



CONTRACT NO: HK/2011/07

WANCHAI DEVELOPMENT PHASE II AND CENTRAL
WANCHAI BYPASS
SAMPLING, FIELD MEASUREMENT AND TESTING WORK
(STAGE 2)

ENVIRONMENTAL PERMIT NO. EP-364/2009/A,
FURTHER ENVIRONMENTAL PERMIT NOS. FEP-01/364/2009,
FEP-02/364/2009, FEP-03/364/2009, FEP-05/364/2009/A, FEP-
06/364/2009/A AND FEP-07/364/2009/A

MONTHLY ENVIRONMENTAL MONITORING & AUDIT REPORT

- JANUARY 2012 -

CLIENTS:

Civil Engineering and Development
Department

and

Highways Department

PREPARED BY:

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CERTIFIED BY:

Raymond Dai
Environmental Team Leader

DATE:

14 February 2012

Ref.: AACWBIECEM00_0_2420L.12

14 February 2012

By Post and Fax (2691 2649)

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

Attention: Mr. Kelvin CHENG

Dear Sir,

**Re: Wan Chai Development Phase II and Central-Wan Chai Bypass
Monthly Environmental Monitoring and Audit Report (January 2012)
for EP-364/2009/A, FEP-01/364/2009, FEP-02/364/2009, FEP-03/364/2009,
FEP-05/364/2009/A, FEP-06/364/2009/A and FEP-07/364/2009/A**

Reference is made to the Environmental Team's submission of the captioned Monthly Environmental Monitoring and Audit (EM&A) Report for January 2012 dated 14 February 2012.

Please be informed that we have no adverse comment on the captioned submission. We write to verify the captioned submission in accordance with Condition 3.4 in the captioned Environmental Permits.

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) Monthly Report – January 2012 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-05/364/2009/A, FEP-06/364/2009/A and FEP-07/364/2009/A. The EM&A report is prepared by the Environmental Team (ET) employed under Contract No. HK/2011/07 – Wan Chai Development Phase II and Central Wanchai Bypass – Sampling, Field Measurement and Testing Works (Stage 2). This report presents the environmental monitoring findings and information recorded during the period 28th December 2011 to 27th January 2012. The cut-off date of reporting is at 27th of each reporting month.
- ii. In the reporting month, 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

- ELS works for basement construction for pile cap construction.

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

- Instrumentation works for Manholes and Intake Culvert Survey
- Excavation of trial pit
- Drainage work
- Site investigation and pre-drilling works
- Diaphragm wall construction
- Hoarding erection
- Roadwork
- Sheet-piling
- Grout curtain
- Tree pruning

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

- Diaphragm wall construction works for CWB
- Pre-drilling works for CWB (stage 2)
- Pre-bored H piling works for CWB
- Grouting works along the southern side of HKCEC water channel

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

- Toe grout at WCR1 area
- Shear pin at WCR1 area
- Pumping test at WCR1 area

- King Post at WCR1 area
- Deep excavation of CWB at the eastern area of working deck B

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

- Seawall block construction, reclamation work and diaphragm wall construction preparation works at TS4
- ELS works at TS1 and TPCWAE
- Night time protection works at CHT
- Construction of dewatering well at Hung Hing Road and POC
- Precautionary works at Abutment A

Contract no. HY/2009/19 - Central - Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

- Preparation works and concreting of marine piles
- Fabrication of bored piling platform
- Bored piling
- Ground contamination assessment
- D-wall Construction
- Construction works for Box Culvert T

Noise Monitoring

- iii. Monitoring for report of review baseline noise level was performed from 11 April 2011 to 8 June 2011. Then the report was submitted on the 20 June 2011, verified by IEC on 18 July 2011 and was approved by ER by January 2012. The new baseline is used for the noise calculation of this reporting month starting from January 2012.
- iv. Noise monitoring during daytime was conducted at M1a - Harbour Road Sports Center; M2b - Noon-day gun area; M3a - Tung Lo Wan Fire Station; M4b - Victoria Center; M5b - City Garden, M6 - HK Baptist Church Henrietta Secondary School, M7e and M7w – International Finance Centre Eastern and Western End of Podium on a weekly basis. A limit level exceedance was recorded at M1a on 10 January 2012 during restricted hours. All exceedances were considered non-project related.
- v. One action level exceedance was recorded referring Contract No. HY/2009/17 and HY/2009/19 regarding one noise complaint regarding to noise were received on 30 December 2011.
- vi. 24-hour real time noise monitoring was conducted at RTN1 - FEHD Hong Kong Transport Section Whitefield Depot for the piling works in FEHD Whitfield Depot and RTN2 – Tunnel (North Point Section) and Island Eastern Corridor Link. No project related action and limit level exceedance was recorded in the reporting period.

Air Monitoring

- vii. Due to lack of electricity supply, the 24 TSP monitoring at the following stations were rescheduled
CMA1b: from 4, 10, 20 and 26 Jan 2012 to 5, 11, 21 and 27 Jan 2012

CMA3a: form 16 Jan 2012 to 17 Jan 2012

MA1w: form 16 Jan 2012 to 17 Jan 2012

- viii. 1-hour and 24-hour Total Suspended Particulates (TSP) monitoring were conducted at CMA1b - Oil Street Community Liaison Centre; CMA2a - Causeway Bay Community Center; CMA3a - CWB PRE Site Office Area; CMA4a – Society for the Prevention of Cruelty to Animals; CMA5a - Children Garden opposite to Pedestrian Plaza; MA1e and MA1w – International Finance Centre eastern and western wing on every six days basis. No action and limit level exceedance were recorded in the reporting period.

Complaints, Notifications of Summons and Successful Prosecutions

- ix. There were two environmental complaints regarding visual, and air and noise received on 30 December 2011 and regarding tree's health 18 January 2012, respectively. No further complaint was received after follow-up action and investigation in this reporting month.

Site Inspections and Audit

- x. The Environmental Team (ET) conducted weekly site inspections for Contract no. HY/2009/15, HY/2009/17, HY/2009/18, HY/2009/19, HK/2009/01 and HK/2009/02 in this reporting period. The Contractors rectified major observations and recommendations made during the audit sessions. No non-conformance was identified during the site inspections.

Future Key Issues

- xi. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

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

- ELS works for basement construction for pile cap construction.

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

- Instrumentation works for Manholes and Intake Culvert Survey
- Excavation of trial pit
- Drainage work
- Site investigation and pre-drilling works
- Diaphragm wall construction
- Hoarding erection
- Roadwork
- Grout curtain
- Sheet-piling
- Tree pruning

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

- Diaphragm wall construction works for both CWB and SCL Protection Works within HKCEC 1
- Pre-drilling and pre-treatment works for CWB at stage2
- Pilling works for CWB at Stage 1
- Excavation and Installation of shoring system for CWB top slab
- Installation of sheet pile for SCL top slab construction and exhaust duct construction

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

- Deep excavation works below +0.3mPD for western tunnel portion and below +4mPD for eastern tunnel portion.
- Toe grout, Shear pin, and Pumping test at WCR1 area.

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

- Diaphragm wall construction at TS4
- ELS works at TS1 and TPCWAE
- Night time protection works at CHT
- Cut off wall preparation works at Hung Hing Road and POC

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

- Road works at Watson Road
- Fabrication of bored piling platform
- Bored piling
- Ground contamination assessment
- Pre-drilling works for bored pile and Diaphragm wall
- D-wall Construction
- Guide wall construction for D-wall / Barette at North side
- Construction works for Box Culvert T
- Marine Piling
- Preparing for fabrication of temporary steel bridge for Culvert U

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-05/364/2009/A, FEP-06/364/2009/A and FEP-07/364/2009/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 for Environmental Permit (EP) no. EP-364/2009/A, Further Environmental Permit (FEP) nos. FEP-01-364/2009, FEP-02/364/2009, FEP-03/364/2009, FEP-05/364/2009/A, FEP-06/364/2009/A and FEP-07/364/2009/A during the period 28th December 2011 to 27th January 2012. The cut-off date of reporting is at 27th of each reporting month.

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** ***Status of Regulatory Compliance*** – summarizes the status of valid Environmental Permits / Licenses during the reporting period.
- Section 4** ***Monitoring Requirements*** – summarizes all monitoring parameters, monitoring methodology and equipment, monitoring locations, monitoring frequency, criteria and respective event and action plan and monitoring programmes.
- Section 5** ***Monitoring Results*** – summarizes the monitoring results obtained in the reporting period.
- Section 6** ***Compliance Audit*** – summarizes the auditing of monitoring results, all exceedances environmental parameters.
- 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 ***Site Inspection*** – summarizes the findings of weekly site inspections undertaken within the reporting period, with a review of any relevant follow-up actions within the reporting period.

Section 9 ***Complaints, Notification of summons and Prosecution*** – summarizes the cumulative statistics on complaints, notification of summons and prosecution

Section 10 ***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 month, Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section) was commenced on 13 July 2011. 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	21 April 2011
04/HY/2006	Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street	DP1	September 2010 (Completed)
HK/2009/01	Wan Chai Development Phase II – Central – Wan Chai Bypass at Hong Kong Convention and Exhibition Centre – Tunnel Works	DP1, DP2	25 August 2011

Contract No.	Contract Title	Associated DP(s)	Construction Commencement Date
HK/2009/02	Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai East(CWB Tunnel)	DP1	26 April 2011
HY/2009/15	Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section)	DP1	13 July 2011
HY/2009/19	Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link	DP1	24 March 2011

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	Principal Resident Engineer	Mr. Frankie Fan	2587 1778	2587 1877
	Engineer for CWB	Principal 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
		Site Agent	Mr. Tony Au	9725 5874	2566 7522
		Sub Agent	Mr. Johnny Wong	9725 5870	2566 7522
Chun Wo – Leader Joint Venture	Contractor under Contract no. HK/2009/01	Joint Venture Board Representative	Mr. PL Yue	2162 9909	2634 1626
		Site Agent	Mr. Paul Yu	9456 9819	
		Sub Agent	Mr. Terry Wong	9757 9846	
		Construction Manager	Mr. Wyman Wong	9627 2467	
		Construction Manager	Mr. Jack Chu	9775 2467	
		Construction Manager	Mr KK Yuen	9498 1213	



Party	Role	Post	Name	Contact No.	Contact Fax
		Construction Manager	Mr. Andy Yu	9648 4896	
		Environmental Officer (Compliance Manager)	Mr. Andy Mak	9103 2370	
		Environmental Supervisor	Ms. Kiwi Chan	6227 8840	
		Environmental Supervisor	Mr. Yeung Sze King	9047 9952	
		Environmental Supervisor	Mr. Les Chow	6692 2423	
		Environmental Supervisor	Mr. Otto Yau	9260 4485	
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. Mak Kam Wing	3658-3044	
		Deputy Site Agent	Mr. Anthony Wu	3658-3004	
		Quality & Environmental Manager	Mr. C.P. Ho	3658-3000	
		Environmental Officer	Ms Flora Ng	3658-3064	
Chun Wo - CRGL - MBEC Joint Venture	Contractor under Contract no. HY/2009/19	Project Manager	Mr. Rayland Lee	3758 8879	2570 8013
		Site Agent	Mr. Cheung Kit Cheung	6909 1555	
		Environmental Engineer	Mr. Simon Wong	9281 4346	
		Environmental Manager / Environmental Officer	Mr. M.H. Isa	9884 0810	
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	
		Environmental Officer	Mr. Anfernee Chow	2214 7721	
		Environmental Supervisor	Mr. Dennis Yu	2214 7738	
		Environmental Supervisor	Ryan Tsui	2214 7705	
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. P J Fan	3557 6368	
		Head of construction	Mr. Roger Cheung	3557 6371	

Party	Role	Post	Name	Contact No.	Contact Fax
		Environmental Officer	Mr. Daniel Sin	3557 6215	
		Environmental Supervisor	Mr. Kelven Yip	3557 6347	
		Environmental Supervisor	Mr. Tim Fung	3557 6349	
		Environmental Supervisor	Mr. Hilda Lau	3557 6378	
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

2.4.3. In this reporting month, 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

- ELS works for basement construction for pile cap construction.

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

- Instrumentation works for Manholes and Intake Culvert Survey
- Excavation of trial pit
- Drainage work
- Site investigation and pre-drilling works
- Diaphragm wall construction
- Hoarding erection
- Roadwork
- Sheet-piling
- Grout curtain
- Tree pruning

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

- Diaphragm wall construction works for CWB
- Pre-drilling works for CWB (stage 2)
- Pre-bored H piling works for CWB
- Grouting works along the southern side of HKCEC water channel

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

- Toe grout at WCR1 area
- Shear pin at WCR1 area
- Pumping test at WCR1 area
- King Post at WCR1 area
- Deep excavation of CWB at the eastern area of working deck B
- Working deck B at WCR1.

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

- Seawall block construction, reclamation work and diaphragm wall construction preparation works at TS4
- ELS works at TS1 and TPCWAE
- Night time protection works at CHT
- Construction of dewatering well at Hung Hing Road and POC
- Precautionary works at Abutment A

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

- Preparation works and concreting of marine piles
- Fabrication of bored piling platform
- Bored piling
- Ground contamination assessment
- D-wall Construction
- Construction works for Box Culvert T

2.4.4. In coming reporting month, the principal work activities of individual contracts are anticipated as follows:

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

- ELS works for basement construction for pile cap construction.

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

- Instrumentation works for Manholes and Intake Culvert Survey
- Excavation of trial pit
- Drainage work
- Site investigation and pre-drilling works
- Diaphragm wall construction
- Hoarding erection
- Roadwork
- Grout curtain
- Sheet-piling

- Tree pruning

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

- Diaphragm wall construction works for both CWB and SCL Protection Works within HKCEC 1
- Pre-drilling and pre-treatment works for CWB at stage2
- Pilling works for CWB at Stage 1
- Excavation and Installation of shoring system for CWB top slab
- Installation of sheet pile for SCL top slab construction and exhaust duct construction

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

- Deep excavation works below +0.3mPD for western tunnel portion and below +4mPD for eastern tunnel portion.
- Toe grout, Shear pin, and Pumping test at WCR1 area.

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

- Diaphragm wall construction at TS4
- ELS works at TS1 and TPCWAE
- Night time protection works at CHT
- Cut off wall preparation works at Hung Hing Road and POC

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

- Road works at Watson Road
- Fabrication of bored piling platform
- Bored piling
- Ground contamination assessment
- Pre-drilling works for bored pile and Diaphragm wall
- D-wall Construction
- Guide wall construction for D-wall / Barette at North side
- Construction works for Box Culvert T
- Marine Piling
- Preparing for fabrication of temporary steel bridge for Culvert U

3 STATUS OF REGULATORY COMPLIANCE

3.1 Status of Environmental Licensing and Permitting under the Project

3.1.1. A summary of the current status on licences and/or permits on environmental protection pertinent to the Project is shown in **Table 3.1**.

Table 3.1 Summary of the current status on licences and/or permits on environmental protection pertinent to the Project

Permits and/or Licences	Reference No.	Issued Date	Status
Environmental Permit	EP-356/2009	30 Jul 2009	Valid
Environmental Permit	EP-364/2009	17 Aug 2009	Superseded
Environmental Permit	EP-364/2009/A	4 Aug 2010	Valid
Environmental Permit	EP-376/2009	13 Nov 2010	Valid
Further Environmental Permit	FEP-01/356/2009	18 Feb 2010	Valid
Further Environmental Permit	FEP-02/356/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-03/356/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-04/356/2009	15 Nov 2010	Valid
Further Environmental Permit	FEP-01/364/2009	24 Mar 2010	Valid
Further Environmental Permit	FEP-02/364/2009	21 Apr 2010	Valid
Further Environmental Permit	FEP-03/364/2009	12 July 2010	Valid
Further Environmental Permit	FEP-04/364/2009/A	14 Oct 2010	Surrendered
Further Environmental Permit	FEP-05/364/2009/A	15 Nov 2010	Valid
Further Environmental Permit	FEP-06/364/2009/A	22 Nov 2010	Valid
Further Environmental Permit	FEP-07/364/2009/A	25 Feb 2011	Valid

3.1.2. Due to the multi-contract nature of the Project, the status of permits and/or licences under the individual contract(s) are presented as below:

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

3.1.3. Summary of the current status on licences and/or permits on environmental protection pertinent and submission under FEP-03/364/2009 for contract no. HY/2009/17 showed in **Table 3.2** and **Table 3.3**.

Table 3.2 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/17

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-03/364/2009	12 Jul 2010	N/A	Valid
Notification of Works Under APCO	319348	13 Jul 2010	N/A	Valid
Discharge Licence	WT00007212-2010	5 Aug 2010	5 Aug 2010 – 31 Aug 2015	Valid
Registration as a Waste Producer	5213-151-L2608-05	13 July 2010	N/A	Valid
Billing Account under Waste Disposal Ordinance	7010400	16 Mar 2010	N/A	Valid

Table 3.3 Summary of submission status under FEP-03/364/2009

EP Condition	Submission	Date of Submission
Condition 2.6	Management Organization of Main Construction Companies	18 September 2010
Conditions 2.7 and 2.8	Submission of works schedule and location plan	1 September 2010
Condition 2.9	Noise Management Plan	1 September 2010

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

- 3.1.4. The construction works was completed, and the FEP was surrendered by the Contractor on 11 February 2011.

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

- 3.1.5. Summary of the current status on licences and/or permits on environmental protection pertinent and submission under FEP-02/364/2009 for contract no. HK/2009/01 are shown in **Table 3.4** and **Table 3.5**

Table 3.4 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/01

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-02/356/2009	24 Mar 2010	N/A	Valid
	FEP-02/364/2009	21 Apr 2010	N/A	Valid

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Notification of Works Under APCO	313088	6 Jan 2010	N/A	Valid
Construction Noise Permit (CNP) for non-piling equipment	GW-RS0680-11	22 Jul 2011	24 Jul 2011 to 19 Jan 2012	Expired
	GW-RS0689-11	28 Jul 2011	29 Jul 2011 to 28 Jan 2012	Cancelled
	GW-RS0832-11	7 Sep 2011	03 Sep 2011 to 02 Mar 2012	Cancelled
	GW-RS0850-11	12 Sept 2011	14 Sept 2011 to 13 Mar 2012	Valid
	GW-RS0851-11	12 Sept 2011	16 Sept 2011 to 15 Mar 2012	Valid
	GW-RE0683-11	16 Sept 2011	20 Sept 2011 to 19 Oct 2012	Valid
	GW-RE0716-11	28 Sept 2011	07 Oct 2011 to 29 Mar 2012	Valid
	GW-RS1031-11	02 Nov 2011	07 Nov 2011 to 05 May 2012	Valid
	GW-RS1094-11	23 Nov 2011	27 Nov 2011 to 26 May 2011	Valid
	GW-RS1227-11	30 Dec 2011	30 Dec 2011 to 26 Jul 2012	Valid
	GW-RS0038-12	16 Jan 2012	15 Jan 2012 to 12 Jul 2012	Valid
	GW-RS0047-12	16 Jan 2012	15 Jan 2012 to 29 Jan 2012	Expired
Discharge Licence	WT00006220- 2010	18 Mar 2010	31 Mar 2015	Valid
	WT00009641- 2011	24 Jul 2011	31 Jul 2016	Valid
Billing account under Waste Disposal Ordinance	7010069	21 Jan 2010	N/A	Valid
Registration as a Chemical Waste Producer	WPN5213-134- C3585-01	21 Jan 2010	N/A	Valid

Table 3.5 Summary of submission status under FEP-02/364/2009

EP Condition	Submission	Date of Submission
Special Conditions, Clause 2.7 & 2.8	Works Schedule and Location Plan	18 May 2011
Special Conditions, Clause 2.6	Environmental Management Organization Chart	18 May 2011
Special Conditions, Clause 2.6	Commencement Date of Works	25 Jun 2011

EP Condition	Submission	Date of Submission
Special Conditions, Clause 2.9	Noise Management Plan	10 Jun 2011

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

3.1.6. Summary of the current status on licences and/or permits on environmental protection pertinent and submission under FEP-01/364/2009 for contract no. HK/2009/02 are shown in **Table 3.6** and **Table 3.7**.

Table 3.6 Cumulative Summary of Valid Licences and Permits under Contract no. HK/2009/02

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-03/356/2009	24 Mar 2010	N/A	Valid
	FEP-01/364/2009	24 Mar 2010	N/A	Valid
Notification of Works Under APCO	313962	2 Feb 2010	N/A	Valid
Construction Noise Permit (CNP) for non-piling equipment	GW-RS0579-11	22 June 2011	17 July 2011 to 16 Jan 2012	Expired
	GW-RS0649-11	22 July 2011	1 Aug 2011 to 31 Jan 2012	Expired
	GW-RE0710-11	30 Sept 2011	1 Nov 2011 to 30 Apr 2012	Valid
	GW-RS0716-11	2 Aug 2011	12 Aug 2011 to 11 Feb 2012	Cancelled
	GW-RS0833-11	8 Sept 2011	10 Sept 2011 to 4 Mar 2012	Valid
	GW-RS0918-11	7 Oct 2011	10 Oct 2011 to 9 Apr 2012	Valid
	GW-RS0929-11	7 Oct 2011	10 Oct 2011 to 9 Apr 2012	Cancelled
	GW-RS0930-11	11 Oct 2011	1 Nov 2011 to 30 Apr 2012	Valid
	GW-RS0931-11	7 Oct 2011	10 Oct 2011 to 9 Apr 2012	Valid
	GW-RS0941-11	20 Oct 2011	23 Nov 2011 to 22 May 2012	Valid
	GW-RS0955-11	14 Oct 2011	23 Nov 2011 to 22 May 2012	Valid
	GW-RS0968-11	20 Oct 2011	18 Nov 2011 to 17 May 2012	Valid
	GW-RS0983-11	24 Oct 2011	26 Oct 2011 to 23 April 2012	Cancelled
	GW-RS0984-11	25 Oct 2011	30 Oct 2011 to 27 April 2012	Valid
GW-RS1028-11	3 Nov 2011	7 Dec 2011 to 6 June 2012	Valid	

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
	GW-RS1052-11	18 Nov 2011	21 Nov 2011 to 18 May 2012	Valid
	GW-RS1111-11	28 Nov 2011	29 Nov 2011 to 28 May 2012	Valid
	GW-RS1116-11	28 Nov 2011	13 Dec 2011 to 12 June 2012	Valid
	GW-RS1209-11	3 Jan 2012	17 Jan 2012 to 16 July 2012	Valid
	GW-RS0037-12	19 Jan 2012	1 Feb 2012 to 31 July 2012	Valid
	GW-RS0051-12	19 Jan 2012	1 Feb 2012 to 31 July 2012	Valid
	GW-RS0052-12	19 Jan 2012	1 Feb 2012 to 30 April 2012	Valid
Discharge Licence	WT00006249-2010	22 Mar 2010	31 Mar 2015	Valid
	WT00006436-2010	15 Apr 2010	30 Apr 2015	Valid
	WT00006673-2010	14 May 2010	31 Mar 2015	Valid
	WT00006757-2010	28 May 2010	31 May 2015	Valid
	WT00007129-2010	28 July 2010	31 Jul 2015	Valid
	WT00008982-2011	26 April 2011	30 April 2016	Valid
	WT00009691-2011	1 Aug 2011	31 July 2016	Valid
Billing Account under Waste Disposal Ordinance (Land)	7010255	10 Feb 2010	N/A	Valid
Registration as Chemical Waste Producer (Wan Chai)	WPN5213-135-C3593-01	10 Mar 2010	N/A	Valid
Registration as Chemical Waste Producer (TKO 137)	WPN5213-839-C3593-02	22 Sep 2010	N/A	Valid

Table 3.7 Summary of submission status under FEP-01/364/2009

EP Condition	Submission	Date of Submission
Special Conditions, Clause 2.7 & 2.8	Works Schedule and Location Plan	14 Jun 2011
Special Conditions, Clause 2.6	Environmental Management Organization Chart	14 Jun 2011
Special Conditions, Clause 2.6	Commencement Date of Works	21 Jun 2011

EP Condition	Submission	Date of Submission
Special Conditions, Clause 2.9	Noise Management Plan	28 Jun 2011
Condition 2.11	Landscape Plan	23 Aug 2011
Condition 2.9	Noise Management Plan (Rev.A)	28-Sep-11

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

3.1.7. Summary of the current status on licences and/or permits on environmental protection pertinent and submission under FEP-05/364/2009A for contract no. HY/2009/18 are shown in Table 3.8 and Table 3.9.

Table 3.8 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/18

Permit / Licence / Notification / Approval	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-05/364/2009/A	15 Nov 2010	Permit issued	Valid
Notification of Works Under APCO	322293	07 Oct 2010	Notified	Valid
Construction Noise Permit (CNP) for non-piling equipment	GW-RS0993-11	28 Oct 2011	28 Oct 2011 – 25 Apr 2012	Valid
	GW-RS1208-11	23 Dec 2011	18 Jan 2012 – 21 Jan 2012	Expired
Discharge Licence	WT00008229-2011	13 Jan 2011	31 Jan 2016	Valid
Registration as a Waste Producer	WPN: 8335-121-L1048-04	17 Dec 2010	N/A	Registration completed
Billing Account under Waste Disposal Ordinance (Land)	Account No.: 7011587	11 Oct 2010	Account approved	Valid

Table 3.9 Summary of submission status under FEP-05/364/2009/A

EP Condition	Submission	Date of Submission
Condition 2.9	Noise Management Plan	01 March 2011
Condition 2.10	Landscape Plan (Rev. 4)	3 August 2011

Contract no. HY/2009/15 – Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon

Shelter Section) under FEP-06/364/2009/A

3.1.8. Summary of the current status on licences and/or permits on environmental protection pertinent and submission under FEP-06/364/2009/A for contract no. HY/2009/15 are shown in **Table 3.10** and **Table 3.11**

Table 3.10 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/15

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-04/356/2009	22 Nov 2010	N/A	Valid
	FEP-06/364/2009/A	22 Nov 2010	N/A	Valid
Notification of Works Under APCO	321822	24 Sep 2010	N/A	Valid
Construction Noise Permit (CNP) for non-piling equipment	GW-RS0749-11	11 Aug 2011	15 Aug 2011 to 7 Feb 2012	Cancelled
	GW-RS1021-11	4 Nov 2011	10 Nov 2011 to 9 May 2012	Valid
	GW-RS0847-11	14 Sep 2011	19 Sep 2011 to 16 Mar 2012	Cancelled
	GW-RS1153-11	9 Dec 2011	12 Dec 2011 to 16 Mar 2012	Valid
	GW-RS0858-11	16 Sep 2011	18 Sep 2011 to 16 Mar 2012	Cancelled
	GW-RS1211-11	22 Dec 2011	24 Dec 2011 to 21 Jun 2012	Valid
	GW-RS0883-11	4 Oct 2011	5 Oct 2011 to 4 Apr 2012	Valid
	GW-RS0820-11	5 Sep 2011	8 Sep 2011 to 7 Mar 2012	Valid
	GW-RS1149-11	7 Dec 2011	8 Dec 2011 to 7 Jun 2012	Cancelled
	GW-RS1138-11	7 Dec 2011	8 Dec 2011 to 21 May 2012	Valid
	GW-RS1190-11	30 Dec 2011	22 Dec 2011 to 21 Jun 2012	Valid
	GW-RS0997-11	2 Nov 2011	2 Nov 2011 to 2 May 2012	Valid
	GW-RS1021-11	4 Nov 2011	10 Nov 2011 to 9 May 2012	Valid
Registration as a Chemical Waste Producer	WPN: 5213-147-C1169-35	15 Nov 2010	N/A	Valid
Billing Account under Waste Disposal Ordinance	7011553	30 Sep 2010	27 Sep 2010 to 27 Jan 2016	Valid

Table 3.11 Summary of submission status under FEP-06/364/2009/A

EP Condition	Submission	Date of Submission
Condition 2.6	Management Organization of Main Construction Companies	11 Mar 2011
	Amendment for Management Organization of Main Construction Companies	16 May 2011
Condition 2.7	Works Schedule	15 Mar 2011
Condition 2.8	Location Plan	15 Mar 2011
Condition 2.23	Noise Management Plan	6 May 2011

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

- 3.1.9. The current status on licences and/or permits on environmental protection pertinent and submission under FEP-07/364/2009/A for contract no. HY/2009/19 are shown in **Table 3.12** and **Table 3.13**.

Table 3.12 Cumulative Summary of Valid Licences and Permits under Contract no. HY/2009/19

Permits and/or Licences	Reference No.	Issued Date	Valid Period/ Expiry Date	Status
Further Environmental Permit	FEP-07/364/2009/A	25 Feb 2011	N/A	Valid
Notification of Works Under APCO	326160	24 Jan 2011	N/A	Valid
Registration as a Waste Producer	7012306	10 Feb 2011	N/A	Valid
Registration as Chemical Waste Producer	5213-151-C3654-01	24 Mar 2011	N/A	Valid
Application for Vessel Disposal	7012306	21 July 2011	N/A	Valid
Construction Noise Permit (CNP)	GW-RS1097-11	22-Nov-11	07-May-12	Valid
	GW-RS0028-12	18-Jan-12	17-Jun-12	Valid
Water Discharge Licence	WT00010093-2011	31-Aug-11	30-Sep-16	Valid
	WT00010865-2011	3-Nov-11	30-Nov-16	Valid

Table 3.13 Summary of submission status under FEP-07/364/2009/A

EP Condition	Submission	Date of Submission
Condition 2.9	Noise Management Plan	02 Jun 2011
Condition 2.13	Landscape Plan	7 July 2011
Condition 2.9	Noise Management Plan(Rev.2)	28-Oct-11

4 Monitoring Requirements

4.1 Noise Monitoring

NOISE MONITORING STATIONS

- 4.1.1. The noise monitoring stations for the Project are listed and shown in **Table 4.1** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

Table 4.1 Noise Monitoring Stations

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

- 4.1.2. Review of feasibility on the real time noise monitoring stations was conducted in July with IEC. Station, RTN1a, Tung Lo Wan fireboat Station was found not appropriate to be a monitoring station for monitoring the IECL Piling works and Demolition after visited.
- 4.1.3. The noise monitoring stations for the Project are listed and shown in **Table 4.2** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

Table 4.2 Real Time Noise Monitoring Stations

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

- 4.1.4. 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.

- 4.1.5. 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.
- 4.1.6. 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.
- 4.1.7. 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

- 4.1.8. 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.
- 4.1.9. 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.
- 4.1.10. 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.

4.2 Air Monitoring

AIR QUALITY MONITORING STATIONS

- 4.2.1. The air monitoring stations for the Project are listed and shown in **Table 4.3** and **Figure 4.1**. **Appendix 4.1** shows the established Action/Limit Levels for the monitoring works.

Table 4.3 Air Monitoring Stations

Station ID	Monitoring Location	Description
CMA1b	Oil Street Community Liaison Centre	North Point (Re-commenced on 14 November 2011)
CMA2a	Causeway Bay Community Centre	Causeway Bay
CMA3a	CWB PRE Site Office *	Causeway Bay
CMA4a	Society for the Prevention of Cruelty to Animals	Wan Chai
CMA5a	Children Garden opposite to Pedestrian Plaza	Wan Chai
MA1e	International Finance Centre (Eastern End of Podium)	Central
MA1w	International Finance Centre (western End of Podium)	Central

Remarks: As per the ENPC meeting in March 2011, the monitoring stations CMA3a – Future CWB site office at Wanchai Waterfront Promenade was renamed as remark.

AIR MONITORING PARAMETERS, FREQUENCY AND DURATION

- 4.2.2. 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.
- 4.2.3. 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.
- 4.2.4. 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

- 4.2.5. 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.

4.2.6. 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.

LABORATORY MEASUREMENT / ANALYSIS

4.2.7. 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.

4.2.8. Filter paper of size 8" x 10" shall be labelled 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.

4.2.9. 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.

4.2.10. All the collected samples shall be kept in a good condition for 6 months before disposal.

4.2.11. Current calibration certificates of equipments are presented in **Appendix 4.2.**

5.0 MONITORING RESULTS

5.0.1. 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 4.1**. The monitoring results are presented in according to the Individual Contract(s).

5.0.2. In the reporting month, the concurrent contracts are as follows:

- Contract no. HY/2009/15 – Central-Wanchai Bypass – Tunnel (Causeway Bay Typhoon Shelter Section) under FEP-06/364/2009/A
- Contract no. HY/2009/17 – Central – Wan Chai Bypass (CWB) at FEHD Whitfield Depot – Advanced piling works under FEP-03/364/2009
- Contract no. HY/2009/18 – Central – Wan Chai Bypass (CWB) – Central Interchange under FEP-05/364/2009/A
- Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009
- Contract no. HK/2009/01 – Wan Chai Development Phase II – Central – Wan Chai Bypass at Hong Kong Convention and Exhibition Centre
- Contract no. HK/2009/02 Wan Chai Development Phase II – Central-Wan Chai Bypass at Wan Chai East

5.0.3. The environment monitoring schedules for reporting month and coming month are presented in **Appendix 5.1**.

5.1 Noise Monitoring Results

5.1.1. Monitoring for report of review baseline noise level was performed from 11 April 2011 to 8 June 2011. Then the report was submitted on the 20 June 2011, verified by IEC on 18 July 2011 and was approved by ER by January 2012. The new baseline is used for the noise calculation of this reporting month starting from January 2012.

5.1.2. The noise monitoring at stations were M1a and M5b during day time, M3a, M4b, M5b and M6 during restricted hour were rescheduled on 13 October 2011 due to rain.

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

5.1.3. The proposed division of noise monitoring stations for Contract no. HY/2009/17 are summarized in **Table 5.1** below:

Table 5.1 Noise Monitoring Stations for Contract no. HY/2009/17

Station	Description
M4b	Victoria Centre

5.1.4. One action level exceedance was recorded regarding one noise complaint was received on 30 December 2011.

5.1.5. No limit level exceedance was recorded during day time and restricted hour period in the reporting month. 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 5.2**.

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

5.1.6. Noise monitoring for the Central Interchange works under contract no. HY/2009/18 was commenced on 22 April 2011. The proposed division of noise monitoring stations for Contract no. HY/2009/18 are summarized in **Table 5.2** below:

Table 5.2 Noise Monitoring Stations for Contract no. HY/2009/18

Station	Description
M7e	International Finance Centre (Eastern End of Podium)
M7w	International Finance Centre (Western End of Podium)

5.1.7. No action and limit level exceedance was recorded during day time and restricted hour period in the reporting month. 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 5.2**.

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

5.1.8. The commencement of construction works for Contract no. HK/2009/01 under FEP-02/364/2009 is on 25 August 2011 and HK/2009/02 under FEP-01/364/2009 is on 26 April 2011. The proposed division of noise monitoring stations are summarized in **Table 5.3** below.

Table 5.3 Noise Monitoring Station for Contract no HK/2009/01 and HK/2009/02

Station	Description
M1a	Harbour Road Sports Centre

5.1.9. One limit level exceedances was recorded at M1a on 10 January 2012 during restricted hour for the contractor of HK/2009/02. Major noise source was contributed from Tonnochy Road

and water sport competition at Wan Chai Training Swimming Pool and contractor complied with the requirement in valid CNP during restricted hours noise monitoring. The baseline noise level at M1a is 71.3dB(A). The Limit Level exceedance was considered not project related.

- 5.1.10. 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 5.2**. Details of the Notification of Exceedance can be referred in **Appendix 6.2**.

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

- 5.1.11. The commencement of construction works for Contract no. HY/2009/15 under FEP-06/364/2009/A was on 13 July 2011. Noise monitoring was commenced on 13 July 2011. The proposed divisions of noise monitoring stations are summarized in **Table 5.4** below.

Table 5.4 Noise Monitoring Stations for Contract no. HY/2009/15

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

- 5.1.12. No action level and limit level exceedance was recorded in the reporting month. 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 5.2**

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

- 5.1.13. Noise monitoring for the tunnel works under contract no. HY/2009/19 was commenced on 24 April 2011. The proposed division of noise monitoring stations are summarized in **Table 5.5** below.

Table 5.5 Noise Monitoring Stations for Contract no. HY/2009/19

Station	Description
M3a	Tung Lo Wan Fire Station
M4b	Victoria Centre
M5b	City Garden
M6	HK Baptist Church Henrietta Secondary School

- 5.1.14. One action level exceedance was recorded regarding one noise complaint was received on 30 December 2011.

- 5.1.15. No limit level exceedance was recorded in the reporting month. 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 5.2**

5.2 Real Time Noise Monitoring Results

5.2.1. No construction activity was conducted during night time period (2300 to 0700) in this reporting month.

Contract no. HY/2009/17 –Central – Wan Chai Bypass (CWB) at FEHD Whitfield Depot – Advanced piling works under FEP-03/364/2009 and Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

5.2.2. The proposed division of noise monitoring stations are summarized in **Table 5.6** below. Real time noise monitoring for the piling works under contract no. HY/2009/17 was commenced on 5 October 2010

Table 5.6 Real Time Noise Monitoring Stations for Contract no. HY/2009/17

Location ID	District	Description
RTN1	Tin Hau	FEHD Hong Kong Transport Section Whitefield Depot

Real time noise monitoring results and graphical presentation during night time period are for information only.

5.2.3. No action and limit level exceedance were recorded in the reporting period. Real time noise monitoring results measured in this reporting period are reviewed and summarized. Details of real time noise monitoring results and graphical presentation can be referred to **Appendix 5.4**.

5.2.4. The proposed division of noise monitoring stations are summarized in **Table 5.7** below. Real time noise monitoring for major construction works under contract no. HY/2009/19 was commenced on 24 April 2011.

Table 5.7 Real Time Noise Monitoring Stations for Contract no. HY/2009/19

Location ID	District	Description
RTN1	Tin Hau	FEHD Hong Kong Transport Section Whitefield Depot
RTN2	North Point	Oil Street Community Liaison Center

Real time noise monitoring results and graphical presentation during night time period are for information only.

5.2.5. No action and limit level exceedance were recorded in the reporting period. Real time noise monitoring results measured in this reporting period are reviewed and summarized. Details of real time noise monitoring results and graphical presentation can be referred to **Appendix 5.4**.

5.3 Air Monitoring Results

5.3.1 Due to lack of electricity supply, the 24 TSP monitoring at the following stations were rescheduled:

CMA1b: from 4, 10, 20 and 26 Jan 2012 to 5, 11, 21 and 27 Jan 2012

CMA3a: from 16 Jan 2012 to 17 Jan 2012

MA1w: from 16 Jan 2012 to 17 Jan 2012

Contract no. HY/2009/17 –Central – Wan Chai Bypass (CWB) at FEHD Whitfield Depot –

Advanced piling works under FEP-03/364/2009

5.3.2 The proposed division of air monitoring stations are summarized in **Table 5.8** below. Air monitoring for the piling works under contract no. HY/2009/17 was commenced on 8 October 2010.

Table 5.8 Air Monitoring Station for Contract no. HY/2009/17

Station	Description
CMA1b	Oil Street Community Liaison Centre
CMA2a	Causeway Bay Community Centre

5.3.3 No exceedance was recorded in the reporting month. 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 5.3**.

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

5.3.4 Air monitoring for the Central Interchange works under contract no. HY/2009/18 was commenced on 21 April 2011. The proposed division of air monitoring stations are summarized in **Table 5.9** below.

Table 5.9 Air Monitoring Stations for Contract no. HY/2009/18

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

5.3.5 No exceedance was recorded in the reporting month. 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 5.3**.

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

5.3.6 The commencement of construction works for Contract no. HK/2009/01 under FEP-02/364/2009 is on 25 August 2011. Air quality monitoring was commenced on 25 August 2011. The proposed division of air monitoring stations are summarized in **Table 5.10** below.

Table 5.10 Air Monitoring Station for Contract no. HK/2009/01

Station	Description
CMA5a	Children Playgrounds opposite to Pedestrian Plaza

5.3.7 No exceedance was recorded in the reporting month. 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 5.3**.

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

5.3.8 The commencement of construction works for HK/2009/02 under FEP-01/364/2009 is on 26 April 2011. The proposed division of air monitoring stations are summarized in **Table 5.11** below.

Table 5.11 Air Monitoring Station for Contract no. HK/2009/02

Station	Description
CMA4a	Society for the Prevention of Cruelty to Animals

5.3.9 No exceedance was recorded in the reporting month. 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 5.3**.

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

5.3.10 The commencement of construction works for Contract no. HY/2009/15 under FEP-06/364/2009/A was on 13 July 2011. Air quality monitoring was commenced on 14 July 2011. The proposed division of air monitoring stations are summarized in **Table 5.12** below.

Table 5.12 Air Monitoring Station for Contract no. HY/2009/15

Station	Description
CMA3a	CWB PRE Site Office

5.3.11 No exceedance was recorded in the reporting month. 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 5.3**.

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

5.3.12 The proposed division of air monitoring stations are summarized in **Table 5.13** below. Air monitoring for the tunnel works under contract no. HY/2009/19 was commenced on 26 April 2011.

Table 5.13 Air Monitoring Stations for Contract no. HY/2009/19

Station	Description
CMA1b	Oil St Community Liaison Centre
CMA2a	Causeway Bay Community Centre

5.3.13 No exceedance was recorded at CMA2a in the reporting month. 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 5.3**.

5.4 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

- 5.4.1. No Inert and non-inert C&D wastes were disposed in the reporting month. Details of the waste flow table are summarized in **Table 5.14**

Table 5.14 Details of Waste Disposal for Contract no. HY/2009/17

Waste Type	Quantity this month, m ³	Cumulative Quantity-to-Date, m ³	Disposal / Dumping Grounds
Inert C&D materials disposed	NIL	NIL	N/A
Inert C&D materials recycled	NIL	1354.82	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 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

- 5.4.2. Inert and non-inert C&D wastes were disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.15**.

Table 5.15 Details of Waste Disposal for Contract no. HK/2009/01

Waste Type	Quantity this month, m ³	Cumulative-to-Date, m ³	Disposal / Dumping Grounds
Inert C&D materials disposed	1689.61	14092.22	TKO137, TM38
Inert C&D materials recycled	0	389.96	N/A
Non-inert C&D materials disposed	29.34	563.62	SENT Landfill
Non-inert C&D materials recycled	263	135754	N/A
Chemical waste disposed	160	5510	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

5.4.3. Inert C&D & non-inert C&D wastes were disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.16**.

Table 5.16 Details of Waste Disposal for Contract no. HK/2009/02

Waste Type*	Quantity this month, m ³	Cumulative-to-Date, m ³	Disposal / Dumping Grounds
Inert C&D materials disposed	11,493	74,182	TKO137, TM 38
Inert C&D materials recycled	NIL	NIL	N/A
Non-inert C&D materials disposed	20	146	SENT Landfill
Non-inert C&D materials recycled	NIL	NIL	N/A
Chemical waste disposed	671	1,775	N/A

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

5.4.4. Inert C&D and non-inert C&D waste was disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.17**.

Table 5.17 Details of Waste Disposal for Contract no. HY/2009/18

Waste Type*	Quantity this month, m ³	Cumulative-to-Date, m ³	Disposal / Dumping Grounds
Inert C&D materials disposed	2101	12852.1	T.K.O. 137
Inert C&D materials recycled	NIL	58.5	N/A
Non-inert C&D materials disposed	8	210.6	SENT Landfill
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

5.4.5. Inert & Non-inert C&D wastes were disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.18**.

Table 5.18 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	12170.6	73939.5	Tuen Mun Area 38
	55.2	873.2	TKO137 FB
Inert C&D materials recycled	NIL	413	HY/2009/11 ex-PCWA TS4
Non-inert C&D materials disposed	12.7	100.7	SENT Landfill
Non-inert C&D materials recycled	NIL	340	Xun Xiang Metalware Skylight Recycle (paper)
Chemical waste disposed	NIL	8000	Dunwell Group

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

5.4.6. Inert and Non-inert C&D wastes were disposed of in this reporting month. Details of the waste flow table are summarized in **Table 5.19**.

Table 5.20 Details of Waste Disposal for Contract no. HY/2009/19

Waste Type*	Quantity this month, m ³	Cumulative-to-Date, m ³	Disposal / Dumping Grounds
Inert C&D materials disposed	10125.27	10125.27	N/A
Inert C&D materials recycled	NIL	630.954	N/A
Non-inert C&D materials disposed	15.74	36.081	SENT Landfill
Non-inert C&D materials recycled	0.09	0.18	N/A
Chemical waste disposed	NIL	0.1	N/A



6 Compliance Audit

6.0.1. The Event Action Plan for construction noise, air qualities are presented in **Appendix 6.1**.

6.1 Noise Monitoring

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

6.1.1. One action level exceedance was recorded regarding one noise complaint regarding to noise was received on 30 December 2011.

6.1.2. No limit level exceedance was recorded in the reporting month.

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

6.1.3. No exceedance was recorded in the reporting month.

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

6.1.4. No exceedance was recorded in the reporting month.

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

6.1.5. One limit level exceedances was recorded at M1a on 10 January 2012 during restricted hour. Investigation found that major traffic noise was contributed in the noise monitoring and contractor complied with the requirement in valid CNP during restricted hours noise monitoring.

6.1.6. No action level exceedance was recorded in the reporting month.

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

6.1.7. No exceedance was recorded in the reporting month.

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

6.1.8. One action level exceedance was recorded regarding one noise complaint regarding to noise was received on 30 December 2011.

6.1.9. No limit level exceedance was recorded in the reporting month.

Real Time Noise Monitoring

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



6.1.10. No exceedance was recorded in the reporting month.

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

6.1.11. No exceedance was recorded in the reporting month.

6.2 Air Monitoring

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

6.2.1. No exceedance was recorded in the reporting month.

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

6.2.2. No exceedance was recorded in the reporting month.

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

6.2.3. No exceedance was recorded in the reporting month.

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

6.2.4. No exceedance was recorded in the reporting month.

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

6.2.5. No exceedance was recorded in the reporting month.

Contract no. HY/2009/19 – Central – Wanchai Bypass Tunnel (North Point Section) and Island Eastern Corridor Link under FEP-07/364/2009/A

6.2.1. No exceedance was recorded in the reporting month.

6.3 Review of the Reasons for and the Implications of Non-compliance

6.3.1. There was no non-compliance from the site audits in the reporting period. The observations and recommendations made in each individual site audit session were presented in Section 8.

6.3.2. No project-related non-compliance from monitoring was recorded in the reporting month.

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

6.4.1. 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.

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 (WDII), Central-WanChai Bypass (CWB), Island Eastern Corridor Link projects (IECL) and Wan Chai Development Phase II – Central – Wan Chai Bypass at Wan Chai East (CWB Tunnel).

7.0.2. From the Monthly EM&A report (December 2011) of Central Reclamation Phase III the key works in January 2012 are as follows:

- Type A filling in FRAW and FRAE above +2.5mPD
- General filling works above +2.5mPD in IRAE
- Surcharging in FRAW and FRAE
- Construction of GPO boundary wall
- Construction of PLA boundary wall
- Construction of Promenade enhancement works
- Construction of buildings at PLA berth
- Installation of cooling mains discharge pipes in FRAE and FRAW
- Backfilling of CWB structure
- Importation of fill material

7.0.3. According to the construction programme of Central Reclamation Phase III, Wan Chai Development Phase II, Central-Wan Chai Bypass and Island Eastern Corridor Link projects, the major construction activity under Central Reclamation Phase III were general filling works in IRAE; Wan Chai Development Phase II was marine works at HKCEC areas, cross-harbour Watermains, Fresh Watermains, Cooling Watermains and Salt Watermains Installations, tunnel works at Wan Chai East, seawall block construction, reclamation work and diaphragm wall construction at TS4; Diaphragm wall construction at TS1 and TPCWAE TCBR1W. Advanced piling works at FEHD Whitfield Depot, Central Interchange, and diaphragm wall construction at North Point area. The major environmental impact was water quality impact at Causeway Bay and Wan Chai. Land-based construction activity were advance filling works at TS4, Diaphragm wall construction at TS1 and TPCWAE TCBR1W, piling works at FEHD Whitfield Depot, Diaphragm wall at Central and North Point and tunnel works at Wan Chai East in the reporting month.

7.0.4. The major environmental impacts generated from CRIII advanced piling works at FEHD Whitfield Depot were undertaken and Diaphragm wall construction at Central and tunnel works at Wan Chai East, IECL and Causeway Bay typhoon shelter in the reporting month. No significant air, noise impact were anticipated in the reporting month. Besides, no Project-related exceedance was recorded during the environmental monitoring events in the reporting month. 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 Environmental Site Audit

8.0.1. During this reporting month, weekly environmental site audits were conducted for Contracts no. HY/2009/15, HY/2009/17, HY/2009/18, HY/2009/19, HK/2009/01 and HK/2009/02. No non-conformance was identified during the site audits.

8.0.2. Five site inspections for Contract no. HY/2009/15 was carried out during this reporting period. The results of these inspections and outcomes are summarized in **Table 8.1**.

Table 8.1 Summary of Environmental Inspections for Contract no. HY/2009/15

Date	Item	Observations	Action taken by Contractor	Outcome
29-Dec-11	111229_01	Drip tray shall be provided for chemical storage (TS1).	Provide drip tray for chemical storage	Completion as observed on 5-Jan-12
29-Dec-11	111229_02	Contaminated top soil shall be collected and treated properly (TS1).	collected and treated contaminated top soil properly	Completion as observed on 5-Jan-12
29-Dec-11	111229_03	Water spraying shall be conducted for earth work (TS4).	Conduct water spraying for earth work	Completion as observed on 5-Jan-12
5-Jan-12	120105_01	TS1: More than 20 bags of cement observed not properly covered/sheltered/stored.	Cover the cement bags	Completion as observed on 10-Jan-12
5-Jan-12	120105_02	TS4: Geotextile along the sloping seawall rock bund to be properly secured.	Secure the sloping seawall	Completion as observed on 10-Jan-12
5-Jan-12	120105_03	TS4: Oil leakage & idle container not contained inside drip tray.	Provide drip tray for chemical storage	Completion as observed on 10-Jan-12
10-Jan-12	120110_01	TS1: Silty water was found at discharge point. Contractor shall review the efficiency of wastewater treatment facility.	Review the efficiency of waste water treatment facility	Completion as observed on 17-Jan-12
10-Jan-12	120110_02	TS1: Dark smoke generated by a generator. Contractor shall maintain it prior use.	Maintain the dark smoke generating prior use	Completion as observed on 17-Jan-12
10-Jan-12	120110_03	TS1: Ventilation system for cement mixing plant shall be provided.	Provide ventilation system for cement mixing plant	Completion as observed on 17-Jan-12
10-Jan-12	120110_04	TS4: General fill was observed before verification work of seawall completed. Contractor should conduct filling behind seawall.	Conduct filling behind seawall	Completion as observed on 17-Jan-12
10-Jan-12	120110_05	TS4: Surface runoff leakage and discharged directly. Contractor should treat the runoff properly prior discharge.	Treat the runoff properly prior discharge	Completion as observed on 17-Jan-12
17-Jan-12	120117_01	Wastewater should be treated properly prior discharge (TS1). Work should be suspended immediately if no treatment system is available and running.	Review the efficiency of waste water treatment facility	Completion as observed on 26-Jan-12

Date	Item	Observations	Action taken by Contractor	Outcome
17-Jan-12	120117_02	Mud trial at site entrance at ExTCPWA should be tidied up.	Tidy up the mud trials	Completion as observed on 26-Jan-12
26-Jan-12	120126_01	Stockpile at TS4 shall be covered as appropriate when idle.	Cover the stockpile	Completion as observed on 26-Jan-12

8.0.3. Five site inspections for Contract no. HY/2009/18 was carried out during this reporting period. The results of these inspections and outcomes are summarized in **Table 8.2**.

Table 8.2 Summary of Environmental Inspections for Contract no. HY/2009/18

Item	Date	Observations	Action taken by Contractor	Outcome
120112_01	12-Jan-12	Drip tray should be provided for storage (Wear Gate 2)	Provide drip tray for any chemical containers	Completion as observed on 19-Jan-12
120119_01	19-Jan-12	Temporary drainages shall be maintained for groundwater collection to prevent flooding.	Collect and treat the groundwater properly	Completion as observed on 26-Jan-12

8.0.4. Five site inspections for Contract no. HY/2009/19 was carried out during this reporting period. The results of these inspections and outcomes are summarized in **Table 8.3**.

Table 8.3 Summary of Environmental Inspections for Contract no. HY/2009/19

Item	Date	Observations	Action taken by Contractor	Outcome
111228_01	28-Dec-11	The contractor was reminded to maintain the proper function of the silt curtain.	Maintenance of silt curtain	Completion as observed on 4-Jan-12
120104_01	4-Jan-12	Cover protection for site perimeter drainage and manhole should be Implemented.	Provide cover protection for site perimeter drainage and manhole	Completion as observed on 11-Jan-12
120104_02	4-Jan-12	The contractor was reminded to improve the effectiveness of vehicles washing to prevent generation of muddy trail onto public area.	Improve the effectiveness of vehicles washing	Completion as observed on 11-Jan-12
120111_01	11-Jan-12	Broken parts of drain at NPR should be cleared and repaired.	Clear and repair broken parts of drain at NPR	Completion as observed on 18-Jan-12
120111_02	11-Jan-12	Collection of loose material on the tarpaulin at work platform no. 4 should be performed.	Collect loose material on the tarpaulin	Completion as observed on 18-Jan-12
120111_03	11-Jan-12	Vehicle trails at Oil Street and site entrance should be tidied up.	Tidy up vehicle trails	Completion as observed on 18-Jan-12

Item	Date	Observations	Action taken by Contractor	Outcome
120118_01	18-Jan-12	Wheel washing provision at Watson Road should be reinforced.	Reinforce the wheel washing provision	Completion as observed on 26-Jan-12
120118_02	18-Jan-12	The contractor was reminded to maintain the damaged part of drainage at part III and collection of blockage inside drains.	Maintain the damaged part of drainage and collection of blockage	Completion as observed on 26-Jan-12
120126_01	26-Jan-12	Trees that are going to be transplanted should be labeled and fenced off.	Label and fence off trees that are going to be transplanted	Completion as observed on 1-Feb-12
120126_02	26-Jan-12	The contractor was reminded to maintain proper wheel washing.	Improve washing of vehicles	Completion as observed on 1-Feb-12
120126_03	26-Jan-12	The contractor was reminded to implement water-spraying for breaking works.	Implement water-spraying for breaking works	Completion as observed on 1-Feb-12
120126_04	26-Jan-12	The contractor was reminded to implement surface runoff protection around channel T.	Implement surface runoff protection around channel T	Completion as observed on 1-Feb-12

8.0.5. Six site inspections for Contract no. HK/2009/01 was carried out during this reporting period. The results of these inspections and outcomes are summarized in **Table 8.4**.

Table 8.4 Summary of Environmental Inspections for Contract no. HK/2009/01

Item	Date	Observations	Action taken by Contractor	Outcome
111230_01	30-Dec-11	Floating debris near western bridge should be removed.	Remove the floating debris	Completion as observed on 4-Jan-12
111230_02	30-Dec-11	Contractor should ensure no site surface runoff escape from the site. The practice of vehicle wheel washing should be improved.	Improve the wheel washing bay	Completion as observed on 4-Jan-12
111230_03	30-Dec-11	Proper pruning of trees at TST should be provided. Frequency of watering to the trees should be provided during dry season.	watering to the trees during dry season	Completion as observed on 4-Jan-12
111230_04	30-Dec-11	Contractor was reminded to check & ensure no muddy water spillage during grabbing of diaphragm wall.	check & ensure no muddy water spillage during grabbing of diaphragm wall	Completion as observed on 4-Jan-12
120104_01	4-Jan-12	Water spaying shall be provided the site adjacent to the VIP drop-off area.	Conduct water spraying	Completion as observed on 11-Jan-12
120104_02	4-Jan-12	The soil at the tree no. A160 shall be level down.	Level down the soil level at the tree	Completion as observed on 11-Jan-12

Item	Date	Observations	Action taken by Contractor	Outcome
120104_03	4-Jan-12	Proper label and proper storage of chemical waste shall be provided at the chemical waste storage cabinet at TST.	Provide label and storage for chemical waste properly	Completion as observed on 11-Jan-12
120111_01	11-Jan-12	Oil leakage from the excavator at TST should be maintained.	Maintain the oil leaking plant prior used	Completion as observed on 18-Jan-12
120111_02	11-Jan-12	Protective measure should be provided to avoid the silty water escaped from the pipe wall at TST.	Provide protective measures for the pipe wall	Completion as observed on 18-Jan-12
120111_03	11-Jan-12	The silt curtain at TST should be surrounded the dredging area. Besides, close grab should be used in the dredging works.	Provide and use close grab for dredging works	Completion as observed on 19-Jan-12
120119_01	19-Jan-12	The tree protection zone should be maintained well in order to protect the trees within the site areas at Tsim Sha Tsui.	Maintain the tree protection zone	Completion as observed on 26-Jan-12
120119_02	19-Jan-12	Drip tray need to be provided to the chemical containers at Tsim Sha Tsui.	provide drip tray for any chemical containers	Completion as observed on 26-Jan-12
120119_03	19-Jan-12	Silty water was observed outside the entrance of the construction site. The contractor was reminded to review the car-washing procedure.	Improve the wheel washing bay	Completion as observed on 26-Jan-12
120119_04	19-Jan-12	The silt curtain between the mud barge and the dredger need to be extending as wide as possible to fill the gap to prevent the water from the dredger from going into the sea outside the silt curtain.	Maintain the silt curtain between the barges properly	Completion as observed on 26-Jan-12
120126_01	26-Jan-12	Floating rubbish was observed at western bridge of Exhibition Centre.	Collect the floating rubbish	Completion as observed on 1-Feb-12

8.0.6. Five site inspections for Contract no. HK/2009/02 was carried out during this reporting period. The results of these inspections and outcomes are summarized in **Table 8.5**.

Table 8.5 Summary of Environmental Inspections for Contract no. HK/2009/02

Item	Date	Observations	Action taken by Contractor	Outcome
111229_01	29-Dec-11	The contractor was reminded to provide drip tray and proper label to the chemical containers (near Gate 2 & 1).	Provide drip tray for any chemical containers	Completion as observed on 5-Jan-12
111229_02	29-Dec-11	The contractor was reminded to spray water more frequently due to the dry weather.	spray water more frequently due to the dry weather	Completion as observed on 5-Jan-12



Item	Date	Observations	Action taken by Contractor	Outcome
120105_01	5-Jan-12	Contractor was reminded or proper utilization of drip trays for holding unused chemical containers.	Provide drip tray for any chemical containers	Completion as observed on 12-Jan-12
120105_02	5-Jan-12	Contractor was reminded to implement wheel-washing at site gate during dry season.	Implement wheel-washing at site gate during dry season	Completion as observed on 12-Jan-12
120105_03	5-Jan-12	Regular checking & necessary cleaning of manhole for the diversion channel of box culvert N1 shall be implemented.	Check and clean of the manhole	Completion as observed on 12-Jan-12
120112_01	12-Jan-12	The efficiency of the wastewater treatment tank near western seawall should be improved to avoid any silty water discharge.	Review and maintain the wastewater treatment tank	Completion as observed on 18-Jan-12
120112_02	12-Jan-12	Sedimentation tank should be provided at finger Pier.	Provide the wastewater treatment tank	Completion as observed on 18-Jan-12
120118_01	18-Jan-12	Drip tray should be provided to the oil drum and chemical containers at ex-Pet Garden.	Provide drip tray for any chemical containers	Completion as observed on 27-Jan-12
120127_01	27-Jan-12	Drip tray should be provided to the chemical containers near gate 1 at ex-Pet Garden.	Provide drip tray for any chemical containers.	Completion as observed on 2-Feb-11

- 8.0.7. Five site inspections for Contract no. HY/2009/17 were carried out during this reporting period. No observation was found in the reporting month.

9 COMPLAINTS, NOTIFICATION OF SUMMONS AND PROSECUTION

- 9.0.1. Two environmental complaints were received on 30 December 2011 and 18 January 2012 in the reporting period.
- 9.0.2. An air and noise impact complaint from complaint letter was received by ET on 6 January 2011 (ICC Ref. No.: 1-336447776 dated on 3 January 2012, forwarded by HyD, which received the complaint on 30 December 2011). The complaint was reported by the residents of Harbour Heights that construction vehicles were found parked illegally at King Wah Road and lining up at Oil Street without the engine turning off and generated noise and air pollutions.
- 9.0.3. ET confirmed with the Resident Site Staff that a number of construction activities are concurrently proceeding in the vicinity of Oil Street, King Wah Street and a private development project in King Wah Street
- 9.0.4. The dominant construction air and noise nuisances were emitted by the trucks along Oil Street and King Wah Road, however, this is the public road for all vehicles. Reviewing the results of air quality monitoring station (CMA1b) and noise monitoring (M4b). No exceedance was recorded during this period. Site inspections for HY/2009/19 were conducted on 4 January 2012. The condition of the site access at Oil Street and the public road nearby were found satisfactory. It is noted that HyD also allow and encourage their contractors to maximize the use of marine access, where available, to work sites, so as to minimize burdening nearby public roads. When land trips are unavoidable, they require contractors to tidy up their construction vehicles before leaving works sites. No contractor under CWB project parked their vehicles illegally at King Wah Street, and HyD still reminded them not to commit such offence.
- 9.0.5. According to HyD's staff replied the complaint letter on 10 January 2012, there is a private development project under construction at King Wah Road. To access these works sites, construction vehicles have to use public roads nearby and no further complaint received after HyD's reply.
- 9.0.6. The second complaint was raised from the complaint from Government Complaint Hotline ICC 1823 (ICC #: 1-338787527 dated on 18 January 2012) was received by ET on 20 January 2012 regarding a tree located in front of Victoria Centre under IECL was covered by one meter mud without any protection. The complainant concern the health of the tree in such condition.
- 9.0.7. ET confirmed with the Resident Site Staff that the tree is inside the site area of HY/2009/19 and the Botanical name of the tree is *Ficus superba* var. *japonica* and the I.D. of the tree is UT48
- 9.0.8. According to the information provided by RSS on 20 Jan 2012, the tree shall be felled that has been approved by DLO on 29 August 2011. Moreover, the tree was felled by contractor on 19 January 2012

9.0.9. Confirmed with RSS, no further complaint received after HyD's reply.

9.0.10. The details of cumulative complaint log and updated summary of complaints are presented in **Appendix 9.1**

9.0.11. Cumulative statistic on complaints and successful prosecutions are summarized in **Table 9.1** and **Table 9.2** respectively.

Table 9.1 Cumulative Statistics on Complaints

Reporting Period	No. of Complaints
Jan 12	2
Sep 10 to Dec 11	15
Total	17

Table 9.2 Cumulative Statistics on Successful Prosecutions

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

10. CONCLUSION

10.0.1. 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.

10.0.2. The scheduled construction activities and the recommended mitigation measures for the coming month are listed in **Table 10.1**. The construction programmes of individual contracts are provided in **Appendix 10.1**.

Table 10.1 Summary of Key Construction Activities of Individual Contract(s) to be commenced in Coming Reporting Month

Contract No.	Key Construction Works	Recommended Mitigation Measures
HY/2009/15	<ul style="list-style-type: none"> • Diaphragm wall construction at TS4 • ELS works at TS1 and TPCWAE • Night time protection works at CHT • Cut off wall preparation works at Hung Hing Road and POC 	<ul style="list-style-type: none"> • Watering any dust generating activities • Checking all drip trays frequently and clear any stagnant water and mud inside it. • Noise control measures shall be provided during restricted hours.
HY/2009/17	<ul style="list-style-type: none"> • ELS works for basement construction for pile cap construction. 	<ul style="list-style-type: none"> • Noise barrier shall be implemented; and • Watering any dust generating activities
HY/2009/18	<ul style="list-style-type: none"> • Instrumentation works for Manholes and Intake Culvert Survey • Excavation of trial pit • Drainage work • Site investigation and pre-drilling works • Diaphragm wall construction • Hoarding erection • Roadwork • Grout curtain • Sheet-piling • Tree pruning 	<ul style="list-style-type: none"> • Noise barrier shall be implemented; and • Noise level shall be controlled by reducing piling rate and no. of plants working in parallel. • Dust control during dust generating works

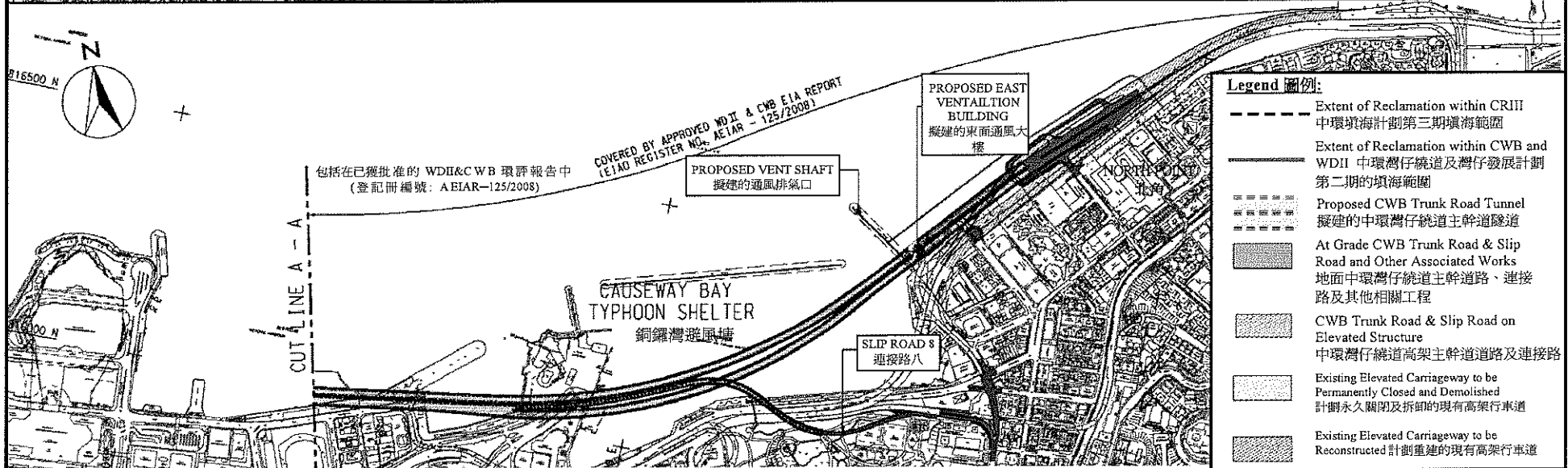
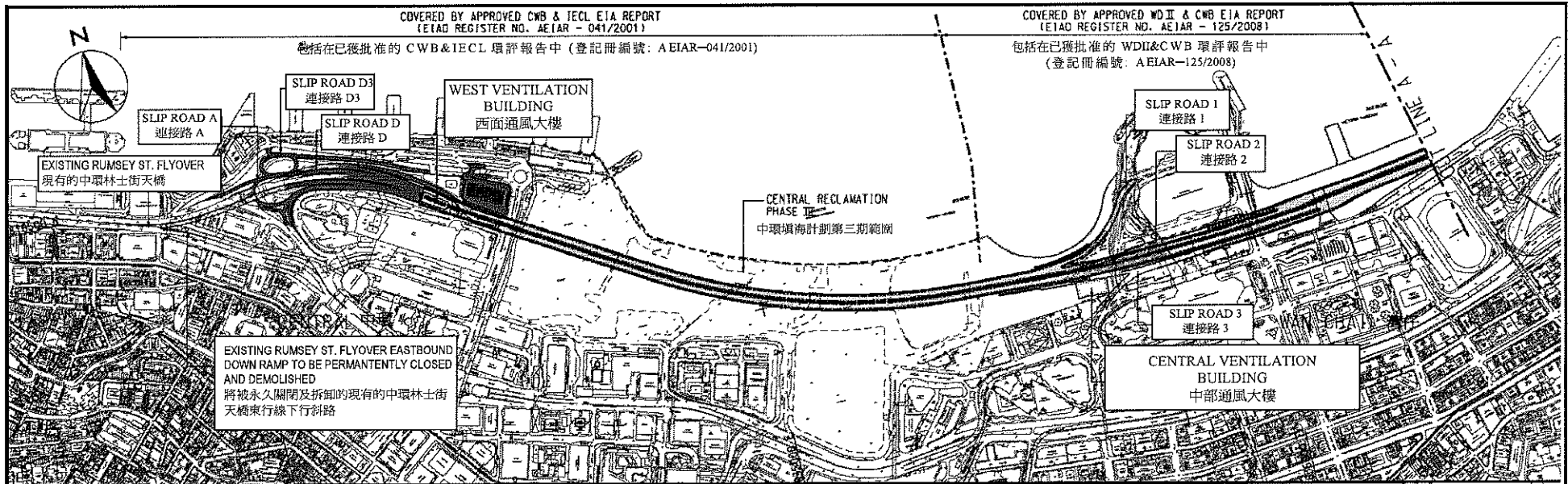
HY2009/19	<ul style="list-style-type: none"> • Road works at Watson Road • Fabrication of bored piling platform • Bored piling • Ground contamination assessment • Pre-drilling works for bored pile and Diaphragm wall • D-wall Construction • Guide wall construction for D-wall / Barette at North side • Construction works for Box Culvert T • Marine Piling • Preparing for fabrication of temporary steel bridge for Culvert U 	<ul style="list-style-type: none"> • Noise level shall be controlled by reducing the operation rate. • Noise barrier shall be deployed for dolphin pier removal.
HK2009/01	<ul style="list-style-type: none"> • Diaphragm wall construction works for both CWB and SCL Protection Works within HKCEC 1 • Pre-drilling and pre-treatment works for CWB at stage2 • Pilling works for CWB at Stage 1 • Excavation and Installation of shoring system for CWB top slab • Installation of sheet pile for SCL top slab construction and exhaust duct construction 	<ul style="list-style-type: none"> • Noise level shall be controlled by reducing pilling rate and no. of plants working in parallel. • Well maintain the enclosures for grouting and bentonite mixing plants.
HK/2009/02	<ul style="list-style-type: none"> • Deep excavation works below +0.3mPD for western tunnel portion and below +4mPD for eastern tunnel portion. • Toe grout, Shear pin, and Pumping test at WCR1 area. 	<ul style="list-style-type: none"> • Noise level shall be controlled by reducing pilling rate. • Well maintain the enclosures for grouting and bentonite mixing plants.

10.0.3. The construction works of Contract no. 04/HY/2006 – Reconstruction of Bus Terminus near Man Yiu Street and Man Kwong Street under FEP-04/364/2009/A was completed, and the FEP was surrendered by the Contractor on 11 February 2011.



Figure 2.1

Project Layout



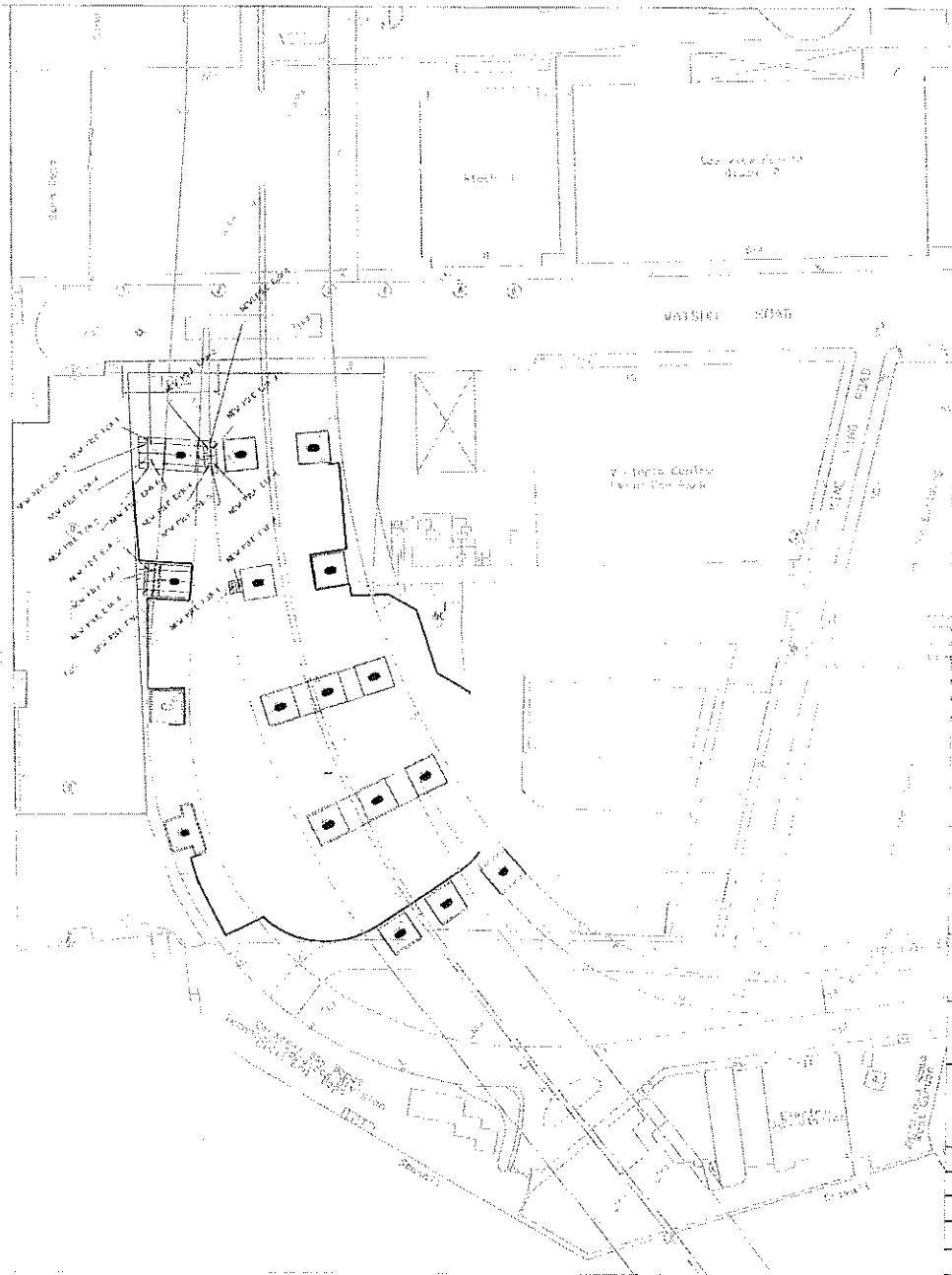
EP

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 based 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)



Drawn: [Name] / Checked: [Name] / Date: [Date]

Project: [Name]

REV.	DATE	DESCRIPTION	CHK BY	AUTH BY

Highways Department
Major Works Project Management Office

CENTRAL - WAN CHAI BYPASS AND IEC L/N

PWP ITEM NO. 579 TH

Project: CENTRAL - WAN CHAI BYPASS - ADD WAYSIDE DEPOT RE-PROVISIONING WORKS



Drawing Title: [Name]

Contractor: LAM WOO & COMPANY LIMITED

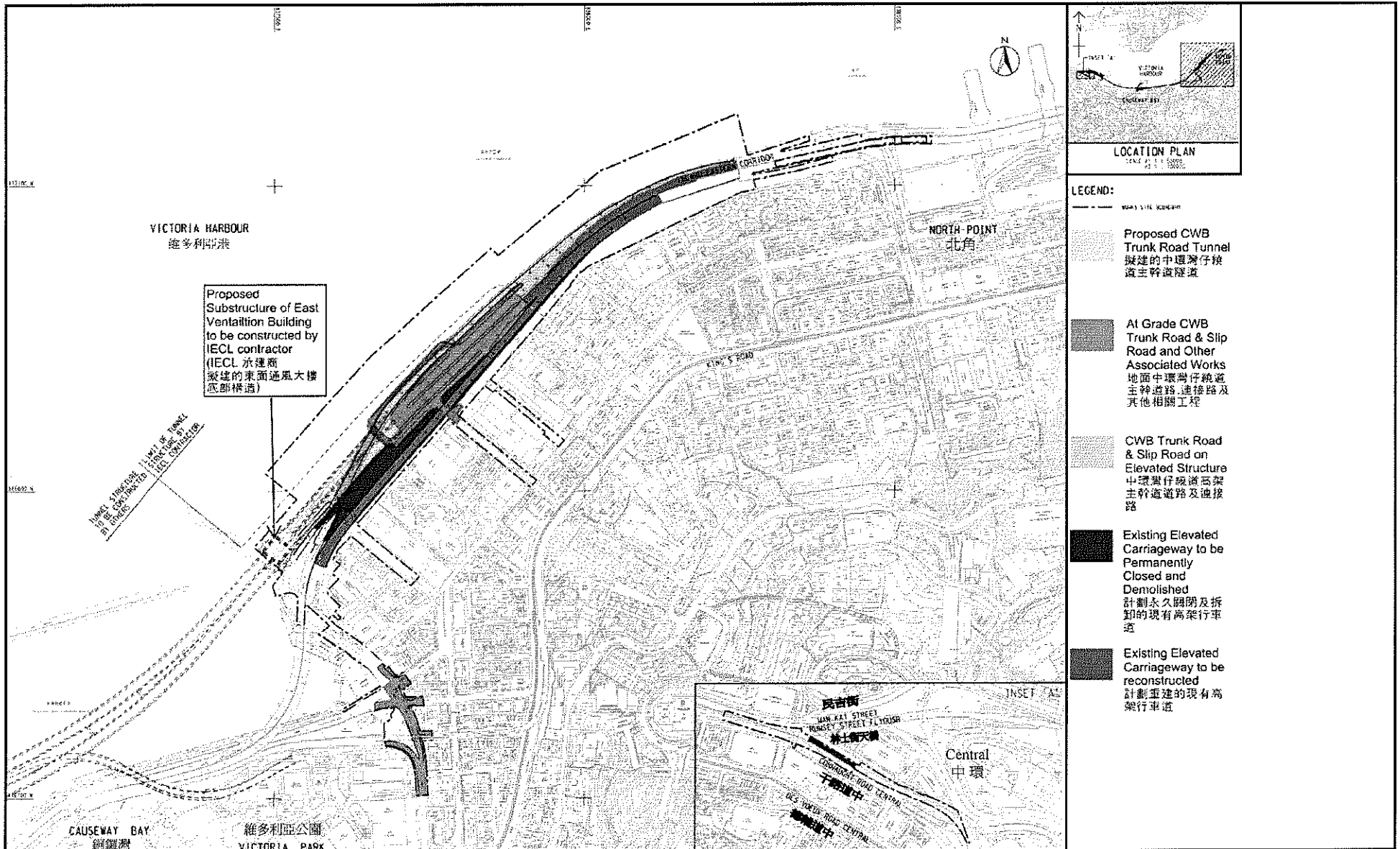
DRAWING NO. [Number]

SURVEY DATE [Date]

DRAWN BY [Name]

CHECKED BY [Name]

SCALE: 1:100 SHEET 1



Project Title: Central-Wanchai Bypass (CWB) – Tunnel (North Point Section) and Island Eastern Corridor Link
 工程項目名稱：中環灣仔繞道—北角段隧道及東區走廊連接路
 Environmental Permit No. : FEP-07-364/2009/A
 環境許可證編號 : FEP-07-364/2009/A

Figure 1b: General Layout Plan
 圖 1b: 工程項目佈局圖

(This figure was prepared based on Sketch No. 60095653/IEC/DF0006 of Application for Further Environmental Permit (Application No.: FEP-120/2011))
 (本圖是根據申請新的環境許可證 (申請書編號 FEP-120/2011) 圖 60095653/IEC/DF0006 編製)



Figure 2.2

Project Organization Chart



Project Organization chart

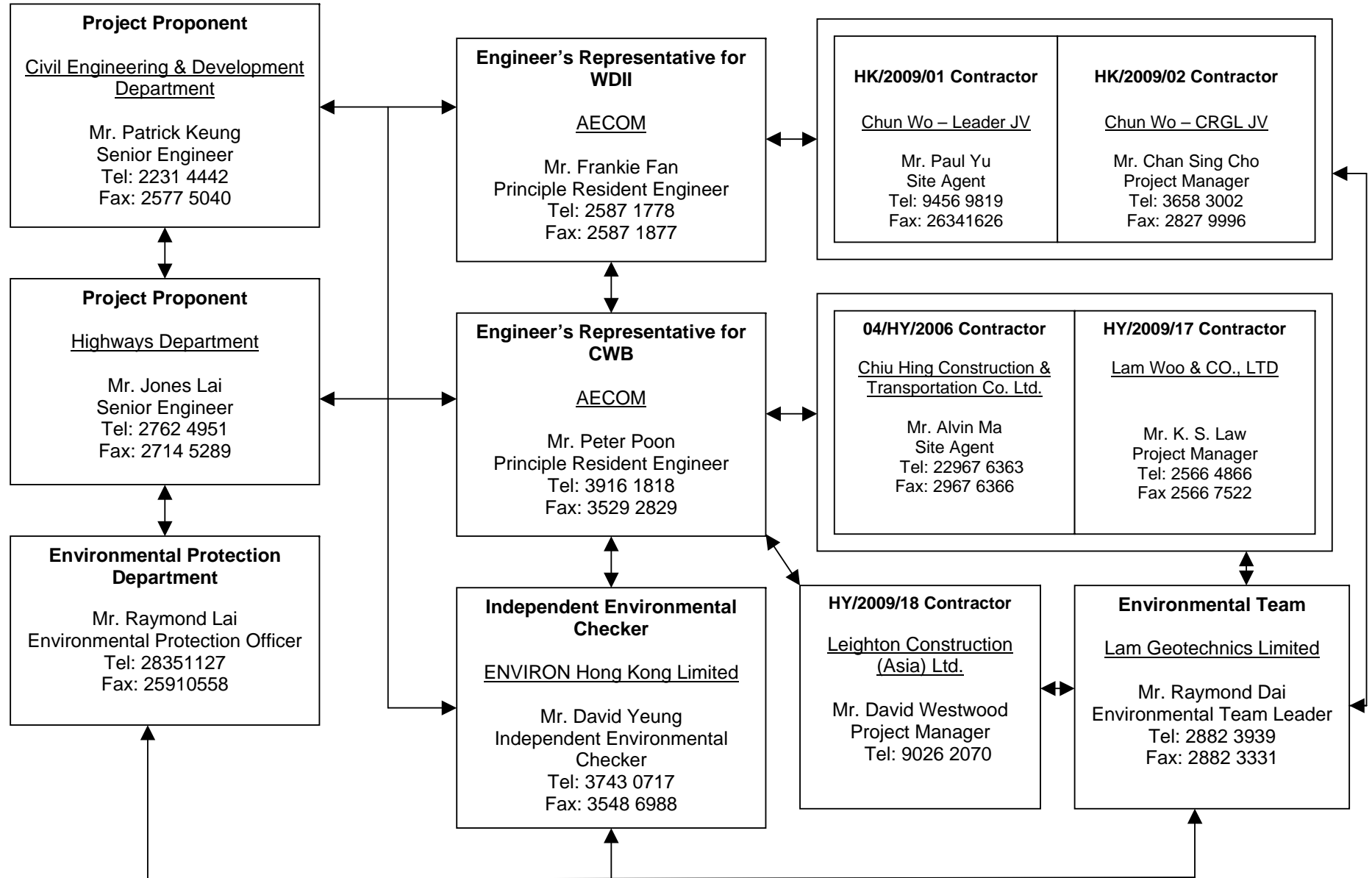
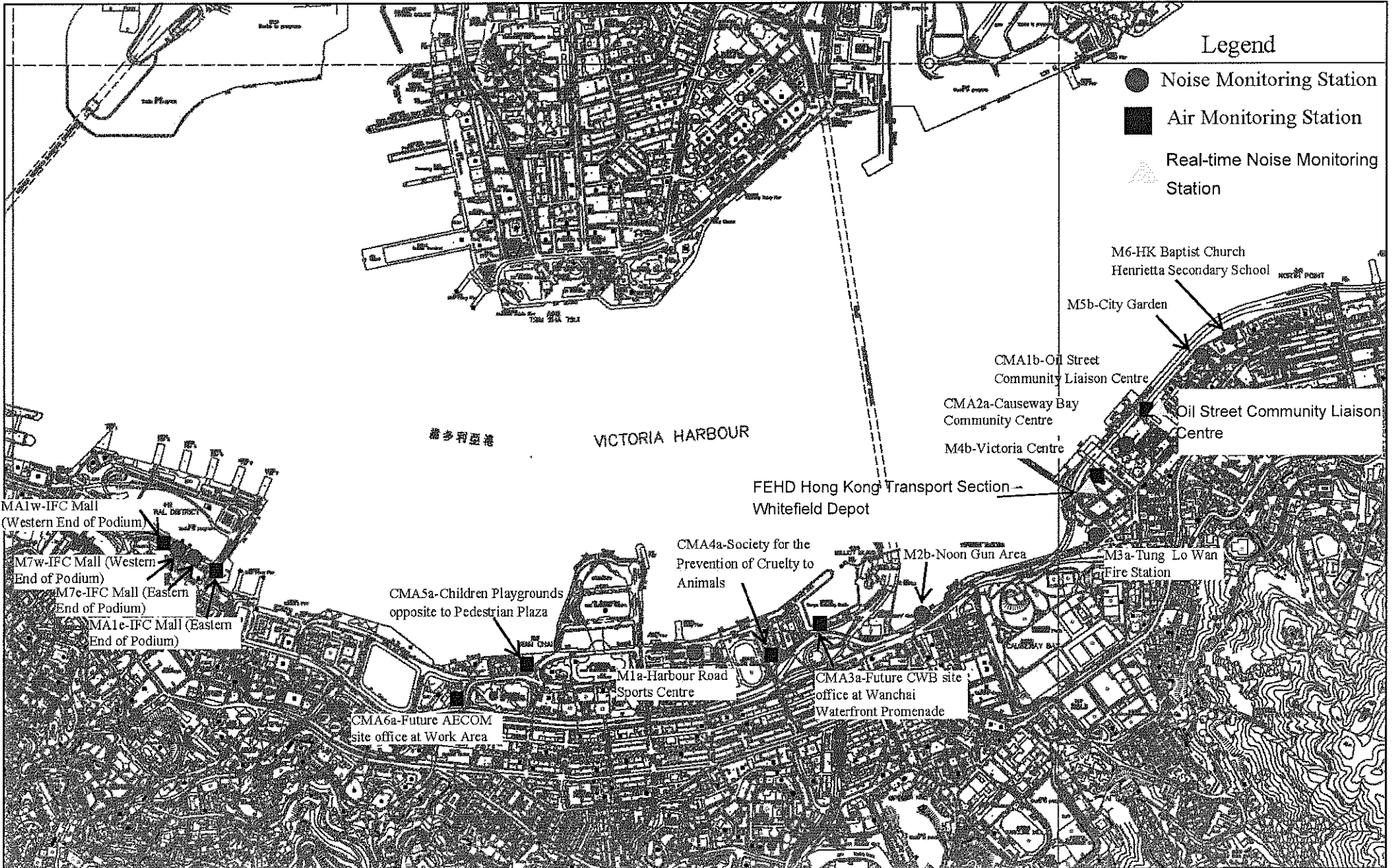




Figure 4.1

Locations of Monitoring Stations



Location plan of Environmental Monitoring Stations



Appendix 3.1

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

WDII & CWB EIA Report Ref	Environmental Protection Measures / Mitigation Measures	Location / Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	For Future/Planned NSRs <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. 	In between the Electric Centre (next to City Garden) and CDA(1) site / Before occupation of Planned NSRs in CDA and CDA(1) sites. Near Causeway Bay Fire Station / During detailed design of the re-provisioned Tin Hau Temple	HyD Project Proponent for the re-provisioned Tin Hau Temple	√	√ #			

* 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	<i>Floating Refuse</i> 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	<i>Good Site Practices</i> 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 4.1

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)/ 70 dB(A)/ 65 dB(A) ^{Note 1}

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.

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
CMA1b	320.1	500	176.7	260
CMA2a	323.4	500	169.5	260
CMA3a	311.3	500	171.0	260
CMA4a	312.5	500	171.2	260
CMA5a	332.0	500	181.0	260
MA1e	325.1	500	173.4	260
MA1w	325.1	500	173.4	260



Appendix 4.2

Copies of Calibration Certificates



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

AIR POLLUTION MONITORING EQUIPMENT

ORIFICE TRANSFER STANDARD CERTIFICATION WORKSHEET TE-5025A

Date - Jul 11, 2011 Rootmeter S/N 0438320 Ta (K) - 298
 Operator Tisch Orifice I.D. - 0005 Pa (mm) - 749.3

PLATE OR Run #	VOLUME START (m3)	VOLUME STOP (m3)	DIFF VOLUME (m3)	DIFF TIME (min)	METER DIFF Hg (mm)	ORFICE DIFF H2O (in.)
1	NA	NA	1.00	1.3710	3.2	2.00
2	NA	NA	1.00	0.9730	6.4	4.00
3	NA	NA	1.00	0.8690	7.9	5.00
4	NA	NA	1.00	0.8300	8.8	5.50
5	NA	NA	1.00	0.6860	12.8	8.00

DATA TABULATION

Vstd	(x axis) Qstd	(y axis)	Va	(x axis) Qa	(y axis)
0.9817	0.7160	1.4042	0.9957	0.7263	0.8919
0.9775	1.0046	1.9859	0.9915	1.0190	1.2613
0.9754	1.1225	2.2203	0.9894	1.1385	1.4101
0.9743	1.1739	2.3286	0.9882	1.1907	1.4790
0.9690	1.4126	2.8084	0.9829	1.4328	1.7837
Qstd slope (m) = 2.01593			Qa slope (m) = 1.26234		
intercept (b) = -0.03978			intercept (b) = -0.02526		
coefficient (r) = 0.99999			coefficient (r) = 0.99999		
y axis = SQRT[H2O(Pa/760)(298/Ta)]			y axis = SQRT[H2O(Ta/Pa)]		

CALCULATIONS

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

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

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

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

For subsequent flow rate calculations:

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

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



Calibration Certificate

Certificate No. **13784**

Page 1 of 4 Pages

Customer : Lam Geotechnics Limited

Address : 11/F., Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong

Order No. : Q11569

Date of receipt : 6-Jul-11

Item Tested

Description : Sound Level Meter

Manufacturer : B&K

Model : 2250

Serial No. : 2722311

Test Conditions

Date of Test : 6-Jul-11

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure: Z01.

Test Results

All results were within the IEC 651 Type 1, IEC 804 Type 1 & IEC 1260 Class 1 specification.

The results are shown in the attached page(s).

Main Test equipment used:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S017	Multi-Function Generator	C101623	SCL-HKSAR
S024	Sound Level Calibrator	04062	NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by : 

P. F. Wong

Approved by : 

Dorothy Cheuk

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

Date: 6-Jul-11



Calibration Certificate

Certificate No. **13784**

Page 2 of 4 Pages

Results :

1. SPL

UUT Setting				Applied Value (dB)	UUT Reading (dB)
Range	Freq. Wgt.	Time Const.	Center Freq.		
20 - 140	A (SPL)	Fast	--	94.0	93.9
		Slow	--		93.9
	C (SPL)	Fast	--	94.0	93.9
	A (SPL)	Fast	--	114.0	113.8
		Slow	--		113.8
	C (SPL)	Fast	--	114.0	113.8
	--	1/1 – Oct/Fast	1 kHz	94.0	93.8
				114.0	113.7
	--	1/3 – Oct/Fast	1 kHz	94.0	93.7
				114.0	113.6

IEC 651 Type 1 Spec. : ± 0.7 dB

Uncertainty : ± 0.1 dB

2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. : ± 0.3 dB

Uncertainty : ± 0.01 dB

3. Linearity

Differential level linearity

UUT Range (dB)	Applied Value (dB)	UUT Rdg (dB)	Variation (dB)	IEC 651 Type 1 Spec.
20~140	84.0	83.9	0.0	± 0.4 dB
	94.0	93.9 (Ref.)	--	
	95.0	95.0	+0.1	± 0.2 dB

Uncertainty : ± 0.1 dB



Calibration Certificate

Certificate No. 13784

Page 3 of 4 Pages

4. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-39.8	- 39.4 dB, ± 1.5 dB
63 Hz	-26.5	- 26.2 dB, ± 1.5 dB
125 Hz	-16.5	- 16.1 dB, ± 1 dB
250 Hz	-9.0	- 8.6 dB, ± 1 dB
500 Hz	-3.5	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref)	0 dB, ± 1 dB
2 kHz	+1.1	+ 1.2 dB, ± 1 dB
4 kHz	+1.1	+ 1.0 dB, ± 1 dB
8 kHz	-1.3	- 1.1 dB, + 1.5 dB \sim -3 dB
16 kHz	-5.9	- 6.6 dB, + 3 dB \sim - ∞

Uncertainty : ± 0.1 dB

5. Time Averaging

Applied Burst duty Factor	Applied Leq Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	40.0	--	--
1/10	40.0	40.1	± 0.5 dB
1/10 ²	40.0	40.0	
1/10 ³	40.0	40.0	± 1.0 dB
1/10 ⁴	40.0	40.0	

Uncertainty : ± 0.1 dB



Calibration Certificate

Certificate No. 13784

Page 4 of 4 Pages

6. Filter Characteristics

6.1 1/1 – Octave Filter

Frequency	Attenuation (dB)	IEC 1260 Class 1 Spec. (dB)
125 Hz	-64.2	< - 61
250 Hz	-44.9	< - 42
500 Hz	-21.1	< - 17.5
707 Hz	-3.8	- 2 ~ - 5
1 kHz (Ref)	--	--
1.414 kHz	-3.6	- 2 ~ - 5
2 kHz	-20.9	< - 17.5
4 kHz	-56.0	< - 42
8 kHz	-86.0	< - 61

Uncertainty : ± 0.25 dB

6.2 1/3 – Octave Filter

Frequency	Attenuation (dB)	IEC 1260 Class 1 Spec.(dB)
326 Hz	-64.9	< - 61
530 Hz	-48.1	< - 42
772 Hz	-23.6	< - 17.5
891 Hz	-3.9	+ 0.3 ~ - 5.0
1 kHz (Ref)	--	--
1.122 kHz	-3.9	+ 0.3 ~ - 5.0
1.296 kHz	-23.7	< - 17.5
1.887 kHz	-48.8	< - 42
3.070 kHz	-70.4	< - 61

Uncertainty : ± 0.25 dB

Remarks : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric pressure : 996 hPa.

----- END -----



Calibration Certificate

Certificate No. 13813

Page 1 of 4 Pages

Customer : Lam Geotechnics Limited

Address : 11/F., Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong

Order No. : Q11569

Date of receipt : 7-Jul-11

Item Tested

Description : Sound Level Meter

Manufacturer : B&K

Model : 2250

Serial No. : 2722310

Test Conditions

Date of Test : 8-Jul-11

Supply Voltage : --

Ambient Temperature : $(23 \pm 3)^{\circ}\text{C}$

Relative Humidity : $(50 \pm 25) \%$

Test Specifications

Calibration check.

Ref. Document/Procedure: Z01.

Test Results

All results were within the IEC 651 Type 1, IEC 804 Type 1 & IEC 1260 Class 1 specification.

The results are shown in the attached page(s).


Main Test equipment used:

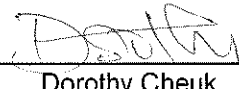
<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S017A	Multi-Function Generator	07279	SCL-HKSAR
S024	Sound Level Calibrator	04062	NIM-PRC & SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

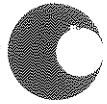
The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by : 
P. F. Wong

Approved by : 
Dorothy Cheuk

Date: 8-Jul-11



Calibration Certificate

Certificate No. **13813**

Page 2 of 4 Pages

Results :

1. SPL

UUT Setting				Applied Value (dB)	UUT Reading (dB)
Range	Freq. Wgt.	Time Const.	Center Freq.		
20 - 140	A (SPL)	Fast	--	94.0	93.8
		Slow	--		93.8
	C (SPL)	Fast	--	94.0	93.9
	A (SPL)	Fast	--	114.0	113.7
		Slow	--		113.7
	C (SPL)	Fast	--	114.0	113.7
	--	1/1 - Oct/Fast	1 kHz	94.0	93.8
				114.0	113.7
	--	1/3 - Oct/Fast	1 kHz	94.0	93.8
				114.0	113.7

IEC 651 Type 1 Spec. : ± 0.7 dB

Uncertainty : ± 0.2 dB

2. Level Stability : 0.0 dB

IEC 651 Type 1 Spec. : ± 0.3 dB

Uncertainty : ± 0.01 dB

3. Linearity

Differential level linearity

UUT Range (dB)	Applied Value (dB)	UUT Rdg (dB)	Variation (dB)	IEC 651 Type 1 Spec.
120	84.0	83.8	0.0	± 0.4 dB
	94.0	93.8 (Ref.)	--	
	95.0	94.8	0.0	± 0.2 dB

Uncertainty : ± 0.1 dB



Calibration Certificate

Certificate No. 13813

Page 3 of 4 Pages

4. Frequency Weighting

A weighting

Frequency	Attenuation (dB)	IEC 651 Type 1 Spec.
31.5 Hz	-39.9	- 39.4 dB, ± 1.5 dB
63 Hz	-26.6	- 26.2 dB, ± 1.5 dB
125 Hz	-16.5	- 16.1 dB, ± 1 dB
250 Hz	-9.0	- 8.6 dB, ± 1 dB
500 Hz	-3.5	- 3.2 dB, ± 1 dB
1 kHz	0.0 (Ref)	0 dB, ± 1 dB
2 kHz	+1.4	+ 1.2 dB, ± 1 dB
4 kHz	+1.2	+ 1.0 dB, ± 1 dB
8 kHz	-1.2	- 1.1 dB, + 1.5 dB \sim -3 dB
16 kHz	-5.8	- 6.6 dB, + 3 dB \sim - ∞

Uncertainty : ± 0.1 dB

5. Time Averaging

Applied Burst duty Factor	Applied Leq Value (dB)	UUT Reading (dB)	IEC 804 Type 1 Spec.
continuous	40.0	--	--
1/10	40.0	40.0	± 0.5 dB
1/10 ²	40.0	39.9	
1/10 ³	40.0	40.0	± 1.0 dB
1/10 ⁴	40.0	40.0	

Uncertainty : ± 0.1 dB



Calibration Certificate

Certificate No. 13813

Page 4 of 4 Pages

6. Filter Characteristics

6.1 1/1 – Octave Filter

Frequency	Attenuation (dB)	IEC 1260 Class 1 Spec. (dB)
125 Hz	-64.2	< - 61
250 Hz	-44.9	< - 42
500 Hz	-21.0	< - 17.5
707 Hz	-3.8	- 2 ~ - 5
1 kHz (Ref)	--	--
1.414 kHz	-3.5	- 2 ~ - 5
2 kHz	-20.8	< - 17.5
4 kHz	-55.9	< - 42
8 kHz	-85.7	< - 61

Uncertainty : ± 0.25 dB

6.2 1/3 – Octave Filter

Frequency	Attenuation (dB)	IEC 1260 Class 1 Spec.(dB)
326 Hz	-63.6	< - 61
530 Hz	-47.9	< - 42
772 Hz	-23.5	< - 17.5
891 Hz	-3.7	+ 0.3 ~ - 5.0
1 kHz (Ref)	--	--
1.122 kHz	-3.6	+ 0.3 ~ - 5.0
1.296 kHz	-23.4	< - 17.5
1.887 kHz	-48.1	< - 42
3.070 kHz	-69.8	< - 61

Uncertainty : ± 0.25 dB

Remarks : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. Atmospheric pressure : 1 000 hPa.

----- END -----



Lam Geotechnics Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location : MA1w
 Equipment no. : EL080

Calibration Date : 28-Dec-11
 Calibration Due Date : 28-Feb-12

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	291	Kelvin	Pressure, P _a
			1020 mmHg

Orifice Transfer Standard Information					
Equipment No.	EL086	Slope, m _c	2.01593	Intercept, b _c	-0.03978
Last Calibration Date	11-Jul-11	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	11-Jul-12				

Calibration of RSP						
Calibration Point	Manometer Reading			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	(up)	(down)	(difference)			
1	6.0	6.0	12.0	1.7644	53	53.8107
2	4.8	4.8	9.6	1.5802	46	46.7036
3	3.8	3.8	7.6	1.4082	40	40.6118
4	2.5	2.5	5.0	1.1459	30	30.4589
5	1.5	1.5	3.0	0.8921	18	18.2753

By Linear Regression of Y on X

Slope, m = 40.2406 Intercept, b = -16.6802

Correlation Coefficient* = 0.9983

Calibration Accepted = Yes/No**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by : Sam Lam
 Date : 28-Dec-11

Checked by : Cherry Mak
 Date : 28-Dec-11



Lam Geotechnics Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location : MA1e
 Equipment no. : EL080

Calibration Date : 28-Dec-11
 Calibration Due Date : 28-Feb-12

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	291	Kelvin	Pressure, P _a
			1020 mmHg

Orifice Transfer Standard Information					
Equipment No.	EL086	Slope, m _c	2.01593	Intercept, b _c	-0.03978
Last Calibration Date	11-Jul-11	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	11-Jul-12				

Calibration of RSP						
Calibration Point	Manometer Reading			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	(up)	(down)	(difference)			
1	6.3	6.3	12.6	1.8075	60	60.9178
2	5.0	5.0	10.0	1.6124	54	54.8260
3	3.8	3.8	7.6	1.4082	44	44.6730
4	2.5	2.5	5.0	1.1459	34	34.5201
5	1.1	1.1	2.2	0.7667	24	24.3671

By Linear Regression of Y on X

Slope, m = 36.1867 Intercept, b = -4.9235

Correlation Coefficient* = 0.9940

Calibration Accepted = Yes/No**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by : Sam Lam

Checked by : Cherry Mak



Lam Geotechnics Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location : CMA5a
 Equipment no. : EL380

Calibration Date : 28-Dec-11
 Calibration Due Date : 28-Feb-12

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	291	Kelvin	Pressure, P _a
			1020 mmHg

Orifice Transfer Standard Information					
Equipment No.	EL086	Slope, m _c	2.01593	Intercept, b _c	-0.03978
Last Calibration Date	11-Jul-11	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	11-Jul-12				

Calibration of RSP						
Calibration Point	Manometer Reading			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	(up)	(down)	(difference)			
1	5.9	5.9	11.8	1.7498	56	56.8566
2	4.9	4.9	9.8	1.5964	50	50.7648
3	3.8	3.8	7.6	1.4082	43	43.6577
4	2.5	2.5	5.0	1.1459	33	33.5048
5	1.6	1.6	3.2	0.9207	22	22.3365

By Linear Regression of Y on X

Slope, m = 41.0174 Intercept, b = -14.5308
 Correlation Coefficient* = 0.9985
 Calibration Accepted = Yes/No**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by : Sam Lam
 Date : 28-Dec-11

Checked by : Cherry Mak
 Date : 28-Dec-11



Lam Geotechnics Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location : CMA4a
 Equipment no. : EL390

Calibration Date : 28-Dec-11
 Calibration Due Date : 28-Feb-12

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	291	Kelvin	Pressure, P _a
			1020 mmHg

Orifice Transfer Standard Information					
Equipment No.	EL086	Slope, m _c	2.01593	Intercept, b _c	-0.03978
Last Calibration Date	11-Jul-11	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	11-Jul-12				

Calibration of RSP						
Calibration Point	Manometer Reading			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	(up)	(down)	(difference)			
1	6.0	6.0	12.0	1.7644	58	58.8872
2	4.9	4.9	9.8	1.5964	50	50.7648
3	3.7	3.7	7.4	1.3898	42	42.6424
4	2.9	2.9	5.8	1.2327	32	32.4895
5	1.5	1.5	3.0	0.8921	21	21.3212

By Linear Regression of Y on X

Slope, m = 43.7252 Intercept, b = -18.9031

Correlation Coefficient* = 0.9950

Calibration Accepted = Yes/No**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by : Sam Lam
 Date : 28-Dec-11

Checked by : Cherry Mak
 Date : 28-Dec-11



Lam Geotechnics Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location : CMA3a
 Equipment no. : EL888

Calibration Date : 28-Dec-11
 Calibration Due Dat : 28-Feb-12

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	291	Kelvin	Pressure, P _a
			1020 mmHg

Orifice Transfer Standard Information					
Equipment No.	EL086	Slope, m _c	2.01593	Intercept, b _c	-0.03978
Last Calibration Date	11-Jul-11	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	11-Jul-12				

Calibration of RSP						
Calibration Point	Manometer Reading			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	(up)	(down)	(difference)			
1	5.7	5.7	11.4	1.7202	50	50.7648
2	4.5	4.5	9.0	1.5306	45	45.6883
3	3.5	3.5	7.0	1.3522	40	40.6118
4	2.3	2.3	4.6	1.0999	32	32.4895
5	1.4	1.4	2.8	0.8625	22	22.3365

By Linear Regression of Y on X

Slope, m = 32.8319 Intercept, b = -4.7332
 Correlation Coefficient* = 0.9953
 Calibration Accepted = Yes/Ne**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by : Sam Lam
 Date : 28-Dec-11

Checked by : Cherry Mak
 Date : 28-Feb-12



Lam Geotechnics Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location : CMA2a
 Equipment no. : EL449

Calibration Date : 28-Dec-11
 Calibration Due Date : 28-Feb-12

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	291	Kelvin	Pressure, P _a
			1020 mmHg

Orifice Transfer Standard Information					
Equipment No.	EL086	Slope, m _c	2.01593	Intercept, b _c	-0.03978
Last Calibration Date	11-Jul-11	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	11-Jul-12				

Calibration of RSP						
Calibration Point	Manometer Reading			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	(up)	(down)	(difference)			
1	6.3	6.3	12.6	1.8075	53	53.8107
2	5.1	5.1	10.2	1.6282	43	43.6577
3	3.9	3.9	7.8	1.4263	38	38.5813
4	2.6	2.6	5.2	1.1682	28	28.4283
5	1.1	1.1	2.2	0.7667	14	14.2141

By Linear Regression of Y on X

Slope, m = 36.9319 Intercept, b = -14.4664

Correlation Coefficient* = 0.9963

Calibration Accepted = Yes/No**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by : Sam Lam
 Date : 28-Dec-11

Checked by : Cherry Mak
 Date : 28-Dec-11



Lam Geotechnics Limited

Calibration Data for High Volume Sampler (TSP Sampler)

Location : CMA1b
 Equipment no. : EL452

Calibration Date : 28-Dec-11
 Calibration Due Date : 28-Feb-12

CALIBRATION OF CONTINUOUS FLOW RECORDER

Ambient Condition			
Temperature, T _a	291	Kelvin	Pressure, P _a
			1020 mmHg

Orifice Transfer Standard Information					
Equipment No.	EL086	Slope, m _c	2.01593	Intercept, b _c	-0.03978
Last Calibration Date	11-Jul-11	$(H \times P_a / 1013.3 \times 298 / T_a)^{1/2}$ $= m_c \times Q_{std} + b_c$			
Next Calibration Date	11-Jul-12				

Calibration of RSP						
Calibration Point	Manometer Reading			Q _{std} (m ³ / min.) X-axis	Continuous Flow Recorder, W (CFM)	IC (W(P _a /1013.3x298/T _a) ^{1/2} /35.31) Y-axis
	(up)	(down)	(difference)			
1	6.2	6.2	12.4	1.7932	61	61.9331
2	5.0	5.0	10.0	1.6124	52	52.7954
3	3.9	3.9	7.8	1.4263	46	46.7036
4	2.5	2.5	5.0	1.1459	35	35.5354
5	1.5	1.5	3.0	0.8921	24	24.3671

By Linear Regression of Y on X

Slope, m = 40.7016 Intercept, b = -11.6560
 Correlation Coefficient* = 0.9987
 Calibration Accepted = Yes/No**

* if Correlation Coefficient < 0.990, check and recalibration again.

** Delete as appropriate.

Remarks : _____

Calibrated by : Sam Lam
 Date : 28-Dec-12

Checked by : Cherry Mak
 Date : 28-Dec-12



Calibration Certificate

Certificate No. 12889

Page 1 of 2 Pages

Customer : Lam Geotechnics Limited

Address : 11/F., Centre Point, 181-185 Gloucester Road, Wanchai, Hong Kong

Order No. : Q10982

Date of receipt : 25-May-11

Item Tested

Description : Sound Level Calibrator

Manufacturer : Rion

Model : NC-73

Serial No. : 10465798

Test Conditions

Date of Test : 26-May-11

Supply Voltage : --

Ambient Temperature : (23 ± 3)°C

Relative Humidity : (50 ± 25) %

Test Specifications

Calibration check.

Ref. Document/Procedure : F21, Z02.

Test Results

All results were within the manufacturer's specification after adjustment.

The results are shown in the attached page(s).

Main Test equipment used:

<u>Equipment No.</u>	<u>Description</u>	<u>Cert. No.</u>	<u>Traceable to</u>
S014	Spectrum Analyzer	03926	NIM-PRC & SCL-HKSAR
S024	Sound Level Calibrator	04062	NIM-PRC & SCL-HKSAR
S041	Universal Counter	04461	SCL-HKSAR
S206	Sound Level Meter	04462	SCL-HKSAR

The values given in this Calibration Certificate only relate to the values measured at the time of the test and any uncertainties quoted will not include allowance for the equipment long term drift, variations with environmental changes, vibration and shock during transportation, overloading, mis-handling, or the capability of any other laboratory to repeat the measurement. Hong Kong Calibration Ltd. shall not be liable for any loss or damage resulting from the use of the equipment.

The test equipment used for calibration are traceable to International System of Units (SI).

The test results apply to the above Unit-Under-Test only

Calibrated by : 

P. F. Wong

Approved by : 

Alan Chu

Date: 26-May-11

This Certificate is issued by:

Hong Kong Calibration Ltd.

Unit 8B, 24/F., Well Fung Industrial Centre, No. 58-76, Ta Chuen Ping Street, Kwai Chung, NT, Hong Kong.

Tel: 2425 8801 Fax: 2425 8646

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Calibration Certificate

Certificate No. 12889

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Results :

1. Level Accuracy (at 1 kHz)

UUT Nominal Value	Measured Value		Mfr's Spec.
	Before Adjust.	After Adjust.	
94 dB	*95.20 dB	93.94 dB	± 1 dB

Uncertainty : ± 0.2 dB

2. Frequency Accuracy

UUT Nominal Value	Measured Value	Mfr's Spec.
1 kHz	0.994 kHz	± 2 %

Uncertainty : ± 0.1 %

3. Level Stability : 0.0 dB

Uncertainty : ± 0.01 dB

4. Total Harmonic Distortion : < 0.5 %

Mfr's Spec. : < 3 %

Uncertainty : ± 2.3 % of reading

Remark : 1. UUT : Unit-Under-Test

2. The uncertainty claimed is for a confidence probability of not less than 95%.

3. The above measured values are the mean of 3 measurement.

4. Atmospheric Pressure : 1 004 hPa

5. *Out of Specification

----- END -----



Appendix 5.1

Monitoring Schedules for Reporting Month and Coming Reporting Month

Contract No. HK/2011/07
Wan Chai Development Phase II and Central-Wan Chai Bypass
Sampling, Field Measurement and Testing Works (Stage2)

Environmental Monitoring Schedule
January 2012

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
25-Dec	26-Dec	27-Dec	28-Dec Noise (Day time) Noise (Restricted hr) 1900-2300 (Ma1 M2b M7e M7w)	29-Dec 24hr TSP Noise (Restricted hr) 1900-2300 (M3a M4b M5b)	30-Dec 1hr TSP x 3	31-Dec
1-Jan	2-Jan	3-Jan Noise (Restricted hr) 1900-2300 (Ma1 M2b M7e M7w)	4-Jan 24hr TSP Noise (Day time)	5-Jan 1hr TSP x 3 24hr TSP (CMA1b) Noise (Restricted hr) 1900-2300 (M3a M4b M5b)	6-Jan	7-Jan
8-Jan	9-Jan	10-Jan 24hr TSP Noise (Day time) Noise (Restricted hr) 1900-2300 (Ma1 M2b M7e M7w)	11-Jan 1hr TSP x 3 24hr TSP (CMA1b)	12-Jan Noise (Restricted hr) 1900-2300 (M3a M4b M5b)	13-Jan	14-Jan
15-Jan	16-Jan 24hr TSP	17-Jan 1hr TSP x 3 24hr TSP (CMA3a, MA1w) Noise (Restricted hr) 1900-2300 (Ma1 M2b M7e M7w)	18-Jan	19-Jan Noise (Day time) Noise (Restricted hr) 1900-2300 (M3a M4b M5b)	20-Jan 24hr TSP	21-Jan 1hr TSP x 3 24hr TSP (CMA1b)
22-Jan	23-Jan	24-Jan	25-Jan	26-Jan 24hr TSP Noise (Day time) (Ma1 M2b M3a M4b) Noise (Restricted hr) 1900-2300 (Ma1 M2b M7e M7w)	27-Jan 1hr TSP x 3 24hr TSP (CMA1b) Noise (Day time) (M5 M6 M7e M7w) Noise (Restricted hr) 1900-2300 (M3a M4b M5b)	28-Jan

Contract No. HK/2011/07
Wan Chai Development Phase II and Central-Wan Chai Bypass
Sampling, Field Measurement and Testing Works (Stage2)

Tentative Environmental Monitoring Schedule
February 2012

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

Remarks (Air)

1. Cut-off date is at the 27th of each reporting month
2. Actual monitoring will subject to change due to any safety concern or adverse weather condition.
3. Air Quality Monitoring Stations corresponding to active contracts are sub-divided below

- Contract HK/2009/01: CMA5a
- Contract HK/2009/02: CMA4a
- Contract HY/2009/15: CMA3a
- Contract HY/2009/17: CMA2a
- Contract HY/2009/18: MA1e and MA1w
- Contract HY/2009/19: CMA1b and CMA2a '

Remarks (Noise)

1. Cut-off date is at the 27th of each reporting month.
2. Actual monitoring will subject to change due to any safety concern or adverse weather condition.
3. Noise Monitoring Stations corresponding to active contracts are sub-divided below:
 - Contract HK/2009/01 M1a
 - Contract HK/2009/02: M1a
 - Contract HY/2009/15: M2b
 - Contract HY/2009/17: M4b
 - Contract HY/2009/18: M7e and M7w
 - Contract HY/2009/19: M3a, M4b, M5b, M6
4. Day time noise will be monitored for Leq(30min) during the period between 07:00 and 19:00 for active contract(s).



Appendix 5.2

Noise Monitoring Results and Graphical Presentations



Noise Monitoring Result

Day Time (0700 - 1900hrs on normal weekdays)

Location: M1a - Harbour Road Sports Centre

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30-min)								
28/12/11	15:40	Sunny	72.4	75.4	67.4	72.2	59	75
04/01/12	09:56	Cloudy	73.2	76.2	68.3	72.2	66	75
10/01/12	09:59	Cloudy	74.3	76.8	70.3	72.2	70	75
19/01/12	13:51	Fine	72.7	75.4	68.2	72.2	63	75
26/01/12	16:55	Cloudy	70.8	74.0	64.3	72.2	71	75

Location: M2b - Noon-day gun area

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30-min)								
28/12/11	08:57	Fine	74.8	77.2	68.6	67.6	74	75
04/01/12	10:45	Cloudy	70.6	72.1	68.3	67.6	68	75
10/01/12	10:48	Cloudy	68.4	69.6	67.1	67.6	61	75
19/01/12	14:43	Fine	72.7	76.7	67.6	67.6	71	75
26/01/12	17:50	Cloudy	75.4	79.0	68.3	67.6	75	75

Location: M3a - Tung Lo Wan Fire Station

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30-min)								
28/12/11	09:40	Fine	66.8	69.1	64.1	68.8	67	75
04/01/12	11:30	Fine	67.7	70.0	64.6	68.8	68	75
10/01/12	11:28	Cloudy	69.6	71.7	66.2	68.8	62	75
19/01/12	10:45	Fine	68.8	69.2	64.0	68.8	69	75
26/01/12	09:30	Cloudy	68.7	70.7	65.3	68.8	69	75

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)								
28/12/11	10:33	Fine	70.2	72.1	67.3	67.3	67	75
04/01/12	13:00	Cloudy	68.3	69.8	66.1	67.3	61	75
10/01/12	13:02	Fine	71.2	72.9	67.6	67.3	69	75
19/01/12	08:15	Fine	69.1	71.6	66.9	67.3	64	75
26/01/12	10:27	Cloudy	66.8	68.2	65.0	67.3	67	75

Location: M5b - City Garden

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30min)								
28/12/11	16:26	Sunny	71.1	74.2	65.8	68.0	68	75
04/01/12	14:29	Cloudy	71.5	73.1	68.4	68.0	69	75
10/01/12	14:32	Fine	69.3	70.6	66.7	68.0	63	75
19/01/12	09:03	Fine	68.3	70.3	65.2	68.0	57	75
27/01/12	08:35	Cloudy	68.5	70.1	66.0	68.0	59	75

Location: M6 - HK baptist Church henrietta Secondary School

Date	Time	Weather	Measurement Noise Level			Baseline Level	Construction Noise Level	Limit Level
			Leq	L10	L90	Leq	Leq	Leq
Unit: dB(A), (30-min)								
28/12/11	11:30	Fine	73.0	74.4	71.0	70.7	69	70
04/01/12	13:47	Cloudy	73.4	74.8	71.6	70.7	70	70
10/01/12	13:46	Fine	73.0	74.4	71.1	70.7	69	70
19/01/12	09:46	Fine	72.6	74.0	70.4	70.7	68	70
27/01/12	09:08	Cloudy	73.2	74.7	70.8	70.7	70	70



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)								
28/12/11	13:47	Sunny	74.9	77.4	71.2	66.8	74	75
04/01/12	08:22	Cloudy	74.1	75.1	71.3	66.8	73	75
10/01/12	08:28	Cloudy	74.4	75.4	73.2	66.8	74	75
19/01/12	16:43	Fine	73.1	76.3	72.9	66.8	72	75
27/01/12	17:10	Cloudy	74.2	75.6	72.5	66.8	73	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)								
28/12/11	14:30	Sunny	69.7	71.2	67.8	69.4	58	75
04/01/12	08:58	Cloudy	70.2	72.7	67.5	69.4	62	75
10/01/12	09:05	Cloudy	69.2	70.3	67.9	69.4	69	75
19/01/12	18:00	Fine	64.4	66.0	62.2	69.4	64	75
27/01/12	15:31	Cloudy	67.1	68.5	65.3	69.4	67	75



Noise Monitoring Result

Restricted Time (1900 - 2300 hrs on normal weekdays and 0700-2300 on holiday)

Location: M4b - Victoria Centre

Date	Time	Weather	Measurement Noise Level			Average Noise Level Leq	Baseline Noise Level Leq	Construction Noise Level Leq	Limit Level Leq
			Leq	L10	L90				
Unit: dB(A), (5-min)									
29/12/11	19:36	Fine	66.4	68.3	64.1	65.9	67.0	66	70
	19:41		65.8	67.2	64.1				
	19:46		65.6	66.9	63.9				
05/01/12	21:03	Cloudy	65.3	67.0	63.7	65.0	67.0	65	70
	21:08		64.9	66.4	63.4				
	21:14		64.9	66.5	63.2				
12/01/12	20:17	Cloudy	66.6	68.5	63.7	66.0	67.0	66	70
	20:22		65.5	67.1	63.5				
	20:28		65.8	67.4	63.6				
19/01/12	20:20	Fine	65.7	67.4	63.7	66.1	67.0	66	70
	20:25		65.9	67.4	64.2				
	20:31		66.6	68.9	63.6				
27/01/12	20:03	Cloudy	65.9	67.2	63.6	65.5	67.0	65	70
	20:08		65.5	67.1	63.3				
	20:14		65.0	66.6	63.2				

Location: M5b - City Garden

Date	Time	Weather	Measurement Noise Level			Average Noise Level Leq	Baseline Noise Level Leq	Construction Noise Level Leq	Limit Level Leq
			Leq	L10	L90				
Unit: dB(A), (5-min)									
29/12/11	20:10	Fine	65.2	67.4	62.2	64.8	67.2	65	70
	20:15		63.7	65.4	61.8				
	20:20		65.2	66.4	62.7				
05/01/12	21:41	Cloudy	64.3	65.8	62.1	64.4	67.2	64	70
	21:46		64.9	67.0	62.0				
	21:52		63.8	65.5	61.7				
12/01/12	20:53	Cloudy	64.5	65.9	62.2	64.3	67.2	64	70
	20:58		63.3	64.8	61.5				
	21:04		64.9	66.2	61.9				
19/01/12	20:51	Fine	65.5	67.1	63.2	65.6	67.2	66	70
	20:56		65.5	66.9	62.9				
	21:02		65.7	67.4	63.3				
27/01/12	20:25	Cloudy	63.8	65.5	61.7	64.2	67.2	64	70
	20:30		64.8	66.1	62.2				
	20:35		63.9	65.3	61.7				

Location: M1a - Harbour Road Sports Center

Date	Time	Weather	Measurement Noise Level			Average Noise Level Leq	Baseline Noise Level Leq	Construction Noise Level Leq	Limit Level Leq
			Leq	L10	L90				
Unit: dB(A), (5-min)									
28/12/11	22:06	Fine	68.4	70.7	60.3	68.7	71.3	69	70
	22:11		69.3	72.0	63.3				
	22:17		68.4	71.2	62.8				
03/01/12	20:30	Cloudy	69.8	72.9	62.2	69.4	71.3	69	70
	20:35		69.9	73.9	61.2				
	20:40		68.4	71.8	61.3				
10/01/12	20:35	Fine	69.5	71.8	63.2	70.5	71.3	71	70
	20:40		71.4	74.5	62.9				
	20:45		70.5	73.4	64.4				
17/01/12	20:06	Fine	69.0	71.4	64.9	69.8	71.3	70	70
	20:11		70.4	73.0	65.1				
	20:16		69.9	72.8	64.1				
26/01/12	20:11	Cloudy	73.0	76.7	65.6	72.6	71.3	67	70
	20:16		73.0	76.1	66.2				
	20:21		71.6	74.2	65.4				

Location: M2b - Noon-day gun area

Date	Time	Weather	Measurement Noise Level			Average Noise Level Leq	Baseline Noise Level Leq	Construction Noise Level Leq	Limit Level Leq
			Leq	L10	L90				
Unit: dB(A), (5-min)									
28/12/11	21:22	Fine	65.0	66.3	63.5	65.5	65.8	66	70
	21:27		65.1	66.4	63.2				
	21:34		66.4	68.7	64.2				
03/01/12	20:59	Cloudy	68.0	69.7	64.4	67.0	65.8	61	70
	21:04		66.5	68.1	64.4				
	21:09		66.3	68.3	63.7				
10/01/12	21:04	Fine	68.6	69.9	67.0	68.4	65.8	65	70
	21:09		68.4	69.7	66.9				
	21:14		68.2	69.4	66.6				
17/01/12	20:38	Fine	67.8	69.6	65.6	68.0	65.8	64	70
	20:43		68.5	70.8	65.9				
	20:48		67.5	69.4	65.3				
26/01/12	21:00	Cloudy	66.2	67.9	64.0	66.1	65.8	54	70
	21:05		66.3	67.8	64.1				
	21:10		65.7	67.8	63.9				

Location: M3a - Tung Lo Wan Fire Station

Date	Time	Weather	Measurement Noise Level			Average Noise Level Leq	Baseline Noise Level Leq	Construction Noise Level Leq	Limit Level Leq
			Leq	L10	L90				
Unit: dB(A), (5-min)									
29/12/11	19:08	Fine	65.6	67.6	62.0	65.4	65.5	65	70
	19:13		65.5	67.5	62.8				
	19:18		65.0	67.0	62.3				
05/01/12	20:32	Cloudy	65.1	67.6	61.8	64.9	65.5	65	70
	20:37		65.0	67.5	62.2				
	20:43		64.6	66.7	62.3				
12/01/12	19:45	Cloudy	69.0	70.3	67.5	68.6	65.5	66	70
	19:50		68.7	70.2	67.2				
	19:56		67.9	70.1	63.5				
19/01/12	19:56	Fine	66.0	68.4	62.4	65.8	65.5	54	70
	20:01		65.7	67.7	62.2				
	20:07		65.7	68.3	62.6				
27/01/12	19:35	Cloudy	66.2	69.0	62.9	66.0	65.5	57	70
	19:40		65.2	67.6	62.2				
	19:46		66.5	67.9	62.3				



Noise Monitoring Result

Restricted Time (1900 - 2300 hrs on normal weekdays and 0700-2300 on holiday)

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

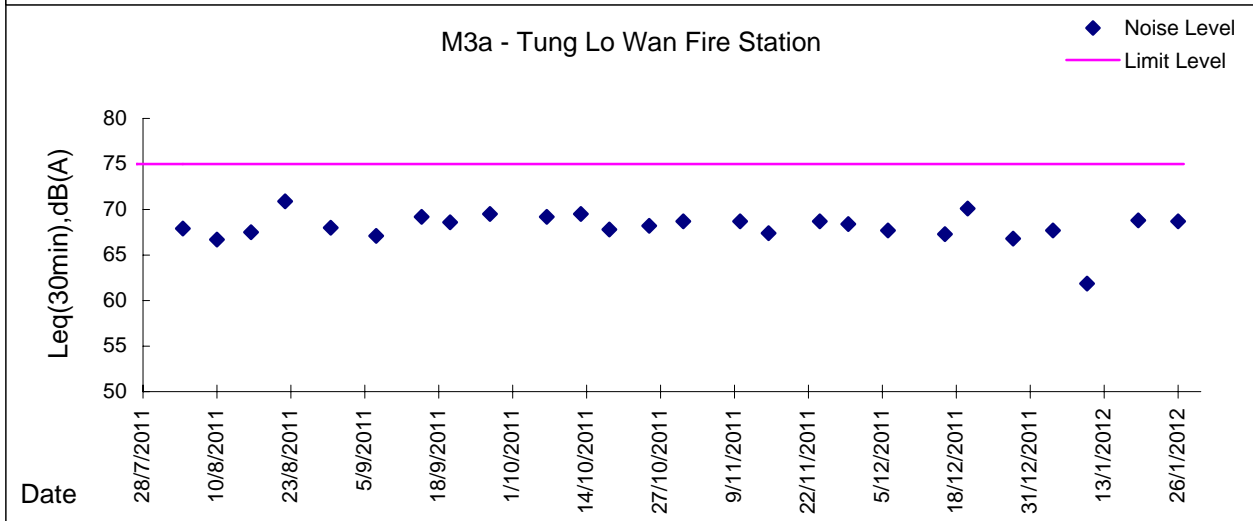
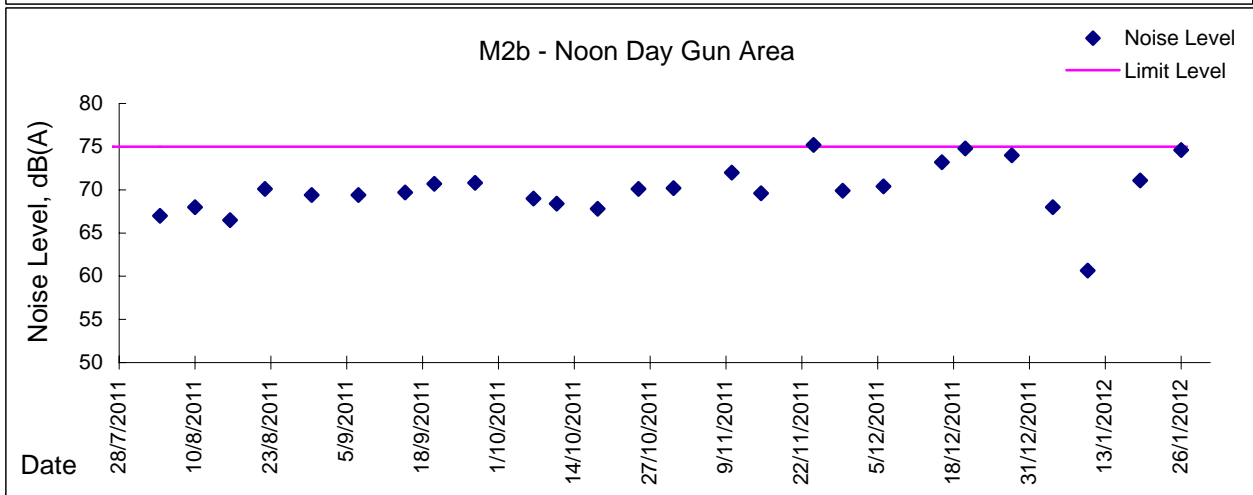
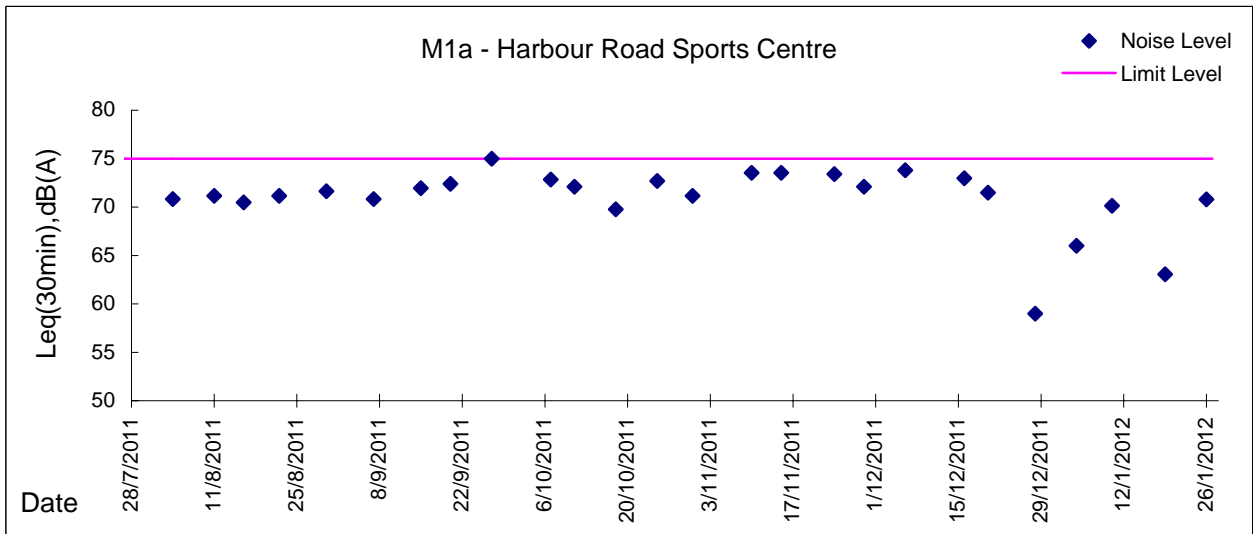
Date	Time	Weather	Measurement Noise Level			Average Noise Level Leq	Baseline Level Leq	Construction Noise Level Leq	Limit Level Leq
			Leq	L10	L90				
Unit: dB(A), (5-min)									
28/12/11	19:37	Fine	69.6	71.9	66.1	68.1	65.0	65	70
	19:43		67.6	68.6	65.9				
	19:49		66.6	67.3	65.8				
03/01/12	19:46	Cloudy	70.4	72.9	69.9	70.4	65.0	69	70
	19:51		70.5	72.9	69.1				
	19:56		70.2	73.2	69.2				
10/01/12	19:39	Fine	69.6	70.1	69.1	69.5	65.0	68	70
	19:44		69.4	69.8	68.9				
	19:49		69.5	69.9	69.0				
17/01/12	19:00	Fine	69.8	71.1	68.2	69.2	65.0	67	70
	19:05		69.1	70.3	67.9				
	19:10		68.7	70.1	67.4				
26/01/12	19:23	Cloudy	62.7	64.2	60.3	63.0	65.0	63	70
	19:28		63.5	66.1	60.3				
	19:33		62.9	65.1	59.9				

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

Date	Time	Weather	Measurement Noise Level			Average Noise Level Leq	Baseline Level Leq	Construction Noise Level Leq	Limit Level Leq
			Leq	L10	L90				
Unit: dB(A), (5-min)									
28/12/11	20:05	Fine	66.0	68.1	63.9	65.8	68.0	66	70
	20:10		65.8	67.5	64.0				
	20:16		65.7	67.3	63.8				
03/01/12	19:06	Cloudy	65.1	66.4	63.8	65.1	68.0	65	70
	19:11		64.9	65.9	63.3				
	19:16		65.3	66.2	63.6				
10/01/12	19:15	Fine	65.7	67.6	63.6	65.6	68.0	66	70
	19:20		64.8	66.6	63.1				
	19:25		66.2	67.6	64.4				
17/01/12	19:27	Fine	66.8	67.9	63.8	66.0	68.0	66	70
	19:32		65.2	66.8	62.9				
	19:37		65.9	68.1	63.2				
26/01/12	19:00	Cloudy	63.9	65.6	61.5	63.7	68.0	64	70
	19:05		64.2	65.9	61.6				
	19:10		62.8	64.2	61.3				

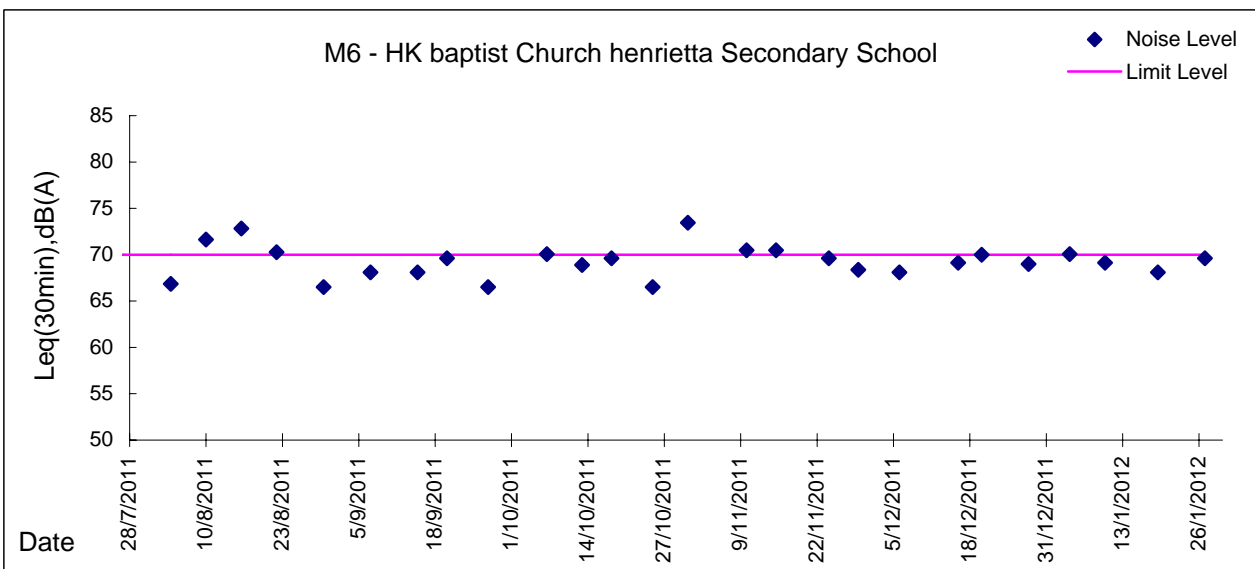
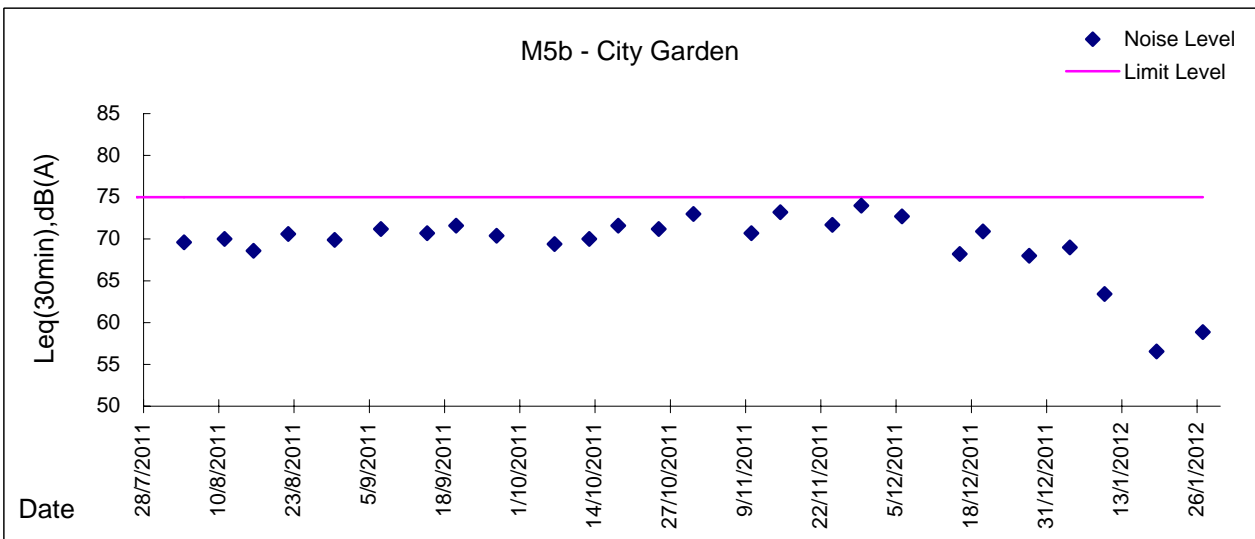
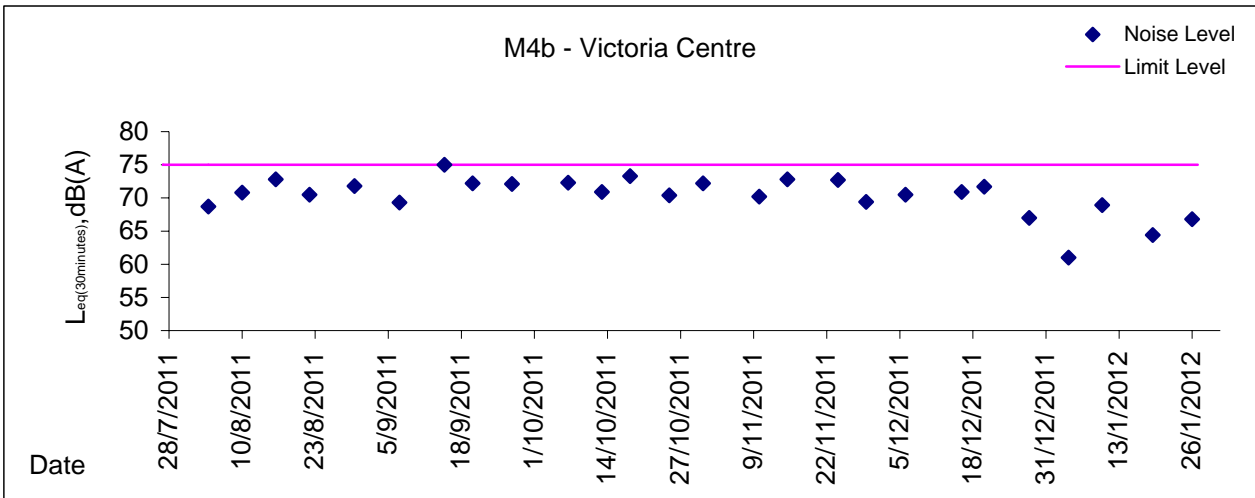


Graphic Presentation of Noise Monitoring Result
Day Time (0700 - 1900hrs on normal weekdays)



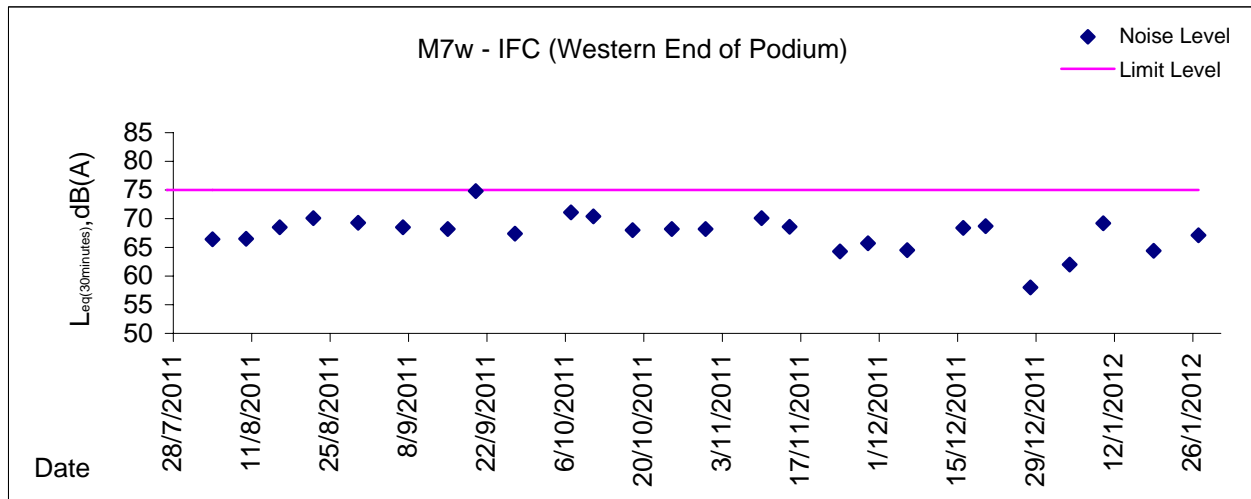
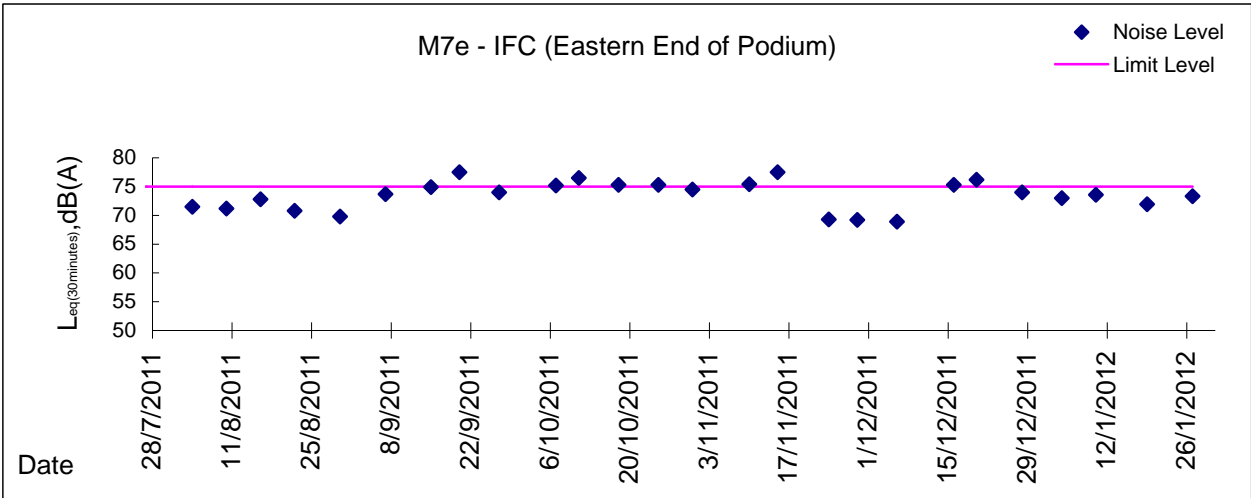


Graphic Presentation of Noise Monitoring Result
Day Time (0700 - 1900hrs on normal weekdays)





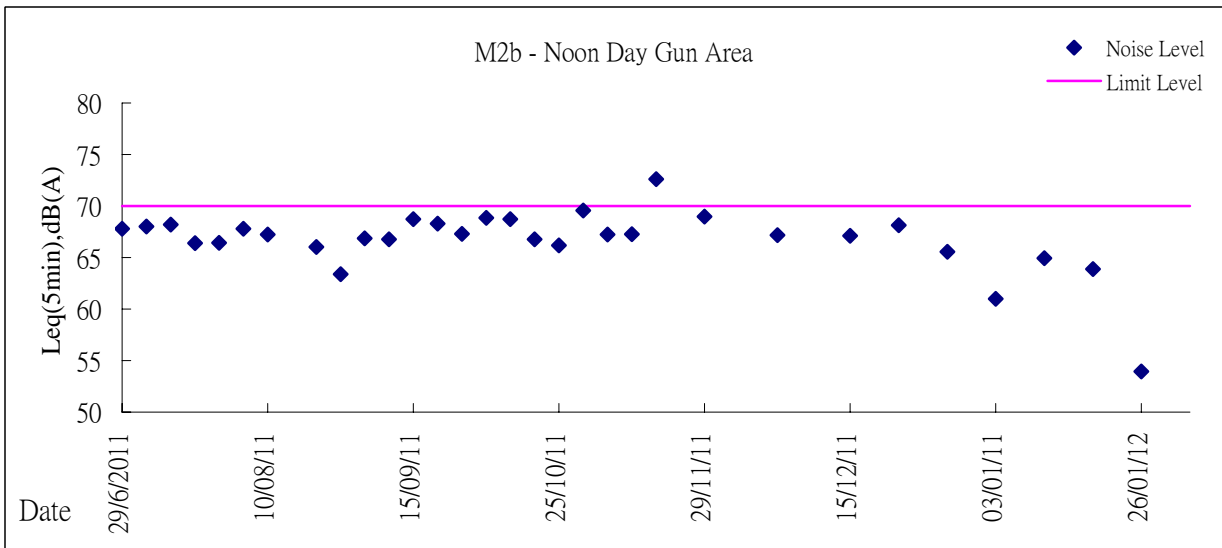
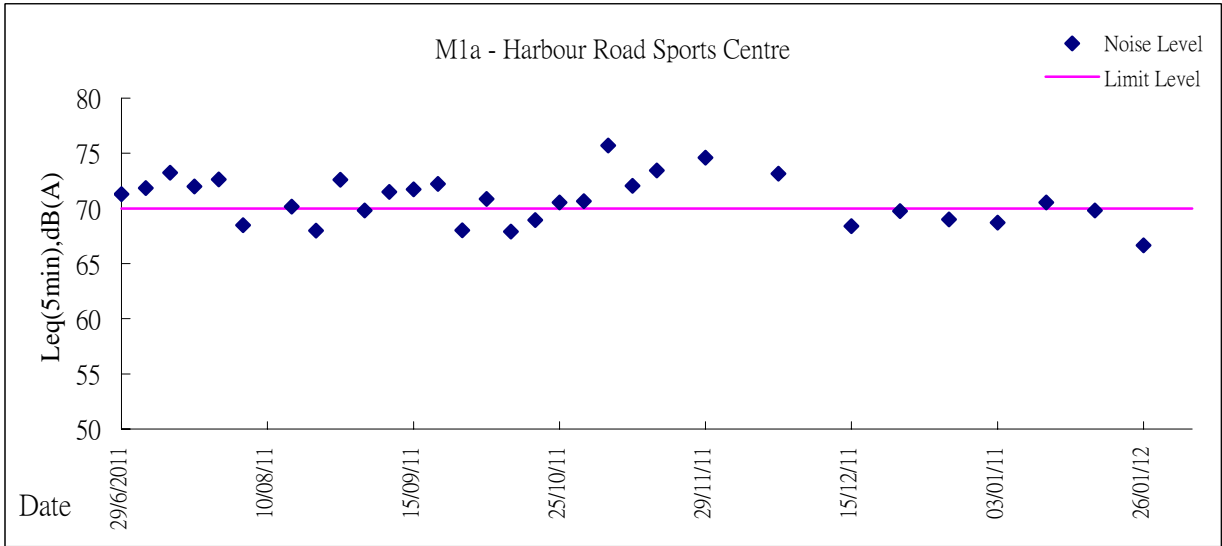
Graphic Presentation of Noise Monitoring Result
Day Time (0700 - 1900hrs on normal weekdays)

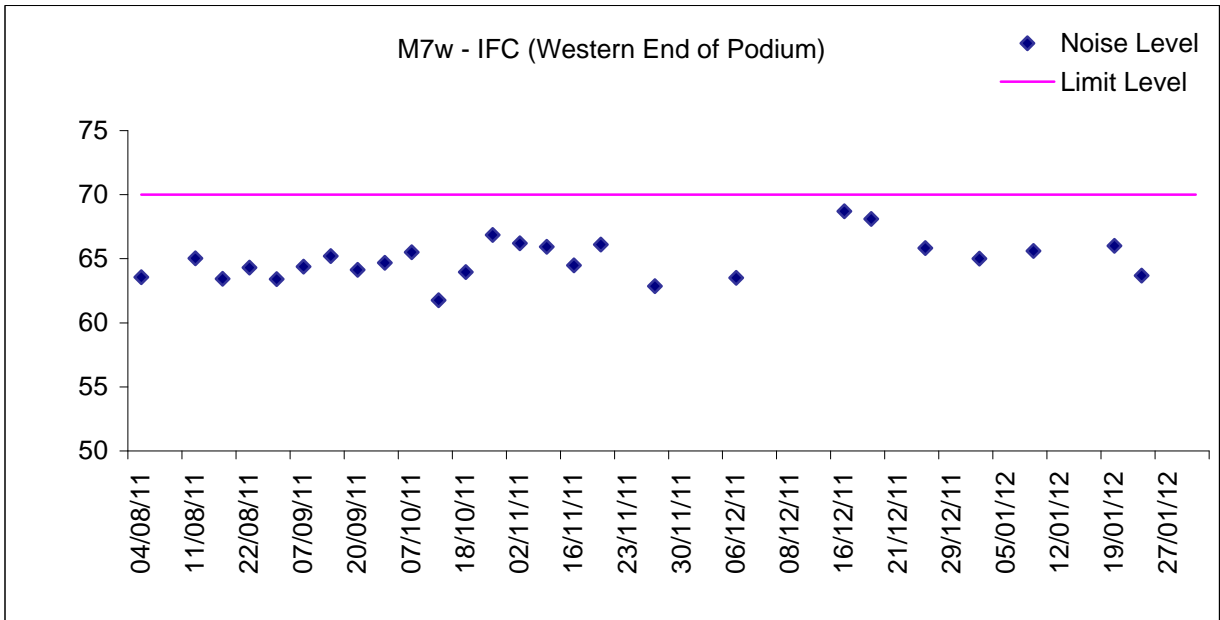
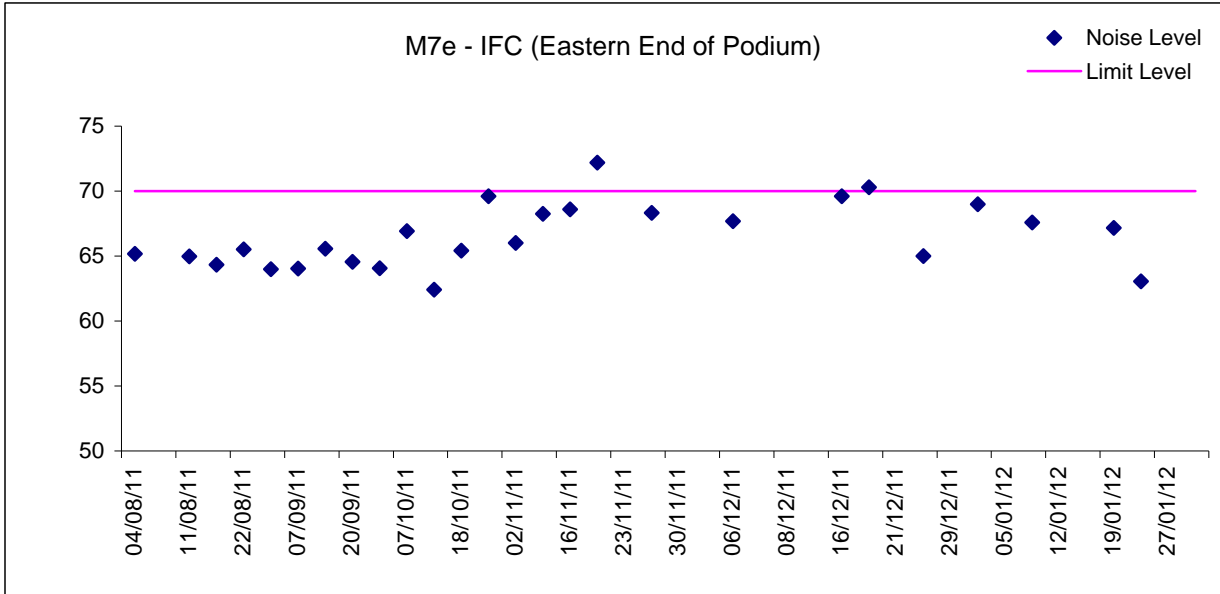


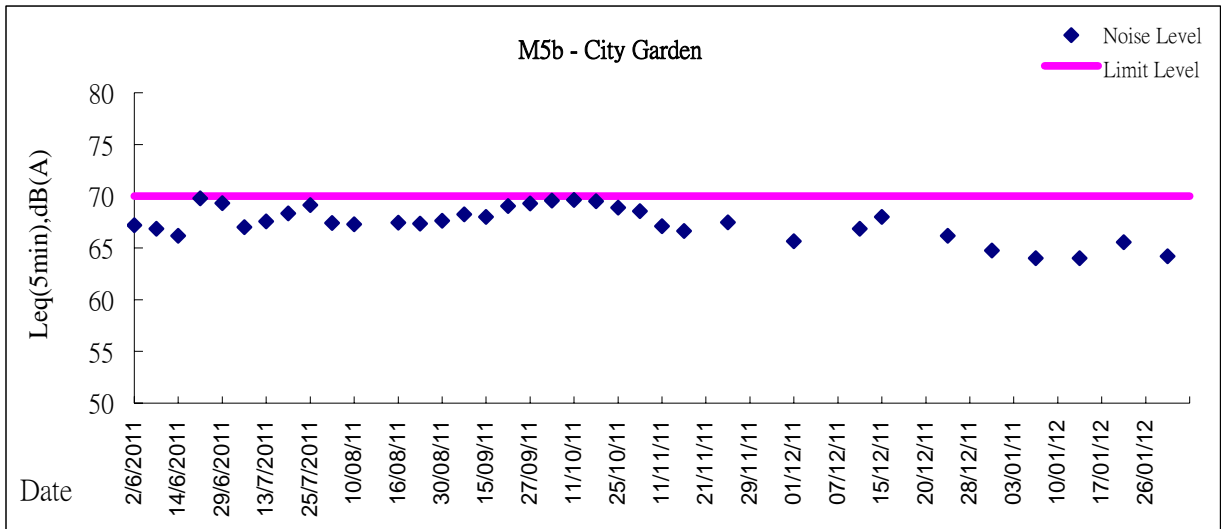
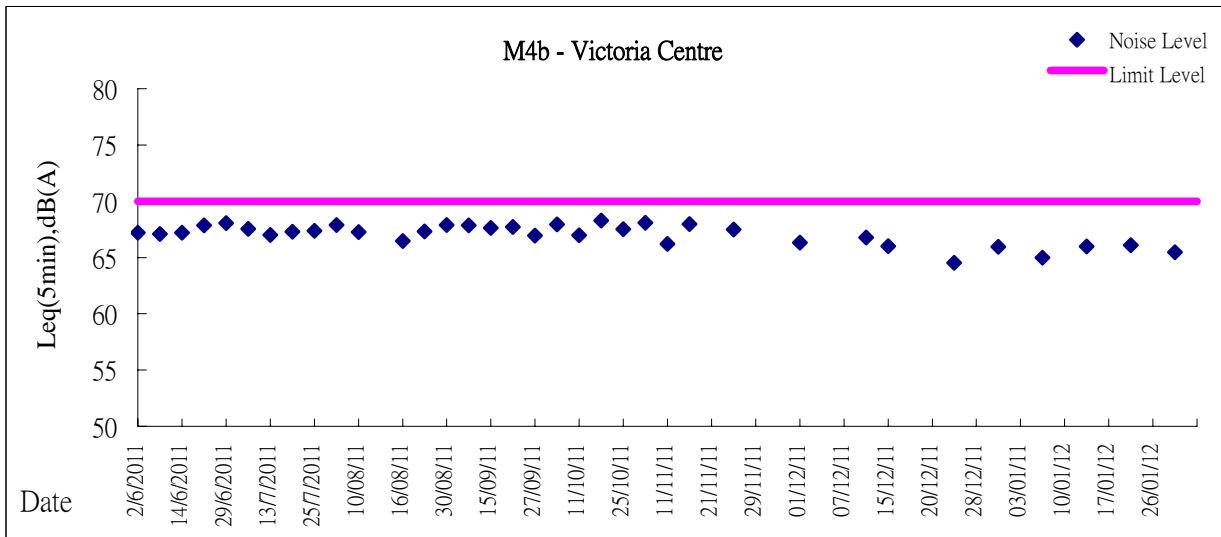
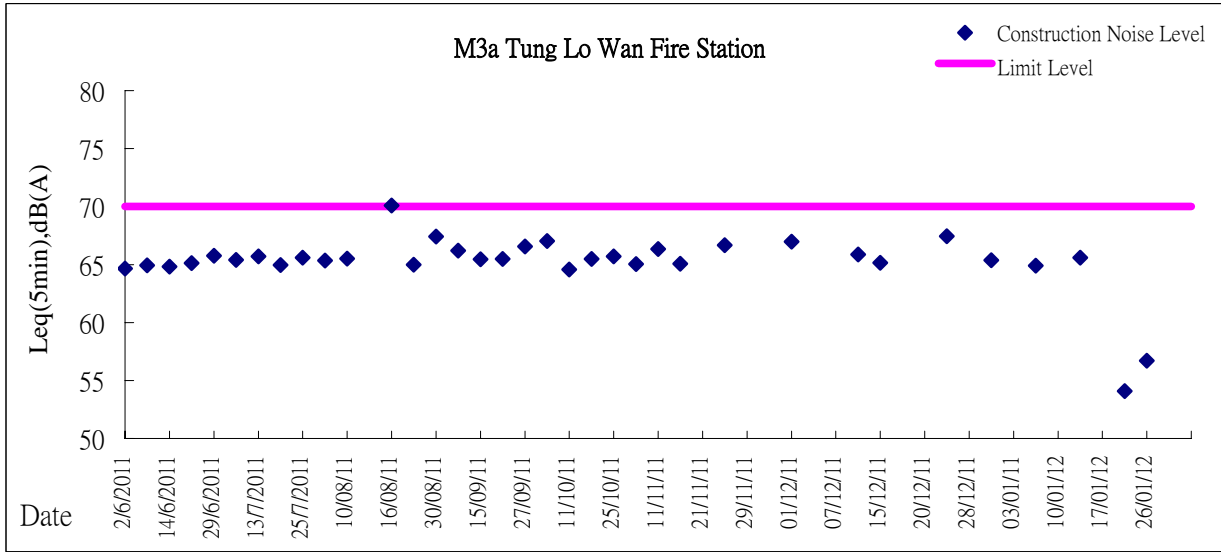


Graphic Presentation of Noise Monitoring Result

Restricted Time (1900 - 2300 hrs on normal weekdays and 0700-2300 on holiday)









Appendix 5.3

Air Quality Monitoring Results and Graphical Presentations



Location: CMA1b - Oil St Community Liaison Centre

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 176.7

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_{in}	Final, Q_{out}	Average		
29-Dec-11	8:00	Fine	001811	2.7681	2.9791	263.08	287.08	24.00	1.24	1.24	1.24	1791	118
5-Jan-12*	16:10	Fine	001885	2.7904	2.9619	308.29	332.29	24.00	1.20	1.20	1.20	1726	99
11-Jan-12*	16:10	Fine	001751	2.7647	2.9508	335.29	359.29	24.00	1.20	1.20	1.20	1726	108
16-Jan-12	8:00	Fine	001900	2.7798	2.9485	359.31	383.31	24.00	1.22	1.22	1.22	1761	96
21-Jan-12*	15:30	Fine	002050	2.8146	2.9371	359.31	383.31	24.00	1.22	1.22	1.22	1763	69
27-Jan-12*	9:50	Fine	002006	2.7412	2.9324	414.12	438.12	24.00	1.20	1.20	1.20	1732	110

* Due to lack of electricity supply, the 24 hr-TSPs were rescheduled from 4, 10, 20 and 26 Jan 2012 to 5, 11, 21 and 27 Jan 2012

Report on 1-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 320.1

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_{in}	Final, Q_{out}	Average		
30-Dec-11	8:50	Fine	001833	2.7686	2.7841	287.08	288.09	1.01	1.25	1.25	1.25	75	205
30-Dec-11	9:54	Fine	001831	2.7462	2.7596	288.09	289.09	1.00	1.20	1.15	1.17	70	190
30-Dec-11	13:00	Fine	001845	2.7614	2.7761	289.09	290.09	1.00	1.20	1.17	1.19	71	207
5-Jan-12	9:51	Fine	001756	2.7589	2.7714	305.29	306.29	1.00	1.20	1.17	1.19	71	176
5-Jan-12	13:00	Fine	001810	2.7554	2.7655	306.29	307.29	1.00	1.20	1.20	1.20	72	140
5-Jan-12	14:50	Fine	001915	2.7789	2.7871	307.29	308.29	1.00	1.20	1.20	1.20	72	114
11-Jan-12	8:58	Fine	001929	2.8030	2.8161	332.29	333.29	1.00	1.15	1.15	1.15	69	190
11-Jan-12	13:00	Fine	001932	2.7963	2.8072	333.29	334.29	1.00	1.15	1.17	1.16	70	156
11-Jan-12	14:40	Fine	001931	2.8059	2.8165	334.29	335.29	1.00	1.17	1.17	1.17	70	150
17-Jan-12	9:00	Fine	001867	2.7600	2.7826	383.31	384.31	1.00	1.25	1.25	1.25	75	302
17-Jan-12	10:55	Fine	001864	2.7486	2.7562	384.31	385.31	1.00	1.25	1.25	1.25	75	102
17-Jan-12	13:00	Fine	001941	2.8233	2.8324	385.31	386.31	1.00	1.13	1.01	1.07	64	142
21-Jan-12	10:50	Cloudy	002042	2.8000	2.8122	387.12	388.12	1.00	1.13	1.13	1.13	68	180
21-Jan-12	13:00	Cloudy	002045	2.7808	2.7892	388.12	389.12	1.00	1.10	1.10	1.10	66	127
21-Jan-12	14:03	Cloudy	002046	2.7982	2.8067	389.12	390.12	1.00	1.18	1.18	1.18	71	120
27-Jan-12	9:52	Cloudy	002008	2.7685	2.7790	438.12	439.12	1.00	1.20	1.20	1.20	72	146
27-Jan-12	11:00	Cloudy	001987	2.7673	2.7771	439.12	440.12	1.00	1.11	1.13	1.12	67	146
27-Jan-12	13:00	Cloudy	001990	2.7428	2.7538	440.12	441.12	1.00	1.20	1.23	1.21	73	151



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		
29-Dec-11	8:00	Fine	001784	2.7687	2.9676	10089.90	10113.90	24.00	1.45	1.45	1.45	2084	95
4-Jan-12	8:00	Fine	001843	2.7577	2.9473	10116.90	10140.90	24.00	1.43	1.45	1.44	2072	92
10-Jan-12	8:00	Fine	001886	2.8004	3.0497	10143.90	10167.89	23.99	1.42	1.45	1.44	2069	121
16-Jan-12	8:00	Fine	001938	2.8050	2.9471	10170.89	10194.90	24.01	1.42	1.42	1.42	2051	69
20-Jan-12	8:00	Cloudy	001951	2.7763	2.9545	10197.90	10221.90	24.00	1.51	1.51	1.51	2167	82
26-Jan-12	8:00	Cloudy	001959	2.7829	3.0434	10224.90	10248.90	24.00	1.51	1.53	1.52	2191	119

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		
30-Dec-11	8:40	Fine	001827	2.7793	2.7952	10113.90	10114.90	1.00	1.47	1.47	1.47	88	180
30-Dec-11	9:43	Fine	001832	2.7627	2.7771	10114.90	10115.90	1.00	1.47	1.47	1.47	88	163
30-Dec-11	13:00	Fine	001828	2.7566	2.7701	10115.90	10116.90	1.00	1.47	1.47	1.47	88	153
5-Jan-12	9:23	Fine	001755	2.7494	2.7623	10140.90	10141.90	1.00	1.48	1.45	1.46	88	147
5-Jan-12	13:00	Fine	001809	2.7731	2.7848	10141.90	10142.90	1.00	1.48	1.48	1.48	89	132
5-Jan-12	15:08	Fine	001914	2.7761	2.7874	10142.90	10143.90	1.00	1.48	1.48	1.48	89	128
11-Jan-12	8:53	Fine	001928	2.7923	2.8104	10167.89	10168.89	1.00	1.45	1.45	1.45	87	208
11-Jan-12	9:56	Fine	001930	2.8035	2.8144	10168.89	10169.89	1.00	1.48	1.48	1.48	89	123
11-Jan-12	15:08	Fine	001933	2.8012	2.8111	10169.89	10170.89	1.00	1.32	1.32	1.32	79	125
17-Jan-12	8:54	Fine	001940	2.8126	2.8214	10194.90	10195.90	1.00	1.50	1.50	1.50	90	98
17-Jan-12	11:00	Fine	001945	2.7894	2.7990	10195.90	10196.90	1.00	1.50	1.50	1.50	90	106
17-Jan-12	13:00	Fine	001946	2.7999	2.8079	10196.90	10197.90	1.00	1.48	1.48	1.48	89	90
21-Jan-12	9:50	Cloudy	002041	2.8002	2.8096	10221.90	10222.90	1.00	1.48	1.48	1.48	89	106
21-Jan-12	10:52	Cloudy	002043	2.7933	2.8016	10222.90	10223.90	1.00	1.48	1.48	1.48	89	94
21-Jan-12	13:00	Cloudy	001955	2.8146	2.8254	10223.90	10224.90	1.00	1.48	1.48	1.48	89	122
27-Jan-12	8:35	Cloudy	002007	2.7296	2.7394	10248.90	10249.90	1.00	1.48	1.48	1.48	89	110
27-Jan-12	9:42	Cloudy	002009	2.7367	2.7465	10249.90	10250.90	1.00	1.48	1.48	1.48	89	110
27-Jan-12	10:43	Cloudy	001986	2.7577	2.7677	10250.90	10251.90	1.00	1.51	1.51	1.51	90	111



Location: CMA3a - CWB PRE Site Office Area

Report on 24-hour TSP monitoring
 Action Level ($\mu\text{g}/\text{m}^3$) - 171
 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		
29-Dec-11	8:00	Fine	001808	2.7504	2.9664	10657.42	10681.43	24.01	1.42	1.42	1.42	2046	106
4-Jan-12	8:00	Fine	001822	2.7609	2.9760	10684.42	10708.42	24.00	1.40	1.37	1.38	1989	108
10-Jan-12	8:00	Fine	001913	2.7718	3.0509	10711.41	10735.41	24.00	1.39	1.39	1.39	2008	139
17-Jan-12*	16:00	Fine	001890	2.7975	2.9705	10684.42	10708.42	24.00	1.33	1.33	1.33	1922	90
20-Jan-12	8:00	Cloudy	001876	2.7918	3.0144	10765.42	10789.42	24.00	1.34	1.34	1.34	1925	116
26-Jan-12	8:00	Cloudy	002051	2.8188	3.1112	10792.42	10816.42	24.00	1.40	1.37	1.39	1995	147

* Due to lack of electricity supply, the 24 hr-TSPs were rescheduled from 16 Jan 2012 to 17 Jan 2012

Report on 1-hour TSP monitoring
 Action Level ($\mu\text{g}/\text{m}^3$) - 311.3
 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		
30-Dec-11	10:30	Fine	001850	2.7352	2.7554	10691.43	10682.42	0.99	1.39	1.39	1.39	83	244
30-Dec-11	13:00	Fine	001848	2.7488	2.7661	10682.42	10683.42	1.00	1.33	1.33	1.33	80	216
30-Dec-11	14:40	Fine	001846	2.7463	2.7648	10683.42	10684.42	1.00	1.33	1.33	1.33	80	231
5-Jan-12	8:33	Fine	001820	2.7766	2.7892	10708.42	10709.42	1.00	1.39	1.39	1.39	84	151
5-Jan-12	10:38	Fine	001757	2.7539	2.7688	10709.42	10710.42	1.00	1.36	1.39	1.38	83	156
5-Jan-12	13:00	Fine	001919	2.7773	2.7878	10710.42	10711.42	1.00	1.39	1.39	1.39	84	125
11-Jan-12	9:50	Fine	001870	2.7539	2.7707	10735.41	10736.41	1.00	1.36	1.36	1.36	82	205
11-Jan-12	13:00	Fine	001858	2.7468	2.7580	10736.41	10737.41	1.00	1.36	1.36	1.36	82	137
11-Jan-12	14:45	Fine	001937	2.7995	2.8135	10737.41	10738.41	1.00	1.39	1.39	1.39	84	167
17-Jan-12	10:00	Fine	001897	2.7891	2.7995	10738.41	10739.41	1.00	1.39	1.39	1.39	84	124
17-Jan-12	14:45	Fine	001927	2.7929	2.8023	10738.41	10740.41	1.00	1.39	1.36	1.38	83	114
17-Jan-12	15:51	Fine	001888	2.8048	2.8137	10740.41	10741.41	1.00	1.36	1.36	1.36	82	109
21-Jan-12	9:40	Cloudy	002040	2.8002	2.8125	10789.42	10790.42	1.00	1.34	1.34	1.34	80	153
21-Jan-12	13:00	Cloudy	001953	2.7926	2.8073	10790.42	10791.42	1.00	1.34	1.34	1.34	80	183
21-Jan-12	14:05	Cloudy	002047	2.7818	2.7944	10791.42	10792.42	1.00	1.37	1.37	1.37	82	154
27-Jan-12	13:00	Cloudy	001892	2.8161	2.8312	10816.42	10817.42	1.00	1.43	1.43	1.43	86	176
27-Jan-12	16:00	Cloudy	001719	2.7715	2.7887	10817.42	10818.42	1.00	1.34	1.34	1.34	80	214
27-Jan-12	17:00	Cloudy	001724	2.7700	2.7879	10818.42	10819.42	1.00	1.34	1.37	1.35	81	220



Location: CMA4a - SPCA

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 171.2
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		
29-Dec-11	8:00	Fine	001807	2.7473	2.9013	14308.31	14332.32	24.01	1.26	1.28	1.27	1827	84
4-Jan-12	8:00	Fine	001841	2.7342	2.8990	14335.32	14359.31	23.99	1.33	1.33	1.33	1911	86
10-Jan-12	8:00	Fine	001912	2.7903	2.9925	14362.31	14386.31	24.00	1.33	1.30	1.32	1894	107
16-Jan-12	8:00	Fine	001898	2.7943	2.9291	14389.31	14413.32	24.01	1.35	1.28	1.32	1895	71
20-Jan-12	8:00	Cloudy	001891	2.8053	3.0021	14416.32	14440.32	24.00	1.10	1.10	1.10	1590	124
26-Jan-12	8:00	Cloudy	001960	2.7755	2.9830	14443.32	14467.32	24.00	1.38	1.38	1.38	1980	105

Report on 1-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 312.5
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		
30-Dec-11	10:30	Fine	001830	2.7387	2.7506	14332.32	14333.32	1.00	1.30	1.28	1.29	77	154
30-Dec-11	13:00	Fine	001826	2.7488	2.7602	14333.32	14334.32	1.00	1.32	1.32	1.32	79	143
30-Dec-11	14:52	Fine	001844	2.7421	2.7546	14334.32	14335.32	1.00	1.32	1.32	1.32	79	157
5-Jan-12	8:46	Fine	001754	2.7596	2.7673	14359.31	14360.31	1.00	1.30	1.33	1.32	79	98
5-Jan-12	10:52	Fine	001758	2.7382	2.7455	14360.31	14361.31	1.00	1.30	1.33	1.32	79	93
5-Jan-12	13:00	Fine	001908	2.7769	2.7830	14361.31	14362.31	1.00	1.33	1.33	1.33	80	77
11-Jan-12	9:55	Fine	001906	2.7969	2.8073	14386.31	14387.31	1.00	1.30	1.30	1.30	78	133
11-Jan-12	13:00	Fine	001934	2.8082	2.8192	14387.31	14388.31	1.00	1.30	1.30	1.30	78	141
11-Jan-12	14:49	Fine	001899	2.7985	2.8125	14388.31	14389.31	1.00	1.33	1.30	1.32	79	177
17-Jan-12	10:00	Fine	001942	2.8010	2.8104	14413.32	14414.32	1.00	1.28	1.28	1.28	77	122
17-Jan-12	15:00	Fine	001887	2.7975	2.8047	14414.32	14415.32	1.00	1.28	1.28	1.28	77	94
17-Jan-12	16:12	Fine	001889	2.8104	2.8199	14415.32	14416.32	1.00	1.28	1.28	1.28	77	124
21-Jan-12	9:30	Cloudy	002039	2.7914	2.7981	14440.32	14441.32	1.00	1.33	1.33	1.33	80	84
21-Jan-12	13:00	Cloudy	001952	2.7786	2.7868	14441.32	14442.32	1.00	1.33	1.33	1.33	80	103
21-Jan-12	14:10	Cloudy	002048	2.8035	2.8114	14442.32	14443.32	1.00	1.33	1.33	1.33	80	99
27-Jan-12	13:00	Cloudy	001893	2.8011	2.8102	14467.32	14468.32	1.00	1.38	1.38	1.38	83	110
27-Jan-12	14:41	Cloudy	001720	2.7704	2.7785	14468.32	14469.32	1.00	1.38	1.38	1.38	83	98
27-Jan-12	15:51	Cloudy	001718	2.7755	2.7826	14469.32	14470.32	1.00	1.38	1.38	1.38	83	86



Location: CMA5a - Children Garden opposite to Pedestrian Plaza

Report on 24-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 181
Limit Level ($\mu\text{g}/\text{m}^3$) - 260

181
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		
29-Dec-11	8:00	Fine	001785	2.7761	2.9278	15301.90	15325.81	23.91	1.26	1.26	1.26	1803	84
4-Jan-12	8:00	Fine	001825	2.7610	2.9276	15328.81	15352.81	24.00	1.31	1.31	1.31	1885	88
10-Jan-12	8:00	Fine	001855	2.7409	2.9240	15355.81	15379.74	23.93	1.28	1.28	1.28	1843	99
16-Jan-12	8:00	Fine	001935	2.7906	2.8929	15382.74	15406.74	24.00	1.28	1.28	1.28	1850	55
20-Jan-12	8:00	Cloudy	001860	2.7398	2.8923	15409.74	15433.74	24.00	1.29	1.29	1.29	1851	82
26-Jan-12	8:00	Cloudy	001958	2.7784	2.9473	15436.74	15460.74	24.00	1.29	1.26	1.28	1837	92

Report on 1-hour TSP monitoring

Action Level ($\mu\text{g}/\text{m}^3$) - 332
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		
30-Dec-11	8:00	Fine	001835	2.7655	2.7770	15325.81	15326.81	1.00	1.26	1.26	1.26	75	152
30-Dec-11	9:08	Fine	001837	2.7601	2.7719	15326.81	15327.81	1.00	1.28	1.28	1.28	77	153
30-Dec-11	10:57	Fine	001829	2.7562	2.7704	15327.81	15328.81	1.00	1.28	1.28	1.28	77	185
5-Jan-12	8:20	Fine	001840	2.7484	2.7574	15352.81	15353.80	0.99	1.31	1.31	1.31	78	116
5-Jan-12	10:15	Fine	001853	2.7338	2.7405	15353.80	15354.80	1.00	1.24	1.21	1.22	73	91
5-Jan-12	13:00	Fine	001854	2.7532	2.7597	15354.81	15355.81	1.00	1.26	1.24	1.25	75	87
11-Jan-12	8:02	Fine	001872	2.8076	2.8152	15379.74	15380.74	1.00	1.28	1.28	1.28	77	99
11-Jan-12	9:08	Fine	001857	2.7469	2.7533	15380.74	15381.74	1.00	1.21	1.21	1.21	73	88
11-Jan-12	10:20	Fine	001905	2.7694	2.7777	15381.74	15382.74	1.00	1.28	1.28	1.28	77	108
17-Jan-12	8:02	Fine	001868	2.7801	2.7887	15406.74	15407.74	1.00	1.26	1.26	1.26	76	114
17-Jan-12	9:04	Fine	001866	2.7626	2.7760	15407.74	15408.74	1.00	1.28	1.28	1.28	77	174
17-Jan-12	10:25	Fine	001943	2.7828	2.7898	15408.74	15409.74	1.00	1.28	1.28	1.28	77	91
21-Jan-12	8:00	Cloudy	002035	2.8081	2.8206	15433.74	15434.74	1.00	1.29	1.29	1.29	77	162
21-Jan-12	9:03	Cloudy	002037	2.7730	2.7871	15434.74	15435.74	1.00	1.29	1.29	1.29	77	183
21-Jan-12	13:00	Cloudy	001954	2.8049	2.8155	15435.74	15436.74	1.00	1.17	1.17	1.17	70	152
27-Jan-12	13:25	Cloudy	002068	2.8156	2.8246	15460.74	15461.74	1.00	1.17	1.22	1.19	72	126
27-Jan-12	14:38	Cloudy	002074	2.7750	2.7824	15461.74	15462.74	1.00	1.26	1.26	1.26	76	98
27-Jan-12	15:41	Cloudy	002072	2.7888	2.7943	15462.74	15463.74	1.00	1.22	1.29	1.25	75	73



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_{sf}	Final, Q_{sf}	Average		
29-Dec-11	8:00	Fine	001803	2.7527	2.9114	7956.28	7980.28	24.00	1.24	1.24	1.24	1786	89
4-Jan-12	8:00	Fine	001819	2.7515	2.9205	7983.28	8007.28	24.00	1.27	1.27	1.27	1832	92
10-Jan-12	8:00	Fine	001911	2.7722	2.9464	8010.28	8034.28	24.00	1.27	1.27	1.27	1829	95
16-Jan-12	8:00	Fine	001939	2.8205	2.9399	8061.33	8085.35	24.02	1.22	1.22	1.22	1755	68
20-Jan-12	8:00	Cloudy	001924	2.7983	2.9381	8088.35	8112.35	24.00	1.22	1.22	1.22	1754	80
26-Jan-12	8:00	Cloudy	001956	2.7870	3.0187	8115.35	8139.35	24.00	1.22	1.22	1.22	1759	132

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_{sf}	Final, Q_{sf}	Average		
30-Dec-11	9:55	Fine	001781	2.7764	2.7913	7980.28	7981.28	1.00	1.24	1.27	1.26	75	198
30-Dec-11	11:00	Fine	001816	2.7689	2.7791	7981.28	7982.28	1.00	1.27	1.27	1.27	76	134
30-Dec-11	13:00	Fine	001818	2.7614	2.7728	7982.28	7983.28	1.00	1.27	1.27	1.27	76	150
5-Jan-12	8:47	Fine	001881	2.7964	2.8060	8007.28	8008.28	1.00	1.19	1.19	1.19	71	135
5-Jan-12	13:00	Fine	001884	2.7786	2.7862	8008.28	8009.28	1.00	1.19	1.19	1.19	71	106
5-Jan-12	14:17	Fine	001917	2.7991	2.8101	8009.28	8010.28	1.00	1.27	1.27	1.27	76	144
11-Jan-12	8:58	Fine	001908	2.8118	2.8202	8034.28	8035.28	1.00	1.22	1.22	1.22	73	115
11-Jan-12	10:46	Fine	001903	2.7833	2.7940	8035.28	8036.28	1.00	1.22	1.19	1.20	72	148
11-Jan-12	13:00	Fine	001901	2.7715	2.7807	8036.28	8037.28	1.00	1.24	1.22	1.23	74	125
17-Jan-12	8:26	Fine	001896	2.8076	2.8124	8085.35	8086.35	1.00	1.22	1.22	1.22	73	66
17-Jan-12	9:46	Fine	001921	2.8288	2.8315	8086.35	8087.35	1.00	1.00	1.00	1.00	60	45
17-Jan-12	10:51	Fine	001922	2.8053	2.8095	8087.35	8088.35	1.00	1.22	1.22	1.22	73	57
21-Jan-12	8:20	Cloudy	001879	2.7920	2.8009	8112.35	8113.35	1.00	1.22	1.22	1.22	73	122
21-Jan-12	9:25	Cloudy	001947	2.7867	2.7964	8113.35	8114.35	1.00	1.22	1.22	1.22	73	133
21-Jan-12	10:32	Cloudy	001949	2.7772	2.7871	8114.35	8115.35	1.00	1.22	1.22	1.22	73	135
27-Jan-12	13:00	Cloudy	001895	2.8018	2.8142	8139.35	8140.35	1.00	1.19	1.19	1.19	72	173
27-Jan-12	15:22	Cloudy	001995	2.7597	2.7687	8140.35	8141.35	1.00	1.19	1.19	1.19	72	126
27-Jan-12	16:26	Cloudy	001997	2.7437	2.7527	8141.35	8142.35	1.00	1.19	1.19	1.19	72	126



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		
29-Dec-11	8:00	Fine	001804	2.7542	2.9474	11108.67	11132.67	24.00	1.50	1.50	1.50	2166	89
4-Jan-12	8:00	Fine	001817	2.7483	2.9290	11135.68	11159.68	24.00	1.48	1.48	1.48	2138	85
10-Jan-12	8:00	Fine	001910	2.7943	2.9290	11162.68	11186.68	24.00	1.46	1.46	1.46	2101	64
17-Jan-12*	14:20	Fine	001926	2.7988	2.8941	11192.70	11216.71	24.01	1.19	1.19	1.19	1718	55
20-Jan-12	8:00	Cloudy	001878	2.7857	2.9096	11216.71	11240.71	24.00	1.17	1.17	1.17	1683	74
26-Jan-12	8:00	Cloudy	001957	2.7925	3.0467	11243.71	11267.71	24.00	1.46	1.46	1.46	2108	121

* Due to lack of electricity supply, the 24 hr-TSPs were rescheduled from 16 Jan 2012 to 17 Jan 2012

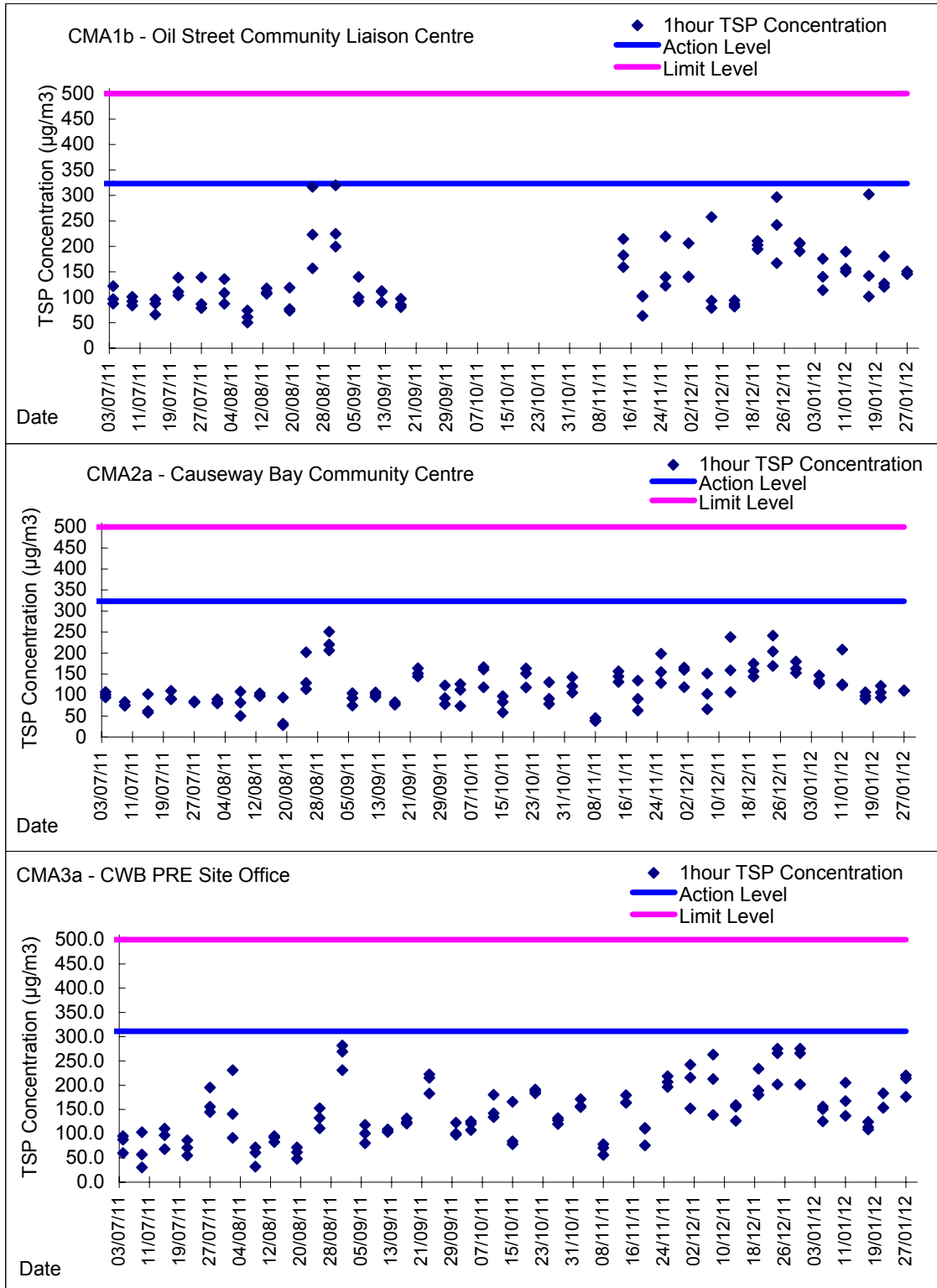
Report on 1-hour TSP monitoring

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

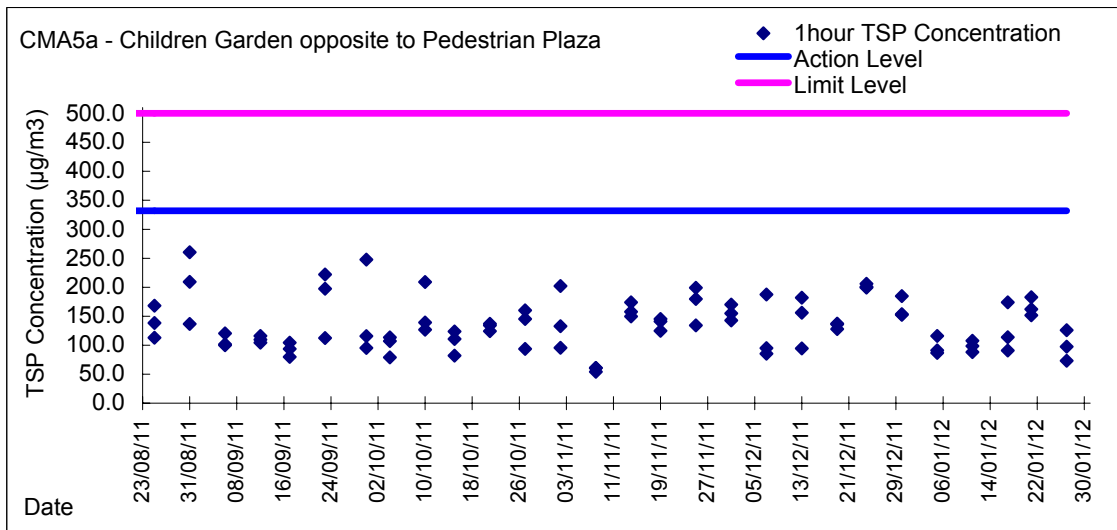
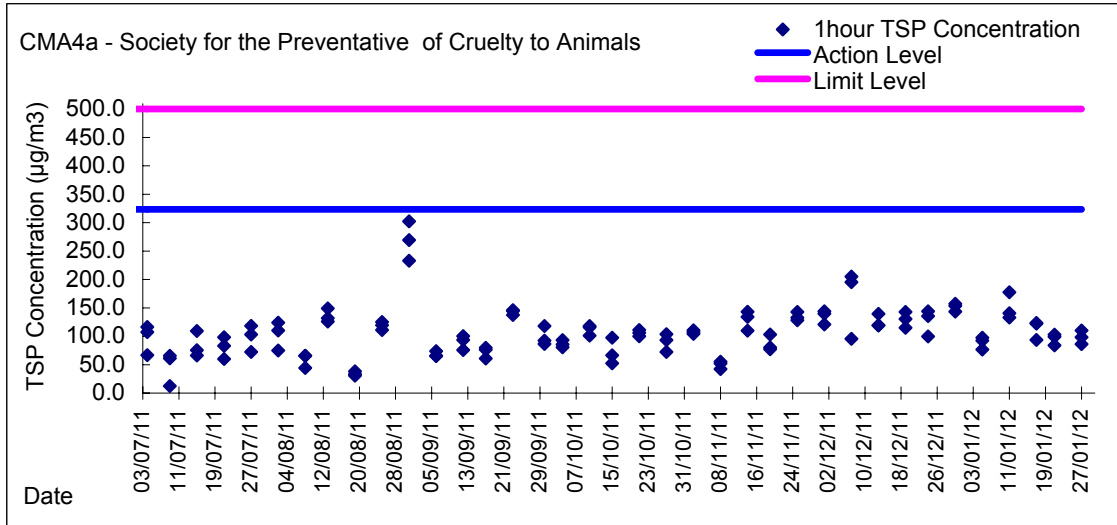
Limit Level ($\mu\text{g}/\text{m}^3$) - 500

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		
30-Dec-11	8:47	Fine	001782	2.7666	2.7849	11132.68	11133.68	1.00	1.48	1.48	1.48	89	206
30-Dec-11	9:49	Fine	001783	2.7554	2.7729	11133.68	11134.68	1.00	1.48	1.48	1.48	89	197
30-Dec-11	10:51	Fine	001824	2.744	2.7587	11134.68	11135.68	1.00	1.48	1.48	1.48	89	165
5-Jan-12	8:52	Fine	001882	2.7924	2.8000	11159.68	11160.68	1.00	1.48	1.48	1.48	89	85
5-Jan-12	13:00	Fine	001883	2.7915	2.7999	11160.68	11161.68	1.00	1.48	1.48	1.48	89	94
5-Jan-12	14:25	Fine	001916	2.7841	2.7935	11161.68	11162.68	1.00	1.48	1.48	1.48	89	106
11-Jan-12	8:30	Fine	001909	2.7960	2.8028	11186.68	11187.68	1.00	1.48	1.48	1.48	89	76
11-Jan-12	9:36	Fine	001907	2.7976	2.8039	11187.68	11188.68	1.00	1.48	1.46	1.47	88	71
11-Jan-12	10:40	Fine	001904	2.7787	2.7866	11188.68	11189.68	1.00	1.48	1.48	1.48	89	89
17-Jan-12	9:40	Fine	001902	2.7665	2.7795	11189.70	11190.70	1.00	1.34	1.29	1.31	79	165
17-Jan-12	10:58	Fine	001923	2.7949	2.7994	11190.70	11191.71	1.01	1.29	1.29	1.29	78	58
17-Jan-12	13:00	Fine	001925	2.7920	2.7976	11191.71	11192.71	1.00	1.24	1.24	1.24	74	75
21-Jan-12	8:28	Cloudy	001880	2.8043	2.8135	11240.71	11241.71	1.00	1.29	1.29	1.29	77	119
21-Jan-12	9:33	Cloudy	001948	2.7731	2.7824	11241.71	11242.71	1.00	1.29	1.29	1.29	77	120
21-Jan-12	10:40	Cloudy	001950	2.7633	2.7743	11242.71	11243.71	1.00	1.44	1.44	1.44	86	128
27-Jan-12	13:00	Cloudy	001894	2.8038	2.8183	11267.71	11268.71	1.00	1.44	1.44	1.44	86	168
27-Jan-12	15:15	Cloudy	001994	2.7424	2.7528	11268.71	11269.71	1.00	1.44	1.46	1.45	87	119
27-Jan-12	16:17	Cloudy	001996	2.7462	2.7572	11269.71	11270.71	1.00	1.49	1.49	1.49	89	123

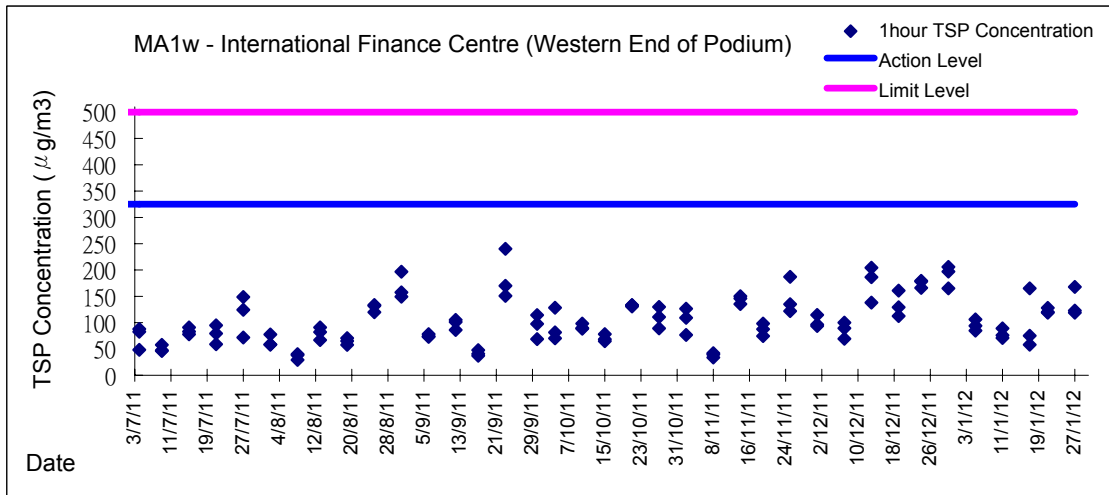
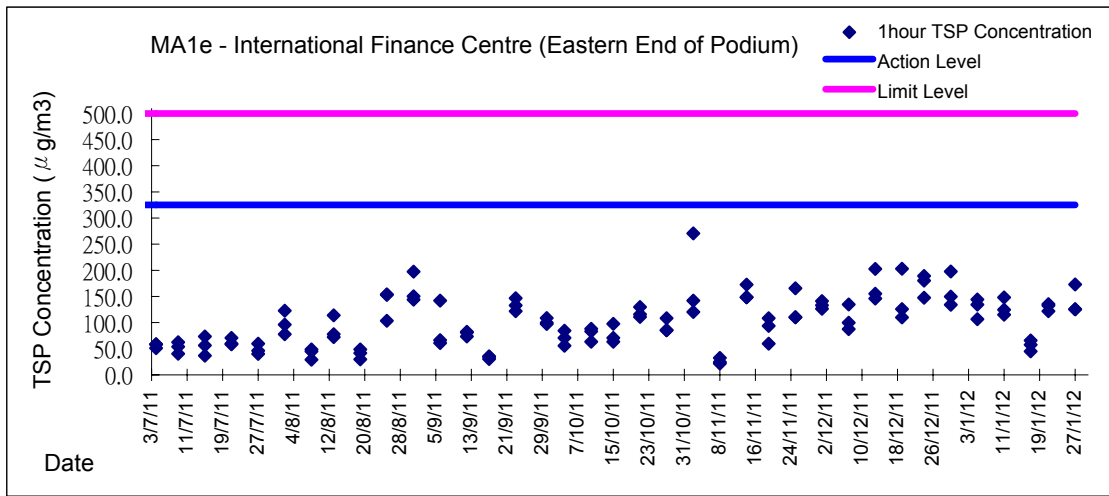
Graphic Presentation of 1 hour TSP Result



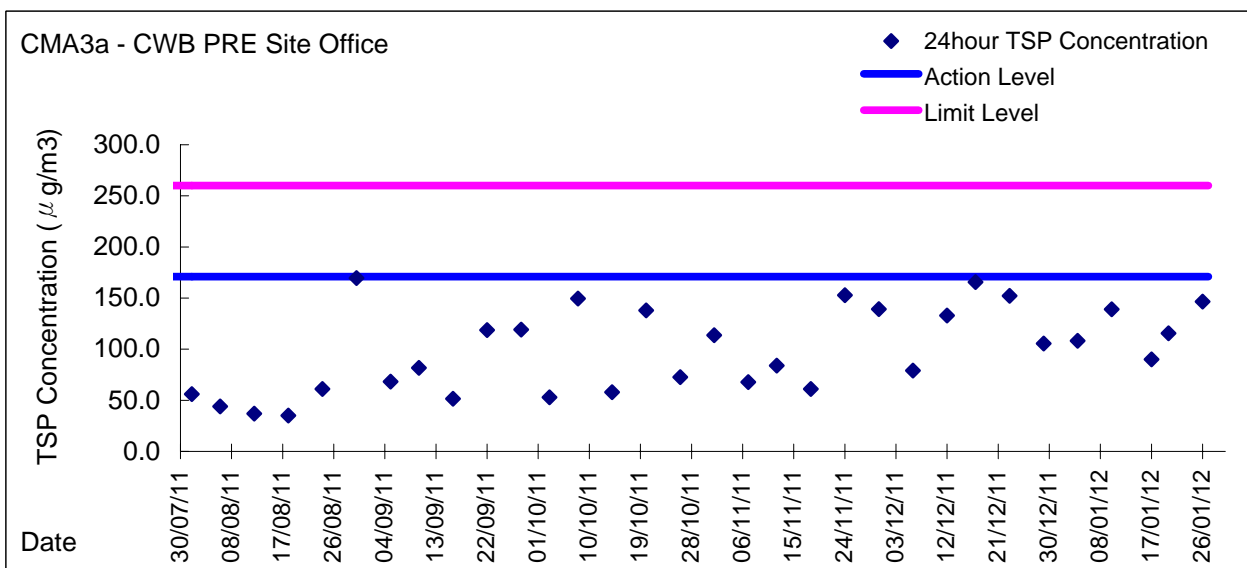
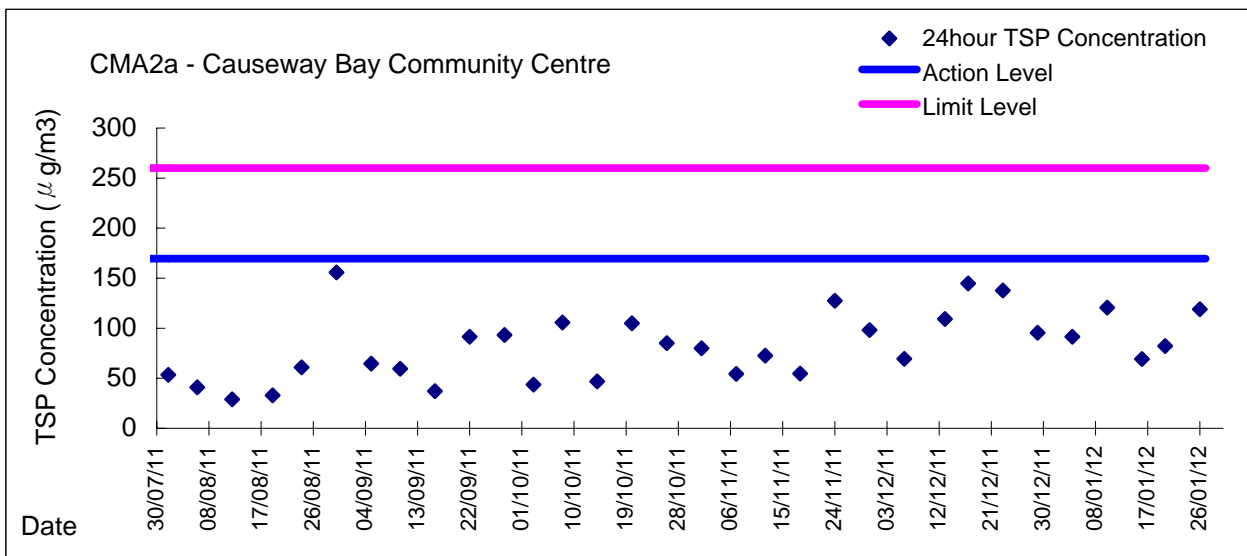
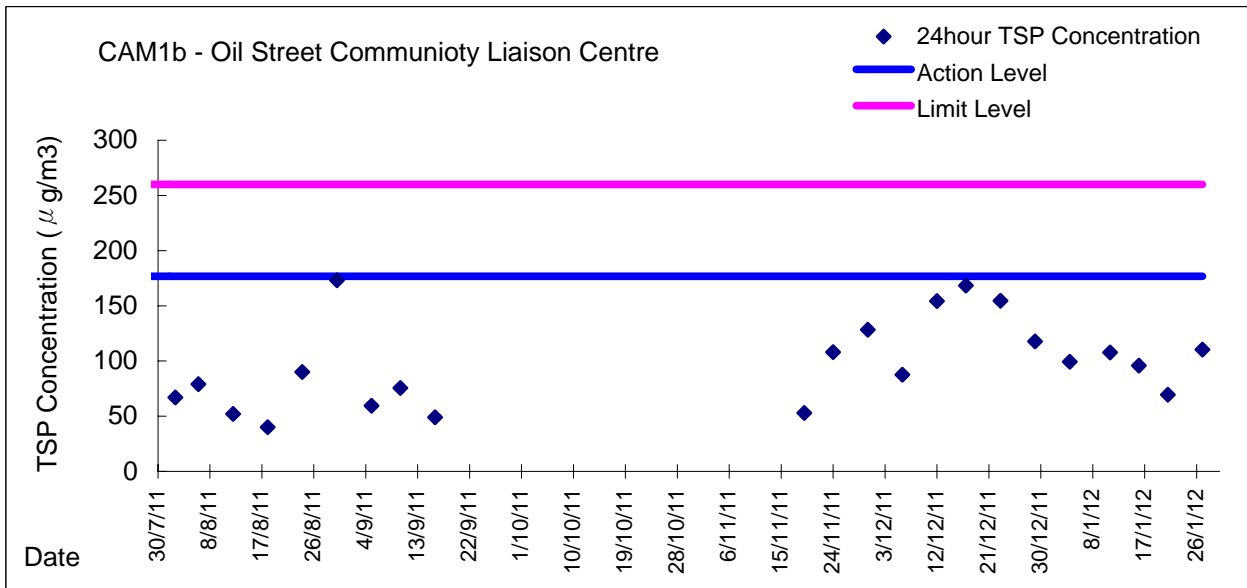
Graphic Presentation of 1 hour TSP Result



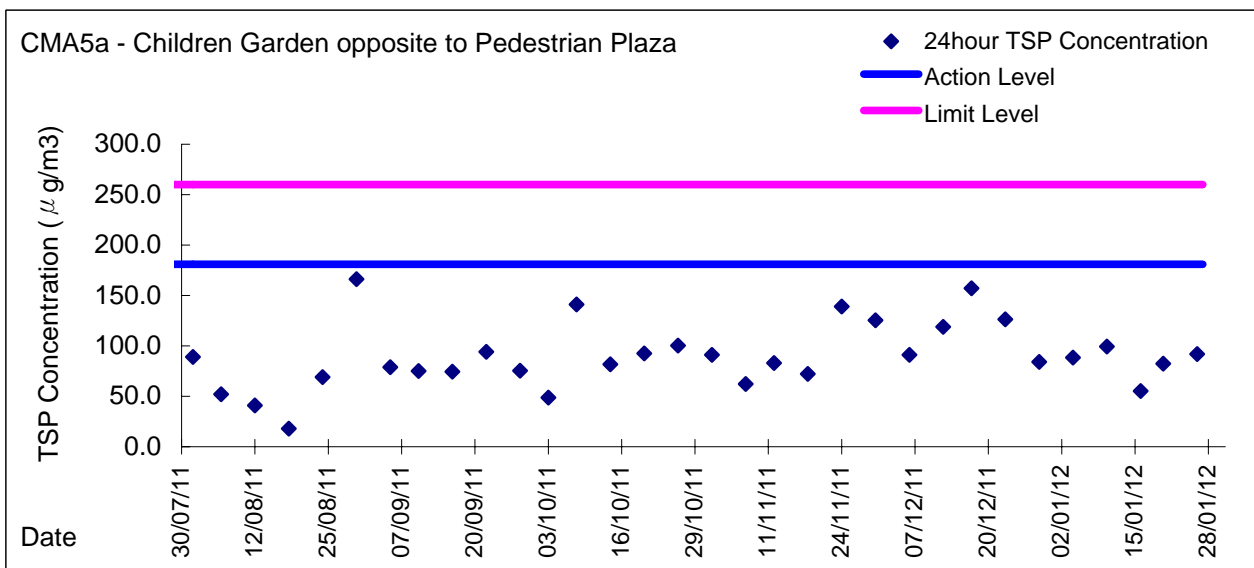
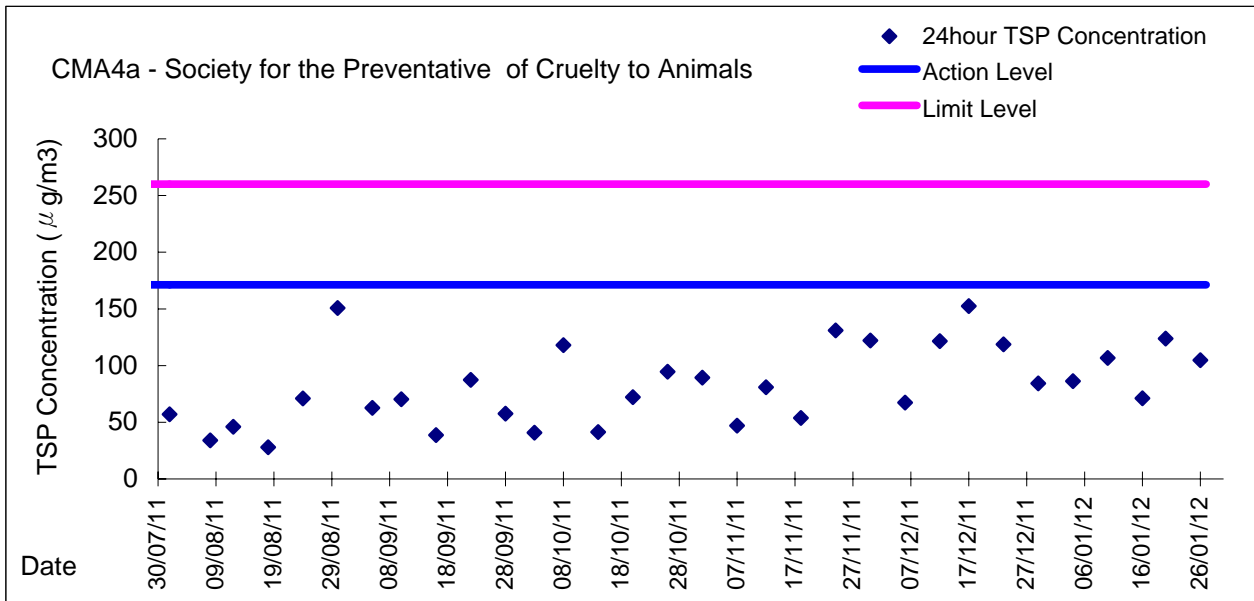
Graphic Presentation of 1 hour TSP Result



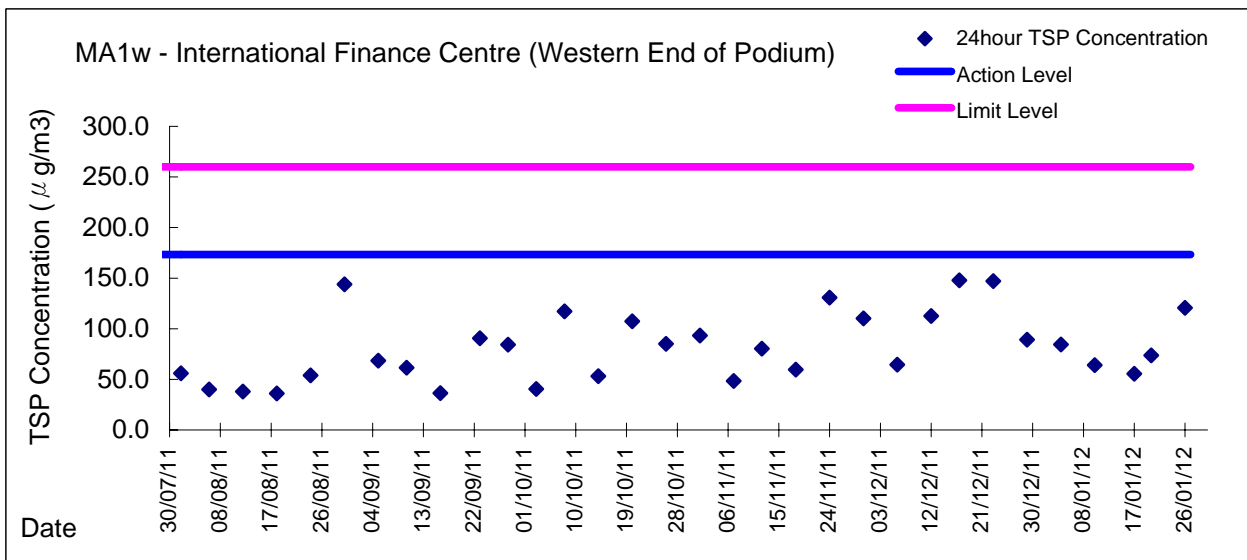
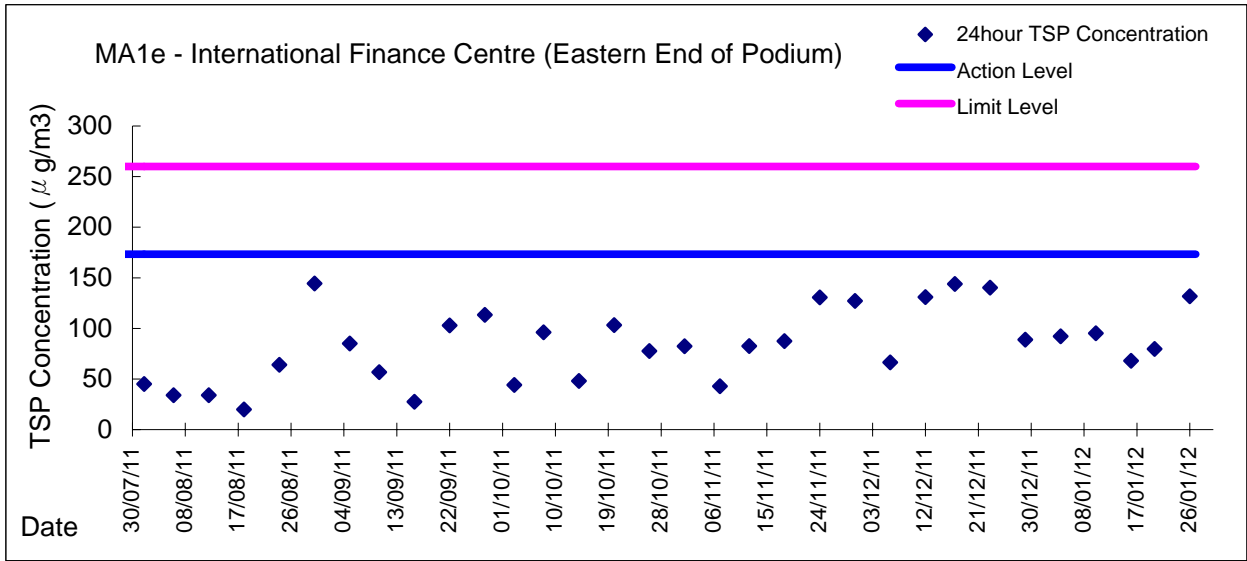
Graphic Presentation of 24 hour TSP Result



Graphic Presentation of 24 hour TSP Result



Graphic Presentation of 24 hour TSP Result





Appendix 5.4
Real Time Noise Monitoring Results and Graphical Presentations

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

Table with 10 columns representing time and noise level data points. The data is organized into 10 columns, each representing a specific time slot (e.g., 29/12/2011 0:31, 30/12/2011 1:41, etc.). Each cell contains a numerical noise level value. The values fluctuate between approximately 57.0 and 62.7 across the entire dataset.

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

25/1/2012 4:31	61.0	26/1/2012 5:41	66.0	27/1/2012 6:51	61.8
25/1/2012 4:36	60.0	26/1/2012 5:46	65.9	27/1/2012 6:56	61.5
25/1/2012 4:41	60.2	26/1/2012 5:51	66.4	27/1/2012 23:01	64.5
25/1/2012 4:46	60.0	26/1/2012 5:56	67.3	27/1/2012 23:06	64.2
25/1/2012 4:51	60.4	26/1/2012 6:01	65.6	27/1/2012 23:11	64.4
25/1/2012 4:56	59.9	26/1/2012 6:06	65.8	27/1/2012 23:16	64.0
25/1/2012 5:01	60.1	26/1/2012 6:11	65.7	27/1/2012 23:21	64.6
25/1/2012 5:06	60.3	26/1/2012 6:16	65.2	27/1/2012 23:26	64.0
25/1/2012 5:11	60.0	26/1/2012 6:21	66.0	27/1/2012 23:31	63.7
25/1/2012 5:16	60.2	26/1/2012 6:26	65.3	27/1/2012 23:36	64.3
25/1/2012 5:21	59.7	26/1/2012 6:31	65.6	27/1/2012 23:41	63.0
25/1/2012 5:26	59.5	26/1/2012 6:36	65.5	27/1/2012 23:46	63.4
25/1/2012 5:31	60.6	26/1/2012 6:41	65.6	27/1/2012 23:51	63.3
25/1/2012 5:36	60.2	26/1/2012 6:46	67.4	27/1/2012 23:56	63.1
25/1/2012 5:41	59.7	26/1/2012 6:51	66.4		
25/1/2012 5:46	62.0	26/1/2012 6:56	65.6		
25/1/2012 5:51	60.0	26/1/2012 23:01	62.3		
25/1/2012 5:56	60.9	26/1/2012 23:06	61.7		
25/1/2012 6:01	60.8	26/1/2012 23:11	62.3		
25/1/2012 6:06	61.1	26/1/2012 23:16	62.1		
25/1/2012 6:11	60.7	26/1/2012 23:21	62.0		
25/1/2012 6:16	60.5	26/1/2012 23:26	61.9		
25/1/2012 6:21	61.9	26/1/2012 23:31	61.8		
25/1/2012 6:26	59.6	26/1/2012 23:36	61.4		
25/1/2012 6:31	61.6	26/1/2012 23:41	62.0		
25/1/2012 6:36	61.6	26/1/2012 23:46	61.0		
25/1/2012 6:41	60.9	26/1/2012 23:51	61.9		
25/1/2012 6:46	59.6	26/1/2012 23:56	62.1		
25/1/2012 6:51	62.6	27/1/2012 0:01	61.1		
25/1/2012 6:56	63.7	27/1/2012 0:06	61.8		
25/1/2012 23:01	63.8	27/1/2012 0:11	61.0		
25/1/2012 23:06	64.9	27/1/2012 0:16	60.7		
25/1/2012 23:11	64.5	27/1/2012 0:21	61.0		
25/1/2012 23:16	64.5	27/1/2012 0:26	61.3		
25/1/2012 23:21	64.5	27/1/2012 0:31	60.6		
25/1/2012 23:26	63.8	27/1/2012 0:36	60.5		
25/1/2012 23:31	63.6	27/1/2012 0:41	60.5		
25/1/2012 23:36	64.1	27/1/2012 0:46	60.2		
25/1/2012 23:41	63.7	27/1/2012 0:51	59.7		
25/1/2012 23:46	64.0	27/1/2012 0:56	59.8		
25/1/2012 23:51	64.0	27/1/2012 1:01	60.4		
25/1/2012 23:56	64.0	27/1/2012 1:06	59.6		
26/1/2012 0:01	64.3	27/1/2012 1:11	59.6		
26/1/2012 0:06	64.7	27/1/2012 1:16	58.9		
26/1/2012 0:11	64.1	27/1/2012 1:21	59.3		
26/1/2012 0:16	64.6	27/1/2012 1:26	58.7		
26/1/2012 0:21	64.0	27/1/2012 1:31	59.2		
26/1/2012 0:26	64.0	27/1/2012 1:36	59.7		
26/1/2012 0:31	64.7	27/1/2012 1:41	59.0		
26/1/2012 0:36	64.0	27/1/2012 1:46	58.8		
26/1/2012 0:41	65.4	27/1/2012 1:51	59.0		
26/1/2012 0:46	64.4	27/1/2012 1:56	58.5		
26/1/2012 0:51	63.8	27/1/2012 2:01	58.8		
26/1/2012 0:56	65.6	27/1/2012 2:06	59.3		
26/1/2012 1:01	65.6	27/1/2012 2:11	59.0		
26/1/2012 1:06	65.3	27/1/2012 2:16	57.5		
26/1/2012 1:11	65.4	27/1/2012 2:21	59.2		
26/1/2012 1:16	65.6	27/1/2012 2:26	58.8		
26/1/2012 1:21	66.0	27/1/2012 2:31	58.1		
26/1/2012 1:26	65.1	27/1/2012 2:36	59.0		
26/1/2012 1:31	65.2	27/1/2012 2:41	58.2		
26/1/2012 1:36	65.7	27/1/2012 2:46	57.9		
26/1/2012 1:41	65.1	27/1/2012 2:51	57.6		
26/1/2012 1:46	65.7	27/1/2012 2:56	57.4		
26/1/2012 1:51	65.7	27/1/2012 3:01	57.8		
26/1/2012 1:56	65.3	27/1/2012 3:06	59.6		
26/1/2012 2:01	65.5	27/1/2012 3:11	57.7		
26/1/2012 2:06	65.1	27/1/2012 3:16	56.9		
26/1/2012 2:11	65.2	27/1/2012 3:21	57.0		
26/1/2012 2:16	65.0	27/1/2012 3:26	56.9		
26/1/2012 2:21	65.3	27/1/2012 3:31	58.2		
26/1/2012 2:26	64.5	27/1/2012 3:36	57.6		
26/1/2012 2:31	65.1	27/1/2012 3:41	58.0		
26/1/2012 2:36	65.0	27/1/2012 3:46	57.8		
26/1/2012 2:41	64.8	27/1/2012 3:51	57.7		
26/1/2012 2:46	64.4	27/1/2012 3:56	56.8		
26/1/2012 2:51	64.9	27/1/2012 4:01	56.6		
26/1/2012 2:56	64.3	27/1/2012 4:06	58.2		
26/1/2012 3:01	65.3	27/1/2012 4:11	56.7		
26/1/2012 3:06	65.1	27/1/2012 4:16	57.4		
26/1/2012 3:11	64.9	27/1/2012 4:21	56.9		
26/1/2012 3:16	64.8	27/1/2012 4:26	57.5		
26/1/2012 3:21	64.4	27/1/2012 4:31	57.1		
26/1/2012 3:26	65.0	27/1/2012 4:36	57.0		
26/1/2012 3:31	65.0	27/1/2012 4:41	57.2		
26/1/2012 3:36	64.5	27/1/2012 4:46	57.6		
26/1/2012 3:41	64.3	27/1/2012 4:51	57.1		
26/1/2012 3:46	64.6	27/1/2012 4:56	58.3		
26/1/2012 3:51	65.7	27/1/2012 5:01	57.8		
26/1/2012 3:56	64.5	27/1/2012 5:06	57.8		
26/1/2012 4:01	64.8	27/1/2012 5:11	57.0		
26/1/2012 4:06	64.7	27/1/2012 5:16	58.5		
26/1/2012 4:11	64.1	27/1/2012 5:21	56.7		
26/1/2012 4:16	64.5	27/1/2012 5:26	57.4		
26/1/2012 4:21	64.7	27/1/2012 5:31	58.7		
26/1/2012 4:26	63.9	27/1/2012 5:36	58.0		
26/1/2012 4:31	64.1	27/1/2012 5:41	59.8		
26/1/2012 4:36	64.6	27/1/2012 5:46	58.6		
26/1/2012 4:41	64.6	27/1/2012 5:51	59.3		
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26/1/2012 5:06	63.9	27/1/2012 6:16	59.9		
26/1/2012 5:11	64.0	27/1/2012 6:21	59.7		
26/1/2012 5:16	64.0	27/1/2012 6:26	60.3		
26/1/2012 5:21	64.7	27/1/2012 6:31	59.9		
26/1/2012 5:26	63.8	27/1/2012 6:36	60.9		
26/1/2012 5:31	64.7	27/1/2012 6:41	61.5		
26/1/2012 5:36	64.6	27/1/2012 6:46	61.4		

*Exceedance recorded during monitoring compliance check with NCO

Real-time Noise Data RTN2 (Oil Street Community Liaison Centre)

Table with 12 columns representing time slots and noise levels. The columns are labeled with dates and times such as 6/1/2012 22:41, 6/1/2012 22:46, etc., up to 8/1/2012 11:46. Each entry consists of a date-time string followed by a numerical value.

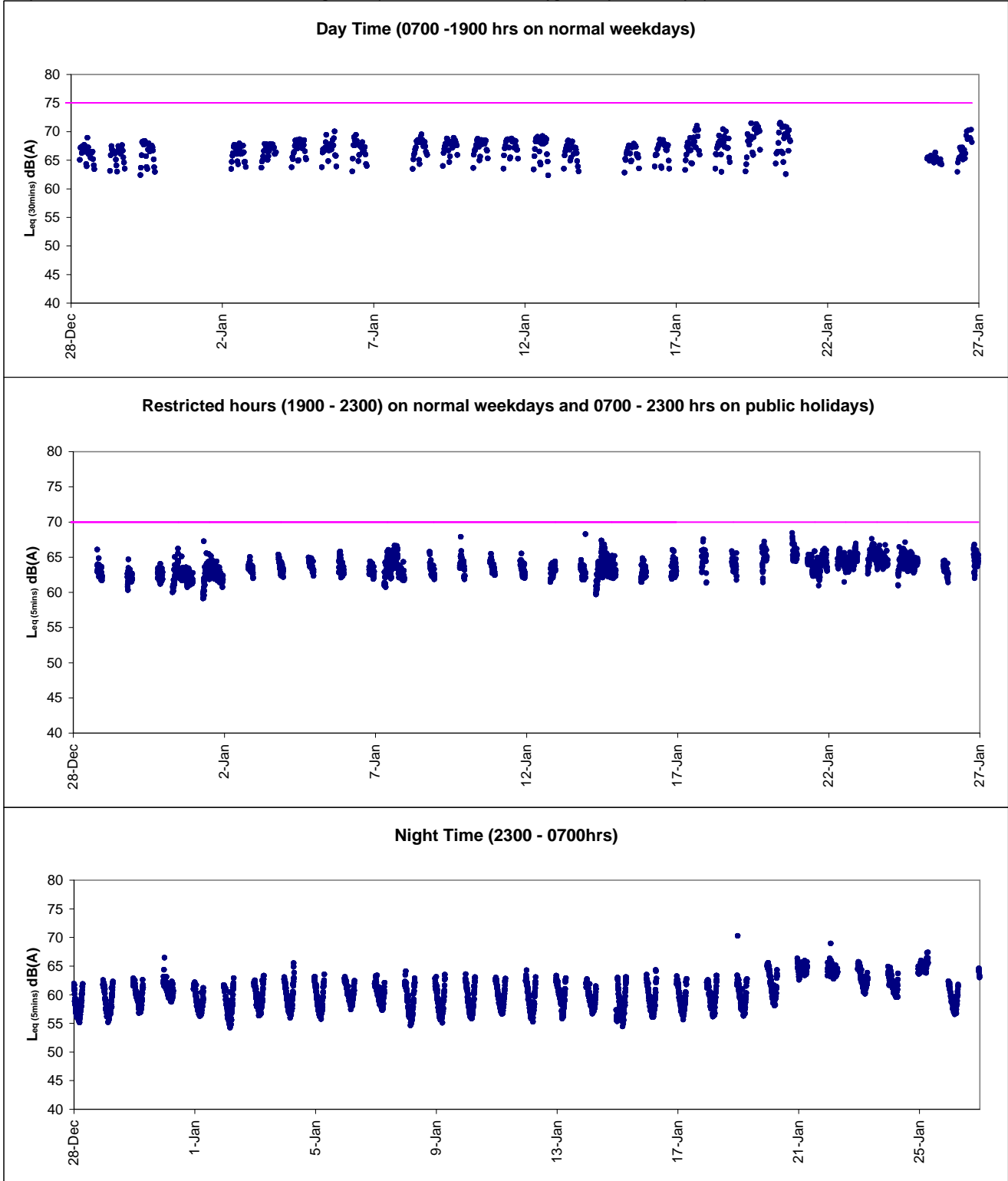
Real-time Noise Data RTN2 (Oil Street Community Liaison Centre)

25/1/2012 4:31	61.4	26/1/2012 5:41	58.3	27/1/2012 6:51	61.5
25/1/2012 4:36	61.0	26/1/2012 5:46	58.9	27/1/2012 6:56	61.7
25/1/2012 4:41	60.9	26/1/2012 5:51	59.1	27/1/2012 23:01	63.6
25/1/2012 4:46	60.7	26/1/2012 5:56	60.7	27/1/2012 23:06	63.8
25/1/2012 4:51	61.4	26/1/2012 6:01	60.4	27/1/2012 23:11	63.2
25/1/2012 4:56	61.1	26/1/2012 6:06	60.7	27/1/2012 23:16	63.5
25/1/2012 5:01	60.6	26/1/2012 6:11	61.0	27/1/2012 23:21	63.7
25/1/2012 5:06	60.4	26/1/2012 6:16	59.2	27/1/2012 23:26	62.9
25/1/2012 5:11	60.9	26/1/2012 6:21	58.9	27/1/2012 23:31	63.3
25/1/2012 5:16	60.9	26/1/2012 6:26	58.2	27/1/2012 23:36	63.4
25/1/2012 5:21	60.8	26/1/2012 6:31	60.4	27/1/2012 23:41	63.1
25/1/2012 5:26	60.4	26/1/2012 6:36	58.1	27/1/2012 23:46	62.5
25/1/2012 5:31	61.0	26/1/2012 6:41	56.9	27/1/2012 23:51	62.9
25/1/2012 5:36	60.6	26/1/2012 6:46	58.6	27/1/2012 23:56	63.0
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25/1/2012 6:06	59.9	26/1/2012 23:16	62.2		
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25/1/2012 6:16	59.5	26/1/2012 23:26	61.4		
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25/1/2012 6:26	59.5	26/1/2012 23:36	61.6		
25/1/2012 6:31	59.9	26/1/2012 23:41	61.8		
25/1/2012 6:36	59.3	26/1/2012 23:46	62.0		
25/1/2012 6:41	59.8	26/1/2012 23:51	61.8		
25/1/2012 6:46	60.0	26/1/2012 23:56	61.6		
25/1/2012 6:51	59.6	27/1/2012 0:01	62.0		
25/1/2012 6:56	59.4	27/1/2012 0:06	61.7		
25/1/2012 23:01	62.8	27/1/2012 0:11	61.1		
25/1/2012 23:06	63.8	27/1/2012 0:16	61.5		
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25/1/2012 23:31	63.4	27/1/2012 0:41	61.2		
25/1/2012 23:36	62.9	27/1/2012 0:46	60.6		
25/1/2012 23:41	63.3	27/1/2012 0:51	60.3		
25/1/2012 23:46	64.0	27/1/2012 0:56	60.9		
25/1/2012 23:51	63.0	27/1/2012 1:01	60.1		
25/1/2012 23:56	63.2	27/1/2012 1:06	60.1		
26/1/2012 0:01	63.3	27/1/2012 1:11	59.8		
26/1/2012 0:06	63.0	27/1/2012 1:16	59.9		
26/1/2012 0:11	63.8	27/1/2012 1:21	59.4		
26/1/2012 0:16	63.2	27/1/2012 1:26	59.7		
26/1/2012 0:21	63.3	27/1/2012 1:31	59.9		
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26/1/2012 0:31	63.3	27/1/2012 1:41	59.1		
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26/1/2012 0:51	63.4	27/1/2012 2:01	59.4		
26/1/2012 0:56	63.2	27/1/2012 2:06	58.9		
26/1/2012 1:01	63.3	27/1/2012 2:11	58.4		
26/1/2012 1:06	63.6	27/1/2012 2:16	59.3		
26/1/2012 1:11	63.0	27/1/2012 2:21	59.0		
26/1/2012 1:16	63.6	27/1/2012 2:26	58.6		
26/1/2012 1:21	63.7	27/1/2012 2:31	58.7		
26/1/2012 1:26	62.9	27/1/2012 2:36	59.2		
26/1/2012 1:31	63.2	27/1/2012 2:41	57.9		
26/1/2012 1:36	64.0	27/1/2012 2:46	58.0		
26/1/2012 1:41	63.7	27/1/2012 2:51	57.2		
26/1/2012 1:46	63.2	27/1/2012 2:56	57.8		
26/1/2012 1:51	62.6	27/1/2012 3:01	59.6		
26/1/2012 1:56	63.0	27/1/2012 3:06	57.8		
26/1/2012 2:01	63.2	27/1/2012 3:11	57.4		
26/1/2012 2:06	62.8	27/1/2012 3:16	57.5		
26/1/2012 2:11	63.4	27/1/2012 3:21	57.3		
26/1/2012 2:16	63.7	27/1/2012 3:26	58.5		
26/1/2012 2:21	62.5	27/1/2012 3:31	57.6		
26/1/2012 2:26	63.1	27/1/2012 3:36	58.0		
26/1/2012 2:31	63.0	27/1/2012 3:41	58.6		
26/1/2012 2:36	63.0	27/1/2012 3:46	58.3		
26/1/2012 2:41	62.8	27/1/2012 3:51	57.4		
26/1/2012 2:46	63.0	27/1/2012 3:56	57.1		
26/1/2012 2:51	62.7	27/1/2012 4:01	57.8		
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26/1/2012 3:01	62.3	27/1/2012 4:11	57.4		
26/1/2012 3:06	61.7	27/1/2012 4:16	57.8		
26/1/2012 3:11	62.2	27/1/2012 4:21	57.5		
26/1/2012 3:16	61.8	27/1/2012 4:26	57.9		
26/1/2012 3:21	62.3	27/1/2012 4:31	57.4		
26/1/2012 3:26	62.0	27/1/2012 4:36	58.0		
26/1/2012 3:31	61.7	27/1/2012 4:41	57.6		
26/1/2012 3:36	61.9	27/1/2012 4:46	57.1		
26/1/2012 3:41	61.1	27/1/2012 4:51	58.2		
26/1/2012 3:46	60.5	27/1/2012 4:56	59.4		
26/1/2012 3:51	61.7	27/1/2012 5:01	57.7		
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26/1/2012 4:46	60.2	27/1/2012 5:56	59.8		
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26/1/2012 5:01	60.7	27/1/2012 6:11	60.0		
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26/1/2012 5:31	57.8	27/1/2012 6:41	61.9		
26/1/2012 5:36	58.5	27/1/2012 6:46	62.6		

*Exceedance recorded during monitoring compliance check with NCO.

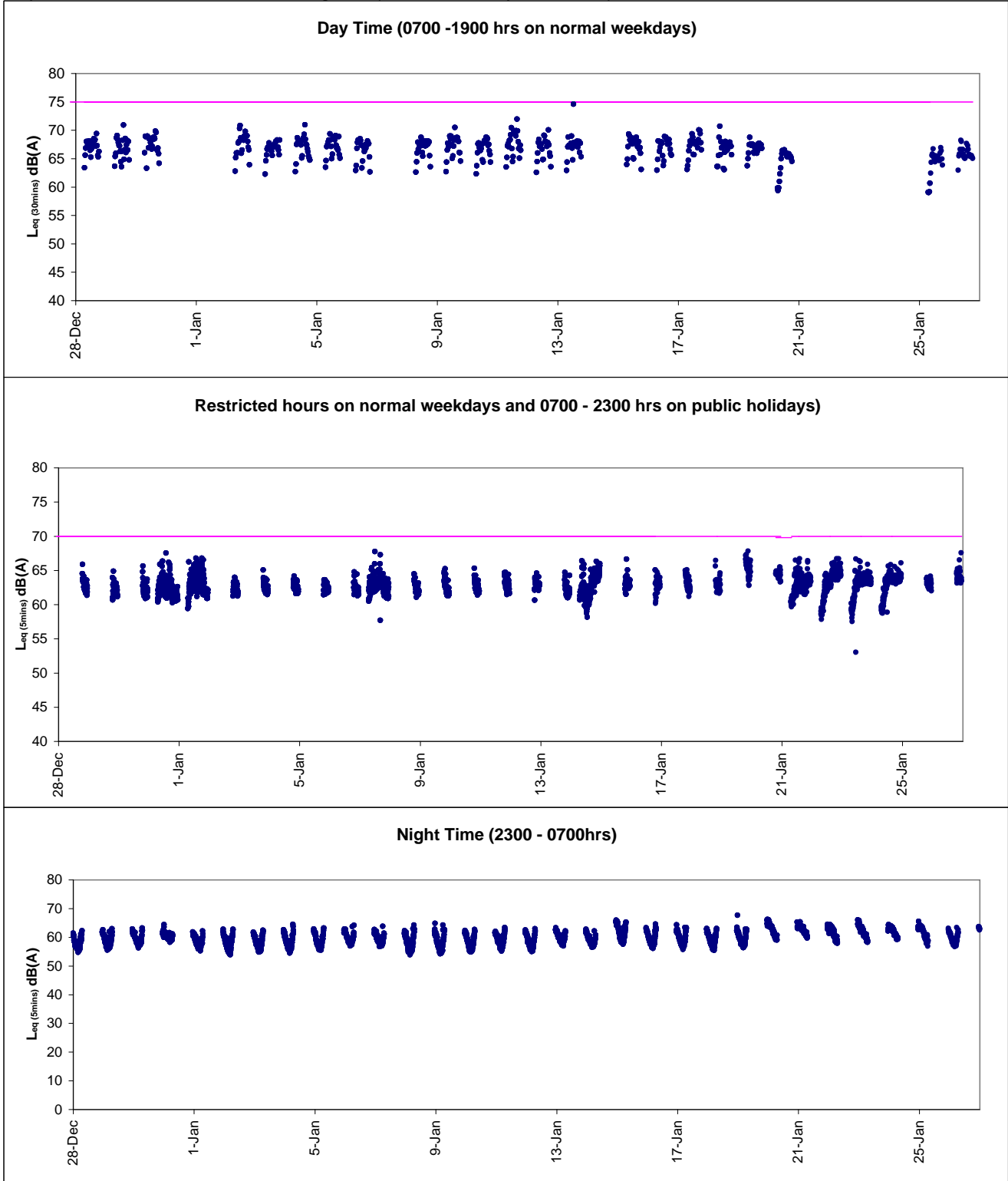


Graphic Presentation of Real Time Noise Monitoring Result (Food and Environmental Hygiene Department Depot)





Graphic Presentation of Real Time Noise Monitoring Result (Oil Street Community Liaison Centre)





Appendix 6.1

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 6.2

Summary for Notification of Exceedance



Ref. No.	Date	Time	Location	Construction Noise Level	Unit	Action Level	Limit Level	Follow-up action
X_10N084	10-Jan-12	20:35	M1a - Harbour Road Sports Centre	71	Leq(5-min)	when one documented complaint was received.	70	<p>Possible reason: Noisy traffic noise from Tonnochy Road and noise from training activities at swimming pool were contributed in the noise monitoring.</p> <p>Action taken / to be taken: Reviewed the trend of noise measurement results and analysis of contractor's working procedure. Review the baseline noise level at this monitoring station.</p> <p>Remarks / Other Obs: No construction work for Contract no. HK/2009/02 was conducted during the measurement; It is concluded that the exceedance was not due to the Project.</p>



Appendix 9.1

Complaint Log

**Environmental Complaints Log**

Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
110723a	23/07/2011	Ms. Law at Victoria Centre by ICC no. 1-303887687	North Point	She concerned that Highways Department published a notice in their Management Office about construction works will be conducted from 0700 hours to 2300 hours during July to December 2011 including Saturday, Sunday and public holiday.	1) It was referred by AECOM to ET on 28 July 2011 2) RSS confirmed that the notice was prepared by Victoria Centre 'a Management office to their resident and the advice was only given on the extension construction works (for Contract HY/2009/15) to 7am-9pm Monday to Saturday except Public Holidays and Sundays. 3) As a mitigation measure to minimize the noise nuisance in the vicinity of the residents, rock breaking activities will be started at 8am and is expected to be completed by mid-August 2011. 4) No noise exceedance was recorded at construction noise monitoring station at Victoria Centre on 19 and 25 July 2011 during daytime and evening time period while breaking and excavation works were observed during monitoring. 5) In conclusion, it was related to the construction works under Contract HY/2009/15 and mitigation measure was provided. The complainant was satisfied with the arrangement and no further complaint was received after proposed measures.	Closed
110723b	23/07/2011	Ms. Yau at Block 2, Victoria Centre by ICC no. 1-304013959	North Point	Reclamation work was conducted at Causeway Bay Typhoon Shelter at 7am on 23 July 2011. She complained that the works shall be started later to minimize the noise nuisance to the vicinity of the residents in early morning	1) It was referred by AECOM to ET on 8 August 2011 2) RSS confirmed to start the rock breaking activities for Contract HY/2009/15 at 8am as a mitigation measure to minimize the noise nuisance in the vicinity of the residents. 3) With reference to the construction noise monitoring at Victoria Centre, no exceedance was recorded on 19 and 25 July 2011 during daytime while breaking and excavation works were undertaken during monitoring 4) In conclusion, it was related to the construction works under Contract HY/2009/15 and mitigation measure was provided. The complainant was satisfied with the arrangement and no further complaint was received after proposed measures.	Closed
110727a	27/07/2011	Mr. Law from Victoria Centre Management Office by ICC no. 1-304616162	North Point	It was complained by Mr. Law from Victoria Centre Management Office on 27 July 2011 regarding construction noise generated by the construction operations of	1) It was referred by AECOM to ET on 28 July 2011 2) RSS confirmed to start the rock breaking activities for Contract HY/2009/15 at 8am as a mitigation measure to minimize the noise nuisance in the vicinity of the residents. 3) No noise exceedance was recorded at construction noise monitoring station at Victoria Centre on 25 July and	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
				Central-Wanchai Bypass at noon rather than in morning at 7am.	4 August 2011 during daytime and evening time period while breaking and excavation works were observed during monitoring. 5) In conclusion, it was related to the construction works under Contract HY/2009/15 and mitigation measure was provided. No further complaint from complainant was received after proposed the mitigation measure.	
110727b	27/07/2011	Ms. Chiu by ICC no.1-304615409	North Point	Noise nuisance from the excavation works for the Highways Department adjacent to the Victoria Centre was conducted from 7am	1) It was referred by AECOM to ET on 28 July 2011 2) With reference to the construction noise monitoring at Vitoria Centre, no exceedance was recorded on 25 July and 4 and 10 August 2011 during daytime while breaking and excavation works were undertaken during monitoring. 3) As a mitigation measure to minimize the noise nuisance in the vicinity of the residents, rock breaking activities will be started at 8am.	Closed
	07/08/2011				4) However, complainant did not satisfy with the response on the noise nuisance from the rock-breaking during morning in front of Victoria Centre and then further complaint via 1823 on 7 August 2011. 5) Highways contacted the complainant on 15 August 2011 that the noisy rock breaking operation had been completed. <i>Remarks: There will be counted as two complaints in this complaint log.</i>	
110730	30/07/2011	Mr. Tsui by ICC no. 1-305074350	Central	Construction noise generated by operations of Central-Interchange which is near the spa room at Four-Season Hotel. Also, the complaint enquired the commencement time of the construction on Saturday.	1) It was referred by AECOM to ET on 1 August 2011. 2) RSS confirmed that noisy plants from 2 vibratory hammers have been conducted in alternating manner for piling and drilling works for diaphragm wall construction. 3) With reference to the construction noise monitoring at IFC Western End of Podium, no exceedance was recorded on 4 August 2011 during monitoring while sheet piling works were undertaken during monitoring. 4) In order to reduce the noise impact to nearby noise sensitive receivers, Contractor has been implemented the following noise mitigation measures: - Erection of acoustic lining at the hoarding next to Four Seasons Hotel; - Temporary noise barrier with extended acoustic lining; - Reduced in plant such that only have one vibration hammer operating at the west side near Four	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					Seasons Hotel instead of 2 5) In conclusion, it was related to the construction works under Contract HY/2009/18 and mitigation measure was provided. The complainant was satisfied with the arrangement and no further complaint was received after proposed measures.	
110810	10/08/2011	Mr. Yip by ICC no. 1 – 306740207	North Point	Muddy water was discharged from work site to the seafront near Oil Street during heavy rain. The environmental protection measures were not good enough and are needed to rectify.	1) It was referred by AECOM to ET on 17 August 2011. 2) Confirmed with RE, Muddy water was caused by a heap of earth being washed to the sea by heavy rain. The heap of earth was referred as a small stockpile placed close to the seafront in front of Oil Street within the site area under handover transition period from contract HY/2009/11 to contract HY/2009/19. The necessary mitigation measures to protect the small stockpile against rainfall were missing at the time of complaint. 3) Due to the missing of mitigation measures to protect the small stockpile during handover transition period, loose material was washed into the harbour when heavy rain came. Muddy water was formed and dispersed in the sea that caused the water quality and visual concern to the public. The complaint was considered as valid. 4) Contractors were advised to relocate the loose materials away from the coastline as far as practicable. Any loose material placed which needed to be placed near the coastline shall be properly compacted or covered as appropriate. To avoid any further environmental deficiency, Contractors shall ensure all necessary environmental mitigation measures will not be missing during site area handover.	Closed
110817	17/08/2011	ICC no. 1-307657681	North Point	Visual impact generated by light from a large amount of spot-lights on the barge during mid-night nearby City Garden.	1) It was referred by AECOM to ET on 23 August 2011 2) RSS confirmed that some non-essential lights were turned on during night-time period which caused the nuisance to the nearby residents. In addition, absence of lighting shields at flood lights results in visual glare to the complaint at night-time. 3) Follow-up action had been taken by contractor that switches off all non-essential lights to minimized nuisance to the nearby residents. The complainant satisfied to the practice and no further complaint was received after that.	Closed
110826	26/08/2011	Grand Hyatt and a complainant by ICC	Wan Chai	Construction noise and vibration nuisance generated from the works at Convention Avenue and inside the HKCEC1	1) Confirmed with the Resident Site Staff that the construction works were referred to the Contractor HK/2009/01. 2) The Excavator mounted breaker at Convention Avenue	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
				reclamation area.	and Drilling rig at HKCEC1 reclamation area were the dominant construction noise source during this period. 3) The drilling rig at HKCEC1 reclamation area and excavator mounted breaker at Convention Avenue were then temporary suspended after received the complaint. 4) Investigation revealed that the erected noise barrier (4m cantilevered movable noise barrier for the drilling rig and 1m movable noise barrier for the excavator mounted breaker) were not located close to the plants to provide adequate noise screening. 5) Contractor was advised to avoid concurrent operation of construction plants at site. Further enhancement of movable noise barriers at HKCEC1 and providing noise enclosure for the excavator mounted breaker at Convention Avenue are needed. 6) Further site investigation and checking on 31 August and 7 September 2011 revealed that the implemented noise mitigation measures were in proper and minimize the noise impact.	
110826A	26/08/2011	A complaint letter from Mr. Au of Cayley Property of City Garden	North Point	Harbor front adjacent to their water intake suction which caused 3 times of system breakdown of the sea water pump on 9, 22 and 25 August 2011.	1) It was referred by AECOM to ET on 29 August 2011 2) Confirmed with the Resident Site Staff that the construction works were referred to the Contractors HY/2009/11 and HY/2009/19. 3) The pump is located on the site area of HY/2009/19 4) A temporary garbage defender was installed on 23 July 2011 by HY/2009/11 and the shape of the defender was adjusted on 8 August 2011 in order to exclude the outfall. 5) An ad hoc inspection of the effectiveness of garbage defender was conducted with RSS (CWB project team), contractor of HY/200911 and HY/2009/19 and IECon 29 August 2011. Inspection report of it was submitted to RSS on 19 September 2011. 5) Daily cleaning near the water intake was conducted twice a day by contractor HY/2009/19. 6) In response to City Garden request, the contractors have set up the temporary garbage defender in function and collect the floating refuses, but cannot eliminate all refuses, in particular the refuse come from sea bed from entering the intake. 6) According to the complaint letter from Cayley Property, the outcomes of the preventive measures were not complying with their expectation. 7) During on-site inspection, floating refuses observed	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					<p>occasionally outside the garbage defender. No conclusion could be made for the source of these floating refuses. On the other hand, some of the floating refuses were observed immigrating in the protective zone during investigation</p> <p>8) All daily cleaning actions had been taken by contractor to minimize floating refuse inside the construction site. It was noted that the intake (land side) is open access to public, so that many activities such as fishing, feeding fish were conducted there even though a notice has already hoisted. Also, tripping of rubbish by the passers-by could result in a lot of rubbish accumulated around the intake point.</p> <p>9) Referring to the record provided by CPML, there were a lot of nylon/ plastic bags and nylon wire mesh that matched those rubbishes generated from the public activities.</p> <p>10) Contractors have fulfilled the requirement of site cleanness and no exceedance was recorded during Water Quality Monitoring. It is consider the cause of this complaint is not related to project and environmental issue in this project as well. No more complaint received after ad-hoc inspection</p>	
111014	14/10/2011	The complainant, Ms. Tam complained via hotline 1823	Wan Chai	The polluted fumes and exhaust from the excavation by sub-contractor of CEDD on pedestrian way outside no.25 Harbour Road (in front of the Harbour Centre)	<p>1) RSS notified ET to carry out investigation on 17 October 2011.</p> <p>2) ET confirmed with the Resident Site Staff that the location of the excavator was within site area of Contract no. HK/2009/02 undertaking the water cooling main reprovision works along the Harbour Road. The plants including the excavator have been checked before using at the site. However, the polluted fumes and exhausted from the excavator was caused due to insufficient maintenance of the plant after using at site.</p> <p>3) After receiving the complaint, the excavator was then removal off-site for checking and maintenance works on 17 October 2011.</p> <p>4) Contractor was reminded to enhance regular checking and maintenance to all plants at site.</p> <p>5) RSS has replied to the complainant on the arrangement of the measures taken on 17 October 2011. Complainant was satisfied with the response and follow-up action taken by the Contractor.</p>	Closed
111104	04/11/2011	Mr. Liu from	Wan Chai	Complain about a tree near the	1) ET confirmed with the Resident Site Staff that	Waiting RSS



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
		LCSD complained via Contractor Complaint Hotline		site of pipe installation works outside Wan Chai Swimming Pool at Harbour Road, the status is not healthy and roof ball of two trees inside the site near Renaissance Hong Kong Harbour View Hotel at Convention Avenue were half cut.	<ul style="list-style-type: none">• A tree near the site of pipe installation works outside Wan Chai Swimming Pool at Harbour Road is the Tree no. TA1122 under Contract no. HK/2009/02. Leaves of a branch of this tree were shrivelled.• Two trees inside the site near Renaissance Hong Kong Harbour View Hotel at Convention Avenue are the tree nos. A160 and A161 under Contract no. HK/2009/01. Part of roof ball of these two trees was covered by the metal plate. 2) Independent Tree Specialists for these two inspected the trees. Contractor HK/2009/01 has taken the measure as recommend downgrading the soil level around the trunk base. Reinstating of the ground works will be conducted in mid-December 2011. For the tree no. TA1122 under Contract no. HK/2009/02, the brown leaves were removed and fenced the tree with orange net is provided to prevent damage of tree trunk by construction works. The distance between the tree and the edge of the trench is kept approximate 2m. Two Contractors were reminded to carry out regular watering to the trees within their site area.	respond
111106	06/11/2011	Police officer	Wan Chai	Construction noise generated from the site at about 6:30 a.m on 6 November 2011 and require to stop the machine operation	1) According to the information reported by Contractor, one BC cutter and hoist were operated for Diaphragm Wall construction of Shatin-Central Link to inspect bentonite pipes and ensure no damages and all the joints are tightened in good position. Then, the subcontractor for Diaphragm wall, SAMBO Korean foreman stopped the engine of the BC cutter immediately. The police officer recorded the details and HKID number of the foreman and then left. Due to the different language communication between the police officer and the Korean foreman, no CNP was checked by the police officer. 2) ET confirmed with the Resident Site Staff that same issue was also raised out by RSS at about 7:00a.m on the same day. Besides, it was confirmed that there is no valid Construction Noise Permit for the conducted construction works in the period between 2300 and 0700. 3) Due to insufficient communication between Contractor HK/2009/01 and their Korean Sub-contractor, Korean Sub-contractor had not notified to Contractor before carrying out the inspection of the BC cutter, hoists and	Keep in review



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					bentonite pipes at about 6:00a.m to ensure no damages and all the pipe joints should be tightened and in good position. 4) Contractor was advised to enhance the communication between Contractor and sub-contractor and provide sufficient environmental training to all foreman and operators on restricted hour operation. Futhermore, Construction Noise Permit should be checked and in place for the construction works during restricted hour 5) This complaint was considered in relation to the conducted construction works during restricted hours without valid Construction Noise Permit. No more construction works were conducted during night time period. The construction works will be conducted in accordance with the time period stated in valid CNP. This complaint will be kept in view of any follow-up action from the relevant government activities.	
111212	12/12/2011	The complainant, Mr Tsui from IFCL's management office complained via hotline 1823	Central	A visual impact complaint from hotline 1823 was received by ET on 9 January 2011 (ICC Ref. No.: ICC#1-333037096 dated on 12 December 2011). The complaint, Mr Tsui was reported that visual nuisance caused by lighting in the construction site during night time.	1) RSS notified ET on 9 Jan 2012. 2) ET confirmed with the Resident Site Staff that A joint inspection was conducted by Mr Tsui and contractor on that night to see whether there is any improvement. 3) Due to safety reason, igniting enough lights should not be avoided in construction site. However, the light sources were not directed away from pointing to the sensitive receiver and results in visual glare to the complainant. 4) Confirmed with the Resident Site Staff the complainant was satisfied the new arrangement of the lights with contractor after the joint inspection. No further complaint received after that.	Closed
111220	20/12/2011	The complainant, Ms. Poon complained via hotline 1823 (ICC Ref. No.: ICC#1-334683841)	North Point	Construction air and noise nuisance generated that many trucks carrying construction materials driving along Watson Road and Oil Street and possibly entering/leaving the construction site near the IEC during 0800 to 1900 hours.	1) RSS notified ET on 22 Dec 2011. 2) ET confirmed with the Resident Site Staff that the complainant cannot identify whether the trucks were working under the CWB project or not. 3) The dominant construction air and noise nuisances were emitted by the trucks along Oil Street and Waston Road, however, this is the public road for all vehicles. Reviewing the air quality monitoring and noise monitoring results. No exceedance was recorded during this period. 4) Confirmed with the Resident Site Staff that they provided a contact no. for any future enquiries regarding	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					CWB project to the complainant and she was satisfied on the arrangement and no further complaint was received after that.	
111230	30/12/2011	Residents of Harbour Heights	North Point	Construction air and noise nuisance generated by construction vehicles were found parked illegally at King Wah Road and lining up at Oil Street without the engine turning off.	1) RSS notified ET on 6 January 2011. 2) ET confirmed with the Resident Site Staff that a number of construction activities are concurrently proceeding in the vicinity of Oil Street, King Wah Street and a private development project in King Wah Street 3) The dominant construction air and noise nuisances were emitted by the trucks along Oil Street and King Wah Road, however, this is the public road for all vehicles. Reviewing the results of air quality monitoring station (CMA1b) and noise monitoring (M4b). No exceedance was recorded during this period. Site inspections for HY/2009/19 were conducted on 4 January 2012. The condition of the site access at Oil Street and the public road nearby were found satisfactory. It is noted that HyD also allow and encourage their contractors to maximize the use of marine access, where available, to work sites, so as to minimize burdening nearby public roads. When land trips are unavoidable, they require contractors to tidy up their construction vehicles before leaving works sites. No contractor under CWB project parked their vehicles illegally at King Wah Street, and HyD still reminded them not to commit such offence. 4) According to HyD's staff replied the complaint letter on 10 January 2012, there is a private development project under construction at King Wah Road. To access these works sites, construction vehicles have to use public roads nearby. No further complaint received after HyD's reply.	Closed
120118	18/01/2012	N/A	North Point	An complaint regarding a tree located in front of Victoria Centre under IECL was covered by one meter mud without any protection. The complainant concerns the health of the tree in such condition.	1) RSS notified ET on 20 January 2012. 2) ET confirmed with the Resident Site Staff that The tree is inside the site area of HY/2009/19 and The Botanical name of the tree is Ficus superba var. japonica and the I.D. of the tree is UT48 3) According to the information provided by RSS on 20 Jan 2012, the tree shall be felled that has been approved	Closed



Complaint Log No.	Date of Complaint	Received From and Received By	Location of Complainant	Nature of Complaint	Outcome	Status
					by DLO on 29 August 2011. Moreover, the tree was felled by contractor on 19 January 2012. 4) No further complaint received after HyD's reply.	



Appendix 10.1

Construction Programme of Individual Contracts

Activity Name	Original Duration	Planned Start	Planned Finish	2011				2012				2013				2014				2015				2016	
				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
HY/2009/15 - CWB TUNNEL (CBTS SECTION)																									
SUBMISSIONS COMPLYING WITH EPs																									
EM&A Manual (rely on the Master EP's submission EP-364/2009/A Condition 2.9)																									
Baseline Monitoring Report (rely on the Master EP's submission EP-364/2009 Condition 3.3)																									
Monthly EM&A (rely on the masters EP's Submission, EP-364/2009/A Condition 3.4)																									
A dedicated website (rely on the master EP's submission, EP-364/2009/A Condition 4.2)																									
Management organization of main construction companies (FEP Condition 2.6)	1d	02-Oct-10	02-Oct-10																						
Work Schedule (FEP Condition 2.7)	1d	27-Oct-10	27-Oct-10																						
Location Plan (FEP Condition 2.8)	1d	27-Oct-10	27-Oct-10																						
Noise Management plan (FEP Condition 2.9)	1d	27-Oct-10	27-Oct-10																						
Landscape plan (FEP condition 2.10)	1d	31-Jan-11	31-Jan-11																						
EAST VENTILATION ADIT																									
CCT @ Portion 1, 2, 4, 6, 22	1315d	27-Sep-10	03-May-14																						
EV Adit @ Portion 4-Advance Works	526d	27-Sep-10	05-Mar-12																						
EV Adit Portion 1, 2, 6, 22	26d	22-Dec-11	16-Jan-12																						
EV Adit-based on Conforming Design	323d	15-Feb-12	02-Jan-13																						
TCBR1E (TS1 Area)																									
Diaphragm Wall Construction (incl. SI, & tests after completion)	107d	26-Apr-11	10-Aug-11																						
Excavation & Lateral Support, ELS	99d	16-Jul-11	22-Oct-11																						
Cut & Cover Tunnel Construction (incl. backfill)	78d	22-Oct-11	07-Jan-12																						
OHVD and Cable Trough (access from Portion 22)	76d	18-Dec-13	03-Mar-14																						
TCBR2 + TCBR3 (TS2 Area)																									
Diaphragm Wall Construction	118d	06-Jul-12	31-Oct-12																						
Excavation & Lateral Support, ELS	248d	06-Jul-12	10-Mar-13																						
Cut & Cover Tunnel Construction	164d	11-Mar-13	21-Aug-13																						
OHVD Cable Trough (Access from Portion 22)	150d	05-Aug-13	01-Jan-14																						
TCBR1W (TS4 Area)																									
Diaphragm Wall Construction	148d	28-Jun-11	22-Nov-11																						
Excavation & Lateral Support, ELS	319d	26-Jun-11	11-May-12																						
Landing Steps - Demolition/Reconstruct as footpath	40d	28-Jun-11	23-Aug-11																						

- ◆ Milestone
- ◆ Milestone
- ▬ Remaining Work
- ▬ Critical Remaining Work
- ▬ Actual Work

1 of 2

China State Construction Engineering (Hong Kong) Ltd.

Contract No. HY/2009/15 - Central Wan Chai By Pass - Tunnel

(CBTS Section)

Prepared by William Caluza			
Date	Revision	Checked	Approved
14-Mar-11	Revision C	ST	KL
	File: GC01a		
	(Layout:HY/2009/15: CWB - Summary)		

中國建築工程(香港)有限公司

CHINA STATE CONSTRUCTION ENGINEERING (HONG KONG) LTD

Activity Name	Original Duration	Planned Start	Planned Finish	2011					2012				2013				2014				2015				2016							
				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1						
Rock Excavation	235d	25-Apr-12	15-Dec-12																													
ME4-Diaphragm Wall	114d	10-May-12	19-Oct-12																													
AS Logistics Area for Mined Tunneling Works	174d	01-Jun-12	07-Feb-13																													
ME4-ELS Works	212d	01-Jun-12	02-Apr-13																													
SCL Entrusted Works	291d	18-Jul-12	08-Sep-13																													
Cut & Cover Tunnel Construction (w/o TS4 +)	111d	17-Dec-12	08-Apr-13																													
ME4-RC Structure	140d	28-Jan-13	21-Aug-13																													
OHVD and Cable Trough (Access from TZ5/TPCWAE/TPCWAW)	180d	17-Jun-13	13-Dec-13																													
MINED TUNNEL																																
CHT Protection Works @ location A, B, C	342d	27-Sep-10	01-Feb-12																													
Tunnel works from West Portal (access from TPCWAE& TZ5	418d	12-Mar-12	30-Oct-13																													
Tunnel Works from East Portal (Access from TS4 Area)	214d	30-Mar-12	01-Feb-13																													
Tunnel OHVD & Cable Trough	384d	02-Dec-13	22-May-15																													
TPCWAE																																
Drainage Diversion works along Hung Hing Road (Portion 19)	170d	15-Oct-10	24-Jun-11																													
Diaphragm Wall Construction	147d	20-May-11	13-Oct-11																													
Excavation & Lateral Support, ELS	421d	20-May-11	13-Jul-12																													
Rock Excavation	208d	12-Mar-12	03-Oct-12																													
AS Logistics Area for Mined Tunneling works	342d	12-May-12	18-Apr-13																													
Cut & Cover Tunnel Construction	130d	28-Jan-13	06-Jun-13																													
OHVD and Cable Trough (Access from TZ5/TPCWAW)	182d	18-Feb-15	18-Aug-15																													
TPCWAW & PORTION 11																																
Diaphragm Wall Construction + Portion 11	222d	25-Oct-13	03-Jun-14																													
Excavation & Lateral Support, ELS	478d	25-Oct-13	14-Feb-15																													
Cut & Cover Tunnel Construction	143d	30-Dec-14	21-May-15																													
OHVD and Cable Trough Installation (Access from Portion 11)	235d	22-May-15	11-Jan-16																													

- ◆ ◆ Milestone
- ◆ ◆ Milestone
- ▬ Remaining Work
- ▬ Critical Remaining Work
- ▬ Actual Work

2 of 2

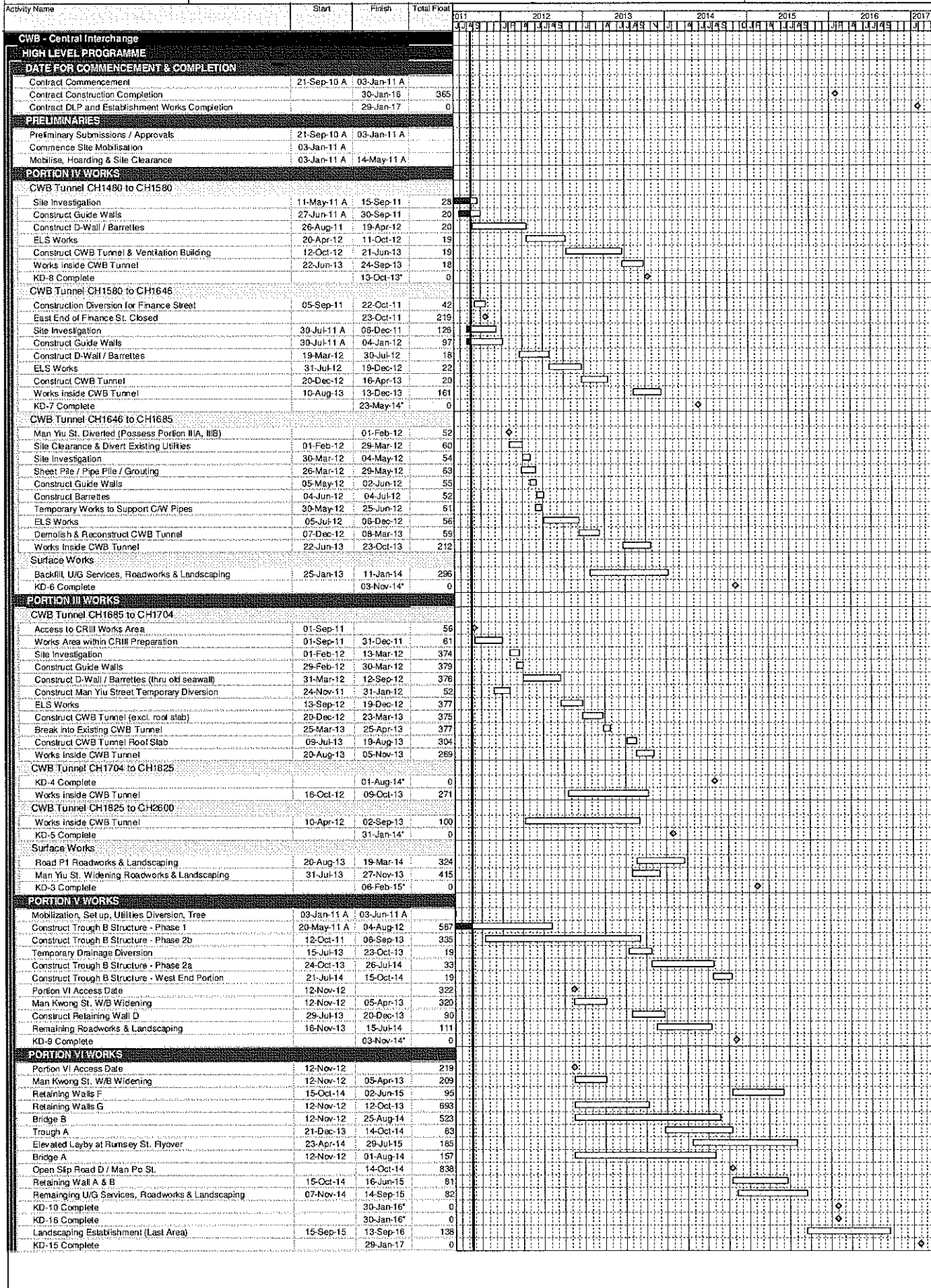
China State Construction Engineering (Hong Kong) Ltd.
Contract No. HY/2009/15 - Central Wan Chai By Pass - Tunnel
(CBTS Section)

Prepared by William Caluza			
Date	Revision	Checked	Approved
14-Mar-11	Revision C	ST	KL
	File: 0001a		
	(Layout: HY/2009/15: CWB - Summary)		



Data Date: 20-Aug-11
Print Date: 28-Aug-11
DCP3-2

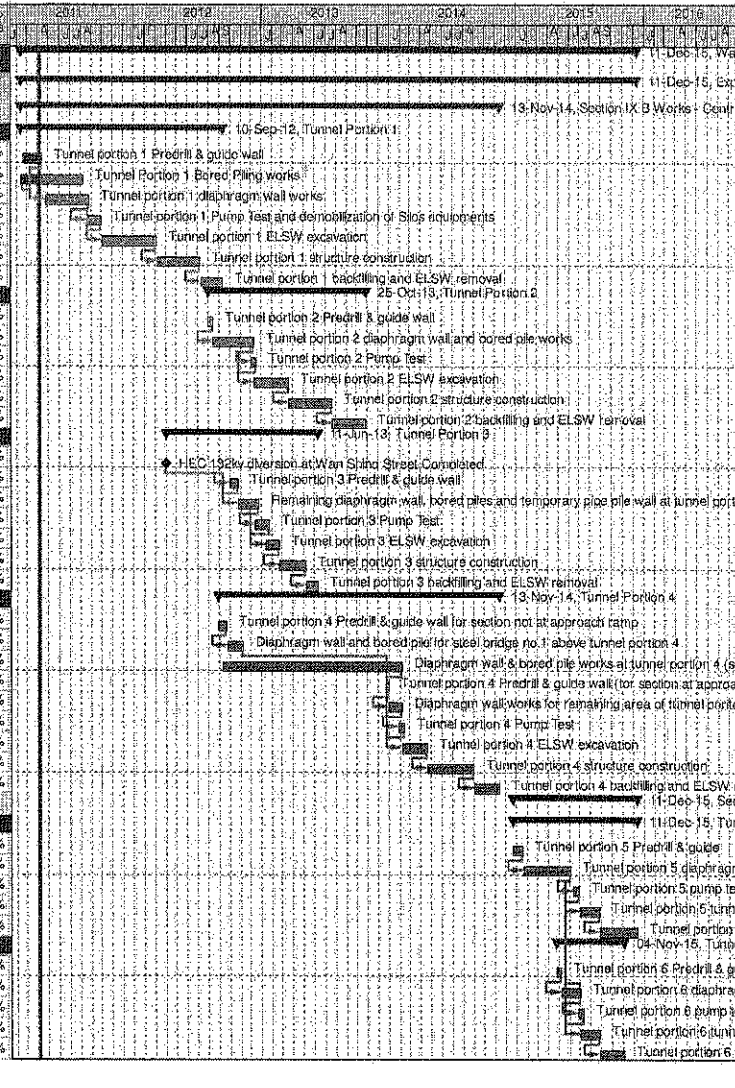
HY/2009/18 Central - Wan Chai Bypass (Central Interchange)
TASK filter: HL.



Wan Chai Development Phase II - Central - Wan Chai
Bypass at Wan Chai East CONTRACT HK/2009/02

CHUN WO - CRGL JV

Activity ID	Activity Name	OD	Start	Finish	% Planned	2011	2012	2013	2014	2015	2016
Wan Chai Development Phase II - Central - Wan Chai Bypass at Wan Chai East											
Expanded and More Detailed Initial Works Programme											
Section IX B Works - Central - Wan Chai Bypass Tunnel Structure from chainage 3400 to eastern tunnel											
Tunnel Portion 1											
S9B-T1-0005	Tunnel portion 1 Predrill & guide wall	10	18-Feb-11	13-Apr-11	40%						
S9B-T1-0007	Tunnel Portion 1 Bored Piling works	105	09-Feb-11	08-Aug-11	0%						
S9B-T1-0010	Tunnel portion 1 diaphragm wall works	105	26-Apr-11	27-Aug-11	0%						
S9B-T1-0015	Tunnel portion 1 Pump Test and demobilization of Slos equipments	35	20-Aug-11	30-Sep-11	0%						
S9B-T1-0020	Tunnel portion 1 ELSW excavation	130	03-Oct-11	07-Mar-12	0%						
S9B-T1-0030	Tunnel portion 1 structure construction	100	09-Mar-12	09-Jul-12	0%						
S9B-T1-0040	Tunnel portion 1 backfilling and ELSW removal	54	10-Jul-12	10-Sep-12	0%						
Tunnel Portion 2											
S9B-T2-0105	Tunnel portion 2 Predrill & guide wall	10	02-Aug-12	13-Aug-12	0%						
S9B-T2-0010	Tunnel portion 2 diaphragm wall and bored pile works	100	14-Aug-12	10-Dec-12	0%						
S9B-T2-0015	Tunnel portion 2 Pump Test	14	03-Dec-12	18-Dec-12	0%						
S9B-T2-0020	Tunnel portion 2 ELSW excavation	80	11-Dec-12	19-Mar-13	0%						
S9B-T2-0030	Tunnel portion 2 structure construction	100	20-Mar-13	22-Jul-13	0%						
S9B-T2-0040	Tunnel portion 2 backfilling and ELSW removal	80	23-Jul-13	25-Oct-13	0%						
Tunnel Portion 3											
S9B-T3-0005	HEC 132kv diversion at Wan Shing Street Completed	0	01-Apr-12*		0%						
S9B-T3-0008	Tunnel portion 3 Predrill & guide wall	20	02-Oct-12	25-Oct-12	0%						
S9B-T3-0010	Remaining diaphragm wall, bored piles and temporary pipe pile wall at tunnel portion 3.	50	25-Oct-12	22-Dec-12	0%						
S9B-T3-0015	Tunnel portion 3 Pump Test	30	15-Dec-12	22-Jan-13	0%						
S9B-T3-0020	Tunnel portion 3 ELSW excavation	30	15-Jan-13	20-Feb-13	0%						
S9B-T3-0030	Tunnel portion 3 structure construction	80	21-Feb-13	08-May-13	0%						
S9B-T3-0040	Tunnel portion 3 backfilling and ELSW removal	30	07-May-13	11-Jun-13	0%						
Tunnel Portion 4											
S9B-T4-0005	Tunnel portion 4 Predrill & guide wall for section not at approach ramp	21	30-Aug-12	22-Sep-12	0%						
S9B-T4-0010	Diaphragm wall and bored pile for steel bridge no.1 above tunnel portion 4	40	24-Sep-12	10-Nov-12	0%						
S9B-T4-0020	Diaphragm wall & bored pile works at tunnel portion 4 (section not at approach ramp)	420	11-Sep-12	05-Feb-14	0%						
S9B-T4-0025	Tunnel portion 4 Predrill & guide wall (for section at approach ramp)	5	23-Dec-13	30-Dec-13	0%						
S9B-T4-0030	Diaphragm wall works for remaining area of tunnel portion 4 (for section at approach ramp)	30	31-Dec-13	06-Feb-14	0%						
S9B-T4-0035	Tunnel portion 4 Pump Test	14	28-Jan-14	14-Feb-14	0%						
S9B-T4-0040	Tunnel portion 4 ELSW excavation	60	07-Feb-14	19-Apr-14	0%						
S9B-T4-0050	Tunnel portion 4 structure construction	110	22-Apr-14	01-Sep-14	0%						
S9B-T4-0060	Tunnel portion 4 backfilling and ELSW removal	60	02-Sep-14	13-Nov-14	0%						
Section X Works - Central - Wan Chai Bypass Tunnel Structure from western tunnel to chainage 3400											
Tunnel Portion 5											
S10-T5-0005	Tunnel portion 5 Predrill & guide	21	23-Dec-14	19-Jan-15	0%						
S10-T5-0010	Tunnel portion 5 diaphragm wall & bored pile works	110	20-Jan-15	04-Jun-15	0%						
S10-T5-0015	Tunnel portion 5 pump test	14	13-Jun-15	30-Jun-15	0%						
S10-T5-0020	Tunnel portion 5 tunnel ELSW excavation	45	04-Jul-15	25-Aug-15	0%						
S10-T5-0030	Tunnel portion 5 tunnel structure construction	90	26-Aug-15	11-Dec-15	0%						
Tunnel Portion 6											
S10-T6-0040	Tunnel portion 6 Predrill & guide	12	24-Apr-15	08-May-15	0%						
S10-T6-0050	Tunnel portion 6 diaphragm wall & bored pile works at Area 10	45	09-May-15	09-Jul-15	0%						
S10-T6-0055	Tunnel portion 6 pump test	14	25-Jun-15	11-Jul-15	0%						
S10-T6-0060	Tunnel portion 6 tunnel ELSW excavation at Area 10	45	04-Jul-15	26-Aug-15	0%						
S10-T6-0070	Tunnel portion 6 tunnel structure construction at Area 10	58	26-Aug-15	04-Nov-15	0%						



後和 - 中國中鐵聯合
 Chun Wo - CRGL JOINT VENTURE

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

CEDD CONTRACT NO. HK/2009/02
 Wan Chai Development Phase II - Central Wan Chai Bypass at Wan Chai East (Contract 2)
 Revised Programme dated 7 April 2011

Date	Revision	Checked	Approved
07-Apr-11		KT	KY







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Activity ID	Activity Name	Rem Dur	Start	Finish	2012															
					January					February					March				April	
					26	02	09	16	23	30	06	13	20	27	05	12	19	26	02	09
3MRP - Jan 2012 to Apr 2012																				
01 - CONTRACT DATES																				
01.1 - Conditions																				
0110-1100	PMI for Section 1 of the Works	0		21-Jan-12																
01.2 - Possession of Site																				
0120-2000	Possession to Portion X	0	21-Jan-12*																	
0120-2100	Possession to Portion III (Partial Possession)	0	31-Dec-11 A																	
0120-2200	Possession to Portion VA (Partial Possession)	0	31-Dec-11 A																	
0120-2300	Possession to Portion VB (Partial Possession)	0	31-Dec-11 A																	
0120-2400	Possession to Portion VC (Partial Possession)	0	31-Dec-11 A																	
0120-2500	Possession to Portion VD (Partial Possession)	0	31-Dec-11 A																	
01.5 - Period of Site Possession for each Portion																				
0150-1000	Site possession Period Portion VI	2070	20-Jan-11 A	20-Sep-17																
0150-1100	Site Possession Period Portion VIIA	2070	04-Aug-11 A	20-Sep-17																
0150-1200	Site Possession Period Portion VIIB	862	04-Aug-11 A	31-May-14																
0150-1300	Site Possession Period Portion VIIC	1208	04-Aug-11 A	12-May-15																
0150-1400	Site Possession Period Portion VIID	862	04-Aug-11 A	31-May-14																
0150-1500	Site Possession Period Portion XI	622	05-Oct-11 A	04-Oct-13																
0150-2000	Site Possession Period Portion X	2070	21-Jan-12	20-Sep-17																
0150-2500	Site Possession Period Portion VD	1293	31-Dec-11 A	05-Aug-15																
02 - PRE-CONSTRUCTION WORKS																				
02.2 - Contractor's Submission																				
0220-1200	Temp. Drainage Management Plan - Approval from ER	7	10-Sep-11 A	27-Jan-12																
0220-1250	Concrete Ready Mix/Design Mix - Concrete Plant Trials & Approval	8	04-Aug-11 A	28-Jan-12																
0220-1260	Drainage Pipes & Materials - Submission	14	15-Sep-11 A	03-Feb-12																
0220-1270	Drainage Pipes & Materials - ER Review/Comment	14	04-Feb-12	17-Feb-12																
0220-1280	Drainage Pipes & Materials - Resubmission	7	18-Feb-12	24-Feb-12																
0220-1290	Drainage Pipes & Materials - ER Approval	14	25-Feb-12	09-Mar-12																
0220-1300	Drainage Pipes & Materials - Procurement & Delivery	14	03-Mar-12	16-Mar-12																
0220-1360	Tunnel Structures Materials - Submission	28	15-Mar-12	11-Apr-12																
0220-1370	Tunnel Structures Materials - ER Review/Comment	28	12-Apr-12	09-May-12																
0220-1460	Bridge Bearing - Submission	15	10-Oct-11 A	04-Feb-12																
0220-1470	Bridge Bearing - ER Review/Comment	28	05-Feb-12	03-Mar-12																
0220-1480	Bridge Bearing - Resubmission	14	04-Mar-12	17-Mar-12																
0220-1490	Bridge Bearing - ER Approval	28	18-Mar-12	14-Apr-12																
02.3 - Method Statement / Shop Drawings																				
0230-1131	MS Marine Piling - Submission (low headroom)	28	13-Feb-12	11-Mar-12																
0230-1132	MS Marine Piling - ER Review & Comment (low headroom)	28	12-Mar-12	08-Apr-12																
0230-1133	MS Marine Piling - Resubmission (low headroom)	28	09-Apr-12	06-May-12																
0230-1260	MS Cut & Cover Tunnel - Submission	28	21-Jan-12	17-Feb-12																
0230-1270	MS Cut & Cover Tunnel - ER Review & Comment	28	18-Feb-12	16-Mar-12																
0230-1280	MS Cut & Cover Tunnel - Resubmission	28	17-Mar-12	13-Apr-12																
0230-1340	MS Pre-cast Segment Bridge - Submission	28	01-Apr-12	28-Apr-12																
0230-1460	MS Stressing/Restressing Tendons - Submission	28	01-Mar-12	28-Mar-12																

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

Contract HY/2009/19
Three Month Rolling Programme (21 JAN 2012 - 20 APR 2012)

Activity ID	Activity Name	Rem Dur	Start	Finish	2012															
					January				February				March				April			
					25	02	09	16	23	30	06	13	20	27	05	12	19	26	02	09
05.2.1 - D-Wall Construction																				
0521-1667	Construction of Temporary Loading Ramp at Portion VIIA	14	05-Dec-11 A	10-Feb-12	Construction of Temporary Loading Ramp at Portion VIIA															
0521-1710.05	D-wall Panel N106 (6m - 441cu.m)	10	23-Mar-12	03-Apr-12	D-wall Panel N106 (6m - 441cu.m)															
0521-1710.10	D-wall Panel N105 (4.8m - 354cu.m)	10	29-Feb-12	10-Mar-12	D-wall Panel N105 (4.8m - 354cu.m)															
0521-1710.15	D-wall Panel N104 (3.4m - 257cu.m)	10	11-Feb-12	22-Feb-12	D-wall Panel N104 (3.4m - 257cu.m)															
0521-1710.20	D-wall Panel N103 (3.4m - 256cu.m)	10	21-Jan-12	04-Feb-12	D-wall Panel N103 (3.4m - 256cu.m)															
0521-1710.30	D-wall Panel N102 (6m - 452cu.m)	0	21-Dec-11 A	05-Jan-12 A	D-wall Panel N102 (6m - 452cu.m)															
0521-1710.35	D-wall Panel N100 (6m - 456cu.m)	10	12-Mar-12	22-Mar-12	D-wall Panel N100 (6m - 456cu.m)															
0521-1710.40	D-wall Panel N99 (6m - 459cu.m)	12	31-Jan-12	13-Feb-12	D-wall Panel N99 (6m - 459cu.m)															
0521-1710.45	D-wall Panel N98 (6m - 462cu.m)	0	03-Dec-11 A	28-Dec-11 A	D-wall Panel N98 (6m - 462cu.m)															
0521-1710.55	D-wall Panel N96 (6m - 488cu.m)	6	03-Jan-12 A	31-Jan-12	D-wall Panel N96 (6m - 488cu.m)															
0521-1710.60	D-wall Panel N95 (6m - 492cu.m)	10	06-Feb-12	16-Feb-12	D-wall Panel N95 (6m - 492cu.m)															
0521-1750.05	D-wall Panel N94 (6m - 497cu.m)	10	23-Feb-12	05-Mar-12	D-wall Panel N94 (6m - 497cu.m)															
0521-1750.10	D-wall Panel N93 (6m - 501cu.m)	10	17-Mar-12	28-Mar-12	D-wall Panel N93 (6m - 501cu.m)															
0521-1750.15	D-wall Panel N92 (6m - 503cu.m)	10	06-Mar-12	16-Mar-12	D-wall Panel N92 (6m - 503cu.m)															
0521-1750.20	D-wall Panel N91 (6m - 472cu.m)	10	17-Feb-12	28-Feb-12	D-wall Panel N91 (6m - 472cu.m)															
0521-1750.25	D-wall Panel N90 (4.16m - 349cu.m)	0	01-Dec-11 A	30-Dec-11 A	D-wall Panel N90 (4.16m - 349cu.m)															
0521-1750.30	D-wall Panel N89 (4.16m - 349cu.m)	0	03-Nov-11 A	28-Dec-11 A	D-wall Panel N89 (4.16m - 349cu.m)															
0521-1750.35	D-wall Panel N88 (6m - 505cu.m)	0	19-Dec-11 A	13-Jan-12 A	D-wall Panel N88 (6m - 505cu.m)															
0521-1750.40	D-wall Panel N87 (6m - 506cu.m)	10	06-Mar-12	16-Mar-12	D-wall Panel N87 (6m - 506cu.m)															
0521-1750.45	D-wall Panel N86 (6m - 507cu.m)	10	29-Feb-12	10-Mar-12	D-wall Panel N86 (6m - 507cu.m)															
0521-1750.50	D-wall Panel N85 (6m - 507cu.m)	10	17-Feb-12	28-Feb-12	D-wall Panel N85 (6m - 507cu.m)															
0521-1750.55	D-wall Panel N84 (6m - 511cu.m)	5	11-Jan-12 A	30-Jan-12	D-wall Panel N84 (6m - 511cu.m)															
0521-1750.60	D-wall Panel N83 (6m - 517cu.m)	0	15-Dec-11 A	09-Jan-12 A	D-wall Panel N83 (6m - 517cu.m)															
0521-1790.10	D-wall Panel N74 (6m - 562cu.m)	10	12-Mar-12	22-Mar-12	D-wall Panel N74 (6m - 562cu.m)															
0521-1790.15	D-wall Panel N75 (6m - 554cu.m)	10	23-Feb-12	05-Mar-12	D-wall Panel N75 (6m - 554cu.m)															
0521-1790.20	D-wall Panel N76 (6m - 585cu.m)	10	11-Feb-12	22-Feb-12	D-wall Panel N76 (6m - 585cu.m)															
0521-1795.10	D-wall Panel N77 (6m - 570cu.m)	10	31-Jan-12	10-Feb-12	D-wall Panel N77 (6m - 570cu.m)															
0521-1795.15	D-wall Panel N78 (6m - 554cu.m)	5	09-Jan-12 A	30-Jan-12	D-wall Panel N78 (6m - 554cu.m)															
0521-1795.25	D-wall Panel N80 (6m - 537cu.m)	10	06-Feb-12	16-Feb-12	D-wall Panel N80 (6m - 537cu.m)															
0521-1795.30	D-wall Panel N81 (6m - 530cu.m)	0	24-Dec-11 A	16-Jan-12 A	D-wall Panel N81 (6m - 530cu.m)															
0521-1800	D-wall N59-N70 Pre-drilling (6 nos. remaining - 1 rig@6d/hole)	36	19-Sep-11 A	06-Mar-12	D-wall N59-N70 Pre-drilling (6 nos. remaining - 1 rig@6d/hole)															
0521-1810	D-wall N59-N70 Grouting for Existing Seawall Rubble Mound	21	07-Mar-12	30-Mar-12	D-wall N59-N70 Grouting for Existing Seawall Rubble Mound															
0521-1820	D-wall N59-N70 Guide Wall	12	31-Mar-12	17-Apr-12	D-wall N59-N70 Guide Wall															
0521-1840	D-wall N52-N58 Pre-drilling (7 nos@3d - 2 rig)	21	07-Mar-12	30-Mar-12	D-wall N52-N58 Pre-drilling (7 nos@3d - 2 rig)															
0521-1850	D-wall N52-N58 Grouting for Existing Seawall Rubble Mound	21	31-Mar-12	27-Apr-12	D-wall N52-N58 Grouting for Existing Seawall Rubble Mound															
0521-1920	D-wall Temp Grouting for Existing Seawall Rubble Mound	18	23-Feb-12	14-Mar-12	D-wall Temp Grouting for Existing Seawall Rubble Mound															
0521-1930	D-wall Temp End-wall Guide Wall	12	15-Mar-12	28-Mar-12	D-wall Temp End-wall Guide Wall															
0521-1945.15	Slurry-wall TEW2 (Set 2)	4	29-Mar-12	02-Apr-12	Slurry-wall TEW2 (Set 2)															
0521-1945.25	Slurry-wall TEW4 (Set 2)	4	03-Apr-12	10-Apr-12	Slurry-wall TEW4 (Set 2)															
0521-1945.35	Slurry-wall TEW6 (Set 2)	4	11-Apr-12	14-Apr-12	Slurry-wall TEW6 (Set 2)															
0521-1960.10	Site Establishment - Haul Road / Access Road	0	15-Nov-11 A	27-Dec-11 A	Site Establishment - Haul Road / Access Road															
0521-1960.20	Site Establishment - Additional Bentonite Plant	8	03-Jan-12 A	07-Feb-12	Site Establishment - Additional Bentonite Plant															
0521-1980	D-wall S102-S113 Guide Wall	12	10-Jan-12 A	07-Feb-12	D-wall S102-S113 Guide Wall															

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

Contract HY/2009/19

Three Month Rolling Programme (21 JAN 2012 - 20 APR 2012)

3MRP

3MRP - Jan 2012 to Apr 2012

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Activity ID	Activity Name	Rem Dur	Start	Finish	2012																	
					2011			January			February			March			April					
					26	02	09	16	23	30	06	13	20	27	05	12	19	26	02	09	16	
0521-1990.10	D-wall Panel S113 (3.28m - 244cu.m)	10	21-Jan-12	04-Feb-12																		
0521-1990.20	D-wall Panel S111 (7.65m - 575cu.m)	10	14-Mar-12	24-Mar-12																		
0521-1990.25	D-wall Panel S110 (5.4m - 409cu.m)	10	08-Feb-12	18-Feb-12																		
0521-1990.30	D-wall Panel S109 (6m - 455cu.m)	10	25-Feb-12	07-Mar-12																		
0521-1990.50	D-wall Panel S105 (6m - 458cu.m)	10	31-Mar-12	14-Apr-12																		
0521-1990.55	D-wall Panel S104 (6m - 481cu.m)	10	20-Mar-12	30-Mar-12																		
0521-1990.60	D-wall Panel S103 (6m - 484cu.m)	10	14-Feb-12	24-Feb-12																		
0521-1990.65	D-wall Panel S102 (5.96m - 483 cu.m)	10	02-Mar-12	13-Mar-12																		
0521-2010	D-wall S90-S101 Guide Wall	15	21-Jan-12	10-Feb-12																		
0521-2020.20	D-wall Panel S99	10	10-Apr-12	20-Apr-12																		
0521-2020.25	D-wall Panel S98	10	26-Mar-12	07-Apr-12																		
0521-2020.30	D-wall Panel S97	10	20-Feb-12	01-Mar-12																		
0521-2020.35	D-wall Panel S96	10	08-Mar-12	19-Mar-12																		
0521-2020.40	D-wall Panel S95	10	05-Apr-12	18-Apr-12																		
0521-2020.45	D-wall Panel S94	10	23-Mar-12	03-Apr-12																		
0521-2020.50	D-wall Panel S93	10	13-Apr-12	24-Apr-12																		
0521-2020.55	D-wall Panel S92	10	29-Mar-12	12-Apr-12																		
0521-2020.65	D-wall Panel S90	10	17-Mar-12	28-Mar-12																		
0521-2030	D-wall S78-S89 Pre-drilling	12	10-Nov-11 A	07-Feb-12																		
0521-2040	D-wall S81-S89 Guide Wall	15	08-Feb-12	24-Feb-12																		
0521-2050.20	D-wall Panel S83 (6m - 517cu.m)	12	05-Apr-12	20-Apr-12																		
0521-2055.15	D-wall Panel S86 (6m - 507cu.m)	12	13-Apr-12	26-Apr-12																		
0521-2060	D-wall S66-S77 Pre-drilling	25	08-Feb-12	07-Mar-12																		
0521-2070	D-wall S66-S77 Guide Wall	15	08-Mar-12	24-Mar-12																		
0521-2085	D-wall S66-S67 Construction (2 nos@8d - Team 4)	12	02-Apr-12*	18-Apr-12																		
0521-2090	D-wall S60-S65 Pre-drilling	25	29-Mar-12	30-Apr-12																		
0521-2150	D-wall N52-N106 G.I. Preliminary Report / Founding Level	37	07-Mar-12	21-Apr-12																		
05.2.2 - Barrette Construction																						
0522-2180	Barrette BC53-BC56 Pre-drilling	18	08-Mar-12	28-Mar-12																		
0522-2190	Barrette BC54-BC56 Grouting for Existing Seawall Rubble Mound	12	29-Mar-12	14-Apr-12																		
0522-2220	Barrette BC57-BC68 Pre-drilling	0	14-Nov-11 A	28-Dec-11 A																		
0522-2230	Barrette BC57-BC68 Grouting for Existing Seawall Rubble Mound	30	21-Jan-12	28-Feb-12																		
0522-2240	Barrette BC57-BC68 Guide Wall	24	15-Feb-12	13-Mar-12																		
0522-2270	Barrette BC43-BC52 Pre-drilling	25	19-Mar-12	19-Apr-12																		
0522-2280	Barrette BC43-BC52 Grouting for Existing Seawall Rubble Mound	12	12-Apr-12	25-Apr-12																		
05.2.3 - ELS																						
0523-2398	Prepare & Submit Documents as per ETWB TCW No. 15/2005	30	21-Jan-12	28-Feb-12																		
05.3 - Box Culvert T1																						
0530-2990	Bay 4-5 Trench excavation	1	14-Nov-11 A	26-Jan-12																		
0530-3000	Bay 4-5 Box Culvert Construction	42	26-Jan-12	15-Mar-12																		
0530-3010	Bay 4-5 Road Reinstatement	7	15-Mar-12	23-Mar-12																		
0530-3020	Implement Watson Road TTM Stage 2	3	21-Mar-12	23-Mar-12																		
0530-3030	Bay 1-3 Site Clearance/Formation	3	24-Mar-12	27-Mar-12																		
0530-3040	Bay 1-3 Trench excavation	36	28-Mar-12	12-May-12																		

Remaining Level of Effort
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Contract HY/2009/19
Three Month Rolling Programme (21 JAN 2012 - 20 APR 2012)

3MRP
 3MRP - Jan 2012 to Apr 2012
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Activity ID	Activity Name	Rem Dur	Start	Finish	2012															
					January				February				March				April			
					26	02	09	16	23	30	06	13	20	27	05	12	19	26	02	09
0530-3111	Bay 9 - Sheet Piling Works	12	15-Oct-11 A	11-Feb-12	Bay 9 - Sheet Piling Works															
0530-3113	Bay 9 - Excavation	12	23-Feb-12	07-Mar-12	Bay 9 - Excavation															
0530-3114	Bay 9 - Box Culvert/Outfall Construction	48	08-Mar-12	07-May-12																
0530-3200	Storm Drainage 1500 Dia. Within Portlon X (FEHD)	60	21-Mar-12	02-Jun-12																
10 - SECTION X OF THE WORKS																				
10.1 - E/B Bridges (Bridge D, E and F)																				
10.1.1 - Marine Pier Construction																				
Prep F02 to F15																				
1011-1420	Extract Existing Dolphin Front Pile pier F9	0	26-Dec-11 A	26-Dec-11 A	Extract Existing Dolphin Front Pile pier F9															
1011-1425	Remove Existing Dolphin pier F9	0	31-Dec-11 A	03-Jan-12 A	Remove Existing Dolphin pier F9															
1011-1430	Extract Existing Dolphin Front Pile pier F10	0	29-Dec-11 A	29-Dec-11 A	Extract Existing Dolphin Front Pile pier F10															
1011-1435	Remove Existing Dolphin pier F10	0	31-Dec-11 A	03-Jan-12 A	Remove Existing Dolphin pier F10															
1011-1570.30	F7 piling platform - temporary piles 5 & 6	0	16-Dec-11 A	29-Dec-11 A	F7 piling platform - temporary piles 5 & 6															
1011-1570.40	F7 piling platform - erect steel platform modules 3 & 4	0	27-Dec-11 A	07-Jan-12 A	F7 piling platform - erect steel platform modules 3 & 4															
1011-1570.50	F7 piling platform - ICE	0	04-Jan-12 A	18-Jan-12 A	F7 piling platform - ICE															
1011-1580.20	F8 piling platform - erect steel platform modules 1 & 2	0	16-Nov-11 A	26-Dec-11 A	F8 piling platform - erect steel platform modules 1 & 2															
1011-1580.30	F8 piling platform - temporary piles 5 & 6	0	27-Dec-11 A	03-Jan-12 A	F8 piling platform - temporary piles 5 & 6															
1011-1580.40	F8 piling platform - erect steel platform modules 3 & 4	0	04-Jan-12 A	11-Jan-12 A	F8 piling platform - erect steel platform modules 3 & 4															
1011-1580.50	F8 piling platform - ICE	0	12-Jan-12 A	16-Jan-12 A	F8 piling platform - ICE															
1011-1590	Erect marine piling platform pier F9	32	10-Jan-12 A	02-Mar-12	Erect marine piling platform pier F9															
1011-1600	Erect marine piling platform pier F10	32	10-Jan-12 A	02-Mar-12	Erect marine piling platform pier F10															
1011-1610	Erect marine piling platform pier F11	18	20-Oct-11 A	15-Feb-12	Erect marine piling platform pier F11															
1011-1620	Erect marine piling platform pier F12	18	26-Oct-11 A	14-Feb-12	Erect marine piling platform pier F12															
1011-1630	Erect marine piling platform pier F13	18	01-Nov-11 A	20-Apr-12	Erect marine piling platform pier F13															
1011-1640	Erect marine piling platform pier F14	18	08-Nov-11 A	09-May-12	Erect marine piling platform pier F14															
1011-1670	Pre-drill F7 raking dolphin piles (2 nos.)	3	03-Dec-11 A	27-Jan-12	Pre-drill F7 raking dolphin piles (2 nos.)															
1011-1680	Pre-drill F8 raking dolphin piles (2 nos.)	5	05-Jan-12 A	02-Feb-12	Pre-drill F8 raking dolphin piles (2 nos.)															
1011-1690	Pre-drill F9 raking dolphin piles (2 nos.)	10	02-Mar-12	14-Mar-12	Pre-drill F9 raking dolphin piles (2 nos.)															
1011-1700	Pre-drill F10 raking dolphin piles (2 nos.)	10	14-Mar-12	26-Mar-12	Pre-drill F10 raking dolphin piles (2 nos.)															
1011-1710	Pre-drill F11 raking dolphin piles (2 nos.)	10	16-Feb-12	27-Feb-12	Pre-drill F11 raking dolphin piles (2 nos.)															
1011-1720	Pre-drill F12 raking dolphin piles (2 nos.)	10	28-Feb-12	09-Mar-12	Pre-drill F12 raking dolphin piles (2 nos.)															
1011-1760.20	Pier F3 Marine Bore Pile - F3-4	0	24-Dec-11 A	17-Jan-12 A	Pier F3 Marine Bore Pile - F3-4															
1011-1760.30	Pier F3 Marine Bore Pile - F3-7	12	21-Jan-12	07-Feb-12	Pier F3 Marine Bore Pile - F3-7															
1011-1760.40	Pier F3 Marine Bore Pile - F3-3	12	08-Feb-12	21-Feb-12	Pier F3 Marine Bore Pile - F3-3															
1011-1760.50	Pier F3 Marine Bore Pile - F3-6	12	22-Feb-12	06-Mar-12	Pier F3 Marine Bore Pile - F3-6															
1011-1760.60	Pier F3 Marine Bore Pile - F3-2	12	07-Mar-12	20-Mar-12	Pier F3 Marine Bore Pile - F3-2															
1011-1760.70	Pier F3 Marine Bore Pile - F3-5	12	21-Mar-12	03-Apr-12	Pier F3 Marine Bore Pile - F3-5															
1011-1760.80	Pier F3 Marine Bore Pile - F3-1	12	05-Apr-12	20-Apr-12	Pier F3 Marine Bore Pile - F3-1															
1011-1790	Pier F6 Dolphin Pile (team 4)	72	16-Mar-12	13-Jun-12	Pier F6 Dolphin Pile (team 4)															
1011-1800.10	Pier F6 Marine Bore Pile - F6-2	10	15-Dec-11 A	04-Feb-12	Pier F6 Marine Bore Pile - F6-2															
1011-1800.20	Pier F6 Marine Bore Pile - F6-3	11	07-Jan-12 A	17-Feb-12	Pier F6 Marine Bore Pile - F6-3															
1011-1800.30	Pier F6 Marine Bore Pile - F6-1	12	17-Feb-12	02-Mar-12	Pier F6 Marine Bore Pile - F6-1															
1011-1800.40	Pier F6 Marine Bore Pile - F6-4	12	02-Mar-12	16-Mar-12	Pier F6 Marine Bore Pile - F6-4															
1011-1802	Pier F9 Dolphin Pile (team 4)	72	16-Mar-12	13-Jun-12	Pier F9 Dolphin Pile (team 4)															

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Activity ID	Activity Name	Rem Dur	Start	Finish	2012																
					January					February					March					April	
					26	02	09	16	23	30	06	13	20	27	05	12	19	26	02	09	16
1011-1810	Pier F5 Dolphin Pile (team 3)	72	29-Feb-12	26-May-12																	
1011-1820.10	Pier F5 Marine Bore Pile - F5-4	0	09-Dec-11 A	07-Jan-12 A	Pier F5 Marine Bore Pile - F5-4																
1011-1820.20	Pier F5 Marine Bore Pile - F5-2	6	13-Jan-12 A	31-Jan-12	Pier F5 Marine Bore Pile - F5-2																
1011-1820.30	Pier F5 Marine Bore Pile - F5-1	12	01-Feb-12	14-Feb-12	Pier F5 Marine Bore Pile - F5-1																
1011-1820.40	Pier F5 Marine Bore Pile - F5-3	12	15-Feb-12	28-Feb-12	Pier F5 Marine Bore Pile - F5-3																
1011-1822	Pier F12 Dolphin Pile (team 3)	72	10-Mar-12	06-Jun-12																	
1011-1850	Pier F4 Dolphin Pile (team 2)	36	21-Mar-12	05-May-12																	
1011-1860.20	Pier F4 Marine Bore Pile - F4-6	0	19-Dec-11 A	14-Jan-12 A	Pier F4 Marine Bore Pile - F4-6																
1011-1860.30	Pier F4 Marine Bore Pile - F4-5	12	21-Jan-12	07-Feb-12	Pier F4 Marine Bore Pile - F4-5																
1011-1860.40	Pier F4 Marine Bore Pile - F4-2	12	08-Feb-12	21-Feb-12	Pier F4 Marine Bore Pile - F4-2																
1011-1860.50	Pier F4 Marine Bore Pile - F4-4	12	22-Feb-12	06-Mar-12	Pier F4 Marine Bore Pile - F4-4																
1011-1860.60	Pier F4 Marine Bore Pile - F4-1	12	07-Mar-12	20-Mar-12	Pier F4 Marine Bore Pile - F4-1																
1011-1864.10	Pier F8 Marine Bored Pile F8-4	8	16-Jan-12 A	03-Feb-12	Pier F8 Marine Bored Pile F8-4																
1011-1864.20	Pier F8 Marine Bored Pile F8-2	12	03-Feb-12	17-Feb-12	Pier F8 Marine Bored Pile F8-2																
1011-1864.30	Pier F8 Marine Bored Pile F8-3	12	17-Feb-12	02-Mar-12	Pier F8 Marine Bored Pile F8-3																
1011-1864.40	Pier F8 Marine Bored Pile F8-1	12	02-Mar-12	16-Mar-12	Pier F8 Marine Bored Pile F8-1																
1011-1910	Pier F7 Dolphin Pile (team 5)	72	19-Mar-12	15-Jun-12																	
1011-1920.10	Pier F7 Marine Bored Pile F7-4	11	19-Jan-12 A	06-Feb-12	Pier F7 Marine Bored Pile F7-4																
1011-1920.20	Pier F7 Marine Bored Pile F7-2	12	06-Feb-12	20-Feb-12	Pier F7 Marine Bored Pile F7-2																
1011-1920.30	Pier F7 Marine Bored Pile F7-3	12	20-Feb-12	05-Mar-12	Pier F7 Marine Bored Pile F7-3																
1011-1920.40	Pier F7 Marine Bored Pile F7-1	12	05-Mar-12	19-Mar-12	Pier F7 Marine Bored Pile F7-1																
1011-2010	Dismantle Piling Platform at Pier F5	6	21-Mar-12	27-Mar-12	Dismantle Piling Platform at Pier F5																
1011-2020	Dismantle Piling Platform at Pier F6	6	10-Apr-12	17-Apr-12	Dismantle Piling Platform at Pier F6																
1011-2100	Marine bored pile testing F5	18	29-Feb-12	20-Mar-12	Marine bored pile testing F5																
1011-2105	Marine bored pile testing F6	18	16-Mar-12	10-Apr-12	Marine bored pile testing F6																
Pier F01 to F02																					
1011-2540	Possession to Portion III	0	31-Dec-11 A		◆ Possession to Portion III																
1011-2550	Marine piling preparation works, portion III	0	31-Dec-11 A	06-Jan-12 A	Marine piling preparation works, portion III																
1011-2560	Erect Piling Platform pier F2B	7	09-Jan-12 A	01-Feb-12	Erect Piling Platform pier F2B																
1011-2570	Erect Pre-drilling Platform pier F2A	9	11-Feb-12	22-Feb-12	Erect Pre-drilling Platform pier F2A																
1011-2580	Erect Pre-drilling Platform pier F1B	9	01-Feb-12	11-Feb-12	Erect Pre-drilling Platform pier F1B																
1011-2590	Erect Pre-drilling Platform pier F1A	9	22-Feb-12	03-Mar-12	Erect Pre-drilling Platform pier F1A																
1011-2600	Pre-drilling pier F2B	10	22-Feb-12	05-Mar-12	Pre-drilling pier F2B																
1011-2610	Pre-drilling pier F2A	15	22-Feb-12	10-Mar-12	Pre-drilling pier F2A																
1011-2620	Pre-drilling pier F1B	10	05-Mar-12	16-Mar-12	Pre-drilling pier F1B																
1011-2630	Pre-drilling pier F1A	15	05-Mar-12	22-Mar-12	Pre-drilling pier F1A																
1011-2635	Portion III Marine Pile G.I. Final Report / Founding Level	30	22-Mar-12	30-Apr-12																	
1011-2680	Remove existing dolphin pier F2	0	31-Dec-11 A	03-Jan-12 A	Remove existing dolphin pier F2																
1011-2690	Remove existing dolphin pier F1	0	31-Dec-11 A	03-Jan-12 A	Remove existing dolphin pier F1																
1011-2770	Marine bored pile F2B	48	29-Mar-12	29-May-12																	
1011-2780	Marine bored pile F1B	48	29-Mar-12	29-May-12																	
10.1.2 - Land Pier Construction																					
Play Out 16 D11																					
1012-1010	Site Survey and Setting Out at Portion III	0	31-Dec-11 A	06-Jan-12 A	Site Survey and Setting Out at Portion III																

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					2011							January							February							March							April					
					26	02	09	16	23	30	06	13	20	27	05	12	19	26	02	09	16	23	30	06	13	20	27	05	12	19	26	02	09	16				
1012-1015	Pre-drilling for Piling (D08 to D12) at III (28 no.) (4set)	16	03-Jan-12 A	13-Feb-12	Pre-drilling for Piling (D08 to D12) at III (28 no.) (4set)																																	
1012-1020	Portion III Land Pile G.I. Prelim Report / Founding Level	6	13-Feb-12	20-Feb-12	Portion III Land Pile G.I. Prelim Report / Founding Level																																	
1012-1025	Portion III Land Pile G.I. Final Report / Founding Level	24	20-Feb-12	19-Mar-12	Portion III Land Pile G.I. Final Report / Founding Level																																	
1012-1030.10	Pier D08 Bored Pile D8-1	12	13-Feb-12	27-Feb-12	Pier D08 Bored Pile D8-1																																	
1012-1030.20	Pier D08 Bored Pile D8-6	12	27-Feb-12	12-Mar-12	Pier D08 Bored Pile D8-6																																	
1012-1030.30	Pier D08 Bored Pile D8-2	12	12-Mar-12	26-Mar-12	Pier D08 Bored Pile D8-2																																	
1012-1030.40	Pier D08 Bored Pile D8-5	12	26-Mar-12	12-Apr-12	Pier D08 Bored Pile D8-5																																	
1012-1030.50	Pier D08 Bored Pile D8-3	12	12-Apr-12	26-Apr-12	Pier D08 Bored Pile D8-3																																	
1012-1040.10	Pier D09 Bored Pile D9-1	12	13-Feb-12	27-Feb-12	Pier D09 Bored Pile D9-1																																	
1012-1040.20	Pier D09 Bored Pile D9-6	12	27-Feb-12	12-Mar-12	Pier D09 Bored Pile D9-6																																	
1012-1040.30	Pier D09 Bored Pile D9-2	12	12-Mar-12	26-Mar-12	Pier D09 Bored Pile D9-2																																	
1012-1040.40	Pier D09 Bored Pile D9-5	12	26-Mar-12	12-Apr-12	Pier D09 Bored Pile D9-5																																	
1012-1040.50	Pier D09 Bored Pile D9-3	12	12-Apr-12	26-Apr-12	Pier D09 Bored Pile D9-3																																	
1012-1050.10	Pier D10 Bored Pile D10-1	12	20-Feb-12	05-Mar-12	Pier D10 Bored Pile D10-1																																	
1012-1050.20	Pier D10 Bored Pile D10-6	12	05-Mar-12	19-Mar-12	Pier D10 Bored Pile D10-6																																	
1012-1050.30	Pier D10 Bored Pile D10-2	12	19-Mar-12	02-Apr-12	Pier D10 Bored Pile D10-2																																	
1012-1050.40	Pier D10 Bored Pile D10-5	12	02-Apr-12	19-Apr-12	Pier D10 Bored Pile D10-5																																	
1012-1060.10	Pier D11 Bored Pile D11-1	12	05-Mar-12	19-Mar-12	Pier D11 Bored Pile D11-1																																	
1012-1060.20	Pier D11 Bored Pile D11-6	12	19-Mar-12	02-Apr-12	Pier D11 Bored Pile D11-6																																	
1012-1060.30	Pier D11 Bored Pile D11-2	12	02-Apr-12	19-Apr-12	Pier D11 Bored Pile D11-2																																	
Pier D05 to D07																																						
1012-1260	Pre-drilling for 18 nos Piling at VIIB (2set)	11	08-Aug-11 A	06-Feb-12	Pre-drilling for 18 nos Piling at VIIB (2set)																																	
1012-1265	Portion VIIB Land Pile G.I. Final Report / Founding Level	15	03-Oct-11 A	23-Feb-12	Portion VIIB Land Pile G.I. Final Report / Founding Level																																	
1012-1270	Pier D07 Bored Piles (6 piles)	108	23-Feb-12	05-Jul-12	Pier D07 Bored Piles (6 piles)																																	
1012-1280.50	Pier D06 Bored Pile D06-4	8	03-Jan-12 A	02-Feb-12	Pier D06 Bored Pile D06-4																																	
1012-1280.60	Pier D06 Bored Pile D06-3	0	21-Dec-11 A	18-Jan-12 A	Pier D06 Bored Pile D06-3																																	
1012-1290.20	Pier D05 Bored Pile D05-1	13	02-Dec-11 A	19-Apr-12	Pier D05 Bored Pile D05-1																																	
10.1.3 - E/B Bridge Construction																																						
Bridge D3																																						
1013-1000	Design & Procurement of Launching Girder	75	21-Jan-12	24-Apr-12	Design & Procurement of Launching Girder																																	
14 - SECTION 14 OF THE WORKS																																						
14.1 - Soft Landscape																																						
1410-1000	Transplant. of ex. Trees to Nursery & upkeep	1515	21-Jan-12	09-Feb-17	Transplant. of ex. Trees to Nursery & upkeep																																	

- ▬ Remaining Level of Effort
- ▬ Actual Level of Effort
- ▬ Actual Work
- ▬ Remaining Work
- ▬ Critical Remaining Work
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