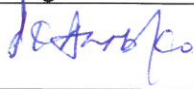



Environmental Protection Department

Contract No. HY/2012/06

**Widening of Fanling Highway
– Tai Hang to Wo Hop Shek
Interchange****Monthly EM&A Report
For June 2015**

[07/2015]

	Name	Signature
Prepared & Checked:	Joanne Ko	
Reviewed & Approved:	Y W Fung	

Version: Rev. 0 Date: 13 July 2015

Disclaimer

This report is prepared for Environmental Protection Department and is given for its sole benefit in relation to and pursuant to Contract No. HY/2012/06 and may not be disclosed to, quoted to or relied upon by any person other than Environmental Protection Department without our prior written consent. No person (other than Environmental Protection Department) into whose possession a copy of this report comes may rely on this report without our express written consent and Environmental Protection Department may not rely on it for any purpose other than as described above.

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Dear Sir,

13 July 2015
By Fax (2805 5028) & Post

Attn: Mr. James Penny

**Environmental Monitoring and Audit (EM&A) for Widening of Tolo Highway/Fanling Highway between Island House Interchange and Fanling
Stage 2 (between Tai Hang to Wo Hop Shek Interchange)
Environmental Permit No. EP-324/2008/C
Condition 3.3 – Submission of Monthly EM&A Report – June 2015 for the portion of Stage 2 works under Contract No. HY/2012/06**

We refer to the revised Monthly EM&A Report – June 2015 received on 13 July 2015 submitted by the Environmental Team via email. Pursuant to Environmental Permit Condition 3.3, I hereby verify the Monthly EM&A Report – June 2015 (Rev. 0) for the portion of works under Stage 2 of the captioned Project which is managed under Contract No. HY/2012/06.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED



Terence Kong
Independent Environmental Checker

c.c. HyD – Mr. Chung Lok Chin / Mr. Tang Man Kai (Fax: 2714 5198)
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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). An Environmental Impact Assessment (EIA) Report (the approved EIA Report) together with an Environmental Monitoring and Audit (EM&A) Manual (the approved EM&A Manual) were completed and approved under the EIAO on 14 July 2000 (Register Number: EIA-043/2000).

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 Project. The Project is a designated project and governed by an Environmental Permit (EP-324/2008) issued by the EPD on 23 December 2008. Subsequently, the EPD issued a Variation of Environmental Permit (EP-324/2008/A) (VEP) on 31 January 2012 and the VEP (EP-324/2008/B) was granted on 17 March 2014. The current valid VEP was applied on 9 March 2015 and the VEP (EP-324/2008/C) was subsequently granted on 27 March 2015.

The construction works for this Project are 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). Stage 2 would be implemented under two works contracts. Contract No. HY2012/06 “Widening of Fanling Highway – Tai Hang to Wo Hop Shek Interchange” and the entrusted portion to CEDD under Contract No. CV/2012/09 “Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 3”. This report focuses on Contract No. HY2012/06 “Widening of Fanling Highway – Tai Hang to Wo Hop Shek Interchange” in Stage 2 of the Project only.

Pursuant to the EP (EP-324/2008/C) Condition 2.7, the Capture Survey Trip Report for Ma Wat River Northern Meander (Version 2) for the Project was submitted on 24 December 2013 by the Environmental Team (ET) and verified by the Independent Environmental Checker (IEC) on 6 January 2014.

The construction phase of the Contract under the EP and the Environmental Monitoring and Audit (EM&A) programme of the contract commenced on 21 November 2013. 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 June 2015. As informed by the Contractor, construction activities in the reporting period were:

- Site clearance
- Ground investigation
- Piling works
- Pipe laying
- Retaining wall construction
- Noise barrier
- Excavation
- Backfilling
- Drainage
- Temporary bridge construction
- House construction
- Box culvert construction
- Footbridge demolition

Reporting Change

There was no reporting change required in the reporting period.

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 period.

Breaches of Action and Limit Levels for Noise

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

Complaint, Notification of Summons and Successful Prosecution

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

Future Key Issues

Key issues to be considered in the coming month include:

- Properly store and label oils and chemicals on site;
- Chemical, chemical waste and waste management;
- Collection of construction waste should be carried out regularly;
- 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;
- Quieter powered mechanical equipment should be used;
- Suppress dust generated from excavation activities and haul road traffic; 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 the expressways in the North East New Territories (NENT) connecting Sha Tin, Tai Po and Fanling. These highways form a vital part of the strategic Route 9, which links Hong Kong Island to the boundary at Shenzhen. At present, this section of Route 9 is a dual 3-lane carriageway. However, at several major interchanges along this section of Route 9, the highway is a dual-2 lane carriageway only. Severe congestion is a frequent occurrence during the 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 governed by an Environmental Permit (EP-324/2008) issued by the EPD on 23 December 2008. Subsequently, the EPD issued a Variation of Environmental Permit (EP-324/2008/A) (VEP) on 31 January 2012 and the VEP (EP-324/2008/B) was granted on 17 March 2014. The current valid VEP was applied on 9 March 2015 and the VEP (EP-324/2008/C) was subsequently granted on 27 March 2015.
- 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). Stage 2 would be implemented under two works contracts. Contract No. HY/2012/06 “Widening of Fanling Highway – Tai Hang to Wo Hop Shek Interchange” and the entrusted portion to CEDD under Contract No. CV/2012/09 “Liantang/Heung Yuen Wai Boundary Control Point Site Formation and Infrastructure Works – Contract 3”. This report focuses on Contract No. HY2012/06 “Widening of Fanling Highway – Tai Hang to Wo Hop Shek Interchange” in Stage 2 of the Project only.
- 1.1.6. 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 Contract).
- 1.1.7. China State Construction Engineering (Hong Kong) Ltd. (CSHK) was commissioned as the Contractor of the Contract.
- 1.1.8. AECOM Asia Co. Ltd. was commissioned by China State Construction Engineering (Hong Kong) Limited as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) works for the Contract and Mott MacDonald Hong Kong Ltd. acts as the Independent Environmental Checker (IEC) for the Contract.
- 1.1.9. The construction phase of the Contract under the EP commenced on 21 November 2013.
- 1.1.10. According to the updated EM&A Manual of Stage 2 of the Project, there is a need of an EM&A programme including air quality and noise monitoring. The EM&A programme for Stage 2 of the Project commenced on 21 November 2013.

1.2 Scope of Report

- 1.2.1 This is the twentieth monthly EM&A Report under the Contract No. HY/2012/06 “Widening of Fanling Highway – Tai Hang to Wo Hop Shek Interchange. This report presents a summary of the environmental monitoring and audit works, list of activities and mitigation measures proposed by the ET for the Contract in June 2015.

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 (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer	Edwin Chung	6115 0818	2638 0950
IEC (Mott MacDonald Hong Kong Limited)	Independent Environmental Checker	Terence Kong	2828 5919	2827 1823
Contractor (China State Construction Engineering (Hong Kong) Limited)	Environmental Officer	Michael Tsang	9277 4956	2672 2501
		C C Chow	9679 6315	2672 2501
ET (AECOM Asia Company Limited)	ET Leader	Y W Fung	3922 9393	3922 9797

1.4 Summary of Construction Works

- 1.4.1 The construction phase for the Contract under the EP commenced on 21 November 2013.
- 1.4.2 Details of the construction works carried out by the Contractor in this reporting period are listed below:
- Site clearance
 - Ground investigation
 - Piling works
 - Pipe laying
 - Retaining wall construction
 - Noise barrier
 - Excavation
 - Backfilling
 - Drainage
 - Temporary bridge construction
 - House construction

- Box culvert construction
- Footbridge demolition

1.4.3 The Construction Programme is shown in Appendix B.

1.4.4 The general layout plan of the Project site showing the contract areas is shown in Figure 1.1.

1.4.5 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 period 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 one air quality monitoring station was 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)

2.3 Monitoring Locations

- 2.3.1 The monitoring station was set up at the proposed location in accordance with updated EM&A Manual. Table 2.2 describes details of the monitoring station. The locations are shown in Figure 1.2a.

Table 2.2 Locations of Impact Air Quality Monitoring Station

Location	Monitoring Station
AM2 (SR2)	Fanling Government Secondary School

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
24-hour TSP	Once every 6 days
1-hour TSP	3 times every 6 days while the highest dust impact was expected

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 period

2.6.1 The schedule for environmental monitoring in June 2015 is provided in Appendix F.

2.7 Results and Observations

2.7.1 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

Location	Average ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
AM2 (Fanling Government Secondary School)	76.5	66.9 – 82.1	317.8	500

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

Location	Average ($\mu\text{g}/\text{m}^3$)	Range ($\mu\text{g}/\text{m}^3$)	Action Level ($\mu\text{g}/\text{m}^3$)	Limit Level ($\mu\text{g}/\text{m}^3$)
AM2 (Fanling Government Secondary School)	11.6	8.0 – 15.0	200.7	260

- 2.7.2 The major dust source during the monitoring was mainly from nearby traffic emission.
- 2.7.3 All 1-hour and 24-hour TSP results were below the Action and Limit Level at all monitoring locations in the reporting period.
- 2.7.4 The event action plan is annexed in Appendix J.
- 2.7.5 Weather information including wind speed and wind direction is annexed in Appendix H. The information was obtained from the Hong Kong Observatory Tai Po and Tai Mei Tuk Automatic Weather Stations.

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 the Contract. 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
Acoustic Calibrator	Rion NC-73

3.3 Monitoring Locations

- 3.3.1 Monitoring stations M2 and M3 were set up at the proposed locations in accordance with updated EM&A Manual. Figure 1.2a-b 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
M2	West Tai Wo	1.2m from the ground floor free-field of the Residential
M3	Fanling Government Secondary School	1m from the exterior of the roof top façade of the school

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, Frequency and Duration

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 measurement was made at monitoring station M3, while free-field measurement was made at monitoring station M2.
- (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 monitoring station M2.
- (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 period

- 3.6.1 The schedule for environmental monitoring in June 2015 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), $L_{eq(30\text{ mins})}$	Range, dB(A), $L_{eq(30\text{ mins})}$	Limit Level, dB(A), $L_{eq(30\text{ mins})}$
M2*	69.2	68.9 – 69.4	75
M3 [#]	63.4	59.1 – 64.5	65/70

*+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 Action or Limit Level exceedance of construction noise was recorded in the reporting month. No noise complaints related to 0700 – 1900 hours on normal weekdays was received and followed by Environmental Team in the reporting month.
- 3.7.3 Major noise sources during noise monitoring in the reporting period were mainly road traffic noise.
- 3.7.4 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 the Contract. In the reporting period, 5 site inspections were carried out respectively on 2, 9, 18, 23 and 30 June 2015 for the Contract. While no specific observation was recorded, recommendations on remedial actions were given to the Contractor for precautionary purpose.

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

4.1.3 Particular observations during the site inspections are described below:

Air Quality

4.1.4 The Contractor was reminded to cover the dusty stockpile entirely with tarpaulin for dust suppression. (Reminder)

4.1.5 The Contractor was reminded to set up the wheel washing bay properly to avoid runoff from wheel washing. (Reminder)

4.1.6 The Contractor was reminded to enhance the water spraying frequency for dust suppression for the construction site. (Reminder)

Noise

4.1.7 No adverse observation was identified in the reporting period.

Water Quality

4.1.8 Muddy surface runoff was observed on the public road from the site area near Ho Ka Yuen Footbridge. The Contractor should clear the runoff from the public road and ensure there are sufficient sand bundings surrounding the site area.

Chemical and Waste Management

4.1.9 Water with oil mixture accumulated inside the drip trays were observed at SA346. The Contractor should remove the water mixture and dispose of as chemical waste properly.

4.1.10 General refuse accumulated under the footbridge at SA346. The Contractor should clean up the refuse regularly.

Landscape and Visual Impact

4.1.11 No adverse observation was identified in the reporting period.

Miscellaneous

4.1.12 No adverse observation was identified in the reporting period.

4.2 Advice on the Solid and Liquid Waste Management Status

4.2.1 The Contractor has registered as chemical waste producers for the Contract. 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 Contractor, 1,380 m³ of inert C&D material was disposed of as public fill to Tuen Mun 38 (of which 0 m³ was broken concrete), while 15 m³ of general refuse was disposed of at NENT

landfill. 55 kg of paper/cardboard packaging, 25 kg of plastics and 0 kg of metals were collected by recycling contractors in the reporting period. 486 m³ of inert C&D materials was reused on site. 634 m³ of inert C&D materials was reused in other projects. 260 m³ of inert C&D materials was disposed of as public fill at NENT. 0 kg of chemical wastes was collected by licensed contractors in the reporting period.

- 4.2.3 The actual amounts of different types of waste generated by the activities of the Project in the reporting period are shown in Table 4.1.

Table 4.1 Summary of Waste Flow Table

Waste Type	Actual Amount	Disposal/Reuse Locations
Inert C&D materials	1,380 m ³ (of which 0 m ³ was broken concrete)	Tuen Mun 38
General refuse	15 m ³	NENT Landfill
Paper/cardboard packaging	55 kg	Recycling Contractors
Plastics	25 kg	Recycling Contractors
Metals	0 kg	Recycling Contractors
C&D materials reused on site	486 m ³	Site Area
C&D materials reused in other projects	634 m ³	Other projects
C&D materials reused in NENT for backfilling	260 m ³	NENT Landfill
Chemical wastes	0 kg	Licensed Contractors

- 4.2.4 The Contractor was 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 2 of the Project and valid in the reporting period is summarized in Table 4.2.

Table 4.2 Summary of Environmental Licensing and Permit Status

Statutory Reference	License/ Permit	License or Permit No.	Valid Period		License/ Permit Holder	Remarks
			From	To		
EIAO	Environmental Permit	EP-324/2008/B	17/03/2014	N/A	HyD	The VEP (EP-324/2008/C) was subsequently granted on 9 March 2015 which superseded the previous EP (EP-324/2008/B).
WPCO	Discharge License (Site)	WT00017159-2013	18/09/2013	30/09/2018	CSHK	--
WDO	Chemical Waste Producer Registration	5213-722-C3822-01	5/09/2013	N/A	CSHK	Chemical waste produced in Contract HY/2012/06

Statutory Reference	License/ Permit	License or Permit No.	Valid Period		License/ Permit Holder	Remarks
			From	To		
WDO	Billing Account for Disposal of Construction Waste	7009328	08/09/2009	N/A	CSHK	Waste disposal in Contract HY/2008/09
NCO	Construction Noise Permit	GW-RN0119-15	26/02/2015	25/08/2015	CSHK	Zone A Grouting (SA340)
		GW-RN0149-15	15/03/2015	23/08/2015	CSHK	Zone 2 Coring of Road Pavement Samples (South Bound)
		GW-RN0211-15	11/04/2015	02/06/2015	CSHK	Zone 4 Road Re-pavement (North Bound)
		GW-RN0278-15	08/05/2015	10/07/2015	CSHK	Zone 4 Tree Felling (Slip road from Pak Wo Road to Fanling Highway, South Bound)
		GW-RN0289-15	23/05/2015	05/07/2015	CSHK	Zone 2 Road Marking Alternation (Fanling Highway near VBP3, North Bound)
		GW-RN0293-15	19/05/2015	30/09/2015	CSHK	Zone 2 Removal of catch fence (VBP 5 & 6)
		GW-RN0376-15	27/06/2015	29/11/2015	CSHK	Zone 4 Loading of Precast Beam (Precast Yard)

4.4 Implementation Status of Environmental Mitigation Measures

- 4.4.1 A summary of the Implementation Schedule of Environmental Mitigation Measures (EMIS) is presented in Appendix C.

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

4.6 Summary of Complaints, Notification of Summons and Successful Prosecutions

- 4.6.1 The Environmental Complaint Handling Procedure is annexed in Figure 4.1.
- 4.6.2 No complaint, notification of summons and successful prosecution was received in the reporting period.
- 4.6.3 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 Months

5.1.1 The major construction works for the Contract in July 2015 will be:-

- Site clearance
- Ground investigation
- Piling works
- Pipe laying
- Retaining wall construction
- Noise barrier
- Excavation
- Backfilling
- Drainage
- Temporary bridge construction
- House construction
- Footbridge demolition
- Bridge construction

5.2 Key Issues for the Coming Month

5.2.1 Key issues to be considered in July 2015:-

- Properly store and label oils and chemicals on site;
- Chemical, chemical waste and waste management;
- Collection of construction waste should be carried out regularly;
- 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;
- Quieter powered mechanical equipment should be used;
- Suppress dust generated from excavation activities and haul road traffic; 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 July 2015 is provided in Appendix F.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

- 6.1.1 The construction phase and EM&A programme of the Contract commenced on 21 November 2013.
- 6.1.2 All 1-hour and 24-hour TSP monitoring results complied with the Action / Limit Levels in the reporting period.
- 6.1.3 No Action or Limit Level exceedance of construction noise was recorded in the reporting month. No noise complaints related to 0700 – 1900 hours on normal weekdays was received and followed by Environmental Team in the reporting month.
- 6.1.4 5 environmental site inspections were carried out in June 2015. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audits.
- 6.1.5 No complaint, notification of summons and successful prosecution was received in the reporting period.

6.2 Recommendations

- 6.2.1 According to the environmental site inspections performed in the reporting period, the following recommendations on remedial actions were provided to the Contractor for precautionary purpose:

Air Quality Impact

- The Contractor was recommended to cover the dusty stockpile entirely with tarpaulin for dust suppression.
- The Contractor was recommended to set up the wheel washing bay properly to avoid runoff from wheel washing.
- The Contractor was recommended to water the construction site frequently for dust suppression.

Construction Noise Impact

- Nil.

Water Quality Impact

- The Contractor was recommended to clear the runoff from the public road and ensure there are sufficient sand bundings surrounding the site area.

Chemical and Waste Management

- The Contractor was recommended to remove the water mixture and dispose of as chemical waste properly.
- The Contractor was recommended to clear the waste regularly or provide proper receptacles available for waste collection.

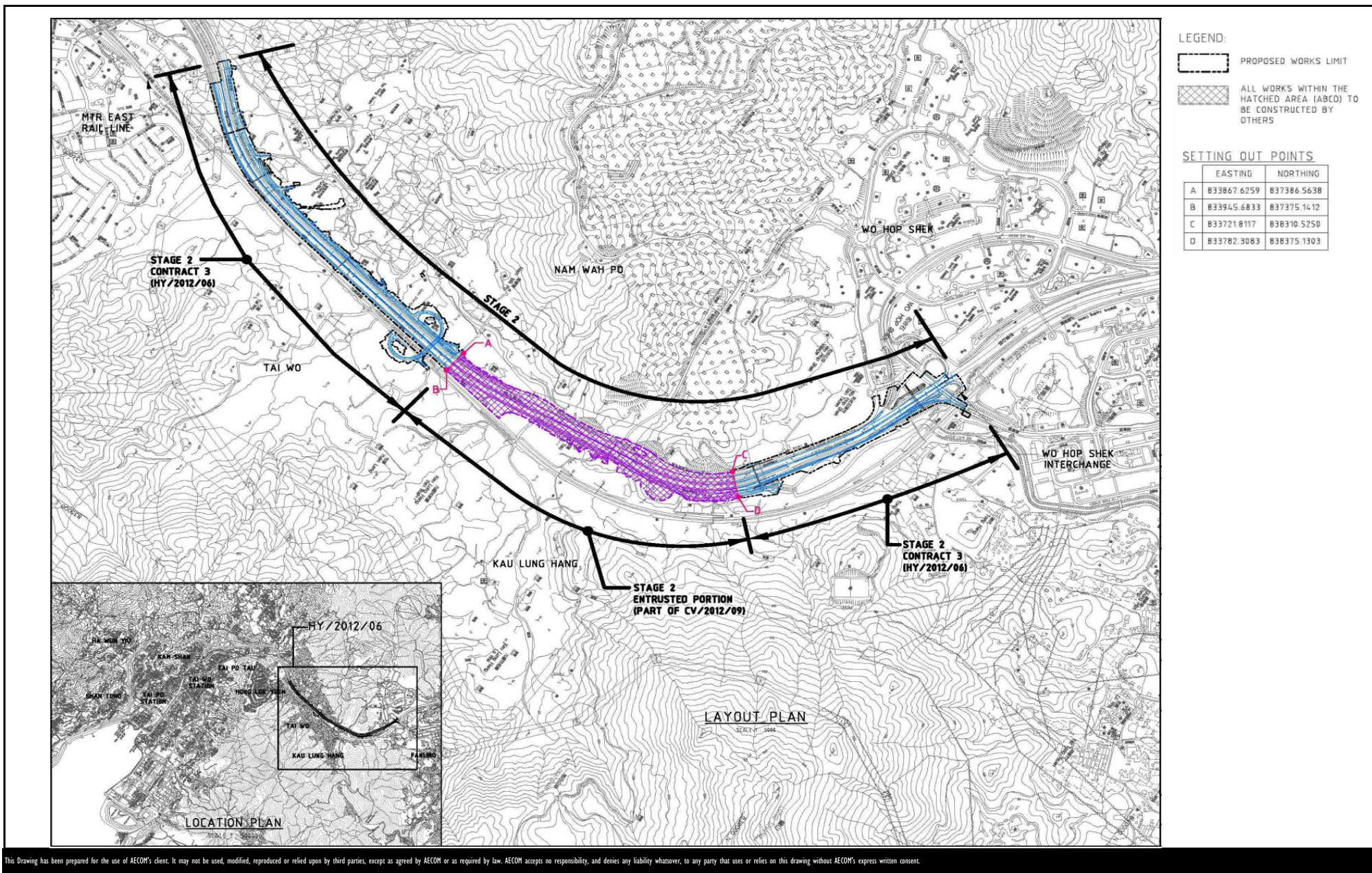
Landscape and Visual Impact

- Nil.

Miscellaneous

- Nil.

FIGURES



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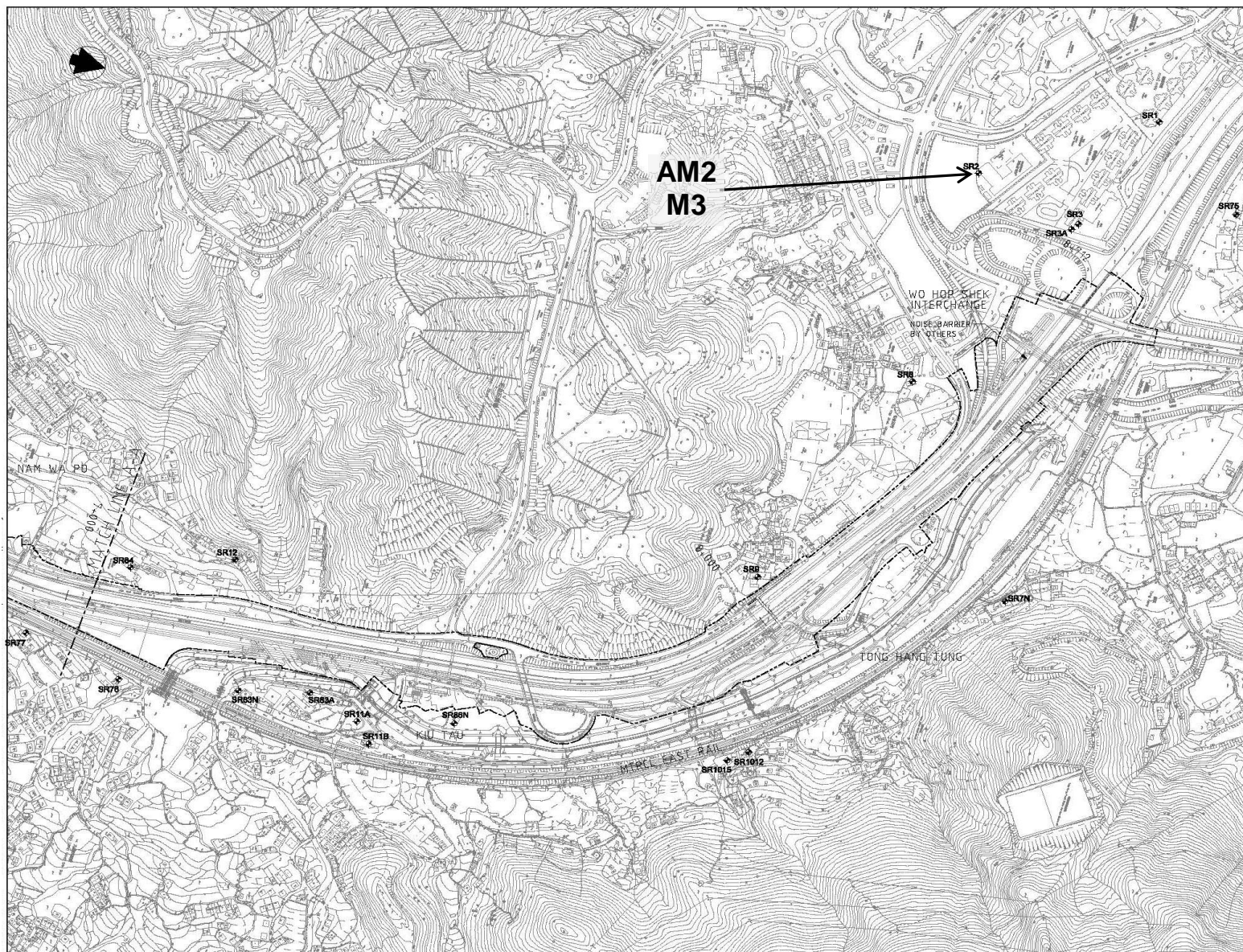
CONTRACT NO. HY/2012/06
WIDENING OF FANLING HIGHWAY
- TAI HANG TO WO HOP SHEK INTERCHANGE

AECOM

Layout Plan

Date: Dec 2013

Figure 1.1



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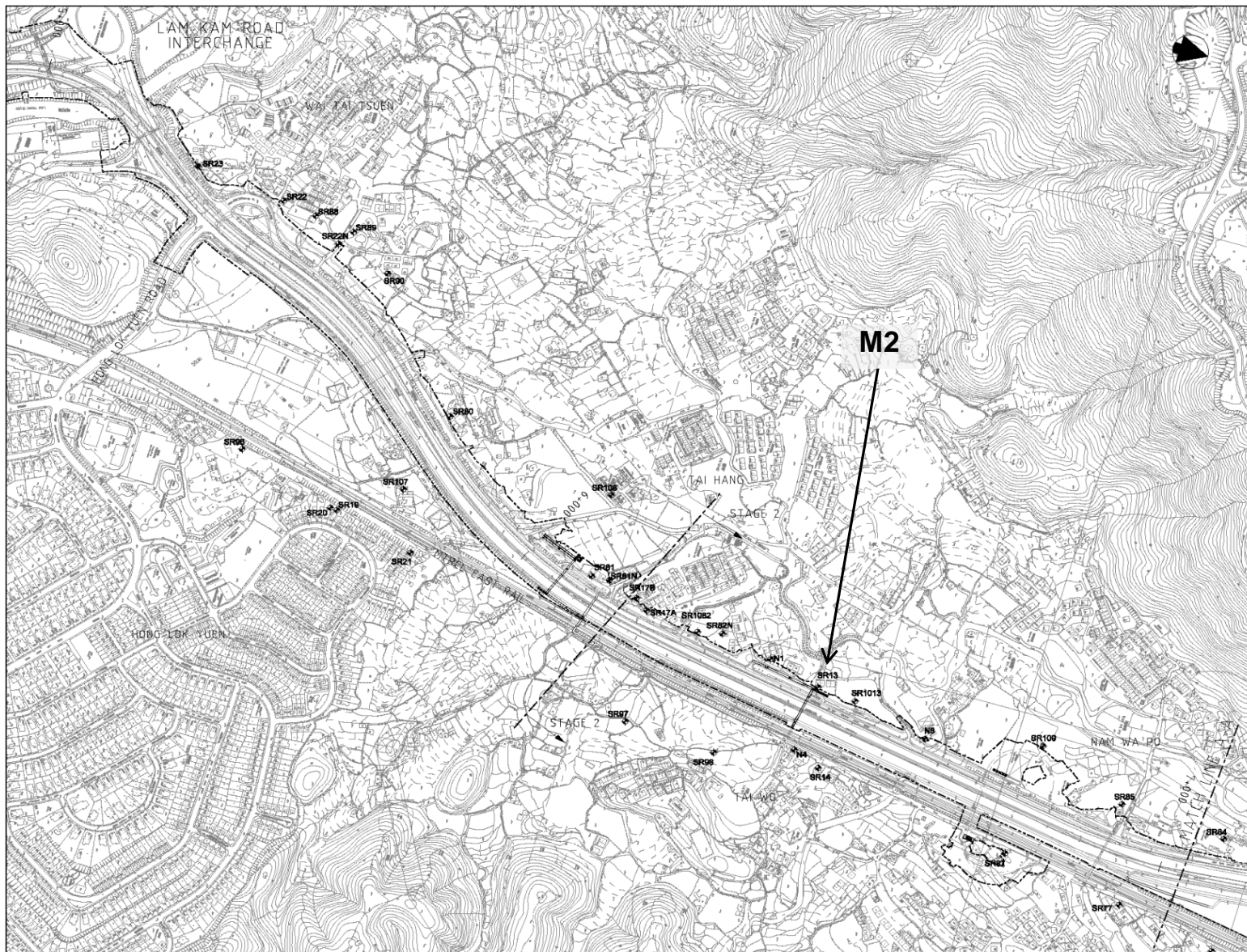
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Locations of Monitoring Station

Date: Dec 2013

Figure 1.2a



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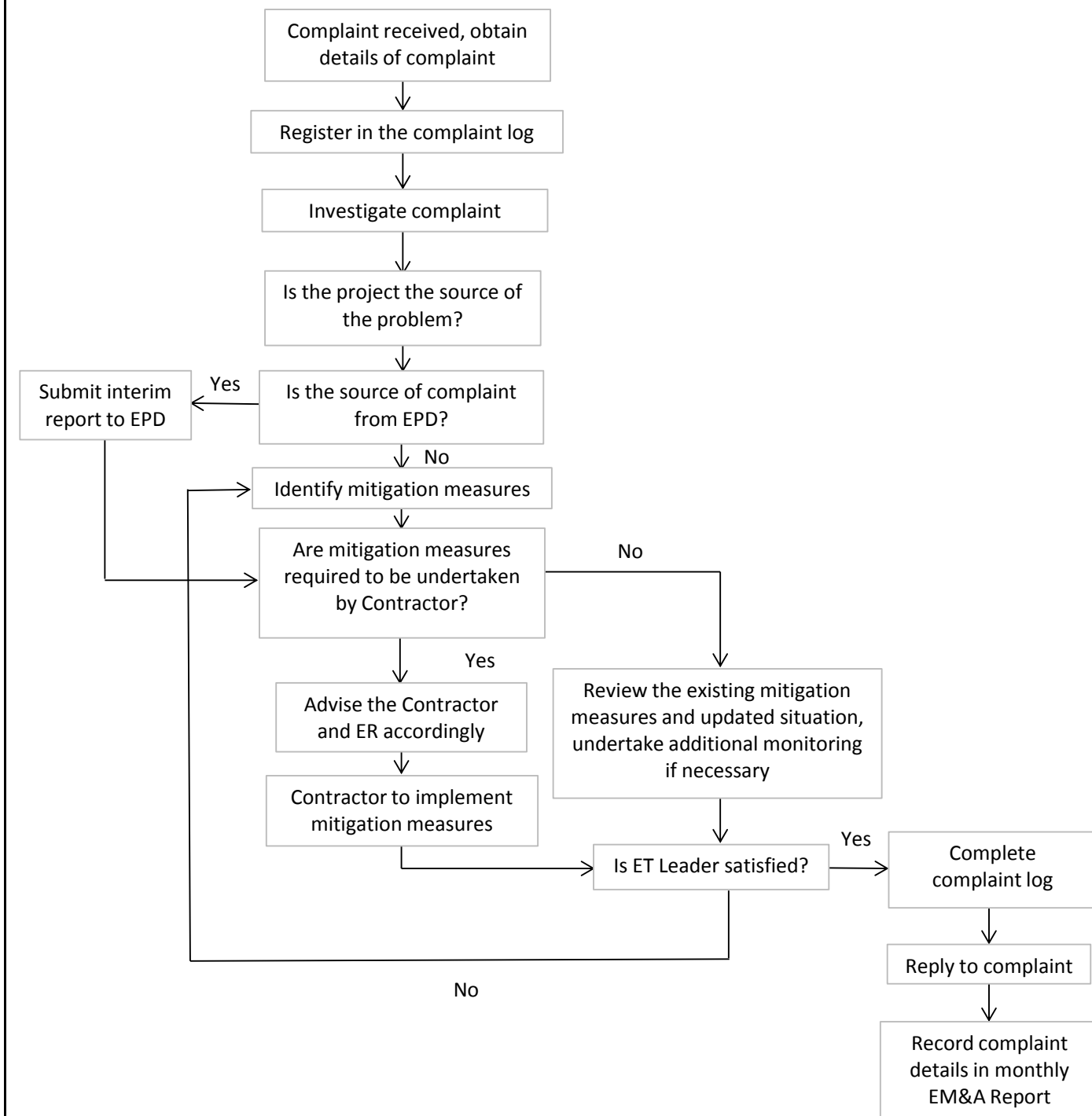
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Locations of Monitoring Station

Date: Dec 2013

Figure 1.2b



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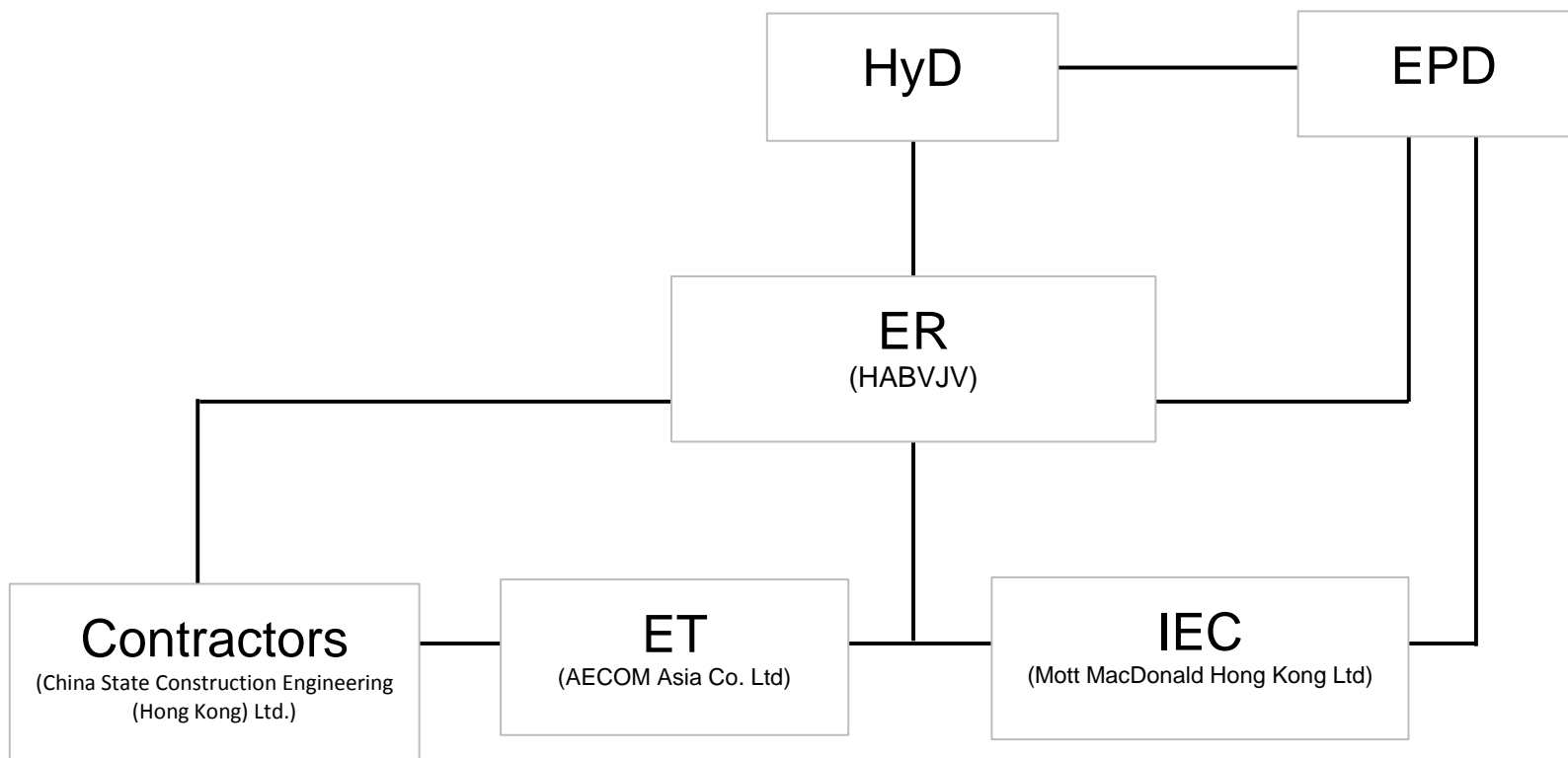
Environmental Complaint Handling Procedure

Project No.: 60307376

Date: Dec 2013

Figure 4.1

**APPENDIX A
PROJECT ORGANIZATION STRUCTURE**



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CONTRACT NO. HY/2012/06

WIDENING OF FANLING HIGHWAY

- TAI HANG TO WO HOP SHEK INTERCHANGE

AECOM

Project Organization Structure

Project No.: 60307376

Date: Dec 2013

Appendix A

APPENDIX B
CONSTRUCTION PROGRAMMES

Activity ID	Activity Name	Dur. % Complete	Rem. Duration	Original Duration	Start	Finish	Total Float	2015				
									Jun	Jul	Aug	Sep
Contract Condition												
General												
Contract Condition												
Contract Condition												
POSSA323A	Site Area SA323A (360d) (not required)	0%	0	0	20-Jun-15*		-342			◆ Site Area SA323A (360d) (not required)		
POSSA327	Site Area SA327 (180d)	0%	0	0	20-Jun-15*		-170			◆ Site Area SA327 (180d)		
POSSA327A	Site Area SA327A (730d)	0%	0	0	18-Jul-15*		0			◆ Site Area SA327A (730d)		
ZONE 1 (Ch. 5640 to 5880)												
Noise Barrier Along TWSR-West and Laying New Utilities												
NB42 (Ch.5640-5740)-TWSR West Side												
Noise Barrier Works												
NB00115	NB42 (Ch5640-5740) - Backfilling	0%	12	12	06-Aug-15	19-Aug-15	201					
NB00120	NB42 (Ch5640-5740) - NB production	0%	45	45	20-Jun-15	03-Aug-15	1385					
NB00130	NB42 (Ch5640-5740) - NB post & panel installation	0%	5	5	20-Aug-15	25-Aug-15	1101					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10130	Watermain installation (along NB42)	0%	30	30	22-Jun-15	27-Jul-15	341					
TSZ10140	Firemain installation (along NB42)	0%	30	30	28-Jul-15	31-Aug-15	341					
Underground Utility Works												
UUZ10100	Utility cable laying by Utility companies (Along NB42)	0%	38	38	22-Jun-15	05-Aug-15	201					
NB42A (Ch.5750-5810)-TWSR West Side												
Noise Barrier Works												
NB00190	NB42A (Ch5750-5810) - Footing & Wall Structure - 5 bays	86.89%	8	61	13-Apr-15 A	30-Jun-15	181					
NB00195	NB42A (Ch5750-5810) - backfilling	0%	12	12	29-Aug-15	11-Sep-15	181					
NB00200	NB42A (Ch5750-5810) - NB production	0%	45	45	01-Jul-15	14-Aug-15	1374					
NB00210	NB42A (Ch5750-5810) - NB post & panel installation	0%	5	5	12-Sep-15	17-Sep-15	1081					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10150	Sheet Piling & Excavation(~5m below ground) (along NB42A)	0%	18	18	22-Jun-15	13-Jul-15	181					
TSZ10180	Watermain installation (along NB42A)	0%	20	20	14-Jul-15	05-Aug-15	181					
TSZ10190	Firemain installation (along NB42A)	0%	20	20	06-Aug-15	28-Aug-15	181					
Underground Utility Works												
UUZ10110	Utility cable laying by Utility companies (Along NB42A)	0%	20	20	02-Jul-15	24-Jul-15	211					
NB47B (Ch.5820-5880)-TWSR West Side												
Noise Barrier Works												
NB00230	NB47B (Ch5820-5880)- Footing & Wall Structure - 4 bays	0%	30	30	14-Jul-15	17-Aug-15	171					
NB00235	NB47B (Ch5820-5880)- backfilling	0%	12	12	10-Sep-15	23-Sep-15	171					
NB00240	NB47B (Ch5820-5880) - NB production	0%	45	45	18-Aug-15	01-Oct-15	1326					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10200	Sheet Piling & Excavation(~5m below ground) (along NB47B)	0%	18	18	19-Jun-15 A	13-Jul-15	171					
TSZ10230	Watermain installation (along NB47B)	0%	20	20	14-Jul-15	05-Aug-15	181					
TSZ10240	Firemain installation (along NB47B)	0%	20	20	06-Aug-15	28-Aug-15	181					
Underground Utility Works												
UUZ10120	Utility cable laying by Utility companies (Along NB47B)	0%	20	20	18-Aug-15	09-Sep-15	171					
ZONE 2 (Ch. 5880 to 6930)												
Noise Barrier Along TWSR-West and Laying New Utilities												
Site Clearance & Demolition of Existing Structure												
Demolition Work												
Z2.P2N.1250	Construction of proposed SHRINE	0%	165	165	22-Jun-15	07-Jan-16	971					
NB47 (Ch.5880-5930)-TWSR West Side												
Noise Barrier Works												
NB00270	NB47 (Ch5880-5930)- Footing & Wall Structure - 5 bays	57.58%	28	66	11-Mar-15 A	24-Jul-15	59					
NB00280	NB47 (Ch5880-5930)- NB production	0%	45	45	25-Jul-15	07-Sep-15	1325					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10260	DSD Trunk Sewer laying (along NB47)	0%	18	18	25-Jul-15	14-Aug-15	59					
TSZ10270	Backfill up to NB47 footing level	0%	6	6	15-Aug-15	21-Aug-15	59					
TSZ10280	Watermain installation (along NB47)	0%	26	26	22-Aug-15	21-Sep-15	59					
NB47A (Ch.5950-5975)-TWSR West Side												
Noise Barrier Works												
NB00330	NB47A - backfilling	0%	12	12	13-Aug-15	26-Aug-15	195					
NB00335	Backfilling (Along NB47A-above ID1)	0%	12	12	25-Jul-15	07-Aug-15	211					
NB00340	NB47A - NB production	0%	45	45	20-Jun-15	03-Aug-15	1360					
NB00350	NB47A - NB post & panel installation	0%	5	5	27-Aug-15	01-Sep-15	1075					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10350	Sheet Piling & Excavation(~5m below ground) (along NB47A)	15.79%	16	19	05-May-15 A	10-Jul-15	28					
TSZ10380	Watermain installation (along NB47A)	0%	14	14	11-Jul-15	27-Jul-15	195					
TSZ10390	Firemain installation (along NB47A)	0%	14	14	28-Jul-15	12-Aug-15	195					
TSZ10560	Watermain & Firemain installation (Along NB47A-above ID1)	0%	28	28	22-Jun-15	24-Jul-15	211					
Underground Utility Works												
UUZ20110	Utility cable laying by Utility companies (Along NB47A)	0%	10	10	11-Jul-15	22-Jul-15	213					

Activity ID	Activity Name	Dur. % Complete	Rem. Duration	Original Duration	Start	Finish	Total Float	2015				
									Jun	Jul	Aug	Sep
UUZ20240	Utility cable laying by Utility companies (Along NB47A-above	0%	10	10	11-Jul-15	22-Jul-15	213					
NB48 (Ch.5995-6120)-TWSR West Side												
Noise Barrier Works												
NB00380	NB48 (Ch5995-6060) - Footing & Wall Structure - 4 bays	39.39%	40	66	18-Apr-15 A	07-Aug-15	175					
NB00400	NB48 (Ch5995-6060) - NB production	0%	45	45	08-Aug-15	21-Sep-15	1311					
NB00440	NB48 (Ch6060-6120) - Footing & Wall Structure - 5 bays	0%	40	40	15-Jun-15 A	07-Aug-15	179					
NB00460	NB48 (Ch6060-6120) - NB production	0%	45	45	08-Aug-15	21-Sep-15	1311					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10400	Sheet Piling & Excavation(~5m below ground) (along NB48, 0-60m)	41.67%	21	36	02-May-15 A	16-Jul-15	134					
TSZ10410	DSD Trunk Sewer laying (along NB48, 0-60m)	0%	18	18	17-Jul-15	06-Aug-15	134					
TSZ10420	Backfill up to NB48, 0-60m footing level	0%	6	6	07-Aug-15	13-Aug-15	134					
TSZ10430	Watermain installation (along NB48, 0-60m)	0%	30	30	14-Aug-15	17-Sep-15	134					
TSZ10440	Firemain installation (along NB48, 0-60m)	0%	30	30	18-Sep-15	26-Oct-15	134					
TSZ10450	Sheet Piling & Excavation(~5m below ground) (along NB48,	0%	26	26	22-Jun-15	22-Jul-15	111					
TSZ10460	DSD Trunk Sewer laying (along NB48, 60-110m)	0%	18	18	23-Jul-15	12-Aug-15	137					
TSZ10470	Backfill up to NB48, 60-110m footing level	0%	6	6	13-Aug-15	19-Aug-15	137					
TSZ10480	Watermain installation (along NB48, 60-110m)	0%	26	26	20-Aug-15	18-Sep-15	137					
TSZ10490	Firemain installation (along NB48, 60-110m)	0%	26	26	19-Sep-15	22-Oct-15	137					
Underground Utility Works												
UUZ20120	Utility cable laying by Utility companies (Along NB48, 0-60m)	0%	24	24	08-Aug-15	04-Sep-15	175					
UUZ20130	Utility cable laying by Utility companies (Along NB48, 60-110m)	0%	20	20	08-Aug-15	31-Aug-15	179					
NB49 (Ch.6145-6215)-TWSR West Side												
Noise Barrier Works												
NB00510	NB49 - Footing & Wall Structure - 5 bays	0%	54	54	22-Jun-15 A	24-Aug-15	83					
NB00530	NB49 - NB production	0%	45	45	25-Aug-15	08-Oct-15	1294					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10500	Sheet Piling & Excavation(~7m below ground) (along NB49)	0%	14	14	25-Aug-15	09-Sep-15	83					
TSZ10510	DSD Trunk Sewer laying (along NB49)	0%	12	12	10-Sep-15	23-Sep-15	83					
NB49B (Ch.6215-6235)-TWSR West Side												
Noise Barrier Works												
NB00550	NB49B piling (0.19m -20no)- rigs 1&2	0%	21	21	27-Jul-15*	19-Aug-15	0					
NB54 (Ch.6240-6280)-TWSR West Side												
Noise Barrier Works												
NB00620	NB54 - ID2-1 Sheet piling & excavation (~3m)	0%	18	18	22-Jun-15	13-Jul-15	37					
NB00630	NB54 - ID2-1 Footing & Wall Structure - 2 bays	0%	60	60	14-Jul-15	21-Sep-15	37					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10600	Sheet Piling & Excavation(~5m below ground) (along NB54)	0%	14	14	14-Jul-15	29-Jul-15	56					
TSZ10610	DSD Trunk Sewer laying (along NB54 excep ID2-1 section)	0%	21	21	30-Jul-15	22-Aug-15	56					
TSZ10620	Backfill up to NB54 footing level	0%	6	6	24-Aug-15	29-Aug-15	56					
TSZ10630	Watermain installation (along NB54)	0%	30	30	31-Aug-15	06-Oct-15	120					
NB54A (Ch.6290-6350)-TWSR West Side												
Noise Barrier Works												
NB00750	NB54A pile testing	73.33%	8	30	12-Jun-15 A	30-Jun-15	167					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10650	Sheet Piling & Excavation(~5m below ground) (along NB54A)	0%	26	26	22-Jun-15	22-Jul-15	29					
TSZ10660	DSD Trunk Sewer laying (along NB54A)	0%	18	18	23-Jul-15	12-Aug-15	125					
TSZ10670	Backfill up to NB54A footing level	0%	6	6	13-Aug-15	19-Aug-15	125					
TSZ10680	Watermain installation (along NB54A)	0%	30	30	20-Aug-15	23-Sep-15	129					
NB57 (Ch.6365-6445)-TWSR West Side												
Noise Barrier Works												
NB00830	NB57 - Footing & Wall Structure - 7 bays	77.44%	60	266	15-Dec-14 A	04-Jan-16	77					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10774	Completion NB57 Bay 1 & 2 and preparation works	0%	26	25	02-May-15 A	22-Jul-15	77					
TSZ10775	Wash-out chamber water pipe diversion at the site access for NB57	0%	52	52	23-Jul-15	21-Sep-15	77					
NB58 (Ch.6445-6480)-TWSR West Side												
Noise Barrier Works												
NB00900	NB58 - Footing & Wall Structure - 3 bays	0%	50	50	26-Aug-15	26-Oct-15	114					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10750	Sheet Piling & Excavation(~5m below ground) (along NB58)	0%	21	21	11-Jul-15	04-Aug-15	28					
TSZ10760	DSD Trunk Sewer laying (along NB58)	0%	18	18	05-Aug-15	25-Aug-15	28					
TSZ10780	Watermain installation (along NB58)	0%	20	20	26-Aug-15	17-Sep-15	28					
TSZ10790	Firemain installation (along NB58)	0%	20	20	18-Sep-15	13-Oct-15	28					
NB59 (Ch.6490-6590)-TWSR West Side												
Noise Barrier Works												
NB00970	NB59 - Footing & Wall Structure - 9 bays	39.81%	62	103	02-May-15 A	02-Sep-15	139					
NB00990	NB59 - NB production	0%	45	45	03-Sep-15	17-Oct-15	1273					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10810	DSD Trunk Sewer laying (along NB59)	53.85%	30	65	08-Apr-15 A	27-Jul-15	123					
TSZ10820	Backfill up to NB59 footing level	0%	6	6	28-Jul-15	03-Aug-15	123					
TSZ10830	Watermain installation (along NB59)	0%	30	30	04-Aug-15	07-Sep-15	123					
TSZ10840	Firemain installation (along NB59)	0%	30	30	08-Sep-15	14-Oct-15	123					
Underground Utility Works												
UUZ20200	Utility cable laying by Utility companies (Along NB59, 0-95m)	0%	38	38	03-Sep-15	19-Oct-15	139					
NB63 (Ch.6610-6700)-TWSR West Side												

Activity ID	Activity Name	Dur. % Complete	Rem. Duration	Original Duration	Start	Finish	Total Float	2015					
									Jun	Jul	Aug	Sep	
Noise Barrier Works													
NB01040	NB63 - NB production	0%	45	45	20-Jun-15	03-Aug-15	1360						
DSD Southern Trunk Sewer, Water Main Fire Main Works													
TSZ10300	Sheet Piling & Excavation(~7m below ground) (along NB63)	0%	12	12	22-Jun-15	06-Jul-15	149						
TSZ10310	DSD Trunk Sewer laying (along NB63)	0%	18	18	07-Jul-15	27-Jul-15	149						
TSZ10330	Watermain installation (along NB63)	0%	30	30	28-Jul-15	31-Aug-15	149						
TSZ10340	Firemain installation (along NB63)	0%	30	30	01-Sep-15	07-Oct-15	149						
DSD Southern Trunk Sewer - Trenchless Construction													
TSZ10960	DSD Trunk Sewer laying (along NB63 - ID3-1)-Trenchless	0%	40	40	22-Jun-15	07-Aug-15	137						
TSZ10970	Both end manholes construction & trench sewer connection	0%	60	60	08-Aug-15	19-Oct-15	137						
TSZ11025	Town gas pipe jacking work	0%	101	101	31-Aug-15*	31-Dec-15	77						
Underground Utility Works													
UUZ20230	Utility cable laying by Utility companies (Along NB63~100m)	91.95%	12	149	27-Dec-14 A	06-Jul-15	227						
Bridge Construction													
New Tai Hang Footbridge													
General													
THBF0335	Structure steel Shop drawing approval (THFB)	81.13%	30	159	04-Dec-14 A	27-Jul-15	226						
THBF0340	Structure steel procurement (THFB)	0%	150	150	28-Jul-15	24-Dec-15	285						
TWSR-West/ FL Highway N/B Side Section													
THBF0140	THP5 - Pile cap, Pier and Pier Head	0%	45	45	22-Jun-15	13-Aug-15	454						
THBF0180	THP8, THP9 - Pile cap, Pier and Pier Head	0%	30	30	22-Jun-15	27-Jul-15	529						
THBF0220	THAB3 - pile cap & abutment wall	0%	30	30	22-Jun-15	27-Jul-15	502						
THBF0230	THAB3 - Backfilling (~4m)	0%	27	27	28-Jul-15	27-Aug-15	502						
THBF0235	Steel Staircase ready for erection (THFB-TWSR-W side)	0%	0	0		27-Aug-15	502						27-Aug-15 ♦ Steel Staircase ready for erection
THBF0270	THP6, THP7 - Pile cap, Pier and Pier Head	0%	30	30	22-Jun-15	27-Jul-15	439						
THBF0310	THAB2 - pile cap & abutment wall	0%	30	30	22-Jun-15	27-Jul-15	419						
THBF0320	THAB2 - Backfilling (~3m)	0%	20	20	28-Jul-15	19-Aug-15	419						
THBF0325	Steel Ramp ready for erection (THFB-TWSR-W side)	0%	0	0		19-Aug-15	419						19-Aug-15 ♦ Steel Ramp ready for erection
TWSR-East FL Highway S/B Side Section													
THBF0440	THAB1 - Predrilling	94.12%	3	51	20-Mar-15 A	24-Jun-15	341						
THBF0450	THAB1 - Pre-bored H pile (4 nos)	0%	12	12	17-Jul-15	30-Jul-15	323						
THBF0460	THAB1 - Pile Test	0%	28	28	31-Jul-15	27-Aug-15	448						
THBF0470	THAB1 - pile cap & abutment wall	0%	30	30	14-Aug-15	17-Sep-15	359						
THBF0480	THAB1 - Backfilling (~3m)	0%	20	20	18-Sep-15	13-Oct-15	359						
THBF0500	THP2 - Pre-bored H pile (8 nos)	0%	24	24	31-Jul-15	27-Aug-15	323						
THBF0510	THP2 - Pile Test	0%	28	28	28-Aug-15	24-Sep-15	482						
THBF0710	THP3 - Pre-bored H pile (4 nos)	0%	16	16	28-Aug-15	15-Sep-15	323						
THBF0720	THP3 - Pile Test	0%	28	28	16-Sep-15	13-Oct-15	463						
THBF0750	THP4 - Pre-bored H pile (4 nos)	0%	16	16	16-Sep-15	06-Oct-15	323						
New Tai Wo Footbridge													
General													
TWFB1030	Structure steel Shop drawing approval (TWFB)	81.13%	30	159	04-Dec-14 A	27-Jul-15	63						
TWFB1040	Structure steel procurement (TWFB)	0%	150	150	28-Jul-15	24-Dec-15	76						
TWSR-West/ FL Highway N/B Side Section													
TWFB1140	TWP1 - Pre-bored H pile (8 nos)	55.32%	21	47	22-Apr-15 A	16-Jul-15	117						
TWFB1150	TWP1 - Pile Test	0%	28	28	17-Jul-15	13-Aug-15	140						
TWFB1160	TWP1 - Pile cap, Pier and Pier Head	0%	45	45	31-Jul-15	21-Sep-15	117						
TWFB1220	TWAB2 - Pre-bored H pile (4 nos)	82.35%	6	34	18-Apr-15 A	27-Jun-15	121						
TWFB1230	TWAB2 - Pile Test	0%	28	28	27-Jun-15	25-Jul-15	146						
TWFB1240	TWAB2 - pile cap & abutment wall	0%	30	30	13-Jul-15	15-Aug-15	122						
TWFB1250	TWAB2 - Backfilling (~4m)	0%	27	27	17-Aug-15	16-Sep-15	972						
TWFB1280	TWP4, TWP5 - Pre-bored H pile (14 nos)	50%	24	48	11-May-15 A	20-Jul-15	191						
TWFB1290	TWP4, TWP5 - Pile Test	0%	28	28	21-Jul-15	17-Aug-15	239						
TWFB1300	TWP4, TWP5 - Pile cap, Pier and Pier Head	0%	30	30	04-Aug-15	07-Sep-15	188						
TWFB1320	TWAB1 - Pre-bored H pile (18 nos)	49.15%	30	59	27-Apr-15 A	27-Jul-15	167						
TWFB1330	TWAB1 - Pile Test	0%	28	28	28-Jul-15	24-Aug-15	211						
TWFB1340	TWAB1 - pile cap & abutment wall	0%	30	30	11-Aug-15	14-Sep-15	167						
TWFB1350	TWAB1 - Backfilling (~3m)	0%	20	20	15-Sep-15	09-Oct-15	178						
TWSR-East FL Highway S/B Side Section													
TWFB1480	Precautionary work for MTRC I&P area	0%	45	45	22-Jun-15	13-Aug-15	886						
TWFB1540	TWP3 - Predrilling	0%	12	12	14-Aug-15	27-Aug-15	886						
Temporary Tai Wo Footbridge													
Design Works													
TWFB-T1010	Design preparation	0%	60	60	22-Jun-15*	31-Aug-15	118						
TWFB-T1020	Engineer Comment	0%	26	26	01-Sep-15	02-Oct-15	118						
Construction Works													
TWFB-T1050	TTA for Temp ramp working space	86.67%	4	30	20-May-15 A	25-Jun-15	11						
TWFB-T1060	Erect Temp Ramp	0%	90	90	26-Jun-15	12-Oct-15	11						
Demolition of Existing Tai Wo Footbridge													
TWSR-West/ FL Highway N/B Side Section													
TWFB-T1230	Watermain & Firemain at NB58 & backfill	0%	52	52	26-Aug-15	28-Oct-15	28						

Activity ID	Activity Name	Dur. % Complete	Rem. Duration	Original Duration	Start	Finish	Total Float	2015				
									Jun	Jul	Aug	Sep
Noise Barrier Along Fanling Highway S/B												
NB51 (Ch.5935-6055)-FH S/B Side												
Noise Barrier Works												
NB02280	NB51 ID1-3 (0-25m) - Footing & Wall Structure	0%	90	90	22-Jun-15	07-Oct-15	338					
NB53 (Ch.6125-6300) -FH S/B Side (MTRC I&P Area)												
Noise Barrier Works												
NB02420	Coordinate with MTRC for Precautionary Measure	41.67%	35	60	20-Apr-15 A	01-Aug-15	808					
NB02430	Precautionary Measure installation	0%	26	26	03-Aug-15	01-Sep-15	808					
NB02490	NB53 ID2-3 (100-125m), 18nos Predrilling	0%	10	10	02-Sep-15	12-Sep-15	902					
NB02500	NB53 ID2-3 (100-125m) 18nos Piling- 1 rigs	0%	27	27	14-Sep-15	16-Oct-15	902					
NB02570	NB53 (125-180m) - Footing & Wall Structure	50%	46	92	23-Mar-15 A	14-Aug-15	773					
NB02580	NB53 (125-180m)- backfilling	0%	50	50	15-Aug-15	14-Oct-15	773					
NB02590	NB53 (125-180m) - NB production	0%	45	45	15-Aug-15	28-Sep-15	1304					
NB55 (Ch.6300-6360)-FH S/B Side (MTRC I&P Area)												
Noise Barrier Works												
NB02640	NB55 - Footing & Wall Structure	86.36%	24	176	07-Nov-14 A	20-Jul-15	926					
NB02650	NB55- backfilling	0%	50	50	21-Jul-15	16-Sep-15	926					
NB02660	NB55 - NB production	0%	45	45	21-Jul-15	03-Sep-15	1329					
NB02670	NB55 - NB post & panel installation	0%	5	5	04-Sep-15	09-Sep-15	1068					
NB56 (Ch.6360-6400)-FH S/B Side (MTRC I&P Area)												
Noise Barrier Works												
NB02720	NB56- backfilling	50%	25	50	20-Apr-15 A	21-Jul-15	1462					
NB02730	NB56 - NB production	0%	45	45	20-Jun-15	03-Aug-15	1360					
NB02740	NB56 - NB post & panel installation	0%	5	5	04-Aug-15	08-Aug-15	1095					
NB61 (Ch.6400-6560)-FH S/B Side (MTRC I&P Area)												
Noise Barrier Works												
NB02770	NB61 (0-50m) - Sheet piling & Excavation	0%	18	18	22-Jun-15	13-Jul-15	1018					
NB02780	NB61 (0-50m) - Footing & Wall Structure	0%	50	50	14-Jul-15	09-Sep-15	1018					
NB02790	NB61 (0-50m)- backfilling	0%	50	50	10-Sep-15	10-Nov-15	1018					
NB02800	NB61 (0-50m) - NB production	0%	45	45	10-Sep-15	24-Oct-15	1278					
NB02850	NB61 (50-160m) - NB production	0%	45	45	20-Jun-15	03-Aug-15	1360					
NB02860	NB61 (50-160m) - NB post & panel installation	0%	5	5	04-Aug-15	08-Aug-15	1095					
NB61A (Ch.6560-6745)-FH S/B Side (MTRC I&P Area)												
Noise Barrier Works												
NB02920	NB61A (0-50m) - NB production	0%	45	45	20-Jun-15	03-Aug-15	1360					
NB02930	NB61A (0-50m) - NB post & panel installation	0%	5	5	04-Aug-15	08-Aug-15	1095					
NB02970	NB61A ID2-3 (50-75m) - Footing & Wall Structure	54.29%	32	70	01-Apr-15 A	29-Jul-15	1064					
NB02980	NB61A ID2-3 (50-75m)- backfilling	0%	20	20	30-Jul-15	21-Aug-15	1079					
NB02990	NB61A ID2-3 (50-75m) - NB production	0%	45	45	30-Jul-15	12-Sep-15	1320					
NB03000	NB61A ID2-3 (50-75m) - NB post & panel installation	0%	5	5	14-Sep-15	18-Sep-15	1060					
NB03040	NB61A (75-190m) - NB production	0%	45	45	20-Jun-15	03-Aug-15	1360					
NB03050	NB61A (75-190m) - NB post & panel installation	0%	5	5	04-Aug-15	08-Aug-15	1095					
Other Works												
Site Clearance & Demolition of Existing Structure												
Contract Condition												
MCLT1040	Engineer approval	0%	12	12	13-Jun-15 A	06-Jul-15	7					
MCLT1050	Apply cert for exemption by DLO by Engineer	0%	0	0	22-Jun-15	22-Jun-15	19					
MCLT1060	Design available for construction	0%	0	0	07-Jul-15		7					
MCLT1080	Construct New MCLT (Structure)	0%	90	90	07-Jul-15	22-Oct-15	7					
TCSS Works												
G54												
TCSS1500	Slow lane footing - G54 (NB61)	0%	0	0		22-Jun-15	986					
South Buffer Zone 1 (SBZ1) (within Zone 2)(Ch.6740 to 6930)												
Noise Barrier Along TWSR-West and Laying New Utilities												
NB63A (Ch.6710-6840)-TWSR West Side												
Noise Barrier Works												
NB01090	NB63A-1 - NB production	0%	45	45	20-Jun-15	03-Aug-15	756					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10850	Sheet Piling & Excavation(~6m below ground) (along NB63A)	0%	26	26	15-Aug-15	14-Sep-15	9					
TSZ10860	DSD Trunk Sewer laying (along NB63A)	0%	26	26	15-Sep-15	16-Oct-15	9					
NB64 & NB64A (Ch.6860-6920)-TWSR West Side												
Noise Barrier Works												
NB001030	NB64 & NB64A -Footing & Wall Structure - 7 bays	45%	33	60	19-May-15 A	30-Jul-15	194					
NB001050	NB64 & NB64A -NB production	0%	45	45	31-Jul-15	13-Sep-15	715					
DSD Southern Trunk Sewer, Water Main Fire Main Works												
TSZ10900	Sheet Piling & Excavation(~5m below ground) (along NB64)	57.14%	21	49	16-Apr-15 A	16-Jul-15	170					
TSZ10910	DSD Trunk Sewer laying (along NB64)	0%	18	18	17-Jul-15	06-Aug-15	170					
TSZ10920	Backfill up to NB64 footing level	0%	6	6	07-Aug-15	13-Aug-15	170					
TSZ10930	Watermain installation (along NB64)	0%	30	30	14-Aug-15	17-Sep-15	170					
TSZ10940	Firemain installation (along NB64)	0%	30	30	18-Sep-15	26-Oct-15	170					
Underground Utility Works												
UUZ20220	Utility cable laying by Utility companies (Along NB64, 60m)	0%	24	24	31-Jul-15	27-Aug-15	194					
Bridge Construction												
Kau Lung Hang Vehicular Bridge												

Activity ID	Activity Name	Dur. % Complete	Rem. Duration	Original Duration	Start	Finish	Total Float	2015						
									Jun	Jul	Aug	Sep		
KLH Bridge - West Ramp														
Z2.KLH.1140	West Ramp - Backfilling (5m-Dx112m-L)-change to Rock fill	0%	20	20	15-Jun-15 A	15-Jul-15	93		<div><div></div></div>	<div><div></div></div>				
Z2.KLH.1230	West Ramp - Road Slab	0%	90	90	16-Jul-15	31-Oct-15	103			<div><div></div></div>				
Advance Works for VBP3 construction														
Z2.KLH.1280	Pier VBP3 complete and road reinstatement work	0%	12	12	01-Aug-15	14-Aug-15	9				<div><div></div></div>			
Z2.KLH.1290	Affected NB construction at TWSR-W resume	0%	0	0	15-Aug-15		9				<div><div></div></div>			
KLH Bridge - Deck 1														
Z2.KLH.1014	Pier VBP1- Pile caps, pier and pier head construction	80.77%	20	104	11-Feb-15 A	15-Jul-15	93	<div><div></div></div>	<div><div></div></div>					
Z2.KLH.1022	Pier VBP2- Pile caps, pier and pier head construction	64.95%	34	97	03-Mar-15 A	31-Jul-15	79	<div><div></div></div>	<div><div></div></div>					
Z2.KLH.1050	Pier VBP3 Pile caps, pier and pier head construction	34.62%	34	52	30-May-15 A	31-Jul-15	9	<div><div></div></div>	<div><div></div></div>					
Z2.KLH.1120	Deck 1 - Bridge deck construction (West Abutment to VBP1)	0%	100	100	16-Jul-15	12-Nov-15	93			<div><div></div></div>				
Z2.KLH.1125	Deck 1 - Bridge deck construction (VBP1 to VBP2)	0%	100	100	01-Aug-15	28-Nov-15	79			<div><div></div></div>				
Z2.KLH.1130	Deck 1 - Bridge deck construction (VBP2 to VBP3)	0%	38	38	01-Aug-15	14-Sep-15	141			<div><div></div></div>				
KLH Bridge - Ramp R1														
Z2.KLH.1450	Ramp R1 - Pile caps and pier construction (R1P1)	0%	40	40	22-Jun-15	07-Aug-15	2		<div><div></div></div>	<div><div></div></div>				
Z2.KLH.1660	Ramp R1 - Pile caps and pier construction (R1P2)	0%	40	40	08-Aug-15	23-Sep-15	2			<div><div></div></div>				
Z2.KLH.1680	Ramp R1 - Ramp construction (Abutment R1 to R1P1)	0%	45	45	08-Aug-15	30-Sep-15	82			<div><div></div></div>				
KLH Bridge - Deck 3														
Z2.KLH.1360	VBP6 - Pile cap, pier construction	82.02%	16	89	26-Feb-15 A	10-Jul-15	7	<div><div></div></div>	<div><div></div></div>					
Z2.KLH.1370	Deck - East abutment to VBP8	0%	90	90	18-Sep-15	07-Jan-16	96					<div><div></div></div>		
Z2.KLH.1400	Deck - VBP7 to VBP8	0%	90	90	18-Sep-15	07-Jan-16	96					<div><div></div></div>		
Z2.KLH.1850	VBP7 - Pile caps, pier and pier head construction	37.66%	48	77	18-May-15 A	17-Aug-15	44	<div><div></div></div>	<div><div></div></div>					
Z2.KLH.1890	VBP8 - Pile caps, pier and pier head construction	0%	75	75	22-Jun-15	17-Sep-15	96		<div><div></div></div>	<div><div></div></div>				
KLH Bridge - Deck 2														
Z2.KLH.1144	Deck 2 Precast concrete beam production (10 beams)	82.05%	21	117	16-Mar-15 A	10-Jul-15	20	<div><div></div></div>	<div><div></div></div>					
Z2.KLH.1146	Deck 2 Precast concrete beam available on site	0%	0	0		10-Jul-15	17			10-Jul-15 ♦ Deck 2 Precast concrete beam available on site				
Z2.KLH.1159	Piling Rig Remobilisation Period due to TGC VO	0%	34	5	30-May-15 A	31-Jul-15	33	<div><div></div></div>	<div><div></div></div>					
Z2.KLH.1160	VBP4- Pre-bored H-pile piling works (9 Nos.)	0%	27	27	01-Aug-15	01-Sep-15	33			<div><div></div></div>				
Z2.KLH.1170	VBP4- Pile cap, pier & pier head construction	0%	80	80	31-Aug-15	04-Dec-15	33					<div><div></div></div>		
Z2.KLH.1220	VBP5- Pile cap, pier, pier head construction	90.48%	8	84	27-Feb-15 A	30-Jun-15	15	<div><div></div></div>	<div><div></div></div>					
Z2.KLH.1222	VBP5 - Backfilling & Road Work for TTA for VBP4	0%	14	14	02-Jul-15	17-Jul-15	310		<div><div></div></div>					
Z2.KLH.1260	Beam Erection - Above MTRC rail track (2C) (Bet P5 to P6)	0%	30	30	24-Jul-15	02-Oct-15	3			<div><div></div></div>				
KLH Bridge - East Ramp														
Z2.KLH.1410	East Ramp - excavation	22.08%	60	77	08-Apr-15 A	31-Aug-15	219	<div><div></div></div>	<div><div></div></div>					
Z2.KLH.1420	East Ramp base slab & Abutment wall	7.22%	90	97	12-May-15 A	07-Oct-15	129	<div><div></div></div>	<div><div></div></div>					
KLH Bridge - Ramp R2														
Z2.KLH.1523	VO 028 - Boundary Wall to Hse 190B structure	0%	24	24	22-Jun-15	20-Jul-15	1086		<div><div></div></div>	<div><div></div></div>				
Z2.KLH.1524	VO 028 - Boundary Wall to Hse 190B E&M, Drainage	0%	26	26	21-Jul-15	19-Aug-15	1086			<div><div></div></div>				
Z2.KLH.1525	Ramp R2 - mini piling (0.32m-30nos) works - R2P4-5 & R2	69.01%	22	71	19-Mar-15 A	17-Jul-15	40	<div><div></div></div>	<div><div></div></div>					
Z2.KLH.1530	Ramp R2 - Pile cap, abutment and pier construction	0%	120	120	18-Jul-15	08-Dec-15	40			<div><div></div></div>				
North Buffer Zone 2 (NBZ2) (within Zone 4) (Ch. 7925 to 8100)														
Site Formation														
Retaining Wall W76														
Structure Works														
Z4SF1110	Backfilling up to road finishes level	0%	12	12	22-Jun-15	06-Jul-15	63		<div><div></div></div>					
Bridge Construction														
New Ho Ka Yuen Footbridge														
General														
HKY1060	Steel Staircase & Ramp prefabrication (HKYB-TWSR-W	0%	30	30	22-Jun-15	27-Jul-15	193		<div><div></div></div>					
HKY1070	Steel Staircase & Ramp available on site (HKYB-TWSR-W side)	0%	0	0	28-Jul-15		193			♦ Steel Staircase & Ramp available on site (HKY				
HKY1080	Steel Staircase & Ramp prefabrication (HKYB-TWSR-E side)	0%	40	40	22-Jun-15	07-Aug-15	138		<div><div></div></div>	<div><div></div></div>				
HKY1090	Steel Staircase & Ramp available on site (HKYB-TWSR-E side)	0%	0	0	08-Aug-15		138			♦ Steel Staircase & Ramp available on				
HKY1100	Steel Bridge prefabrication (HKYB)	0%	50	50	22-Jun-15	19-Aug-15	239		<div><div></div></div>	<div><div></div></div>				
HKY1110	Steel Bridge available on site (HKYB)	0%	0	0	20-Aug-15		239			♦ Steel Bridge available on				
HKY1210	HKY footbridge design available for FLHY & TWSR-W section	86.56%	25	186	28-Oct-14 A	21-Jul-15	152	<div><div></div></div>	<div><div></div></div>					
TWSR-West/ FL Highway N/B Side Section														
HKY1278	HKYP7 - Remove existing structure	0%	30	30	18-Jul-15	21-Aug-15	4			<div><div></div></div>				
HKY1290	HKYP7 - Pre-bored H pile (6 nos)	0%	18	18	22-Aug-15	11-Sep-15	4				<div><div></div></div>			
HKY1310	HKYP7 - Pile cap, Pier and Pier Head	0%	30	30	12-Sep-15	19-Oct-15	4					<div><div></div></div>		
HKY1330	HKYAB4 - Pre-bored H pile (16 nos)	60%	22	55	12-May-15 A	17-Jul-15	4	<div><div></div></div>	<div><div></div></div>					
HKY1340	HKYAB4 - Pile Test	0%	28	28	18-Jul-15	14-Aug-15	19			<div><div></div></div>				
HKY1350	HKYAB4 - pile cap & abutment wall	0%	30	30	15-Aug-15	18-Sep-15	16			<div><div></div></div>				
HKY1360	HKYAB4 - Backfilling (~3m)	0%	12	12	19-Sep-15	05-Oct-15	16					<div><div></div></div>		
TWSR-East FL Highway S/B Side Section														
HKY1580	HKYP3 - Pile cap, Pier and Pier Head	86.25%	22	160	24-Nov-14 A	17-Jul-15	156	<div><div></div></div>	<div><div></div></div>					
HKY1590	Erect Stairecase (HKYFB-TWSR-E side)	0%	30	30	08-Aug-15	11-Sep-15	138			<div><div></div></div>				
HKY1600	Finishes Work	0%	30	30	12-Sep-15	19-Oct-15	213					<div><div></div></div>		
HKY1760	HKYP4 - Pile cap, Pier and Pier Head	88.66%	22	194	15-Oct-14 A	17-Jul-15	186	<div><div></div></div>	<div><div></div></div>					
HKY1800	HKYP5 - Pile cap, Pier and Pier Head	88.66%	22	194	15-Oct-14 A	17-Jul-15	186	<div><div></div></div>	<div><div></div></div>					
HKY1860	Erect Steel Ramp (HKYFB-TWSR-E side)	0%	75	75	12-Sep-15	11-Dec-15	138					<div><div></div></div>		
Demolition of Existing Ho Ka Yuen Footbridge														

Activity ID	Activity Name	Dur. % Complete	Rem. Duration	Original Duration	Start	Finish	Total Float	2015					
									Jun	Jul	Aug	Sep	
TWSR-East FL Highway S/B Side Section													
HKY1950	Erection of Temp Ramp at TWSR-E Existing Staircase location	82.5%	14	80	30-Mar-15 A	08-Jul-15	0						
HKY1960	Demolish existing TWSR-E existing Ramp	0%	60	60	09-Jul-15	16-Sep-15	0						
HKY1970	1 lane of slip road Y space available	0%	0	0		16-Sep-15	0						16-Sep-15 ♦ 1
TWSR-East Construction													
Drainage & Road Works													
TWSR-East FL Highway S/B Side Section													
TWSRE1000	Road work for New TWSR-East	17.33%	124	150	15-May-15 A	17-Nov-15	26						
ZONE 4 (Ch. 7925 to 8700)													
Bridge Construction													
New Wo Hop Shek Pedstrian & Cycle Bridge													
General													
WHS1040	Structure steel procurement (WHSB)	98.45%	3	194	10-Dec-14 A	22-Jun-15	86						
WHS1050	Steel Ramp prefabrication (WHSB)	0%	50	50	23-Jun-15	20-Aug-15	73						
WHS1060	Steel Ramp available on site (WHSB)	0%	0	0	21-Aug-15		73						♦ Steel Ramp available on
WHS1070	Steel Staircase prefabrication (WHSB)	0%	40	40	23-Jun-15	08-Aug-15	158						
WHS1080	Steel Staircase available on site (WHSB)	0%	0	0	10-Aug-15		158						♦ Steel Staircase available on site (V
TWSR-West/ FL Highway N/B Side Section													
WHS1170	WHSP2 - Pile Test	60.71%	11	28	27-May-15 A	30-Jun-15	55						
WHS1180	WHSP2 - Pile cap, Pier and Pier Head	0%	45	45	22-Jun-15	13-Aug-15	42						
WHS1220	WHSP6 - Pile cap, Pier and Pier Head	0%	45	45	05-Aug-15	25-Sep-15	42						
WHS1228	WHSP7 - Pile cap, Pier and Pier Head	0%	45	45	22-Jun-15	13-Aug-15	79						
WHS1260	WHSAB1 - pile cap & abutment wall	0%	30	30	14-Aug-15	17-Sep-15	97						
WHS1270	WHSAB1 - Backfilling (~4m)	0%	27	27	18-Sep-15	22-Oct-15	97						
WHS1898	WHSP3 - Pile cap, Pier and Pier Head	0%	30	30	28-Jul-15	31-Aug-15	34						
WHS1930	WHSP4 - Pile cap, Pier and Pier Head	0%	30	30	22-Jun-15	27-Jul-15	34						
WHS1970	WHSP5 - Pile cap, Pier and Pier Head	0%	30	30	01-Sep-15	07-Oct-15	34						
Crossing Fanling Highway Section													
WHS1470	WHSP1 - Pile cap, Pier and Pier Head	97.37%	8	304	18-Jun-14 A	30-Jun-15	101						
WHS1480	Erect WHS bridge Structure across fanling highway	0%	90	90	14-Aug-15	30-Nov-15	64						
TWSR-East FL Highway S/B Side Section													
WHS2090	North Abutment Wall (AW1) - Backfilling (~6m)	74.12%	22	85	02-Apr-15 A	17-Jul-15	87						
Slip Road Y Construction													
Drainage & Road Works													
TWSR-East FL Highway S/B Side Section													
RDZ41000	Construct Slip Rd Y (Ch8250-8370)(SA340) (Z4	96.77%	3	93	02-Mar-15 A	24-Jun-15	4						
RDZ41010	Construct Slip Rd Y (Ch8100-8250)(SA342) (Z4	0%	95	95	25-Jun-15	16-Oct-15	4						
RDZ41020	Construct Slip Rd Y @ existing TWSR-E junction	0%	70	70	31-Jul-15	23-Oct-15	63						
RDZ41082	Construct Slip Rd Y (Ch7925-8050)(SA3460) - 1 lane @	0%	120	120	17-Sep-15	19-Feb-16	0						
Underground Utility Works													
DN600 and DN900 Watermain													
DN1010	DN600 & DN900 watermain laying (Ch8100-8250)(SA342) (near Z4	0%	75	75	25-Jun-15	21-Sep-15	16						
VO - Wall 76A Construction													
Retaining Wall W76A													
TWSR-East FL Highway S/B Side Section													
W76A1020	W76A construction (bay 9)	0%	12	12	27-Jun-15	11-Jul-15	0						
W76A1026	WSD installation for Caltex (CS)	0%	5	5	22-Jun-15	26-Jun-15	0						
W76A1030	W76A backfilling work (bay 4,5,9)	0%	7	7	13-Jul-15	20-Jul-15	0						
W76A1050	Drainage work for Caltex access road	0%	150	150	21-Jul-15	18-Jan-16	844						
Fanling Highway Construction													
Drainage & Road Works													
TWSR-East FL Highway S/B Side Section													
HKY1412	Construct temp road for TWSR-East & FH S/B diversion	0%	21	21	07-Jul-15	30-Jul-15	63						
RDZ41005	Construct FH S/B Lane 1,2 (Ch8250-8370)(SA340) (Z4	68.09%	30	94	02-Mar-15 A	27-Jul-15	0						
RDZ41015	Construct FH S/B Lane 1,2 (Ch8100-8250)(SA342) (Z4	0%	72	72	28-Jul-15	22-Oct-15	0						
RDZ41025	Construct FH S/B Lane 1,2 @ existing TWSR-E junction	0%	60	60	31-Jul-15	10-Oct-15	127						
Other Works													
Retaining Wall W77A													
TWSR-East FL Highway S/B Side Section													
RWZ4.1060	Base slab & Wall (0-3m high)-RW77A (Ch.50-130)	61.11%	42	108	27-Feb-15 A	10-Aug-15	258						
RWZ4.1070	Backfilling (0-3m) - RW77A (Ch.50-130)	0%	30	30	11-Aug-15	14-Sep-15	333						
Retaining Wall W77B													
TWSR-East FL Highway S/B Side Section													
RWZ4.1100	Base slab & Wall (0-3m high)-RW77B (Ch 0-40)	0%	60	60	11-Aug-15	22-Oct-15	258						
TCSS Works													
TCSS Pre-Construction Works													
TCSS0100	Acquire Design Criteria from Drawing & procurement	44.88%	113	205	27-Feb-15 A	04-Nov-15	379						
DS50													
TCSS1590	Slow lane footing -DS50 (NB74)	0%	0	0		22-Jun-15	866						22-Jun-15 ♦ Slow lane footing -DS50 (NB74)
FADS8													
TCSS1620	Slow lane footing - FADS8 (CH8220, S/B)	0%	30	30	28-Jul-15	31-Aug-15	836						

22-Jun-15 ♦ Slow lane footing -DS50 (NB74)

**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 re-suspension 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.		+

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).		#
	3 m high temporary noise barrier along the northern edge of Bridge 12 at ground level (Figure 2b of the Environmental Permit).		#
	2 m high temporary noise barrier along the northern edge of Bridge 12 at bridge level (Figure 2b of the Environmental Permit).		#
	2.5 m high temporary noise barrier along Tai Wo Service Road West (Figure 2c of the Environmental Permit).		#
	3.5m and 7m high temporary noise barrier along Tai Wo Services Road West near Tai Hang (Figure 2c of the Environmental Permit).		#
	7 m high temporary noise barrier along Tai Wo Service Road West near Tai Wo Footbridge work area (Figure 2d of the Environmental Permit).		#
	7 m high temporary noise barrier near Kiu Tau Footbridge work area (Figure 2d of the Environmental Permit).		#
	2.5 m high temporary noise barrier near river diversion work area (Figure 2e of the Environmental Permit).		#

Water Quality – Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Water quality during construction	Demolition and reconstruction of bridges <ul style="list-style-type: none"> - Prevent off-site migration through use of sheet piles. - Minimise duration of works as far as practical. - All sewer and drainage connections should be sealed to prevent debris, soil, sand, etc, from entering public sewers/drains. - Site surface runoff should be settled to remove sand/silt before it is discharged into the existing storm drains. 	During construction	@
	Road Widening Works, Earthworks and Culvert Extension Works <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 settleable 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. - Sand traps, oil interceptors and other pollution prevention installations should be provided, properly cleaned and maintained. - Runoff from exposed working areas, unfinished slopes and from unlined temporary channels should be directed to stilling basins and/or silt traps before discharging to the drainage outfalls. - Regular inspections of stilling basins and/or silt traps are required to ensure that sediment is not conveyed into the existing drainage system. - Open stockpiles should be covered with a tarpaulin cover. - During the wet season, any exposed top soils should be covered with a tarpaulin, shotcreted or hydroseeded. - Sand and silt from wash-water from vehicle washing should be settled out before discharging into storm drains. - Fuels should be stored in bunded areas such that spillage can be easily collected. 		@

Waste – Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Implementation Status
Waste management during construction	General Waste <ul style="list-style-type: none"> - Transport of wastes off site as soon as possible. - Maintenance of accurate waste records. - Minimisation of waste generation for disposal (via reduction/recycling/re-use). - No on-site burning will be permitted. - Use of re-useable metal hoardings/signboards. 	During construction	@
	Vegetation from site clearance <ul style="list-style-type: none"> - Segregation of materials to facilitate disposal. - 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. - Appropriate stockpile management. 		V
	Excavated Materials <ul style="list-style-type: none"> - Segregation of materials to facilitate disposal / reuse. - Appropriate stockpile management. - Re-use of excavated material on or off site (where possible). - Special handling and disposal procedures in the event that contaminated materials are excavated. 		V
	Construction Wastes <ul style="list-style-type: none"> - Segregation of materials to facilitate recycling/reuse (within designated area in appropriate containers/stockpiles). - Appropriate stockpile management. - Planning to reduce over ordering and waste generation. - Recycling and re-use of materials where possible (e.g. metal, wood from formwork) - For material which cannot be re-used/recycled, collection should be carried out by an approved waste contractor for landfill disposal. 		V
	Bentonite Slurries <ul style="list-style-type: none"> - Bentonite slurries should be reused as far as possible. - Disposal in accordance with Practice Note For Professional Persons ProPECC PN 1/94. 		#

	<p>Chemical Wastes</p> <ul style="list-style-type: none"> - Storage within locked, covered and bunded area. - The storage area shall not be located adjacent to sensitive receivers e.g. drains. - Minimise waste production and recycle oils/solvents where possible. - A spill response procedure shall be in place and absorption material available for minor spillages. - Use appropriate and labelled containers. - Educate site workers on site cleanliness/waste management procedures. - If chemical wastes are to be generated, the contractor must register with EPD as a chemical waste producer. - The chemical wastes shall be collected by a licensed chemical waste collector. 		@
	<p>Municipal Wastes</p> <ul style="list-style-type: none"> - Waste shall be stored within a temporary refuse collection facility, in appropriate containers prior to collection and disposal. - 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	<p>Accurate Delineation of Works Area</p> <ul style="list-style-type: none"> - Boundaries of proposed works areas shall be clearly identified and separated from external areas by a physical barrier to prevent encroachment of adjacent habitats. - Individual trees which fall within the works areas but which work plans do not require removal are to be retained and fenced off to maximize protection. 	During construction	V
	<p>Vegetation Clearance</p> <ul style="list-style-type: none"> - No fires shall be lit within the works area for the purpose of burning cleared vegetation. - The Contractor shall give consideration to mulching the cleared vegetation for recycling within the works area / adjacent land. 		V
	<p>Dust generation</p> <p>There are a number of measures which shall be taken as specified in the Air Pollution Control (Construction Dust) Regulation on 'Dust Control Requirements, including the following key measures to be applied during construction:</p> <ul style="list-style-type: none"> - Vehicle washing facilities to be provided at every discernible or designated vehicle exit point; - All temporary site access roads shall be sprayed with water to suppress dust as necessary; - All dusty materials should be sprayed with water immediately prior to any handling; and - All debris should be covered entirely by impervious sheeting or stored in a sheltered debris collection area. 		V
	<p>Surface Run-off</p> <p>In general, mitigation measures shall be in accordance with ProPECC PN1/94 on 'Construction Site Drainage'. Key measures include:</p> <ul style="list-style-type: none"> - Bund and cover stock piles to avoid run-off; - Channel any run-off through a system of oil, grease and sediment / silt traps and reuse water on site where ever practical; - All vehicle maintenance to be undertaken within a bunded area; and - Maximise vegetation retention on-site to maximise absorption (minimise transport). 		V

Landscape and Visual Impact – Schedule of Recommended Mitigation Measures

Impact	Mitigation Measures	Timing	Responsibility
Landscape & Visual during construction	Preservation of Existing Vegetation - Trees identified for retention within the project limit would be protected during the works; - The tree transplanting and planting works shall be implemented by approved Landscape Contractors.	During construction	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 VSRs.		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.		#
	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.		#

Legend:

V = implemented;

x = not implemented;

@ = partially implemented;

+ = recommended and immediately implemented during the site inspection by the Contractor;

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

= to be implemented.

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
AM2	317.8 µg/m ³	500 µg/m ³

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

Location	Action Level	Limit Level
AM2	200.7 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
M2	When one documented complaint, related to 0700 – 1900 hours on normal weekdays, is received from any one of the sensitive receivers	75 dB(A)
M3*		65/70 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**

Total Suspended Particulates (TSP) Sampler Field Calibration Report

Station Fanling Government Secondary School (AM2)Operator: Shum Kam YuenDate: 27-May-15Next Due Date: 27-Jul-15Model No: TE-5170Verified Against: O.T.S -- 988Equipment No.: A-001-74TExpiration Date: 28-May-2015

Ambient Condition					
Temperature, Ta	303.0	Kelvin	Pressure, Pa	756.5	mmHg

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

Calibration of TSP Sampler					
Calibration Point	H in. of water	$[H \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m ³ /min) X - axis	W in. of oil	$[\Delta W \times (Pa/760) \times (298/Ta)]^{1/2}$ Y-axis
1	6.8	2.58	1.31	4.6	2.12
2	5.7	2.36	1.20	3.7	1.90
3	4.6	2.12	1.08	3.1	1.74
4	3.6	1.88	0.96	2.4	1.53
5	2.4	1.53	0.78	1.5	1.21

By Linear Regression of Y on X

Slope, mw = 1.6870Intercept, bw = -0.0983Correlation Coefficient* = 0.9988

Set Point Calculation	
From the TSP Field Calibration Curve, take Qstd = 1.21 m ³ /min (43 CFM)	
From the Regression Equation, the "Y" value according to	
$m \times Qstd + b = [W \times (Pa/760) \times (298/Ta)]^{1/2}$	
Therefore, Set Point W = $(m \times Qstd + b)^2 \times (760 / Pa) \times (Ta / 298) =$ <u>3.86</u>	

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

Remarks: _____

QC Reviewer: HW CheungSignature: Date: 27/5/15



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

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Dec 09, 2014 Rootmeter S/N 0438320 Ta (K) - 293
Operator Tisch Orifice I.D. - 0843 Pa (mm) - 755.65

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.4010	3.2	2.00
2	NA	NA	1.00	0.9950	6.4	4.00
3	NA	NA	1.00	0.8830	7.9	5.00
4	NA	NA	1.00	0.8420	8.8	5.50
5	NA	NA	1.00	0.6960	12.7	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
1.0069	0.7187	1.4221	0.9957	0.7107	0.8806
1.0027	1.0077	2.0112	0.9915	0.9965	1.2454
1.0006	1.1332	2.2486	0.9894	1.1206	1.3924
0.9994	1.1870	2.3584	0.9883	1.1738	1.4603
0.9942	1.4285	2.8443	0.9831	1.4126	1.7612
Qstd slope (m) = 1.99924			Qa slope (m) = 1.25189		
intercept (b) = -0.01238			intercept (b) = -0.00766		
coefficient (r) = 0.99990			coefficient (r) = 0.99990		
y axis = SQRT[H2O(Pa/760) (298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

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

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

For subsequent flow rate calculations:

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

EQUIPMENT CALIBRATION RECORD

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

Standard Equipment

Equipment: Rupprecht & Patashnick TEOM®
 Venue: Cyberport (Pui Ying Secondary School)
 Model No.: Series 1400AB
 Serial No: Control: 140AB219899803
 Sensor: 1200C143659803 K_o: 12500
 Last Calibration Date*: 7 May 2015

*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	08-05-15	09:15 - 10:15	26.9	76	0.04417	1763	29.38
2	08-05-15	10:15 - 11:15	26.9	76	0.04625	1851	30.85
3	08-05-15	11:15 - 12:15	26.9	77	0.04513	1805	30.08
4	08-05-15	12:15 - 13:15	27.1	77	0.04828	1926	32.10

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: 8 May 2016

Remarks:

QC Reviewer: YW Fung

Signature: 

Date: 11 May 2015

EQUIPMENT CALIBRATION RECORD

Type: Laser Dust Monitor
 Manufacturer/Brand: SIBATA
 Model No.: LD-3B
 Equipment No.: A.005.14a
 Sensitivity Adjustment Scale Setting: 786 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*: 7 May 2015

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): 786 CPM
 Sensitivity Adjustment Scale Setting (After Calibration): 786 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	13-05-15	13:15 - 14:15	27.4	78	0.05084	2178	36.30
2	13-05-15	14:15 - 15:15	27.5	78	0.05236	2243	37.38
3	13-05-15	15:15 - 16:15	27.5	78	0.05345	2295	38.25
4	13-05-15	16:15 - 17:15	27.4	77	0.05272	2261	37.68

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): 0.0014
 Correlation coefficient: 0.9972

Validity of Calibration Record: 13 May 2016

Remarks:

QC Reviewer: YW Fung

Signature: 

Date: 14 May 2015

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*: 10 May 2014

*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	26-07-14	10:30 - 11:30	28.6	77	0.04931	1971	32.85
2	26-07-14	11:45 - 12:45	28.6	77	0.05142	2052	34.20
3	26-07-14	13:15 - 14:15	28.7	77	0.05589	2243	37.38
4	26-07-14	14:40 - 15:40	28.8	78	0.05293	2116	35.27

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 2015

Remarks:

QC Reviewer: YW Fung

Signature: 

Date: 28 July 2014



CERTIFICATE OF CALIBRATION

Certificate No.: 14CA1106 04-01 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: 06-Nov-2014

Date of test: 07-Nov-2014

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	15-Jun-2015	CIGISMEC
Signal generator	DS 360	33873	09-Apr-2015	CEPREI
Signal generator	DS 360	61227	09-Apr-2015	CEPREI

Ambient conditions

Temperature: 22 ± 1 °C
Relative humidity: 65 ± 10 %
Air pressure: 1010 ± 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 $\pm 20\%$.
- 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 responsiveness of the Sound Level Meter.

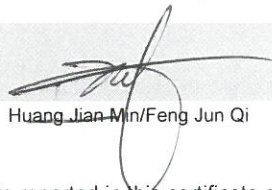
Test results

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: 08-Nov-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.: 14CA0702 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: 02-Jul-2014

Date of test: 03-Jul-2014

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Multi function sound calibrator	B&K 4226	2288444	20-Jun-2015	CIGISMEC
Signal generator	DS 360	33873	09-Apr-2015	CEPREI
Signal generator	DS 360	61227	09-Apr-2015	CEPREI

Ambient conditions

Temperature: 21 ± 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 $\pm 20\%$.
3. The acoustic calibration was performed using an B&K 4226 sound calibrator and corrections was applied for the difference between the free-field and pressure responsess of the Sound Level Meter.

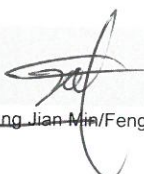
Test results

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

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

Actual Measurement data are documented on worksheets.

Approved Signatory:


Huang Jian Min / Feng Jun Qi

Date: 04-Jul-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.: 14CA1106 04-02

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: 06-Nov-2014

Date of test: 07-Nov-2014

Reference equipment used in the calibration

Description:	Model:	Serial No.	Expiry Date:	Traceable to:
Lab standard microphone	B&K 4180	2412857	13-May-2015	SCL
Preamplifier	B&K 2673	2239857	10-Apr-2015	CEPREI
Measuring amplifier	B&K 2610	2346941	08-Apr-2015	CEPREI
Signal generator	DS 360	61227	09-Apr-2015	CEPREI
Digital multi-meter	34401A	US36087050	17-Dec-2014	CEPREI
Audio analyzer	8903B	GB41300350	07-Apr-2015	CEPREI
Universal counter	53132A	MY40003662	11-Apr-2015	CEPREI

Ambient conditions

Temperature: 22 ± 1 °C
Relative humidity: 65 ± 10 %
Air pressure: 1010 ± 10 hPa

Test specifications

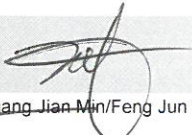
- The Sound Calibrator has been calibrated in accordance with the requirements as specified in IEC 60942 1997 Annex B and the lab calibration procedure SMTP004-CA-156.
- The calibrator was tested with its axis vertical facing downwards at the specific frequency using insert voltage technique.
- The results 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: 08-Nov-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

Contract No. HY/2012/06
Widening of Fanling Highway – Tai Hang to Wo Hop Shek Interchange
Impact Monitoring and Audit Schedule for June 2015

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

Contract No. HY/2012/06
Widening of Fanling Highway – Tai Hang to Wo Hop Shek Interchange
Tentative Impact Monitoring and Audit Schedule for July 2015

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

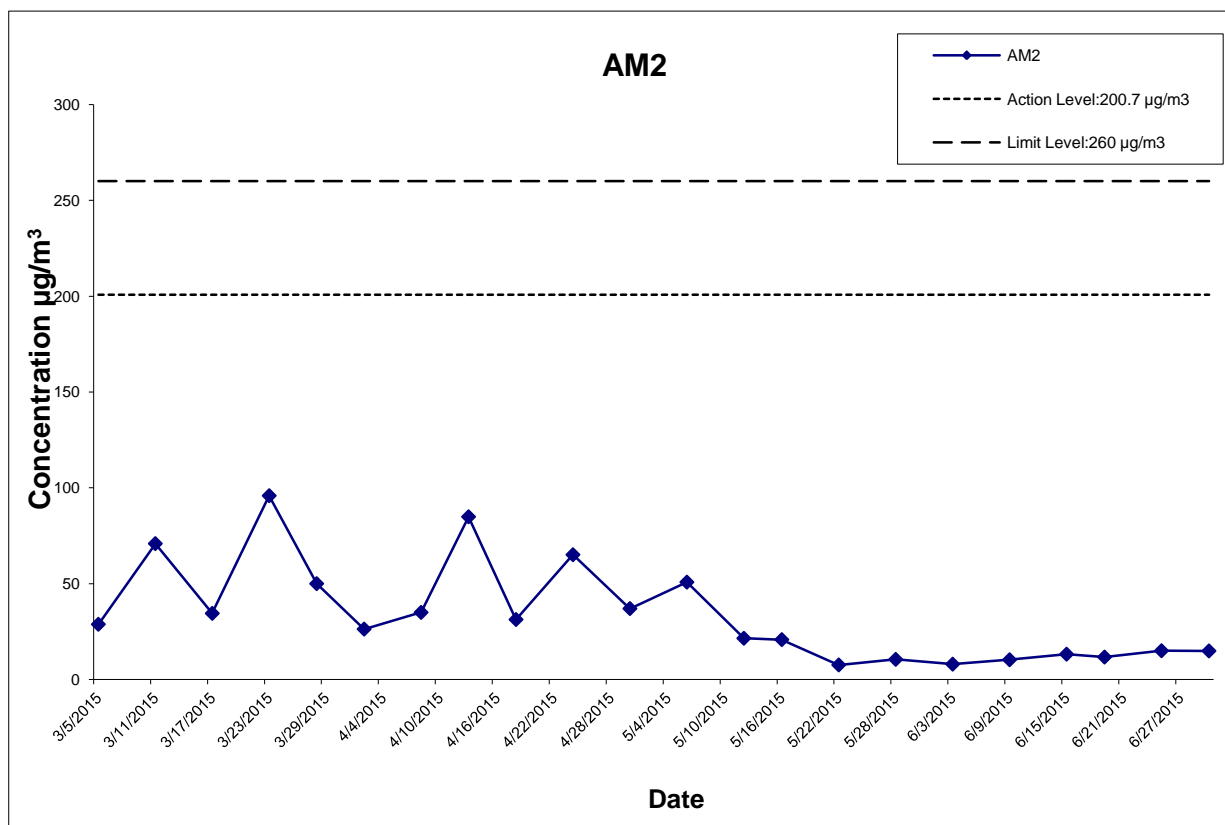
The schedule is subject to change due to unforeseeable circumstances (e.g. adverse weather, etc)

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

Appendix G
Impact Air Quality Monitoring Results

24-hour TSP Monitoring Results at Station AM2 (Fanling Government Secondary School)

Date	Weather Condition	Air Temp. (°C)	Atmospheric Pressure(hPa)	Flow Rate (m³/min.)		Av. flow (m³/min)	Total vol. (m³)	Filter Weight (g)		Particulate weight(g)	Elapse Time		Sampling Time(hrs.)	Conc. (µg/m³)	Action Level (µg/m³)	Limit Level (µg/m³)
				Initial	Final			Initial	Final		Initial	Final				
3-Jun-15	Sunny	29.9	1010.2	1.261	1.261	1.261	1815.8	2.8858	2.9004	0.0146	5618.03	5642.03	24.00	8.0	200.7	260
9-Jun-15	Sunny	29.9	1007.2	1.314	1.314	1.314	1892.2	2.9033	2.9228	0.0195	5642.03	5666.03	24.00	10.3	200.7	260
15-Jun-15	Sunny	30.2	1009.4	1.314	1.314	1.314	1892.2	2.7976	2.8226	0.0250	5666.03	5690.03	24.00	13.2	200.7	260
19-Jun-15	Fine	30.8	1006.1	1.314	1.314	1.314	1892.2	2.8802	2.9023	0.0221	5690.03	5714.03	24.00	11.7	200.7	260
25-Jun-15	Rainy	28.3	1005.8	1.314	1.314	1.314	1892.2	2.8790	2.9074	0.0284	5714.03	5738.03	24.00	15.0	200.7	260
30-Jun-15	Sunny	30.5	1007.9	1.314	1.314	1.314	1892.2	2.8013	2.8294	0.0281	5738.03	5762.03	24.00	14.9	200.7	260
													Average	11.6		
													Min	8.0		
													Max	15.0		



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CONTRACT NO. HY/2012/06
 WIDENING OF FANLING HIGHWAY
 - TAI HANG TO WO HOP SHEK INTERCHANGE

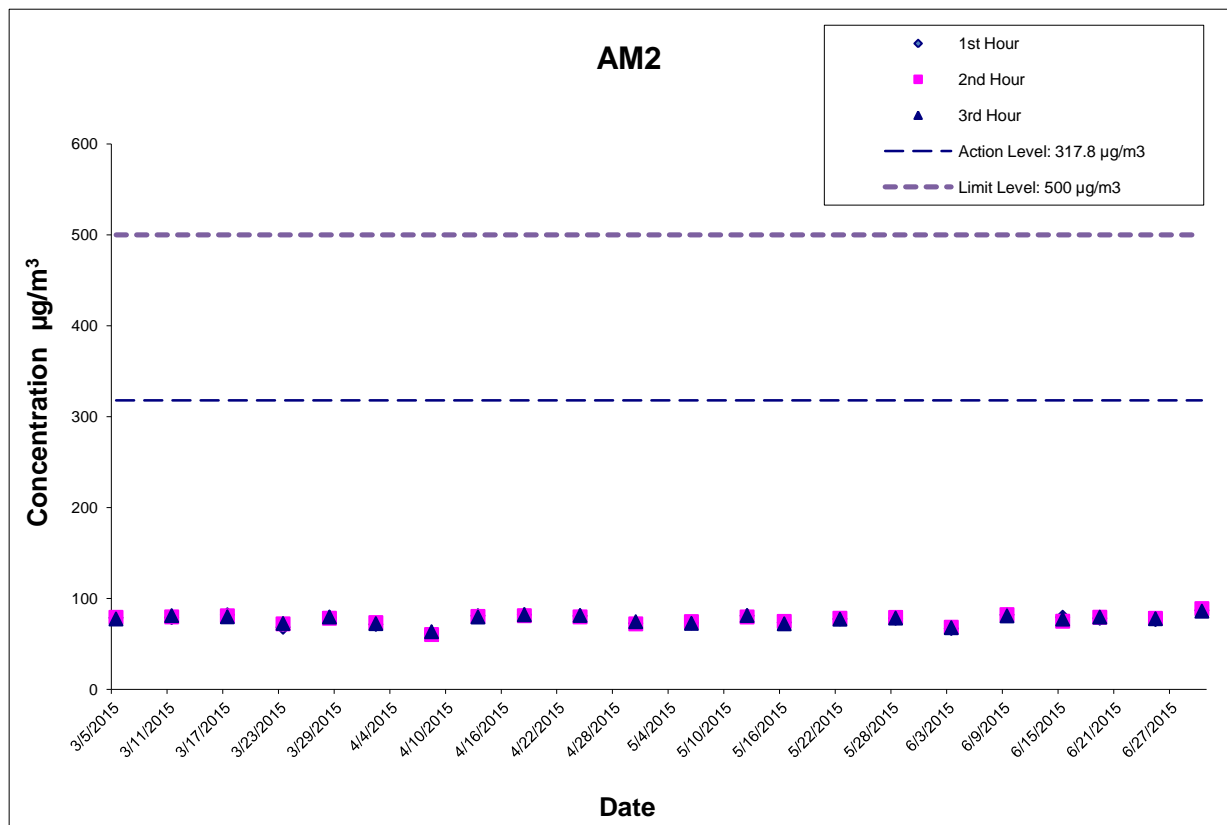


Graphical Presentation of Impact 24-hour TSP Monitoring Results

Appendix G
Impact Air Quality Monitoring Results

1-hour TSP Monitoring Results at Station AM2
(Fanling Government Secondary School)

Date	Start Time (hh:mm)	1st Hour Conc. (µg/m³)	2nd Hour Conc. (µg/m³)	3rd Hour Conc. (µg/m³)
3-Jun-15	9:50	66.9	68.2	67.7
9-Jun-15	12:49	81.9	82.1	80.7
15-Jun-15	11:30	79.2	74.8	77.2
19-Jun-15	11:28	78.1	79.2	79.4
25-Jun-15	10:02	76.7	78.0	77.6
30-Jun-15	10:00	86.8	88.7	85.9
			Average	76.5
			Min	66.9
			Max	82.1



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CONTRACT NO. HY/2012/06
 WIDENING OF FANLING HIGHWAY
 - TAI HANG TO WO HOP SHEK INTERCHANGE



Graphical Presentation of Impact 1-hour TSP Monitoring Results

Project No.: 60307376

Date: Jul-15

Appendix G

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



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[Our Services](#)

[Visitors Figures](#)

[Press releases](#)

[Today's Weather](#)

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Tsunamis](#)

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Daily Extract of Meteorological Observations , June 2015

Year Month

Day	Hong Kong Observatory							
	Mean Pressure (hPa)	Air Temperature			Mean Dew Point (deg. C)	Mean Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)
		Absolute Daily Max (deg. C)	Mean (deg. C)	Absolute Daily Min (deg. C)				
01	1007.9	31.2	29.3	28.4	26.2	83	82	10.6
02	1009.3	32.5	29.6	26.5	25.8	81	81	5.4
03	1010.2	33.2	29.9	28.0	25.1	76	68	Trace
04	1008.9	32.8	29.8	27.9	25.2	76	59	0.0
05	1007.3	31.4	29.2	27.8	25.2	79	77	0.0
06	1007.7	32.4	29.5	27.2	25.3	78	78	0.8
07	1009.0	32.1	29.8	28.1	25.4	78	65	Trace
08	1008.1	32.2	29.8	27.8	25.4	77	73	1.6
09	1007.2	31.5	29.9	28.4	25.5	77	72	Trace
10	1007.3	32.0	29.9	27.3	26.1	80	83	8.1
11	1008.2	32.7	30.3	27.9	26.1	78	79	0.8
12	1008.5	31.7	28.8	25.6	26.0	85	79	96.8
13	1007.9	32.3	29.9	28.5	25.5	78	76	0.4
14	1008.3	33.0	29.9	27.3	25.6	78	77	1.5
15	1009.4	34.0	30.2	26.7	25.6	77	48	5.2
16	1008.2	33.4	30.1	28.1	25.3	76	39	0.0
17	1006.0	33.0	30.2	28.5	25.4	76	40	0.0
18	1005.3	34.2	30.7	28.5	25.2	73	52	0.0
19	1006.1	34.2	30.8	28.6	25.2	73	40	Trace
20	1006.5	34.1	30.9	29.2	26.1	76	56	0.0
21	1005.1	31.9	28.5	26.3	26.7	90	80	39.9
22	1003.2	30.0	27.9	26.7	26.6	93	87	18.1
23	1003.9	29.1	27.3	26.0	26.1	93	88	51.3
24	1005.3	30.7	28.3	26.1	26.2	89	86	9.7
25	1005.8	29.7	28.3	26.9	26.3	89	88	28.5
26	1006.1	32.3	29.5	27.1	26.0	82	68	10.4
27	1008.3	32.5	30.4	29.1	26.1	78	53	0.0
28	1009.5	33.6	30.4	27.4	25.7	76	64	1.9
29	1007.9	33.3	30.5	28.9	25.5	75	54	Trace
30	1006.0	32.5	30.4	29.1	25.8	76	66	Trace
Mean/Total	1007.3	32.3	29.7	27.7	25.7	80	69	291.0
Normal [§]	1006.1	30.2	27.9	26.2	24.6	82	77	456.1

§ 1981-2010 Climatological Normal

Educational Resources
Publications
Media and Information Services
Audio/Video Webpage
Electronic services
World Meteorological Day
World Meteorological Organization-Official City Weather Forecasts
World Meteorological Organization-Global Severe Weather
Public forms
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Access to information
Tender notices
Links
Important notices
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**APPENDIX I
IMPACT DAYTIME CONSTRUCTION NOISE
MONITORING RESULTS AND THEIR
GRAPHICAL PRESENTATION**

Appendix I Impact Daytime Construction Noise Monitoring Results

Location : M2 (West Tai Wo - Free Field)

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

Date	Measured Noise Level for 30-min, dB(A)				Limit Level, dB(A)	Exceedance (Y/N)
	Start Time	Leq*	L10*	L90*		
3-Jun-15	10:35	69.3	71.5	66.5	75	N
9-Jun-15	15:05	68.9	70.5	66.2	75	N
15-Jun-15	13:09	69.4	72.5	67.2	75	N
25-Jun-15	10:49	69.2	70.8	65.9	75	N
30-Jun-15	10:30	69.2	71.5	67.0	75	N
	Min	68.9	70.5	65.9		
	Max	69.4	72.5	67.2		
	Average	69.2	71.4	66.6		

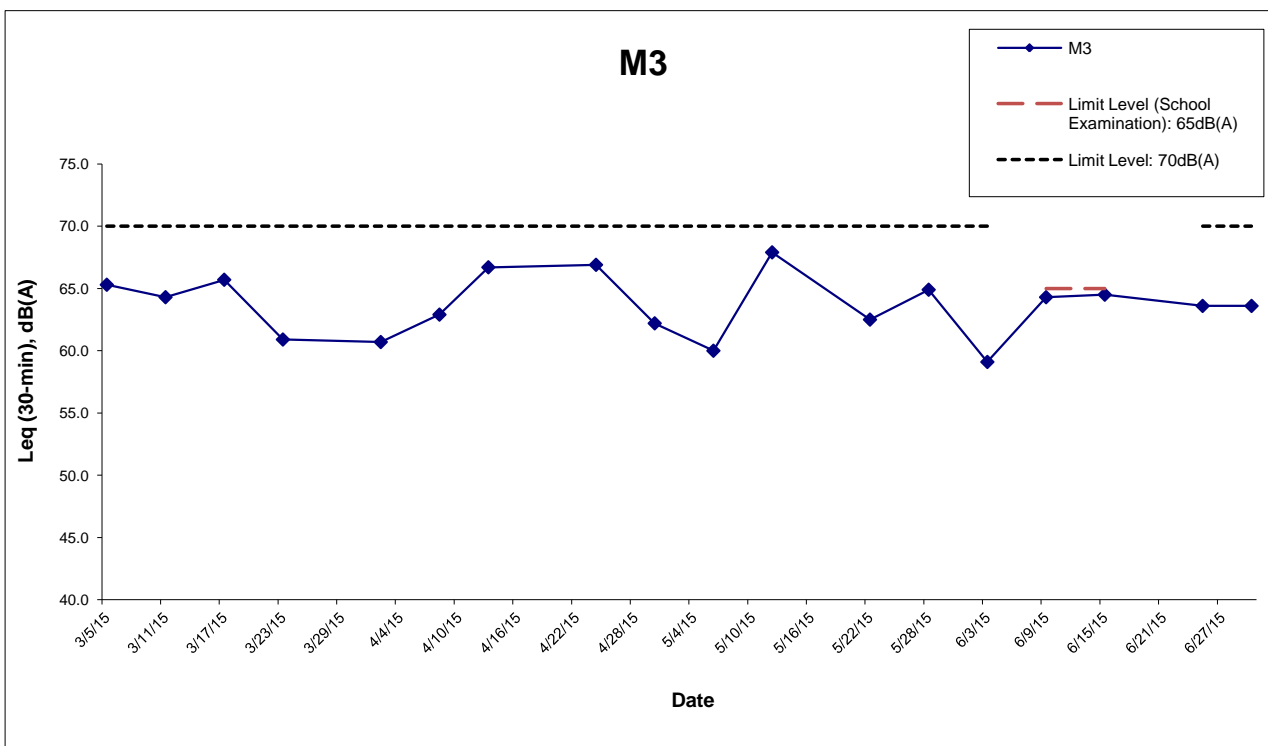
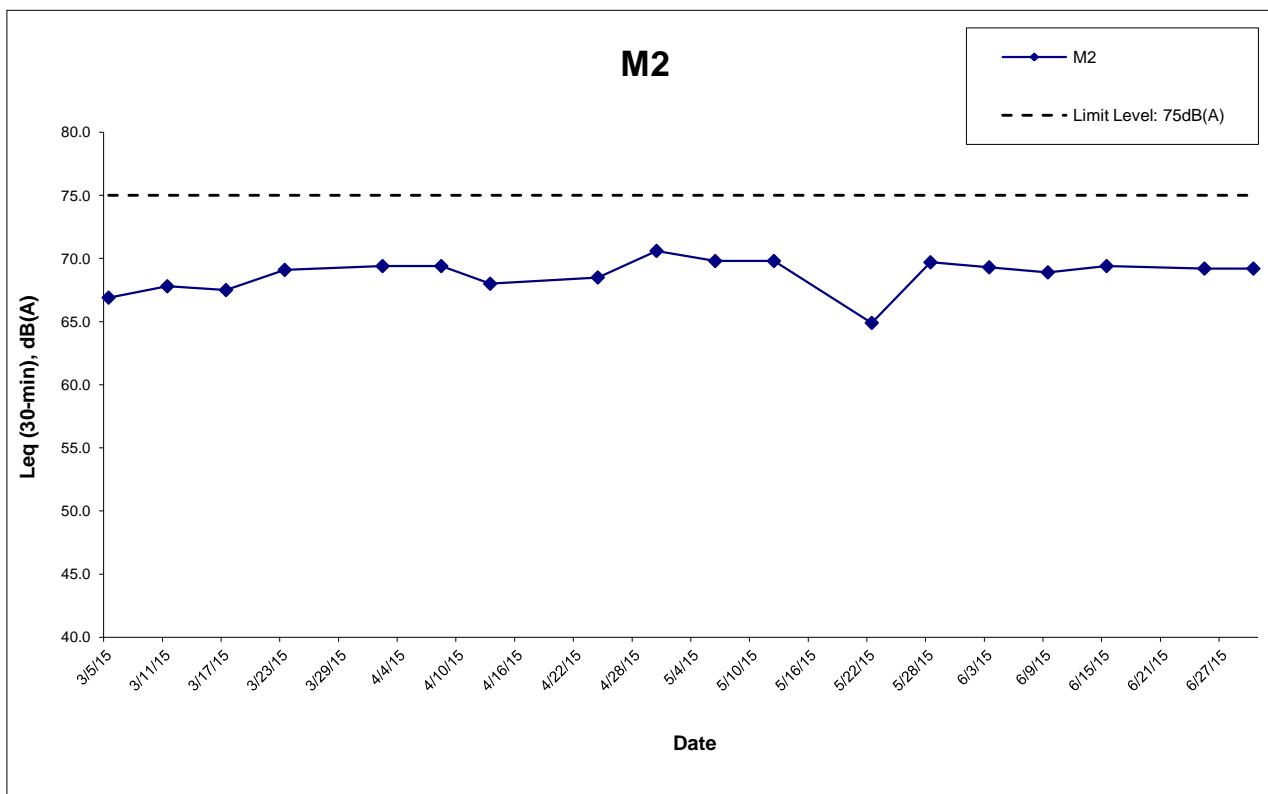
Location : M3 (Fanling Government Secondary School- Façade)

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

Date	Measured Noise Level for 30-min, dB(A)				Limit Level, dB(A)^	Exceedance (Y/N)
	Start Time	Leq	L10	L90		
3-Jun-15	9:50	59.1	60.0	57.0	70	N
9-Jun-15	15:35	64.3	66.0	60.5	65	N
15-Jun-15	13:45	64.5	66.5	61.5	65	N
25-Jun-15	10:00	63.6	66.0	60.2	70	N
30-Jun-15	9:50	63.6	64.5	60.0	70	N
	Min	59.1	60.0	57.0		
	Max	64.5	66.5	61.5		
	Average	63.4	65.1	60.1		

* +3dB(A) Façade effect correction included

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



Remark:

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

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CONTRACT NO. HY/2012/06
 WIDENING OF FANLING HIGHWAY
 - TAI HANG TO WO HOP SHEK INTERCHANGE



Graphical Presentation of Impact Daytime Construction Noise Monitoring Results

Project No.: 60307376

Date: Jul-15

Appendix 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**

Site Inspection Summary

Inspection Information

Contract No.	HY/2012/06
Date:	2 June 2015
Time:	14:00
Inspection No.:	81

Non-compliance

Nil

Observations

Follow-up Observation(s)

Nil.

New Observation(s)

Nil.

Reminders

1. The Contractor was reminded to cover the dusty stockpile entirely with tarpaulin for dust suppression.
2. The Contractor was reminded to set up the wheel washing bay properly to avoid runoff from wheel washing.

Remarks

Nil

Inspection Information

Contract No.	HY/2012/06
Date:	9 June 2015
Time:	14:00
Inspection No.:	82

Non-compliance

Nil

Observations

<p><u>Follow-up Observation(s)</u></p> <p>Nil.</p> <p><u>New Observation(s)</u></p> <ol style="list-style-type: none">1. Water with oil mixture accumulated inside the drip trays were observed at SA346. The Contractor should remove the water mixture and dispose of as chemical waste properly.2. General refuse accumulated under the footbridge at SA346. The Contractor should clean up the refuse regularly. <p><u>Reminders</u></p> <p>Nil.</p>

Remarks

Nil

Inspection Information

Contract No.	HY/2012/06
Date:	18 June 2015
Time:	14:00
Inspection No.:	83

Non-compliance

Nil

Observations

<p><u>Follow-up Observation(s)</u></p> <ol style="list-style-type: none">1. The water mixture has been removed and collected as chemical waste. (Closed)2. The general refuse has been cleared. (Closed) <p><u>New Observation(s)</u></p> <p>Nil.</p> <p><u>Reminder(s)</u></p> <p>The Contractor was reminded to enhance the water spraying frequency for dust suppression for the construction site.</p>

Remarks

Nil

EM&A Environmental Inspection Record
WIDENING OF TOLO HIGHWAY (STAGE 2)
BETWEEN TAI HANG AND WO HOP SHEK INTERCHANGE



Inspection Information

Contract No.	HY/2012/06
Date:	23 June 2015
Time:	14:00
Inspection No.:	84

Non-compliance

Nil

Observations

<p><u>Follow-up Observation(s)</u></p> <p>Nil.</p> <p><u>New Observation(s)</u></p> <p>Nil.</p> <p><u>Reminder(s)</u></p> <p>Nil</p>
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Remarks

Nil

Inspection Information

Contract No.	HY/2012/06
Date:	30 June 2015
Time:	14:00
Inspection No.:	85

Non-compliance

Nil

Observations

<p><u>Follow-up Observation(s)</u></p> <p>Nil.</p> <p><u>New Observation(s)</u></p> <p>1. Muddy surface runoff was observed on the public road from the site area near Ho Ka Yuen Footbridge. The Contractor should clear the runoff from the public road and ensure there are sufficient sand bundings surrounding the site area.</p> <p><u>Reminder(s)</u></p> <p>Nil.</p>
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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 the ET this month	Total no. followed up by the ET since project commencement
Environmental complaints	19 December 2013	EPD referred a complaint from Lot no. 116 of Fui Sha Wai at Tai Hang of Tai Po which is concerned about the construction noise and diesel-like smell generated from construction activities nearby which caused nuisance and health problems on 19 December 2013 morning.	Closed	0	5
	24 February 2014	EPD referred an air-and-odour complaint on 24 February 2014. The complainant complained about the construction site located near the bus stop in Fui Sha Wai, Tai Hang, Tai Wo Service Road West. When construction works were carried out, odour, white smoke and dust were generated. The complainant asked for follow-up actions.	Closed		

	Date Received	Subject	Status	Total no. followed up by the ET this month	Total no. followed up by the ET since project commencement
	23 October 2014	<p>EPD referred an air complaint on 24 October 2014.</p> <p>A resident complained against the excavation works of Tai Wo Service Road West between Nam Wah Po & Tai Hang Tsuen, which have piled up high stockpiles, causing serious dust nuisance to his house.</p> <p>The resident also complained that the stockpiles have not been covered and watered properly. He now requires the EPD to follow up.</p> <p>The location of complaint is near Lamppost Location EB5717.</p>	Closed		
	31 December 2014	<p>EPD referred a water complaint on 31 December 2014.</p> <p>The complainant complained about the muddy river outside Tai Hang Village Office on 29 December 2014. It was suspected that the muddy water was discharged from the construction works of the Project.</p> <p>He required the EPD to follow up.</p>	Closed		

	Date Received	Subject	Status	Total no. followed up by the ET this month	Total no. followed up by the ET since project commencement
	25 March 2015	<p>EPD referred a water complaint on 25 March 2015.</p> <p>The complainant complained about the generation of the smell of gasoline from the Widening of Fanling Highway construction site on Tai Wo Service Road West, causing serious nuisance to nearby houses.</p> <p>The situation has continued for a few weeks and she asked the EPD to follow up as soon as possible.</p>	Closed		
Notification of summons	-	-	-	0	0
Successful Prosecutions	-	-	-	0	0