Highways Department

Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section

Quarterly Environmental Monitoring and Audit Summary Report (May 2014 to July 2014)

Final

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Executive Summary

This is the sixteenth quarterly Environmental Monitoring and Audit (EM&A) summary report prepared by Ove Arup & Partners Hong Kong Limited (Arup), the designated Environmental Team (ET), for the Project "Traffic Improvements to Tuen Mun Road Town Centre Section". This report presents the results of EM&A works conducted for the period from 1 May 2014 to 31 July 2014.

Environmental Monitoring Works – Breaches of Action and Limit Levels

Air Quality

All 24-hour TSP measurements during the reporting period were below the Action and Limit Level. No exceedance of Action and Limit Level was found.

Noise

No Action Level exceedence was recorded in the reporting period.

Totally 2 Limit Level exceedances (0 in May 2014, 2 in June 2014 and 0 in July 2014) of noise monitoring were recorded during the reporting period.

Construction works were carried out during the restricted hours, the conditions stipulated in CNPs of related construction works were strictly followed by the Contractor. No non-compliance was recorded.

Landscape and Visual Audit

In the reporting period, landscape and visual site audit in accordance with the requirements stipulated in the EM&A manual were conducted. Total 521 trees were felled and the pruning of the transplanted trees was carried out during the reporting period, no substantial change of LR, LCA and VSR was noted.

Waste Disposal

Inert C&D materials with actual amount of 428 m^3 were generated and disposed of at public fills at Tuen Mun Area 38 in the reporting period. 83 m^3 general refuse were generated and disposed of at WENT landfill during the reporting period.

Environmental Auditing

The environmental site audits were conducted on a weekly basis. No non-conformance to the environmental requirements was identified during the reporting period.

Complaint Log

No environmental complaint was recorded during the reporting period.

Notifications of Summons and Successful Prosecutions

No summonses or prosecution related to the environmental issues were made against the Project in the reporting period.

1 Project Information

1.1 Project Background and Programme

Ove Arup & Partners Hong Kong Limited (Arup) was appointed by Highways Department (HyD) as the Environmental Team (ET) for *Agreement No. CE22/2005 (HY) Supplementary Agreement 1 Traffic Improvements to Tuen Mun Road Town Centre Section* (the Project) under Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section. The Project was commenced on August 2010 and substantial completed at 19 Feb 2014. Location of the works area is indicated in **Figure 1.1.**

The Project involves widening the following sections of TMR from dual-two carriageway to dual-three carriageway:

- Wong Chu Road Section, (from Wong Chu Road Interchange to Tuen Hing Road);
- Tuen Mun Town Plaza Section, (from Yan Oi Town Square to Tuen Hing Road).

The Project is a designated project under Schedule 2 of the Environmental Impact Assessment (EIA) Ordinance (Cap. 499). Environmental Monitoring and Audit (EM&A) work is required in accordance with the conditions stipulated in the Environmental Permit (EP) (EP-342/2009/C) and the EM&A Manual of the Project.

The rolling construction programme during the reporting period is attached in **Appendix A**. The major construction activities carried out by the Contractor in the reporting period are summarized in **Table 1.1**.

Table 1.1 Construction activities in the reporting period

Locations	Major Works Undertaken
All area	Road resurfacing

1.2 Project Organization

The Project organization structure in relation to the environmental management is shown in **Figure 1.2**. Contacts of key environmental staff of the Project are shown in **Table 1.2**.

Figure 1.2 Project Organization – Environmental Management

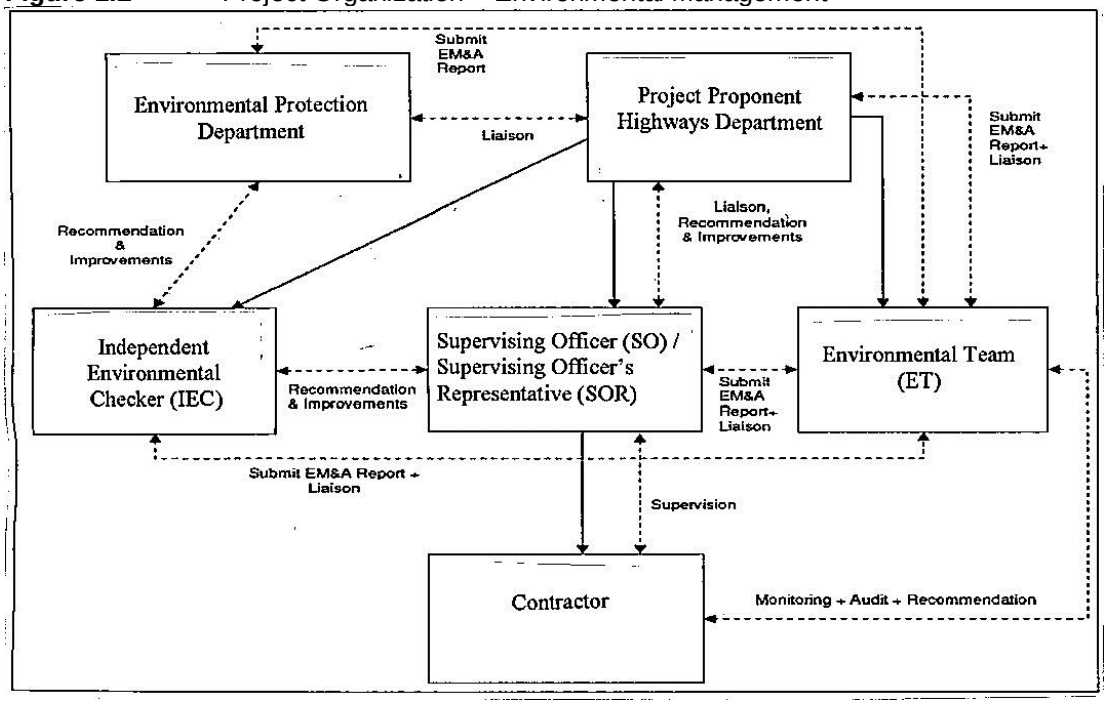


Figure 1.1 Location of works area and air, noise environmental monitoring stations

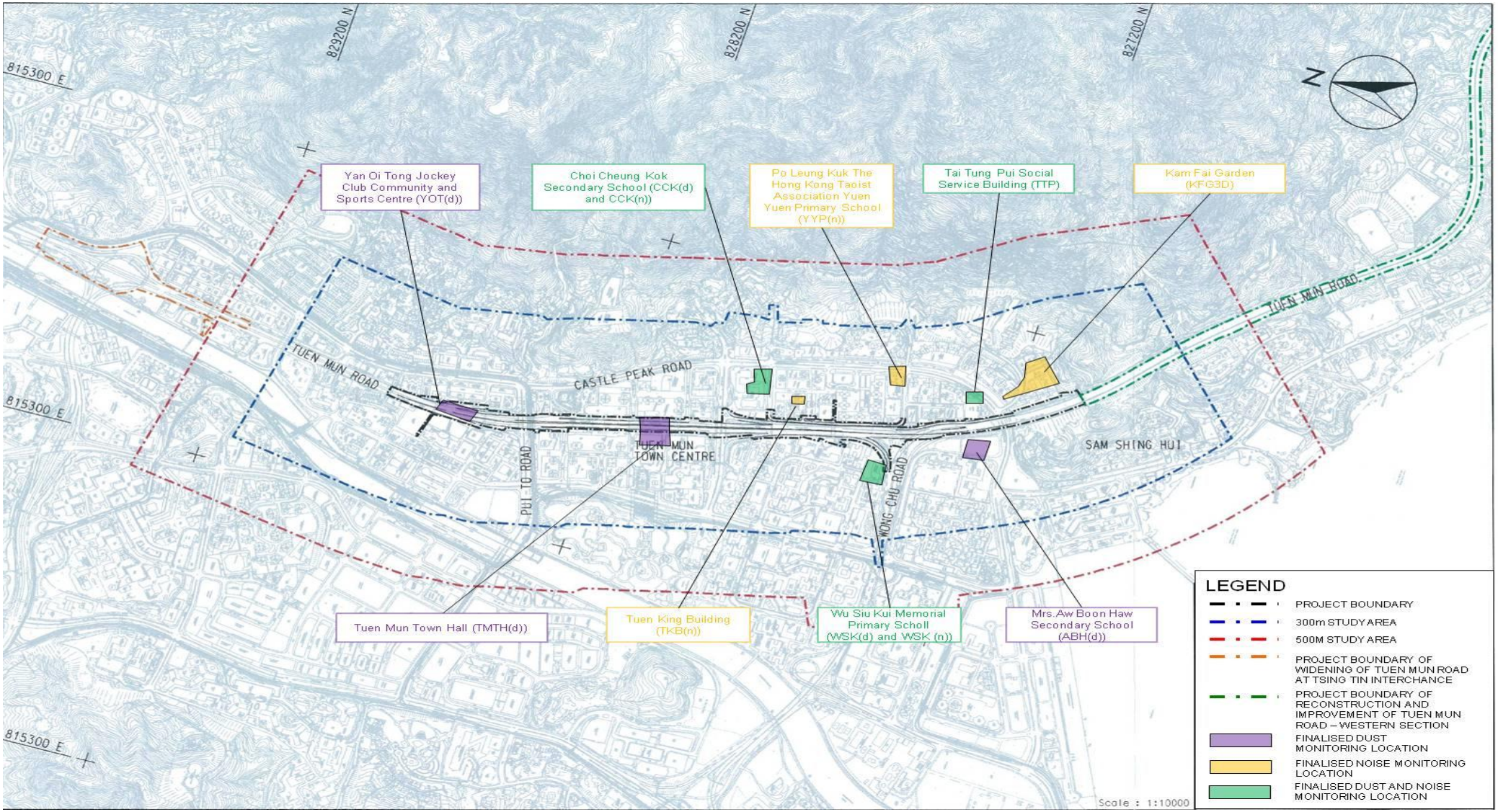


Table 1.2 Contacts of key environmental staff

Organization	Name	Telephone
Environmental Protection Department		
Environmental Protection Officer (Strategic Assessment)22	Thomas To	2835 1103
Project Proponent		
Highways Department: Senior Engineer	Peter Law	2762 3539
Supervising Officer / Supervising Officer's Representative		
AECOM Asia Co. Ltd.: Chief Resident Engineer	Patrick Lee	2969 9200
Independent Environmental Checker		
ENVIRON Hong Kong Limited: Independent Environmental Checker	David Yeung	3743 0717
Environmental Team		
Ove Arup & Partners Hong Kong Ltd: Environmental Team Leader	Coleman Ng	2268 3097
Contractor		
China Harbour Engineering Company Limited		
Site Agent	W.S. Ng	2403 0529
Environmental Officer	Marko Chan	2403 0527

2 EM&A Requirements

2.1 Monitoring Parameters

Air quality monitoring shall be measured in terms of the TSP levels for 24-hour periods. For noise monitoring, construction noise shall be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). Furthermore, the monitoring of the implementation of the landscape and visual mitigation measures shall be checked to ensure that they are fully required. **Table 2.1 and Figure 1.1** show the names and locations of the monitoring locations. The monitoring parameters, frequency and performance limits are summarised in **Table 2.2**.

Table 2.1 Summary of air and noise monitoring stations

ID	Premise
Air	
AM1	Chung Sing Benevolent Society Mrs. Aw Boon Haw Secondary School
AM2	Tung Wah Group of Hospitals Tai Tung Pui Social Service Building
AM3	Shun Tak Fraternal Association Wu Siu Kui Memorial Primary School
AM4	The Chinese Manufacturers' Association Of Hong Kong Choi Cheung Kok Secondary School
AM5	Tuen Mun Town Hall
AM6	Yan Oi Tong Jockey Club Community and Sports Centre
Noise	
N1	Kam Fai Garden
N2	Tung Wah Group of Hospitals Tai Tung Pui Social Service Building
N3	Po Leung Kuk The Hong Kong Taoist Association Yuen Yuen Primary School
N4	Shun Tak Fraternal Association Wu Siu Kui Memorial Primary School
N5	Tuen King Building
N6	The Chinese Manufacturers' Association Of Hong Kong Choi Cheung Kok Secondary School

Table 2.2 Monitoring parameters, frequency, locations and performance limits

Monitoring	Parameters	Frequency	Location	Action Level	Limit Level
Air	1-hour TSP	3 times every 6 days (Note 1)	AM1	290 μg/m³	500 μg/m³
			AM2	291 μg/m³	
			AM3	287 μg/m³	
			AM4	292 μg/m³	
			AM5	286 μg/m³	
			AM6	290 μg/m³	
	24-hour TSP	Once every 6 days	AM1	146 μg/m³	260 μg/m³
			AM2	151 μg/m³	
			AM3	150 μg/m³	
			AM4	150 μg/m³	
			AM5	146 μg/m³	
			AM6	147 μg/m³	
Noise	0700 - 1900 hour on normal weekdays - $L_{eq(30min)}$	Once per week	N1, N2 & N5	When one documented complaint is received	75 dB(A)
			N3, N4 & N6		70/65 (Note 3)
	0700 - 2300 hours on holiday; and 1900 – 2300 hours on all other days - $L_{eq(5min)}$ (Note 2)	--	N1, N2, N3, N4, N5 & N6		--
	2300 – 0700 hours of next day - $L_{eq(5min)}$ (Note 2)				--
Landscape and Visual	Landscape resources (LR), landscape character area(LCA) and view sensitive receiver (VSR) (Note 4)	Twice site audit per month	Entire site area	N/A	N/A

Notes:
1. 1-hr TSP monitoring would be required in case of receiving complaints
2. If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.
3. For normal day-time working hours, the noise criteria are 70 dB(A) and 65 dB(A) for normal reaching periods and examination period respectively.
4. The details of each LR, LCA and VSR are summarized in **Appendix F**.

2.2 Environmental Quality Performance Limits

All the monitoring results will be checked against the Action and Limit levels described in the Baseline Monitoring Report, of which they are summarised in **Table 2.1.**

2.3 Environmental Mitigation Measures

The environmental mitigation measures carried out were basically followed the requirements described in the EIA Report. Major mitigation measures during the construction phase in relation air quality, noise, water quality, ecology, waste management as well as landscape and visual are summarised in **Appendix B.**

3 Implementation Status

3.1 Implementation Status of Mitigation Measures

Environmental site inspections were carried out on a weekly basis to monitor environmental issues on the construction sites to ensure that all mitigation measures were implemented timely and properly. Key mitigation measures observed were: vehicles were washed to remove any dusty materials from its body and wheels before leaving a construction site, quiet powered mechanical equipment (QPME) were used as well as sufficient waste disposal points were provided and regular collection for disposal.

Table 3.1 summaries the site inspections in the reporting period and corresponding follow-up status by the Contractor.

Table 3.1 Key findings of weekly environmental site audit in the reporting period

Monitoring Parameter	Location	Inspection Date	Key Observations & Recommendations	Contractor's Follow-Up Status
Air Quality	Tsing Sin Street	4 Jun 14	The Contractor is reminded to cover stock piles with tarpaulin sheet to minimize dust suspension.	Agreed with the ET's advice.
	All areas	4 Jun 14	The contractor is reminded to spray water regularly within site area to prevent dust suspension in hot sunny days.	Agreed with the ET's advice.
	On Ting Estate (NE16)	11 Jul 14	The Contractor is reminded to spray water regularly during dust generation activities.	Agreed with the ET's advice.
Waste / Chemical Management	Siu On Footbridge	15 May 14	The Contractor is reminded to remove the stagnant water in the drip tray.	Agreed with the ET's advice.
	On Ting Estate (NE16)	11 Jul 14	The Contractor is reminded to ensure no muddy water entering public road after raining events.	Agreed with the ET's advice.

4 Environmental Monitoring Results

4.1 Air Monitoring Results and Observations

4.1.1 Air Quality Monitoring Results

Monitoring of 24-hour TSP were conducted at monitoring stations AM1, AM2, AM3, AM4, AM5 and AM6 in the reporting period. All monitoring data and graphical presentation of the monitoring results are provided in **Appendix C** and are summarised in **Table 4.1**. Wind data obtained from the Hong Kong Observatory – Tuen Mun anemometer station during the reporting period is presented in **Appendix D**.

Table 4.1 Summary of 24-hour TSP monitoring results in the reporting period

Location	Average 24-hour TSP Concentration, µg/m³ (Range)			
	May 14	Jun 14	Jul 14	Mean
AM1	21.0 (9 - 33)	19.0 (9 - 32)	12.0 (7 - 18)	17.2 (7 - 33)
AM2	19.0 (10 - 30)	24.0 (14 - 39)	10.0 (7 - 19)	17.5 (7 - 39)
AM3	30.0 (14 - 51)	15.0 (10 - 21)	16.0 (9 - 27)	21.7 (8 - 42)
AM4	23.0 (12 - 33)	14.0 (12 - 16)	20.0 (10 - 49)	19.5 (10 - 49)
AM5	23.0 (14 - 32)	14.0 (9 - 20)	17.0 (11 - 23)	18 (9 - 32)
AM6	27.0 (8 - 47)	16.0 (10 - 27)	17.0 (8 - 35)	20.3 (8 - 47)

All 24-hour TSP measurements during the reporting period were below the Action/Limit Level. No exceedance of action and limit level was found.

4.1.2 General Observations

Major construction works including site clearance, site hoarding construction, ground investigation and underground utilities diversion were implemented during the reporting period.

4.2 Noise Monitoring Results and Observations

4.2.1 Noise Monitoring Results

Non-restricted Hours

Monitoring of the construction noise level was conducted during non-restricted hours in the reporting period at monitoring locations N1, N2, N3, N4, N5 and N6. All monitoring data and graphical presentation of the monitoring results are provided in **Appendix E** and are summarised in **Table 4.2**.

Table 4.2 Summary of impact noise monitoring in the reporting period

Location	Noise Level, $L_{eq(30min)}$, dB(A) (Range)			
	May 14	Jun 14	Jul 14	Mean
N1	69 (68 – 69)	68 (68 – 69)	69 (68 – 71)	69 (68 – 71)
N2	69 (68 – 70)	68 (67 – 69)	69 (68 – 70)	69 (67 – 70)
N3	65 (65 – 66)	64 (63 – 65)	64 (64 – 65)	65 (63 – 66)
N4	64 (64 – 64)	64 (64 – 65)	64 (64 – 65)	64 (64 – 65)
N5	68 (68 – 69)	68 (67 – 69)	69 (68 – 70)	69 (67 – 70)
N6	67 (67 – 68)	67 (66 – 68)	68 (67 – 70)	67 (66 – 70)

Restricted Hours

In the reporting period, the construction works and activities such as mobilization of materials and plants etc were carried out during restricted hours. The granted Construction Noise Permits (CNPs) were issued by EPD for the related activities before the works commencement, the Contractor strictly followed the conditions stipulated in the CNPs. There was no non-compliance recorded during the reporting period.

4.2.2 Exceedance of Limit and Action Levels for Construction Noise

No Action Level exceedences of noise monitoring was recorded in the reporting period.

Two Limit Level exceedences of noise, were recorded in the reporting period. Based on the field observations, it was revealed that the exceedances were mainly caused by traffic vehicles along Tuen Mun Road. It was therefore concluded that the noise exceedances were not related to the construction activities. The details of the limit level exceedances had been presented in the corresponding monthly EM&A report (May 2014 to Jul 2014).

4.2.3 General Observations

The construction site had been under normal operation during the noise monitoring period and no unusual operation was observed. Traffic noise had been noticed at the monitoring location during the noise monitoring period.

4.3 Landscape and Visual Monitoring Audit Results

In the reporting period, landscape and visual site audit in accordance with the requirements stipulated in the EIA Report was conducted during the routine monthly site audit. The details of each LR, LCA and VSR are summarized in **Appendix F**. The implementation and maintenance of landscape and visual mitigation measures, listed in EIA Report, were checked during the site audit. During the reporting period, no substantial change of LR, LCA and VSR was noted, no non-compliance has been triggered, total 521 trees were felled and the pruning of the transplanted trees was carried out in accordance with the Specification for Tree Protection and Transplanting Works in Landscape Plan. The summary reports are presented in the corresponding monthly EM&A report (May 2014 to Jul 2014).

5 Waste Disposal

The amounts of different types of waste generated by the activities of the Project in the reporting period are shown in **Table 5.1**. It is anticipated that the amount of different types of waste will be increased in the forth-coming month due to the increasing of the scale of construction works, attention should be paid and the mitigation measures recommended in the EIA Report should be implemented and maintained. No liquid waste was generated in the reporting period.

Table 5.1 Amounts of waste generated in reporting period

Waste Type	Amount				
	May 14	Jun 14	Jul 14	Total	Disposal Locations
Inert C&D Materials	0 m^3	0 m^3	0 m^3	0 m^3	Broken concrete (Note 1)
	0 m^3	0 m^3	0 m^3	0 m^3	Reused in the Contract
	0 m^3	0 m^3	0 m^3	0 m^3	Reused in other Projects
	340 m^3	84 m^3	4 m^3	428 m^3	Disposal of at public fill at Tuen Mun Area 38
Chemical Waste	0 kg	0 kg	0 kg	0 kg	N/A
Paper / cardboard packaging	0 kg	0 kg	0 kg	0 kg	Recycler
Plastic	0 kg	0 kg	0 kg	0 kg	
Metal	0 kg	0 kg	0 kg	0 kg	
General Refuse	34 m^3	29 m^3	20 m^3	83 m^3	Disposal of at WENT landfill

Notes:

1. Broken concrete for recycling into aggregates.

6 Environmental Performance

6.1 Non-Compliance Record

There was no non-compliance received in the reporting period.

6.2 Review of Reasons of Non-Compliance

No Action and Limit Level exceedance was recorded for impact air quality monitoring in the reporting period.

No Action Level exceedance of noise monitoring was recorded from the monitoring data during the reporting period.

Two Limit Level exceedances were recorded in the reporting period.

Two Limit Level exceedences of noise, were recorded in the reporting period. Based on the field observations, it was revealed that the exceedances were mainly caused by traffic vehicles along Tuen Mun Road. It was therefore concluded that the noise exceedances were not related to the construction activities. The details of the limit level exceedances had been presented in the corresponding monthly EM&A report (May 2014 to Jul 2014).

6.3 Notification of Summons and Successful Prosecution

No summons or prosecutions related to environmental issues were received or made against the Project in the reporting period.

6.4 Complaint Record

No environmental complaint was recorded during the reporting period.

The updated statistical summary of complaint is presented in **Table 6.1**. The updated complaint logs of the Project in the reporting period are shown in **Appendix G**.

Table 6.1 Summary of complaints for the contract

Reporting Period	Complaint Statistics		Area of Concern	Validity to the Project	Status
	Number	Cumulative			
02/08/10 – 31/10/10	0	0	-	-	-
01/11/10 – 30/11/10	1	1	Noise	Yes (Ref.: C001)	Closed on 30 Nov 10.
01/12/10 – 31/01/11	0	1	-	-	-
01/02/11 – 28/02/11	1	2	Noise	Yes (Ref.: C002)	Closed on 2 Mar 11.
01/03/11 – 31/03/11	0	2	-	-	-
01/04/11 – 30/04/11	2	4	Water	Yes (Ref.: C003)	Closed on 16 Apr 11.
			Noise	Yes (Ref.: C004)	Closed on 16 May 11.
01/05/11 – 31/05/11	1	5	Water	Yes (Ref.: C005)	Closed on 10 Jun 11.
01/06/11 – 30/06/11	1	6	Air	Yes (Ref.: C006)	Closed on 23 Jun 11.
	1	7	Noise	Yes (Ref.: C007)	Closed on 24 Jun 11.
	1	8	Water	Yes (Ref.: C008)	Closed on 4 Jul 11.
	1	9	Air	Yes (Ref.: C009)	Closed on 14 Jul 11.
01/07/11 – 31/07/11	1	10	Noise	Yes (Ref.: C010)	Closed on 4 Aug 11.
	1	11	Water	Yes (Ref.: C011)	Closed on 4 Aug 11.
01/08/11 – 31/08/11	0	11	-	-	-
01/09/11 – 30/09/11	1	12	Noise	Yes (Ref.: C012)	Closed on 29 Sep 11.
	1	13	Water	Yes (Ref.: C013)	Closed on 14 Oct 11.
	1	14	Water	Yes (Ref.: C014)	Closed on 14 Oct 11.
01/10/11 – 31/10/11	1	15	Water	Yes (Ref.: C015)	Closed on 28 Oct 11.
01/11/11 – 30/11/11	1	16	Noise	Yes (Ref.: C016)	Closed on 24 Nov 11.
	1	17	Noise	Yes (Ref.: C017)	Closed on 30 Nov 11.
01/12/11 – 31/12/11	0	17	-	-	-
01/01/12 – 31/01/12	1	18	Water	Yes (Ref.: C018)	Closed on 6 Feb 12.
	1	19	Water	Yes (Ref.: C019)	Closed on 6 Feb 12.
01/02/12 – 29/02/12	0	19	-	-	-

Reporting Period	Complaint Statistics		Area of Concern	Validity to the Project	Status
	Number	Cumulative			
01/03/12 – 31/03/12	1	20	Water	Yes (Ref.: C020)	Closed on 22 Mar 12.
	1	21	Noise	Yes (Ref.: C021)	Closed on 28 Mar 12.
	1	22	Noise	Yes (Ref.: C022)	Closed on 5 Apr 12.
	1	23	Water	Yes (Ref.: C023)	Closed on 5 Apr 12.
01/04/12 – 30/04/12	0	23	-	-	-
01/05/12 – 31/05/12	1	24	Water	Yes (Ref.: C024)	Closed on 24 May 12.
	1	25	Noise	Yes (Ref.: C025)	Closed on 7 Jun 12.
	1	26	Noise	Yes (Ref.: C026)	Closed on 7 Jun 12.
01/06/12 – 30/06/12	0	26	-	-	-
01/07/12 – 31/07/12	0	26	-	-	-
01/08/12 – 31/08/12	0	26	-	-	-
01/09/12 – 30/09/12	0	26	-	-	-
01/10/12 – 31/10/12	0	26	-	-	-
01/11/12 – 30/11/12	1	27	Noise	Yes (Ref.: C027)	Closed on 8 Nov 12.
	1	28	Noise	Yes (Ref.: C028)	Closed on 8 Nov 12.
01/12/12 – 31/12/12	1	29	Noise	Yes (Ref.: C029)	Closed on 31 Dec 12.
	1	30	Noise	Yes (Ref.: C030)	Closed on 31 Dec 12.
	1	31	Noise	Yes (Ref.: C031)	Closed on 31 Dec 12.
01/01/13 – 31/01/13	0	31	-	-	-
01/02/13 – 28/02/13	1	32	Noise	Yes (Ref.: C032)	Closed on 15 Feb 13.
	1	33	Noise	Yes (Ref.: C033)	Closed on 15 Feb 13.
	1	34	Noise	Yes (Ref.: C034)	Closed on 15 Feb 13.
	1	35	Noise	Yes (Ref.: C035)	Closed on 15 Feb 13.
01/03/13 – 31/03/13	0	35	-	-	-
01/04/13 – 30/04/13	1	36	Noise	Yes (Ref.: C036)	Closed on 9 May 13.
01/05/13 – 31/05/13	0	36	-	-	-

Reporting Period	Complaint Statistics		Area of Concern	Validity to the Project	Status
	Number	Cumulative			
01/06/13 – 30/06/13	1	37	Noise	Yes (Ref.: C037)	Closed on 11 July 13.
01/07/13 – 31/07/13	1	38	Noise	Yes (Ref.: C038)	Closed on 25 July 13.
01/08/13 – 31/08/13	1	39	Noise	Yes (Ref.: C039)	Closed on 29 Aug 13.
01/09/13 – 30/09/13	1	40	Noise	Yes (Ref.: C040)	Closed on 26 Sep 13.
	1	41	Noise	Yes (Ref.: C041)	Closed on 26 Sep 13.
01/10/13 – 31/10/13	0	41	-	-	-
01/11/13 – 30/11/13	0	41	-	-	-
01/12/13 – 31/12/13	1	42	Air	Yes (Ref.: C042)	Closed on 10 Jan 14.
01/01/14 – 31/01/14	0	42	-	-	-
01/02/14 – 28/02/14	0	42	-	-	-
01/03/14 – 31/03/14	1	43	Noise	Yes (Ref.: C043)	Closed on 20 Mar 14.
	1	44	Noise	Yes (Ref.: C044)	Closed on 20 Mar 14.
01/04/14 – 30/04/14	1	45	Noise	Yes (Ref.: C045)	Closed on 11 Apr 14.
	1	46	Noise	Yes (Ref.: C046)	Closed on 17 Apr 14.
	1	47	Noise	Yes (Ref.: C047)	Closed on 17 Apr 14.
	1	48	Noise	Yes (Ref.: C048)	Closed on 30 Apr 14.
01/05/14 – 31/05/14	0	48	-	-	-
01/06/14 – 30/06/14	0	48	-	-	-
01/07/14 – 31/07/14	0	48	-	-	-

7 Conclusions and Recommendations

7.1 Conclusions

The construction phase of the Project was commenced on 2 August 2010. The EM&A programme has been implemented since then, including air quality, noise, landscape and visual and environmental site audits.

No Action and Limit Level exceedance was recorded for impact air quality monitoring in the reporting period.

No Action Level exceedance of noise monitoring was recorded from the monitoring data during the reporting period.

Two Limit Level exceedences, were recorded in the reporting period. Based on the field observations, it was revealed that the exceedances were mainly caused by traffic vehicles along Tuen Mun Road. It was therefore concluded that the noise exceedances were not related to the construction activities. No summons or prosecution related to environmental issues was received in the reporting period.

No summons or prosecution related to environmental issues was received in the reporting period.

In accordance with the requirements stipulated in the EM&A manual, landscape and visual site audit was conducted regularly during the reporting period. Total 521 trees were felled and the pruning of the transplanted trees was carried out. No substantial change of LR, LCA and VSR was noted.

Weekly environmental site audit was carried out during the reporting period. The major environmental concerns were related to air quality, noise, water quality, waste management and tree maintenance.

7.2 Recommendations

Impact monitoring will be continued to carry out in the following month and followed by the requirement stipulated in the EM&A manual. Attention will be paid to environmental issues identified in EIA Report and weekly site audit. Mitigation measures recommended in EIA Report and Implementation Schedule of Mitigation Measure will be fully implemented.

Construction noise is one of the key environmental issues especially in restricted hours. The conditions stipulated in CNPs should be strictly followed when the construction works were carried out during the restricted hours.

Construction dust is another key environmental issue. The implemented construction dust mitigation measures including covering of exposed slope / soil with tarpaulin sheet etc., should be maintained and improved as necessary. Adequate water spraying should be provided for the unpaved area to minimize dust disturbance.

Water quality impact is also key environmental issue. The drainage system should be well maintained. The solid and liquid waste management should be strictly followed in accordance with the requirements described in the EIA report.

The retained trees should be protected and fenced properly. The Contractor was reminded to avoid trunks damage during construction works and, take the proper remedial measures immediately when damage was observed.

Moreover, the corresponding mitigation measures due to the complaints were recommended to carry out by the Contractor and are presented in Section 6.4. The Contractor was reminded to implement proper mitigation measure to minimize any environmental nuisance.

8 Reference

[1] AECOM Asia Co. Ltd. December 2008. Agreement No. CE 22/2005 (HY) Supplementary No. 1 Traffic Improvements to Tuen Mun Road Town Centre Section – Environmental Monitoring & Audit Manual.

[2] Ove Arup & Partners Hong Kong Limited. July 2010. Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section – Baseline Monitoring Report (Revision_4)

[3] Ove Arup & Partners Hong Kong Limited. Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section – Monthly Environmental Monitoring and Audit Report – May 2014 (Final)

[4] Ove Arup & Partners Hong Kong Limited. Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section – Monthly Environmental Monitoring and Audit Report – June 2014 (Final)

[5] Ove Arup & Partners Hong Kong Limited. Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section – Monthly Environmental Monitoring and Audit Report – July 2014 (Final)

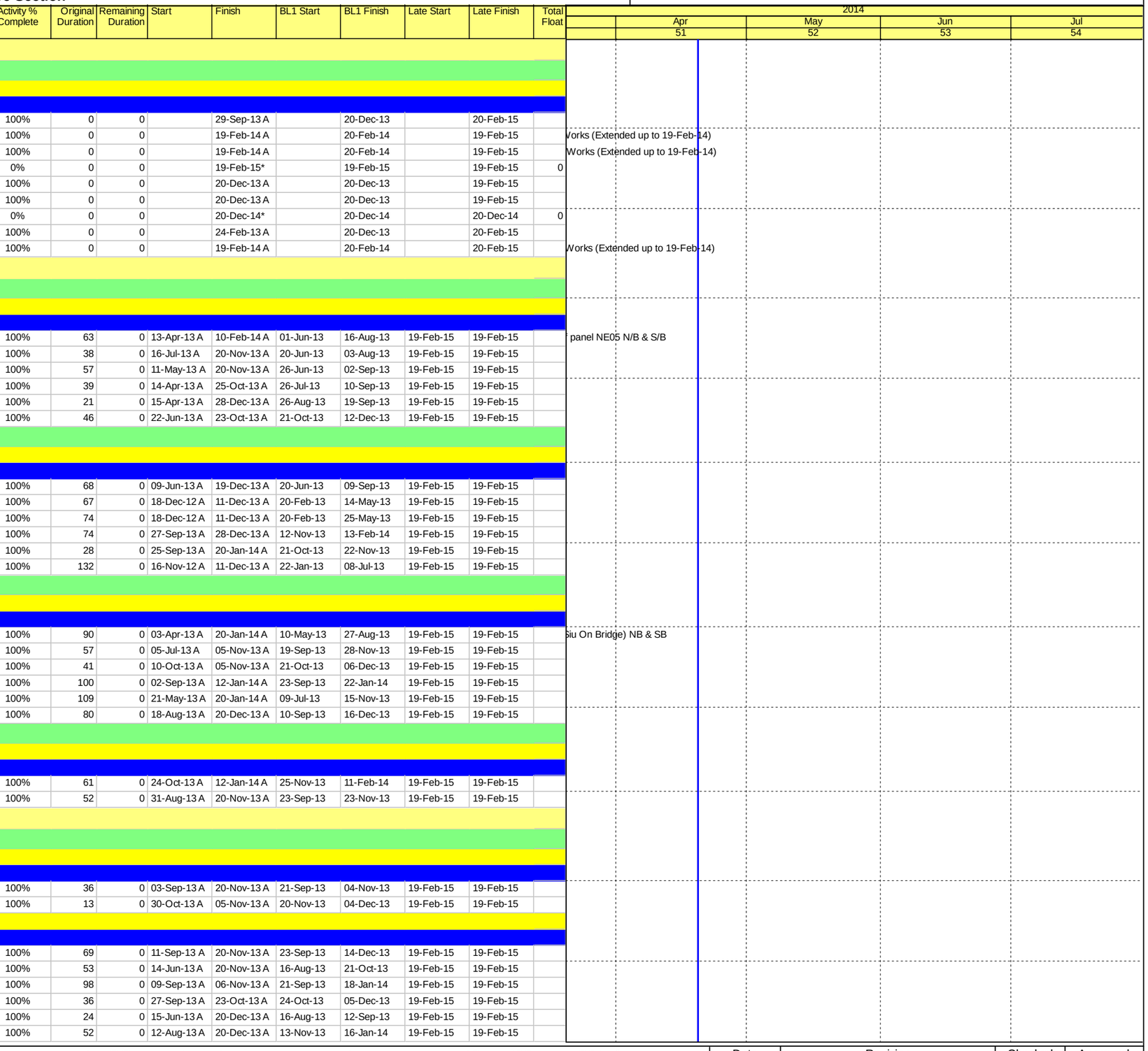
Appendix A

Construction Programme

HY/2009/03 **20 Apr 2014**

Design and Build of Traffic Improvement to Tuen Mun Road Town Centre Section

Activity ID	Activity Name	Activity % Complete	Original Duration	Remaining Duration	Start	Finish	BL1 Start	BL1 Finish	Late Start	Late Finish	Total Float
Preliminaries and General Requirements											
Preliminaries and General Requirements											
Contract Key Dates											
Project Completion											
KD1090	Completion of Section IB of Works (Extended up to 7-Nov-13)	100%	0	0		29-Sep-13 A		20-Dec-13		20-Feb-15	
KD1100	Completion of Section II of Works (Extended up to 19-Feb-14)	100%	0	0		19-Feb-14 A		20-Feb-14		19-Feb-15	
KD1110	Completion of Section IIA of Works (Extended up to 19-Feb-14)	100%	0	0		19-Feb-14 A		20-Feb-14		19-Feb-15	
KD1120	Completion of Section IIB of Works (Extended up to 19-Feb-15)	0%	0	0		19-Feb-15*		19-Feb-15		19-Feb-15	0
KD1130	Completion of Section III of Works (Extended up to 20-Dec-13)	100%	0	0		20-Dec-13 A		20-Dec-13		19-Feb-15	
KD1140	Completion of Section IIIA of Works Extended up to 20-Dec-13)	100%	0	0		20-Dec-13 A		20-Dec-13		19-Feb-15	
KD1150	Completion of Section IIIB of Works (Extended up to 20-Dec-14)	0%	0	0		20-Dec-14*		20-Dec-14		20-Dec-14	0
KD1210	Completion of Section IIIH of Works	100%	0	0		24-Feb-13 A		20-Dec-13		20-Feb-15	
KD1220	Completion of Section IV of Works (Extended up to 19-Feb-14)	100%	0	0		19-Feb-14 A		20-Feb-14		20-Feb-15	
Section II of Works											
Scheme A (CH29405 - CH29050)											
Wall and Roof Panel Installation											
Stage 4 Steel Frame & Panel											
RA1510	Install roof cladding & translucent roof panel NE05 N/B & S/B	100%	63	0	13-Apr-13 A	10-Feb-14 A	01-Jun-13	16-Aug-13	19-Feb-15	19-Feb-15	
RA1532	Install roof cladding & translucent roof panel NE02 S/B	100%	38	0	16-Jul-13 A	20-Nov-13 A	20-Jun-13	03-Aug-13	19-Feb-15	19-Feb-15	
RA1550	Install green and transparent wall panel NE04	100%	57	0	11-May-13 A	20-Nov-13 A	26-Jun-13	02-Sep-13	19-Feb-15	19-Feb-15	
RA1790	Install green and transparent wall panel NE05	100%	39	0	14-Apr-13 A	25-Oct-13 A	26-Jul-13	10-Sep-13	19-Feb-15	19-Feb-15	
RA1800	Install green and transparent wall panel NE01	100%	21	0	15-Apr-13 A	28-Dec-13 A	26-Aug-13	19-Sep-13	19-Feb-15	19-Feb-15	
RA1810	Install green and transparent wall panel NE02	100%	46	0	22-Jun-13 A	23-Oct-13 A	21-Oct-13	12-Dec-13	19-Feb-15	19-Feb-15	
Scheme B (CH29050 - CH28520)											
Wall and Roof Panel Installation											
Stage 3 Steel Frame & Panel											
RB1690	Install roof cladding & translucent roof panel NE06 & 07 N/B & S/B	100%	68	0	09-Jun-13 A	19-Dec-13 A	20-Jun-13	09-Sep-13	19-Feb-15	19-Feb-15	
RB1694	Install translucent roof panel NE10 to 14 S/B	100%	67	0	18-Dec-12 A	11-Dec-13 A	20-Feb-13	14-May-13	19-Feb-15	19-Feb-15	
RB1702	Install roof cladding & translucent roof panel NE10 to 14 N/B	100%	74	0	18-Dec-12 A	11-Dec-13 A	20-Feb-13	25-May-13	19-Feb-15	19-Feb-15	
RB1710	Planting for green roof NE06 & NE07	100%	74	0	27-Sep-13 A	28-Dec-13 A	12-Nov-13	13-Feb-14	19-Feb-15	19-Feb-15	
RB1720	Install green and transparent wall panel NE06 & 07	100%	28	0	25-Sep-13 A	20-Jan-14 A	21-Oct-13	22-Nov-13	19-Feb-15	19-Feb-15	
RB2180	Install green and transparent wall panel NE10 to 14	100%	132	0	16-Nov-12 A	11-Dec-13 A	22-Jan-13	08-Jul-13	19-Feb-15	19-Feb-15	
Scheme C (CH28520 - CH28200)											
Wall and Roof Panel Installation											
Stage 4 Steel Frame & Panel											
RC1466	Install roof translucent roof panel NE16 (Tuen Hing Rd to Siu On Bridge) NB & SB	100%	90	0	03-Apr-13 A	20-Jan-14 A	10-May-13	27-Aug-13	19-Feb-15	19-Feb-15	
RC1470	Install roof cladding & translucent roof panel NE16 (Siu On Bridge to NE17) NB & SB	100%	57	0	05-Jul-13 A	05-Nov-13 A	19-Sep-13	28-Nov-13	19-Feb-15	19-Feb-15	
RC1480	Install translucent roof panel NE17 NB & SB	100%	41	0	10-Oct-13 A	05-Nov-13 A	21-Oct-13	06-Dec-13	19-Feb-15	19-Feb-15	
RC1484	Green roof planting for NE16	100%	100	0	02-Sep-13 A	12-Jan-14 A	23-Sep-13	22-Jan-14	19-Feb-15	19-Feb-15	
RC1865	Install green and transparent wall panel NE16	100%	109	0	21-May-13 A	20-Jan-14 A	09-Jul-13	15-Nov-13	19-Feb-15	19-Feb-15	
RC1875	Install green and transparent wall panel NE17	100%	80	0	18-Aug-13 A	20-Dec-13 A	10-Sep-13	16-Dec-13	19-Feb-15	19-Feb-15	
Scheme D (CH28200 - CH27785)											
Wall and Roof Panel Installation											
Stage 6 Steel Frame & Panel											
RD1620	Planting for green roof NE18	100%	61	0	24-Oct-13 A	12-Jan-14 A	25-Nov-13	11-Feb-14	19-Feb-15	19-Feb-15	
RD1630	Install green and transparent wall panel NE18	100%	52	0	31-Aug-13 A	20-Nov-13 A	23-Sep-13	23-Nov-13	19-Feb-15	19-Feb-15	
Section III of Works											
Scheme D (CH28200 - CH27785)											
NB Structural Steel Post/Colum Erection											
Stage 4 NE18, NE21 & NE23 Foundation											
RD3000	Erect NE23 steel column	100%	36	0	03-Sep-13 A	20-Nov-13 A	21-Sep-13	04-Nov-13	19-Feb-15	19-Feb-15	
RD3010	Erect NE21 steel column	100%	13	0	30-Oct-13 A	05-Nov-13 A	20-Nov-13	04-Dec-13	19-Feb-15	19-Feb-15	
Wall and Roof Panel Installation											
Stage 6 Steel Frame & Panel											
RD1600	Install roof cladding & translucent roof panel NE18 N/B & S/B	100%	69	0	11-Sep-13 A	20-Nov-13 A	23-Sep-13	14-Dec-13	19-Feb-15	19-Feb-15	
RD1602	Install roof cladding & translucent roof panel NE20	100%	53	0	14-Jun-13 A	20-Nov-13 A	16-Aug-13	21-Oct-13	19-Feb-15	19-Feb-15	
RD1610	Install roof cladding & translucent roof panel NE26	100%	98	0	09-Sep-13 A	06-Nov-13 A	21-Sep-13	18-Jan-14	19-Feb-15	19-Feb-15	
RD1625	Planting for green roof NE20	100%	36	0	27-Sep-13 A	23-Oct-13 A	24-Oct-13	05-Dec-13	19-Feb-15	19-Feb-15	
RD1635	Install green and transparent wall panel NE20	100%	24	0	15-Jun-13 A	20-Dec-13 A	16-Aug-13	12-Sep-13	19-Feb-15	19-Feb-15	
RD3095	Install absorptive transparent wall panel NE19	100%	52	0	12-Aug-13 A	20-Dec-13 A	13-Nov-13	16-Jan-14	19-Feb-15	19-Feb-15	



Remaining Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

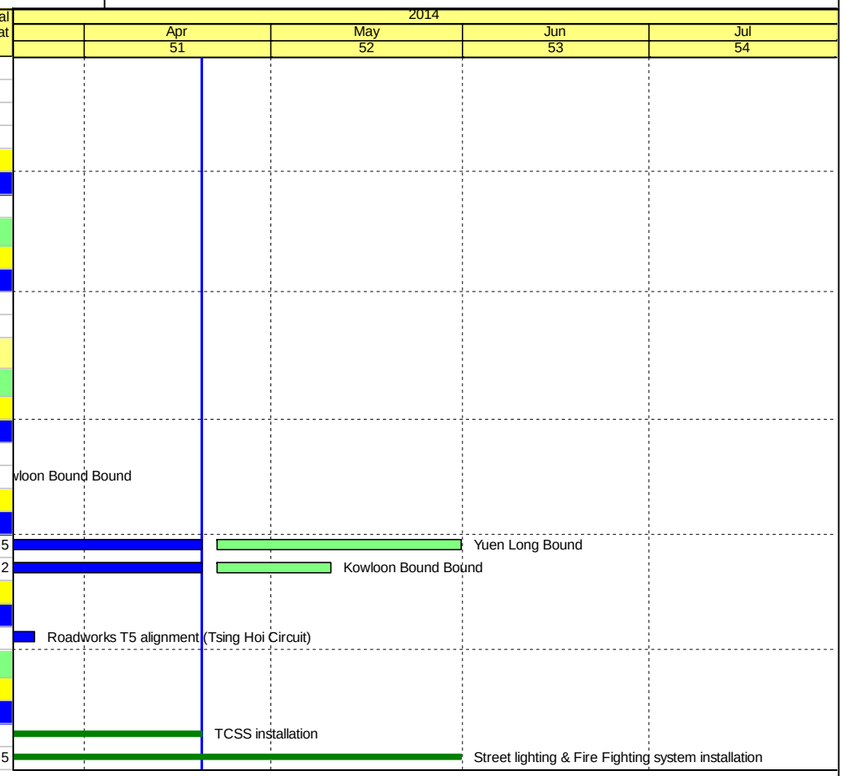
TMR-TCS Updated Revised Works Programme WP04A (20 Apr. 2014)

Date	Revision	Checked	Approved
20-Feb-14	WP04A (Updated up to 20-02-14)	ZJ	
20-Mar-14	WP04A (Updated up to 20-03-14)	ZJ	
20-Apr-14	WP04A (Updated up to 20-04-14)	ZJ	

HY/2009/03 **20 Apr 2014**

Design and Build of Traffic Improvement to Tuen Mun Road Town Centre Section

Activity ID	Activity Name	Activity % Complete	Original Duration	Remaining Duration	Start	Finish	BL1 Start	BL1 Finish	Late Start	Late Finish	Total Float
RD3100	Install absorptive & transparent wall panel NE21	100%	18	0	14-Nov-13 A	30-Nov-13 A	20-Nov-13	10-Dec-13	19-Feb-15	19-Feb-15	
RD3110	Install absorptive & transparent wall panel NE23	100%	30	0	07-Nov-13 A	20-Dec-13 A	20-Nov-13	27-Dec-13	19-Feb-15	19-Feb-15	
RD3120	Install absorptive & transparent wall panel NE24	100%	35	0	14-May-13 A	20-Dec-13 A	20-Jun-13	31-Jul-13	19-Feb-15	19-Feb-15	
RD3150	Install absorptive & transparent wall panel NE26	100%	48	0	11-Aug-13 A	20-Dec-13 A	07-Sep-13	06-Nov-13	19-Feb-15	19-Feb-15	
Bituminous Surfacing Works											
Construction of Vehicular Bridge S1											
S1B1080	Road paving and features	100%	45	0	19-Nov-13 A	23-Nov-13 A	20-Nov-13	14-Jan-14	20-Feb-15	20-Feb-15	
Scheme E (CH27785 - CH27000)											
Wall and Roof Panel Installation											
Stage 4 Steel Frame & Panel											
RE1140	Install transparent roof panel NE27	100%	146	0	12-Jun-13 A	10-Nov-13 A	03-Aug-13	28-Jan-14	19-Feb-15	19-Feb-15	
RE1150	Install green and transparent wall panel NE27	100%	85	0	27-Jun-13 A	20-Dec-13 A	02-Sep-13	13-Dec-13	19-Feb-15	19-Feb-15	
Outstanding Works											
Outstanding Roadworks											
Road Re-surfacing and Reconstruction CH28500 to CH29400											
(Rose Dale Garden to Tuen Hing Road)											
RO1100	Yuen Long Bound	100%	218	0	16-Mar-13 A	21-Dec-13 A	14-May-13	06-Feb-14	19-Feb-15	19-Feb-15	
RO1110	Kowloon Bound Bound	100%	221	0	16-Mar-13 A	15-Mar-14 A	14-May-13	10-Feb-14	19-Feb-15	19-Feb-15	
Road Re-surfacing and Reconstruction CH27550 to CH28500											
(Tuen Hing Road to Kam Fai Garden)											
RO1200	Yuen Long Bound	90.93%	364	33	07-Jan-13 A	31-May-14*	14-May-13	05-Aug-14	28-Apr-14	07-Jun-14	5
RO1210	Kowloon Bound Bound	94.3%	263	15	20-Apr-13 A	10-May-14*	14-May-13	31-Mar-14	23-Apr-14	13-May-14	2
Roadworks T5 Alignment											
(Tsing Hoi Circuit)											
RO1300	Roadworks T5 alignment (Tsing Hoi Circuit)	100%	268	0	04-Mar-13 A	24-Mar-14 A	14-May-13	05-Apr-14	19-Feb-15	19-Feb-15	
TCSS and Fire Fighting System											
TCSS and Fire Fighting System											
TCSS and Fire Fighting System											
TCSS1020	TCSS installation	100%	644	0	13-Jan-11 A	20-Apr-14 A	07-Oct-11	06-Dec-13			
TCSS1030	Street lighting & Fire Fighting system installation	94.87%	644	33	13-Jan-11 A	31-May-14	07-Oct-11	06-Dec-13	13-Jan-11	07-Jun-14	5



Remaining Level of Effort
Actual Work
Remaining Work
Critical Remaining Work
Milestone

TMR-TCS Updated Revised Works Programme WP04A (20 Apr. 2014)

Date	Revision	Checked	Approved
20-Feb-14	WP04A (Updated up to 20-02-14)	ZJ	
20-Mar-14	WP04A (Updated up to 20-03-14)	ZJ	
20-Apr-14	WP04A (Updated up to 20-04-14)	ZJ	

Appendix B

Environmental Mitigation Measures

Environmental Mitigation Measures

The environmental mitigation measures carried out were basically followed the requirements described in the EIA Report. Major mitigation measures during the construction phase in relation to the air quality, noise, water quality, ecology, waste management as well as landscape and visual are summarised as follows:

Air Quality (Dust) related

- Skip hoist for material transport should be totally enclosed by impervious sheeting;
- Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site;
- The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores;
- Where a site boundary adjoins a road, streets or other accessible to the public, hording of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit;
- Every stack of more than 20 bags of cement should be covered entirely by impervious sheeting places in an area sheltered on the top and the 3 sides;
- All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet;
- The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading;
- The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle; and
- Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.

Construction Noise related

Mitigation measures are implemented in three levels, namely Level 1, which involves adoption of quiet PME; Level 2, which involves provision of movable noise barrier; and Level 3, which involves scheduling of construction activities.

Level 1 – Adoption of Quiet PME

- Quieter PME to be used in the assessment are given in **Table A**.

Table A Listing of Quiet PME items

Powered Mechanical Equipment (PME)	Identification Code / BS5228	Maximum SWL, dB(A)
Excavator	C8/33	102
Crane	C7/114	101
Truck	C3/59	105
Concrete Truck	C6/35	100
Poker Vibrator	CNP 173	102
Asphalt Paver	C8/24	101
Roller, vibratory	C3/115	102

Level 2 – Use of Movable Noise Barrier

- Use of movable noise barrier (3m high or above) is proposed to be provided for the PMEs operated in the vicinity of the NSRs given in **Table B** during the construction phase.

Table B NSRs – with movable noise barrier

NSR	Description
FEC	Far East Consortium Tuen Mun Central Building
FM	Forward Mansion
HTB	Hing Tai Building
TMTP1	Tuen Mun Town Plaza
WG2	Waldorf Garden
CMA*	CMA Choi Cheung Kok Secondary School
LWF*	Yan Oi Tong Madam Lau Wong Fat Primary School
TMF	Tuen Mun Fa Yuen
LCK*	Lui Cheung Kwong Lutheran College
CLFY1	Chi Lok Fa Yuen
TFH	On Ting Estate (Ting Fuk House)
LCKP*	Lui Cheung Kwong Lutheran Primary School
TTP	Tung Wah Group of Hospitals Tai Tung Pui Social Service Building
CSBS*	CSBS Mrs. Aw Boon Haw Secondary School
KFG3D	Kam Fai Garden

Remark: NSR with asterisk means educational institution.

Level 3 – Scheduling of Construction Activities

- It is It is proposed that site clearance and the following activities not to be undertaken in the vicinity of the NSR LCK at stage 2 (Ch. 28050 – 28200 of TMR) so as to reduce construction noise impact during normal teaching hours.
    - Truck would not operate concurrently with other PMEs during tree transplanting and noise barrier foundation work.
    - Tree Transplanting would not be undertaken concurrently with Bulk Excavation and Utilities Diversion.
    - Construction of Storm Water Drain would not be undertaken concurrently with Noise Barrier/Enclosure Foundation.
    - Construction of Sub-base and Road Base would not be undertaken concurrently with Noise Barrier/Enclosure Installation.
    - Road Surfacing, Construction of Road kerbs, Central Dividers, Parapets, and Installation of Crash Cushion and Sign Gantry would not be undertaken concurrently.
    - Installation of Gantry and Directional Lighting, and Street Lighting would not be undertaken concurrently.
- In order to avoid or reduce the construction noise problems at the schools during examination, the Contractor of the Project is suggested to liaison with all the relevant schools (CMA, LWF, LCK, LCKP and CSBS) to check out their examination periods and

activities at the beginning of the work programme. Thus, the Contractor can make good planning and arrangement of works and provide sufficient mitigation plans to alleviate the noise impacts.

- Good Site Practice:
  - Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program.
  - Machines and plant (such as trucks) that may be in intermittent use should be shut down between works periods or should be throttled down to a minimum.
  - Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.
  - Mobile plant should be sited as far away from NSRs as possible.
  - Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.

Water Quality related

Construction Runoff and Drainage

The site practices outlined in ProPECC PN 1/94 "Construction Site Drainage" should be followed as far as practicable in order to minimise surface runoff and the chance of erosion, and also to retain and reduce any suspended solids prior to discharge. These practices include the following items:

- Before commencing any site formation work, all sewer and drainage connections should be sealed to prevent debris, soil, sand etc. from entering public sewers/drains.
- Silt removal facilities such as silt traps or sedimentation facilities should be provided to remove silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of silt removal facilities should be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures should be inspected monthly and maintained to ensure proper and efficient operation at all times and particularly during rainstorms.
- Careful programming of the works to minimise surface excavations for the road improvement works during the wet season. If excavation of soil cannot be avoided during the wet season, exposed slope surfaces should be covered by a tarpaulin or other means. Other measures that need to be implemented before, during, and after rainstorms are summarized in ProPECC PN 1/94.
- Exposed soil surfaces should be protected by paving or fill material as soon as possible to reduce the potential of soil erosion.
- Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. These materials should not be placed near water courses.

General Construction Activities

Debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering the nearby local stormwater drainage system. Stockpiles of cement and other construction materials should be kept covered when not being used.

- Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event.

Sewage Effluents

Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site. A licensed contractor would be responsible for appropriate disposal and maintenance of these facilities.

Waste Management related

Good Site Practices

Adverse impacts related to waste management are not expected to arise, provided that good site practices are adhered to. Recommendations for good site practices during the construction activities include:

- Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site;
- Training of site personnel in proper waste management and chemical handling procedures;
- Provision of sufficient waste disposal points and regular collection for disposal;
- Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;
- Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; and
- A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).

Waste Reduction Measures

Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:

- Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;
- Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the workforce;
- Any unused chemicals or those with remaining functional capacity shall be recycled;
- Use of reusable non-timber formwork to reduce the amount of C&D material;
- Prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill;
- Proper storage and site practices to minimise the potential for damage or contamination of construction materials; and
- Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.

In addition to the above measures, specific mitigation measures are recommended below for the identified waste arising to minimise environmental impacts during handling, transportation and disposal of these wastes.

Construction and Demolition Material

In order to minimise the impact resulting from collection and transportation of inert C&D material for off-site disposal, it is recommended that the excavated fill material shall be re-used on-site as backfill material as far as possible. The surplus excavated material should be disposed of at the designated public fill reception facility, as agreed with the Secretary of the Public Fill Committee, for other beneficial uses. C&D waste would require disposal to the designated landfill site. In order to monitor the disposal of C&D materials at the public fill reception facility and landfill and to control fly-tipping, a trip-ticket system should be included (see ETWB TCW No. 31/2004 for details).

Chemical Wastes

After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals should be collected by a licensed collector for disposal at the CWTC or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.

General Refuse

General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material.

Ecology related

Following EIAO-TM Annex 16 guidelines, mitigation measures are discussed in this section to avoid, minimise and compensate for identified ecological impacts.

Avoid

Construction activities should be confined to developed areas of low ecological value. There should be no direct impact on other habitats within the Study Area.

Minimise

Noise mitigation measures, including installation of noise-emitting construction plant away from egretry, careful scheduling of noisy works with high disturbance impact to avoid breeding season of ardeid species (i.e. mid March to August) to prevent impacts on nesting activities of Little Egret, operation of well-maintained machinery, and use of noise reduction facilities could be implemented to mitigate noise impacts arised from construction activities such as road widening and road paving. Temporary noise barrier should also be used to reduce the level of noise during construction. Noise impact would be minimised during operation phase as permanent noise barrier has been proposed to be constructed. These measures could minimise disturbance to habitats within and adjacent to the proposed Works Area.

In order to minimise the impact of construction dust to the vegetation and associated wildlife within and around the proposed Works Area, practical measures such as regular watering, complete coverage of dusty material storage piles, and the use of minimum practical height for dropping excavated material should be implemented.

Standard good site practice measures should be implemented and should include:

- Placement of equipment in designated Works Areas within the existing disturbed land.
- Construction activities should be restricted to the proposed Works Area.
- The proposed Works Area should be reinstated immediately after completion of the works.
- Open burning on proposed works site is illegal, and will be strictly enforced.

- Waste skips should be provided to collect general refuse and construction wastes, which should be disposed regularly and properly off-site.
- Soil contaminated by fuel leaked from construction plants should be removed and treated.

Mitigation measures should be implemented to prevent and minimise the indirect impacts to the nearby Tuen Mun River Channel by controlling construction site runoff and drainage from the proposed Works Area. Site runoff could be directed towards regularly cleaned and maintained sand traps, silt traps and where appropriate, oil/grease separators to minimise risk of sedimentation and pollution to the river channel. Debris and rubbish generated on-site should be collected, handled and disposed properly.

In order to prevent and minimise the chance of bird collision during operation phase, falcon sticker, tinted materials, embedded opaque stripes and superimposed patterns of thin opaque stripes are methods that could be used during the design of noise barrier.

Compensate

Compensatory planting is recommended as the current roadside plantation must be removed to give way to the works. Species of choice should be composed of similar native species and the felling and planting ratio should be no less than 1:1 in terms of quality and quantity.

Landscape and Visual related

- Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.
- Existing trees to be retained on site should be carefully protected during construction.
- Trees unavoidably affected by the works should be transplanted where practical.
- Compensatory tree planting should be provided to compensate for felled trees.
- Control of night-time lighting.
- Erection of decorative screen hoarding compatible with the surrounding setting.

Summary of Implementation Schedule of Mitigation Measures

EIA Ref #	EM&A Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		Noise Control				
3.8.1	2.8.1	Good site practice and management can significantly reduce the noise impact of construction site activities on nearby NSRs	Works Sites / During Construction Phase			
		• only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works;		✓	✓	✓
		• machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;		✓	✓	✓
		• plant known to emit noise strongly in one direction should, where possible, be orientated to direct noise away from the NSRs;		✓	✓	✓
		• mobile plant should be sited as far away from NSRs as possible; and		✓	✓	✓
		• material stockpiles and other structures should be effectively utilized, where practicable, to screen noise from on-site construction activities.		✓	✓	✓
3.8.4	2.8.3	Use of quieter mechanical equipment	Works Sites / During Construction Phase	✓	✓	✓
3.8.9	2.8.4	Provision of movable noise barrier in the vicinity of the following NSRs • FEC (Far East Consortium Tuen Mun Central Building) • FM (Forward Mansion) • HTB (Hing Tai Building) • TMTP1 (Tuen Mun Town Plaza) • WG2 (Waldorf Garden) • CMA (CMA Choi Cheung Kok Secondary School) • LWF (Yan Oi Tong Madam Lau Wong Fat Primary School) • TMF (Tuen Mun Fa Yuen) • LCK (Lui Cheung Kwong Lutheran College)	Works Sites from the listed NSRs / During Construction Phase	N/O	N/O	N/O

Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		• CLFY1 (Chi Lok Fa Yuen) • TFH (On Ting Estate (Ting Fuk House)) • LCKP (Lui Cheung Kwong Lutheran Primary School) • TTP (Tung Wah Group of Hospitals Tai Tung Pui Social Service Building) • CSBS (CSBS Mrs. Aw Boon Haw Secondary School) • KFG3D (Kam Fai Garden)				
3.8.12	2.8.5	Site clearance and the following activities not to be undertaken in the vicinity of the NSR LCK so as to reduce construction noise impact during normal teaching hours. • truck would not operate concurrently with other PMEs during tree transplanting and noise barrier foundation work. • tree transplanting would not be undertaken concurrently with bulk excavation and utilities diversion. • construction of storm water drain would not be undertaken concurrently with noise barrier/enclosure foundation. • construction of sub-base and road base would not be undertaken concurrently with noise barrier/enclosure installation. • road surfacing, construction of road kerbs, central dividers, parapets, and installation of crash cushion and sign gantry would not be undertaken concurrently. • installation of gantry and directional lighting, and street lighting would not be undertaken concurrently.	Work site in the vicinity of Lui Cheung Kwong Lutheran College (LCK) / Stage 2 (Ch. 28050 – 28200 of TMR) during Construction Phase	✓	✓	✓

Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref#	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
3.8.13	2.8.6	Liaise with all the relevant schools to check out their examination periods and activities in the beginning of the work programme in order to make good planning and arrangement of works and provide sufficient mitigation plans to alleviate noise impacts.	CMA Choi Cheung Kok Secondary School (CMA), Yan Oi Tong Madam Lau Wong Fat Primary School (LWF), Lui Cheung Kwong Lutheran College (LCK), Lui Cheung Kwong Lutheran Primary School (LCKP) and CSBS Mrs. Aw Boon Haw Secondary School (CSBS) / During Construction Phase	✓	✓	✓

All recommendations and requirements resulted during the course of EIA Process, including ACE and / or accepted public comment to the proposed project.

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		Air Quality Control				
4.8.1	3.11.2	Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation.	Works Sites / During Construction Phase			
		• skip hoist for material transport should be totally enclosed by impervious sheeting		✓	✓	✓
		• every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site		✓	✓	✓

Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		• the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores		✓	✓	✓
		• where a site boundary adjoins a road, streets or other accessible to the public, hording of not less than 2.4m high from ground level should be provided along the entire length except for a site entrance or exit		✓	✓	✓
		• every stack of more than 20 bags of cement should be covered entirely by impervious sheeting places in an area sheltered on the top and the 3 sides		✓	✓	✓
		• all dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet		✓	Rdr	Rdr
		• the height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading		✓	✓	✓
		• the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle		✓	✓	✓
		• instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.		✓	✓	✓

All recommendations and requirements resulted during the course of EIA Process, including ACE and / or accepted public comment to the proposed project.

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		Water Quality Control				
5.8.2	4.3.2	Construction run-off and Drainage • Silt removal facilities such as silt traps or sedimentation facilities should be provided to remove silt particles from runoff to meet the requirements of the TM standards under the WPCO. The design of silt removal facilities should be based on the guidelines provided in ProPECC PN 1/94. All drainage facilities and erosion and sediment control structures should be inspected monthly and maintained to ensure proper and efficient operation at	Works Sites / During Construction Phase	✓	✓	✓

Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		all times and particularly during rainstorms.				
		• Careful programming of the works to minimise surface excavations for the road improvement works during the wet season. If excavation of soil cannot be avoided during the wet season, exposed slope surfaces should be covered by a tarpaulin or other means. Other measures that need to be implemented before, during, and after rainstorms are summarized in ProPECC PN 1/94.		✓	✓	✓
		• Exposed soil surfaces should be protected by paving or fill material as soon as possible to reduce the potential of soil erosion.		✓	✓	✓
		• Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric during rainstorms. These materials should not be placed near water courses.		✓	✓	✓
5.8.3 - 5.8.4	4.3.3	General Construction Activities	Works Sites / During Construction Phase			
		• Debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering the nearby local stormwater drainage system.		✓	✓	✓
		• Stockpiles of cement and other construction materials should be kept covered when not being used.		✓	✓	✓
		• Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be provided with locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. The bund should be drained of rainwater after a rain event		✓	✓	✓
5.8.5	4.3.4	Sewage from Construction Workforce	Works Sites / During Construction Phase			
		• Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site. A licensed contractor would be responsible for appropriate disposal and maintenance of these facilities		✓	✓	✓

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Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		Waste Management				
6.6.1	*5.2.2*	*Good Site Practices*	Works Sites / During Construction Phase			
		• Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site.		✓	✓	✓
		• Training of site personnel in proper waste management and chemical waste handling procedures.		✓	✓	✓
		• Provision of sufficient waste disposal points and regular collection for disposal.		✓	✓	✓
		• Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers.		✓	✓	✓
		• Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.		✓	✓	✓
		• A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites).		✓	✓	✓
6.6.5	*5.2.6*	*Chemical Wastes*	Works Sites / During Construction Phase			
		• After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) should be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes.		✓	✓	✓
		• Spent chemicals should be collected by a licensed collector for disposal at the CWTC or other licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.		✓	✓	✓

Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
6.6.6	*5.2.7*	*General Refuse*	Works Sites / During Construction Phase			
		• General refuse should be stored in enclosed bins or compaction units separate from C&D material.		✓	✓	✓
		• A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material.		✓	✓	✓
		• An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material.		✓	✓	✓
6.6.2	*5.2.3*	*Waste Reduction Measures*	Works Sites / During Construction Phase			
		Good management and control can prevent the generation of a significant amount of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:				
		• Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.		✓	✓	✓
		• Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.		✓	✓	✓
		• Any unused chemicals or those with remaining functional capacity shall be recycled.		✓	✓	✓
		• Use of reusable non-timber formwork to reduce the amount of C&D material.		✓	✓	✓
		• Prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill.		✓	✓	✓
		• Proper storage and site practices to minimise the potential for damage or contamination of construction materials.		✓	✓	✓
		• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.				

Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
6.6.4	*5.2.5*	*Construction and Demolition (C&D) Material*	Works Sites / During Construction Phase			
		• The excavated fill material shall be re-used on-site as backfill material as far as possible.		✓	✓	✓
		• The surplus excavated material should be disposed of at the designated public fill reception facility, as agreed with the Secretary of the Public Fill Committee, for other beneficial uses.		✓	✓	✓
		• C&D waste would require disposal to the designated landfill site.		✓	✓	✓
		• In order to monitor the disposal of C&D materials at the public fill reception facility and landfill and to control fly-tipping, a trip-ticket system should be included. One may make reference to ETWB TCW No. 31/2004 for details.		✓	✓	✓

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Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		Ecology				
7.9.2	6.2.2	Construction activities should be confined to developed areas of low ecological value, and there should be no direct impact on other habitats within the Study Area.	Works Sites / During Construction Phase	✓	✓	✓
7.9.3	6.2.3	Noise mitigation measures, including installation of noise-emitting construction plant away from egretry, careful scheduling of noisy works with high disturbance impact to avoid breeding season of ardeid species (i.e. mid March to August) to prevent impacts on nesting activities of Little Egret, operation of well-maintained machinery, careful programming of works and use of noise reduction facilities could be implemented to mitigate noise impacts arised from construction activities such as road widening and road paving. Temporary noise barrier should also be used to reduce the level of noise during construction. Noise impact would be minimised during operation phase as permanent noise barrier has been proposed to be constructed. The use of low noise road surfacing could also reduce the level of noise during operation.	Works Sites / During Construction Phase	✓	✓	✓
7.9.4	6.2.4	In order to minimise the impact of construction dust to the vegetation and associated wildlife within and around the proposed Works Area, the following mitigation measures should be implemented:	Works Sites / During Construction Phase	✓	✓	✓
		• regular watering		✓	✓	✓
		• complete coverage of dusty material storage piles		✓	✓	✓
		• the use of minimum practical height for dropping excavated material				
7.9.6	6.2.6	To minimise the indirect impacts to the nearby Tuen Mun River Channel, the following mitigation measures should be implemented:	Works Sites / During Construction Phase			
		• Site runoff could be directed towards regularly cleaned and maintained sand traps, silt traps and where appropriate		✓	✓	✓
		• Oil/grease separators to minimise risk of sedimentation and pollution to the river channel.		N/O	N/O	N/O
		• Debris and rubbish generated on-site should be collected, handled and disposed properly.		✓	✓	✓

Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
7.9.5	6.2.5	Standard good site practice measures should be implemented and should include:	Works Sites / During Construction Phase			
		• Placement of equipment in designated Works Areas within the existing disturbed land.		✓	✓	✓
		• Construction activities should be restricted to the proposed Works Area.		✓	✓	✓
		• The proposed Works Area should be reinstated immediately after completion of the works.		✓	✓	✓
		• Open burning on proposed works site is illegal, and will be strictly enforced.		✓	✓	✓
		• Waste skips should be provided to collect general refuse and construction wastes, which should be disposed regularly and properly off-site.		✓	✓	✓
		• Soil contaminated by fuel leaked from construction plants should be removed and treated.		N/O	N/O	N/O
7.9.7	6.2.7	To minimise the chance of bird collision during operation phase, falcon sticker, tinted materials, embedded opaque stripes and superimposed patterns of thin opaque stripes are methods that could be used during the design of noise barrier.	Works Sites / During Operation Phase	N/O	N/O	N/O
7.9.8	6.2.8	Compensatory planting is recommended as the current roadside plantation must be removed to give way to the works. Species of choice should be composed of similar native species and the felling and planting ratio should be no less than 1:1 in terms of quantity.	Works Sites / During Operation Phase	N/O	N/O	N/O

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Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		Landscape and Visual				
Table 8.8	7.3.1	CM1 Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	Works Sites / During Construction Phase	✓	✓	✓
Table 8.8	7.3.1	CM2 Existing trees to be retained on site should be carefully protected during construction.		✓	✓	✓
Table 8.8	7.3.1	CM3 Trees unavoidably affected by the works should be transplanted where practical.		✓	✓	✓
Table 8.8	7.3.1	CM4 Compensatory tree planting should be provided to compensate for felled trees.		✓	✓	✓
Table 8.8	7.3.1	CM5 Control of night-time lighting.		✓	✓	✓
Table 8.8	7.3.1	CM6 Erection of decorative screen hoarding compatible with the surrounding setting.		✓	✓	✓

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Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		Land Contamination				
9.8.3	8.2.2	To minimize construction workers' potential contact with the contaminated materials • The use of bulk earth-moving excavator equipment would minimise construction workers' potential contact with the contaminated materials; • Exposure to any contaminated materials can be minimised by the wearing of appropriate clothing and personal protective equipment such as gloves (when interacting directly with suspected contaminated material), providing adequate hygiene and washing facilities and preventing smoking and eating during such activities; • Stockpiling of contaminated soil should be avoided as far as possible. If this cannot be avoided, the stockpile of contaminated materials should be segregated from the uncontaminated ones. Moreover, the contaminated materials should be properly covered with waterproof material (e.g. tarpaulin sheet) to avoid leaching of contaminants, especially during rainy season. • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated wastewater run-off, and truck bodies and tailgates should be sealed to prevent any leakage during transport or during wet conditions; • Only licensed waste haulers should be used to collect and transport any contaminated material to an appropriate disposal site and procedures should be developed to ensure that illegal disposal of waste does not occur; • Necessary waste disposal permits should be obtained, as required, from the appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 35), as required; • Records of the quantities of wastes generated and disposed of should be maintained; Adequate washing facilities should be provided on site; and • In accordance with good construction practice, silt traps should be used to reduce the impact to drainage caused by suspended solids arising from disturbed ground,	Excavation zones / During excavation	N/O	N/O	N/O

Notes (*): ✓ – Compliance; N/A - Not Applicable; N/O – Not Observed; Rdr – Reminder; Obs – Observation; N/C - Non Compliance

EIA Ref #	EM&A Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Status *		
				May 14	Jun 14	Jul 14
		or any construction materials such as cement and gravel. Groundwater should be disposed of in accordance with the Water Pollution Control Ordinance (Cap 358).				

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Appendix C

Impact Air Monitoring Results

Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section
Impact Air Quality Monitoring Result at Mrs Aw Boon Haw Secondary School (AM1) - 24 hour TSP

Filter No.	Month	Date	Receptor No.	Weather condition	Site condition	Pressure (mmHg)		Temperature (oC)		Flow Recorder Reading (CFM)		Filter Weight (g)		TSP weight (g)	Flow Rate (m^3/min)		Average Flow Rate (m^3/min)	Elapse Time		Sampling Time	Total vol. (m^3)	(ug/m^3) AM1
						Initial	Final	Initial	Final	Initial	Final	Initial	Final		Initial	Final		Start	Finish			
125032	May-14	2-May-14	AM1	Fine	Normal Operation	753.0	754.0	24.0	25.0	40.0	40.0	2.9652	3.0216	0.0564	1.1783	1.1783	1.1783	15745.30	15769.30	1440.00	1696.75	33.2
125038	May-14	8-May-14	AM1	Rainy	Normal Operation	756.0	756.0	23.0	25.0	40.0	40.0	2.9608	3.0034	0.0426	1.1730	1.1716	1.1723	15769.30	15793.30	1440.00	1688.11	25.2
125044	May-14	14-May-14	AM1	Fine	Normal Operation	755.0	754.0	28.0	26.0	40.0	40.0	2.9404	2.9666	0.0262	1.1776	1.1733	1.1755	15793.30	15817.30	1440.00	1692.65	15.5
125050	May-14	20-May-14	AM1	Rainy	Normal Operation	755.0	756.0	29.0	28.0	40.0	40.0	2.9599	2.9906	0.0307	1.1662	1.1696	1.1679	15817.30	15841.30	1440.00	1681.78	18.3
125056	May-14	26-May-14	AM1	Fine	Normal Operation	754.0	755.0	29.0	29.0	40.0	40.0	2.9278	2.9434	0.0156	1.1641	1.1670	1.1656	15841.30	15865.30	1440.00	1678.39	9.3
125062	May-14	30-May-14	AM1	Fine	Normal Operation	754.0	755.0	26.0	26.0	40.0	40.0	2.9257	2.9653	0.0396	1.1633	1.1641	1.1637	15865.30	15889.30	1440.00	1675.73	23.6
125068	Jun-14	4-Jun-14	AM1	Fine	Normal Operation	756.0	756.0	30.0	30.0	40.0	40.0	2.9164	2.9319	0.0155	1.1696	1.1704	1.1700	15889.30	15913.30	1440.00	1684.80	9.2
125074	Jun-14	10-Jun-14	AM1	Fine	Normal Operation	754.0	752.0	28.0	28.0	40.0	40.0	2.9175	2.9705	0.0530	1.1629	1.1629	1.1629	15913.30	15937.30	1440.00	1674.58	31.6
125080	Jun-14	16-Jun-14	AM1	Fine	Normal Operation	753.0	753.0	29.0	29.0	40.0	40.0	2.9416	2.9784	0.0368	1.1653	1.1637	1.1645	15937.30	15961.30	1440.00	1676.88	21.9
125086	Jun-14	20-Jun-14	AM1	Rainy	Normal Operation	751.0	749.0	29.0	29.0	40.0	40.0	2.9486	2.9754	0.0268	1.1625	1.1625	1.1625	15961.30	15985.30	1440.00	1674.00	16.0
125092	Jun-14	26-Jun-14	AM1	Fine	Normal Operation	752.0	753.0	30.0	30.0	40.0	40.0	2.935	2.9659	0.0309	1.1609	1.1591	1.1600	15985.30	16009.30	1440.00	1670.40	18.5
125097	Jul-14	2-Jul-14	AM1	Fine	Normal Operation	754.0	755.0	30.0	30.0	40.0	40.0	2.9404	2.9604	0.0200	1.0932	1.0941	1.0937	16009.30	16033.30	1440.00	1574.86	12.7
124914	Jul-14	8-Jul-14	AM1	Fine	Normal Operation	753.0	754.0	30.0	30.0	40.0	40.0	2.92	2.9490	0.0290	1.0949	1.0957	1.0953	16033.30	16057.30	1440.00	1577.23	18.4
124920	Jul-14	14-Jul-14	AM1	Cloudy	Normal Operation	756.0	756.0	29.0	29.0	40.0	40.0	2.9389	2.9506	0.0117	1.0941	1.0949	1.0945	16057.30	16081.30	1440.00	1576.08	7.4
124926	Jul-14	18-Jul-14	AM1	Cloudy	Normal Operation	755.0	754.0	27.0	27.0	40.0	40.0	2.9472	2.9636	0.0164	1.0987	1.0987	1.0987	16081.30	16105.30	1440.00	1582.13	10.4
124932	Jul-14	24-Jul-14	AM1	Fine	Normal Operation	755.0	756.0	29.0	29.0	40.0	40.0	2.9238	2.9414	0.0176	1.1021	1.1012	1.1017	16105.30	16129.30	1440.00	1586.38	11.1
124938	Jul-14	30-Jul-14	AM1	Fine	Normal Operation	755.0	755.0	30.0	30.0	40.0	40.0	2.9399	2.9564	0.0165	1.0979	1.0987	1.0983	16129.30	16153.30	1440.00	1581.55	10.4

Average (ug/m^3)	17.2
Max (ug/m^3)	33.2
Min (ug/m^3)	7.4

Action Level (ug/m^3)	146
Limit Level (ug/m^3)	260

Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section
Impact Air Quality Monitoring Result at Tai Tung Pui Social Service Building (AM2) - 24 hour TSP

Filter No.	Month	Date	Receptor No.	Weather condition	Site condition	Pressure (mmHg)		Temperature (oC)		Flow Recorder Reading (CFM)		Filter Weight (g)		TSP weight (g)	Flow Rate (m^3/min)		Average Flow Rate (m^3/min)	Elapse Time		Sampling Time	Total vol. (m^3)	(ug/m^3) AM2
						Initial	Final	Initial	Final	Initial	Final	Initial	Final		Initial	Final		Start	Finish			
125033	May-14	2-May-14	AM2	Fine	Normal Operation	753.0	754.0	24.0	25.0	40.0	40.0	2.946	2.9937	0.0477	1.1404	1.1391	1.1398	9899.10	9923.10	1440.00	1641.24	29.1
125039	May-14	8-May-14	AM2	Rainy	Normal Operation	756.0	756.0	23.0	25.0	40.0	40.0	2.9504	2.9817	0.0313	1.1450	1.1407	1.1429	9923.10	9947.10	1440.00	1645.70	19.0
125045	May-14	14-May-14	AM2	Fine	Normal Operation	755.0	754.0	28.0	26.0	40.0	40.0	2.9367	2.9597	0.0230	1.1335	1.1370	1.1353	9947.10	9971.10	1440.00	1634.76	14.1
125051	May-14	20-May-14	AM2	Rainy	Normal Operation	755.0	756.0	29.0	28.0	40.0	40.0	2.9254	2.9728	0.0474	1.1315	1.1344	1.1330	9971.10	9995.10	1440.00	1631.45	29.1
125057	May-14	26-May-14	AM2	Fine	Normal Operation	754.0	755.0	29.0	29.0	40.0	40.0	2.9463	2.9641	0.0178	1.1307	1.1315	1.1311	9995.10	10019.10	1440.00	1628.78	10.9
125063	May-14	30-May-14	AM2	Fine	Normal Operation	754.0	755.0	26.0	26.0	40.0	40.0	2.9337	2.9502	0.0165	1.1370	1.1378	1.1374	10019.10	10043.10	1440.00	1637.86	10.1
125069	Jun-14	4-Jun-14	AM2	Fine	Normal Operation	756.0	756.0	30.0	30.0	40.0	40.0	2.9016	2.9508	0.0492	1.1302	1.1302	1.1302	10043.10	10067.10	1440.00	1627.49	30.2
125075	Jun-14	10-Jun-14	AM2	Fine	Normal Operation	754.0	752.0	28.0	28.0	40.0	40.0	2.9107	2.9737	0.0630	1.1327	1.1310	1.1319	10067.10	10091.10	1440.00	1629.86	38.7
125081	Jun-14	16-Jun-14	AM2	Fine	Normal Operation	753.0	753.0	29.0	29.0	40.0	40.0	2.938	2.9611	0.0231	1.1298	1.1298	1.1298	10091.10	10115.10	1440.00	1626.91	14.2
125087	Jun-14	20-Jun-14	AM2	Rainy	Normal Operation	751.0	749.0	29.0	29.0	40.0	40.0	2.9504	2.9897	0.0393	1.1282	1.1265	1.1274	10115.10	10139.10	1440.00	1623.38	24.2
125093	Jun-14	26-Jun-14	AM2	Fine	Normal Operation	752.0	753.0	30.0	30.0	40.0	40.0	2.9325	2.9565	0.0240	1.1269	1.1277	1.1273	10139.10	10163.10	1440.00	1623.31	14.8
125098	Jul-14	2-Jul-14	AM2	Fine	Normal Operation	754.0	755.0	30.0	30.0	40.0	40.0	2.9452	2.9580	0.0128	1.1242	1.1251	1.1247	10163.10	10187.10	1440.00	1619.50	7.9
124915	Jul-14	8-Jul-14	AM2	Fine	Normal Operation	753.0	754.0	30.0	30.0	40.0	40.0	2.922	2.9388	0.0168	1.1234	1.1242	1.1238	10187.10	10211.10	1440.00	1618.27	10.4
124921	Jul-14	14-Jul-14	AM2	Cloudy	Normal Operation	756.0	756.0	29.0	29.0	40.0	40.0	2.9274	2.9449	0.0175	1.1281	1.1281	1.1281	10211.10	10235.10	1440.00	1624.46	10.8
124927	Jul-14	18-Jul-14	AM2	Cloudy	Normal Operation	755.0	754.0	27.0	27.0	40.0	40.0	2.9364	2.9497	0.0133	1.1315	1.1306	1.1311	10235.10	10259.10	1440.00	1628.71	8.2
124933	Jul-14	24-Jul-14	AM2	Fine	Normal Operation	755.0	756.0	29.0	29.0	40.0	40.0	2.9218	2.9518	0.0300	1.1272	1.1281	1.1277	10259.10	10283.10	1440.00	1623.82	18.5
124939	Jul-14	30-Jul-14	AM2	Fine	Normal Operation	755.0	755.0	30.0	30.0	40.0	40.0	2.9485	2.9592	0.0107	1.1251	1.1251	1.1251	10283.10	10307.10	1440.00	1620.14	6.6

Average (ug/m^3)	17.5
Max (ug/m^3)	38.7
Min (ug/m^3)	6.6

Action Level (ug/m^3)	151
Limit Level (ug/m^3)	260

Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section
Impact Air Quality Monitoring Result at Wu Siu Kui Primary School (AM3) - 24 hour TSP

Filter No.	Month	Date	Receptor No.	Weather condition	Site condition	Pressure (mmHg)		Temperature (oC)		Flow Recorder Reading (CFM)		Filter Weight (g)		TSP weight (g)	Flow Rate (m^3/min)		Average Flow Rate (m^3/min)	Elapse Time		Sampling Time	Total vol. (m^3)	(ug/m^3) AM3
						Initial	Final	Initial	Final	Initial	Final	Initial	Final		Initial	Final		Start	Finish			
125034	May-14	2-May-14	AM3	Fine	Normal Operation	753.0	754.0	24.0	25.0	40.0	40.0	2.9253	3.0100	0.0847	1.1620	1.1607	1.1614	14065.39	14089.39	1440.00	1672.34	50.6
125040	May-14	8-May-14	AM3	Rainy	Normal Operation	756.0	756.0	23.0	25.0	40.0	40.0	2.9416	2.9999	0.0583	1.1668	1.1624	1.1646	14089.39	14113.39	1440.00	1677.02	34.8
125046	May-14	14-May-14	AM3	Fine	Normal Operation	755.0	754.0	28.0	26.0	40.0	40.0	2.9616	3.0122	0.0506	1.1550	1.1585	1.1568	14113.39	14137.39	1440.00	1665.72	30.4
125052	May-14	20-May-14	AM3	Rainy	Normal Operation	755.0	756.0	29.0	28.0	40.0	40.0	2.9189	2.9621	0.0432	1.1528	1.1558	1.1543	14137.39	14161.39	1440.00	1662.19	26.0
125058	May-14	26-May-14	AM3	Fine	Normal Operation	754.0	755.0	29.0	29.0	40.0	40.0	2.9378	2.9603	0.0225	1.1520	1.1528	1.1524	14161.39	14185.39	1440.00	1659.46	13.6
125064	May-14	30-May-14	AM3	Fine	Normal Operation	754	755.0	26.0	26.0	40.0	40.0	2.9218	2.9609	0.0391	1.1585	1.1594	1.1590	14185.39	14209.39	1440.00	1668.89	23.4
125070	Jun-14	4-Jun-14	AM3	Fine	Normal Operation	756.0	756.0	30.0	30.0	40.0	40.0	2.9183	2.9458	0.0275	1.1515	1.1515	1.1515	14209.39	14233.39	1440.00	1658.16	16.6
125076	Jun-14	10-Jun-14	AM3	Fine	Normal Operation	754.0	752.0	28.0	28.0	40.0	40.0	2.9181	2.9341	0.0160	1.1541	1.1524	1.1533	14233.39	14257.39	1440.00	1660.68	9.6
125082	Jun-14	16-Jun-14	AM3	Fine	Normal Operation	753.0	753.0	29.0	29.0	40.0	40.0	2.9368	2.9708	0.0340	1.1511	1.1511	1.1511	14257.39	14281.39	1440.00	1657.58	20.5
125088	Jun-14	20-Jun-14	AM3	Rainy	Normal Operation	751.0	749.0	29.0	29.0	40.0	40.0	2.9486	2.9729	0.0243	1.1494	1.1477	1.1486	14281.39	14305.39	1440.00	1653.91	14.7
125094	Jun-14	26-Jun-14	AM3	Fine	Normal Operation	752.0	753.0	30.0	30.0	40.0	40.0	2.9375	2.9632	0.0257	1.1481	1.1490	1.1486	14305.39	14329.39	1440.00	1653.91	15.5
125099	Jul-14	2-Jul-14	AM3	Fine	Normal Operation	754.0	755.0	30.0	30.0	40.0	40.0	2.9427	2.9870	0.0443	1.1266	1.1273	1.1270	14329.39	14353.39	1440.00	1622.81	27.3
124916	Jul-14	8-Jul-14	AM3	Fine	Normal Operation	753.0	754.0	30.0	30.0	40.0	40.0	2.9320	2.9521	0.0201	1.1258	1.1266	1.1262	14353.39	14377.39	1440.00	1621.73	12.4
124922	Jul-14	14-Jul-14	AM3	Cloudy	Normal Operation	756.0	756.0	29.0	29.0	40.0	40.0	2.9218	2.9424	0.0206	1.1301	1.1301	1.1301	14377.39	14401.39	1440.00	1627.34	12.7
124928	Jul-14	18-Jul-14	AM3	Cloudy	Normal Operation	755.0	754.0	27.0	27.0	40.0	40.0	2.9276	2.9653	0.0377	1.1332	1.1324	1.1328	14401.39	14425.39	1440.00	1631.23	23.1
124934	Jul-14	24-Jul-14	AM3	Fine	Normal Operation	755.0	756.0	29.0	29.0	40.0	40.0	2.9376	2.9589	0.0213	1.1293	1.1301	1.1297	14425.39	14449.39	1440.00	1626.77	13.1
124940	Jul-14	30-Jul-14	AM3	Fine	Normal Operation	755.0	755.0	30.0	30.0	40.0	40.0	2.9417	2.9567	0.0150	1.1273	1.1273	1.1273	14449.39	14473.39	1440.00	1623.31	9.2

Average (ug/m^3)	20.8
Max (ug/m^3)	50.6
Min (ug/m^3)	9.2

Action Level (ug/m^3)	150
Limit Level (ug/m^3)	260

Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section

Impact Air Quality Monitoring Result at Choi Cheung Kok Secondary School (AM4) - 24 hour TSP

Filter No.	Month	Date	Receptor No.	Weather condition	Site condition	Pressure (mmHg)		Temperature (oC)		Flow Recorder Reading (CFM)		Filter Weight (g)		TSP weight (g)	Flow Rate (m^3/min)		Average Flow Rate (m^3/min)	Elapse Time		Sampling Time	Total vol. (m^3)	(ug/m^3) AM4
						Initial	Final	Initial	Final	Initial	Final	Initial	Final		Initial	Final		Start	Finish			
125035	May-14	2-May-14	AM4	Fine	Normal Operation	753.0	754.0	24.0	25.0	40.0	40.0	2.9579	2.9956	0.0377	1.1306	1.1294	1.1300	14947.12	14971.12	1440.00	1627.20	23.2
125041	May-14	8-May-14	AM4	Rainy	Normal Operation	756.0	756.0	23.0	25.0	40.0	40.0	2.9651	3.0128	0.0477	1.1349	1.1310	1.1330	14971.12	14995.12	1440.00	1631.45	29.2
125047	May-14	14-May-14	AM4	Fine	Normal Operation	755.0	754.0	28.0	26.0	40.0	40.0	2.9506	2.9938	0.0432	1.1243	1.1275	1.1259	14995.12	15019.12	1440.00	1621.30	26.6
125053	May-14	20-May-14	AM4	Rainy	Normal Operation	755.0	756.0	29.0	28.0	40.0	40.0	2.9274	2.9808	0.0534	1.1225	1.1251	1.1238	15019.12	15043.12	1440.00	1618.27	33.0
125059	May-14	26-May-14	AM4	Fine	Normal Operation	754.0	755.0	29.0	29.0	40.0	40.0	2.941	2.9605	0.0195	1.1217	1.1225	1.1221	15043.12	15067.12	1440.00	1615.82	12.1
125065	May-14	30-May-14	AM4	Fine	Normal Operation	754	755.0	26.0	26.0	40.0	40.0	2.9212	2.9436	0.0224	1.1275	1.1283	1.1279	15067.12	15091.12	1440.00	1624.18	13.8
125071	Jun-14	4-Jun-14	AM4	Fine	Normal Operation	756.0	756.0	30.0	30.0	40.0	40.0	2.9143	2.9340	0.0197	1.1213	1.1213	1.1213	15091.12	15115.12	1440.00	1614.67	12.2
125077	Jun-14	10-Jun-14	AM4	Fine	Normal Operation	754.0	752.0	28.0	28.0	40.0	40.0	2.9421	2.9677	0.0256	1.1236	1.1221	1.1229	15115.12	15139.12	1440.00	1616.90	15.8
125083	Jun-14	16-Jun-14	AM4	Fine	Normal Operation	753.0	753.0	29.0	29.0	40.0	40.0	2.9485	2.9750	0.0265	1.1209	1.1209	1.1209	15139.12	15163.12	1440.00	1614.10	16.4
125089	Jun-14	20-Jun-14	AM4	Rainy	Normal Operation	751.0	749.0	29.0	29.0	40.0	40.0	2.9535	2.9720	0.0185	1.1194	1.1178	1.1186	15163.12	15187.12	1440.00	1610.78	11.5
125095	Jun-14	26-Jun-14	AM4	Fine	Normal Operation	752.0	753.0	30.0	30.0	40.0	40.0	2.9277	2.9523	0.0246	1.1182	1.1190	1.1186	15187.12	15211.12	1440.00	1610.78	15.3
124911	Jul-14	2-Jul-14	AM4	Fine	Normal Operation	754.0	755.0	30.0	30.0	40.0	40.0	2.9295	2.9562	0.0267	1.1127	1.1135	1.1131	15211.12	15235.12	1440.00	1602.86	16.7
124917	Jul-14	8-Jul-14	AM4	Fine	Normal Operation	753.0	754.0	30.0	30.0	40.0	40.0	2.9356	2.9552	0.0196	1.1119	1.1127	1.1123	15235.12	15259.12	1440.00	1601.71	12.2
124923	Jul-14	14-Jul-14	AM4	Cloudy	Normal Operation	756.0	756.0	29.0	29.0	40.0	40.0	2.9377	2.9544	0.0167	1.1163	1.1163	1.1163	15259.12	15283.12	1440.00	1607.47	10.4
124929	Jul-14	18-Jul-14	AM4	Cloudy	Normal Operation	755.0	754.0	27.0	27.0	40.0	40.0	2.9483	2.9794	0.0311	1.1194	1.1187	1.1191	15283.12	15307.12	1440.00	1611.43	19.3
124935	Jul-14	24-Jul-14	AM4	Fine	Normal Operation	755.0	756.0	29.0	29.0	40.0	40.0	2.8817	2.9604	0.0787	1.1155	1.1163	1.1159	15307.12	15331.12	1440.00	1606.90	49.0
124941	Jul-14	30-Jul-14	AM4	Fine	Normal Operation	755.0	755.0	30.0	30.0	40.0	40.0	2.943	2.9655	0.0225	1.1135	1.1135	1.1135	15331.12	15355.12	1440.00	1603.44	14.0

Average (ug/m^3)	19.5
Max (ug/m^3)	49.0
Min (ug/m^3)	10.4

Action Level (ug/m^3)	150
Limit Level (ug/m^3)	260

Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section

Impact Air Quality Monitoring Result at Tuen Mun Town Hall (AM5) - 24 hour TSP

Filter No.	Month	Date	Receptor No.	Weather condition	Site condition	Pressure (mmHg)		Temperature (oC)		Flow Recorder Reading (CFM)		Filter Weight (g)		TSP weight (g)	Flow Rate (m^3/min)		Average Flow Rate (m^3/min)	Elapse Time		Sampling Time	Total vol. (m^3)	(ug/m^3) AM5
						Initial	Final	Initial	Final	Initial	Final	Initial	Final		Initial	Final		Start	Finish			
125036	May-14	2-May-14	AM5	Fine	Normal Operation	753.0	754.0	24.0	25.0	40.0	40.0	2.9537	3.0052	0.0515	1.1252	1.1239	1.1246	14733.27	14757.27	1440.00	1619.35	31.8
125042	May-14	8-May-14	AM5	Rainy	Normal Operation	756.0	756.0	23.0	25.0	40.0	40.0	2.9426	2.9912	0.0486	1.1299	1.1256	1.1278	14757.27	14781.27	1440.00	1623.96	29.9
125048	May-14	14-May-14	AM5	Fine	Normal Operation	755.0	754.0	28.0	26.0	40.0	40.0	2.9444	2.9673	0.0229	1.1184	1.1218	1.1201	14781.27	14805.27	1440.00	1612.94	14.2
125054	May-14	20-May-14	AM5	Rainy	Normal Operation	755.0	756.0	29.0	28.0	40.0	40.0	2.9169	2.9512	0.0343	1.1163	1.1192	1.1178	14805.27	14829.27	1440.00	1609.56	21.3
125060	May-14	26-May-14	AM5	Fine	Normal Operation	754.0	755.0	29.0	29.0	40.0	40.0	2.9373	2.9639	0.0266	1.1155	1.1163	1.1159	14829.27	14853.27	1440.00	1606.90	16.6
125066	May-14	30-May-14	AM5	Fine	Normal Operation	754.0	755.0	26.0	26.0	40.0	40.0	2.911	2.9500	0.0390	1.1218	1.1226	1.1222	14853.27	14877.27	1440.00	1615.97	24.1
125072	Jun-14	4-Jun-14	AM5	Fine	Normal Operation	756.0	756.0	30.0	30.0	40.0	40.0	2.9203	2.9382	0.0179	1.1150	1.1150	1.1150	14877.27	14901.27	1440.00	1605.60	11.1
125078	Jun-14	10-Jun-14	AM5	Fine	Normal Operation	754.0	752.0	28.0	28.0	40.0	40.0	2.9501	2.9762	0.0261	1.1175	1.1159	1.1167	14901.27	14925.27	1440.00	1608.05	16.2
125084	Jun-14	16-Jun-14	AM5	Fine	Normal Operation	753.0	753.0	29.0	29.0	40.0	40.0	2.9406	2.9722	0.0316	1.1147	1.1147	1.1147	14925.27	14949.27	1440.00	1605.17	19.7
125090	Jun-14	20-Jun-14	AM5	Rainy	Normal Operation	751.0	749.0	29.0	29.0	40.0	40.0	2.9309	2.9513	0.0204	1.1130	1.1113	1.1122	14949.27	14973.27	1440.00	1601.50	12.7
125096	Jun-14	26-Jun-14	AM5	Fine	Normal Operation	752.0	753.0	30.0	30.0	40.0	40.0	2.9422	2.9564	0.0142	1.1117	1.1126	1.1122	14973.27	14997.27	1440.00	1601.50	8.9
124912	Jul-14	2-Jul-14	AM5	Fine	Normal Operation	754.0	755.0	30.0	30.0	40.0	40.0	2.9152	2.9522	0.0370	1.1052	1.1061	1.1057	14997.27	15021.27	1440.00	1592.14	23.2
124918	Jul-14	8-Jul-14	AM5	Fine	Normal Operation	753.0	754.0	30.0	30.0	40.0	40.0	2.9114	2.9323	0.0209	1.1044	1.1052	1.1048	15021.27	15045.27	1440.00	1590.91	13.1
124924	Jul-14	14-Jul-14	AM5	Cloudy	Normal Operation	756.0	756.0	29.0	29.0	40.0	40.0	2.9454	2.9700	0.0246	1.1091	1.1091	1.1091	15045.27	15069.27	1440.00	1597.10	15.4
124930	Jul-14	18-Jul-14	AM5	Cloudy	Normal Operation	755.0	754.0	27.0	27.0	40.0	40.0	2.942	2.9592	0.0172	1.1126	1.1117	1.1122	15069.27	15093.27	1440.00	1601.50	10.7
124936	Jul-14	24-Jul-14	AM5	Fine	Normal Operation	755.0	756.0	29.0	29.0	40.0	40.0	2.9465	2.9715	0.0250	1.1083	1.1091	1.1087	15093.27	15117.27	1440.00	1596.53	15.7
124942	Jul-14	30-Jul-14	AM5	Fine	Normal Operation	755.0	755.0	30.0	30.0	40.0	40.0	2.9512	2.9842	0.0330	1.1061	1.1061	1.1061	15117.27	15141.27	1440.00	1592.78	20.7

Average (ug/m^3)	18.0
Max (ug/m^3)	31.8
Min (ug/m^3)	8.9

Action Level (ug/m^3)	146
Limit Level (ug/m^3)	260

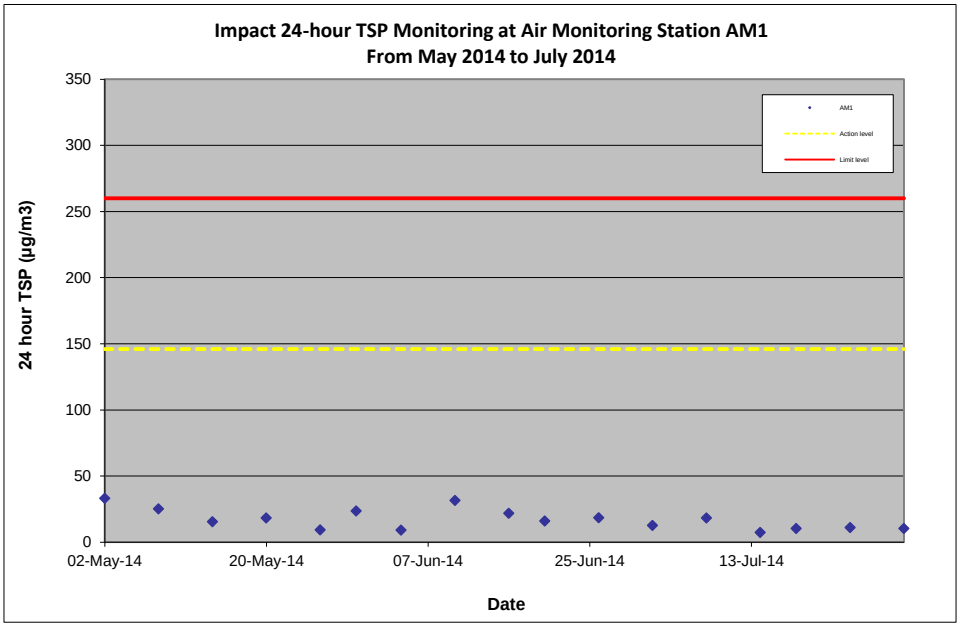
Agreement No. HMW 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section

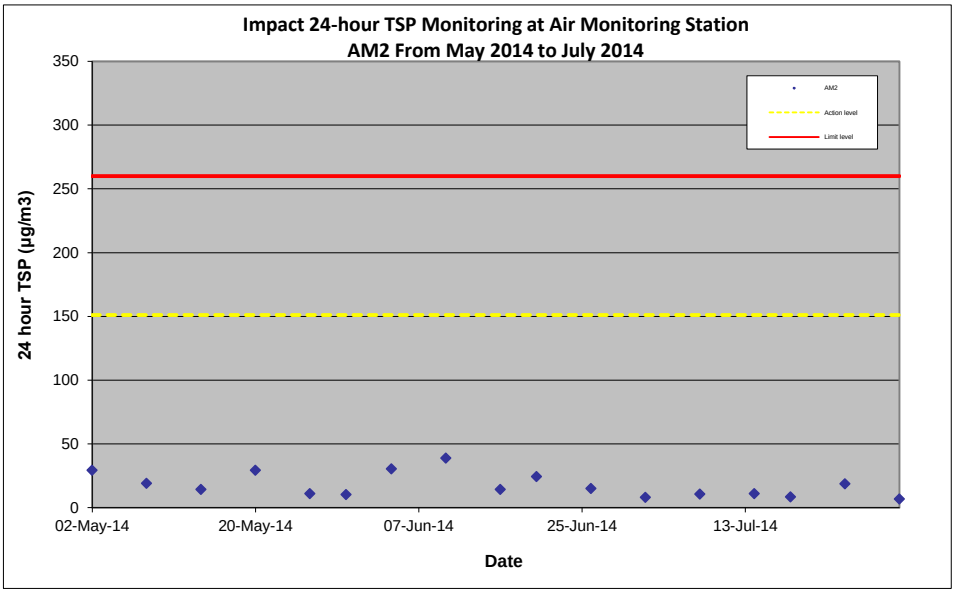
Impact Air Quality Monitoring Result at Yan Oi Tong Community and Sports Centre (AM6) - 24 hour TSP

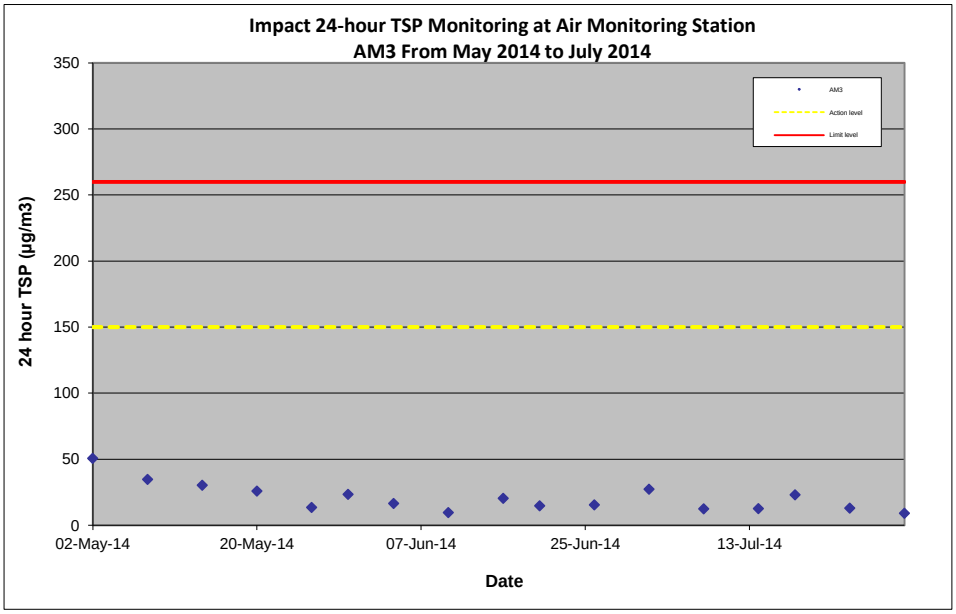
Filter No.	Month	Date	Receptor No.	Weather condition	Site condition	Pressure (mmHg)		Temperature (oC)		Flow Recorder Reading (CFM)		Filter Weight (g)		TSP weight (g)	Flow Rate (m^3/min)		Average Flow Rate (m^3/min)	Elapse Time		Sampling Time (mins.)	Total vol. (m^3)	(ug/m^3) AM6
						Initial	Final	Initial	Final	Initial	Final	Initial	Final		Initial	Final		Start	Finish			
125037	May-14	2-May-14	AM6	Fine	Normal Operation	753.0	754.0	24.0	25.0	40.0	40.0	2.9439	2.9901	0.0462	1.1312	1.1297	1.1305	11066.80	11090.80	1440.00	1627.85	28.4
125043	May-14	8-May-14	AM6	Rainy	Normal Operation	756.0	756.0	23.0	25.0	40.0	40.0	2.9522	3.0258	0.0736	1.1362	1.1315	1.1339	11090.80	11114.80	1440.00	1632.74	45.1
125049	May-14	14-May-14	AM6	Fine	Normal Operation	755.0	754.0	28.0	26.0	40.0	40.0	2.9446	3.0211	0.0765	1.1238	1.1275	1.1257	11114.80	11138.80	1440.00	1620.94	47.2
125055	May-14	20-May-14	AM6	Rainy	Normal Operation	755.0	756.0	29.0	28.0	40.0	40.0	2.9311	2.9554	0.0243	1.1215	1.1246	1.1231	11138.80	11162.80	1440.00	1617.19	15.0
125061	May-14	26-May-14	AM6	Fine	Normal Operation	754.0	755.0	29.0	29.0	40.0	40.0	2.9277	2.9584	0.0307	1.1207	1.1215	1.1211	11162.80	11186.80	1440.00	1614.38	19.0
125067	May-14	30-May-14	AM6	Fine	Normal Operation	754	755.0	26.0	26.0	40.0	40.0	2.9196	2.9328	0.0132	1.1275	1.1284	1.1280	11186.80	11210.80	1440.00	1624.25	8.1
125073	Jun-14	4-Jun-14	AM6	Fine	Normal Operation	756.0	756.0	30.0	30.0	40.0	40.0	2.9258	2.9511	0.0253	1.1202	1.1202	1.1202	11210.80	11234.80	1440.00	1613.09	15.7
125079	Jun-14	10-Jun-14	AM6	Fine	Normal Operation	754.0	752.0	28.0	28.0	40.0	40.0	2.936	2.9538	0.0178	1.1229	1.1211	1.1220	11234.80	11258.80	1440.00	1615.68	11.0
125085	Jun-14	16-Jun-14	AM6	Fine	Normal Operation	753.0	753.0	29.0	29.0	40.0	40.0	2.9574	2.9821	0.0247	1.1198	1.1198	1.1198	11258.80	11282.80	1440.00	1612.51	15.3
125091	Jun-14	20-Jun-14	AM6	Rainy	Normal Operation	751.0	749.0	29.0	29.0	40.0	40.0	2.9472	2.9639	0.0167	1.1180	1.1161	1.1171	11282.80	11306.80	1440.00	1608.55	10.4
125100	Jun-14	26-Jun-14	AM6	Fine	Normal Operation	752.0	753.0	30.0	30.0	40.0	40.0	2.7122	2.7553	0.0431	1.1166	1.1175	1.1171	11306.80	11330.80	1440.00	1608.55	26.8
124913	Jul-14	2-Jul-14	AM6	Fine	Normal Operation	754.0	755.0	30.0	30.0	40.0	40.0	2.8982	2.9200	0.0218	1.1475	1.1482	1.1479	11330.80	11354.80	1440.00	1652.90	13.2
124919	Jul-14	8-Jul-14	AM6	Fine	Normal Operation	753.0	754.0	30.0	30.0	40.0	40.0	2.9507	2.9722	0.0215	1.1467	1.1475	1.1471	11354.80	11378.80	1440.00	1651.82	13.0
124925	Jul-14	14-Jul-14	AM6	Cloudy	Normal Operation	756.0	756.0	29.0	29.0	40.0	40.0	2.9345	2.9593	0.0248	1.1510	1.1510	1.1510	11378.80	11402.80	1440.00	1657.44	15.0
124931	Jul-14	18-Jul-14	AM6	Cloudy	Normal Operation	755.0	754.0	27.0	27.0	40.0	40.0	2.9308	2.9443	0.0135	1.1542	1.1534	1.1538	11402.80	11426.80	1440.00	1661.47	8.1
124937	Jul-14	24-Jul-14	AM6	Fine	Normal Operation	755.0	756.0	29.0	29.0	40.0	40.0	2.9386	2.9687	0.0301	1.1502	1.1510	1.1506	11426.80	11450.80	1440.00	1656.86	18.2
124943	Jul-14	30-Jul-14	AM6	Fine	Normal Operation	755.0	755.0	30.0	30.0	40.0	40.0	2.9570	3.0150	0.0580	1.1482	1.1482	1.1482	11450.80	11474.80	1440.00	1653.41	35.1

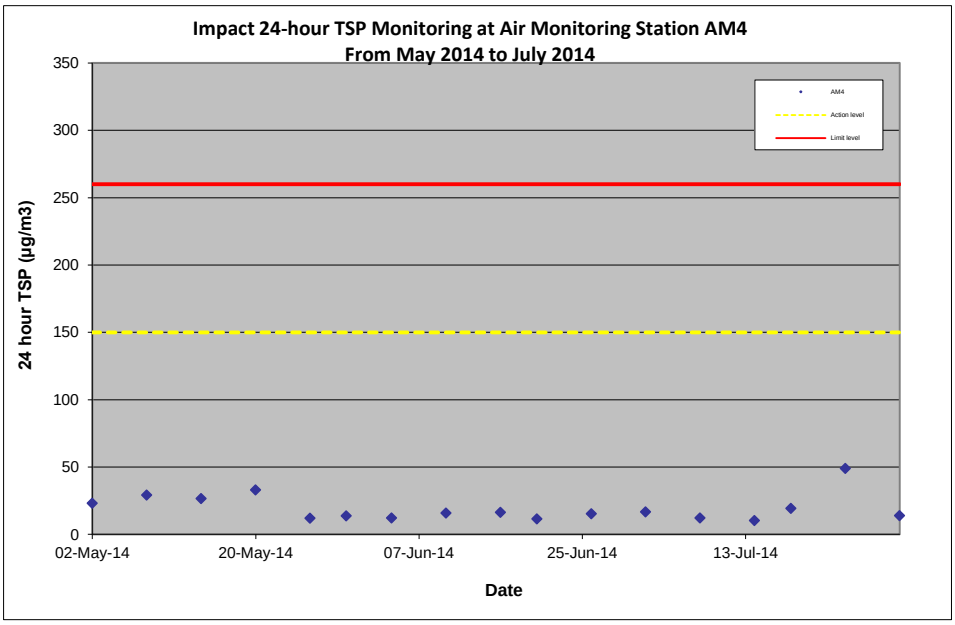
Average (ug/m^3)	20.3
Max (ug/m^3)	47.2
Min (ug/m^3)	8.1

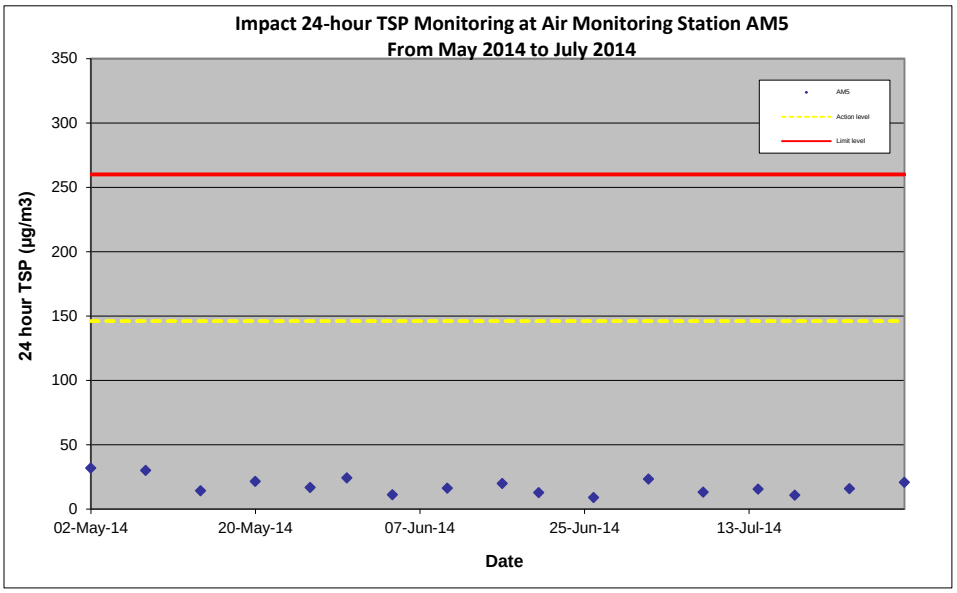
Action Level (ug/m^3)	147
Limit Level (ug/m^3)	260

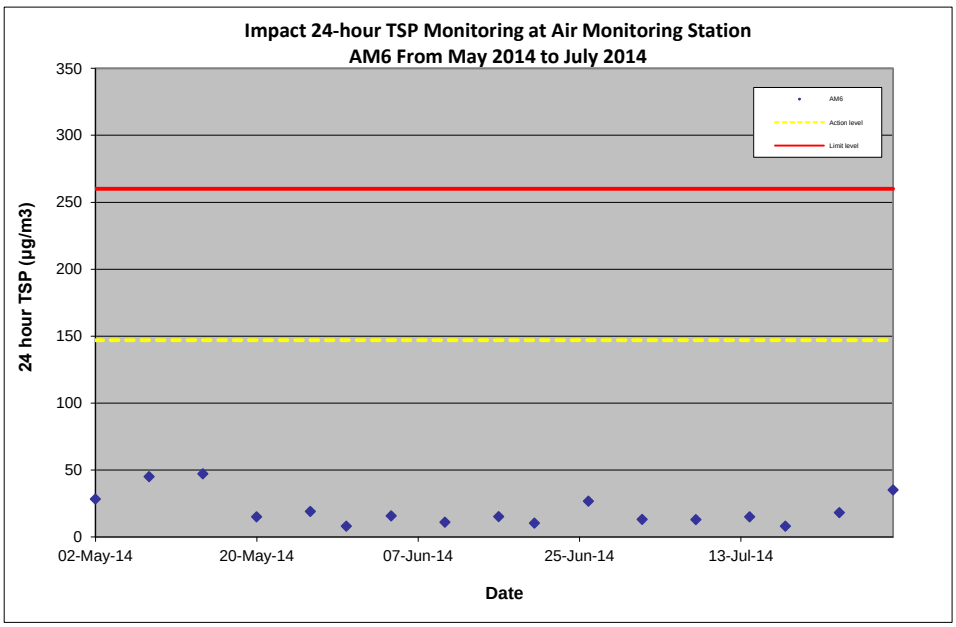

Impact 24-hour TSP Monitoring at Air Monitoring Station AM1
From May 2014 to July 2014
24 hour TSP (µg/m3)
350
300
250
200
150
100
50
0
02-May-14
20-May-14
07-Jun-14
25-Jun-14
13-Jul-14
Date
AM1
Action level
Limit level


Impact 24-hour TSP Monitoring at Air Monitoring Station
AM2 From May 2014 to July 2014
24 hour TSP (µg/m3)
350
300
250
200
150
100
50
0
02-May-14
20-May-14
07-Jun-14
25-Jun-14
13-Jul-14
Date
AM2
Action level
Limit level


Impact 24-hour TSP Monitoring at Air Monitoring Station
AM3 From May 2014 to July 2014
24 hour TSP (µg/m3)
350
300
250
200
150
100
50
0
02-May-14
20-May-14
07-Jun-14
25-Jun-14
13-Jul-14
Date
AM3
Action level
Limit level


Impact 24-hour TSP Monitoring at Air Monitoring Station AM4
From May 2014 to July 2014
24 hour TSP (µg/m3)
350
300
250
200
150
100
50
0
02-May-14
20-May-14
07-Jun-14
25-Jun-14
13-Jul-14
Date
AM4
Action level
Limit level


Impact 24-hour TSP Monitoring at Air Monitoring Station AM5
From May 2014 to July 2014
24 hour TSP (µg/m3)
350
300
250
200
150
100
50
0
02-May-14
20-May-14
07-Jun-14
25-Jun-14
13-Jul-14
Date
AM5
Action level
Limit level


Impact 24-hour TSP Monitoring at Air Monitoring Station
AM6 From May 2014 to July 2014
24 hour TSP (µg/m3)
350
300
250
200
150
100
50
0
02-May-14
20-May-14
07-Jun-14
25-Jun-14
13-Jul-14
Date
AM6
Action level
Limit level

Appendix D

Wind Data

Wind Monitoring Data - May 2014

Date	Wind Direction (degree)	Wind Speed (km/h)
2-May-14	70	31.6
8-May-14	60	22.6
14-May-14	230	28
20-May-14	240	21.8
26-May-14	250	20.4
30-May-14	230	17

Source extracted from Hong Kong Observatory (HKO)

Wind Monitoring Data - June 2014

Date	Wind Direction (degree)	Wind Speed (km/h)
4-Jun-14	240	10.3
10-Jun-14	100	21.4
16-Jun-14	230	28.8
20-Jun-14	210	26
26-Jun-14	220	14.9

Source extracted from Hong Kong Observatory (HKO)

Wind Monitoring Data - July 2014

Date	Wind Direction (degree)	Wind Speed (km/h)
2-Jul-14	200	13.5
8-Jul-14	280	9.1
14-Jul-14	220	16.3
18-Jul-14	130	49.3
24-Jul-14	240	37.3
30-Jul-14	30	8.9

Source extracted from Hong Kong Observatory (HKO)

Appendix E

Impact Noise Monitoring Results

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 10 May 2014

			Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
ID	Premise	Time	L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	9:50-10:20	68	75	70	66	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:35-11:05	68	75	71	66	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:15-11:45	65	70	67	63	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	08:30-09:00	64	70	65	62	67	Measured ≦ Baseline
N5	Tuen King Building	13:30-14:00	68	75	70	66	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:30-15:00	67	70	70	66	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 16 May 2014

			Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
ID	Premise	Time	L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	10:00-10:30	69	75	71	67	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:45-11:15	68	75	71	66	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:30-12:00	65	70	67	63	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	8:30-9:00	64	70	66	62	67	Measured ≦ Baseline
N5	Tuen King Building	13:20-13:50	69	75	71	66	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:20-14:50	68	70	70	65	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 22 May 2014

			Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
ID	Premise	Time	L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	9:50-10:20	69	75	71	67	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:35-11:05	69	75	71	67	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:15-11:45	66	70	68	64	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	08:30-09:00	64	70	67	63	67	Measured ≦ Baseline
N5	Tuen King Building	13:20-13:50	69	75	70	66	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:20-14:50	67	70	69	65	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 31 May 2014

			Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
ID	Premise	Time	L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	9:55-10:25	69	75	71	67	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:40-11:10	70	75	72	67	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:20-11:50	65	70	67	63	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	8:40-9:10	64	70	66	62	67	Measured ≦ Baseline
N5	Tuen King Building	13:20-13:50	68	75	70	66	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:20-14:50	67	70	70	66	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 6 June 2014

ID	Premise	Time	Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
			L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	9:50-10:20	68	75	70	66	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:35-11:05	69	75	71	67	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:15-11:45	65	65	67	63	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	08:30-09:00	64	70	66	62	67	Measured ≦ Baseline
N5	Tuen King Building	13:30-14:00	69	75	70	67	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:30-15:00	67	70	70	66	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level
(#): Limit Level of 65 dB(A) is adopted for N3 due to school examination hours

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 13 June 2014

ID	Premise	Time	Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
			L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	10:00-10:30	69	75	71	67	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:45-11:15	69	75	71	67	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:30-12:00	65	70	67	64	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	8:30-9:00	64	65	66	62	67	Measured ≦ Baseline
N5	Tuen King Building	13:20-13:50	69	75	71	66	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:20-14:50	67	65	69	65	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level
(#): Limit Level of 65 dB(A) is adopted for N3 due to school examination hours

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 19 June 2014

ID	Premise	Time	Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
			L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	9:50-10:20	68	75	70	66	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:35-11:05	68	75	70	66	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:15-11:45	63	70	66	62	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	08:30-09:00	65	70	66	62	67	Measured ≦ Baseline
N5	Tuen King Building	13:20-13:50	69	75	70	66	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:20-14:50	68	65	70	66	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level
(#): Limit Level of 65 dB(A) is adopted for N3 due to school examination hours

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 28 June 2014

ID	Premise	Time	Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
			L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	9:55-10:25	68	75	70	66	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:40-11:10	67	75	70	66	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:20-11:50	65	70	66	62	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	8:40-9:10	64	70	66	62	67	Measured ≦ Baseline
N5	Tuen King Building	13:20-13:50	67	75	70	66	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:20-14:50	66	70	68	64	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 5 July 2014

ID	Premise	Time	Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
			L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	9:50-10:20	69	75	71	67	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:35-11:05	70	75	72	67	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:15-11:45	65	70	67	63	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	08:30-09:00	65	70	67	63	67	Measured ≦ Baseline
N5	Tuen King Building	13:30-14:00	70	75	72	68	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:30-15:00	70	70	72	68	69	62

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 10 July 2014

ID	Premise	Time	Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
			L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	10:00-10:30	71	75	73	67	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:45-11:15	69	75	72	67	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:30-12:00	65	70	67	64	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	8:30-9:00	65	70	66	63	67	Measured ≦ Baseline
N5	Tuen King Building	13:20-13:50	69	75	71	67	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:20-14:50	67	70	69	65	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 16 July 2014

ID	Premise	Time	Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
			L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	9:50-10:20	69	75	71	66	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:35-11:05	68	75	70	66	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:15-11:45	64	70	66	63	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	08:30-09:00	65	70	67	63	67	Measured ≦ Baseline
N5	Tuen King Building	13:20-13:50	69	75	71	67	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:20-14:50	68	70	70	66	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level

Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 26 July 2014

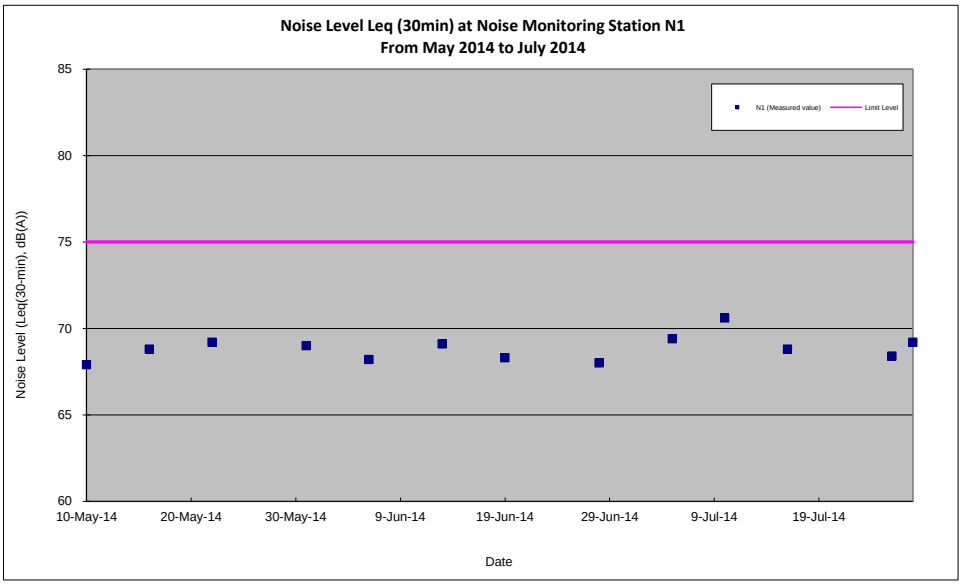
ID	Premise	Time	Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
			L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	9:55-10:25	68	75	70	66	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:40-11:10	68	75	70	66	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:20-11:50	64	70	66	62	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	8:40-9:10	64	70	66	62	67	Measured ≦ Baseline
N5	Tuen King Building	13:20-13:50	68	75	70	66	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:20-14:50	67	70	69	65	69	Measured ≦ Baseline

Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level

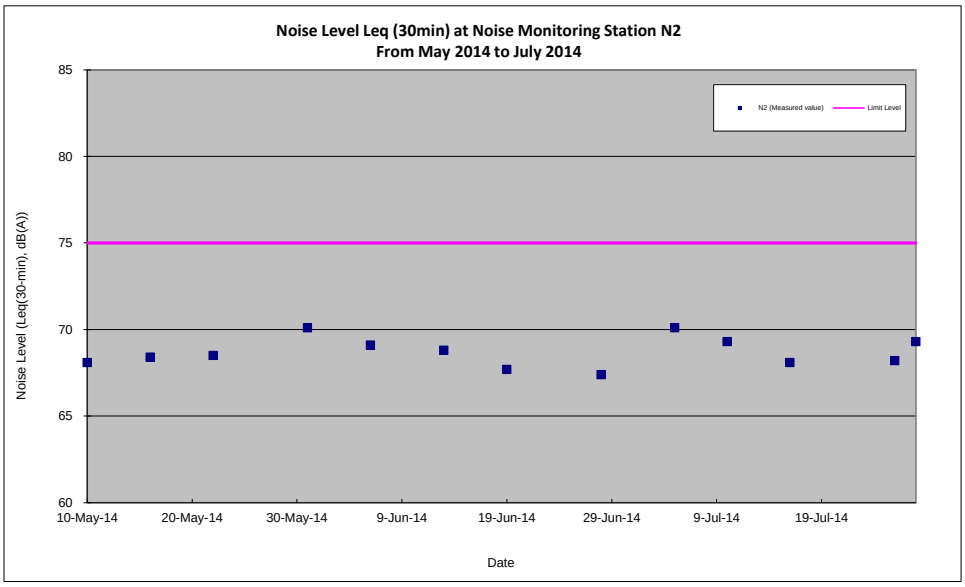
Agreement No. 5/2009 (EP) Traffic Improvements to Tuen Mun Road Town Centre Section - Environmental Team
Day-time Noise Monitoring Results - 28 July 2014

ID	Premise	Time	Measured Noise Level, dB(A)				Baseline Noise Level, dB(A)	Construction Noise Level, dB(A)
			L_{Aeq},30min	Limit	L_{10},5min	L_{90},5min	L_{Aeq},30min	L_{Aeq},30min
N1	Kam Fai Garden	09:45 - 10:15	69	75	72	67	76	Measured ≦ Baseline
N2	Tai Tung Pui Social Service Building	10:35 - 11:05	69	75	71	67	78	Measured ≦ Baseline
N3	Yuen Yuen Primary School	11:25 - 11:55	64	70	66	63	69	Measured ≦ Baseline
N4	Wu Siu Kui Primary School	08:35 - 09:05	64	70	66	63	67	Measured ≦ Baseline
N5	Tuen King Building	13:10 - 13:40	68	75	70	66	70	Measured ≦ Baseline
N6	Choi Cheung kok Secondary School	14:00 - 14:30	67	70	69	66	69	Measured ≦ Baseline

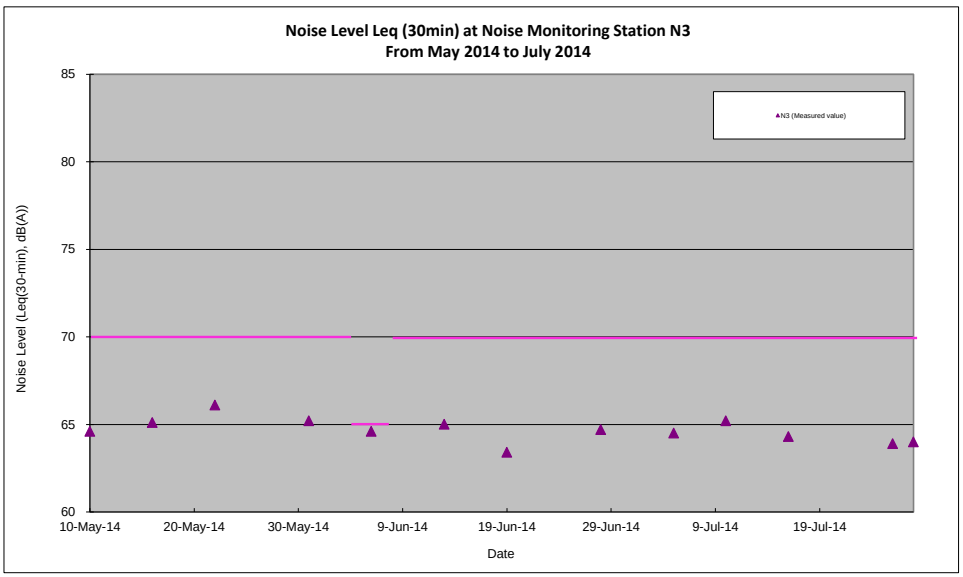
Note: (#): Construction Noise Level = Measured Noise Level - Baseline Noise Level



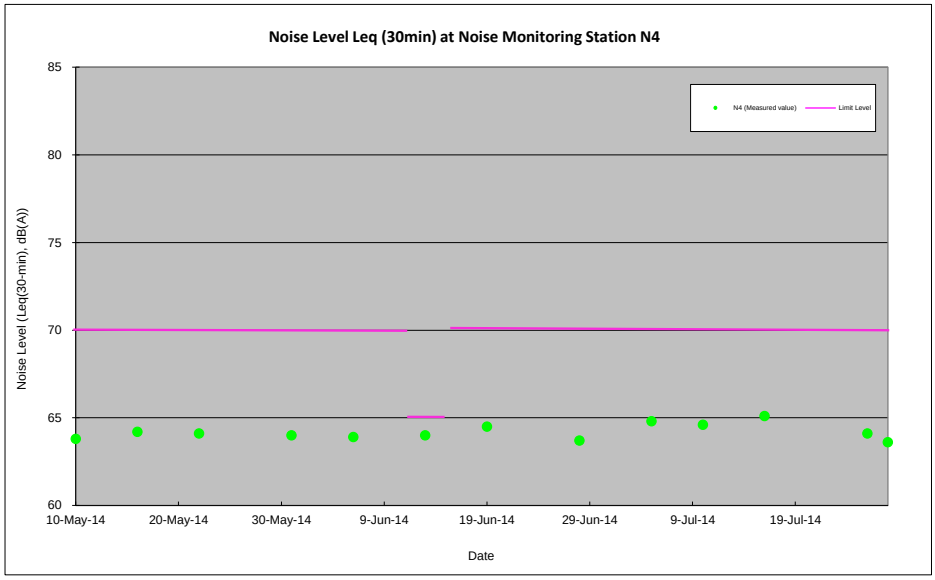
Note: For compliance comparison, please refer to above table and report.



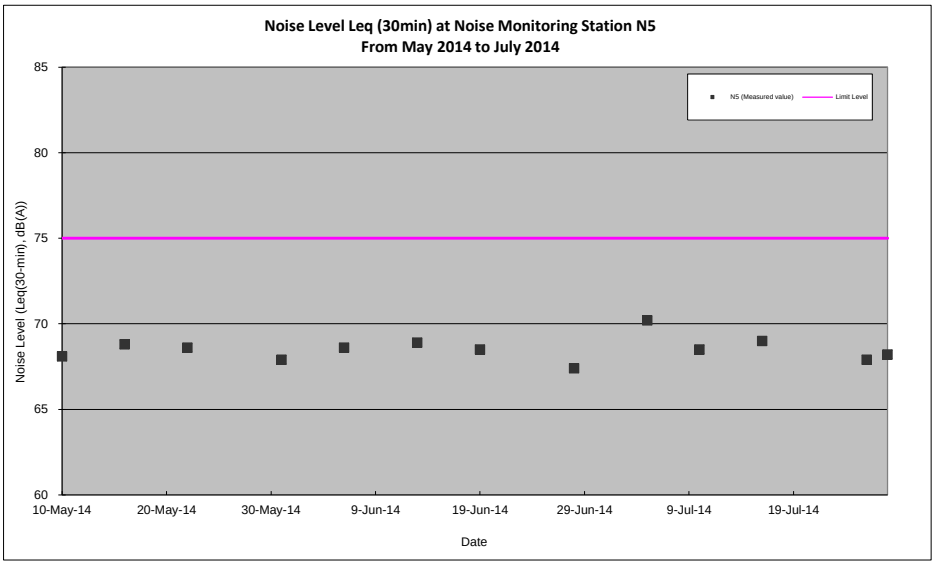
Note: For compliance comparison, please refer to above table and report.



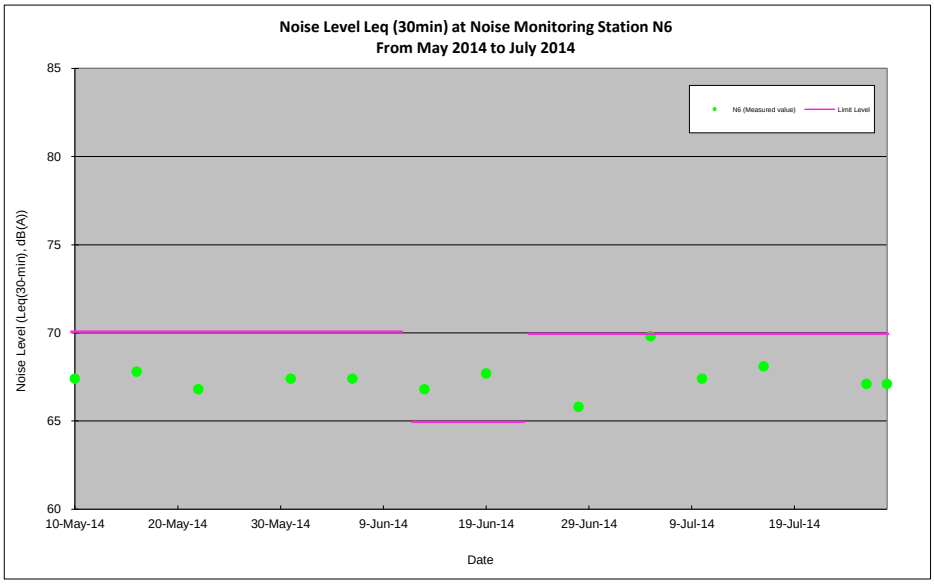
Note: For compliance comparison, please refer to above table and report.



Note: For compliance comparison, please refer to above table and report.



Note: For compliance comparison, please refer to above table and report.



Note: For compliance comparison, please refer to above table and report.

Appendix F

Details of LR, LCA and VSR

Landscape and Visual Impact Monitoring Locations

The landscape and visual conditions of the site and its vicinity shall be reviewed with regards to parameters assessed in the EIA Report, including landscape resources (LR), landscape character area (LCA) and view condition of visual sensitive receiver (VSR). The components of each assessed parameter of LR, LCA and VSR are summarised in **Tables A**.

Table A Parameters of landscape resources, landscape character areas and landscape sensitive receivers assessed during baseline site survey

ID No.	Names
Landscape Resources	
LR1	Tsing Sin Playground
LR2	Roadside Planting along Tuen Mun Road Adjacent to Kam Fai Garden
LR3	Street trees along Castle Peak Road – Castle Peak Bay
LR4	Street trees along Tuen Mun Road west of Chi Lok Fa Yuen and east of On Ting Estate
LR5	Street trees along Tuen Mun Road west of Waldorf Garden and CMA Choi Cheung Kok Prevocational School
LR6	Street trees along Tuen Mun Road near Tuen Mun Town Plaza
LR7	Street trees along Tuen Mun Road east of Yan Oi Tong
LR8	Trees at roadside planting areas near Yan Oi Tong Circuit
LR9	Trees at planting area near Tuen Mun Town Plaza
LR10	Trees at planting area near New Town Mansion
LR11	Trees at planting area near On Ting Estate
LR12	Tsing Hoi Playground
Landscape Character Areas	
LZ1	Tuen Mun Residential Urban Landscape
LZ2	Tuen Mun Mixed Modern Comprehensive Urban Development Landscape
LZ3	Tuen Mun ‘Hui’ Urban Landscape
Visual Sensitive Receivers	
C/R1	Tuen Mun Town Plaza, Waldorf Garden
C/R2	Tuen Cultural Centre, Tuen Mun Town Plaza
C/R3	Chelsea Height
GIC1	Tuen Mun Church and Tuen Mun Tseng Choi Street Joint-user Complex
GIC2	Sin Hing Tong Temple
GIC3	Semple Memorial Secondary School and Chung Shing Benevolent Society Mrs. Aw Boon Haw Secondary School
GIC4	Car park (Open)
GIC5	Yan Oi Tong Community & Sports Centre
GIC6	Tuen Mun Government Secondary School, Choi Cheung Kok Secondary School

ID No.	Names
GIC7	Madam Lau Wong Fat Primary School, Lui Cheung Kwong College, Leung Kau Kui College, Lui Cheung Kwong Primary School, Wu Siu Kui Primary School
GIC8	Sam Shing Temple
O1	San Hui Playground
O2	Tsing Sin Playground
O3	Siu Lun Sports Ground
O4	Hoi Sin Playground
R1	Residential Area of Tuen Mun San Hui
R2	Residential Area along Yan Oi Tong Circuit
R3	On Ting Estate and Siu On Court
R4	Residential Area along Tsing Hoi Circuit
R5	Handsome Court, Alpine Garden, Hoi Tak Garden and Harvest Garden, Kam Fai Garden
R6	Siu Lun Court
R7	Goodview Garden and Tsui Ning Garden
R8	Sam Shing Estate
R9	Hanford Garden
T1	Tuen Mun Road – Vehicular and Pedestrian

Appendix G

Complaint Log

No complaints were recorded in this reporting period.