

Highways Department

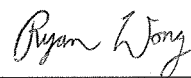

Agreement No. CE 20/2009 (EP)

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

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

**Quarterly EM&A Summary Report
for November 2009 - January 2010**

[02/2010]

	Name	Signature
Prepared & Checked:	Ryan Wong	
Reviewed & Approved:	Y T Tang	

Version:	Rev. 0	Date: 26 February 2010
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The information contained in this report is, to the best of our knowledge, correct at the time of printing. The interpretation and recommendations in the report are based on our experience, using reasonable professional skill and judgment, and based upon the information that was available to us. These interpretations and recommendations are not necessarily relevant to any aspect outside the restricted requirements of our brief. This report has been prepared for the sole and specific use of our client and AECOM Environment accepts no responsibility for its use by others.

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25 February 2010
By Fax (2805 5028) and Post

Attn.: Mr. Tony Wong

Dear Sir,

**Widening of Tolo Highway between
Island House Interchange and Tai Hang
Environmental Permit No.: EP-324/2008
Submission of Quarterly EM&A Summary Report for November 2009 - January 2010
(Stage 1)**

We refer to the revised Quarterly EM&A Summary Report for November 2009 - January 2010 for the Project received on 25 February 2010 submitted by ET via email. We confirm we have no comment.

Yours faithfully
for MOTT MACDONALD HONG KONG LIMITED

A handwritten signature in black ink, appearing to read 'Joseph Chan'.

Joseph Chan
IEC

c.c. Sr Engr 3/Tolo Highway, HyD – Mr. C K Chiang
ETL, AECOM – Mr. Y T Tang

(Fax: 2761 4864)
(Fax: 2891 0305)

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EXECUTIVE SUMMARY

The proposed widening of Tolo Highway and Fanling Highway between Island House Interchange and Fanling (the Project) is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO) and is governed by an Environmental Permit (EP-324/2008)(EP). The Project aims to widen Tolo Highway and Fanling Highway to dual 4-lane carriageway in order to alleviate the current traffic congestion problems and to cope with the increasing transport demands to and from the urban areas and also cross boundary traffic.

The construction works for this Project will be delivered in 2 stages i.e. Stage 1 (between Island House Interchange and Tai Hang) and Stage 2 (between Tai Hang and Wo Hop Shek Interchange). The construction works of Stage 1 were commenced on 23 November 2009 and will tentatively be completed in mid 2013; while construction programme of Stage 2 is currently under review. This report focuses on Stage 1 of the Project only.

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

This report documents the findings of EM&A works conducted in the period between 23 November 2009 and 31 January 2010. As informed by the Contractor, construction activities in the reporting period were:

- Ground investigation;
- Site clearance;
- Erection of hoarding and fencing;
- Tree transplanting;
- Formation of vehicular access;
- Trial pit excavation;
- Construction of temporary noise barrier required in Figure 2a of the EP;
- Tree felling;
- Bored piling;
- Soil nail works;
- Demolition of existing boxculvert;
- Excavation;
- Sheetpile installation; and
- Construction of pier.

Environmental Monitoring Works

A summary of monitoring and audit activities conducted in the reporting quarter is listed below:

24-hour TSP monitoring	12 sessions (AM1, AM3 and AM4) /11 sessions (AM2)
1-hour TSP monitoring	36 sessions
Daytime Noise monitoring	10 regular sessions and 2 ad-hoc sessions
Environmental Site inspection	10 sessions

Breaches of Action and Limit Levels for Air Quality

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

Breaches of Action and Limit Levels for Noise

There were three (3) noise related complaints followed up by Environmental Team in the reporting period, hence three Action Level exceedances of noise were recorded.

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

Complaint, Notification of Summons and Successful Prosecution

Four (4) environmental complaints were followed up by Environmental Team in the reporting period.

No notification of summons and successful prosecution were received in the reporting quarter.

1 INTRODUCTION

Background

- 1.1. Tolo Highway and Fanling Highway are expressways in the North East New Territories connecting Sha Tin, Tai Po and Fanling. These highways form a vital part of the strategic Route 1, which links Hong Kong Island to Shenzhen. At present, this section of Route 1 is dual 3-lane carriageway. However, at several major interchanges along this section of Route 1, the highway is only dual-2 lane. Severe congestion is a frequent occurrence during peak periods, particularly in the Kowloon bound direction.
- 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.
- 1.3. The Project is a designated project and is governed by an Environmental Permit (EP-324/2008)(EP).
- 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, including realignment of various slip roads;
 - (iii) Modification and reconstruction of highways, vehicular bridges, underpasses and footbridges.
- 1.5. The construction works for this Project will be delivered in 2 stages i.e. Stage 1 (between Island House Interchange and Tai Hang) and Stage 2 (between Tai Hang and Wo Hop Shek Interchange). The construction works of Stage 1 commenced on 23 November 2009 and will tentatively be completed in mid 2013; while construction programme of Stage 2 is currently under review. This report focuses on Stage 1 of the Project only.
- 1.6. The construction works for Stage 1 of the Project will be implemented under 2 works contracts (Contract 1 and Contract 2). Contract 1 covers the section of Tolo Highway between Island House Interchange and Ma Wo, Contract 2 covers the section of Tolo Highway between Ma Wo and Tai Hang.
- 1.7. China State Construction Engineering Ltd. (CSCE) was commissioned as the Contractor of Contract 1 of Stage 1 of the Project. AECOM Asia Co. Ltd. was employed by Highways Department as the Environmental Team to undertake the EM&A works for Stage 1 of the Project.
- 1.8. Hyder-Arup-Black and Veatch Joint Venture are appointed by Highways Department as the consultants for the design and construction assignment for the Tolo project under Agreement No. CE 58/2000 (i.e. the Engineer for the Contracts) and Mott MacDonald Hong Kong Ltd. acts as the Independent Environmental Checker (IEC) for the Contracts.
- 1.9. The construction phase of Stage 1 under the EP commenced on 23 November 2009.
- 1.10. According to the updated EM&A Manual of Stage 1 of the Project, there is a need of an EM&A programme including air quality and noise monitoring. The EM&A programme for Stage 1 of the Project commenced on 23 November 2009.

Scope of Report

- 1.11. This is the first Quarterly Environmental Monitoring and Audit (EM&A) Summary Report under the Agreement No. CE 20/2009 (EP) - Widening of Tolo Highway between Island House Interchange and Tai Hang – Investigation. This report presents a summary of the environmental monitoring and audit works, list of activities and mitigation measures proposed by the ET for Stage 1 of the Project from 23 November 2009 to 31 January 2010.

Project Organization

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

Table 1.1 Contact Information of Key Personnel

Party	Position	Name	Telephone	Fax
ER of Stage 1, Contract 1 (Hyder-Arup-Black & Veatch Joint Venture)	Chief Resident Engineer /TOLO1	James Tsang	9038 8797	26674000
IEC of Stage 1 (Mott MacDonald Hong Kong Limited)	Independent Environmental Checker	Joseph Chan	2828 5920	2827 1823
Contractor of Stage 1, Contract 1 (CSCE)	Site Agent	S Y Tse	9078 0458	2667 5666
	Environmental Officer	Michael Tsang	9277 4956	2667 5666
ET of Stage 1 (AECOM)	ET Leader	Y T Tang	2893 1551	2891 0305

Summary of Construction Works

1.13. The construction phase of Stage 1 under the EP commenced on 23 November 2009. Details of the construction works carried out by the Contractor in this reporting period are listed below:

- Ground investigation;
- Site clearance;
- Erection of hoarding and fencing;
- Tree transplanting;
- Formation of vehicular access;
- Trial pit excavation;
- Construction of temporary noise barrier required in Figure 2a of the EP;
- Tree felling;
- Bored piling;
- Soil nail works;
- Demolition of existing boxculvert;
- Excavation;
- Sheetpile installation; and
- Construction of pier.

1.14. The Construction Programme is shown in Appendix B.

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

1.16. The mitigation measures implementation schedule are presented in Appendix C.

2 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters

- 2.1. The updated EM&A Manual designated 4 air quality monitoring stations and 7 noise monitoring stations to monitor environmental impacts on air quality and noise due to Stage 1 of the Project.
- 2.2. For air quality, monitoring locations AM2 and AM3 were set up at the proposed locations in accordance with updated EM&A Manual. However, for monitoring locations: Dynasty View (AM1) and Tai Po Garden (AM4), proposed in the updated EM&A Manual, as approval could not be obtained from the owner's corporation of the premises impact air quality monitoring was conducted at alternative monitoring locations.
- 2.3. For noise, monitoring stations NM3, NM6 and NM7 were set up at the proposed locations in accordance with updated EM&A Manual. However, for monitoring locations: Tai Po Garden (NM1), Dynasty View (NM2), Hong Kong Teachers' Association Lee Heng Kwei Secondary School (NM4) and Grand Palisades (NM5), proposed in the updated EM&A Manual, impact noise monitoring was conducted at alternative monitoring locations, as approval of access could not be obtained from the owner's corporation of the premises or the principal of the education institutes.
- 2.4. The monitoring locations are depicted in Figure 2.1.
- 2.5. The updated EM&A Manual also required environmental site inspections for air quality, noise, water quality, chemical, waste management, ecology and landscape and visual impact.

Environmental Quality Performance Limits (Action/Limit Levels)

- 2.6. The environmental quality performance limits (i.e. Action/Limit Levels) were derived from the baseline air quality monitoring results at the respective monitoring stations (AM1, AM2, AM3 and AM4) and / or as defined in the EM&A Manual (NM1, NM2, NM3, NM4, NM5, NM6 and NM7), and are given in Appendix D.

Environmental Mitigation Measures

- 2.7. Relevant environmental mitigation measures were stipulated in the Particular Specification and EP (No.: EP-235/2005/B) for the Contractor to adopt. A list of mitigation measures and their implementation statuses are given in Appendix C.

3 AIR QUALITY MONITORING

- 3.1. Air quality monitoring, including 1-hr and 24-hr TSP, was conducted at least 3 times every 6 days and at least once every 6 days respectively at the 4 monitoring stations (AM1, AM2, AM3 and AM4), in accordance with the updated EM&A Manual.
- 3.2. The weather was mostly dry and sunny in the reporting quarter. The major dust source of the construction work area included concrete breaking and soil nail installation activities from Stage 1 of the Project, as well as nearby traffic emissions.
- 3.3. The number of monitoring events and exceedances recorded in each month of the reporting quarter are presented in Table 3.1 and Table 3.2 respectively.

Table 3.1 Summary of Number of Monitoring Events for 1-hr & 24-hr TSP Concentration

Monitoring Parameter	Location	No. of monitoring events		
		Nov 09	Dec 09	Jan 10
1-hr TSP	AM1	3	18	15
	AM2	3	18	15
	AM3	3	18	15
	AM4	3	18	15
24-hr TSP	AM1	2	5	5
	AM2	1	5	5
	AM3	2	5	5
	AM4	2	5	5

Table 3.2 Summary of Number of Exceedances for 1-hr & 24-hr TSP Monitoring

Monitoring Parameter	Location	Level of Exceedance	Level of Exceedance			
			Nov 09	Dec 09	Jan 10	
1-hr TSP	AM1	Action	0	0	0	
		Limit	0	0	0	
	AM2	Action	0	0	0	
		Limit	0	0	0	
	AM3	Action	0	0	0	
		Limit	0	0	0	
	AM4	Action	0	0	0	
		Limit	0	0	0	
		Total	0	0	0	
24-hr TSP	AM1	Action	0	0	0	
		Limit	0	0	0	
	AM2	Action	0	0	0	
		Limit	0	0	0	
	AM3	Action	0	0	0	
		Limit	0	0	0	
	AM4	Action	0	0	0	
		Limit	0	0	0	
			Total	0	0	0

- 3.4. All 1-hour TSP and 24-hour TSP results were below the Action and Limit Level at all monitoring locations in the reporting quarter.
- 3.5. The graphical plots of the air quality monitoring results are provided in Appendix E.

4 CONSTRUCTION NOISE MONITORING

- 4.1. Construction noise monitoring was conducted at the 7 monitoring stations (NM1, NM2, NM3, NM4, NM5, NM6 and NM7) for at least once per week during 07:00 – 19:00 in the reporting quarter.
- 4.2. The major noise source during the noise monitoring included construction activities of Stage 1 of the Project, nearby traffic noise and general school activities.
- 4.3. The number of construction noise monitoring events and exceedances are summarized in Table 4.1 and Table 4.2 respectively.

Table 4.1 Summary of Number of Monitoring Events for Construction Noise

Monitoring Parameter	Location	No. of monitoring events		
		Nov 09	Dec 09	Jan 10
Construction Noise	NM1	1	5	4
	NM2	1	5	4
	NM3	1	5	4
	NM4	1	5	4
	NM5	1	5	4
	NM6	1	5	4
	NM7	1	5	4

Table 4.2 Summary of Number of Monitoring Exceedances for Construction Noise

Monitoring Parameter	Location	Level of Exceedance	Level of Exceedance		
			Nov 09	Dec 09	Jan 10
Construction Noise	NM1	Limit	0	0	0
	NM2		0	0	0
	NM3		0	0	0
	NM4		0	0	0
	NM5		0	0	0
	NM6		0	0	0
	NM7		0	0	0
	Total		0	0	0

- 4.4. All measured construction noise levels were below the Limit level and the graphical plots of the trends of the monitoring results are provided in Appendix F.
- 4.5. However, there were three (3) noise related complaints followed up by Environmental Team in the reporting period. Hence, three Action Level exceedances were recorded.
- 4.6. A public complaint about construction noise at Box Culverts TP4 and TP5 was received from Contractor's complaint hotline at 9:15am on 19 December 2009. As informed by the Contractor, concrete breaking works were carrying out at box culverts TP4 and TP5 at the time. Although, under the Noise Control Ordinance, construction works are permitted during the period from 7:00am to 19:00am on Saturdays, to minimize the noise nuisance to the public, the Contractor had suspended the concrete breaking works at once, upon receipt of the complaint, until 13:00pm of the date. The temporary noise barrier opposite to King Nga Court had been erected in accordance with the EP requirement. Regular impact noise monitoring record at PLK Tin Ka Ping Primary School (NM6) on 30 December 2009 at 10:15am was 64.4 dB(A). Follow-up site visit to Wan Tau Tong Estate was carried out on 30 December 2009 at 9:45am. No noisy construction work was carried out at the time. The Contractor deferred the noisy construction activities in the morning.
- 4.7. EPD, on 20 January 2010, referred a public complaint about noise nuisance from the highway opposite to Wan Tau Tong Estate, Wan Lam House from Monday to Saturday starting in the morning until 04:00 at the midnight in the recent 2 months. The complainant did not know if the noise came from road works or slope maintenance works. As informed by the Engineer and the Contractor, the Contractor only carried out night works on 12 & 15 January 2010 before 24:00 for unloading plant and material, with a valid CNP. The noise in midnights is suspected to be related to pavement resurfacing (routine maintenance) night work, carried out by others. The noise nuisance in the midnight is

considered not Project related. As for the noise issue at daytime, breaking of box culvert, sheet piling and soil nail works were carrying out at Retaining Wall W10 and box culverts TP4 and TP5, as observed during weekly site inspections in December 2009 and January 2010. While temporary noise barrier opposite to King Nga Court had been erected in accordance with the EP requirement since early December 2009 and no noise monitoring exceedance was recorded at the nearest monitoring station - PLK Tin Ka Ping Primary School (NM6) in December 2009 and January 2010, the Contractor was reminded to ensure mitigation measures are implemented properly.

- 4.8. Another noise complaint, also from Wan Lam House, was referred by HyD about construction works of the Project near Wan Tau Tong Estate started at 09:00 affecting the public. On 20 January 2010, the complainant informed that the condition of noise nuisance became worse and asked if the noise level between 15-Jan-10 and 20-Jan-10 exceeded the allowable standard under the EPD permit and he/she also requested for supporting data. As informed by the Engineer and the Contractor, as well as our weekly environmental site inspections on 13 and 20 January 2010, demolition of box culvert by excavator mounted hydraulic breaker was carrying out at box culverts TP4 and TP5. Temporary noise barrier required under the EP had already been erected since early December 2009. Also, the Contractor has deferred the starting time of concrete breaking up operation to 9:00 and 10:00 on weekdays and Saturday respectively. Weekly noise monitoring in accordance with the EM&A Manual was scheduled on 11 and 22 January 2010 and no continuous noise monitoring was required in the EP and EM&A Manual, hence no noise monitoring result was obtained between 15 and 20 January 2010. Additional noise monitoring was arranged on 22 January 2010 upon receipt of the complaint. While no noise monitoring exceedance was recorded at the nearest monitoring station - PLK Tin Ka Ping Primary School (NM6) in December 2009 and January 2010, the Contractor was reminded to ensure mitigation measures are implemented properly.
- 4.9. Following up with the noise complaint in December 2009, ad hoc monitoring was conducted on 30 December 2009 at King Nga Court – King Yuet House G/F 2.5m above ground facing Tolo Highway, at 1:15pm during rock breaking and sheet piling works being taken place. The noise level was 69.6 dB(A), which complied with the noise Limit Level of 75 dB(A).
- 4.10. Following up with the noise complaints in January 2010, another ad hoc monitoring was conducted at King Nga Court – King Yuet House Rooftop 1m façade facing Tolo Highway, during rock breaking being taken place at box culverts TP4 and TP5 and soil nailing works at Retaining Wall W10 on 22 January 2010 at 10:30, and the noise level (Leq) was 72.9 dB(A), which complied with the noise Limit Level of 75 dB(A).

5 ENVIRONMENTAL SITE INSPECTION AND AUDIT

- 5.1. Site Inspections were carried out on a weekly basis to monitor the implementation of proper environmental pollution control and mitigation measures for Stage 1 of the Project. In the reporting quarter, 10 site inspections were carried out. The environmental site inspection summaries are provided in Appendix K. Particular observations are described below:

Air Quality

- 5.2. No adverse observation was identified in the reporting quarter.

Noise

- 5.3. No adverse observation was identified in the reporting quarter.

Water Quality

- 5.4. Leaves and debris was observed accumulated inside the perimeter u-channel at Banyan Bridge and stagnant water was resulted inside the u-channel. The Contractor was reminded to unblock the u-channel.
- 5.5. Leaves and general refuse were accumulated inside the u-channel at Retaining Wall W8 and at box culverts TP4 and TP5. The Contractor was reminded to clear the u-channel regularly.
- 5.6. Muddy water was found discharged to Tai Po River outside Retaining Wall W10. The Contractor was requested to properly maintain the drainage system on site, as well as to closely check the water quality of the discharge to public drains.
- 5.7. Stagnant water was observed at Retaining Wall W10. The Contractor was reminded to spray larvicide oil on the stagnant water to prevent mosquito breeding.

Ecology

- 5.8. No adverse observation was identified in the reporting quarter.

Chemical and Waste Management

- 5.9. Small amount of oil stain was observed on the top soil layer at Bridge No. 10A. The Contractor was reminded to clear the contaminated soil and treat it as chemical waste.
- 5.10. Oil stains were observed on the ground near the site entrance of Retaining Wall W8. The Contractor was reminded to clear the oil stains and properly maintain the site vehicles to prevent oil seepage.
- 5.11. Oil stain was observed on the ground underneath an excavator under maintenance at Retaining Wall W8. The Contractor was advised to provide a tarpaulin sheet underneath the excavator.
- 5.12. Two chemical containers at Retaining Wall W10 were not provided with chemical labels. The Contractor was reminded to provide proper labels to all chemical containers on site.

Landscape and Visual Impact

- 5.13. A few retained trees were not properly fenced off at Retaining Wall W10 and at box culverts TP4 and TP5. The Contractor was reminded to fence off all retained trees on site.

6 ADVICE ON THE SOLID AND LIQUID WASTE MANAGEMENT STATUS

- 6.1. The Contractor is registered as a chemical waste producer for Stage 1 of the Project. C&D material sorting was carried out on site. Sufficient numbers of receptacles were available for general refuse collection.
- 6.2. As advised by the Contractor, 1399 m³ of inert C&D material was disposed as public fill to Tuen Mun 38, while 200kg and 3497 m³ of general refuse were disposed at NENT landfill in the reporting quarter. 3553m³ of inert C&D materials were reused on site.
- 6.3. The Contractor is advised to maintain on site waste sorting and recording system and maximize reuse / recycle of C&D wastes.

7 SUMMARY OF NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY

- 7.1. There was no 1-hr TSP, 24-hr TSP and noise monitoring exceedance recorded in the reporting quarter.
- 7.2. However, there were three (3) noise related complaints followed up by Environmental Team in the reporting period. Hence, three Action Level exceedances of noise were recorded. The review of the reasons and follow-up actions for the non-compliances is given in Section 8.

8 ENVIRONMENTAL COMPLAINTS, NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

- 8.1. A 24-hour complaint hotline at 6628 8366 has been established by the Contractor (CSCE) for Stage 1 of the Project. This complaint hotline has been displayed at the site entrances, fencings and project signboards, as well as printed on publications for the public, such as newsletters and contract website.
- 8.2. No notification of summons and prosecutions was received in the reporting quarter.
- 8.3. However, four (4) environmental complaints were followed up by Environmental Team in the reporting quarter.
- 8.4. A public complaint about construction noise at Box Culverts TP4 and TP5 was received from Contractor's complaint hotline at 9:15am on 19 December 2009. As informed by the Contractor, concrete breaking works were carrying out at box culverts TP4 and TP5 at the time. Although, under the Noise Control Ordinance, construction works are permitted during the period from 7:00am to 19:00am on Saturdays, to minimize the noise nuisance to the public, the Contractor had suspended the concrete breaking works at once, upon receipt of the complaint, until 13:00pm of the date. The temporary noise barrier opposite to King Nga Court had been erected in accordance with the EP requirement. Regular impact noise monitoring record at PLK Tin Ka Ping Primary School (NM6) on 30 December 2009 at 10:15am was 64.4 dB(A). Follow-up site visit to Wan Tau Tong Estate was carried out on 30 December 2009 at 9:45am. No noisy construction work was carried out at the time. The Contractor deferred the noisy construction activities in the morning.
- 8.5. Another complaint was lodged by Drainage Services Department on 23 December 2009 regarding muddy water discharged from construction site into Tai Po River near Shan Tong Road observed during routine inspection on 16 December 09. As advised by the Contractor, muddy water collected in the sump pit on ground level was found leaked to the drainage system. The Contractor immediately blocked the u-channel to prevent further leakage on 24 December 09 and built a metal tank to replace the original soil type sump pit on 28 December 09. Water discharged to Tai Po River near Shan Tong Road was observed clear during the follow-up site inspection on 30 December 2009.
- 8.6. EPD, on 20 January 2010, referred a public complaint about noise nuisance from the highway opposite to Wan Tau Tong Estate, Wan Lam House from Monday to Saturday starting in the morning until 04:00 at the midnight in the recent 2 months. The complainant did not know if the noise came from road works or slope maintenance works. As informed by the Engineer and the Contractor, the Contractor only carried out night works on 12 & 15 January 2010 before 24:00 for unloading plant and material, with a valid CNP. The noise in midnights is suspected to be related to pavement resurfacing (routine maintenance) night work, carried out by others. The noise nuisance in the midnight is

considered not Project related. As for the noise issue at daytime, breaking of box culvert, sheet piling and soil nail works were carrying out at Retaining Wall W10 and box culverts TP4 and TP5, as observed during weekly site inspections in December 2009 and January 2010. While temporary noise barrier opposite to King Nga Court had been erected in accordance with the EP requirement since early December 2009 and no noise monitoring exceedance was recorded at the nearest monitoring station - PLK Tin Ka Ping Primary School (NM6) in December 2009 and January 2010, the Contractor was reminded to ensure mitigation measures are implemented properly.

- 8.7. Another noise complaint, also from Wan Lam House, was referred by HyD about construction works of the Project near Wan Tau Tong Estate started at 09:00 affecting the public. On 20 January 2010, the complainant informed that the condition of noise nuisance became worse and asked if the noise level between 15-Jan-10 and 20-Jan-10 exceeded the allowable standard under the EP and he/she also requested for supporting data. As informed by the Engineer and the Contractor, as well as our weekly environmental site inspections on 13 and 20 January 2010, demolition of box culvert by excavator mounted hydraulic breaker was carrying out at box culverts TP4 and TP5. Temporary noise barrier required under the EP had already been erected since early December 2009. Also, the Contractor has deferred the starting time of concrete breaking up operation to 9:00 and 10:00 on weekdays and Saturday respectively. Weekly noise monitoring in accordance with the EM&A Manual was scheduled on 11 and 22 January 2010 and no continuous noise monitoring was required in the EP and EM&A Manual, hence no noise monitoring result was obtained between 15 and 20 January 2010. Additional noise monitoring was arranged on 22 January 2010 upon receipt of the complaint. While no noise monitoring exceedance was recorded at the nearest monitoring station - PLK Tin Ka Ping Primary School (NM6) in December 2009 and January 2010, the Contractor was reminded to ensure mitigation measures are implemented properly.
- 8.8. Statistics on complaints, notifications of summons and successful prosecutions are summarized in Appendix G.

9 COMMENTS, RECOMMENDATIONS AND CONCLUSIONS

Comments on Mitigation Measures

- 9.1. According to the environmental site inspections performed in the reporting quarter, the following recommendations were provided:

Air Quality Impact

- All plants on site should be properly maintained to avoid dark smoke emission.
- All vehicles should be washed to remove any dusty materials before leaving the site.
- Haul roads should be sufficiently dampened to minimize fugitive dust generation.
- Wheel washing facilities should be properly maintained to ensure properly functioning.
- Temporary exposed slopes and open stockpiles should be properly covered.
- Enclosure should be erected for cement mixing operations.

Construction Noise Impact

- Noise barriers should be closely packed and properly aligned to ensure effective noise reduction.
- Noisy operations should be oriented to a direction away from sensitive receivers as far as possible.
- Sound insulation materials shall be wrapped at the breaker tip for concrete breaking works.
- Better scheduling of construction works to minimize noise nuisance.

Water Quality Impact

- Stagnant water accumulated in drip trays should be removed.
- Silt, debris and leaves accumulated at public drains and perimeter u-channels should be cleaned up regularly.

- Silty effluent should be treated/desilted before discharged. Untreated effluent should be prevented from entering public drain channel.

Chemical and Waste Management

- C&D material should be sorted and removed timely.
- All plants and vehicles on site should be properly maintained to prevent oil leakage.
- Oil stains on soil surface and empty chemical containers should be cleared and disposed of as chemical waste.

Landscape and Visual Impact

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

Recommendations on EM&A Programme

- 9.2. The impact air quality and noise monitoring programme ensured that any deterioration in environmental condition was readily detected and timely actions taken to rectify any non-compliance. Assessment and analysis of monitoring results collected demonstrated the environmental acceptability of Stage 1 of the Project. The weekly environmental site inspections ensured that all the environmental mitigation measures recommended in the ERR were effectively implemented.
- 9.3. The EM&A programme effectively monitored the environmental impacts from the construction activities and no particular recommendation was advised for the improvement of the programme.

Conclusions

- 9.4. The construction phase and EM&A programme of Stage 1 of the Project commenced on 23 November 2009.
- 9.5. Air quality and noise monitoring, weekly site inspections were carried out in the reporting quarter, in accordance with the updated EM&A manual.
- 9.6. All 1-hour TSP and 24-hour TSP monitoring results complied with the Action / Limit Level in the reporting quarter.
- 9.7. Three (3) noise related complaints were followed up by Environmental Team in the reporting period. Hence, three Action Level exceedances were recorded. No Limit Level exceedance for noise was recorded at all monitoring stations in the reporting period.
- 9.8. Four (4) environmental complaints were followed up by Environmental Team in the reporting period, while no notification of summons and prosecution was received.