

Hip Hing – Ngo Kee Joint Venture

Hong Kong Convention and
Exhibition Centre Expansion
(Previously known as HKCEC
Atrium Link Extension):
*Monthly Environmental Monitoring
and Audit Report for August 2006*

September 2006

Environmental Resources Management

21/F Lincoln House
979 King's Road
Taikoo Place
Island East, Hong Kong
Telephone: (852) 2271 3000
Facsimile: (852) 2723 5660
E-mail: post.hk@erm.com
<http://www.erm.com>

ENVIRONMENTAL MONITORING &
AUDIT REPORT

Hip Hing – Ngo Kee Joint Venture

Hong Kong Convention and
Exhibition Centre Expansion
(Previously known as HKCEC
Atrium Link Extension):
*Monthly Environmental Monitoring
and Audit Report for August 2006*

14th September 2006

Reference 0050690

For and on behalf of

Environmental Resources Management

Approved by: Steve Duckworth

Signed: Steve Duckworth

Position: Deputy Managing Director

Certified by: 
(Environmental Team Leader – Marcus Ip)

Date: 14 September 2006

This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

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NATURE & TECHNOLOGIES (HK) LIMITED
科技環保(香港)有限公司

Unit 2 & 3, 4/F., Wellborne Commercial Centre, 8 Java Road, North Point, Hong Kong.
香港北角渣華道8號威邦商業中心4樓2及3室 Tel電話 : (852) 2877 3122 Fax傳真 : (852) 2511 0922
Email電郵: enquiry@nt.com.hk Web page網址 : http://www.nt.com.hk

Our Ref: 3.16/014/2006/it

14 September 2006

Maunsell Consultants Asia Ltd
Grand Central Plaza, Tower 2
138 Shatin Rural Committee Road
Shatin, N.T., Hong Kong

Attn: Ms Vera Chan

Dear Sir/Madam,

Hong Kong Convention Center Expansion (Previously known as Hong Kong Convention and Exhibition Center, Atrium Link Extension)
Monthly EM&A Report for August 2006
(Environmental Permit No. EP-239/2006)

With reference to the captioned document concerning the Monthly EM&A report for August 2006 received from ERM dated 14 September 2006, we are pleased to provide our verification for the document pursuant to condition 3 of the Environmental Permit (EP) No. EP-239/2006.

Yours faithfully,
Nature & Technologies (HK) Limited

Ir Dr Gabriel C K Lam
Managing Director

cc: - Hong Kong Trade Development Council (Attn: Mr. K. F. Chan)
- Hip Hing Ngo Kee Joint Venture (Attn: Mr. Eric Lau & Mr. William Tam)
- ERM (Attn: Mr. Marcus Ip)

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EXECUTIVE SUMMARY

The construction works for Hong Kong Convention and Exhibition Centre Expansion (previously known as HKCEC Atrium Link Extension) (EIAO Register No: AEIAR-100/2006) was commenced on 1 August 2006. This is the first monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 August 2006 to 31 August 2006 in accordance with the EM&A Manual.

Summary of construction works undertaken during reporting period

The major construction works taken during the reporting period were mobilization for pre-bored H-piles; excavation for additional trial pit; erection of catch platform near Expo Drive East; and additional ground investigation works.

Environmental Monitoring and Audit Progress

A summary of the monitoring activities in this reporting period is listed below:

24-hour & 1-hour TSP monitoring	6 times
Joint environmental site auditing	5 times

Air Quality

Six sets of 24-hour TSP monitoring were carried out at monitoring stations (AM1 & AM4) during the reporting period. No exceedance of Action Level of 24-hour TSP at monitoring stations was recorded during the reporting month.

Water quality

Since installation and removal of temporary marine piles was not undertaken during the reporting month, no water quality monitoring was conducted.

Construction Waste Management

Wastes from this Project include inert construction and demolition (C&D) wastes and non-inert C&D wastes. A total of 264 tonnes of inert C&D wastes and 132 tonnes of non-inert C&D materials were generated during the reporting period. The non-inert C&D wastes were disposed of at SENT Landfill. For the inert C&D materials collected in Northern Site and Southern Site, they were disposed of at the public fill barging point at Quarry Bay.

Environmental Site Auditing

Five weekly joint environmental site audits were carried out by the representatives of the IEC, RE, Hip Hing – Ngo Kee JV and ET. Details of the audit findings and implementation status are presented in *Section 6*.

Environmental Non-compliance

A non-compliance event related to the insufficient provision of a drip tray for chemical storage was recorded on 23 August 2006. Remedial action was taken by the Contractor and the condition was rectified.

No environmental complaint and summons was received in this reporting period.

Future Key Issues

Works to be taken in the coming monitoring period are foundation work and bored piling preparing work.

Potential environmental impacts arising from the construction activities in the coming month are mainly associated with dust, site runoff, marine water quality and waste.

ERM-Hong Kong, Limited (ERM) was appointed by the Hip Hing – Ngo Kee Joint Venture as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme for the Contract No. H200605 of Hong Kong Convention and Exhibition Centre Expansion (previously known as HKCEC Atrium Link Extension) (the Project).

1.1 PURPOSE OF THE REPORT

This is the first EM&A report which summarizes the impact monitoring results and audit findings for the EM&A programme during the reporting period from **1 August 2006** to **31 August 2006**.

1.2 STRUCTURE OF THE REPORT

The structure of the report is as follows:

Section 1 : Introduction

details the scope and structure of the report.

Section 2 : Project Information

summarizes background and scope of the project, site description, project organization and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licenses during the reporting period.

Section 3 : Environmental Monitoring Requirement

summarizes the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, Event / Action Plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.

Section 4 : Implementation Status on Environmental Mitigation Measures

summarizes the implementation of environmental protection measures during the reporting period.

Section 5 : Monitoring Results

summarizes the monitoring results obtained in the reporting period.

Section 6 : Environmental Site Auditing

summarizes the audit findings of the weekly site inspections undertaken within the reporting period.

Section 7 : **Environmental Non-conformance**

summarizes any monitoring exceedance, environmental complaints and environmental summons within the reporting period.

Section 8 : **Future Key Issues**

summarizes the impact forecast and monitoring schedule for the next three months.

Section 9 : **Review of EM&A Data and EIA Predictions**

compare and contrast the EM&A data in the month with the EIA predictions and annotate with explanation for any discrepancies.

Section 10 : **Conclusions**

2.1 BACKGROUND

The Hong Kong Trade Development Council (TDC) is expanding its existing facilities to provide additional space for Hong Kong's leading trade fairs to be held at the Hong Kong Convention and Exhibition Centre (HKCEC). The Project is located in the North Wan Chai and will occupy the aerial space between Phase I and Phase II of the HKCEC. The new Atrium Link Extension (ALE) will span across the water channel between Phase I and Phase II of the HKCEC to accommodate 3 main levels of Exhibition Hall Extensions. The level of the main roof of the Extension will be of similar height as that of the podium roof of the Phase I building. A northern row of permanent supporting columns will be located on land close to Expo Drive Central and similarly a southern row will land near to Convention Avenue. There will be no permanent intermediate columns in the waterway.

The major works activities for the ALE will comprise the following:

- Construction and demolition of the temporary footbridge;
- Demolition of the existing Atrium Link;
- Construction and demolition of a temporary working platform;
- Construction of foundations and pile caps for the ALE; and
- Construction of superstructure for the ALE.

The potential environmental impacts of the Project have been studied in the "*Hong Kong Convention and Exhibition Centre, Atrium Link Extension*" (EIAO Register No: AEIAR-100/2006). The EIA was approved on 21 April 2006 under the *Environmental Impact Assessment Ordinance* (EIAO) and an Environmental Permit (EP-239/2006) for the works was granted on 12 May 2006. Under the requirements of Condition 3.2 of Environmental Permit EP-239/2006, EM&A programme as set out in the EM&A Manual is required to be implemented.

The construction works commenced on 1 August 2006 and are scheduled to be completed by March 2009.

2.2 SITE DESCRIPTION

The works areas of the Project are illustrated in *Annex A*.

2.3 CONSTRUCTION ACTIVITIES

A summary of the major construction activities undertaken in this reporting period is shown in *Table 2.1*. The locations of the construction activities are shown in *Annex B*.

Table 2.1 *Summary of Construction Activities Undertaken from 1 August 2006 to 31 August 2006*

Construction Activities Undertaken
<ul style="list-style-type: none">• Mobilization for pre-bored H-piles• Excavation for additional trial pit at North Side• Erection of catch platform near Expo Drive East• Additional ground investigation works

2.4 PROJECT ORGANISATION

The project organization chart and contact details are shown in *Annex C*.

2.5 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since August 2006 is presented in *Table 2.2*.

Table 2.2 *Summary of Environmental Licensing, Notification and Permit Status*

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
Environmental Permit	EP-239/2006	Throughout the Contract	Permit granted on 12 May 2006
Notification of Construction Works under Air Pollution Control (Construction Dust) Regulation	--	--	Notification on 23 June 2006
Water Discharge License	EP860/W10/XY0145	N/A	Discharge of industrial trade effluent into communal storm water drain
Chemical Waste Producer Registration	WPN5213-134-H3125-01	N/A	Chemical waste types: spent paint, acid, alkaline, adhesive, diesel fuel, lubricating oil and bitumen.
Construction Noise Permit for area inside the Atrium Link	GW-RS0429-06	Valid from 25 July 2006 and expired on 23 December 2006	-

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
	GW-RS0460-06	Valid from 7 August 2006 and expired on 20 August 2006	
	GW-RS0487-06	Valid from 21 August 2006 and expired on 30 December 2006	-
	GW-RS0511-06	Valid from 29 August 2006 and expired on 27 October 2006	-

3.1 AIR QUALITY MONITORING

3.1.1 Monitoring Location

In accordance with the EM&A Manual, ambient 24-hour and 1-hour Total Suspended Particulates (TSP) levels was conducted at the monitoring stations listed in *Table 3.1*. Map and photographs showing the monitoring stations are presented in *Annex D*.

Table 3.1 *Air Monitoring Stations*

Monitoring Station	Description
AM1	Pedestrian Plaza
AM2	Renaissance Harbour View Hotel Hong Kong

3.1.2 Monitoring Parameters, Frequency and Programme

Air quality monitoring was conducted in accordance with the requirements stipulated in the EM&A Manual (*Table 3.2*). The monitoring programme for this and next three reporting period is shown in *Annex E*.

Table 3.2 *TSP Monitoring Parameter and Frequency*

Parameter	Frequency
24-hour TSP	Once per day for 14 days
1-hour TSP	3 times per day for 14 days

3.1.3 Action and Limit Levels

The Action and Limit levels have been established in accordance with the EM&A Manual and are presented in *Table 3.3*.

Table 3.3 *Action and Limit Levels for Air Quality*

Parameter	Air Monitoring Station	Action Level, $\mu\text{g}/\text{m}^3$	Limit Level, $\mu\text{g}/\text{m}^3$
24-hour TSP	AM1	161	260
	AM2	168	260
1-hour TSP	AM1	327	500
	AM2	329	500

3.1.4 Monitoring Equipment

Continuous 24-hour and 1-hour TSP monitoring were performed using High Volume Samplers (HVS) with appropriate sampling inlets installed, located at the designated monitoring station. The performance specification of HVS complies with the standard method “*Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)*” as stipulated in US EPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50 Appendix B).

Table 3.4 summarizes the equipment that was used in the 24-hour and 1-hour TSP monitoring.

Table 3.4 ***TSP Monitoring Equipment***

Monitoring Station	Equipment	Model (HVS, Calibration Kit)
AM1 (for 24-hr TSP)	HVS, Calibration Kit	GMW-9503, Tisch TE-5025 A
AM2 (for 24-hr TSP)	HVS, Calibration Kit	GMW-9795, Tisch TE-5025A
AM1 (for 1-hr TSP)	HVS, Calibration Kit	GMW-9864, Tisch TE-5025A
AM2 (for 1-hr TSP)	HVS, Calibration Kit	GMW-8115, Tisch TE-5025 A

3.1.5 ***Monitoring Methodology***

Installation

The HVSs at AM1 and AM2 were placed at about 1.3 m above local ground level and about 4.3 m above local ground respectively. All of the HVSs were free-standing with no obstruction.

The following criteria were considered in the installation of the HVSs:

- horizontal platform with appropriate support to secure the samplers against gusty wind were provided at AM1 & AM2;
- a minimum of 2 m separation from walls, parapets and penthouses was required for rooftop samplers;
- no furnace or incinerator flues were nearby;
- airflow around the sampler was unrestricted; and
- permission was obtained to set up the samplers and to gain access to the monitoring stations.

Preparation of Filter Papers by ETS-Test Consultant Ltd

- glass fibre filters were labeled and sufficient filters that were clean and without pinholes were selected;
- all filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25 °C and not variable by more than ± 3 °C; the relative humidity (RH) was 40%; and
- ETS-Test Consultant Ltd, a HOKLAS accredited laboratory, implements comprehensive quality assurance and quality control programmes.

Field Monitoring

- the power supply was checked to ensure that the HVSs were working properly;
- the filter holder and the area surrounding the filter were cleaned;

- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- the swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- then the shelter lid was closed and secured with the aluminum strip;
- the HVSs were warmed-up for about 5 minutes to establish run-temperature conditions;
- a new flowrate record sheet was set into the flow recorder;
- the flow rate of the HVSs was checked and adjust at around 0.6 -1.44 m³/min. The range specified in the EM&A Manual was between 0.6 – 1.7 m³/min;
- the programmable timer was set for a sampling period of 24 hours ± 1 hour, and the starting time, weather condition and the filter number were recorded;
- the initial elapsed time was recorded;
- at the end of sampling, the sampled filter was removed carefully and folded in half length so that only surfaces with collected particulate matter were in contact;
- it was then placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- filters were sent to ETS-Test Consultant Ltd for analysis.

Maintenance and Calibration

- the HVSs and their accessories were maintained in good working condition, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply; and
- the flow rate of each HVS with mass flow controller were calibrated using an orifice calibrator. Initial calibration of the dust monitoring equipments were conducted upon installation and prior to commissioning. Five-point calibration was carried out for HVSs using Tisch TE-5025 A Calibration Kit. The calibration records for the HVSs are given in *Annex F*.

3.1.6 *Event Action Plan*

The Event / Action Plan (EAP) for air quality monitoring is presented in *Annex G*.

3.1.7 *Mitigation Measures*

The EIA Report recommended air quality control and mitigation measures during the construction phase in accordance with the Air Pollution Control (Construction Dust) regulation and good site practices are summarised below:

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

3.2 *WATER QUALITY MONITORING*

3.2.1 *Monitoring Location*

In accordance with the EM&A Manual, the marine water quality monitoring will be conducted at the monitoring stations during the installation and removal of temporary marine piles (*Table 3.5*). Map and photographs showing the monitoring stations are presented in *Annex D*.

Table 3.5 *Water Quality Monitoring Locations*

Station	Location	Intake Level	Easting	Northing
W3	Hong Kong Convention and Exhibition Centre Phase I Cooling Water Intake	7.5m below the existing pump house floor	835852.3	815907.0
W4	Wan Chai Tower/ Revenue Tower/ Immigration Tower Cooling Water Intake ⁽¹⁾	5m below the top of the existing sea wall	835944.1	815885.0
W5	Great Eagle Centre, China Resources Building Cooling Water Intake	5m below the top of the existing sea wall	835963.4	815886.5

Note:
⁽¹⁾ The cooling water intake for Wan Chai Tower / Revenue Tower/ Immigration Tower will be partially relocated to the new pump house adjacent to Station W3 tentatively in September 2006.

3.2.2 *Monitoring Parameters, Frequency and Programme*

The water quality monitoring will be conducted in accordance with *Table 3.6* during the period of installation and removal of temporary marine piles.

Table 3.6 *Water Quality Monitoring Parameters & Frequency*

Parameter	Frequency	No. of Samples per Monitoring Event	Duration
Dissolved Oxygen (DO) Suspended Solids (SS) Turbidity	3 days per week at mid-flood & mid-ebb tides	2	During installation and removal of temporary marine piles.

Reference will be made to the predicted tides at Quarry Bay, which is the tidal station nearest to the Project Site, published on the web site of Hong Kong Observatory (<http://www.hko.gov.hk/tide/eQUBtide.htm>).

Measurements of suspended solids (SS), turbidity in Nephelometric Turbidity Units (NTU) and dissolved oxygen (DO) in mgL⁻¹ shall be undertaken at designated monitoring stations. The first parameter shall be determined in the laboratory with the latter three shall be measured in-situ.

3.2.3 *Action and Limit Levels*

The Action and Limit levels have been established in accordance with the EM&A Manual and are presented in *Table 3.7*.

Table 3.7 *Action and Limit Levels for Water Quality*

Parameter	Tide	Action Level	Limit Level
Dissolved Oxygen (DO) in mgL ⁻¹	Mid-Ebb	3.26	3.23
	Mid-Flood	3.25	3.14
Suspended Solids (SS) in mgL ⁻¹	Mid-Ebb	9.00	10.00
	Mid-Flood	8.18	8.40
Turbidity (Tby) in NTU	Mid-Ebb	5.32	6.19
	Mid-Flood	4.76	5.79

Dissolved oxygen and temperature measuring equipment

The portable and weatherproof dissolved oxygen (DO) measuring meter (YSI model 85) will be used in the impact monitoring. It is capable of measuring:-

- a dissolved oxygen level in the range of 0-20 mgL⁻¹ and 0-200% saturation; and
- a temperature of 0-45 degree Celsius.

The DO measuring meter has a membrane electrode with automatic temperature compensation complete with a 50-feet cable. Wet bulb calibration for a DO meter will be carried out before measurement at each monitoring station.

Turbidity Measurement Instrument

The turbidity measurements will be carried out on split water sample collected from the same depths of SS samples. A portable and weatherproof turbidity-measuring meter (HACH model 2100P) will be used in the impact monitoring. It has a photoelectric sensor capable of measuring turbidity between 0-1000 NTU. Response of the sensor will be checked with certified standard turbidity solutions before the start of measurement.

Suspended Solids

Water samples for suspended solids measurement will be collected by use of a transparent PVC cylinder (Kahlsico Water Sampler), packed in ice (cooled to 4°C without being frozen) and delivered to the laboratory as soon as possible after collection. The SS determination work will be started within 24 hours after the collection of the water samples, and the testing method of SS will be carried by ETS-Testconsult Ltd (HKLOS accredited laboratory) in accordance with the APHA 19ed 2540D⁽¹⁾ and the lowest detection limit is 1 mgL⁻¹. The Quality Assurance/Quality Control (QA/QC) procedures will be followed as required by HOKLAS.

Water Depth Detector

A portable, battery-operated echo sounder (Speedtech instrument SM-5A) will be used for the determination of water depth at each designated monitoring station.

Salinity

A portable salinometer (YSI Model 85) capable of measuring salinity in the range of 0 - 40 ppt will be used to measure the salinity of the marine water at

⁽¹⁾ American Public Health Association Standard Methods for the Examination of Water and Wastewater.

monitoring stations. It will be checked with 30ppt Salinity solutions before the start of the measurement.

Location of the Monitoring Sites

A hand-held GPS (MLR SP24) and together with a suitably scaled map will be used for locating the water quality monitoring stations.

Calibration of Equipment

All in-situ monitoring instruments will be checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use, and subsequently re-calibrated at 3 monthly intervals throughout the water quality monitoring.

3.2.5 Event / Action Plan

The Event / Action Plan (EAP) for water quality monitoring is presented in *Annex G*.

3.2.6 Mitigation Measures

Mitigation measures for water quality control have been recommended in the EIA Report. The Contractor should be responsible for the design and implementation of the following measures:

Marine Piling and Pile Extraction Works

- No dredging or soil/sediment excavation should be carried out;
- Marine piles would be removed by reverse driving;
- In view of the close vicinity of the seawater intakes to the work site, two layers of silt curtain would be installed around each of the marine piling and pile extraction locations to minimize the potential for water quality impacts due to any unforeseen sediment release during the pile extraction or accidental release of excavated sediment during the marine piling;
- The proposed silt curtain should be extended to seabed with sinker blocks and regularly inspected and maintained to ensure that it is serviceable;
- All marine works should be carried out in a controlled manner such that release of sediments into the marine environment would be minimized; and
- All wastewater generated from the piling activities should be collected and be treated before controlled discharge. Spoil should also be properly collected for proper disposal.

In view of the close vicinity of the seawater intakes to the work site, silt screens are recommended to be deployed at all the seawater intakes during the whole construction period. Silt screens to be provided at seawater intakes should be regularly checked and maintained to ensure that they are serviceable

Refuse collection vessel should be mobilized on a need basis to collect any floating refuse lost from/ trapped at the work site during the construction period to minimize the potential water quality impacts from construction site runoff and various construction activities, the practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.

Construction Works at Storm Culvert or in Close Proximity of Seafront

To minimize the potential water quality impacts from the construction works located at or near the storm system or seafront, the following mitigation measures should be adopted:

- The use of less or smaller construction plants may be specified to reduce the disturbance to the seabed;
- Temporary sewerage system should be designed to prevent wastewater from entering the storm system and sea;
- Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works;
- Stockpiling of construction materials and dusty materials should be covered and located away from any water courses;
- Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers;
- Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable;
- Mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff;
- Construction effluent, site run-off and sewage should be properly collected and/or treated;
- Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/sea; and

- Supervisory staff should be assigned to station on site to closely supervise and monitor the works.

Barging Activities

During barging activities, the following mitigation measures should be adopted:

- All barges should be fitted with tight seals to their bottom opening to prevent leakage of materials;
- The decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard;
- Loading of barges should be controlled to prevent splashing of materials to the surrounding environment and barges should under no circumstances be filled to a level which would cause overflowing of material or sediment laden water during loading and transportation; and
- All barges should maintain adequate clearance between vessels and the seabed at all states of the tide and should operate at a reduced speeds to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.

IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented environmental mitigation measures and requirements as stated in the EIA Report, the Environmental Permit and EM&A Manual. The implementation status and status of required submissions under the EP during the reporting period is summarized in *Annex H*.

5.1 AIR QUALITY

The monitoring data at AM1 and AM2 are provided by ETS-Testconsult Ltd. Six sets of 24-hour and 1-hour TSP monitoring were carried out at monitoring stations (AM1 & AM2) during the reporting period. The monitoring data for 24-hour TSP and 1-hour TSP together with wind data and graphical presentations are presented in *Annex I*.

The weather condition during the monitoring period varied from sunny to rainy. The local impacts observed near the monitoring stations were mainly vehicle emissions along Convention Avenue and Fleming Road.

5.2 WATER QUALITY

In accordance with Section 4.11 of the EM&A Manual, water quality monitoring shall be conducted during the period of installation and removal of temporary marine piles. Since there was no such work undertaken during the reporting month, no water quality monitoring was conducted.

According to the Water Discharge License, water sampling should be conducted quarterly to ensure the quality of treated effluent complying with the requirements of discharge license. The Contractor is proposed to conduct the water sampling bi-monthly and the 1st sampling will be conducted on 7 September 2006. Results of water sampling will be presented in next reporting period.

5.3 WASTE MANAGEMENT

Wastes from this Project include inert construction and demolition (C&D) wastes and non-inert C&D wastes. Reference has been made on the Monthly and Yearly Summary Waste Flow Table prepared by Hip Hing - Ngo Kee Joint Venture (*Annex J*). With respect to relevant handling records and trip tickets of this Project, the quantities of different wastes are summarized in *Table 5.1*.

Waste Management Plan is being prepared by the Contractor in accordance with ETWB TCB No. 19/2005 in this reporting month.

Table 5.1 Quantities of Different Waste

Month / Year	Quantity	
	C&D Materials (inert) ^(a)	C&D Materials (non-inert) ^(b)
August 2006	264 tonnes	132 tonnes

Quantity
Notes:
(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil and were disposed at the public fill barging point at Quarry Bay.
(b) Non-inert C&D materials include steel materials generated from demolition of footbridge, the existing Atrium Link and working platform, paper / cardboard packaging waste, chemical waste and other wastes such as general refuse. Non-inert C&D material were disposed at SENT Landfill.

Weekly site inspections were carried out by the representatives of the IEC, Engineer, Hip Hing – Ngo Kee Joint Venture and the ET. Five site inspections were conducted on 2, 8, 16, 23 and 30 August 2006. There was one non-compliance event recorded in the reporting month and detailed in *Section 7* of this report.

Major findings and recommendations are summarized as follows:

Site Specific

- (i) It is recommended to provide wheel washing facilities at both site entrances. The corrective action was undertaken as observed in the site audit conducted in the reporting period.
- (ii) It is recommended to wet the dusty materials during the disposal of wastes. The corrective action was undertaken as observed in the site audit conducted in the reporting period.
- (iii) It is recommended to cover a pile of rubbles with adequate size of tarpaulin sheet. The corrective action was undertaken as observed in the site audit conducted in the reporting period.
- (iv) It is recommended to sorting of waste on-site. The corrective action was undertaken as observed in the site audit conducted in the reporting period.
- (v) It is recommended to collect wastewater and spoil generated from the piling activities by sump pits and sedimentation tanks before discharge. The corrective action was undertaken as observed in the site audit conducted in the reporting period.
- (vi) It is recommended to provide perimeter channels or other suitable measures along the seaward boundary of the Site to intercept site runoff generated within the Site so that it will not wash across the Site and flow into the harbour. The corrective action was undertaken as observed in the site audit conducted in the reporting period.
- (vii) It is recommended not to store drums of oil at the back of moving drilling rigs. The corrective action was undertaken as observed in the site audit conducted in the reporting period.
- (viii) It is recommended to store hydrochloric acid with secondary containment. The corrective action was undertaken as observed in the site audit conducted in the reporting period.
- (ix) It is recommended to provide drip trays with sufficient size for the storage of lubricating oils to avoid spillage. The corrective action was

undertaken as observed in the site audit conducted in the reporting period.

- (x) It is recommended to provide drip tray with sufficient size for the containing of breaker. The corrective action was undertaken as observed in the site audit conducted in the reporting period.

General

- (xi) It is recommended to prepare waste disposal recording system in accordance with Annex 2, Appendix A of the Environment, Transport and Works Bureau Technical Circular (Works) No. 31/2004. Completion of the corrective action by the Contractor is still awaited in the reporting period.
- (xii) It is recommended to obtain effluent discharge license under the Water Pollution Control Ordinance (WPCO) for the Site. An application was made dated 4 July 2006 and the license was granted on 9 August 2006.
- (xiii) It is recommended to display conspicuously a copy of EP on all construction sites at all vehicular site entrances/exits in accordance with the EP Condition 1.5. Completion of the corrective action by the Contractor is still awaited in the reporting period.

7.1 SUMMARY OF MONITORING EXCEEDANCE

No exceedance of the Action and Limit Levels of 24-hour TSP was recorded at monitoring stations during the reporting period.

7.2 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE

A non-compliance event was recorded on 23 August 2006. The non-compliance event was related to the insufficient provision of a drip tray for chemical storage.

The non-compliances were summarised in *Table 7.1* and details are given in *Annex K*.

Table 7.1 *Summary of Non-Compliance*

Date	Non-compliance Event	Action implemented by the Contractor
23 August 2006	Capacity of drip tray for lubricating oils (~15 x 20 Litre drums) was not sufficient. Oil stains were observed around the drip tray indicating occurrence of potential spillage and inadequate housekeeping.	As of 1 September 2006, the Contractor provided additional drip tray to store chemicals and use sands to absorb spillage. No oil stain was observed around the drip tray. The condition was rectified on 30 August 2006.

7.3 SUMMARY OF ENVIRONMENTAL COMPLAINT

No complaint was received during the reporting period. A statistical summary of environmental complaints since project commencement is presented in *Table 7.2*.

Table 7.2 *Statistical Summary of Environmental Complaint*

Reporting Period	Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
1/8/06 – 31/08/06	0	0	-

7.4 SUMMARY OF ENVIRONMENTAL SUMMON AND SUCCESSFUL PROSECUTION

No summons was received during the reporting period.

8.1 KEY ISSUES FOR THE COMING MONTH

Works to be taken for the coming monitoring period are summarized in *Table 8.1*.

Table 8.1 Construction Works To Be Taken In The Coming Month

Work to be taken
<ul style="list-style-type: none"> • Bored piling preparing work • Foundation work - Pre-bored H-pile Piling works

Potential environmental impacts arising from the above construction activities are mainly associated with dust, site runoff and waste management.

8.2 MONITORING SCHEDULE FOR THE COMING MONTHS

The tentative schedule of TSP monitoring for the next three months is presented in *Annex E*. The environmental monitoring will be conducted at the same monitoring locations in this reporting month. It is anticipated that the installation of temporary marine piles may be carried out in the coming month and the water monitoring will be conducted during the installation of temporary marine piles. The monitoring programme has been reviewed and was considered as adequate to cater the nature of works in progress.

8.3 CONSTRUCTION PROGRAMME FOR THE NEXT THREE MONTHS

The construction programme for the next three months is presented in *Annex L*.

9.1 AIR QUALITY

Since the EIA only have qualitative assessment of dust impact during construction phase, the comparison were made on monitoring results and the Hong Kong Air Quality Objectives (HKAQO) (*Table 9.1*).

Table 9.1 *Comparison of the Predicted and Monitoring Results of Air Quality Monitoring*

Monitoring Stations	Corresponding ASR in EIA	HKAQO, ug/m ³	Measured 24 hour TSP Monitoring Results, ug/m ³	
		24 hour ⁽¹⁾	Average	Range
AM1	AM8	260	52	34 - 76
AM2	AM6	260	58	29 - 132

Remarks:
⁽¹⁾ Only 24 hours TSP monitoring results were compared as there is no maximum allowable concentration of 1 hour TSP in HKAQO.

The monitoring results show that air quality impacts from construction activities during the reporting period are well below maximum allowable concentration stipulated in the HKAQO. Recommended mitigation measures in Section 4.24 of EIA were implemented during the reporting period and are regarded as effective.

9.2 WATER QUALITY

Since no water quality monitoring is required in the reporting period, review of EM&A data will be conducted in the future report.

9.3 WASTE MANAGEMENT

The estimated amount of waste generated in this project and the quantities of waste generated during the reporting period are presented in *Table 9.2*. Recommended mitigation measures in Section 6.35 to 6.41 of the EIA are implemented during the reporting period and regarded as effective.

Table 9.2 *Comparison of the Estimated Amount and the Actual Amount of Waste Generated*

Type of Material	Estimated Amount of C&D Materials in EIA (inert & non-inert)	Actual Amount of C&D Materials Recorded (inert & non-inert)
Demolition of temp. footbridge	585 tonnes	0
Demolition of existing Atrium Link	4680 tonnes	0
Demolition of temp. working platform	390 tonnes	0

Type of Material	Estimated Amount of C&D Materials in EIA (inert & non-inert)	Actual Amount of C&D Materials Recorded (inert & non-inert)
Construction of foundations and pile caps	20 000 tonnes	345 tonnes
General Refuse	Insignificant	50 tonnes
Chemical Waste	Small	0

9.4

CONCLUSION OF REVIEW

The EIA predictions and the monitoring results during the reporting period have been reviewed. As the EIA predictions were based on worst scenarios of the construction activities, and therefore the EIA predictions were higher than the monitoring results.

It is concluded that there are no discrepancies observed between the EIA predictions and the monitoring results. Recommendations given in the EIA are also considered to be adequate and effective for minimising the environmental impacts.

The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 1 August to 31 August 2006 in accordance with EM&A Manual and the requirement under EP-239/2006.

No exceedance of the Action and Limit Levels of 24-hour and 1-hour TSP was recorded at the monitoring stations during the reporting month.

A non-compliance event was recorded on 23 August 2006. The non-compliance event was related to the insufficient provision of a drip tray for chemical storage. Remedial action was taken by the Contractor and the condition was rectified on 30 August 2006.

There was no complaint and summons/prosecution received during the reporting period.

The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Annex A

Locations of Works Areas

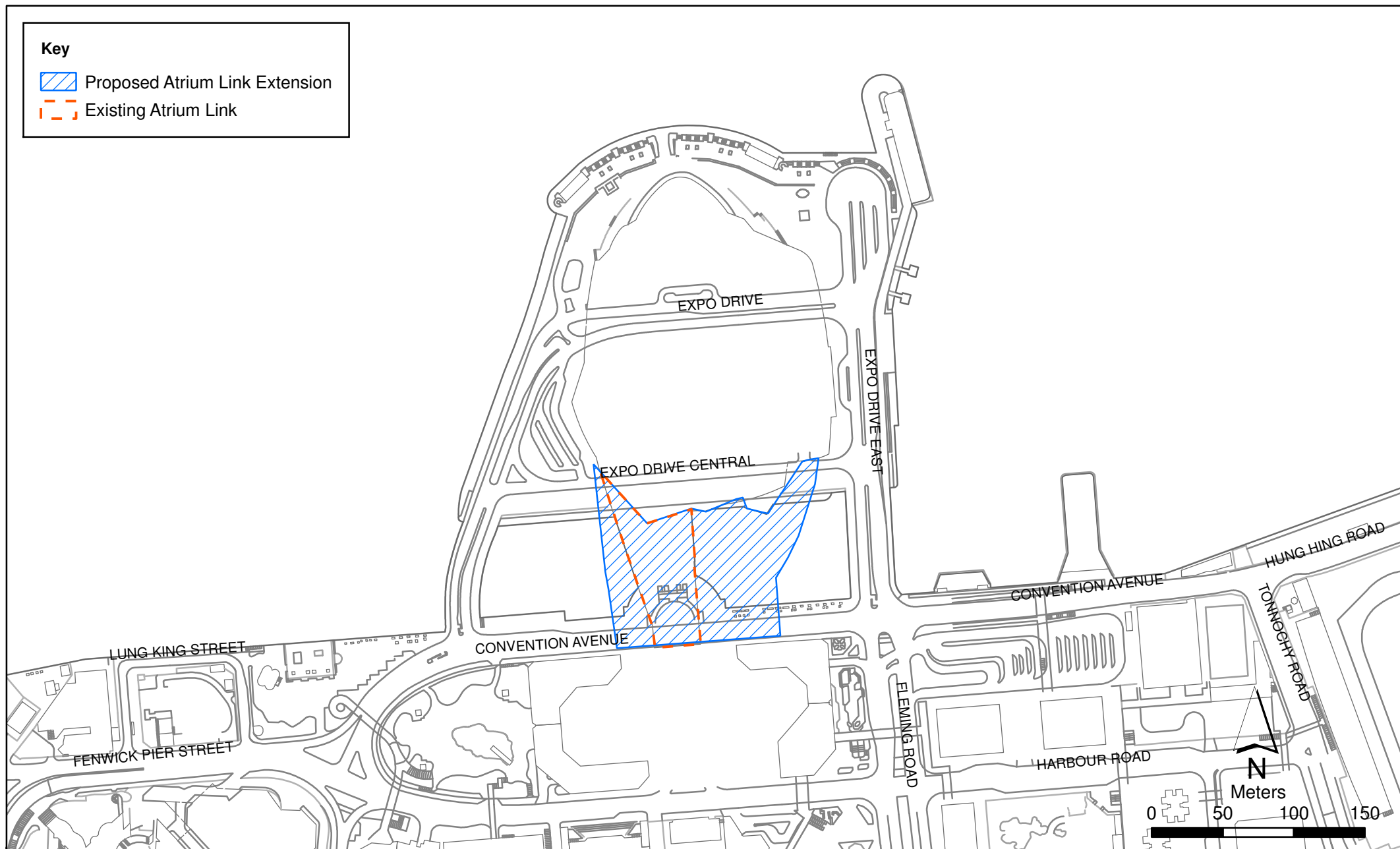


Figure A1

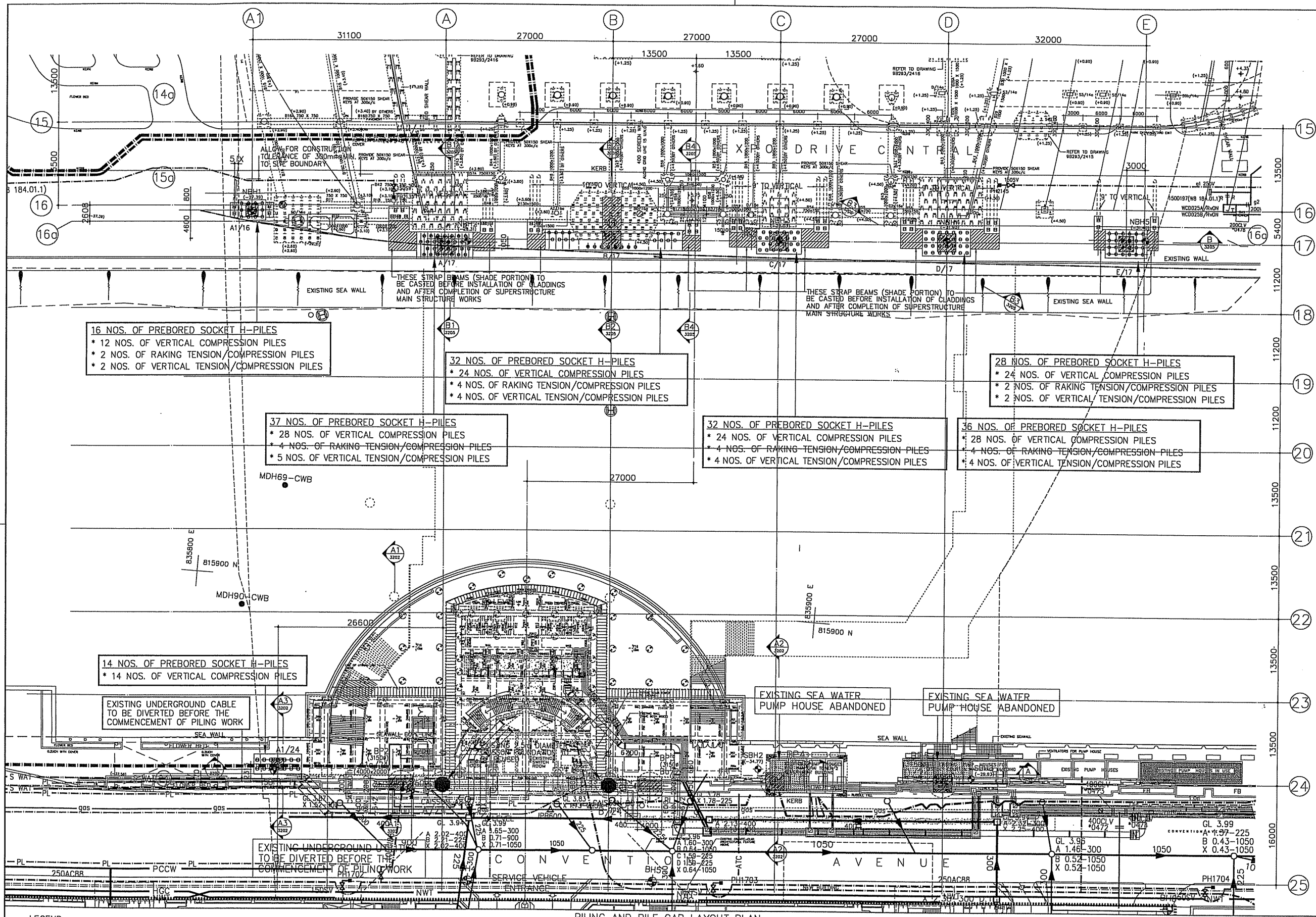
Location of Atrium Link Extension

Annex B

Location of Construction
Activities during the
Reporting Month






Progress Summary

Item	Description	Location
3.1	Excavation for additional trial pit had been completed on 18 Aug 2006.	G/F Northern Side (Between A15-A16 and B15-B16)
3.2	Additional ground investigation works will be completed by 25 Aug 2006.	G/F South Side
3.4	Mobilization for Prebored H piles.	G/F North Side G/F South Side
3.5	Prebored H piles had been commenced on 8 Aug 2006.	(E/17) (A/17) (A1/16) (A1-24)
3.6	Erection of catch platform near Expo Drive East (include weld test) had been completed on 21 Aug 2006.	G/F North side (Near East Side)



B.L.D. REF		
F.S.D. REF		
REVISIONS		
NUMBER	DESCRIPTION	DATE
-	FOR SUBMISSION	9-6-06
A	PIILING FOR COLUMNS A1/24, A16/24, A/24, B/24 & B2/24 REVISED.	20-7-06
	FOR AMENDMENT SUBMISSION	21-7-06
B	PIILING FOR COLUMNS A1/16, A/17, B/17, C/17, D/17 & E/17 REVISED.	25-7-06
	FOR AMENDMENT SUBMISSION	26-7-06
C	REVISE DETAILS FOR BP4, BP5	31-7-06
	FOR AMENDMENT SUBMISSION (MTR)	3-8-06
D	REVISE DETAILS FOR A1/16, A/17, B/17, C/17, D/17 & E/17	4-8-06
	REPLACE SUBMISSION AT 26-7-06	4-8-06
E	FOR SUBMISSION TO CEDD	10-8-06
F	COLUMN A/17 LOCATION REVISED.	18-8-06

AMENDED PLAN

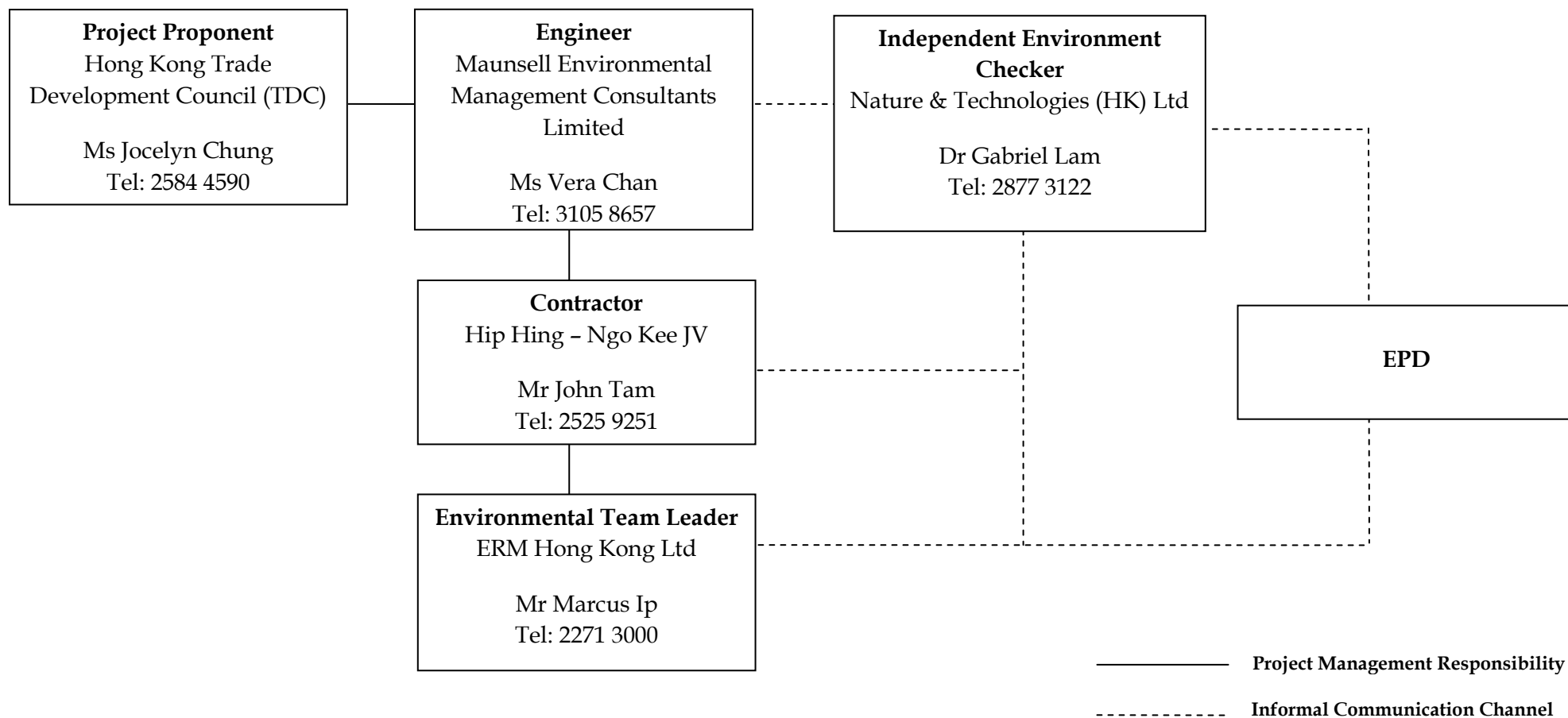
CLIENT	 香港貿易發展局 Hong Kong Trade Development Council	
MAIN CONTRACTOR	 Hip Hing - Ngo Kee Joint Venture	
ARCHITECT	 WONG & OUYANG (HK) LTD ARCHITECTS AND ENGINEERS	
STRUCTURAL ENGINEER	 WONG & OUYANG (CIVIL STRUCTURAL ENGINEERING) LTD.	
BUILDING SERVICES ENGINEER	 WONG & OUYANG (BUILDING SERVICES) LTD	
PROJECT	HONG KONG CONVENTION & EXHIBITION CENTRE EXPANSION PROJECT	
DRAWING TITLE	PILING AND PILE CAP LAYOUT PLAN (PREBORED H-PILE AND BORED PILE	
DESIGNER'S SIGNATURE FOR SUBMISSION		
SIGN	DATE	
INDEPENDENT DESIGN CHECKER'S SIGNATURE FOR SUBMISSION		
SIGN	DATE	
DRAWN BY	SIZE	DATE 24-2-06
ENTERED BY	CHK/PAX	PLOT DATE 26-7-06
CHECKED BY	LTW	DATE 26-7-06
SCALE	1:300	PRINT DATE 26-7-06
JOB NUMBER	DRAWING NUMBER	REVISION
2119	3201	F
DO NOT SCALE OFF DRAWING. THIS DRAWING IS NOT FOR CONSTRUCTION PURPOSES UNLESS EXPRESSLY STATED. ALL RIGHTS RESERVED AND REPRODUCTION IN ANY FORM MUST BE APPROVED BY WONG & OUYANG (HK) LTD.		

PROGRESS PRINT

Annex C

Project Organisation

Project Organization (with contact details)



Annex D

Locations of Air and Water Quality Monitoring Stations

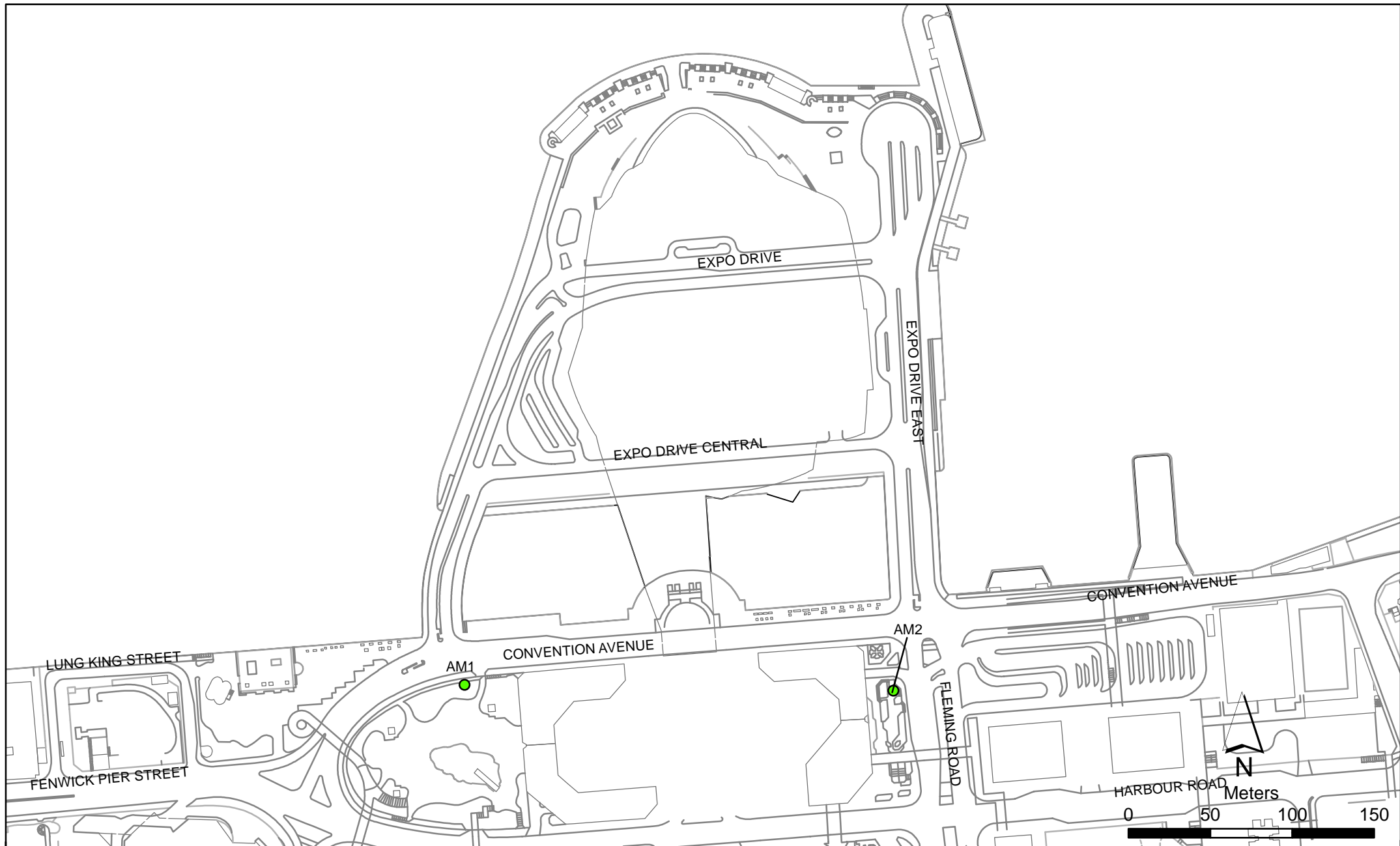


Figure D1

Air Quality Monitoring Station

File: 0050690_2.mxd
Date: 08/09/2006

Environmental
Resources
Management



Monitoring Station	Description	Easting	Northing
3	Hong Kong Convention and Exhibition Centre Phase I Cooling Water Intake	835852.3	815907.0
4	Wan Chai Tower/Revenue Tower/Immigration Towe Cooling Water Intake	835944.1	815885.0
5	Great Eagle Centre/China Resources Building Cooling Water Intake	835963.4	815886.5

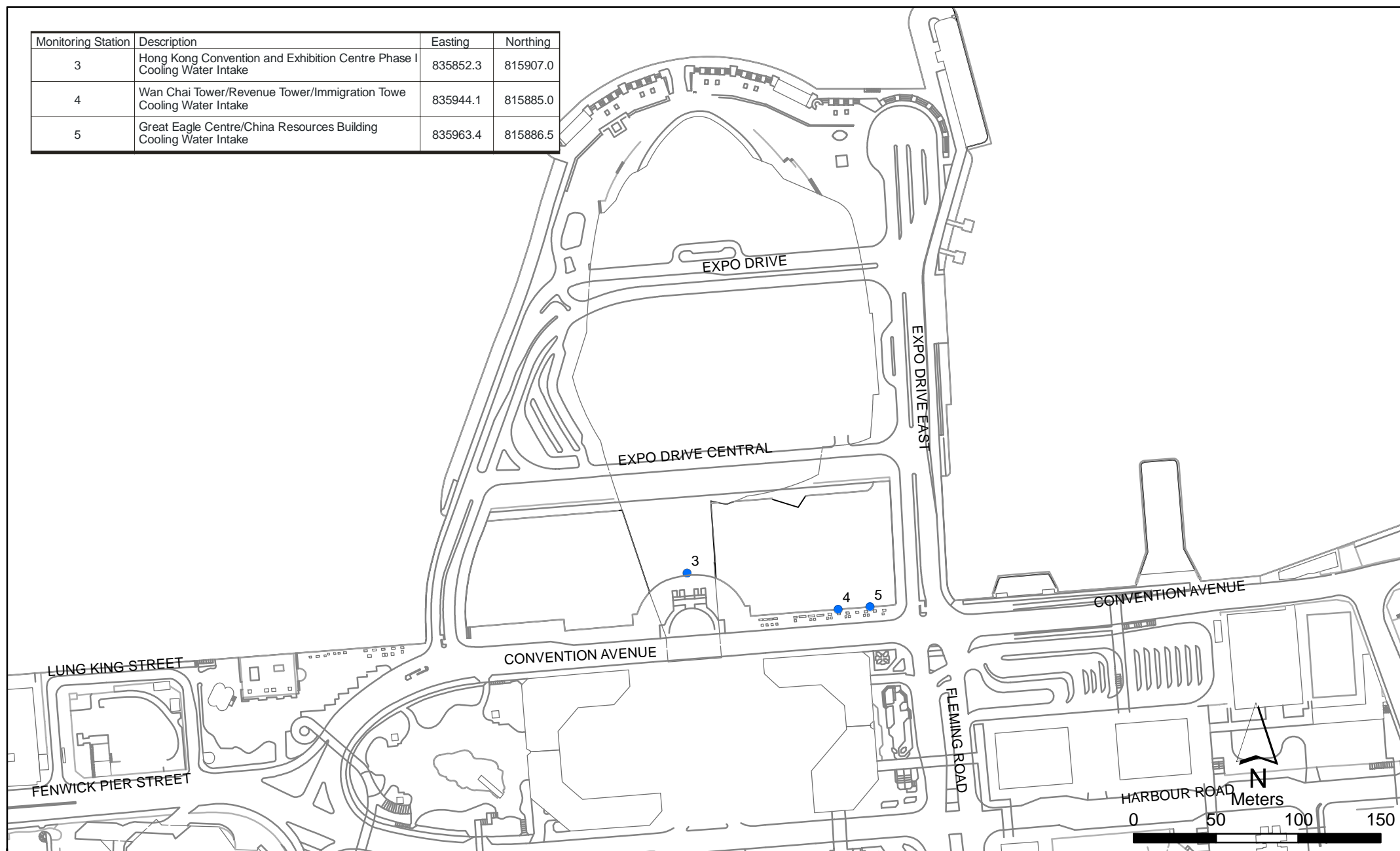
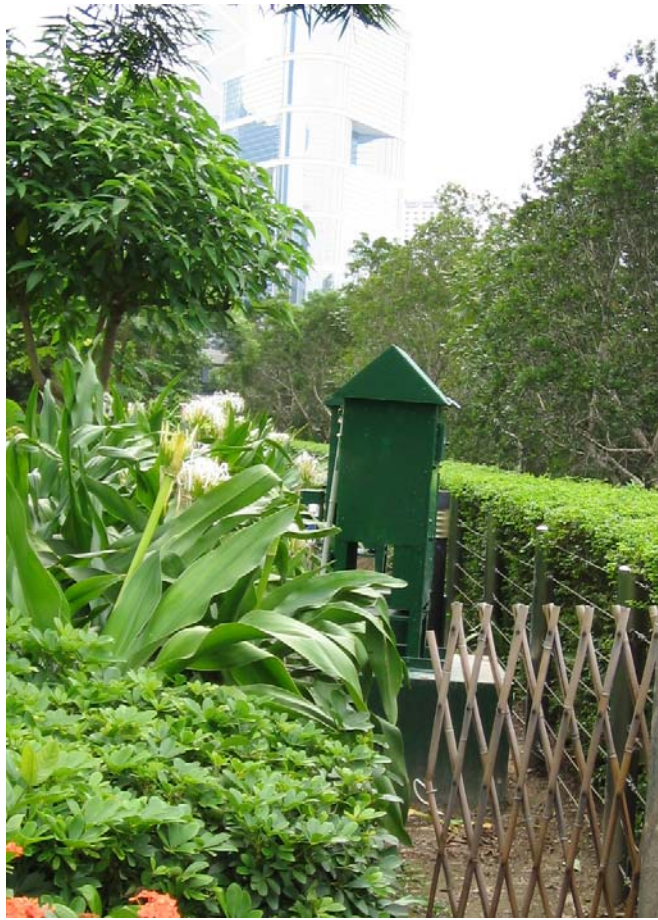


Figure D2

Marine Water Quality Monitoring Station



Air Quality Monitoring Station (AM1)



Air Quality Monitoring Station (AM2)



Water Quality Monitoring Location – Station W3



Water Quality Monitoring Location – Stations W4 and W5

Annex E

Monitoring Schedule from August to December 2006

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Air Quality Monitoring Schedule - August 2006

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Aug	02-Aug	03-Aug	04-Aug	05-Aug
		Air Monitoring				
06-Aug	07-Aug	08-Aug	09-Aug	10-Aug	11-Aug	12-Aug
	Air Monitoring					Air Monitoring
13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug
					Air Monitoring	
20-Aug	21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug
				Air Monitoring		
27-Aug	28-Aug	29-Aug	30-Aug	31-Aug		
			Air Monitoring			

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Air Quality Monitoring Schedule - September 2006

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Sep	02-Sep
03-Sep	04-Sep	05-Sep	06-Sep	07-Sep	08-Sep	09-Sep
		Air Monitoring				
10-Sep	11-Sep	12-Sep	13-Sep	14-Sep	15-Sep	16-Sep
	Air Monitoring					Air Monitoring
17-Sep	18-Sep	19-Sep	20-Sep	21-Sep	22-Sep	23-Sep
					Air Monitoring	
24-Sep	25-Sep	26-Sep	27-Sep	28-Sep	29-Sep	30-Sep
				Air Monitoring		

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Air Quality Monitoring Schedule - October 2006

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
01-Oct	02-Oct	03-Oct	04-Oct	05-Oct	06-Oct	07-Oct
			Air Monitoring			
08-Oct	09-Oct	10-Oct	11-Oct	12-Oct	13-Oct	14-Oct
		Air Monitoring				
15-Oct	16-Oct	17-Oct	18-Oct	19-Oct	20-Oct	21-Oct
	Air Monitoring					Air Monitoring
22-Oct	23-Oct	24-Oct	25-Oct	26-Oct	27-Oct	28-Oct
					Air Monitoring	
29-Oct	30-Oct	31-Oct				

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Air Quality Monitoring Schedule - November 2006

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			01-Nov	02-Nov	03-Nov	04-Nov
				Air Monitoring		
05-Nov	06-Nov	07-Nov	08-Nov	09-Nov	10-Nov	11-Nov
			Air Monitoring			
12-Nov	13-Nov	14-Nov	15-Nov	16-Nov	17-Nov	18-Nov
		Air Monitoring				
19-Nov	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov	25-Nov
	Air Monitoring					Air Monitoring
26-Nov	27-Nov	28-Nov	29-Nov	30-Nov		

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Air Quality Monitoring Schedule - December 2006

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Dec	02-Dec
					Air Monitoring	
03-Dec	04-Dec	05-Dec	06-Dec	07-Dec	08-Dec	09-Dec
				Air Monitoring		
10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec	16-Dec
			Air Monitoring			
17-Dec	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec	23-Dec
		Air Monitoring				Air Monitoring
24-Dec	25-Dec	26-Dec	27-Dec	28-Dec	29-Dec	30-Dec
					Air Monitoring	
31-Dec						

Annex F

Calibration Reports for HVS



東業德勤測試顧問有限公司

ETS-TESTCONSULT LIMITED

8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong

Tel : 2695 8318

E-mail : etl@ets-testconsult.com

Fax : 2695 3944

Web site : www.ets-testconsult.com

TEST REPORT

Calibration Report

of

High Volume Air Sampler

Manufacturer : Graseby GMW Date of Calibration : 02 July 2006

Serial No. : 9503 (ET / EA / 003 / 03) Calibration Due Date : 01 September 2006

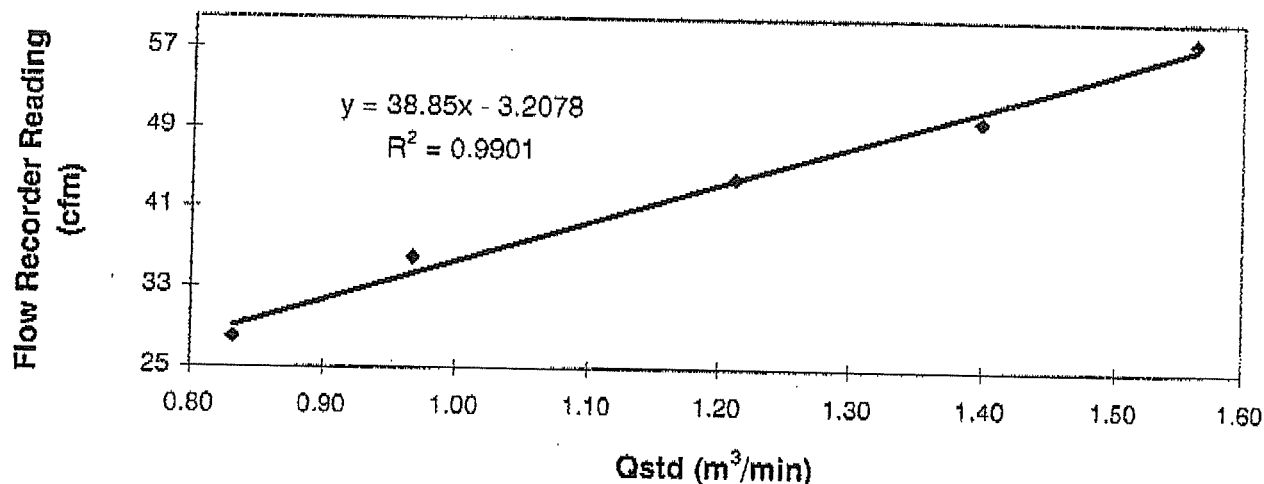
Method : Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A

Results	Flow recorder reading (cfm)	58	50	44	36	28
	Qstd (Actual flow rate, m ³ /min)	1.56	1.40	1.21	0.97	0.83
	Pressure : 757.56 mm Hg	Temp. : 306 K				

Sampler 9503 Calibration Curve

Site: Wan Chai (AM1-24hr.)

Date of Calibration: 02 July 2006



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use.

Calibrated by :

Felix Tin
(Technician)

Approved by :

H. T. Chow
(Asst. Environmental Officer)



東業德勤測試顧問有限公司
ETS-TESTCONSULT LIMITED

8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pul Wan Street, Fotan, Hong Kong
Tel : 2695 8318 E-mail : etl@ets-testconsult.com
Fax : 2695 3944 Web site : www.ets-testconsult.com

TEST REPORT

Calibration Report
of
High Volume Air Sampler

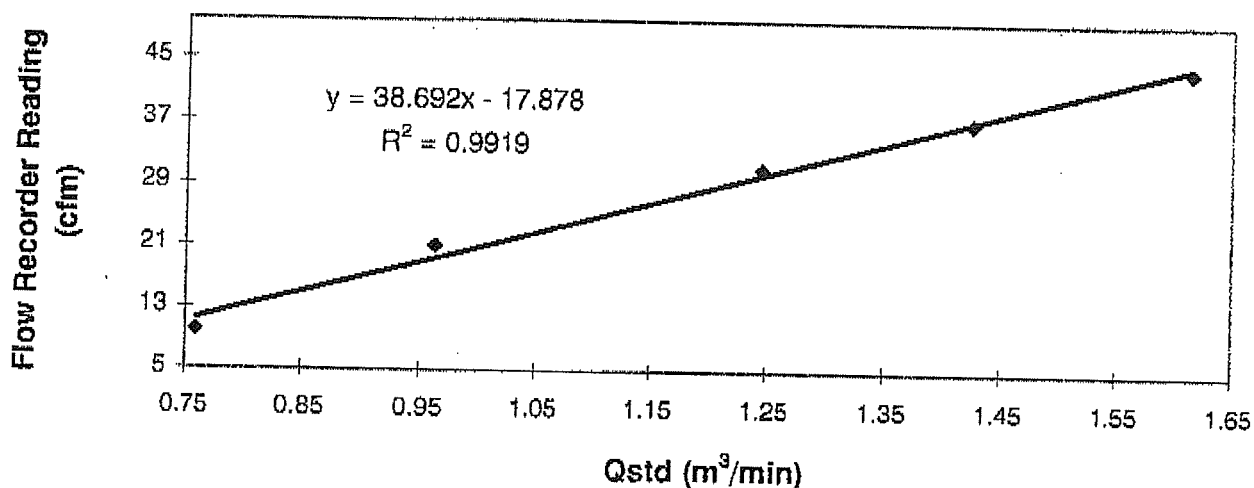
Manufacturer : Graseby GMW Date of Calibration : 26 June 2006
Serial No. : 9795 (ET / EA / 003 / 18) Calibration Due Date : 25 August 2006
Method : Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A

Results	Flow recorder reading (cfm)	44	37	31	21	10
	Qstd (Actual flow rate, m ³ /min)	1.61	1.43	1.25	0.96	1.76
	Pressure : 756.81 mm Hg	Temp. : 309 K				

Sampler 9795 Calibration Curve

Site: Wan Chai (AM2-24hr.)

Date of Calibration: 26 June 2006



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use.

Calibrated by : Danny Wong
Danny Wong
(Technician)

Approved by : H. T. Chow
H. T. Chow
(Asst. Environmental Officer)



東業德勤測試顧問有限公司

ETS-TESTCONSULT LIMITED

8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Fotan, Hong Kong

Tel : 2695 8318

E-mail : etl@ets-testconsult.com

Fax : 2695 3944

Web site : www.ets-testconsult.com

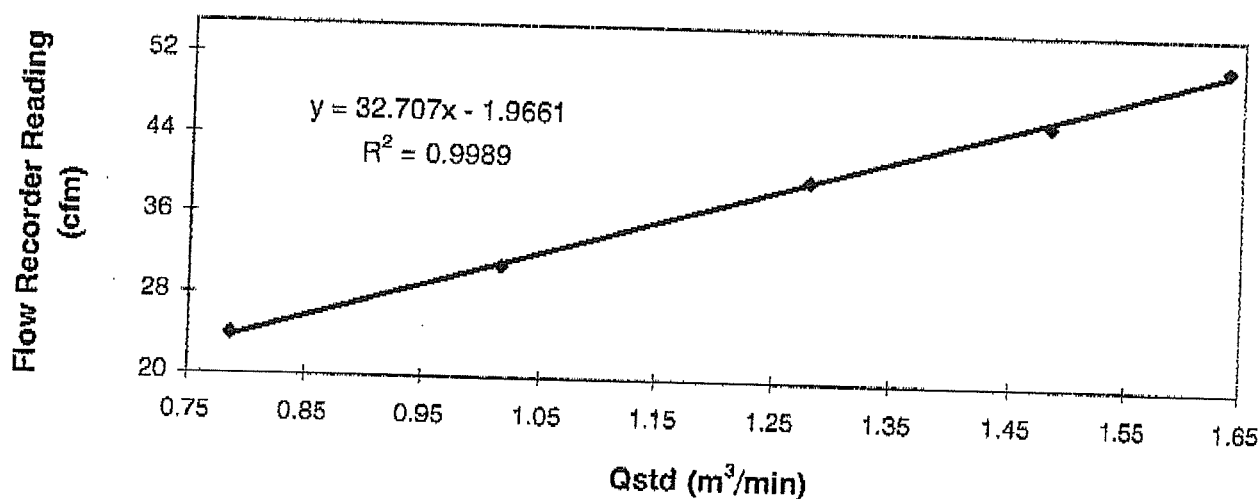
TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW Date of Calibration : 02 July 2006
 Serial No. : 9864 (ET / EA / 003 / 19) Calibration Due Date : 01 September 2006
 Method : Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A

Results	Flow recorder reading (cfm)	52	46	40	31	24
	Qstd (Actual flow rate, m ³ /min)	1.64	1.48	1.28	1.02	0.79
	Pressure : 756.81 mm Hg	Temp. : 306 K				

Sampler 9864 Calibration Curve Site: Wan Chai (AM1-1hr.) Date of Calibration: 02 July 2006



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies * / does not comply * with the specified requirements and is deemed acceptable * / unacceptable * for use.

Calibrated by :

Felix Tin
(Technician)

Approved by :

H. T. Chow
(Asst. Environmental Officer)



東業德勤測試顧問有限公司

ETS-TESTCONSULT LIMITED

8/F, Block B, Veristrong Industrial Centre, 34-36 Au Pui Wan Street, Folan, Hong Kong

Tel : 2695 8318

E-mail : etl@ets-testconsult.com

Fax : 2695 3944

Web site : www.ets-testconsult.com

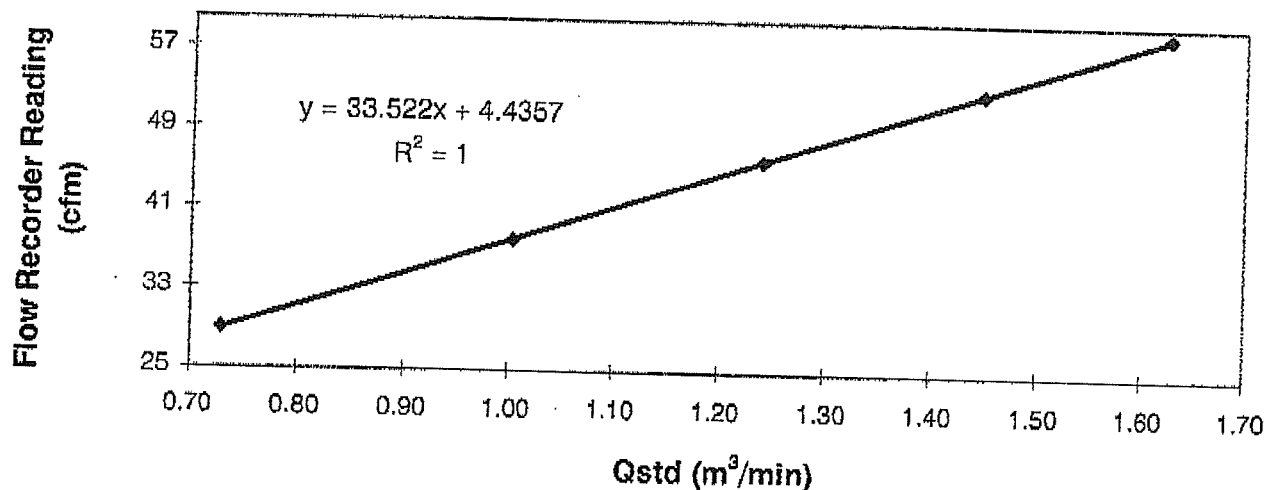
TEST REPORT

Calibration Report of High Volume Air Sampler

Manufacturer : Graseby GMW Date of Calibration : 26 June 2006
Serial No. : 8115 (ET / EA / 003 / 13) Calibration Due Date : 25 August 2006
Method : Based on Operations Manual for the 5-point calibration using standard calibration kit manufactured by Tisch TE-5025 A

Results	Flow recorder reading (cfm)	59	53	46	38	29
	Qstd (Actual flow rate, m ³ /min)	1.63	1.45	1.24	1.00	0.73
	Pressure : 756.81 mm Hg	Temp. : 306 K				

Sampler 8115 Calibration Curve
Site: Wan Chai (AM2-1hr.)
Date of Calibration: 26 June 2006



Acceptance Criteria : Correlation coefficient (r) of the calibration curve greater than 0.990 after a 5-point calibration

The high volume sampler complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / unacceptable * for use.

Calibrated by : Danny Wong
Danny Wong
(Technician)

Approved by : H. T. Chow
H. T. Chow
(Asst. Environmental Officer)

Annex G

Event Action Plans for Air and Water Quality Monitoring

Table G1 Event Action Plans for Air Quality

Event Action Level	Action			
	ET	Contractor	ER	IEC
Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source 2. Notify IEC, ER and Contractor within 1 working day after receiving the laboratory results. 3. Conduct additional monitoring to investigate the causes. 4. Report the investigation results and if exceedance is due to contractor's construction works to the IEC, ER and Contractor. 5. Increase monitoring frequency to once per 2 days for 24-hour TSP and daily for 1-hour TSP until exceedance stops if exceedances are considered related to contractor's construction works and report the results to IEC, ER and Contractor within 1 working day after receiving the laboratory results. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance and rectify any unacceptable practice. 2. Submit air mitigation proposal to IEC and ER for agreement within 3 working days if ET indicated that exceedance is related to the construction works 3. Implement agreed proposal within a time scale agreed with ER and IEC. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify Contractor. 3. Require Contractor to submit air mitigation proposal. 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Review monitoring data and investigation report submitted by ET. 2. Review Contractor's air mitigation proposal and advise the ER accordingly. 3. Supervise and confirm in writing the implementation of remedial measures within 2 working days after receipt of the mitigation proposal.
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source 2. Notify EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results 3. Conduct additional monitoring to investigate the causes. 4. Report the investigation results and if exceedances are due to contractor's construction works to EPD, IEC, ER and Contractor within 3 working days after additional monitoring. 5. Increase monitoring frequency to daily for 24-hour TSP and 1-hour TSP if exceedances are considered related to contractor's construction works until exceedance stops, and report the results to EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results. 6. If exceedances continue after 1-week monitoring events, request ER to arrange meeting with ER, IEC and contractor to discuss remedial actions. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance and rectify any unacceptable practice 2. In consultation with the IEC, submit air mitigation proposal to IEC and ER for agreement within 3 working days of notification if ET indicated that exceedances are related to construction works 3. Implement agreed proposal within a time scale agreed with ER and IEC. 4. Amend working methods if appropriate. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify Contractor. 3. Require Contractor to submit air mitigation proposal. 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Review monitoring data and investigation report submitted by ET. 2. Discuss amongst ER, ET and Contractor in order to formulate air mitigation proposal. 3. Review Contractor's air mitigation proposal and advise the ER accordingly. 4. Supervise and confirm in writing the implementation of remedial measures within 2 working days after receipt of the mitigation proposal.

Event Limit Level	Action			
	ET	Contractor	ER	IEC
Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source 2. Notify EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results 3. Conduct additional monitoring to investigate the causes. 4. Report the investigation results and if exceedances are due to contractor's construction works to EPD, IEC, ER and Contractor within 3 working days after additional monitoring. 5. Increase monitoring frequency to daily if exceedances are considered related to contractor's construction works until exceedance stops, and report the results to EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance and rectify any unacceptable practice 2. In consultation with the IEC, submit air mitigation proposal to IEC and ER for agreement within 3 working days of notification if ET indicated that exceedances are related to construction works 3. Implement agreed proposal within a time scale agreed with ER and IEC. 4. Amend working methods if appropriate. 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify Contractor. 3. Require Contractor to submit air mitigation proposal. 4. Ensure remedial measures are properly implemented. 	<ol style="list-style-type: none"> 1. Review monitoring data and investigation report submitted by ET. 2. Discuss amongst ER, ET and Contractor in order to formulate air mitigation proposal. 3. Review Contractor's air mitigation proposal and advise the ER accordingly. 4. Supervise and confirm in writing the implementation of remedial measures within 2 working days after receipt of the mitigation proposal.
Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source 2. Notify EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results 3. Conduct additional monitoring to investigate the causes. 4. Report the investigation results and if exceedances are due to contractor's construction works to EPD, IEC, ER and Contractor within 3 working days after additional monitoring. 5. Increase monitoring frequency to daily if exceedances are considered related to contractor's construction works until exceedance stops, and report the results to EPD, IEC, ER and Contractor within 1 working day after receiving the laboratory results. 6. If exceedances continue after 2 consecutive monitoring events, request ER to arrange meeting with IEC and contractor to discuss remedial actions. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance and rectify any unacceptable practice 2. In consultation with the IEC, submit air mitigation proposal to IEC and ER for agreement within 3 working days of notification if ET indicated that exceedances are related to construction works 3. Implement agreed proposal within a time scale agreed with ER and IEC. 4. Amend working methods and proposal if appropriate. 5. Stop relevant portion(s) of works as required by ER, ET and IEC 	<ol style="list-style-type: none"> 1. Confirm receipt of notification of failure in writing. 2. Notify Contractor. 3. Require Contractor to submit air mitigation proposal. 4. Ensure remedial measures are properly implemented. 5. If exceedances continue arrange meeting with Contractor, IEC and ET and to consider what portion(s) of works should be further mitigated or have to stop. 	<ol style="list-style-type: none"> 1. Review monitoring data and investigation report submitted by ET. 2. Discuss amongst ER, ET and Contractor in order to formulate air mitigation proposal. 3. Review Contractor's air mitigation proposal and advise the ER accordingly. 4. Supervise and confirm in writing the implementation of remedial measures within 2 working days after receipt of the mitigation proposal.

Table H2 Event Action Plans for Water Quality

Event	Action			
	ET	IC(E)	ER	Contractor
Action level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IC(E) and Contractor; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IC(E) and Contractor; 6. (The above actions should be taken within 1 working day after the exceedance is identified) 7. Repeat measurement on next day of exceedance. 	<ol style="list-style-type: none"> 1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Discuss with IC(E) on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented. 3. (The above actions should be taken within 1 working day after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IC(E) and propose mitigation measures to IC(E) and ER; 6. Implement the agreed mitigation measures. 7. (The above actions should be taken within 1 working day after the exceedance is identified)
Action level being exceeded by more than one consecutive sampling days	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Inform IC(E) and Contractor; 3. Check monitoring data, all plant, equipment and Contractor's working methods; 4. Discuss mitigation measures with IC(E) and Contractor; 5. Ensure mitigation measures are implemented; 6. Prepare to increase the monitoring frequency to daily; 7. (The above actions should be taken within 1 working day after the exceedance is identified) 8. Repeat measurement on next working day of exceedance. 	<ol style="list-style-type: none"> 1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Discuss with IC(E) on the proposed mitigation measures; 2. Make agreement on the mitigation measures to be implemented; 3. Assess the effectiveness of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET and IC(E) and propose mitigation measures to IC(E) and ER within 3 working days; 6. Implement the agreed mitigation measures. 7. (The above actions should be taken within 1 working day after the exceedance is identified)

Event	Action			
	ET	IC(E)	ER	Contractor
Limit level being exceeded by one sampling day	<ol style="list-style-type: none"> 1. Repeat in-situ measurement to confirm findings; 2. Identify source(s) of impact; 3. Inform IC(E), contractor and EPD; 4. Check monitoring data, all plant, equipment and Contractor's working methods; 5. Discuss mitigation measures with IC(E), ER and Contractor; 6. Ensure mitigation measures are implemented; 7. Increase the monitoring frequency to daily until no exceedance of Limit level. 8. (The above actions should be taken within 1 working day after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Discuss with IC(E), ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures. 5. (The above actions should be taken within 1 working day after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Inform the Engineer and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET , IC(E) and ER and propose mitigation measures to IC(E) and ER within 3 working days; 6. Implement the agreed mitigation measures. 7. (The above actions should be taken within 1 working day after the exceedance is identified)
Limit level being exceeded by more than one consecutive samplig days	<ol style="list-style-type: none"> 1. Identify source(s) of impact; 2. Inform IC(E), contractor and EPD; 3. Check monitoring data, all plant, equipment and Contractor's working methods; 4. Discuss mitigation measures with IC(E), ER and Contractor; 5. Ensure mitigation measures are implemented; 6. Increase the monitoring frequency to daily until no exceedance of Limit level for two consecutive days. 7. (The above actions should be taken within 1 working day after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Discuss with ET and Contractor on the mitigation measures; 2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly; 3. Assess the effectiveness of the implemented mitigation measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Discuss with IC(E), ET and Contractor on the proposed mitigation measures; 2. Request Contractor to critically review the working methods; 3. Make agreement on the mitigation measures to be implemented; 4. Assess the effectiveness of the implemented mitigation measures; 5. Consider and instruct, if necessary, the Contractor to slow down or to stop all or part of the marine work until no exceedance of Limit level. 6. (The above actions should be taken within 1 working day after the exceedance is identified) 	<ol style="list-style-type: none"> 1. Inform the ER and confirm notification of the non-compliance in writing; 2. Rectify unacceptable practice; 3. Check all plant and equipment; 4. Consider changes of working methods; 5. Discuss with ET , IC(E) and ER and propose mitigation measures to IC(E) and ER within 3working days; 6. Implement the agreed mitigation measures; 7. As directed by the Engineer, to slow down or to stop all or part of the marine work or construction activities. 8. (The above actions should be taken within 1 working day after the exceedance is identified)

Annex H

Summary of Implementation Status

Annex H - Summary of Environmental Protection / Mitigation Activities

Environmental Permit No. EP-239/2006

EP Condition Ref	Submission	Action Required by the Permit Holder	Implementation Status
Measures for Mitigating Water Quality Impact			
2.4	Method statement on silt screens for seawater intakes (including design and maintenance requirements)	2 weeks before commencement of marine pile installation works	Method statement was submitted to the EPD on 21/6/06
2.5	Method statement on silt curtain system for marine piling works (including design and maintenance requirements)	2 weeks before commencement of marine pile installation works	---
2.8	Design drawings specifying pile dimension and layout	2 weeks before commencement of marine pile installation works	Design drawing was submitted to the EPD on 22/8/06
Measures for Mitigating Air Quality Impact			
2.9	Design drawings of ventilation facility for fresh air intakes (req'd only before operation of Project)	2 weeks before commencement of installation of ventilation facility	---
Measures for Mitigating Landscape and Visual Impact			
2.10	Implementation programme for landscape and visual mitigation measures (for both construction and operational phases of Project)	Within 6 months after commencement of construction of Project	---
2.10	Details of each landscape and visual mitigation measures package (incl plans)	2 weeks before implementation of a particular mitigation package	---
3.2	Baseline Monitoring Report	One week before the commencement of construction	Report was submitted to the EPD on 24 Jul 06 and comments from the EPD was received on 3 Aug 06. Revised report was submitted to EPD on 17 Aug 06 and no further comments received.

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
<i>Construction Phase</i>			
Air Quality	<p>The Air Pollution Control (Construction Dust) Regulation shall be implemented and good site practices shall be incorporated in the contract clauses to minimize construction dust impact. A number of practical measures are listed below:</p> <ul style="list-style-type: none"> • skip hoist for material transport should be totally enclosed by impervious sheeting; • every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site; • the area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores; • where a site boundary adjoins a road, streets or other accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit; • every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides; • all dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet; • the height from which excavated materials dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading; • the load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle; and • instigation of an environmental monitoring auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise. 	Work site / during construction	√

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
<i>Operational Phase</i>			
Air Quality	Some fresh air intakes of the Hong Kong Convention and Exhibition Centre Phase I, Renaissance Harbour View Hotel and Grand Hyatt Hotel (ASRs A4, A5 and A6) should be re-diverted to the new air vent shaft provided for Atrium Link Extension where fresh air intake located at +55.8mPD.	Location of ASRs A4, A5 & A6 / Design & Operation Stage (Long-term and Interim Scenario)	NA
Air Quality	Monitoring of NO2 concentration underneath the Atrium Link Extension should be conducted.	Underneath the deckover / The first six months upon completion of the ALE.	NA
<i>Construction Phase</i>			
Noise	<p>Good Site Practice:</p> <ul style="list-style-type: none"> only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program; silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program; mobile plant, if any, should be sited as far from NSRs as possible; machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum; plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities; <p>Environmental audit shall be carried out to ensure that appropriate noise control measures would be properly implemented.</p>	Construction work areas / Construction period	√

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
<i>Operational Phase</i>			
Noise	<p>The following noise reduction measures should be considered as far as practicable during detailed design:</p> <ul style="list-style-type: none"> • choose quieter plant such as those which have been effectively silenced; • include noise levels specification when ordering new plant; • locate fixed plant away from any NSRs as far as practicable; • locate fixed plant in plant rooms with thick walls or specially designed enclosure; • locate noisy machines in basement or a completely separate building; and • develop and implement a regularly scheduled plant maintenance programme in order to maintain controlled level of noise. 	Plant Room / Design and Operation Stage	NA
<i>Construction Phase</i>			
Water Quality	There should be no permanent structure in the water channel.	At the ALE sea channel / during operational phase	√
Water Quality	No dredging and no reclamation should be carried out for the Project.	At work sites / during construction phase	√
Water Quality	The marine pile layout as shown in Figure 2.6 of the EIA report should be adopted. No more than approximately 80 numbers of temporary marine piles should be installed in the ALE sea channel during the construction phase. The dimension of each temporary marine pile should be 800mm nominal diameter. These piles should be driven into position and internal space should not be excavated, i.e. left as soil. No dredging or soil /sediment excavation should be carried out. Marine piles would be removed by reverse driving.	At work sites / during construction phase	NA
Water Quality	Two layers of silt curtain should be installed around each of the marine piling and pile extraction locations. The proposed silt curtain should be extended to seabed with sinker blocks and regularly inspected and maintained to ensure it is serviceable.	At marine work sites and nearby seawater intakes / during marine piling and marine pile extraction	√

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Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	All marine works should be carried out in a controlled manner such that release of sediments into the marine environment would be minimized. All wastewater generated from the piling activities should be collected and be treated before controlled discharge. Spoil should also be properly collected for proper disposal.		
Water Quality	In view of the close vicinity of the seawater intakes to the work site, silt screens are recommended to be deployed at the seawater intakes shown in Figure 5.2 of the EIA report during the whole construction period. Silt screens to be provided at seawater intakes should be regularly checked and maintained to ensure that they are serviceable. Refuse collection vessel should be mobilized on a need basis to collect any floating refuse lost from/ trapped at the work site during the construction period.	At seawater intakes / during the whole construction period	√
Water Quality	Surface run-off from construction sites should be discharged into storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sedimentation basins. Channels or earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Perimeter channels at site boundaries should be provided where necessary to intercept storm runoff from outside the site so that it will not wash across the site. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks. Silt removal facilities, channels and manholes should be maintained and the deposited silt and grit should be removed regularly, at the onset of and after each rainstorm to ensure that these facilities are functioning properly at all times. Any practical options for the diversion and re-alignment of drainage should comply with both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains. Minimum distances of 100 m should be maintained between the discharge points of construction site runoff and the nearby saltwater intakes.	Works areas / construction period	√

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Water Quality	<p>There is a need to apply to EPD for a discharge license for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge license. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Reuse and recycling of the treated effluent can minimize water consumption and reduce the effluent discharge volume. The beneficial uses of the treated effluent may include dust suppression, wheel washing and general cleaning. It is anticipated that only a small quantity of wastewater would be generated from the works areas. Any effluent discharge from the construction activities should be diverted away from the sea channel so as to avoid adverse water quality impact. Construction works should be programmed to minimize excavation works in rainy seasons (April to September). If excavation in soil could not be avoided in these months or at any time of year when rainstorms are likely, for the purpose of preventing soil erosion, temporary exposed slope surfaces should be covered e.g. by tarpaulin, and temporary access roads should be protected by crushed stone or gravel, as excavation proceeds. Intercepting channels should be provided (e.g. along the crest / edge of excavation) to prevent storm runoff from washing across exposed soil surfaces. Arrangements should always be in place to ensure that adequate surface protection measures can be safely carried out well before the arrival of a rainstorm.</p>	Works areas / construction period	√
Water Quality	<p>Earthworks final surfaces should be well compacted and the subsequent permanent work or surface protection should be carried out immediately after the final surfaces are formed to prevent erosion caused by rainstorms. Appropriate drainage like intercepting channels should be provided where necessary.</p> <p>Measures should be taken to minimize the ingress of rainwater into trenches. If excavation of trenches in wet seasons is necessary, they should be dug and backfilled in short sections. Rainwater pumped out from trenches or foundation excavations</p>	Works areas / construction period	√

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>should be discharged into storm drains via silt removal facilities.</p> <p>Open stockpiles of construction materials (e.g. aggregates, sand and fill material) on sites should be covered with tarpaulin or similar fabric during rainstorms. Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.</p> <p>Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers. Discharge of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.</p>		
Water Quality	Good site practices should be adopted to remove rubbish and litter from construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis.	Works areas / construction period	√
Water Quality	Under normal circumstances, groundwater pumped out of wells, etc. for the lowering of ground water level in basement or foundation construction should be discharged into storm drains after the removal of silt in silt removal facilities.	Works areas / construction period	√
Water Quality	Water used in ground boring and drilling or rock /soil anchoring should as far as practicable be re-circulated after sedimentation. When there is a need for final disposal, the wastewater should be discharged into storm drains via silt removal facilities.	Works areas / construction period	√
Water Quality	Wastewater generated from the washing down of mixing trucks and drum mixers and similar equipment should whenever practicable be recycled. The discharge of wastewater should be kept to a minimum.	Works areas / construction period	√

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Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>To prevent pollution from wastewater overflow, the pump sump of any water recycling system should be provided with an on-line standby pump of adequate capacity and with automatic alternating devices.</p> <p>Under normal circumstances, surplus wastewater may be discharged into foul sewers after treatment in silt removal and pH adjustment facilities (to within the pH range of 6 to 10). Disposal of wastewater into storm drains will require more elaborate treatment.</p>		
Water Quality	<p>All vehicles and plant should be cleaned before they leave a construction site to ensure no earth, mud, debris and the like is deposited by them on roads.</p> <p>A wheel washing bay should be provided at every site exit if practicable and wash-water should have sand and silt settled out or removed before discharging into storm drains. The section of construction road between the wheel washing bay and the public road should be paved with backfall to reduce vehicle tracking of soil and to prevent site run-off from entering public road drains.</p>	Works areas / construction period	◇
Water Quality	<p>Bentonite slurries used in diaphragm wall and bore-pile construction should be reconditioned and reused wherever practicable. 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.</p> <p>If the used bentonite slurry is intended to be disposed of through the public drainage system, it should be treated to the respective effluent standards applicable to foul sewer, storm drains or the receiving waters as set out in the WPCO Technical Memorandum on Effluent Standards.</p>	Works areas / construction period	NA

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Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>Water used in water testing to check leakage of structures and pipes should be reused for other purposes as far as practicable. Surplus unpolluted water could be discharged into storm drains.</p> <p>Sterilization is commonly accomplished by chlorination. Specific advice from EPD should be sought during the design stage of the works with regard to the disposal of the sterilizing water. The sterilizing water should be reused wherever practicable.</p> <p>Discharge of sterilization effluent should be properly pre-treated for compliance with TM/WPCO requirements, such as but not limited to total residual chlorine.</p>	Works areas / construction period	
Water Quality	<p>Effluent discharges from building construction and other construction site activities are subject to WPCO control. Before commencing any demolition works, all sewer and drainage connections should be sealed to prevent building debris, soil, sand etc. from entering public sewers/drains.</p> <p>Wastewater generated from building construction activities including concreting, plastering, internal decoration, cleaning of works and similar activities should not be discharged into the stormwater drainage system. If the wastewater is to be discharged into foul sewers, it should undergo the removal of settleable solids in a silt removal facility, and pH adjustment as necessary.</p>	Works areas / construction period	√
Water Quality	<p>Acidic wastewater generated from acid cleaning, etching, pickling and similar activities should be neutralized to within the pH range of 6 to 10 before discharging into foul sewers. If there is no public foul sewer in the vicinity, the neutralized wastewater should be tinkered off site for disposal into foul sewers or treated to a standard acceptable to storm drains and the receiving waters.</p>	Works areas / construction period	NA
Water Quality	<p>Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, should be discharged into foul</p>	Works areas / construction period	√

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>sewer via grease traps capable of providing at least 20 minutes retention during peak flow.</p> <p>Drainage serving an open oil filling point should be connected to storm drains via a petrol interceptors with peak storm bypass.</p> <p>Vehicle and plant servicing areas, vehicle wash bays and lubrication bays should as far as possible be located within roofed areas. The drainage in these covered areas should be connected to foul sewers via a petrol interceptor. Oil leakage or spillage should be contained and cleaned up immediately. Waste oil should be collected and stored for recycling or disposal in accordance with the Waste Disposal Ordinance.</p>		
Water Quality	<p>It is recommended to provide sufficient chemical toilets in the works areas. The toilet facilities should be more than 30 m from the seafront or any watercourse. A licensed waste collector should be deployed to clean the chemical toilets on a regular basis.</p> <p>Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment. Regular environmental audit on the construction site can provide an effective control of any malpractices and can encourage continual improvement of environmental performance on site.</p>	Works areas / construction period	√
Water Quality	Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	Works areas / construction period	√
Water Quality	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and	Works areas / construction period	√

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.</p> <p>Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows:</p> <ul style="list-style-type: none"> • suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport; • chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents; and • storage area should be selected at a safe location on site and adequate space should be allocated to the storage area. 		
Water Quality	<p>To minimize the potential water quality impacts from the construction works located at or near the storm system or seafront, the following mitigation measures should be adopted:</p> <ul style="list-style-type: none"> • the use of less or smaller construction plants may be specified to reduce the disturbance to the seabed; • temporary sewerage system should be designed to prevent wastewater from entering the storm system and sea; • temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works; • stockpiling of construction materials and dusty materials should be covered and located away from any water courses; • construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers; • construction activities, which generate large amount of 	Works areas / construction period	√

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>wastewater, should be carried out in a distance away from the waterfront, where practicable;</p> <ul style="list-style-type: none"> • mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff; • construction effluent, site run-off and sewage should be properly collected and/or treated; • proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/sea; and • supervisory staff should be assigned to station on site to closely supervise and monitor the works. 		
Water Quality	If monitoring of the treated effluent quality from the Works Areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD. The contractor should submit detailed monitoring programme to EPD for approval before commencement of the construction activities.	Works areas / construction period	√
Water Quality	Monitoring of the water quality at the seawater intakes inside the ALE sea channel should be conducted.	ALE sea channel / Before construction period and during installation and removal of temporary marine piles.	NA
Water Quality	All barges should be fitted with tight seals to their bottom opening to prevent leakage of materials. The decks of all vessels should be kept tidy and free of oil or other substances that might be accidentally or otherwise washed overboard. Loading of barges should be controlled to prevent splashing of materials to the surrounding environment and barges should under no circumstances be filled to a level which would cause overflowing of material or sediment laden water during loading and transportation. All barges should maintain adequate clearance between vessels and the seabed at all states of the tide and	Works areas / construction period	NA

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	should operate at a reduced speeds to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.		
Water Quality	Connection of sewage generated from the ALE will be connected to the existing public sewer. For handling, treatment and disposal of other operational stage effluent, the practices outlined in ProPECC PN 5/93 should be adopted where applicable. Consensus from DSD should be sought on technical details of the drainage and sewerage proposals.	Project site / design and construction period	NA
<i>Construction Phase</i>			
Waste	<p>Recommendations for good site practices during the construction activities include:</p> <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 handling procedures; • provision of sufficient waste disposal points and regular collection of waste; • appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; and • regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors. 	Work site / during the construction period	√
Waste	<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"> • sorting of demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions (ie soil, broken concrete, metal, etc); • segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or 	Work site / during the construction period	√

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>recycling of materials and their proper disposal;</p> <ul style="list-style-type: none"> encourage collection of aluminum cans by individual collectors by providing separate labeled bins to enable this waste to be segregated from other general refuse generated by the work force; proper storage and site practices to minimize the potential for damage to contamination of construction materials; and plan and stock construction materials carefully to minimize amount of waste generated and avoid unnecessary generation of waste. 		
Waste	<p><u>General Refuse</u></p> <p>General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	Work site / during the construction period	√
Waste	<p><u>Construction and Demolition Material</u></p> <ul style="list-style-type: none"> In order to minimize the impact resulting from collection and transportation of C&D material for off-site disposal, the C&D material from the following construction activities should be reused and recycled as far as possible to reduce the net amount of C&D material generated from the Project; a Waste Management Plan should be prepared in accordance with ETWB TCW No. 19/2005; a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed; in order to monitor the disposal of C&D and solid wastes at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be included. One may make 	Work site / during the construction period	√

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<p>reference to ETWB TCW No.31/2004 for details;</p> <ul style="list-style-type: none"> the large amount of C&D waste generated is mainly due to the piling works of large diameter piles' excavation at the sea front site. If however marine sediment is found during pile excavation, the handling and disposal of such wastes will be managed in accordance with the requirements of the DASO and the current ETWB Tech. Circular no. 34/2002. 		
Waste	<p><u>Chemical Wastes</u></p> <p>If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the <i>Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes</i>. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosives, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre at Tsing Yi, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. For this Project, the amount of chemical wastes produced would be small.</p>	Work site / during the construction period	√
<i>Operational Phase</i>			
Waste	<p><u>General Refuse</u></p> <p>Similar to the existing situation, the main waste type generated during the operation stage of the Project will be general refuse generated by the public and staff. These include waste paper, food wrappings and beverage containers. The disposal of future waste arisings generated at the HKCEC would follow the existing handling and disposal arrangement. Provided proper</p>	Work site / during the construction period	NA

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	arrangements are made with licensed contractors to collect the generated waste, adverse waste-related impact is not anticipated during the operation stage. It is expected that there will be a 5-7% increase ratio in the future operations.		
<i>Construction Phase</i>			
Landscape & Visual	Due consideration of appearance and view to 'hide' the construction through careful use of: (a) hoarding design; (b) temporary partition walls; (c) screen for hotels; and (d) temporary footbridge.	Entire works area and adjacent hotels	√
Landscape & Visual	Due consideration to protect existing trees.	Entire works area	√
Landscape & Visual	Due consideration of visual impact from construction activities: (a) construction workers access to reach construction areas without passing through hotels and existing HKCEC; and (b) construction light.	Entire works area	√
<i>Operational Phase</i>			
Landscape & Visual	Sensitive soft and hard landscape design for exposed rooftop garden and shady covered area underneath the Atrium Link Extension. Maximize greening opportunity via various in-situ planting and potted planting to achieve 30% of the roof area as planting area for the project.	Roof top and area underneath the Atrium Link Extension	NA
Landscape & Visual	Sensitive building architecture to visually reduce the bulkiness of the building structure, to visually break down the scale of the facades, and to create rooftops for greening opportunities.	Building of the Atrium Link Extension	NA
Landscape & Visual	Appearance and view considerations: (a) avoid industrial feel of building service elements;	Entire proposed works and adjacent hotels	NA

ANNEX H Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	(b) interior visual screens for lower levels of the hotels; (c) consider relocation of facilities of interior spaces of hotels; and (d) careful lighting design at roofs and for building façade to avoid night-time glare.		
Landscape & Visual	Transplanting of trees to adjacent locations.	Convention Avenue	NA
Landscape & Visual	Reinstatement of existing waterfront public footpaths along Convention Avenue and the existing open spaces near Fenwick Street.	Convention Avenue and Fenwick Street	NA

Remark:

- √ Compliance of Mitigation Measures
- ◇ Compliance of Mitigation but need improvement
- x Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by Hip Hing – Ngo Kee JV
- Δ Deficiency of Mitigation Measures but rectified by Hip Hing – Ngo Kee JV
- NA Not Applicable

Annex I

24-hour TSP Monitoring Results

Figure I1 - Measured 24-hour TSP Concentration (μgm^{-3}) at AM1

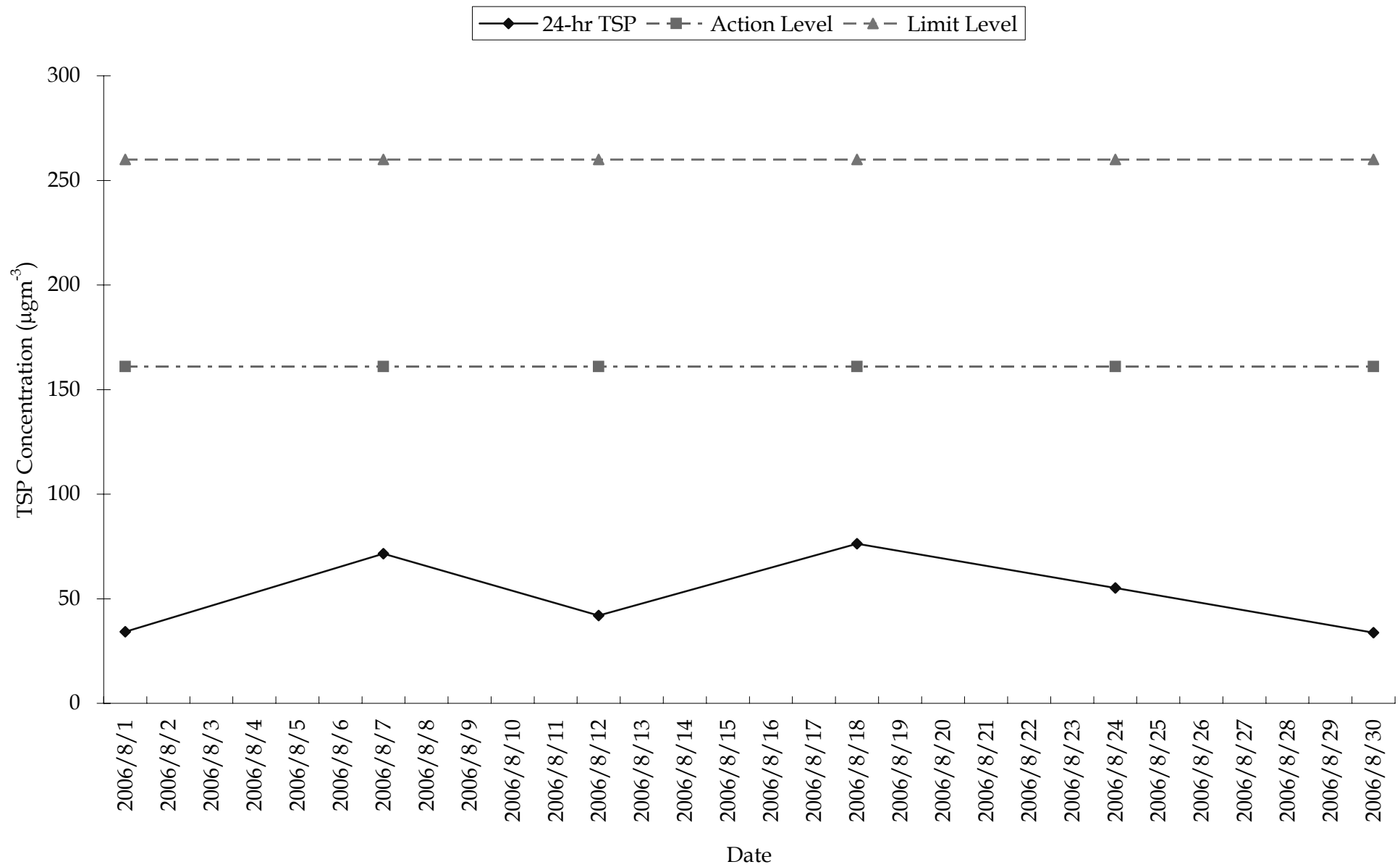


Figure I2 - Measured 24-hour TSP Concentration (μgm^{-3}) at AM2

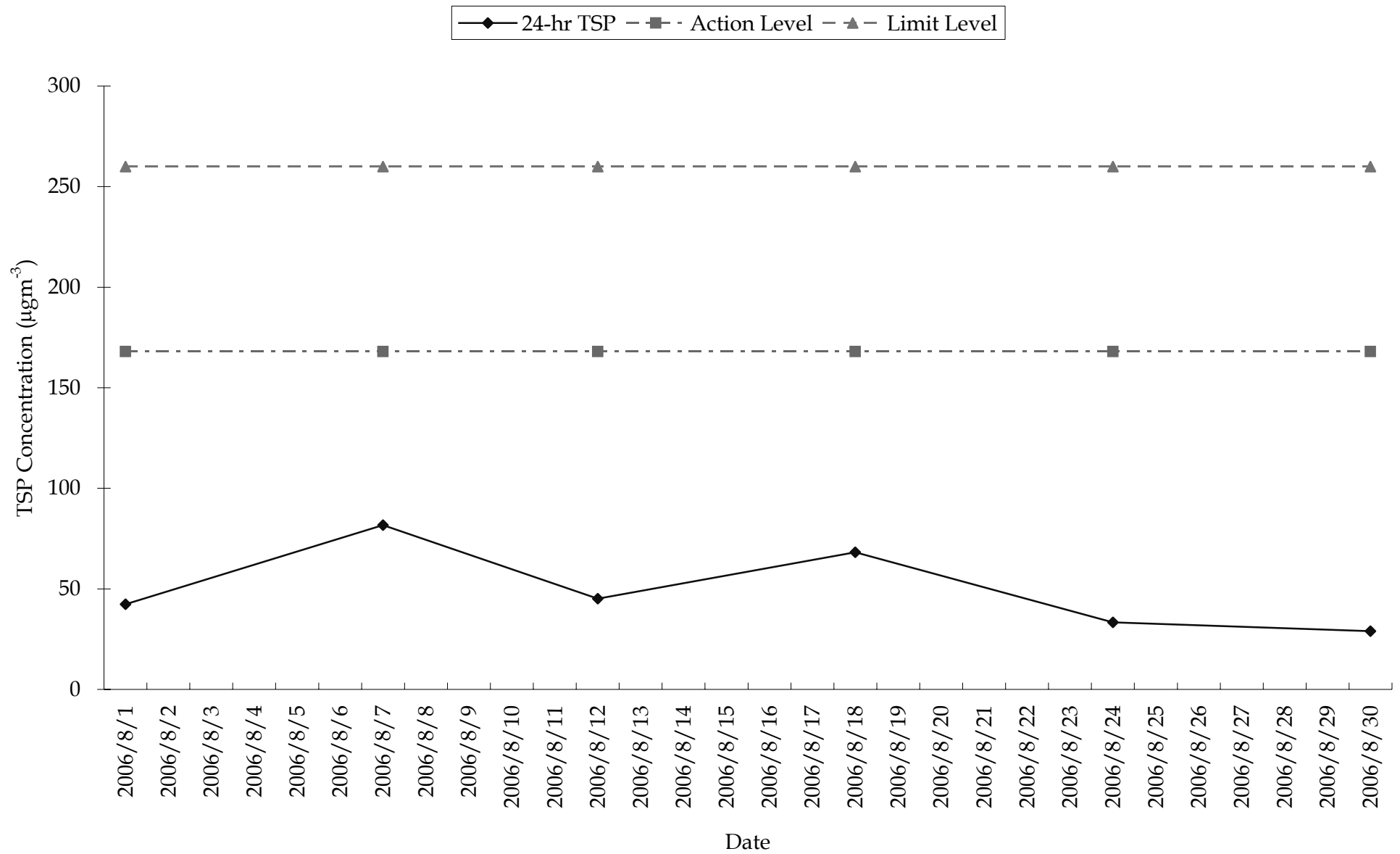


Figure I3 - Measured 1-hour TSP Concentration (μgm^{-3}) at AM1

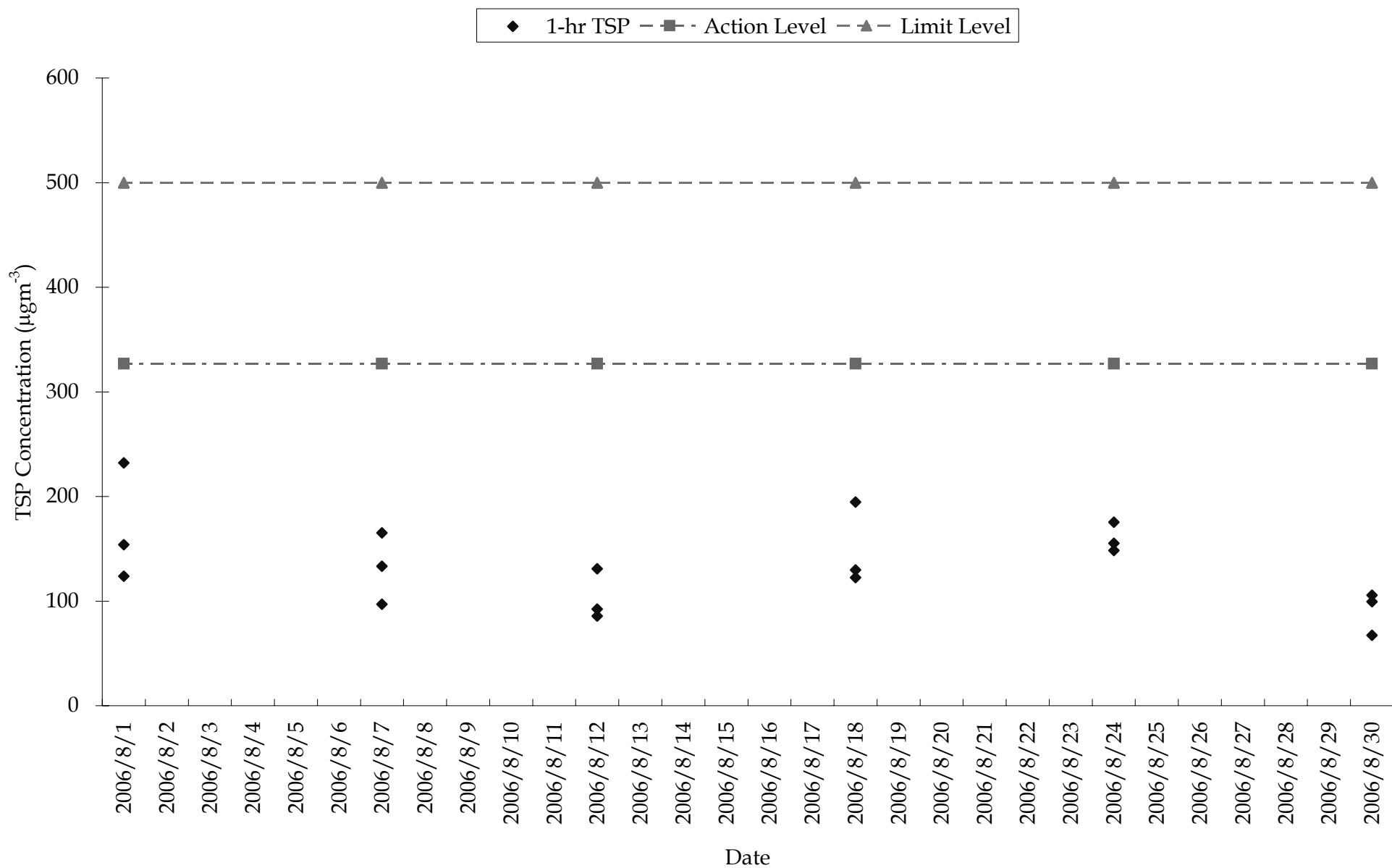
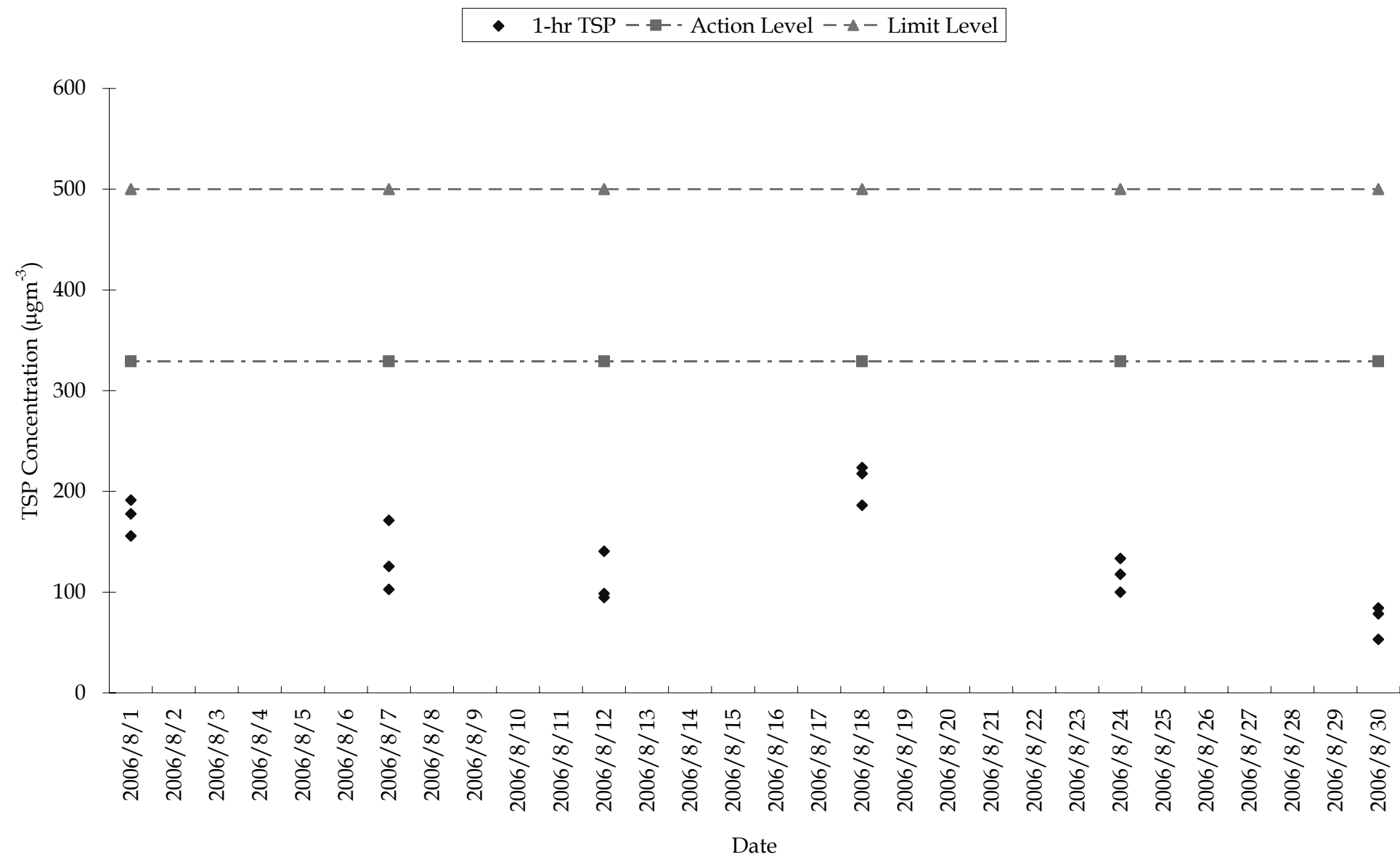


Figure I4 - Measured 1-hour TSP Concentration (μgm^{-3}) at AM2



Annex I1 - 24-hr TSP Monitoring Results

24-hour TSP Monitoring Results at Station AM1 (Nearby The Grand Hyatt)

Date	Filter Weight (g)		Flow Rate (m ³ /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m ³)	Weather Condition	Ave. Air Temp. (°C)	Particulate weight(g)	Av. flow (m ³ /min)	Total vol. (m ³)
	Initial	Final	Initial	Final	Initial	Final							
01-Aug-06	2.9138	2.9611	0.96	0.96	9349.5	9373.5	24.0	34	Sunny	29.4	0.0473	0.96	1382.4
07-Aug-06	2.9122	2.9998	0.85	0.85	9373.5	9397.5	24.0	72	Sunny	27.8	0.0876	0.85	1224.0
12-Aug-06	2.9188	2.9702	0.85	0.85	9397.5	9421.5	24.0	42	Sunny	29.2	0.0514	0.85	1224.0
18-Aug-06	2.9203	3.0138	0.85	0.85	9421.5	9445.5	24.0	76	Sunny	30.6	0.0935	0.85	1225.0
24-Aug-06	2.9040	2.9715	0.85	0.85	9445.5	9469.5	24.0	55	Rainy	27.6	0.0675	0.85	1224.0
30-Aug-06	2.9103	2.9482	0.78	0.78	9469.5	9493.5	24.0	34	Sunny	29.2	0.0379	0.78	1123.2
								Min	34				
								Max	76				
								Average	56				

24-hour TSP Monitoring Results at Station AM2 (Nearby Renaissance Harbour View Hotel)

Date	Filter Weight (g)		Flow Rate (m ³ /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m ³)	Weather Condition	Ave. Air Temp. (°C)	Particulate weight(g)	Av. flow (m ³ /min)	Total vol. (m ³)
	Initial	Final	Initial	Final	Initial	Final							
01-Aug-06	2.9079	2.9957	1.44	1.44	8788.0	8812.0	24.0	42	Sunny	29.4	0.0878	1.44	2073.6
07-Aug-06	2.9318	3.0930	1.37	1.37	8812.0	8836.0	24.0	82	Sunny	27.8	0.1612	1.37	1972.8
12-Aug-06	2.9085	2.9987	1.39	1.39	8836.0	8860.0	24.0	45	Sunny	29.2	0.0902	1.39	2001.6
18-Aug-06	2.9118	3.0532	1.44	1.44	8860.0	8884.0	24.0	68	Sunny	30.6	0.1414	1.44	2074.5
24-Aug-06	2.8988	2.9680	1.44	1.44	8884.0	8908.0	24.0	33	Rainy	27.6	0.0692	1.44	2073.6
30-Aug-06	2.8763	2.9376	1.47	1.47	8908.0	8932.0	24.0	29	Sunny	29.2	0.0613	1.47	2116.8
								Min	42				
								Max	82				
								Average	59				

Annex 12 - 24-hr TSP Monitoring Results

24-hour TSP Monitoring Results at Station AM1 (Nearby The Grand Hyatt)

Date	Filter Weight (g)		Flow Rate (m³/min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m³)	Weather Condition	Ave. Air Temp. (°C)	Particulate weight(g)	Av. flow (m³/min)	Total vol. (m³)
	Initial	Final	Initial	Final	Initial	Final							
01-Aug-06	2.9106	2.9181	1.01	1.01	10487.7	10488.7	1.0	124	Sunny	29.4	0.0075	1.01	60.6
01-Aug-06	2.9236	2.9332	1.04	1.04	10488.7	10489.7	1.0	154	Sunny	29.4	0.0096	1.04	62.4
01-Aug-06	2.9281	2.9430	1.07	1.07	10489.7	10490.7	1.0	232	Sunny	29.4	0.0149	1.07	64.2
07-Aug-06	2.9063	2.9127	1.10	1.10	10490.7	10491.7	1.0	97	Sunny	27.8	0.0064	1.10	66.0
07-Aug-06	2.9485	2.9594	1.10	1.10	10491.7	10492.7	1.0	165	Sunny	27.8	0.0109	1.10	66.0
07-Aug-06	2.9672	2.9760	1.10	1.10	10492.7	10493.7	1.0	133	Sunny	27.8	0.0088	1.10	66.0
12-Aug-06	2.9082	2.9137	1.07	1.07	10493.7	10494.7	1.0	86	Sunny	29.2	0.0055	1.07	64.2
12-Aug-06	2.9115	2.9199	1.07	1.07	10494.7	10495.7	1.0	131	Sunny	29.2	0.0084	1.07	64.2
12-Aug-06	2.9039	2.9100	1.10	1.10	10495.7	10496.7	1.0	92	Sunny	29.2	0.0061	1.10	66.0
18-Aug-06	2.9182	2.9265	1.13	1.13	10497.1	10498.1	1.0	122	Sunny	30.6	0.0083	1.13	67.8
18-Aug-06	2.9029	2.9117	1.13	1.13	10498.1	10499.1	1.0	130	Sunny	30.6	0.0088	1.13	67.8
18-Aug-06	2.9119	2.9251	1.13	1.13	10499.1	10500.1	1.0	195	Sunny	30.6	0.0132	1.13	67.8
24-Aug-06	2.9271	2.9369	1.10	1.10	10500.1	10501.1	1.0	148	Rainy	27.6	0.0098	1.10	66.0
24-Aug-06	2.9148	2.9267	1.13	1.13	10501.1	10501.1	1.0	176	Rainy	27.6	0.0119	1.13	67.8
24-Aug-06	2.8848	2.8956	1.16	1.16	10502.1	10503.1	1.0	155	Rainy	27.6	0.0108	1.16	69.6
30-Aug-06	2.9214	2.9256	1.04	1.04	10503.1	10504.1	1.0	67	Sunny	29.2	0.0042	1.04	62.4
30-Aug-06	2.9303	2.9367	1.01	1.01	10504.1	10505.1	1.0	106	Sunny	29.2	0.0064	1.01	60.6
30-Aug-06	2.9240	2.9302	1.04	1.04	10505.1	10506.1	1.0	99	Sunny	29.2	0.0062	1.04	62.4
								Min	67				
								Max	232				
								Average	134				

24-hour TSP Monitoring Results at Station AM2 (Nearby Renaissance Harbour View Hotel)

Date	Filter Weight (g)		Flow Rate (m³/min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m³)	Weather Condition	Ave. Air Temp. (°C)	Particulate weight(g)	Av. flow (m³/min)	Total vol. (m³)
	Initial	Final	Initial	Final	Initial	Final							
01-Aug-06	2.8989	2.9074	0.91	0.91	8388.0	8389.0	1.0	156	Sunny	29.4	0.0085	0.91	54.6
01-Aug-06	2.9054	2.9151	0.91	0.91	8389.0	8390.0	1.0	178	Sunny	29.4	0.0097	0.91	54.6
01-Aug-06	2.8709	2.8810	0.88	0.88	8390.0	8391.0	1.0	191	Sunny	29.4	0.0101	0.88	52.8
07-Aug-06	2.9148	2.9193	0.73	0.73	8391.0	8392.0	1.0	103	Sunny	27.8	0.0045	0.73	43.8
07-Aug-06	2.9292	2.9367	0.73	0.73	8392.0	8393.0	1.0	171	Sunny	27.8	0.0075	0.73	43.8
07-Aug-06	2.9055	2.9110	0.73	0.73	8393.0	8394.0	1.0	126	Sunny	27.8	0.0055	0.73	43.8
12-Aug-06	2.9210	2.9260	0.88	0.88	8394.0	8395.0	1.0	95	Sunny	29.2	0.0050	0.88	52.8
12-Aug-06	2.9147	2.9222	0.88	0.88	8395.0	8396.0	1.0	141	Sunny	29.2	0.0075	0.88	53.3
12-Aug-06	2.9179	2.9231	0.88	0.88	8396.0	8397.0	1.0	98	Sunny	29.2	0.0052	0.88	52.8
18-Aug-06	2.9111	2.9222	0.85	0.85	8397.0	8398.0	1.0	218	Sunny	30.6	0.0111	0.85	51.0
18-Aug-06	2.9029	2.9124	0.85	0.85	8398.0	8399.0	1.0	186	Sunny	30.6	0.0095	0.85	51.0
18-Aug-06	2.9026	2.9140	0.85	0.85	8399.0	8400.0	1.0	224	Sunny	30.6	0.0114	0.85	51.0
24-Aug-06	2.9173	2.9224	0.85	0.85	8400.0	8401.0	1.0	100	Rainy	27.6	0.0051	0.85	51.0
24-Aug-06	2.9055	2.9123	0.85	0.85	8401.0	8402.0	1.0	133	Rainy	27.6	0.0068	0.85	51.0
24-Aug-06	2.9103	2.9163	0.85	0.85	8402.0	8403.0	1.0	118	Rainy	27.6	0.0060	0.85	51.0
30-Aug-06	2.9123	2.9151	0.88	0.88	8403.0	8404.0	1.0	53	Sunny	29.2	0.0028	0.88	52.8
30-Aug-06	2.8853	2.8896	0.85	0.85	8404.0	8405.0	1.0	84	Sunny	29.2	0.0043	0.85	51.0
30-Aug-06	2.8914	2.8954	0.85	0.85	8405.0	8406.0	1.0	78	Sunny	29.2	0.0040	0.85	51.0
								Min	53				
								Max	224				
								Average	136				

Annex I3 - Meteorological Data Extracted from King's Park Stations of the Hong Kong Observatory

Date	Weather	King's Park Station				
		Average Air Temperature (°C)	Average Wind Speed (km/h)	Average Relative Humidity (%)	Total Rainfall (mm)	Wind Direction
01-Aug-06	Sunny	29.4	12.0	76.0	0	East
07-Aug-06	Sunny	27.8	4.0	82.0	0.1	West
12-Aug-06	Sunny	29.2	12.0	83.0	0	East
18-Aug-06	Sunny	30.6	10.0	77.0	0	West
24-Aug-06	Rainy	27.6	12.0	90.5	38.8	East
30-Aug-06	Sunny	29.2	12.0	75.5	0	West

Annex J

Waste Flow Table

HKCEC – Atrium Link Extension Project

Name of Project Proponent: HKTDC

Project Commencement Date: 1 Aug 2006

Construction Completion Date: March 2009

Monthly Summary Waste Flow Table for Year 2006

Year	Actual Quantities of inert C&D Materials (in 10 ³ Kg) ⁽¹⁾					Actual Quantities of C&D Wastes (in 10 ³ Kg) ⁽⁴⁾								
	Total Quantity Generated	Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Steel Materials (Demolition of footbridge)		Paper/cardboard packaging		Steel Materials (Demolition of existing Atrium Link)		Chemical Waste	Steel Materials (Demolition of Working Platform)	Others, e.g. general refuse
	(a)	(b)	(c)	(d)	(a)-(b)-(c)-(d)	Disposal	Recycle	Disposal	Recycle	Disposal	Recycle	Disposal	Disposal	Disposal
January	-	-	-	-	-	-	-	-	-	-	-	-	-	-
February	-	-	-	-	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-	-	-	-	-
April	-	-	-	-	-	-	-	-	-	-	-	-	-	-
May	-	-	-	-	-	-	-	-	-	-	-	-	-	-
June	-	-	-	-	-	-	-	-	-	-	-	-	-	-
July	-	-	-	-	-	-	-	-	-	-	-	-	-	-
August	264 ⁽²⁾	0	1 ⁽³⁾	0	263	0	0	1	N/A	N/A ⁽⁵⁾	N/A ⁽⁵⁾	0	N/A	131 ⁽⁶⁾
September	-	-	-	-	-	-	-	-	-	-	-	-	-	-
October	-	-	-	-	-	-	-	-	-	-	-	-	-	-
November	-	-	-	-	-	-	-	-	-	-	-	-	-	-
December	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	264	0	1	0	263	0	0	1	N/A	N/A	N/A	0	N/A	131

Note: ⁽¹⁾ Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil

⁽²⁾ Inert C&D material mainly generated from construction of foundation.

⁽³⁾ Reused for building bunds and making sand bags.

⁽⁴⁾ Non-inert C&D material include steel materials generated from demolition, paper / cardboard packaging waste, chemical waste and other wastes such as general refuse.

⁽⁵⁾ As only Foundation work is being carried out, no steel materials were generated.

⁽⁶⁾ Wastes including 50 tonnes of general refuse, and 81 tonnes of waste due to erection of new site offices, installation of equipment (E&M services) and removal of previous old site offices.

Annex K

Status of Log Book

Table K1 *Non-compliance recorded during site audit on 23 August 2006*

Date of Site Audit	Non-compliance Item Observed	Follow-up Action	Action implemented by the Contractor
23 August 2006	<p>Non-compliance with the recommendation in the approved EIA Report with respect to ProPECC Practice Note 1/94. Details as follows:</p> <ul style="list-style-type: none"> Capacity of drip tray for lubricating oils (~15 x 20 Litre drums) was not sufficient. Oil stains were observed around the drip tray indicating occurrence of potential spillage and inadequate housekeeping. 	<p>The Contractor was immediately requested on site to implement the following measures:</p> <ul style="list-style-type: none"> The Contractor was reminded that oils and chemicals should be stored within containments which shall have a capacity not less than 110% of the largest tank capacity and regularly drained of rain water. 	<p>As of 1 September 2006, the Contractor provided additional drip tray and sands to store chemicals to avoid spillage. No oil stain was observed around the drip tray.</p>

Annex L


Construction Programme for Next Three Months

Hong Kong Convention and Exhibition Centre Expansion Project 3 Months Rolling Programme (2006-08-11 to 2006-11-10)					Gantt Chart																											
ID	Task Name	Duration	Start	Finish	June				July				August				September				October				N							
					21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5			
1	PROJECT WIDE	827 days	26/5/2006	11/3/2009																												
2	Critical Dates	827 days	26/5/2006	11/3/2009																												
3	Project Milestones	827 days	26/5/2006	11/3/2009																												
9	Commencement of Bored Pile Works	0 days	13/10/2006	13/10/2006																												
10	RIP for GBP With Fire Engineering Approval	0 days	16/9/2006	16/9/2006																												
36	Durations	827 days	26/5/2006	11/3/2009																												
37	Contract Duration to Meet KD 1	919 edays	26/5/2006	30/11/2008																												
38	Contract Duration to Meet KD 2	1020 edays	26/5/2006	11/3/2009																												
39	Contract Duration to Meet KD 3	1020 edays	26/5/2006	11/3/2009																												
40	DETAIL DESIGN	243 days	25/5/2006	16/3/2007																												
41	Design Submission & Approval (Temporary Works)	215 days	26/5/2006	13/2/2007																												
42	Temporary Hoarding (Internal Area)	146 days	26/5/2006	17/11/2006																												
47	For Pedestrian Access Beside Existing Main Truss	51 days	23/6/2006	22/8/2006																												
48	WP Hoarding Design Preparation & Submission	17 days	23/6/2006	13/7/2006																												
49	Design Check by Independent Checking Engineer	26 days	14/7/2006	12/8/2006																												
50	DDR for Hoarding Plan for PM	8 days	14/8/2006	22/8/2006																												
51	For GL 17/A&B Columns Construction	44 days	1/9/2006	24/10/2006																												
52	WP Hoarding Design Preparation & Submission	20 days	1/9/2006	23/9/2006																												
53	Design Check by Independent Checking Engineer	12 days	25/9/2006	10/10/2006																												
54	DDR for Hoarding Plan for PM	12 days	11/10/2006	24/10/2006																												
55	For New Pedestrian Diversion Access (Beside A1 Truss)	44 days	25/9/2006	17/11/2006																												
56	WP Hoarding Design Preparation & Submission	20 days	25/9/2006	19/10/2006																												
57	Design Check by Independent Checking Engineer	12 days	20/10/2006	3/11/2006																												
58	DDR for Hoarding Plan for PM	12 days	4/11/2006	17/11/2006																												
59	Temporary Hoarding (Ground Floor)	154 days	26/5/2006	27/11/2006																												
65	For Others Area	59 days	16/9/2006	27/11/2006																												
66	Hoarding Design Preparation & Submission	35 days	16/9/2006	28/10/2006																												
67	Design Check by Independent Checking Engineer	12 days	31/10/2006	13/11/2006																												
68	DDR for Hoarding Design by PM	12 days	14/11/2006	27/11/2006																												
70	Temporary Working Platform (for Roof Truss Assemble)	39 days	15/8/2006	28/9/2006																												
71	Temporary Working Platform Design (including Marine Pile Design) Preparation & Submission	15 days	15/8/2006	31/8/2006																												
72	Design Check by Design Checker	12 days	1/9/2006	14/9/2006																												
73	DDR for Temporary Platform & Foundation Plan Design by PM	12 days	15/9/2006	28/9/2006																												
74	DDR for Temporary Platform & Foundation Plan Design	0 days	28/9/2006	28/9/2006																												
75	Temporary Working Platform (for A1 Panel Truss Assemble)	39																														

Hong Kong Convention and Exhibition Centre
Expansion Project
3 Months Rolling Programme
(2006-08-11 to 2006-11-10)

ID	Task Name	Duration	Start	Finish
86	Submission of FER to Design Checker	12 days	18/8/2006	31/8/2006
87	Submission to PM	3 days	1/9/2006	4/9/2006
88	Approval from PM	0 days	4/9/2006	4/9/2006
89	Fire Engineering Report C (Tunnel)	58 days	18/8/2006	26/10/2006
90	Preparation of Fire Engineering Report C	40 days	18/8/2006	4/10/2006
91	Submission of FER to Design Checker	12 days	5/10/2006	19/10/2006
92	Submission to PM	6 days	20/10/2006	26/10/2006
93	Approval from PM	0 days	26/10/2006	26/10/2006
94	Demolition Plan	208 days	26/5/2006	1/2/2007
95	Demolition of Existing Phase II Projection (GL16)	67 days	26/5/2006	14/8/2006
96	BS Diversion Plan	39 days	26/5/2006	12/7/2006
97	Design BS Diversion Preparation & Submission	27 days	26/5/2006	27/6/2006
98	Design Check by Design Checker	7 days	26/6/2006	4/7/2006
99	RIP / DDR by PM and HKCEC	7 days	5/7/2006	12/7/2006
100	RIP / DDR for Diversion Plan	0 days	12/7/2006	12/7/2006
101	Demolition Plan	67 days	26/5/2006	14/8/2006
102	Detailed Design Preparation	15 days	26/5/2006	13/6/2006
103	Design Check by Design Checker	27 days	5/6/2006	6/7/2006
104	RIP/ DDR for Submission by PM	33 days	7/7/2006	14/8/2006
105	RIP / DDR for Demolition Plan	0 days	14/8/2006	14/8/2006
106	Demolition of Existing West Glass Wall at Atrium Link	49 days	17/7/2006	11/9/2006
107	BS Diversion Plan	36 days	1/8/2006	11/9/2006
108	Design BS Diversion Preparation & Submission	12 days	1/8/2006	14/8/2006
109	Design Check by Design Checker	12 days	15/8/2006	28/8/2006
110	RIP / DDR by PM and HKCEC	12 days	29/8/2006	11/9/2006
111	RIP / DDR for Diversion Plan	0 days	11/9/2006	11/9/2006
112	Demolition Plan	42 days	17/7/2006	2/9/2006
113	Demolition Plan Preparation & Submission	18 days	17/7/2006	5/8/2006
114	Design Check by Design Checker	12 days	7/8/2006	19/8/2006
115	RIP / DDR for Submission by PM	12 days	21/8/2006	2/9/2006
116	RIP / DDR for Demolition Plan	0 days	2/9/2006	2/9/2006
117	Demolition of Existing Atrium Link	98 days	5/10/2006	1/2/2007
118	BS Diversion Plan	40 days	5/10/2006	22/11/2006
119	Design BS Diversion Preparation & Submission	20 days	5/10/2006	28/10/2006
120	Design Check by Design Checker	6 days	31/10/2006	6/11/2006
121	RIP / DDR by PM and HKCEC	14 days	7/11/2006	22/11/2006
123	Demolition Plan	98 days	5/10/2006	1/2/2007
124	Demolition Plan Preparation & Submission	30 days	5/10/2006	10/11/2006
132	A&A Works for HKCEC Phase 1	115 days	26/7/2006	9/12/2006
133	A&A Works Design Preparation & Submission	31 days	26/7/2006	30/8/2006
134	Design Check by Design Checker	12 days	31/8/2006	13/9/2006
135	RIP for PM	13 days	14/9/2006	28/9/2006
136	RIP by A&A Plan	0 days	28/9/2006	28/9/2006
137	Architectural Detailed Design Preparation	12 days	26/8/2006	8/9/2006
138	Design Check by Design Checker	12 days	9/9/2006	22/9/2006


Project: 3 Months Rolling Programme
Date: 25/8/2006


Task	
Progress	
Milestone	


Summary 

Rolled Up Task 

Rolled Up Milestone 

Rolled Up Progress 

Split 

External Tasks 

Project Summary
Group By Summary
Deadline

Hong Kong Convention and Exhibition Centre Expansion Project 3 Months Rolling Programme (2006-08-11 to 2006-11-10)					
ID	Task Name	Duration	Start	Finish	
139	Submission to BD	28 days	23/9/2006	27/10/2006	
140	Structural Detailed Design Preparation	18 days	9/9/2006	29/9/2006	
141	Design Check by Design Checker	12 days	30/9/2006	16/10/2006	
142	Submission to BD	22 days	17/10/2006	11/11/2006	
144	DDR for Submission by PM	24 days	17/10/2006	14/11/2006	
146	A&A Works for HKCEC Phase 2	86 days	25/9/2006	9/1/2007	
147	A&A Works Design Preparation & Submission	31 days	25/9/2006	2/11/2006	
148	Design Check by Design Checker	9 days	3/11/2006	13/11/2006	
149	RIP for PM	13 days	14/11/2006	28/11/2006	
150	RIP by A&A Plan	0 days	28/11/2006	28/11/2006	
151	Detailed Design Preparation	30 days	31/10/2006	4/12/2006	
152	Design Check by Design Checker	7 days	5/12/2006	12/12/2006	
155	Heavy Lifting & Sliding System for Steel Roof Trusses	84 days	1/11/2006	13/2/2007	
156	Heavy Lifting Design & Sliding System Design Preparation & Submission	24 days	1/11/2006	28/11/2006	
157	Design Check by Independent Checking Engineer	6 days	29/11/2006	5/12/2006	
158	RIP by PM	12 days	6/12/2006	19/12/2006	
159	RIP for Heavy Lifting Method and Sliding System	0 days	19/12/2006	19/12/2006	
160	Detailed Design Preparation	24 days	20/12/2006	19/1/2007	
165	Pontoons for Construction Works	34 days	7/8/2006	14/9/2006	
166	Pontoons Design Preparation & Submission	7 days	7/8/2006	31/8/2006	
167	Design Check by Independent Checking Engineer	6 days	1/9/2006	7/9/2006	
168	DDR for Pontoons by PM	6 days	8/9/2006	14/9/2006	
172	Design Submission & Approval (Permanent Works)	243 days	25/5/2006	16/3/2007	
173	Fire Engineering Report A	96 days	26/5/2006	16/9/2006	
174	Preparation of GBP and Fire Engineering Report A	11 days	26/5/2006	8/6/2006	
175	Submission of GBP with FER to ASD	85 days	9/6/2006	16/9/2006	
176	ASD Forward Report to BD / FSC	0 days	14/7/2006	14/7/2006	
177	Arrangement of Fire Safety Committee Meeting	33 days	17/7/2006	23/8/2006	
178	1st FSC Meeting	0 days	23/8/2006	23/8/2006	
179	Issue of Comments from FSC	7 days	24/8/2006	31/8/2006	
180	Preparation and Resubmission to ASD	7 days	1/9/2006	8/9/2006	
181	Issue of GBP Approval from ASD	7 days	9/9/2006	16/9/2006	
182	General Building Plan	82 days	13/6/2006	16/9/2006	
183	GBP Preparation & Submission	22 days	13/6/2006	8/7/2006	
184	Design Check by Design Checker	30 days	10/7/2006	12/8/2006	
185	RIP/DDR by PM	18 days	14/8/2006	2/9/2006	
186	RIP/DDR for GBP	0 days	16/9/2006	16/9/2006	
191	Foundation	92 days	26/5/2006	12/9/2006	
192	Foundation / ELS Design (A1/24, BP2 and BP3)	72 days	26/5/2006	19/8/2006	
193	Foundation / ELS Design Preparation & Submission	14 days	26/5/2006	12/6/2006	
194	Design Check by Design Checker	52 days	13/6/2006	12/8/2006	
195	RIP & DDR for Foundation / ELS Design by PM	6 days	14/8/2006	19/8/2006	
196	RIP & DDR for Foundation / ELS Plan	0 days	19/8/2006	19/8/2006	
197	Foundation / ELS Design (Prebored H at North)	70 days	26/5/2006	17/8/2006	
198	1st Submission	45 days	26/5/2006	19/7/2006	

Project: 3 Months Rolling Programme
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Task		Summary		Rolled Up Progress		Project Summary	
Progress		Rolled Up Task		Split		Group By Summary	
Milestone		Rolled Up Milestone		External Tasks		Deadline	

Page 3

Hong Kong Convention and Exhibition Centre
Expansion Project
3 Months Rolling Programme
(2006-08-11 to 2006-11-10)

ID	Task Name	Duration	Start	Finish	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	N
199	Foundation / ELS Design Preparation & Submission	14 days	26/5/2006	12/6/2006																										
200	Design Check by Design Checker	20 days	13/6/2006	6/7/2006																										
201	RIP & DDR for Foundation / ELS Design by PM	11 days	7/7/2006	19/7/2006																										
202	RIP & DDR for Foundation / ELS Plan	0 days	19/7/2006	19/7/2006																										
208	Foundation / ELS Design (BP4 and BP5)	92 days	26/5/2006	12/9/2006																										
209	Foundation / ELS Design Preparation & Submission	14 days	26/5/2006	12/6/2006																										
210	Submit to MTRC for Endorsement/Comments	21 days	26/5/2006	20/6/2006																										
211	Design Check by Design Checker	11 days	13/6/2006	24/6/2006																										
212	Submission to MTRC for Endorsement/Comments	10 days	29/6/2006	11/7/2006																										
213	Further Design Check by Design Checker	40 days	5/7/2006	19/8/2006																										
214	RIP & DDR for Foundation / ELS Design by PM	12 days	16/8/2006	29/8/2006																										
215	RIP & DDR for Foundation / ELS Plan	0 days	29/8/2006	29/8/2006																										
216	2 nd Submission to MTRC for Endorsement/Comments	12 days	30/8/2006	12/9/2006																										
218	Architectural Design	152 days	11/9/2006	16/3/2007																										
219	Arch - External façade and Gondola Design	89 days	15/9/2006	3/1/2007																										
220	Design Preparation & Submission	20 days	15/9/2006	10/10/2006																										
221	Design Check by Design Checker	12 days	11/10/2006	24/10/2006																										
222	RIP by PM	12 days	25/10/2006	8/11/2006																										
223	RIP for External façade and Gondola Design	0 days	8/11/2006	8/11/2006																										
224	Detailed Design Preparation	21 days	9/11/2006	2/12/2006																										
225	Design Check by Design Checker	12 days	4/12/2006	16/12/2006																										
226	DDR for DD Submission by PM	12 days	18/12/2006	3/1/2007																										
228	Arch - Landscaping	111 days	12/9/2006	25/1/2007																										
229	Schematic Design Preparation & Submission	16 days	12/9/2006	29/9/2006																										
230	Design Check by Design Checker	16 days	30/9/2006	20/10/2006																										
231	RIP by PM	12 days	21/10/2006	4/11/2006																										
232	RIP for Schemetic Design	0 days	4/11/2006	4/11/2006																										
237	Arch - Finishes (Internal & External)	146 days	18/9/2006	16/3/2007																										
238	Schematic Design Preparation & Submission	35 days	18/9/2006	31/10/2006																										
239	Design Check by Design Checker	18 days	1/11/2006	21/11/2006																										
246	Arch - Architectural Design (General Items)	131 days	11/9/2006	20/2/2007																										
247	Schematic Design Preparation & Submission	17 days	11/9/2006	29/9/2006																										
248	Design Check by Design Checker	5 days	30/9/2006	6/10/2006																										
249	RIP by PM	6 days	9/10/2006	14/10/2006																										
250	RIP for Schemetic Design	0 days	14/10/2006	14/10/2006																										
255	Arch - Fire Curtain & Smoke Curtain Schedule	115 days	11/9/2006	29/1/2007																										
256	Schematic Design Preparation & Submission	17 days	11/9/2006	29/9/2006																										
257	Design Check by Design Checker	11 days	30/9/2006	14/10/2006																										
258	RIP by PM	13 days	16/10/2006	31/10/2006																										
259	RIP for Schemetic Design	0 days	31/10/2006	31/10/2006																										
264	Arch - Door Schedule (including sliding and acoustic doors)	115 days	11/9/2006	29/1/2007																										
265	Schematic Design Preparation & Submission	17 days	11/9/2006	29/9/2006																										
266	Design Check by Design Checker	11 days	30/9/2006	14/10/2006																										
267	RIP by PM	13 days	16/10/2006	31/10/2006																										
268	RIP for Schemetic Design	0 days	31/10/2006	31/10/2006																										

Project: 3 Months Rolling Programme
Date: 25/8/2006

Task

Progress

Milestone



Summary

Rolled Up Task

Rolled Up Milestone



Rolled Up Progress

Split

External Tasks



Project Summary

Group By Summary

Deadline



	<p>Hong Kong Convention and Exhibition Centre Expansion Project 3 Months Rolling Programme (2006-08-11 to 2006-11-10)</p>
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ID	Task Name	Duration	Start	Finish	June							July							August							September							October							N
273	Arch - Ironmongery Schedule	100 days	11/10/2006	12/2/2007	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5											
274	Schematic Design Preparation & Submission	16 days	11/10/2006	28/10/2006																																				
275	Design Check by Design Checker	13 days	31/10/2006	14/11/2006																																				
282	Arch - Signage and Electronic Sign	138 days	12/9/2006	1/3/2007																																				
283	Schematic Design Preparation & Submission	16 days	12/9/2006	29/9/2006																																				
284	Design Check by Design Checker	11 days	30/9/2006	14/10/2006																																				
285	RIP by PM	13 days	16/10/2006	31/10/2006																																				
286	RIP for Schemetic Design	0 days	31/10/2006	31/10/2006																																				
291	Arch - Maintenance Access System / Catwalks	91 days	11/10/2006	29/1/2007																																				
292	Schematic Design Preparation & Submission	16 days	11/10/2006	28/10/2006																																				
293	Design Check by Design Checker	13 days	31/10/2006	14/11/2006																																				
300	Structural Design	197 days	26/5/2006	19/1/2007																																				
301	Review in Principle	96 days	26/5/2006	16/9/2006																																				
302	Superstrucutre	96 days	26/5/2006	16/9/2006																																				
303	Structural Design Preparation & Submission	29 days	26/5/2006	29/6/2006																																				
304	Design Check by Design Checker	39 days	30/6/2006	15/8/2006																																				
305	RIP by PM	28 days	16/8/2006	16/9/2006																																				
306	RIP for Structural Plan	0 days	16/9/2006	16/9/2006																																				
307	Details Design Review	188 days	7/6/2006	19/1/2007																																				
308	Roof Trusses (Including Bearing Design)	87 days	7/6/2006	16/9/2006																																				
309	Detailed Design Preparation	63 days	7/6/2006	19/8/2006																																				
310	Design Check by Design Checker	10 days	21/8/2006	31/8/2006																																				
311	DDR for DD Submission by PM	14 days	1/9/2006	16/9/2006																																				
312	DDR for Structural Plan	0 days	16/9/2006	16/9/2006																																				
313	R. C. Mega Columns	59 days	7/8/2006	16/10/2006																																				
314	Detailed Design Preparation	35 days	7/8/2006	15/9/2006																																				
315	Design Check by Design Checker	12 days	16/9/2006	29/9/2006																																				
316	DDR Submission by PM	12 days	30/9/2006	16/10/2006																																				
317	DDR for Structural Plan	0 days	16/10/2006	16/10/2006																																				
318	Floor Structure (Grid A1-A/16-25)	44 days	11/9/2006	3/11/2006																																				
319	Detailed Design Preparation	20 days	11/9/2006	4/10/2006																																				
320	Design Check by Design Checker	12 days	5/10/2006	19/10/2006																																				
321	DDR Submission by PM	12 days	20/10/2006	3/11/2006																																				
322	DDR for Structural Plan	0 days	3/11/2006	3/11/2006																																				
323	Floor Structure (Remaining Area)	59 days	3/10/2006	12/12/2006																																				
324	Detailed Design Preparation	35 days	3/10/2006	14/11/2006																																				
325	Design Check by Design Checker	12 days	15/11/2006	28/11/2006																																				
328	Other R.C. Structure & Slab	59 days	9/11/2006	19/1/2007																																				
329	Detailed Design Preparation	35 days	9/11/2006	19/12/2006																																				
333	BS Design	144 days	29/6/2006	18/12/2006																																				
334	BS - HVAC	125 days	13/7/2006	8/12/2006																																				
335	Review In Principle	93 days	13/7/2006	1/11/2006																																				
336	Stage 1	70 days	13/7/2006	3/10/2006																																				
337	Schematic Design of All HVAC Installation Preparation & Submission	29 days	13/7/2006	15/8/2006																																				
338	Design Check by Design Checker	27 days	16/8/2006	15/9/2006																																				

Project: 3 Months Rolling Programme
Date: 25/8/2006

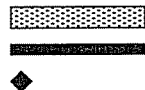
Hong Kong Convention and Exhibition Centre Expansion Project 3 Months Rolling Programme (2006-08-11 to 2006-11-10)					Gantt Chart																											
ID	Task Name	Duration	Start	Finish	June				July				August				September				October				N							
					21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5			
339	RIP by PM	14 days	16/9/2006	3/10/2006																												
340	RIP for Schemetic Design	0 days	3/10/2006	3/10/2006																												
341	Stage 2	65 days	15/8/2006	1/11/2006																												
342	Preliminary HVAC Installation Preparation & Submission	29 days	15/8/2006	16/9/2006																												
343	Design Check by Design Checker	23 days	18/9/2006	16/10/2006																												
344	RIP by PM	13 days	17/10/2006	1/11/2006																												
345	RIP for Schemetic Design	0 days	1/11/2006	1/11/2006																												
346	Details Design Review	92 days	21/8/2006	8/12/2006																												
347	Detailed Design Preparation	57 days	21/8/2006	27/10/2006																												
348	Design Check by Design Checker	24 days	28/10/2006	25/11/2006																												
349	DDR for HVAC Submission by PM	11 days	27/11/2006	8/12/2006																												
350	DDR for HVAC	0 days	8/12/2006	8/12/2006																												
351	BS - Electrical	121 days	27/7/2006	18/12/2006																												
352	Review In Principle	72 days	27/7/2006	20/10/2006																												
353	Stage 1	58 days	27/7/2006	3/10/2006																												
354	Electrical System Design Preparation & Submission	19 days	27/7/2006	17/8/2006																												
355	Design Check by Design Checker	26 days	18/8/2006	16/9/2006																												
356	RIP by PM	13 days	18/9/2006	3/10/2006																												
357	RIP for Electrical System Design	0 days	3/10/2006	3/10/2006																												
358	Stage 2	56 days	15/8/2006	20/10/2006																												
359	Electrical Layouts Preparation & Submission	19 days	15/8/2006	5/9/2006																												
360	Design Check by Design Checker	25 days	6/9/2006	5/10/2006																												
361	RIP by PM	12 days	6/10/2006																													

Hong Kong Convention and Exhibition Centre
Expansion Project
3 Months Rolling Programme
(2006-08-11 to 2006-11-10)

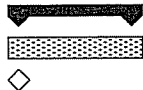
ID	Task Name	Duration	Start	Finish	June							July				August				September				October				N
					21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29
384	Stage 2	61 days	3/8/2006	14/10/2006																								
385	Preliminary Fire Services Layouts Preparation & Submission	25 days	3/8/2006	31/8/2006																								
386	Design Check by Design Checker	25 days	1/9/2006	29/9/2006																								
387	RIP by PM	11 days	30/9/2006	14/10/2006																								
388	RIP for Preliminary Fire Services Layouts Design	0 days	14/10/2006	14/10/2006																								
389	Details Design Review	83 days	29/7/2006	6/11/2006																								
390	Detailed Design Preparation	48 days	29/7/2006	22/9/2006																								
391	Design Check by Design Checker	23 days	23/9/2006	21/10/2006																								
392	DDR for Fire Services Submission by PM	12 days	23/10/2006	6/11/2006																								
393	DDR for Fire Services	0 days	6/11/2006	6/11/2006																								
394	BS - Plumbing and Drainage	101 days	19/7/2006	16/11/2006																								
395	Reivew In Principle	83 days	19/7/2006	25/10/2006																								
396	Stage 1	63 days	19/7/2006	29/9/2006																								
397	Schematic Design Preparation & Submission	25 days	19/7/2006	16/8/2006																								
398	Design Check by Desin Checker	26 days	17/8/2006	15/9/2006																								
399	RIP by PM	12 days	16/9/2006	29/9/2006																								
400	RIP for Schemetic Design	0 days	29/9/2006	29/9/2006																								
401	Stage 2	61 days	14/8/2006	25/10/2006																								
402	Preliminary Plumbing and Drainage Layouts Design Preparation & Submission	25 days	14/8/2006	11/9/2006																								
403	Design Check by Desin Checker	24 days	12/9/2006	11/10/2006																								
404	RIP by PM	12 days	12/10/2006	25/10/2006																								
405	RIP for Preliminary Plumbing and Drainage Layouts Design	0 days	25/10/2006	25/10/2006																								
406	Details Design Review	85 days	7/8/2006	16/11/2006																								
407	Detailed Design Preparation	50 days	7/8/2006	4/10/2006																								
408	Design Check by Design Checker	14 days	5/10/2006	21/10/2006																								
409	DDR for Plumbing and Drainage Submission by PM	21 days	23/10/2006	16/11/2006																								
410	DDR for Plumbing and Drainage	0 days	16/11/2006	16/11/2006																								
411	BS - Extra Low Voltage	115 days	20/7/2006	4/12/2006																								
412	Review In Principle	80 days	20/7/2006	23/10/2006																								
413	Stage 1	64 days	20/7/2006	3/10/2006																								
414	Schematic Design Preparation & Submission	25 days	20/7/2006	17/8/2006																								
415	Design Check by Desin Checker	26 days	18/8/2006	16/9/2006																								
416	RIP by PM	13 days	18/9/2006	3/10/2006																								
417	RIP for Schemetic Design	0 days	3/10/2006	3/10/2006																								
418	Stage 2	62 days	10/8/2006	23/10/2006																								
419	Preliminary ELV Layout Design Preparation & Submission	25 days	10/8/2006	7/9/2006																								
420	Design Check by Desin Checker	24 days	8/9/2006	6/10/2006																								
421	RIP by PM	13 days	9/10/2006	23/10/2006																								
422	RIP for Preliminary ELV Layout Design	0 days	23/10/2006	23/10/2006																								
423	Details Design Review	92 days	16/8/2006	4/12/2006																								
424	Detailed Design Preparation	55 days	16/8/2006	20/10/2006																								
425	Design Check by Design Checker	24 days	21/10/2006	18/11/2006																								
426	DDR for Low Voltage Submission by PM	13 days	20/11/2006	4/12/2006																								
427	DDR for Low Voltage	0 days	4/12/2006	4/12/2006																								
428	BS - Telecommunication Installation	136 days	29/6/2006	8/12/2006																								

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Task
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Summary
Rolled Up Task
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Deadline

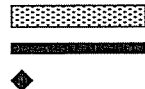


Hong Kong Convention and Exhibition Centre
Expansion Project
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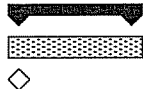
ID	Task Name	Duration	Start	Finish	21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	N
429	Review In Principle	101 days	29/6/2006	27/10/2006																										
430	Stage 1	81 days	29/6/2006	3/10/2006																										
431	Schematic Design Preparation & Submission	42 days	29/6/2006	17/8/2006																										
432	Design Check by Desin Checker	26 days	18/8/2006	16/9/2006																										
433	RIP by PM	13 days	18/9/2006	3/10/2006																										
434	RIP for Schemetic Design	0 days	3/10/2006	3/10/2006																										
435	Stage 2	79 days	26/7/2006	27/10/2006																										
436	Preliminary IT System Layouts Design Preparation & Submission	42 days	26/7/2006	12/9/2006																										
437	Design Check by Desin Checker	24 days	13/9/2006	12/10/2006																										
438	RIP by PM	13 days	13/10/2006	27/10/2006																										
439	RIP for Preliminary IT System Layouts Design	0 days	27/10/2006	27/10/2006																										
440	Details Design Review	115 days	25/7/2006	8/12/2006																										
441	Detailed Design Preparation	49 days	25/7/2006	24/10/2006																										
442	Design Check by Design Checker	26 days	25/10/2006	24/11/2006																										
443	DDR for Submission by PM	12 days	25/11/2006	8/12/2006																										
444	DDR for Telecommunication Plan	0 days	8/12/2006	8/12/2006																										
445	Procurement	565 days	2/6/2006	28/4/2008																										
446	Specialist Package	565 days	2/6/2006	28/4/2008																										
447	Heavy Lifting for Steel Roof Trusses	160 days	20/12/2006	10/7/2007																										
448	Slide Beam/Lifting Frame/Strand Jack/Temporary Works	160 days	20/12/2006	10/7/2007																										
449	Procure Materials for Heavy Lifting System	100 days	20/12/2006	26/4/2007																										
450	Procure Materials for Slide Beams & Tie Beams	100 days	20/12/2006	26/4/2007																										
452	Concrete For Construction	533 days	11/7/2006	28/4/2008																										
453	Foundation	60 days	11/7/2006	18/9/2006																										
454	Design Mix Preparation & Submission	6 days	11/7/2006	17/7/2006																										
456	Check by Design Checker	12 days	22/7/2006	4/8/2006																										
457	Trial Mix Report Preparation & Submission	35 days	2/8/2006	11/9/2006																										
458	Design Check by Design Checker	3 days	12/9/2006	14/9/2006																										
459	Review by PM	3 days	15/9/2006	18/9/2006																										
460	Superstructure	41 days	19/9/2006	8/11/2006																										
461	Design Mix Preparation & Submission	6 days	19/9/2006	25/9/2006																										
462	Design Check by Design Checker	3 days	26/9/2006	28/9/2006																										
463	Trial Mix Report Preparation & Submission	26 days	4/10/2006	4/11/2006																										
464	Review by PM	3 days	6/11/2006	8/11/2006																										
467	Pontoons for Construction Works	50 days	15/9/2006	15/11/2006																										
468	Submission to Marine Department	0 days	22/9/2006	22/9/2006																										
469	Review By Marine Department	30 days	23/9/2006	31/10/2006																										
470	Approval by Marine Department	0 days	31/10/2006	31/10/2006																										
471	Material Procurement & Delivery	38 days	15/9/2006	1/11/2006																										
472	Commencement to assemble on Site	0 days	1/11/2006	1/11/2006																										
473	Assemble Pontoon on Site	12 days	2/11/2006	15/11/2006																										
474	Steel Piles	79 days	29/6/2006	29/9/2006																										
475	Procure Materials & Delivery to Site (Marine Pile)	25 days	1/9/2006	29/9/2006																										
476	Procure Materials & Delivery to Site (Pre-bored H Pile)	25 days	29/6/2006	28/7/2006																										
477	Structural Steel Works	420 days	2/6/2006	29/10/2007																										

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Deadline



Hong Kong Convention and Exhibition Centre
Expansion Project
3 Months Rolling Programme
(2006-08-11 to 2006-11-10)

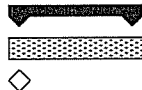
ID	Task Name	Duration	Start	Finish	June							July				August				September				October					N	
					21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29		5
483	Shop Drawing Submission & Approval	45 days	18/9/2006	11/11/2006																										
484	Structural Steel Supplier Review by PM	6 days	18/9/2006	23/9/2006																										
485	First Delivery to Fabrication Yards	0 days	1/11/2006	1/11/2006																										
486	Fabrication of Structural Steel Works	284 days	13/11/2006	29/10/2007																										
488	Others Structural Works	90 days	4/11/2006	23/2/2007																										
489	Procure Movement Joint	90 days	4/11/2006	23/2/2007																										
498	M & E Long - Lead Items	319 days	21/10/2006	17/11/2007																										
501	Lift & Escalator Procurement & Delivery	180 days	21/10/2006	2/6/2007																										
506	Bearing for Steel Truss	92 days	18/9/2006	9/1/2007																										
507	Shop Drawing Submission & Approval	14 days	18/9/2006	4/10/2006																										
508	Bearing Procurement and Delivery	78 days	5/10/2006	9/1/2007																										
509	Contractor Submission	651 days	15/5/2006	24/7/2008																										
544	Site Mobilisation	38 days	7/7/2006	19/8/2006																										
545	Site Office Set Up	38 days	7/7/2006	19/8/2006																										
546	Site Office Set Up	38 days	7/7/2006	19/8/2006																										
558	Internal Hoarding Erection at Existing Atrium Link	124 days	1/8/2006	28/12/2006																										
559	For West Façade Removal and Structural Modification Beside Existing West Façade Truss	112 days	1/8/2006	12/12/2006																										
560	Bamboo Scaffolding Erection (Stage 1)	19 days	1/8/2006	23/8/2006																										
561	Hoarding Erection	24 days	23/8/2006	19/9/2006																										
562	Bamboo Scaffolding Erection (Stage 2)	6 days	8/11/2006	15/11/2006																										
563	Hoarding Erection	24 days	15/11/2006	12/12/2006																										
564	For GL 17/A&B Columns Construction	49 days	31/10/2006	28/12/2006																										
565	Bamboo Scaffolding Erection	12 days	31/10/2006	13/11/2006																										
566	Hoarding Erection	45 days	4/11/2006	28/12/2006																										
567	A & A Works to Existing HKCEC Phase 1 and 2	649 days	19/7/2006	24/9/2008																										
602	A & A Works to HKCEC Phase 2	647 days	19/7/2006	22/9/2008																										
603	HKCEC Phase 2 - Demolition Works (GL 16/B-E)	143 days	19/7/2006	8/1/2007																										
604	Condition Survey for Affected Area	6 days	19/7/2006	26/7/2006																										
605	Erect Weather Proof Hoarding / Protective measure	32 days	26/7/2006	31/8/2006																										
606	Remove Existing Finishes & Feature	21 days	1/9/2006	25/9/2006																										
607	Modification for Existing E&M Services	44 days	11/8/2006	30/9/2006																										
608	Modification/Remove for External Facade	28 days	1/9/2006	4/10/2006																										
609	Demolition of Structure for Grid 16/B-E	45 days	5/10/2006	28/11/2006																										
610	Make Good for Existing Structure / finishing works	14 days	29/11/2006	14/12/2006																										
621	Modification of Existing Atrium Link	303 days	13/12/2006	20/12/2007																										
622	Demolition of Existing West Glass Wall at Atrium Link	35 days	13/12/2006	25/1/2007																										
623	Demolition of Existing West Glass Wall	35 days	13/12/2006	25/1/2007																										
641	New Atrium Link Extension	802 days	27/6/2006	11/3/2009																										
642	Material Handling Facilities & Temporary Working Platforms	196 days	30/9/2006	2/6/2007																										
643	Temporary Steel Working Platform (for Roof Trusses Assemble)	64 days	30/9/2006	16/12/2006																										
644	Maine Pile Construction	55 days	30/9/2006	6/12/2006																										
645	On Site fabrication of Bracing	55 days	5/10/2006	9/12/2006																										
646	On Site fabrication of Supports	55 days	10/10/2006	13/12/2006																										
647	Temporary Working Platform Erection	55 days	13/10/2006	16/12/2006																										
648	Commencement for Roof Truss Erection	0 days	16/12/2006	16/12/2006																										

Project: 3 Months Rolling Programme
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Task
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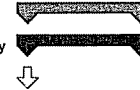
Summary
Rolled Up Task
Rolled Up Milestone



Rolled Up Progress
Split
External Tasks






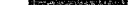







Project Summary
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Deadline



Hong Kong Convention and Exhibition Centre
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ID	Task Name	Duration	Start	Finish	June					July					August					September					October					N
					21	28	4	11	18	25	2	9	16	23	30	6	13	20	27	3	10	17	24	1	8	15	22	29	5	
649	Temporary Steel Working Platform (for A1 Panel Truss Assemble)	39 days	16/11/2006	3/1/2007																										
651	On Site fabrication of Bracing	30 days	20/11/2006	23/12/2006																										
652	On Site fabrication of Supports	30 days	23/11/2006	29/12/2006																										
653	Temporary Working Platform Erection	30 days	27/11/2006	3/1/2007																										
654	Commencement for Panel Truss Erection	0 days	3/1/2007	3/1/2007																										
658	Piling and Sub-Structure	251 days	27/6/2006	2/5/2007																										
659	Pre-drilling Works	67 days	27/6/2006	13/9/2006																										
660	Pre-drilling Work with Armour Rock Coring (South except work area E)	40 days	18/7/2006	1/9/2006																										
661	Pre-drilling Work without Armour Rock Coring (North)	51 days	27/6/2006	25/8/2006																										
662	Pre-drilling Work with Armour Rock Coring for Work Area E	31 days	1/8/2006	5/9/2006																										
663	Pre-drilling Report Submission (South except work area E)	0 days	9/9/2006	9/9/2006																										
664	Pre-drilling Report Submission (North)	0 days	2/8/2006	2/8/2006																										
665	Pre-drilling Report Submission for Work Area E	0 days	13/9/2006	13/9/2006																										
666	Piling Works at North	198 days	1/8/2006	2/4/2007																										
667	Prebored H Piles Construction (Grid 16/A1, 17/A, B & E)	118 days	1/8/2006	19/12/2006																										
668	Remove Existing Pavement	12 days	1/8/2006	15/8/2006																										
669	Mobilization	12 days	1/8/2006	14/8/2006																										
670	Prebored H Piles Construction (Grid 16/A1, 17/ A, B & E)	70 days	15/8/2006	7/11/2006																										
671	Prebored H Piling for Temp. Access Platform	12 days	8/11/2006	21/11/2006																										
672	Submit Pile Record Plan to Consultant	6 days	8/11/2006	14/11/2006																										
673	Report Completion to PM	0 days	14/11/2006	14/11/2006																										
674	PM Select Pile for Testing	6 days	15/11/2006	21/11/2006																										
675	Loading Test for Selected Pile	18 days	22/11/2006	12/12/2006																										
676	Consent for Pile Cap & Structure Works	6 days	13/12/2006	19/12/2006																										
677	Prebored H Piles Construction (Grid 17/ B, C & D)	198 days	1/8/2006	2/4/2007																										
678	Remove Existing Pavement	12 days	1/8/2006	15/8/2006																										
679	Mobilization	12 days	1/8/2006	14/8/2006																										
680	Prebored H Piles Construction (Grid 17/ B, C & D)	150 days	15/8/2006	15/2/2007																										
686	Piling Works at South	162 days	2/8/2006	16/2/2007																										
687	Foundation Works for Grid A1 and A	103 days	2/8/2006	2/12/2006																										
688	For Grid A1 Prebored H Pile (A1/24)	103 days	2/8/2006	2/12/2006																										
689	Remove Existing Pavement for grid A1	14 days	2/8/2006	18/8/2006																										
690	Precautional & Protective Measure for U/G Serv.	10 days	22/8/2006	2/9/2006																										
691	Prebored Piles Construction	40 days	2/9/2006	20/10/2006																										
692	Submit Pile Record Plan to Consultant	6 days	21/10/2006	27/10/2006																										
693	PM Select Pile for Testing	6 days	28/10/2006	4/11/2006																										
694	Loading Test for Selected Pile	18 days	6/11/2006	25/11/2006																										
695	Consent for Pile Cap & Structure Works	6 days	27/11/2006	2/12/2006																										
696	Foundation Works for Grid A, B, C & D (BP2, BP3, BP4 & BP5)	144 days	23/8/2006	16/2/2007																										
697	Remove Existing Pavement for Grid B-D	23 days	14/9/2006	13/10/2006																										
698	Precautional & Protective Measure for U/G Serv.	12 days	23/8/2006	6/9/2006																										
699	Temporary steel platform / Equipment Fabrication	30 days	6/9/2006	12/10/2006																										
700	Bored Piles Construction (Grid 24/ B, C and D)	75 days	13/10/2006	12/1/2007																										

Project: 3 Months Rolling Programme Date: 25/8/2006	Task		Summary		Rolled Up Progress		Project Summary	
	Progress		Rolled Up Task		Split		Group By Summary	
	Milestone		Rolled Up Milestone		External Tasks		Deadline	