrangement for Piling Work																															
<b>Substructure and Pier Construction</b>																																						
<b>TW4</b>																																						
S26S1203	Excavation and lateral support		100%	20	05-Mar-12 A	30-Jun-12 A	Excavation and lateral support																															
S26S1204	Coring and backfill for Piling works		100%	75	02-Jul-12 A	28-Jul-12 A	Coring and backfill for Piling works																															
S26S1212	Piling-TW4 (20)		100%	49	30-Jul-12 A	17-Oct-12 A	Piling-TW4 (20)																															
S26S1217	Pile Load Test (1 Tension & 2 compression)		100%	25	31-Oct-12 A	22-Nov-12 A	Pile Load Test (1 Tension & 2 compression)																															









Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010												2011				2012				2013				2014																												
							Q1		Q2		Q3		Q4		Q1		Q2		Q3		Q4		Q1		Q2		Q3		Q4		Q1		Q2	Q3																									
							1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
<b>Retaining Wall W69</b>																																																											
S26AN149	Excavate and Tension Piles W69		100%	110	26-Mar-11 A	11-Aug-11 A																																																					
S26AN150	Excavation and Installation of Tension Piles - Stage 1 (south)		100%	55	26-Mar-11 A	04-Jun-11 A																																																					
S26AN151	Excavation and Installation of Tension Piles - Stage 2 (north)		100%	55	13-Jun-11 A	16-Aug-11 A																																																					
S26AN152	Retaining Wall & Drainage W69		100%	120	26-Aug-11 A	19-Jan-12 A																																																					
S26AN153	Construction of Structure W69		100%	75	26-Aug-11 A	24-Nov-11 A																																																					
S26AN154	Drainage		100%	40	06-Feb-12 A	15-Mar-13 A																																																					
S26AN155	Backfilling		100%	75	01-Jun-12 A	16-Jul-12 A																																																					
<b>Retaining Wall W70</b>																																																											
S26AN170	Sheet Pile/Excavate & Construct W70 (w/SP)		100%	165	03-Dec-10 A	15-Mar-13 A																																																					
S26AN171	Sheet Pile and Excavation		100%	18	03-Dec-10 A	14-Dec-10 A																																																					
S26AN172	Construction of Structure W70 (w/SP)		100%	75	18-Jul-11 A	15-Oct-11 A																																																					
S26AN173	Drainage & Backfilling		100%	54	18-Feb-13 A	28-Jun-13 A																																																					
S26AN174	Backfilling behind W68 to W70 and drainage works		100%	60	18-Mar-13 A	25-Nov-13 A																																																					
S26AN184	Erect Scaffolding & Soil Nail Installation		100%	35	04-Oct-13 A	25-Nov-13 A																																																					
<b>Retaining Wall W72A(w/SP)</b>																																																											
S26AN190	Sheet Pile/Excavate & Construct W72A (w/SP)		100%	92	30-Oct-10 A	21-Nov-11 A																																																					
S26AN191	Sheet Pile and Excavation		100%	34	30-Oct-10 A	31-Jan-11 A																																																					
S26AN192	Construction of Structure W72A (w/SP)		100%	46	03-Jan-11 A	24-Mar-11 A																																																					
S26AN193	Drairage & Backfilling		100%	68	01-Jun-11 A	21-Nov-11 A																																																					
<b>Road Re-Construction Works, Roadworks &amp; Drainage</b>																																																											
S26AN430	Slip Road R (From W72A to W73) Stage 1 (incl. VO 36: Slip Road R & Drainage detail.)		100%	15	30-Jan-12 A	25-Jul-12 A																																																					
S26AN431	Slip Road R (From W70 to B18A) Stage 1.1 formation		100%	15	26-May-12 A	13-Jun-12 A																																																					
S26AN432	Slip Road R (From W70 to B18A) Stage 1.1 Drainage & utilities		100%	15	14-Jun-12 A	03-Jul-12 A																																																					
S26AN433	Slip Road R (From W70 to B18A) Stage 1.1 pavement & roadworks		100%	15	04-Jul-12 A	26-Jul-12 A																																																					
S26AN435	Slip Road R (From W70 to B18A) Stage 2		100%	93	18-May-12 A	14-Sep-13 A																																																					
S26AN436	Slip Road R (From W70 to B18A) Stage 2, formation (Remaining)		100%	30	18-May-12 A	06-Aug-13 A																																																					
S26AN437	Slip Road R (From W70 to B18A) Stage 2, Drainage & utilities (Remaining)		100%	30	27-Jun-12 A	14-Sep-13 A																																																					
S26AN438	Slip Road R (From W70 to B18A) Stage 2, pavement & roadworks (Remaining)		100%	50	14-Jul-12 A	14-Sep-13 A																																																					
S26AN447	Construction Slip Road J (Under Bridge 15A)	-91	50%	45	27-Aug-13 A	23-Jul-14																																																					
S26AN448	Construction Slip Road Q (At W65C)	-91	50%	45	27-Dec-13 A	23-Jul-14																																																					
S26AN451	Road and Drainage Works (CH 3720 - 4550)		100%	168	24-Jun-13 A	20-Dec-13 A																																																					
S26AN452	Removal of existing central barrier and forming temporary road (CH3720-4100)		100%	12	24-Jun-13 A	20-Jul-13 A																																																					
S26AN4525	TTA - Stage 4B-2		100%	0		21-Jul-13 A																																																					
S26AN453	Road and Drainage Works for Slow and Mid Lane (CH3720 - 3850)	-84	95%	20	08-Jul-13 A	26-Jun-14																																																					
S26AN454	Road Surface Works for Slow and Mid Lane (CH3720 - 3850)	-70	95%	10	26-Oct-13 A	27-Jun-14																																																					
S26AN455	Removal of existing central barrier (CH4100-4550)		100%	8	26-Jul-13 A	09-Aug-13 A																																																					
S26AN456	Road Works for Fast and Mid Lane (CH3850 - CH4550)		100%	20	10-Aug-13 A	25-Nov-13 A																																																					
S26AN457	Road Surface Works for Fast and Mid Lane (CH3850 - 4550)		100%	10	27-Aug-13 A	25-Nov-13 A																																																					
S26AN458	Road Works for Fast Lane (CH3720 - 3850)		100%	20	26-Oct-13 A	25-Nov-13 A																																																					
S26AN459	Road Surface Works for Fast Lane (CH3720 - 3850)		100%	10	26-Oct-13 A	25-Nov-13 A																																																					
S26AN460	Road and Drainage Works for Slow Lane (CH4250 - 4550)	-91	95%	35	05-Oct-13 A	27-Jun-14																																																					
S26AN461	Road Surface Works for Slow Lane (CH4250 - 4550)	-70	95%	10	26-Oct-13 A	28-Jun-14																																																					
S26AN462	Road Construction and Remaining Works (along CH 3720 - 4550)		100%	35	05-Oct-13 A	20-Dec-13 A																																																					
S26AN470	Road and Drainage Works (CH 4550 - 4720)	-70	97.44%	88	26-Oct-13 A	28-Jun-14																																																					
S26AN471	Road and Drainage Works for Fast Lane (CH 4550 - 4720)		100%	35	26-Oct-13 A	25-Nov-13 A																																																					
S26AN472	Road Surface Works for Fast Lane (CH4550 - 4720)		100%	8	26-Oct-13 A	25-Nov-13 A																																																					
S26AN482	Road Construction and Remaining Works (along CH 4550 - 4720)	-70	95%	45	05-Oct-13 A	28-Jun-14																																																					

**Traffic Control & Survelance System**









Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010				2011				2012				2013				2014		
							Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3
							1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7
<b>P2</b>							<ul style="list-style-type: none"> <li><input type="checkbox"/> Piling - P2</li> <li><input type="checkbox"/> Cap &amp; Backfill - P2</li> <li><input type="checkbox"/> Pier - P2</li> </ul>																		
S26AS640	Piling - P2		100%	66	26-Apr-11 A	27-May-11 A																			
S26AS650	Cap & Backfill - P2		100%	37	09-Jun-11 A	23-Jul-11 A																			
S26AS660	Pier - P2		100%	36	26-Aug-11 A	22-Oct-11 A																			
<b>P3</b>							<ul style="list-style-type: none"> <li><input type="checkbox"/> Piling - P3</li> <li><input type="checkbox"/> Cap &amp; Backfill - P3</li> <li><input type="checkbox"/> Pier - P3</li> </ul>																		
S26AS670	Piling - P3		100%	66	28-Dec-10 A	01-Feb-11 A																			
S26AS680	Cap & Backfill - P3		100%	37	26-Mar-11 A	14-May-11 A																			
S26AS700	Pier - P3		100%	36	09-May-11 A	21-Jun-11 A																			
<b>P4</b>							<ul style="list-style-type: none"> <li><input type="checkbox"/> Piling - P4</li> <li><input type="checkbox"/> Cap &amp; Backfill - P4</li> <li><input type="checkbox"/> Pier - P4</li> </ul>																		
S26AS548	Piling - P4		100%	63	09-Feb-11 A	26-Mar-11 A																			
S26AS550	Cap & Backfill - P4		100%	46	07-Apr-11 A	16-May-11 A																			
S26AS560	Pier - P4		100%	36	27-Jun-11 A	08-Aug-11 A																			
<b>P5</b>							<ul style="list-style-type: none"> <li><input type="checkbox"/> Piling - P5</li> <li><input type="checkbox"/> Cap &amp; Backfill - P5</li> <li><input type="checkbox"/> Pier - P5</li> </ul>																		
S26AS570	Piling - P5		100%	54	23-May-11 A	23-Jul-11 A																			
S26AS580	Cap & Backfill - P5		100%	36	04-Aug-11 A	16-Sep-11 A																			
S26AS590	Pier - P5		100%	36	18-Nov-11 A	29-Feb-12 A																			
<b>P6</b>							<ul style="list-style-type: none"> <li><input type="checkbox"/> Piling-P6 Stage 1 (6 no.)</li> <li><input type="checkbox"/> Piling-P6 Stage 2 (Remain, 9 no.)</li> <li><input type="checkbox"/> Cap &amp; Backfill - P6</li> <li><input type="checkbox"/> Pier-P6</li> </ul>																		
S26AS222	Piling-P6 Stage 1 (6 no.)		100%	20	26-Nov-11 A	19-Dec-11 A																			
S26AS226	Piling-P6 Stage 2 (Remain, 9 no.)		100%	30	18-May-12 A	26-May-12 A																			
S26AS232	Cap & Backfill - P6		100%	36	05-Oct-12 A	09-Nov-12 A																			
S26AS242	Pier-P6		100%	12	20-Nov-12 A	13-Dec-12 A																			
<b>North Abutment</b>							<ul style="list-style-type: none"> <li><input type="checkbox"/> Piling-North Abutment, Stage 1 (11no.)</li> <li><input type="checkbox"/> Piling-North Abutment, Stage 2 (Remain, 16 no.)</li> <li><input type="checkbox"/> Excavation &amp; Cap-North Abutment</li> <li><input type="checkbox"/> Abutment</li> <li><input type="checkbox"/> Backfilling</li> </ul>																		
S26AS224	Piling-North Abutment, Stage 1 (11no.)		100%	36	07-Oct-11 A	17-Nov-11 A																			
S26AS228	Piling-North Abutment, Stage 2 (Remain, 16 no.)		100%	60	11-May-12 A	16-Jul-12 A																			
S26AS234	Excavation & Cap-North Abutment		100%	30	08-Aug-12 A	18-Dec-12 A																			
S26AS236	Abutment		100%	20	24-Dec-12 A	18-Jan-13 A																			
S26AS244	Backfilling		100%	50	22-Jan-13 A	15-May-13 A																			
<b>Decking and Finishing</b>							<ul style="list-style-type: none"> <li><input type="checkbox"/> Bridge Deck (7 spans) (Bearing, Drainage &amp; MJ included) (incl. VO 44: Revised Drainage Arranger)</li> <li><input type="checkbox"/> Bridge Deck - Pier 1 to South Abutment</li> <li><input type="checkbox"/> Bridge Deck - Pier 2 to Pier 1</li> <li><input type="checkbox"/> Bridge Deck - Pier 3 to Pier 2</li> <li><input type="checkbox"/> Falsework dismantling of deck - Pier 3 to Pier 2</li> <li><input type="checkbox"/> Bridge Deck - Pier 4 to Pier 3</li> <li><input type="checkbox"/> Falsework dismantling of deck - Pier 4 to Pier 3</li> <li><input type="checkbox"/> Bridge Deck - Pier 5 to Pier 4</li> <li><input type="checkbox"/> Falsework dismantling of deck - Pier 5 to Pier 4</li> <li><input type="checkbox"/> Falsework Erection of deck - Pier 6 to Pier 5</li> <li><input type="checkbox"/> Bridge Deck - Pier 6 to Pier 5</li> <li><input type="checkbox"/> Falsework dismantling of deck - Pier 6 to Pier 5</li> <li><input type="checkbox"/> Falsework Erection of deck - North Abutment to Pier 6</li> <li><input type="checkbox"/> Bridge Deck - North Abutment to Pier 6</li> <li><input type="checkbox"/> Falsework dismantling of deck - North Abutment to Pier 6</li> <li><input type="checkbox"/> Parapet (incl. precast concrete skin)</li> <li><input type="checkbox"/> Noise Barrier for Bridge 15A</li> <li><input type="checkbox"/> Surfacing</li> <li><input type="checkbox"/> Lighting</li> </ul>																		
S26AS250	Bridge Deck (7 spans) (Bearing, Drainage & MJ included) (incl. VO 44: Revised Drainage Arranger)		100%	314	26-Nov-11 A	28-Mar-13 A																			
S26AS251	Bridge Deck - Pier 1 to South Abutment		100%	75	26-Nov-11 A	26-May-12 A																			
S26AS252	Bridge Deck - Pier 2 to Pier 1		100%	75	11-May-12 A	29-Aug-12 A																			
S26AS253	Bridge Deck - Pier 3 to Pier 2		100%	75	01-Jun-12 A	06-Nov-12 A																			
S26AS254	Falsework dismantling of deck - Pier 3 to Pier 2		100%	18	03-Dec-12 A	22-Feb-13 A																			
S26AS255	Bridge Deck - Pier 4 to Pier 3		100%	75	11-Aug-12 A	22-Dec-12 A																			
S26AS256	Falsework dismantling of deck - Pier 4 to Pier 3		100%	18	25-Feb-13 A	03-May-13 A																			
S26AS257	Bridge Deck - Pier 5 to Pier 4		100%	75	27-Aug-12 A	31-Jan-13 A																			
S26AS258	Falsework dismantling of deck - Pier 5 to Pier 4		100%	18	11-Mar-13 A	30-May-13 A																			
S26AS259	Falsework Erection of deck - Pier 6 to Pier 5		100%	18	03-Dec-12 A	23-Feb-13 A																			
S26AS260	Bridge Deck - Pier 6 to Pier 5		100%	75	29-Dec-12 A	19-Apr-13 A																			
S26AS261	Falsework dismantling of deck - Pier 6 to Pier 5		100%	18	06-May-13 A	14-Jun-13 A																			
S26AS262	Falsework Erection of deck - North Abutment to Pier 6		100%	18	31-Dec-12 A	04-Feb-13 A																			
S26AS263	Bridge Deck - North Abutment to Pier 6		100%	50	14-Jan-13 A	28-Mar-13 A																			
S26AS264	Falsework dismantling of deck - North Abutment to Pier 6		100%	18	13-May-13 A	14-Jun-13 A																			
S26AS269	Parapet (incl. precast concrete skin)		100%	50	06-Dec-12 A	06-Jun-13 A																			
S26AS270	Noise Barrier for Bridge 15A		100%	25	27-Mar-13 A	12-Jun-13 A																			
S26AS272	Surfacing		100%	10	10-May-13 A	20-Jun-13 A																			
S26AS275	Lighting		100%	7	04-May-13 A	07-Jun-13 A																			



Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010												2011				2012				2013				2014		
							Q1			Q2			Q3			Q4			Q1		Q2		Q3		Q4		Q1		Q2		Q3		
							1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12			
S28N2115	Utilities Diversion		100%	60	07-Jun-10 A	17-Aug-10 A																											
S28N2120	Temporary road and pedestrian diversion		100%	60	18-Aug-10 A	29-Oct-10 A																											
S28N2125	Pre-drilling for Piles		100%	15	21-Oct-10 A	19-Nov-10 A																											
S28N2130	Confirmation of Founding Level		100%	19	26-Mar-11 A	18-Apr-11 A																											
S28N2134	Falsework removal beteew NLK deck P7 -P8		100%	26	07-Jan-13 A	01-Feb-13 A																											
S28N2135	Piling work for W74 (Stage 1: Bay1 - 3)		100%	75	21-Feb-13 A	22-Apr-13 A																											
S28N2140	Temporary Work for Excavation (Stage 1: Bay1 - 3)		100%	20	27-Jun-12 A	31-Jul-12 A																											
S28N2145	Excavation and Tie Back to Formation Level (Stage 1: Bay1 - 3)		100%	18	18-Jul-12 A	31-Jul-12 A																											
S28N2150	Pile Head Trimming and bearing plate (Stage 1: Bay1 - 3)		100%	14	27-May-13 A	11-Jun-13 A																											
S28N2155	Retaining Wall Construction (Stage 1: Bay1 - 3)		100%	45	11-Jun-13 A	07-Oct-13 A																											
S28N2156	Base Slab (W74) (Bay 1- 3)		100%	30	25-May-13 A	27-Jul-13 A																											
S28N2158	Wall Stem (W74) (Bay 1- 3)		100%	30	23-Jul-13 A	07-Oct-13 A																											
S28N2160	Retaining Wall Construction (Stage 2: Bay 4 - 9)	0	98.14%	202	23-Apr-13 A	29-Mar-14																											
S28N2161	Falsework removal bewteen NLK deck P8 - P9		100%	26	23-Apr-13 A	20-Jul-13 A																											
S28N2162	Piling work for W74 (Stage 2: Bay 4 - 9)		100%	50	24-Jun-13 A	22-Oct-13 A																											
S28N2164	Temporary Work for Excavation (Stage 2: Bay 4 - 9)		100%	18	27-Jun-12 A	17-Jul-12 A																											
S28N2165	Excavation and Tie Back to Formation Level (Stage 2: Bay 4 - 9)		100%	19	18-Jul-12 A	31-Jul-12 A																											
S28N2167	Base Slab (W74) (Bay 4 - 9)		100%	25	07-Sep-13 A	25-Jan-14 A																											
S28N2168	Wall Stem (W74) (Bay 4 - 9)		100%	30	05-Oct-13 A	25-Jan-14 A																											
S28N2190	Backfilling		100%	25	12-Oct-13 A	29-May-14 A																											
<b>Noise Barrier NB43 (AD5)</b>																																	
S28N2500	Utilities Diversion		100%	127	01-Jun-10 A	10-Feb-11 A																											
S28N2510	Temporary Noise Barrier Installation		100%	46	16-Nov-10 A	26-Dec-10 A																											
S28N2520	Noise Barrier Construction Stage 1 (Bay 1 - 3)		100%	72	03-Feb-12 A	14-Aug-12 A																											
S28N2525	Noise Barrier Construction Stage 2 (Bay 4 - 9)		100%	75	09-Jan-13 A	18-Jun-13 A																											
S28N2526	Noise Barrier Construction Stage 3 remaining (Bay 4 - 7) Wall		100%	30	28-Oct-13 A	09-Jan-14 A																											
S28N2530	Erection of Steel Post & Panel (Bay 1 - 3)		100%	75	29-Dec-12 A	31-Jan-13 A																											
S28N2531	Erection of Steel Post & Panel (Bay 4 - 9)		100%	10	20-Jan-14 A	25-Jan-14 A																											
<b>Road Re-Construction Works, Roadworks, Drainage &amp; Utilities</b>																																	
S28N3890	VO 25: Construction of Cross road Ducts & traffic signal Drawpits at proposed crossing point of tai		100%	10	27-Apr-11 A	12-Sep-12 A																											
S28N3900	CLP & Gasmian Diversion, Tear Drop/Slip Road T (incl. VO 19: Protection for existing HKCG HP60)		100%	75	15-Oct-11 A	12-Jun-12 A																											
S28N3902	DN400 landfill gasmain at NB41-stage 1		100%	25	21-Nov-12 A	28-Nov-12 A																											
S28N3904	DN400 landfill gasmain at NB41-stage 2		100%	25	17-Dec-12 A	02-Mar-13 A																											
S28N3906	New Joint Box construction for CLP 132kV		100%	50	24-Dec-12 A	14-May-13 A																											
S28N3910	Watermain, traffic light, road drains & gully, Tear Drop/Slip Road T (incl. VO52)		100%	75	15-Aug-11 A	11-Mar-13 A																											
S28N3920	COD: TTA Case 50 Stage 1 & 2 (Epron ordered: 16-12-11, expected delivery date: 23-1-13, actual		100%	24	16-Dec-11 A	21-Apr-12 A																											
S28N3970	Pavement at Tear Drop Area, Slip Road T & Traffic diversion		100%	30	18-May-12 A	11-Mar-13 A																											
S28N4002	Roadworks, Drainages & Utilities, TWSRW Road from NB41-bay 6 to NB42-bay12 (incl. VO42 & \		100%	150	18-May-12 A	23-Mar-13 A																											
S28N4004	Drainage, Utilities & Removal of existing paving (incl.TTA & VO 77 Provision of cable duct for power		100%	75	18-May-12 A	11-Mar-13 A																											
S28N4006	Road surfacing, Tai Wo Service Road West from NB41-bay 6 to NB42-bay12 (incl. VO 81 mainter		100%	60	22-Jan-13 A	23-Mar-13 A																											
S28N4010	Roadworks to NKL Flyover and Ramps		100%	175	30-Jan-13 A	16-Aug-13 A																											
S28N4012	Roadworks to NKL Flyover and Ramp - South Ramp to SA		100%	50	30-Jan-13 A	24-Jul-13 A																											
S28N4014	Roadworks to NKL Flyover and Ramp - North Ramp to NA		100%	20	13-Jun-13 A	22-Aug-13 A																											
S28N4020	Road Marking of New Lam Kam Bridge and Final Diversion of South Bound Traffic from NLK Bridg		100%	10	23-Jul-13 A	16-Aug-13 A																											
S28N4024	Road and Drainage Works (along W74 and NB38)	-81	35%	20	08-Jan-14 A	08-Jul-14																											
S28N4030	300d, 1200d watermain (chA9.00-ch182.00) & Firemains	236	96.69%	362	06-Aug-10 A	10-Jul-14																											
S28N4040	Cable Detection and Trial Pit Excavation		100%	72	06-Aug-10 A	19-Sep-10 A																											
S28N4050	Sheet Pile & ELS		100%	72	20-Sep-10 A	15-Feb-11 A																											







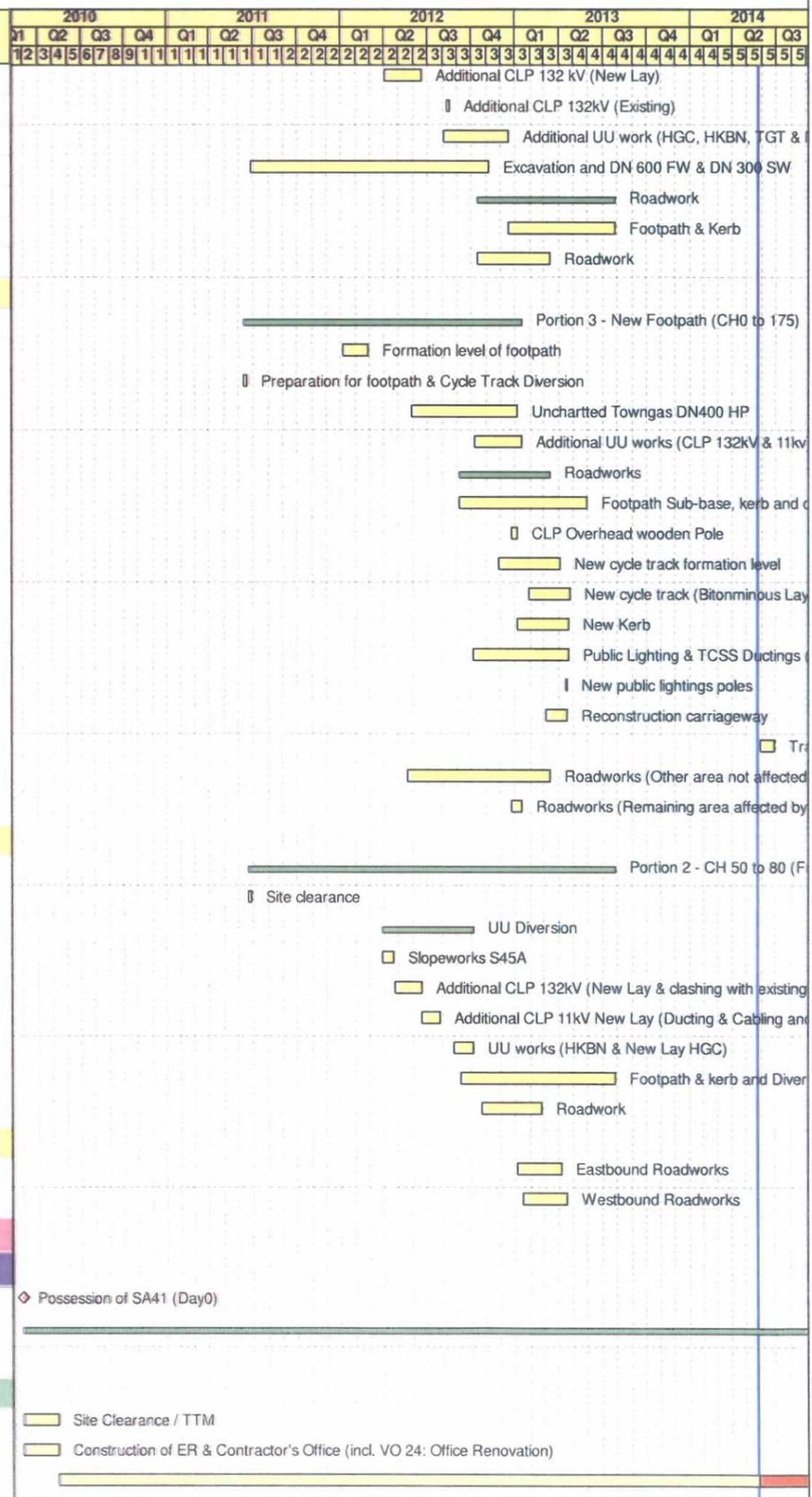








Activity ID	Activity Name	Total Float	Activity % Complete	Original Duration	Start	Finish	2010				2011				2012				2013				2014		
							Q1	Q2	Q3	Q4	Q1	Q2	Q3												
S31S4690	Additional CLP 132 kV (New Lay)		100%	17	02-Apr-12 A	18-Jun-12 A																			
S31S4700	Additional CLP 132kV (Existing)		100%	22	11-Aug-12 A	16-Aug-12 A																			
S31S4710	Additional UU work (HGC, HKBN, TGT & NWT)		100%	35	06-Aug-12 A	18-Dec-12 A																			
S31S4720	Excavation and DN 600 FW & DN 300 SW		100%	68	28-Jun-11 A	09-Nov-12 A																			
S31S4725	Roadwork		100%	0	15-Oct-12 A	29-Jul-13 A																			
S31S4730	Footpath & Kerb		100%	30	20-Dec-12 A	29-Jul-13 A																			
S31S4740	Roadwork		100%	30	15-Oct-12 A	16-Mar-13 A																			
<b>Portion 3</b>																									
S31S5000	Portion 3 - New Footpath (CH0 to 175)		100%	165	11-Jun-11 A	15-Jan-13 A																			
S31S5010	Formation level of footpath		100%	45	04-Jan-12 A	28-Feb-12 A																			
S31S5020	Preparation for footpath & Cycle Track Diversion		100%	7	11-Jun-11 A	18-Jun-11 A																			
S31S5025	Uncharted Towngas DN400 HP		100%	178	29-May-12 A	05-Jan-13 A																			
S31S5030	Additional UU works (CLP 132kV & 11kv)		100%	17	10-Oct-12 A	16-Jan-13 A																			
S31S5035	Roadworks		100%	215	07-Sep-12 A	16-Mar-13 A																			
S31S5040	Footpath Sub-base, kerb and concrete surface		100%	17	07-Sep-12 A	30-May-13 A																			
S31S5050	CLP Overhead wooden Pole		100%	12	26-Dec-12 A	07-Jan-13 A																			
S31S5060	New cycle track formation level		100%	15	28-Nov-12 A	06-Apr-13 A																			
S31S5070	New cycle track (Bituminous Layer)		100%	10	29-Jan-13 A	25-Apr-13 A																			
S31S5080	New Kerb		100%	7	07-Jan-13 A	23-Apr-13 A																			
S31S5090	Public Lighting & TCSS Ductings (incl. VO 77 Provision of cable duct for power supply)		100%	7	06-Oct-12 A	23-Apr-13 A																			
S31S5100	New public lightings poles		100%	15	17-Apr-13 A	20-Apr-13 A																			
S31S5110	Reconstruction carriageway		100%	7	05-Mar-13 A	20-Apr-13 A																			
S31S5120	Traffic Lights	243	0%	5	30-May-14	27-Jun-14																			
S31S5130	Roadworks (Other area not affected by towngas)		100%	60	21-May-12 A	16-Mar-13 A																			
S31S5132	Roadworks (Remaining area affected by towngas)		100%	19	26-Dec-12 A	15-Jan-13 A																			
<b>Portion 2</b>																									
S31S4750	Portion 2 - CH 50 to 80 (From WSD Gate to Hong Lok Yuen)		100%	108	20-Jun-11 A	29-Jul-13 A																			
S31S4760	Site clearance		100%	7	20-Jun-11 A	27-Jun-11 A																			
S31S4765	UU Diversion		100%	82	28-Mar-12 A	05-Oct-12 A																			
S31S4766	Slopeworks S45A		100%	18	28-Mar-12 A	21-Apr-12 A																			
S31S4770	Additional CLP 132kV (New Lay & clashing with existing)		100%	45	25-Apr-12 A	18-Jun-12 A																			
S31S4780	Additional CLP 11kV New Lay (Ducting & Cabling and Tie-in)		100%	46	19-Jun-12 A	27-Jul-12 A																			
S31S4790	UU works (HKBN & New Lay HGC)		100%	12	27-Aug-12 A	05-Oct-12 A																			
S31S4800	Footpath & kerb and Diversion of footpath		100%	15	10-Sep-12 A	29-Jul-13 A																			
S31S4810	Roadwork		100%	21	25-Oct-12 A	25-Feb-13 A																			
<b>Roadworks, Drainage &amp; Utilities</b>																									
S31S4820	Eastbound Roadworks		100%	50	07-Jan-13 A	08-Apr-13 A																			
S31S4830	Westbound Roadworks		100%	50	17-Jan-13 A	20-Apr-13 A																			
<b>Section 7</b>																									
<b>Site Area SA41</b>																									
PHSA4110	Possession of SA41 (Day0)		100%	0	26-Feb-10 A																				
SA410000	Site Area SA41 Works Period	75	85.77%	1581	26-Feb-10 A	05-Feb-15																			
SA410010	Site Area SA41 Works Completion	76	0%	0		05-Feb-15																			
<b>Temporary Site Office</b>																									
S41G0000	Site Clearance / TTM		100%	60	26-Feb-10 A	12-May-10 A																			
S41G9000	Construction of ER & Contractor's Office (incl. VO 24: Office Renovation)		100%	60	26-Feb-10 A	12-May-10 A																			
S41G9100	Temp Warehouse, Fabrication & Equip Yard	-197	90%	1419	13-May-10 A	14-Nov-14																			









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**APPENDIX C  
IMPLEMENTATION SCHEDULE OF  
ENVIRONMENTAL MITIGATION MEASURES  
(EMIS)**

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## 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 Construction	• Restricting heights from which materials are dropped, as far as practicable to minimize the fugitive dust arising from unloading/loading.	During construction	V
	• All stockpiles of excavated materials or spoil of more than 50m <sup>3</sup> shall be enclosed, covered or dampened during dry or windy conditions.		@
	• Effective water sprays shall be used to control potential dust emission sources such as unpaved haul roads and active construction areas.		@
	• 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 Construction	• Use of silenced plant or plant equipped with mufflers or dampers in substitute of ordinary plant.	During construction	V
	• Reduce the number of equipment and their percentage on-time.		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

Water Quality - Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Water quality during Construction	Demolition and reconstruction of bridges	During construction	
	• Prevent off-site migration through use of sheet piles.		V
	• 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.		V
	• 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.		@
	• During the wet season, any exposed top soils should be covered with a tarpaulin, shotcreted or hydroseeded.		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		

Waste - Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Waste Management during Construction	General Waste	During construction	
	• Transport of wastes off site as soon as possible.		@
	• Maintenance of accurate waste records		V
	• 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
<b>Excavated Materials</b>	
• 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
<b>Construction Wastes</b>	
• 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
<b>Bentonite Slurries</b>	
• Bentonite slurries should be reused as far as possible.	N/A
• Disposal in accordance with <i>Practice Note For Professional Persons ProPECC PN 1/94</i> .	N/A
<b>Chemical Wastes</b>	
• 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.	@
<b>Municipal Wastes</b>	
• 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 during Construction	Accurate Delineation of Works Area	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.		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
	<b>Vegetation Clearance</b>		
	• 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.		
	<b>Dust generation</b>		
	• 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
	<b>Surface Run-off</b>		
	• 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 and Visual Impact during Construction	<b>Preservation of Existing Vegetation</b>	During construction	
	• Trees identified for retention within the project limit would be protected during the works		V
	• The tree transplanting and planting works shall be implemented by approved Landscape Contractors		V
	<b>Temporary Works Areas</b>		
	• 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
	<b>Hoarding</b>		
	• 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
	<b>Top Soils</b>		
	• 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
<b>Protection of Important Landscape Features</b>			
• 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.

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**APPENDIX D  
SUMMARY OF ACTION AND LIMIT LEVELS**

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## Appendix D - Summary of Action and Limit Levels

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

Location	Action Level	Limit Level
AM1A	302.1 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>
AM2	301.9 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>
AM3	301.9 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>
AM4A	302.3 µg/m <sup>3</sup>	500 µg/m <sup>3</sup>

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

Location	Action Level	Limit Level
AM1A	176.6 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>
AM2	178.6 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>
AM3	193.1 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>
AM4A	198.5 µg/m <sup>3</sup>	260 µg/m <sup>3</sup>

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

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

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

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**APPENDIX E  
CALIBRATION CERTIFICATES OF  
MONITORING EQUIPMENTS**

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# AECOM Asia Company Limited

## TSP High Volume Sampler

### Field Calibration Report

Station: Sheung Wun Yiu (AM1A) Operator: Gary Choi  
 Cal. Date: 13-May-14 Next Due Date: 13-Jul-14  
 Equipment No.: A-001-53T Serial No.: 10216

Ambient Condition			
Temperature, Ta (K)	302	Pressure, Pa (mmHg)	754.0

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.94727	Intercept, bc	0.02332
Last Calibration Date:	20-May-13	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-May-14	$Qstd = \{ [DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc \} / mc$			

Calibration of TSP Sampler					
Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] <sup>1/2</sup>	Qstd (m <sup>3</sup> /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	8.9	2.95	1.50	44.0	43.53
13	6.0	2.42	1.23	36.0	35.62
10	4.4	2.08	1.05	32.0	31.66
7	3.5	1.85	0.94	28.0	27.70
5	2.2	1.47	0.74	22.0	21.77

By Linear Regression of Y on X

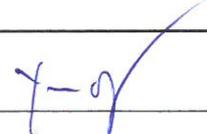
Slope, mw = 28.2284 Intercept, bw = 1.1720

Correlation Coefficient\* = 0.9970

\*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation
From the TSP Field Calibration Curve, take Qstd = 1.30m <sup>3</sup> /min
From the Regression Equation, the "Y" value according to
$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$
Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)] <sup>1/2</sup> = <u>38.27</u>

Remarks: \_\_\_\_\_

QC Reviewer: 

Signature: 

Date: 14 May 14

**AECOM Asia Company Limited**  
**TSP High Volume Sampler**  
**Field Calibration Report**

Station Sheung Wun Yiu (AM1A) Operator: Gary Choi  
 Cal. Date: 11-Jul-14 Next Due Date: 11-Sep-14  
 Equipment No.: A-001-53T Serial No. 10216

Ambient Condition			
Temperature, Ta (K)	303	Pressure, Pa (mmHg)	753.1

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

Calibration of TSP Sampler					
Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] <sup>1/2</sup>	Qstd (m <sup>3</sup> /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	9.0	2.96	1.50	44.0	43.44
13	6.2	2.46	1.25	35.0	34.55
10	4.5	2.09	1.07	31.0	30.60
7	3.5	1.85	0.94	27.0	26.65
5	2.3	1.50	0.76	22.0	21.72

By Linear Regression of Y on X

Slope, mw = 28.7850 Intercept, bw = -0.4002

Correlation Coefficient\* = 0.9947

\*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 1.30m<sup>3</sup>/min

From the Regression Equation, the "Y" value according to

$$mw \times Q_{std} + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]<sup>1/2</sup> = 37.50

Remarks: \_\_\_\_\_

QC Reviewer: WS CHAN Signature: [Signature] Date: 14/7/14

# AECOM Asia Company Limited

## TSP High Volume Sampler

### Field Calibration Report

Station: Shan Tong New Village (AM2) Operator: Gary Choi  
 Cal. Date: 13-May-14 Next Due Date: 13-Jul-14  
 Equipment No.: A-001-29T Serial No.: 10202

Ambient Condition			
Temperature, Ta (K)	302	Pressure, Pa (mmHg)	754.0

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.94727	Intercept, bc	0.02332
Last Calibration Date:	20-May-13	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-May-14	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] <sup>1/2</sup>	Qstd (m <sup>3</sup> /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	9.8	3.10	1.58	48.0	47.49
13	7.4	2.69	1.37	40.0	39.58
10	5.5	2.32	1.18	34.0	33.64
7	3.6	1.88	0.95	28.0	27.70
5	2.5	1.56	0.79	22.0	21.77

By Linear Regression of Y on X

Slope, mw = 31.7399 Intercept, bw = -3.2393

Correlation Coefficient\* = 0.9958

\*If Correlation Coefficient < 0.990, check and recalibrate.

#### Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m<sup>3</sup>/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]<sup>1/2</sup> = 38.43

Remarks: \_\_\_\_\_

QC Reviewer: YRB

Signature: [Signature]

Date: 14 May 14

# AECOM Asia Company Limited

## TSP High Volume Sampler

### Field Calibration Report

Station: Shan Tong New Village (AM2) Operator: Gary Choi  
 Cal. Date: 11-Jul-14 Next Due Date: 11-Sep-14  
 Equipment No.: A-001-29T Serial No.: 10202

Ambient Condition			
Temperature, Ta (K)	303	Pressure, Pa (mmHg)	753.1

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

Calibration of TSP Sampler					
Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] <sup>1/2</sup>	Qstd (m <sup>3</sup> /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	9.5	3.04	1.55	48.0	47.39
13	7.1	2.63	1.34	41.0	40.48
10	5.2	2.25	1.14	35.0	34.55
7	3.5	1.85	0.94	27.0	26.65
5	2.5	1.56	0.80	22.0	21.72

By Linear Regression of Y on X

Slope, mw = 34.3213 Intercept, bw = -5.3991

Correlation Coefficient\* = 0.9986

\*If Correlation Coefficient < 0.990, check and recalibrate.

#### Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m<sup>3</sup>/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]<sup>1/2</sup> = 39.73

Remarks: \_\_\_\_\_

QC Reviewer: WS CHAN

Signature: [Signature]

Date: 14/7/14

# AECOM Asia Company Limited

## TSP High Volume Sampler

### Field Calibration Report

Station Riverain Bayside (AM3) Operator: Choi Wing Ho  
 Cal. Date: 16-Jun-14 Next Due Date: 16-Aug-14  
 Equipment No.: A-001-69T Serial No. 716

Ambient Condition			
Temperature, Ta (K)	305	Pressure, Pa (mmHg)	751.9

Orifice Transfer Standard Information					
Serial No:	843	Slope, mc	1.99102	Intercept, bc	-0.00616
Last Calibration Date:	9-Dec-13	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	9-Dec-14	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] <sup>1/2</sup>	Qstd (m <sup>3</sup> /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	8.6	2.88	1.45	47.0	46.21
13	7.4	2.67	1.35	43.0	42.28
10	5.4	2.28	1.15	33.0	32.44
7	4.0	1.97	0.99	26.0	25.56
5	2.9	1.67	0.84	20.0	19.66

**By Linear Regression of Y on X**  
 Slope, mw = 44.5743 Intercept, bw = -18.3225  
 Correlation Coefficient\* = 0.9983  
 \*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 1.30m<sup>3</sup>/min  
 From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]<sup>1/2</sup> = 40.30

Remarks: \_\_\_\_\_

QC Reviewer: NS CHAN Signature: [Signature] Date: 17/6/14

# AECOM Asia Company Limited

## TSP High Volume Sampler

### Field Calibration Report

Station 168 Shek Kwu Lung Village (AM4A) Operator: Gary Choi  
 Cal. Date: 13-May-14 Next Due Date: 13-Jul-14  
 Equipment No.: A-001-70T Serial No. 10273

Ambient Condition			
Temperature, Ta (K)	302	Pressure, Pa (mmHg)	754.0

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	1.94727	Intercept, bc	0.02332
Last Calibration Date:	20-May-13	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	20-May-14	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler					
Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] <sup>1/2</sup>	Qstd (m <sup>3</sup> /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	8.5	2.88	1.47	48.0	47.49
13	6.5	2.52	1.28	40.0	39.58
10	4.9	2.19	1.11	34.0	33.64
7	3.2	1.77	0.90	28.0	27.70
5	2.5	1.56	0.79	22.0	21.77

By Linear Regression of Y on X

Slope, mw = 36.1068 Intercept, bw = -6.0712

Correlation Coefficient\* = 0.9915

\*If Correlation Coefficient < 0.990, check and recalibrate.

#### Set Point Calculation

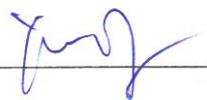
From the TSP Field Calibration Curve, take Qstd = 1.30m<sup>3</sup>/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]<sup>1/2</sup> = 41.30

Remarks: \_\_\_\_\_

QC Reviewer: 

Signature: 

Date: 14 May 14

# AECOM Asia Company Limited

## TSP High Volume Sampler

### Field Calibration Report

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			
Temperature, Ta (K)	303	Pressure, Pa (mmHg)	753.1

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

Calibration of TSP Sampler					
Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	[DH x (Pa/760) x (298/Ta)] <sup>1/2</sup>	Qstd (m <sup>3</sup> /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 Regression of Y on X**  
 Slope, mw = 36.8171 Intercept, bw = -7.3137  
 Correlation Coefficient\* = 0.9981  
 \*If Correlation Coefficient < 0.990, check and recalibrate.

**Set Point Calculation**

From the TSP Field Calibration Curve, take Qstd = 1.30m<sup>3</sup>/min  
 From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]<sup>1/2</sup> = 41.07

Remarks: \_\_\_\_\_  
 \_\_\_\_\_

QC Reviewer: WS CHAN Signature: [Signature] Date: 14/7/14



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

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 28, 2014 Rootsmeter S/N 0438320 Ta (K) - 296  
 Operator Tisch Orifice I.D. - 0988 Pa (mm) - 751.84

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3790	3.2	2.00
2	NA	NA	1.00	0.9720	6.4	4.00
3	NA	NA	1.00	0.8690	7.9	5.00
4	NA	NA	1.00	0.8260	8.8	5.50
5	NA	NA	1.00	0.6830	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9917	0.7191	1.4113	0.9957	0.7221	0.8874
0.9875	1.0159	1.9959	0.9915	1.0201	1.2549
0.9854	1.1339	2.2315	0.9894	1.1385	1.4030
0.9843	1.1916	2.3405	0.9883	1.1965	1.4715
0.9790	1.4333	2.8227	0.9829	1.4392	1.7747
Qstd slope (m) = 1.97518			Qa slope (m) = 1.23683		
intercept (b) = -0.01001			intercept (b) = -0.00630		
coefficient (r) = 0.99998			coefficient (r) = 0.99998		
y axis = $\text{SQRT}[\text{H2O}(\text{Pa}/760)(298/\text{Ta})]$			y axis = $\text{SQRT}[\text{H2O}(\text{Ta}/\text{Pa})]$		

CALCULATIONS

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

$$\text{Qstd} = \text{Vstd} / \text{Time}$$

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

$$\text{Qa} = \text{Va} / \text{Time}$$

For subsequent flow rate calculations:

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

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

## EQUIPMENT CALIBRATION RECORD

Type: Laser Dust Monitor  
 Manufacturer/Brand: SIBATA  
 Model No.: LD-3  
 Equipment No.: A.005.07a  
 Sensitivity Adjustment Scale Setting: 557 CPM

Operator: Mike Shek (MSKM)

### Standard Equipment

Equipment: Rupprecht & Patashnick TEOM®  
 Venue: Cyberport (Pui Ying Secondary School)  
 Model No.: Series 1400AB  
 Serial No: Control: 140AB219899803  
 Sensor: 1200C143659803 K<sub>0</sub>: 12500  
 Last Calibration Date\*: 10 May 2014

\*Remarks: Recommended interval for hardware calibration is 1 year

### Calibration Result

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

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration <sup>1</sup> (mg/m <sup>3</sup> ) Y-axis	Total Count <sup>2</sup>	Count/ Minute <sup>3</sup> X-axis
			Temp (°C)	R.H. (%)			
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  
 Slope (K-factor): 0.0015  
 Correlation coefficient: 0.9982

Validity of Calibration Record: 11 May 2015

Remarks:

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

## EQUIPMENT CALIBRATION RECORD

Type: Laser Dust Monitor  
 Manufacturer/Brand: SIBATA  
 Model No.: LD-3  
 Equipment No.: A.005.09a  
 Sensitivity Adjustment Scale Setting: 797 CPM  
 Operator: Mike Shek (MSKM)

### Standard Equipment

Equipment: Rupprecht & Patashnick TEOM®  
 Venue: Cyberport (Pui Ying Secondary School)  
 Model No.: Series 1400AB  
 Serial No.: Control: 140AB219899803  
 Sensor: 1200C143659803 K<sub>0</sub>: 12500  
 Last Calibration Date\*: 10 May 2014

\*Remarks: Recommended interval for hardware calibration is 1 year

### Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): 797 CPM  
 Sensitivity Adjustment Scale Setting (After Calibration): 797 CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration <sup>1</sup> (mg/m <sup>3</sup> ) Y-axis	Total Count <sup>2</sup>	Count/ Minute <sup>3</sup> X-axis
			Temp (°C)	R.H. (%)			
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

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: 0.9965

Validity of Calibration Record: 11 May 2015

Remarks:

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

## EQUIPMENT CALIBRATION RECORD

Type: Laser Dust Monitor  
 Manufacturer/Brand: SIBATA  
 Model No.: LD-3  
 Equipment No.: A.005.10a  
 Sensitivity Adjustment Scale Setting: 753 CPM

Operator: Mike Shek (MSKM)

### Standard Equipment

Equipment: Rupprecht & Patashnick TEOM®  
 Venue: Cyberport (Pui Ying Secondary School)  
 Model No.: Series 1400AB  
 Serial No: Control: 140AB219899803  
 Sensor: 1200C143659803 K<sub>0</sub>: 12500  
 Last Calibration Date\*: 10 May 2014

\*Remarks: Recommended interval for hardware calibration is 1 year

### Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): 753 CPM  
 Sensitivity Adjustment Scale Setting (After Calibration): 753 CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration <sup>1</sup> (mg/m <sup>3</sup> ) Y-axis	Total Count <sup>2</sup>	Count/ Minute <sup>3</sup> X-axis
			Temp (°C)	R.H. (%)			
1	11-05-14	13:45 - 14:45	26.8	75	0.04984	1996	33.27
2	11-05-14	14:45 - 15:45	26.9	76	0.05196	2077	34.62
3	11-05-14	15:45 - 16:45	26.9	76	0.05141	2055	34.25
4	11-05-14	16:45 - 17:45	26.9	76	0.05263	2109	35.15

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: 0.9969

Validity of Calibration Record: 11 May 2015

Remarks:

QC Reviewer: YW Fung

Signature: 

Date: 12 May 2014

## EQUIPMENT CALIBRATION RECORD

Type: Laser Dust Monitor  
 Manufacturer/Brand: SIBATA  
 Model No.: LD-3B  
 Equipment No.: A.005.13a  
 Sensitivity Adjustment Scale Setting: 643 CPM

Operator: Mike Shek (MSKM)

### Standard Equipment

Equipment: Rupprecht & Patashnick TEOM®  
 Venue: Cyberport (Pui Ying Secondary School)  
 Model No.: Series 1400AB  
 Serial No: Control: 140AB219899803  
 Sensor: 1200C143659803 K<sub>0</sub>: 12500  
 Last Calibration Date\*: 10 May 2014

\*Remarks: Recommended interval for hardware calibration is 1 year

### Calibration Result

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

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration <sup>1</sup> (mg/m <sup>3</sup> ) Y-axis	Total Count <sup>2</sup>	Count/ Minute <sup>3</sup> X-axis
			Temp (°C)	R.H. (%)			
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



## CERTIFICATE OF CALIBRATION

Certificate No.: 13CA1107 01-01 Page 1 of 2

### Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	Rion Co., Ltd.	,	Rion Co., Ltd.
Type/Model No.:	NL-31	,	UC-53A
Serial/Equipment No.:	00320528 / N.007.03A	,	90565
Adaptors used:	-	,	-

### Item submitted by

Customer Name: AECOM ASIA CO., LTD.  
Address of Customer: -  
Request No.: -  
Date of receipt: 07-Nov-2013

Date of test: 08-Nov-2013

### Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	22-Jun-2014	CIGISMEC
Signal generator	DS 360	33873	15-Apr-2014	CEPREI
Signal generator	DS 360	61227	15-Apr-2014	CEPREI

### Ambient conditions

Temperature: 22 ± 1 °C  
Relative humidity: 60 ± 10 %  
Air pressure: 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 response 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

Date: 11-Nov-2013

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.



## CERTIFICATE OF CALIBRATION

Certificate No.: 14CA0305 06-02 Page 1 of 2

### Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	B & K	,	B & K
Type/Model No.:	2250	,	4950
Serial/Equipment No.:	2681366	,	2665582
Adaptors used:	-	,	-

*N.011.01*

### Item submitted by

Customer Name: AECOM ASIA CO. LTD.  
Address of Customer: -  
Request No.: -  
Date of receipt: 05-Mar-2014

Date of test: 07-Mar-2014

### Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	22-Jun-2014	CIGISMEC
Signal generator	DS 360	33873	15-Apr-2014	CEPREI
Signal generator	DS 360	61227	15-Apr-2014	CEPREI

### Ambient conditions

Temperature: 22 ± 1 °C  
Relative humidity: 60 ± 10 %  
Air pressure: 1000 ± 10 hPa

### Test specifications

- 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 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 B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responses 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

Date: 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.



## CERTIFICATE OF CALIBRATION

Certificate No.: 13CA1107 01-02

Page: 1 of 2

### Item tested

Description: Acoustical Calibrator (Class 1)  
Manufacturer: Rion Co., Ltd.  
Type/Model No.: NC-73  
Serial/Equipment No.: 10307223 / N.004.08  
Adaptors used: -

### Item submitted by

Customer: AECOM ASIA CO., LTD.  
Address of Customer: -  
Request No.: -  
Date of receipt: 07-Nov-2013

Date of test: 08-Nov-2013

### Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2341427	17-Apr-2014	SCL
Preamplifier	B&K 2673	2239857	16-Apr-2014	CEPREI
Measuring amplifier	B&K 2610	2346941	24-Apr-2014	CEPREI
Signal generator	DS 360	61227	15-Apr-2014	CEPREI
Digital multi-meter	34401A	US36087050	10-Dec-2013	CEPREI
Audio analyzer	8903B	GB41300350	15-Apr-2014	CEPREI
Universal counter	53132A	MY40003662	15-Apr-2014	CEPREI

### Ambient conditions

Temperature:  $22 \pm 1$  °C  
Relative humidity:  $60 \pm 10$  %  
Air pressure:  $1000 \pm 10$  hPa

### Test specifications

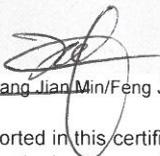
- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results 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.

Approved Signatory:

  
Huang Jian Min/Feng Jun Qi

Date: 11-Nov-2013

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.

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**APPENDIX F  
EM&A MONITORING SCHEDULES**

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

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

**Widening of Tolo Highway / Fanling Highway (Stage 1) Between Island House Interchange and Tai Hang - Investigation  
Tentative 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						

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

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**APPENDIX G  
IMPACT AIR QUALITY MONITORING  
RESULTS AND THEIR GRAPHICAL  
PRESENTATION**

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**Appendix G**  
**Impact Air Quality Monitoring Results**

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

Date	Start Time (hh:mm)	1st Hour	2nd Hour	3rd Hour
		Conc. ( $\mu\text{g}/\text{m}^3$ )	Conc. ( $\mu\text{g}/\text{m}^3$ )	Conc. ( $\mu\text{g}/\text{m}^3$ )
4-Jul-14	10:29	76.2	78.4	75.1
9-Jul-14	9:50	83.4	85.3	85.9
15-Jul-14	10:22	80.6	79.1	79.8
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.				
		Average	80.4	
		Min	75.1	
		Max	85.9	

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

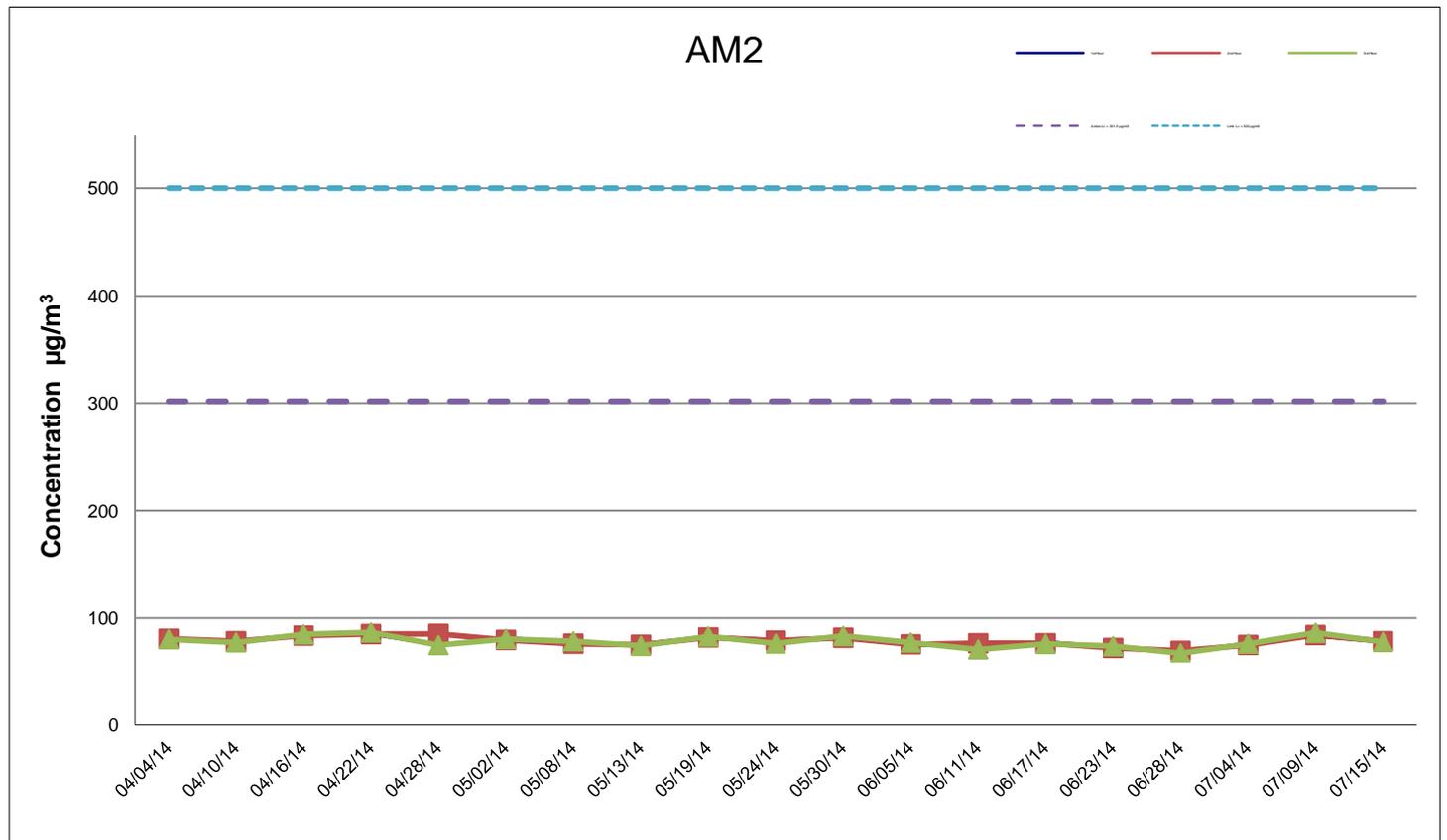
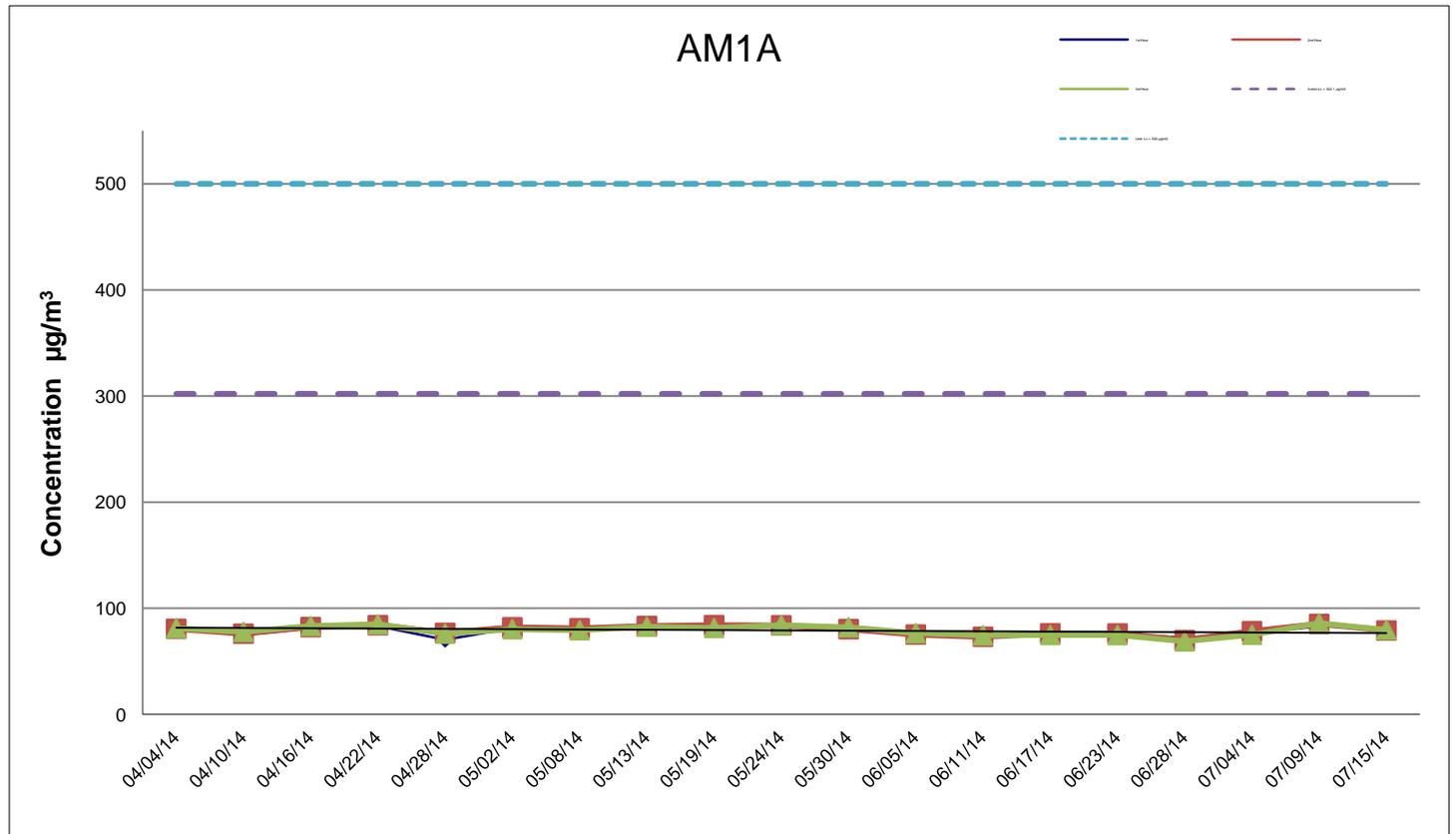
Date	Start Time (hh:mm)	1st Hour	2nd Hour	3rd Hour
		Conc. ( $\mu\text{g}/\text{m}^3$ )	Conc. ( $\mu\text{g}/\text{m}^3$ )	Conc. ( $\mu\text{g}/\text{m}^3$ )
4-Jul-14	10:07	77.3	74.9	76.1
9-Jul-14	10:00	82.7	84.1	86.2
15-Jul-14	10:13	77.1	78.4	77.7
Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014. No monitoring has been carried out beyond 15 July 2014.				
		Average	79.4	
		Min	74.9	
		Max	86.2	

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

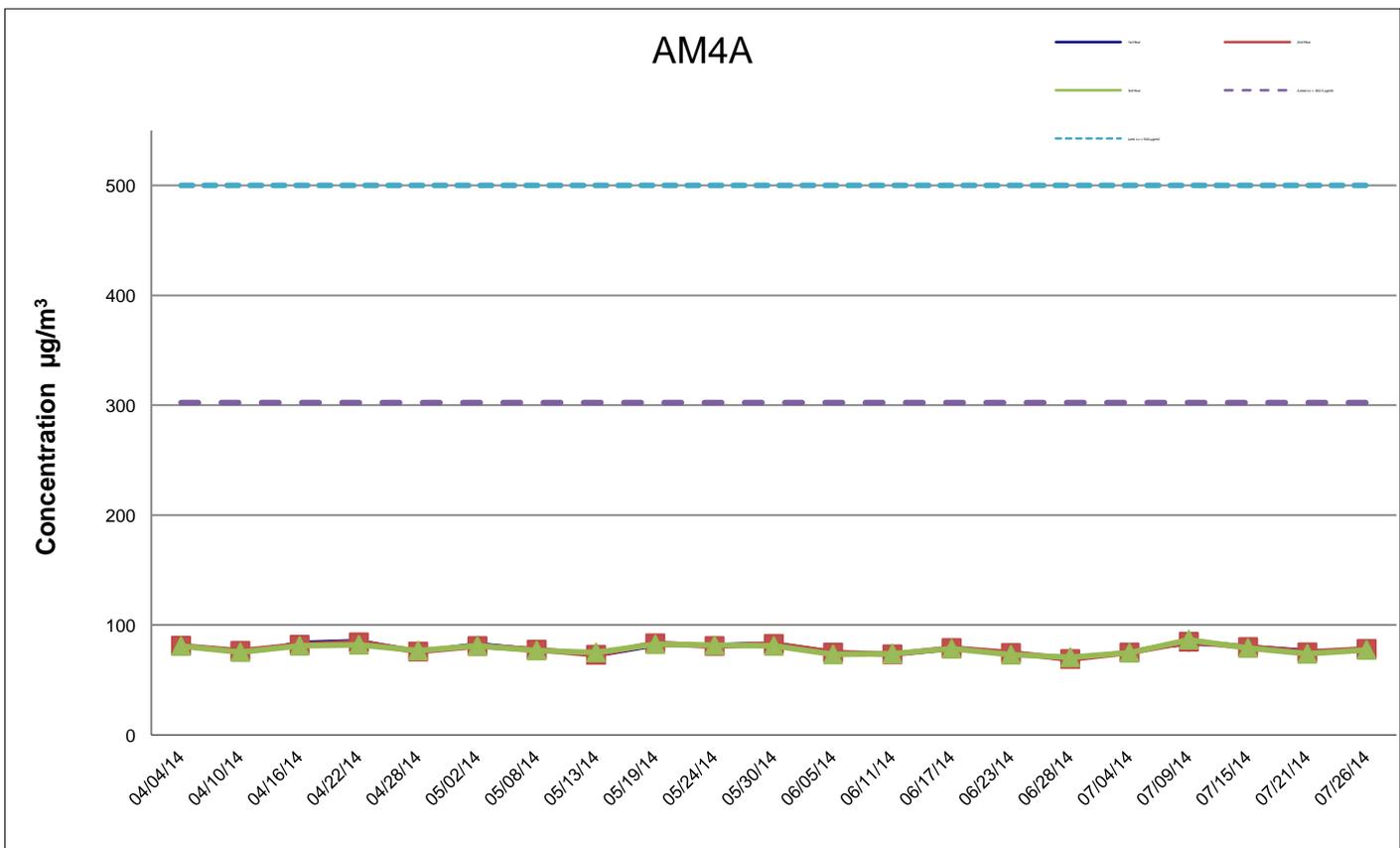
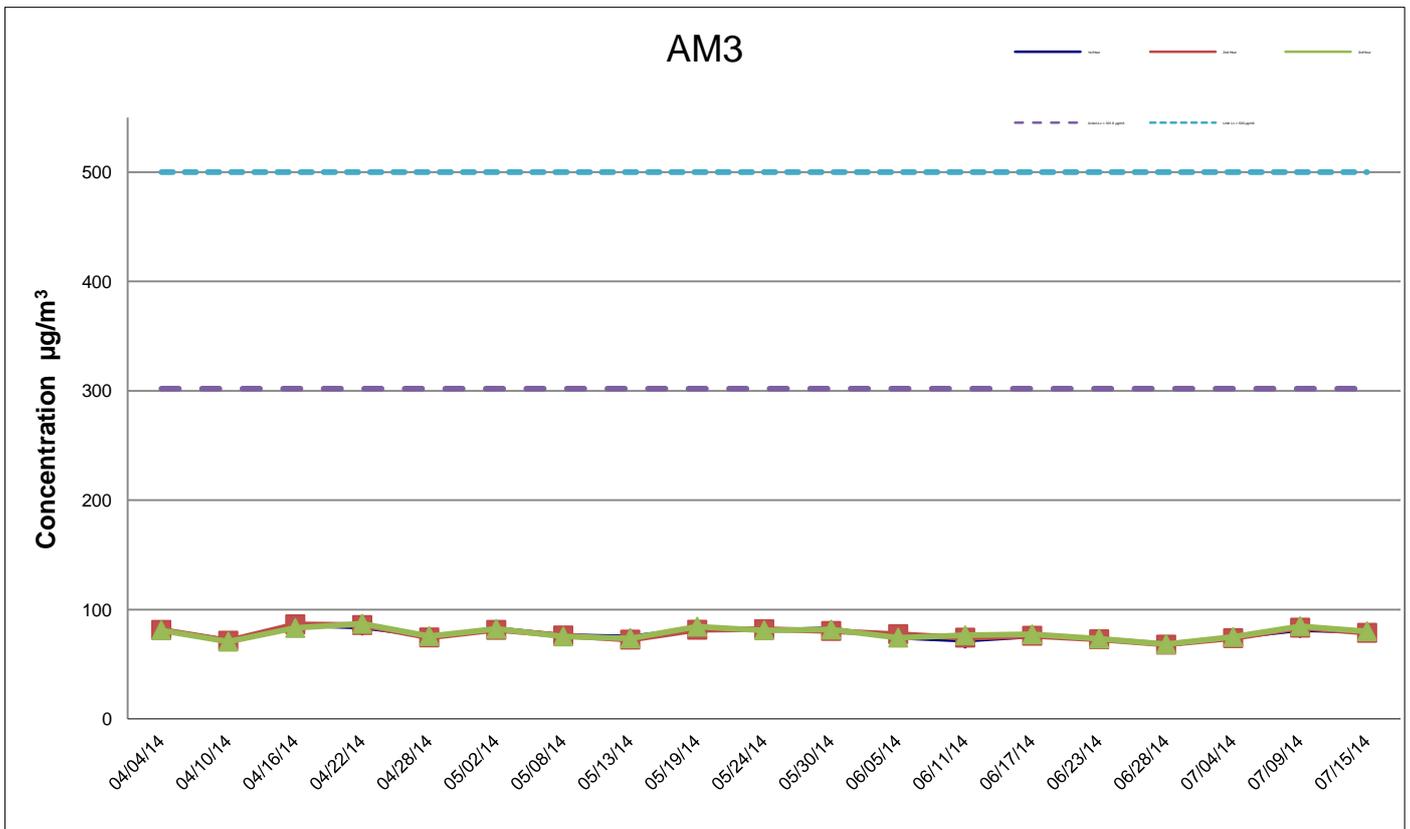
Date	Start Time (hh:mm)	1st Hour	2nd Hour	3rd Hour
		Conc. ( $\mu\text{g}/\text{m}^3$ )	Conc. ( $\mu\text{g}/\text{m}^3$ )	Conc. ( $\mu\text{g}/\text{m}^3$ )
4-Jul-14	11:00	74.1	73.9	75.0
9-Jul-14	9:35	80.7	83.5	84.9
15-Jul-14	10:03	79.0	78.8	80.2
Construction Phase EM&A Programme for Contract 1 of the Project was completed on 15 July 2014. No monitoring has been carried out beyond 15 July 2014.				
		Average	78.9	
		Min	73.9	
		Max	84.9	

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

Date	Start Time (hh:mm)	1st Hour	2nd Hour	3rd Hour
		Conc. ( $\mu\text{g}/\text{m}^3$ )	Conc. ( $\mu\text{g}/\text{m}^3$ )	Conc. ( $\mu\text{g}/\text{m}^3$ )
4-Jul-14	10:45	76.7	75.1	74.8
9-Jul-14	10:20	82.2	84.8	86.7
15-Jul-14	10:35	81.1	80.0	79.1
21-Jul-14	13:30	77.4	75.2	73.8
26-Jul-14	10:12	77.2	78.3	77.4
		Average	78.7	
		Min	73.8	
		Max	86.7	



	<b>Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation</b>	SCALE	N.T.S.	DATE	Aug-14
	Graphical Presentation of Impact 1-hour TSP Monitoring Results	CHECK	ENFL	DRAWN	JCYK
		JOB NO.	60102979	APPENDIX No.	G



**Remark:** The monitoring station at Tai Kwong Secondary School (AM4) was relocated to 168 Shek Kwu Lung Village (AM4A) starting from 1 September 2011 due to the mentioned school was closed down.

<b>AECOM</b>	<b>Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation</b>	SCALE	N.T.S.	DATE	Aug-14
	Graphical Presentation of Impact 1-hour TSP Monitoring Results	CHECK	ENFL	DRAWN	JCYK
		JOB NO.	60102979	APPENDIX No.	
				G	-

## Impact Air Quality Monitoring Results

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

Date	Weather Condition	Air Temp. (°C)	Atmospheric Pressure(hPa)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Filter Weight (g)		Particulate weight(g)	Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )
				Initial	Final			Initial	Final		Initial	Final		
4-Jul-14	Sunny	30.9	1004.0	1.33	1.33	1.33	1913.8	2.6801	2.7266	0.0465	21147.46	21171.46	24.00	24.3
9-Jul-14	Sunny	30.8	1002.3	1.33	1.33	1.33	1913.8	2.6598	2.7812	0.1214	21171.46	21195.46	24.00	63.4
15-Jul-14	Fine	30.6	1009.8	1.33	1.33	1.33	1913.8	2.6884	2.7271	0.0387	21195.46	21219.46	24.00	20.2
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.														
Average													36.0	
Min													20.2	
Max													63.4	

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

Date	Weather Condition	Air Temp. (°C)	Atmospheric Pressure(hPa)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Filter Weight (g)		Particulate weight(g)	Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )
				Initial	Final			Initial	Final		Initial	Final		
4-Jul-14	Sunny	30.9	1004.0	1.32	1.32	1.32	1905.1	2.7422	2.7726	0.0304	17719.12	17743.12	24.00	16.0
9-Jul-14	Sunny	30.8	1002.3	1.32	1.32	1.32	1905.1	2.6473	2.7138	0.0665	17743.12	17767.12	24.00	34.9
15-Jul-14	Fine	30.6	1009.8	1.32	1.32	1.32	1905.1	2.6681	2.6909	0.0228	17767.12	17791.12	24.00	12.0
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.														
Average													20.9	
Min													12.0	
Max													34.9	

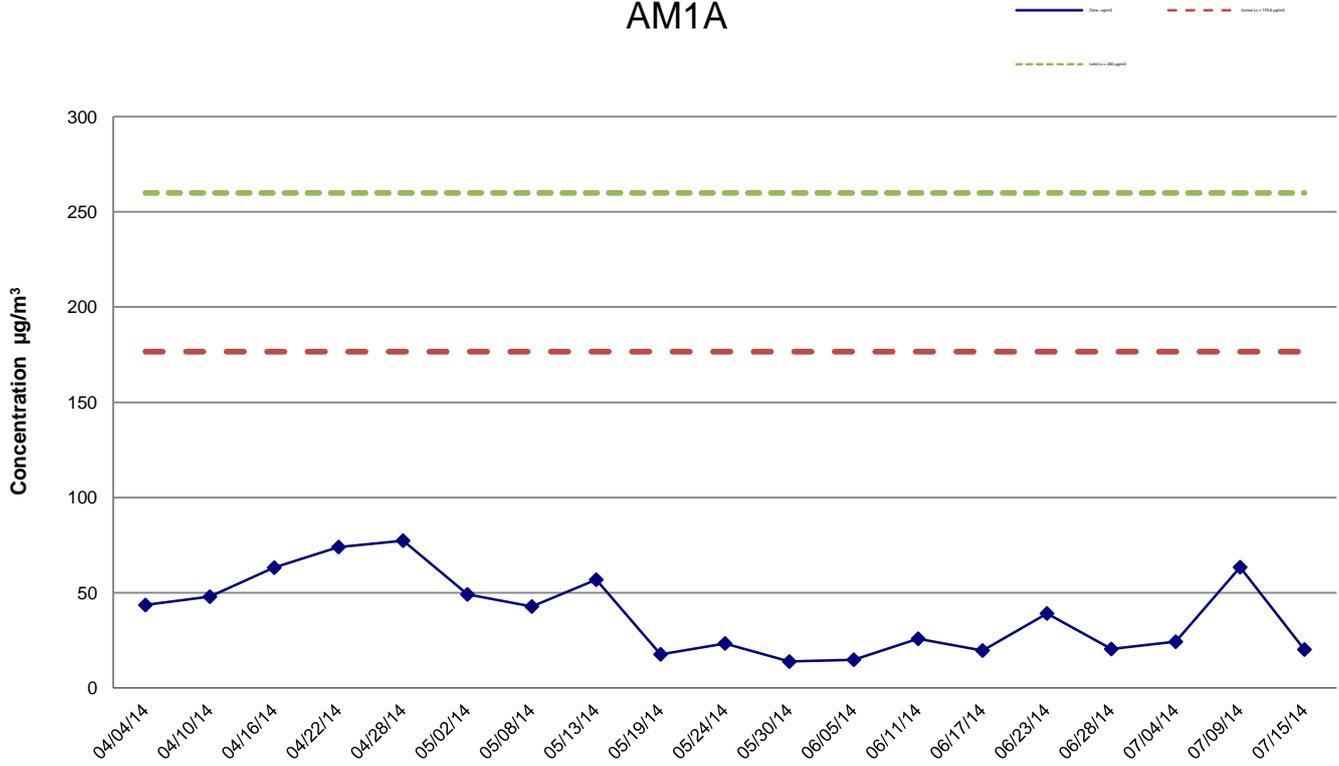
### 24-hour TSP Monitoring Results at Station AM3 (Roof of Switch Room at Riverain Bayside)

Date	Weather Condition	Air Temp. (°C)	Atmospheric Pressure(hPa)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Filter Weight (g)		Particulate weight(g)	Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )
				Initial	Final			Initial	Final		Initial	Final		
4-Jul-14	Sunny	30.9	1004.0	1.33	1.33	1.33	1921.0	2.7226	2.7655	0.0429	21548.59	21572.59	24.00	22.3
9-Jul-14	Sunny	30.8	1002.3	1.33	1.33	1.33	1921.0	2.6553	2.7774	0.1221	21572.59	21596.59	24.00	63.6
15-Jul-14	Fine	30.6	1009.8	1.33	1.33	1.33	1921.0	2.6697	2.7050	0.0353	21596.59	21620.59	24.00	18.4
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.														
Average													34.8	
Min													18.4	
Max													63.6	

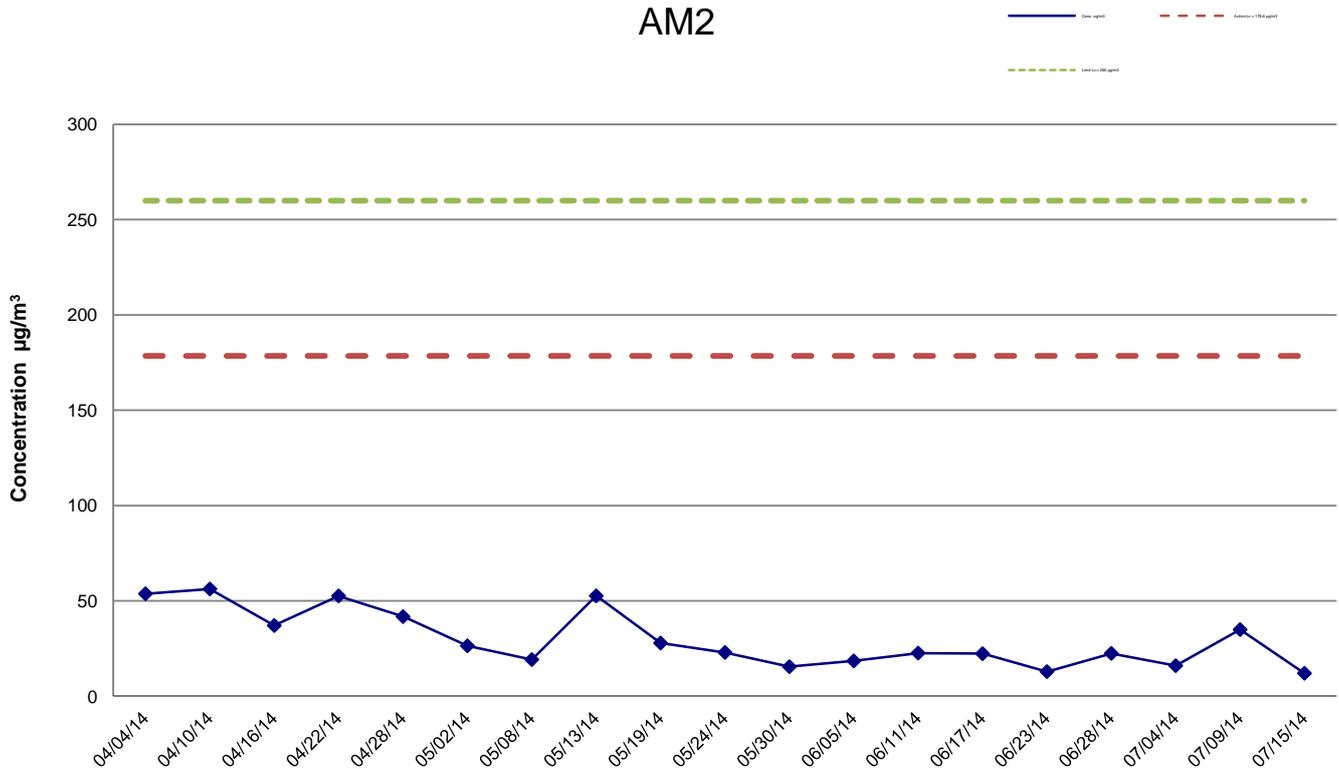
### 24-hour TSP Monitoring Results at Station AM4A (Roof of Switch Room at 168 Shek Kwu Lung Village)

Date	Weather Condition	Air Temp. (°C)	Atmospheric Pressure(hPa)	Flow Rate (m <sup>3</sup> /min.)		Av. flow (m <sup>3</sup> /min)	Total vol. (m <sup>3</sup> )	Filter Weight (g)		Particulate weight(g)	Elapse Time		Sampling Time(hrs.)	Conc. (µg/m <sup>3</sup> )
				Initial	Final			Initial	Final		Initial	Final		
4-Jul-14	Sunny	30.9	1004.0	1.33	1.33	1.33	1918.1	2.7215	2.7469	0.0254	17578.59	17602.59	24.00	13.2
9-Jul-14	Sunny	30.8	1002.3	1.33	1.33	1.33	1918.1	2.6404	2.6892	0.0488	17602.59	17626.59	24.00	25.4
15-Jul-14	Fine	30.6	1009.8	1.33	1.33	1.33	1918.1	2.6405	2.6584	0.0179	17626.59	17650.59	24.00	9.3
21-Jul-14	Fine	29.7	1005.5	1.33	1.33	1.33	1918.1	2.7328	2.7906	0.0578	17650.59	17674.59	24.00	30.1
26-Jul-14	Sunny	28.4	1008.8	1.33	1.33	1.33	1918.1	2.7016	2.7576	0.0560	17674.59	17698.59	24.00	29.2
Average													21.5	
Min													9.3	
Max													30.1	

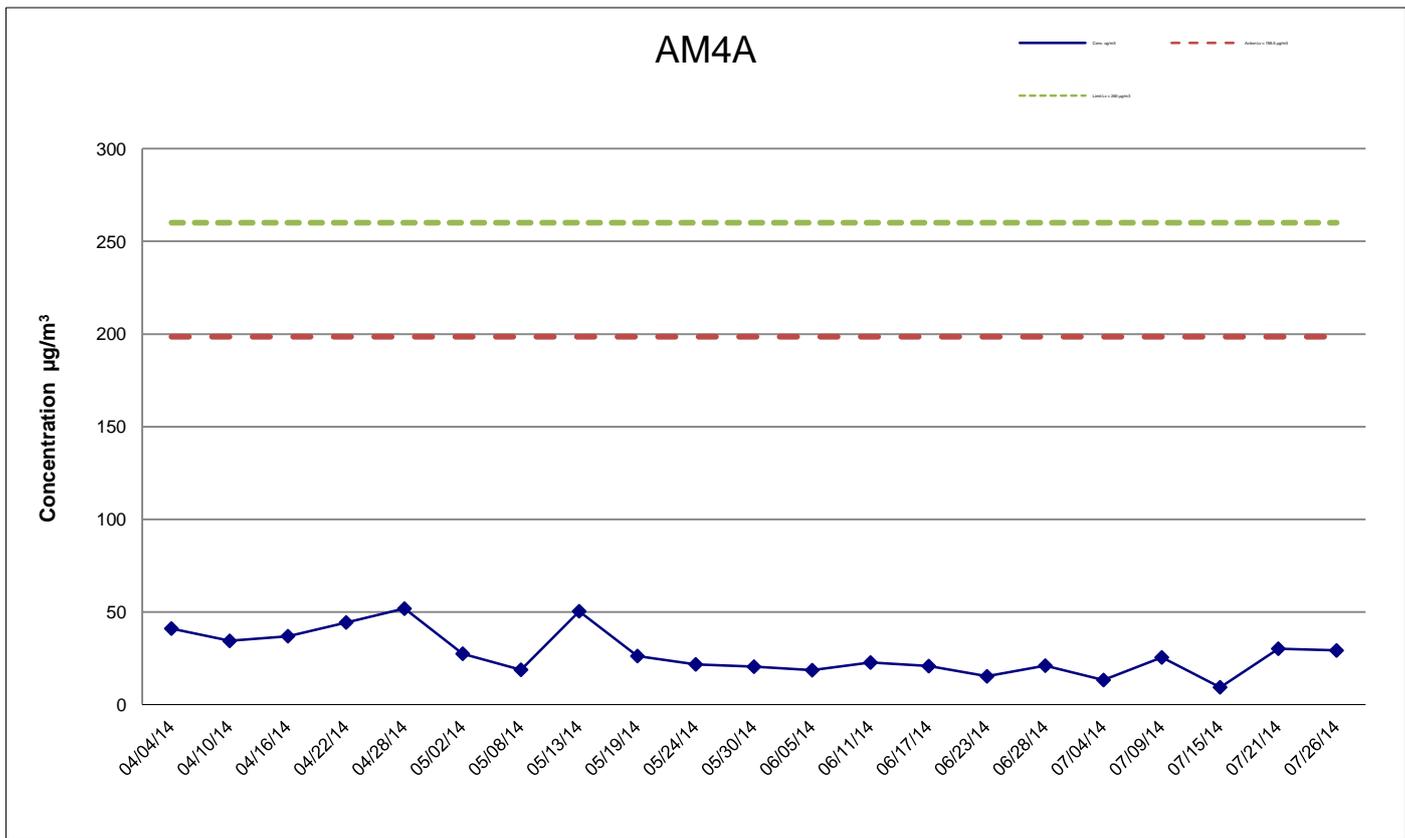
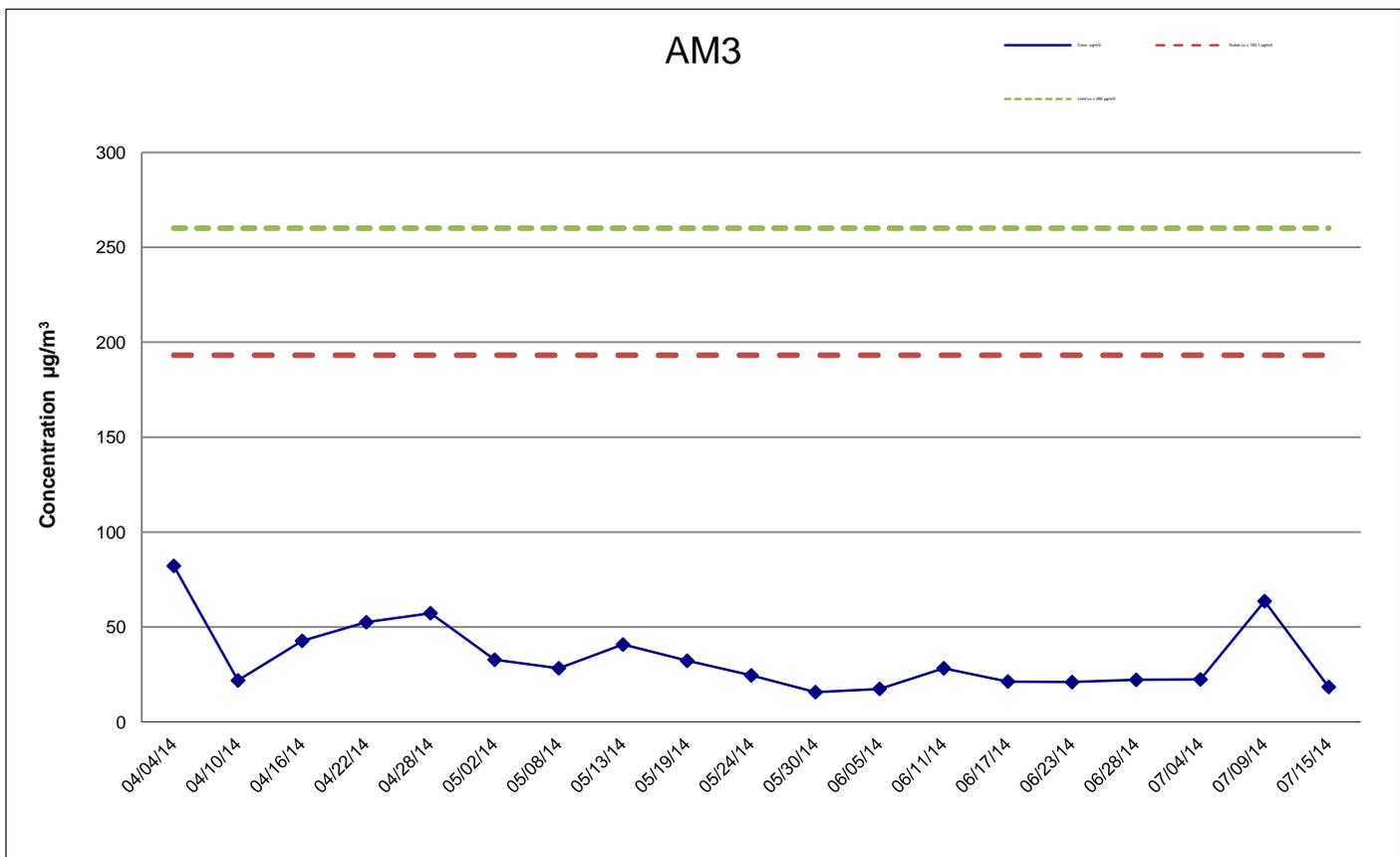
### AM1A



### AM2



	<b>Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation</b>	SCALE	N.T.S.	DATE	Aug-14	
		CHECK	ENFL	DRAWN	JCYK	
	Graphical Presentation of Impact 24-hour TSP Monitoring Results	JOB NO.	60102979	APPENDIX No.	G	Rev.



**Remark:** The monitoring station at Tai Kwong Secondary School (AM4) was relocated to 168 Shek Kwu Lung Village (AM4A) starting from 1 September 2011 due to the mentioned school was closed down.

	<b>Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation</b>	SCALE	N.T.S.	DATE	Aug-14
	Graphical Presentation of Impact 24-hour TSP Monitoring Results	CHECK	ENFL	DRAWN	JCYK
		JOB NO.	60102979	APPENDIX No.	
				G	-

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**APPENDIX H  
METEOROLOGICAL DATA FOR THE  
REPORTING MONTH**

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

Date	Mean Pressure at M.S.L. (hPa)	Air Temperature			Mean Dew Point Temperature (deg C)	Relative Humidity		
		Max. (deg C)	Mean (deg C)	Min. (deg C)		Max. (%)	Mean (%)	Min. (%)
1-Jul	*****	30.9	28.1	25.6	****	***	***	***
2-Jul	*****	34	30	27	****	***	***	***
3-Jul	*****	34.4	30.3	27.6	****	***	***	***
4-Jul	*****	34.5	30.8	28.2	****	***	***	***
5-Jul	*****	34.5	30.5	28.3	****	***	***	***
6-Jul	*****	34.8	31.1	28.3	****	***	***	***
7-Jul	*****	34.5	28.9	24.9	****	***	***	***
8-Jul	*****	34.5	30.1	27.1	****	***	***	***
9-Jul	*****	36.4	30.1	26.8	****	***	***	***
10-Jul	*****	35.1	30	27.4	****	***	***	***
11-Jul	*****	31.7	28.7	27	****	***	***	***
12-Jul	*****	31.8	29.3	27.8	****	***	***	***
13-Jul	*****	33.8	29.9	27.9	****	***	***	***
14-Jul	*****	33.7	30.1	28	****	***	***	***
15-Jul	*****	35.2	30.7	28.2	****	***	***	***
16-Jul	*****	34.7	30.3	27.6	****	***	***	***
17-Jul	*****	32.8	29.6	26.3	****	***	***	***
18-Jul	*****	28.7	27.1	25.5	****	***	***	***
19-Jul	*****	32	28.7	26.4	****	***	***	***
20-Jul	*****	32.1	28.7	25.6	****	***	***	***
21-Jul	*****	33.9	29.7	27.2	****	***	***	***
22-Jul	*****	34.6	29.4	27	****	***	***	***
23-Jul	*****	34.8	31.6	28.4	****	***	***	***
24-Jul	*****	31.6	29.8	26	****	***	***	***
25-Jul	*****	33.4	29.2	25.9	****	***	***	***
26-Jul	*****	32.9	27.8	25.4	****	***	***	***
27-Jul	*****	31.3	28.3	26.3	****	***	***	***
28-Jul	*****	34	29.9	26.5	****	***	***	***
29-Jul	*****	34.6	29.9	26.8	****	***	***	***
30-Jul	*****	35.3	30.9	27.7	****	***	***	***
31-Jul	*****	35.2	31.3	27.8	****	***	***	***
<b>Mean</b>	*****	33.6	29.7	27	****	***	***	***
<b>Maximum</b>	*****	36.4	31.6	28.4	****	***	***	***
<b>Minimum</b>	*****	28.7	27.1	24.9	****	***	***	***

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

Date	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind (km/h)
1-Jul	28.5	40	7.4
2-Jul	0.0	150	4.7
3-Jul	3.5	270	10.0
4-Jul	0.0	270	7.0
5-Jul	1.0	60	5.3
6-Jul	0.0	40	8.4
7-Jul	39.0	270	5.3
8-Jul	0.0	270	4.6
9-Jul	27.5	140	6.4
10-Jul	2.0	040#	5.9#
11-Jul	15.0	60	4.8
12-Jul	12.5	50	6.0
13-Jul	2.0	50	6.6
14-Jul	4.5	270	8.4
15-Jul	0.0	150	4.4
16-Jul	0.0	50	7.5
17-Jul	8.0	80	32.0
18-Jul	46.0	90	36.9
19-Jul	6.0	140	15.8
20-Jul	8.0	70	8.9
21-Jul	0.0	50	3.4
22-Jul	2.0	260	9.2
23-Jul	0.0	260	23.7
24-Jul	4.0	230	16.6
25-Jul	0.0	80	6.5
26-Jul	31.5	50	13.0
27-Jul	4.5	80	15.8
28-Jul	0.0	70	5.1
29-Jul	0.0	150	4.9
30-Jul	0.0	150	4.6
31-Jul	0.0	270	11.6
<b>Mean</b>	-----	050#	10.0#
<b>Total</b>	245.5	---	-----
<b>Maximum</b>	46.0	---	36.9#
<b>Minimum</b>	0.0	---	3.4#

\*\*\* 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,  
July 2014**

Date	Mean Pressure at M.S.L. (hPa)	Air Temperature			Mean Dew Point Temperature (deg C)	Relative Humidity		
		Max. (deg C)	Mean (deg C)	Min. (deg C)		Max. (%)	Mean (%)	Min. (%)
1-Jul	1008.2	30.2	27.5	25.6	26	98	92	77
2-Jul	1006.3	33	29.4	26.3	25.4	97	80	56
3-Jul	1003.5	32.9	29.6	26.9	25.7	98	80	62
4-Jul	1003.2	34.4	30.4	27.2	24.6	91	72	51
5-Jul	1003.6	33	29.8	27.4	26	89	80	68
6-Jul	1003.2	34.5	30.6	27.8	25.1	89	74	48
7-Jul	1001.1#	31.6	27.8#	25.5	25.2#	98	86#	70
8-Jul	999.7	31.4	28.8	26.1	25.9	94	85	76
9-Jul	1001.6	32.4	29.2	26.6	26	95	83	73
10-Jul	1003.2	31.6	29	26	26.1	96	85	70
11-Jul	1004.6	29.7	27.6	26.5	26.3	98	93	84
12-Jul	1006	32.2	28.3	26.7	26.5	98	90	69
13-Jul	1007.7	32.3	29	26.8	26.2	98	85	62
14-Jul	1008.7	32.9	29.8	27.5	25.6	90	79	60
15-Jul	1009	34.1	30.1	27.4	25	92	75	50
16-Jul	1007.3	31.9	29.4	26.8	25.1	92	78	61
17-Jul	1004.4	31.6	29.3	26.6	25.4	95	80	65
18-Jul	1003.5	29.5	27.8	25.6	25.3	96	87	74
19-Jul	1006.6	30.3	28.4	26.5	25.3	96	84	68
20-Jul	1007.3	30.6	28.1	25.5	25.4	98	86	66
21-Jul	1004.8	32.1	29.1	26.6	24.9	95	79	60
22-Jul	1001.7	33.8	28.7	25.9	25.5	95	83	60
23-Jul	998.5	34.3	31.3	27.4	26.1	92	74	60
24-Jul	1000.2	31.6	30.1	26.7	26	84	79	71
25-Jul	1005	31.1	28.3	25.8	25.1	95	83	72
26-Jul	1008.3	28.9	27.2	25.1	25.4	98	90	78
27-Jul	1008	30.8	28.1	25.9	25.4	98	86	69
28-Jul	1005.6	32.5	28.9	25.9	24.1	94	76	56
29-Jul	1004.6	32.8	29.2	25.9	23.4	85	71	48
30-Jul	1004.4	33.6	30	26.6	24.9	89	75	54
31-Jul	1002.1	34.9	31.1	27.2	24.8	88	70	49
<b>Mean</b>	1004.6#	32.1	29.1#	26.5	25.4#	94	81#	64
<b>Maximum</b>	1009.0#	34.9	31.3#	27.8	26.5#	98	93#	84
<b>Minimum</b>	998.5#	28.9	27.2#	25.1	23.4#	84	70#	48

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

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

\*\*\* 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,  
July 2014**

Date	Mean Pressure at M.S.L. (hPa)	Air Temperature			Mean Dew Point Temperature (deg C)	Relative Humidity		
		Max. (deg C)	Mean (deg C)	Min. (deg C)		Max. (%)	Mean (%)	Min. (%)
1-Jul	1008.7	31.5	27.9	25.7	25.6	96	88	68
2-Jul	1006.8	33.1	29.4	25.7	25.3	96	80	63
3-Jul	1004.1	33.3	30.2	27.3	25.3	94	76	55
4-Jul	1003.7	34.3	30.8	28.5	24.4	85	70	44
5-Jul	1004.2	34.1	30.6	27.4	24.9	87	72	52
6-Jul	1003.8	34.7	30.6	27.3	25	90	73	49
7-Jul	1001.7#	33	28.5#	26	25.1#	92	82#	64
8-Jul	1000.2	32.9	29.4	25.7	25.6	92	80	67
9-Jul	1002.1	33.5	30.3	26.7	25.7	93	77	64
10-Jul	1003.8	32.6	29.6	27.4	25.6	93	79	67
11-Jul	1005.2	32	28.3	26.7	25.9	96	87	64
12-Jul	1006.6	32.7	29	26.6	25.9	97	84	64
13-Jul	1008.3	33	29.5	26.6	25.8	96	81	57
14-Jul	1009.4	32.7	29.6	26.5	25.3	90	78	59
15-Jul	1009.6	33.8	30.3	27.2	24.7	90	72	51
16-Jul	1007.8	33.2	29.7	25.8	24.3	96	74	53
17-Jul	1004.9	33	29.7	27.1	24.2	88	73	57
18-Jul	1004.3	29.3	27.9	26.2	24.4	91	81	69
19-Jul	1007.3	31.5	29.1	27.1	24.7	90	78	67
20-Jul	1007.9	31.8	28.8	25.7	24.9	98	81	61
21-Jul	1005.4	33.2	29.2	26.3	24.5	94	77	53
22-Jul	1002.3	34.7	29.3	25.6	24.9	92	78	54
23-Jul	999.2	34.1	31	28.2	26.1	89	76	60
24-Jul	1001	30.9	29.7	27.4	25.9	87	80	68
25-Jul	1005.5	32	29.1	26.5	24.9	90	79	66
26-Jul	1008.8	29.7	27.4	24.8	25.1	97	88	75
27-Jul	1008.6	31.2	28.7	26.3	25	93	81	65
28-Jul	1006.1	33.1	29	25.4	23.7	95	74	51
29-Jul	1005.1	33.3	29.2	25.2	23.1	87	71	53
30-Jul	1004.9	34.3	29.9	26	24.7	94	75	50
31-Jul	1002.6	34.6	30.9	27.1	24.8	90	71	50
<b>Mean</b>	1005.2#	32.8	29.4#	26.5	25.0#	92	78#	59
<b>Maximum</b>	1009.6#	34.7	31.0#	28.5	26.1#	98	88#	75
<b>Minimum</b>	999.2#	29.3	27.4#	24.8	23.1#	85	70#	44

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

Date	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind (km/h)
1-Jul	13.0	150	4.5
2-Jul	0.0	210	6.8
3-Jul	0.5	220	8.7
4-Jul	0.0	220	9.8
5-Jul	0.0	210	7.7
6-Jul	0.0	210	5.3
7-Jul	22.5#	060#	3.6#
8-Jul	4.0	30	4.8
9-Jul	0.0	30	4.8
10-Jul	2.5	40	4.7
11-Jul	25.0	340	3.3
12-Jul	13.0	340	5.0
13-Jul	8.0	210	6.8
14-Jul	6.5	210	6.8
15-Jul	2.0	210	6.8
16-Jul	0.0	110	5.5
17-Jul	19.5	60	12.0
18-Jul	39.0	130	13.9
19-Jul	8.0	140	11.5
20-Jul	28.0	90	4.3
21-Jul	0.0	210	4.2
22-Jul	6.0	220	5.3
23-Jul	0.0	200	13.0
24-Jul	1.5	210	15.4
25-Jul	0.5	30	6.0
26-Jul	37.5	350	3.8
27-Jul	2.0	60	6.0
28-Jul	0.0	20	5.3
29-Jul	0.0	120	5.1
30-Jul	0.0	220	7.2
31-Jul	0.0	220	8.2
<b>Mean</b>	-----	210#	7.0#
<b>Total</b>	239.0#	---	-----
<b>Maximum</b>	39.0#	---	15.4#
<b>Minimum</b>	0.0#	---	3.3#

\*\*\* 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

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

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**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

Date	Measured Noise Level for 30-min, dB(A)				Baseline Noise Level, dB(A)	Corrected Construction Noise Level, dB(A) **	Limit Level, dB(A)	Exceedance (Y/N)
	Start Time	Leq	L10	L90				
4-Jul-14	13:32	66.3	68.1	64.2	64.2	62.1	75	N
9-Jul-14	10:25	62.0	63.6	60.0	64.2	62.0	75	N
15-Jul-14	16:33	62.7	63.9	61.2	64.2	62.7	75	N
21-Jul-14	13:35	64.0	65.7	60.0	64.2	64.0	75	N

Corrected Noise Level dB(A)	
<b>Average</b>	62.8
<b>Max</b>	64.0
<b>Min</b>	62.0

Location : NM2 (38 Ha Wun Yiu G/F - Free Field)

Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

Date	Measured Noise Level for 30-min, dB(A)				Baseline Noise Level, dB(A)*	Corrected Construction Noise Level, dB(A) **	Limit Level, dB(A)	Exceedance (Y/N)
	Start Time	Leq*	L10*	L90*				
4-Jul-14	10:02	67.8	69.0	65.3	68.1	67.8	75	N
9-Jul-14	14:15	63.7	65.0	61.0	68.1	63.7	75	N
15-Jul-14	15:20	67.4	68.9	65.2	68.1	67.4	75	N

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.

Corrected Noise Level dB(A)	
<b>Average</b>	66.6
<b>Max</b>	67.8
<b>Min</b>	63.7

\* +3dB(A) Façade effect correction included

\*\* Construction noise level is only calculated when Measured noise level (Leq) > Baseline noise level.

If Measured noise level < Baseline noise level, Corrected noise level = Measured noise level

**Appendix I Impact Daytime Construction Noise Monitoring Results**

Location : NM3 (Wong Shiu Chi Middle School Rooftop - Façade)

Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

Date	Measured Noise Level for 30-min, dB(A)				Baseline Noise Level, dB(A)	Corrected Construction Noise Level, dB(A) **	Limit Level, dB(A)#	Exceedance (Y/N)
	Start Time	Leq	L10	L90				
4-Jul-14	10:19	66.4	67.6	65.0	64.8	61.3	70	N
9-Jul-14	13:45	63.0	64.6	60.0	64.8	63.0	65	N
15-Jul-14	10:43	63.3	65.1	60.9	64.8	63.3	65	N
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.								

exam: 11-23/6

Corrected Noise Level dB(A)	
<b>Average</b>	62.6
<b>Max</b>	63.3
<b>Min</b>	61.3

Location : NM4 (Uptown Plaza Block 4 Rooftop - Façade)

Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

Date	Measured Noise Level for 30-min, dB(A)				Baseline Noise Level, dB(A)	Corrected Construction Noise Level, dB(A) **	Limit Level, dB(A)	Exceedance (Y/N)
	Start Time	Leq	L10	L90				
4-Jul-14	9:40	65.7	67.2	63.4	67.4	65.7	75	N
9-Jul-14	13:00	63.7	65.0	60.5	67.4	63.7	75	N
15-Jul-14	13:40	65.2	67.1	62.6	67.4	65.2	75	N
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.								

Corrected Noise Level dB(A)	
<b>Average</b>	64.9
<b>Max</b>	65.7
<b>Min</b>	63.7

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

\*\* Construction noise level is only calculated when Measured noise level (Leq) > Baseline noise level.

If Measured noise level < Baseline noise level, Corrected noise level = Measured noise level

### Appendix I Impact Daytime Construction Noise Monitoring Results

Location : NM5 (The Paragon Clubhouse Rooftop - Façade)

Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

Date	Measured Noise Level for 30-min, dB(A)				Baseline Noise Level, dB(A)	Corrected Construction Noise Level, dB(A) **	Limit Level, dB(A)	Exceedance (Y/N)
	Start Time	Leq	L10	L90				
4-Jul-14	13:35	63.7	65.1	61.8	65.2	63.7	75	N
9-Jul-14	11:11	63.7	65.5	62.0	65.2	63.7	75	N
15-Jul-14	12:58	65.5	67.2	63.1	65.2	53.7	75	N

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.

Corrected Noise Level dB(A)	
<b>Average</b>	62.2
<b>Max</b>	63.7
<b>Min</b>	53.7

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

Date	Measured Noise Level for 30-min, dB(A)				Baseline Noise Level, dB(A)*	Corrected Construction Noise Level, dB(A) **	Limit Level, dB(A)#	Exceedance (Y/N)
	Start Time	Leq*	L10*	L90*				
4-Jul-14	11:05	64.1	66.5	62.0	64.5	64.1	70	N
9-Jul-14	15:00	64.1	65.5	63.0	64.5	64.1	70	N
15-Jul-14	14:23	62.1	63.3	60.2	64.5	62.1	70	N

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.

Corrected Noise Level dB(A)	
<b>Average</b>	63.5
<b>Max</b>	64.1
<b>Min</b>	62.1

#### Remarks

\* +3dB(A) Façade effect correction included

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

\*\* Construction noise level is only calculated when Measured noise level (Leq) > Baseline noise level.

If Measured noise level < Baseline noise level, Corrected noise level = Measured noise level

**Appendix I Impact Daytime Construction Noise Monitoring Results**

Location : NM7 (Riverain Bayside Switch Room Rooftop - Façade)

Day time 07:00-19:00 hrs Normal Weekdays Impact Noise Monitoring Results

Date	Measured Noise Level for 30-min, dB(A)				Baseline Noise Level, dB(A)	Corrected Construction Noise Level, dB(A) **	Limit Level, dB(A)	Exceedance (Y/N)
	Start Time	Leq	L10	L90				
4-Jul-14	11:15	66.4	68.2	64.9	61.5	64.7	75	N
9-Jul-14	9:40	58.2	59.8	56.5	61.5	58.2	75	N
15-Jul-14	10:05	61.7	63.2	69.4	61.5	48.2	75	N
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.								

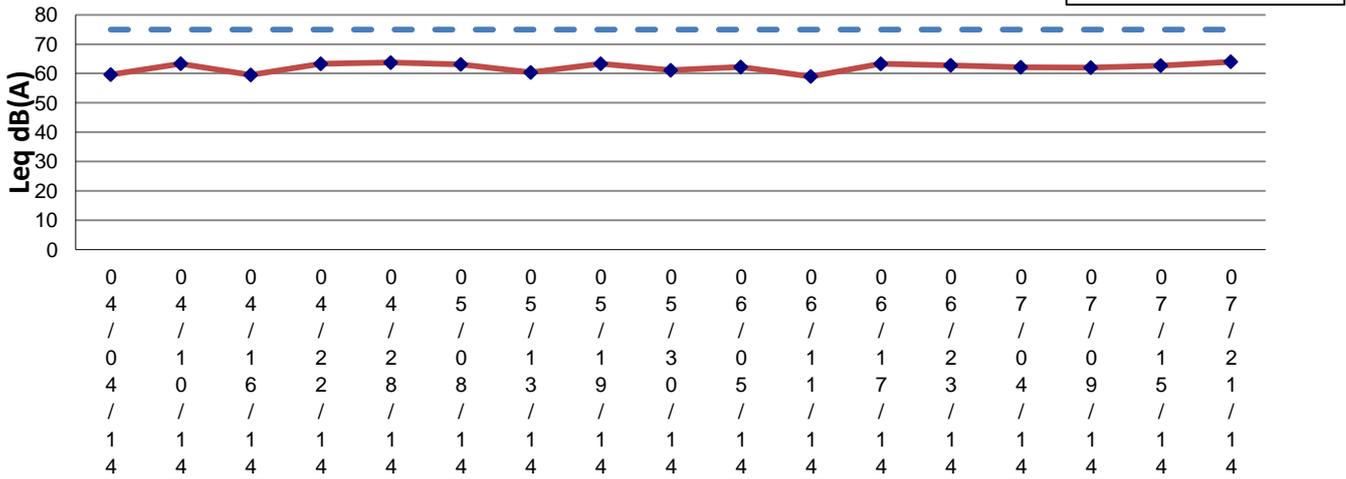
<b>Corrected Noise Level dB(A)</b>	
<b>Average</b>	60.9
<b>Max</b>	64.7
<b>Min</b>	48.2

Remarks

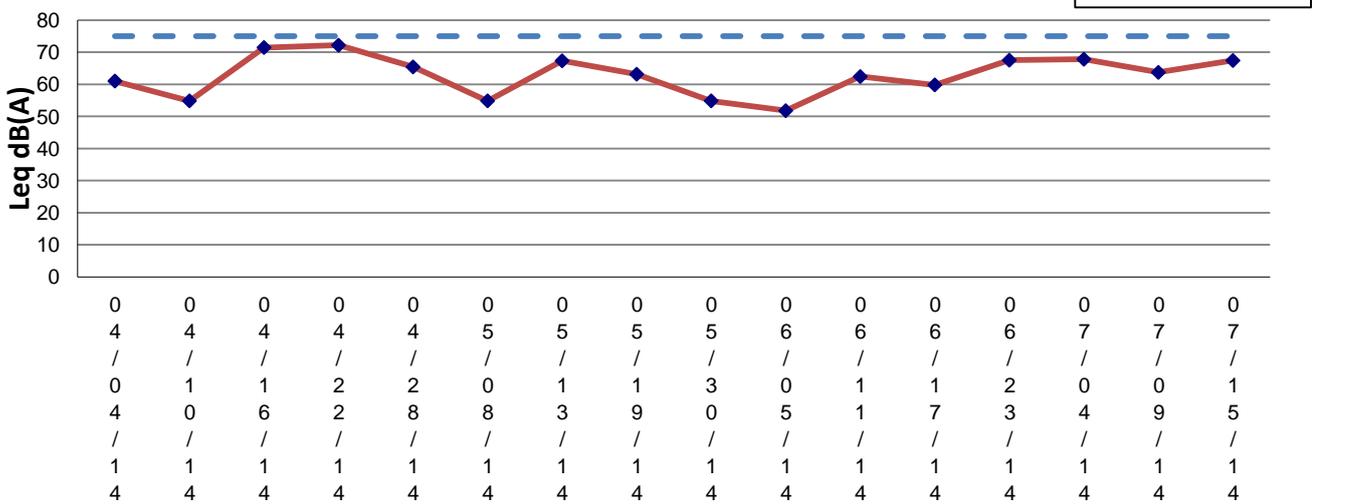
\*\* Construction noise level is only calculated when Measured noise level (Leq) > Baseline noise level.

If Measured noise level < Baseline noise level, Corrected noise level = Measured noise level

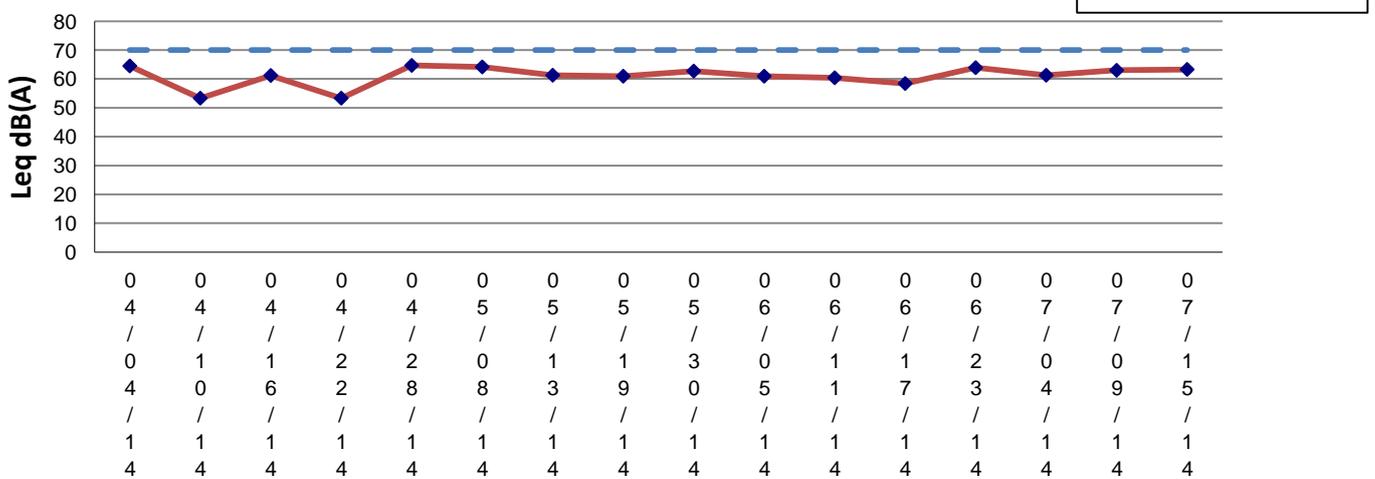
### NM1A



### NM2



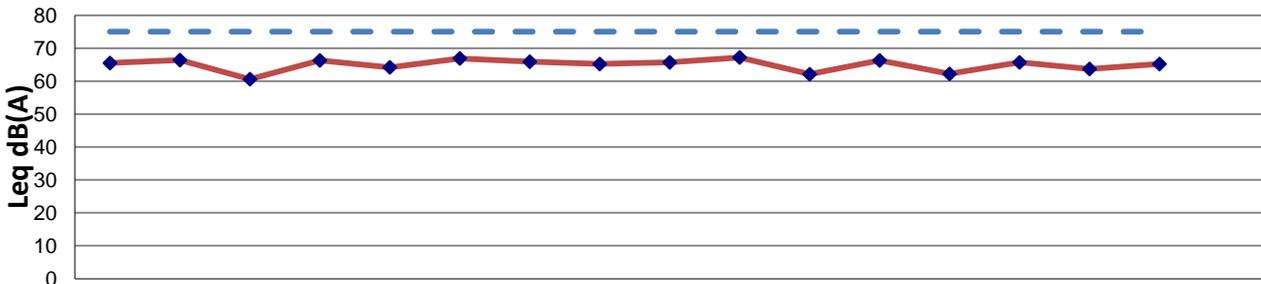
### NM3



**Remarks:** (1) The monitoring station at Tai Kwong Secondary School (NM1) was relocated to 168 Shek Kwu Lung Village (NM1A) starting from 1 September 2011 due to the mentioned school was closed down;  
 (2) Measured noise level would be shown if Measured noise level (Leq) <= Baseline noise level

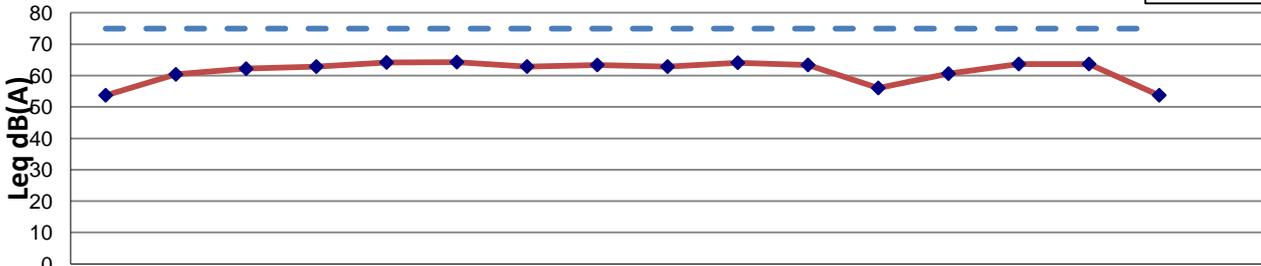
	<b>Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation</b>	SCALE	N.T.S.	DATE	Aug-14
		CHECK	ENFL	DRAWN	JCYK
	Graphical Presentation of Impact Daytime Construction Noise Monitoring Results	JOB NO.	60102979	APPENDIX No.	I
					-

### NM4



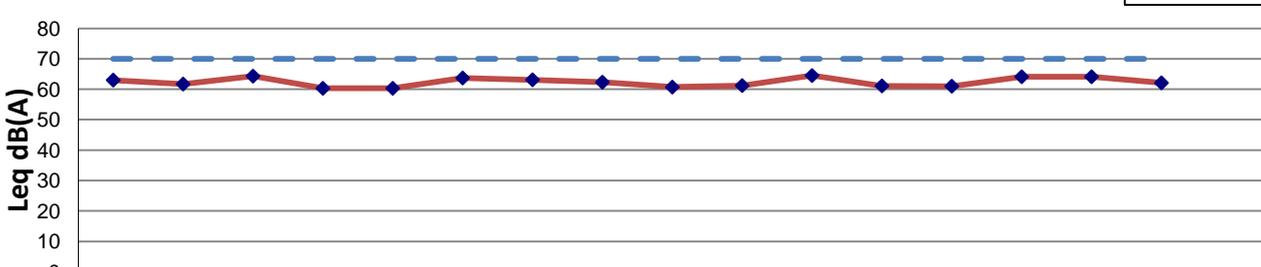
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
0	1	1	2	2	0	1	1	3	0	1	1	2	0	0	1
4	0	6	2	8	8	3	9	0	5	1	7	3	4	9	5
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

### NM5



0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
0	1	1	2	2	0	1	1	3	0	1	1	2	0	0	1
4	0	6	2	8	8	3	9	0	5	1	7	3	4	9	5
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

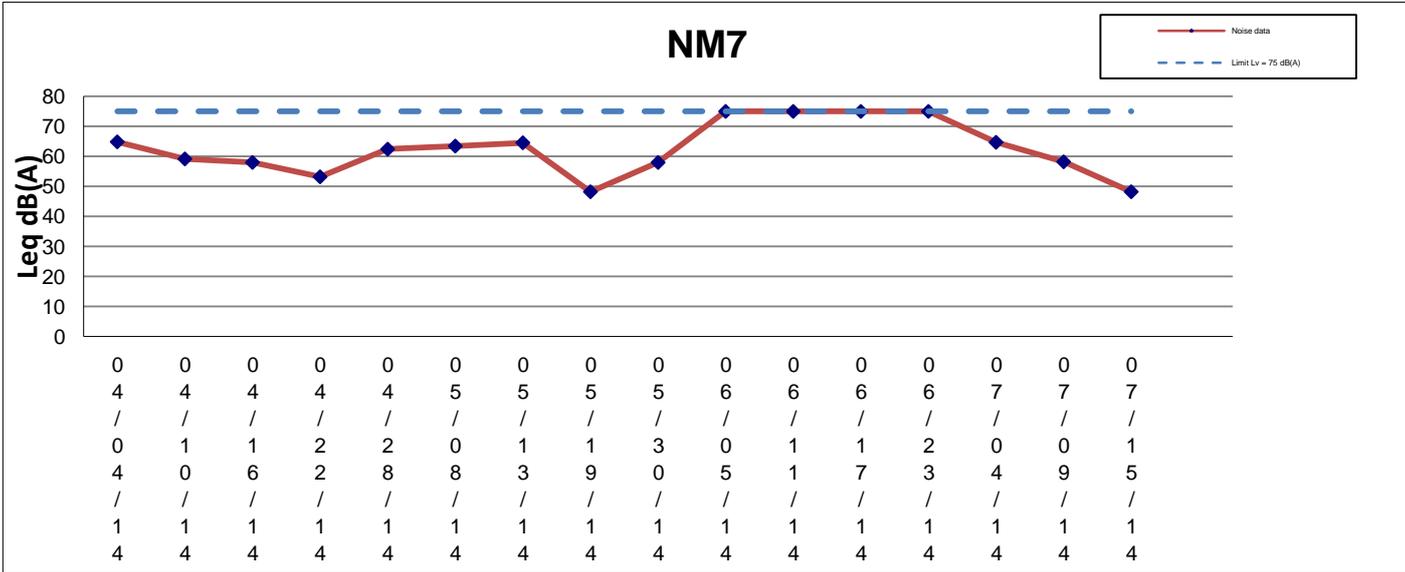
### NM6



0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	4	4	4	4	5	5	5	5	6	6	6	6	7	7	7
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
0	1	1	2	2	0	1	1	3	0	1	1	2	0	0	1
4	0	6	2	8	8	3	9	0	5	1	7	3	4	9	5
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Remark: Measured noise level would be shown if Measured noise level (Leq) <= Baseline noise level

	<b>Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation</b>	SCALE	N.T.S.	DATE	Aug-14	
		CHECK	ENFL	DRAWN	JCYK	
	Graphical Presentation of Impact Daytime Construction Noise Monitoring Results	JOB NO.	60102979	APPENDIX No.	I	Rev.



**Remark:** Measured noise level would be shown if Measured noise level (Leq) <= Baseline noise level

	<b>Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation</b>	SCALE	N.T.S.	DATE	Aug-14
		CHECK	ENFL	DRAWN	JCYK
	Graphical Presentation of Impact Daytime Construction Noise Monitoring Results	JOB NO.	60102979	APPENDIX No.	I
					-

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**APPENDIX J  
EVENT ACTION PLAN**

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## Appendix J – Event Action Plan

### Event / Action Plan for Air Quality

Event	Action			
	ET Leader	IEC	ER	Contractor
<b>Action Level</b>				
Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC and ER;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method.</li> </ol>	<ol style="list-style-type: none"> <li>1. Notify Contractor.</li> </ol>	<ol style="list-style-type: none"> <li>1. Rectify any unacceptable practice;</li> <li>2. Amend working methods if appropriate.</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC and ER;</li> <li>3. Repeat measurements to confirm findings;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Discuss with IEC and Contractor on remedial actions required;</li> <li>6. If exceedance continues, arrange meeting with IEC and ER;</li> <li>7. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise the ER on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise Implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>2. Implement the agreed proposals;</li> <li>3. Amend proposal if appropriate.</li> </ol>

Event / Action Plan for Air Quality

Event Action Level	Action			
	ET Leader	IEC	ER	Contractor
<b>Limit Level</b>				
Exceedance for one sample	<ol style="list-style-type: none"> <li>1. Identify source;</li> <li>2. Inform IEC, ER, Contractor and EPD;</li> <li>3. Repeat measurement to confirm finding;</li> <li>4. Increase monitoring frequency to daily;</li> <li>5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> </ol>	<ol style="list-style-type: none"> <li>1. Check monitoring data submitted by ET;</li> <li>2. Check Contractor's working method;</li> <li>3. Discuss with ET and Contractor on possible remedial measures;</li> <li>4. Advise ER on the effectiveness of the proposed remedial measures;</li> <li>5. Supervise implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. Ensure remedial measures properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Amend proposal if appropriate.</li> </ol>
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> <li>1. Notify IEC, ER, Contractor and EPD;</li> <li>2. Identify source;</li> <li>3. Repeat measurement to confirm findings;</li> <li>4. Increase frequency to daily;</li> <li>5. Analyse Contractor's working procedures to determine possible mitigation to be;</li> <li>6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly;</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of exceedance in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consultation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Ensure remedial measures properly implemented;</li> <li>5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Resubmit proposals if problem still not under control;</li> <li>5. Stop the relevant portion of works as determined by ER until the exceedance is abated.</li> </ol>

Event / Action Plan for Noise Impact

Event Limit Level	Action			
	ET Leader	IEC	ER	Contractor
Action Level	<ol style="list-style-type: none"> <li>1. Notify IEC and the Contractor.</li> <li>2. Carry out investigation.</li> <li>3. Report the results of investigation to IEC and the Contractor.</li> <li>4. Discuss with the Contractor and formulate remedial measures.</li> <li>5. Increase monitoring frequency to check mitigation effectiveness.</li> </ol>	<ol style="list-style-type: none"> <li>1. Review with analysed results submitted by ET.</li> <li>2. Review the proposed remedial measures by the Contractor and advise ER accordingly.</li> <li>3. Supervise the implement of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify the Contractor.</li> <li>3. Require the Contractor to propose remedial measures for the analysed noise problem.</li> <li>4. Ensure remedial measures are properly implemented.</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC.</li> <li>2. Implement noise mitigation proposals.</li> </ol>
Limit Level	<ol style="list-style-type: none"> <li>1. Notify, IEC, ER, EPD and the Contractor.</li> <li>2. Identify the source.</li> <li>3. Repeat measurement to confirm findings.</li> <li>4. Increase monitoring frequency.</li> <li>5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented.</li> <li>6. Inform IEC, ER, and EPD the causes &amp; actions taken for the exceedances.</li> <li>7. Assess effectiveness of the Contractor's remedial actions and keep IEC, EPD and ER informed of the results.</li> <li>8. If exceedance stops, cease additional monitoring.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET Leader and the Contractor on the potential remedial actions.</li> <li>2. Review the Contractor's remedial actions whenever necessary to assure their effectiveness and advise ER accordingly.</li> <li>3. Supervise the implementation of remedial measures.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing.</li> <li>2. Notify the Contractor.</li> <li>3. Require the Contractor to propose remedial measures for the analysed noise problem.</li> <li>4. Ensure remedial measures are properly implemented.</li> <li>5. 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.</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance.</li> <li>2. Submit proposals for remedial actions to IEC within 3 working days of notification.</li> <li>3. Implement the agreed proposals.</li> <li>4. Resubmit proposals if problem still not under control.</li> <li>5. Stop the relevant activity of works as determined by the ER until the exceedance is abated.</li> </ol>

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**APPENDIX K  
SITE INSPECTION SUMMARIES**

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## EM&A Environmental Inspection Record

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



### Site Inspection Summary

#### Inspection Information

Contract No.	HY/2008/09 (Between Island House Interchange and Ma Wo)
Date:	2 July 2014
Time:	09:00
Inspection No.:	455

#### Non-compliance

Nil

#### Observations

##### Follow Up Observations

Nil.

##### New Observations

Nil.

#### 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:	3 July 2014
Time:	14:00
Inspection No.:	456

### Non-compliance

Nil
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### Observations

<p><u>Follow Up Observations</u></p> <ol style="list-style-type: none"><li>1. Water was removed together with the plastic containers (Closed).</li><li>2. Mud on the footpath was cleared (Closed).</li><li>3. Mud washed onto the footpath was cleared (Closed).</li></ol> <p><u>New Observations</u></p> <p>Nil.</p>
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### Remarks

Nil
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## 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:	10 July 2014
Time:	14:00
Inspection No.:	458

### Non-compliance

Nil
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### Observations

<p><u>Follow Up Observations</u></p> <p>Nil.</p>  <p><u>New Observations</u></p> <p>1. Stagnant water and general refuse were observed on Bridge 18A. The Contractor should clear the stagnant water to prevent mosquito breeding and clear the refuse to maintain site cleanliness.</p>
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### Remarks

Nil
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## 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:	17 July 2014
Time:	14:00
Inspection No.:	459

### Non-compliance

Nil
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### Observations

<p><u>Follow Up Observations</u></p> <ol style="list-style-type: none"><li>1. Stagnant water and general refuse were cleared on Bridge 18A (Closed).</li></ol> <p><u>New Observations</u></p> <ol style="list-style-type: none"><li>2. General refuse was observed. The Contractor should clear the general refuse to maintain site tidiness.</li><li>3. Exposed slope was observed. The Contractor should cover the exposed slope for rainstorm protection by impervious sheeting.</li></ol>
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### Remarks

Nil
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## 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:	24 July 2014
Time:	14:00
Inspection No.:	460

### Non-compliance

Nil
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### Observations

<p><u>Follow Up Observations</u></p> <ol style="list-style-type: none"><li>1. The accumulated general refuse was cleared (Closed).</li><li>2. Exposed slope was covered by tarpaulin sheets and will be permanently covered by grass net (Closed).</li></ol> <p><u>New Observations</u></p> <p>Nil.</p> <p><u>Reminders</u></p> <p>Exposed slopes were observed without dust suppression measures. The Contractor was reminded to cover the slopes after work for rainstorm protection.</p>
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### Remarks

Nil
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## 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:	31 July 2014
Time:	14:00
Inspection No.:	461

### Non-compliance

Nil
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### Observations

<p><u>Follow Up Observations</u></p> <p>Nil.</p> <p><u>New Observations</u></p> <ol style="list-style-type: none"><li>1. Open stockpiles were observed without dust suppression measures. The Contractor should cover the stockpiles with tarpaulin sheets or carry out equivalent dust suppression measures.</li><li>2. Mud was observed on the footpath. The Contractor should clear the mud regularly.</li></ol>
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### Remarks

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

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**Appendix L****Statistics on Complaints, Notifications of Summons and Successful Prosecutions**

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