

Lam Geotechnics Limited

Contract No. HK/2009/05
Wanchai Development Phase II and Central Wanchai Bypass
Quarterly EM&A Report (Sep-Nov 2010)

CONTRACT NO: HK/2009/05

WANCHAI DEVELOPMENT PHASE II AND CENTRAL
WANCHAI BYPASS
SAMPLING, FIELD MEASUREMENT AND TESTING WORK
(STAGE 1)

ENVIRONMENTAL PERMIT NO. EP-364/2009/A,
FURTHER ENVIRONMENTAL PERMIT NOS. FEP-01/364/2009,
FEP-02/364/2009, FEP-03/364/2009, FEP-04/364/2009/A, FEP-
05/364/2009/A AND FEP-06/364/2009/A

QUARTERLY ENVIRONMENTAL MONITORING
AND AUDIT REPORT

- SEPTEMBER TO NOVEMBER 2010 -

CLIENTS:

Civil Engineering and Development
Department

and

Highways Department

PREPARED BY:

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DATE:

17 December 2010

Ref.: AACWBIECEM00_0_0759L.10

17 December 2010

AECOM Asia Company Limited
8/F, Tower 2
Grand Central Plaza
138 Shatin Rural Committee Road,
Shatin, New Territories,
Hong Kong

By Post and Fax (2691 2649)

Attention: Mr. Kelvin CHENG

Dear Sir,

**Re: Wan Chai Development Phase II and Central-Wan Chai Bypass
Quarterly Environmental Monitoring and Audit Report (September to
November 2010) for EP-364/2009/A, FEP-01/364/2009, FEP-02/364/2009,
FEP-03/364/2009, FEP-04/364/2009/A, FEP-05/364/2009/A and FEP-
06/364/2009/A**

Reference is made to the Environmental Team's submission of the captioned Quarterly Environmental Monitoring and Audit (EM&A) Report for September to November 2010 dated 17 December 2010.

Please be informed that we have no adverse comments on the captioned submission and thereby write to verify the captioned submission.

Thank you very much for your kind attention and please do not hesitate to contact the undersigned should you have any queries.

Yours sincerely,



David Yeung
Independent Environmental Checker

| | | | |
|------|-------|-------------------------------------|-------------------|
| c.c. | HyD | Mr. Jones Lai | by fax: 2714 5289 |
| | CEDD | Mr. Patrick Keung | by fax: 2577 5040 |
| | AECOM | Mr. Francis Leong / Mr. Stephen Lai | by fax: 2691 2649 |
| | Lam | Mr. Raymond Dai | by fax: 2882 3331 |

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EXECUTIVE SUMMARY

- i. This is the Environmental Monitoring and Audit (EM&A) Quarterly Report specific for Environmental Permit no. EP-364/2009/A, Further Environmental Permit nos. FEP-01/364/2009, FEP-02-364/2009, FEP-03-364/2009, FEP-04/364/2009/A, FEP-05/364/2009/A and FEP-06/364/2009/A. The EM&A report is prepared by the Environmental Team (ET) employed under Contract No. HK/2009/05 –Wanchai Development Phase II and Central Wanchai Bypass. This report presents the environmental monitoring and audit findings and information during the period from 28th September 2010 to 27th November 2010. The cut-off date of reporting is at 27th of each reporting quarter.

- ii. In the reporting period, the principal work activities of individual contracts are included as follows:

Contract no. HY/2009/17 - Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

Major construction activities for Contract no. HK/2009/17 have been commenced on 5 October 2010. During this reporting period, the principle work activities for Contract no. HY/2009/17 are summarized as below:

Table I Principle Work Activities for Contract no. HY/2009/17

| September 2010 | October 2010 | November 2010 |
|--|---|---|
| <ul style="list-style-type: none"> • Only preparation works was commenced. • Mobilization and plant setup for site preparation work. | <ul style="list-style-type: none"> • Piling Works. | <ul style="list-style-type: none"> • Piling Works. |

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under FEP-04/364/2009/A

Major construction activities for Contract no. 04/HY/2006 have been conducted on September 2010. During this reporting period, the preparation works and principle work activities for it are summarized as below:

Table II Principle Work Activities for Contract no. 04/HY/2006

| September 2010 | October 2010 | November 2010 |
|---|---|--|
| <ul style="list-style-type: none"> • Modification of bus bays at the bus terminus; • Widening of carriageway at the bus terminus; and • Relocation of existing lay-bay at Man Kwong Street | <ul style="list-style-type: none"> • Modification of bus bays at the bus terminus; and • Relocation of existing lay-bay at Man Kwong Street | <ul style="list-style-type: none"> • Modification of bus bays at the bus terminus |

Contract no. HY/2009/18 - Central - Wan Chai Bypass (CWB) - Central Interchange under FEP-05/364/2009/A

The major construction activities for Contract no. HY/2009/18 anticipated commencing by early January 2011. The preparation works for it in this reporting periods included:

Table III Principle Work Activities for Contract no. HY/2009/18

| September 2010 | October 2010 | November 2010 |
|--|---|---|
| <ul style="list-style-type: none"> No major construction activity was undertaken in reporting period. | <ul style="list-style-type: none"> Only preparation works was commenced. Site preparation of Community Liaison Centre (CLC) and Engineer's sub office; Installation of trial pits for utilities identification; and Tree survey | <ul style="list-style-type: none"> Only preparation works was commenced. Refurbishment of existing site office next to Star Ferry Central Pier; Initial record survey; and Condition survey |

Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009

- No major construction activity was undertaken in reporting period.

Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

- No major construction activity was undertaken in reporting period.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section) under FEP-06/364/2009/A

- No major construction activity was undertaken in reporting period.

Noise Monitoring

- iii. Noise monitoring during daytime was commenced on 30 August 2010 at the International Finance Centre (eastern and western podium) on a weekly basis. No action and limit exceedances were recorded in the reporting period.
- iv. Noise monitoring during daytime was commenced on 5 October 2010 at Victoria Center on a weekly basis. No action and limit exceedances were recorded in the reporting period.
- v. 24-hour real time noise monitoring was commenced at FEHD Hong Kong Transport Section Whitefield Depot by 5 October 2010 for the pilling works in FEHD Whitfield Depot. No action and limit level exceedances were recorded in the reporting period during normal hour monitoring. In contrast, exceedances were recorded through out in October and scrappy in November during restricted hour and nighttime monitoring. The details of exceedances can be referred to section 4.1.



Air Quality Monitoring

- vi. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring was commenced on 9 September 2010 at International Finance Centre (eastern and western podium) on every six days basis. No action and limit level exceedance were recorded in the reporting period.
- vii. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring was commenced 8 October 2010 at Causeway Bay Community Center on every six days basis. No action and limit level exceedance were recorded in the reporting period.

Complaints, Notifications of Summons and Successful Prosecutions

- viii. No complaint was recorded in the reporting period.

1. INTRODUCTION

1.1 Scope of the Report

- 1.1.1. Lam Geotechnics Limited (LGL) has been appointed to work as the Environmental Team (ET) under Environmental Permit no. EP-364/2009A and Further Environmental permit nos. FEP-01/364/2009, FEP-02/364/2009, FEP-03/364/2009, FEP-04/364/2009/A, FEP-05/364/2009/A and FEP-06/364/2009/A to implement the Environmental Monitoring and Audit (EM&A) programme as stipulated in the EM&A Manual of the approved Environmental Impact Assessment (EIA) Report for Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) and in the EM&A Manual of the approved EIA Report for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-014/2001).
- 1.1.2. This report presents the environmental monitoring and auditing work carried out in accordance to the Section 10.3 of EM&A Manual and “*Environmental Monitoring and Audit Requirements*” under Particular Specification Section 27.
- 1.1.3. This report documents the finding of EM&A works during the period from 28th September 2010 to 27th November 2010.

1.2 Structure of the Report

- Section 1** ***Introduction*** – details the scope and structure of the report.
- Section 2** ***Project Background*** – summarizes background and scope of the project, site description, project organization and contact details of key personnel during the reporting period.
- Section 3** ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring locations, monitoring frequency, duration and action plan.
- Section 4** ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.
- Section 5** ***Compliance Audit*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.
- Section 6** ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution
- Section 7** ***Cumulative Construction Impact due to the Concurrent Projects*** – summarizes the relevant cumulative construction impact due to the concurrent activities of the concurrent Projects.
- Section 8** ***Conclusion***

2. PROJECT BACKGROUND

2.1 Background

2.1.1. “Wan Chai Development phase II and Central-Wan Chai Bypass” and “Central-Wan Chai Bypass and Island Eastern Corridor Link” (hereafter called “the Project”) are Designed Project (DP) under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). The Environmental Impact Assessment (EIA) Reports for Central-Wan Chai Bypass and Island Eastern Corridor Link (Register No. AEIAR-041/2001) and Wan Chai Development phase II and Central-Wan Chai Bypass (Register No.: AEIAR-125/2008) have been approved on 31 August 2001 and 11 December 2008 respectively.

2.1.2. The key purpose of Wan Chai Development Phase II (WDII) is to provide land at Wan Chai North and North Point for construction of the Central-Wan Chai Bypass and Island Eastern Corridor Link (CWB). Land formed under the project will be developed as a world-class waterfront promenade joining that at the new Central waterfront for public enjoyment.

2.1.3. There is a compelling and present need for the CWB to provide relief to the very congested east-west Connaught Road Central/Harcourt Road / Gloucester Road Corridor (the Corridor) which is currently operating beyond its capacity. The CWB will provide relief to the existing congestion along the Corridor and cater for the anticipated growth of traffic on Hong Kong Island. Without the CWB and its access roads, there will not be sufficient capacity to serve the heavy traffic demands at both strategic and local levels.

2.2 Scope of the Project and Site Description

2.2.1. Design and Construction of Central – Wan Chai Bypass and Island Eastern Corridor Link under the Project involves the construction and operation of a trunk road and its road tunnel more than 800m in length between portals that is shown at **Figure 2.1**.

2.2.2. The study area encompasses existing developments from Central to North Point. The scope of the Central-Wanchai Bypass (CWB) and Island Eastern Corridor Link (IECL) includes:

- A dual three-lane trunk road, approximately 4.5 km in length, and tunnel approximately 3.7 km in length defined from the connection with the existing Rumsey Street Flyover in Central, through to a connection with the existing Island Eastern Corridor to the east of the Causeway Bay Typhoon Shelter (CBTS);
- The Central Interchange near the Rumsey Street Flyover to provide road connections to the Central area;
- Tunnel control buildings and ventilation buildings;
- Slip roads to connect the CWB to the local road system in the Wan Chai North and Causeway Bay area;
- Associated road lighting, road signing, traffic control and surveillance system; and
- Other associated works.

2.2.3. The project also contains various Schedule 2 DPs that, under the EIAO, require Environmental Permits (EPs) to be granted by the DEP before they may be either constructed or operated. **Table 2.1** summarises the five individual DPs under this Project. **Figure 2.1** shows the locations of these Schedule 2 DPs.

Table 2.1 Schedule 2 Designated Projects under this Project

| Item | Designated Project | EIAO Reference | Reason for inclusion |
|------|--|----------------------------------|--|
| DP1 | Central-Wanchai Bypass (CWB) including its road tunnel and slip roads | Schedule 2, Part I, A.1 and A.7 | Trunk road and road tunnel more than 800 m in length |
| DP2 | Road P2 and other roads which are classified as primary/district distributor roads | Schedule 2, Part I, A.1 | Primary / district distributor roads |
| DP3 | Reclamation works including associated dredging works | Schedule 2, Part I, C.1 and C.12 | Reclamation more than 5 ha in size and a dredging operation less than 100 m from a seawater intake point |
| DP5 | Wan Chai East Sewage Outfall | Schedule 2, Part I, F.5 and F.6 | Submarine sewage pipelines with a total diameter more than 1,200 mm and include a submarine sewage outfall |
| DP6 | Dredging for the Cross-harbour Water Mains from Wan Chai to Tsim Sha Tsui | Schedule 2, Part I, C.12 | A dredging operation less than 100 m from a seawater intake point |

2.3 Division of the Project Responsibility

2.3.1. Due to the multi-contract nature of the Project, there are a number of contracts sub-dividing the whole works area into different work areas to be commenced. Contractors of individual contracts will be required by the EP holder to apply Further Environmental Permits such that the impact monitoring stations are sub-divided accordingly to facilitate the implementation of EM&A programme and to streamline the EM&A reporting for individual FEP holders correspondingly.

2.3.2. In the reporting period, Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under Contract no. 04/HY/2006 was commenced on September 2010 and advance piling work at FEHD Whitfield Depot under Contract no. HY/2009/17 was commenced on 5 October 2010. The details of individual contracts are summarized in **Table 2.2**.

Table 2.2 Details of Individual Contracts under the Project

| Contract No. | Contract Title | Associated DP(s) | Construction Commencement Date |
|--------------|--|------------------|---|
| HY/2009/17 | Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works. | DP1 | 5 October 2010 |
| HY/2009/18 | Central - Wan Chai Bypass (CWB) – Central Interchange | DP1 | Anticipated to be commenced in January 2011 |
| 04/HY/2006 | Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street | DP1 | September 2010 |

| Contract No. | Contract Title | Associated DP(s) | Construction Commencement Date |
|--------------|--|------------------|--------------------------------|
| HK/2009/01 | Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works | DP1, DP2 | Pending |
| HK/2009/02 | Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East(CWB Tunnel) (CWB Tunnel) | DP1 | Pending |
| HY/2009/15 | Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section) | DP1 | Pending |

2.4 Project Organization and Contact Personnel

2.4.1. Civil Engineering and Development Department and Highways Department are the overall project controllers for the Wan Chai Development Phase II and Central-Wan Chai Bypass respectively. For the construction phase of the Project, Project Engineer, Contractor(s), Environmental Team and Independent Environmental Checker are appointed to manage and control environmental issues.

2.4.2. The proposed project organization and lines of communication with respect to environmental protection works are shown in **Figure 2.2**. Key personnel and contact particulars are summarized in **Table 2.3**:

Table 2.3 Contact Details of Key Personnel

| Party | Role | Post | Name | Contact No. | Contact Fax |
|--|--|----------------------------------|--------------------|-------------|-------------|
| AECOM | Engineer for WDII | Principle Resident Engineer | Mr. Frankie Fan | 2587 1778 | 2587 1877 |
| | Engineer for CWB | Principle Resident Engineer | Mr. Peter Poon | 3916 1818 | 3529 2829 |
| Lam Woo & CO., LTD. | Contractor under Contract no. HY/2009/17 | Project Manager | Mr. K. S. Law | 9090 1378 | 2566 7522 |
| | | Construction Manager / Sub Agent | Mr. Joe Tsang | 9725-5874 | |
| | | Site Agent | Mr. Daniel Chan | 9372 0495 | |
| | | Environmental Officer | Mr. Andy Mak | 6461 3065 | |
| Chiu Hing Construction & Transportation Co. Ltd. | Contractor under Contract no. 04/HY/2006 | Contract Manager | Mr. Frederick Tsui | 2967 6363 | 2967 6366 |
| | | Senior Site Agent | Mr. Alvin Ma | 2967 6363 | 2967 6366 |
| | | Environmental Consultant | Mr. Jimmy Cheng | 2965 0898 | 2556 9172 |
| Chun Wo – | Contractor | Site Agent | Mr. Paul Yu | 9456 9819 | 2634 1626 |



| Party | Role | Post | Name | Contact No. | Contact Fax |
|--|--|--|--------------------|-------------|-------------|
| Leader Joint Venture | under Contract no. HK/2009/01 | Operation Manager | Mr. Ho Wing Tai | 9306 1356 | |
| | | Construction Manager | Mr. David Wong | 9653 8635 | |
| | | Construction Manager | Mr. Wilson Lau | 5183 1270 | |
| | | Construction Manager | Mr. Alex Tsang | 9194 9383 | |
| | | Environmental Officer (Compliance Manager) | Mr. Ho Wing Tai | 9306 1356 | |
| | | Environmental Engineer | Mr. Ken Yang | 9262 6791 | |
| Chun Wo – CRGL Joint Venture | Contractor under Contract no. HK/2009/02 | Project Manager | Mr. Chan Sing Cho | 3658 3002 | 2827 9996 |
| | | Site Agent | Mr. Eric Lam | 3658-3048 | |
| | | Deputy Site Agent | Mr. Anthony Wu | 3658-3004 | |
| | | Environmental Officer (Compliance Manager) | Mr. Barry Leung | 3658 3031 | |
| | | Environmental Engineer | Ms. Flora Ng | 3658-3064 | |
| Leighton Contractors (Asia) Limited | Contractor under Contract no. HY/2009/18 | Site Agent | Mr. Brian Gillon | 2214 7700 | 2140 6799 |
| | | Deputy Site Agent | Mr. Desmond Sze | 2214 7703 | |
| | | Quality & Env. Manager | Mr. Stephen Moc | 2214 7720 | |
| | | Environmental Officer | Mr. Anfernee Chow | 2214 7721 | |
| | | Environmental Supervisor | Mr. Kelven Yip | 2214 7722 | |
| China State Construction Engineering (HK) Ltd. | Contractor under Contract no. HY/2009/15 | Project Manager | Mr. M Y Wong | 2823 7879 | 2566 2192 |
| | | Site Agent | Mr. Leung Kwok Yiu | 9026 8808 | |
| | | Head of construction | Mr. Simon Tang | 9022 6060 | |
| | | Construction Manager | Mr. C K Kwok | 9779 2162 | |
| | | Assistant Construction Manager (East) | Mr. Gene Cheung | 6105 4880 | |

| Party | Role | Post | Name | Contact No. | Contact Fax |
|---------------------------|---|---|------------------|-------------|-------------|
| | | Assistant Construction Manager (West) | Mr. Tony Chiu | 9090 0606 | |
| | | Section Agent (East) | Mr. Jason Chan | 9254 1635 | |
| | | Section Agent (West) | Mr. Tang Ka Tung | 9473 4771 | |
| | | Environmental Manager | Ms. Anna Yu | 9473 1945 | |
| ENVIRON Hong Kong Limited | Independent Environmental Checker (IEC) | Independent Environmental Checker (IEC) | Mr. David Yeung | 3743 0788 | 3548 6988 |
| Lam Geotechnics Limited | Environmental Team (ET) | Environmental Team Leader (ETL) | Mr. Raymond Dai | 2882 3939 | 2882 3331 |

2.5 Principle Work and Activities

2.5.1. Major construction activities for Contract no. HK/2009/17 have been commenced on 5 October 2010. During this reporting period, the principle work activities for Contract no. HY/2009/17 are summarized in **Table 2.4**.

Table 2.4 Principle Work Activities for Contract no. HY/2009/17

| September 2010 | October 2010 | November 2010 |
|--|---|---|
| <ul style="list-style-type: none"> Only preparation works was commenced. Mobilization and plant setup for site preparation work. | <ul style="list-style-type: none"> Piling Works. | <ul style="list-style-type: none"> Piling Works. |

2.5.2. Major construction activities for Contract no. 04/HY/2006 have been commenced on September 2010. The major construction works in the reporting quarter are summarized in **Table 2.5**.

Table 2.5 Principle Work Activities for Contract no. 04/HY/2006

| September 2010 | October 2010 | November 2010 |
|---|---|--|
| <ul style="list-style-type: none"> Modification of bus bays at the bus terminus; Widening of carriageway at the bus terminus; and Relocation of existing lay-bay at Man Kwong Street | <ul style="list-style-type: none"> Modification of bus bays at the bus terminus; and Relocation of existing lay-bay at Man Kwong Street | <ul style="list-style-type: none"> Modification of bus bays at the bus terminus |

2.5.3. The major construction activities for Contract no. HY/2009/18 anticipated commencing by early January 2011. The preparation works in the reporting quarter are summarized in **Table 2.6**.

Table 2.6 Principle Work Activities for Contract no. HY/2009/18

| September 2010 | October 2010 | November 2010 |
|--|---|---|
| <ul style="list-style-type: none"> No major construction activity was undertaken in reporting period. | <ul style="list-style-type: none"> Only preparation works was commenced. Site preparation of Community Liaison Centre (CLC) and Engineer's sub office; Installation of trial pits for utilities identification; and Tree survey | <ul style="list-style-type: none"> Only preparation works was commenced. Refurbishment of existing site office next to Star Ferry Central Pier; Initial record survey; and Condition survey |

2.5.4. Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009

- No major construction activity is anticipated in coming reporting period.

2.5.5. Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

- No major construction activity is anticipated in coming reporting period.

2.5.6. Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section) under FEP-06/364/2009/A

- No major construction activity was undertaken in reporting period.

2.5.7. Implementation status of the recommended mitigation measures during this reporting period is presented in **Appendix 2.1**.

3. MONITORING REQUIREMENTS

3.1. Noise Monitoring

NOISE MONITORING STATIONS

- 3.1.1. The noise monitoring stations for the Project are listed and shown in **Table 3.1** and **Figure 3.1**. **Appendix 3.1** shows the established Action/Limit Levels for the monitoring works.

Table 3.1 Noise Monitoring Station

| Station | Description |
|---------|--|
| M1a | Harbour Road Sports Centre |
| M2b | Noon Gun Area |
| M3a | Tung Lo Wan Fire Station |
| M4b | Victoria Centre |
| M5b | City Garden |
| M6 | HK Baptist Church Henrietta Secondary School |
| M7e | International Finance Centre (Eastern End of Podium) |
| M7w | International Finance Centre (Western End of Podium) |

REAL TIME NOISE MONITORING STATIONS

- 3.1.2. The noise monitoring stations for the Project are listed and shown in **Table 3.2** and **Figure 3.1**. **Appendix 3.1** shows the established Action/Limit Levels for the monitoring works.

Table 3.2 Real Time Noise Monitoring Station

| District | Station | Description |
|-------------|---------|---|
| Tin Hau | RTN1 | FEHD Hong Kong Transport Section Whitefield Depot |
| North Point | RTN2 | Oil Street Community Liaison Centre |

NOISE MONITORING PARAMETERS, FREQUENCY AND DURATION

- 3.1.3. The construction noise level shall be measured in terms of the A-weighted equivalent continuous sound pressure level (L_{eq}). $L_{eq(30\text{ minutes})}$ shall be used as the monitoring parameter for the time period between 0700 and 1900 hours on normal weekdays. For all other time periods, $L_{eq(5\text{ minutes})}$ shall be employed for comparison with the Noise Control Ordinance (NCO) criteria. Supplementary information for data auditing, statistical results such as L_{10} and L_{90} shall also be obtained for reference.

- 3.1.4. Noise monitoring shall be carried out at all the designated monitoring stations. The monitoring frequency shall depend on the scale of the construction activities. The following is an initial

guide on the regular monitoring frequency for each station on a weekly basis when noise generating activities are underway:

- One set of measurements between 0700 and 1900 hours on normal weekdays.

3.1.5. Real time noise shall be carried out at the designated monitoring stations. The following is an initial guide on the regular monitoring frequency for each station on a 24 hours daily basis when noise generating activities are underway:

- One set of measurements between 0700 and 1900 hours on normal weekdays.
- One set of measurements between 1900 and 2300 hours on normal weekdays and 0700 and 2300 hours on public holidays.
- One set of measurements between 2300 and 0700 hours on next day on everyday.

3.1.6. If construction works are extended to include works during the hours of 1900 – 0700 as well as public holidays and Sundays, additional weekly impact monitoring shall be carried out during respective restricted hours periods. Applicable permits under NCO shall be obtained by the Contractor.

MONITORING EQUIPMENT

3.1.7. As referred to in the Technical Memorandum TM issued under the NCO, sound level meters in compliance with the International Electrotechnical Commission Publications 651: 1979 (Type 1) and 804: 1985 (Type 1) specifications shall be used for carrying out the noise monitoring. Immediately prior to and following each noise measurement the accuracy of the sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agree to within 1.0 dB.

3.1.8. Noise measurements shall not be made in fog, rain, wind with a steady speed exceeding 5 m/s or wind with gusts exceeding 10 m/s. The wind speed shall be checked with a portable wind speed meter capable of measuring the wind speed in m/s.

3.1.9. The sound level meter shall be checked using an acoustic calibrator generating a known sound pressure level at a known frequency before deployment to the site and during each site visit. Measurements may be accepted as valid only if the calibration level from before and after the noise measurement agree to within 1.0 dB.

3.2. Air Monitoring

AIR QUALITY MONITORING STATIONS

3.2.1. The air monitoring stations for the Project are listed and shown in **Table 3.2** and **Figure 3.1**. **Appendix 3.1** shows the established Action/Limit Levels for the monitoring works.

Table 3.2 Air Monitoring Stations

| Station ID | Monitoring Location | Description |
|------------|-------------------------------------|--------------|
| CMA1b | Oil Street Community Liaison Centre | North Point |
| CMA2a | Causeway Bay Community Centre | Causeway Bay |

| Station ID | Monitoring Location | Description |
|------------|--|--------------|
| CMA3a | Future CWB site office at Wanchai Waterfront Promenade | Causeway Bay |
| CMA4a | Society for the Prevention of Cruelty to Animals | Wan Chai |
| CMA5a | Children Playgrounds opposite to Pedestrian Plaza | Wan Chai |
| CMA6a | Future AECOM site office at Work Area | Wan Chai |
| MA1e | International Finance Centre (Eastern End of Podium) | Central |
| MA1w | International Finance Centre (Western End of Podium) | Central |

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

- 3.2.2. One-hour and 24-hour TSP levels should be measured to indicate the impacts of construction dust on air quality. The 24-hour TSP levels shall be measured by following the standard high volume sampling method as set out in the Title 40 of the Code of Federal Regulations, Chapter 1 (Part 50), Appendix B.
- 3.2.3. All relevant data including temperature, pressure, weather conditions, elapsed-time meter reading for the start and stop of the sampler, identification and weight of the filter paper, and any other local atmospheric factors affecting or affected by site conditions, etc., shall be recorded down in detail.
- 3.2.4. For regular impact monitoring, the sampling frequency of at least once in every six-days, shall be strictly observed at all the monitoring stations for 24-hour TSP monitoring. For 1-hour TSP monitoring, the sampling frequency of at least three times in every six-days should be undertaken when the highest dust impact occurs.

SAMPLING PROCEDURE AND MONITORING EQUIPMENT

- 3.2.5. High volume samplers (HVSs) in compliance with the following specifications shall be used for carrying out the 1-hour and 24-hour TSP monitoring:
- 0.6 - 1.7 m³ per minute adjustable flow range;
 - Equipped with a timing / control device with +/- 5 minutes accuracy for 24 hours operation;
 - Installed with elapsed-time meter with +/- 2 minutes accuracy for 24 hours operation;
 - Capable of providing a minimum exposed area of 406 cm²;
 - Flow control accuracy: +/- 2.5% deviation over 24-hour sampling period;
 - Equipped with a shelter to protect the filter and sampler;
 - Incorporated with an electronic mass flow rate controller or other equivalent devices;
 - Equipped with a flow recorder for continuous monitoring;
 - Provided with a peaked roof inlet;
 - Incorporated with a manometer;
 - Able to hold and seal the filter paper to the sampler housing at horizontal position;
 - Easily changeable filter; and

- Capable of operating continuously for a 24-hour period.
- 3.2.6. Initial calibration of dust monitoring equipment shall be conducted upon installation and thereafter at bi-monthly intervals. The transfer standard shall be traceable to the internationally recognized primary standard and be calibrated annually. The concern parties such as IEC shall properly document the calibration data for future reference. All the data should be converted into standard temperature and pressure condition.
- 3.2.7. Laboratory Measurement / Analysis
- 3.2.8. A clean laboratory with constant temperature and humidity control, and equipped with necessary measuring and conditioning instruments to handle the dust samples collected, shall be available for sample analysis, and equipment calibration and maintenance. The laboratory should be HOKLAS accredited.
- 3.2.9. Filter paper of size 8" x 10" shall be labeled before sampling. It shall be a clean filter paper with no pinholes, and shall be conditioned in a humidity-controlled chamber for over 24-hours and be pre-weighed before use for the sampling.
- 3.2.10. After sampling, the filter paper loaded with dust shall be kept in a clean and tightly sealed plastic bag. The filter paper shall then be returned to the laboratory for reconditioning in the humidity controlled chamber followed by accurate weighing by an electronic balance with readout down to 0.1 mg. The balance shall be regularly calibrated against a traceable standard.
- 3.2.11. All the collected samples shall be kept in a good condition for 6 months before disposal.

4. MONITORING RESULTS

4.0.1. The environmental monitoring will be implemented based on the division of works areas of each designed project managed under different contracts with separate FEP applied by individual contractors. Overall layout showing work areas of various contracts, latest status of work commencement and monitoring stations is shown in **Figure 2.1** and **Figure 3.1**. The monitoring results are presented in according to the Individual Contract(s).

4.0.2. In the reporting period, the concurrent contracts are as follows:

- Contract no. 04/HY/2006 –Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under FEP-04/364/2009/A.
- Contract no. HY/2009/17 - Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

4.1. Noise Monitoring Results

Contract no. HY/2009/17 –Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

4.1.1. The proposed division of noise monitoring stations for Contract no. HY/2009/17 is summarized in **Table 4.1** below:

Table 4.1 Noise Monitoring Stations for Contract no. HY/2009/17

| Station | Description |
|---------|-----------------|
| M4b | Victoria Centre |

4.1.2. No action and limit exceedance was recorded during day time and restricted hour period in the reporting period. Noise monitoring results measured in this reporting period are reviewed and summarized. Noise monitoring results measured in this reporting period are reviewed and summarized. Details of graphical presentation can be referred in **Appendix 4.1**.

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under FEP-04/364/2009/A and Contract no. HY/2009/18 - Central - Wan Chai Bypass (CWB) – Central Interchange under FEP-05/364/2009/A

4.1.3. The commencement of major construction works for Contract no. 04/HY/2006 by September 2010 and no major construction work was commenced by Contract no. HY/2009/18 in the reporting period. The proposed division of noise monitoring stations are summarized in **Table 4.2** below.

Table 4.2 Noise Monitoring Station for Contract nos. 04/HY/2006 and HY/2009/18

| Station | Description |
|---------|--|
| M7e | International Finance Centre (Eastern End of Podium) |

| | |
|-----|--|
| M7w | International Finance Centre (Western End of Podium) |
|-----|--|

- 4.1.4. No exceedance was recorded in the reporting period. Noise monitoring results measured in this reporting period are reviewed and summarized. Details of noise monitoring results and graphical presentation can be referred in **Appendix 4.1**.
- 4.1.5. The commencement of major construction works for Contract no. HY/2009/18 under FEP-05/364/2009A is pending. Only preparation works was commenced in the reporting period.
- 4.1.6. Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009 and Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009
- 4.1.7. The commencement of construction works for Contract no. HK/2009/01 and HK/2009/02 under FEP-02/364/2009 and FEP-01/364/2009 respectively are pending. The proposed division of air monitoring stations are summarized in **Table 4.3** below.

Table 4.3 Noise Monitoring Stations for Contract nos. HK/2009/01 and HK/2009/02

| Station | Description |
|---------|----------------------------|
| M1a | Harbour Road Sports Centre |

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section) under FEP-06/364/2009/A

- 4.1.8. The commencement of construction works for Contract no. under FEP-06/364/2009/A is pending. The proposed division of noise monitoring stations are summarized in **Table 4.4** below.

Table 4.4 Noise Monitoring Station for Contract nos. HY/2009/15

| Station | Description |
|---------|--------------------------|
| M2b | Noon Gun Area |
| M3a | Tung Lo Wan Fire Station |

4.2. Real Time Noise Monitoring Results

Contract no. HY/2009/17 –Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

- 4.2.1. The proposed division of real time noise monitoring stations are summarized in **Table 4.5** below. Real time noise monitoring for the piling works under contract no. HY/2009/17 was commenced on 5 October 2010.

Table 4.5 Real Time Noise Monitoring Station for Contract no. HY/2009/17

| District | Description |
|----------|---|
| Tin Hau | FEHD Hong Kong Transport Section Whitefield Depot |

4.2.2. No exceedance was recorded between 0700 and 1900 hours. In contrast, fragmentary exceedances were recorded between 1900 and 2300 hours though out the reporting period and between 2300 and 0700 on the next day. Details of real time noise monitoring results and graphical presentation can be referred to **Appendix 4.2**

4.3. Air Monitoring Results

Contract no. HY/2009/17 –Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

4.3.1. The proposed division of air monitoring stations are summarized in **Table 4.6** below. Air monitoring for the piling works under contract no. HY/2009/17 was commenced on 8 October 2010.

Table 4.6 Air Monitoring Stations for Contract no. HY/2009/17

| Station | Description |
|---------|-------------------------------|
| CMA2a | Causeway Bay Community Centre |

4.3.2. No exceedance was recorded in the reporting period. Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 4.2.**

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under FEP-04/364/2009/A and Contract no. HY/2009/18 - Central - Wan Chai Bypass (CWB) – Central Interchange under FEP-05/364/2009/A

4.3.3. The proposed division of air monitoring stations are summarized in **Table 4.7** below.

Table 4.7 Air Monitoring Stations for Contract no. 04/HY/2006 and HY/2009/18

| Station | Description |
|---------|--|
| MA1e | International Finance Centre (Eastern End of Podium) |
| MA1w | International Finance Centre (Western End of Podium) |

4.3.4. Due to lack of electricity at station MA1w on 18 November 2010. 24 hours air quality monitoring was rescheduled by 19 November 2010.

4.3.5. No exceedance was recorded in the reporting period. Air quality monitoring results measured in this reporting period are reviewed and summarized. Details of air monitoring results and graphical presentation can be referred in **Appendix 4.3.**

4.3.6. The commencement of major construction works for Contract no. HY/2009/18 under FEP-05/364/2009A is pending. Only preparation works was commenced in the reporting period.

Contract no. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009

4.3.7. Air quality monitoring will be commenced depending on the commencement of work for Contract no. HK/2009/01 under FEP-02/364/2009. The proposed division of air monitoring stations are summarized in **Table 4.8** below.

Table 4.8 Air Monitoring Stations for Contract no. HK/2009/01

| Station | Description |
|---------|---|
| CMA5a | Children Playgrounds opposite to Pedestrian Plaza |

Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

4.3.8. Air quality monitoring will be commenced depending on the commencement of work for Contract no. HK/2009/02 under FEP-01/364/2009. The proposed division of air monitoring stations are summarized in **Table 4.9** below.

Table 4.9 Air Monitoring Station for Contract no. HK/2009/02

| Station | Description |
|---------|--|
| CMA4a | Society for the Prevention of Cruelty to Animals |

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section) under FEP-06/364/2009/A

4.3.9. Air quality monitoring will be commenced depending on the commencement of work for Contract no. HY/2009/15 under FEP-06/364/2009/A. The proposed division of air monitoring stations are summarized in **Table 4.10** below.

Table 4.10 Air Monitoring Station for Contract no. HY/2009/15

| Station | Description |
|---------|---|
| CMA3a | CWB site office at Wanchai Waterfront Promenade |

4.4. Waste Monitoring Results

Contract no. HY/2009/17 –Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

4.4.1. Inert C&D waste was recycled in the reporting period. Details of the waste flow table are summarized in **Table 4.11**

Table 4.11 Details of Waste Disposal for Contract no. HY/2009/17

| Waste Type | Quantity this quarter, m ³ | Cumulative Quantity-to-Date, m ³ | Disposal / Dumping Grounds |
|---------------------|---------------------------------------|---|----------------------------|
| Inert C&D materials | NIL | NIL | N/A |

| Waste Type | Quantity this quarter, m ³ | Cumulative Quantity-to-Date, m ³ | Disposal / Dumping Grounds |
|----------------------------------|---------------------------------------|---|----------------------------|
| disposed | | | |
| Inert C&D materials recycled | 730.24 | 730.24 | N/A |
| Non-inert C&D materials disposed | NIL | NIL | N/A |
| Non-inert C&D materials recycled | NIL | NIL | N/A |
| Chemical waste disposed | N/A | N/A | N/A |

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under FEP-04/364/2009/A

- 4.4.2. Inert C&D waste was disposed of in this reporting period. Details of the waste flow table are summarized in **Table 4.12**.

Table 4.12 Details of Waste Disposal for Contract no. 04/HY/2006

| Waste Type* | Quantity this quarter, m ³ | Cumulative-to-Date. m ³ | Disposal / Dumping Grounds |
|----------------------------------|---------------------------------------|------------------------------------|----------------------------|
| Inert C&D materials disposed | 1135.9 | 1135.9 | Chai Wan and T.K.O. 137 |
| Inert C&D materials recycled | NIL | NIL | N/A |
| Non-inert C&D materials disposed | NIL | NIL | N/A |
| Non-inert C&D materials recycled | NIL | NIL | N/A |
| Chemical waste disposed | NIL | NIL | N/A |

Contract nos. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works under FEP-02/364/2009

- 4.4.3. No inert and non-inert C&D waste was disposed of in this reporting period. Details of the waste flow table are summarized in **Table 4.13**.

Table 4.13 Details of Waste Disposal for Contract no. HK/2009/01

| Waste Type* | Quantity this quarter, m ³ | Cumulative-to-Date. m ³ | Disposal / Dumping Grounds |
|----------------------------------|---------------------------------------|------------------------------------|----------------------------|
| Inert C&D materials disposed | NIL | NIL | N/A |
| Inert C&D materials recycled | NIL | NIL | N/A |
| Non-inert C&D materials disposed | NIL | NIL | N/A |
| Non-inert C&D | NIL | NIL | N/A |

| Waste Type* | Quantity this quarter, m ³ | Cumulative-to-Date. m ³ | Disposal / Dumping Grounds |
|-------------------------|---------------------------------------|------------------------------------|----------------------------|
| materials recycled | | | |
| Chemical waste disposed | NIL | NIL | N/A |

Contract no. HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East (CWB Tunnel) under FEP-01/364/2009

- 4.4.4. No inert and no-inert C&D waste was disposed of in this reporting period. Details of the waste flow table are summarized in **Table 4.14**.

Table 4.14 Details of Waste Disposal for Contract no. HK/2009/02

| Waste Type* | Quantity this quarter, m ³ | Cumulative-to-Date. m ³ | Disposal / Dumping Grounds |
|----------------------------------|---------------------------------------|------------------------------------|----------------------------|
| Inert C&D materials disposed | NIL | NIL | N/A |
| Inert C&D materials recycled | NIL | NIL | N/A |
| Non-inert C&D materials disposed | NIL | NIL | N/A |
| Non-inert C&D materials recycled | NIL | NIL | N/A |
| Chemical waste disposed | NIL | NIL | N/A |

Contract no. HY/2009/18 - Central - Wan Chai Bypass (CWB) – Central Interchange under FEP-05/364/2009/A

- 4.4.5. Non-Inert C&D waste was disposed of in this reporting period. Details of the waste flow table are summarized in **Table 4.15**.

Table 4.15 Details of Waste Disposal for Contract no. HY/2009/18

| Waste Type* | Quantity this quarter, m ³ | Cumulative-to-Date. m ³ | Disposal / Dumping Grounds |
|----------------------------------|---------------------------------------|------------------------------------|----------------------------|
| Inert C&D materials disposed | NIL | NIL | N/A |
| Inert C&D materials recycled | NIL | NIL | N/A |
| Non-inert C&D materials disposed | 3.04 | 3.04 | SENT, TKO137 |
| Non-inert C&D materials recycled | NIL | NIL | N/A |
| Chemical waste disposed | NIL | NIL | N/A |

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section) under FEP-06/364/2009/A

4.4.6. No inert and no-inert C&D waste was disposed of in this reporting period. Details of the waste flow table are summarized in **Table 4.16**.

Table 4.16 Details of Waste Disposal for Contract no. HY/2009/15

| Waste Type* | Quantity this month, m ³ | Cumulative-to-Date. m ³ | Disposal / Dumping Grounds |
|----------------------------------|-------------------------------------|------------------------------------|----------------------------|
| Inert C&D materials disposed | NIL | NIL | N/A |
| Inert C&D materials recycled | NIL | NIL | N/A |
| Non-inert C&D materials disposed | NIL | NIL | N/A |
| Non-inert C&D materials recycled | NIL | NIL | N/A |
| Chemical waste disposed | NIL | NIL | N/A |

5. COMPLIANCE AUDIT

5.0.1. The Event Action Plan for construction noise, air quality and water quality are presented in [Appendix 5.1](#).

5.1. Noise Monitoring

Contract no. HY/2009/17 – Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

5.1.1. No exceedance was recorded in the reporting period.

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under FEP-04/364/2009/A

5.1.2. No exceedance was recorded in the reporting period.

Contract no. HY/2009/18 - Central - Wan Chai Bypass (CWB) – Central Interchange under FEP-05/364/2009/A

5.1.3. No noise monitoring was undertaken in the reporting period.

Contract nos. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works and HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East(CWB Tunnel)

5.1.4. No noise monitoring was undertaken in the reporting period.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section) FEP-06/364/2009/A

5.1.5. No noise monitoring was undertaken in the reporting period.

5.2. Air Monitoring

Contract no. HY/2009/17 – Central - Wan Chai Bypass (CWB) at FEHD Whitfield Depot - Advanced piling works under FEP-03/364/2009

5.2.1. No exceedance was recorded in the reporting period.

Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under FEP-04/364/2009/A

5.2.2. No exceedance was recorded in the reporting period.

Contract no. HY/2009/18 - Central - Wan Chai Bypass (CWB) – Central Interchange under FEP-05/364/2009/A

5.2.3. No air quality monitoring was undertaken in the reporting period.

Contract nos. HK/2009/01 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Hong Kong Convention and Exhibition Centre - Tunnel Works and HK/2009/02 - Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East(CWB Tunnel)

5.2.4. No air quality monitoring was undertaken in the reporting period.

Contract no. HY/2009/15 - Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section) FEP-06/364/2009/A

5.2.5. No air quality monitoring was undertaken in the reporting period.



5.3. Site Audit

5.3.1. There was no non-compliance from the site audits in the reporting period. During environmental site inspections conducted during the reporting quarter, minor deficiencies were noted. However, the Contractor rectified all deficiencies after receipt of notification.

5.4. Review of the Reasons for and the Implications of Non-compliance

5.4.1. No project-related non-compliance from monitoring was recorded in the reporting period.

5.5. Summary of action taken in the event of and follow-up on non-compliance

5.5.1. There was no particular action taken since no project-related non-compliance was recorded from the site audits and environmental monitoring in the reporting period.

6. COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION

6.0.1. No complaint was recorded in the reporting period. The details of cumulative complaint log and summary of complaints are presented in **Appendix 6.1**.

6.0.2. No notification of summons or prosecution was received in the reporting period. Cumulative statistic on complaints and successful prosecutions are summarized in **Table 6.1** and **Table 6.2** respectively.

Table 6.1 Cumulative Statistics on Complaints

| Reporting Period | No. of Complaints |
|------------------------|-------------------|
| Sep - Nov 2010 | 0 |
| Project-to-Date | 0 |

Table 6.2 Cumulative Statistics on Successful Prosecutions

| Environmental Parameters | Cumulative No. Brought Forward | No. of Successful Prosecutions this quarter (Offence Date) | Cumulative No. Project-to-Date |
|--------------------------|--------------------------------|--|--------------------------------|
| Air | - | 0 | 0 |
| Noise | - | 0 | 0 |
| Waste | - | 0 | 0 |
| Total | - | 0 | 0 |

7. CUMULATIVE CONSTRUCTION IMPACT DUE TO THE CONCURRENT PROJECTS

- 7.0.1. According to Condition 3.4 of the EP-364/2009/A, this section addresses the relevant cumulative construction impact due to the concurrent activities of the current projects including the Central Reclamation Phase III (CRIII), Wan Chai Development Phase II (WWDII), Central-WanChai Bypass (CWB) and Island Eastern Corridor Link projects (IECL).
- 7.0.2. According to the construction programme of Wan Chai Development Phase II, Central-Wan Chai Bypass and Island Eastern Corridor Link projects, the major construction activity under Wan Chai Development Phase II was the filling works at North Point Reclamation Stage 1(NPR1), dredging works at Wan Chai Reclamation Stage 1(WCR1), Advanced piling works at FEHD Whitfield Depot and cross-harbour water mains in the reporting period. The major environmental impact was water quality impact at North Point and Wan Chai. Land-based construction activity was only the modification works of bus terminus near Man Yiu Street and Man Kwong Street under CWB and advance piling works at FEHD Whitfield Depot in the reporting period.
- 7.0.3. The major environmental impacts generated from the Central Reclamation Phase III were located along the coastline of Central and Admiralty while modification works of bus terminus near Man Yiu Street and Man Kwong Street under CWB and advanced piling works at FEHD Whitfield Depot were undertaken in the reporting period. No significant air, noise impact were anticipated in the reporting period. Besides, no environmental monitoring exceedance was recorded from the Project in the reporting period. Thus, it is evaluated that the cumulative construction impact from the concurrent projects including Wan Chai Development Phase II and Central Reclamation Phase III was insignificant.



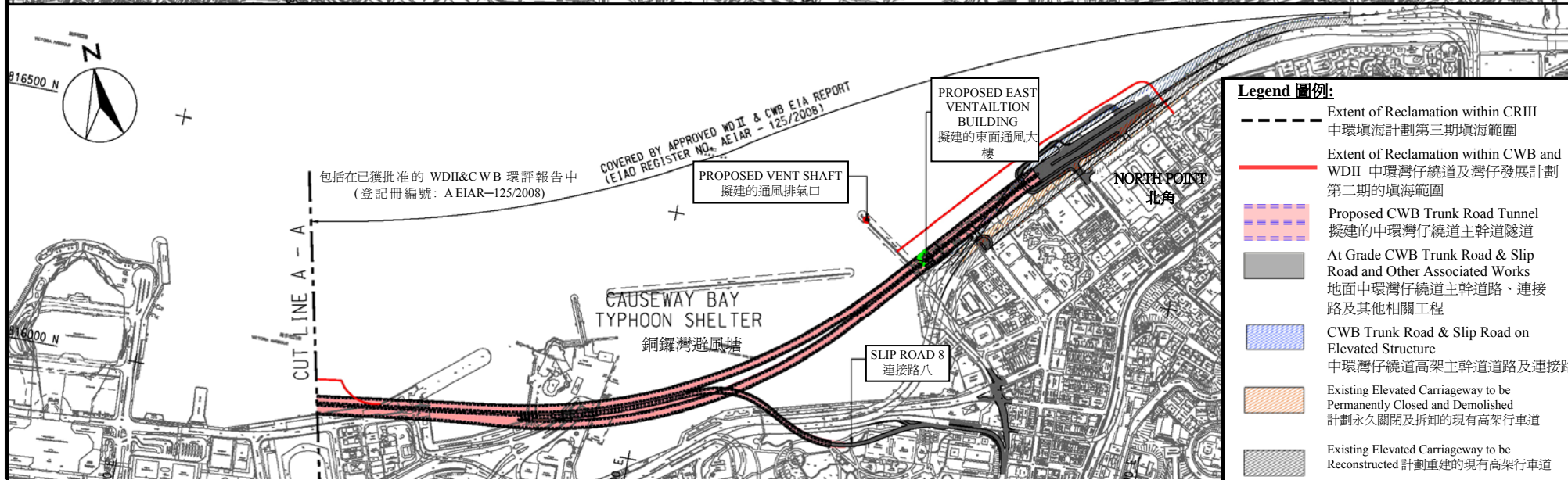
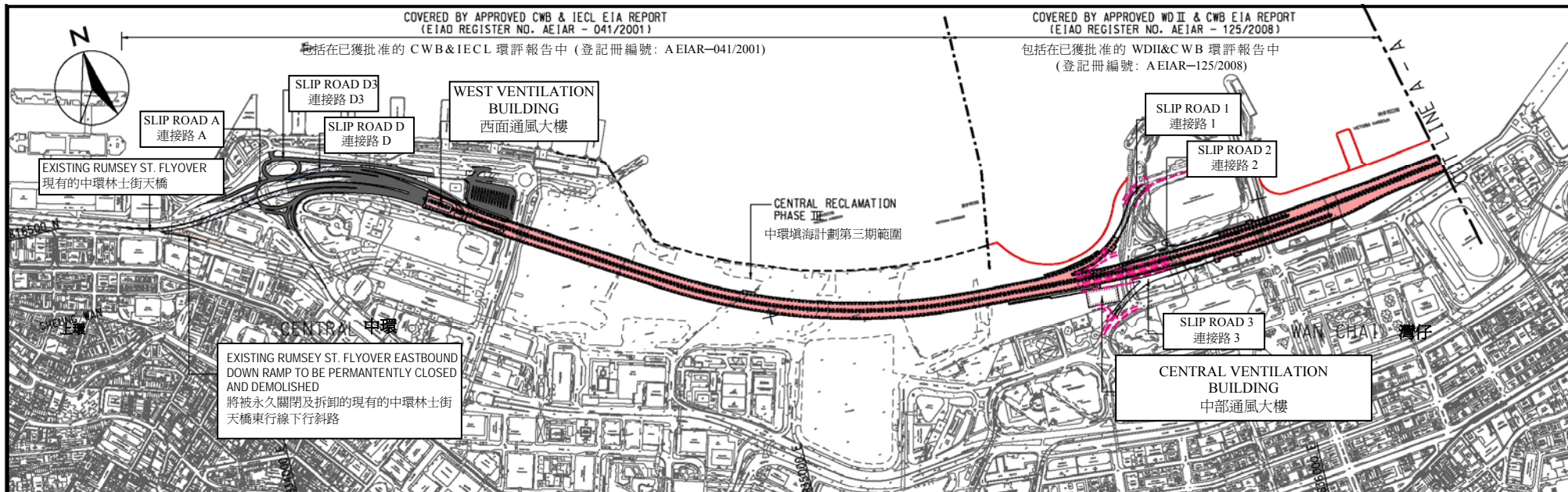
8. CONCLUSION

- 8.0.1. The EM&A programme was carried out in accordance with the EM&A Manual requirements, minor alterations to the programme proposed were made in response to changing circumstances.
- 8.0.2. No exceedance, non-compliances were noted and no prosecutions were received during the reporting quarter.
- 8.0.3. The construction programmes of individual contracts are provided in **Appendix 8.1**.



Figure 2.1

Project Layout

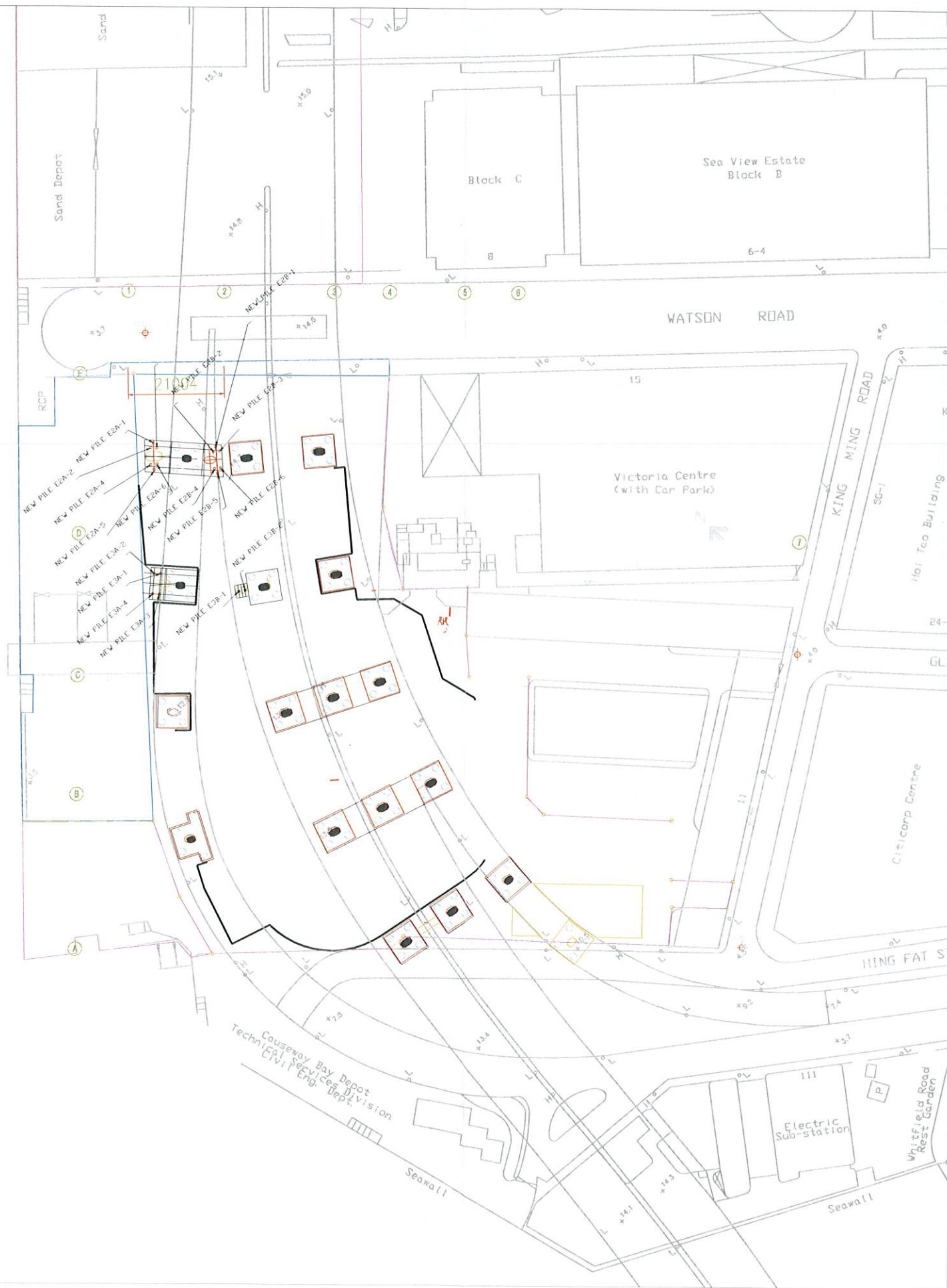


Project Title: Central-Wanchai Bypass (CWB) Including Its Road Tunnel and Slip Roads
工程項目名稱: 中環灣仔繞道包括其行車隧道及連接路

Environmental Permit No.: EP-364/2009/A
環境許可證編號: EP-364/2009/A

Figure 1: Location of the Project
圖 1: 工程項目位置

(This figure was prepared on Figure 1.1 of the Application for Environmental Permit (Application No.: AEP-364/2009))
(本圖是根據環境許可證的申請(申請書編號 AEP-364/2009 圖 1.1 編製))



1 Co-ordinates are relative to Hong Kong Metric Grid (1980)

Legend:

| REV. | DATE | DESCRIPTION | CHK BY | AUTH BY |
|------|------|-------------|--------|---------|
| | | | | |

Highways Department 路政署
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC LIN

PWP ITEM NO. 579 TH K
計劃項目編號

Project:
CENTRAL - WAN CHAI BYPASS - FEH WHITFIELD DEPOT RE-PROVISIONING WORKS



Drawing Title
PILING PLAN FOR MODIFIED ICE BRIDGE

Contractor
LAM WOO & COMPANY LIMITED

DRAWING NO. 0020

SURVEY DATE 12-06-2010

DRAWN BY KENG

CHECKED BY

SCALE 1:1000 SHEET 1



Figure 2.2

Project Organization Chart



Project Organization Chart

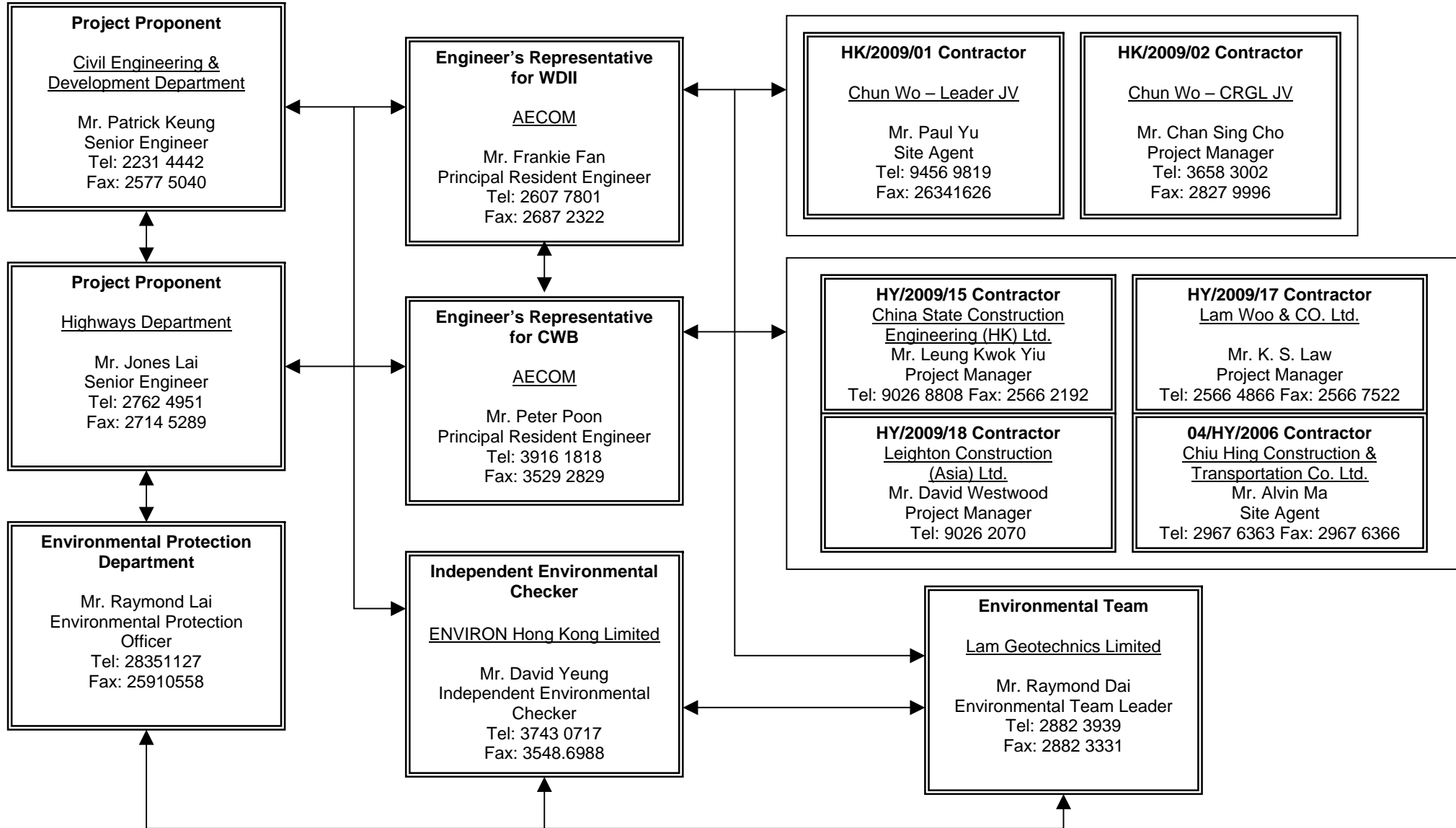
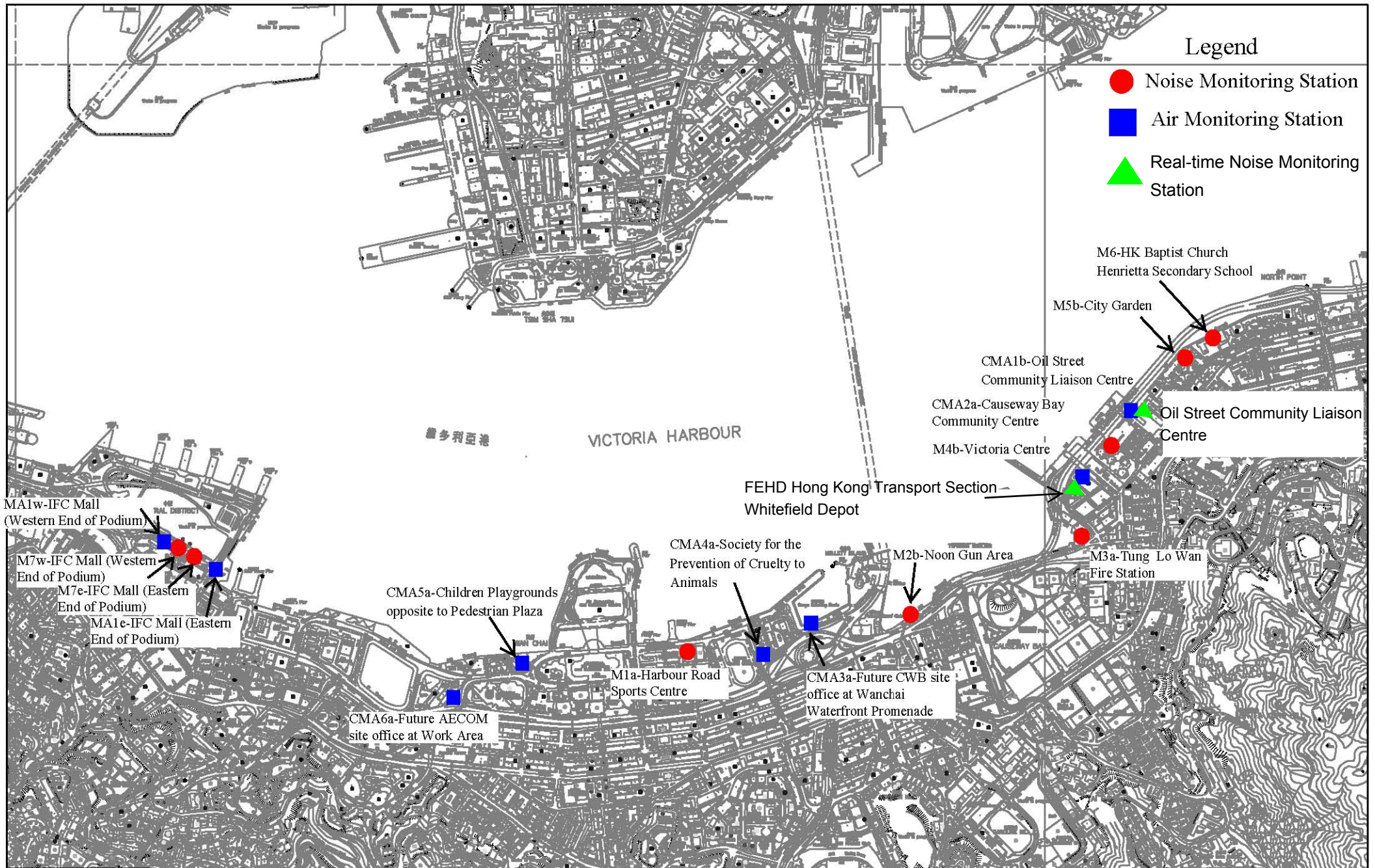




Figure 3.1

Locations of Monitoring Stations



Location plan of Environmental Monitoring Stations



Appendix 2.1

Environmental Mitigation Implementation Schedule

IMPLEMENTATION SCHEDULE OF THE PROPOSED MITIGATION MEASURES

Table A.1 Implementation Schedule for Air Quality Control

| WDII & CWB EIA Report Ref | Environmental Protection Measures / Mitigation Measures | Location / Timing | Implementation Agent | Implementation Stages* | | | | Relevant Legislation and Guidelines |
|---------------------------|---|--|----------------------|------------------------|---|---|-----|-------------------------------------|
| | | | | Des | C | O | Dec | |
| Construction Phase | | | | | | | | |
| S3.6.5 | Four times a day watering of the work site with active operations. | Work site / during construction | Contractor | | √ | | | EIAO-TM |
| S3.8.1 | Implementation of dust suppression measures stipulated in Air Pollution Control (Construction Dust) Regulation. The following mitigation measures, good site practices and a comprehensive dust monitoring and audit programme are recommended to minimise cumulative dust impacts. <ul style="list-style-type: none"> Strictly limit the truck speed on site to below 10 km per hour and water spraying to keep the haul roads in wet condition; Watering during excavation and material handling; Provision of vehicle wheel and body washing facilities at the exit points of the site, combined with cleaning of public roads where necessary; and Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations. | Work site / during construction | Contractor | | √ | | | |
| Operational Phase | | | | | | | | |
| S3.6.53 – S3.6.54 | The design parameters of the East and Central Ventilation Buildings as set in Tables 3.10 and 3.11 of Volume 1 of the WDII & CWB EIA Report. | East and Central Ventilation Buildings / During operation of the Trunk Road | HyD | | | √ | | |
| S3.10.2 | Air quality monitoring for the operation performance of the East Ventilation Building and associated East Vent Shaft will be conducted. | East Vent Shaft / During operation of the East Ventilation Building and associated East Vent Shaft | HyD | | | √ | | EIAO-TM |

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table A.2 Implementation Schedule for Noise Control

| WDII & CWB EIA Report Ref | Environmental Protection Measures / Mitigation Measures | Location / Timing | Implementation Agent | Implementation Stages* | | | | Relevant Legislation and Guidelines |
|---------------------------|---|----------------------------------|----------------------|------------------------|---|---|-----|-------------------------------------|
| | | | | Des | C | O | Dec | |
| Construction Phase | | | | | | | | |
| S4.9.3 | <p>Good Site Practice:</p> <ul style="list-style-type: none"> Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program. Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program. Mobile plant, if any, shall be sited as far away from NSRs as possible. Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum. Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs. Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities. | Work Sites / During Construction | Contractor | | √ | | | EIAO-TM, NCO |
| S4.8.1 – S4.8.11 | <p>Use of quiet powered mechanical equipment, movable noise barrier and temporary noise barrier for the following tasks:</p> <ul style="list-style-type: none"> Slip road 8 tunnel Construction of diaphragm wall and substructures of the tunnel approach ramp Excavation Construction of slabs Backfill | Work Sites / During Construction | Contractor | | √ | | | EIAO-TM, NCO |

| WDII & CWB EIA Report Ref | Environmental Protection Measures / Mitigation Measures | Location / Timing | Implementation Agent | Implementation Stages* | | | | Relevant Legislation and Guidelines |
|---------------------------|--|---|----------------------|------------------------|---|---|-----|-------------------------------------|
| | | | | Des | C | O | Dec | |
| | <ul style="list-style-type: none"> Demolition and construction of substructures for the IEC Demolition works of existing piers and crossheads of the marine section of the existing IEC <p>Use of PME grouping for the following tasks:</p> <ul style="list-style-type: none"> At-grade road construction Substructure for IECL connection | | | | | | | |
| Operation Phase | | | | | | | | |
| S4.8.12 – S4.8.23 | <p>For Existing NSRs</p> <ul style="list-style-type: none"> about 235m length of noise semi-enclosure with transparent panel covering the westbound slip road from the IEC about 230m length of noise semi-enclosure with transparent panel covering the main carriageways (eastbound and westbound) of the CWB and IEC about 135m length of 5.5m high cantilevered noise barrier with 4.5m cantilever inclined at 45° with transparent panel on the eastbound slip road to the IEC (amended under EP-364/2009/A) about 95m length of 5.5m high cantilevered noise barrier with 1m cantilever inclined at 45° with transparent panel on the eastbound slip road to the IEC about 350m length of 3.5m high vertical noise barrier with transparent panel on the eastbound slip road to the IEC low noise road surfacing for the trunk road (except tunnel section and beneath the landscaped deck at the eastern portal area)) with speed limit of 70 km/hour | Near North Point / Before commencement of operation of road project | HyD | √ | √ | √ | | EIAO-TM |

| WDH & CWB EIA Report Ref | Environmental Protection Measures / Mitigation Measures | Location / Timing | Implementation Agent | Implementation Stages* | | | | Relevant Legislation and Guidelines |
|--------------------------|---|--|---|------------------------|--------|---|-----|-------------------------------------|
| | | | | Des | C | O | Dec | |
| | <p>For Future/Planned NSRs</p> <ul style="list-style-type: none"> • about 265m length of noise semi-enclosure with transparent panel covering the westbound slip road from the IEC • The openable windows of the temple, if any, should be orientated so as to avoid direct line of sight to the existing Victoria Park Road as far as practicable. | <p>In between the Electric Centre (next to City Garden) and CDA(1) site / Before occupation of Planned NSRs in CDA and CDA(1) sites.</p> <p>Near Causeway Bay Fire Station / During detailed design of the re-provisioned Tin Hau Temple</p> | <p>HyD</p> <p>Project Proponent for the re-provisioned Tin Hau Temple</p> | √ | √ # | | | |

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Only the steel frame for this section of noise semi-enclosure would be erected in advance during the construction of the westbound slip road.

Table A.4 Implementation Schedule for Waste Management

| WDII & CWB EIA Report Ref | Environmental Protection Measures / Mitigation Measures | Location / Timing | Implementation Agent | Implementation Stages* | | | | Relevant Legislation and Guidelines |
|---------------------------|---|--|----------------------|------------------------|---|---|-----|-------------------------------------|
| | | | | Des | C | O | Dec | |
| Construction Phase | | | | | | | | |
| S6.5.14 | Floating Refuse During the construction phase, the project proponent's contractor will be responsible for the collection of any refuse within their works area. Floating booms will be provided on the water surface to confine the refuse from the working barges as well as to avoid the accumulation of pollutants within temporary embayment as mentioned in Table D9.3. | Work site / During the construction period | Contractor | | √ | | | |
| S6.6.1 | Good Site Practices Recommendations for good site practices during the construction activities include: <ul style="list-style-type: none"> • 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; and • a recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites). | Work site / During the construction period | Contractor | | √ | | | Waste Disposal Ordinance (Cap.354) |

| WDII & CWB EIA Report Ref | Environmental Protection Measures / Mitigation Measures | Location / Timing | Implementation Agent | Implementation Stages* | | | | Relevant Legislation and Guidelines |
|---------------------------|--|--|----------------------|------------------------|---|---|-----|-------------------------------------|
| | | | | Des | C | O | Dec | |
| S6.6.2 | <p><i>Waste Reduction Measures</i></p> <p>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:</p> <ul style="list-style-type: none"> • 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; • to encourage collection of aluminium cans, PET bottles and paper, separate labelled bins shall be provided to segregate these wastes 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, such as in casting the tunnel box sections, 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. | Work site / During planning and design stage, and construction stage | Contractor | √ | √ | | | |

| WDII & CWB EIA Report Ref | Environmental Protection Measures / Mitigation Measures | Location / Timing | Implementation Agent | Implementation Stages* | | | | Relevant Legislation and Guidelines |
|---------------------------|--|--|----------------------|------------------------|---|---|-----|--|
| | | | | Des | C | O | Dec | |
| S6.6.4 | <p><i>General Refuse</i></p> <p>General refuse shall be stored in enclosed bins or compaction units separate from C&D material. A licensed waste collector shall be employed by the contractor to remove general refuse from the site, separately from C&D material.</p> <p>A collection area shall be provided where wastes can be stored and loaded prior to removal from site. An enclosed and covered area is recommended to reduce the occurrence of 'wind blow' light material.</p> | Work site / During the construction period | Contractor | | √ | | | Public Health and Municipal Services Ordinance (Cap. 132) |
| S6.6.5 | <p><i>Chemical Wastes</i></p> <p>After use, chemical wastes (for example, cleaning fluids, solvents, lubrication oil and fuel) shall be handled according to the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Spent chemicals shall be collected by a licensed collector for disposal at the CWTF or other licensed facility in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p> | Work site / During the construction period | Contractor | | √ | | | <p>Waste Disposal (Chemical Waste) (General) Regulation</p> <p>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</p> |
| S6.6.6 | <p><i>Construction and Demolition Material</i></p> <p>C&D material shall be sorted on-site into inert C&D material (that is, public fill) and C&D waste. All the suitable inert C&D material shall be broken down to 250 mm in size for reuse as public fill in the WDII reclamation. C&D waste, such as wood, glass, plastic, steel and other metals shall be reused or recycled and, as a last resort, disposed of to landfill. A suitable area shall be designated to facilitate the sorting process and a temporary stockpiling area will be required for the separated materials.</p> | Work site / During the construction period | Contractor | | √ | | | ETWB TCW No. 33/2002, 31/2004, 19/2005 |

| WDH & CWB EIA Report Ref | Environmental Protection Measures / Mitigation Measures | Location / Timing | Implementation Agent | Implementation Stages* | | | | Relevant Legislation and Guidelines |
|--------------------------|--|--|--|------------------------|---|---|-----|-------------------------------------|
| | | | | Des | C | O | Dec | |
| S6.6.7 | In order to monitor the disposal of public fill and C&D waste at public fill reception facilities and landfills, respectively, and to control fly tipping, a trip-ticket system shall be included as one of the contractual requirements and implemented by the Environmental Team undertaking the environmental monitoring and audit work. An Independent Environment Checker shall be responsible for auditing the results of the system. | Work site / During the construction period | Contractor and Independent Environmental Checker | | √ | | | ETWB TCW No. 31/2004 |
| S6.6.8 | <p><i>Bentonite Slurry</i></p> <p>The disposal of residual used bentonite slurry shall follow the good practice guidelines stated in ProPECC PN 1/94 “Construction Site Drainage” and listed as follows:</p> <ul style="list-style-type: none"> • If the disposal of a certain residual quantity cannot be avoided, the used slurry may be disposed of at the marine spoil grounds subject to obtaining a marine dumping licence from EPD on a case-by-case basis. • If the used bentonite slurry is intended to be disposed of through the public drainage system, it shall be treated to the respective effluent standards applicable to foul sewers, storm drains or the receiving waters as set out in the Technical Memorandum of Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters. • If the used bentonite slurry is intended to be disposed to public fill reception facilities, it will be mixed with dry soil on site before disposal. | Work site / During the construction period | Contractor | | √ | | | ProPECC PN 1/94 |

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table A.5 Implementation Schedule for Land Contamination

| WDII & CWB EIA Report Ref | Environmental Protection Measures / Mitigation Measures | Location / Timing | Implementation Agent | Implementation Stages* | | | | Relevant Legislation and Guidelines |
|---|--|-------------------|----------------------|------------------------|---|---|-----|-------------------------------------|
| | | | | Des | C | O | Dec | |
| Construction and Operation Phase | | | | | | | | |
| S.7.1.1 | As no potential contaminative land uses were identified within the Study Area, adverse land contamination impacts associated with the construction and operation of the Project is not expected. As such, environmental protection and mitigation measures are considered not necessary and will not be covered in this EM&A Manual. | - | - | | | | | - |

* Des - Design, C - Construction, O – Operation, and Dec - Decommissioning

Table A.7 Implementation Schedule for Landscape and Visual

| WDII & CWB EIA Report Ref | Environmental Protection Measures / Mitigation Measures | Location / Timing | Implementation Agent | Implementation Stages* | | | | Relevant Legislation and Guidelines |
|----------------------------------|---|--|----------------------|------------------------|---|---|-----|-------------------------------------|
| | | | | Des | C | O | Dec | |
| Construction Phase | | | | | | | | |
| Table 10.5 | CM1 Topsoil, where identified, shall be stripped and stored for re-use in the construction of the soft landscape works, where practical. | Work site / During Construction Phase | Contractor | √ | √ | | | EIAO TM |
| Table 10.5 | CM2 Existing trees to be retained on site shall be carefully protected during construction. | Work site / During Construction Phase | Contractor | √ | √ | | | EIAO TM |
| Table 10.5 | CM3 Trees unavoidably affected by the works shall be transplanted where practical. | Work site / During Construction Phase | Contractor | √ | √ | | | EIAO TM |
| Table 10.5 | CM4 Compensatory tree planting shall be provided to compensate for felled trees. | Work site / During Construction Phase | Contractor | √ | √ | | | EIAO TM |
| Table 10.5 | CM5 Control of night-time lighting. | Work site / During Construction Phase | Contractor | | √ | | | EIAO TM |
| Table 10.5 | CM6 Erection of decorative screen hoarding compatible with the surrounding setting. | Work site / During Construction Phase | Contractor | | √ | | | EIAO TM |
| Operation Phase | | | | | | | | |
| Table 10.6, Figure 10.5.1-10.5.5 | OM1 Aesthetic design of buildings and road-related structures, including viaducts, vent buildings, subways, footbridges and noise barriers and enclosure. | Work site / During Design Stage and Operation Phases | HyD | √ | √ | √ | | ETWB TCW 2/2004 |
| Table 10.6, Figure 10.5.1-10.5.5 | OM3 Buffer Tree and Shrub Planting to screen proposed roads and associated structures. | Work site / During Design Stage and Operation Phases | HyD | √ | √ | √ | | ETWB TCW 2/2004 |
| Table 10.6, Figure 10.5.1-10.5.5 | OM5 Aesthetic streetscape design. | Work site / During Design Stage and Operation Phases | HyD | √ | √ | √ | | ETWB TCW 2/2004 |
| Table 10.6, Figure 10.5.1-10.5.5 | OM6 Aesthetic design of roadside amenity areas. | Work site / During Design Stage and Operation Phases | HyD | √ | √ | √ | | ETWB TCW 2/2004 |

*Des - Design, C - Construction, O – Operation, and Dec - Decommissioning



Appendix 3.1

Action and Limit Level

**Action and Limit Level***Action and Limit Level for Noise Monitoring*

| Time Period | Action Level | Limit Level |
|--|--|----------------------------|
| 07:00 – 19:00 hours on normal weekdays | When one documented complaint is received. | 75 dB(A) ^{Note 1} |

Action and Limit Level for Real Time Noise Monitoring

| Time Period | Action Level | Limit Level |
|---|--|----------------------------|
| 07:00 – 19:00 hours on normal weekdays | When one documented complaint is received. | 75 dB(A) ^{Note 2} |
| 19:00 – 23:00 hours on normal weekdays and public holiday | When one documented complaint is received. | 70 dB(A) ^{Note 3} |
| 23:00 – 07:00 at next day on everyday | When one documented complaint is received. | 65 dB(A) |

Note 1:

- 70dB(A) and 65 dB(A) for schools during normal teaching periods and school examination periods, respectively.
- If works are to be carried out during the restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

Note 2:

- 70dB(A) and 65 dB(A) for schools during normal teaching periods and school examination periods, respectively.

Note 3:

- If works are to be carried out during the restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

Action and Limit Level for Air Monitoring

| Monitoring Location | 1-hour TSP Level in $\mu\text{g}/\text{m}^3$ | | 24-hour TSP Level in $\mu\text{g}/\text{m}^3$ | |
|---------------------|--|-------------|---|-------------|
| | Action Level | Limit Level | Action Level | Limit Level |
| CMA1a | 320.1 | 500 | 176.7 | 260 |
| CMA2a | 323.4 | 500 | 169.5 | 260 |
| CMA3 | 311.3 | 500 | 171.0 | 260 |
| CMA4a | 312.5 | 500 | 171.2 | 260 |
| CMA5 | 332.0 | 500 | 181.0 | 260 |
| CMA6 | 300.1 | 500 | 187.3 | 260 |
| MA1e | 325.1 | 500 | 173.4 | 260 |
| MA1w | 325.1 | 500 | 173.4 | 260 |



Appendix 4.1

Noise Monitoring Results and Graphical Presentations



Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: M7e - International Finance Centre (Eastern End of Podium)

| Date | Time | Weather | Measurement Noise Level | | | Baseline Level | Construction Noise Level | Limit Level |
|-----------------------|-------|---------|-------------------------|------|------|----------------|--------------------------|-------------|
| | | | Leq | L10 | L90 | Leq | Leq | Leq |
| Unit: dB(A), (30-min) | | | | | | | | |
| 30/08/10 | 9:50 | Fine | 66.4 | 67.4 | 62.9 | - | 66 | 75 |
| 06/09/10 | 11:30 | Fine | 63.1 | 64.3 | 61.0 | - | 63 | 75 |
| 14/09/10 | 10:30 | Sunny | 63.5 | 65.0 | 61.5 | - | 64 | 75 |
| 21/09/10 | 10:32 | Rainy | 68.4 | 70.5 | 68.1 | - | 68 | 75 |

Location: M7w - International Finance Centre (Western End of Podium)

| Date | Time | Weather | Measurement Noise Level | | | Baseline Level | Construction Noise Level | Limit Level |
|-----------------------|-------|---------|-------------------------|------|------|----------------|--------------------------|-------------|
| | | | Leq | L10 | L90 | Leq | Leq | Leq |
| Unit: dB(A), (30-min) | | | | | | | | |
| 30/08/10 | 9:15 | Fine | 64.2 | 65.7 | 61.3 | - | 64 | 75 |
| 06/09/10 | 10:17 | Fine | 62.5 | 63.4 | 60.2 | - | 63 | 75 |
| 14/09/10 | 9:50 | Sunny | 62.1 | 63.7 | 60.2 | - | 62 | 75 |
| 21/09/10 | 11:15 | Rainy | 67.1 | 68.6 | 64.4 | - | 67 | 75 |



Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: M7e - International Finance Centre (Eastern End of Podium)

| Date | Time | Weather | Measurement Noise Level | | | Baseline Level | Construction Noise Level | Limit Level |
|-----------------------|-------|---------|-------------------------|------|------|----------------|--------------------------|-------------|
| | | | Leq | L10 | L90 | Leq | Leq | Leq |
| Unit: dB(A), (30-min) | | | | | | | | |
| 28/09/10 | 09:45 | Sunny | 70.5 | 73.5 | 64.6 | - | 71 | 75 |
| 05/10/10 | 09:35 | Cloudy | 68.0 | 70.1 | 65.0 | - | 68 | 75 |
| 12/10/10 | 09:17 | Sunny | 67.7 | 69.4 | 64.6 | - | 68 | 75 |
| 19/10/10 | 09:09 | Fine | 68.1 | 70.1 | 64.8 | - | 68 | 75 |
| 26/10/10 | 09:26 | Cloudy | 70.7 | 72.8 | 67.5 | - | 71 | 75 |

Location: M7w - International Finance Centre (Western End of Podium)

| Date | Time | Weather | Measurement Noise Level | | | Baseline Level | Construction Noise Level | Limit Level |
|-----------------------|-------|---------|-------------------------|------|------|----------------|--------------------------|-------------|
| | | | Leq | L10 | L90 | Leq | Leq | Leq |
| Unit: dB(A), (30-min) | | | | | | | | |
| 28/09/10 | 10:52 | Sunny | 70.4 | 70.2 | 66.6 | - | 70 | 75 |
| 05/10/10 | 10:17 | Cloudy | 69.2 | 69.7 | 66.3 | - | 69 | 75 |
| 12/10/10 | 09:57 | Sunny | 68.5 | 69.4 | 67.1 | - | 69 | 75 |
| 19/10/10 | 09:51 | Fine | 67.9 | 69.9 | 68.8 | - | 68 | 75 |
| 26/10/10 | 10:09 | Cloudy | 68.2 | 69.4 | 66.5 | - | 68 | 75 |



Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: M4b - Victoria Centre

| Date | Time | Weather | Measurement Noise Level | | | Baseline Noise Level | Construction Noise Level | Limit Level |
|----------------------|-------|---------|-------------------------|------|------|----------------------|--------------------------|-------------|
| | | | Leq | L10 | L90 | Leq | Leq | Leq |
| Unit: dB(A), (30min) | | | | | | | | |
| 05/10/10 | 14:27 | Cloudy | 70.3 | 72.1 | 67.9 | - | 70 | 75 |
| 12/10/10 | 13:55 | Sunny | 73.5 | 75.6 | 68.3 | - | 74 | 75 |
| 19/10/10 | 13:40 | Fine | 72.5 | 74.2 | 69.8 | - | 73 | 75 |
| 26/10/10 | 13:46 | Cloudy | 74.0 | 75.4 | 71.7 | - | 74 | 75 |



Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: M7e - International Finance Centre (Eastern End of Podium)

| Date | Time | Weather | Measurement Noise Level | | | Baseline Level | Construction Noise Level | Limit Level |
|-----------------------|-------|---------|-------------------------|------|------|----------------|--------------------------|-------------|
| | | | Leq | L10 | L90 | Leq | Leq | Leq |
| Unit: dB(A), (30-min) | | | | | | | | |
| 04/11/10 | 09:15 | Cloudy | 70.0 | 71.8 | 66.4 | - | 70 | 75 |
| 10/11/10 | 09:15 | Fine | 68.7 | 71.2 | 64.7 | - | 69 | 75 |
| 16/11/10 | 08:39 | Fine | 67.8 | 69.9 | 64.7 | - | 68 | 75 |
| 23/11/10 | 08:39 | Cloudy | 68.1 | 70.1 | 65.0 | - | 68 | 75 |

Location: M7w - International Finance Centre (Western End of Podium)

| Date | Time | Weather | Measurement Noise Level | | | Baseline Level | Construction Noise Level | Limit Level |
|-----------------------|-------|---------|-------------------------|------|------|----------------|--------------------------|-------------|
| | | | Leq | L10 | L90 | Leq | Leq | Leq |
| Unit: dB(A), (30-min) | | | | | | | | |
| 04/11/10 | 08:33 | Cloudy | 68.6 | 69.5 | 67.2 | - | 69 | 75 |
| 10/11/10 | 08:35 | Fine | 68.4 | 69.5 | 66.5 | - | 68 | 75 |
| 16/11/10 | 09:17 | Fine | 66.6 | 68.6 | 63.8 | - | 67 | 75 |
| 23/11/10 | 09:22 | Cloudy | 67.0 | 68.9 | 64.2 | - | 67 | 75 |



Noise Monitoring Result

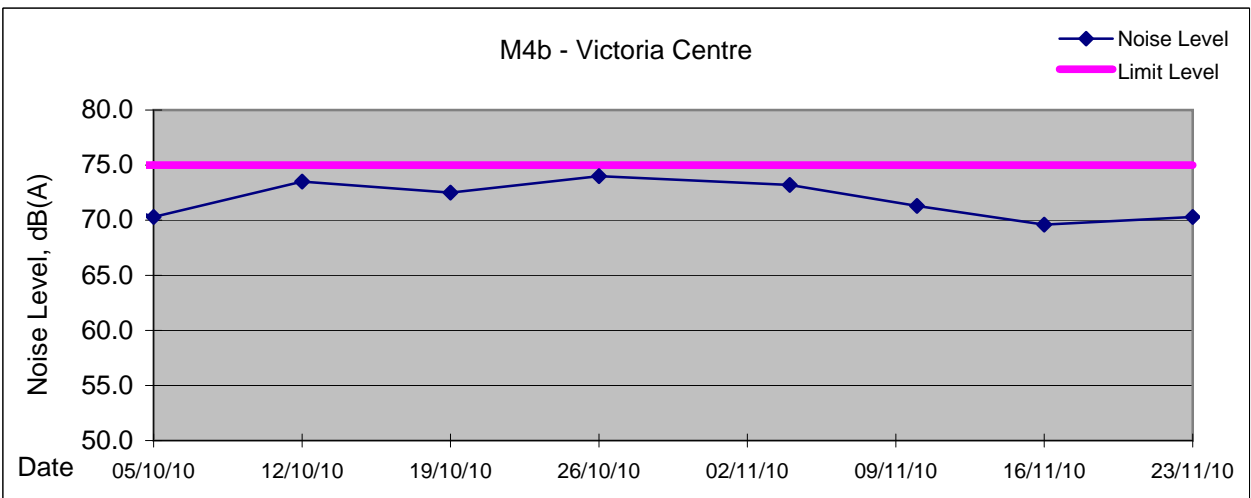
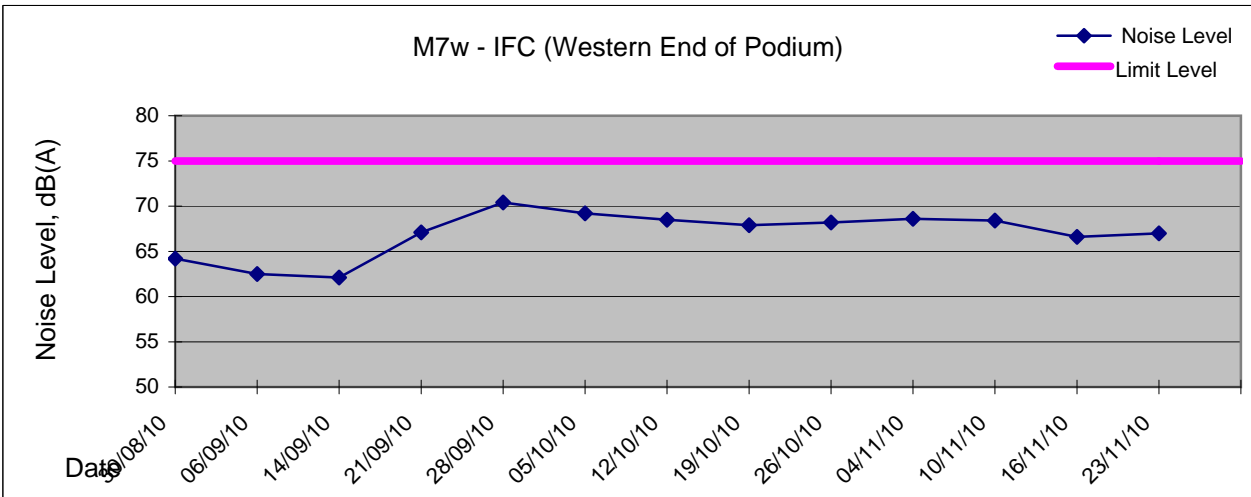
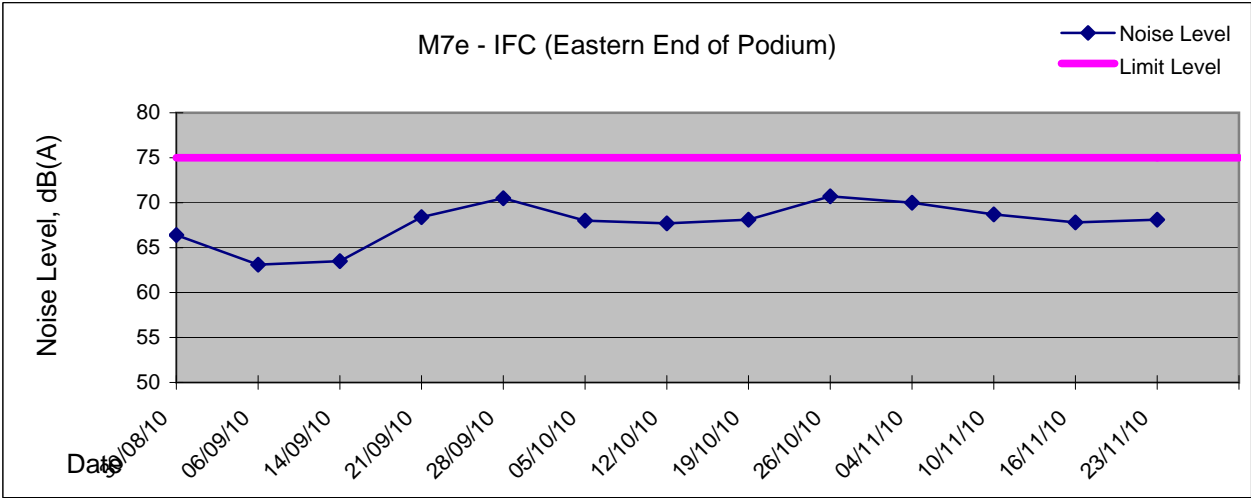
Day Time (0700 - 1900hrs on normal weekdays)

Location: M4b - Victoria Centre

| Date | Time | Weather | Measurement Noise Level | | | Baseline Noise Level | Construction Noise Level | Limit Level |
|----------------------|-------|---------|-------------------------|------|------|----------------------|--------------------------|-------------|
| | | | Leq | L10 | L90 | Leq | Leq | Leq |
| Unit: dB(A), (30min) | | | | | | | | |
| 04/11/10 | 13:30 | Cloudy | 73.2 | 75.2 | 69.3 | - | 73 | 75 |
| 10/11/10 | 13:45 | Fine | 71.3 | 72.6 | 68.9 | - | 71 | 75 |
| 16/11/10 | 14:07 | Fine | 69.6 | 71.1 | 67.8 | - | 70 | 75 |
| 23/11/10 | 13:46 | Fine | 70.3 | 71.8 | 67.9 | - | 70 | 75 |



Graphic Presentation of Noise Monitoring Result
Day Time (0700 - 1900hrs on normal weekdays)





Appendix 4.2
Real Time Noise Monitoring Results and Graphical Presentations

Real-time Noise Data RTN1 / FEHD Hong Kong Transport Section Whitefield Depot)

Normal Day 07:00-19:00

Table with 2 columns: Date and Time. Lists noise data for Normal Day 07:00-19:00 from 28/10/2010 to 02/11/2010.

Table with 2 columns: Date and Time. Lists noise data from 02/11/2010 to 06/11/2010.

Table with 2 columns: Date and Time. Lists noise data from 08/11/2010 to 12/11/2010.

Table with 2 columns: Date and Time. Lists noise data from 12/11/2010 to 17/11/2010.

Table with 2 columns: Date and Time. Lists noise data from 18/11/2010 to 22/11/2010.

Table with 2 columns: Date and Time. Lists noise data from 23/11/2010 to 27/11/2010.

Table with 2 columns: Date and Time. Lists noise data from 28/10/2010 to 28/10/2010.

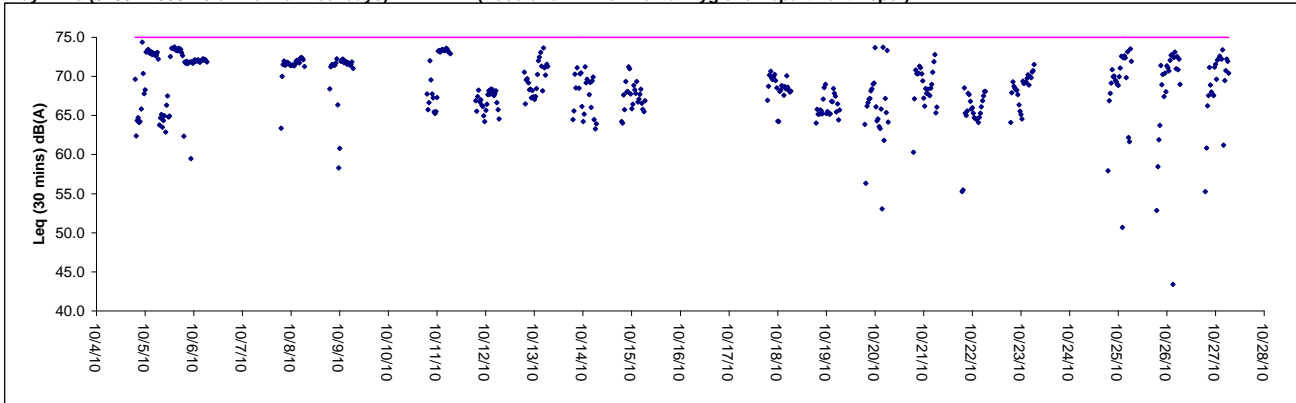
Normal Day 19:00-23:00, Sunday & Holiday 07:00-23:00

Table with 2 columns: Date and Time. Lists noise data for Normal Day 19:00-23:00 and Sunday & Holiday 07:00-23:00 from 28/10/2010 to 28/10/2010.

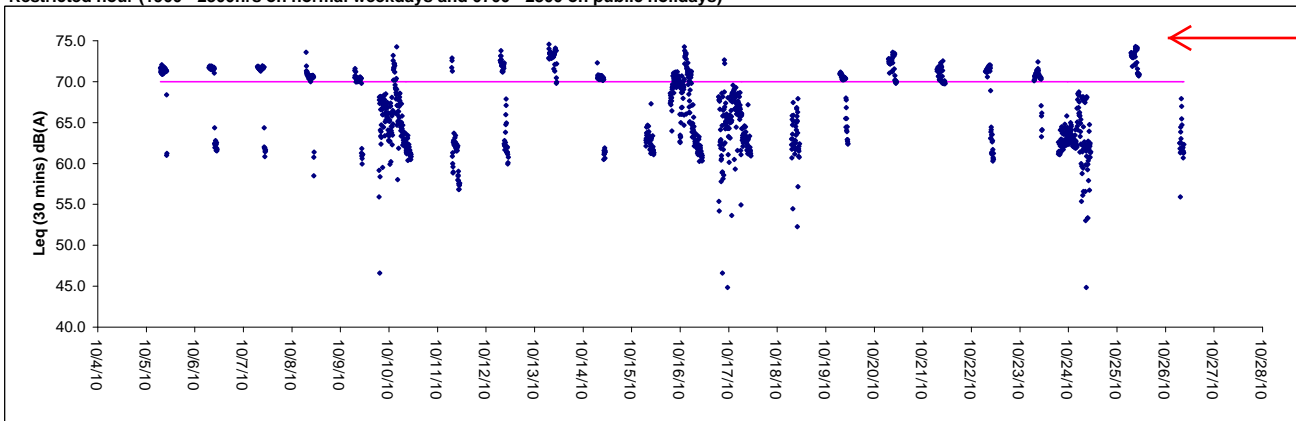


Graphic Presentation of Real Time Noise Monitoring Result

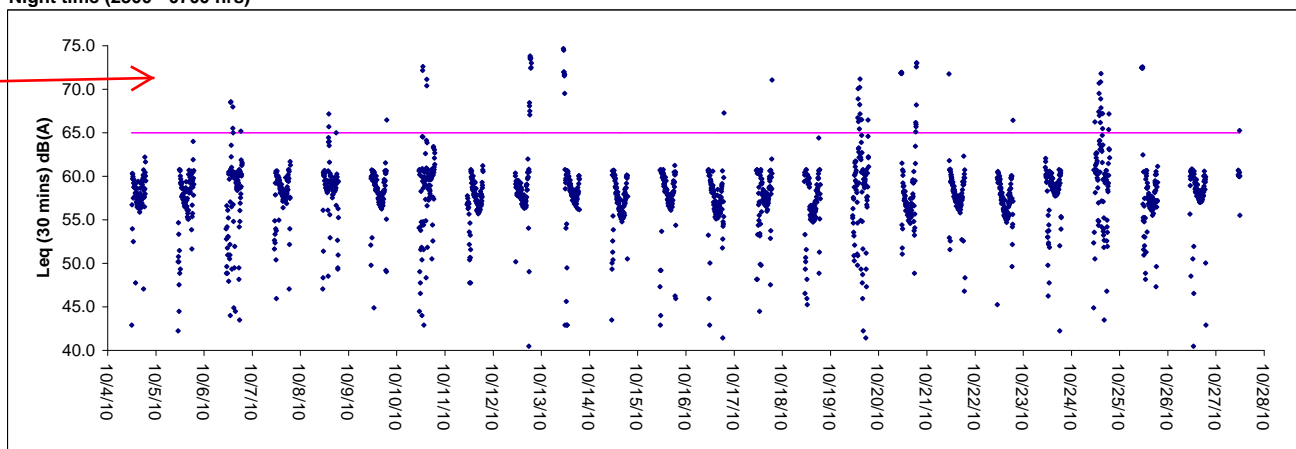
Day Time (0700 - 1900hrs on normal weekdays)* (Food and Environmental Hygiene Department Depot)



Restricted hour (1900 - 2300hrs on normal weekdays and 0700 - 2300 on public holidays)*



Night time (2300 - 0700 hrs)*

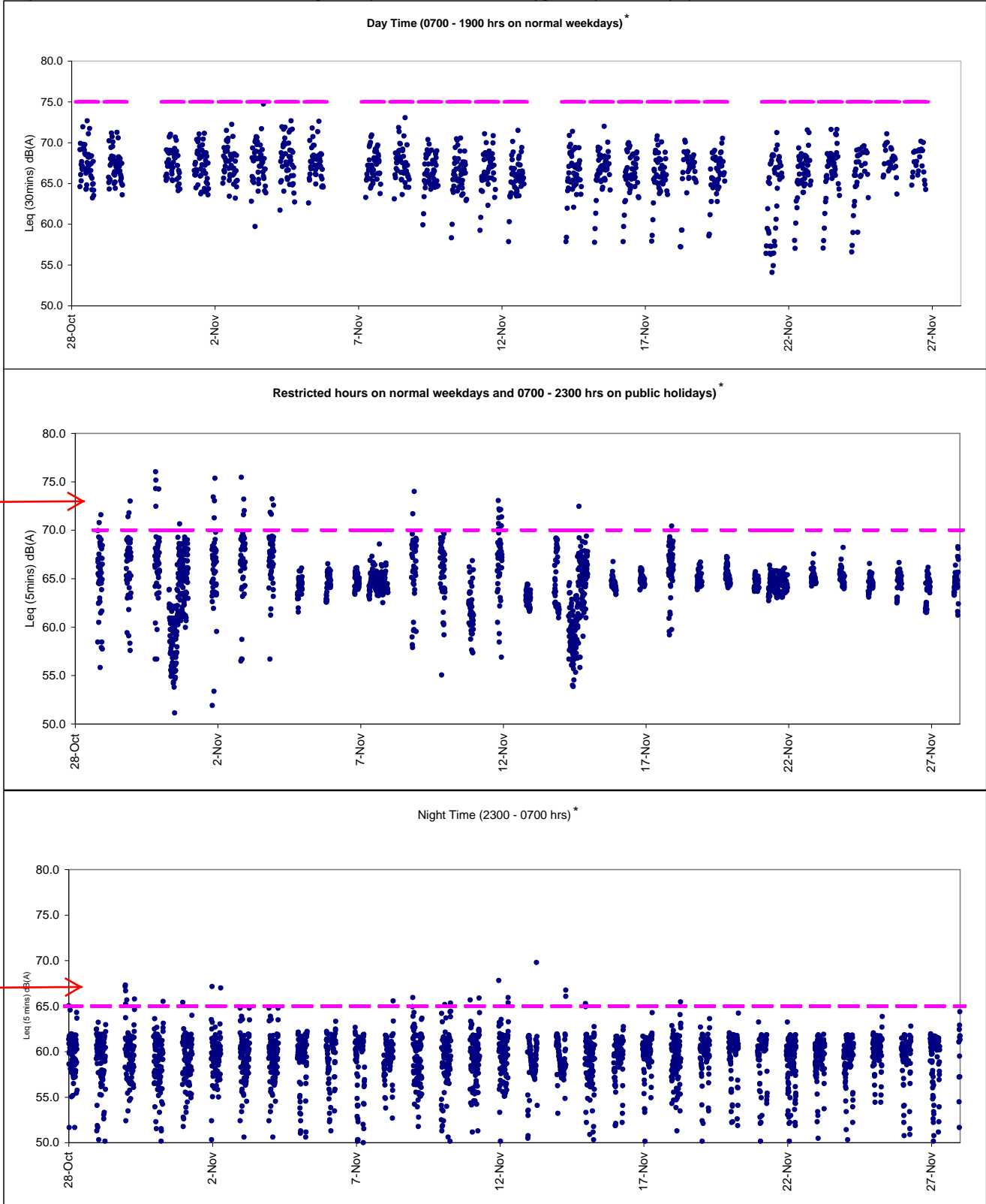


Exceedances were not continuous in which contributed by traffic noise at Island Eastern Corridor.

Similar pattern of exceedance due to traffic at Island Eastern Corridor. Also, no construction activity was commenced in this period.

*The construction noise levels shown were already corrected with baseline noise

Graphic Presentation of Real Time Noise Monitoring Result (Food and Environmental Hygiene Department Depot)



Exceedances are discontinuous. It is concluded that the exceedances from non-point sources in which contributed by traffic noise at Island Eastern Corridor.

*The noise levels shown were already corrected with baseline noise



Appendix 4.3

Air Quality Monitoring Results and Graphical Presentations



Location: MA1e - International Finance Centre (Eastern Wing)

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 173.4
 Limit Level ($\mu\text{g}/\text{m}^3$) - 260

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 09-Sep-10 | 08:00 | Cloudy | 201089 | 2.7798 | 2.9190 | 5705.75 | 5729.74 | 23.99 | 1.32 | 1.27 | 1.30 | 1867 | 75 |
| 15-Sep-10 | 08:00 | Sunny | 201173 | 2.7886 | 2.8644 | 5732.75 | 5756.75 | 24.00 | 1.30 | 1.30 | 1.30 | 1868 | 41 |
| 21-Sep-10 | 09:00 | Sunny | 201139 | 2.7873 | 2.8323 | 5732.75 | 5756.75 | 24.00 | 1.30 | 1.34 | 1.32 | 1902 | 24 |
| 27-Sep-10 | 08:00 | Sunny | 201134 | 2.7866 | 2.8716 | 5786.70 | 5810.42 | 23.72 | 1.30 | 1.30 | 1.30 | 1851 | 46 |

Report on 1-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 325.1
 Limit Level ($\mu\text{g}/\text{m}^3$) - 500

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 10-Sep-10 | 08:53 | Sunny | 201091 | 2.7865 | 2.7984 | 5729.74 | 5730.74 | 1.00 | 1.34 | 1.34 | 1.34 | 81 | 148 |
| 10-Sep-10 | 10:05 | Sunny | 201093 | 2.7963 | 2.8021 | 5730.74 | 5731.75 | 1.01 | 1.34 | 1.34 | 1.34 | 81 | 71 |
| 10-Sep-10 | 11:11 | Sunny | 201103 | 2.7768 | 2.7862 | 5731.75 | 5732.75 | 1.00 | 1.34 | 1.34 | 1.34 | 81 | 117 |
| 16-Sep-10 | 09:45 | Sunny | 201144 | 2.7900 | 2.8003 | 5756.75 | 5757.75 | 1.00 | 1.37 | 1.35 | 1.36 | 81 | 126 |
| 16-Sep-10 | 11:05 | Sunny | 201146 | 2.7998 | 2.8073 | 5757.75 | 5758.75 | 1.00 | 1.42 | 1.44 | 1.43 | 86 | 87 |
| 16-Sep-10 | 13:00 | Sunny | 201148 | 2.7895 | 2.7980 | 5759.75 | 5760.75 | 1.00 | 1.35 | 1.35 | 1.35 | 81 | 105 |
| 22-Sep-10 | 09:10 | Sunny | 201131 | 2.7865 | 2.7904 | 5759.75 | 5760.75 | 1.00 | 1.25 | 1.25 | 1.25 | 75 | 52 |
| 22-Sep-10 | 10:10 | Sunny | 201132 | 2.7827 | 2.7859 | 5759.75 | 5760.75 | 1.00 | 1.30 | 1.30 | 1.30 | 78 | 41 |
| 22-Sep-10 | 11:10 | Sunny | 201133 | 2.7881 | 2.7927 | 5759.75 | 5760.75 | 1.00 | 1.35 | 1.35 | 1.35 | 81 | 57 |



Location: MA1w - International Finance Centre (Western Wing)

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 173.4Limit Level ($\mu\text{g}/\text{m}^3$) - 260

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 09-Sep-10 | 08:00 | Cloudy | 201104 | 2.7797 | 2.8862 | 8848.09 | 8872.09 | 24.00 | 1.16 | 1.16 | 1.16 | 1668 | 64 |
| 15-Sep-10 | 08:00 | Sunny | 201172 | 2.7901 | 2.8641 | 8875.10 | 8899.10 | 24.00 | 1.09 | 1.09 | 1.09 | 1565 | 47 |
| 21-Sep-10 | 08:00 | Cloudy | 201140 | 2.7882 | 2.8367 | 8902.06 | 8926.26 | 24.20 | 1.37 | 1.25 | 1.31 | 1906 | 25 |
| 27-Sep-10 | 08:00 | Sunny | 201138 | 2.7916 | 2.8676 | 8929.00 | 8952.81 | 23.81 | 1.33 | 1.32 | 1.33 | 1895 | 40 |

Report on 1-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 325.1Limit Level ($\mu\text{g}/\text{m}^3$) - 500

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 10-Sep-10 | 08:39 | Sunny | 201090 | 2.7833 | 2.7915 | 8872.09 | 8873.10 | 1.01 | 1.13 | 1.13 | 1.13 | 69 | 119 |
| 10-Sep-10 | 09:49 | Sunny | 201092 | 2.7953 | 2.8017 | 8873.10 | 8874.10 | 1.00 | 1.13 | 1.13 | 1.13 | 68 | 94 |
| 10-Sep-10 | 10:03 | Sunny | 201094 | 2.7787 | 2.7836 | 8874.10 | 8875.10 | 1.00 | 1.18 | 1.18 | 1.18 | 71 | 69 |
| 16-Sep-10 | 09:30 | Sunny | 201145 | 2.8022 | 2.8066 | 8899.10 | 8900.10 | 1.00 | 1.04 | 1.04 | 1.04 | 62 | 71 |
| 16-Sep-10 | 10:40 | Sunny | 201147 | 2.7964 | 2.8025 | 8900.10 | 8901.10 | 1.00 | 1.13 | 1.13 | 1.13 | 68 | 90 |
| 16-Sep-10 | 13:00 | Sunny | 201149 | 2.7910 | 2.7982 | 8902.10 | 8903.10 | 1.00 | 1.13 | 1.13 | 1.13 | 68 | 106 |
| 22-Sep-10 | 08:50 | Cloudy | 201135 | 2.7909 | 2.7941 | 8926.06 | 8927.06 | 1.00 | 1.28 | 1.28 | 1.28 | 77 | 42 |
| 22-Sep-10 | 09:50 | Cloudy | 201136 | 2.7838 | 2.7860 | 8927.06 | 8928.06 | 1.00 | 1.30 | 1.30 | 1.30 | 78 | 28 |
| 22-Sep-10 | 10:50 | Cloudy | 201137 | 2.7760 | 2.7790 | 8928.06 | 8929.06 | 1.00 | 1.28 | 1.28 | 1.28 | 77 | 39 |



Location: MA1e - International Finance Centre (Eastern Wing)

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 173.4
 Limit Level ($\mu\text{g}/\text{m}^3$) - 260

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 02-Oct-10 | 08:00 | Fine | 201209 | 2.8680 | 2.9497 | 5813.42 | 5837.42 | 24.00 | 1.32 | 1.32 | 1.32 | 1907 | 43 |
| 08-Oct-10 | 08:00 | Cloudy | 201240 | 2.8635 | 3.0045 | 5841.43 | 5865.44 | 24.01 | 1.30 | 1.30 | 1.30 | 1878 | 75 |
| 14-Oct-10 | 08:00 | Cloudy | 201263 | 2.8601 | 2.9669 | 5868.44 | 5892.44 | 24.00 | 1.31 | 1.31 | 1.31 | 1880 | 57 |
| 20-Oct-10 | 08:00 | Fine | 201287 | 2.8416 | 3.0344 | 5895.43 | 5919.44 | 24.01 | 1.30 | 1.30 | 1.30 | 1873 | 103 |
| 26-Oct-10 | 08:00 | Cloudy | 201374 | 2.7695 | 2.8737 | 5922.44 | 5946.44 | 24.00 | 1.31 | 1.32 | 1.31 | 1890 | 55 |

Report on 1-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 325.1
 Limit Level ($\mu\text{g}/\text{m}^3$) - 500

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 28-Sep-10 | 09:55 | Sunny | 201212 | 2.8791 | 2.8830 | 5810.42 | 5811.42 | 1.00 | 1.49 | 1.49 | 1.49 | 89 | 44 |
| 28-Sep-10 | 10:55 | Sunny | 201214 | 2.8630 | 2.8682 | 5812.42 | 5813.42 | 1.00 | 1.82 | 1.82 | 1.82 | 109 | 48 |
| 28-Sep-10 | 14:00 | Sunny | 201210 | 2.8693 | 2.8751 | 5813.42 | 5814.42 | 1.00 | 1.49 | 1.49 | 1.49 | 89 | 65 |
| 04-Oct-10 | 09:00 | Cloudy | 201232 | 2.8561 | 2.8635 | 5837.42 | 5838.46 | 1.04 | 1.31 | 1.31 | 1.31 | 81 | 91 |
| 04-Oct-10 | 11:05 | Cloudy | 201229 | 2.8569 | 2.8641 | 5839.43 | 5840.43 | 1.00 | 1.35 | 1.35 | 1.35 | 81 | 89 |
| 04-Oct-10 | 13:00 | Cloudy | 201238 | 2.8588 | 2.8665 | 5840.43 | 5841.43 | 1.00 | 1.35 | 1.35 | 1.35 | 81 | 95 |
| 09-Oct-10 | 09:50 | Cloudy | 201273 | 2.8619 | 2.8662 | 5865.44 | 5866.44 | 1.00 | 1.30 | 1.30 | 1.30 | 78 | 55 |
| 09-Oct-10 | 10:55 | Cloudy | 201275 | 2.8586 | 2.8640 | 5866.44 | 5867.44 | 1.00 | 1.30 | 1.30 | 1.30 | 78 | 69 |
| 09-Oct-10 | 13:00 | Cloudy | 201276 | 2.8554 | 2.8605 | 5867.44 | 5868.44 | 1.00 | 1.30 | 1.30 | 1.30 | 78 | 65 |
| 15-Oct-10 | 08:30 | Cloudy | 201255 | 2.8661 | 2.8672 | 5892.44 | 5893.43 | 0.99 | 1.31 | 1.31 | 1.31 | 78 | 14 |
| 15-Oct-10 | 09:39 | Cloudy | 201256 | 2.8602 | 2.8617 | 5893.43 | 5894.43 | 1.00 | 1.31 | 1.31 | 1.31 | 78 | 19 |
| 15-Oct-10 | 13:00 | Cloudy | 201283 | 2.8342 | 2.8377 | 5894.43 | 5895.43 | 1.00 | 1.31 | 1.31 | 1.31 | 78 | 45 |
| 21-Oct-10 | 08:38 | Fine | 201277 | 2.8503 | 2.8563 | 5919.44 | 5920.44 | 1.00 | 1.35 | 1.35 | 1.35 | 81 | 74 |
| 21-Oct-10 | 09:47 | Fine | 201356 | 2.7833 | 2.7885 | 5920.44 | 5921.44 | 1.00 | 1.32 | 1.32 | 1.32 | 79 | 65 |
| 21-Oct-10 | 10:53 | Fine | 201362 | 2.7690 | 2.7743 | 5921.44 | 5922.44 | 1.00 | 1.25 | 1.25 | 1.25 | 75 | 71 |
| 27-Oct-10 | 08:32 | Cloudy | 201347 | 2.8011 | 2.8082 | 5946.44 | 5947.44 | 1.00 | 1.36 | 1.36 | 1.36 | 82 | 87 |
| 27-Oct-10 | 09:47 | Cloudy | 201345 | 2.7913 | 2.7965 | 5947.44 | 5948.44 | 1.00 | 1.36 | 1.36 | 1.36 | 82 | 64 |
| 27-Oct-10 | 13:00 | Cloudy | 201342 | 2.7955 | 2.7997 | 5948.44 | 5949.44 | 1.00 | 1.22 | 1.22 | 1.22 | 73 | 58 |



Location: MA1w - International Finance Centre (Western Wing)

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 173.4

Limit Level ($\mu\text{g}/\text{m}^3$) - 260

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 02-Oct-10 | 08:00 | Fine | 201188 | 2.8746 | 2.9759 | 8955.81 | 8979.80 | 23.99 | 1.30 | 1.31 | 1.31 | 1880 | 54 |
| 08-Oct-10 | 08:00 | Cloudy | 201247 | 2.8686 | 3.0500 | 8982.80 | 9006.81 | 24.01 | 1.52 | 1.52 | 1.52 | 2194 | 83 |
| 14-Oct-10 | 08:00 | Cloudy | 2012690 | 2.8689 | 2.9572 | 9009.81 | 9033.81 | 24.00 | 1.33 | 1.38 | 1.36 | 1954 | 45 |
| 20-Oct-10 | 08:00 | Fine | 201294 | 2.8454 | 3.0415 | 9036.81 | 9060.81 | 24.00 | 1.33 | 1.36 | 1.34 | 1933 | 101 |
| 26-Oct-10 | 08:00 | Cloudy | 201366 | 2.7630 | 2.8590 | 9063.81 | 9087.81 | 24.00 | 1.24 | 1.25 | 1.24 | 1790 | 54 |

Report on 1-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 325.1

Limit Level ($\mu\text{g}/\text{m}^3$) - 500

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 28-Sep-10 | 09:50 | Sunny | 201215 | 2.8710 | 2.8764 | 8952.81 | 8953.81 | 1.00 | 1.33 | 1.33 | 1.33 | 80 | 68 |
| 28-Sep-10 | 10:50 | Sunny | 201213 | 2.8775 | 2.8832 | 8953.81 | 8954.81 | 1.00 | 1.28 | 1.28 | 1.28 | 77 | 74 |
| 28-Sep-10 | 13:00 | Sunny | 201208 | 2.8664 | 2.8722 | 8954.81 | 8955.81 | 1.00 | 1.33 | 1.33 | 1.33 | 80 | 73 |
| 04-Oct-10 | 09:15 | Cloudy | 201233 | 2.8587 | 2.8665 | 8979.81 | 8980.80 | 0.99 | 1.38 | 1.38 | 1.38 | 82 | 95 |
| 04-Oct-10 | 10:20 | Cloudy | 201235 | 2.8576 | 2.8674 | 8980.80 | 8981.80 | 1.00 | 1.48 | 1.48 | 1.48 | 89 | 111 |
| 04-Oct-10 | 11:30 | Cloudy | 201239 | 2.8557 | 2.8654 | 8981.80 | 8982.80 | 1.00 | 1.48 | 1.47 | 1.47 | 88 | 110 |
| 09-Oct-10 | 10:00 | Cloudy | 201280 | 2.8551 | 2.8605 | 9006.81 | 9007.81 | 1.00 | 1.26 | 1.26 | 1.26 | 76 | 72 |
| 09-Oct-10 | 11:00 | Cloudy | 201274 | 2.8596 | 2.8670 | 9007.81 | 9008.81 | 1.00 | 1.28 | 1.28 | 1.28 | 77 | 96 |
| 09-Oct-10 | 13:00 | Cloudy | 201278 | 2.8533 | 2.8600 | 9008.81 | 9009.81 | 1.00 | 1.33 | 1.33 | 1.33 | 80 | 84 |
| 15-Oct-10 | 08:36 | Cloudy | 201282 | 2.8453 | 2.8494 | 9033.81 | 9034.81 | 1.00 | 1.33 | 1.33 | 1.33 | 80 | 51 |
| 15-Oct-10 | 09:44 | Cloudy | 201289 | 2.8481 | 2.8527 | 9035.81 | 9036.81 | 1.00 | 1.33 | 1.33 | 1.33 | 80 | 58 |
| 15-Oct-10 | 13:20 | Cloudy | 201281 | 2.8454 | 2.8498 | 9035.81 | 9036.81 | 1.00 | 1.31 | 1.31 | 1.31 | 79 | 56 |
| 21-Oct-10 | 08:50 | Fine | 201279 | 2.8549 | 2.8607 | 9060.81 | 9061.81 | 1.00 | 1.37 | 1.37 | 1.37 | 82 | 70 |
| 21-Oct-10 | 09:55 | Fine | 201358 | 2.7835 | 2.7892 | 9061.81 | 9062.81 | 1.00 | 1.30 | 1.30 | 1.30 | 78 | 73 |
| 21-Oct-10 | 13:00 | Fine | 201368 | 2.7783 | 2.7841 | 9062.81 | 9063.81 | 1.00 | 1.28 | 1.28 | 1.28 | 77 | 76 |
| 27-Oct-10 | 08:48 | Cloudy | 201346 | 2.7923 | 2.7984 | 9087.81 | 9088.81 | 1.00 | 1.32 | 1.32 | 1.32 | 79 | 77 |
| 27-Oct-10 | 09:53 | Cloudy | 201344 | 2.7877 | 2.7936 | 9088.81 | 9089.81 | 1.00 | 1.34 | 1.34 | 1.34 | 81 | 73 |
| 27-Oct-10 | 13:00 | Cloudy | 201341 | 2.7860 | 2.7910 | 9089.81 | 9090.81 | 1.00 | 1.32 | 1.32 | 1.32 | 79 | 63 |



Location: CMA2a - Causeway Bay Community Centre

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 169.5
Limit Level ($\mu\text{g}/\text{m}^3$) - 260

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|----------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 08-Oct-10 | 08:00 | Cloudy | 201242 | 2.8618 | 3.0072 | 12723.12 | 12747.12 | 24.00 | 1.42 | 1.42 | 1.42 | 2041 | 71 |
| 14-Oct-10 | 08:00 | Cloudy | 201254 | 2.8669 | 3.0138 | 12750.12 | 12774.12 | 24.00 | 1.44 | 1.44 | 1.44 | 2074 | 71 |
| 20-Oct-10 | 08:00 | Fine | 201302 | 2.7938 | 3.0439 | 12777.12 | 12801.12 | 24.00 | 1.41 | 1.41 | 1.41 | 2037 | 123 |
| 26-Oct-10 | 08:00 | Cloudy | 201375 | 2.7728 | 2.9103 | 12802.99 | 12826.99 | 24.00 | 1.46 | 1.47 | 1.47 | 2112 | 65 |

Report on 1-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 323.4
Limit Level ($\mu\text{g}/\text{m}^3$) - 500

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|----------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 09-Oct-10 | 08:30 | Cloudy | 201266 | 2.8693 | 2.8740 | 12747.20 | 12748.20 | 1.00 | 1.44 | 1.44 | 1.44 | 86 | 54 |
| 09-Oct-10 | 09:33 | Cloudy | 201269 | 2.8681 | 2.8725 | 12748.12 | 12749.12 | 1.00 | 1.46 | 1.46 | 1.46 | 88 | 50 |
| 09-Oct-10 | 10:40 | Cloudy | 201268 | 2.8766 | 2.8837 | 12749.12 | 12750.12 | 1.00 | 1.44 | 1.46 | 1.45 | 87 | 82 |
| 15-Oct-10 | 09:20 | Cloudy | 201252 | 2.8656 | 2.8660 | 12774.12 | 12775.12 | 1.00 | 1.42 | 1.42 | 1.42 | 85 | 5 |
| 15-Oct-10 | 10:25 | Cloudy | 201248 | 2.8577 | 2.8660 | 12775.12 | 12776.12 | 1.00 | 1.42 | 1.42 | 1.42 | 85 | 97 |
| 15-Oct-10 | 13:00 | Cloudy | 201300 | 2.8432 | 2.8480 | 12776.12 | 12777.12 | 1.00 | 1.46 | 1.46 | 1.46 | 88 | 55 |
| 21-Oct-10 | 09:10 | Fine | 201385 | 2.7609 | 2.7687 | 12801.12 | 12802.12 | 1.00 | 1.41 | 1.41 | 1.41 | 85 | 92 |
| 27-Oct-10 | 09:55 | Cloudy | 201350 | 2.7922 | 2.8023 | 12826.99 | 12827.99 | 1.00 | 1.47 | 1.47 | 1.47 | 88 | 115 |
| 27-Oct-10 | 11:05 | Cloudy | 201355 | 2.7871 | 2.7942 | 12827.99 | 12828.99 | 1.00 | 1.45 | 1.45 | 1.45 | 87 | 82 |
| 27-Oct-10 | 13:00 | Cloudy | 201339 | 2.7905 | 2.8008 | 12828.99 | 12829.99 | 1.00 | 1.43 | 1.43 | 1.43 | 86 | 120 |



Location: MA1e - International Finance Centre (Eastern Wing)

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 173.4
Limit Level ($\mu\text{g}/\text{m}^3$) - 260

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 01-Nov-10 | 08:00 | Fine | 201292 | 2.8469 | 3.0123 | 5949.44 | 5973.53 | 24.09 | 1.15 | 1.15 | 1.15 | 1660 | 100 |
| 06-Nov-10 | 08:00 | Cloudy | 201671 | 2.7975 | 2.9404 | 5975.53 | 5999.52 | 23.99 | 1.32 | 1.32 | 1.32 | 1899 | 75 |
| 12-Nov-10 | 08:00 | Sunny | 201334 | 2.7922 | 2.9397 | 6002.52 | 6026.52 | 24.00 | 1.31 | 1.31 | 1.31 | 1887 | 78 |
| 18-Nov-10 | 08:00 | Sunny | 201733 | 2.7903 | 2.9956 | 6029.52 | 6053.52 | 24.00 | 1.36 | 1.36 | 1.36 | 1963 | 105 |
| 24-Nov-10 | 08:00 | Fine | 201723 | 2.8035 | 2.9853 | 6056.53 | 6080.56 | 24.03 | 1.36 | 1.36 | 1.36 | 1966 | 92 |

Report on 1-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 325.1
Limit Level ($\mu\text{g}/\text{m}^3$) - 500

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 02-Nov-10 | 08:05 | Fine | 201678 | 2.8037 | 2.8151 | 5973.53 | 5974.53 | 1.00 | 1.32 | 1.32 | 1.32 | 79 | 144 |
| 02-Nov-10 | 09:30 | Fine | 201676 | 2.8023 | 2.8165 | 5974.53 | 5975.53 | 1.00 | 1.32 | 1.32 | 1.32 | 79 | 179 |
| 02-Nov-10 | 10:50 | Fine | 201673 | 2.7917 | 2.8035 | 5974.53 | 5975.53 | 1.00 | 1.32 | 1.32 | 1.32 | 79 | 149 |
| 08-Nov-10 | 08:34 | Sunny | 201284 | 2.8434 | 2.8497 | 5999.53 | 6000.52 | 0.99 | 1.27 | 1.25 | 1.26 | 75 | 84 |
| 08-Nov-10 | 09:33 | Sunny | 201336 | 2.7945 | 2.8024 | 6000.52 | 6001.52 | 1.00 | 1.27 | 1.25 | 1.26 | 76 | 104 |
| 08-Nov-10 | 10:42 | Sunny | 201654 | 2.8102 | 2.8187 | 6001.52 | 6002.52 | 1.00 | 1.27 | 1.25 | 1.26 | 76 | 112 |
| 13-Nov-10 | 08:25 | Sunny | 201738 | 2.8064 | 2.8129 | 6026.52 | 6027.52 | 1.00 | 1.31 | 1.31 | 1.31 | 79 | 82 |
| 13-Nov-10 | 09:30 | Sunny | 201659 | 2.7877 | 2.7942 | 6027.52 | 6028.52 | 1.00 | 1.31 | 1.31 | 1.31 | 79 | 82 |
| 13-Nov-10 | 10:39 | Sunny | 201736 | 2.8112 | 2.8182 | 6028.52 | 6029.52 | 1.00 | 1.31 | 1.31 | 1.31 | 79 | 89 |
| 19-Nov-10 | 08:25 | Sunny | 201729 | 2.8042 | 2.8150 | 6053.52 | 6054.53 | 1.01 | 1.27 | 1.32 | 1.30 | 79 | 137 |
| 19-Nov-10 | 09:37 | Sunny | 201728 | 2.8154 | 2.8253 | 6054.53 | 6055.53 | 1.00 | 1.32 | 1.32 | 1.32 | 79 | 125 |
| 19-Nov-10 | 13:00 | Sunny | 201725 | 2.8043 | 2.8155 | 6055.53 | 6056.53 | 1.00 | 1.32 | 1.32 | 1.32 | 79 | 142 |
| 25-Nov-10 | 08:25 | Fine | 201720 | 2.7884 | 2.7984 | 6080.56 | 6081.56 | 1.00 | 1.32 | 1.32 | 1.32 | 79 | 126 |
| 25-Nov-10 | 09:40 | Fine | 201718 | 2.7930 | 2.8041 | 6081.56 | 6082.56 | 1.00 | 1.32 | 1.32 | 1.32 | 79 | 140 |
| 25-Nov-10 | 10:50 | Fine | 201716 | 2.7970 | 2.8091 | 6082.56 | 6083.56 | 1.00 | 1.30 | 1.30 | 1.30 | 78 | 155 |



Location: MA1w - International Finance Centre (Western Wing)

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 173.4

Limit Level ($\mu\text{g}/\text{m}^3$) - 260

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 01-Nov-10 | 08:00 | Fine | 201330 | 2.8000 | 2.9944 | 9090.87 | 9114.89 | 24.02 | 1.31 | 1.31 | 1.31 | 1883 | 103 |
| 06-Nov-10 | 08:00 | Cloudy | 201650 | 2.7977 | 2.9305 | 9117.89 | 9141.88 | 23.99 | 1.52 | 1.46 | 1.49 | 2139 | 62 |
| 12-Nov-10 | 08:00 | Sunny | 201363 | 2.7723 | 2.9163 | 9144.88 | 9168.89 | 24.01 | 1.19 | 1.19 | 1.19 | 1719 | 84 |
| 19-Nov-10 | 14:21 | Sunny | 201293 | 2.8473 | 3.0375 | 9174.89 | 9198.89 | 24.00 | 1.34 | 1.36 | 1.35 | 1946 | 98 |
| 24-Nov-10 | 08:00 | Fine | 201667 | 2.7833 | 2.9431 | 9198.89 | 9222.90 | 24.01 | 1.39 | 1.39 | 1.39 | 2005 | 80 |

Report on 1-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 325.1

Limit Level ($\mu\text{g}/\text{m}^3$) - 500

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|---------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 02-Nov-10 | 08:20 | Fine | 201677 | 2.7898 | 2.8031 | 9114.89 | 9115.89 | 1.00 | 1.44 | 1.44 | 1.44 | 86 | 154 |
| 02-Nov-10 | 09:45 | Fine | 201655 | 2.8055 | 2.8172 | 9115.89 | 9116.89 | 1.00 | 1.46 | 1.46 | 1.46 | 88 | 133 |
| 02-Nov-10 | 11:00 | Fine | 201672 | 2.7948 | 2.8066 | 9116.89 | 9117.89 | 1.00 | 1.46 | 1.44 | 1.45 | 87 | 136 |
| 08-Nov-10 | 08:13 | Sunny | 201286 | 2.8355 | 2.8430 | 9141.88 | 9142.88 | 1.00 | 1.40 | 1.40 | 1.40 | 84 | 89 |
| 08-Nov-10 | 09:24 | Sunny | 201370 | 2.7542 | 2.7623 | 9142.88 | 9143.88 | 1.00 | 1.43 | 1.35 | 1.39 | 84 | 97 |
| 08-Nov-10 | 10:51 | Sunny | 201367 | 2.7773 | 2.7849 | 9143.88 | 9144.88 | 1.00 | 1.40 | 1.40 | 1.40 | 84 | 90 |
| 13-Nov-10 | 08:25 | Sunny | 201658 | 2.8004 | 2.8083 | 9168.89 | 9169.89 | 1.00 | 1.39 | 1.39 | 1.39 | 83 | 95 |
| 13-Nov-10 | 09:28 | Sunny | 201331 | 2.7930 | 2.7990 | 9169.89 | 9170.89 | 1.00 | 1.39 | 1.39 | 1.39 | 83 | 72 |
| 13-Nov-10 | 10:35 | Sunny | 201735 | 2.7968 | 2.8047 | 9170.89 | 9171.89 | 1.00 | 1.39 | 1.39 | 1.39 | 83 | 95 |
| 19-Nov-10 | 09:00 | Sunny | 201734 | 2.7909 | 2.8085 | 9171.89 | 9172.89 | 1.00 | 1.51 | 1.30 | 1.41 | 84 | 208 |
| 19-Nov-10 | 10:31 | Sunny | 201724 | 2.7946 | 2.8048 | 9172.89 | 9173.89 | 1.00 | 1.35 | 1.43 | 1.39 | 83 | 122 |
| 19-Nov-10 | 13:00 | Sunny | 201329 | 2.7984 | 2.8095 | 9173.89 | 9174.89 | 1.00 | 1.48 | 1.30 | 1.39 | 83 | 133 |
| 25-Nov-10 | 08:40 | Fine | 201719 | 2.7927 | 2.8035 | 9222.90 | 9223.90 | 1.00 | 1.49 | 1.49 | 1.49 | 89 | 121 |
| 25-Nov-10 | 09:50 | Fine | 201664 | 2.7859 | 2.7984 | 9223.90 | 9224.90 | 1.00 | 1.49 | 1.49 | 1.49 | 89 | 140 |
| 25-Nov-10 | 10:10 | Fine | 201715 | 2.7891 | 2.8012 | 9224.90 | 9225.90 | 1.00 | 1.49 | 1.49 | 1.49 | 89 | 135 |



Location: CMA2a - Causeway Bay Community Centre

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 169.5
Limit Level ($\mu\text{g}/\text{m}^3$) - 260

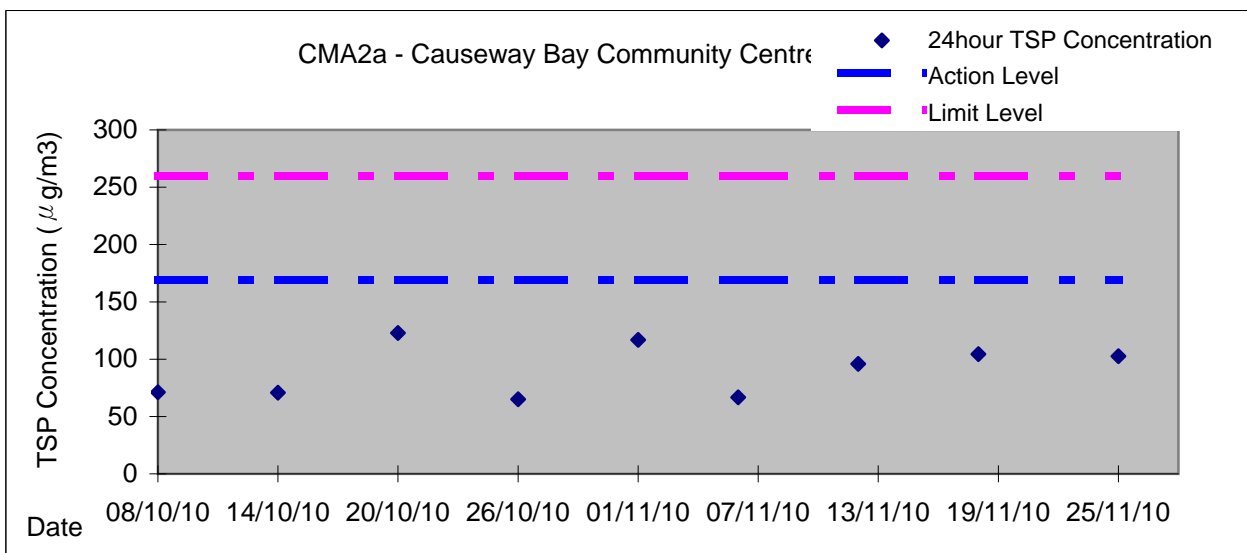
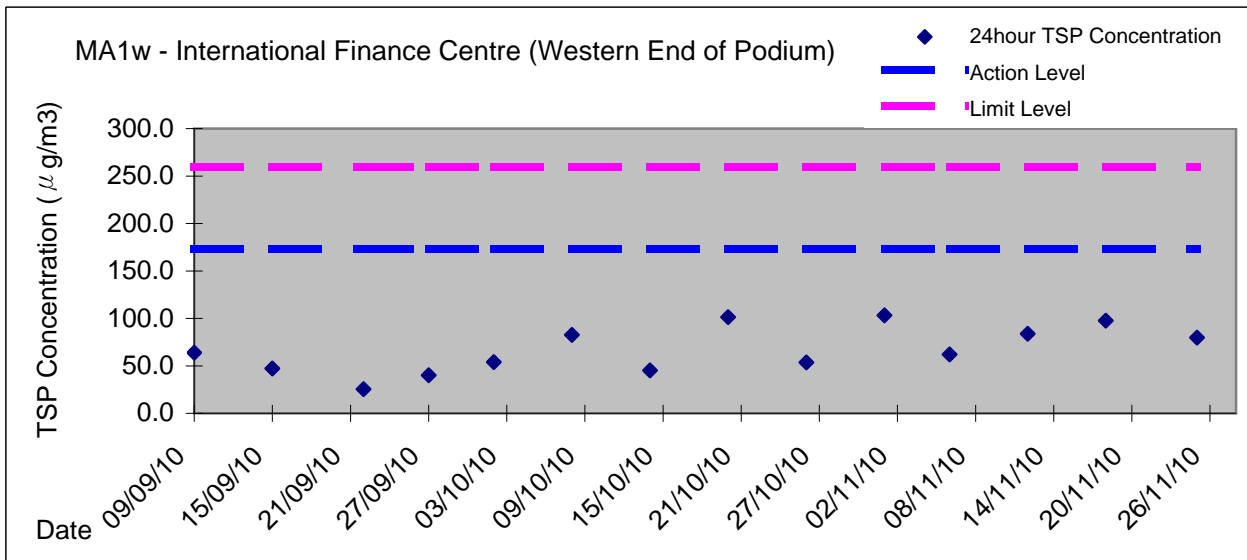
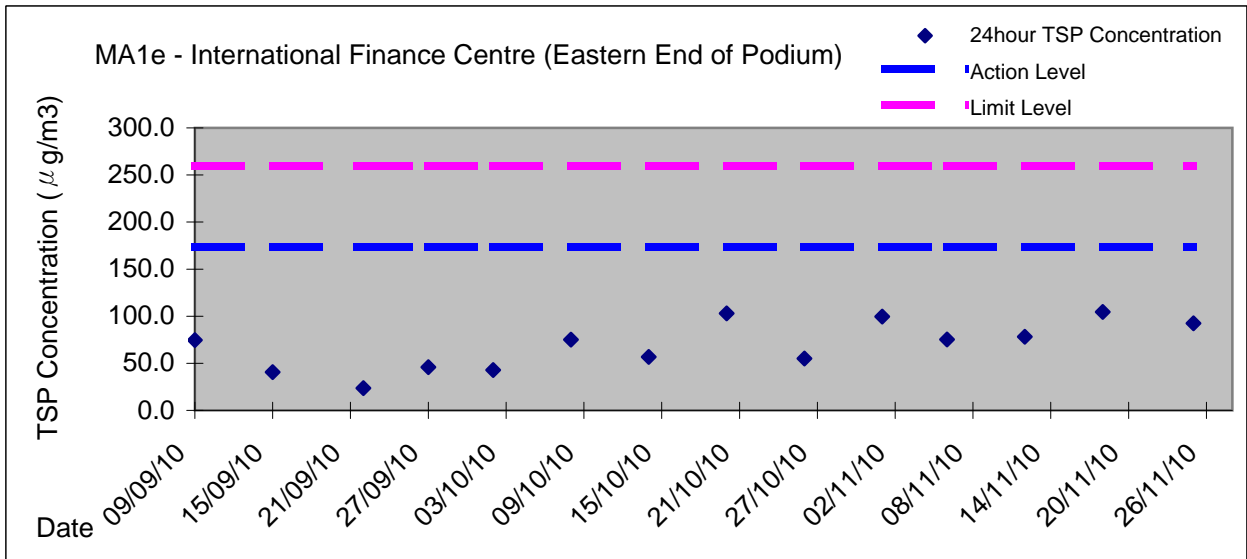
| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|----------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 01-Nov-10 | 08:00 | Fine | 201360 | 2.7981 | 3.0456 | 12829.99 | 12854.07 | 24.08 | 1.47 | 1.47 | 1.47 | 2119 | 117 |
| 06-Nov-10 | 08:00 | Cloudy | 201670 | 2.7967 | 2.9359 | 12857.08 | 12881.07 | 23.99 | 1.47 | 1.43 | 1.45 | 2087 | 67 |
| 12-Nov-10 | 08:00 | Sunny | 201642 | 2.7997 | 2.9993 | 12884.07 | 12908.07 | 24.00 | 1.44 | 1.44 | 1.44 | 2080 | 96 |
| 18-Nov-10 | 08:00 | Sunny | 201660 | 2.7890 | 3.0068 | 12911.08 | 12935.08 | 24.00 | 1.45 | 1.45 | 1.45 | 2086 | 104 |
| 24-Nov-10 | 08:00 | Fine | 201692 | 2.7941 | 3.0112 | 12938.08 | 12962.08 | 24.00 | 1.47 | 1.47 | 1.47 | 2117 | 103 |

Report on 1-hour TSP monitoring

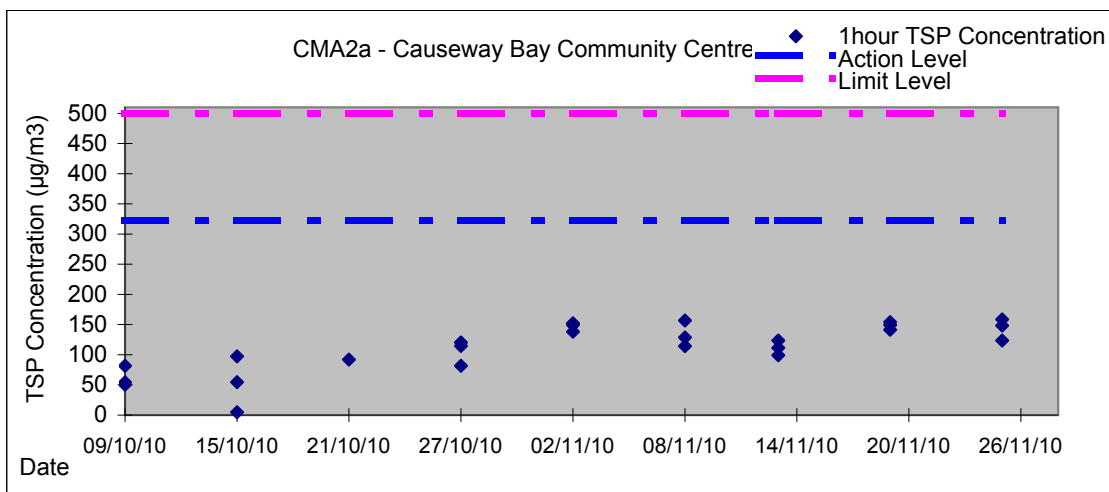
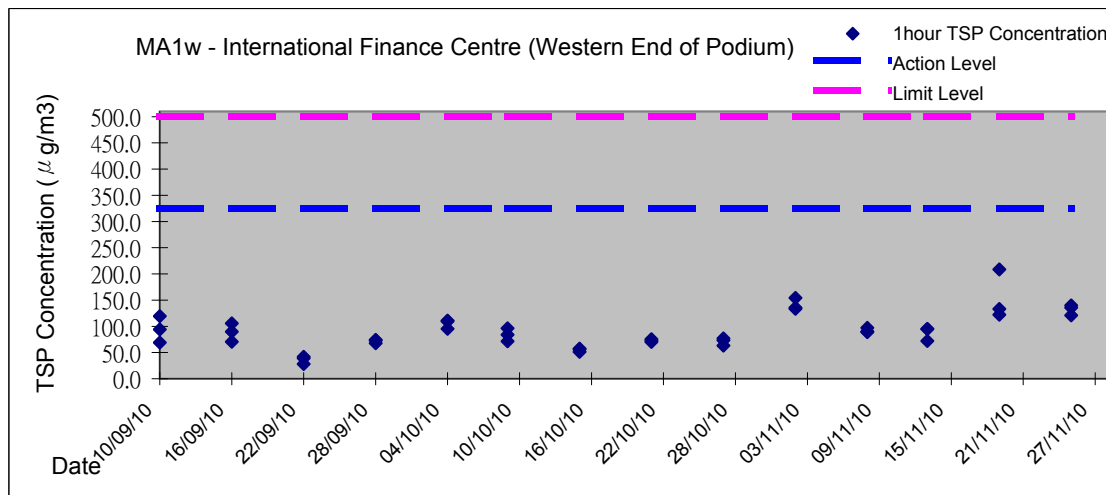
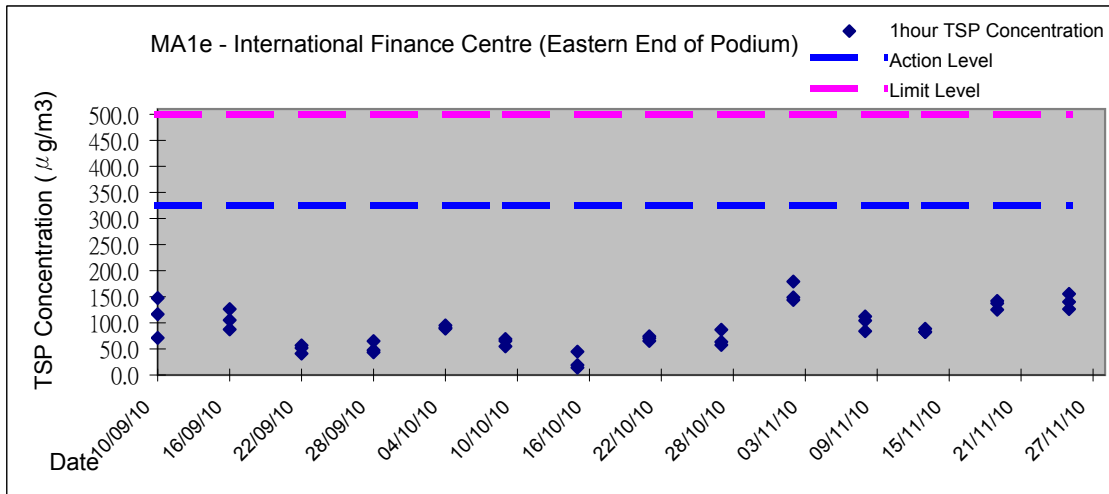
Action Level ($\mu\text{g}/\text{m}^3$) - 323.4
Limit Level ($\mu\text{g}/\text{m}^3$) - 500

| Date | Sampling Time | Weather Condition | Filter paper no. | Filter Weight, g | | Elapse Time, hr | | Sampling Time, hr | Flow Rate, m^3/min | | | Total Volume, m^3 | TSP Level, $\mu\text{g}/\text{m}^3$ |
|-----------|---------------|-------------------|------------------|------------------|--------|-----------------|----------|-------------------|------------------------------------|-----------------|---------|----------------------------|-------------------------------------|
| | | | | Initial | Final | Initial | Final | | Initial, Q_{si} | Final, Q_{sf} | Average | | |
| 02-Nov-10 | 08:31 | Fine | 201175 | 2.7959 | 2.8083 | 12854.07 | 12855.07 | 1.00 | 1.50 | 1.50 | 1.50 | 90 | 138 |
| 02-Nov-10 | 09:34 | Fine | 201619 | 2.7861 | 2.7995 | 12855.07 | 12856.07 | 1.00 | 1.50 | 1.50 | 1.50 | 90 | 149 |
| 02-Nov-10 | 13:00 | Fine | 201628 | 2.7997 | 2.8135 | 12856.07 | 12857.08 | 1.01 | 1.50 | 1.50 | 1.50 | 91 | 152 |
| 08-Nov-10 | 09:30 | Sunny | 201649 | 2.8012 | 2.8110 | 12881.07 | 12882.07 | 1.00 | 1.43 | 1.43 | 1.43 | 86 | 114 |
| 08-Nov-10 | 10:39 | Sunny | 201645 | 2.7878 | 2.8012 | 12882.07 | 12883.07 | 1.00 | 1.43 | 1.43 | 1.43 | 86 | 157 |
| 08-Nov-10 | 13:00 | Sunny | 201653 | 2.8018 | 2.8130 | 12883.07 | 12884.07 | 1.00 | 1.45 | 1.45 | 1.45 | 87 | 129 |
| 13-Nov-10 | 09:38 | Sunny | 201647 | 2.7981 | 2.8067 | 12908.07 | 12909.07 | 1.00 | 1.44 | 1.44 | 1.44 | 87 | 99 |
| 13-Nov-10 | 10:42 | Sunny | 201643 | 2.8002 | 2.8097 | 12909.07 | 12910.07 | 1.00 | 1.42 | 1.42 | 1.42 | 85 | 111 |
| 13-Nov-10 | 13:05 | Sunny | 201636 | 2.7980 | 2.8087 | 12910.07 | 12911.07 | 1.00 | 1.44 | 1.44 | 1.44 | 87 | 124 |
| 19-Nov-10 | 08:25 | Sunny | 201690 | 2.7951 | 2.8072 | 12935.08 | 12936.08 | 1.00 | 1.43 | 1.43 | 1.43 | 86 | 141 |
| 19-Nov-10 | 09:30 | Sunny | 201691 | 2.7978 | 2.8106 | 12936.08 | 12937.08 | 1.00 | 1.43 | 1.43 | 1.43 | 86 | 149 |
| 19-Nov-10 | 10:35 | Sunny | 201727 | 2.8013 | 2.8147 | 12937.08 | 12938.08 | 1.00 | 1.45 | 1.45 | 1.45 | 87 | 154 |
| 25-Nov-10 | 08:15 | Fine | 201739 | 2.8225 | 2.8352 | 12962.08 | 12963.08 | 1.00 | 1.43 | 1.43 | 1.43 | 86 | 148 |
| 25-Nov-10 | 09:25 | Fine | 201740 | 2.8123 | 2.8263 | 12963.08 | 12964.08 | 1.00 | 1.47 | 1.47 | 1.47 | 88 | 159 |
| 25-Nov-10 | 13:00 | Fine | 201713 | 2.8018 | 2.8127 | 12964.08 | 12965.08 | 1.00 | 1.47 | 1.47 | 1.47 | 88 | 124 |

Graphic Presentation of 24 hour TSP Result



Graphic Presentation of 1 hour TSP Result





Appendix 5.1

Event Action Plans



Event/Action Plan for Construction Noise

| EVENT | ACTION | | | |
|-----------------------------|---|---|---|--|
| | ET | IEC | ER | CONTRACTOR |
| Action Level being exceeded | <ol style="list-style-type: none">1. Notify ER, IEC and Contractor;2. Carry out investigation;3. Report the results of investigation to the IEC, ER and Contractor;4. Discuss with the IEC and Contractor on remedial measures required;5. Increase monitoring frequency to check mitigation effectiveness. <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p> | <ol style="list-style-type: none">1. Review the investigation results submitted by the ET;2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;3. Advise the ER on the effectiveness of the proposed remedial measures. <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p> | <ol style="list-style-type: none">1. Confirm receipt of notification of failure in writing;2. Notify Contractor;3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;4. Supervise the implementation of remedial measures. <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p> | <ol style="list-style-type: none">1. Submit noise mitigation proposals to IEC and ER;2. Implement noise mitigation proposals. <p>(The above actions should be taken within 2 working days after the exceedance is identified)</p> |



| EVENT | ACTION | | | |
|----------------------------|---|---|--|---|
| | ET | IEC | ER | CONTRACTOR |
| Limit Level being exceeded | 1. Inform IEC, ER, Contractor and EPD; 2. Repeat measurements to confirm findings; 3. Increase monitoring frequency; 4. Identify source and investigate the cause of exceedance; 5. Carry out analysis of Contractor's working procedures; 6. Discuss with the IEC, Contractor and ER on remedial measures required; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; 8. If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified) | 1. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly. (The above actions should be taken within 2 working days after the exceedance is identified) | 1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Supervise the implementation of remedial measures; 5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified) | 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification; 3. Implement the agreed proposals; 4. Submit further proposal if problem still not under control; 5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified) |



Event / Action Plan for Construction Air Quality

| EVENT | ACTION | | | |
|---|---|---|---|---|
| | ET | IEC | ER | CONTRACTOR |
| ACTION LEVEL | | | | |
| 1. Exceedance for one sample | <ol style="list-style-type: none"> Identify source, investigate the causes of exceedance and propose remedial measures; Inform IEC and ER; Repeat measurement to confirm finding; Increase monitoring frequency to daily. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Check monitoring data submitted by ET; Check Contractor's working method. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Notify Contractor. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Rectify any unacceptable practice; Amend working methods if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified) |
| 2. Exceedance for two or more consecutive samples | <ol style="list-style-type: none"> Identify source; Inform IEC and ER; Advise the ER on the effectiveness of the proposed remedial measures; Repeat measurements to confirm findings; Increase monitoring frequency to daily; Discuss with IEC and Contractor on remedial actions required; If exceedance continues, arrange meeting with IEC and ER; If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ET on the effectiveness of the proposed remedial measures; Supervise Implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Confirm receipt of notification of failure in writing; Notify Contractor; Ensure remedial measures properly implemented. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Submit proposals for remedial to ER within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified) |
| LIMIT LEVEL | | | | |
| 1. Exceedance for one sample | <ol style="list-style-type: none"> Identify source, investigate the causes of exceedance and propose remedial measures; Inform ER, Contractor and EPD; Repeat measurement to confirm finding; Increase monitoring frequency to daily; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Check monitoring data submitted by ET; Check Contractor's working method; Discuss with ET and Contractor on possible remedial measures; Advise the ER on the effectiveness of the proposed remedial measures; Supervise implementation of remedial measures. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Confirm receipt of notification of failure in writing; Notify Contractor; Ensure remedial measures properly implemented. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Amend proposal if appropriate. (The above actions should be taken within 2 working days after the exceedance is identified) |
| 2. Exceedance for two or more consecutive samples | <ol style="list-style-type: none"> Notify IEC, ER, Contractor and EPD; Identify source; Repeat measurement to confirm findings; Increase monitoring frequency to daily; Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; Arrange meeting with IEC and ER to discuss the remedial actions to be taken; Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results; If exceedance stops, cease additional monitoring. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Discuss amongst ER, ET, and Contractor on the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; Supervise the implementation of remedial measures. | <ol style="list-style-type: none"> Confirm receipt of notification of failure in writing; Notify Contractor; In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; Ensure remedial measures properly implemented; If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified) | <ol style="list-style-type: none"> Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within 3 working days of notification; Implement the agreed proposals; Resubmit proposals if problem still not under control; Stop the relevant portion of works as determined by the ER until the exceedance is abated. (The above actions should be taken within 2 working days after the exceedance is identified) |



Appendix 6.1

Complaint Log



Environmental Complaints Log

No environmental complaint was received in the reporting month.

| Complaint Log No. | Date of Complaint | Received From and Received By | Location of Complainant | Nature of Complaint | Outcome | Status |
|--------------------------|--------------------------|--------------------------------------|--------------------------------|----------------------------|----------------|---------------|
| - | - | - | - | - | - | - |



Appendix 9.1

Construction Programme of Individual Contracts



Project: MAN KWONG ST. J/O MAN YIU ST. BUS TERMINUS RELOCATION
 Date: 2010/5/25
 H= HIGHWAYS, A=AECOM, C=CHIU HING

| | | | | | | | | | |
|------|--|--------|--|---------|--|-------|--|------|--|
| 任務 | | 要徑任務進度 | | 上顯型任務 | | 上顯型進度 | | 專案摘要 | |
| 任務進度 | | 里程碑 | | 上顯型要徑任務 | | 分割 | | 摘要群組 | |
| 要徑任務 | | 摘要 | | 上顯型里程碑 | | 外部任務 | | 期限 | |

Contract no. HY/2009/17

Contract Title : Central - Wan Chai Bypass - FEHD Whitfield Depot Re-provisioning Works

Works Schedule for the Advance Piling Works

| ACTIVITY | Duration | START | FINISH | 2010 | | | | | | 2011 |
|--|----------|------------|------------|------|--------|-----------|---------|----------|----------|---------|
| | | | | July | August | September | October | November | December | January |
| <u>Submissions before Commencement of Piling Works</u> | | | | | | | | | | |
| Notification of Commencement Date of Construction | 1 | 16/7/2010 | 16/7/2010 | ◆ | | | | | | |
| Organization Chart of Environmental Management Team | 1 | 16/7/2010 | 16/7/2010 | ◆ | | | | | | |
| Works Schedule | 1 | 16/7/2010 | 16/7/2010 | ◆ | | | | | | |
| Location and Layout Plan | 1 | 31/8/2010 | 31/8/2010 | | | ◆ | | | | |
| Construction Noise Management Plan | 1 | 31/8/2010 | 31/8/2010 | | | ◆ | | | | |
| <u>Installation of Piles</u> | | | | | | | | | | |
| Plants Set-up | 7 | 24/9/2010 | 30/9/2010 | | | | ■ | | | |
| Installation of pipes E3b | 70 | 2/10/2010 | 10/12/2010 | | | | ■ | | | |
| Installation of pipes E3a | 60 | 2/10/2010 | 30/11/2010 | | | | ■ | | | |
| Installation of pipes E2a | 60 | 12/10/2010 | 10/12/2010 | | | | ■ | | | |
| Installation of pipes E2b | 70 | 14/10/2010 | 22/12/2010 | | | | ■ | | | |
| Testing | 14 | 23/12/2010 | 6/1/2011 | | | | | | ■ | |

HY/2009/18
Central - Wan Chai Bypass (Central Interchange)

