

Highways Department

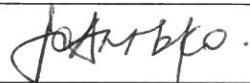

Agreement No. CE 20/2009 (EP)

**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 April 2014**

[05/2014]

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Version:	Rev. 0	Date: 13 May 2014
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13 May 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 April 2014 (Stage 1)**

We refer to the captioned Monthly EM&A Report received on 12 and 13 May 2014 submitted by Environmental Team (ET) via email. Pursuant to EP Condition 3.3, I hereby verify the Monthly EM&A Report for April 2014 (Stage 1) for the Project.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

Terence Kong
Independent Environmental Checker

c.c. HyD – Mr. Raymond T W Kong / Mr. Dennis Wong / Mr. William Chiang (Fax: 2761 4864)
ETL, AECOM – Mr. Y T Tang (Fax: 2317 7609)

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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 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 June 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 30 April 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
- Retaining wall construction
- Noise barrier footing construction
- Noise barrier installation
- Asphalt laying
- Installation of Drainage Pipes

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

- Condition survey of existing structures;
- Setting up the temporary traffic arrangement;
- Excavation of trial trenches to locate existing utilities;
- Spread footing of Noise Barrier / Semi Noise Enclosure;
- Slope works;
- Noise barrier construction;
- Modification of existing bridge structures;
- Entrusted watermains works;
- Sewer Installation;
- Road and drainage 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) dust-related complaint was received on 15 April 2014 and followed up by the Environmental Team in April 2014. The investigation result is reported in Section 4.6.

No 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 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.
- 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 May 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-fourth 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 April 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
ER of Stage 1, Contract 1 (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer /TOL01	James Tsang	9038 8797	26674000
ER of Stage 1, Contract 2 (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer /TOL02	Paul Appleton	9097 5833	2653 2348
IEC of Stage 1 (Mott MacDonald Hong Kong Limited)	Independent Environmental Checker	Terence Kong	2828 5919	2827 1823
Contractor of Stage 1, Contract 1 (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
Contractor of Stage 1, Contract 2 (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
 - Retaining wall construction
 - Noise barrier footing construction
 - Noise barrier installation
 - Asphalt laying
 - Installation of Drainage Pipes
- 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:-
- Condition survey of existing structures
 - Setting up the temporary traffic arrangement
 - Excavation of trial trenches to locate existing utilities
 - Spread footing of Noise Barrier / Semi Noise Enclosure
 - Slope works, including installation of soil nails
 - Noise barrier construction
 - Modification of existing bridge structures
 - Entrusted watermains works
 - Sewer Installation
 - Road and drainage works
 - 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 was conducted for at least three times every 6 days, while impact 24-hour TSP monitoring was 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 ± 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 m³/min, and complied with the range specified in the updated EM&A Manual (i.e. 0.6-1.7 m³/min).
 - (x) The programmable digital timer was set for a sampling period of 24 hrs, and the starting time, weather condition and the filter number were recorded.
 - (xi) The initial elapsed time was recorded.
 - (xii) At the end of sampling, on site temperature and atmospheric pressure readings were taken and the final flow rate of the HVS was checked and recorded.
 - (xiii) The final elapsed time was recorded.
 - (xiv) The sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact.
 - (xv) It was then placed in a clean plastic envelope and sealed.
 - (xvi) All monitoring information was recorded on a standard data sheet.
 - (xvii) Filters were then sent to ALS Technichem (HK) Pty Ltd. for analysis.
- (d) Maintenance and Calibration
- (i) The HVS and its accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply.
 - (ii) 5-point calibration of the HVS was conducted using TE-5025A Calibration Kit prior to the commencement of baseline monitoring. Bi-monthly 5-point calibration of the HVS will be carried out during impact monitoring.
 - (iii) Calibration certificate of the HVSs are provided in Appendix E.

2.5.2 1-hour TSP Monitoring

(a) Measuring Procedures

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

- (i) Turn the power on.
- (ii) Close the air collecting opening cover.
- (iii) Push the "TIME SETTING" switch to [BG].
- (iv) Push "START/STOP" switch to perform background measurement for 6 seconds.
- (v) Turn the knob at SENSI ADJ position to insert the light scattering plate.
- (vi) Leave the equipment for 1 minute upon "SPAN CHECK" is indicated in the display.
- (vii) Push "START/STOP" switch to perform automatic sensitivity adjustment. This measurement takes 1 minute.
- (viii) Pull out the knob and return it to MEASURE position.
- (ix) Push the "TIME SETTING" switch the time set in the display to 3 hours.
- (x) Lower down the air collection opening cover.
- (xi) Push "START/STOP" switch to start measurement.

(b) Maintenance and Calibration

- (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 April 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 ($\mu\text{g}/\text{m}^3$)
AM1A	79.6	70.3 – 85.0	302.1	500
AM2	81.1	74.5 – 86.6	301.9	500
AM3	79.8	70.7 – 87.1	301.9	500
AM4A	79.9	74.3 – 86.4	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 ($\mu\text{g}/\text{m}^3$)
AM1A	61.2	43.6 – 77.7	176.6	260
AM2	48.2	37.0 – 56.2	178.6	260
AM3	51.3	21.8 – 82.1	193.1	260
AM4A	41.7	34.4 – 51.8	198.5	260

2.8.2 The major dust source in the reporting period included construction activities from Stage 1 of the Project, as well as nearby traffic emissions.

2.8.3 All 1-hour and 24-hour TSP results were below the Action and Limit Level at all monitoring locations in the reporting month.

2.8.4 The event action plan is annexed in Appendix J.

2.8.5 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 February 2014 from the Tai Mei Tuk Automatic Weather Station were missing, the weather data from Tai Po Automatic Weather Station in April 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 2238 / 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 April 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	62.3	59.5 – 63.7	75
NM2	68.5	54.8 – 72.2	75
NM3	61.8	53.3 – 64.7	70/65 [#]
NM4	65.0	60.6 – 66.4	75
NM5	61.8	53.7 – 64.2	75
NM6	62.2*	60.3 – 64.3*	70 [#]
NM7	61.1	53.2 – 64.8	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 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.

3.7.3 No noise monitoring result exceeding the Limit Level was recorded at all monitoring stations in the reporting month.

3.7.4 Major noise sources during the noise monitoring included construction activities of Stage 1 of the Project and nearby traffic noise and general school activities.

3.7.5 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. In the reporting month, 5 site inspections were carried out on 2, 7, 16, 23 and 30 April 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 30 April 2014.

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

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

Air Quality

4.1.4 No adverse observation was identified in the reporting month.

Noise

4.1.5 No adverse observation was identified in the reporting month.

Water Quality

4.1.6 No adverse observation was identified in the reporting month.

Chemical and Waste Management

4.1.7 The Contractor was reminded to provide a drip tray to the chemicals.

Landscape and Visual Impact

4.1.8 No adverse observation was identified in the reporting month.

Miscellaneous

4.1.9 Stagnant water was observed at the catch pit. The Contractor was reminded to clear the water or treat the water regularly with larvicidal oil to prevent mosquito breeding.

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

Air Quality

4.1.11 Exposed slope was observed. The Contractor was reminded to prevent soil from being depositing in existing drainage systems and the river nearby by covering the slope with tarpaulin sheets.

4.1.12 The Contractor was reminded to spray dusty surfaces with water.

Noise

4.1.13 No adverse observation was identified in the reporting month.

Water Quality

4.1.14 The Contractor was reminded to clear the water at the wheel-washing facilities.

Chemical and Waste Management

- 4.1.15 General refuse was observed near the worker rest area. The Contractor was reminded to clear the refuse to maintain site cleanliness.
- 4.1.16 Oil drums were observed at the east abutment of Bridge 18. The Contractor was reminded to remove the oil drums.

Landscape and Visual Impact

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

Miscellaneous

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

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), 57m³ of inert C&D materials was disposed of to the public fill at Tuen Mun 38 (of which 0m³ was broken concrete), while 195m³ of general refuse was disposed of at the NENT landfill. 622kg of paper/cardboard packaging, 4,586kg of plastics and 125,773kg of metals were collected by recycling contractors in the reporting month. 1,126m³ and 0m³ of inert C&D materials were reused on site and reused in NENT for backfilling purpose 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), 90m³ of inert C&D materials was disposed of to Tuen Mun 38 and 190m³ of general refuse was disposed of to the NENT landfill in the reporting period. No paper/cardboard packaging, plastics or metals was collected by the recycling contractors in the reporting month. 0m³ and 295m³ 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 Contract 1 Contractor (CSHK) and the Contract 2 Contractor (GCL) are advised to maintain on site waste sorting and recording system and maximize reuse / recycle 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/A	31/01/2012	N/A	HyD	Tolo Highway/Fanling Highway between Island House Interchange and Ma Wo
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-RN0561-13	02/10/2013	01/04/2014	CSHK	Modification of Sign Gantry_G11, G13, G70, G73, G74, G75 & G76
		GW-RN0039-14	27/01/2014	26/07/2014	CSHK	Construction works at Island House Interchange
		GW-RN0163-14	13/03/2014	30/04/2014	CSHK	Slip Road from Tai Po Road - Yuen Chau Tsai to Tolo Highway near Wang Fuk Court
		GW-RN0170-14	12/03/2014	30/05/2014	CSHK	Road Re-pavement at Tolo Highway Between Yuen Chau Tsai and Ma Wo
		GW-RN0172-14	28/03/2014	17/06/2014	CSHK	Laying of Crossroad Ducts near Ma Lui Shui

Statutory Reference	License/ Permit	License or Permit No.	Valid Period		License/ Permit Holder	Remarks
			From	To		
		GW-RN0185-14	16/03/2014	01/06/2014	CSHK	Road pavement for Slip Road C
		GW-RN0187-14	25/03/2014	31/05/2014	CSHK	Modification of Sign Gantry_G13, 16, 66, & 70
		GW-RN0188-14	18/03/2014	30/05/2014	CSHK	Noise Barrier Installation Works on Tolo Highway (Fanling Bound) (Weekday)
		GW-RN0193-14	21/03/2014	31/05/2014	CSHK	Installation of Noise Barrier on Kwong Fuk West Viaduct
		GW-RN0197-14	30/03/2014	01/06/2014	CSHK	Road Paving Works at Slip Road L
		GW-RN0212-14	28/03/2014	31/05/2014	CSHK	Paving and Road Marking for Slip Road A
		GW-RN0210-14	11/04/2014	09/10/2014	CSHK	Modification of Sign Gantries G13, 16, 66 & 70
		GW-RN0242-14	10/04/2014	30/06/2014	CSHK	Construction works next to MTRC's tracks protection zone
		GW-RN0261-14	20/04/2014	01/06/2014	CSHK	Slip Road leading from Tolo Highway (Fanling Bound) to Tat Wan Road
		GW-RN0265-14	23/04/2014	31/05/2014	CSHK	Tree Felling at NB19
		GW-RN0695-13	17/11/2013	12/05/2014	GCL	General work and asphalt paving at Tolo Highway near Shek Kwu Lung and Ma Wo (CH18.1 - 19.2)
		GW-RN0786-13	19/12/2013	11/06/2014	GCL	Renewal of GW-RN0484-13 Tolo Highway and Fanling Highway near Tai Po Tai Wo Road, Lam Kam Interchange & Tai Wo Service Road West
		GW-RN0037-14	28/01/2014	12/04/2014	GCL	Erection of Sign Gantry G29 at Lam Kam Flyover (Fanling Bound) from CH21.0 to CH21.2B

Statutory Reference	License/ Permit	License or Permit No.	Valid Period		License/ Permit Holder	Remarks
			From	To		
		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-RN0088-14	09/02/2014	27/04/2014	GCL	2 Lane Shifting Works and Modification of Road Marking at Tolo Highway (shatin bound) CH19.8 - 20.4B
		GW-RN0089-14	16/02/2014	20/04/2014	GCL	Lane Shifting Works and Modification of Road Marking at Tolo Highway South Bound (CH19.2 to 18.6A)
		GW-RN0091-14	16/02/2014	27/04/2014	GCL	Lane Shifting Works and Modification of Road Marking (Sheung Shui Bound) CH20.8 to CH21.3B near Tai Po Tai Wo Road
		GW-RN0092-14	18/02/2014	26/04/2014	GCL	Erection of Sign gantry at a section of Tolo Highway (Fanling Bound) CH18.9 to CH19.1B
		GW-RN0095-14	16/02/2014	27/04/2014	GCL	Lane shifting and modification of road marking at Tolo Highway Fanling Bound (CH18.9 to 19.7B)
		GW-RN0112-14	05/03/2014	26/04/2014	GCL	Installation of sign gantry G56 at Tolo Highway (Shatin Bound) near Lam Kam Interchange from CH21.3 to CH21.1A
		GW-RN0115-14	28/02/2014	06/05/2014	GCL	Renewal of GW-RN0758-13 Maintenance works at Tolo Highway near Tai Po Tai Wo Road, Lam Kam Interchange & Tai Wo Service Road West

Statutory Reference	License/ Permit	License or Permit No.	Valid Period		License/ Permit Holder	Remarks
			From	To		
		GW-RN0116-14	02/03/2014	27/04/2014	GCL	Lane Shifting and modification of road marking at Tolo Highway (Shatin Bound) CH21.4 to 20.1A near Lam Kam Flyover
		GW-RN0119-14	02/03/2014	27/04/2014	GCL	Lane Shifting and modification of road marking at Tolo Highway (Shatin Bound) CH21.4 to 20.1A near Lam Kam Flyover
		GW-RN0129-14	05/03/2014	17/05/2014	GCL	Renewal of GW-RN0785-13 Stitching construction at a section of Tolo Highway (Shatin Bound) CH19.6 to CH17.95A
		GW-RN0145-14	09/03/2014	27/04/2014	GCL	Lane shifting works and modification of road marking at Tolo Highway (Shatin Bound) CH19.0 to 18.0 near Ma Wo

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) dust-related complaint was received on 15 April 2014 and followed up by the Environmental Team in April 2014.

- 4.6.3 EPD referred a complaint from a resident of Ma Wo Tsuen on 15 April 2014.
- 4.6.4 The complaint was about the dust emission on 12 April 2014 at the construction site of the Tolo Highway widening construction works at Ma Wo. The complaint location was Ma Wo Tsuen near Northbound of Tolo Highway. The complainant complained that there was no water spraying or covering by tarpaulin sheets when the construction works were taking place. Serious dust nuisance has been caused. He claimed that no improvement has been observed. He requested the follow-up by the EPD.
- 4.6.5 As informed by the Contractor (Gammon Construction Ltd.) and confirmed by the Engineer of the Project, adjusting slope profile at W47 was carried out on 12 April 2014.
- 4.6.6 The following mitigation measures have been implemented by the Contractor:
- Manual water spraying at exposed slopes;
 - Slopes at a sight distance from the complainant being covered by grass net as permanent works;
 - Tarpaulin dust screen of appropriately 1.8 m in height set on the top of W45-47 which is along W44 and NB31 (partially removed when the corresponding upper slope is being covered by grass net, in order to install permanent fencing at the slope edge); and
 - Ensuring the mechanical covering of the dump truck would not open until they reach the unloading point, in case any they pass through W45-47.
- 4.6.7 The Contractor was reminded to carry out mitigation measures as observed previously when similar complaints were lodged:
- Keeping the loading and unloading height of general fill materials to a minimum;
 - Carrying out wheel washing at the site entrance; and
 - Spraying water by sprinklers on haul roads and exposed slopes, and manually to the leaves of the trees to minimize the emitted dust from dropping to the complainant's house and Ma Wo Tsuen through the trees.
- 4.6.8 With reference to the monitoring results recorded on the day closest to the day of complaint, i.e. 10 April 2014, at the nearest EM&A monitoring station (AM1A- Sheung Wun Yiu), the 24-hour TSP level was 47.9 ug/m³, which was below the action level of 176.6 ug/m³. Besides, the average 1-hour TSP level was 76.3 ug/m³, which was also below the action level of 302.3 ug/m³.
- 4.6.9 Nevertheless, the complaint was considered project-related.
- 4.6.10 Therefore, the Contractor is reminded to enhance the dust mitigation measures as stated in the "Recommended Mitigation Measures".
- 4.6.11 Recommended Mitigation Measures:
- 1) Confirm the implementation of dust mitigation measures (erection of tarpaulin dust screens along the work areas W38-48, spraying water manually by workers and sprinkler systems for the haul roads and exposed slopes at work areas W38-48, covering non-working slopes by tarpaulin sheets within the work areas, covering dusty materials carried in dump trucks within work areas W38-48) during all construction and dusty activities to minimize fugitive dust generation;
 - 2) Increase the frequency of watering in the work areas (specially at the entrance of the construction site, and on site haul roads and exposed slopes / areas in the work areas W38-48), so that site haul roads and exposed surfaces are in a wet condition;
 - 3) Keep soil surfaces wet before loading and unloading activities;
 - 4) Maintain the frequency of the environmental supervision (by the Contractor) to regularly review the adequacy and effectiveness of dust suppression measures to suit the construction progress;
 - 5) Inform the complainant before dusty activities (e.g. rock breaking, excavation, grouting and backfilling) are carried out; and
 - 6) Foster better public relations with the sensitive receivers and complainants nearby.

- 4.6.12 No new notification of summons and prosecution was received in the reporting period.
- 4.6.13 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 May 2014 will be:-

- Temporary shoring, sheetpiling and excavation
- Retaining wall construction
- Noise barrier footing construction
- Noise barrier installation
- Asphalt laying
- Installation of drainage pipes

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

- Condition survey of existing structures
- Setting up the temporary traffic arrangement
- Excavation of trial trenches to locate existing utilities
- Spread footing of Noise Barrier / Semi Noise Enclosure
- Slope works, including installation of soil nails
- Noise barrier construction
- Modification of existing bridge structures
- Entrusted watermains works
- Sewer Installation
- Road and drainage works
- Landscaping works

5.2 Key Issues for the Coming Month

5.2.1 Key issues to be considered in May 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 May 2014 is provided in Appendix F.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

- 6.1.1 The construction phase and EM&A programme of Stage 1 of the project commenced on 23 November 2009.
- 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 10 times in April 2014. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audits.
- 6.1.6 One (1) dust-related complaint was received on 15 April 2014 and followed up by the Environmental Team in April 2014.
- 6.1.7 No new notification of summons and prosecution was received in the reporting period.

6.2 Recommendations

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

Air Quality Impact

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

Construction Noise Impact

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

Water Quality Impact

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

Chemical and Waste Management

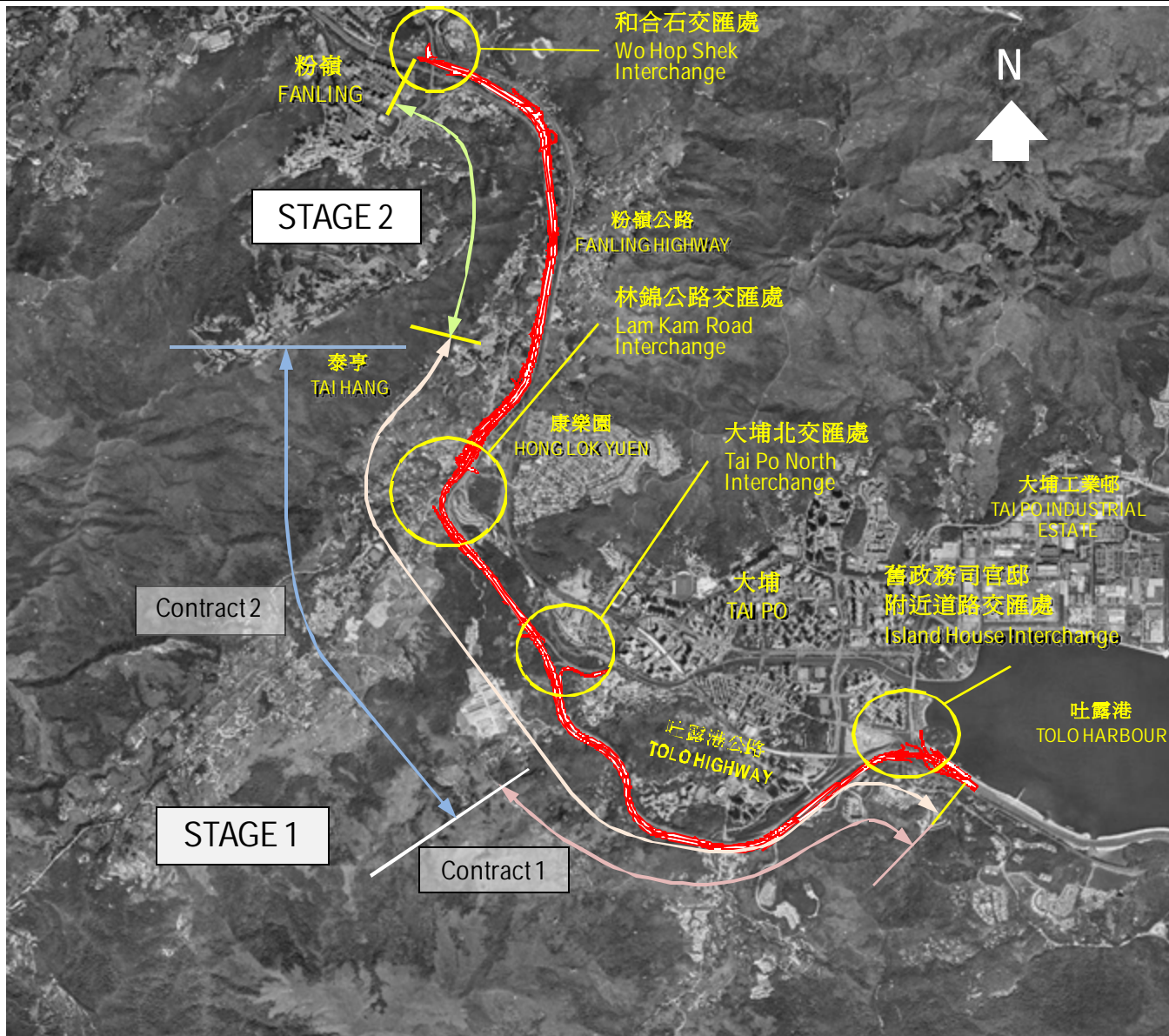
- C&D materials and wastes, general refuse should be sorted properly and removed timely.

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

Landscape and Visual Impact

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

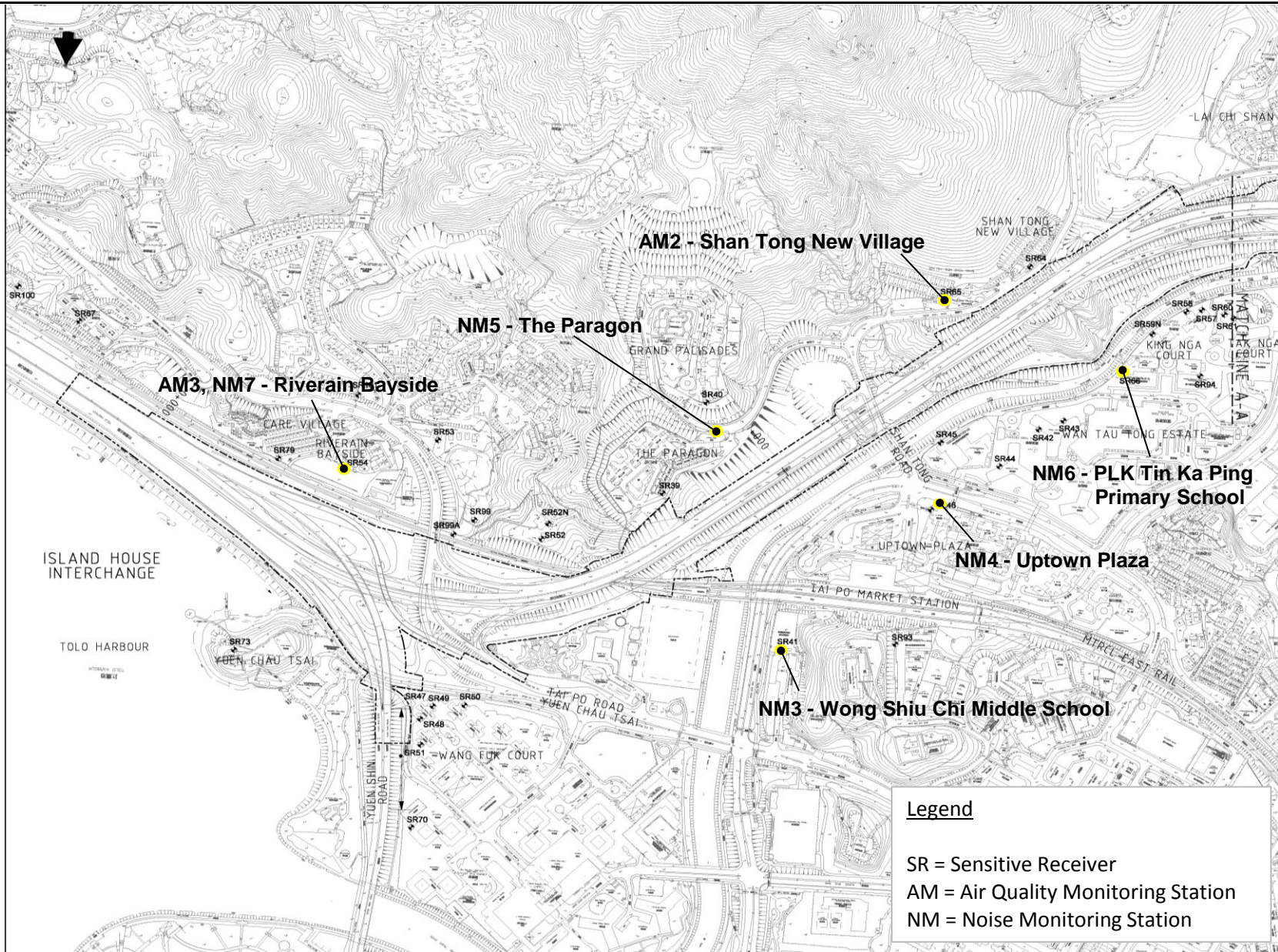
FIGURES



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

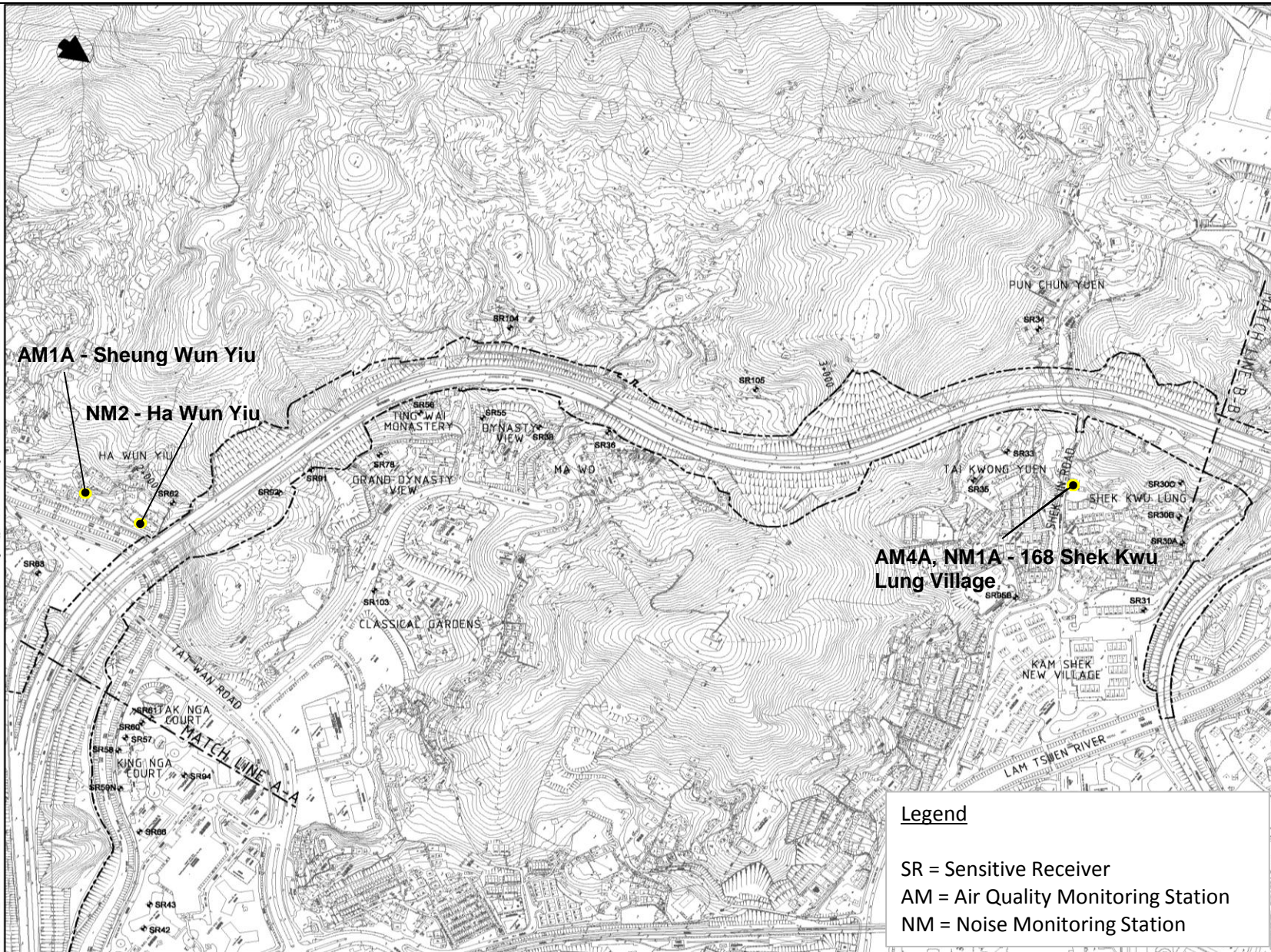
SR = Sensitive Receiver
 AM = Air Quality Monitoring Station
 NM = Noise Monitoring Station



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

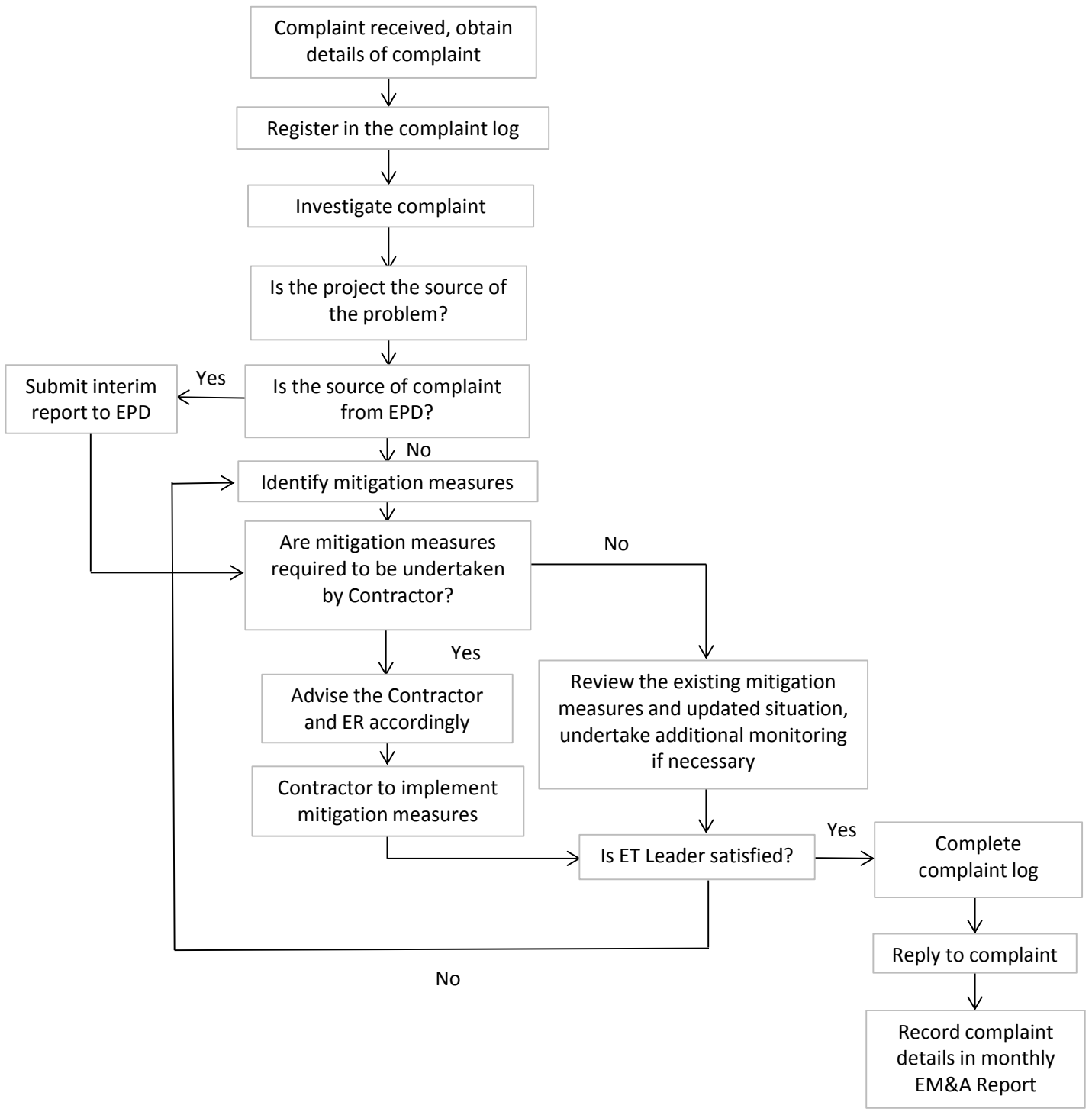
SR = Sensitive Receiver
 AM = Air Quality Monitoring Station
 NM = Noise Monitoring Station



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

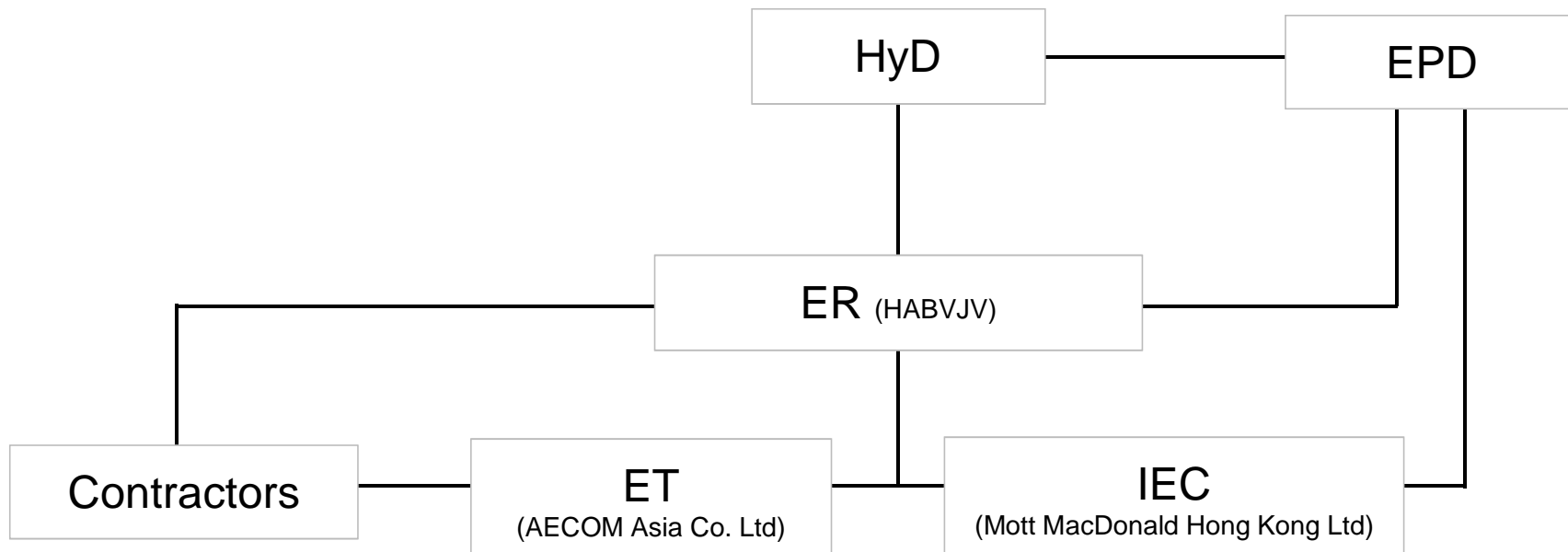
EM&A Monitoring Locations (Sheet 2 of 2)

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



AECOM	Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation	SCALE	N.T.S.	DATE	Mar-13
		CHECK	ENFL	DRAWN	CHCL
	Environmental Complaint Handling Procedure	JOB NO.	60102979	FIGURE	4.1

**APPENDIX A
PROJECT ORGANIZATION STRUCTURE**



**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	-

**APPENDIX B
CONSTRUCTION PROGRAMMES**

Activity ID	Activity Name	Original Duration	Start	Finish	2014																	
					April					May					June				July			
					23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	06	13	
KEY DATES																						
Section Completion																						
Section Completion Date																						
Key Date																						
KD-300900	KD9 Section 9 Area SA1, 3 to 9A Road Maintenance (1580)	0		23-Apr-14*	◆ KD9 Section 9 Area SA1, 3 to 9A Road Maintenance (1580)																	
KD-300200	KD2 Section 2 Areas SA8, SA9 + SA9A Work (1052d)	0		31-May-14*	◆ KD2 Section 2 Areas SA8, SA9 + SA9A Work (1052d)																	
KD-300500	KD5 Section 5 Area SA1 Landscape Softwork (1337d)	0		20-Jun-14*	◆ KD5 Section 5 Area SA1 Landscape Softwork (1337d)																	
KD-300600	KD6 Section 6 Remainder Landscape Softwork (1355d)	0		27-Jun-14*	◆ KD6 Section 6 Remainder Landscape Softwork (1355d)																	
KD-300100	KD1 Section 1 Area SA1 Work, Except LS + EW (1311d)	0		30-Jun-14*	◆ KD1 Section 1 Area SA1 Work, Except LS + EW (1311d)																	
Site Vacation Date																						
Area Handover to Client																						
KD-500150	Portion Site Area SA1 Handover (KD5 + 28 days)	0		17-Jul-14*	◆																	
SOFT LANDSCAPE IN SA1: SECT. 5 WORKS																						
Landscaping Works																						
Landscape Works																						
S5-212800	Areas SA1 Irrigation + Landscape Soft Works	30	22-May-14	20-Jun-14	Areas SA1 Irrigation + Landscape Soft Works																	
REMAINDER OF SOFT LANDSCAPE: SECT. 6 WORKS																						
Landscaping Works																						
Landscape Works																						
S6-212800	Remainder Irrigation + Landscape Soft Works	30	29-May-14	27-Jun-14	Remainder Irrigation + Landscape Soft Works																	
ESTABLISHMENT WORKS AT SA1: SECT. 7 WORKS																						
Establishment Works																						
Landscape and Establishment Works																						
S7-211800	Area SA1 Establishment Works	365	21-Jun-14	20-Jun-15	Area SA1 Establishment Works																	
REMAINDER OF ESTABLISHMENT WORKS: SECT. 8 WORKS																						
Establishment Works																						
Landscape and Establishment Works																						
S8-214800	Remainder - Establishment Works	365	28-Jun-14	27-Jun-15	Remainder - Establishment Works																	
ROUTINE MAINTENANCE: SECT. 9 WORKS																						
Road Maintenance																						
Routine Maintenance of Road Network																						
S9-100000	Road Maintenance of Road Network	1401	22-Feb-10 A	23-Apr-14*	Road Maintenance of Road Network																	
Z1: CH 0 to CH 500: SECT. 1 WORKS																						
Noise Barrier at Kwong Fuk West																						
Noise Barrier at Kwong Fuk West Viaduct																						
Noise Barrier Foundation Works																						
S1-180700A	KFWV structural steel, (bay 1-5)	18	08-Apr-14 A	30-Apr-14	KFWV structural steel, (bay 1-5)																	
S1-180810	KFWV structural steel, (bay 5-7)	26	08-Apr-14 A	30-Apr-14	KFWV structural steel, (bay 5-7)																	
S1-180800	KFWV Panel Installation, (bay 1-5)	50	01-May-14	30-Jun-14	KFWV Panel Installation, (bay 1-5)																	
S1-180820	KFWV Panel Installation, (bay 5-7)	50	01-May-14	30-Jun-14	KFWV Panel Installation, (bay 5-7)																	
S1-180900	Completion of NB Kwong Fuk West Viaduct	0		30-Jun-14	◆ Completion of NB Kwong Fuk West Viaduct																	
TCSS Works/Other Utilities																						
S1-180905	Civil prov. works (CPW)- TCSS Pillar Box B	18	22-Apr-14	13-May-14	Civil prov. works (CPW)- TCSS Pillar Box B																	
TCSS Works																						
New Sign Gantry Construction																						
G18 (VO205 Slip Road)																						
GS1860	Design information by Engineer for existing NB modification available	0	20-Mar-14 A		Design information by Engineer for existing NB modification available																	
GS1870	Existing NB modification	14	20-Mar-14 A	04-Apr-14 A	Existing NB modification																	
TCSS E&M Works & Handover																						
S1-700075	T&C - Lighting	20	16-May-14	09-Jun-14	T&C - Lighting																	
S1-700080	T&C - power supply system to TCSS	20	16-May-14	09-Jun-14	T&C - power supply system to TCSS																	
S1-700090	Handover to TCSS Contractor	0		17-Jun-14	◆ Handover to TCSS Contractor																	
Southbound Work- Ret. Wall, Noise B, Rd NB6, and Slope S4																						
High Mast Lighting																						
S1-203068	Install/delete lamps at high mast HM2 & HM3	18	20-Mar-14 A	09-Apr-14 A	Install/delete lamps at high mast HM2 & HM3																	
Noise Barrier NB6																						
S1-207060	NB6 Structural Steel	6	17-Mar-14 A	21-Mar-14 A	NB6 Structural Steel																	
S1-208060	NB6 NB Panels	8	22-Apr-14	30-Apr-14	NB6 NB Panels																	
Road Lighting/ or High Mast																						
S1-700050	Cabling works for utilities/Lighting	20	20-Feb-14 A	30-Apr-14	Cabling works for utilities/Lighting																	
S1-203067	Relocate pillar box for high mast HM1 - HM10	18	15-Mar-14 A	30-Apr-14	Relocate pillar box for high mast HM1 - HM10																	
S1-700070	Pillar Box + MCB Board installation	18	15-Mar-14 A	30-Apr-14	Pillar Box + MCB Board installation																	



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Activity ID	Activity Name	Original Duration	Start	Finish	2014													
					April				May				June				July	
					23	30	06	13	20	27	04	11	18	25	01	08	15	22
Cut Slope S4																		
S1-031060B	Cut Slope S4 - drainage/ u channels	20	15-Oct-13 A	15-May-14	Cut Slope S4 - drainage/ u channels													
SB Road & Drain, Ch 0-300, after NB3																		
TCSS Works/Other Utilities																		
S1-035045	TCSS P57 - footing	14	20-Nov-13 A	30-Apr-14	TCSS P57 - footing													
Road Lighting/ or High Mast																		
S1-051215A	Public Lighting - cabling works	8	22-Apr-14*	30-Apr-14	Public Lighting - cabling works													
S1-051215B	Public Lighting - power supply connection & test	8	22-Apr-14	30-Apr-14	Public Lighting - power supply connection & test													
NB6 and Slope S4A, after TB1 demolition																		
Noise Barrier NB6 (remaining 1 bay after TB1 removal)																		
S1-208130	NB6 Structural Steel	10	24-Feb-14 A	21-Mar-14 A	NB6 Structural Steel													
S1-208135	NB6 NB Panels	6	22-Mar-14 A	30-Apr-14	NB6 NB Panels													
Cut Slope S4A																		
S1-208140B	Cut Slope S4A - u channels	20	22-Apr-14	15-May-14	Cut Slope S4A - u channels													
NB11, Slope S4B & F124, after TB2 dem.																		
High Mast Lighting																		
S1-200112	High Mast HM5 - footing + relocation + lamp	30	14-Feb-14 A	26-Mar-14 A	High Mast HM5 - footing + relocation + lamp													
Noise Barrier NB11																		
S1-207110	NB11 Structural Steel	7	20-Mar-14 A	27-Mar-14 A	NB11 Structural Steel													
S1-208110	NB11 NB Panels	10	28-Mar-14 A	30-Apr-14	NB11 NB Panels													
Cut Slope S4B, S4C																		
S1-031040A	Cut Slope S4B, S4C - excavation	21	04-Mar-14 A	30-Apr-14	Cut Slope S4B, S4C - excavation													
S1-031040B	Cut Slope S4B, S4C - drainage/ channels	48	20-Mar-14 A	17-May-14	Cut Slope S4B, S4C - drainage/ channels													
South Bound Road and Drain, Ch 300-500																		
Firemain																		
S1-051305	Firemain- excav, pipe install + pit/new hydrants	14	01-Mar-14 A	15-May-14	Firemain- excav, pipe install + pit/new hydrants													
TCSS Works/Other Utilities																		
S1-051325	Utilities & TCSS buried ducts	24	26-Feb-14 A	17-Apr-14 A	Utilities & TCSS buried ducts													
S1-051303	Civil prov. works (CPW)- TCSS Pillar Box A	18	15-Mar-14 A	17-Apr-14 A	Civil prov. works (CPW)- TCSS Pillar Box A													
Road Lighting/ or High Mast																		
S1-051350	Public Lighting - Lamp Pole + Lamps	18	26-Nov-13 A	19-May-14	Public Lighting - Lamp Pole + Lamps													
S1-051350A	Public Lighting - cabling works	18	17-Mar-14 A	19-May-14	Public Lighting - cabling works													
S1-051350B	Public Lighting - power supply connection & test	18	17-Mar-14 A	19-May-14	Public Lighting - power supply connection & test													
Central Median Work- Noise Barrier + Road/Drain																		
Noise Barrier NB3 CH0-357																		
Road Lighting/ or High Mast																		
S1-208040	Public Lighting - Lamp Pole + Lamps	18	22-Aug-13 A	15-May-14	Public Lighting - Lamp Pole + Lamps													
S1-208040A	Public Lighting - cabling works	18	22-Aug-13 A	15-May-14	Public Lighting - cabling works													
S1-208040B	Public Lighting - power supply connection & test	20	22-Apr-14*	15-May-14	Public Lighting - power supply connection & test													
Noise Barrier NB10 CH444-500, after TB2 demolition																		
Noise Barrier Foundation Works																		
S1-200094	Pending VO for searching existing ducting for TCSS works	10	20-Mar-14 A	31-Mar-14 A	Pending VO for searching existing ducting for TCSS works													
Northbound Work- Ret. Wall, Noise B, Rd																		
RW W1+ NB1+S1, NB2 Ch200-300																		
Noise Barrier NB1																		
S1-208015	Northbound work Complete	0	22-May-14		◆ Northbound work Complete													
Cut Slope S1																		
S1-031015020	Fill Slope S1- drainage	26	18-Oct-13 A	21-May-14	Fill Slope S1- drainage													
S1-031015015	Fill Slope S1- backfilling (remaining 50% after relocation of HM7)	57	20-Nov-13 A	21-May-14	Fill Slope S1- backfilling (remaining 50% after relocation of HM7)													
Slip Rd A after Banyan West Completion																		
Slip Rd A																		
S1-051155	Slip Road A - drainage + road reconstruction	175	20-Oct-12 A	30-Apr-14	Slip Road A - drainage + road reconstruction													
NB2 & Slope S2, after TB1 demolition																		
High Mast Lighting																		
S1-031037	High Mast HM6 - footing, relocation + lamp	15	28-Feb-14 A	31-Mar-14 A	High Mast HM6 - footing, relocation + lamp													
Cut Slope S2																		
S1-031025B	Cut Slope S2- channel (Pending for Slope Profile design)	24	01-Apr-14 A	15-May-14	Cut Slope S2- channel (Pending for Slope Profile design)													
NB9, Slope F121, S5, (after TB2 demolition)																		
Cut Slope S5																		
S1-200140	Slope F121 + S5 (Pending for Slope Profile design)	24	01-Apr-14 A	15-May-14	Slope F121 + S5 (Pending for Slope Profile design)													
North Bound Road and Drain, Ch 300-500																		
Firemain																		
S1-200170	Firemain- excav, pipe install + pit/new hydrants	10	22-Apr-14 A	15-May-14	Firemain- excav, pipe install + pit/new hydrants													
TCSS Works/Other Utilities																		
S1-200180	Utilities & TCSS buried ducts	15	10-Jan-14 A	15-May-14	Utilities & TCSS buried ducts													
Road Lighting/ or High Mast																		
S1-200205	Public Lighting - Lamp Pole + Lamps	15	10-Dec-13 A	15-May-14	Public Lighting - Lamp Pole + Lamps													
S1-200175	Public Lighting - buried ducts	20	22-Apr-14*	15-May-14	Public Lighting - buried ducts													
Roadworks																		
S1-200215	complete	0	15-May-14		◆ complete													

Z2: CH 500 to CH 1100: SECT. 4 WORKS

Zone 2: CH500 to Ch1100 (Section 4 Works)



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					April					May				June				July	
					23	30	06	13	20	27	04	11	18	25	01	08	15	22	29
VO No.28 (VO 211) - Diversion of Existing Stormwater Drain in Kwong Fuk Park																			
VO28-1085	Town Gas installation works (from main to complete connection to MTR)	50	05-Dec-13 A	15-May-14															
VO28-1090	Backfill Topsoil Manhole Z to P	14	16-May-14	31-May-14															
VO28-1150	Completion of VO28	0		31-May-14															
WM Test+Drain CCTV+ E&M Works																			
TCSS E&M Works & Handover																			
S4-208355	Cabling works for Utilities/TCSS/Lighting	22	20-Sep-13 A	30-Apr-14															
S4-208370	T&C - power supply system to TCSS/Lighting	6	24-Apr-14	30-Apr-14															
Section Completion																			
Section Completion Date																			
KD-300400A	ZONE 2 COMPLETE - KD4 Section 4	0		31-May-14															
Stage 1: Southbound Work- Ret. Wall, Noise B, Rd																			
NLKR - Bridge Deck + Noise Barrier																			
Bridge Deck																			
S4-N01375	Noise barrier Post	7	01-Apr-14 A	08-Apr-14 A															
S4-N01385	Noise barrier panel	8	22-Apr-14	30-Apr-14															
RW W4-W7+Slope S7+NB15, NB12+Slip Rd L																			
Noise Barrier NB12																			
S4-208120	NB12 NB Panels	454	01-Feb-12 A	31-Mar-14 A															
S4-208270	NB12 (bay 1-3) NB Panel	8	22-Apr-14*	30-Apr-14															
Cut Slope S6 and Slip Rd L																			
S1-203065A	Cut slope S6 - excavation	403	01-Feb-12 A	15-May-14															
S1-203065B	Cut slope S6 - drainage/U-channels	20	22-Apr-14*	15-May-14															
Fill Slope S7																			
S4-031070B	Fill Slope S7- backfilling to road level	1016	20-Jul-10 A	30-Apr-14															
S4-031070C	Fill Slope S7- u channels	20	22-Apr-14*	15-May-14															
S4-031070D	Fill Slope S7- metal works + hand rails etc.	13	16-May-14	30-May-14															
SB: CH500-1100, Road&Drain+Utilities																			
TCSS Works/Other Utilities																			
S4-512850	Civil prov. works (CPW)- TCSS Pillar Box C	20	20-Sep-13 A	30-Apr-14															
S4-512880	Utilities+ TCSS + CPW- SC 63/S63	14	16-Oct-13 A	30-Apr-14															
S4-031160	Power supply cable ducts	31	20-Nov-13 A	30-Apr-14															
Road Lighting/ or High Mast																			
S4-031178	Public lighting - Lamp Pole + Lamps	12	18-Oct-13 A	30-Apr-14															
S4-031178A	Public Lighting - cabling works	6	18-Oct-13 A	30-Apr-14															
S4-031178A10	Public Lighting - cabling works	8	22-Apr-14	30-Apr-14															
S4-031178B10	Public Lighting - power supply connection & test	8	22-Apr-14	30-Apr-14															
S4-512930	Public lighting - Lamp Pole + Lamps	8	22-Apr-14	30-Apr-14															
S4-031178B	Public Lighting - power supply connection & test	4	26-Apr-14	30-Apr-14															
Stage 2: Northbound Work- Ret. Wall, Noise B, Rd																			
Mod. Existing Lam Kam Railway Br. +Noise B.																			
S4-193900	LKRB NB plinth at slow lane (besides W4A)	75	13-Jan-14 A	16-May-14															
S4-193910	NB steel post installation	8	23-Jun-14	09-Jul-14															
S4-193920	NB panel installation	8	11-Jul-14	28-Jul-14															
Noise Barrier NB16																			
Noise Barrier Foundation Works																			
S4-513145	NB16 - (5-7) bay Remaining Wall Stem & plinth	42	06-Dec-13 A	30-Apr-14															
S4-513150	NB16 - Drainage work	26	16-Dec-13 A	30-Apr-14															
S4-513160	NB16 - Backfilling	12	18-Mar-14 A	30-Apr-14															
Noise Barrier Structural Steel & Panels																			
S4-207160	NB16 Structural Steel	10	07-Jun-14	18-Jun-14															
S4-208160	NB16 NB Panels	10	19-Jun-14	30-Jun-14															
Retaining Wall W4A & NB13 & Slip Rd M																			
Retaining Wall W4A																			
S4-03504A040	RW W4A (last 4 bays) excavation + base slab+wall thickening	30	06-Jan-14 A	26-Apr-14															
S4-03504A070	VO164 - L3 Containment barrier	31	22-Apr-14*	28-May-14															
S4-03504A050	RW W4A (last 4 bays), wall stem	23	28-Apr-14	26-May-14															
S4-03504A055	RW W4A, Backfill (last 4 bays)-1st 3m	12	27-May-14	10-Jun-14															
S4-03504A060	RW W4A, Backfill (last 4 bays)	17	11-Jun-14	30-Jun-14															
Noise Barrier NB13																			
S4-208140	NB13 Structural Steel (last 2 bays)	5	09-Jul-14	14-Jul-14															
S4-208170	NB13 NB Panels (last 2 bays)	8	15-Jul-14	23-Jul-14															
NB: CH500-1100, Road&Drain+Utilities																			
Road Drainage																			
S4-031210	Road Drainage - pipelayinng + manhole	44	02-Jul-13 A	30-Apr-14															
Firemain																			
S4-031220	Firemain- excav, pipe install + pit/new hydrants	36	25-Jul-13 A	15-May-14															
TCSS Works/Other Utilities																			



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Activity ID	Activity Name	Original Duration	Start	Finish	2014															
					April				May				June				July			
					23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	06
S4-031225	Utilities + TCSS + CPW- SC 20/S20	36	17-Jul-13 A	15-May-14	Utilities + TCSS + CPW- SC 20/S20															
S4-031230	Power supply cable ducts	36	20-Jul-13 A	15-May-14	Power supply cable ducts															
Road Lighting/ or High Mast																				
S4-031250A	Public Lighting - cabling works	18	04-Oct-13 A	30-Apr-14	Public Lighting - cabling works															
S4-031250	Public lighting - Lamp Pole + Lamps	24	20-Dec-13 A	15-May-14	Public lighting - Lamp Pole + Lamps															
S4-031250B	Public Lighting - power supply connection & test	18	24-Apr-14	15-May-14	Public Lighting - power supply connection															
Roadworks																				
A1170	NB16 - Road Re-construction for (HS)	22	01-May-14	27-May-14	NB16 - Road Re-construction for															
S4-031260	Northbound road substantial completed in Zone 2	0	16-May-14		◆ Northbound road substantial completed															
A1210	Road Work for Slip Road M (HS)	22	01-Jul-14	25-Jul-14																
Z3: CH 1100 to CH 2000: SECT. 4 WORKS																				
Section Completion																				
Section Completion Date																				
KD-300400B	ZONE 3 COMPLETE - KD4 Section 4	0		30-Jun-14	◆ ZONE 3 C															
TCSS Works																				
TCSS E&M Works & Handover																				
S4-0512765	Cabling works for Utilities/TCSS/Lighting	24	20-Sep-13 A	30-Jun-14	Cabling works															
S4-0512780	T&C - power supply system to TCSS/Lighting	36	20-Sep-13 A	30-Jun-14	T&C - power supply system to TCSS/Lighting															
S4-0512785	Handover to TCSS Contractor	0		30-Jun-14	◆ Handover to TCSS Contractor															
Stage 1: Southbound Work- Ret. Wall, Noise B, Rd																				
Fill Slope S13 and NB21																				
Fill Slope S13																				
S4-031130C	Fill Slope S13- u channels	363	12-Mar-12 A	17-Apr-14 A	Fill Slope S13- u channels															
S4-031130D	Fill Slope S13- metal works + hand rails etc.	236	15-Aug-12 A	17-Apr-14 A	Fill Slope S13- metal works + hand rails etc.															
Stage 3: Central Median - Ret. Wall, Noise B, Rd																				
CM: CH1260-1600, L=410m, Road&Drain+Utilities																				
TCSS Works/Other Utilities																				
S4-0512710	Power supply cable ducts	91	20-Feb-13 A	31-Mar-14 A	Power supply cable ducts															
Road Lighting/ or High Mast																				
S4-051273A	Public Lighting - cabling works	91	20-Feb-13 A	31-Mar-14 A	Public Lighting - cabling works															
S4-051273B	Public Lighting - power supply connection & test	9	11-Mar-14 A	31-Mar-14 A	Public Lighting - power supply connection & test															
Roadworks																				
S4-0512740	Road Works completed	0	31-Mar-14 A		◆ Road Works completed															
Noise Barrier Structural Steel & Panels																				
S4-208200	NB20 & NB23 NB Panels	160	15-Dec-12 A	29-Mar-14 A	NB20 & NB23 NB Panels															
W20A + Slope S20																				
Cut Slope S20A																				
S4-03120AA	Cut Slope S20A - excavation	30	20-Jan-14 A	03-May-14	Cut Slope S20A - excavation															
S4-03120AB	Cut Slope S20A - drainage/channels	30	23-Apr-14	28-May-14	Cut Slope S20A - drainage/channels															
Stage 2: Northbound Work- Ret. Wall, Noise B, Rd																				
Modification of Existing Bridge No. 10 + Noise B																				
Bridge Roadworks & Furnitures																				
S4-194880	Install noise barrier (1st half from east end)	36	20-Mar-14 A	17-Apr-14 A	Install noise barrier (1st half from east end)															
S4-194889	Install noise barrier (2nd half to west end)	40	20-Mar-14 A	17-Apr-14 A	Install noise barrier (2nd half to west end)															
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															
Modification of Existing Bridge No.11 + Noise B																				
Bridge Roadworks & Furnitures																				
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															
RW W9, Slope S9, & Noise Barrier NB19, NB22																				
Noise Barrier NB19																				
S4-207190	NB19 Structural Steel, 10 bays	35	01-Apr-14 A	01-May-14	NB19 Structural Steel, 10 bays															
S4-207190A	NB19 Structural Steel, 21 bays	35	01-Apr-14 A	01-May-14	NB19 Structural Steel, 21 bays															
S4-208190	NB19 NB Panels, 10 bays	10	01-Apr-14 A	01-May-14	NB19 NB Panels, 10 bays															
S4-208190A	NB19 NB Panels, 21 bays	10	01-Apr-14 A	01-May-14	NB19 NB Panels, 21 bays															
Fill Slope S9																				
S4-031095A	Fill Slope S9- backfilling	24	01-Apr-14 A	15-May-14	Fill Slope S9- backfilling															
S4-031095B	Fill Slope S9 - drainage	12	01-Apr-14 A	15-May-14	Fill Slope S9 - drainage															
NB: CH1260-1750, L=410m, Road&Drain+Utilities																				
Road Drainage																				
S4-0512620	Road Drainage - pipelayinng + manhole	48	01-Aug-13 A	15-Apr-14 A	Road Drainage - pipelayinng + manhole															
Firemain																				
S4-0512630	Firemain- excav, pipe install+pit/new hydrants	24	17-Sep-13 A	01-May-14	Firemain- excav, pipe install+pit/new hydrants															
TCSS Works/Other Utilities																				
S4-0512635	Utilities +TCSS buried ducts + civil prov. works	36	21-Oct-13 A	30-Jun-14	Utilities +TCSS buried ducts + civil prov. works															
S4-0512627	TCSS High mast M7/S117 - footing	17	01-Apr-14 A	15-Apr-14 A	TCSS High mast M7/S117 - footing															
S4-0512640	Power supply cable ducts	34	22-Apr-14*	31-May-14	Power supply cable ducts															
Road Lighting/ or High Mast																				
S4-0512660	Public lighting - Lamp Pole + Lamps	36	21-Oct-13 A	15-May-14	Public lighting - Lamp Pole + Lamps															

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Activity ID	Activity Name	Original Duration	Start	Finish	2014															
					April				May				June				July			
					23	30	06	13	20	27	04	11	18	25	01	08	15	22	29	06
S4-051266A	Public Lighting - cabling works	36	21-Oct-13 A	15-May-14																Public Lighting - cabling works
S4-051266B	Public Lighting - power supply connection & test	12	01-May-14	15-May-14																Public Lighting - power supply connection
Roadworks																				
S4-0512645	Roadworks +Slip Road N- Resurfacing	26	18-Oct-13 A	15-May-14																Roadworks +Slip Road N- Resurfacing
S4-0512655	Roadworks +Slip Road N- road marking + furnitures	6	09-May-14	15-May-14																Roadworks +Slip Road N- road marking
Z4: CH 2000 to CH 2400: SECT. 2 WORKS																				
Stage 1A: Southbound - S14-, RW21-28, TP7,Rd/Dr																				
Retaining Wall W24 to W28 & Slope S17																				
Cut Slope S17																				
S2-031170	Slope S17 (SB) (after 29A & W29B part)	45	03-Jun-13 A	05-Apr-14 A																Slope S17 (SB) (after 29A & W29B part)
SB Road & Drain, Ch 2000-2200, L=200m																				
TCSS Works/Other Utilities																				
S2-031295	Power supply cable ducts	277	25-Jul-12 A	30-Apr-14																Power supply cable ducts
Cut Slope S14																				
S2-031140E10	Slope S14 - Soil nail & remaining drainage work (VO343-additional soil	61	10-Jun-13 A	15-May-14																Slope S14 - Soil nail & remaining drainage
Stage 1B: Northbound- S15-S19, RW31-33, Rd/Dr																				
Retaining Wall W30, W31, W32(Piled), W33																				
Retaining Wall W31,32, 33																				
S2-GCL036	Northbound - GCL interfacing work completion for Lane 1,2,3 open	0		20-Apr-14*																◆ Northbound - GCL interfacing work completion for Lane
S2-GCL046	Completion of works subject to GCL works completion	30	22-Apr-14	27-May-14																Completion of works subject to G
Stage 2A: Southbound- S17, RW 29-34, NB27-29																				
Noise Barrier NB27, NB29																				
Noise Barrier NB29																				
S2-035350	NB29 NB Panels	7	16-Oct-13 A	31-May-14																NB29 NB Panels
Retaining Wall, W29 & NB27(@W29)																				
Retaining Wall W29A																				
S2-03529AB	RW W29A facing panel structure (bay 1)	34	22-Apr-14*	31-May-14																RW W29A facing panel struct
SB: CH2200-2400, L=200m, Road&Drain+Utilities																				
Road Drainage																				
S2-031250	W29A bay 1 road drainage after GCL TTA stage 6A	20	15-May-14	07-Jun-14																W29A bay 1 road drainag
TCSS Works/Other Utilities																				
S2-031287	TCSS S160 (VDS) - footing	23	14-Sep-13 A	30-Apr-14																TCSS S160 (VDS) - footing
Roadworks																				
S2-031255	W29A bay 1 road work after GCL TTA stage 6A	14	15-May-14	30-May-14																W29A bay 1, road work after G
S2-031265	Remaining roadwork to final pavement level after GCL TTA stage 6A	6	31-May-14	07-Jun-14																Remaining roadwork to fil
Stage 3: Central Median- NB26, NB29 +Road&Drain																				
CM: NB26 & NB28 L=400m & Road&Drain+Utilities																				
Noise Barrier Structural Steel & Panels																				
S2-208300	NB26 NB Structural Steel	7	08-Jul-13 A	15-Apr-14 A																NB26 NB Structural Steel
S2-208310	NB26 NB Panels	12	01-Apr-14 A	15-Apr-14 A																NB26 NB Panels
S2-208395	Implement TTA- divert traffic to new SB, NB & CM	0	22-Apr-14																	◆ Implement TTA- divert traffic to new SB, NB & CM
Stage 2B: Northbound- NB25																				
Noise Barrier NB25																				
S4-207250	NB25 Structural Steel	21	01-Apr-14 A	15-Apr-14 A																NB25 Structural Steel
S4-208250	NB25 NB Panels	10	09-Apr-14 A	15-Apr-14 A																NB25 NB Panels
TCSS Works																				
TCSS E&M Works & Handover																				
S2-208420	Lighting & T&C	24	15-Oct-13 A	30-Apr-14																Lighting & T&C
S2-208450	T&C - power supply system to TCSS	8	22-Apr-14	30-Apr-14																T&C - power supply system to TCSS
S2-208425	Handover to TCSS Contractor	0		30-Apr-14																◆ Handover to TCSS Contractor



Contract: HY/2008/09
Widening of Tolo Highway / Fanling Highway
Between Island House Interchange and Fanling
(Stage 1 - Between Island House Interchange and Ma Wo)

Three Months Rolling Programme
for the Period of 21 Apr 2014 to 20 Jul 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	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
HY/2009/08 TOLO HIGHWAY WIDENING, Updated on 20140126																									
EXECUTIVE SUMMARY																									
Design																									
A1330	Alternative Design		100%	292	26-Jul-10 A	14-Jan-11 A	Alternative Design																		
Construction																									
Section 1																									
A1000	SA21 - North Bound		100%	959	15-Oct-10 A	25-Dec-13 A	SA21 - North Bound																		
A1010	SA21 - South Bound	-100	95.99%	814	15-Oct-10 A	28-Feb-14	SA21 - South Bound																		
A1020	SA21 - Middle Lane	-84	94%	275	08-May-12 A	12-Feb-14	SA21 - Middle Lane																		
Section 2																									
A1030	SA22 - North Bound		100%	1016	26-Feb-10 A	07-Dec-13 A	SA22 - North Bound																		
A1040	SA22 - South Bound	-70	94.7%	1037	01-Apr-10 A	22-Mar-14	SA22 - South Bound																		
A1060	SA23 - South Bound		100%	388	28-Dec-11 A	25-Jan-14 A	SA23 - South Bound																		
A1070	SA24 - North Bound	-95	89.83%	787	25-Aug-10 A	16-Apr-14	SA24 - North Bound																		
A1080	SA25 - South Bound	-48	96.98%	777	20-Oct-10 A	19-Feb-14	SA25 - South Bound																		
A1090	SA26 - North Bound	-55	96.75%	1216	26-Feb-10 A	07-Mar-14	SA26 - North Bound																		
A1100	SA26 - South Bound	-61	96.22%	1216	26-Feb-10 A	13-Mar-14	SA26 - South Bound																		
Section 3																									
A1110	SA26A - North Bound	-15	97.48%	1191	26-Feb-10 A	25-Feb-14	SA26A - North Bound																		
A1120	SA26A - South Bound	-21	95.96%	879	26-Feb-10 A	03-Mar-14	SA26A - South Bound																		
A1130	SA26A - North & South Bound		100%	612	26-Feb-11 A	30-Jul-13 A	SA26A - North & South Bound																		
A1140	SA27 - South Bound	-15	96.43%	826	27-Mar-10 A	25-Feb-14	SA27 - South Bound																		
Section 4																									
A1150	SA28 - North Bound	-65	92.64%	1216	26-Feb-10 A	26-Apr-14	SA28 - North Bound																		
A1160	SA28 - South Bound	-8	97.01%	1099	23-Jun-10 A	28-Feb-14	SA28 - South Bound																		
A1170	SA29 - North Bound		100%	909	26-Jan-11 A	26-Sep-13 A	SA29 - North Bound																		
A1180	SA32 - Roadside FVMS		100%	265	26-Mar-11 A	15-Dec-11 A	SA32 - Roadside FVMS																		
Section 5																									
A1190	SA31 - South Bound		100%	884	26-Feb-10 A	28-Mar-13 A	SA31 - South Bound																		
Section 7																									
A1200	SA41 - Site Office	-71	85.96%	1581	26-Feb-10 A	05-Sep-14	SA41 - Site Office																		
A1210	SA42 - Temporary Contractor's Works Area	0	90.52%	1582	25-Feb-10 A	25-Jun-14	SA42 - Temporary Contractor's Works Area																		
Section 17 (Subject to Excision, Engineer may instruct within 819 days)																									
A1300	Validity Period	140	98.6%	819	25-Feb-10 A	07-Feb-14	Validity Period																		
A1310	SA28 - North Bound		100%	34	24-May-12 A	31-Aug-13 A	SA28 - North Bound																		
A1320	SA30A - North Bound		100%	155	14-May-12 A	31-Aug-13 A	SA30A - North Bound																		

Project ID: J3318-UPDATE 2014JAN
 Project Name: HY/2009/08 TOLO HIGHWAY WIDENING...
 Print Date: 30-Jan-14
 Data Date: 27-Jan-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, 26 January 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			Q4			Q1			Q2			Q3			Q4														
							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												
PHSA2100	Possession of SA21 (Day365)		100%	0	16-Jul-10 A		◇ Possession of SA21 (Day365)																																																											
Section 3 (Site Area SA26A and SA 27)																																																																		
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)																																																											
Section 2 (Site Area SA22, SA23, SA24, SA25 and SA26)																																																																		
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)																																																											
Section 4 (Site Area SA28, SA29 and SA32)																																																																		
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)																																																											
Section 5 (Site Area SA31)																																																																		
PHSA3100	Possession of SA31 (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA31 (Day0)																																																											
Section 7 (All Works Except Works Included in Other Sections)																																																																		
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)																																																											
Section 8 (Establishment Works in Site Area SA21)																																																																		
PHSA2110	Possession of SA21 (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA21 (Day1217)																																																											
Section 9 (Establishment Works in Site Area SA22, SA23, SA24, SA25 and SA26)																																																																		
PHSA2210	Possession of SA22 (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA22 (Day1217)																																																											
PHSA2310	Possession of SA23 (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA23 (Day1217)																																																											
PHSA2420	Possession of SA24 (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA24 (Day1217)																																																											
PHSA2510	Possession of SA25 (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA25 (Day1217)																																																											
PHSA2610	Possession of SA26 (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA26 (Day1217)																																																											
Section 10 (Establishment Works in Site Area SA26A and SA27)																																																																		
PHSA26A1	Possession of SA26A (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA26A (Day1217)																																																											
PHSA2710	Possession of SA27 (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA27 (Day1217)																																																											
Section 11 (Establishment Works in Site Area SA28 and SA29)																																																																		
PHSA2810	Possession of SA28 (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA28 (Day1217)																																																											
PHSA2910	Possession of SA29 (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA29 (Day1217)																																																											
Section 12 (Establishment Works in Site Area SA30 and SA30A)																																																																		
PHSA3000	Possession of SA30 (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA30 (Day1217)																																																											
PHSA30A0	Possession of SA30A (Day1217)	-214	0%	0	27-Jan-14		◇ Possession of SA30A (Day1217)																																																											
Section 13 (Remainder of Establishment Works)																																																																		
PHSA3110	Possession of SA31 (Day1217)	-178	0%	0	27-Jan-14*		◇ Possession of SA31 (Day1217)																																																											
PHSA3220	Possession of SA32 (Day1217)	-178	0%	0	27-Jan-14*		◇ Possession of SA32 (Day1217)																																																											
PHSA4120	Possession of SA41 (Day1217)	-178	0%	0	27-Jan-14*		◇ Possession of SA41 (Day1217)																																																											
PHSA4220	Possession of SA42 (Day1217)	-178	0%	0	27-Jan-14*		◇ Possession of SA42 (Day1217)																																																											
PHSA4330	Possession of SA43 (Day1217)	-178	0%	0	27-Jan-14*		◇ Possession of SA43 (Day1217)																																																											
Section 14 Comprises Routine Maintenance of Road Network in Site Area SA21 to SA31)																																																																		
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
							1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
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 Aug 2013)																									
HDS01000	KD1: Completion of Section 1 - (Day1216) - Overall Completion of Works	-100	0%	0		28-Feb-14*	◇ KD1: Comp																		
HDS01100	KD1: Completion of Section 1 - (Day1216) - Substantial Completion for Road Opening	-71	0%	0		30-Jan-14*	◇ KD1: Comple																		
HDS02000	KD2: Completion of Section 2 - (Day1216) - Overall Completion of Works	-95	0%	0		16-Apr-14*	◇ KD2: Cc																		
HDS02100	KD2: Completion of Section 2 - (Day1216) - Substantial Completion for Road Opening	-70	0%	0		22-Mar-14*	◇ KD2: Con																		
HDS03000	KD3: Completion of Section 3 - (Day1216) - Overall Completion of Works	-59	0%	0		10-Apr-14*	◇ KD3: Cc																		
HDS03100	KD3: Completion of Section 3 - (Day1216) - Substantial Completion for Road Opening	-17	0%	0		28-Feb-14*	◇ KD3: Comp																		
HDS04000	KD4: Completion of Section 4 - (Day1216) - Overall Completion of Works	-65	0%	0		26-Apr-14*	◇ KD4: C																		
HDS04100	KD4: Completion of Section 4 - (Day1216) - Substantial Completion for Road Opening	-8	0%	0		28-Feb-14*	◇ 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		25-Jun-14*	◇ KD																		
HDS08000	KD8: Completion of Section 8 - (Day1581)	0	0%	0		25-Jun-14*	◇ KD																		
HDS09000	KD9: Completion of Section 9 - (Day1581)	0	0%	0		25-Jun-14*	◇ KD																		
HDS10000	KD10: Completion of Section 10 - (Day1581)	0	0%	0		25-Jun-14*	◇ KD																		
HDS11000	KD11: Completion of Section 11 - (Day1581)	0	0%	0		25-Jun-14*	◇ KD																		
HDS12000	KD12: Completion of Section 12 - (Day1581)	0	0%	0		25-Jun-14*	◇ KD																		
HDS13000	KD13: Completion of Section 13 - (Day1581)	0	0%	0		25-Jun-14*	◇ KD																		
HDS14000	KD14: Completion of Section 14 - (Day1581)	0	0%	0		25-Jun-14*	◇ KD																		
HDS17000	KD17: Latest Date to Compl of Section 17 - (Day397) Subject to Excision		100%	0		31-Aug-13 A	◇ KD17: Latest Date to Cc																		
DESIGN SUBMISSION																									
Alternative Design																									
Ground Investigation & Reporting																									
AD000010	Ground Investigation for Alternative Design		100%	54	22-Mar-10 A	29-May-10 A	Ground Investigation for Alternative Design																		
AD000020	Report of Ground Investigation		100%	56	12-Apr-10 A	18-Jun-10 A	Report of Ground Investigation																		
Package AD1: W56B																									
AD000110	AD1 - Design Period		100%	80	29-Mar-10 A	08-Jul-10 A	AD1 - Design Period																		
AD000120	AD1 - Full Package to ICE for Certification		100%	20	09-Jul-10 A	31-Jul-10 A	AD1 - Full Package to ICE for Certification																		
AD000130	AD1 - Approval by ER/CLIENT/CEDD (GEO)		100%	101	09-Jul-10 A	06-Nov-10 A	AD1 - Approval by ER/CLIENT/CEDD (GEO)																		
Package AD2: W57B																									
AD000210	AD2 - Design Period		100%	72	14-Apr-10 A	10-Jul-10 A	AD2 - Design Period																		
AD000220	AD2 - Full Package to ICE for Certification		100%	44	12-Jul-10 A	31-Aug-10 A	AD2 - Full Package to ICE for Certification																		
AD000230	AD2 - Approval by ER/CLIENT/CEDD (GEO)		100%	172	26-Nov-10 A	26-Apr-11 A	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	Q4	Q1	Q2	Q3
							1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3
Package AD3: W69																									
AD000310	AD3 - Design Period		100%	75	03-May-10 A	31-Jul-10 A	AD3 - Design Period																		
AD000320	AD3 - Full Package to ICE for Certification		100%	57	02-Aug-10 A	08-Oct-10 A	AD3 - Full Package to ICE for Certification																		
AD000330	AD3 - Approval by ER/CLIENT/CEDD (GEO)		100%	100	02-Aug-10 A	29-Nov-10 A	AD3 - Approval by ER/CLIENT/CEDD (GEO)																		
Package AD4: W38																									
AD000410	AD4 - Design Period		100%	78	09-Jun-10 A	09-Sep-10 A	AD4 - Design Period																		
AD000420	AD4 - Full Package to ICE for Certification		100%	18	10-Sep-10 A	09-Nov-10 A	AD4 - Full Package to ICE for Certification																		
AD000430	AD4 - Approval by ER/CLIENT/CEDD (GEO)		100%	54	11-Nov-10 A	15-Jan-11 A	AD4 - Approval by ER/CLIENT/CEDD (GEO)																		
Package AD5 (Noise Barrier Foundation): NB38, NB39, NB41 & NB43																									
AD000510	AD5 - Design Period		100%	98	21-Jul-10 A	22-Oct-10 A	AD5 - Design Period																		
AD000520	AD5 - Full Package to ICE for Certification		100%	51	23-Oct-10 A	22-Dec-10 A	AD5 - Full Package to ICE for Certification																		
AD000530	AD5 - Approval by ER/CLIENT/CEDD (GEO)		100%	74	18-Oct-10 A	14-Jan-11 A	AD5 - Approval by ER/CLIENT/CEDD (GEO)																		
MATERIALS PROCUREMENT																									
Major Materials (Detail shall refer to supplementary information)																									
Water Works																									
MA001010	Place Order		100%	0	31-Aug-10 A		Place Order																		
MA001030	Fabrication, Manufacturing & Delivery		100%	900	31-Aug-10 A	31-Aug-12 A	Fabrication, Manufacturing & Delivery																		
Vehicular Parapet SSD161																									
MA001050	Place Order		100%	0	26-May-11 A		Place Order																		
MA001060	Fabrication, Manufacturing & Delivery		100%	350	26-May-11 A	24-Aug-12 A	Fabrication, Manufacturing & Delivery																		
Bearing																									
MA001070	Place Order		100%	0	31-Jul-10 A		Place Order																		
MA001080	Fabrication, Manufacturing & Delivery		100%	630	31-Jul-10 A	05-Aug-12 A	Fabrication, Manufacturing & Delivery																		
Movement Joint																									
MA001090	Place Order		100%	0	31-Aug-10 A		Place Order																		
MA001100	Fabrication, Manufacturing & Delivery		100%	620	31-Aug-10 A	31-Aug-12 A	Fabrication, Manufacturing & Delivery																		
CONSTRUCTION PHASE																									
Preliminaries & General Requirement																									
Preliminaries																									
General Submissions																									
PR000000	Commencement of Works		100%	0	26-Feb-10 A		Commencement of Works																		
PR001000	Site Establishment		100%	90	26-Feb-10 A	25-May-10 A	Site Establishment																		
PR001010	Effect required Insurances		100%	0	26-Feb-10 A		Effect required Insurances																		
PR001030	Erect Contractor's Office Compound		100%	69	26-Feb-10 A	04-May-10 A	Erect Contractor's Office Compound																		
PR001040	Submit Site Organization Chart		100%	14	26-Feb-10 A	10-Mar-10 A	Submit Site Organization Chart																		
PR001050	Submit Site Layout Plan		100%	7	26-Feb-10 A	03-Mar-10 A	Submit Site Layout Plan																		
PR001060	Prepare/Submit Initial Works Programme		100%	7	26-Feb-10 A	03-Mar-10 A	Prepare/Submit Initial Works Programme																		
PR001070	Approval on Initial Works Programme		100%	30	04-Mar-10 A	02-Apr-10 A	Approval on Initial Works Programme																		
PR001080	Prepare/Submit Detailed Works Programme		100%	58	03-Apr-10 A	30-May-10 A	Prepare/Submit Detailed Works Programme																		
PR001090	Prepare/Submit First 3-month Programme		100%	14	26-Feb-10 A	10-Mar-10 A	Prepare/Submit First 3-month Programme																		
PR001100	Submit initial 12-month Pgr for Rou. Maint. Work		100%	14	26-Feb-10 A	10-Mar-10 A	Submit initial 12-month Pgr for Rou. Maint. Work																		
PR001110	Submit Rolling 3month Routine Maint. Program		100%	14	26-Feb-10 A	10-Mar-10 A	Submit Rolling 3month Routine Maint. Program																		
PR001170	Prepare/Submit Subcon Management Plan (SMP)		100%	30	26-Feb-10 A	26-Mar-10 A	Prepare/Submit Subcon Management Plan (SMP)																		
PR001200	Submit Interface Management Plan		100%	60	26-Feb-10 A	25-Apr-10 A	Submit Interface Management Plan																		
PR001242	Application of Expressway Permit		100%	7	26-Feb-10 A	03-Mar-10 A	Application of Expressway Permit																		
PR001244	Approval of Expressway Permit		100%	21	04-Mar-10 A	24-Mar-10 A	Approval of Expressway Permit																		

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
S22S5060	Slopeworks Cut(S28) - Stage 2 (Soil Nail Installation : EFGH)		100%	37	08-Feb-11 A	23-Mar-11 A	Slopeworks Cut(S28) - Stage 2 (Soil Nail Installation : EFGH)																													
S22S5070	Slopeworks Cut(S28) - Stage 3 (Cutslope)		100%	36	06-Jul-11 A	17-Aug-11 A	Slopeworks Cut(S28) - Stage 3 (Cutslope)																													
S22S5090	Slopeworks Cut(S28) - Stage 3 (Soil Nail Installation : ABCD)		100%	36	20-Aug-11 A	04-Oct-11 A	Slopeworks Cut(S28) - Stage 3 (Soil Nail Installation : ABCD)																													
S22S5100	Slope Reinstatement Works (Bridge 12B)	-61	0%	25	27-Jan-14	27-Feb-14	Slope Reinstatement Works (Bridge 12B)																													
Construction of Retaining Wall																																				
Retaining Wall RWB12B																																				
S22S2110	Pre-drilling for RWB12B		100%	24	16-Jul-10 A	12-Aug-10 A	Pre-drilling for RWB12B																													
S22S2120	Piles for RWB12B		100%	116	13-Aug-10 A	20-Nov-10 A	Piles for RWB12B																													
S22S2130	Excavate to cut-off level		100%	60	26-Jan-11 A	09-Apr-11 A	Excavate to cut-off level																													
S22S2140	Capping/Walling for Bay 1-2, RWB12B		100%	60	28-Mar-11 A	10-May-12 A	Capping/Walling for Bay 1-2, RWB12B																													
S22S2142	Capping/Walling for Bay 3-6, RWB12B		100%	75	11-May-12 A	03-Sep-12 A	Capping/Walling for Bay 3-6, RWB12B																													
S22S2150	Backfilling		100%	60	04-Sep-12 A	22-Jun-13 A	Backfilling																													
Road Re-construction Works, Roadworks & Drainage																																				
S22S4000	Road Re-construction Works (CH 2840 - 3450)	-57	75.64%	185	06-May-13 A	22-Mar-14	Road Re-construction Works (CH 2840 - 3450)																													
S22S4405	Road and Drainages Works for Fast Lane (CH2840 - 3000)	-56	95%	45	06-May-13 A	29-Jan-14	Road and Drainages Works for Fast Lane (CH2840 - 3000)																													
S22S4410	Road Surface Works for Fast Lane (CH2840 - 3000)	-56	95%	12	26-Nov-13 A	29-Jan-14	Road Surface Works for Fast Lane (CH2840 - 3000)																													
S22S4415	Road Re-Construction Works for Mid 2 Lane (CH2840 - 3000)	-49	70%	24	20-Dec-13 A	11-Feb-14	Road Re-Construction Works for Mid 2 Lane (CH2840 - 3000)																													
S22S4420	Road and Drainages Works for Fast and Mid Lane (CH3000 - 3450)	-56	20%	18	26-Nov-13 A	19-Feb-14	Road and Drainages Works for Fast and Mid Lane (CH3000 - 3450)																													
S22S4425	Road Surface Works for Fast Lane and Mid Lane (CH3000 - 3450)	-56	0%	10	19-Feb-14	03-Mar-14	Road Surface Works for Fast Lane and Mid Lane (CH3000 - 3450)																													
S22S4430	Road and Drainages Works for Slow Lane (CH2840 - 3450)	-56	0%	10	03-Mar-14	14-Mar-14	Road and Drainages Works for Slow Lane (CH2840 - 3450)																													
S22S4435	Road Surface Works for Slow Lane (CH3000 - 3450)	-56	0%	7	14-Mar-14	22-Mar-14	Road Surface Works for Slow Lane (CH3000 - 3450)																													
S22S4440	Road Construction Works Remaining Works (along CH2840 - 3450)	-57	0%	12	10-Mar-14	22-Mar-14	Road Construction Works Remaining Works (along CH2840 - 3450)																													
S22S4500	Roadworks for Realignment of Existing Shek Lin Road	-55	0%	18	28-Feb-14	20-Mar-14	Roadworks for Realignment of Existing Shek Lin Road																													
Traffic Control & Survelance System																																				
S22S4820	TCSS - (Gantry 60) (incl. VO73 Revised Sign Gantry Details)	-56	60%	50	16-Sep-13 A	22-Mar-14	TCSS - (Gantry 60) (incl. VO73 Revised Sign Gantry Details)																													
Modification of Existing Bridge 12																																				
S22S1300	Demolish Existing Parapet & Stitching Works for bridge 12 & 12B (incl. VO3 & VO29)	-51	44.29%	70	16-Sep-13 A	15-Mar-14	Demolish Existing Parapet & Stitching Works for bridge 12 & 12B (incl. VO3 & VO29)																													
S22S1315	VO 3: Existing Bridge 12 pile cap construction		100%	30	17-Sep-10 A	15-Feb-11 A	VO 3: Existing Bridge 12 pile cap construction																													
S22S1322	Removal of Existing Steel Barrier and Surface	-24	85%	8	22-Jul-13 A	28-Jan-14	Removal of Existing Steel Barrier and Surface																													
S22S1323	Stitching Works of Existing Bridge Decks B12 and B12B	-24	80%	20	08-Aug-13 A	05-Feb-14	Stitching Works of Existing Bridge Decks B12 and B12B																													
S22S1324	Road Surface of B12B for TW Slip Road	-24	0%	7	05-Feb-14	13-Feb-14	Road Surface of B12B for TW Slip Road																													
S22S1326	Removal of existing central barrier along B12 and Erection breaking platform	-57	70%	12	16-Sep-13 A	30-Jan-14	Removal of existing central barrier along B12 and Erection breaking platform																													
S22S1328	Breaking the existing stitch of B12 and condition survey	-57	50%	18	14-Dec-13 A	08-Feb-14	Breaking the existing stitch of B12 and condition survey																													
S22S1329	Removal M.J and Replacement M.J	-57	50%	8	26-Nov-13 A	13-Feb-14	Removal M.J and Replacement M.J																													
S22S1331	Stitching Works for B12	-57	0%	20	14-Feb-14	08-Mar-14	Stitching Works for B12																													
S22S1332	Road Surface Works	-51	0%	6	10-Mar-14	15-Mar-14	Road Surface Works																													
Landscaping																																				
S22S6000	Landscaping Works	-61	20%	30	23-Sep-13 A	27-Mar-14	Landscaping Works																													
Site Area SA23																																				
PHSA2320	Possession of SA23 (Day180)		100%	0	04-May-10 A		Possession of SA23 (Day180)																													
SA230000	Site Area SA23 Works Period		100%	586	16-Jul-10 A	25-Jan-14 A	Site Area SA23 Works Period																													
SA230010	Site Area SA23 Works Completion	151	0%	0		27-Jan-14	Site Area SA23 Works Completion																													
South Bound																																				
Preliminaries																																				
S23S0000	Site Clearance / Site Access		100%	144	28-Dec-11 A	24-Aug-13 A	Site Clearance / Site Access																													
S23S1000	Site Clearance		100%	72	28-Dec-11 A	27-Dec-12 A	Site Clearance																													
S23S2000	Site Access		100%	72	28-Dec-12 A	24-Aug-13 A	Site Access																													

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
Slopeworks																																																											
S21N2638	Slopeworks Fill (S27)		100%	99	29-Nov-12 A	24-Jan-13 A	Slopeworks Fill (S27)																																																				
S21N26381	Slopeworks Fill (S27) - Stage 1, +45mPD		100%	33	29-Nov-12 A	07-Dec-12 A	Slopeworks Fill (S27) - Stage 1, +45mPD																																																				
S21N26382	Slopeworks Fill (S27) - Stage 2, +50mPD		100%	33	08-Dec-12 A	31-Dec-12 A	Slopeworks Fill (S27) - Stage 2, +50mPD																																																				
S21N26383	Slopeworks Fill (S27) - Stage 3, +55mPD		100%	33	04-Jan-13 A	24-Jan-13 A	Slopeworks Fill (S27) - Stage 3, +55mPD																																																				
Landscaping																																																											
S23S6000	Landscaping Works		100%	50	23-Sep-13 A	25-Jan-14 A	Landscaping Works																																																				
Site Area SA24																																																											
PHSA2410	Possession of SA24 (Day180)		100%	0	04-May-10 A		Possession of SA24 (Day180)																																																				
SA240000	Site Area SA24 Works Period	-95	89.85%	788	04-May-10 A	16-Apr-14	Site Area SA24 Works Period																																																				
SA240010	Site Area SA24 Works Completion	71	0%	0		16-Apr-14	Site Area SA24 Works Completion																																																				
North Bound																																																											
Preliminaries																																																											
S24N0000	Site Clearance/Access Rd		100%	89	25-Aug-10 A	09-Dec-10 A	Site Clearance/Access Rd																																																				
S24N0010	Site Clearance		100%	72	25-Aug-10 A	19-Nov-10 A	Site Clearance																																																				
S24N0020	Access Road		100%	72	07-Sep-10 A	09-Dec-10 A	Access Road																																																				
Slopeworks																																																											
S24N5000	Slopeworks Cut(S31A)		100%	150	01-Jun-11 A	25-Nov-11 A	Slopeworks Cut(S31A)																																																				
S24N5010	Slopeworks Cut (S31A) & Soil Nail : Stage 1 (Upper +80mPD)		100%	60	01-Jun-11 A	06-Aug-11 A	Slopeworks Cut (S31A) & Soil Nail : Stage 1 (Upper +80mPD)																																																				
S24N5020	Slopeworks Cut (S31A) & Soil Nail : Stage 2 (Lower +72mPD)		100%	60	08-Aug-11 A	22-Oct-11 A	Slopeworks Cut (S31A) & Soil Nail : Stage 2 (Lower +72mPD)																																																				
S24N5030	Slopeworks Cut (S31A) : Shortcreting		100%	30	24-Oct-11 A	25-Nov-11 A	Slopeworks Cut (S31A) : Shortcreting																																																				
S24N5810	Erect Scaffolding & Soil Nail Installation (Area 4)		100%	60	19-Mar-13 A	08-May-13 A	Erect Scaffolding & Soil Nail Installation (Area 4)																																																				
S24N5831	Slope Reinstatement Works (Bridge 12ASA incl. VO74)	-77	80%	75	30-Apr-13 A	15-Feb-14	Slope Reinstatement Works (Bridge 12ASA incl. VO74)																																																				
Construction of Retaining Wall																																																											
Retaining Wall W56B-2 (Bay 12) (AD)																																																											
S24N2110	Prepare Piling Platform for W56B-2		100%	24	02-Oct-10 A	07-Feb-11 A	Prepare Piling Platform for W56B-2																																																				
S24N2120	Pre-drilling for W56B-2		100%	18	28-Oct-10 A	18-Nov-10 A	Pre-drilling for W56B-2																																																				
S24N2130	Retaining Wall W56B-2		100%	255	21-Jan-11 A	01-Dec-11 A	Retaining Wall W56B-2																																																				
S24N2140	Piles for W56B-2 (Stage 2)		100%	75	21-Jan-11 A	23-Sep-11 A	Piles for W56B-2 (Stage 2)																																																				
S24N2150	Excavation, upper		100%	75	26-Sep-11 A	13-Jan-12 A	Excavation, upper																																																				
S24N2152	Excavation, Middle		100%	60	26-Sep-11 A	19-Apr-12 A	Excavation, Middle																																																				
S24N2155	Excavation, Bottom		100%	75	11-May-12 A	26-Jul-12 A	Excavation, Bottom																																																				
S24N2160	Construction of Base Slab (Bay 12)		100%	75	27-Jul-12 A	25-Aug-12 A	Construction of Base Slab (Bay 12)																																																				
S24N2162	Retaining Wall Structure (Bay 12B)		100%	40	01-Oct-12 A	23-Nov-12 A	Retaining Wall Structure (Bay 12B)																																																				
S24N2170	Drainage & Backfilling W56B-2		100%	75	27-Feb-13 A	22-May-13 A	Drainage & Backfilling W56B-2																																																				
Retaining Wall W57A																																																											
S24N2200	Construction of W57A		100%	35	26-Jun-13 A	17-Aug-13 A	Construction of W57A																																																				
S24N2202	Construction of Structure W57A (W57B - bay1 to bay2)		100%	20	26-Jun-13 A	23-Jul-13 A	Construction of Structure W57A (W57B - bay1 to bay2)																																																				
S24N2203	Backfilling		100%	7	22-Jul-13 A	17-Aug-13 A	Backfilling																																																				
Retaining Wall W57B (AD 2)																																																											
S24N2310	Prepare Piling Platform for W57B		100%	18	11-Jan-11 A	31-Jan-11 A	Prepare Piling Platform for W57B																																																				
S24N2320	Pre-drill for W57B		100%	20	01-Apr-11 A	13-Apr-11 A	Pre-drill for W57B																																																				
S24N2330	Piles for W57B		100%	45	01-Apr-11 A	14-May-11 A	Piles for W57B																																																				
S24N2340	Excavate at W57B		100%	75	26-May-11 A	23-Aug-11 A	Excavate at W57B																																																				
S24N2360	Retaining Wall W57B		100%	75	19-Apr-12 A	11-Dec-12 A	Retaining Wall W57B																																																				
S24N2370	Backfilling & Drainage W57B		100%	60	25-Jan-13 A	17-Aug-13 A	Backfilling & Drainage W57B																																																				
Retaining Wall W57C, (CSD 2)																																																											

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	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			
S25S4000	Roadworks, Drainages & Utilities (CH 3400 - 3600)	121	100%	109	27-Feb-13 A	27-Jan-14																					Roadworks, D						
S25S4025	Road Works for Mid and Slow Lane		100%	60	27-Feb-13 A	03-Jun-13 A																	Road Works for Mid and Slow										
S25S4030	Drainages Works		100%	60	04-Mar-13 A	19-Apr-13 A																	Drainages Works										
S25S4040	Road Surface for Mid and Slow Lane		100%	10	31-May-13 A	21-Jun-13 A																	Road Surface for Mid and Slow										
S25S4060	Removal of existing central barrier and forming temporary road (CH 3350 - CH 3550)		100%	12	24-Jun-13 A	09-Jul-13 A																	Removal of existing central										
S25S4070	Road Construction and Remaining Works (along CH 3400 - 3600)	-15	90%	30	27-Jul-13 A	29-Jan-14																	Road Constructi										
S25S4200	Slip Road H		100%	50	27-Aug-13 A	14-Dec-13 A																	Slip Road H										
Noise Barriers & Road Barriers																																	
Noise Barrier NB34																																	
S25S3000	Construct Noise Barrier & Beam Barrier, NB34		100%	95	13-Nov-12 A	04-Feb-13 A																	Construct Noise Barrier & Beam Barrie										
S25S3010	NB34 : Foundation Works		100%	36	13-Nov-12 A	03-Jan-13 A																	NB34 : Foundation Works										
S25S3020	NB34 : Installation of H-column & Panel		100%	36	23-Jan-13 A	04-Feb-13 A																	NB34 : Installation of H-column & Panel										
Traffic Control & Survelance System																																	
S25S4810	TCSS - Stage 1 (Bridge 13A)		100%	30	08-Apr-13 A	25-May-13 A																	TCSS - Stage 1 (Bridge 13A)										
Site Area SA26																																	
PHSA2620	Possession of SA26 (Day0)		100%	0	26-Feb-10 A		◆ Possession of SA26 (Day0)																										
SA260000	Site Area SA26 Works Period	-61	96.22%	1216	26-Feb-10 A	13-Mar-14																	Site Area S										
SA260010	Site Area SA26 Works Completion	-61	0%	0		13-Mar-14																	◆ Site Area S										
SA260020	Temporary Traffic Management (Detail shall refer to supplementary information)	-49	96.24%	983	26-Feb-10 A	13-Mar-14																	Temporari										
SA260030	Overall Utility Diversion (Detail shall refer to supplementary information)	-49	96.24%	983	26-Feb-10 A	13-Mar-14																	Overall Ut										
SA260040	Additional work to existing ball valves, HKCG	-64	0%	52	27-Jan-14	31-Mar-14																	Additional										
North Bound																																	
Preliminaries																																	
S26N0000	Site Clearance/Access Rd (Tai Wo Road)		100%	150	26-Feb-10 A	28-Aug-10 A																	Site Clearance/Access Rd (Tai Wo Road)										
S26N0010	Site Clearance (Tai Wo Road)		100%	75	26-Feb-10 A	31-May-10 A																	Site Clearance (Tai Wo Road)										
S26N0020	Access Road (Tai Wo Road)		100%	75	01-Jun-10 A	28-Aug-10 A																	Access Road (Tai Wo Road)										
Sloperworks																																	
S26N5000	Sloperworks Cut(S31A-sn)		100%	150	01-Jun-11 A	25-Nov-11 A																	Sloperworks Cut(S31A-sn)										
S26N5010	Sloperworks Cut(S31A-sn) - Stage 1 (Upper +65mPD)		100%	50	01-Jun-11 A	06-Aug-11 A																	Sloperworks Cut(S31A-sn) - Stage 1 (Upper +65mPD)										
S26N5020	Sloperworks Cut(S31A-sn) - Stage 2 (Middle +60mPD)		100%	50	08-Aug-11 A	22-Oct-11 A																	Sloperworks Cut(S31A-sn) - Stage 2 (Middle +60mPD)										
S26N5030	Sloperworks Cut(S31A-sn) - Stage 3 (Lower +55mPD)		100%	50	24-Oct-11 A	25-Nov-11 A																	Sloperworks Cut(S31A-sn) - Stage 3 (Lower +55mPD)										
S26N5040	Remaining Works of S31A	-29	70%	40	27-Jul-13 A	19-Feb-14																	Remaining										
Construction of Retaining Wall																																	
Retaining Wall W59																																	
S26N2000	Excavate & Construct W59 (w/SP)		100%	286	01-Mar-12 A	22-Mar-13 A																	Excavate & Construct W59 (w/SP)										
S26N2002	W59: Base Slab of Bay 1-3		100%	60	01-Mar-12 A	04-Jun-12 A																	W59: Base Slab of Bay 1-3										
S26N2004	W59: Wall of Bay 1-3		100%	60	02-Jul-12 A	24-Dec-12 A																	W59: Wall of Bay 1-3										
S26N2006	W59: Base Slab & Wall of Bay 9-12a		100%	56	19-Apr-12 A	12-Jan-13 A																	W59: Base Slab & Wall of Bay 9-12a										
S26N2008	W59: Excavation + Soil Nail for Bay 4-8		100%	45	19-Apr-12 A	09-Jul-12 A																	W59: Excavation + Soil Nail for Bay 4-8										
S26N2012	W59: Base Slab of Bay 4-8		100%	40	16-Jul-12 A	24-Dec-12 A																	W59: Base Slab of Bay 4-8										
S26N2014	W59: Wall of Bay 4-8		100%	75	27-Aug-12 A	02-Feb-13 A																	W59: Wall of Bay 4-8										
S26N2020	Backfilling		100%	24	23-Apr-12 A	22-Mar-13 A																	Backfilling										
Roadworks, Drainage & Utilities																																	
S26N4000	Roadworks, Drainages & Utilities (ch3400-3720)	-23	87.72%	92	29-Jul-13 A	12-Feb-14																	Roadworks,										
S26N4035	Removal of existing paving	-43	60%	7	29-Jul-13 A	29-Jan-14																	Removal of e										
S26N4055	Road and Drainage Works for Slow and Mid Lane	-43	90%	25	27-Jul-13 A	05-Feb-14																	Road and Dr										
S26N4065	Road Surface for Slow and Mid Lane	-43	90%	10	27-Aug-13 A	06-Feb-14																	Road Surfac										

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	8	9	10	11	12	1	2	3	4	5	6
South Abutment							<ul style="list-style-type: none"> Piling-South Abutment Preparing piling platform Pre-drilling Piling (21nos) Excavation & Cap-South Abutment Pier & backfill, South Abutment 																													
Pier 1							<ul style="list-style-type: none"> Piling-Pier 1 (15nos) Cap-Pier 1 & Backfill Pier 1 (Pierhead included) 																													
Pier 2							<ul style="list-style-type: none"> Piling-Pier 2 (15nos) Cap-Pier 2 & Backfill Pier 2 (Pierhead included) 																													
Pier 3							<ul style="list-style-type: none"> Piling-Pier 3 (15nos) Cap-Pier 3 & Backfill Pier 3 (pierhead included) 																													
North Abutment							<ul style="list-style-type: none"> Pre-drilling & Preparation for Piling (incl. VO 39: Revised Foundation for North Abutment) ELS for North abutment Cap-North Abutment Abutment, Drainage & backfill, North Abutment 																													
Decking and Finishing							<ul style="list-style-type: none"> Deck-South Abutment to Pier 1 Deck-Pier 1 to Pier 2 Deck-Pier 2 to Pier 3 Erection of Falsework Deck-Pier 3 to North Abutment Dismantling of Falsework Parapet (incl. precast concrete skin) Erecting Railing (Short Column and barrier) Noise Barrier (Erecting H-Column and Panel) Road Lighting Surfacing Inspection and Handover of Bridge 12A 																													
Construction of Bridge LB2							<ul style="list-style-type: none"> Construction of Bridge LB2 (incl. VO29 & 37: revised piling details and pile caps sleeving details) 																													
Preparatory and Enabling Works							<ul style="list-style-type: none"> Gas main Diversion at East Abutment (No Connection) Temporary Traffic Arrangement for Piling Work 																													
Substructure and Pier Construction							<ul style="list-style-type: none"> Excavation and lateral support Coring and backfill for Piling works Piling-TW4 (20) 																													

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	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			
S26AN010	Site Clearance		100%	60	26-Feb-10 A	12-May-10 A	Site Clearance																										
S26AN020	Access Rd		100%	60	07-Apr-10 A	18-Jun-10 A	Access Rd																										
Slopeworks																																	
S26AN502	Cut Slope (S37A)		100%	48	26-Apr-12 A	03-Jul-12 A	Cut Slope (S37A)																										
S26AN506	Cut Slope (S40-sn, Including removal of existing retaining wall)		100%	168	19-Jun-10 A	08-Jan-11 A	Cut Slope (S40-sn, Including removal of existing retaining wall)																										
S26AN508	Slopeworks Cut(S40) - Stage 1 (Cut Slope and Erect Scaffolding)		100%	11	19-Jun-10 A	16-Jul-10 A	Slopeworks Cut(S40) - Stage 1 (Cut Slope and Erect Scaffolding)																										
S26AN510	Slopeworks Cut(S40) - Stage 1 (Soil Nail Installation : QRST)		100%	11	19-Jul-10 A	18-Aug-10 A	Slopeworks Cut(S40) - Stage 1 (Soil Nail Installation : QRST)																										
S26AN514	Slopeworks Cut(S40) - Stage 2 (Cut Slope and Erect Scaffolding)		100%	14	19-Aug-10 A	17-Sep-10 A	Slopeworks Cut(S40) - Stage 2 (Cut Slope and Erect Scaffolding)																										
S26AN516	Slopeworks Cut(S40) - Stage 2 (Soil Nail Installation : MNOP)		100%	14	21-Nov-10 A	26-Dec-10 A	Slopeworks Cut(S40) - Stage 2 (Soil Nail Installation : MNOP)																										
S26AN518	Slopeworks Cut(S40) - Stage 3 (Cut Slope and Erect Scaffolding)		100%	17	18-Aug-10 A	17-Sep-10 A	Slopeworks Cut(S40) - Stage 3 (Cut Slope and Erect Scaffolding)																										
S26AN520	Slopeworks Cut(S40) - Stage 3 (Soil Nail Installation : IJKL)		100%	17	27-Dec-10 A	01-Feb-11 A	Slopeworks Cut(S40) - Stage 3 (Soil Nail Installation : IJKL)																										
S26AN522	Slopeworks Cut(S40) - Stage 4 (Cut Slope and Erect Scaffolding)		100%	12	28-Jan-11 A	15-Feb-11 A	Slopeworks Cut(S40) - Stage 4 (Cut Slope and Erect Scaffolding)																										
S26AN524	Slopeworks Cut(S40) - Stage 4 (Soil Nail Installation : EFGH)		100%	12	02-Feb-11 A	19-Feb-11 A	Slopeworks Cut(S40) - Stage 4 (Soil Nail Installation : EFGH)																										
S26AN525	Slopeworks Cut(S40) - Stage 5 (Cut Slope and Erect Scaffolding)		100%	15	29-Oct-11 A	16-Nov-11 A	Slopeworks Cut(S40) - Stage 5 (Cut Slope and Erect Scaffolding)																										
S26AN526	Slopeworks Cut(S40) - Stage 5 (Soil Nail Installation : ABCD)		100%	18	16-Nov-11 A	07-Dec-11 A	Slopeworks Cut(S40) - Stage 5 (Soil Nail Installation : ABCD)																										
S26AN528	Removal of Existing Retaining Wall		100%	30	11-Apr-11 A	20-May-11 A	Removal of Existing Retaining Wall																										
S26AN530	Cut Slope (S41-sn)		100%	138	19-Jun-10 A	02-Dec-10 A	Cut Slope (S41-sn)																										
S26AN531	Cut Slope (S41-sn) - Stage 1 (Cut Slope and Erect Scaffolding)		100%	11	19-Jun-10 A	16-Jul-10 A	Cut Slope (S41-sn) - Stage 1 (Cut Slope and Erect Scaffolding)																										
S26AN532	Cut Slope (S41-sn) - Stage 1 (Soil Nail Installation : MNOPQ)		100%	11	19-Jul-10 A	13-Aug-10 A	Cut Slope (S41-sn) - Stage 1 (Soil Nail Installation : MNOPQ)																										
S26AN533	Cut Slope (S41-sn) - Stage 2 (Cut Slope and Erect Scaffolding)		100%	26	23-Aug-10 A	17-Sep-10 A	Cut Slope (S41-sn) - Stage 2 (Cut Slope and Erect Scaffolding)																										
S26AN534	Cut Slope (S41-sn) - Stage 2 (Soil Nail Installation : IJKL)		100%	26	28-Dec-10 A	27-Jan-11 A	Cut Slope (S41-sn) - Stage 2 (Soil Nail Installation : IJKL)																										
S26AN535	Cut Slope (S41-sn) - Stage 3 (Cut Slope and Erect Scaffolding)		100%	20	20-Sep-10 A	27-Nov-10 A	Cut Slope (S41-sn) - Stage 3 (Cut Slope and Erect Scaffolding)																										
S26AN536	Cut Slope (S41-sn) - Stage 3 (Soil Nail Installation : EFGH)		100%	19	30-May-11 A	22-Jun-11 A	Cut Slope (S41-sn) - Stage 3 (Soil Nail Installation : EFGH)																										
S26AN537	Cut Slope (S41-sn) - Stage 4 (Cut Slope and Erect Scaffolding)		100%	12	26-Oct-11 A	08-Nov-11 A	Cut Slope (S41-sn) - Stage 4 (Cut Slope and Erect Scaffolding)																										
S26AN538	Cut Slope (S41-sn) - Stage 4 (Soil Nail Installation : ABCD)		100%	12	03-Dec-12 A	14-Jan-13 A	Cut Slope (S41-sn) - Stage 4 (Soil Nail Installation : ABCD)																										
S26AN540	Slope 7NW-B/C 349		100%	75	02-Oct-10 A	25-Nov-10 A	Slope 7NW-B/C 349																										
S26AN541	Erect Scaffolding & Soil Nail Installation (7NW-B/C 349) - Stage 1 (EF) 52nos.		100%	15	02-Oct-10 A	19-Oct-10 A	Erect Scaffolding & Soil Nail Installation (7NW-B/C 349) - Stage 1 (EF) 52nos.																										
S26AN542	Erect Scaffolding & Soil Nail Installation (7NW-B/C 349) - Stage 2 (ABCD) 270nos.		100%	72	20-Oct-10 A	25-Nov-10 A	Erect Scaffolding & Soil Nail Installation (7NW-B/C 349) - Stage 2 (ABCD) 270nos.																										
S26AN550	Slope 7NW-A/C35-sn		100%	200	01-Sep-10 A	20-Nov-10 A	Slope 7NW-A/C35-sn																										
S26AN560	Erect Scaffolding & Soil Nail Installation (7NW-A/C35-sn) - Stage 1 (OP) 25nos.		100%	10	01-Sep-10 A	11-Sep-10 A	Erect Scaffolding & Soil Nail Installation (7NW-A/C35-sn) - Stage 1 (OP) 25nos.																										
S26AN570	Erect Scaffolding & Soil Nail Installation (7NW-A/C35-sn) - Stage 2 (KLMN) 285nos.		100%	40	13-Sep-10 A	19-Oct-10 A	Erect Scaffolding & Soil Nail Installation (7NW-A/C35-sn) - Stage 2 (KLMN) 285nos.																										
S26AN580	Erect Scaffolding & Soil Nail Installation (7NW-A/C35-sn) - Stage 3 (GHIJ) 370nos.		100%	57	30-Sep-10 A	19-Oct-10 A	Erect Scaffolding & Soil Nail Installation (7NW-A/C35-sn) - Stage 3 (GHIJ) 370nos.																										
S26AN590	Erect Scaffolding & Soil Nail Installation (7NW-A/C35-sn) - Stage 4 (CDEF) 407nos.		100%	62	20-Oct-10 A	19-Nov-10 A	Erect Scaffolding & Soil Nail Installation (7NW-A/C35-sn) - Stage 4 (CDEF) 407nos.																										
S26AN650	Erect Scaffolding & Soil Nail Installation (7NW-A/C35-sn) - Stage 5 (AB) 204nos.		100%	31	01-Nov-10 A	20-Nov-10 A	Erect Scaffolding & Soil Nail Installation (7NW-A/C35-sn) - Stage 5 (AB) 204nos.																										
S26AN660	Slope 7NW-A/CR39		100%	80	22-Nov-10 A	28-Mar-11 A	Slope 7NW-A/CR39																										
S26AN670	Erect Scaffolding & Soil Nail Installation (7NW-A/CR39) - Stage 1 (JK) 28nos.		100%	10	22-Nov-10 A	15-Dec-10 A	Erect Scaffolding & Soil Nail Installation (7NW-A/CR39) - Stage 1 (JK) 28nos.																										
S26AN680	Erect Scaffolding & Soil Nail Installation (7NW-A/CR39) - Stage 2 (DEFGHI) 162nos.		100%	40	16-Dec-10 A	25-Feb-11 A	Erect Scaffolding & Soil Nail Installation (7NW-A/CR39) - Stage 2 (DEFGHI) 162nos.																										
S26AN690	Erect Scaffolding & Soil Nail Installation (7NW-A/CR39) - Stage 3 (ABC) 109nos.		100%	30	22-Feb-11 A	28-Mar-11 A	Erect Scaffolding & Soil Nail Installation (7NW-A/CR39) - Stage 3 (ABC) 109nos.																										
S26AN930	Erect Scaffolding & Soil Nail Installation (Area 6-1)		100%	75	20-Feb-13 A	25-Nov-13 A	Erect Scaffolding & Soil Nail Installation (Area 6-1)																										
Construction of Retaining Wall																																	
Retaining Wall W65C (w/SP)																																	
S26AN100	Sheet Pile/Excavate & Construct W65C (w/SP)		100%	150	27-Jun-11 A	25-Jul-11 A	Sheet Pile/Excavate & Construct W65C (w/SP)																										
S26AN101	Sheet Pile and Excavation		100%	24	27-Jun-11 A	25-Jul-11 A	Sheet Pile and Excavation																										
S26AN102	Construction of Structure W65C		100%	72	27-Jun-11 A	25-Jul-11 A	Construction of Structure W65C																										
S26AN103	Backfilling		100%	24	27-Jun-11 A	25-Jul-11 A	Backfilling																										
Retaining Wall W68																																	
S26AN120	Sheet Pile/Excavate & Construct W68 (w/SP)		100%	99	15-Nov-10 A	16-Jul-12 A	Sheet Pile/Excavate & Construct W68 (w/SP)																										
S26AN121	Sheet Pile and Excavation		100%	19	15-Nov-10 A	04-Dec-10 A	Sheet Pile and Excavation																										

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
S26AN122	Construction of Structure W68		100%	75	26-Aug-11 A	24-Nov-11 A	Construction of Structure W68																																																				
S26AN123	Backfilling		100%	54	01-Jun-12 A	16-Jul-12 A	Backfilling																																																				
Retaining Wall W69 on Mini-Piles (AD 3)																																																											
S26AN142	Prepare Piling Platform for W69		100%	24	21-Sep-10 A	10-Oct-10 A	Prepare Piling Platform for W69																																																				
S26AN144	Pre-drilling for W69		100%	24	10-Sep-10 A	10-Oct-10 A	Pre-drilling for W69																																																				
S26AN146	Pipe Pile for W69		100%	77	20-Oct-10 A	24-Dec-10 A	Pipe Pile for W69																																																				
S26AN147	Pipe Pile for W69 - Stage 1 (south)		100%	38	20-Oct-10 A	19-Nov-10 A	Pipe Pile for W69 - Stage 1 (south)																																																				
S26AN148	Pipe Pile for W69 - Stage 2 (north)		100%	26	20-Nov-10 A	19-Dec-10 A	Pipe Pile for W69 - Stage 2 (north)																																																				
S26AN149	Excavate and Tension Piles W69		100%	110	26-Mar-11 A	11-Aug-11 A	Excavate and Tension Piles W69																																																				
S26AN150	Excavation and Installation of Tension Piles - Stage 1 (south)		100%	55	26-Mar-11 A	04-Jun-11 A	Excavation and Installation of Tension Piles - Stage 1 (south)																																																				
S26AN151	Excavation and Installation of Tension Piles - Stage 2 (north)		100%	55	13-Jun-11 A	16-Aug-11 A	Excavation and Installation of Tension Piles - Stage 2 (north)																																																				
S26AN152	Retaining Wall & Drainage W69		100%	120	26-Aug-11 A	19-Jan-12 A	Retaining Wall & Drainage W69																																																				
S26AN153	Construction of Structure W69		100%	75	26-Aug-11 A	24-Nov-11 A	Construction of Structure W69																																																				
S26AN154	Drainage		100%	40	06-Feb-12 A	15-Mar-13 A	Drainage																																																				
S26AN155	Backfilling		100%	75	01-Jun-12 A	16-Jul-12 A	Backfilling																																																				
Retaining Wall W70																																																											
S26AN170	Sheet Pile/Excavate & Construct W70 (w/SP)		100%	165	03-Dec-10 A	15-Mar-13 A	Sheet Pile/Excavate & Construct W70 (w/SP)																																																				
S26AN171	Sheet Pile and Excavation		100%	18	03-Dec-10 A	14-Dec-10 A	Sheet Pile and Excavation																																																				
S26AN172	Construction of Structure W70 (w/SP)		100%	75	18-Jul-11 A	15-Oct-11 A	Construction of Structure W70 (w/SP)																																																				
S26AN173	Drainage & Backfilling		100%	54	18-Feb-13 A	28-Jun-13 A	Drainage & Backfilling																																																				
S26AN174	Backfilling behind W68 to W70 and drainage works		100%	60	18-Mar-13 A	25-Nov-13 A	Backfilling behind W68 to W70 and drainage works																																																				
S26AN184	Erect Scaffolding & Soil Nail Installation		100%	35	04-Oct-13 A	25-Nov-13 A	Erect Scaffolding & Soil Nail Installation																																																				
Retaining Wall W72A(w/SP)																																																											
S26AN190	Sheet Pile/Excavate & Construct W72A (w/SP)		100%	92	30-Oct-10 A	21-Nov-11 A	Sheet Pile/Excavate & Construct W72A (w/SP)																																																				
S26AN191	Sheet Pile and Excavation		100%	34	30-Oct-10 A	31-Jan-11 A	Sheet Pile and Excavation																																																				
S26AN192	Construction of Structure W72A (w/SP)		100%	46	03-Jan-11 A	24-Mar-11 A	Construction of Structure W72A (w/SP)																																																				
S26AN193	Drainage & Backfilling		100%	68	01-Jun-11 A	21-Nov-11 A	Drainage & Backfilling																																																				
Road Re-Construction Works, Roadworks & Drainage																																																											
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	Slip Road R (From W72A to W73) Stage 1 (incl. VO 36: Slip Road R & Drainage detail.)																																																				
S26AN431	Slip Road R (From W70 to B18A) Stage 1.1 formation		100%	15	26-May-12 A	13-Jun-12 A	Slip Road R (From W70 to B18A) Stage 1.1 formation																																																				
S26AN432	Slip Road R (From W70 to B18A) Stage 1.1 Drainage & utilities		100%	15	14-Jun-12 A	03-Jul-12 A	Slip Road R (From W70 to B18A) Stage 1.1 Drainage & utilities																																																				
S26AN433	Slip Road R (From W70 to B18A) Stage 1.1 pavement & roadworks		100%	15	04-Jul-12 A	26-Jul-12 A	Slip Road R (From W70 to B18A) Stage 1.1 pavement & roadworks																																																				
S26AN435	Slip Road R (From W70 to B18A) Stage 2		100%	93	18-May-12 A	14-Sep-13 A	Slip Road R (From W70 to B18A) Stage 2																																																				
S26AN436	Slip Road R (From W70 to B18A) Stage 2, formation (Remaining)		100%	30	18-May-12 A	06-Aug-13 A	Slip Road R (From W70 to B18A) Stage 2, formation (Remaining)																																																				
S26AN437	Slip Road R (From W70 to B18A) Stage 2, Drainage & utilities (Remaining)		100%	30	27-Jun-12 A	14-Sep-13 A	Slip Road R (From W70 to B18A) Stage 2, Drainage & utilities (Remaining)																																																				
S26AN438	Slip Road R (From W70 to B18A) Stage 2, pavement & roadworks (Remaining)		100%	50	14-Jul-12 A	14-Sep-13 A	Slip Road R (From W70 to B18A) Stage 2, pavement & roadworks (Remaining)																																																				
S26AN447	Construction Slip Road J (Under Bridge 15A)	-13	50%	45	27-Aug-13 A	25-Feb-14	Construction Slip Road J (Under Bridge 15A)																																																				
S26AN448	Construction Slip Road Q (At W65C)	-13	50%	45	27-Dec-13 A	25-Feb-14	Construction Slip Road Q (At W65C)																																																				
S26AN451	Road and Drainage Works (CH 3720 - 4550)		100%	168	24-Jun-13 A	20-Dec-13 A	Road and Drainage Works (CH 3720 - 4550)																																																				
S26AN452	Removal of existing central barrier and forming temporary road (CH3720-4100)		100%	12	24-Jun-13 A	20-Jul-13 A	Removal of existing central barrier and forming temporary road (CH3720-4100)																																																				
S26AN4525	TTA - Stage 4B-2		100%	0		21-Jul-13 A	TTA - Stage 4B-2																																																				
S26AN453	Road and Drainage Works for Slow and Mid Lane (CH3720 - 3850)	-13	60%	20	08-Jul-13 A	07-Feb-14	Road and Drainage Works for Slow and Mid Lane (CH3720 - 3850)																																																				
S26AN454	Road Surface Works for Slow and Mid Lane (CH3720 - 3850)	-6	60%	10	26-Oct-13 A	12-Feb-14	Road Surface Works for Slow and Mid Lane (CH3720 - 3850)																																																				
S26AN455	Removal of existing central barrier (CH4100-4550)		100%	8	26-Jul-13 A	09-Aug-13 A	Removal of existing central barrier (CH4100-4550)																																																				
S26AN456	Road Works for Fast and Mid Lane (CH3850 - CH4550)		100%	20	10-Aug-13 A	25-Nov-13 A	Road Works for Fast and Mid Lane (CH3850 - CH4550)																																																				
S26AN457	Road Surface Works for Fast and Mid Lane (CH3850 - 4550)		100%	10	27-Aug-13 A	25-Nov-13 A	Road Surface Works for Fast and Mid Lane (CH3850 - 4550)																																																				
S26AN458	Road Works for Fast Lane (CH3720 - 3850)		100%	20	26-Oct-13 A	25-Nov-13 A	Road Works for Fast Lane (CH3720 - 3850)																																																				
S26AN459	Road Surface Works for Fast Lane (CH3720 - 3850)		100%	10	26-Oct-13 A	25-Nov-13 A	Road Surface Works for Fast Lane (CH3720 - 3850)																																																				

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
S27S1001	Sheet Pile & Excavation		100%	32	28-Dec-10 A	07-Feb-11 A	Sheet Pile & Excavation																														
S27S1002	Construction of Structure W65A		100%	50	11-Apr-11 A	13-Aug-11 A	Construction of Structure W65A																														
S27S1012	Backfilling behind W65A and drainage works	-41	85%	40	15-Jul-13 A	11-Feb-14	Backfilling behind W65A and drainage works																														
Retaining Wall W65B, (CSD 1)																																					
S27S1040	WSD 1220 dia Diversion		100%	36	26-Jul-11 A	17-Dec-12 A	WSD 1220 dia Diversion																														
S27S1041	HyD Lighting relocation		100%	36	26-May-11 A	18-Jun-11 A	HyD Lighting relocation																														
S27S1042	Excavate to cut-off level		100%	42	15-Oct-10 A	03-Dec-10 A	Excavate to cut-off level																														
S27S1043	COD: CLP overhead cable		100%	75	15-Jan-11 A	11-Apr-11 A	COD: CLP overhead cable																														
S27S1044	Relocation of Existing Electric Poles, CLP		100%	24	15-Feb-11 A	11-Apr-11 A	Relocation of Existing Electric Poles, CLP																														
S27S1060	Capping/Walling for W65B		100%	42	06-Apr-11 A	20-Aug-11 A	Capping/Walling for W65B																														
S27S1070	Backfilling for W65A & B		100%	75	10-Sep-11 A	21-Jul-12 A	Backfilling for W65A & B																														
S27S1090	COD: DAN 273- revised thrust box detail and additional works for DN1220		100%	30	17-Dec-12 A	24-Jan-13 A	COD: DAN 273- revised thrust box detail and additional works for DN1220																														
S27S1110	Backfilling behind W65B and drainage works	-41	85%	40	15-Jul-13 A	11-Feb-14	Backfilling behind W65B and drainage works																														
Retaining Wall W66/67 (CSD 2) & W71																																					
S27S1100	W66 & W67 (CSD 2)		100%	45	02-Oct-10 A	19-Mar-11 A	W66 & W67 (CSD 2)																														
S27S1101	Base Slab (W66)		100%	30	02-Oct-10 A	01-Nov-10 A	Base Slab (W66)																														
S27S1102	Wall Stem (W66)		100%	30	02-Nov-10 A	26-Dec-10 A	Wall Stem (W66)																														
S27S1103	Base Slab (W67)		100%	30	08-Nov-10 A	25-Dec-10 A	Base Slab (W67)																														
S27S1113	Wall Stem (W67)		100%	24	28-Feb-11 A	19-Mar-11 A	Wall Stem (W67)																														
S27S1115	Backfill for W66&67		100%	61	27-Jun-11 A	15-Oct-11 A	Backfill for W66&67																														
S27S1200	Retaining Wall W71 (Bay1 - Bay5)		100%	110	02-Jun-10 A	12-Oct-10 A	Retaining Wall W71 (Bay1 - Bay5)																														
S27S1210	Retaining Wall W71 : Base Slab		100%	55	02-Jun-10 A	06-Aug-10 A	Retaining Wall W71 : Base Slab																														
S27S1220	Retaining Wall W71 : Wall Stem		100%	55	07-Aug-10 A	12-Oct-10 A	Retaining Wall W71 : Wall Stem																														
S27S1230	Backfill for W71		100%	50	27-Jun-11 A	24-Aug-11 A	Backfill for W71																														
Slopeworks																																					
S27S0000	Site Clearance/Access Rd		100%	130	27-Mar-10 A	03-Sep-10 A	Site Clearance/Access Rd																														
S27S0001	Site Clearance (Stage 1)		100%	40	27-Mar-10 A	18-May-10 A	Site Clearance (Stage 1)																														
S27S0002	Site Clearance (Stage 2)		100%	40	19-Jun-10 A	05-Aug-10 A	Site Clearance (Stage 2)																														
S27S0004	Access Rd (Stage 1)		100%	40	30-Apr-10 A	18-Jun-10 A	Access Rd (Stage 1)																														
S27S0005	Access Rd (Stage 2)		100%	40	20-Jul-10 A	03-Sep-10 A	Access Rd (Stage 2)																														
S27S5000	Slopeworks Cut(S34)		100%	46	28-Dec-10 A	23-Feb-11 A	Slopeworks Cut(S34)																														
S27S5100	Slopeworks Cut(S42), Fill(S43)		100%	75	28-Dec-10 A	29-Mar-11 A	Slopeworks Cut(S42), Fill(S43)																														
S27S5101	Slopeworks Cut(S42)		100%	60	28-Dec-10 A	11-Mar-11 A	Slopeworks Cut(S42)																														
S27S5102	Slopeworks Fill(S43)		100%	60	26-Oct-11 A	06-Jan-12 A	Slopeworks Fill(S43)																														
S27S5110	Slopeworks Cut(S37)		100%	0	02-Feb-11 A	02-Feb-11 A	Slopeworks Cut(S37)																														
S27S5111	Slopeworks Cut(S37) - Stage 1, +40mPD		100%	62	18-Nov-10 A	01-Feb-11 A	Slopeworks Cut(S37) - Stage 1, +40mPD																														
S27S5112	Slopeworks Cut(S37) - Stage 2, +33.8mPD		100%	62	30-Jan-12 A	19-Apr-12 A	Slopeworks Cut(S37) - Stage 2, +33.8mPD																														
S27S5120	Slopeworks Fill(S38)(Including removal of existing retaining wall)		100%	96	13-Apr-12 A	21-Aug-12 A	Slopeworks Fill(S38)(Including removal of existing retaining wall)																														
S27S5121	Slopeworks Fill(S38) : Removal of existing retaining wall		100%	24	13-Apr-12 A	19-May-12 A	Slopeworks Fill(S38) : Removal of existing retaining wall																														
S27S5122	Slopeworks Fill(S38) - Stage 1, +32mPD		100%	24	26-May-12 A	08-Jun-12 A	Slopeworks Fill(S38) - Stage 1, +32mPD																														
S27S5123	Slopeworks Fill(S38) - Stage 2, +34mPD		100%	24	11-Jun-12 A	11-Jul-12 A	Slopeworks Fill(S38) - Stage 2, +34mPD																														
S27S5124	Slopeworks Fill(S38) - Stage 3, formation level		100%	24	11-Jul-12 A	21-Aug-12 A	Slopeworks Fill(S38) - Stage 3, formation level																														
S27S5130	Slopeworks Cut(S39)		100%	138	19-Jun-10 A	23-Feb-11 A	Slopeworks Cut(S39)																														
S27S5131	Slopeworks Cut(S39) - Stage 1, +37mPD		100%	46	19-Jun-10 A	12-Aug-10 A	Slopeworks Cut(S39) - Stage 1, +37mPD																														
S27S5132	Slopeworks Cut(S39) - Stage 2, +35mPD		100%	46	13-Aug-10 A	07-Oct-10 A	Slopeworks Cut(S39) - Stage 2, +35mPD																														
S27S5133	Slopeworks Cut(S39) - Stage 3, formation level		100%	46	28-Dec-10 A	23-Feb-11 A	Slopeworks Cut(S39) - Stage 3, formation level																														
S27S5150	Slope Reinstatement Works (S42)	-31	97%	40	06-Sep-13 A	28-Jan-14	Slope Reinstatement Works (S42)																														
Landscaping																																					

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
S26AS580	Cap & Backfill - P5		100%	36	04-Aug-11 A	16-Sep-11 A	□ Cap & Backfill - P5																													
S26AS590	Pier - P5		100%	36	18-Nov-11 A	29-Feb-12 A	□ Pier - P5																													
P6																																				
S26AS222	Piling-P6 Stage 1 (6 no.)		100%	20	26-Nov-11 A	19-Dec-11 A	□ Piling-P6 Stage 1 (6 no.)																													
S26AS226	Piling-P6 Stage 2 (Remain, 9 no.)		100%	30	18-May-12 A	26-May-12 A	□ Piling-P6 Stage 2 (Remain, 9 no.)																													
S26AS232	Cap & Backfill - P6		100%	36	05-Oct-12 A	09-Nov-12 A	□ Cap & Backfill - P6																													
S26AS242	Pier-P6		100%	12	20-Nov-12 A	13-Dec-12 A	□ Pier-P6																													
North Abutment																																				
S26AS224	Piling-North Abutment, Stage 1 (11no.)		100%	36	07-Oct-11 A	17-Nov-11 A	□ Piling-North Abutment, Stage 1 (11no.)																													
S26AS228	Piling-North Abutment, Stage 2 (Remain, 16 no.)		100%	60	11-May-12 A	16-Jul-12 A	□ Piling-North Abutment, Stage 2 (Remain, 16 no.)																													
S26AS234	Excavation & Cap-North Abutment		100%	30	08-Aug-12 A	18-Dec-12 A	□ Excavation & Cap-North Abutment																													
S26AS236	Abutment		100%	20	24-Dec-12 A	18-Jan-13 A	□ Abutment																													
S26AS244	Backfilling		100%	50	22-Jan-13 A	15-May-13 A	□ Backfilling																													
Decking and Finishing																																				
S26AS250	Bridge Deck (7 spans) (Bearing, Drainage & MJ included) (incl. VO 44: Revised Drainage Arrangement for Bridge 15A Deck)		100%	314	26-Nov-11 A	28-Mar-13 A	□ Bridge Deck (7 spans) (Bearing, Dr																													
S26AS251	Bridge Deck - Pier 1 to South Abutment		100%	75	26-Nov-11 A	26-May-12 A	□ Bridge Deck - Pier 1 to South Abutment																													
S26AS252	Bridge Deck - Pier 2 to Pier 1		100%	75	11-May-12 A	29-Aug-12 A	□ Bridge Deck - Pier 2 to Pier 1																													
S26AS253	Bridge Deck - Pier 3 to Pier 2		100%	75	01-Jun-12 A	06-Nov-12 A	□ Bridge Deck - Pier 3 to Pier 2																													
S26AS254	Falsework dismantling of deck - Pier 3 to Pier 2		100%	18	03-Dec-12 A	22-Feb-13 A	□ Falsework dismantling of deck - Pier 3																													
S26AS255	Bridge Deck - Pier 4 to Pier 3		100%	75	11-Aug-12 A	22-Dec-12 A	□ Bridge Deck - Pier 4 to Pier 3																													
S26AS256	Falsework dismantling of deck - Pier 4 to Pier 3		100%	18	25-Feb-13 A	03-May-13 A	□ Falsework dismantling of deck - P																													
S26AS257	Bridge Deck - Pier 5 to Pier 4		100%	75	27-Aug-12 A	31-Jan-13 A	□ Bridge Deck - Pier 5 to Pier 4																													
S26AS258	Falsework dismantling of deck - Pier 5 to Pier 4		100%	18	11-Mar-13 A	30-May-13 A	□ Falsework dismantling of deck																													
S26AS259	Falsework Erection of deck - Pier 6 to Pier 5		100%	18	03-Dec-12 A	23-Feb-13 A	□ Falsework Erection of deck - Pier 6 to																													
S26AS260	Bridge Deck - Pier 6 to Pier 5		100%	75	29-Dec-12 A	19-Apr-13 A	□ Bridge Deck - Pier 6 to Pier 5																													
S26AS261	Falsework dismantling of deck - Pier 6 to Pier 5		100%	18	06-May-13 A	14-Jun-13 A	□ Falsework dismantling of deck																													
S26AS262	Falsework Erection of deck - North Abutment to Pier 6		100%	18	31-Dec-12 A	04-Feb-13 A	□ Falsework Erection of deck - North Abu																													
S26AS263	Bridge Deck - North Abutment to Pier 6		100%	50	14-Jan-13 A	28-Mar-13 A	□ Bridge Deck - North Abutment to Pi																													
S26AS264	Falsework dismantling of deck - North Abutment to Pier 6		100%	18	13-May-13 A	14-Jun-13 A	□ Falsework dismantling of deck																													
S26AS269	Parapet (incl. precast concrete skin)		100%	50	06-Dec-12 A	08-Jun-13 A	□ Parapet (incl. precast concrete																													
S26AS270	Noise Barrier for Bridge 15A		100%	25	27-Mar-13 A	12-Jun-13 A	□ Noise Barrier for Bridge 15A																													
S26AS272	Surfacing		100%	10	10-May-13 A	20-Jun-13 A	□ Surfacing																													
S26AS275	Lighting		100%	7	04-May-13 A	07-Jun-13 A	□ Lighting																													
S26AS280	Handover Inspection of Bridge 15A		100%	3	20-Jun-13 A	22-Jun-13 A	□ Handover Inspection of Bridg																													
Ready For Pre-Handover Retaining Wall of Section 3																																				
HRW0030	Ready For Pre-Handover Retaining Wall W65C, W68, W69, W70, W72A	3	0%	7	27-Jan-14	06-Feb-14	□ Ready For P																													
HRW0031	Ready For Pre-Handover Retaining Wall W65A, W65B, W66, W67, W71	3	0%	7	27-Jan-14	06-Feb-14	□ Ready For P																													
Section 4																																				
Site Area SA28																																				
PHSA2820	Possession of SA28 (Day0)		100%	0	26-Feb-10 A		◇ Possession of SA28 (Day0)																													
SA280000	Site Area SA28 Works Period	62	92.64%	1216	26-Feb-10 A	26-Apr-14	□ Site Area																													
SA280010	Site Area SA28 Works Completion	62	0%	0		26-Apr-14	◇ Site Area																													
SA280030	Temporary Traffic Arrangement (Detail shall refer to supplementary information)	50	92.73%	983	26-Feb-10 A	26-Apr-14	□ Tempor																													
SA280040	Overall Utilities Diversion (Detail shall refer to supplementary information)	50	92.73%	983	26-Feb-10 A	26-Apr-14	□ Overall																													
North Bound																																				
Preliminaries																																				

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
S28N0000	Site Clearance/Access Rd		100%	239	26-Feb-10 A	19-Feb-11 A	Site Clearance/Access Rd																																			
S28N0010	Site Clearance (ch 4830-5250)		100%	75	26-Feb-10 A	05-Jun-10 A	Site Clearance (ch 4830-5250)																																			
S28N0020	Site Clearance (ch 5250-5700)		100%	75	17-Apr-10 A	23-Jul-10 A	Site Clearance (ch 5250-5700)																																			
S28N0110	Access Rd (ch 4830-5250)		100%	75	30-Jun-10 A	04-Oct-10 A	Access Rd (ch 4830-5250)																																			
S28N0120	Access Rd (ch 5250-5700)		100%	75	09-Sep-10 A	19-Feb-11 A	Access Rd (ch 5250-5700)																																			
Slopeworks																																										
S28N5000	Slopeworks Fill S44		100%	36	28-Dec-11 A	11-Feb-12 A	Slopeworks Fill S44																																			
S28N5010	Slopeworks Fill S45	-21	0%	40	27-Jan-14	17-Mar-14	Slopeworks Fill S45																																			
Construction of Retaining Wall																																										
Retaining Wall W72B (CSD 1)																																										
S28N2010	Prepare Piling Platform for W72B		100%	13	14-Sep-10 A	29-Sep-10 A	Prepare Piling Platform for W72B																																			
S28N2020	Pre-drilling for W72B		100%	13	14-Sep-10 A	29-Sep-10 A	Pre-drilling for W72B																																			
S28N2040	Piling works		100%	24	01-Mar-11 A	21-Mar-11 A	Piling works																																			
S28N2050	Capping/Walling for W72B		100%	50	26-May-11 A	25-Jul-11 A	Capping/Walling for W72B																																			
S28N2051	Pile Cap for W72B		100%	30	26-May-11 A	09-Jun-11 A	Pile Cap for W72B																																			
S28N2052	Walling for W72B		100%	75	21-Jun-11 A	17-Sep-11 A	Walling for W72B																																			
S28N2060	Backfilling		100%	68	26-Sep-11 A	15-Dec-11 A	Backfilling																																			
Retaining Wall W73 (CSD 1)																																										
S28N2071	Excavation & ELS		100%	24	14-Sep-10 A	13-Oct-10 A	Excavation & ELS																																			
S28N2072	W73 wall Structure (7 bays)		100%	45	01-Mar-11 A	20-Apr-11 A	W73 wall Structure (7 bays)																																			
S28N2073	Base Slab W73		100%	24	01-Mar-11 A	28-Mar-11 A	Base Slab W73																																			
S28N2074	Wall Stem & W73		100%	24	25-Mar-11 A	20-Apr-11 A	Wall Stem & W73																																			
S28N2080	Backfill		100%	75	09-Jul-11 A	24-Dec-11 A	Backfill																																			
Retaining Wall for Accom. Underpass Extn. (CSD 1)																																										
S28N230	Pre-drilling for Accommodation Underpass Extension		100%	30	30-Jun-10 A	04-Aug-10 A	Pre-drilling for Accommodation Underpass Extension																																			
S28N240	Prepare Piling Platform for Accom. Underpass Extn		100%	30	30-Jun-10 A	04-Aug-10 A	Prepare Piling Platform for Accom. Underpass Extn																																			
S28N250	Piling works		100%	45	01-Mar-11 A	25-Mar-11 A	Piling works																																			
S28N260	Capping/Walling (incl. VO71: Details of typical section for slip road R verge at AUE wall)		100%	54	26-Mar-11 A	03-Jun-11 A	Capping/Walling (incl. VO71: Details of typical section for slip road R verge at AUE wall)																																			
S28N270	Capping (AUE)		100%	45	26-Mar-11 A	25-May-11 A	Capping (AUE)																																			
S28N280	Walling (AUE)		100%	55	26-May-11 A	30-Jul-11 A	Walling (AUE)																																			
S28N290	Backfilling		100%	62	26-Sep-11 A	17-Dec-11 A	Backfilling																																			
Retaining Wall W74																																										
S28N2105	Liasion with location resident for slip road diversion		100%	75	26-Feb-10 A	05-Jun-10 A	Liasion with location resident for slip road diversion																																			
S28N2115	Utilities Diversion		100%	60	07-Jun-10 A	17-Aug-10 A	Utilities Diversion																																			
S28N2120	Temporary road and pedestrian diversion		100%	60	18-Aug-10 A	29-Oct-10 A	Temporary road and pedestrian diversion																																			
S28N2125	Pre-drilling for Piles		100%	15	21-Oct-10 A	19-Nov-10 A	Pre-drilling for Piles																																			
S28N2130	Confirmation of Founding Level		100%	19	26-Mar-11 A	18-Apr-11 A	Confirmation of Founding Level																																			
S28N2134	Falsework removal beteew NLK deck P7 -P8		100%	26	07-Jan-13 A	01-Feb-13 A	Falsework removal beteew NLK deck P7 -P8																																			
S28N2135	Piling work for W74 (Stage 1: Bay1 - 3)		100%	75	21-Feb-13 A	22-Apr-13 A	Piling work for W74 (Stage 1: Bay1 - 3)																																			
S28N2140	Temporary Work for Excavation (Stage 1: Bay1 - 3)		100%	20	27-Jun-12 A	31-Jul-12 A	Temporary Work for Excavation (Stage 1: Bay1 - 3)																																			
S28N2145	Excavation and Tie Back to Formation Level (Stage 1: Bay1 - 3)		100%	18	18-Jul-12 A	31-Jul-12 A	Excavation and Tie Back to Formation Level (Stage 1: Bay1 - 3)																																			
S28N2150	Pile Head Trimming and bearing plate (Stage 1: Bay1 - 3)		100%	14	27-May-13 A	11-Jun-13 A	Pile Head Trimming and bearing plate (Stage 1: Bay1 - 3)																																			
S28N2155	Retaining Wall Construction (Stage 1: Bay1 - 3)		100%	45	11-Jun-13 A	07-Oct-13 A	Retaining Wall Construction (Stage 1: Bay1 - 3)																																			
S28N2156	Base Slab (W74) (Bay 1 - 3)		100%	30	25-May-13 A	27-Jul-13 A	Base Slab (W74) (Bay 1 - 3)																																			
S28N2158	Wall Stem (W74) (Bay 1 - 3)		100%	30	23-Jul-13 A	07-Oct-13 A	Wall Stem (W74) (Bay 1 - 3)																																			
S28N2160	Retaining Wall Construction (Stage 2: Bay 4 - 9)	-18	91.34%	202	23-Apr-13 A	19-Feb-14	Retaining Wall Construction (Stage 2: Bay 4 - 9)																																			
S28N2161	Falsework removal bewteen NLK deck P8 - P9		100%	26	23-Apr-13 A	20-Jul-13 A	Falsework removal bewteen NLK deck P8 - P9																																			
S28N2162	Piling work for W74 (Stage 2: Bay 4 - 9)		100%	50	24-Jun-13 A	22-Oct-13 A	Piling work for W74 (Stage 2: Bay 4 - 9)																																			

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		
							1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3								
S28N2164	Temporary Work for Excavation (Stage 2: Bay 4 - 9)		100%	18	27-Jun-12 A	17-Jul-12 A	Temporary Work for Excavation (Stage 2: Bay 4 - 9)																														
S28N2165	Excavation and Tie Back to Formation Level (Stage 2: Bay 4 - 9)		100%	19	18-Jul-12 A	31-Jul-12 A	Excavation and Tie Back to Formation Level (Stage 2: Bay 4 - 9)																														
S28N2167	Base Slab (W74) (Bay 4 - 9)		100%	25	07-Sep-13 A	25-Jan-14 A	Base Slab (W74) (Bay 4 - 9)																														
S28N2168	Wall Stem (W74) (Bay 4 - 9)		100%	30	05-Oct-13 A	25-Jan-14 A	Wall Stem (W74) (Bay 4 - 9)																														
S28N2190	Backfilling	-18	30%	25	12-Oct-13 A	19-Feb-14	Backfilling																														
Noise Barrier NB43 (AD5)																																					
S28N2500	Utilities Diversion		100%	127	01-Jun-10 A	10-Feb-11 A	Utilities Diversion																														
S28N2510	Temporary Noise Barrier Installation		100%	46	16-Nov-10 A	26-Dec-10 A	Temporary Noise Barrier Installation																														
S28N2520	Noise Barrier Construction Stage 1 (Bay 1 - 3)		100%	72	03-Feb-12 A	14-Aug-12 A	Noise Barrier Construction Stage 1 (Bay 1 - 3)																														
S28N2525	Noise Barrier Construction Stage 2 (Bay 4 - 9)		100%	75	09-Jan-13 A	18-Jun-13 A	Noise Barrier Construction Stage 2 (Bay 4 - 9)																														
S28N2526	Noise Barrier Construction Stage 3 remaining (Bay 4 - 7) Wall		100%	30	28-Oct-13 A	09-Jan-14 A	Noise Barrier Construction Stage 3 remaining (Bay 4 - 7) Wall																														
S28N2530	Erection of Steel Post & Panel (Bay 1 - 3)		100%	75	29-Dec-12 A	31-Jan-13 A	Erection of Steel Post & Panel (Bay 1 - 3)																														
S28N2531	Erection of Steel Post & Panel (Bay 4 - 9)		100%	10	20-Jan-14 A	25-Jan-14 A	Erection of Steel Post & Panel (Bay 4 - 9)																														
Road Re-Construction Works, Roadworks, Drainage & Utilities																																					
S28N3890	VO 25: Construction of Cross road Ducts & traffic signal Drawpits at proposed crossing point of tai Wo Service Road West		100%	10	27-Apr-11 A	12-Sep-12 A	VO 25: Construction of Cross road Ducts & traffic signal Drawpits at proposed crossing point of tai Wo Service Road West																														
S28N3900	CLP & Gasmain Diversion, Tear Drop/Slip Road T (incl. VO 19: Protection for existing HKCG HP600mm Gasmain at Slip Road T)		100%	75	15-Oct-11 A	12-Jun-12 A	CLP & Gasmain Diversion, Tear Drop/Slip Road T (incl. VO 19: Protection for existing HKCG HP600mm Gasmain at Slip Road T)																														
S28N3902	DN400 landfill gasmain at NB41-stage 1		100%	25	21-Nov-12 A	28-Nov-12 A	DN400 landfill gasmain at NB41-stage 1																														
S28N3904	DN400 landfill gasmain at NB41-stage 2		100%	25	17-Dec-12 A	02-Mar-13 A	DN400 landfill gasmain at NB41-stage 2																														
S28N3906	New Joint Box construction for CLP 132kV		100%	50	24-Dec-12 A	14-May-13 A	New Joint Box construction for CLP 132kV																														
S28N3910	Watermain, traffic light, road drains & gully, Tear Drop/Slip Road T (incl. VO52)		100%	75	15-Aug-11 A	11-Mar-13 A	Watermain, traffic light, road drains & gully, Tear Drop/Slip Road T (incl. VO52)																														
S28N3920	COD: TTA Case 50 Stage 1 & 2 (Epron ordered: 16-12-11, expected delivery date: 23-1-13, actual delivery date: 12-3-12)		100%	24	16-Dec-11 A	21-Apr-12 A	COD: TTA Case 50 Stage 1 & 2 (Epron ordered: 16-12-11, expected delivery date: 23-1-13, actual delivery date: 12-3-12)																														
S28N3970	Pavement at Tear Drop Area, Slip Road T & Traffic diversion		100%	30	18-May-12 A	11-Mar-13 A	Pavement at Tear Drop Area, Slip Road T & Traffic diversion																														
S28N4002	Roadworks, Drainages & Utilities, TWSRW Road from NB41-bay 6 to NB42-bay12 (incl. VO42 & VO43)		100%	150	18-May-12 A	23-Mar-13 A	Roadworks, Drainages & Utilities, TWSRW Road from NB41-bay 6 to NB42-bay12 (incl. VO42 & VO43)																														
S28N4004	Drainage, Utilities & Removal of existing paving (incl. TTA & VO 77 Provision of cable duct for power supply)		100%	75	18-May-12 A	11-Mar-13 A	Drainage, Utilities & Removal of existing paving (incl. TTA & VO 77 Provision of cable duct for power supply)																														
S28N4006	Road surfacing, Tai Wo Service Road West from NB41-bay 6 to NB42-bay12 (incl. VO 81 maintenance access for NB41 & NB42)		100%	60	22-Jan-13 A	23-Mar-13 A	Road surfacing, Tai Wo Service Road West from NB41-bay 6 to NB42-bay12 (incl. VO 81 maintenance access for NB41 & NB42)																														
S28N4010	Roadworks to NKL Flyover and Ramps		100%	175	30-Jan-13 A	16-Aug-13 A	Roadworks to NKL Flyover and Ramps																														
S28N4012	Roadworks to NKL Flyover and Ramp - South Ramp to SA		100%	50	30-Jan-13 A	24-Jul-13 A	Roadworks to NKL Flyover and Ramp - South Ramp to SA																														
S28N4014	Roadworks to NKL Flyover and Ramp - North Ramp to NA		100%	20	13-Jun-13 A	22-Aug-13 A	Roadworks to NKL Flyover and Ramp - North Ramp to NA																														
S28N4020	Road Marking of New Lam Kam Bridge and Final Diversion of South Bound Traffic from NLK Bridge to Modified Lam Kam Bridge		100%	10	23-Jul-13 A	16-Aug-13 A	Road Marking of New Lam Kam Bridge and Final Diversion of South Bound Traffic from NLK Bridge to Modified Lam Kam Bridge																														
S28N4024	Road and Drainage Works (along W74 and NB38)	-18	5%	20	08-Jan-14 A	13-Mar-14	Road and Drainage Works (along W74 and NB38)																														
S28N4030	300d, 1200d watermain (chA9.00-ch182.00) & Firemain	-14	95.03%	362	06-Aug-10 A	19-Feb-14	300d, 1200d watermain (chA9.00-ch182.00) & Firemain																														
S28N4040	Cable Detection and Trial Pit Excavation		100%	72	06-Aug-10 A	19-Sep-10 A	Cable Detection and Trial Pit Excavation																														
S28N4050	Sheet Pile & ELS		100%	72	20-Sep-10 A	15-Feb-11 A	Sheet Pile & ELS																														
S28N4060	TBM Boring and Installation of Sleeve Pipe		100%	60	16-Feb-11 A	23-Mar-11 A	TBM Boring and Installation of Sleeve Pipe																														
S28N4070	Water Pipe installation - inside the sleeve pipe (ch0.00-ch70.00)		100%	50	24-Mar-11 A	28-Jul-11 A	Water Pipe installation - inside the sleeve pipe (ch0.00-ch70.00)																														
S28N4080	Water Pipe installation (DN1200 chA9.00-0 & DN300 CHA7.3 - 0)		100%	75	19-May-12 A	19-Nov-12 A	Water Pipe installation (DN1200 chA9.00-0 & DN300 CHA7.3 - 0)																														
S28N4090	Water Pipe installation (DN1200 CH70-165 & CH210-530 approx)		100%	75	28-Dec-11 A	02-Mar-13 A	Water Pipe installation (DN1200 CH70-165 & CH210-530 approx)																														
S28N4202	Water Pipe installation (DN1200 CH185 -210 cross road)		100%	75	28-Nov-12 A	02-Mar-13 A	Water Pipe installation (DN1200 CH185 -210 cross road)																														
S28N4220	Water Pipe installation (DN300 CH70 -166)		100%	75	21-Jan-13 A	09-Apr-13 A	Water Pipe installation (DN300 CH70 -166)																														
S28N4230	Water Pipe installation (DN300 CH166 -247)		100%	75	04-Jun-12 A	09-Apr-13 A	Water Pipe installation (DN300 CH166 -247)																														
S28N4240	Water Pipe installation (DN300 CHBB5 - 49)		100%	75	15-Feb-13 A	09-Apr-13 A	Water Pipe installation (DN300 CHBB5 - 49)																														

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					
S28N4250	Water Pipe installation (DN600 CHB0-84 & CHC0-76 Cross Road)		100%	75	28-Nov-12 A	26-Apr-13 A																							Water Pipe installation (DN600 C	
S28N4260	Remaining Works for Water Pipe installation (DN1200 CH183 - 227 cross road)	-49	45%	75	06-Sep-13 A	19-Mar-14																								Remaining
S28N4270	Remaining Works for Water Pipe installation (DN1200 CH280 - 330)		100%	75	14-May-13 A	30-Sep-13 A																								Remaining; Works for
S28N4280	Remaining Works for Water Pipe installation (DN1200 CH515 - 529)		100%	30	23-Jul-13 A	23-Aug-13 A																								Remaining Works for Wa
S28N4290	Remaining Works for Water Pipe installation (DN600 CHB2.8 - 30.2(Revised 51))	-14	88%	60	08-Jul-13 A	07-Feb-14																								Remaining V
S28N4300	Remaining Works for Water Pipe installation (DN600 CHC10.4 - 28.4(Revised 50))	-14	70%	60	08-Jul-13 A	19-Feb-14																								Remaining V
S28N4310	Remaining Works for Water Pipe installation (DN300 CH183 - 227 cross road)	-49	30%	75	26-Nov-13 A	01-Apr-14																								Remainin
S28N4320	Remaining Works for Water Pipe installation (DN300 CHBB0 - 11(Revised 59))	-38	90%	45	26-Oct-13 A	07-Apr-14																								Remainin
S28N4330	Roadwork, Drainages & Utilities at TWSRW Road from NB38 to NB41-bay6 (TTA case 50 stage 7&8)	-48	0%	0	26-Nov-12 A	10-Mar-14																								Roadwork
S28N4340	CLP Tie-in (Cross road and joint bay)		100%	75	26-Nov-12 A	04-Jun-13 A																								CLP Tie-in: (Cross road and jo
S28N4350	Removal existing paving, Drainage & Utilities (incl. TTA case 50 stage 7 & 8 and VO.77)	-53	90%	35	27-Aug-13 A	30-Jan-14																								Removal exis
S28N4360	Road Works and Road surfacing at Tai Wo Service Road West from NB38 to NB41 - bay6	-48	0%	30	30-Jan-14	10-Mar-14																								Road Wor
S28N4370	Road Works and Road Surfacing at Slip Road T (Slow Lane)	-48	0%	30	30-Jan-14	10-Mar-14																								Road Wor
S28N4380	Roadworks, Drainages & Utilities at TWSRW Road from NB38 to NB41- bay6 (TTA case 50 stage 9 & 10)	-53	0%	68	30-Jan-14	26-Apr-14																								Roadw
S28N4390	Removal existing paving, Drainage & Utilities (incl. TTA case 50 stage 9 & 10 and VO.77)	-53	0%	35	30-Jan-14	15-Mar-14																								Removal e
S28N4400	Road Works and Road surfacing at Tai Wo Service Road West from NB38 to NB41 - bay6	-53	0%	18	15-Mar-14	07-Apr-14																								Road W
S28N4410	Road Works and Road Surfacing at Slip Road T (Fast Lane)	-53	0%	18	15-Mar-14	07-Apr-14																								Road W
S28N4420	Remaining Road Works at Slip Road T and TWSRW Road from NB38 to NB41 - bay 6	-53	0%	15	07-Apr-14	26-Apr-14																								Remain
S28N4430	CLP Tie-in (joint bay)		100%	75	01-Dec-12 A	04-Jun-13 A																								CLP Tie-in: (joint bay)
S28N4440	Transition Road Construction Works for TWSRW Road C2/C3 interface		100%	60	10-Jun-13 A	25-Sep-13 A																								Transition Road Const
Noise Barriers & Road Barriers																														
Noise Barrier NB38, NB39, NB40 & NB41 (AD5)																														
S28N2301	WSD/DSD/HKCG/PCCW/HGC/CATV/NWT/HKBN/TGT/CLP Diversion		100%	124	19-May-10 A	15-Oct-10 A																								WSD/DSD/HKCG/PCCW/HGC/CATV/NWT/HKBN/TGT/CLP Diversion
S28N2302	Temporary Noise Barrier Installation		100%	45	18-Oct-10 A	26-Dec-10 A																								Temporary Noise Barrier Installation
S28N2303	Pre-Drilling for NB39 & NB41		100%	21	26-Jan-11 A	22-Feb-11 A																								Pre-Drilling for NB39 & NB41
S28N2304	Confirmation of Founding Level		100%	14	26-Mar-11 A	12-Apr-11 A																								Confirmation of Founding Level
S28N2310	Excavation		100%	10	03-Feb-12 A	14-Feb-12 A																								Excavation
S28N2314	Noise barrier Construction (NB38 - NB41)	0	100%	937	26-Apr-11 A	27-Jan-14																								Noise barrier
S28N2316	Noise barrier Construction NB38		100%	30	27-Aug-13 A	22-Jan-14 A																								Noise barrier
S28N2318	Noise barrier Construction NB39 (base slab)		100%	75	19-Apr-12 A	31-Dec-12 A																								Noise barrier Construction NB39 (base slab)
S28N2320	Noise barrier Construction NB41 (incl. VO 23: Provision of Drainage of Noise Barrier 41)		100%	50	26-Apr-11 A	25-Jun-11 A																								Noise barrier Construction NB41 (incl. VO 23: Provision of Drainage of Noise Barrier 41)
S28N2330	Noise barrier Construction NB39 (Wall)	0	70%	30	27-Feb-13 A	08-Feb-14																								Noise barrier
S28N2340	Erection of steel and panel (NB41)		100%	24	11-May-12 A	05-Jun-12 A																								Erection of steel and panel (NB41)
S28N2350	Erection of steel and panel (NB39)	0	0%	10	10-Feb-14	20-Feb-14																								Erection of s
S28N2355	Erection of steel and panel (NB38)		100%	10	20-Jan-14 A	27-Jan-14 A																								Erection of ste
S28N2370	Noise Barrier Construction NB40 (Bay1 to Bay3)		100%	50	27-Aug-13 A	24-Jan-14 A																								Noise Barrier
S28N2380	Noise Barrier Construction NB40 (Bay4 to Bay5)		100%	40	25-Mar-13 A	06-Jul-13 A																								Noise Barrier Construction N
S28N2385	Erection of steel and panel (NB40)		100%	10	20-Jan-14 A	27-Jan-14 A																								Erection of ste
Traffic Control & Surveillance System																														
S28N4800	TCSS (ch4820-ch5640) & (Gantry G29) (incl. VO73 Revised Sign Gantry Details)	7	70%	40	29-Apr-13 A	12-Feb-14																								TCSS (ch48
Landscaping																														
S28N6000	Landscaping Works (ch4820 - 5640)	-21	20%	50	27-Apr-13 A	17-Mar-14																								Landscapi
South Bound																														
Preliminaries																														
S28S0000	Site Clearance/Access Rd (incl. VO4 & VO5: Revised setting out plan of Slip Road W)		100%	0	23-Jun-10 A	01-Feb-11 A																								Site Clearance/Access Rd (incl. VO4 & VO5: Revised setting out plan of Slip Road W)
S28S0010	Site Clearance		100%	75	23-Jun-10 A	18-Sep-10 A																								Site Clearance

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
S28S0020	Access Rd		100%	75	27-Jul-10 A	01-Feb-11 A	Access Rd																										
Roadworks, Drainage & Utilities																																	
S28S4010	Roadworks, Drainages & Utilities (CH4820 - Ch5700)(incl. VO20: Revised Fire mains alignment plan)	6	97.25%	454	11-May-12 A	13-Feb-14	Roadworks,																										
S28S4012	Removal of existing paving - Stage 1 (CH5300 - 5700 & Slip Road W)		100%	75	11-May-12 A	08-Jun-13 A	Removal of existing paving - S																										
S28S4016	Utilities - Stage 1		100%	75	11-May-12 A	08-Feb-13 A	Utilities - Stage 1																										
S28S4020	Road and Drainages Works - Stage 1 (incl.VO 75 Modification of existing SAV Chamber)		100%	75	11-May-12 A	25-Jun-13 A	Road and Drainages Works																										
S28S4021	Road Surface and Roadmark - Stage 1 (Slow Lane)		100%	30	18-Mar-13 A	18-Jul-13 A	Road Surface and Roadma																										
S28S4025	Removal of existing paving - Stage 2 (CH5300 - 5700 & Slip Road W)		100%	30	19-Jul-13 A	02-Aug-13 A	Removal of existing paving																										
S28S4027	Utilities - Stage 2 (CH5300 - 5700) (incl. VO 77 Provision of cable duct for power supply)		100%	30	03-Aug-13 A	12-Aug-13 A	Utilities - Stage 2 (CH530																										
S28S4029	Road and Drainages Works - Stage 2		100%	30	03-Aug-13 A	12-Aug-13 A	Road and Drainages Wor																										
S28S4031	Road Surface and Roadmark - Stage 2 (Fast Lane)	6	85%	30	13-Aug-13 A	04-Feb-14	Road Surface																										
S28S4085	Remaining Road Works at Slip Road W	6	80%	40	27-Aug-13 A	13-Feb-14	Remaining R																										
Noise Barriers 44 & Road Barriers																																	
Noise Barrier NB44																																	
S28S2000	Excavation for NB44		100%	219	25-Aug-10 A	24-May-11 A	Excavation for NB44																										
S28S2010	Excavation for NB44 (Bay1 & Bay2)		100%	44	25-Aug-10 A	18-Oct-10 A	Excavation for NB44 (Bay1 & Bay2)																										
S28S2020	Excavation for NB44 (Bay3 & Bay4)		100%	44	19-Oct-10 A	08-Dec-10 A	Excavation for NB44 (Bay3 & Bay4)																										
S28S2030	Excavation for NB44 (Bay5 & Bay6)		100%	44	26-Apr-11 A	26-May-11 A	Excavation for NB44 (Bay5 & Bay6)																										
S28S2040	Excavation for NB44 (Bay7 & Bay8)		100%	36	26-Aug-11 A	10-Oct-11 A	Excavation for NB44 (Bay7 & Bay8)																										
S28S2050	Excavation for NB44 (Bay9 & Bay10)		100%	43	14-Oct-11 A	03-Dec-11 A	Excavation for NB44 (Bay9 & Bay10)																										
S28S2060	Noise Barrier Footing Construction for NB44 (incl. VO 46: Modification of Noise Barrier Footing for NB44)		100%	282	26-Mar-11 A	20-Dec-11 A	Noise Barrier Footing Construction for NB44 (incl. VO 46: Modificatio																										
S28S2070	Noise Barrier Footing Construction for NB44 (Bay 1)		100%	32	26-Mar-11 A	15-Apr-11 A	Noise Barrier Footing Construction for NB44 (Bay 1)																										
S28S2080	Noise Barrier Footing Construction for NB44 (Bay 2)		100%	32	06-Apr-11 A	21-Apr-11 A	Noise Barrier Footing Construction for NB44 (Bay 2)																										
S28S2090	Noise Barrier Footing Construction for NB44 (Bay 3)		100%	32	26-May-11 A	04-Jun-11 A	Noise Barrier Footing Construction for NB44 (Bay 3)																										
S28S2100	Noise Barrier Footing Construction for NB44 (Bay 4)		100%	30	26-Apr-11 A	26-May-11 A	Noise Barrier Footing Construction for NB44 (Bay 4)																										
S28S2110	Noise Barrier Footing Construction for NB44 (Bay 5)		100%	24	26-Sep-11 A	25-Oct-11 A	Noise Barrier Footing Construction for NB44 (Bay 5)																										
S28S2120	Noise Barrier Footing Construction for NB44 (Bay 6)		100%	24	26-Oct-11 A	22-Nov-11 A	Noise Barrier Footing Construction for NB44 (Bay 6)																										
S28S2130	Noise Barrier Footing Construction for NB44 (Bay 7)		100%	24	23-Nov-11 A	20-Dec-11 A	Noise Barrier Footing Construction for NB44 (Bay 7)																										
S28S2140	Noise Barrier Footing Construction for NB44 (Bay 8)		100%	24	23-Nov-11 A	20-Dec-11 A	Noise Barrier Footing Construction for NB44 (Bay 8)																										
S28S2150	Noise Barrier Footing Construction for NB44 (Bay 9)		100%	23	23-Nov-11 A	20-Dec-11 A	Noise Barrier Footing Construction for NB44 (Bay 9)																										
S28S2160	Noise Barrier Footing Construction for NB44 (Bay 10)		100%	18	23-Nov-11 A	20-Dec-11 A	Noise Barrier Footing Construction for NB44 (Bay 10)																										
S28S2170	Remaining NB44 installation of panel		100%	7	27-Aug-13 A	26-Sep-13 A	Remaining NB44 insta																										
Traffic Control & Survelance System																																	
S28S4800	TCSS	-5	81.5%	130	28-Feb-13 A	26-Feb-14	TCSS																										
S28S4810	TCSS - Stage 1 (ch4820 - ch5520)	-5	80%	24	28-Feb-13 A	04-Feb-14	TCSS - Stag																										
S28S4850	TCSS - Stage 5 (ch5520 - ch5640), (Gantry G56) (incl. VO73 Revised Sign Gantry Details)	-5	20%	24	27-Nov-13 A	26-Feb-14	TCSS - Sta																										
Modification of Existing Bridge																																	
S28S1200	Modification of Lam Kam Rd. Flyover	-21	79.23%	119	26-Aug-13 A	27-Feb-14	Modification																										
S28S1240	Diversion for modification kerb and road reconstruction (N/B)	-21	95%	43	26-Aug-13 A	29-Jan-14	Diversion for																										
S28S1250	Removal central barrier and road construction	-21	85%	40	26-Sep-13 A	08-Feb-14	Removal cer																										
S28S1260	Diversion for modification kerb and road reconstruction (S/B)	-21	45%	30	02-Dec-13 A	27-Feb-14	Diversion fo																										
Road Construction and Road Resurfacing																																	
S28S4960	Road Construction and Resurfacing S/B for SA28	6	85%	60	26-Sep-13 A	14-Feb-14	Road Const																										
Site Area SA29																																	
PHSA2920	Possession of SA29 (Day270)		100%	0	27-Jul-10 A		◇ Possession of SA29 (Day270)																										

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
SA290000	Site Area SA29 Works Period (incl. VO002 & VO0011: Fencing details along site boundaries SA 29)	148	99.63%	946	27-Jul-10 A	30-Jan-14																											
SA290010	Site Area SA29 Works Completion	148	0%	0		30-Jan-14																											
SA290020	Temporary Traffic Arrangement (Detail shall refer to supplementary information)	118	99.54%	764	27-Jul-10 A	30-Jan-14																											
SA290030	Overall Utilities Diversion (Detail shall refer to supplementary information)	118	99.54%	764	27-Jul-10 A	30-Jan-14																											
North Bound																																	
Preliminaries																																	
S29N0000	Site Clearance/Access Rd		100%	60	26-Jan-11 A	09-Apr-11 A																											
Roadworks, Drainage & Utilities																																	
S29N4010	Roadworks, Realignment of Tai Wo Service Rd. West (NB42)		100%	58	13-Apr-12 A	21-Jan-13 A																											
S29N4020	Roadworks, Realignment of Tai Wo Service Rd. West (exclude NB42)		100%	38	15-Jan-13 A	28-Mar-13 A																											
S29N4100	Gravity Sewer Line (4 sections) (incl. VO 8 & VO 35: Revised layout of Southern Trunk Sewer & Manhole Schedule)		100%	111	03-Jan-11 A	15-Dec-12 A																											
S29N4110	Gravity Sewer Line - Stage 1 (STS10.30-80)		100%	60	03-Jan-11 A	31-Mar-12 A																											
S29N4120	Gravity Sewer Line - Stage 2 (STS10.10-30)		100%	60	01-Apr-11 A	30-Jul-11 A																											
S29N4130	Gravity Sewer Line - Stage 2 (STS10.80-105)		100%	63	28-May-11 A	15-Dec-12 A																											
Noise Barriers & Road Barriers																																	
Noise Barrier NB42 on Mini-Piles (AD)																																	
S29N2000	WSD/DSD/HKCG/PCCW/HGC/CATV/NWT/HKBN/TGT/CLP Diversion		100%	72	11-Apr-11 A	11-Jul-11 A																											
S29N2020	Footing for NB42 (Bay1 - Bay9) (incl. VO 7: Construction of modified noise barrier foundation for NB42)		100%	110	06-Dec-10 A	05-Jul-11 A																											
S29N2030	Footing for NB42 (Bay1 - Bay5)		100%	60	06-Dec-10 A	05-Jul-11 A																											
S29N2040	Footing for NB42 (Bay6 - Bay9)		100%	50	06-Dec-10 A	05-Jul-11 A																											
S29N3000	Construct Noise Barrier & Beam Barrier (incl. VO 23. Provision of Drainage at Noise Barrier 42)		100%	60	26-Sep-11 A	01-Aug-12 A																											
Landscaping																																	
S29N6000	Landscaping Works (Near NB43)		100%	50	27-Jun-13 A	26-Sep-13 A																											
Site Area SA32																																	
PHSA3210	Possession of SA32 (Day365)		100%	0	25-Feb-11 A																												
SA320000	Site Area SA32 Works Period		100%	265	26-Feb-11 A	17-Nov-11 A																											
SA320010	Site Area SA32 Works Completion	-46	0%	0		07-Apr-14																											
General																																	
S32G0000	Site Clearance/TTM		100%	72	26-Mar-11 A	25-Jun-11 A																											
S32G4005	Application XP for Construct Roadside Fully Variable Message Sign	-38	90%	60	11-Mar-13 A	05-Feb-14																											
S32G4015	Construct Roadside Fully Variable Message Sign (RFVMS3)(include duct, footing and column)	-38	15%	30	26-Sep-13 A	07-Mar-14																											
S32G4025	Construct Roadside Fully Variable Message Sign (RFVMS2)(include duct, footing and column)	-38	15%	30	26-Sep-13 A	07-Mar-14																											
S32G4035	Construct Roadside Fully Variable Message Sign (RFVMS1)(include duct, footing and column)	-38	15%	30	26-Sep-13 A	07-Apr-14																											
S32G4045	Construct Roadside Fully Variable Message Sign (TP04)(include duct, footing and column)	-38	15%	30	26-Sep-13 A	07-Apr-14																											
S32G4060	VO 13: Relocation of existing Directional Signs in the Vicinity of Lam Kam Road Interchange		100%	10	27-Apr-11 A	11-Sep-12 A																											
Construction of New Lam Kam Road																																	
Substructure and Pier Construction																																	
South Ramp																																	
S28N1213	Temporary Work for Excavation		100%	15	27-Jul-12 A	13-Aug-12 A																											
S28N1214	Excavation		100%	20	23-Jul-12 A	08-Aug-12 A																											
S28N1215	Construction of South Ramp (incl. VO72: revised North & South Ramps Retaining Wall)		100%	145	23-Jul-12 A	26-Jan-13 A																											
S28N1216	Base Slab		100%	60	23-Jul-12 A	19-Oct-12 A																											
S28N1217	Wing Wall		100%	75	24-Sep-12 A	31-Dec-12 A																											
S28N1227	Backfilling to South Ramp		100%	40	28-Dec-12 A	25-Jan-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	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
S28N1309	Backfilling		100%	30	13-Dec-10	18-Dec-10	■ Backfilling																												
S28N1310	Pier Construction		100%	74	28-Dec-10	28-Mar-11	■ Pier Construction																												
Pier NLKP6																																			
S28N1321	Gas main Diversion		100%	150	13-May-10	10-Nov-10	■ Gas main Diversion																												
S28N1322	Pre-drilling for Piles		100%	14	21-Jul-10	23-Feb-11	■ Pre-drilling for Piles																												
S28N1323	Confirmation of Founding Level		100%	14	21-Jul-10	25-Feb-11	■ Confirmation of Founding Level																												
S28N1324	Piling Work (23shp)		100%	75	28-Feb-11	28-Mar-11	■ Piling Work (23shp)																												
S28N1325	Temporary Shoring System		100%	44	26-May-11	18-Jul-11	■ Temporary Shoring System																												
S28N1326	Excavation to Formation Level		100%	7	05-May-11	23-Jun-11	■ Excavation to Formation Level																												
S28N1327	Pile Head Trimming and bearing plate		100%	14	29-Jun-11	05-Jul-11	■ Pile Head Trimming and bearing plate																												
S28N1328	Pile Cap Construction (incl. VO29: revised piling details)		100%	23	28-Jul-11	24-Aug-11	■ Pile Cap Construction (incl. VO29: revised piling details)																												
S28N1329	Backfilling		100%	28	26-Sep-11	29-Oct-11	■ Backfilling																												
S28N1330	Pier Construction		100%	71	28-Sep-11	12-Nov-11	■ Pier Construction																												
Pier NLKP7																																			
S28N1341	Realignment of Existing slip road		100%	45	19-May-10	13-Jul-10	■ Realignment of Existing slip road																												
S28N1342	Existing Water main Diversion		100%	45	14-Jul-10	03-Sep-10	■ Existing Water main Diversion																												
S28N1343	Pre-drilling for Piles		100%	7	04-Sep-10	18-Sep-10	■ Pre-drilling for Piles																												
S28N1344	Confirmation of Founding Level		100%	14	13-Sep-10	25-Sep-10	■ Confirmation of Founding Level																												
S28N1345	Piling Work (16shp)		100%	62	26-Jan-11	28-Feb-11	■ Piling Work (16shp)																												
S28N1346	Temporary Shoring System		100%	44	08-Mar-11	16-Apr-11	■ Temporary Shoring System																												
S28N1347	Excavation to Formation Level		100%	7	08-Mar-11	16-Apr-11	■ Excavation to Formation Level																												
S28N1348	Pile Head Trimming and bearing plate		100%	14	27-Apr-11	17-May-11	■ Pile Head Trimming and bearing plate																												
S28N1349	Pile Cap Construction (incl. VO29: revised piling details)		100%	21	19-May-11	31-May-11	■ Pile Cap Construction (incl. VO29: revised piling details)																												
S28N1350	Backfilling		100%	30	26-Sep-11	01-Nov-11	■ Backfilling																												
S28N1351	Pier Construction		100%	72	03-Oct-11	24-Dec-11	■ Pier Construction																												
Pier NLKP8																																			
S28N1361	Realignment of Existing slip road		100%	45	19-May-10	13-Jul-10	■ Realignment of Existing slip road																												
S28N1363	Existing Water main Diversion		100%	45	14-Jul-10	03-Sep-10	■ Existing Water main Diversion																												
S28N1364	Pre-drilling for Piles		100%	18	04-Sep-10	25-Sep-10	■ Pre-drilling for Piles																												
S28N1365	Confirmation of Founding Level		100%	14	27-Sep-10	13-Oct-10	■ Confirmation of Founding Level																												
S28N1366	Piling Work (24shp)		100%	75	14-Jan-11	05-Feb-11	■ Piling Work (24shp)																												
S28N1367	Temporary Shoring System		100%	44	26-Apr-11	25-May-11	■ Temporary Shoring System																												
S28N1368	Excavation to Formation Level		100%	30	26-Sep-11	22-Oct-11	■ Excavation to Formation Level																												
S28N1369	Pile Head Trimming and bearing plate		100%	7	15-Oct-11	22-Oct-11	■ Pile Head Trimming and bearing plate																												
S28N1370	Pile Cap Construction (incl. VO29: revised piling details)		100%	24	26-Oct-11	02-Nov-11	■ Pile Cap Construction (incl. VO29: revised piling details)																												
S28N1371	Backfilling		100%	24	26-Nov-11	23-Dec-11	■ Backfilling																												
S28N1372	Pier Construction		100%	72	21-Dec-11	31-Jan-12	■ Pier Construction																												
Pier NLKP9																																			
S28N1381	Realignment of Existing slip road		100%	45	19-May-10	13-Jul-10	■ Realignment of Existing slip road																												
S28N1382	Existing Water main Diversion		100%	45	14-Jul-10	03-Sep-10	■ Existing Water main Diversion																												
S28N1383	Pre-drilling for Piles		100%	14	04-Sep-10	20-Sep-10	■ Pre-drilling for Piles																												
S28N1384	Confirmation of Founding Level		100%	14	21-Sep-10	08-Oct-10	■ Confirmation of Founding Level																												
S28N1385	COD: Drainage (ADN 72, 86, 121, 145, 225), Fire Services Mains (DAN 202) and related UU works		100%	75	21-Sep-10	21-Oct-11	■ COD: Drainage (ADN 72, 86, 121, 145, 225), Fire Services Mains (DAN 202) and related UU works																												
S28N1386	Piling Work (24shp)		100%	75	22-Oct-11	19-Dec-11	■ Piling Work (24shp)																												
S28N1387	Temporary Shoring System		100%	30	01-Feb-12	19-Apr-12	■ Temporary Shoring System																												
S28N1388	Excavation to Formation Level		100%	36	19-Apr-12	26-Jun-12	■ Excavation to Formation Level																												
S28N1389	Pile Head Trimming and bearing plate		100%	12	27-Jun-12	11-Jul-12	■ Pile Head Trimming and bearing plate																												

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
S31S4670	Additional Towngas DN400 HP laying works		100%	12	28-Apr-12 A	26-May-12 A	Additional Towngas DN400 HP laying works																													
S31S4675	Uncharted CLP 11kV Existing diversion (Ducting & Cabling, Tie - in and uncharted cables)		100%	65	30-Jul-12 A	10-Aug-12 A	Uncharted CLP 11kV Existing diversion (Ducting & C)																													
S31S4678	UU diversion		100%	67	15-Dec-11 A	18-Dec-12 A	UU diversion																													
S31S4679	Excavation for UU diversion		100%	20	15-Dec-11 A	10-Jan-12 A	Excavation for UU diversion																													
S31S4680	Additional CLP 11kV Existing Diversion (Ducting & Cabling, Tie-in and uncharted cables)		100%	10	25-Apr-12 A	10-Aug-12 A	Additional CLP 11kV Existing Diversion (Ducting & C)																													
S31S4690	Additional CLP 132 kV (New Lay)		100%	17	02-Apr-12 A	18-Jun-12 A	Additional CLP 132 kV (New Lay)																													
S31S4700	Additional CLP 132kV (Existing)		100%	22	11-Aug-12 A	16-Aug-12 A	Additional CLP 132kV (Existing)																													
S31S4710	Additional UU work (HGC, HKBN, TGT & NWT)		100%	35	06-Aug-12 A	18-Dec-12 A	Additional UU work (HGC, HKBN, TGT & NWT)																													
S31S4720	Excavation and DN 600 FW & DN 300 SW		100%	68	28-Jun-11 A	09-Nov-12 A	Excavation and DN 600 FW & DN 300 SW																													
S31S4725	Roadwork		100%	0	15-Oct-12 A	29-Jul-13 A	Roadwork																													
S31S4730	Footpath & Kerb		100%	30	20-Dec-12 A	29-Jul-13 A	Footpath & Kerb																													
S31S4740	Roadwork		100%	30	15-Oct-12 A	16-Mar-13 A	Roadwork																													
Portion 2																																				
S31S4750	Portion 2 - CH 50 to 80 (From WSD Gate to Hong Lok Yuen)		100%	108	20-Jun-11 A	29-Jul-13 A	Portion 2 - CH 50 to 80 (F																													
S31S4760	Site clearance		100%	7	20-Jun-11 A	27-Jun-11 A	Site clearance																													
S31S4765	UU Diversion		100%	82	28-Mar-12 A	05-Oct-12 A	UU Diversion																													
S31S4766	Slopedworks S45A		100%	18	28-Mar-12 A	21-Apr-12 A	Slopedworks S45A																													
S31S4770	Additional CLP 132kV (New Lay & clashing with existing)		100%	45	25-Apr-12 A	18-Jun-12 A	Additional CLP 132kV (New Lay & clashing with existing)																													
S31S4780	Additional CLP 11kV New Lay (Ducting & Cabling and Tie-in)		100%	46	19-Jun-12 A	27-Jul-12 A	Additional CLP 11kV New Lay (Ducting & Cabling and																													
S31S4790	UU works (HKBN & New Lay HGC)		100%	12	27-Aug-12 A	05-Oct-12 A	UU works (HKBN & New Lay HGC)																													
S31S4800	Footpath & kerb and Diversion of footpath		100%	15	10-Sep-12 A	29-Jul-13 A	Footpath & kerb and Diver																													
S31S4810	Roadwork		100%	21	25-Oct-12 A	25-Feb-13 A	Roadwork																													
Roadworks, Drainage & Utilities																																				
S31S4820	Eastbound Roadworks		100%	50	07-Jan-13 A	08-Apr-13 A	Eastbound Roadworks																													
S31S4830	Westbound Roadworks		100%	50	17-Jan-13 A	20-Apr-13 A	Westbound Roadworks																													
Section 7																																				
Site Area SA41																																				
PHSA4110	Possession of SA41 (Day0)		100%	0	26-Feb-10 A		Possession of SA41 (Day0)																													
SA410000	Site Area SA41 Works Period	-71	85.96%	1581	26-Feb-10 A	05-Sep-14	Site Area SA41 Works Period																													
SA410010	Site Area SA41 Works Completion	-71	0%	0		05-Sep-14	Site Area SA41 Works Completion																													
Temporary Site Office																																				
S41G0000	Site Clearance / TTM		100%	60	26-Feb-10 A	12-May-10 A	Site Clearance / TTM																													
S41G9000	Construction of ER & Contractor's Office (incl. VO 24: Office Renovation)		100%	60	26-Feb-10 A	12-May-10 A	Construction of ER & Contractor's Office (incl. VO 24: Office Renovation)																													
S41G9100	Temp Warehouse, Fabrication & Equip Yard	-78	90%	1419	13-May-10 A	17-Jun-14	Temp Warehouse, Fabrication & Equip Yard																													
S41G9120	Dismantle of ER & Contractor's Office	-60	0%	68	17-Jun-14	05-Sep-14	Dismantle of ER & Contractor's Office																													
Site Area SA42 (Core Storage & Works Area)																																				
PHSA4210	Possession of SA42 (Day0)		100%	0	26-Feb-10 A		Possession of SA42 (Day0)																													
SA410040	Site Area SA42 Works Period	0	90.51%	1581	26-Feb-10 A	25-Jun-14	Site Area SA42 Works Period																													
SA420010	Site Area SA42 Works Completion	0	0%	0		25-Jun-14*	Site Area SA42 Works Completion																													
Site Area SA43																																				
PHSA4310	Possession of SA43 (Day90)		100%	0	04-May-10 A		Possession of SA43 (Day90)																													
SA410020	Site Area SA43 Works Period	-72	85.13%	1492	04-May-10 A	05-Sep-14	Site Area SA43 Works Period																													
SA410030	Site Area SA43 Works Completion	-72	0%	0		05-Sep-14*	Site Area SA43 Works Completion																													
Mulching Production Area																																				
S41G010	Site Clearance		100%	59	27-May-10 A	05-Aug-10 A	Site Clearance																													
S41G020	Site Clearance (Mulching Office Area)		100%	45	27-May-10 A	20-Jul-10 A	Site Clearance (Mulching Office Area)																													
S41G030	Site Clearance (Wood Storage Area)		100%	45	12-Jun-10 A	05-Aug-10 A	Site Clearance (Wood Storage Area)																													

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
S41G040	Construction of Mulching Production Yard		100%	60	06-Aug-10 A	18-Oct-10 A	Construction of Mulching Production Yard																													
S41G050	Temp Warehouse, Fabrication & Equip Yard (Site allocated for period till 8 May 2012) : Expected production = 900m3	151	100%	1260	13-Sep-10 A	27-Jan-14	Temp Warehouse																													
S41G060	Mulching Production Phase 1 (45m3)		100%	63	13-Sep-10 A	09-Oct-10 A	Mulching Production Phase 1 (45m3)																													
S41G070	Mulching Production Phase 2 (45m3) (incl. VO16, VO 18)		100%	63	21-Dec-10 A	21-Feb-11 A	Mulching Production Phase 2 (45m3) (incl. VO16, VO 18)																													
S41G080	Mulching Production Phase 3 (45m3)		100%	63	20-Feb-11 A	24-Apr-11 A	Mulching Production Phase 3 (45m3)																													
S41G090	Mulching Production Phase 4 (45m3)		100%	63	24-Apr-11 A	26-Jun-11 A	Mulching Production Phase 4 (45m3)																													
S41G100	Mulching Production Phase 5 (45m3)		100%	63	27-Jun-11 A	28-Aug-11 A	Mulching Production Phase 5 (45m3)																													
S41G110	Mulching Production Phase 6 (45m3)		100%	63	29-Aug-11 A	30-Oct-11 A	Mulching Production Phase 6 (45m3)																													
S41G120	Mulching Production Phase 7 (45m3)		100%	63	31-Oct-11 A	01-Jan-12 A	Mulching Production Phase 7 (45m3)																													
S41G130	Mulching Production Phase 8 (45m3)		100%	63	02-Jan-12 A	31-Mar-12 A	Mulching Production Phase 8 (45m3)																													
S41G140	Mulching Production Phase 9 (45m3)		100%	63	02-Apr-12 A	31-Dec-12 A	Mulching Production Phase 9 (45m3)																													
S41G260	Dismantle of Mulching Production Yard	-61	0%	68	17-Jun-14	05-Sep-14																														
S41G270	Dismantle of Mulching Production Yard : Removing Mulching Office	-61	0%	48	17-Jun-14	13-Aug-14																														
S41G280	Dismantle of Mulching Production Yard : Removing Security Fence and Security Device	-61	0%	20	13-Aug-14	05-Sep-14																														
Section 8																																				
Establishment Works																																				
S21G8000	SA21 Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
Section 9																																				
Establishment Works																																				
S22G8000	SA22 Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
S23G8000	SA23 Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
S24G8000	SA24 Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
S25G8000	SA25 Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
S26G8000	SA26 Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
Section 10																																				
Establishment Works																																				
S26AG800	SA26A Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
S27G8000	SA27 Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
Section 11																																				
Establishment Works																																				
S28G8000	SA28 Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
S29G8000	SA29 Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
Section 12																																				
Establishment Works																																				
S30AG800	SA30A Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
S30G8000	SA30 Establishment Works	-214	0%	365	27-Jan-14	26-Jan-15																														
Section 13																																				
Establishment Works																																				
S30AG810	Remainder of Establishment Works (Exclude Section 8 to 12)	-214	0%	365	27-Jan-14	26-Jan-15																														
Section 14																																				
Route Network Maintenance (Subject to the the Engineer's Instruction)																																				
S21G7000	Tentative Start Date for SA21 Route Maintenance Works		100%	0	17-Sep-10 A		◆ Tentative Start Date for SA21 Route Maintenance Works																													
S22G7000	Tentative Start Date for SA22 Route Maintenance Works		100%	0	26-Feb-10 A		◆ Tentative Start Date for SA22 Route Maintenance Works																													
S23G7000	Tentative Start Date for SA23 Route Maintenance Works		100%	0	25-Aug-10 A		◆ Tentative Start Date for SA23 Route Maintenance Works																													
S24G7000	Tentative Start Date for SA24 Route Maintenance Works		100%	0	25-Aug-10 A		◆ Tentative Start Date for SA24 Route Maintenance Works																													

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
S25G7000	Tentative Start Date for SA25 Route Maintenance Works		100%	0	20-Oct-10 A		◆ Tentative Start Date for SA25 Route Maintenance Works																		
S26AG700	Tentative Start Date for SA26A Route Maintenance Works		100%	0	26-Feb-10 A		◆ Tentative Start Date for SA26A Route Maintenance Works																		
S26G7000	Tentative Start Date for SA26 Route Maintenance Works		100%	0	26-Feb-10 A		◆ Tentative Start Date for SA26 Route Maintenance Works																		
S27G7000	Tentative Start Date for SA27 Route Maintenance Works		100%	0	27-May-10 A		◆ Tentative Start Date for SA27 Route Maintenance Works																		
S28G7000	Tentative Start Date for SA28 Route Maintenance Works		100%	0	26-Feb-10 A		◆ Tentative Start Date for SA28 Route Maintenance Works																		
S29G7000	Tentative Start Date for SA29 Route Maintenance Works		100%	0	20-Oct-10 A		◆ Tentative Start Date for SA29 Route Maintenance Works																		
S30AG700	Tentative Start Date for SA30A Route Maintenance Works		100%	0	25-Aug-10 A		◆ Tentative Start Date for SA30A Route Maintenance Works																		
S30G7000	Tentative Start Date for SA30 Route Maintenance Works		100%	0	26-Feb-10 A		◆ Tentative Start Date for SA30 Route Maintenance Works																		
S31G7000	Tentative Start Date for SA31 Route Maintenance Works		100%	0	26-Feb-10 A		◆ Tentative Start Date for SA31 Route Maintenance Works																		
Section 17 (Subject to Excision and Instruct by Engineer within 819 days)																									
General																									
SC150025	Validity Period		100%	819	25-Feb-10 A	31-Aug-13 A	Validity Period																		
SC150030	Latest Date for the Engineer to Issue EI		100%	0		31-Aug-13 A	◆ Latest Date for the Engineer to Issue EI																		
Site Area SA28 & SA30																									
PHSA2840	Possession of SA28 & SA30		100%	0	26-Feb-10 A		◆ Possession of SA28 & SA30																		
SA280005	Site Area SA28 Works Period		100%	0	24-May-12 A	31-Aug-13 A	Site Area SA28 Works Period																		
SA280020	Site Area SA28 & SA30 Works Completion		100%	0		31-Aug-13 A	◆ Site Area SA28 & SA30 Works Completion																		
All Area																									
Preliminaries																									
S28N1000	Site Clearance/TTM/Access Rd/Utility Diversion		100%	45	24-May-12 A	26-Sep-13 A	Site Clearance/TTM/Access Rd/Utility Diversion																		
Site Area SA30A																									
PHSA30A5	Possession of SA30A		100%	0	27-Jul-10 A		◆ Possession of SA30A																		
SA30A005	Site Area SA30A Works Period		100%	155	23-May-12 A	31-Aug-13 A	Site Area SA30A Works Period																		
SA30A020	Site Area SA30A Works Completion		100%	0		31-Aug-13 A	◆ Site Area SA30A Works Completion																		
North Bound																									
Preliminaries																									
S30AN100	Site Clearance/TTM/Access Rd/Utility Diversion		100%	75	14-May-12 A	23-May-12 A	Site Clearance/TTM/Access Rd/Utility Diversion																		
Roadworks, Drainage & Utilities																									
S30AN415	Section 17 subject to Excision Works Instruction date (Trunk Sewer Line)		100%	245	23-May-12 A	20-Sep-13 A	Section 17 subject to Excision Works Instruction date (Trunk Sewer Line)																		
S30AN420	Issuing of latest design drawing		100%	75	24-May-12 A	05-Sep-12 A	Issuing of latest design drawing																		
S30AN430	Procurement & delivery of Trunk Sewer pipe (Stage 1)		100%	75	06-Sep-12 A	17-Sep-12 A	Procurement & delivery of Trunk Sewer pipe (Stage 1)																		
S30AN440	Design clarification period		100%	60	06-Sep-12 A	31-Jul-13 A	Design clarification period																		
S30AN450	Procurement & delivery of Trunk Sewer pipe (Stage 2)		100%	75	01-Nov-12 A	31-Jul-13 A	Procurement & delivery of Trunk Sewer pipe (Stage 2)																		
S30AN460	Underground Utilities cable detection before ELS works		100%	60	17-Aug-12 A	24-Aug-12 A	Underground Utilities cable detection before ELS works																		
S30AN470	Gravity Sewer Line STS10_170 to 160 (22m Long)		100%	90	05-Dec-12 A	06-Feb-13 A	Gravity Sewer Line STS10_170 to 160 (22m Long)																		
S30AN480	M/H 170 and M/H160 construction (6m depth)		100%	75	05-Dec-12 A	23-Jan-13 A	M/H 170 and M/H160 construction (6m depth)																		
S30AN490	Pipe laying and concrete surround works		100%	60	05-Dec-12 A	07-Jan-13 A	Pipe laying and concrete surround works																		
S30AN500	Backfilling (2 Layers + Temp fill)		100%	30	08-Jan-13 A	06-Feb-13 A	Backfilling (2 Layers + Temp fill)																		
S30AN510	Gravity Sewer Line STS10_160 to 150 (40m Long)		100%	95	27-Feb-13 A	23-Sep-13 A	Gravity Sewer Line STS10_160 to 150 (40m Long)																		
S30AN520	M/H150 construction (5m depth)		100%	40	27-Feb-13 A	16-Mar-13 A	M/H150 construction (5m depth)																		
S30AN530	Pipe laying and concrete surround works (Stage 1)		100%	25	18-Mar-13 A	30-Apr-13 A	Pipe laying and concrete surround works (Stage 1)																		
S30AN540	Construction of Temporary Access for Villager		100%	8	30-Apr-13 A	10-May-13 A	Construction of Temporary Access for Villager																		
S30AN550	Pipe Laying and concrete works (Stage 2)		100%	21	13-May-13 A	14-Sep-13 A	Pipe Laying and concrete works (Stage 2)																		
S30AN560	Backfilling (15 Layers)		100%	8	27-Jul-13 A	23-Sep-13 A	Backfilling (15 Layers)																		
S30AN570	Gravity Sewer Line STS10_120 to 130 (41m Long)		100%	120	17-Sep-12 A	03-Jan-13 A	Gravity Sewer Line STS10_120 to 130 (41m Long)																		
S30AN580	M/H 120 and M/H130 construction (3.5m & 4m depth)		100%	70	24-Sep-12 A	12-Oct-12 A	M/H 120 and M/H130 construction (3.5m & 4m depth)																		
S30AN585	Pipe Laying & concrete surround works		100%	30	14-Nov-12 A	20-Nov-12 A	Pipe Laying & concrete surround works																		

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

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

Air Quality - Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Air Quality during 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 ³ 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 TaiWo 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	
	<ul style="list-style-type: none"> Prevent off-site migration through use of sheet piles. 		V
	<ul style="list-style-type: none"> Minimize duration of works as far as practical. 		V
	<ul style="list-style-type: none"> All sewer and drainage connections should be sealed to prevent debris, soil, sand, etc, from entering public sewers/drains. 		V
	<ul style="list-style-type: none"> Site surface runoff should be settled to remove sand/silt before it is discharged into the existing storm drains. 		V
	River training works		
	<ul style="list-style-type: none"> Inspection and testing of water quality in the nullah on the Tai Po River. 		N/A
	Road Widening Works and Earthworks		
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Sand traps, oil interceptors and other pollution prevention installations should be provided, properly cleaned and maintained. 		V
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> Regular inspections of stilling basins and/or silt traps are required to ensure that sediment is not conveyed into the existing drainage system. 		V
	<ul style="list-style-type: none"> Open stockpiles should be covered with a tarpaulin cover. 		V
	<ul style="list-style-type: none"> During the wet season, any exposed top soils should be covered with a tarpaulin, shotcreted or hydroseeded. 		V
	<ul style="list-style-type: none"> Sand and silt from wash-water from vehicle washing should be settled out before discharging into storm drains. 		V
<ul style="list-style-type: none"> 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	
	<ul style="list-style-type: none"> Transport of wastes off site as soon as possible. 		@
	<ul style="list-style-type: none"> Maintenance of accurate waste records 		V
	<ul style="list-style-type: none"> Minimization of waste generation for disposal (via reduction/recycling/re-use). 		V
	<ul style="list-style-type: none"> No on-site burning will be permitted. 		V
	<ul style="list-style-type: none"> Use of re-useable metal hoardings/signboards. 		V
	Vegetation from site clearance		
	<ul style="list-style-type: none"> Segregation of materials to facilitate disposal. 		V
	<ul style="list-style-type: none"> Mulching to reduce bulk and where possible review opportunities for the possible beneficial use within landscaping areas. 		V
	Demolition Wastes		
<ul style="list-style-type: none"> Segregation of materials to facilitate disposal. 	V		

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

Ecology - Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Ecology 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
	Vegetation Clearance		
	• No fires shall be lit within the works area for the purpose of burning cleared vegetation.		V
	• The Contractor shall give consideration to mulching the cleared vegetation for recycling within the works area /	V	

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

Landscape and Visual Impact - Schedule of Recommended Mitigation Measures

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

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

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

Appendix D - Summary of Action and Limit Levels

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

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

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

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

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

**APPENDIX E
CALIBRATION CERTIFICATES OF
MONITORING EQUIPMENTS**

AECOM Asia Company Limited

TSP High Volume Sampler

Field Calibration Report

Station: Sheung Wun Yiu (AM1A) Operator: Gary Choi
 Cal. Date: 15-Mar-14 Next Due Date: 14-May-14
 Equipment No.: A-001-53T Serial No.: 10216

Ambient Condition			
Temperature, Ta (K)	289	Pressure, Pa (mmHg)	767.0

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)] ^{1/2}	Qstd (m ³ /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	9.0	3.06	1.56	46.0	46.93
13	6.1	2.52	1.28	36.0	36.72
10	4.4	2.14	1.09	31.0	31.62
7	3.5	1.91	0.97	28.0	28.56
5	2.1	1.48	0.75	22.0	22.44

By Linear Regression of Y on X

Slope, mw = 29.7418 Intercept, bw = -0.3150
 Correlation Coefficient* = 0.9931

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m³/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)]^{1/2} = 37.59

Remarks: _____

QC Reviewer: Y1 Leung Signature: [Signature] Date: 15-3-14

AECOM Asia Company Limited

TSP High Volume Sampler

Field Calibration Report

Station: Shan Tong New Village (AM2) Operator: Gary Choi
 Cal. Date: 15-Mar-14 Next Due Date: 14-May-14
 Equipment No.: A-001-29T Serial No.: 10202

Ambient Condition			
Temperature, Ta (K)	289	Pressure, Pa (mmHg)	767.0

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)] ^{1/2}	Qstd (m ³ /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	10.0	3.23	1.64	48.0	48.97
13	7.5	2.79	1.42	42.0	42.84
10	5.6	2.41	1.23	35.0	35.70
7	3.7	1.96	1.00	28.0	28.56
5	2.5	1.61	0.82	24.0	24.48

By Linear Regression of Y on X

Slope, mw = 30.3815 Intercept, bw = -0.9966
 Correlation Coefficient* = 0.9958

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m³/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)]^{1/2} = 37.74

Remarks: _____

QC Reviewer: YT Leung Signature: [Signature] Date: 15-3-14

AECOM Asia Company Limited
TSP High Volume Sampler
Field Calibration Report

Station: Riverain Bayside (AM3) Operator: Choi Wing Ho
 Cal. Date: 18-Feb-14 Next Due Date: 18-May-14
 Equipment No.: A-001-69T Serial No. 716

Ambient Condition			
Temperature, Ta (K)	290	Pressure, Pa (mmHg)	762.4

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	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m ³ /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	8.9	3.03	1.54	46.0	46.70
13	7.5	2.78	1.42	43.0	43.66
10	5.6	2.40	1.22	34.0	34.52
7	4.0	2.03	1.03	27.0	27.41
5	3.0	1.76	0.89	21.0	21.32

By Linear Regression of Y on X

Slope, mw = 39.7791 Intercept, bw = -13.8329

Correlation Coefficient* = 0.9949

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m³/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)]^{1/2} = 37.31

Remarks: _____

QC Reviewer: HL Sun

Signature: [Signature]

Date: 20-2-14

AECOM Asia Company Limited

TSP High Volume Sampler

Field Calibration Report

Station: 168 Shek Kwu Lung Village (AM4A) Operator: Gary Choi
 Cal. Date: 15-Mar-14 Next Due Date: 14-May-14
 Equipment No.: A-001-70T Serial No.: 10273

Ambient Condition			
Temperature, Ta (K)	289.4	Pressure, Pa (mmHg)	768.3

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)] ^{1/2}	Qstd (m ³ /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	8.8	3.03	1.54	46.0	46.93
13	7.4	2.78	1.41	42.0	42.85
10	5.1	2.30	1.17	36.0	36.73
7	3.2	1.83	0.93	28.0	28.57
5	2.5	1.61	0.82	23.0	23.47

By Linear Regression of Y on X

Slope, mw = 31.3458 Intercept, bw = -1.0821

Correlation Coefficient* = 0.9922

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m³/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)]^{1/2} = 38.88

Remarks: _____

QC Reviewer: YT Wong Signature: [Signature] Date: 15-3-14



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AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - May 20, 2013 Rootsometer S/N 0438320 Ta (K) - 297
 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	ORFICE
					DIFF Hg (mm)	DIFF H2O (in.)
1	NA	NA	1.00	1.3900	3.2	2.00
2	NA	NA	1.00	0.9720	6.4	4.00
3	NA	NA	1.00	0.8670	7.9	5.00
4	NA	NA	1.00	0.8270	8.7	5.50
5	NA	NA	1.00	0.6800	12.6	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9884	0.7110	1.4090	0.9957	0.7163	0.8889
0.9842	1.0125	1.9926	0.9915	1.0201	1.2570
0.9821	1.1327	2.2278	0.9894	1.1412	1.4054
0.9811	1.1863	2.3365	0.9884	1.1952	1.4740
0.9759	1.4352	2.8179	0.9832	1.4459	1.7777
Qstd slope (m) = 1.94727			Qa slope (m) = 1.21935		
intercept (b) = 0.02332			intercept (b) = 0.01471		
coefficient (r) = 0.99998			coefficient (r) = 0.99998		
y axis = SQRT[H2O(Pa/760)(298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

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

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

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

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

For subsequent flow rate calculations:

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

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

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 K₀: 12500
 Last Calibration Date*: 18 May 2013

*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 ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
			Temp (°C)	R.H. (%)			
1	18-05-13	12:30 - 13:30	28.1	78	0.04714	1887	31.45
2	18-05-13	13:30 - 14:30	28.1	78	0.04932	1970	32.83
3	18-05-13	14:30 - 15:30	28.2	77	0.05156	2056	34.27
4	18-05-13	15:30 - 16:30	28.1	78	0.05083	2026	33.77

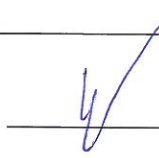
Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
 2. Total Count was logged by Laser Dust Monitor
 3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X

Slope (K-factor): 0.0015
 Correlation coefficient: 0.9978

Validity of Calibration Record: 17 May 2014

Remarks:

QC Reviewer: YW Fung Signature:  Date: 20 May 2013

EQUIPMENT CALIBRATION RECORD

Type: Laser Dust Monitor
 Manufacturer/Brand: SIBATA
 Model No.: LD-3
 Equipment No.: A.005.08a
 Sensitivity Adjustment Scale Setting: 702 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 K₀: 12500
 Last Calibration Date*: 18 May 2013

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): 702 CPM
 Sensitivity Adjustment Scale Setting (After Calibration): 702 CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
			Temp (°C)	R.H. (%)			
1	18-05-13	12:30 - 13:30	28.1	78	0.04714	1764	29.40
2	18-05-13	13:30 - 14:30	28.1	78	0.04932	1846	30.77
3	18-05-13	14:30 - 15:30	28.2	77	0.05156	1935	32.25
4	18-05-13	15:30 - 16:30	28.1	78	0.05083	1899	31.65

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): 0.0016
 Correlation coefficient: 0.9976

Validity of Calibration Record: 17 May 2014

Remarks:

QC Reviewer: YW Fung Signature:  Date: 20 May 2013

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 K₀: 12500
 Last Calibration Date*: 18 May 2013

*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 ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
			Temp (°C)	R.H. (%)			
1	18-05-13	12:30 - 13:30	28.1	78	0.04714	1885	31.42
2	18-05-13	13:30 - 14:30	28.1	78	0.04932	1965	32.75
3	18-05-13	14:30 - 15:30	28.2	77	0.05156	2059	34.32
4	18-05-13	15:30 - 16:30	28.1	78	0.05083	2024	33.73


- 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: 0.9973

Validity of Calibration Record: 17 May 2014

Remarks:

QC Reviewer: YW Fung Signature:  Date: 20 May 2013

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 K₀: 12500
 Last Calibration Date*: 18 May 2013

*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 ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
			Temp (°C)	R.H. (%)			
1	18-05-13	12:30 - 13:30	28.1	78	0.04714	1886	31.43
2	18-05-13	13:30 - 14:30	28.1	78	0.04932	1968	32.80
3	18-05-13	14:30 - 15:30	28.2	77	0.05156	2061	34.35
4	18-05-13	15:30 - 16:30	28.1	78	0.05083	2026	33.77

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: 0.9983

Validity of Calibration Record: 17 May 2014

Remarks:

QC Reviewer: YW Fung Signature:  Date: 20 May 2013

EQUIPMENT CALIBRATION RECORD

Type: Laser Dust Monitor
 Manufacturer/Brand: SIBATA
 Model No.: LD-3
 Equipment No.: A.005.11a
 Sensitivity Adjustment Scale Setting: 799 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 K₀: 12500
 Last Calibration Date*: 18 May 2013

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): 799 CPM
 Sensitivity Adjustment Scale Setting (After Calibration): 799 CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
			Temp (°C)	R.H. (%)			
1	18-05-13	12:15 - 13:15	28.1	78	0.04685	1871	31.18
2	18-05-13	13:15 - 14:15	28.1	78	0.04941	1979	32.98
3	18-05-13	14:15 - 15:15	28.2	77	0.05127	2055	34.25
4	18-05-13	15:15 - 16:15	28.1	78	0.05060	2021	33.68

- 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: 0.9976

Validity of Calibration Record: 17 May 2014

Remarks:

QC Reviewer: YW Fung Signature:  Date: 20 May 2013

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 K₀: 12500
 Last Calibration Date*: 18 May 2013

*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 ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
			Temp (°C)	R.H. (%)			
1	18-05-13	12:15 - 13:15	28.1	78	0.04685	1867	31.12
2	18-05-13	13:15 - 14:15	28.1	78	0.04941	1975	32.92
3	18-05-13	14:15 - 15:15	28.2	77	0.05127	2048	34.13
4	18-05-13	15:15 - 16:15	28.1	78	0.05060	2017	33.62

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: 0.9986

Validity of Calibration Record: 17 May 2014

Remarks:

QC Reviewer: YW Fung Signature:  Date: 20 May 2013

EQUIPMENT CALIBRATION RECORD

Type: Laser Dust Monitor
 Manufacturer/Brand: SIBATA
 Model No.: LD-3B
 Equipment No.: A.005.16a
 Sensitivity Adjustment Scale Setting: 521 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_o: 12500
 Last Calibration Date*: 18 May 2013

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): 521 CPM
 Sensitivity Adjustment Scale Setting (After Calibration): 521 CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
			Temp (°C)	R.H. (%)			
1	27-07-13	11:00 - 12:00	27.3	75	0.04734	1893	31.55
2	27-07-13	12:00 - 13:00	27.3	75	0.04789	1915	31.92
3	27-07-13	13:00 - 14:00	27.4	74	0.04953	1976	32.93
4	27-07-13	14:00 - 15:00	27.4	75	0.04867	1949	32.48

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: 0.9934

Validity of Calibration Record: 26 July 2014

Remarks:

QC Reviewer: YW Fung Signature:  Date: 29 July 2013



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

Test specifications

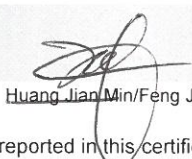
- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results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



CERTIFICATE OF CALIBRATION

Certificate No.: 14CA0305 06-01

Page 1 of 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	B & K	,	B & K
Type/Model No.:	2238	,	4188
Serial/Equipment No.:	2285692	, N.009.04	2250420
Adaptors used:	-	,	-

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 responsess of the Sound Level Meter.

Test results

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

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

Actual Measurement data are documented on worksheets.

Approved Signatory:


Huang Jian Min/Feng Jun Qi

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.: 13CA0617 01-01

Page 1 of 2

Item tested

Description:	Sound Level Meter (Type 1)	,	Microphone
Manufacturer:	B & K	,	B & K
Type/Model No.:	2238	,	4188
Serial/Equipment No.:	2800927 / N.009.06	,	2791211
Adaptors used:	-	,	-

Item submitted by

Customer Name: AECOM ASIA CO. LTD.
Address of Customer: -
Request No.: -
Date of receipt: 17-Jun-2013

Date of test: 18-Jun-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-2013	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 responsiveness 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: 18-Jun-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.: 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 N.011.01	2665582
Adaptors used:	-	-

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.

**APPENDIX F
EM&A MONITORING SCHEDULES**

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

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

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

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

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

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

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 Conc. ($\mu\text{g}/\text{m}^3$)	2nd Hour Conc. ($\mu\text{g}/\text{m}^3$)	3rd Hour Conc. ($\mu\text{g}/\text{m}^3$)
4-Apr-14	9:40	81.1	80.7	81.3
10-Apr-14	11:27	74.9	76.1	77.8
16-Apr-14	10:05	81.1	82.3	83.4
22-Apr-14	9:40	83.4	84.1	85.0
28-Apr-14	9:54	70.3	76.9	76.1
Average				79.6
Min				70.3
Max				85.0

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

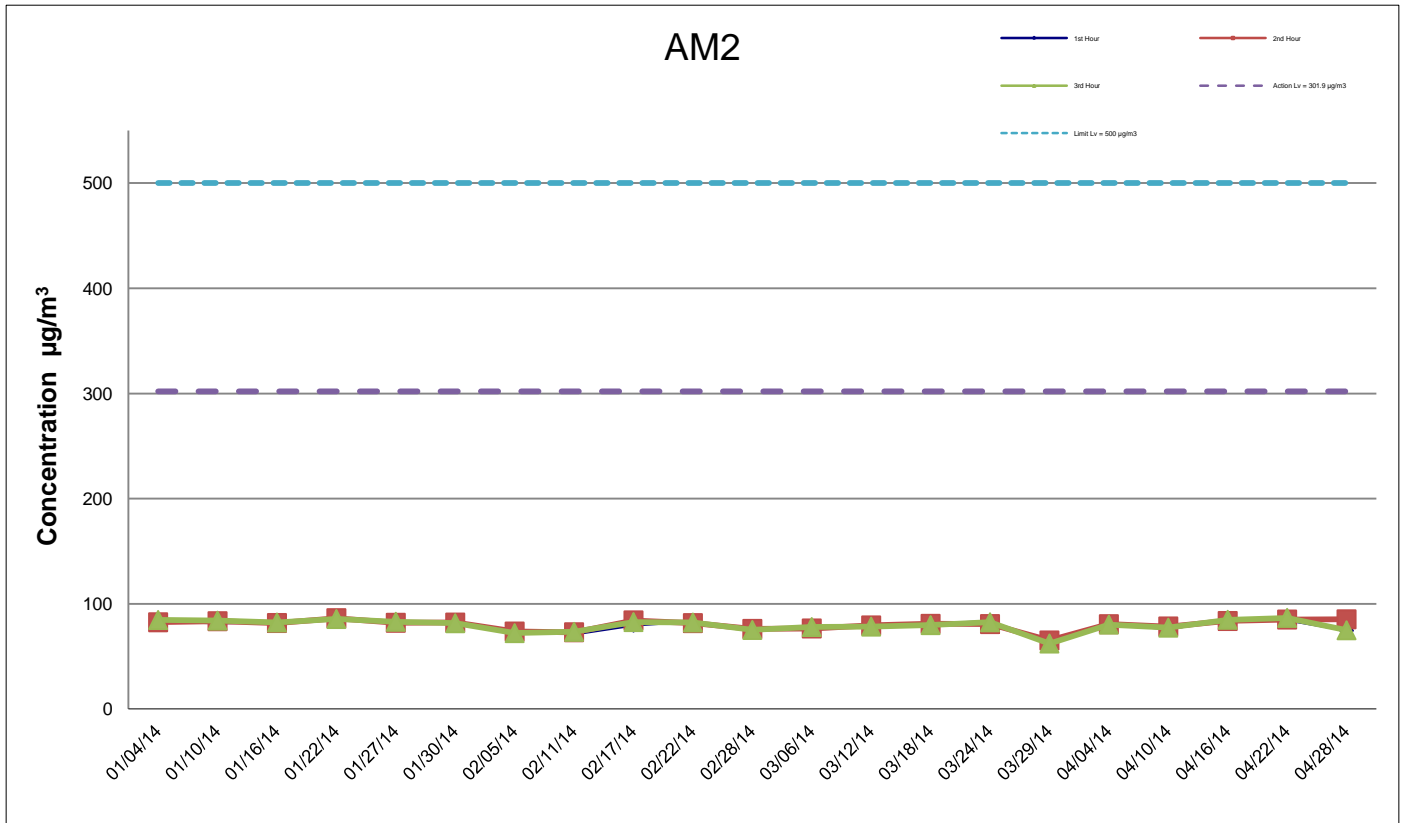
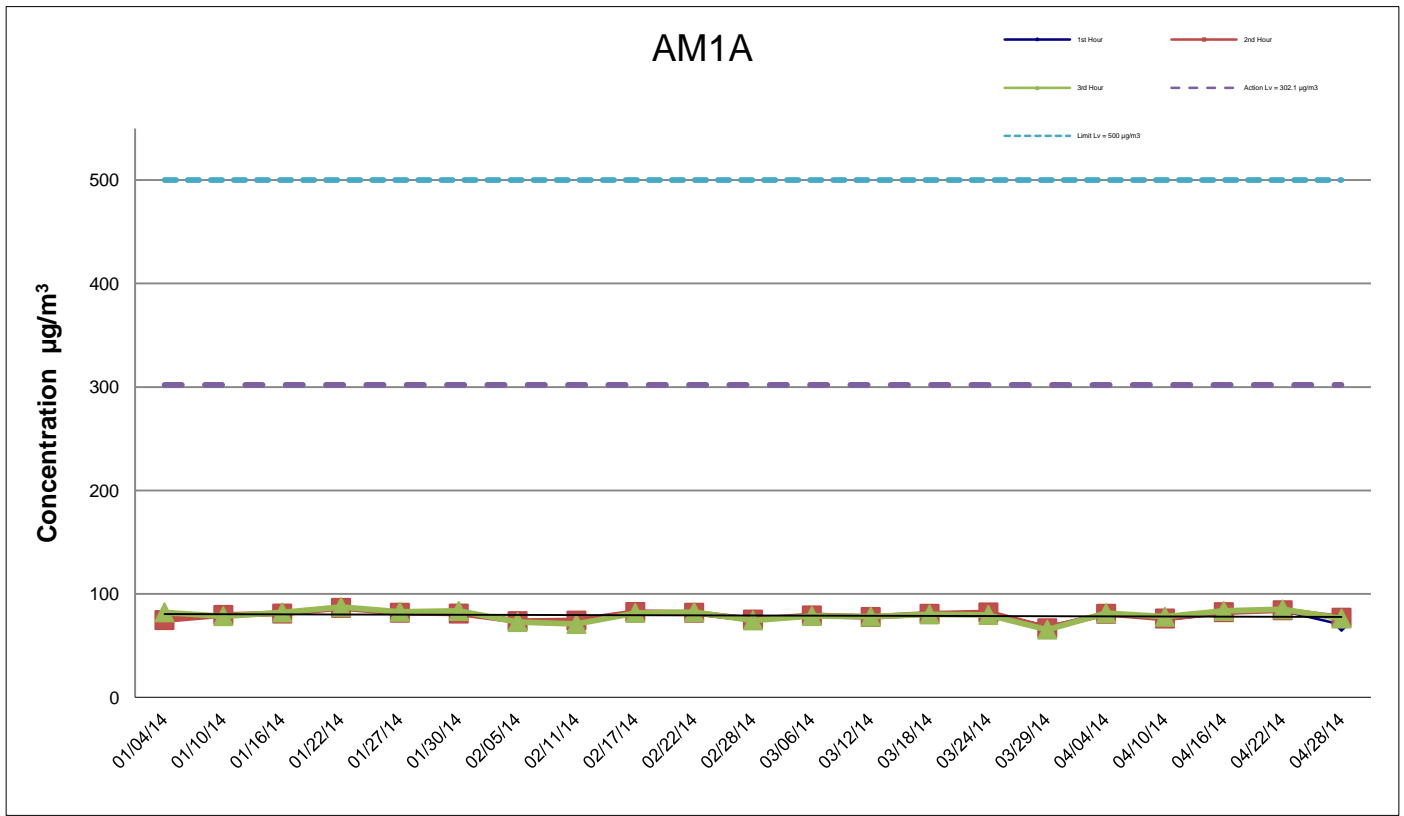
Date	Start Time (hh:mm)	1st Hour Conc. ($\mu\text{g}/\text{m}^3$)	2nd Hour Conc. ($\mu\text{g}/\text{m}^3$)	3rd Hour Conc. ($\mu\text{g}/\text{m}^3$)
4-Apr-14	9:50	80.0	80.6	80.2
10-Apr-14	10:56	76.2	78.4	77.3
16-Apr-14	9:55	84.1	83.6	84.8
22-Apr-14	9:50	84.5	85.0	86.6
28-Apr-14	9:30	74.5	85.2	74.8
Average				81.1
Min				74.5
Max				86.6

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

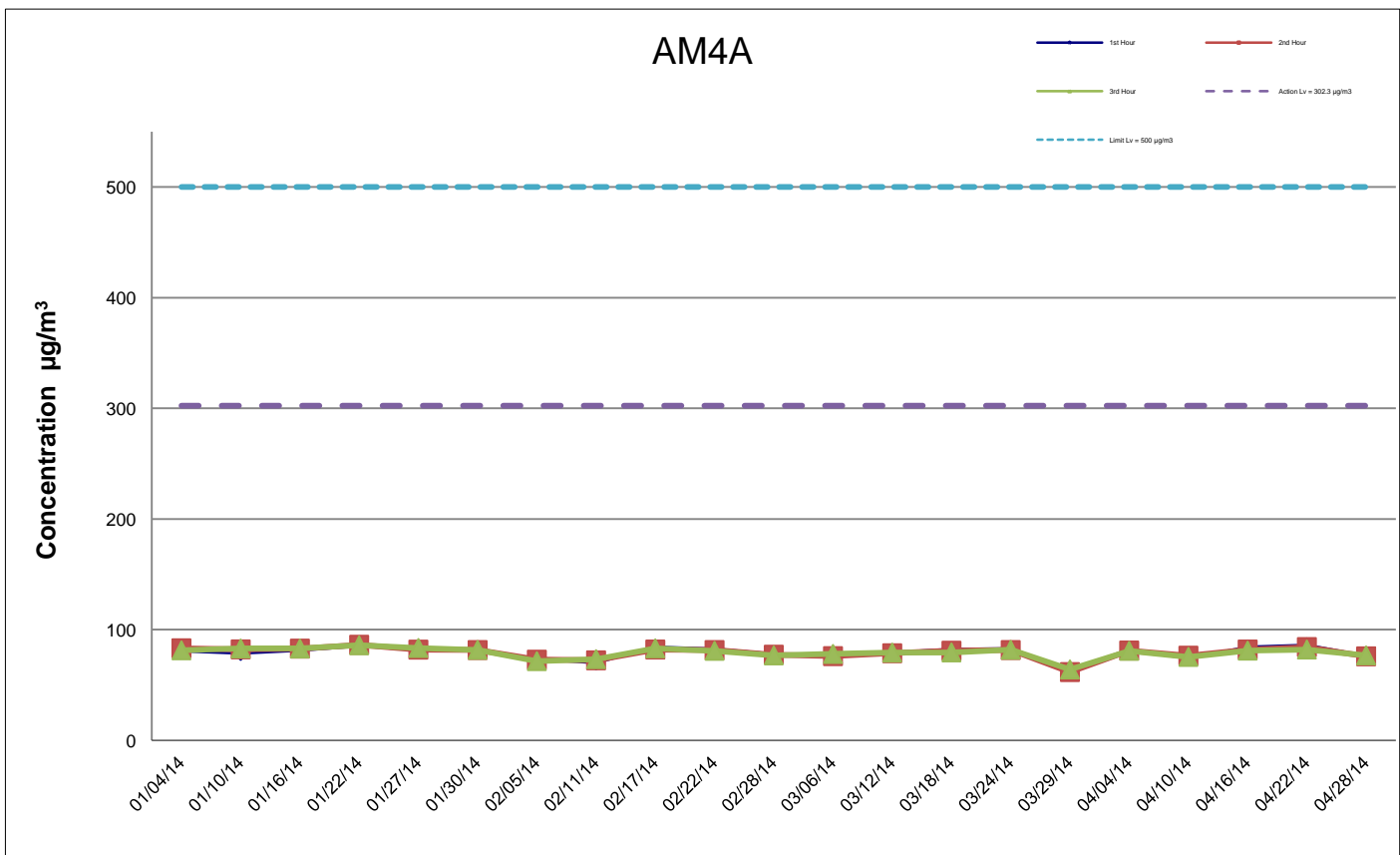
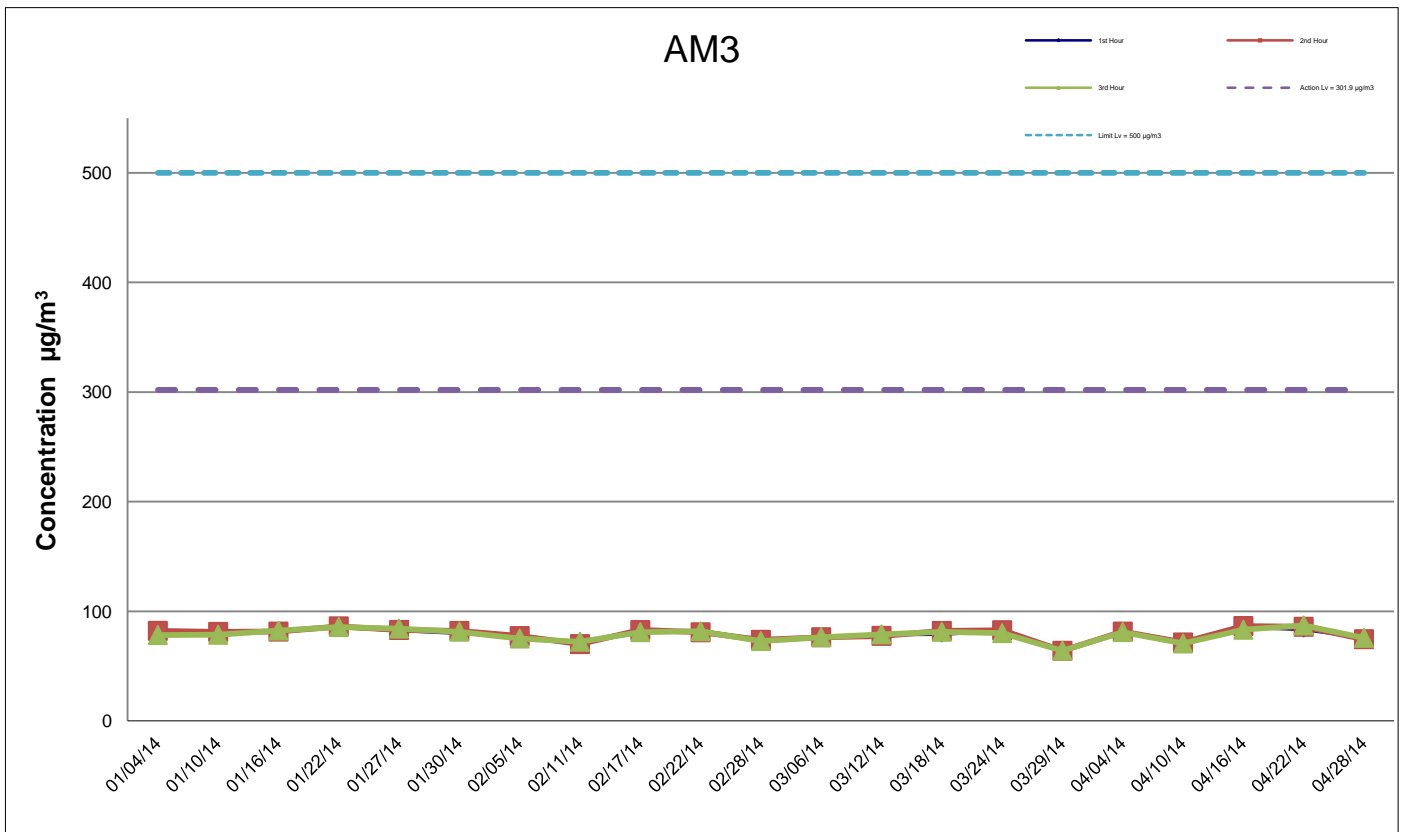
Date	Start Time (hh:mm)	1st Hour Conc. ($\mu\text{g}/\text{m}^3$)	2nd Hour Conc. ($\mu\text{g}/\text{m}^3$)	3rd Hour Conc. ($\mu\text{g}/\text{m}^3$)
4-Apr-14	9:30	82.0	81.5	81.1
10-Apr-14	10:01	72.9	71.6	70.7
16-Apr-14	9:45	85.1	86.6	83.2
22-Apr-14	9:30	83.0	85.9	87.1
28-Apr-14	9:40	75.3	74.6	75.8
Average				79.8
Min				70.7
Max				87.1

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 Conc. ($\mu\text{g}/\text{m}^3$)	2nd Hour Conc. ($\mu\text{g}/\text{m}^3$)	3rd Hour Conc. ($\mu\text{g}/\text{m}^3$)
4-Apr-14	10:05	80.7	81.2	80.9
10-Apr-14	13:36	74.3	76.5	75.4
16-Apr-14	10:25	84.5	82.1	81.1
22-Apr-14	10:35	86.4	84.3	82.1
28-Apr-14	10:10	76.4	75.9	76.8
Average				79.9
Min				74.3
Max				86.4



	Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation	SCALE	N.T.S.	DATE	May-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.

AECOM	Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation	SCALE	N.T.S.	DATE	May-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 ³ /min.)		Av. flow (m ³ /min)	Total vol. (m ³)	Filter Weight (g)		Particulate weight(g)	Elapse Time		Sampling Time(hrs.)	Conc. (µg/m ³)
				Initial	Final			Initial	Final		Initial	Final		
4-Apr-14	Cloudy	20.6	1016.5	1.33	1.33	1.33	1916.6	2.7253	2.8088	0.0835	20763.46	20787.46	24.00	43.6
10-Apr-14	Fine	22.1	1015.2	1.33	1.33	1.33	1916.6	2.7414	2.8333	0.0919	20787.46	20811.46	24.00	47.9
16-Apr-14	Fine	22.1	1013.3	1.33	1.33	1.33	1916.6	2.7236	2.8447	0.1211	20811.46	20835.46	24.00	63.2
22-Apr-14	Rainy	24.8	1012.6	1.33	1.33	1.33	1916.6	2.7241	2.8660	0.1419	20835.46	20859.46	24.00	74.0
28-Apr-14	Sunny	25.4	1013.5	1.33	1.33	1.33	1916.6	2.7326	2.8809	0.1483	20859.46	20883.46	24.00	77.4
													Average	61.2
													Min	43.6
													Max	77.4

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 ³ /min.)		Av. flow (m ³ /min)	Total vol. (m ³)	Filter Weight (g)		Particulate weight(g)	Elapse Time		Sampling Time(hrs.)	Conc. (µg/m ³)
				Initial	Final			Initial	Final		Initial	Final		
4-Apr-14	Cloudy	20.6	1016.5	1.34	1.34	1.34	1925.3	2.7120	2.8154	0.1034	17335.12	17359.12	24.00	53.7
10-Apr-14	Fine	22.1	1015.2	1.34	1.34	1.34	1925.3	2.7161	2.8243	0.1082	17359.12	17383.12	24.00	56.2
16-Apr-14	Fine	22.1	1013.3	1.34	1.34	1.34	1925.3	2.7109	2.7822	0.0713	17383.12	17407.12	24.00	37.0
22-Apr-14	Rainy	24.8	1012.6	1.34	1.34	1.34	1925.3	2.7004	2.8016	0.1012	17407.12	17431.12	24.00	52.6
28-Apr-14	Sunny	25.4	1013.5	1.34	1.34	1.34	1925.3	2.7262	2.8065	0.0803	17431.12	17455.12	24.00	41.7
													Average	48.2
													Min	37.0
													Max	56.2

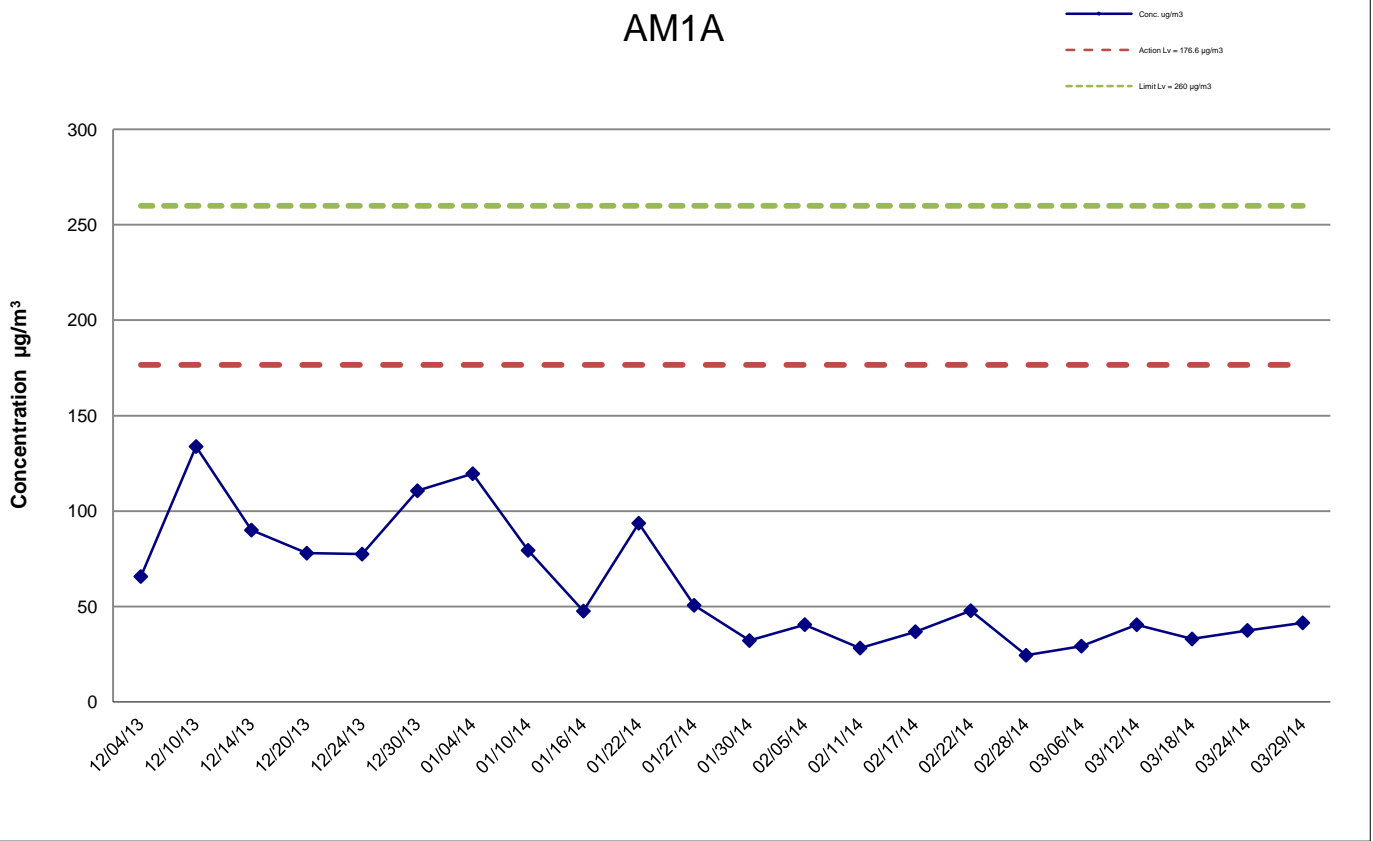
24-hour TSP Monitoring Results at Station AM3 (Roof of Switch Room at Riverain Bayside)

Date	Weather Condition	Air Temp. (°C)	Atmospheric Pressure(hPa)	Flow Rate (m ³ /min.)		Av. flow (m ³ /min)	Total vol. (m ³)	Filter Weight (g)		Particulate weight(g)	Elapse Time		Sampling Time(hrs.)	Conc. (µg/m ³)
				Initial	Final			Initial	Final		Initial	Final		
4-Apr-14	Cloudy	20.6	1016.5	1.33	1.33	1.33	1921.0	2.7149	2.8727	0.1578	21164.59	21188.59	24.00	82.1
10-Apr-14	Fine	22.1	1015.2	1.33	1.33	1.33	1921.0	2.7312	2.7731	0.0419	21188.59	21212.59	24.00	21.8
16-Apr-14	Fine	22.1	1013.3	1.33	1.33	1.33	1921.0	2.7074	2.7894	0.0820	21212.59	21236.59	24.00	42.7
22-Apr-14	Rainy	24.8	1012.6	1.33	1.33	1.33	1921.0	2.7192	2.8200	0.1008	21236.59	21260.59	24.00	52.5
28-Apr-14	Sunny	25.4	1013.5	1.33	1.33	1.33	1921.0	2.7304	2.8403	0.1099	21260.59	21284.59	24.00	57.2
													Average	51.3
													Min	21.8
													Max	82.1

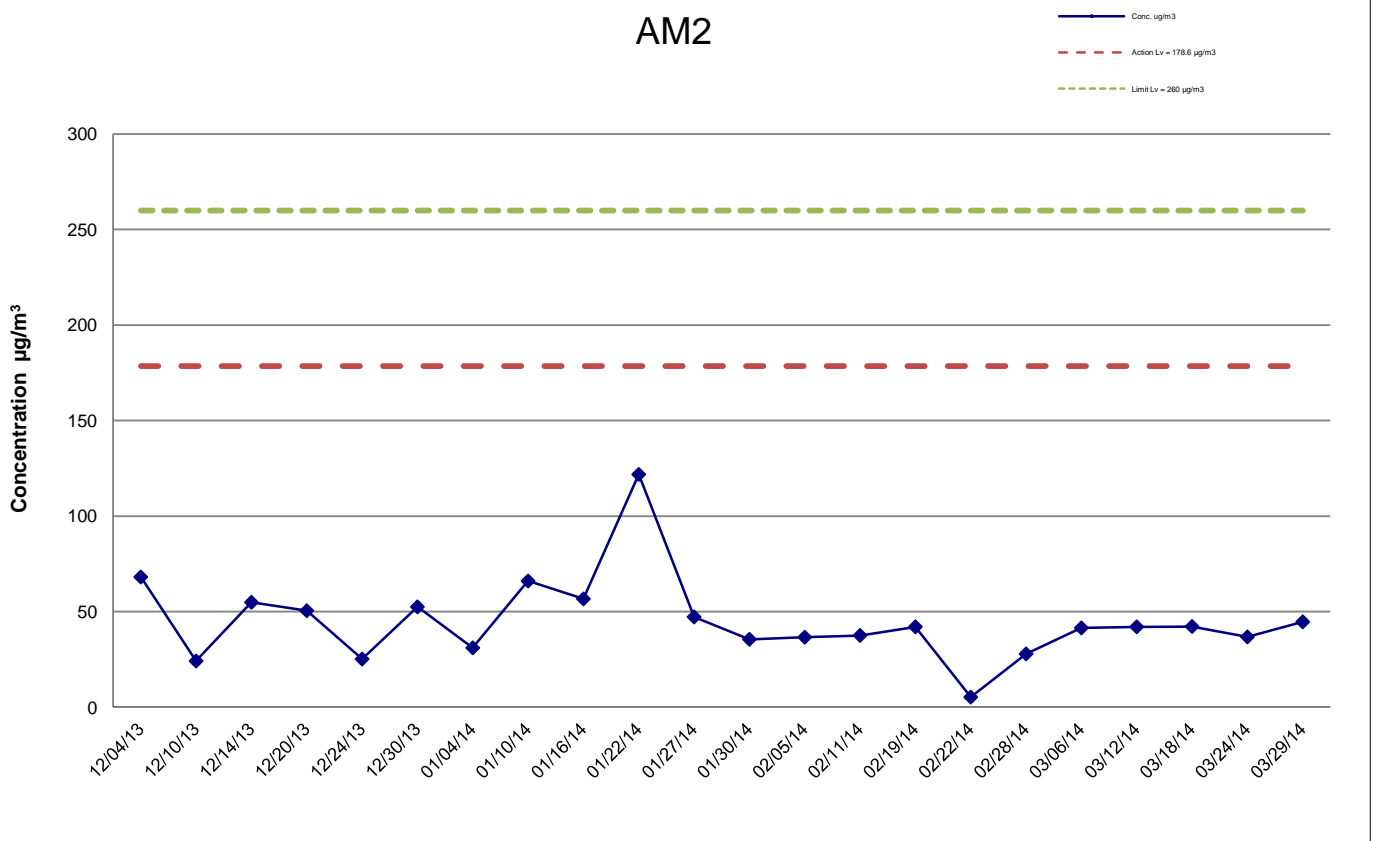
24-hour TSP Monitoring Results at Station AM4A (Roof of Switch Room at 168 Shek Kwu Lung Village)

Date	Weather Condition	Air Temp. (°C)	Atmospheric Pressure(hPa)	Flow Rate (m ³ /min.)		Av. flow (m ³ /min)	Total vol. (m ³)	Filter Weight (g)		Particulate weight(g)	Elapse Time		Sampling Time(hrs.)	Conc. (µg/m ³)
				Initial	Final			Initial	Final		Initial	Final		
4-Apr-14	Cloudy	20.6	1016.5	1.33	1.33	1.33	1918.1	2.7098	2.7885	0.0787	17194.36	17218.36	24.00	41.0
10-Apr-14	Fine	22.1	1015.2	1.33	1.33	1.33	1918.1	2.7207	2.7866	0.0659	17218.36	17242.36	24.00	34.4
16-Apr-14	Fine	22.1	1013.3	1.33	1.33	1.33	1918.1	2.7073	2.7781	0.0708	17242.36	17266.36	24.00	36.9
22-Apr-14	Rainy	24.8	1012.6	1.33	1.33	1.33	1918.1	2.7467	2.8317	0.0850	17266.36	17290.36	24.00	44.3
28-Apr-14	Sunny	25.4	1013.5	1.33	1.33	1.33	1918.1	2.7081	2.8074	0.0993	17290.36	17314.36	24.00	51.8
													Average	41.7
													Min	34.4
													Max	51.8

AM1A



AM2



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

Graphical Presentation of Impact 24-hour TSP Monitoring
Results

SCALE

CHECK

JOB NO.

N.T.S.

ENFL

60102979

DATE

DRAWN

APPENDIX No.

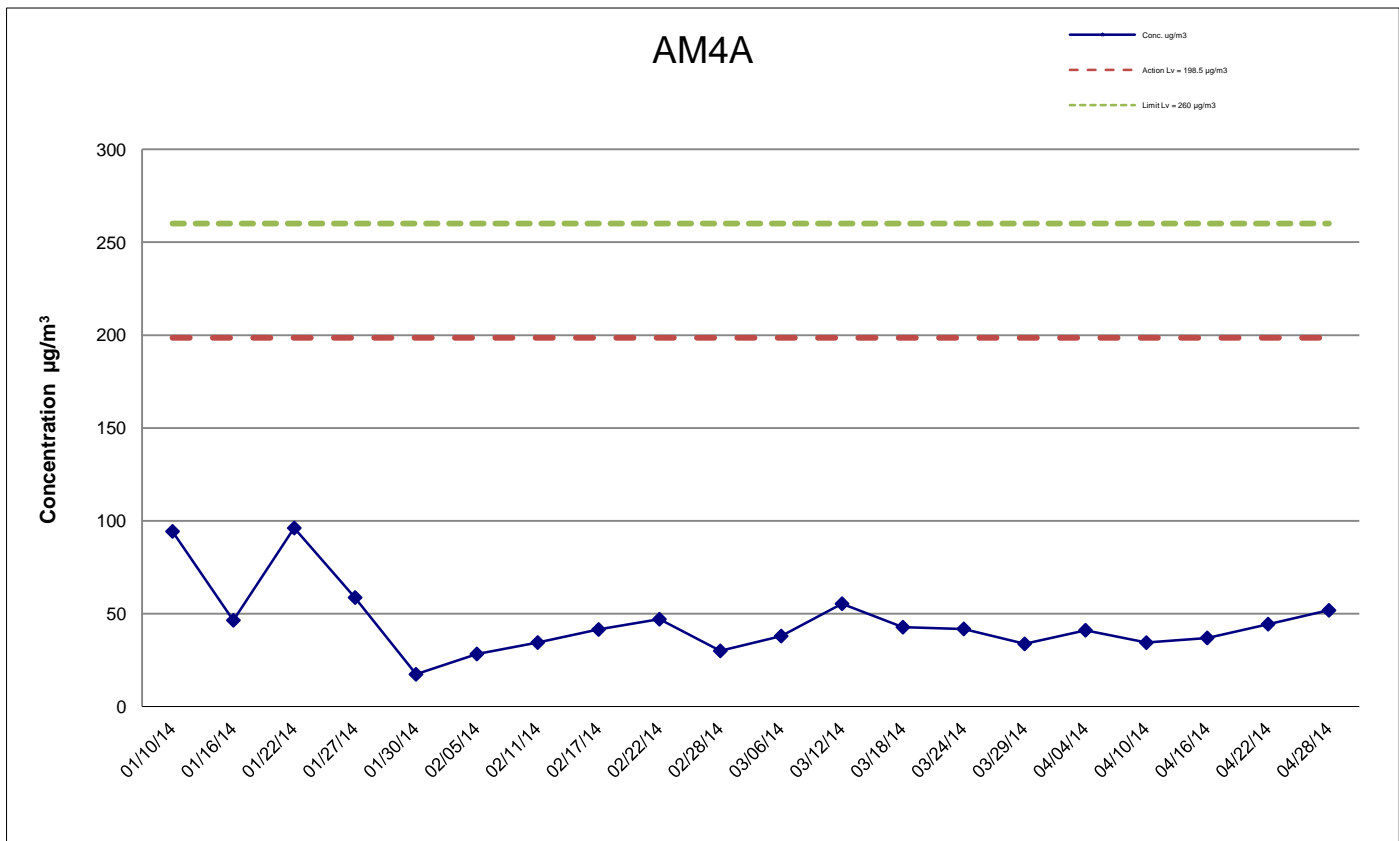
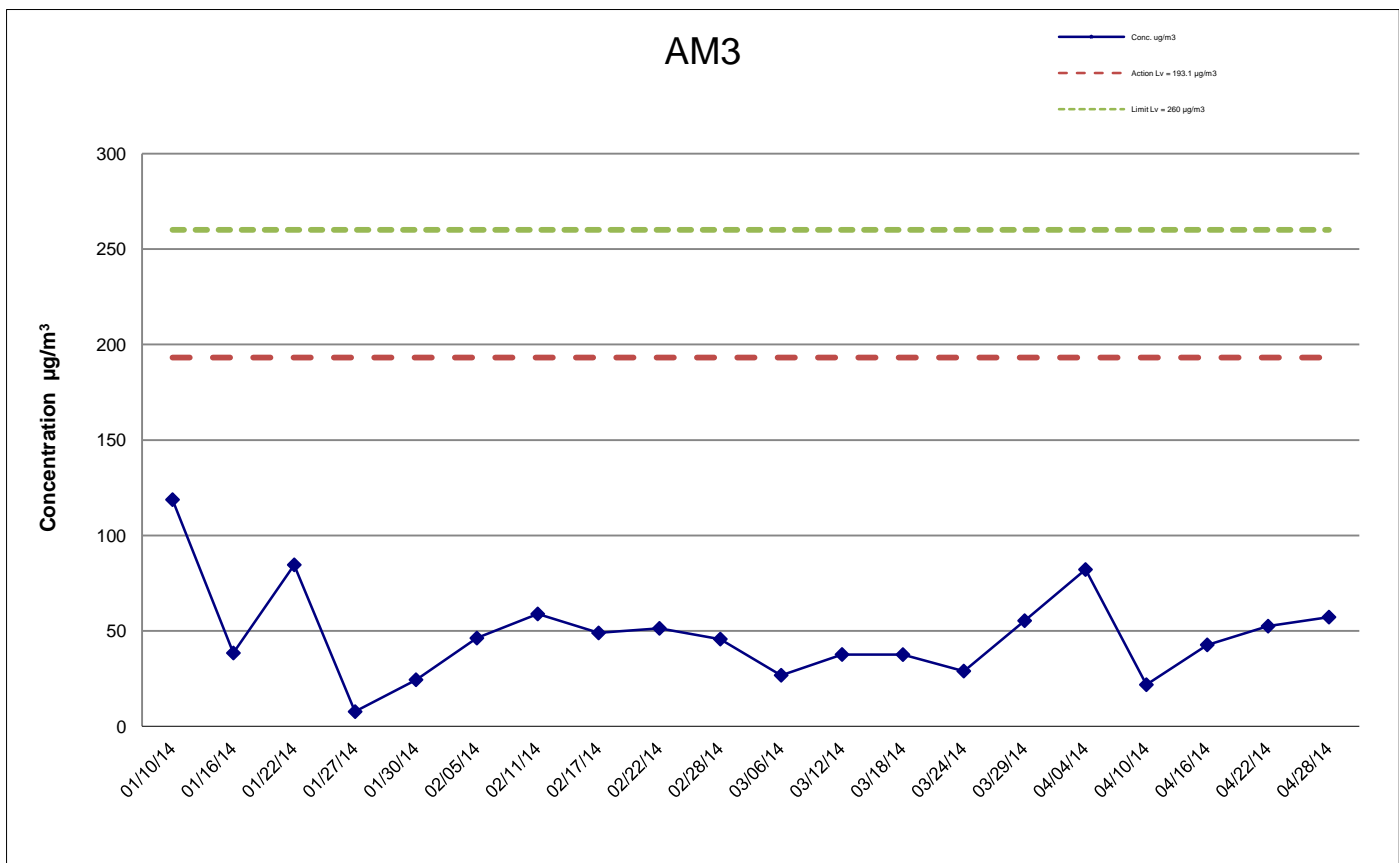
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Apr-14

JCYK

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.

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

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

**Extract of Meteorological Observations for Tai Mei Tuk Automatic Weather Station,
April 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-Apr	*****	21	19.8	19	****	***	***	***
2-Apr	*****	20.6	19.3	18	****	***	***	***
3-Apr	*****	20.8	19.4	18.5	****	***	***	***
4-Apr	*****	23.3	20.2	18.2	****	***	***	***
5-Apr	*****	25.5	20.8	16.8	****	***	***	***
6-Apr	*****	22.4	19.1	17.3	****	***	***	***
7-Apr	*****	20.3	19	17.5	****	***	***	***
8-Apr	*****	21.5	20	19.2	****	***	***	***
9-Apr	*****	27.4	22.3	19.4	****	***	***	***
10-Apr	*****	25.6	22	20.2	****	***	***	***
11-Apr	*****	27.6	23.1	20.8	****	***	***	***
12-Apr	*****	30.3	24.8	21.5	****	***	***	***
13-Apr	*****	32.4	26.4	22.1	****	***	***	***
14-Apr	*****	24.7	22.7	21	****	***	***	***
15-Apr	*****	25.1	22.1	19.9	****	***	***	***
16-Apr	*****	25.9	22.3	20.9	****	***	***	***
17-Apr	*****	30.1	24.7	21.9	****	***	***	***
18-Apr	*****	30.7	25.1	21.9	****	***	***	***
19-Apr	*****	30.9	25.4	22.5	****	***	***	***
20-Apr	*****	30.2	25.7	22.9	****	***	***	***
21-Apr	*****	24.3	23.2	22.5	****	***	***	***
22-Apr	*****	29.5	25.2	22.4	****	***	***	***
23-Apr	*****	24.4	21.8	20.7	****	***	***	***
24-Apr	*****	22.2	21.4	20.8	****	***	***	***
25-Apr	*****	24.2	22.8	21.8	****	***	***	***
26-Apr	*****	25.7	22.7	21.5	****	***	***	***
27-Apr	*****	31.3	25.9	20.6	****	***	***	***
28-Apr	*****	29.6	25.2	22.4	****	***	***	***
29-Apr	*****	27.9	23.9	21.9	****	***	***	***
30-Apr	*****	25	22.6	20.5	****	***	***	***
Mean	*****	26	22.6	20.5	****	***	***	***
Maximum	*****	32.4	26.4	22.9	****	***	***	***
Minimum	*****	20.3	19	16.8	****	***	***	***

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

Date	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind (km/h)
1-Apr	10.0	60	10.0
2-Apr	35.0	60	12.4
3-Apr	39.5	60	9.8
4-Apr	0.0	80	15.7
5-Apr	0.0	60	13.2
6-Apr	12.5	50	17.8
7-Apr	2.5	60	13.0
8-Apr	16.5	70	6.7
9-Apr	0.0	90	8.2
10-Apr	0.0	80	17.3
11-Apr	0.0	70	11.8
12-Apr	0.0	60	8.4
13-Apr	0.0	270	4.8
14-Apr	0.0	90	15.9
15-Apr	0.0	90	19.7
16-Apr	0.0	70	9.4
17-Apr	0.0	60	6.6
18-Apr	0.0	120	5.2
19-Apr	0.0	60	6.4
20-Apr	0.0	60	3.8
21-Apr	0.0	80	13.8
22-Apr	0.0	60	4.3
23-Apr	5.0	80	20.5
24-Apr	0.5	90	18.5
25-Apr	0.0	90	12.2
26-Apr	1.5	50	10.9
27-Apr	0.0	270	6.0
28-Apr	0.0	140	9.7
29-Apr	0.0	80	12.6
30-Apr	4.0	50	9.6
Mean	-----	60	11.1
Total	127	---	-----
Maximum	39.5	---	20.5
Minimum	0.0	---	3.8

*** 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,
April 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-Apr	1011	20.5	19.6	19	19	99	96	91
2-Apr	1011.7	20.2	19.3	18.1	18.3	98	94	85
3-Apr	1013.5	20.1	19.3	18.4	18.5	98	95	85
4-Apr	1016.6	21.9	19.9	17.9	16.2	97	80	61
5-Apr	1016.4	23.4	20.3	16.4	13.9	92	69	38
6-Apr	1017.2	21.1	19.2	17.3	16.6	97	85	64
7-Apr	1016.5	20	19.2	17.4	16.4	95	84	78
8-Apr	1014.7	20.5	19.8	19.1	18.6	98	93	84
9-Apr	1014	26.6	22.1	18.8	19.8	99	88	70
10-Apr	1015	23.9	22.1	21	18.6	91	81	66
11-Apr	1013.6	24.5	22.5	20.9	19.6	92	84	72
12-Apr	1012	27.3	24	21.8	20.4	91	81	65
13-Apr	1011.6	30.4	25.6	21.7	21.7	93	80	57
14-Apr	1014.7	24.4	22.8	21.9	19.7	95	83	67
15-Apr	1015.8	23.1	21.8	20.5	16.9	87	74	54
16-Apr	1013.1	23.7	22	21	19	89	83	74
17-Apr	1011.7	28	24	21.7	21	94	84	65
18-Apr	1011.9	27.9	24.2	21.1	21	94	83	67
19-Apr	1011.5	27.1	24.3	21.6	21.7	95	86	74
20-Apr	1010.8	28.8	25	22.5	22.7	95	87	74
21-Apr	1012.4	24.4	23.3	22.7	21.7	94	91	88
22-Apr	1012.4	28.2	24.5	22.5	22.3	94	88	71
23-Apr	1012.2	24.2	22	20.9	21	96	94	90
24-Apr	1011.5	22.4	21.7	21.2	20.2	95	92	86
25-Apr	1012	23.7	22.6	21.6	21.3	96	93	87
26-Apr	1012.8	24.4	22.5	21.4	20.9	98	91	79
27-Apr	1013.1	30.2	25.3	20.4	20.3	95	76	54
28-Apr	1013.4	26.7	24.5	22.3	18.3	87	69	53
29-Apr	1012.9	26	23.5	21.6	20.1	93	82	69
30-Apr	1011.6	24	22.3	20.4	20.1	97	88	79
Mean	1013.2	24.6	22.3	20.4	19.5	94	85	72
Maximum	1017.2	30.4	25.6	22.7	22.7	99	96	91
Minimum	1010.8	20	19.2	16.4	13.9	87	69	38

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

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

*** unavailable

missing (less than 24 hourly observations a day)

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

**Extract of Meteorological Observations for Sha Tin Automatic Weather Station,
April 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-Apr	1011	21.1	19.8	19	18.8	99	94	83
2-Apr	1011.9	20.9	19.5	18.2	17.9	98	91	81
3-Apr	1013.5	20.6	19.4	18.3	18.4	99	93	81
4-Apr	1016.6	22.8	20.1	18.2	15.8	98	77	56
5-Apr	1016.4	25.1	20.5	16	13.7	98	68	32
6-Apr	1017.2	21.4	19.2	17.6	16.3	96	84	60
7-Apr	1016.6	20.2	19.2	17.5	16	93	82	76
8-Apr	1014.6	21.3	19.7	19	18.6	100	93	82
9-Apr	1014	27.2	22.2	18.7	19.5	100	86	63
10-Apr	1015.1	24.1	22.1	20.8	18.3	89	79	62
11-Apr	1013.7	25	22.5	20.7	19.2	92	82	70
12-Apr	1012.1	28.9	24.3	21.6	20	92	78	58
13-Apr	1011.9	30.8	25.4	20.9	21.2	96	79	56
14-Apr	1014.8	23.8	22.2	21.2	18.7	93	81	67
15-Apr	1015.9	23.3	21.4	19.7	16.3	86	73	56
16-Apr	1013.3	24.9	22	20.6	18.5	89	81	71
17-Apr	1011.9	28.2	23.9	21.2	20.4	93	82	63
18-Apr	1012.1	28.2	23.8	20	20.5	98	83	62
19-Apr	1011.6	27.8	24.1	20.8	21.2	97	85	68
20-Apr	1011	29.3	24.9	21.9	22	95	84	68
21-Apr	1012.6	24.6	23	22.1	21.4	95	91	83
22-Apr	1012.6	28.6	24.5	21.7	21.9	97	86	66
23-Apr	1012.5	24.5	21.8	20.7	20.7	97	93	86
24-Apr	1011.8	22.5	21.5	20.9	19.8	94	90	83
25-Apr	1012.2	24.2	22.7	21.4	21.1	96	91	85
26-Apr	1013	25.5	22.7	20.8	20.6	95	89	75
27-Apr	1013.2	30.3	25.5	20.2	19.8	95	72	52
28-Apr	1013.5	28.8	24.9	22.4	17.5	87	64	47
29-Apr	1013.1	26	23.4	21.7	19.4	93	79	63
30-Apr	1011.7	24	22.3	20.6	19.8	96	86	76
Mean	1013.4	25.1	22.3	20.1	19.1	95	83	68
Maximum	1017.2	30.8	25.5	22.4	22	100	94	86
Minimum	1011	20.2	19.2	16	13.7	86	64	32

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

Date	Total Rainfall (mm)	Prevailing Wind Direction (degrees)	Mean Wind (km/h)
1-Apr	25.0	360	5.0
2-Apr	56.0	350	7.0
3-Apr	42.0	50	4.8
4-Apr	0.0	80	7.1
5-Apr	0.0	20	6.0
6-Apr	8.5	350	5.5
7-Apr	2.5	90	5.4
8-Apr	61.5	350	4.1
9-Apr	0.0	350	5.7
10-Apr	0.0	110	7.0
11-Apr	0.0	70	6.9
12-Apr	0.0	70	5.8
13-Apr	0.0	220	7.1
14-Apr	0.0	90	8.9
15-Apr	0.0	80	9.7
16-Apr	0.0	70	7.9
17-Apr	0.0	30	6.3
18-Apr	0.0	100	4.2
19-Apr	0.0	80	4.3
20-Apr	0.0	210	2.9
21-Apr	0.5	70	5.0
22-Apr	0.0	360	3.5
23-Apr	11.0	80	5.8
24-Apr	0.0	90	9.5
25-Apr	0.5	100	7.3
26-Apr	1.5	70	5.7
27-Apr	0.0	40	5.0
28-Apr	0.0	30	6.2
29-Apr	0.0	100	6.7
30-Apr	9.0	350	6.0
Mean	-----	80	6.1
Total	218	---	-----
Maximum	61.5	---	9.7
Minimum	0.0	---	2.9

*** unavailable

missing (less than 24 hourly observations a day)

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

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

Appendix I Impact Daytime Construction Noise Monitoring Results

Location : NM1A (168 Shek Kwu Lung Village G/F- Façade)

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

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-Apr-14	10:05	65.5	67.5	61.0	64.2	59.6	75	N
10-Apr-14	13:41	66.8	69.1	63.5	64.2	63.3	75	N
16-Apr-14	10:30	59.5	55.0	62.9	64.2	59.5	75	N
22-Apr-14	10:40	63.3	65.1	60.6	64.2	63.3	75	N
28-Apr-14	10:10	63.7	64.9	61.8	64.2	63.7	75	N

Corrected Noise Level dB(A)	
Average	62.3
Max	63.7
Min	59.5

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-Apr-14	10:10	61.0	63.5	59.0	68.1	61.0	75	N
10-Apr-14	10:57	68.3	70.4	65.7	68.1	54.8	75	N
16-Apr-14	13:10	73.1	76.5	62.5	68.1	71.4	75	N
22-Apr-14	10:30	73.6	75.0	71.5	68.1	72.2	75	N
28-Apr-14	13:40	65.4	67.2	63.6	68.1	65.4	75	N

Corrected Noise Level dB(A)	
Average	68.5
Max	72.2
Min	54.8

* +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-Apr-14	10:40	64.5	67.0	60.0	64.8	64.5	70	N
10-Apr-14	10:43	65.1	68.2	62.1	64.8	53.3	70	N
16-Apr-14	13:00	61.2	62.0	59.0	64.8	61.2	70	N
22-Apr-14	14:00	65.1	66.5	63.0	64.8	53.3	70	N
28-Apr-14	15:00	64.7	66.9	61.8	64.8	64.7	70	N

Corrected Noise Level dB(A)	
Average	61.8
Max	64.7
Min	53.3

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-Apr-14	10:50	65.5	67.0	62.5	67.4	65.5	75	N
10-Apr-14	9:50	66.4	68.5	62.7	67.4	66.4	75	N
16-Apr-14	13:55	60.6	62.0	58.0	67.4	60.6	75	N
22-Apr-14	13:05	66.3	68.0	63.5	67.4	66.3	75	N
28-Apr-14	11:30	64.2	65.7	61.3	67.4	64.2	75	N

Corrected Noise Level dB(A)	
Average	65.0
Max	66.4
Min	60.6

- 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-Apr-14	11:25	65.5	67.5	60.5	65.2	53.7	75	N
10-Apr-14	13:34	60.4	63.3	58.6	65.2	60.4	75	N
16-Apr-14	11:25	62.2	63.5	59.0	65.2	62.2	75	N
22-Apr-14	11:35	67.2	68.8	65.1	65.2	62.9	75	N
28-Apr-14	10:51	64.2	65.6	62.4	65.2	64.2	75	N

Corrected Noise Level dB(A)	
Average	61.8
Max	64.2
Min	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-Apr-14	11:30	63.0	65.0	60.5	64.5	63.0	70	N
10-Apr-14	11:29	61.7	63.5	57.6	64.5	61.7	70	N
16-Apr-14	10:40	64.3	65.5	63.0	64.5	64.3	70	N
22-Apr-14	13:15	60.3	62.1	56.1	64.5	60.3	70	N
28-Apr-14	13:04	65.9	67.2	63.7	64.5	60.3	70	N

Corrected Noise Level dB(A)	
Average	62.2
Max	64.3
Min	60.3

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

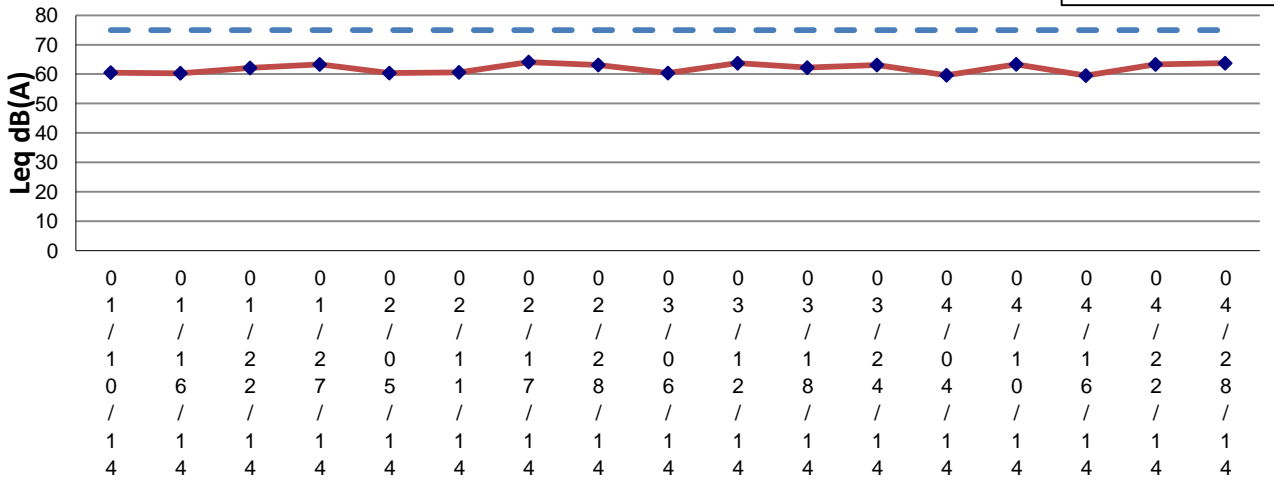
Date	Measured Noise Level for 30-min, dB(A)				Baseline Noise Level, dB(A)	Corrected Construction Noise Level, dB(A) **	Limit Level, dB(A)	Exceedance (Y/N)
	Start Time	Leq	L10	L90				
4-Apr-14	12:00	66.5	68.0	62.0	61.5	64.8	75	N
10-Apr-14	10:03	63.5	66.3	61.2	61.5	59.2	75	N
16-Apr-14	9:50	58.0	59.5	56.5	61.5	58.0	75	N
22-Apr-14	9:35	62.1	63.5	59.5	61.5	53.2	75	N
28-Apr-14	14:20	65.0	66.3	63.4	61.5	62.4	75	N

Corrected Noise Level dB(A)	
Average	61.1
Max	64.8
Min	53.2

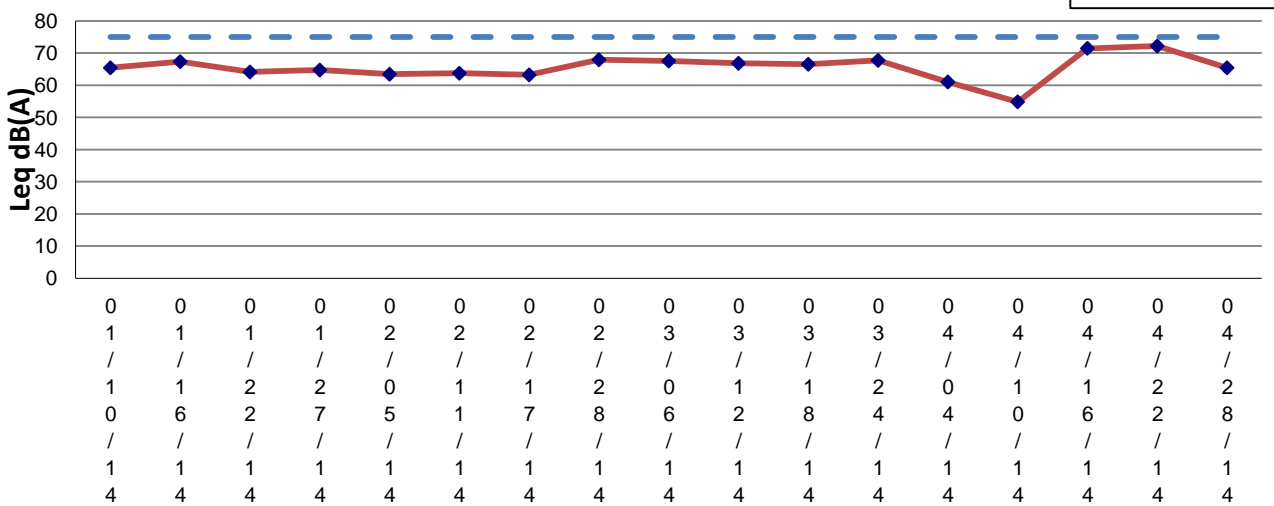
Remarks

** 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

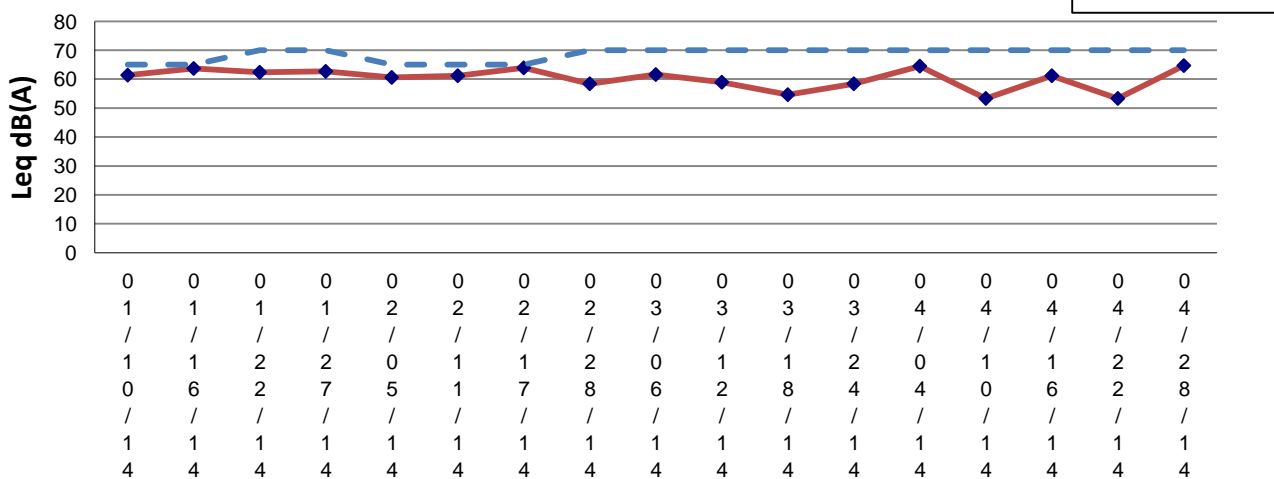
NM1A




NM2



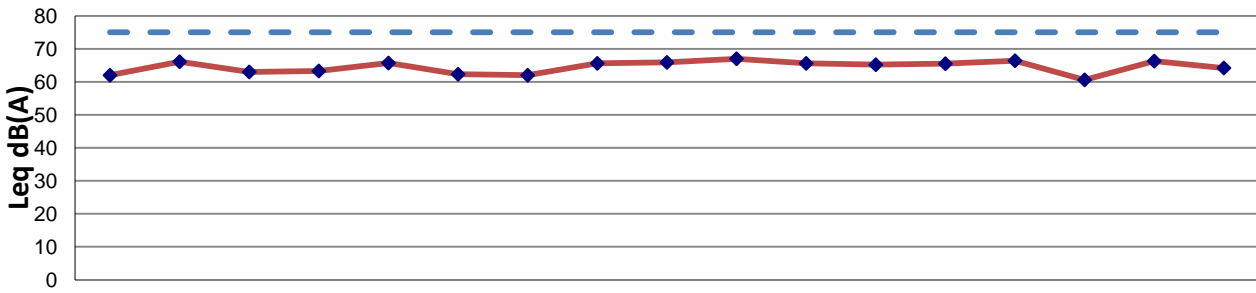
NM3



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

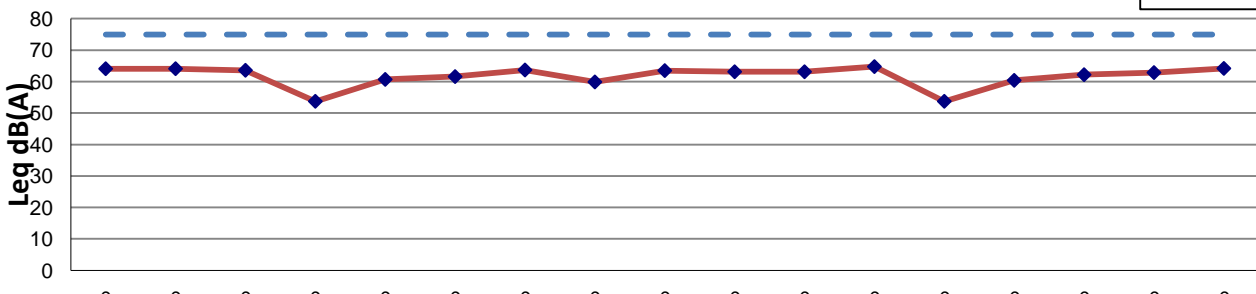
	Environmental Team for the Widening of Tolo Highway between Island House Interchange and Tai Hang - Investigation	SCALE	N.T.S.	DATE	May-14
		CHECK	ENFL	DRAWN	JCYK
	Graphical Presentation of Impact Daytime Construction Noise Monitoring Results	JOB NO.	60102979	APPENDIX No.	I
					-

NM4



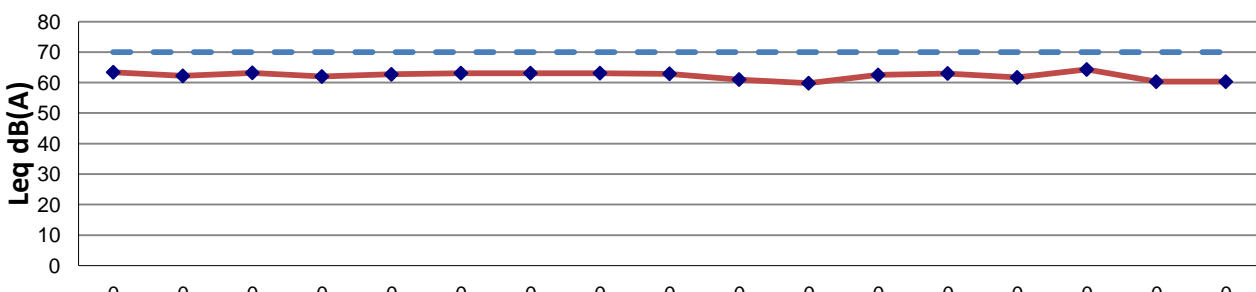
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	4
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1	1	2	2	0	1	1	2	0	1	1	2	0	1	1	2	2
0	6	2	7	5	1	7	8	6	2	8	4	4	0	6	2	8
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

NM5




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

NM6

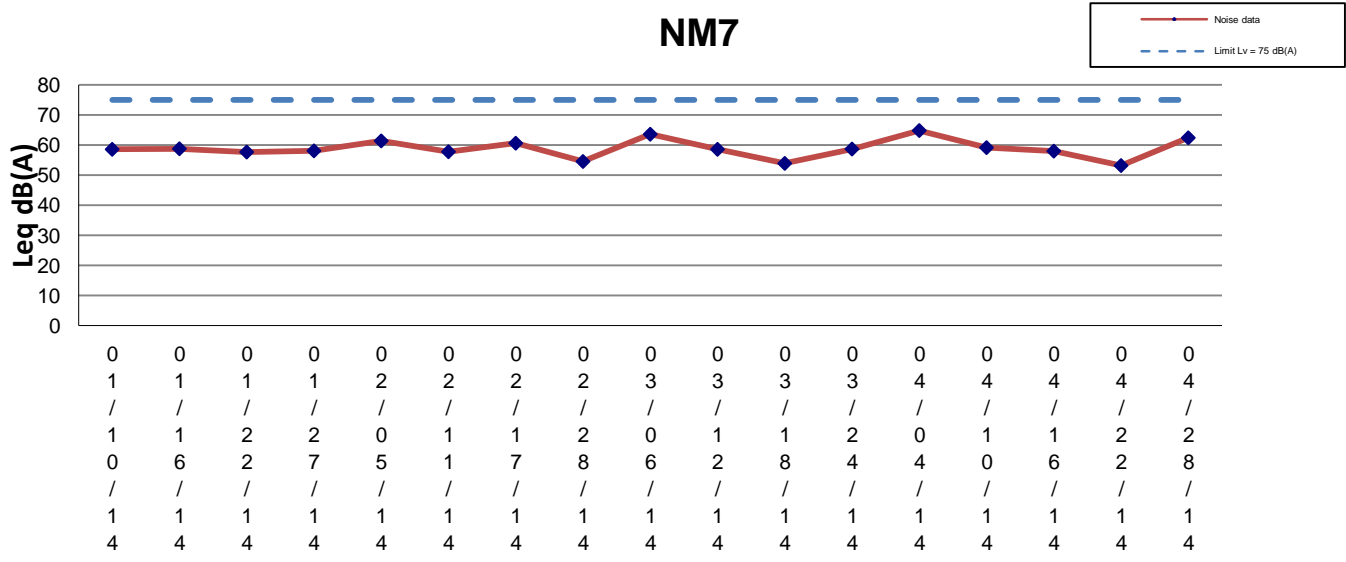


0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	4
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1	1	2	2	0	1	1	2	0	1	1	2	0	1	1	2	2
0	6	2	7	5	1	7	8	6	2	8	4	4	0	6	2	8
/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/	/
1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

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

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

NM7



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

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

**APPENDIX J
EVENT ACTION PLAN**

Appendix J – Event Action Plan

Event / Action Plan for Air Quality

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

Event / Action Plan for Air Quality

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

Event / Action Plan for Noise Impact

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

**APPENDIX K
SITE INSPECTION SUMMARIES**

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 April 2014
Time:	09:00
Inspection No.:	429

Non-compliance

Nil

Observations

Follow Up Observations

Nil.

New Observations

1. The Contractor was reminded to provide a drip tray to the chemicals.

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 April 2014
Time:	14:00
Inspection No.:	430

Non-compliance

Nil

Observations

Follow Up Observations

1. Construction materials were removed from the trees (Closed).

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/2008/09 (Between Island House Interchange and Ma Wo)
Date:	7 April 2014
Time:	14:00
Inspection No.:	431

Non-compliance

Nil

Observations

Follow Up Observations

1. The chemicals were removed (Closed).

New Observations

2. Stagnant water was observed at the catch pit. The Contractor was reminded to clear the water or treat the water regularly with larvicidal oil to prevent mosquito breeding.

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:	10 April 2014
Time:	14:00
Inspection No.:	432

Non-compliance

Nil

Observations

<p><u>Follow Up Observations</u></p> <p>Nil.</p> <p><u>New Observations</u></p> <ol style="list-style-type: none">1. Exposed slope was observed. The Contractor was reminded to prevent soil from being depositing in existing drainage systems and the river nearby by covering the slope with tarpaulin sheets.
--

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/2008/09 (Between Island House Interchange and Ma Wo)
Date:	16 April 2014
Time:	09:00
Inspection No.:	433

Non-compliance

Nil

Observations

Follow Up Observations

1. Stagnant water at the catch pit was cleared (Closed).

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:	17 April 2014
Time:	14:00
Inspection No.:	434

Non-compliance

Nil

Observations

<p><u>Follow Up Observations</u></p> <ol style="list-style-type: none">1. Exposed slope is covered (Closed). <p><u>New Observations</u></p> <ol style="list-style-type: none">2. The Contractor was reminded to spray dusty surfaces with water.
--

Remarks

Nil

EM&A Environmental Inspection Record

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



Inspection Information

Contract No.	HY/2008/09 (Between Island House Interchange and Ma Wo)
Date:	23 April 2014
Time:	09:00
Inspection No.:	435

Non-compliance

Nil

Observations

<p><u>Follow Up Observations</u></p> <p>Nil.</p>
<p><u>New Observations</u></p> <p>Nil.</p>

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:	24 April 2014
Time:	14:00
Inspection No.:	436

Non-compliance

Nil

Observations

<p><u>Follow Up Observations</u></p> <ol style="list-style-type: none">1. Dusty materials were removed off site (Closed). <p><u>New Observations</u></p> <ol style="list-style-type: none">2. General refuse was observed near the worker rest area. The Contractor was reminded to clear the refuse to maintain site cleanliness.3. Oil drums were observed at the east abutment of Bridge 18. The Contractor was reminded to remove the oil drums.

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/2008/09 (Between Island House Interchange and Ma Wo)
Date:	30 April 2014
Time:	09:00
Inspection No.:	437

Non-compliance

Nil

Observations

<p><u>Follow Up Observations</u></p> <p>Nil.</p>
<p><u>New Observations</u></p> <p>Nil.</p>

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:	30 April 2014
Time:	09:00
Inspection No.:	438

Non-compliance

Nil

Observations

<p><u>Follow Up Observations</u></p> <ol style="list-style-type: none">1. General refuse was removed (Closed).2. Oil drums were removed (Closed). <p><u>New Observations</u></p> <ol style="list-style-type: none">3. The Contractor was reminded to clear the water at the wheel-washing facilities.
--

Remarks

Nil

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

Appendix L

Statistics on Complaints, Notifications of Summons and Successful Prosecutions

	Date Received	Subject	Status	Total no. followed up by ET this month	Total no. followed up by ET since project commencement
Environmental complaints	15 April 2014	EPD referred a complaint from a resident of Ma Wo Tsuen on 15 April 2014. The complaint was about the dust emission on 12 April 2014 at the construction site of the Tolo Highway widening construction works at Ma Wo. The complaint location was Ma Wo Tsuen near Northbound of Tolo Highway. The complainant complained that there was no water spraying or covering by tarpaulin sheets when the construction works were taking place. Serious dust nuisance has been caused. He claimed that no improvement has been observed. He requested the follow-up by the EPD.	Closed	1	38
Notification of summons	-	-	-	0	0
Successful Prosecutions	-	-	-	0	0