

Hip Hing – Ngo Kee Joint Venture

Hong Kong Convention and
Exhibition Centre Expansion
Project:

*Monthly Environmental Monitoring
and Audit Report for November 2007*

December 2007

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

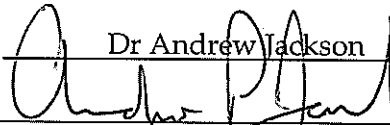

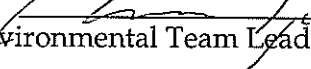
Hong Kong Convention and
Exhibition Centre Expansion

Project:

*Monthly Environmental Monitoring
and Audit Report for November 2007*

December 2007

Reference 0050690

For and on behalf of	
Environmental Resources Management	
Approved by:	 Dr Andrew Jackson
Signed:	
Position:	Managing Director
Certified by:	 (Environmental Team Leader – Marcus Ip)
Date:	19 December 2007

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.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.



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

19 December 2007

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 Project
Monthly EM&A Report for November 2007
(Environmental Permit No. EP-239/2006/A)

With reference to the captioned document concerning the Monthly EM&A report for November 2007 received from ERM dated 17 December 2007, we are pleased to provide our verification for the document pursuant to condition 3 of the Environmental Permit (EP) No. EP-239/2006/A.

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 Project (EIAO Register No: AEIAR-100/2006) commenced on 1 August 2006. This is the sixteenth monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 November 2007 to 30 November 2007 in accordance with the EM&A Manual.

Summary of Construction Works undertaken during the Reporting month

The major construction works undertaken during the reporting month included the construction of RC Column, the removal of Level 5 slabs, Transfer Truss installation, Roof Truss A and B Assembly, pile cap construction, construction works for Tx. Room (D.G. Store) and sea water pump house cable laying.

Environmental Monitoring and Audit Progress

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

24-hour Total Suspended Particulates (TSP) monitoring	5 sets
1-hour TSP monitoring	15 sets
Environmental site auditing	5 times

Air Quality

5 sets of 24-hour and 15 sets of 1-hour TSP monitoring were carried out at the designated monitoring stations (AM1 & AM2) during the reporting month. There are no exceedances recorded during the reporting month.

Water Quality

Water quality monitoring at the designated monitoring stations (W3, W4 and W5) was not conducted during the reporting month subsequent to the completion of installation of marine piles on 23 April 2007. Additional water quality monitoring was also completed on 21 May 2007.

Additional water quality monitoring for the dry season has commenced on the 19th November will last for four months and is expected to end in March 2008. 5 sets of water monitoring were carried out at the designated monitoring stations (C1, C2 and M1). No exceedance of water quality parameters was recorded at the monitoring stations during the reporting month.

Construction Waste Management

The major construction activities undertaken in the reporting month were the construction of pile cap, the installation of Roof Truss A and B and the removal of Level 5 slabs,

A total of 1016.5 tonnes of inert C&D materials and 195.52 tonnes of C&D wastes were generated during the reporting month. The C&D wastes and inert C&D materials generated from the Project were disposed of at SENT Landfill / Tseung Kwan O Area 137 Fill Bank and the public fill barging point at Quarry Bay respectively.

Environmental Site Auditing

5 weekly environmental site audits were carried out by the ET. Details of the audit findings and implementation status are presented in *Section 6*.

Environmental Non-conformance

No environmental non-compliance was identified during the reporting month.

No environmental complaint or summons was received during the reporting month.

Future Key Issues

Major works to be undertaken in the coming month are the installation and assembly of transfer truss, pile cap construction, the removal of existing structure at Tx Room and cable laying at the sea water pump house.

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 Hip Hing – Ngo Kee Joint Venture as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme for Hong Kong Convention and Exhibition Centre Expansion Project (the Project).

1.1 PURPOSE OF THE REPORT

This is the sixteenth EM&A report which summarises the impact monitoring results and audit findings of the EM&A programme during the reporting month from **1 November 2007** to **30 November 2007**.

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

summarises background and scope of the Project, site description, project organisation and contact details, construction programme, the construction works undertaken and the status of Environmental Permits/Licences during the reporting month.

Section 3 : Environmental Monitoring Requirement

summarises the monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels and Event / Action Plans.

Section 4 : Implementation Status on Environmental Mitigation Measures

summarises the implementation of environmental protection measures during the reporting month.

Section 5 : Monitoring Results

summarises the monitoring results obtained in the reporting month.

Section 6 : Environmental Site Auditing

summarises the audit findings of the weekly site inspections undertaken within the reporting month.

Section 7 : Environmental Non-conformance

summarises any environmental exceedance, environmental complaints and environmental summons received within the reporting month.

Section 8 : **Future Key Issues**

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

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

compares and contrasts the EM&A data in the month with the EIA predictions and annotates with explanation for any discrepancies.

Section 10 : **Conclusion**

2.1

BACKGROUND

The Hong Kong Trade Development Council (HKTDC) 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 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 – Environmental Impact Assessment Report"* (EIAO Register No: AEIAR-100/2006). The EIA was approved on 21 April 2006 under the *Environmental Impact Assessment Ordinance* (EIAO). An Environmental Permit (EP-239/2006) for the works was granted on 12 May 2006. An application for variation of the Environmental Permit was made on 25 January 2007, an amended Environmental Permit (EP-239/2006/A) was granted on 12 February 2007. Under the requirements of Condition 3.1 of Environmental Permit EP-239/2006/A, an EM&A programme as set out in the EM&A Manual and its supplement 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 month 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 during the Reporting Month*

Construction Activities Undertaken
<ul style="list-style-type: none">• Construction of RC Column• Removal of Level 5 slabs• Transfer Truss Installation• Roof Truss A Assembly• Roof Truss B Assembly• Pile Cap Construction• Construction works for Transformer Room• Sea Water Pump House Cable Laying

2.4 PROJECT ORGANISATION

The Project organisation 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/A	Throughout the Contract	Environmental Permit (EP) EP-239/2006 granted originally on 12 May 2006 but superseded by revised EP issued on 12 February 2007
Notification of Construction Works under Air Pollution Control (Construction Dust) Regulation	--	--	Notification on 23 June 2006
Discharge Licence under Water Pollution Control Ordinance	EP860/W10/XY0145	N/A	-

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
Chemical Waste Producer Registration	WPN5213-134-H3125- 01	N/A	Chemical waste types: spent paint, acid, alkaline, adhesive, diesel fuel, lubricating oil and bitumen.
Valid Construction Noise Permit for area inside the Atrium Link	GW-RS0692-07	Valid from 31 October 2007 – 31 January 2008	
	GW-RS0667-07	Valid from 16 October 2007 to 15 April 2008	
	GW-RS0674-07	Valid from 1 November 2007 to 30 April 2008	
	GW-RS0535-07	Valid from 27 August 2007 to 30 November 2007	
	GW-RS0691-07	Valid from 30 April 2007 to 30 April 2008	

3.1 AIR QUALITY MONITORING

3.1.1 Monitoring Location

In accordance with the EM&A Manual, 24-hour and 1-hour Total Suspended Particulates (TSP) levels were conducted at the monitoring stations listed in *Table 3.1*. Maps 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 months is shown in *Annex E*.

Table 3.2 *TSP Monitoring Parameter and Frequency*

Parameter	Frequency
24-hour TSP	Once every 6 days
1-hour TSP	3 times every 6 days

3.1.3 Action and Limit Levels

The Action and Limit levels were 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 summarises 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 HVS's 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 HVS's were free-standing with no obstruction.

The following criteria were considered in the installation of the HVS's:

- 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 labelled 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 HVS's 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 aluminium strip;
- the HVS's 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 HVS's 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.

3.1.6 *Maintenance and Calibration*

The HVS's 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.

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 HVS's using Tisch TE-5025 A Calibration Kit. The calibration records for the HVS's are given in *Annex F*.

3.1.7 *Event Action Plan*

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

3.2 *WATER QUALITY MONITORING*

3.2.1 *Water Quality Monitoring*

In accordance with the EM&A Manual, the marine water quality monitoring should be conducted at three designated monitoring stations during the installation and removal of temporary marine piles. The installation of temporary marine piles was completed on 23 April 2007 and therefore water quality monitoring for marine pile installation works was not conducted during the reporting month.

3.2.2 *Additional Water Quality Monitoring*

As part of the Application for Variation of Environmental Permit (Application No. VEP-227/2007) submitted on 25 January 2007, the Permit Holder undertook additional water quality monitoring in the marine channel in connection with the installation of temporary marine piles.

The installation of temporary marine piles was completed on 23 April 2007 and four weeks of additional water quality monitoring was also completed on 21 May 2007 after the completion of marine piling works. In accordance with the additional water quality programme which was submitted to the EPD on 4 April 2007, four weeks of additional water quality monitoring during the dry season commenced on 19 November 2007.

The following section describes the details of the additional water quality monitoring programme.

Monitoring Locations

Two control stations and an impact monitoring station were selected for the collection of data on water quality within and outside the marine channel. The locations of the control stations and the impact monitoring station are presented in *Table 3.5* and *Annex D*.

Table 3.5 *Monitoring Stations for Additional Water Quality Monitoring Programme*

Station	Location	Monitoring Water Depth	Easting	Northing
C1 ⁽¹⁾	Adjoins Expo Drive	Surface, middle and bottom	835645	815900
C2 ⁽²⁾	Adjoins Expo Drive East	Surface, middle and bottom	836014	815926
M1 ⁽³⁾	Approximately at the centre of the marine channel	Surface, middle and bottom	835852	815907

Station	Location	Monitoring Water Depth	Easting	Northing
Remark:				
(1) C1 has been assigned the upstream station during mid-ebb tide with reference to the flow pattern within and in the vicinity of the marine channel.				
(2) C2 has been assigned the upstream station during mid-flood tide with reference to the flow pattern within and in the vicinity of the marine channel.				
(3) Taking into account the foreseeable difficulty in accessing the exact centre of the marine channel, monitoring station M1 was chosen to be the same location as W3 under the current monitoring programme but outside the silt screen.				

Monitoring Schedule and Requirement

The additional water quality monitoring was conducted in accordance with *Table 3.6* during the dry season after the completion of the installation of the temporary marine piles at the proposed monitoring stations listed in *Table 3.5*. The monitoring programme for the reporting and following month is shown in *Annex E*.

Table 3.6 also summarises the monitoring frequency and water quality parameters adopted for the reporting month. Duplicate in-situ measurements and water samples for testing suspended solids (SS), and one water sample for testing total inorganic nitrogen (TIN) were taken for each sampling event.

Table 3.6 *Additional Water Quality Monitoring Frequency and Parameters*

Activity	Monitoring Frequency	Monitoring Parameters
During the installation of temporary marine piles	Three days per week at mid-flood and mid-ebb tides	Dissolved Oxygen (DO), Turbidity, Suspended Solid (SS), Total Inorganic Nitrogen (TIN)
Four-week monitoring immediately after the completion of the installation of the temporary marine piles	Three days per week at mid-flood and mid-ebb tides	Dissolved Oxygen (DO), Turbidity, Suspended Solid (SS), Total Inorganic Nitrogen (TIN)
Four-week monitoring during the dry season after the completion of the installation of the temporary marine piles	Three days per week at mid-flood and mid-ebb tides	Dissolved Oxygen (DO), Turbidity, Suspended Solid (SS), Total Inorganic Nitrogen (TIN)

Measurements were taken at three water depths, namely 1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth is less than 6 m, in which case the mid-depth sample was omitted. Where the water depth was less than 3 m, monitoring was undertaken only at mid-depth.

Monitoring Equipment and Methodology

Dissolved oxygen and temperature measuring equipment

A portable and weatherproof dissolved oxygen (DO) measuring meter (YSI Model 85) was used in the impact monitoring.

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 was carried out before measurement at each monitoring station.

Turbidity Measurement Instrument

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

Suspended Solids

Water samples for suspended solids measurement were collected by means 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 was started within 24 hours after the collection of the water samples, and the testing method of SS was carried by ETS-Testconsult Ltd (HOKLAS 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 were followed as per HOKLAS requirements.

Water Depth Detector

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

Location of the Monitoring Sites

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

Calibration of Equipment

All in-situ monitoring instruments were 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. The calibration records for the monitoring instruments are given in *Annex H*.

Laboratory Measurement / Analysis

Water samples for laboratory analyses under the additional water quality monitoring programme were collected following the same procedures described in *Section 3.2.4* for SS. The laboratory analyses were conducted within 24 hours after the collection of the water samples by ETS-Testconsult

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

Ltd (HOKLAS accredited laboratory) in accordance with the analytical methods presented in *Table 3.7*. The Quality Assurance/Quality Control (QA/QC) procedures were followed as per HOKLAS requirements.

Table 3.7 *Analytical Methods for Water Quality Parameters Monitored*

Water Quality Parameter	Analytical Method	Detection Limit
Suspended Solids (SS)	APHA ⁽¹⁾ 2540D or HOKLAS-accredited method	1 mgL ⁻¹
Total Inorganic Nitrogen (TIN)	APHA ⁽¹⁾ 4500 – NO ₃ ⁻ F & NH ₃ G or HOKLAS-accredited method	0.1 mgL ⁻¹
Remark: (1) American Public Health Association (APHA) <i>Standard Methods for the Examination of Water and Wastewater</i> , 19th edition		

Action and Limit Levels

The Action and Limit levels were established in accordance with the EM&A Manual and are presented in *Table 3.8*.

Table 3.8 *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

3.2.3 *Event / Action Plan*

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

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 of environmental mitigation and status of relevant required submissions under the EP are reported as part of the monthly EM&A report⁽¹⁾. Relevant submissions made on these measures and requirements during the reporting month are summarised in *Annex I*.

⁽¹⁾ The last Monthly EM&A Report for October 2007 was submitted to the EPD on 14 November 2007.

5.1 AIR QUALITY

The monitoring data at AM1 and AM2 were provided by ETS-Testconsult Ltd. 5 sets of 24-hour and 15 sets of 1-hour TSP monitoring were carried out at the designated monitoring stations (AM1 & AM2) during the reporting month. The monitoring data for 24-hour TSP and 1-hour TSP together with wind data and graphical presentations are presented in *Annex G*. In addition, the monitoring results can also be found at the web-site (<http://www.hkcecema.com/index.html>).

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

5.2 WATER QUALITY

Water quality monitoring was not conducted during the reporting month at the designated monitoring stations (W3, W4 and W5) subsequent to the completion of installation of marine piles on 23 April 2007.

Additional dry-season water quality monitoring for the marine channel with piles installed commenced on 19 November 2007 by ETS-Testconsultant Ltd. Five sets of water quality measurements were carried out at the designated monitoring station C1, C2 and M1 during the reporting month. The compliance of water quality was checked against the Event and Action Plan in the additional monitoring programme and associated Action and Limit Levels. No exceedances of water quality parameters were recorded during the reporting month.

The monitoring data and graphical presentations are summarized in *Annex I*. The monitoring results can also be found in the web-site (<http://www.hkcecema.com/index.html>).

5.3 WASTE MANAGEMENT

Waste generated from this Project includes inert construction and demolition (C&D) materials and non-inert C&D wastes. Reference has been made on the Monthly Summary Waste Flow Table prepared by Hip Hing – Ngo Kee Joint Venture (*Annex L*). With reference to relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting quarter are summarised in *Table 5.1*. The C&D wastes and inert C&D materials generated from the Project were disposed of at SENT Landfill / Tseung Kwan O Area 137 Fill Bank and the public fill barging point at Quarry Bay respectively.

Table 5.1 **Quantities of Waste Generated from the Project**

Month / Year	Quantity		
	C&D Materials (inert) ^(a)	C&D Materials (non-inert) ^(b)	Chemical Waste
November 2007	1016.5 tonnes	195.52 tonnes (excluding 20 tonnes of steel materials which were collected and recycled)	0
Notes:			
(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil. 0.5 tonne of inert C&D materials was reused in this Project. Non-reused inert C&D materials were disposed of at the public fill barging point at Quarry Bay.			
(b) C&D wastes 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. The C&D wastes other than general refuse were disposed of at SENT Landfill / Tseung Kwan O Area 137 temporary construction waste sorting facility.			

Weekly site inspections were carried out by the ET. Five site inspections were conducted on 1, 8, 15, 22 and 29 November 2007. There was no non-compliance event recorded in the reporting month.

The following reminders were given to the Contractor:

- (i) A breaker with dried oil stains was observed to be placed on a small stockpile of rubbles and soil. The Contractor was reminded to either place it on a concrete-paved surface with appropriate protection measures against potential contamination of surface runoff or drip tray to avoid soil contamination.
- (ii) The Contractor was reminded to provide sufficient dust suppression measures, such as watering, covering of stockpiles of excavated materials, for the trenching works being undertaken near the seawater pump house.
- (iii) The Contractor was reminded to regularly remove any sediments / silt trapped in the catchpits and perimeter channels.
- (iv) The Contractor was reminded to maintain the proper functioning of the site drainage system.
- (v) The Contractor was reminded to ensure that all construction equipment operating on site is properly maintained and that there is no leaking of oil.

Water Discharge Sampling

In accordance with the discharge licence issued under WPCO, water sampling should be conducted quarterly to ensure the quality of treated effluent at three designated discharge points complies with the requirements of discharge license. Two water samples at Discharge Point 2 and Discharge Point 3 were conducted on 13 September 2007 and the results were reported in the Monthly EM&A Report for September 2007. The next water discharge sampling is scheduled to be conducted in December 2007.

Landscape and Visual Monitoring

In accordance with *Section 6.7* of the EM&A Manual, bi-weekly landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures are fully achieved. The monitoring has commenced since January 2007 and is conducted by Earthasia Limited. Landscape and visual mitigation measures were implemented by the Contractor with the implementation status is given in *Annex K*.

7 ENVIRONMENTAL NON-CONFORMANCE

7.1 SUMMARY OF ENVIRONMENTAL EXCEEDANCE

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

7.2 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE

No non-compliance event was recorded during the reporting month.

7.3 SUMMARY OF ENVIRONMENTAL COMPLAINT

No complaint was received during the reporting month.

7.4 SUMMARY OF ENVIRONMENTAL SUMMONS AND PROSECUTION

No summons or prosecution on environmental matters was received during the reporting month.

8.1 KEY ISSUES FOR THE COMING MONTH

Works to be carried out for the coming monitoring period are summarised in *Table 8.1*.

Table 8.1 Construction Works to be Undertaken in the Coming Month

Work to be taken
<ul style="list-style-type: none"> • Transfer Truss Installation • Roof Truss A Assembly • Roof Truss B Assembly • Pile Cap Construction • Removal of Existing Structure at Tx. Room • Sea Water Pump House Cable Laying

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 next month is presented in *Annex E*. The environmental monitoring will be conducted at the same monitoring locations as those for this reporting month.

The installation of temporary marine piles was completed on 23 April 2007 and four weeks of additional water quality monitoring was also completed on 21 May 2007 after the completion of marine piling works. Four weeks of additional water quality for the dry season commenced on 19 November 2007 and is expected to be completed on 14 December 2007.

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

9.1 AIR QUALITY

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

Table 9.1 Comparison of the HKAQO and Air Quality Monitoring Results

Monitoring Stations	Corresponding ASR in EIA	HKAQO, ug/m ³	Measured 24 hour TSP Monitoring Results, ug/m ³ ⁽²⁾	
		24 hour ⁽¹⁾	Average	Range
AM1	AM8	260	78	23 – 145
AM2	AM6	260	70	14 - 145

Remarks:

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

⁽²⁾ Average and range of data were calculated for the period of monitoring between August 2006 and the reporting month.

The monitoring results show that the 24-hour TSP levels during the reporting month were well below the maximum allowable concentration stipulated in the HKAQO. Recommended mitigation measures in *Section 4.24* of EIA were implemented during the reporting month and were considered effective.

9.2 WASTE MANAGEMENT

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

Table 9.2 *Comparison of the Estimated and 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 ⁽¹⁾ (inert & non-inert)
Demolition of temporary footbridge	585 tonnes	0
Demolition of existing Atrium Link	4,680 tonnes	2,459 tonnes
Demolition of temporary working platform	390 tonnes	0
Construction of foundations and pile caps	20,000 tonnes	18156.5 tonnes
General Refuse	Insignificant	958 tonnes
Chemical Waste	Small	288 Litres
Remark: (1) The actual amount of C&D Materials was recorded since the commencement of construction works.		

9.3 *CONCLUSION OF REVIEW*

The EIA predictions and the monitoring results during the reporting month have been reviewed. The EIA concluded that the Project would not cause adverse impacts to the environment, and the monitoring results also indicated that the construction of the Project has not caused adverse impacts to the environment. 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 work undertaken during the period from 1 November to 30 November 2007 in accordance with EM&A Manual and the requirements under EP-239/2006/A.

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

No non-compliance event was recorded during the reporting month.

No complaint and summons/prosecution was received during the reporting month.

The ET will keep track of 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

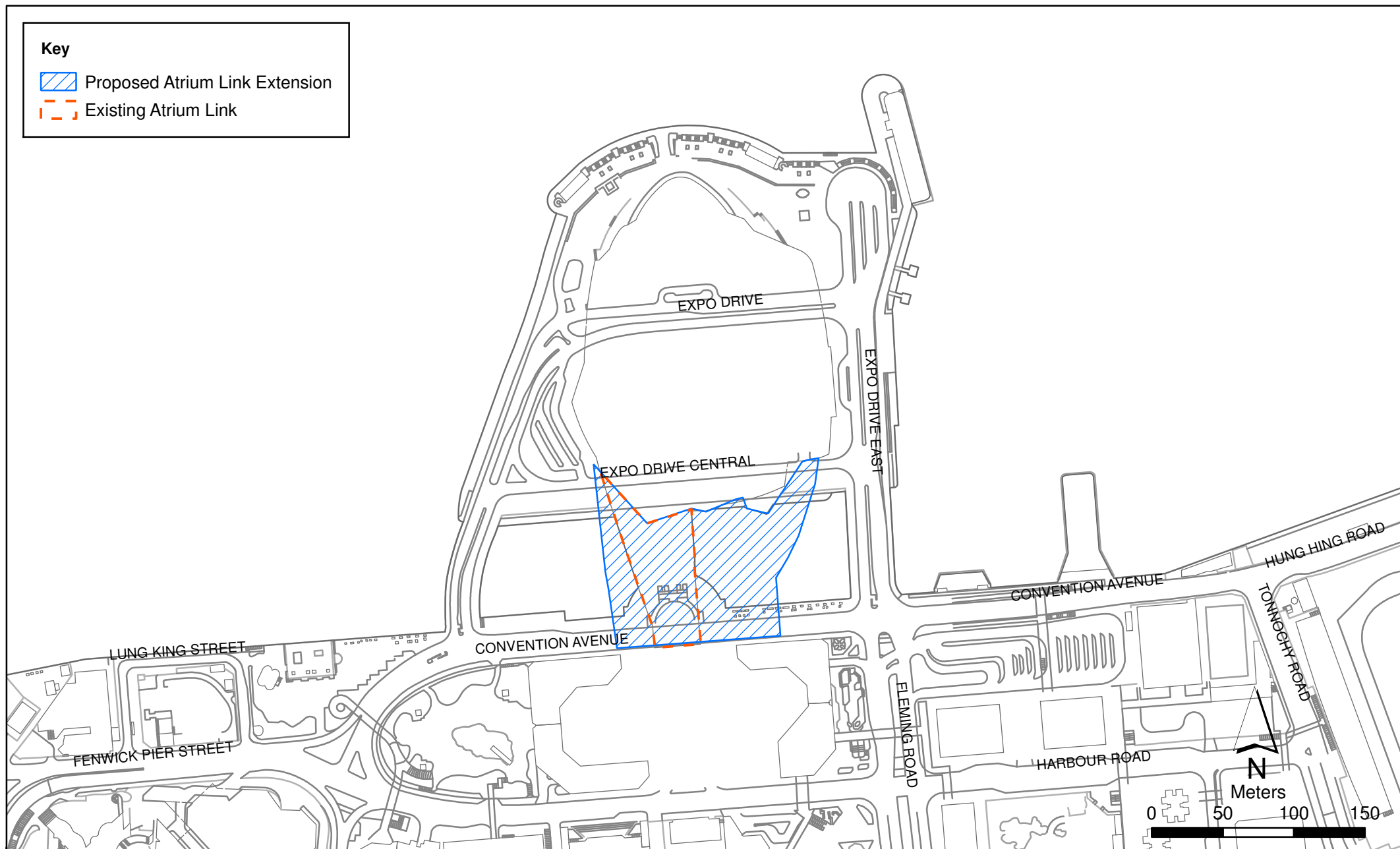


Figure A1

Location of Atrium Link Extension

Annex B

Location of Construction
Activities during the
Reporting Month

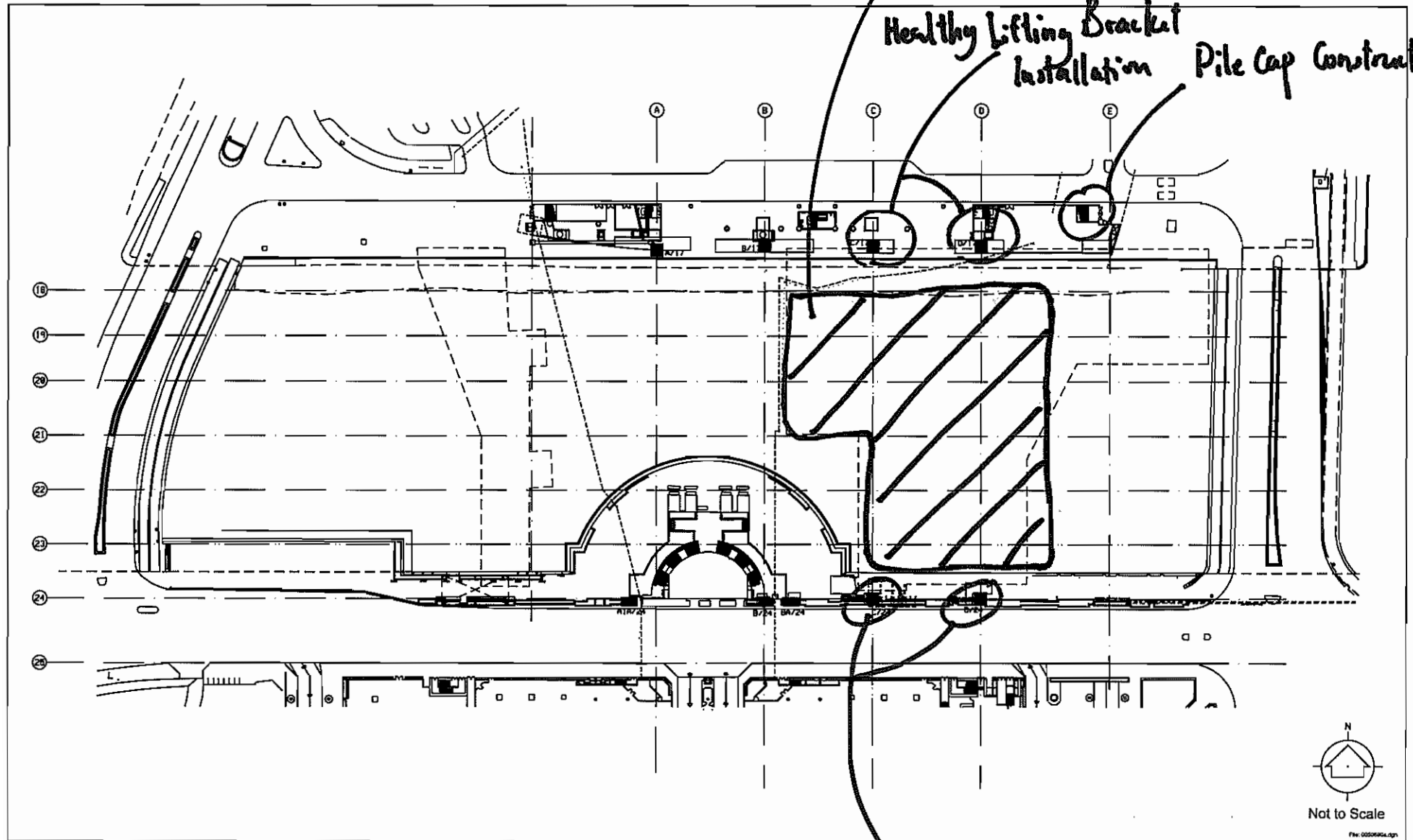
Summary of Works for November 2007

Description	Location
Construction of R.C. Column	Grid E/17
Removal of Level 5 slabs	Grid 17-21
Transfer Truss Installation	Grid A-B/24
Roof Truss A Assembly	Grid C
Roof Truss B Assembly	Grid D
Pile Cap Construction	Grid E/17a
Construction works for Transformer Room	L1, Phase II
Sea Water Pump House Cable Laying	L1, Phase II

Truss A2B Installation

Healthy Lifting Bracket
Installation

Pile Cap Construction

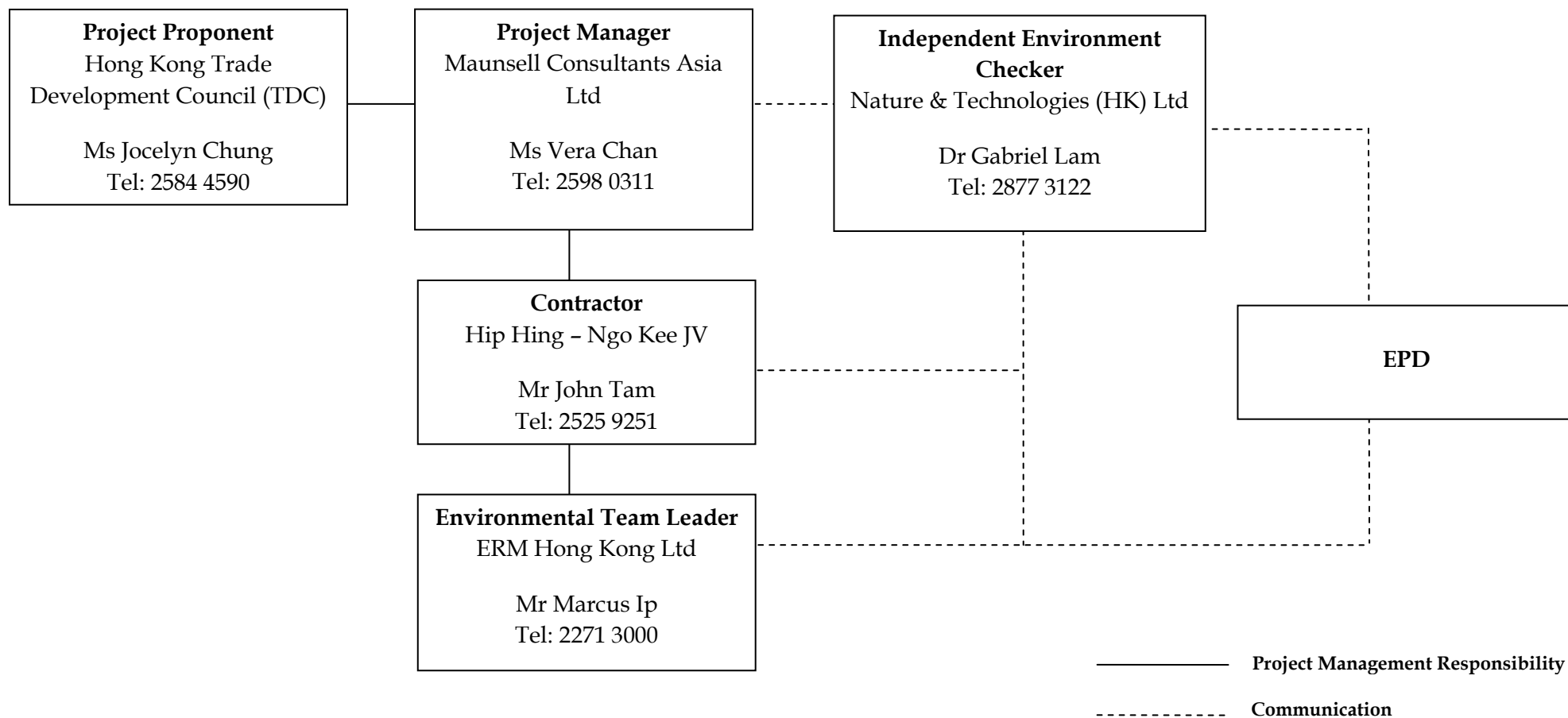


Healthy Lifting Bracket Installation

Annex C

Project Organization Chart and Contact Detail

Project Organization (with contact details)



Annex D

Locations of Air and Water Quality Monitoring Stations

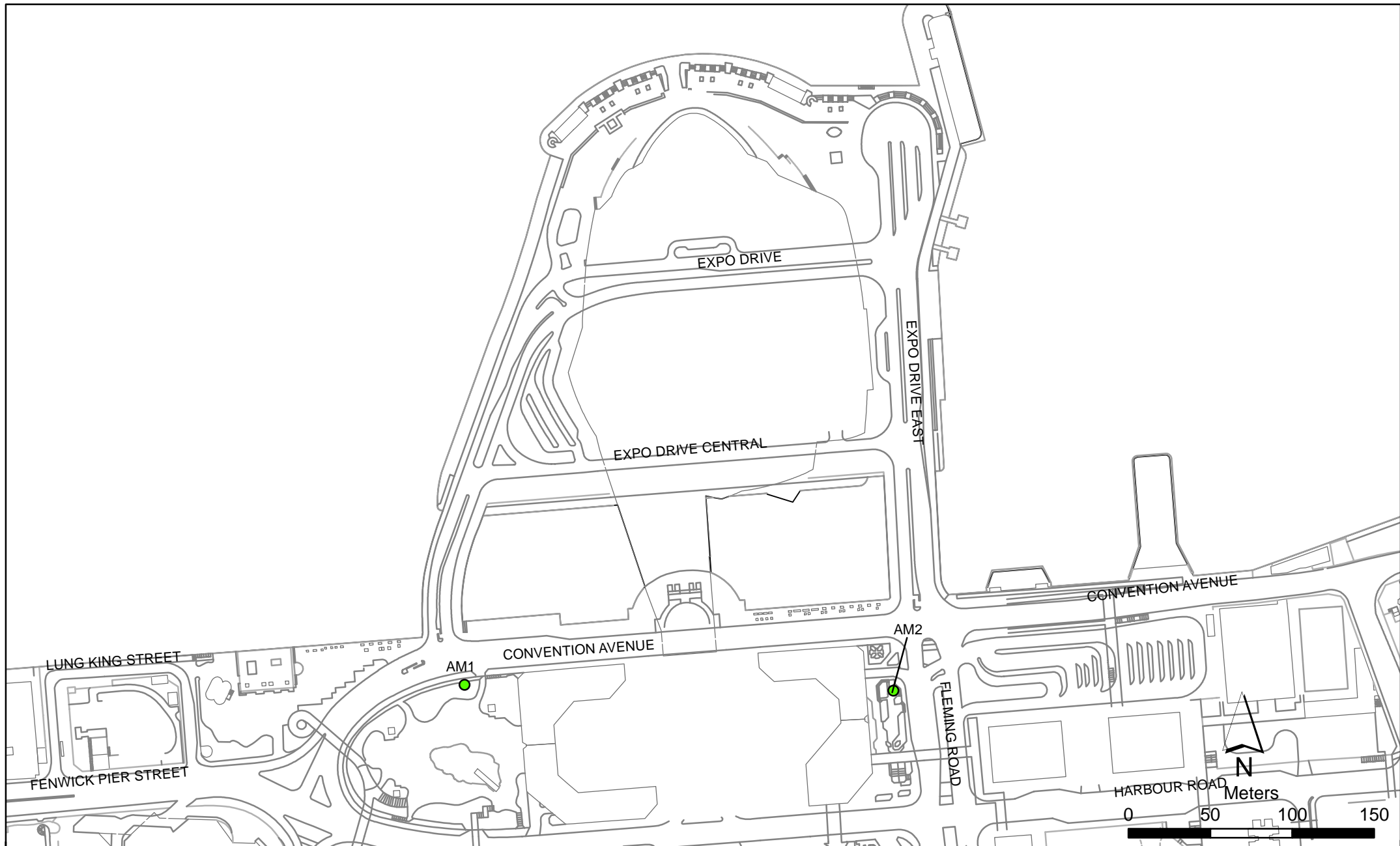


Figure D1

Air Quality Monitoring Station

Water Quality Monitoring Stations (inside Silt Screen)

Monitoring Station	Description	Easting	Northing
W3	Hong Kong Convention and Exhibition Centre Phase I	835852	815908
W4	Wan Chai Tower/Revenue Tower/Immigration Tower	835944	815885
W5	Great Eagle Centre/China Resources Building	835963	815886

Additional Water Quality Monitoring Stations

Monitoring Station	Description	EASTING	NORTHING
C1	Control Station 1	835645	815900
C2	Control Station 2	836014	815926
M1	Monitoring Station 1	835852	815907

KEY

- Water Quality Monitoring Station
- Additional Water Quality Monitoring Station
- Temporary Marine Working Platform
- ▲ Outfall

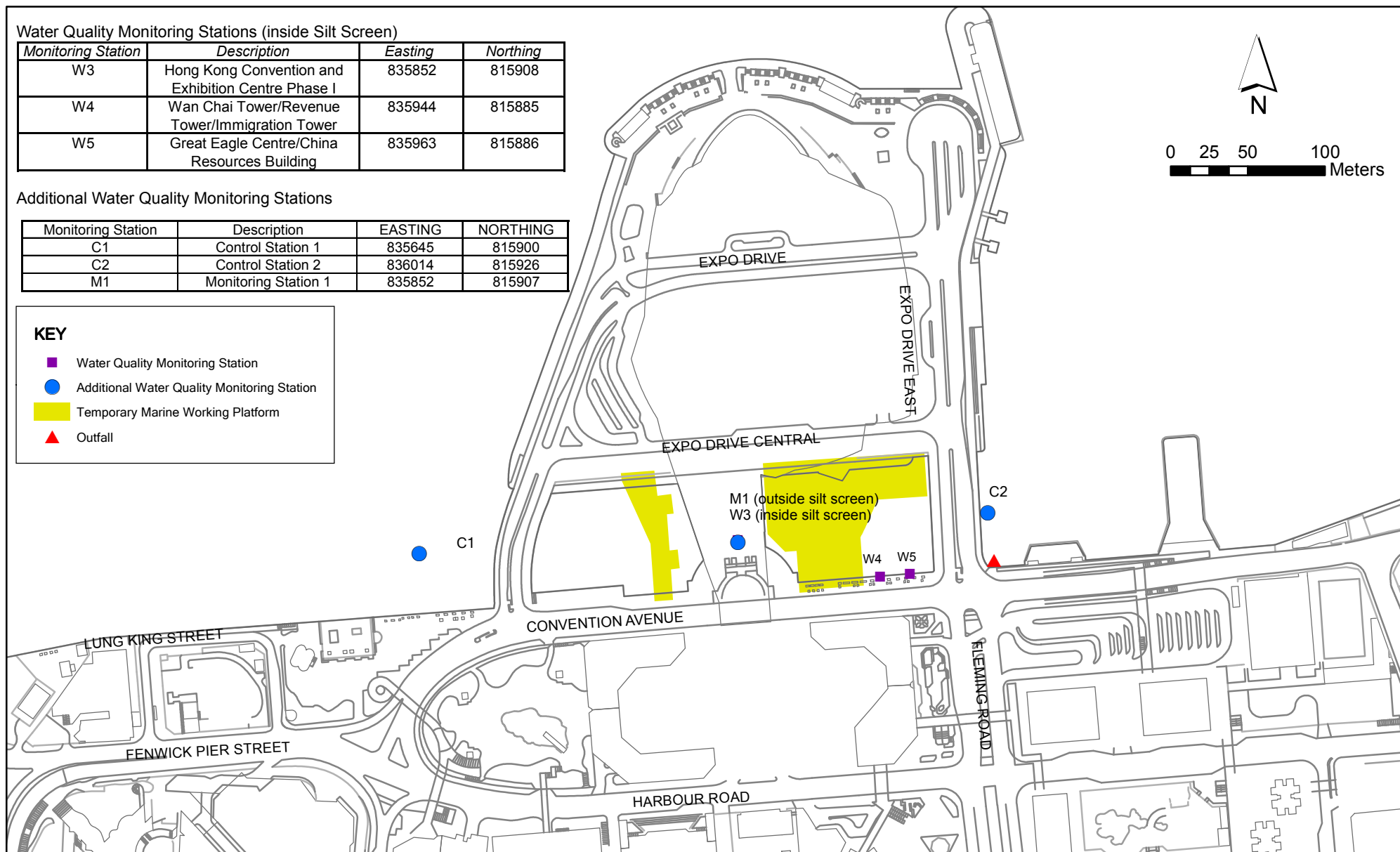


Figure D2

Marine Water Quality Monitoring Stations

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Date: 30/04/2007

Environmental
Resources
Management





Air Quality Monitoring Station (AM1)



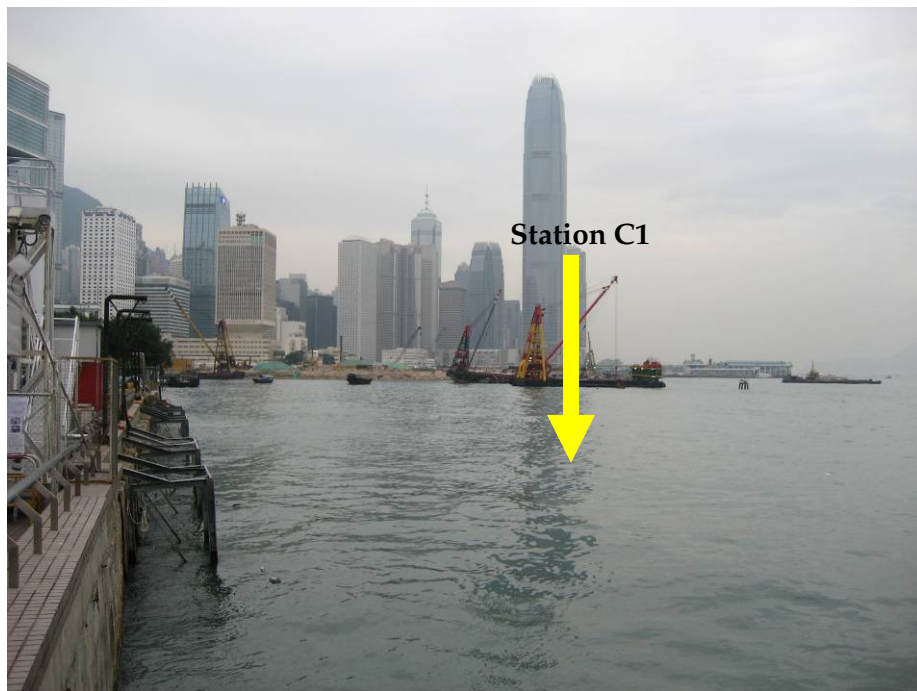
Air Quality Monitoring Station (AM2)



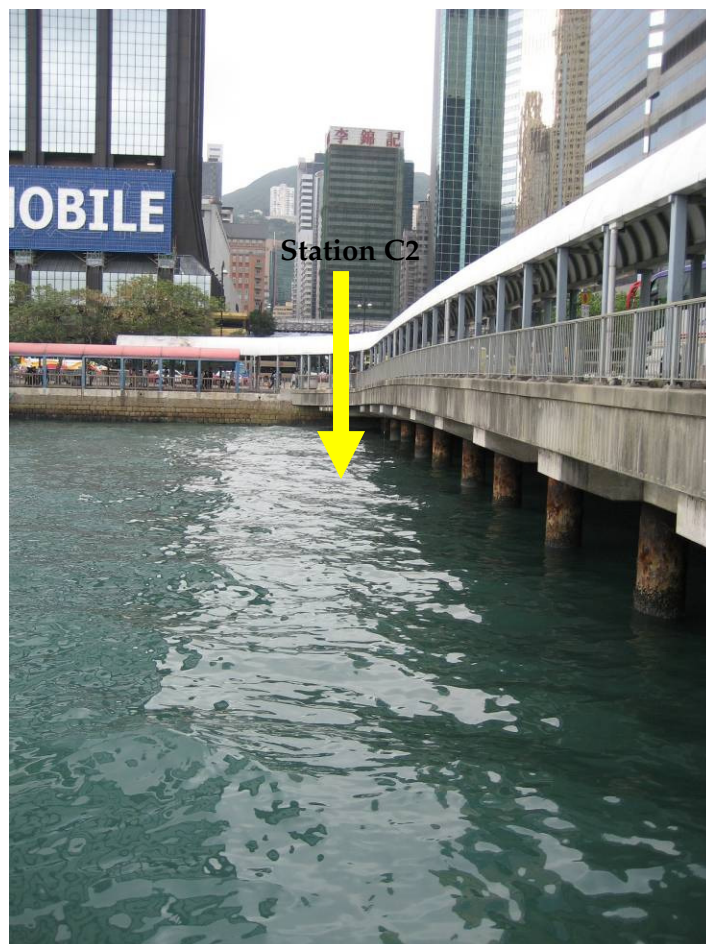
Water Quality Monitoring Location – Station W3



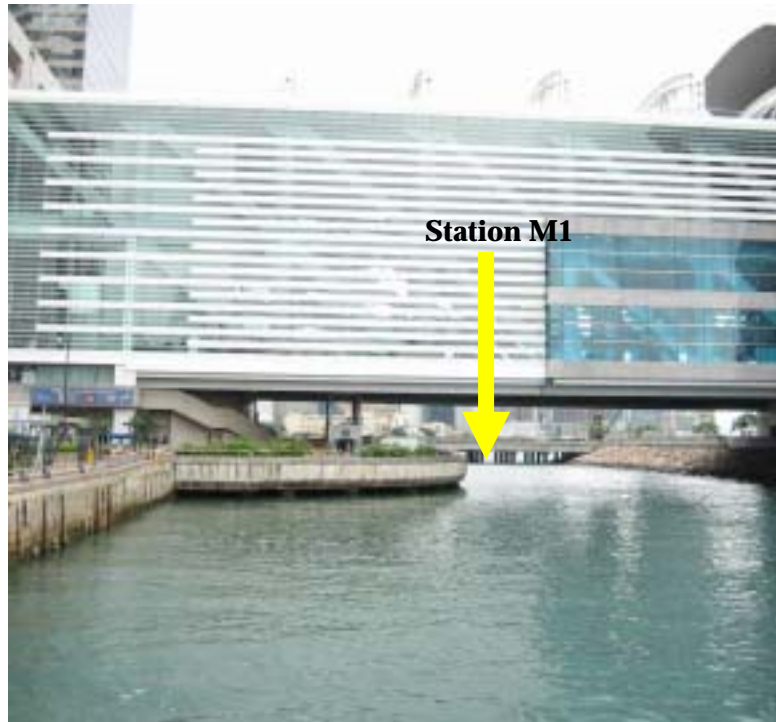
Water Quality Monitoring Location – Stations W4 and W5



Additional Water Quality Monitoring Location – Station C1



Additional Water Quality Monitoring Location – Station C2



Additional Water Quality Monitoring Location – Station M1

Annex E

Monitoring Schedule for the
Reporting Month and Next
Month

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Air Quality Monitoring Schedule - November 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				01-Nov	02-Nov	03-Nov
					1 hr TSP	
04-Nov	05-Nov	06-Nov	07-Nov	08-Nov	09-Nov	10-Nov
	1 hr and 24 hr TSP		1 hr TSP		1 hr TSP	1 hr and 24 hr TSP
11-Nov	12-Nov	13-Nov	14-Nov	15-Nov	16-Nov	17-Nov
	1 hr TSP		1 hr TSP		1 hr and 24 hr TSP	
18-Nov	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov
	1 hr TSP		1 hr TSP	1 hr and 24 hr TSP	1 hr TSP	
25-Nov	26-Nov	27-Nov	28-Nov	29-Nov	30-Nov	
	1 hr TSP		1 hr and 24 hr TSP		1 hr TSP	

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Air Quality Monitoring Schedule - December 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
02-Dec	03-Dec	04-Dec	05-Dec	06-Dec	07-Dec	08-Dec
	1 hr TSP	1 hr and 24 hr TSP	1 hr TSP		1 hr TSP	
09-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec
	1 hr and 24 hr TSP		1 hr TSP		1 hr TSP	1 hr and 24 hr TSP
16-Dec	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec
	1 hr TSP		1 hr TSP		1 hr and 24 hr TSP	
23-Dec	24-Dec	25-Dec	26-Dec	27-Dec	28-Dec	29-Dec
	1 hr TSP x 2			1 hr and 24 hr TSP	1 hr TSP	
30-Dec	31-Dec					
	1 hr TSP					

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Water Quality Monitoring Schedule - November 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				01-Nov	02-Nov	03-Nov
04-Nov	05-Nov	06-Nov	07-Nov	08-Nov	09-Nov	10-Nov
11-Nov	12-Nov	13-Nov	14-Nov	15-Nov	16-Nov	17-Nov
18-Nov	19-Nov	20-Nov	21-Nov	22-Nov	23-Nov	24-Nov
	Mid-ebb 07:00 Mid-flood 14:37		Mid-ebb 09:05 Mid-flood 15:35		Mid-ebb 10:55 Mid-flood 16:39	
25-Nov	26-Nov	27-Nov	28-Nov	29-Nov	30-Nov	
	Mid-ebb 08:06 Mid-flood 13:17		Mid-ebb 10:05 Mid-flood 14:37			

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Water Quality Monitoring Schedule - December 2007

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						01-Dec
						Mid-ebb 05:30 Mid-flood 13:15
02-Dec	03-Dec	04-Dec	05-Dec	06-Dec	07-Dec	08-Dec
	Mid-ebb 07:23 Mid-flood 14:24		Mid-ebb 09:21 Mid-flood 15:23		Mid-ebb 10:49 Mid-flood 16:02	
09-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec	15-Dec
	Mid-ebb 07:43 Mid-flood 12:37		Mid-ebb 09:00 Mid-flood 13:46		Mid-ebb 10:26 Mid-flood 15:11	
16-Dec	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec	22-Dec
23-Dec	24-Dec	25-Dec	26-Dec	27-Dec	28-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

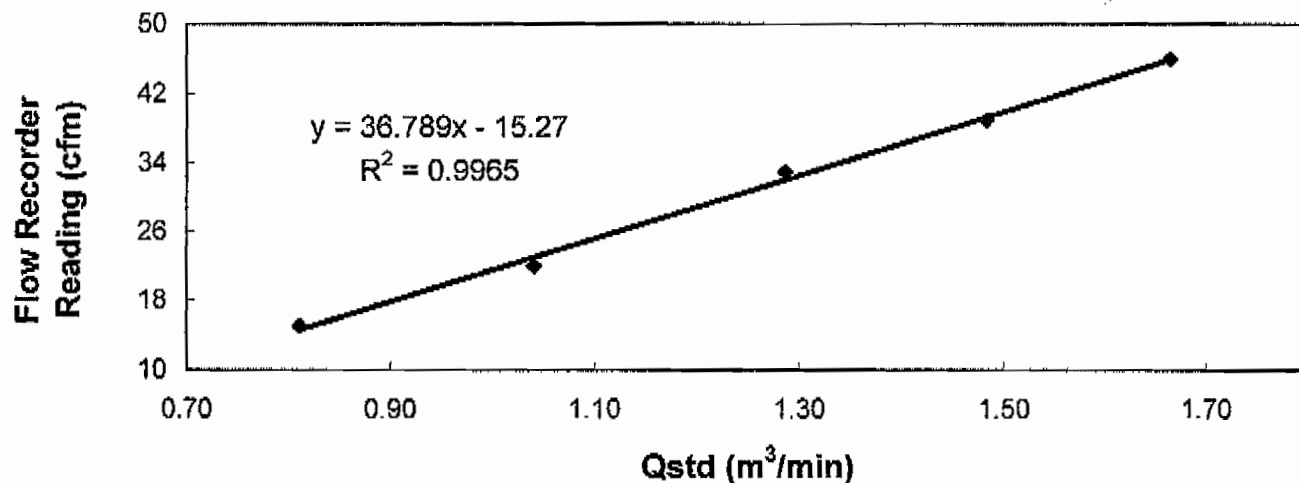
TEST REPORT

Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW **Date of Calibration** : 26 October 2007
Serial No. : 9795 (ET/EA/003/18) **Calibration Due Date** : 25 December 2007
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)	46	39	33	22	15
	Qstd (Actual flow rate, m ³ /min)	1.67	1.48	1.29	1.04	0.81
	Pressure : 763.56 mm Hg	Temp. : 301 K				

Sampler 9795 Calibration Curve
Site: Wan Chai (AM-2)
Date of Calibration: 26 October 2007



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 : Mak Kei Wai
Mak Kei Wai
(Senior 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

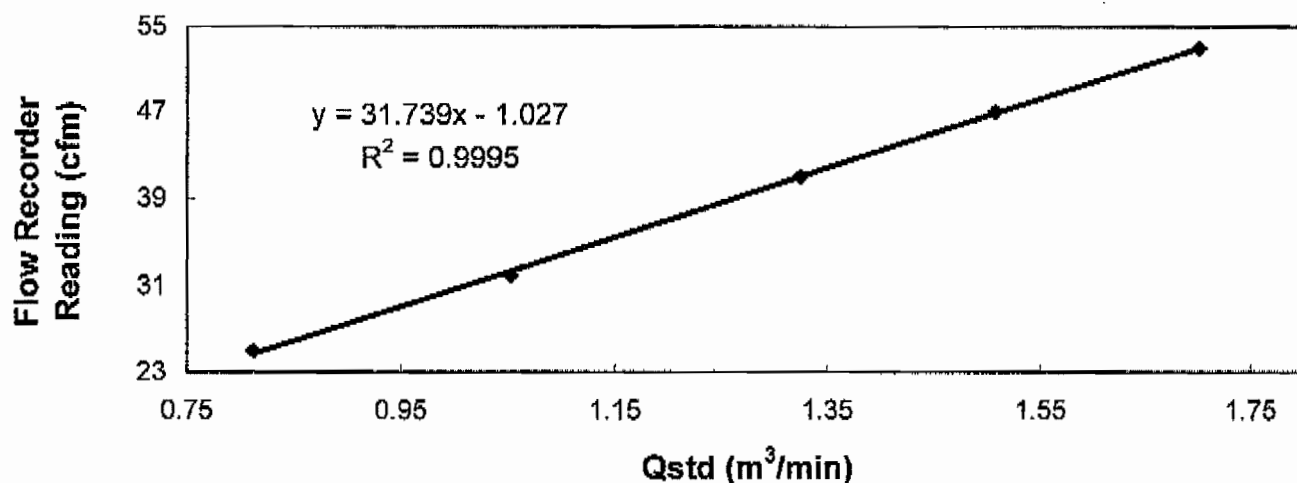
TEST REPORT

Calibration Report
of
High Volume Air Sampler

Manufacturer : Graseby GMW **Date of Calibration** : 26 October 2007
Serial No. : 9864 (ET/EA/003/19) **Calibration Due Date** : 25 December 2007
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)	53	47	41	32	25
	Qstd (Actual flow rate, m ³ /min)	1.70	1.51	1.32	1.05	0.81
	Pressure : 763.56 mm Hg	Temp. : 301 K				

Sampler 9864 Calibration Curve
Site: Wan Chai (AM-1)
Date of Calibration: 26 October 2007



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 : Mak Kei Wai
Mak Kei Wai
(Senior Technician)

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

Annex G

24-hour and 1-hour TSP Monitoring Results

24-hour 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							
05-Nov-07	2.8604	3.0480	0.91	0.91	12600.4	12624.4	24.0	142	Sunny	22	0.1876	0.91	1317.0
10-Nov-07	2.8090	3.0368	1.45	1.45	12627.4	12651.4	24.0	109	Sunny	22	0.2278	1.45	2088.3
16-Nov-07	2.7441	2.8815	1.45	1.45	12654.4	12678.4	24.0	66	Sunny	23	0.1374	1.45	2088.3
22-Nov-07	2.8090	2.9586	1.29	1.29	12681.4	12705.4	24.0	80	Sunny	21	0.1496	1.29	1861.3
28-Nov-07	2.7526	2.9455	1.04	1.04	12708.4	12732.4	24.0	129	Sunny	16	0.1929	1.04	1498.5
								Min	66				
								Max	142				
								Average	105				

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							
05-Nov-07	2.8722	3.0883	1.42	1.42	10928.8	10952.8	24.0	106	Sunny	22	0.2161	1.42	2046.0
10-Nov-07	2.8310	3.0411	1.45	1.45	10955.8	10979.8	24.0	101	Sunny	22	0.2101	1.45	2085.1
16-Nov-07	2.8215	2.9321	1.42	1.42	10982.8	11006.8	24.0	54	Sunny	23	0.1106	1.42	2046.0
22-Nov-07	2.8130	3.0191	1.39	1.39	11009.8	11033.8	24.0	103	Sunny	21	0.2061	1.39	2006.8
28-Nov-07	2.7136	2.9268	1.42	1.42	11036.8	11060.8	24.0	104	Sunny	16	0.2132	1.42	2046.0
								Min	54				
								Max	106				
								Average	93				

1-hour TSP Monitoring Results

1-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							
02-Nov-07	2.8557	2.8637	0.98	0.98	12598.4	12599.4	1.0	136	Sunny	20	0.0080	0.98	58.7
05-Nov-07	2.8502	2.8600	0.98	0.98	12599.4	12600.4	1.0	165	Sunny	22	0.0098	0.98	59.2
07-Nov-07	2.8098	2.8173	0.91	0.91	12624.4	12625.4	1.0	137	Sunny	23	0.0075	0.91	54.9
09-Nov-07	2.8079	2.8184	0.91	0.91	12625.4	12626.4	1.0	191	Sunny	23	0.0105	0.91	54.9
10-Nov-07	2.8121	2.8229	0.98	0.98	12626.4	12627.4	1.0	184	Sunny	22	0.0108	0.98	58.7
12-Nov-07	2.8274	2.8375	1.07	1.07	12651.4	12652.4	1.0	157	Sunny	21	0.0101	1.07	64.3
14-Nov-07	2.8065	2.8152	1.14	1.14	12652.4	12653.4	1.0	128	Sunny	21	0.0087	1.14	68.1
16-Nov-07	2.7851	2.7912	1.17	1.17	12653.4	12654.4	1.0	87	Sunny	23	0.0061	1.17	70.0
19-Nov-07	2.8578	2.8719	1.10	1.10	12678.4	12679.4	1.0	213	Sunny	20	0.0141	1.10	66.2
21-Nov-07	2.7828	2.7950	1.01	1.01	12679.4	12680.4	1.0	201	Sunny	21	0.0122	1.01	60.5
22-Nov-07	2.8310	2.8430	1.04	1.04	12680.4	12681.4	1.0	192	Sunny	21	0.0120	1.04	62.4
23-Nov-07	2.8136	2.8240	1.29	1.29	12705.4	12706.4	1.0	134	Sunny	21	0.0104	1.29	77.6
26-Nov-07	2.7885	2.8001	1.07	1.07	12706.4	12707.4	1.0	180	Sunny	22	0.0116	1.07	64.3
28-Nov-07	2.8367	2.8572	1.07	1.07	12707.4	12708.4	1.0	319	Sunny	16	0.0205	1.07	64.3
30-Nov-07	2.7442	2.7533	1.04	1.04	12732.4	12733.4	1.0	146	Sunny	17	0.0091	1.04	62.4
								Min	87				
								Max	319				
								Average	171				

1-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							
02-Nov-07	2.8411	2.8528	1.39	1.39	10926.8	10927.8	1.0	140	Sunny	20	0.0117	1.39	83.6
05-Nov-07	2.8424	2.8545	1.45	1.45	10927.8	10928.8	1.0	139	Sunny	22	0.0121	1.45	86.9
07-Nov-07	2.7835	2.7958	1.37	1.37	10952.8	10953.8	1.0	150	Sunny	23	0.0123	1.37	82.0
09-Nov-07	2.8121	2.8230	1.37	1.37	10953.8	10954.8	1.0	133	Sunny	23	0.0109	1.37	82.0
10-Nov-07	2.8534	2.8651	1.34	1.34	10954.8	10955.8	1.0	146	Sunny	22	0.0117	1.34	80.4
12-Nov-07	2.8536	2.8634	1.39	1.39	10979.8	10980.8	1.0	117	Sunny	21	0.0098	1.39	83.6
14-Nov-07	2.8271	2.8433	1.37	1.33	10980.8	10981.8	1.0	201	Sunny	21	0.0162	1.35	80.7
16-Nov-07	2.8106	2.8163	1.34	1.34	10981.8	10982.8	1.0	71	Sunny	23	0.0057	1.34	80.4
19-Nov-07	2.8256	2.8371	1.28	1.28	11006.8	11007.8	1.0	149	Sunny	20	0.0115	1.28	77.1
21-Nov-07	2.8260	2.8380	1.31	1.31	11007.8	11008.8	1.0	152	Sunny	21	0.0120	1.31	78.7
22-Nov-07	2.8462	2.8601	1.28	1.28	11008.8	11009.8	1.0	180	Sunny	21	0.0139	1.28	77.1
23-Nov-07	2.7811	2.7896	1.34	1.34	11033.8	11034.8	1.0	106	Sunny	21	0.0085	1.34	80.4
26-Nov-07	2.7927	2.8072	1.31	1.31	11034.8	11035.8	1.0	184	Sunny	22	0.0145	1.31	78.7
28-Nov-07	2.8140	2.8361	1.45	1.45	11035.8	11036.8	1.0	242	Sunny	16	0.0221	1.45	91.2
30-Nov-07	2.7352	2.7451	1.28	1.28	11060.8	11061.8	1.0	128	Sunny	17	0.0099	1.28	77.1
								Min	71				
								Max	242				
								Average	149				

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

Date	Weather	King's Park Station				
		Average Air Temperature (°C)	Average Relative Humidity (%)	Total Rainfall (mm)	Wind Direction (Degree)	Average Wind Speed (km/h)
02-Nov-07	Sunny	20	82	2.0	020	11.5
05-Nov-07	Sunny	22	49	0.0	010	11.0
07-Nov-07	Sunny	23	53	0.0	020	12.0
09-Nov-07	Sunny	23	62	0.0	010	8.5
10-Nov-07	Sunny	22	71	0.0	100	10.5
12-Nov-07	Sunny	21	71	0.0	100	13.5
14-Nov-07	Sunny	21	74	0.0	100	11.1
16-Nov-07	Sunny	23	72	0.0	110	10.6
19-Nov-07	Sunny	20	66	0.0	020	8.3
21-Nov-07	Sunny	21	64	0.0	100	8.3
22-Nov-07	Sunny	21	70	0.0	100	9.3
23-Nov-07	Sunny	21	68	0.0	100	8.6
26-Nov-07	Sunny	22	53	0.0	360	10.9
28-Nov-07	Sunny	16	27	0.0	010	12.2
30-Nov-07	Sunny	17	56	0.0	100	8.8

Figure G1 - Measured 24-hour TSP Concentration ($\mu\text{g}\text{m}^{-3}$) at AM1

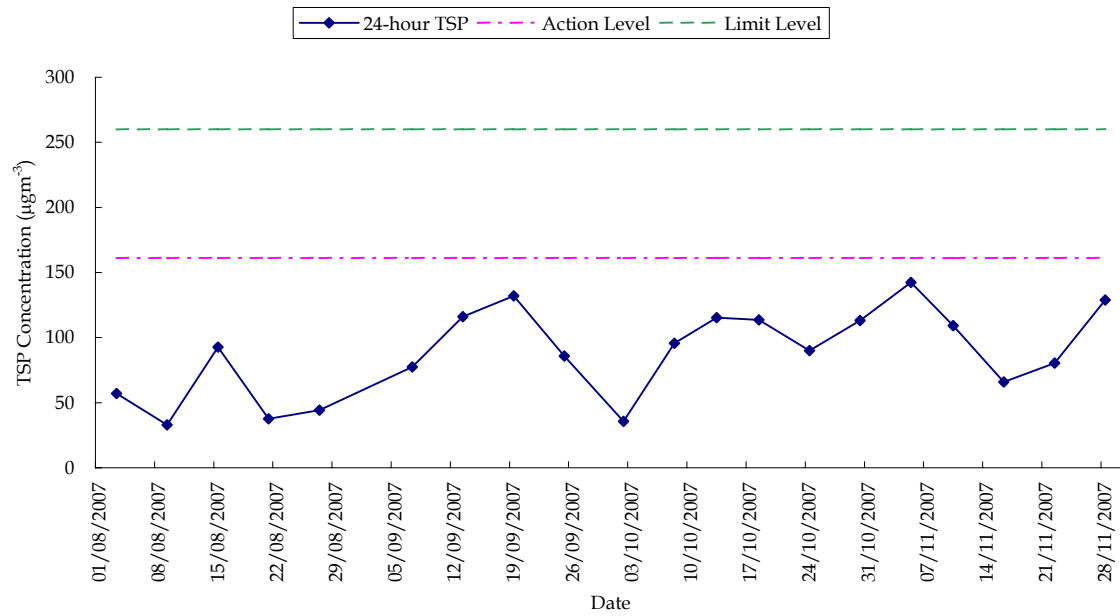


Figure G2 - Measured 24-hour TSP Concentration ($\mu\text{g}\text{m}^{-3}$) at AM2

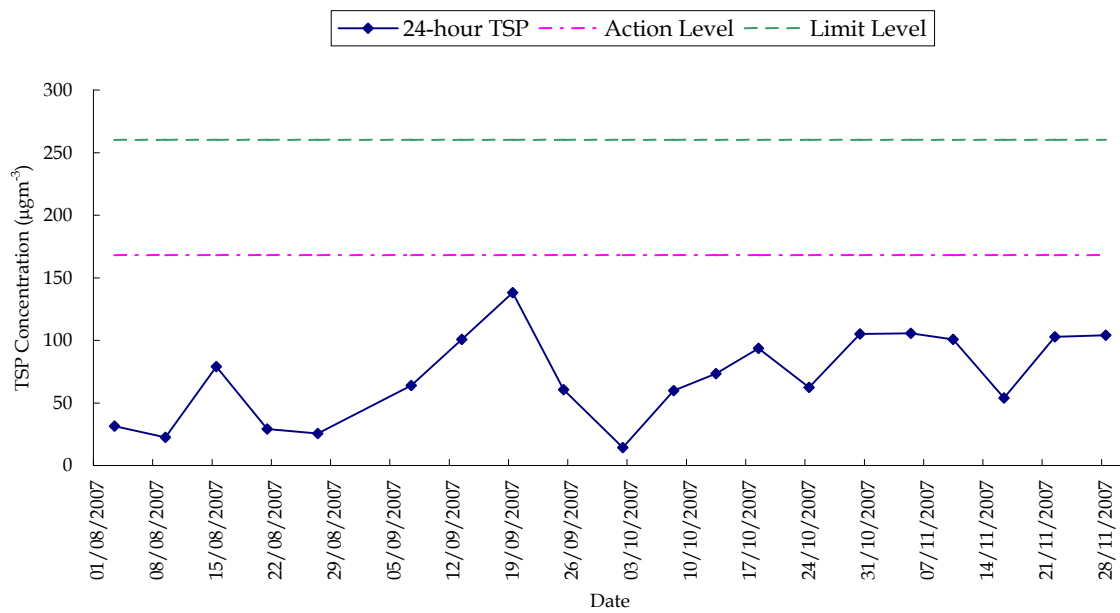


Figure G3 - Measured 1-hour TSP Concentration ($\mu\text{g}\text{m}^{-3}$) at AM1

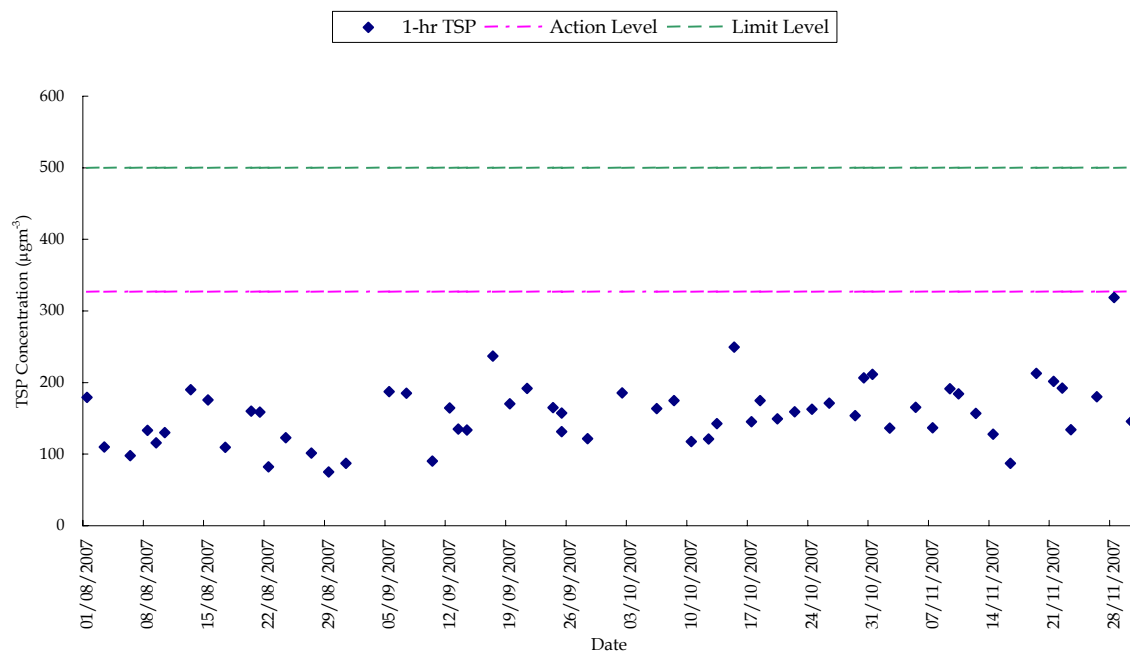
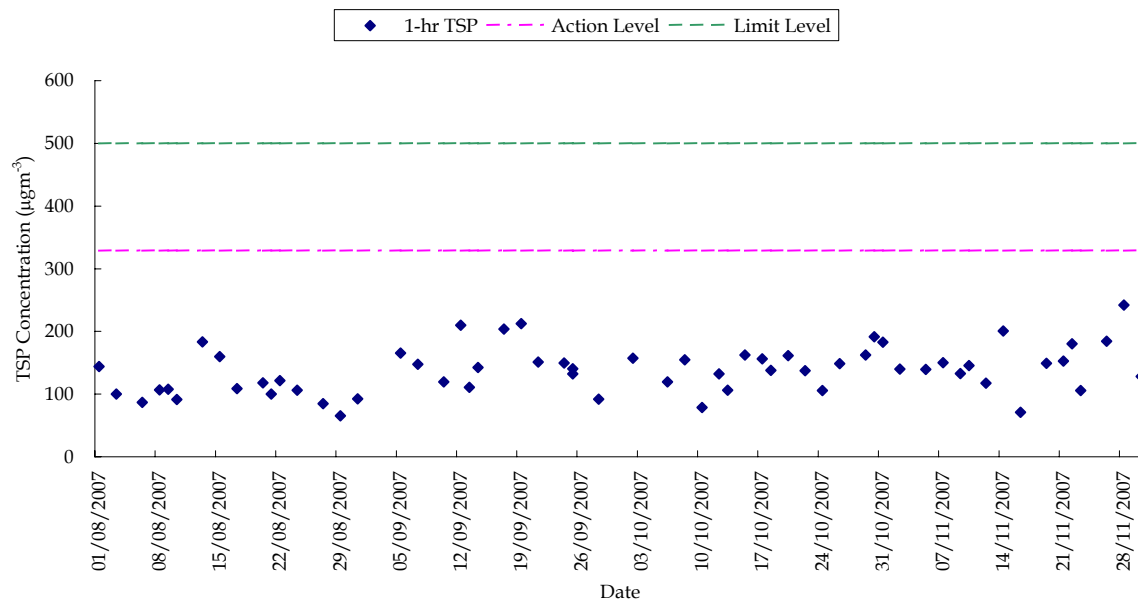


Figure G4 - Measured 1-hour TSP Concentration ($\mu\text{g}\text{m}^{-3}$) at AM2



Annex H

Calibration Certificates of Water Monitoring Equipment



Performance Check of Salinity Meter

Equipment Ref. No. : ET/EW/008/001 Manufacturer : YSI
Model No. : YSI 85 Serial No. : 05L1285
Date of Calibration : 15/11/07 Due Date : 14/12/08

Ref. No. of Salinity Standard used (30ppt)

J196A

Salinity Standard (ppt)	Measured Salinity (ppt)	Difference %
30	<u>29.5</u>	<u>1.7%</u>

Acceptance Criteria

Difference : <10 %

The salinity meter complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable * / ~~unacceptable~~ * for use. Measurements are traceable to national standards.

Checked by : 

Approved by : 



Internal Calibration Report of Turbidimeter

Equipment Ref. No. : ET7000T/002

Manufacturer : HACH

Model No. : 2100P

Serial No. : 930900003728

Date of Calibration : 24/10/07

Calibration Due : 23/10/08

Data

(4.95)	(49.0)	(409)
0 - 10 NTU Gelex Vial	10 - 100 NTU Gelex Vial	100 - 1000 NTU Gelex Vial
4.94 4.49 24/10/07	49.2	410

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

* Delete as appropriate

Calibrated by : [Signature]

Approved by : [Signature]



Internal Calibration Report of Dissolved Oxygen Meter

Equipment Ref. No. : ET/EN/008/001

Manufacturer : YSI

Model No. : 85

Serial No. : 0SL 1285

Date of Calibration : 15 / 11 / 07

Calibration Due Date : 14 / 2 / 08

Ref. No. of Reference Thermometer : ET/2403/01

Ref. No. of Potassium Dichromate : ET/0520/003/02

Temperature Verification

	Temperature (°C)
Thermometer reading	<u>20.0</u>
Meter reading	<u>20.0</u>

Linearity Checking

Purging time, min	DO meter reading, mg/L			Winkler Titration result, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
2	<u>7.05</u>	<u>7.07</u>	<u>7.06</u>	<u>7.16</u>	<u>7.14</u>	<u>7.15</u>	<u>1.27</u>
5	<u>5.21</u>	<u>5.23</u>	<u>5.22</u>	<u>5.15</u>	<u>5.13</u>	<u>5.14</u>	<u>1.54</u>
10	<u>3.13</u>	<u>3.15</u>	<u>3.14</u>	<u>3.05</u>	<u>3.07</u>	<u>3.06</u>	<u>2.58</u>
Linear regression coefficient				<u>0.9994</u>			

Zero Point Checking

DO meter reading, mg/L	<u>0.00</u>
------------------------	-------------

Salinity Checking

Salinity (ppt)	DO meter reading, mg/L			Winkler Titration result, mg/L			Difference (%) of DO Content
	1	2	Average	1	2	Average	
10	<u>7.21</u>	<u>7.23</u>	<u>7.22</u>	<u>7.17</u>	<u>7.15</u>	<u>7.16</u>	<u>0.83</u>
30	<u>6.14</u>	<u>6.12</u>	<u>6.13</u>	<u>6.25</u>	<u>6.23</u>	<u>6.24</u>	<u>1.78</u>

Acceptance Criteria

- (1) Difference between temperature readings from temperature sensor of DO probe and reference thermometer : $< 0.5^{\circ}\text{C}$
- (2) Linear regression coefficient : > 0.99
- (3) Zero checking: 0.0mg/L
- (4) Difference (%) of DO content from the meter reading and by winkler titration : within $\pm 5\%$

The equipment complies * / ~~does not comply~~ * with the specified requirements and is deemed acceptable *
/ ~~unacceptable~~ * for use:

* Delete as appropriate

Calibrated by :

Approved by :



LABORATORY SHEET

Determination of Total Suspended Solids Dried at 103°C-105°C

Information provided by client

Client : ERM – Hong Kong Ltd
Client Ref. No. : E 70122HK
Source : HKCEC, Wan Chai
Sample Type : Sea water
Date Sampled : 19 / 11 / 2007
No. of Sample : 36
Description :

Laboratory Information

Lab. Ref. No. : W 22516
W. I. No. : EN / 7 / 11 / 87
Date Received : 19 / 11 / 2007
Date Tested : 20 / 11 / 2007
Test Method : In-house Method TPE/006/W

$$\text{Recovery of Check} = \frac{107.8}{107.4} \times 100\%$$

$$= 100.4\%$$

	Ref. No.
Drying oven used	ET / 0502 / 002
TSS standard used	J288

Lab. Ref. No.			W22516 (13)	(Dup)	(14)	(15)	(16)	(17)	(18)	(19)
Client sample ID	Blank	Check Std	C1F-S	C1F-S	C1F- SD	C1F-M	C1F- MD	C1F-B	C1F- BD	C2F-S
Foil Bowl No.	B1	C1	1	D1	2	3	4	5	6	7
Mass of Filter	1313.0	1327.5	1305.3	1326.4	1328.6	1319.9	1319.3	1305.9	1318.8	1307.5
+ Foil Bowl (mg) (B)	1312.9	1327.4	1305.2	1326.3	1328.5	1319.8	1319.2	1305.8	1318.7	1307.4
Vol. of Sample (mL)	500	500	200	200	400	400	400	400	400	400
Mass of Filter	1313.2	1381.4	1306.8	1328.0	1330.2	1321.6	1321.1	1307.8	1320.8	1308.9
+ Foil Bowl	1313.1	1381.3	1306.7	1327.9	1330.1	1321.5	1321.0	1307.7	1320.7	1308.8
+ S. S. (mg) (A)										
Total Suspended Solids (mg/L) *	0.2	107.8	3.8	4.0	4.0	4.3	4.5	4.8	5.0	5.5
Chloride Check (✓)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Expanded uncertainty, Uexp										

* Total Suspended Solids (mg/L) = (A - B) / Vol. of Sample used x 1000

Acceptance criteria : 1. Blank : ≤ 0.5mg/L

: 2. Difference between duplicates : < 10%

: 3. Recovery of spike sample : 80% to 120%

: 4. Check Sample : 80 (%) - 120 (%)

Yes ☒ No ☐

Yes ☒ No ☐

Yes ☐ No ☐

Yes ☒ No ☐

PQL : 5.0mg/L (Seawater / Drinking water / Wastewater)

Remark : 53.7 mg Silica Gel H was added to 500ml distilled water as check. (107.4 mg/L)

Tested By :

Checked By :



LABORATORY SHEET

Determination of Total Suspended Solids Dried at 103°C-105°C

Information provided by client

Client : ---
Client Ref. No. : ---
Source : ---
Sample Type : ---
Date Sampled : ---
No. of Sample : ---
Description :

Laboratory Information

Lab. Ref. No. : ---
W. I. No. : ---
Date Received : ---
Date Tested : ---
Test Method : In-house Method TPE/006/W

	Ref. No.
Drying oven used	ET / 0502 / 002
TSS standard used	J 288

Lab. Ref. No.	W225.6 (20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)
Client sample ID	C2F-SD	C2F-M	C2F-MD	C2F-B	C2F-BD	M1F-S	M1F-SD	M1F-M	M1F-MD	M1F-B
Foil Bowl No.	8	9	10	11	12	13	14	15	16	17
Mass of Filter + Foil Bowl (mg) (B)	1319.9 1319.8	1305.8 1305.7	1315.2 1315.1	1326.8 1326.7	1316.2 1316.1	1328.6 1328.5	1327.9 1327.8	1309.2 1309.1	1305.5 1305.4	1317.1 1317.0
Vol. of Sample (mL)	400	400	400	400	400	400	400	400	400	400
Mass of Filter + Foil Bowl + S. S. (mg) (A)	1321.3 1321.2	1307.4 1307.3	1316.9 1316.8	1328.3 1328.2	1317.8 1317.7	1330.1 1330.0	1329.5 1329.4	1310.9 1310.8	1307.2 1307.1	1319.1 1319.0
Total Suspended Solids (mg/L) *	3.5	4.0	4.3	3.8	4.0	3.8	4.0	4.3	4.2	5.0
Chloride Check (✓)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Expanded uncertainty, Uexp										

* Total Suspended Solids (mg/L) = (A - B) / Vol. of Sample used x 1000

Acceptance criteria : 1. Blank : ≤ 0.5mg/L Yes ☐ No ☐
: 2. Difference between duplicates : < 10% Yes ☐ No ☐
: 3. Recovery of spike sample : 80% to 120% Yes ☐ No ☐
: 4. Check Sample : 80 (%) 120 (%) Yes ☐ No ☐

PQL : 5.0mg/L (Seawater / Drinking water / Wastewater)

Remark :

Tested By :

Checked By :



LABORATORY SHEET

Determination of Total Suspended Solids Dried at 103°C-105°C

Information provided by client

Client : ---
Client Ref. No. : ---
Source : ---
Sample Type : ---
Date Sampled : ---
No. of Sample : ---
Description :

Laboratory Information

Lab. Ref. No. : ---
W. I. No. : ---
Date Received : ---
Date Tested : ---
Test Method : In-house Method TPE/006/W

$$\text{Recovery of Spike} = \frac{31.5}{26} \times 100\%$$

$$= 121\%$$

	Ref. No.
Drying oven used	ET / 0502 / 002
TSS standard used	J 288

Lab. Ref. No.	W22516 (30)	(spike)								
Client sample ID	M1F-BD	M1F-BD								
Foil Bowl No.	18	S1								
Mass of Filter + Foil Bowl (mg) (B)	1319.3	1315.5								
	1319.2	1315.4								
Vol. of Sample (mL)	200	200								
Mass of Filter + Foil Bowl	1320.3	1321.7								
+ S. S. (mg) (A)	1320.2	1321.6								
Total Suspended Solids (mg/L) *	5.0	31								
Chloride Check (✓)	✓	✓								
Expanded uncertainty, Uexp										

* Total Suspended Solids (mg/L) = (A - B) / Vol. of Sample used x 1000

Acceptance criteria : 1. Blank : ≤ 0.5mg/L

Yes ☐ No ☐

: 2. Difference between duplicates : < 10%

Yes ☐ No ☐

: 3. Recovery of spike sample : 80% to 120%

Yes ☒ No ☐

: 4. Check Sample : 80 (%) 120 (%)

Yes ☐ No ☐

PQL : 5.0mg/L (Seawater / Drinking water / Wastewater)

Remark : 5.2 mg Silica Gel H was added to 200ml "M1F-BD" as spike (26 mg/L)

Tested By :

Checked By :



LABORATORY SHEET

Determination of Total Suspended Solids Dried at 103°C-105°C

Information provided by client

Client : ---
Client Ref. No. : ---
Source : ---
Sample Type : ---
Date Sampled : ---
No. of Sample : ---
Description :

Laboratory Information

Lab. Ref. No. : ---
W. I. No. : ---
Date Received : ---
Date Tested : ---
Test Method : In-house Method TPE/006/W

$$\text{Recovery of Check} = \frac{101.8}{107.2} \times 100\% = 95\%$$

	Ref. No.
Drying oven used	ET / 0502 / 002
TSS standard used	J 288

Lab. Ref. No.			W12816 (31)	(Dup)	(32)	(33)	(34)	(35)	(36)	(37)
Client sample ID	Blank	Check Std	C1E-S	C1E-S	C1E- SD	C1E-M	C1E- MD	C1E-B	C1E- BD	C2E-S
Foil Bowl No.	B2	C2	19	D2	20	21	22	23	24	25
Mass of Filter + Foil Bowl (mg) (B)	1315.6	1308.1	1306.4	1310.1	1308.9	1315.1	1328.7	1318.5	1303.7	1320.3
	1315.5	1308.0	1306.3	1310.0	1308.8	1315.0	1328.6	1318.4	1303.6	1320.2
Vol. of Sample (mL)	500	500	200	200	400	400	400	400	400	400
Mass of Filter + Foil Bowl	1315.8	1359.0	1307.9	1311.7	1310.5	1316.8	1330.4	1324.3	1351.6	1322.0
+ S. S. (mg) (A)	1315.7	1358.9	1307.8	1311.6	1310.4	1316.7	1330.3	1320.2	1351.5	1321.9
Total Suspended Solids (mg/L) *	0.2	101.8	3.8	4.0	4.0	4.3	4.3	4.5	4.8	4.3
Chloride Check (✓)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Expanded uncertainty, Uexp										

* Total Suspended Solids (mg/L) = (A - B) / Vol. of Sample used x 1000

Acceptance criteria : 1. Blank : $\leq 0.5\text{mg/L}$ $\% \text{ error} = -6.15\%$ Yes ☒ No ☐
: 2. Difference between duplicates : $< 10\%$ Yes ☒ No ☐
: 3. Recovery of spike sample : 80% to 120% Yes ☐ No ☐
: 4. Check Sample : 80 (%) 120- (%) Yes ☒ No ☐

PQL : 5.0mg/L (Seawater / Drinking water / Wastewater)

Remark : 33.6 mg Silica Gel H was added to 500ml distilled water as check. (107.2 mg/L)

Tested By :

Checked By :



LABORATORY SHEET

Determination of Total Suspended Solids Dried at 103°C-105°C

Information provided by client

Client : ---
Client Ref. No. : ---
Source : ---
Sample Type : ---
Date Sampled : ---
No. of Sample : ---
Description :

Laboratory Information

Lab. Ref. No. : ---
W. I. No. : ---
Date Received : ---
Date Tested : ---
Test Method : In-house Method TPE/006/W

	Ref. No.
Drying oven used	ET / 0502 / 002
TSS standard used	J288

Lab. Ref. No.	W22516 (38)	(39)	(40)	(41)	(42)	(43)	(44)	(45)	(46)	(47)
Client sample ID	C2E-SD	C2E-M	C2E-MD	C2E-B	C2E-BD	M1E-S	M1E-SD	M1E-M	M1E-MD	M1E-B
Foil Bowl No.	26	27	28	29	30	31	32	33	34	35
Mass of Filter	1311.1	1327.8	1306.2	1302.9	1303.0	1310.5	1312.1	1314.2	1313.4	1317.2
+ Foil Bowl (mg) (B)	1311.0	1327.7	1306.1	1302.8	1302.9	1310.0	1312.0	1314.1	1313.3	1317.1
Vol. of Sample (mL)	400	400	400	400	400	400	400	400	400	400
Mass of Filter	1312.9	1329.6	1308.1	1304.3	1304.4	1311.9	1313.9	1316.3	1315.6	1319.0
+ Foil Bowl	1312.8	1329.5	1308.0	1304.2	1304.3	1311.8	1313.8	1316.2	1315.5	1318.9
+ S. S. (mg) (A)										
Total Suspended Solids (mg/L) *	4.5	4.5	4.8	3.5	3.5	4.5	4.5	4.3	4.5	4.5
Chloride Check (✓)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Expanded uncertainty, Uexp										

* Total Suspended Solids (mg/L) = (A - B) / Vol. of Sample used x 1000

Acceptance criteria : 1. Blank : ≤ 0.5mg/L Yes ☐ No ☐
: 2. Difference between duplicates : < 10% Yes ☐ No ☐
: 3. Recovery of spike sample : 80% to 120% Yes ☐ No ☐
: 4. Check Sample : 80 (%) 120 - (%) Yes ☐ No ☐

PQL : 5.0mg/L (Seawater / Drinking water / Wastewater)

Remark :

Tested By :

Checked By :



LABORATORY SHEET

Determination of Total Suspended Solids Dried at 103°C-105°C

Information provided by client

Client : ---
Client Ref. No. : ---
Source : ---
Sample Type : ---
Date Sampled : ---
No. of Sample : ---
Description :

Laboratory Information

Lab. Ref. No. : ---
W. I. No. : ---
Date Received : ---
Date Tested : ---
Test Method : In-house Method TPE/006/W

$$\text{Recovery of Spike} = \frac{30 - 4.5}{76} \times 100\% = 98.1\%$$

	Ref. No.
Drying oven used	ET / 0502 / 002
TSS standard used	J 288

Lab. Ref. No.	W12516 (48)	(spike)								
Client sample ID	M1E-BD	M1E-BD								
Foil Bowl No.	36	S2								
Mass of Filter	1304.6	1309.5								
+ Foil Bowl (mg) (B)	1304.5	1309.4								
Vol. of Sample (mL)	200	200								
Mass of Filter	1305.5	1315.5								
+ Foil Bowl	1305.4	1315.4								
+ S. S. (mg) (A)										
Total Suspended Solids (mg/L) *	4.5	30								
Chloride Check (✓)	✓	✓								
Expanded uncertainty, Uexp										

* Total Suspended Solids (mg/L) = (A - B) / Vol. of Sample used x 1000

Acceptance criteria : 1. Blank : ≤ 0.5mg/L Yes ☐ No ☐
: 2. Difference between duplicates : < 10% Yes ☐ No ☐
: 3. Recovery of spike sample : 80% to 120% Yes ☒ No ☐
: 4. Check Sample : 80 (%) 120 (%) Yes ☐ No ☐

PQL : 5.0mg/L (Seawater / Drinking water / Wastewater)

Remark : 5.2 mg Silica Gel H was added to 200ml M1E-BD as spike. (26 mg/L)

Tested By :

Checked By :



LABORATORY SHEET

Determination of Nitrate by using Sigmented Flow Analyzer (SFA)

Information provided by client

Client : ERM-HK Ltd
Source : HKCEC
Sample Type : Sea water
Date Sampled : 19/11/07
No. of Sample : 18

Laboratory information

Lab Ref. No. : W2516 (49-66)
Date Received : 19/11/07
W.I.No. : EN17/11/84
Dated Tested : 20/11/07
Test Method : In-house method TPE/023/W
Eq. Ref. No. (SFA) :
Description : ET/0529/001

Preparation of calibration curve

Conc. of standard (mg NO ₃ ⁻ -N/L)	Du
0.00	2
0.02	172
0.04	330
0.06	485
0.08	631
0.10	757

Ref. No. of Calibration standard stock:	H 744	Date of preparation:	20/8/07
Ref. No. of cal chk std stock:	H 745	Date of preparation:	20/8/07
Ref. No. of nitrite standard stock:	H 742	Date of preparation:	5/11/07
Ref. No. of calibration curve:	071120 NO2+33	Date of preparation:	20/11/07
Equation of best fit line (y=mx+c):	y = 7575.7141 x + 17.381 (r ² = 0.9978)		

Where m = slope of curve, c = y-intercept

$$\% \text{Reduction Efficiency} = \frac{0.061}{0.065} \times 100\% = 93.8\% \quad \% \text{Error} = \frac{0.163 - 0.155}{0.159} \times 100\% = 5.0\%$$

Sample analysis

Lab Ref No	Client Sample ID	Dilution (D)	Du (y)	*Sum of nitrate & nitrite (mg (NO ₂ +NO ₃)-N/L)	**Nitrate (mg NO ₃ ⁻ -N/L)	Expanded Uncertainty (U _{exp})
	Cal chk std	1	478	0.061		
	0.06ppm NO2	1	508	0.065		
	MB	1	-1	-0.002		
	QC	1	465	0.059		
W2516 (49)	19/11 CIF-S	10	141	0.163		
"	" (Dup)	10	135	0.155		
"	" (Spike)	10	433	0.575		
" (50)	CIF-M	10	*	*		
(51)	CIF-B	10				
(52)	C2F-S	10				
(53)	C2F-M	10				
(54)	C2F-B	10				

* refer to print-out or calculated according to the equation = sum of NO₂+NO₃ (mg(NO₂+NO₃)-N/L) =

$$\left(\frac{y-c}{m} \right) \times D$$

** Nitrate (mg NO₃⁻-N/L) = sum of nitrate & nitrite (mg(NO₂+NO₃)-N/L) - nitrite (mg NO₂-N/L)

Acceptable criteria

% Recovery of spike

$$= \frac{0.575 - 0.163}{0.4} \times 100\% = 103\%$$

Method Blank :	<0.004mg NO ₃ ⁻ -N/L	Yes	/	No
Calibration check standard:	0.054-0.066 mg NO ₃ ⁻ -N/L	Yes	/	No
Difference between duplicates:	≤10%	Yes	/	No
Recovery of spike sample:	80-120%	Yes	/	No
QC Sample :	0.054 - 0.070 mg NO ₃ ⁻ -N/L	Yes	/	No
Square of correlation (r ²):	≥ 0.995	Yes	/	No

PQL

Drinking water matrix / wastewater matrix (0.004 mg NO₃⁻-N/L)

Remarks

0.2ml of 10ppm NO₃ std was added into 5ml "19/11 CIF-S" as a spike sample.

Tested by
TPE/023/W

Checked by



LABORATORY SHEET

Determination of Nitrate by using Segmented Flow Analyzer (SFA)

Information provided by client

Client :
Source :
Sample Type :
Date Sampled :
No. of Sample :

Laboratory information

Lab Ref. No. :
Date Received :
W.I.No. :
Dated Tested :
Test Method : In-house method TPE/023/W
Eq. Ref. No. (SFA) :
Description :

Preparation of calibration curve

Conc. of standard (mg NO ₃ ⁻ -N/L)	Du
0.00	
0.02	
0.04	
0.06	
0.08	
0.10	

Ref. No. of Calibration standard stock:		Date of preparation:	
Ref. No. of cal chk std stock:		Date of preparation:	
Ref. No. of nitrite standard stock:		Date of preparation:	
Ref. No. of calibration curve:		Date of preparation:	
Equation of best fit line (y=mx+c):		(r ² =)	

Where m = slope of curve, c = y-intercept

Sample analysis

Lab Ref No	Client Sample ID	Dilution (D)	Du (y)	*Sum of nitrate & nitrite (mg (NO ₂ +NO ₃)-N/L)	**Nitrate (mgNO ₃ ⁻ -N/L)	Expanded Uncertainty (U _{exp})
	Cal chk std	1	478	0.061		
W22516 (55)	19/11 MIF-S	10	*	*		
(56)	MIF-M					
(57)	MIF-B					
(58)	CIE-S					
(59)	CIE-M					
(60)	CIE-B					
(61)	C2E-S					
(62)	C2E-M					
(63)	C2E-B					
(64)	MIE-S	↓	↓	↓		
	cal chk std	1	469	0.060		

* refer to print-out or calculated according to the equation = sum of NO₂+NO₃ (mg(NO₂+NO₃)-N/L) = $\left(\frac{-y-c}{m}\right) \times D$

** Nitrate (mg NO₃⁻-N/L) = sum of nitrate & nitrite (mg(NO₂+NO₃)-N/L) - nitrite (mgNO₂⁻-N/L)

Acceptable criteria

Method Blank :	<0.004mgNO ₃ ⁻ -N/L	Yes		No	
Calibration check standard:	0.054-0.066 mgNO ₃ ⁻ -N/L	Yes	✓	No	
Difference between duplicates:	≤10%	Yes		No	
Recovery of spike sample:	80-120%	Yes		No	
QC Sample :	mgNO ₃ ⁻ -N/L	Yes		No	
Square of correlation (r ²):	≥ 0.995	Yes		No	

PQL

Drinking water matrix / wastewater matrix (0.004 mgNO₃⁻-N/L)

Remarks

Tested by :
TPE/023/W

Checked by :

FlowAccess Results Report

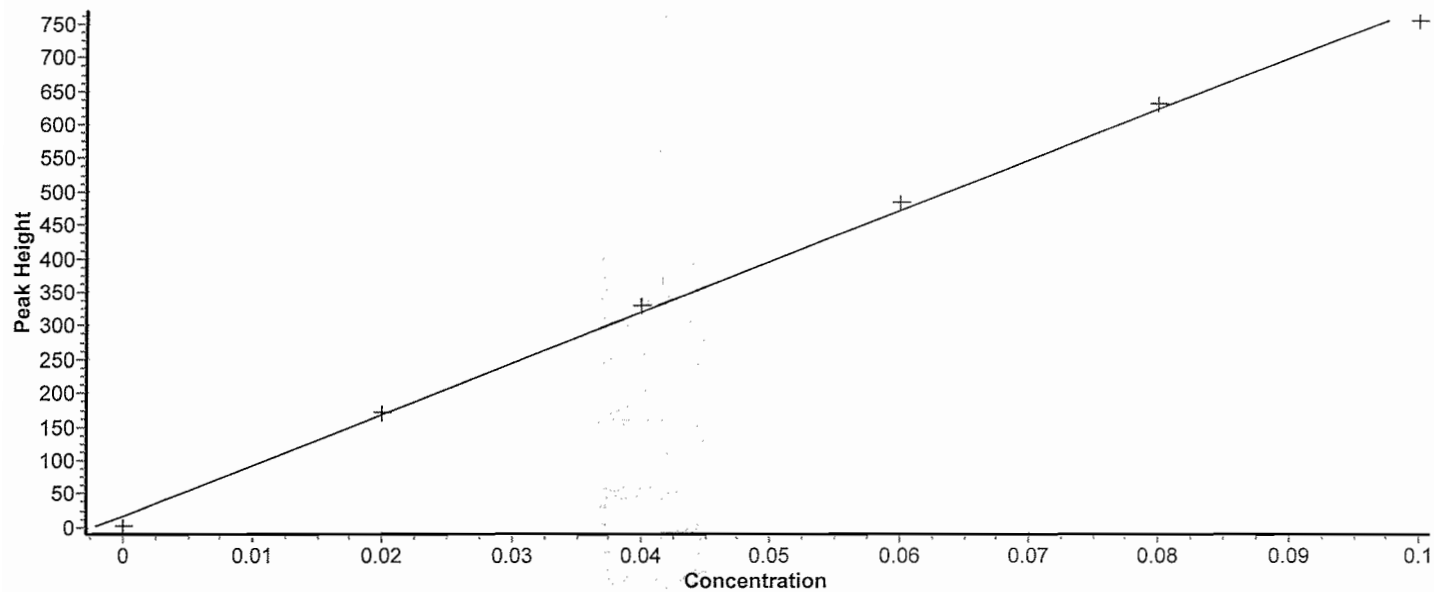
Date : 20/11/2007

1	Position	Type1	Identity1	P/TP/NO2+3 ppm	Corr.Ht P/TP/NO2+3
2	WT	IW	Initial Wash	-0.002	0
3	1	W	Wash	-0.002	2
4	2	T	Tracer	0.100	774
5	3	W	Wash	-0.002	0
6	4	S1	Standard 1	-0.002	2
7	5	S2	Standard 2	0.020	172
8	6	S3	Standard 3	0.041	330
9	7	S4	Standard 4	0.062	485
10	8	S5	Standard 5	0.081	631
11	9	S6	Standard 6	0.098	757
12	10	W	Wash	-0.002	0
13	11	Q0	Cal Chk Std	0.061	478
14	12	U	0.06ppm NO2	0.065	508
15	13	W	Wash	-0.002	0
16	14	U	MB	-0.002	-1
17	15	U	QC	0.059	465
18	16	U	W22516(49) C1F_S *10	0.163	141
19	17	U	.. (Dup)	0.155	135
20	18	U	.. (Spike)	0.575	453
21	19	U	W22516(50) C1F_M *10	0.144	126
22	20	U	.. (51) C1F_B *10	0.149	130
23	21	U	.. (52) C2F_S *10	0.146	128
24	22	U	.. (53) C2F_M *10	0.145	128
25	23	U	.. (54) C2F_B *10	0.183	156
26	24	W	Wash	-0.002	0
27	25	Q0	Cal Chk Std	0.061	478
28	26	W	Wash	-0.002	0
29	27	U	W22516(55) M1F_S *10	0.150	131
30	28	U	.. (56) M1F_M *10	0.157	137
31	29	U	.. (57) M1F_B *10	0.135	120
32	30	U	.. (58) C1E_S *10	0.179	153
33	31	U	.. (59) C1E_M *10	0.140	123
34	32	U	.. (60) C1E_B *10	0.149	131
35	33	U	.. (61) C2E_S *10	0.176	151
36	34	U	.. (62) C2E_M *10	0.155	135
37	35	U	.. (63) C2E_B *10	0.141	124
38	36	U	.. (64) M1E_S *10	0.139	123
39	37	W	Wash	-0.002	0
40	38	Q0	Cal Chk Std	0.060	469
41	39	W	Wash	-0.002	0
42	Wt	E	End Run	-0.003	-2

% reduction efficiency = 93.8%

% error = 3.0%
% spike = 103%

FlowAccess Report
Calibration Curve - 1st Order ISO 8466-1 - P/TP/NO2+3



Runfile Name : 071120NO2+33.Run a = 17.38096 b = 7575.71415 c = 0.00000 RSD = 14.86960 r = 0.99890

Analysis Date : 20/11/2007 12:47:50 PM User Name: Not Available Analyst Name: Renee

2



LABORATORY SHEET

Determination of nitrogen (ammonia) by using Segmented flow analyser

Information provided by client

Client : ERM-HK Ltd
Source : HKCEC
Sample Type : Sea water
Date Sampled : 19/11/07
No. of Sample : 18

Laboratory information

Lab Ref. No. : W22516 (49-66)
Date Received : 19/11/07
W.I.No. : 201711184
Dated Tested : 23/11/07
Test Method : In-house method TPE/016/W
Description :
Ref. No. of SFA : ET/0529/001

Preparation of calibration curve

Conc. of standard (mg NH ₃ -N/L)	Du
0.00	217
0.05	214
0.10	1065
0.25	2852
0.50	6291
1.00	11519

Ref. No. of Calibration standard stock:	L748	Date of preparation:	7/11/07
Ref. No. of cal chk std stock:	L749	Date of preparation:	7/11/07
Ref. No. of calibration curve:	0711 23 NH32	Date of preparation:	23/11/07
Equation of best fit line (y=mx+c):	y = 11610.1382 x + 66.4562 (r ² = 0.9971)		

Where m = slope of curve, c = y-intercept

Sample analysis

$$\% \text{Error} = \frac{0.111 - 0.101}{0.106} \times 100\% = 9.4\%$$

Lab. Ref. No.	Client Sample ID	Dilution (D)	Du (y)	*Nitrogen (ammonia) (mg NH ₃ -N/L)	Expanded Uncertainty (U _{exp})
	cal chk std	1	5972	0.509	
	MB	1	32	-0.003	
	QC	1	5903	0.503	
W22516 (49)	19/11 C1F-S	10	195	0.111	
"	" (Dup)		184	0.101	
"	" (Spike)		2709	2.276	
W22516 (50)	C1F-M		*	*	
(51)	C1F-B				
(52)	C2F-S				
(53)	C2F-M				
(54)	C2F-B				
	cal chk std	1	6201	0.528	

*refer to the print-out or calculated according to the equation : Nitrogen (ammonia) (mgNH₃-N/L) = $\left(\frac{y-c}{m}\right) \times D$

Acceptable criteria

% Recovery of spike

$$= \frac{2.276 - 0.111}{2.0} \times 100\% = 108.3\%$$

PQL

Method Blank :	< 0.025 mgNH ₃ -N/L	Yes	✓	No
Calibration check standard:	0.45 - 0.55 mgNH ₃ -N/L	Yes	✓	No
Difference between duplicates:	≤ 10%	Yes	✓	No
Recovery of spike sample:	80-120%	Yes	✓	No
Square of correlation coefficient (r ²):	≥ 0.995	Yes	✓	No
QC Sample :	0.479 -- 0.567 mg NH ₃ -N/L	Yes	✓	No

Drinking water matrix / wastewater matrix (0.025 mgNH₃-N/L)

Remarks : 0.4 ml of 25ppm NH₃ std was added into 5 ml "19/11 C1F-S" as a spike sample.

Tested by : PK

Checked by : hde

TPE/016/W



LABORATORY SHEET

Determination of nitrogen (ammonia) by using Segmented flow analyser

Information provided by client

Client :
Source :
Sample Type :
Date Sampled :
No. of Sample :

Laboratory information

Lab Ref. No. :
Date Received :
W.I.No. :
Dated Tested :
Test Method : In-house method TPE/016/W
Description :
Ref. No. of SFA :

Preparation of calibration curve

Conc. of standard (mg NH ₃ -N/L)	Du
0.00	
0.05	
0.10	
0.25	
0.50	
1.00	

Ref. No. of Calibration standard stock:		Date of preparation:	
Ref. No. of cal chk std stock:		Date of preparation:	
Ref. No. of calibration curve:		Date of preparation:	
Equation of best fit line (y=mx+c) :	(r ² =)		

Where m = slope of curve, c = y-intercept

Sample analysis

Lab. Ref. No.	Client Sample ID	Dilution (D)	Du (y)	*Nitrogen (ammonia) (mg NH ₃ -N/L)	Expanded Uncertainty (U _{exp})
W22506 (55)	19/11 MIF-S	10	*	*	
(56)	MIF-M				
(57)	MIF-B				
(58)	CIE-S				
(59)	CIE-M				
(60)	CIE-B				
(61)	C2E-S				
(62)	C2E-M				
(63)	C2E-B				
(64)	MIE-S	✓	↓	↓	
	cal chk std	1	6344	0.541	
(65)	19/11 MIE-M	10	*	*	

*refer to the print-out or calculated according to the equation : Nitrogen (ammonia) (mgNH₃-N/L) = $\left(\frac{y-c}{m}\right) \times D$

Acceptable criteria

Method Blank :	< 0.025 mgNH ₃ -N/L	Yes		No	
Calibration check standard:	0.45 - 0.55 mgNH ₃ -N/L	Yes	✓	No	
Difference between duplicates:	≤10%	Yes		No	
Recovery of spike sample:	80-120%	Yes		No	
Square of correlation coefficient (r ²) :	≥0.995	Yes		No	
QC Sample :	-- mg NH ₃ -N/L	Yes		No	

PQL

Drinking water matrix / wastewater matrix (0.025 mgNH₃-N/L)

Remarks :

Tested by : PK

Checked by : Wok

TPE/016/W



LABORATORY SHEET

Determination of nitrogen (ammonia) by using Segmented flow analyser

Information provided by client

Client :
Source :
Sample Type :
Date Sampled :
No. of Sample :

Laboratory information

Lab Ref. No. :
Date Received :
W.I.No. :
Dated Tested :
Test Method : In-house method TPE/016/W
Description :
Ref. No. of SFA :

Preparation of calibration curve

Conc. of standard (mg NH ₃ -N/L)	Du
0.00	
0.05	
0.10	
0.25	
0.50	
1.00	

Ref. No. of Calibration standard stock:		Date of preparation:	
Ref. No. of cal chk std stock:		Date of preparation:	
Ref. No. of calibration curve:		Date of preparation:	
Equation of best fit line (y=mx+c):		(r ² =)	

Where m = slope of curve, c = y-intercept

Sample analysis

% Error =

Lab. Ref. No.	Client Sample ID	Dilution (D)	Du (y)	*Nitrogen (ammonia) (mg NH ₃ -N/L)	Expanded Uncertainty (U _{exp})
W22516 (66)	19/11 H1E-B	10	*	*	
W22536 (49)	21/11 C1F-S	10	↓	↓	
(50)	C1F-M	10	↓	↓	
	HB	1	127	0.005	
	QC	1	6305	0.537	
W22536 (51)	21/11 C1F-B	10	80	0.012	
"	" (Dup)	10	81	0.013	
"	" (spike)	10	2608	2.189	
W22536 (52)	C2F-S	10	*	*	
	cal chk std	1	6279	0.535	
W22536 (53)	21/11 C2F-M	10	*	*	
" (54)	C2F-B	10	*	*	

*refer to the print-out or calculated according to the equation : Nitrogen (ammonia) (mgNH₃-N/L) = $\left(\frac{y-c}{m}\right) \times D$

Acceptable criteria

% Recovery of spike

$$= \frac{2.189 - 0.012}{2.0} \times 100\% = 108.9\%$$

Method Blank :	< 0.025 mgNH ₃ -N/L	Yes	✓	No	
Calibration check standard:	0.45 - 0.55 mgNH ₃ -N/L	Yes	✓	No	
Difference between duplicates:	≤ 10%	Yes	✓	No	
Recovery of spike sample:	80-120%	Yes	✓	No	
Square of correlation coefficient (r ²):	≥ 0.995	Yes		No	
QC Sample :	0.479 - 0.67 mg NH ₃ -N/L	Yes	✓	No	

PQL

Drinking water matrix / wastewater matrix (0.025 mgNH₃-N/L)

Remarks : 0.4 ml of 25ppm NH₃ std was added into 5 ml "21/11 C1F-B" as a spike sample

Tested by : PL

Checked by : WDE

TPE/016/W



LABORATORY SHEET

Determination of nitrogen (ammonia) by using Segmented flow analyser

Information provided by client

Client :
Source :
Sample Type :
Date Sampled :
No. of Sample :

Laboratory information

Lab Ref. No. :
Date Received :
W.I.No. :
Dated Tested :
Test Method : In-house method TPE/016/W
Description :
Ref. No. of SFA :

Preparation of calibration curve

Conc. of standard (mg NH ₃ -N/L)	Du
0.00	
0.05	
0.10	
0.25	
0.50	
1.00	

Ref. No. of Calibration standard stock:		Date of preparation:	
Ref. No. of cal chk std stock:		Date of preparation:	
Ref. No. of calibration curve:		Date of preparation:	
Equation of best fit line (y=mx+c) :		(r ² =)	

Where m = slope of curve, c = y-intercept

Sample analysis

Lab. Ref. No.	Client Sample ID	Dilution (D)	Du (y)	*Nitrogen (ammonia) (mg NH ₃ -N/L)	Expanded Uncertainty (U _{exp})
W22536 (55)	21/11 MIF-S	10	*	*	
(56)	MIF-H				
(57)	MIF-B				
(58)	CIE-S				
(59)	CIE-H				
(60)	CIE-B				
(61)	C2E-S				
(62)	C2E-H				
	cal chk std	1	6186	0.527	
W22536 (63)	21/11 C2E-B	10	*	*	
(64)	MIE-S	10			
(65)	MIE-H	10			

*refer to the print-out or calculated according to the equation : Nitrogen (ammonia) (mgNH₃-N/L) = $\left(\frac{y-c}{m} \right) \times D$

Acceptable criteria

Method Blank :	< 0.025 mgNH ₃ -N/L	Yes		No	
Calibration check standard:	0.45 - 0.55 mgNH ₃ -N/L	Yes	✓	No	
Difference between duplicates:	≤10%	Yes		No	
Recovery of spike sample:	80-120%	Yes		No	
Square of correlation coefficient (r ²) :	≥0.995	Yes		No	
QC Sample :	-- mg NH ₃ -N/L	Yes		No	

PQL

Drinking water matrix / wastewater matrix (0.025 mgNH₃-N/L)

Remarks :

Tested by :

Checked by :

TPE/016/W

LABORATORY SHEET

Determination of nitrogen (ammonia) by using Segmented flow analyser

Information provided by client

Client :

Source :

Sample Type :

Date Sampled :

No. of Sample :

Laboratory information

Lab Ref. No. :

Date Received :

W.I.No. :

Dated Tested :

Test Method : In-house method TPE/016/W

Description :

Ref. No. of SFA :

Preparation of calibration curve

Conc. of standard (mg NH ₃ -N/L)	Du
0.00	
0.05	
0.10	
0.25	
0.50	
1.00	

Ref. No. of Calibration standard stock:		Date of preparation:	
Ref. No. of cal chk std stock:		Date of preparation:	
Ref. No. of calibration curve:		Date of preparation:	
Equation of best fit line ($y=mx+c$) :	(r =		

Where m = slope of curve, c = y-intercept

Sample analysis

[illegible]

*refer to the print-out or calculated according to the equation : Nitrogen (ammonia) (mgNH₃-N/L) = $\left(\frac{y-c}{m}\right) \times D$

Acceptable criteria

Method Blank :	< 0.025 mgNH ₃ -N/L	Yes		No
Calibration check standard:	0.45 - 0.55 mgNH ₃ -N/L	Yes	✓	No
Difference between duplicates:	≤10%	Yes		No
Recovery of spike sample:	80-120%	Yes		No
Square of correlation coefficient (r ²) :	≥0.995	Yes		No
QC Sample :	-- mg NH ₃ -N/L	Yes		No

PQL

Drinking water matrix / wastewater matrix (0.025 mgNH₃-N/L)

Remarks :

Tested by :

Checked by : 

TPE/016/W

FlowAccess Results Report

Date : 23/11/2007

1	Position	Type1	Identity1	NH3/TN/NO2 ppm	Corr.Ht NH3/TN/NO2
2	WT	IW	Initial Wash	-0.006	0
3	1	W	Wash	0.000	70
4	2	T	Tracer	1.001	11682
5	3	W	Wash	-0.006	0
6	4	S1	Standard 1	0.013	217
7	5	S2	Standard 2	0.039	514
8	6	S3	Standard 3	0.086	1065
9	7	S4	Standard 4	0.240	2852
10	8	S5	Standard 5	0.536	6291
11	9	S6	Standard 6	0.986	11519
12	10	W	Wash	-0.006	0
13	11	Q0	Cal Chk Std	0.509	5972
14	12	W	Wash	-0.006	0
15	13	U	MB	-0.003	32
16	14	U	QC	0.503	5903
17	15	U	W22516(49) 19/11 C1F_S *10	0.111	195
18	16	U	.. (Dup)	0.101	184 % Error = 7.4%
19	17	U	.. (Spike)	2.276	2709 % spike = 108.3%
20	18	U	(50) C1F_M	0.083	162
21	19	U	(51) C1F_B	0.075	154
22	20	U	(52) C2F_S	0.161	254
23	21	U	(53) C2F_M	0.053	128
24	22	U	(54) C2E_B	0.134	222
25	23	W	Wash	-0.006	0
26	24	Q0	Cal Chk Std	0.528	6201
27	25	W	Wash	-0.006	0
28	26	U	W22516(55) 19/11 M1F_S	0.155	246
29	27	U	(56) M1F_M	0.046	120
30	28	U	(57) M1F_B	0.054	130
31	29	U	(58) C1E_S	0.130	218
32	30	U	(59) C1E_M	0.038	111
33	31	U	(60) C1E_B	0.152	243
34	32	U	(61) C2E_S	0.142	231
35	33	U	(62) C2E_M	0.070	148
36	34	U	(63) C2E_B	0.109	193
37	35	U	(64) M1E_S	0.161	253
38	36	W	Wash	-0.006	0
39	37	Q0	Cal Chk Std	0.541	6344
40	38	W	Wash	-0.006	0
41	39	U	W22516(65) 19/11 M1E_M	0.240	346
42	40	U	(66) M1E_B	0.130	217
43	41	U	W22522(49) 21/11 C1F_S *10	0.179	274
44	42	U	(50) C1F_M	-0.064	-7
45	43	U	MB	0.005	127
46	44	U	QC	0.537	6305
47	45	U	W22522(51) 21/11 C1F_B *10	0.012	80
48	46	U	.. (Dup)	0.013	81
49	47	U	.. (Spike)	2.189	2608 % spike = 108.9%
50	48	U	(52) C2F_S *10	-0.059	-2
51	49	W	Wash	-0.006	0

Run File Name : C:\Data\2007\Nov\071123NH32.Run

Analysis Date : 23/11/2007

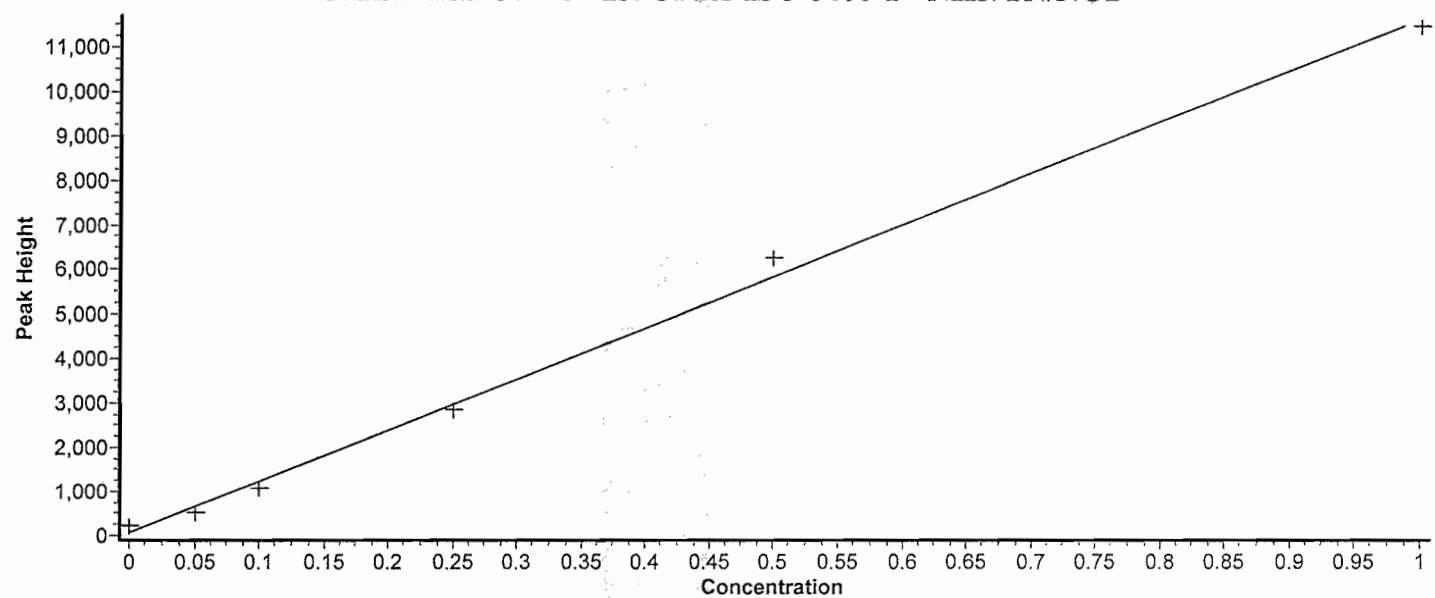
FlowAccess Results Report

Date : 23/11/2007

1	Position	Type1	Identity1	NH3/TN/NO2 ppm	Corr.Ht NH3/TN/NO2
52	50	Q0	Cal Chk Std	0.535	6279
53	51	W	Wash	-0.006	0
54	52	U	W22522(53) 21/11 C2F_M *10	0.192	290
55	53	U	(54) C2F_B	0.116	201
56	54	U	(55) M1F_S	0.099	182
57	55	U	(56) M1F_M	0.096	178
58	56	U	(57) M1F_B	0.048	122
59	57	U	(58) C1E_S	0.007	74
60	58	U	(59) C1E_M	0.172	266
61	59	U	(60) C1E_B	0.079	158
62	60	U	(61) C2E_S	0.210	310
63	61	U	(62) C2E_M	0.040	113
64	62	W	Wash	-0.006	0
65	63	Q0	Cal Chk Std	0.527	6186
66	64	W	Wash	-0.006	0
67	65	U	W22523(63) 21/11 C2E_B *10	0.219	321
68	66	U	(64) M1E_S	0.081	161
69	67	U	(65) M1E_M	0.146	235
70	68	U	(66) M1E_B	0.222	324
71	69	W	Wash	-0.006	0
72	70	Q0	Cal Chk Std	0.528	6191
73	71	W	Wash	-0.006	0
74	Wt	E	End Run	0.003	104

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FlowAccess Report
Calibration Curve - 1st Order ISO 8466-1 - NH3/TN/NO2



Runfile Name : 071123NH32.Run a = 66.45622 b = 11610.13825 c = 0.00000 RSD = 265.15137 r = 0.99856

Analysis Date : 23/11/2007 11:00:01 AM User Name: Not Available Analyst Name: Renee

2.

Annex I

Water Quality Monitoring Results

Figure 1 - Additional Water Quality Monitoring Results (Mid Ebb)

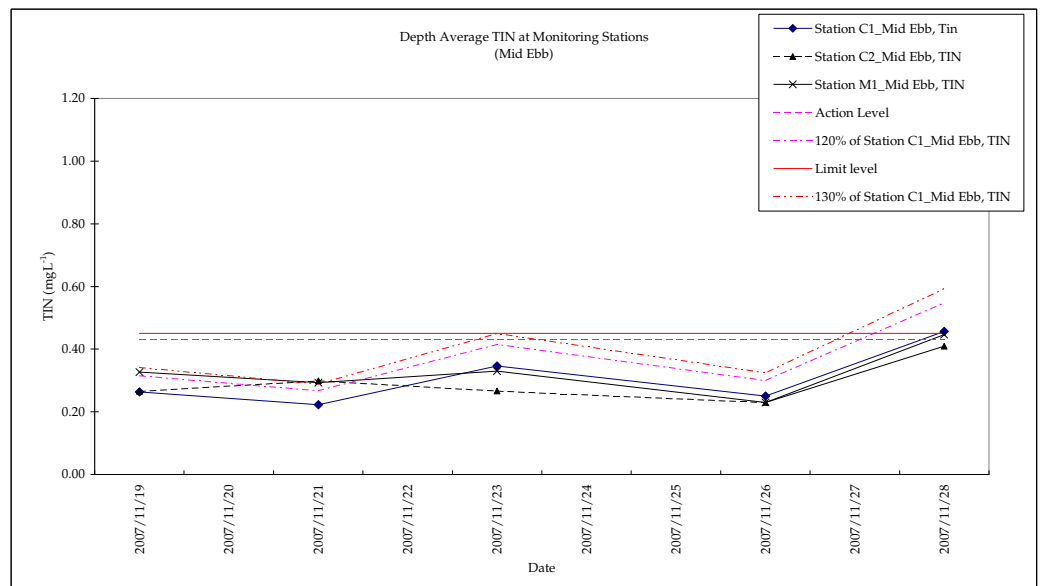
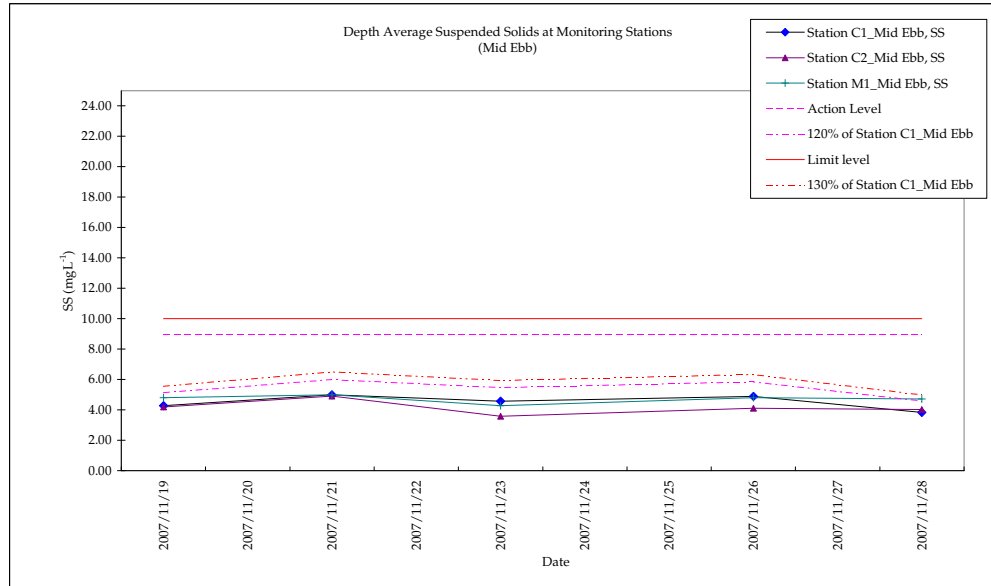
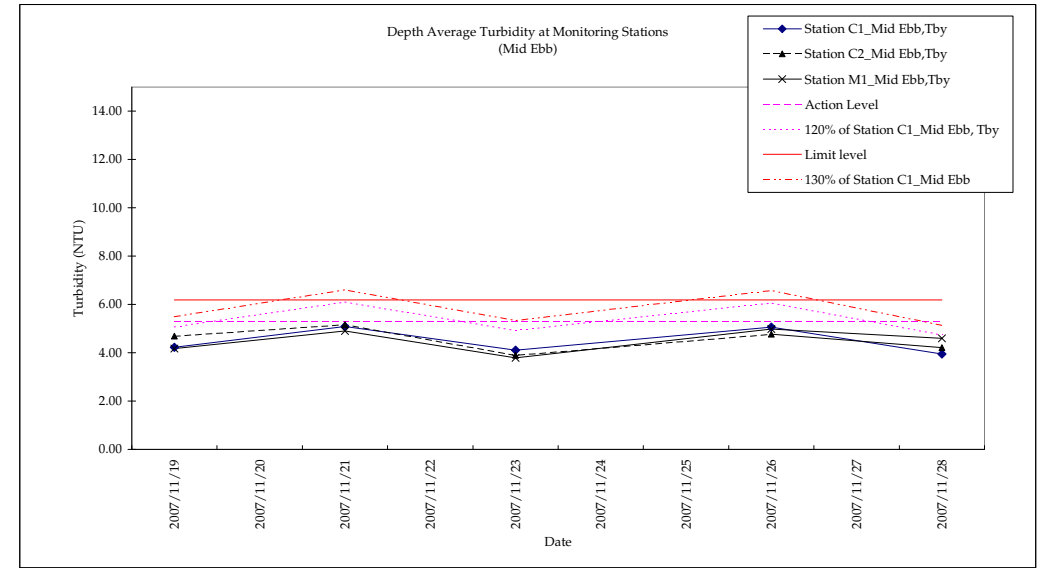
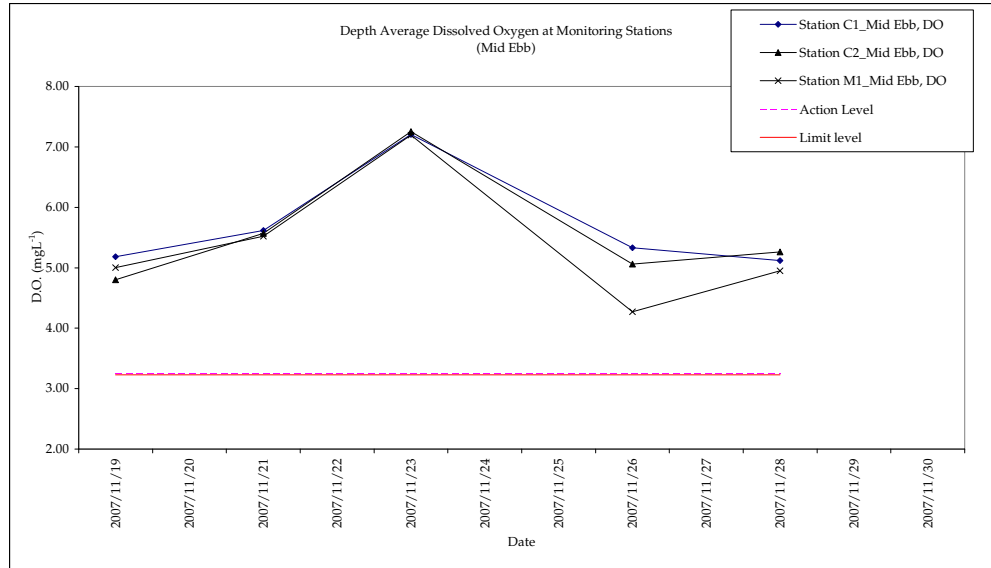
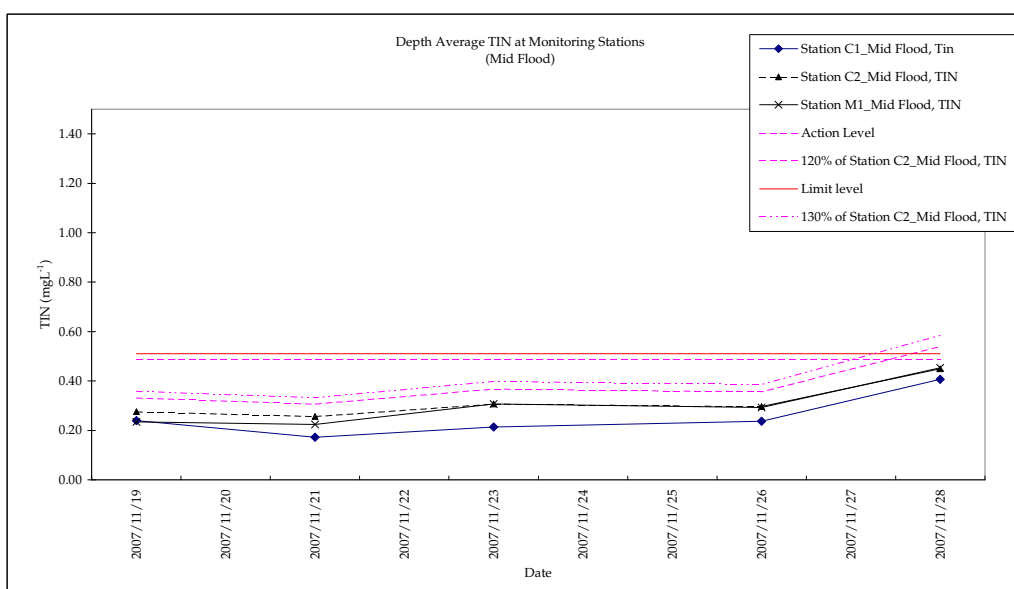
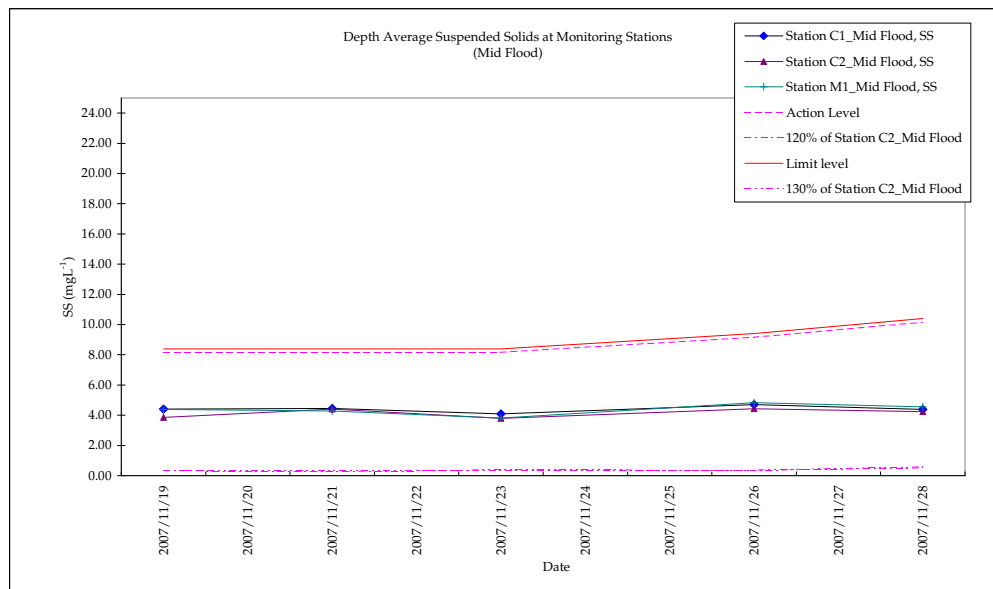
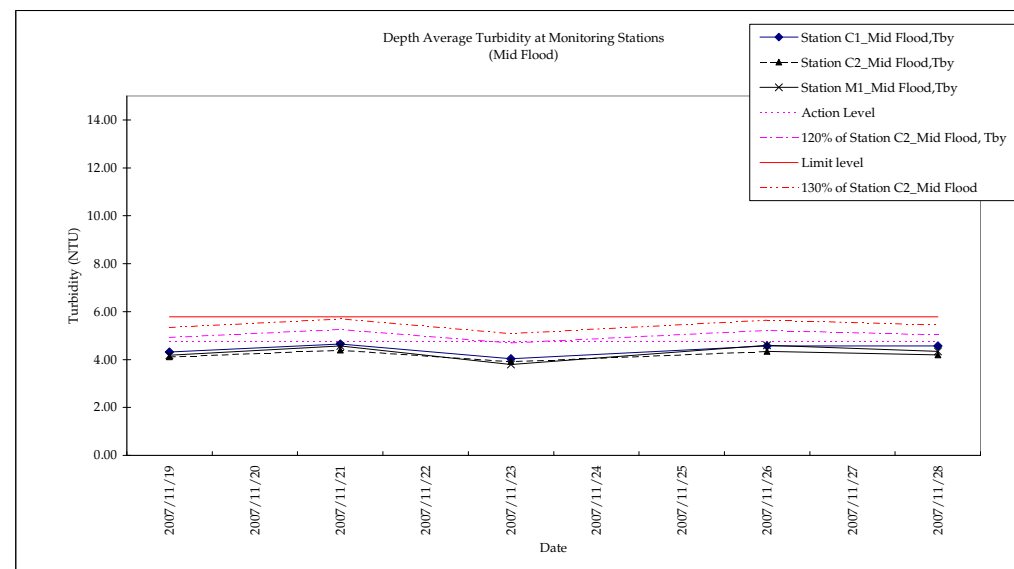
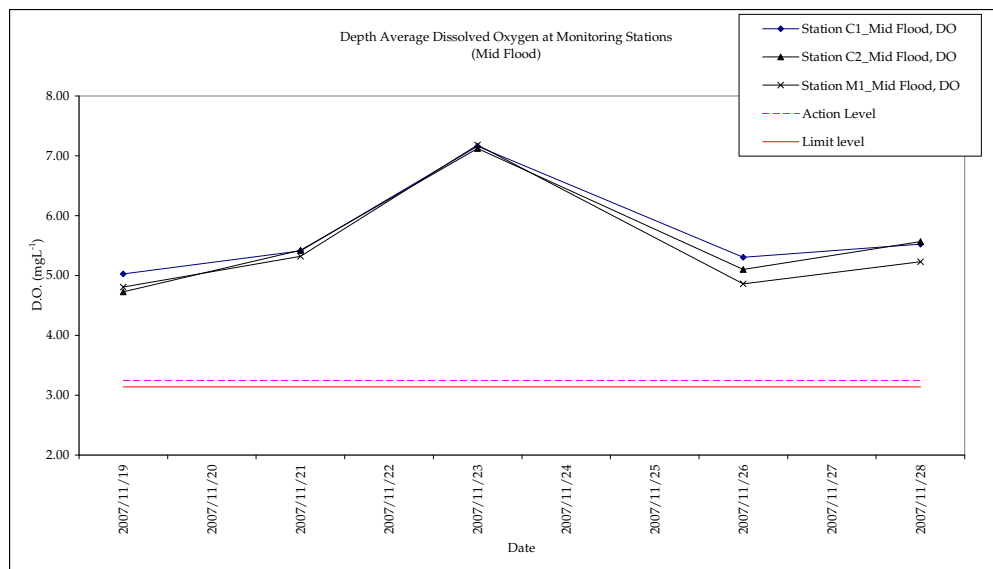


Figure 2 - Additional Water Quality Monitoring Results (Mid Flood)



Water Quality Monitoring Results for Station C1 (Mid-Ebb Tide)

Date	19/11/2007						21/11/2007						23/11/2007						26/11/2007						28/11/2007										
Time (hh:mm)	07:00 - 07:14						08:15 - 08:30						11:15 - 11:28						12:30 - 12:45						14:52 - 15:04										
Ambient Temperature	20						22						22						23						19										
Weather	Fine						Sunny						Fine						Cloudy						Fine										
Water Depth (m)	14.00						13.60						13.60						14.00						9.40										
Monitoring Depth	1.00		7.00		13.00		1.00		6.80		12.60		1.00		6.80		12.60		1.00		7.00		13.00		1.00		4.70		8.40						
Tide	Mid-Ebb						Mid-Ebb						Mid-Ebb						Mid-Ebb						Mid-Ebb										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average
Water Temperature (°C)	21.6	21.6	21.4	21.4	21.0	21.0	21.3	23.2	23.1	22.9	22.8	22.9	22.9	23.0	22.4	22.3	22.2	22.2	21.6	21.8	22.1	23.8	23.7	23.1	23.1	23.0	23.0	23.3	22.3	22.2	21.6	21.6	21.3	21.2	21.7
Salinity (ppt)	30.3	30.4	31.1	31.1	31.6	31.6	31.0	30.1	30.2	30.5	30.6	30.5	30.5	30.4	31.5	31.4	31.6	31.6	31.6	31.7	31.6	30.4	30.3	31.1	31.1	31.4	31.3	30.9	29.2	29.2	30.0	29.9	30.2	30.1	29.8
D.O. (mg/L)	5.62	5.56	5.24	5.20	4.77	4.71	5.2	5.79	5.75	5.56	5.60	5.49	5.52	5.6	7.30	7.33	7.23	7.20	7.09	7.09	7.2	5.63	5.67	5.26	5.23	5.11	5.07	5.3	5.49	5.45	5.23	5.21	4.68	4.64	5.1
D.O. Saturation (%)	80.7	79.8	75.0	74.4	67.6	66.8	74.1	80.4	79.9	77.2	77.8	76.3	76.7	78.1	105.4	105.3	102.0	102.0	99.8	99.8	102.4	78.2	78.8	73.1	72.6	70.5	69.9	73.9	75.0	74.6	71.4	71.2	63.9	63.5	69.9
Turbidity (NTU)	3.96	3.93	4.13	4.19	4.54	4.65	4.2	4.89	4.85	5.17	5.16	5.23	5.23	5.1	4.04	4.02	4.11	4.09	4.16	4.20	4.1	5.09	5.08	4.97	4.96	5.12	5.15	5.1	4.20	4.21	3.67	3.74	3.92	3.99	4.0
SS* (mg/L)	3.8	4.0	4.3	4.3	4.5	4.8	4.3	5.0	4.8	4.7	5.0	5.2	5.3	5.0	4.3	4.5	4.5	4.5	4.8	4.8	4.6	5.5	5.2	4.5	4.8	4.8	4.5	4.9	4.5	4.5	3.5	3.5	3.5	3.5	3.8
NO _x , mg N/L	0.18		0.14		0.15		0.2	0.14		0.14		0.13		0.1	0.13		0.12		0.17		0.1	0.19		0.17		0.14		0.2	0.12		0.14		0.14		0.1
NH ₃ , mg NH ₃ -N/L	0.13		0.04		0.15		0.1	0.01		0.17		0.08		0.1	0.21		0.17		0.24		0.2	<0.13		0.09		0.06		0.1	0.30		0.32		0.35		0.3
Total Inorganic Nitrogen (Ammonia + NO _x), mg/L	0.3		0.2		0.3		0.3	0.1		0.3		0.2		0.2	0.3		0.3		0.4		0.3	0.3		0.2		0.3	0.4		0.5		0.5		0.5		
Remarks																																			

* For the values of suspended solids less than 5mg/L (PQL), the results are for reference only. PQL stands for practical quantitation Limit, or lowest reporting limit, which is estimated from the method detection limit (MDL). Normally PQL is about 5 times the MDL.

Within Action Level ?	
Date	19/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	N

Within Limit Level ?	
Date	19/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	N

Water Quality Monitoring Results for Station C2 (Mid-Ebb Tide)

Date	19/11/2007							21/11/2007							23/11/2007							26/11/2007							28/11/2007						
Time (hh:mm)	07:45 - 07:58							08:55 - 09:10							11:57 - 12:12							12:50 - 13:05							14:25 -14:33						
Ambient Temperature	20							22							22							23							19						
Weather	Fine							Sunny							Fine							Cloudy							Fine						
Water Depth (m)	9.80							9.60							14.40							14.20							10.00						
Monitoring Depth	1.00		4.90		8.80			1.00		4.80		8.60			1.00		7.20		13.40			1.00		7.10		13.20			1.00		5.00		9.00		
Tide	Mid-Ebb							Mid-Ebb							Mid-Ebb							Mid-Ebb							Mid-Ebb						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average
Water Temperature (°C)	21.7	21.8	21.5	21.5	21.2	21.2	21.5	22.9	22.9	22.7	22.6	22.7	22.7	22.8	22.6	22.7	22.5	22.5	22.0	22.1	22.4	23.8	23.9	23.1	23.0	23.0	23.0	23.3	22.4	22.4	21.8	21.8	21.2	21.2	21.8
Salinity (ppt)	30.1	30.1	30.9	31.0	31.4	31.4	30.8	30.2	30.2	30.4	30.4	30.4	30.3	30.3	31.3	31.3	31.5	31.4	31.6	31.6	31.5	30.6	30.5	31.1	31.1	31.4	31.4	31.0	29.7	29.7	30.0	30.0	30.3	30.2	30.0
D.O. (mg/L)	5.08	5.01	4.95	4.90	4.46	4.40	4.8	5.59	5.55	5.47	5.52	5.62	5.65	5.6	7.36	7.37	7.37	7.38	7.02	7.02	7.3	5.28	5.24	4.89	4.84	5.04	5.07	5.1	5.65	5.61	5.32	5.30	4.87	4.83	5.3
D.O. Saturation (%)	72.9	71.9	70.8	70.1	63.2	62.4	68.6	77.7	77.1	76.2	76.9	78.1	78.5	77.4	104.7	104.8	104.1	104.2	100.0	99.8	102.9	73.3	72.8	67.4	66.7	69.5	69.9	69.9	77.2	76.8	72.6	72.4	66.5	66.1	71.9
Turbidity (NTU)	4.27	4.33	5.08	5.18	4.60	4.66	4.7	5.17	5.13	5.09	5.08	5.27	5.23	5.2	3.93	3.94	3.80	3.80	3.97	3.97	3.9	4.94	4.97	4.87	4.95	4.43	4.46	4.8	4.02	4.08	3.88	3.93	4.71	4.66	4.2
SS* (mg/L)	4.3	4.5	4.5	4.8	3.5	3.5	4.2	4.5	4.5	4.8	4.8	5.3	5.5	4.9	4.0	3.8	3.5	3.5	3.2	3.5	3.6	4.3	4.5	4.2	4.0	3.8	3.8	4.1	3.8	4.0	3.5	3.5	4.5	4.8	4.0
NO _x mg N/L	0.18		0.16		0.14		0.2	0.14		0.15		0.14		0.1	0.16		0.16		0.10		0.1	0.12		0.15		0.14		0.1	0.13		0.14		0.11		0.1
NH ₃ , mg NH ₃ -N/L	0.14		0.07		0.11		0.1	0.21		0.04		0.22		0.2	0.21		0.01		0.16		0.1	<0.13		0.02		<0.13		0.0	0.30		0.31		0.24		0.3
Total Inorganic Nitrogen (Ammonia + NO ₃), mg/L	0.3		0.2		0.3		0.3	0.4		0.2		0.4		0.3	0.4		0.2		0.3		0.3	0.3		0.2		0.3		0.2	0.4		0.5		0.4		0.4
Remarks																																			

* For the values of suspended solids less than 5mg/L (PQL), the results are for reference only. PQL stands for practical quantitation Limit, or lowest reporting limit, which is estimated from the method detection limit (MDL). Normally PQL is about 5 tim

Within Action Level ?	
Date	00/01/1900
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	19/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Water Quality Monitoring Results for Station M1 (Mid-Ebb Tide)

Date	19/11/2007						21/11/2007						23/11/2007						26/11/2007						28/11/2007										
Time (hh:mm)	07:23 - 07:35						08:35 - 08:50						11:36 - 11:50						13:10 - 13:25						14:05 - 14:17										
Ambient Temperature	20						22						22						23						19										
Weather	Fine						Sunny						Fine						Cloudy						Fine										
Water Depth (m)	14.60						14.40						9.40						9.60						7.40										
Monitoring Depth	1.00		7.30		13.60		1.00		7.20		13.40		1.00		4.70		8.40		1.00		4.80		8.60		1.00		3.70		6.40						
Tide	Mid-Ebb						Mid-Ebb						Mid-Ebb						Mid-Ebb						Mid-Ebb										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average			
Water Temperature (°C)	21.7	21.7	21.6	21.6	21.3	21.4	21.6	23.4	23.4	3.1	23.1	22.8	22.8	19.8	22.5	22.4	22.4	22.4	22.0	22.0	22.3	23.6	23.7	23.2	23.2	22.9	22.9	23.3	22.4	22.5	21.7	21.7	21.4	21.4	21.9
Salinity (ppt)	30.1	30.1	30.9	30.8	31.2	31.3	30.7	29.9	29.8	30.4	30.3	30.5	30.4	30.2	31.4	31.4	31.5	31.6	31.6	31.6	31.5	30.5	30.4	31.0	31.0	31.3	31.3	30.9	29.4	29.5	29.9	29.9	30.0	30.0	29.8
D.O. (mg/L)	5.43	5.37	5.09	5.03	4.58	4.52	5.0	5.37	5.32	5.62	5.59	5.64	5.60	5.5	7.33	7.31	7.25	7.25	7.01	7.03	7.2	5.39	5.35	0.07	5.02	4.92	4.89	4.3	5.31	5.29	4.98	4.94	4.60	4.58	5.0
D.O. Saturation (%)	78.0	77.1	72.8	72.0	64.9	64.1	71.5	74.8	74.1	78.2	77.7	78.3	77.8	76.8	105.6	105.7	102.0	102.3	100.2	100.2	102.7	74.9	74.3	69.9	69.2	67.8	67.4	70.6	72.5	72.3	68.0	67.6	62.8	62.6	67.6
Turbidity (NTU)	4.11	4.19	4.38	4.30	4.02	4.06	4.2	4.40	4.42	5.09	5.11	5.22	5.19	4.9	3.91	3.94	3.81	3.80	3.61	3.66	3.8	5.15	5.14	5.02	5.05	4.78	4.77	5.0	4.96	4.90	4.54	4.58	4.27	4.33	4.6
SS* (mg/L)	4.5	4.5	5.3	5.5	4.5	4.5	4.8	5.0	5.0	4.5	4.7	5.2	5.5	5.0	4.0	4.3	4.8	4.8	3.8	4.0	4.3	4.5	4.5	5.3	5.5	4.5	4.5	4.8	5.2	5.5	4.3	4.5	4.3	4.5	4.7
NO ₃ -mg N/L	0.14		0.16		0.15		0.2	0.14		0.14		0.15		0.1	0.13		0.13		0.13		0.1	0.14		0.10		0.12		0.1	0.13		0.15		0.13		0.1
NH ₃ -mg NH ₃ -N/L	0.16		0.24		0.13		0.2	0.08		0.15		0.22		0.1	0.23		0.20		0.17		0.2	0.10		0.19		0.04		0.1	0.33		0.33		0.27		0.3
Total Inorganic Nitrogen (Ammonia + NO ₃), mg/L	0.3		0.4		0.3		0.3	0.2		0.3		0.4		0.3	0.4		0.3		0.3		0.3	0.2		0.3		0.2		0.2	0.5		0.5		0.4		0.4
Remarks																																			

* For the values of suspended solids less than 5mg/L (PQL), the results are for reference only. PQL stands for practical quantitation Limit, or lowest reporting limit, which is estimated from the method detection limit (MDL). Normally PQL is about 5 tim

Within Action Level ?	
Date	00/01/1900
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	19/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Water Quality Monitoring Results for Station C1 (Mid-Flood Tide)

Date	19/11/2007						21/11/2007						23/11/2007						26/11/2007						28/11/2007										
Time (hh:mm)	14:05 - 14:17						15:00 - 15:15						16:00 - 16:14						08:30 - 08:45						10:02 - 10:16										
Ambient Temperature	24						22						23						23						17										
Weather	Fine						Sunny						Fine						Cloudy						Fine										
Water Depth (m)	12.80						14.20						13.40						14.40						8.80										
Monitoring Depth	1.00	6.40		11.80		1.00						7.10		13.20		1.00	6.70		12.40		1.00	7.20		13.40		1.00	4.40		7.80						
Tide	Mid-Flood						Mid-Flood						Mid-Flood						Mid-Flood						Mid-Flood										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average
Water Temperature (°C)	24.7	24.6	23.8	23.8	23.7	23.7	24.1	23.6	23.7	23.0	22.9	22.9	22.8	23.2	2.9	24.0	24.0	23.9	23.6	23.5	20.3	23.6	23.7	22.9	23.0	22.8	22.9	23.2	21.2	21.4	21.3	21.3	20.5	20.5	21.0
Salinity (ppt)	30.0	29.9	30.4	30.4	30.6	30.6	30.3	30.3	30.2	30.6	30.7	30.7	30.6	30.5	31.3	31.5	31.6	31.6	31.7	31.7	31.6	30.5	30.4	31.0	30.9	31.4	31.4	30.9	28.7	28.7	30.0	30.0	30.4	30.5	29.7
D.O. (mg/L)	5.34	5.30	4.92	4.88	4.89	4.83	5.0	5.67	5.65	5.32	5.29	5.29	5.25	5.4	7.21	7.20	7.17	7.17	7.11	7.11	7.2	5.50	5.54	5.32	5.37	5.07	5.04	5.3	5.86	5.80	5.62	5.55	5.20	5.13	5.5
D.O. Saturation (%)	75.7	75.5	70.7	70.0	69.5	68.8	71.7	78.8	78.5	73.9	73.5	73.5	72.9	75.2	101.4	101.6	101.1	101.0	100.1	100.8	101.0	76.4	77.0	73.9	74.6	69.9	69.5	73.6	80.2	79.8	76.3	75.4	69.2	68.2	74.9
Turbidity (NTU)	4.04	3.88	4.25	4.31	4.69	4.74	4.3	4.59	4.56	4.67	4.64	4.70	4.72	4.6	3.97	3.98	4.07	4.03	4.07	4.07	4.0	4.57	4.59	4.69	4.70	4.42	4.41	4.6	4.76	4.70	4.64	4.68	4.27	4.35	4.6
SS* (mg/L)	3.8	4.0	4.3	4.5	4.8	5.0	4.4	4.3	4.2	4.5	4.5	4.5	4.7	4.5	4.3	4.2	3.5	3.5	4.5	4.5	4.1	4.8	5.0	5.2	5.2	4.0	4.0	4.7	4.5	4.3	4.5	4.8	4.2	4.0	4.4
NO ₃ , mg N/L	0.16		0.14		0.15		0.2	0.09		0.12		0.12		0.1	0.14		0.16		0.01		0.1	0.09		0.10		0.09		0.1	0.11		0.13		0.12		0.1
NH ₃ , mg NH ₃ -N/L	0.11		0.08		0.08		0.1	0.18		0.00		0.01		0.1	0.04		0.04		0.25		0.1	<0.13		0.17		<0.13		0.2	0.27		0.30		0.29		0.3
Total Inorganic Nitrogen (Ammonia + NO ₃), mg/L	0.3		0.2		0.2		0.2	0.3		0.1		0.1		0.2	0.2		0.2		0.3		0.2	0.2		0.3		0.2		0.2	0.4		0.4		0.4		0.4
Remarks																																			

* For the values of suspended solids less than 5mg/L (PQL), the results are for reference only. PQL stands for practical quantitation Limit, or lowest reporting limit, which is estimated from the method detection limit (MDL). Normally PQL is about 5 tim

Within Action Level ?	
Date	19/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	19/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Water Quality Monitoring Results for Station C2 (Mid-Flood Tide)

Date	19/11/2007							21/11/2007							23/11/2007							26/11/2007							28/11/2007						
Time (hh:mm)	14:25 - 14:38							15:40 - 15:55							16:42 - 16:58							08:50 - 09:05							10:28 - 10:40						
Ambient Temperature	24							22							23							23							17						
Weather	Fine							Sunny							Fine							Cloudy							Fine						
Water Depth (m)	8.80							10.20							14.00							14.80							9.60						
Monitoring Depth	1.00	4.40		7.80				1.00	5.10		9.20				1.00	7.00		13.00				1.00	7.40		13.80				1.00	4.80		8.60			
Tide	Mid-Flood							Mid-Flood							Mid-Flood							Mid-Flood							Mid-Flood						
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average
Water Temperature (°C)	24.4	24.4	23.7	23.7	23.6	23.5	23.9	23.0	23.1	23.0	23.0	22.8	22.8	23.0	24.0	24.0	23.8	23.7	23.4	23.6	23.8	23.7	23.7	23.1	23.0	22.8	22.8	23.2	21.5	21.3	21.0	20.8	21.0	20.9	21.1
Salinity (ppt)	30.1	30.1	30.6	30.5	30.8	30.8	30.5	30.2	30.2	30.7	30.6	30.7	30.7	30.5	31.3	31.4	31.7	31.7	31.7	31.7	31.6	30.6	30.6	31.1	31.1	31.5	31.4	31.1	29.8	30.0	30.1	30.1	30.1	30.2	30.1
D.O. (mg/L)	5.17	5.08	4.83	4.75	4.29	4.23	4.7	5.48	5.52	5.36	5.32	5.41	5.45	5.4	7.27	7.25	7.11	7.07	7.01	7.02	7.1	5.24	5.21	5.12	5.15	4.96	4.94	5.1	5.74	5.69	5.64	5.61	5.39	5.32	5.6
D.O. Saturation (%)	73.3	72.0	68.5	67.3	60.8	60.0	67.0	76.1	76.7	3.9	73.4	74.6	75.2	63.3	103.6	103.0	101.7	101.9	100.1	100.0	101.7	72.8	72.4	71.1	71.5	68.9	68.6	70.9	78.3	77.6	77.3	76.7	74.8	74.0	76.5
Turbidity (NTU)	3.67	3.80	3.99	4.06	4.51	4.64	4.1	4.21	4.22	4.39	4.38	4.57	4.56	4.4	3.97	3.98	3.90	3.90	3.88	3.88	3.9	4.32	4.33	4.21	4.20	4.50	4.52	4.3	4.04	4.13	4.53	4.58	3.97	3.90	4.2
SS* (mg/L)	3.5	3.5	4.0	4.3	3.8	4.0	3.9	4.0	4.3	4.2	4.5	4.8	4.7	4.4	3.5	3.5	4.0	4.2	3.8	3.8	3.8	4.5	4.3	4.5	4.8	4.3	4.2	4.4	3.8	3.8	4.5	4.5	4.3	4.5	4.2
NO _x , mg N/L	0.15		0.15		0.18		0.2	0.18		0.13		0.15		0.2	0.14		0.12		0.13		0.1	0.14		0.14		0.15		0.1	0.15		0.11		0.12		0.1
NH ₃ , mg NH ₃ -N/L	0.16		0.05		0.13		0.1	0.00		0.19		0.12		0.1	0.01		0.19		0.33		0.2	0.01		0.22		0.23		0.2	0.33		0.33		0.31		0.3
Total Inorganic Nitrogen (Ammonia + NO ₃), mg/L	0.3		0.2		0.3		0.3	0.2		0.3		0.3		0.3	0.2		0.3		0.5		0.3	0.2		0.4		0.4		0.3	0.5		0.4		0.4		0.5
Remarks																																			

* For the values of suspended solids less than 5mg/L (PQL), the results are for reference only. PQL stands for practical quantitation Limit, or lowest reporting limit, which is estimated from the method detection limit (MDL). Normally PQL is about 5 tim

Within Action Level ?	
Date	00/01/1900
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	19/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Water Quality Monitoring Results for Station M1 (Mid-Flood Tide)

Date	19/11/2007						21/11/2007						23/11/2007						26/11/2007						28/11/2007										
Time (hh:mm)	14:48 - 15:02						15:20 - 15:35						16:20 - 16:34						09:10 - 09:25						10:48 - 11:00										
Ambient Temperature	24						22						23						23						17										
Weather	Fine						Sunny						Fine						Cloudy						Fine										
Water Depth (m)	13.60						14.80						9.00						10.20						6.80										
Monitoring Depth	1.00		6.80		12.60		1.00		7.40		13.80		1.00		4.50		8.00		1.00		5.10		9.20		1.00		3.40		5.80						
Tide	Mid-Flood						Mid-Flood						Mid-Flood						Mid-Flood						Mid-Flood										
Trial	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average	Trial 1	Trial 2	Trial 1	Trial 2	Depth Average				
Water Temperature (°C)	24.6	24.6	23.5	23.6	23.4	23.4	23.9	23.5	23.6	23.2	23.1	22.8	22.8	23.2	24.0	23.7	23.4	23.3	23.0	23.1	23.4	23.4	23.0	22.9	22.9	22.9	23.1	21.2	21.1	20.9	20.8	20.9	20.9	21.0	
Salinity (ppt)	29.9	29.8	30.4	30.5	30.7	30.7	30.3	30.3	30.2	30.7	30.7	30.7	30.7	30.6	31.4	31.2	31.4	31.4	31.6	31.6	31.4	30.4	30.3	31.1	31.1	31.4	31.3	30.9	29.8	29.9	30.1	30.1	30.1	30.0	
D.O. (mg/L)	5.26	5.19	4.77	4.71	4.50	4.43	4.8	5.52	5.47	5.30	5.26	5.21	5.17	5.3	7.30	7.30	7.22	7.22	7.02	7.03	7.2	5.12	5.15	4.89	4.84	4.57	4.60	4.9	5.49	5.43	5.43	5.38	4.84	4.80	5.2
D.O. Saturation (%)	74.6	73.6	68.5	67.7	64.0	63.0	68.6	76.7	76.0	73.6	73.1	72.4	71.8	73.9	102.1	102.1	102.0	102.0	100.7	100.6	101.6	71.1	71.5	67.9	67.2	63.0	63.4	67.4	74.5	73.8	74.0	73.6	67.2	66.6	71.6
Turbidity (NTU)	3.82	3.88	4.11	4.05	4.61	4.64	4.2	4.43	4.46	4.52	4.55	4.74	4.74	4.6	3.97	3.98	3.71	3.72	3.71	3.70	3.8	4.68	4.67	4.39	4.40	4.70	4.73	4.6	4.36	4.27	4.59	4.53	4.20	4.13	4.3
SS* (mg/L)	3.8	4.0	4.3	4.2	5.0	5.0	4.4	3.8	4.0	4.3	4.3	4.5	4.8	4.3	3.5	3.8	3.8	3.8	4.0	4.0	3.8	5.3	5.5	4.7	4.5	4.5	4.5	4.8	4.5	4.5	4.8	4.7	4.3	4.5	4.6
NO _x mg N/L	0.15		0.16		0.14		0.2	0.13		0.14		0.16		0.1	0.12		0.13		0.12		0.1	0.11		0.14		0.13		0.1	0.13		0.13		0.13		0.1
NH ₃ mg NH ₃ -N/L	0.16		0.05		0.05		0.1	0.10		0.10		0.05		0.1	0.19		0.26		0.10		0.2	0.11		<0.13		0.26		0.2	0.33		0.30		0.34		0.3
Total Inorganic Nitrogen (Ammonia + NO ₃), mg/L	0.3		0.2		0.2		0.2	0.2		0.2		0.2		0.2	0.3		0.4		0.2		0.3	0.2		0.3		0.4		0.3	0.5		0.4		0.5		0.5
Remarks																																			

* For the values of suspended solids less than 5mg/L (PQL), the results are for reference only. PQL stands for practical quantitation Limit, or lowest reporting limit, which is estimated from the method detection limit (MDL). Normally PQL is about 5 tim

Within Action Level ?	
Date	19/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Action Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	19/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	21/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	23/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	26/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Within Limit Level ?	
Date	28/11/2007
D.O. (mg/L)	Y
Turbidity (NTU)	Y
SS (mg/L)	Y
TIN (mg/L)	Y

Annex J

Event / Action Plans for Air and Water Quality Monitoring

Table J1 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 J2 *Event Action Plans for Additional Water Quality Monitoring*

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; <p>(The above actions should be taken within 1 working day after the exceedance is identified)</p> <ol style="list-style-type: none"> 6. 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. <p>(The above actions should be taken within 1 working day after the exceedance is identified)</p>	<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. <p>(The above actions should be taken within 1 working day after the exceedance is identified)</p>	<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. <p>(The above actions should be taken within 1 working day after the exceedance is identified)</p>
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; <p>(The above actions should be taken within 1 working day after the exceedance is identified)</p>	<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. <p>(The above actions should be taken within 1 working day after the exceedance is identified)</p>	<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. <p>(The above actions should be taken within 1 working day after the exceedance is identified)</p>	<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. <p>(The above actions should be taken within 1 working day after the exceedance is identified)</p>

Event	Action			
	ET	IC(E)	ER	Contractor
	7. Repeat measurement on next working day of exceedance.			taken within 1 working day after the exceedance is identified)
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 sampling 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 	<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. <p>(The above actions should be taken within 1 working day after</p>	<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; 	<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 3 working days;

Event	Action			
	ET	IC(E)	ER	Contractor
	frequency to daily until no exceedance of Limit level for two consecutive days. (The above actions should be taken within 1 working day after the exceedance is identified)	the exceedance is identified)	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. (The above actions should be taken within 1 working day after the exceedance is identified)	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. (The above actions should be taken within 1 working day after the exceedance is identified)

Annex K

Summary of Implementation Status

Annex K - Summary of Environmental Protection / Mitigation Activities

Environmental Permit No. EP-239/2006/A

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. Method statement (Revision A) was submitted to the EPD on 29/9/06. Method statement (Revision B) and supplementary information was submitted to the EPD on 23/5/07 and 18/6/07 respectively.
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	Method statement was submitted to the EPD on 15/9/06.
2.8	Design drawings specifying pile dimension and layout	2 weeks before commencement of marine pile installation works	Marine pile layout (final stage) was submitted to the EPD on 15/2/07. Revised marine pile layout (final stage) was submitted to the EPD on 26/3/07.
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	Implementation programme (CM01, CM04 and CM05) was submitted to the EPD on 8/12/06.
2.10	Details of each landscape and visual mitigation measures package (incl plans)	2 weeks before implementation of a particular mitigation package	Proposal on protection and transplantation of existing trees was submitted to the EPD on 8/12/06. Proposal for CM03 was submitted to the EPD on 8/12/06. Proposal for CM01, CM04 and CM05 was submitted to the EPD on 15/12/06. CM01 Rev 1 was submitted to the EPD on 22/1/07. Proposal CM02 was submitted to the EPD on 13/3/07. Proposal for OM01 was submitted to the EPD on 15/11/07.
3.2	Baseline Monitoring Report	One week before the commencement of construction	Report was submitted to the EPD on 24/7/06 and comments from the EPD was received on 3/8/06. Revised report was submitted to EPD on 17/8/06 and no further comments received.

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	Δ

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)	Measures not required until commencement of operational phase
Air Quality	Monitoring of NO ₂ concentration underneath the Atrium Link Extension should be conducted.	Underneath the deckover / The first six months upon completion of the ALE.	Measures not required until commencement of operational phase
<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	√

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	Relevant design and plant procurement procedures to commence at a later stage
<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 3 of the Environmental Permit 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	√
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	The installation of temporary marine piles was completed on 23 April 2007.

Summary of Mitigation Measures Implementation Schedule

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	The installation of temporary marine piles was completed on 23 April 2007. Silt screens were removed as requested by the intake owners. Silt screens will be reinstalled at seawater intakes prior to the removal of marine piles.
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	Δ

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	√

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	√

Summary of Mitigation Measures Implementation Schedule

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	√

Summary of Mitigation Measures Implementation Schedule

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	No acidic wastewater will be generated.
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	√

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	√

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	Δ

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.	√
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	No barge will be required for the project.

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	Relevant works have yet to be commenced / completed
<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	√

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	√

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	Measures not required until commencement of operational phase

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	Mitigation measures to be implemented during operational phase
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	Mitigation measures to be implemented during operational phase
Landscape & Visual	Appearance and view considerations: (a) avoid industrial feel of building service elements;	Entire proposed works and adjacent hotels	Mitigation measures to be implemented during operational phase

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	Mitigation measures to be implemented during operational phase
Landscape & Visual	Reinstatement of existing waterfront public footpaths along Convention Avenue and the existing open spaces near Fenwick Street.	Convention Avenue and Fenwick Street	Mitigation measures to be implemented during operational phase

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

Annex L

Waste Flow Table

HKCEC – Expansion Project

Name of Project Proponent: HKTDC

Project Commencement Date: 1 Aug 2006

Construction Completion Date: March 2009

Monthly Summary Waste Flow Table for Year 2007

Year	Actual Quantities of inert C&D Materials (in 10 ³ Kg) ^{(1) (2)}					Actual Quantities of C&D Wastes (in 10 ³ Kg) ⁽⁴⁾									
	Total Quantity Generated	Broken Concrete ⁽³⁾	Reused in the Contract	Reused in other Projects ⁽³⁾	Disposed as Public Fill	Steel Materials				Paper/cardboard packaging		Chemical Waste (L)		General refuse	Other waste ⁽⁶⁾
						Demolition of existing Atrium Link		Demolition of existing working platform							
						(a)	(b)	(c)	(d)	(a)-(b)-(c)-(d)	Recycle	Disposal	Recycle	Disposal	Recycle
January	924	462	0.5	0	462	90 ⁽⁵⁾	0	0	0	0.2	0.05	0	0	60	80
February	814	110	0.5	0	704	5 ⁽⁵⁾	0	0	0	0.2	0.07	0	288	66	55
March	583	66	0.5	0	517	0	0	0	0	0	0.05	0	0	77	33
April	1034	165	0.5	0	867	0	0	0	0	0.4	0.05	0	0	55	44
May	275.5	33	0.5	0	242	10 ⁽⁵⁾	0	0	0	0.4	0.04	0	0	55	154
June	1654	0	0	0	1654	50	0	0	0	0.5	0.03	0	0	80	150
July	614	0	0.5	0	613.5	60	0	0	0	0.5	0.04	0	0	85	298
August	944	0	0.5	0	943.5	1400	0	0	0	0.6	0.01	0	0	70	380
Sep	310	0	0.5	0	309.5	514	0	0	0	0.5	0.02	0	0	50	245
October	406.5	0	0.5	0	406	100	0	0	0	0.5	0.01	0	0	40	38
November	1016.5	0	0.5	0	1016	20	0	0	0	0.5	0.02	0	0	45	150
December	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	8575.5	836	5.0	0	7734.5	2149	0	0	0	4.3	0.40	0	288	683	1627

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

⁽²⁾ Inert C&D material mainly generated from demolition of atrium link.

⁽³⁾ Broken concrete fro recycling into aggregates.

⁽⁴⁾ C&D wastes include steel materials generated from demolition, paper / cardboard packaging waste, chemical waste and other wastes such as general refuse. Wastes other than general refuse will be disposed of at Tsueng Kwan O Area 137 temporary construction waste sorting facility.

⁽⁵⁾ Waste from demolition of steel structure at existing Atrium Link of HKCEC (Phase 2).

⁽⁶⁾ Wastes include materials associated with additional and alternation (A&A) works of HKCEC (e.g. demolition of E&M equipment and finishing materials, bamboo scaffolding) and piling works.

Annex M

Construction Programme for Next Three Months

Hong Kong Convention and Exhibition Centre
Expansion Project
3 Month Rolling Programme based on revised Master Programme Rev. 2 updating on 20 Nov 07

ID	Task Name	% Compl	Actual Start	Actual Finish	Baseline Start 1	Baseline Finish 1	2007					
							Sep	Oct	Nov	Dec	Jan	Feb
1	PROJECT WIDE	42%	Fri 26/5/06	NA	Fri 26/5/06	Fri 12/6/09						
2	Critical Dates	42%	Fri 26/5/06	NA	Fri 26/5/06	Fri 12/6/09						
3	Project Milestones	0%	Fri 26/5/06	NA	Fri 26/5/06	Fri 12/6/09						
155	Design Submission & Approval (Permanent Works)	91%	Thu 25/5/06	NA	Thu 25/5/06	Mon 24/12/07						
172	OTTV Calculations	100%	Thu 12/10/06	Wed 10/10/07	Thu 12/10/06	Mon 17/9/07						
176	RIP/DDR for OTTV	100%	Wed 10/10/07	Wed 10/10/07	Mon 17/9/07	Mon 17/9/07						
234	Architectural Design	87%	Sat 26/8/06	NA	Thu 17/8/06	Mon 24/12/07						
240	Fire curtain / Shutter and Smoke curtain schedule	95%	Mon 28/8/06	NA	Mon 28/8/06	Sat 21/7/07						
248	DDR Resubmit & Review by PM	35%	Fri 2/11/07	NA	NA	NA						
276	External façade Design	99%	Fri 15/9/06	NA	Fri 15/9/06	Fri 10/8/07						
285	DDR for DD Submission by PM	100%	Tue 11/9/07	Wed 10/10/07	Fri 27/7/07	Fri 10/8/07						
286	DDR for External façade Design	0%	NA	NA	Fri 10/8/07	Fri 10/8/07						
302	Foyer Floor and Walls at Level 3 and 6, Interior of	79%	Fri 27/7/07	NA	Fri 27/7/07	Fri 28/9/07						
303	Detailed Design Preparation	100%	Fri 27/7/07	Sat 8/9/07	Fri 27/7/07	Fri 31/8/07						
304	Design Check by Design Checker	90%	Mon 10/9/07	NA	Fri 31/8/07	Thu 13/9/07						
312	Foyer reflected ceiling plan	99%	Thu 31/5/07	NA	Thu 31/5/07	Thu 13/9/07						
314	Design Check by Design Checker	100%	Sat 7/7/07	Wed 10/10/07	Sat 7/7/07	Thu 30/8/07						
315	RIP by PM	100%	Thu 11/10/07	Fri 9/11/07	Fri 31/8/07	Thu 13/9/07						
317	Two Male, Two Female and Baby Room	94%	Wed 30/5/07	NA	Wed 30/5/07	Mon 17/9/07						
319	Design Check by Design Checker	100%	Fri 6/7/07	Mon 27/8/07	Fri 6/7/07	Sat 1/9/07						
320	RIP/DDR by PM	100%	Tue 28/8/07	Wed 10/10/07	Mon 3/9/07	Mon 17/9/07						
321	Resubmit & DDR by PM	50%	Sat 27/10/07	NA	NA	NA						
323	Remaining Washrooms	82%	Fri 27/7/07	NA	Fri 27/7/07	Fri 28/9/07						
324	Detailed Design Preparation	100%	Fri 27/7/07	Wed 12/9/07	Fri 27/7/07	Fri 31/8/07						
325	Design Check by Design Checker	87%	Thu 13/9/07	NA	Fri 31/8/07	Fri 14/9/07						
328	Exhibition Halls / Service Counters and Organiser	79%	Fri 29/9/06	NA	Fri 29/9/06	Sat 15/9/07						
339	Exhibition Halls	92%	Wed 30/5/07	NA	Wed 30/5/07	Wed 15/8/07						
341	Design Check by Design Checker	100%	Sat 14/7/07	Fri 9/11/07	Sat 14/7/07	Mon 30/7/07						

Project: 3 Month Rolling Programme based on revised
Date: 20/11/2007

Task		Summary		Group By Summary	
Critical Task		Split		Baseline 1	
Progress		External Tasks			
Milestone		Project Summary			

Hong Kong Convention and Exhibition Centre
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ID	Task Name	% Compl	Actual Start	Actual Finish	Baseline Start 1	Baseline Finish 1	2007					
							Sep	Oct	Nov	Dec	Jan	Feb
342	DDR by PM	10%	Sat 10/11/07	NA	Tue 31/7/07	Wed 15/8/07			20/11/07			
358	Door schedule (incl. sliding and acoustic doors)	99%	Sat 30/9/06	NA	Sat 30/9/06	Thu 13/9/07						
364	Design Check by Design Checker	100%	Wed 20/6/07	Mon 27/8/07	Wed 20/6/07	Thu 30/8/07						
365	DDR by PM	100%	Tue 28/8/07	Tue 16/10/07	Fri 31/8/07	Thu 13/9/07						
366	DDR for Door schedule	0%	NA	NA	Thu 13/9/07	Thu 13/9/07						
376	Maintenance access system - Gondola + BMU	94%	Wed 4/10/06	NA	Wed 4/10/06	Wed 15/8/07						
380	RIP for Maintenance access system / Gondola	100%	Wed 31/1/07	Wed 31/1/07	Wed 31/1/07	Wed 31/1/07						
381	Detailed Design Preparation	100%	Thu 1/2/07	Wed 11/7/07	Thu 1/2/07	Wed 11/7/07						
382	Design Check by Design Checker	80%	Thu 12/7/07	NA	Thu 12/7/07	Wed 1/8/07						
385	Maintenance access system - Catwalks	94%	Wed 16/5/07	NA	Wed 16/5/07	Thu 9/8/07						
387	Design Check by Design Checker	100%	Thu 21/6/07	Mon 22/10/07	Thu 21/6/07	Wed 25/7/07						
388	RIP/DDR by PM	50%	Tue 23/10/07	NA	Thu 26/7/07	Thu 9/8/07						
438	Landscape Works	53%	Mon 16/10/06	NA	Mon 16/10/06	Mon 24/12/07						
448	Planting schedule/Material Plans RIP Design Pre	100%	Sat 8/9/07	Mon 24/9/07	Fri 7/9/07	Fri 21/9/07						
449	Design Check by Design Checker	90%	Tue 25/9/07	NA	Sat 22/9/07	Sat 6/10/07						
481	Expansion Joint and wall expansion details fi	81%	Fri 6/4/07	NA	Fri 6/4/07	Fri 14/9/07						
485	RIP for Expansion Joint	100%	Thu 9/8/07	Thu 9/8/07	Thu 9/8/07	Thu 9/8/07						
486	Detailed Design Preparation	75%	Thu 9/8/07	NA	Thu 9/8/07	Mon 20/8/07						
514	Structural Design	89%	Fri 26/5/06	NA	Fri 26/5/06	Thu 27/9/07						
600	Stage 3 A&A Works Modification of Existing /	88%	Fri 17/11/06	NA	Fri 17/11/06	Sat 22/9/07						
603	Resubmission to IDC for Review	60%	Wed 24/10/07	NA	NA	NA						
651	BS Design	93%	Thu 1/6/06	NA	Thu 1/6/06	Wed 19/12/07						
652	BS - HVAC	97%	Fri 14/7/06	NA	Fri 14/7/06	Wed 19/9/07						
664	Details Design Review	95%	Tue 5/9/06	NA	Tue 5/9/06	Wed 19/9/07						
665	Relocation of Chiller Plant	98%	Tue 5/9/06	NA	Tue 5/9/06	Fri 10/8/07						
666	Detailed Design Preparation	100%	Tue 5/9/06	Mon 17/9/07	Tue 5/9/06	Sat 25/11/06						
667	Design Check by Design Checker	100%	Tue 18/9/07	Sat 6/10/07	Wed 9/5/07	Fri 20/7/07						
668	DDR for HVAC Submission by PM	70%	Mon 8/10/07	NA	Sat 21/7/07	Fri 10/8/07						

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Task



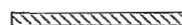
Summary



Group By Summary



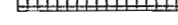
Critical Task



Split



Baseline 1



Progress



External Tasks



Milestone



Project Summary



Hong Kong Convention and Exhibition Centre
Expansion Project
3 Month Rolling Programme based on revised Master Programme Rev. 2 updating on 20 Nov 07

ID	Task Name	% Compl	Actual Start	Actual Finish	Baseline Start 1	Baseline Finish 1	2007					
							Sep	Oct	Nov	Dec	Jan	Feb
669	DDR for HVAC	0%	NA	NA	Fri 10/8/07	Fri 10/8/07						
670	HVAC Layout	89%	Wed 30/5/07	NA	Wed 30/5/07	Wed 19/9/07			20/11/07			
671	Detailed Design Preparation	100%	Wed 30/5/07	Thu 5/7/07	Wed 30/5/07	Thu 5/7/07						
672	Design Check by Design Checker	100%	Fri 6/7/07	Sat 17/11/07	Fri 6/7/07	Tue 28/8/07						
675	BS - Electrical	96%	Fri 21/7/06	NA	Fri 21/7/06	Wed 26/9/07						
676	Electrical loading calculation & Generator Siz	98%	Fri 21/7/06	NA	Fri 21/7/06	Wed 26/9/07						
682	Design Check by Design Checker	100%	Tue 8/5/07	Sat 22/9/07	Tue 8/5/07	Tue 4/9/07						
683	DDR by PM	80%	Mon 24/9/07	NA	Wed 5/9/07	Wed 26/9/07						
722	BS - Fire Services	99%	Wed 14/6/06	NA	Wed 14/6/06	Thu 27/9/07						
734	Details Design Review	97%	Fri 3/11/06	NA	Fri 3/11/06	Thu 27/9/07						
740	Stage 2	95%	Thu 14/6/07	NA	Thu 14/6/07	Thu 27/9/07						
742	Design Check by Design Checker	100%	Thu 19/7/07	Fri 7/9/07	Thu 19/7/07	Wed 5/9/07						
743	DDR for Fire Services Submission by F	75%	Mon 10/9/07	NA	Thu 6/9/07	Thu 27/9/07						
745	BS - Plumbing and Drainage	97%	Fri 2/6/06	NA	Fri 2/6/06	Tue 28/8/07						
746	Reiew In Principle	100%	Fri 2/6/06	Mon 27/11/06	Fri 2/6/06	Mon 27/11/06						
767	Modification of Grease Trap Room at Phase II	83%	Thu 21/6/07	NA	Thu 21/6/07	Tue 28/8/07						
769	Design Check by Design Checker	100%	Fri 17/8/07	Mon 8/10/07	Fri 27/7/07	Sat 11/8/07						
820	BS - Diversion	78%	Thu 1/6/06	NA	Thu 1/6/06	Wed 19/12/07						
846	BS Diversion Plan for Pedestrain Tunnel (Pha	30%	Fri 5/10/07	NA	Sat 25/8/07	Sat 3/11/07						
847	Design Preparation	50%	Fri 5/10/07	NA	Sat 25/8/07	Tue 2/10/07						
871	BS Diversion Plan for A&A works at Phase II	47%	Mon 24/9/07	NA	Mon 24/9/07	Wed 19/12/07						
872	Design Preparation	90%	Mon 24/9/07	NA	Mon 24/9/07	Wed 31/10/07						
881	BS Design for Additional Slab at Level 5 & 7 s	90%	Fri 15/6/07	NA	Fri 15/6/07	Mon 10/9/07						
883	Design Check by Design Checker	100%	Wed 12/9/07	Wed 7/11/07	Sat 21/7/07	Sat 18/8/07						
884	RIP/DDR for Submission by PM	25%	Thu 8/11/07	NA	Mon 20/8/07	Mon 10/9/07						
934	Curtain Wall / Cladding	24%	Fri 20/4/07	NA	Fri 20/4/07	Fri 21/3/08						
935	Subletting preparation (based on DDR submission)	100%	Fri 20/4/07	Fri 3/8/07	Fri 20/4/07	Fri 3/8/07						

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Baseline 1

Hong Kong Convention and Exhibition Centre
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ID	Task Name	% Compl	Actual Start	Actual Finish	Baseline Start 1	Baseline Finish 1	2007					
							Sep	Oct	Nov	Dec	Jan	Feb
942	M & E Long - Lead Items	6%	Sat 16/6/07	NA	Sat 16/6/07	Mon 15/9/08						
943	HVAC Equipment Procurement	25%	Wed 15/8/07	NA	Fri 21/9/07	Sat 14/6/08						
944	Electrical Equipment	15%	Thu 1/11/07	NA	Thu 27/9/07	Sat 31/5/08						
950	Bearing for Steel Truss	82%	Thu 12/10/06	NA	Thu 12/10/06	Wed 5/9/07						
952	Bearing Procurement and Delivery	70%	Fri 20/10/06	NA	Fri 20/10/06	Wed 5/9/07						
984	CSWD / CBWD	8%	Fri 14/9/07	NA	Wed 15/8/07	Sat 27/9/08						
985	CSW/CBW Submission/Comment/Re-submit/Approval	22%	Fri 14/9/07	NA	Wed 15/8/07	Mon 18/8/08						
988	Site Works	24%	Mon 19/6/06	NA	Mon 19/6/06	Fri 12/6/09						
1014	A & A Works to Existing HKCEC Phase 1 and 2	44%	Wed 26/7/06	NA	Wed 26/7/06	Fri 10/10/08						
1018	HK CEC Phase 1 - New Atrium Link Connection	14%	Mon 30/4/07	NA	Mon 30/4/07	Fri 10/10/08						
1019	Erect Internal Hoarding (G.L. 25/A1-A)	100%	Mon 30/4/07	Mon 18/6/07	Mon 30/4/07	Mon 18/6/07						
1020	Remove Existing Internal Finishes & Feature	70%	Fri 22/6/07	NA	Fri 22/6/07	Tue 14/8/07						
1070	Demolition of Existing Atrium Link	92%	Wed 14/3/07	NA	Wed 14/3/07	Wed 28/5/08						
1076	Demolition of Existing Atrium Link	90%	Wed 14/3/07	NA	Wed 14/3/07	Wed 28/5/08						
1088	Remove Top Portion of Existing Eastern Façade Truss	100%	Fri 7/9/07	Sat 29/9/07	Tue 4/9/07	Wed 19/9/07						
1090	New Atrium Link Extension	18%	Tue 27/6/06	NA	Tue 27/6/06	Fri 12/6/09						
1152	Mini-piles near Grid 16/A1-A, 16/D-E and	99%	Fri 22/6/07	NA	Fri 22/6/07	Fri 5/10/07						
1153	Mini-pile construction (102 nos)	100%	Fri 22/6/07	Sat 6/10/07	Fri 22/6/07	Sat 15/9/07						
1154	Completion Report to IDC	100%	Sat 6/10/07	Sat 6/10/07	Mon 17/9/07	Mon 17/9/07						
1155	Load Test for the Selected Piles (2 nos)	100%	Mon 8/10/07	Thu 18/10/07	Tue 18/9/07	Fri 5/10/07						
1168	Substructure Construction - Grids 16 & 17 (Minipi	3%	Fri 19/10/07	NA	Sat 6/10/07	Wed 31/10/07						
1172	Pile Cap Construction /Tie Beams / Ground	5%	Mon 5/11/07	NA	Sat 6/10/07	Wed 31/10/07						
1173	Superstructure	36%	Thu 30/11/06	NA	Thu 30/11/06	Thu 25/9/08						
1174	Columns to Steel Truss - Grid 17	98%	Mon 4/12/06	NA	Mon 4/12/06	Tue 4/12/07						
1175	Column A1/16	100%	Mon 4/12/06	Wed 27/12/06	Mon 4/12/06	Wed 27/12/06						
1176	R.C Mega Columns for A1/16(46m3)	100%	Mon 4/12/06	Wed 20/12/06	Mon 4/12/06	Wed 20/12/06						
1177	Bearing Installation at Column A1/16	100%	Fri 22/12/06	Wed 27/12/06	Fri 22/12/06	Wed 27/12/06						
1178	Column E/17	88%	Fri 5/10/07	NA	Thu 8/11/07	Tue 4/12/07						

Project: 3 Month Rolling Programme based on revised
Date: 20/11/2007

Task		Summary		Group By Summary	
Critical Task		Split		Baseline 1	
Progress		External Tasks			
Milestone		Project Summary			

Hong Kong Convention and Exhibition Centre
Expansion Project
3 Month Rolling Programme based on revised Master Programme Rev. 2 updating on 20 Nov 07

ID	Task Name	% Compl	Actual Start	Actual Finish	Baseline Start 1	Baseline Finish 1	2007					
							Sep	Oct	Nov	Dec	Jan	Feb
1179	R.C Mega Columns for E/17(91m3)	100%	Fri 5/10/07	Wed 31/10/07	Thu 8/11/07	Fri 30/11/07						
1180	Bearing Installation at Column E/17	0%	NA	NA	Sat 1/12/07	Tue 4/12/07					20/11/07	
1181	Column A/17	97%	Mon 21/5/07	NA	Mon 21/5/07	Sat 8/9/07						
1182	R.C Mega Columns for A/17(310m3)	100%	Mon 21/5/07	Tue 18/9/07	Mon 21/5/07	Fri 31/8/07						
1183	Bearing Installation at Column A/17	0%	NA	NA	Wed 5/9/07	Sat 8/9/07						
1184	Column B/17	100%	Tue 29/5/07	Tue 23/10/07	Tue 29/5/07	Wed 19/9/07						
1185	R.C Mega Columns for B/17(420m3)	100%	Tue 29/5/07	Thu 11/10/07	Tue 29/5/07	Sat 15/9/07						
1186	Bearing Installation at Column B/17	100%	Tue 23/10/07	Tue 23/10/07	Mon 17/9/07	Wed 19/9/07						
1187	Column C/17	100%	Sat 5/5/07	Tue 18/9/07	Sat 5/5/07	Sat 8/9/07						
1188	R.C Mega Columns for C/17(467m3)	100%	Sat 5/5/07	Wed 11/7/07	Sat 5/5/07	Wed 11/7/07						
1189	Bearing Installation at Column C/17	100%	Tue 18/9/07	Tue 18/9/07	Wed 5/9/07	Sat 8/9/07						
1190	Column D/17	94%	Fri 18/5/07	NA	Fri 18/5/07	Sat 8/9/07						
1191	R.C Mega Columns for D/17(314m3)	100%	Fri 18/5/07	Wed 18/7/07	Fri 18/5/07	Wed 18/7/07						
1192	Bearing Installation at Column D/17	0%	NA	NA	Wed 5/9/07	Sat 8/9/07						
1193	Columns to Steel Truss - Grid 24	99%	Thu 14/12/06	NA	Thu 14/12/06	Sat 8/9/07						
1194	Column A1/24	100%	Thu 14/12/06	Tue 9/1/07	Thu 14/12/06	Tue 9/1/07						
1195	R.C. Mega Columns for A1/24(52m3)	100%	Thu 14/12/06	Sat 6/1/07	Thu 14/12/06	Sat 6/1/07						
1196	Bearing Installation at Column A1/24	100%	Fri 5/1/07	Tue 9/1/07	Fri 5/1/07	Tue 9/1/07						
1197	Column A1a/24	100%	Fri 2/2/07	Thu 6/9/07	Fri 2/2/07	Sat 8/9/07						
1198	R.C. Mega Columns for A1a/24 (+3.8 to +1.	100%	Fri 2/2/07	Fri 9/2/07	Fri 2/2/07	Fri 9/2/07						
1199	R.C. Mega Columns for A1a/24 (+14.4 to +	100%	Fri 2/2/07	Wed 4/4/07	Fri 2/2/07	Wed 4/4/07						
1200	Bearing Installation at Column A1a/24	100%	Thu 6/9/07	Thu 6/9/07	Wed 5/9/07	Sat 8/9/07						
1201	Column Ba/24	100%	Mon 12/3/07	Fri 21/9/07	Mon 12/3/07	Sat 8/9/07						
1202	R.C. Mega Columns for Ba/24 (316m3)	100%	Mon 12/3/07	Sat 26/5/07	Mon 12/3/07	Sat 26/5/07						
1203	Bearing Installation at Column Ba/24	100%	Fri 21/9/07	Fri 21/9/07	Wed 5/9/07	Sat 8/9/07						
1204	Columns C/24	100%	Tue 8/5/07	Sat 6/10/07	Tue 8/5/07	Sat 8/9/07						
1205	R.C. Mega Columns for C/24(438m3)	100%	Tue 8/5/07	Mon 16/7/07	Tue 8/5/07	Mon 16/7/07						
1206	Bearing Installation at Column C/24	100%	Sat 6/10/07	Sat 6/10/07	Wed 5/9/07	Sat 8/9/07						

Project: 3 Month Rolling Programme based on revised
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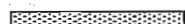
Task		Summary		Group By Summary	
Critical Task		Split		Baseline 1	
Progress		External Tasks			
Milestone		Project Summary			

Hong Kong Convention and Exhibition Centre
Expansion Project
3 Month Rolling Programme based on revised Master Programme Rev. 2 updating on 20 Nov 07

ID	Task Name	% Compl	Actual Start	Actual Finish	Baseline Start 1	Baseline Finish 1	2007					
							Sep	Oct	Nov	Dec	Jan	Feb
1207	Columns D/24	94%	Wed 16/5/07	NA	Wed 16/5/07	Sat 8/9/07						
1208	R.C. Mega Columns for D/24(331m3)	100%	Wed 16/5/07	Fri 13/7/07	Wed 16/5/07	Fri 13/7/07						
1209	Bearing Installation at Column D/24	0%	NA	NA	Wed 5/9/07	Sat 8/9/07						
1215	Steel Roof Trusses and Superstructure	22%	Thu 30/11/06	NA	Thu 30/11/06	Thu 25/9/08						
1278	Temporary Works for Sliding & Heavy Lifting	31%	Sat 8/9/07	NA	Sat 8/9/07	Wed 19/12/07						
1279	Heavy Lifting & Sliding System Installation	35%	Sat 8/9/07	NA	Sat 8/9/07	Mon 22/10/07						
1281	Transfer Truss for Grid 24/A-B	71%	Fri 14/9/07	NA	Fri 14/9/07	Mon 17/12/07						
1282	Delivery of Materials	100%	Fri 14/9/07	Tue 18/9/07	Fri 14/9/07	Wed 26/9/07						
1283	Assembly Steel Transfer Truss on Column	100%	Mon 17/9/07	Wed 31/10/07	Mon 17/9/07	Mon 5/11/07						
1284	Connection of Roof Truss A	0%	NA	NA	Tue 11/12/07	Mon 17/12/07						
1285	Connection to Roof Truss B	0%	NA	NA	Tue 11/12/07	Mon 17/12/07						
1286	Roof Truss A	24%	Sun 14/10/07	NA	Wed 10/10/07	Wed 20/2/08						
1287	Delivery of Materials	100%	Sun 14/10/07	Sat 3/11/07	Wed 10/10/07	Sat 20/10/07						
1288	Assembly of Steel Roof Truss A on Site	80%	Mon 15/10/07	NA	Mon 15/10/07	Thu 8/11/07						
1289	Erect Temp Bracing between Roof Truss A	0%	NA	NA	Fri 9/11/07	Wed 14/11/07						
1295	Roof Truss B	4%	Wed 14/11/07	NA	Wed 10/10/07	Wed 20/2/08						
1296	Delivery of Materials	30%	Wed 14/11/07	NA	Wed 10/10/07	Sat 20/10/07						
1297	Assembly of Steel Roof Truss B on Site	5%	Mon 19/11/07	NA	Mon 15/10/07	Thu 8/11/07						
1624	Transformer Installation at Level 1 Phase 2	39%	Fri 1/6/07	NA	Fri 1/6/07	Mon 14/7/08						
1629	Consent to A & A Works	100%	Fri 12/10/07	Fri 12/10/07	NA	NA						
1630	A&A Works for Transformer room	55%	Mon 15/10/07	NA	Wed 1/8/07	Fri 30/11/07						

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Task



Summary



Group By Summary



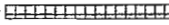
Critical Task



Split



Baseline 1



Progress



External Tasks



Milestone



Project Summary



PILE CAP AND COLUMN CONSTRUCTION FOR GRID 17 & 24 / A - E

ID	Task Name	Duration	Start	Finish	January 2007		February 2007	March 2007		April 2007		May 2007		June 2007		July 2007	August 2007		September 2007	October 2007		November 2007	
					31/12	21/1	11/2	4/3	25/3	15/4	6/5	27/5	17/6	8/7	29/7	19/8	9/9	30/9	21/10	11/11			
1	Pile Cap & Column Construction	212 days	Wed 21/2/07	Wed 31/10/07																			
2	For Grid Ba/24	80 days	Wed 21/2/07	Sat 26/5/07																			
3	Pile Cap Ba/24	16 days	Wed 21/2/07	Sat 10/3/07																			
9	Column Ba/24	64 days	Mon 12/3/07	Sat 26/5/07																			
50	For Grid C/24	98 days	Tue 20/3/07	Mon 16/7/07																			
51	Underground Transfer Section C/24	41 days	Tue 20/3/07	Mon 7/5/07																			
53	Column C/24	57 days	Tue 8/5/07	Mon 16/7/07																			
104	For Grid D/24	96 days	Tue 20/3/07	Fri 13/7/07																			
105	Underground Transfer Section D/24	48 days	Tue 20/3/07	Tue 15/5/07																			
107	Column D/24	48 days	Wed 16/5/07	Fri 13/7/07																			
148	For Grid A/17	135 days	Tue 10/4/07	Tue 18/9/07																			
149	Pile Cap A/17	10 days	Tue 10/4/07	Fri 20/4/07																			
156	A/17 A&A Works at Atrium Link	24 days	Sat 21/4/07	Sat 19/5/07																			
158	Column A/17	101 days	Mon 21/5/07	Tue 18/9/07																			
206	For Grid B/17	161 days	Mon 2/4/07	Thu 11/10/07																			
207	Pile Cap B/17	23 days	Mon 2/4/07	Fri 27/4/07																			
220	B/17 A&A Works at Atrium Link	24 days	Sat 28/4/07	Mon 28/5/07																			
222	Column B/17	114 days	Tue 29/5/07	Thu 11/10/07																			
289	For Grid C/17	71 days	Mon 16/4/07	Wed 11/7/07																			
290	Pile Cap C/17	16 days	Mon 16/4/07	Fri 4/5/07																			
300	Column C/17	55 days	Sat 5/5/07	Wed 11/7/07																			
353	For Grid D/17	67 days	Fri 27/4/07	Wed 18/7/07																			
354	Pile Cap D/17	17 days	Fri 27/4/07	Thu 17/5/07																			
364	Column D/17	50 days	Fri 18/5/07	Wed 18/7/07																			
400	For Grid E/17	142 days	Tue 15/5/07	Wed 31/10/07																			
401	Pile Cap E/17	1 day	Tue 15/5/07	Tue 15/5/07																			
403	Column E/17	15 days	Mon 15/10/07	Wed 31/10/07																			