ENVIRONMENTAL MONITORING &
AUDIT REPORT

Hip Hing Joint Venture

Hong Kong Convention and Exhibition Centre Expansion Project:
Monthly Environmental Monitoring and Audit Report for January 2009

February 2009

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12 February 2009

Reference 0050690

For and on behalf of
Environmental Resources Management

Approved by: Frank Wan

Signed:

Position: Partner

Certified by:
(Environmental Team Leader – Marcus Ip)

Date: 12 February 2009

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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 thirtieth monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A work carried out during the period from 1 to 31 January 2009 in accordance with the EM&A Manual.

Summary of Construction Works undertaken during the Reporting month

The major construction works undertaken during this reporting month included the installation of building structure, the erection of steel posts for the west and east façades, the application of waterproofing on internal structures, the installation of façade panel/louvers, fire shutter, smoke curtain, doors, wall granite, false ceiling, HVAC, partition walls, plumbing and town gas systems, escalators, electrical and fire services system and the erection of staircases.

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

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

Water Quality

Water quality monitoring at the designated monitoring stations (W3, W4 and W5) was not conducted during this reporting month subsequent to the completion of installation of marine piles on 23 April 2007. Additional water quality monitoring for the dry season was also completed on 14 December 2007.

Construction Waste Management

A total of 485.8 tonnes of inert C&D materials and 1,185.85 tonnes of C&D wastes were generated during this 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. Six tonnes of steel materials were sent to recyclers within this reporting month.

Environmental Site Auditing

Five 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 this reporting month.

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

Future Key Issues

Major works to be undertaken in the coming month will be the construction of miscellaneous builders' work and installation of building services.

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

1 INTRODUCTION

ERM-Hong Kong, Limited (ERM) was appointed by Hip Hing 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 thirtieth EM&A report which summarises the impact monitoring results and audit findings of the EM&A programme during the reporting month from **1** to **31 January 2009**.

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 PROJECT INFORMATION

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. An application for further variation of the Environmental Permit was made on 18 April 2008, and an amended Environmental Permit (EP-239/2006/B) was granted on 12 May 2008. Under the requirements of Condition 3.1 of Environmental Permit EP-239/2006/B, 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
• Building Structure
• Steel Post Erection for Façade (West)
• Steel Post Erection for Façade (East)
• Installation of Façade Panel/Louvre
• Installation of Partition Wall
• Erection of Staircase
• Installation of Fire Shutter
• Installation of Smoke Curtain
• Door Installation
• Application of Waterproofing for Internal Structures
• Installation of Wall Granite
• Installation of False Ceiling
• Installation of HVAC
• Installation of Electrical Facilities
• Installation of Fire Services
• Installation of Plumbing and Town Gas
• Installation of Escalators

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/B	Throughout the Contract	Environmental Permit (EP) EP-239/2006 granted originally on 12 May 2006. Since then the EP have been varied twice. The latest revised EP was issued on 12 May 2008
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	-
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-RS0713-08 GW-RS0755-08 GW-RS0756-08 GW-RS10345-08	Valid from 15 Oct 2008 to 15 Mar 2009 Valid from 31 Oct 2008 to 31 Mar 2009. Valid from 30 Oct 2008 to 31 Jan 2009 Valid from 31 Dec 2008 to 31 May 2009	

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, μgm^{-3}	Limit Level, μgm^{-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-5025A
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-5025A

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-Testconsult 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-Testconsult 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 m^3/min. The range specified in the EM&A Manual was between 0.6 – 1.7 m^3/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-Testconsult 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 was calibrated using an orifice calibrator. Initial calibration of the dust monitoring equipments was conducted upon installation and prior to commissioning. Five-point calibration was carried out for HVS's using Tisch TE-5025A 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 Marine Water Quality Monitoring during Installation and Removal of Marine Piles

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 this reporting month.

3.2.2 Additional Water Quality Monitoring in Marine Channel during Installation and Removal of Marine Piles

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 submitted to the EPD on 4 April 2007, four weeks of additional water quality monitoring during the dry season was undertaken and was completed on 14 December 2007.

3.2.3 Event / Action Plan

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

4 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 December 2008 was submitted to the EPD on 22 January 2009.

5 MONITORING RESULTS

5.1 AIR QUALITY

The monitoring data at AM1 and AM2 were provided by ETS-Testconsult Ltd. Five sets of 24-hour and fifteen sets of 1-hour TSP monitoring were carried out at the designated monitoring stations (AM1 & AM2) during this reporting month. The monitoring results from both 24-hour and 1-hour TSP monitoring were below the respective Action and Limit Levels. 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).

Monitoring of air samples were carried out under both sunny and rainy conditions. 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 for marine pile installation works was not conducted during this reporting month at the designated monitoring stations (W3, W4 and W5) subsequent to the completion of installation of marine piles on 23 April 2007.

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 Joint Venture (*Annex J*). 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

	Quantity		
Month / Year	**C&D Materials (inert) [a]**	**C&D Materials (non-inert) [b]**	**Chemical Waste**
January 2009	485.8 tonnes	1,185.85 tonnes (6 tonnes of steel materials were sent to recyclers this month)	0

	Quantity

Notes:

(a) Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil. No inert C&D material was reused in this Project during the reporting period. 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.

5.4 *QUARTERLY EFFLUENT DISCHARGE SAMPLING*

In accordance with the discharge licence issued under WPCO, water sampling should be conducted quarterly to ensure that the quality of treated effluent at three designated discharge points complies with the requirements of discharge licence. Two water samples [(1)] at Discharge Point 2 and Discharge Point 3 were taken on 11 December 2008. *Table 5.2* shows that the quality of the effluents discharged from the Project were in compliance with the discharge limits stipulated in the WPCO Discharge Licence. The laboratory testing reports for the water samples and the map showing the locations of discharge points are presented in *Annex L*.

Table 5.2 Results of Effluent Discharge Sampling

Sampling Location	Parameter	Test Result	Discharge Limit
Discharge Point 2 (H200605 WT-25)	pH	7.4	6-9
	Total Suspended Solids (TSS) Dried at 103-105°C (mg/L)	<2.5	≤30
	Chemical Oxygen Demand (COD) (mgO_2/L)	<50	≤80
Discharge Point 3 (H200605 WT-21)	pH	7.7	6-9
	Total Suspended Solids (TSS) Dried at 103-105°C (mg/L)	<2.5	≤30
	Chemical Oxygen Demand (COD) (mgO_2/L)	<50	≤80

(1) Discharge point 1 is designated for discharge of treated effluents from plant room construction works near gate no.4 on Expo Drive Central. Effluents are no longer discharged upon completion of respective works, and therefore further effluent sampling and testing at Discharge point 1 are no longer conducted.

Weekly site inspections were carried out by the ET. Five site inspections were conducted on 2, 8, 15 and 22 and 29 January 2009 respectively. There was no non-compliance event recorded in this reporting month.

The following reminders were given to the Contractor during this reporting month:

(i) On 2 January 2009, construction wastes were observed in the marine channel on the eastern end of the work site. The Contractor was reminded to handle wastes properly to prevent water pollution in the marine channel and arrange ad hoc collection of waste from the channel as required.

(ii) On 2 January 2009, construction wastes were placed in a haphazard manner on Level 2 as temporary storage before sorting. The Contractor was reminded to provide appropriate containers and arrange ad hoc clearance as necessary.

(iii) On 8 January 2009, oil stains were observed under a breaker near a pile of excavated soil near gate no.1. The Contractor was reminded to clear the oil stains as soon as possible to avoid contamination of the adjacent soil pile

(iv) On 8 January 2009, general wastes and scaffolding were mixed in a pile under the façade of the atrium extension link on the western marine platform. The Contractor was reminded to provide waste skips for the temporary storage of general wastes. The Contractor was also reminded to segregate construction wastes from general wastes properly prior to disposal off-site.

(v) On 8 January 2009, an oil drum was placed on the concrete floor next to a drip tray under the atrium extension link near gate no.1. The Contractor was reminded to store waste oil drums in drip trays to ensure that potential spillage could be contained.

(vi) On 8 January 2009, a pile of sand on the eastern marine platform near gate no.4 was only partially covered. The Contractor was reminded that dusty materials should be completely covered by impervious sheets to avoid dust impacts from wind erosion.

(vii) On 8 January 2009, the waste skip near gate no.4 on the eastern marine platform was observed to be full. The Contractor was reminded to arrange ad-hoc waste collections when waste quantity was higher than normal.

(viii) On 15 January 2009, the waste skips near gate no.4 on the eastern marine platform and the atrium extension link on the western marine platform respectively were observed to be full. Non-inert and inert wastes were also observed to be mixed. The Contractor was reminded to arrange ad-hoc waste collections when waste quantity was higher than normal and properly segregate inert and non-inert wastes.

(ix) On 22 January 2009, the waste skips near gate no.1 and no.4 on the western and eastern marine platforms respectively were observed to be

full. Mixed non-inert and inert wastes were also piled up on the platforms without waste skips. The Contractor was reminded to arrange ad-hoc waste collections when waste quantity was higher than normal and properly segregate inert and non-inert wastes.

(x) On 29 January 2009, general wastes were observed in the marine channel on the eastern end of the work site. The Contractor was reminded to handle wastes properly to prevent water pollution in the marine channel and arrange ad hoc collection of waste from the channel as required..

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 and the implementation status is given in *Annex I*.

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 was recorded at monitoring stations during this reporting period.

7.2 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE

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

7.3 SUMMARY OF ENVIRONMENTAL COMPLAINT

No complaint was received during this reporting month.

7.4 SUMMARY OF ENVIRONMENTAL SUMMONS AND PROSECUTION

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

8 FUTURE KEY ISSUES

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
• Miscellaneous Builder's Work
• Installation of Building Services

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 was completed on 14 December 2007.

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

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, ugm^{-3}	Measured 24-hour TSP Monitoring Results, ugm^{-3} (a) (b)	
		24 hour (1)	Average	Range
AM1	AM8	260	82	23 – 160
AM2	AM6	260	73	14 - 161

Notes:
(a) Only 24-hour TSP monitoring results were compared as there is no 1 hour TSP criterion in HKAQO.
(b) Average and range of data were calculated between the commencement of construction works and this reporting month.

The monitoring results show that the average and range of 24-hour TSP levels recorded since the commencement of the construction works were well below the 24-hour TSP criterion in the HKAQO. Recommended mitigation measures in *Section 4.24* of EIA were implemented throughout the construction period and were considered effective.

9.2 WASTE MANAGEMENT

The estimated amount of waste generated in this Project and the accumulated quantities of waste generated up to this 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 construction stage and regarded as effective.

Table 9.2 Comparison of Estimated and Actual Amounts of Waste Generated

Type of Material	Estimated Amount of C&D Materials in EIA (inert & non-inert)	Accumulated Actual Amount of C&D Materials Recorded [(a)] (inert & non-inert)
Demolition of temporary footbridge	585 tonnes	0
Demolition of existing Atrium Link	4,680 tonnes	2,681.5 tonnes
Demolition of temporary working platform	390 tonnes	0
Construction of foundations and pile caps	20,000 tonnes	24,247.6 tonnes
General Refuse	Insignificant	2,840.9 tonnes
Chemical Waste	Small	288 Litres

Note:

(a) 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 since the commencement of construction works 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.

10 CONCLUSIONS

The Environmental Monitoring and Audit (EM&A) Report presents the EM&A work undertaken during the period from 1 to 31 January 2009 in accordance with EM&A Manual and the requirements under EP-239/2006/B.

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

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

No complaint and summons/prosecution was received during this 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

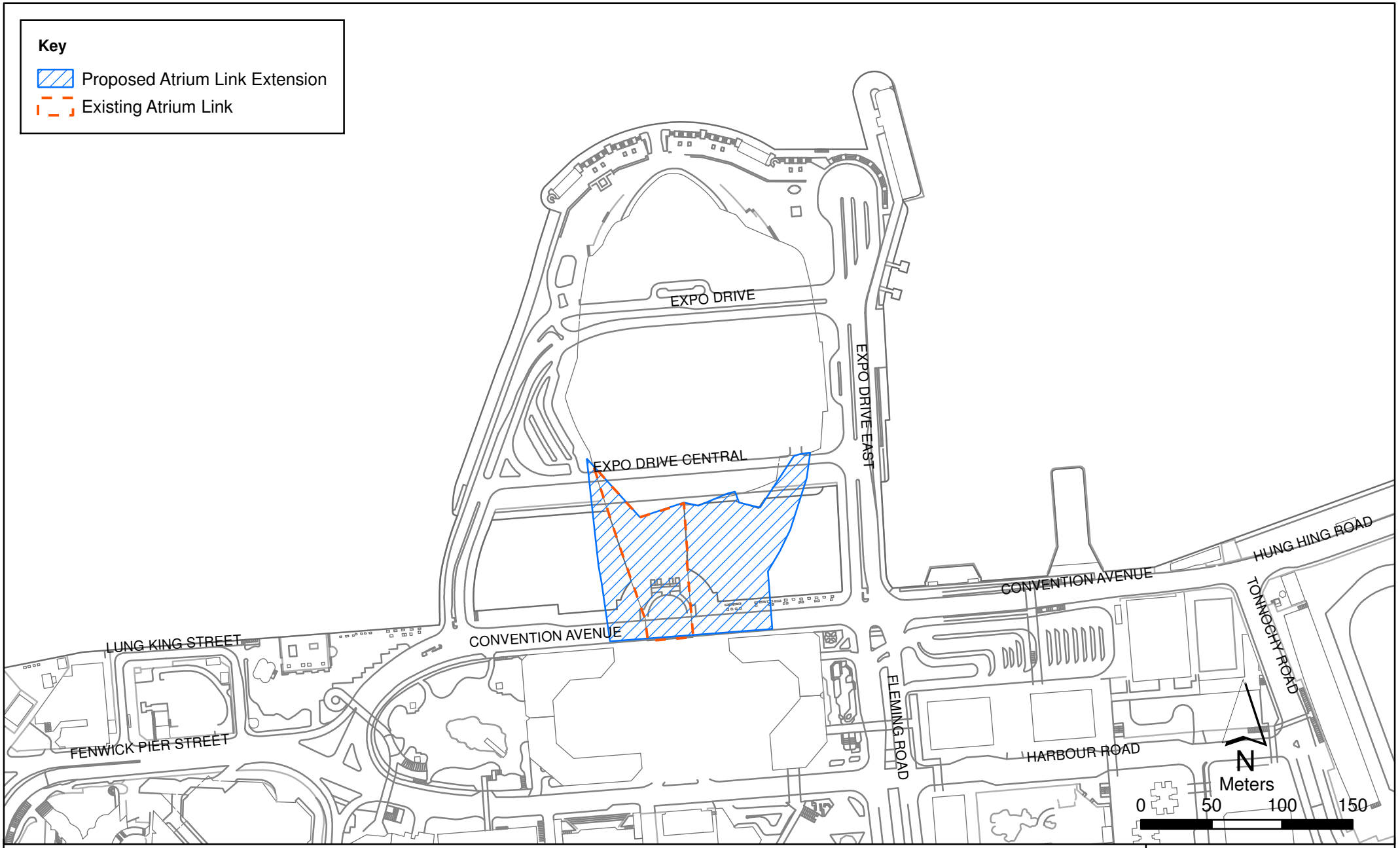

Figure A1

Location of Atrium Link Extension

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Date: 11/09/2006

Environmental Resources Management

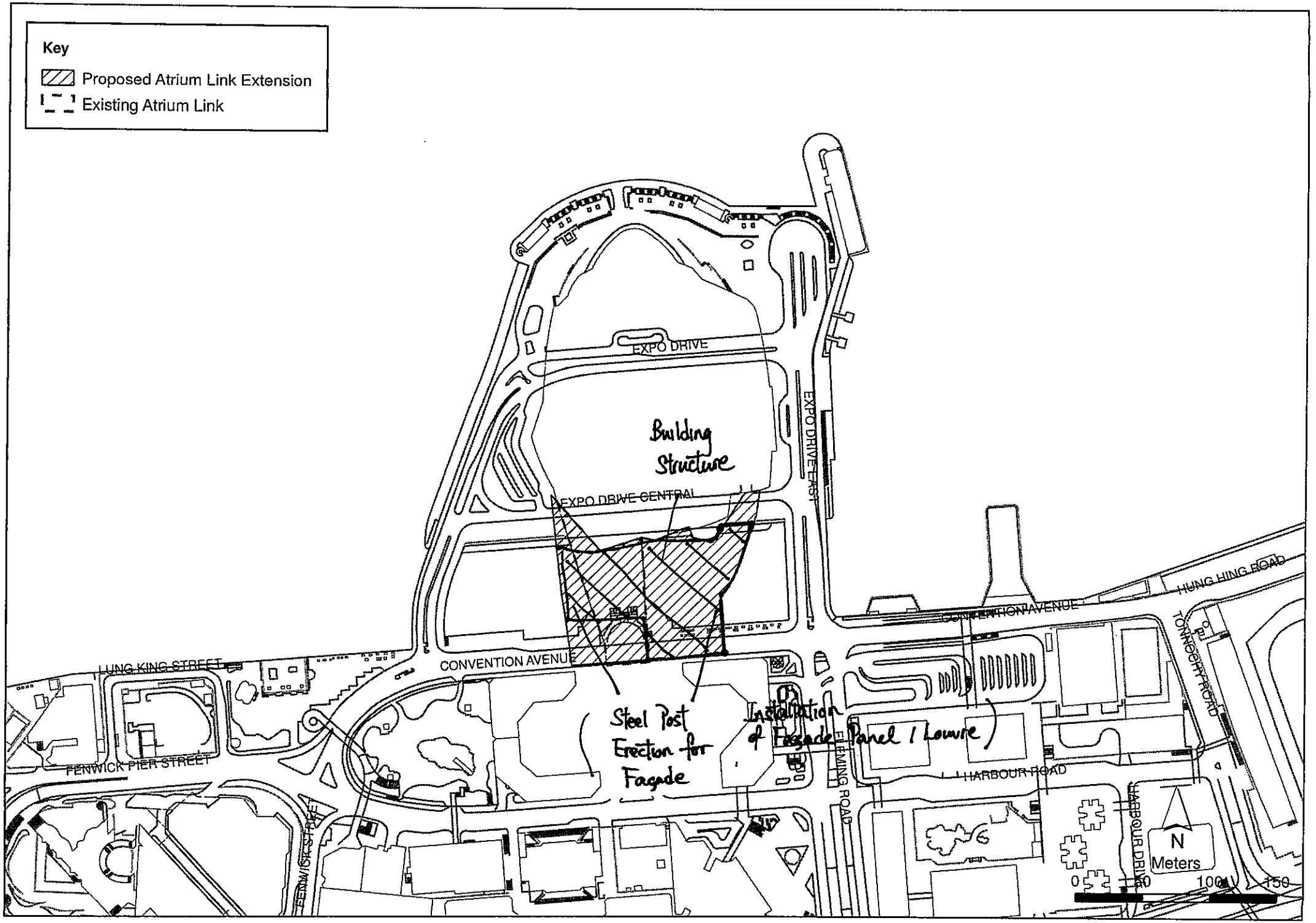
ERM

Annex B

Location of Construction Activities during the Reporting Month

Summary of Works for January 2009

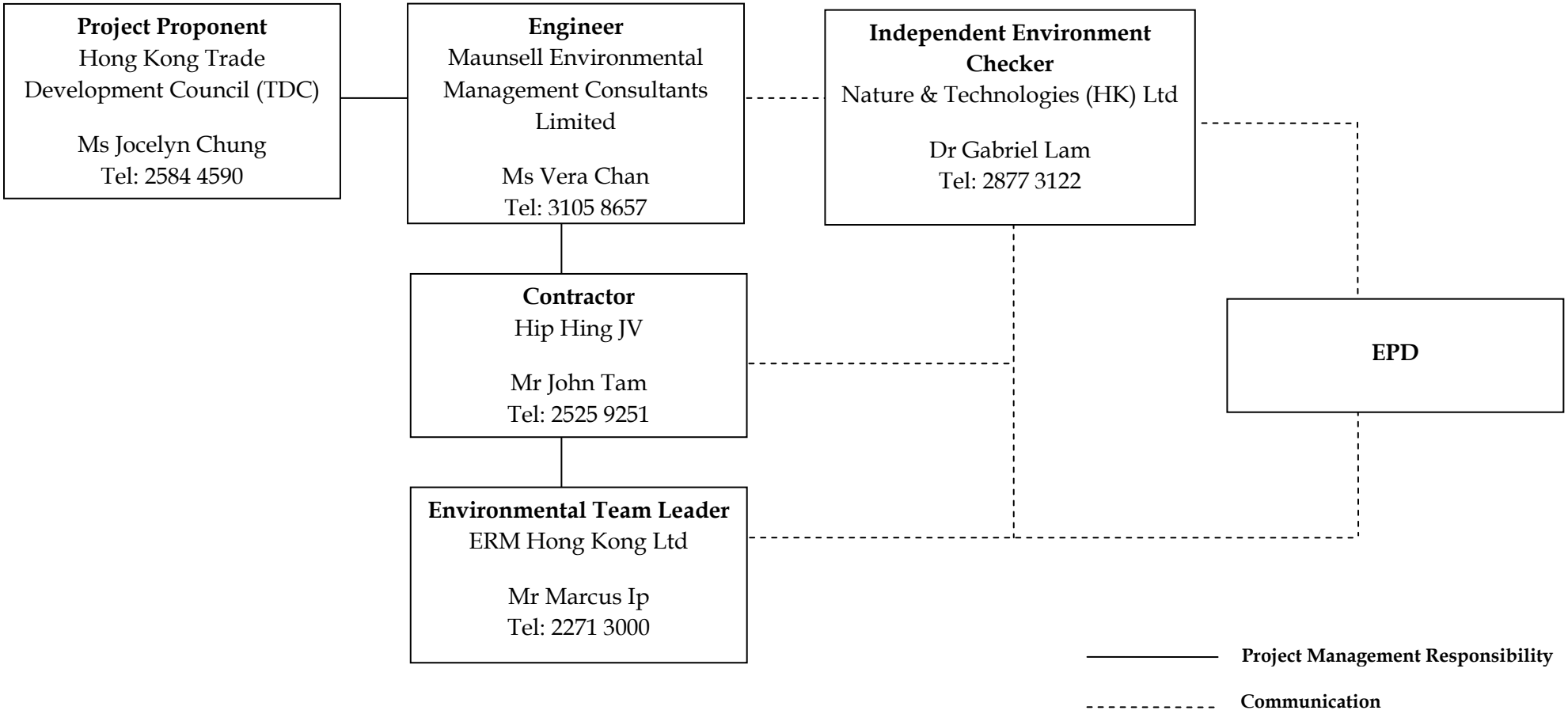
Description	Location
Building Structure	Grid A1-E
Installation of Façade Panel/Louvre	West and East Façade
Steel CHS Post Erection for Façade	West Façade
Steel Post RHS Erection for Façade	East Façade
Partition Wall	
Staircase Erection	
Fire Shutter Installation	
Smoke Curtain Installation	
Door Installation	
Waterproofing (Internal)	
Wall Granite	
False Ceiling	
HVAC Installation	
Electrical Installation	
F.S. Installation	
Plumbing and Town Gas Installation	
Escalator Installation	


Key
Proposed Atrium Link Extension
Existing Atrium Link
EXPO DRIVE
EXPO DRIVE EAST
EXPO DRIVE CENTRAL
Building Structure
CONVENTION AVENUE
LUNG KING STREET
PENWICK PIER STREET
FENWICK STREET
FLEMING ROAD
HARBOUR ROAD
HARBOUR DRIVE
HUNG HING ROAD
TONNOCHY ROAD
Steel Post Erection for Façade
Installation of Façade Panel (Louvre)
N
Meters
0
50
100
150

Annex C

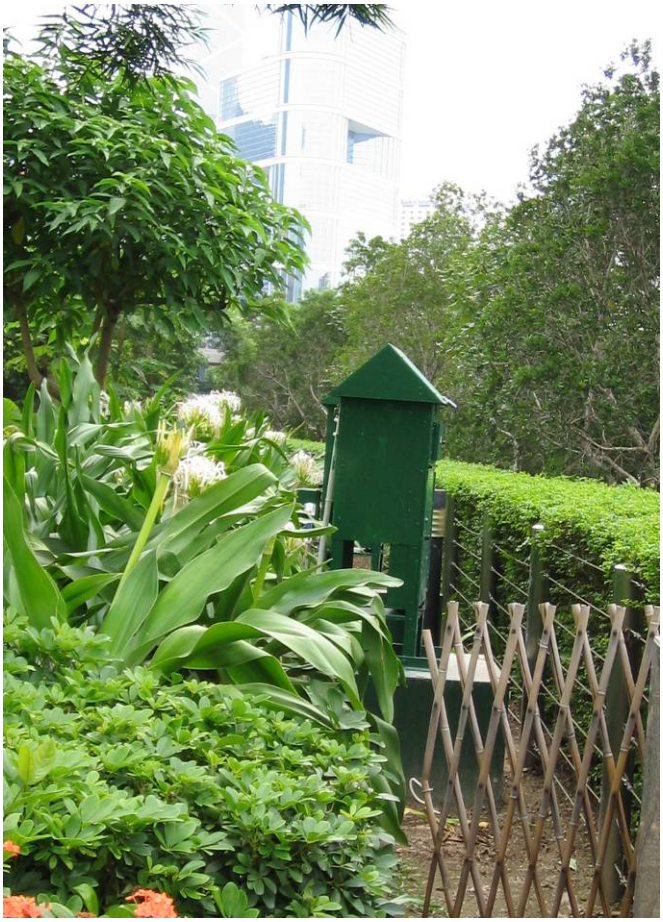
Project Organization Chart and Contact Detail

Project Organization (with contact details)



Annex D

Locations of Air Quality Monitoring Stations



Air Quality Monitoring Station (AM1)

Air Quality Monitoring Station (AM2)

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 2008

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

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Air Quality Monitoring Schedule - December 2008

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

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Air Quality Monitoring Schedule - January 2009

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

Hong Kong Convention and Exhibition Centre, Atrium Link Extension
Air Quality Monitoring Schedule - February 2009

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

Annex F

Calibration Reports for HVSs

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 : 29 December 2008

Serial No. : 9864 (ET / EA / 003 / 19)

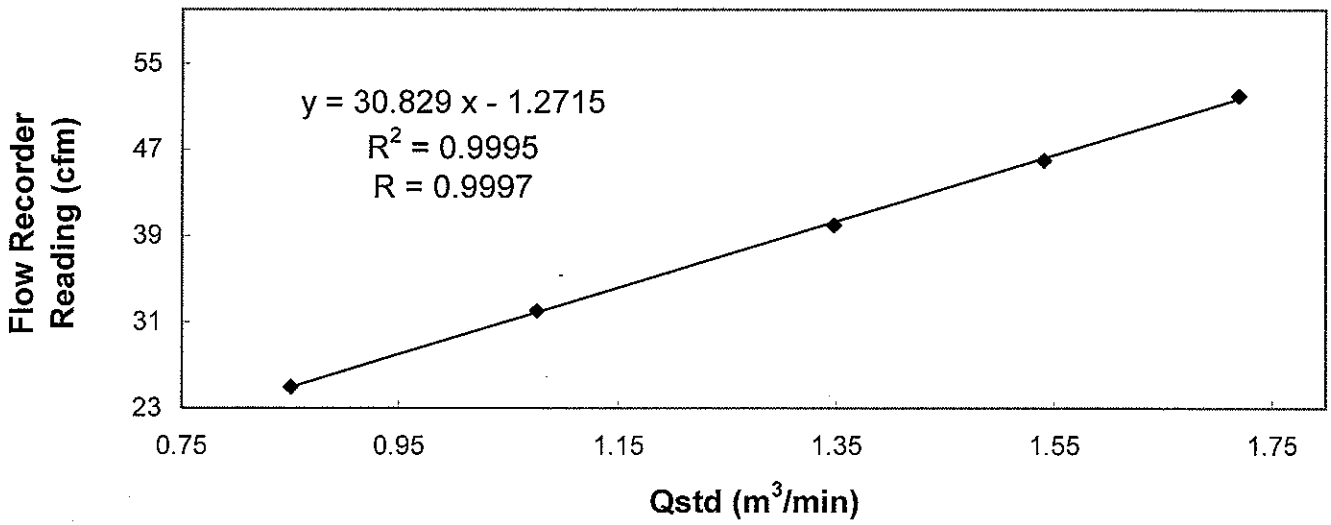
Calibration Due Date : 28 February 2009

Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)	52	46	40	32	25
Qstd (Actual flow rate, m^3/min)	1.72	1.54	1.35	1.07	0.85
Pressure : 765.81 mm Hg		Temp. : 296 K			

Sampler 9864 Calibration Curve
Site: Wan Chai (AM-1)



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 :
CHOW, Hoi Tat
(Assistant 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 : 29 December 2008

Serial No. : 9795 (ET / EA / 003 / 18)

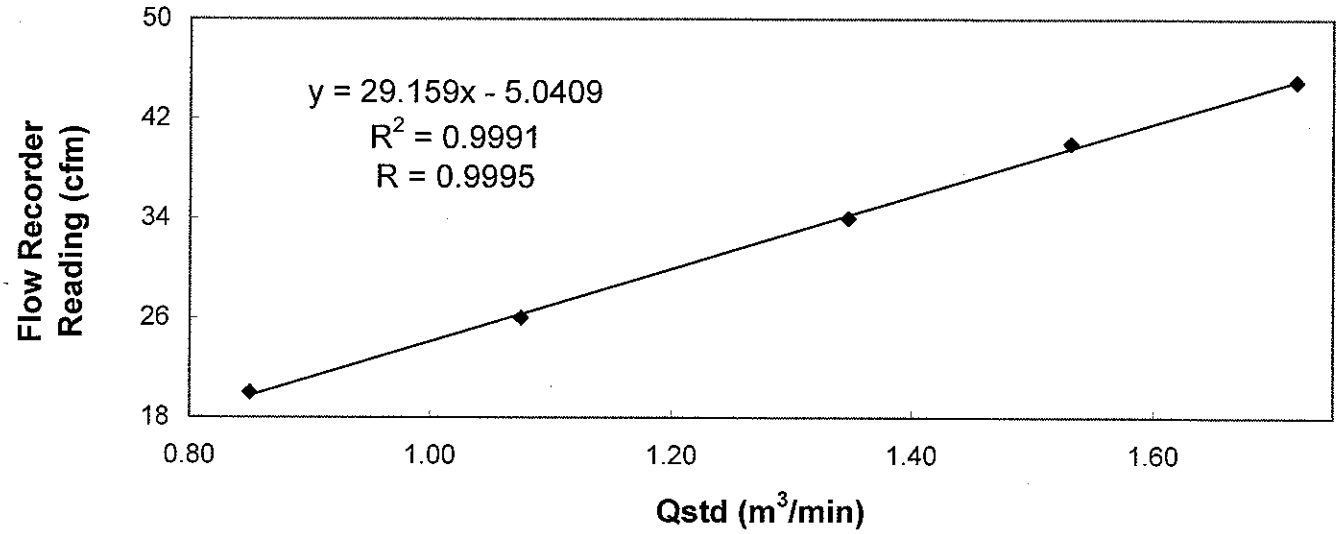
Calibration Due Date : 28 February 2009

Method : Five-point calibration by using standard calibration kit Tisch TE-5025A refer to the Operations Manual

Results :

Flow recorder reading (cfm)	45	40	34	26	20
Qstd (Actual flow rate, m^3/min)	1.72	1.53	1.35	1.07	0.85
Pressure : 765.81 mm Hg		Temp. : 296 K			

Sampler 9795 Calibration Curve
Site: Wan Chai (AM-2)



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 :
CHOW, Hoi Tat
(Assistant 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 Jan 09 to 06 Jan 09	2.8507	3.0156	1.1765	1.1765	14571.37	14595.37	24.0	97	Sunny	17	0.1649	1.1765	1694.16
10 Jan 09 to 11 Jan 09	2.8014	3.0017	1.1765	1.1765	14598.37	14622.37	24.0	118	Sunny	12	0.2003	1.1765	1694.16
16 Jan 09 to 17 Jan 09	2.8169	3.0017	1.1765	1.1765	14625.37	14649.37	24.0	109	Sunny	14	0.1848	1.1765	1694.16
22 Jan 09 to 23 Jan 09	2.8049	3.0079	1.1117	1.1117	14652.37	14676.37	24.0	127	Sunny	19	0.2030	1.1117	1600.85
29 Jan 09 to 30 Jan 09	2.8208	2.9722	1.1765	1.1765	14679.37	14703.37	24.0	89	Sunny	16	0.1514	1.1765	1694.16

Min	89
Max	127
Average	108

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 Jan 09 to 06 Jan 09	2.8425	3.0322	1.3389	1.3389	12899.13	12923.13	24.0	98	Sunny	17	0.1897	1.3389	1928.02
10 Jan 09 to 11 Jan 09	2.8276	3.0041	1.3732	1.3732	12926.13	12950.13	24.0	89	Sunny	12	0.1765	1.3732	1977.41
16 Jan 09 to 17 Jan 09	2.8006	2.9784	1.4075	1.4075	12953.13	12977.13	24.0	88	Sunny	14	0.1778	1.4075	2026.80
22 Jan 09 to 23 Jan 09	2.8249	3.0918	1.2703	1.2703	12980.13	13004.13	24.0	146	Sunny	19	0.2669	1.2703	1829.23
29 Jan 09 to 30 Jan 09	2.8073	3.0107	1.3389	1.3389	13007.13	13031.13	24.0	105	Sunny	16	0.2034	1.3389	1928.02

Min	88
Max	146
Average	105

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. ($\mu g/m^3$)	Weather Condition	Ave. Air Temp. (^oC)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)
	Initial	Final	Initial	Final	Initial	Final							
02 Jan 09	2.8144	2.8276	1.2414	1.2414	14569.37	14570.37	1.00	177	Sunny	14	0.0132	1.2414	74.48
05 Jan 09	2.8202	2.8330	1.1765	1.1765	14570.37	14571.37	1.00	181	Sunny	17	0.0128	1.1765	70.59
07 Jan 09	2.8623	2.8740	1.1441	1.1441	14595.37	14596.37	1.00	170	Sunny	17	0.0117	1.1441	68.65
09 Jan 09	2.8405	2.8545	1.1765	1.1765	14596.37	14597.37	1.00	198	Sunny	12	0.0140	1.1765	70.59
10 Jan 09	2.8278	2.8390	1.1441	1.1441	14597.37	14598.37	1.00	163	Sunny	12	0.0112	1.1441	68.65
12 Jan 09	2.8355	2.8460	1.2090	1.2090	14622.37	14623.37	1.00	145	Sunny	14	0.0105	1.2090	72.54
14 Jan 09	2.8230	2.8396	1.1765	1.1765	14623.37	14624.37	1.00	235	Sunny	12	0.0166	1.1765	70.59
16 Jan 09	2.7836	2.7994	1.1765	1.1765	14624.37	14625.37	1.00	224	Sunny	14	0.0158	1.1765	70.59
19 Jan 09	2.8101	2.8241	1.1765	1.1765	14649.37	14650.37	1.00	198	Sunny	19	0.0140	1.1765	70.59
21 Jan 09	2.7817	2.7960	1.1441	1.1441	14650.37	14651.37	1.00	208	Sunny	20	0.0143	1.1441	68.65
22 Jan 09	2.7905	2.8075	1.1441	1.1441	14651.37	14652.37	1.00	248	Sunny	19	0.0170	1.1441	68.65
23 Jan 09	2.8615	2.8816	1.1765	1.1765	14676.37	14677.37	1.00	285	Sunny	17	0.0201	1.1765	70.59
24 Jan 09	2.8453	2.8589	1.1765	1.1765	14677.37	14678.37	1.00	193	Sunny	11	0.0136	1.1765	70.59
29 Jan 09	2.8314	2.8513	1.1441	1.1441	14678.37	14679.37	1.00	290	Sunny	16	0.0199	1.1441	68.65
30 Jan 09	2.7744	2.7834	1.1765	1.1765	14703.37	14704.37	1.00	127	Sunny	16	0.0090	1.1765	70.59

Min	127
Max	290
Average	203

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. ($\mu g/m^3$)	Weather Condition	Ave. Air Temp. (^oC)	Particulate weight(g)	Av. flow (m^3/min)	Total vol. (m^3)
	Initial	Final	Initial	Final	Initial	Final							
02 Jan 09	2.7375	2.7503	1.3389	1.3389	12897.13	12898.13	1.00	159	Sunny	14	0.0128	1.3389	80.33
05 Jan 09	2.8158	2.8365	1.3732	1.3732	12898.13	12899.13	1.00	251	Sunny	17	0.0207	1.3732	82.39
07 Jan 09	2.8535	2.8689	1.3732	1.3732	12923.13	12924.13	1.00	187	Sunny	17	0.0154	1.3732	82.39
09 Jan 09	2.8435	2.8586	1.3732	1.3732	12924.13	12925.13	1.00	183	Sunny	12	0.0151	1.3732	82.39
10 Jan 09	2.8595	2.8729	1.3732	1.3732	12925.13	12926.13	1.00	163	Sunny	12	0.0134	1.3732	82.39
12 Jan 09	2.8435	2.8524	1.3732	1.3732	12950.13	12951.13	1.00	108	Sunny	14	0.0089	1.3732	82.39
14 Jan 09	2.8053	2.8227	1.3732	1.3732	12951.13	12952.13	1.00	211	Sunny	12	0.0174	1.3732	82.39
16 Jan 09	2.8123	2.8299	1.3389	1.3389	12952.13	12953.13	1.00	219	Sunny	14	0.0176	1.3389	80.33
19 Jan 09	2.7953	2.8071	1.3389	1.3389	12977.13	12978.13	1.00	147	Sunny	19	0.0118	1.3389	80.33
21 Jan 09	2.8243	2.8379	1.3046	1.3046	12978.13	12979.13	1.00	174	Sunny	20	0.0136	1.3046	78.28
22 Jan 09	2.8377	2.8603	1.3389	1.3389	12979.13	12980.13	1.00	281	Sunny	19	0.0226	1.3389	80.33
23 Jan 09	2.8148	2.8309	1.3389	1.3389	13004.13	13005.13	1.00	200	Sunny	17	0.0161	1.3389	80.33
24 Jan 09	2.8192	2.8294	1.3732	1.3732	13005.13	13006.13	1.00	124	Sunny	11	0.0102	1.3732	82.39
29 Jan 09	2.7912	2.8085	1.3046	1.3046	13006.13	13007.13	1.00	221	Sunny	16	0.0173	1.3046	78.28
30 Jan 09	2.8094	2.8244	1.3046	1.3046	13031.13	13032.13	1.00	192	Sunny	16	0.0150	1.3046	78.28

Min	108
Max	281
Average	188

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 Humiditiy (%)	Total Rainfall (mm)	Wind Direction (Degree)	Average Wind Speed (km/h)
02 Jan 09	Sunny	13.5	50	0.0	90	8.2
05 Jan 09	Sunny	17.2	74	0.0	90	11.5
07 Jan 09	Sunny	17.1	66	0.0	010#	7.0#
09 Jan 09	Sunny	12.3	40	0.0	10	13.5
10 Jan 09	Sunny	12	25	0.0	20	13.3
12 Jan 09	Sunny	14	37	0.0	10	10.7
14 Jan 09	Sunny	12.3	40	0.0	20	6.6
16 Jan 09	Sunny	14.3	64	0.0	100#	8.4#
19 Jan 09	Sunny	19.2	73	0.0	100	9.8
21 Jan 09	Sunny	20.3	71	0.0	100	4.5
22 Jan 09	Sunny	18.6	75	0.0	260	4.5
23 Jan 09	Sunny	16.9	66	0.0	20	10.5
24 Jan 09	Sunny	10.6	47	0.0	10	12.9
29 Jan 09	Sunny	16.4	81	0.0	240	10.5
30 Jan 09	Sunny	16	72	0.0	250	7.1

Notes:

- missing (less than 24 hourly observations a day)

NA - not available

Figure G1 - Meausred 24-hour TSP Concentration (μgm^{-3}) at AM1

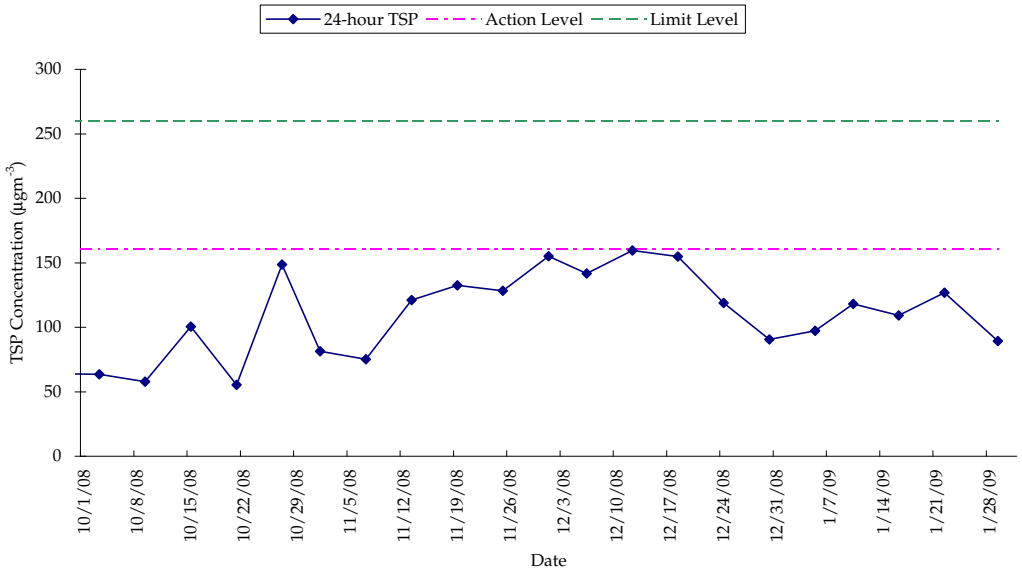


Figure G2 - Measured 24-hour TSP Concentration (μgm^{-3}) at AM2

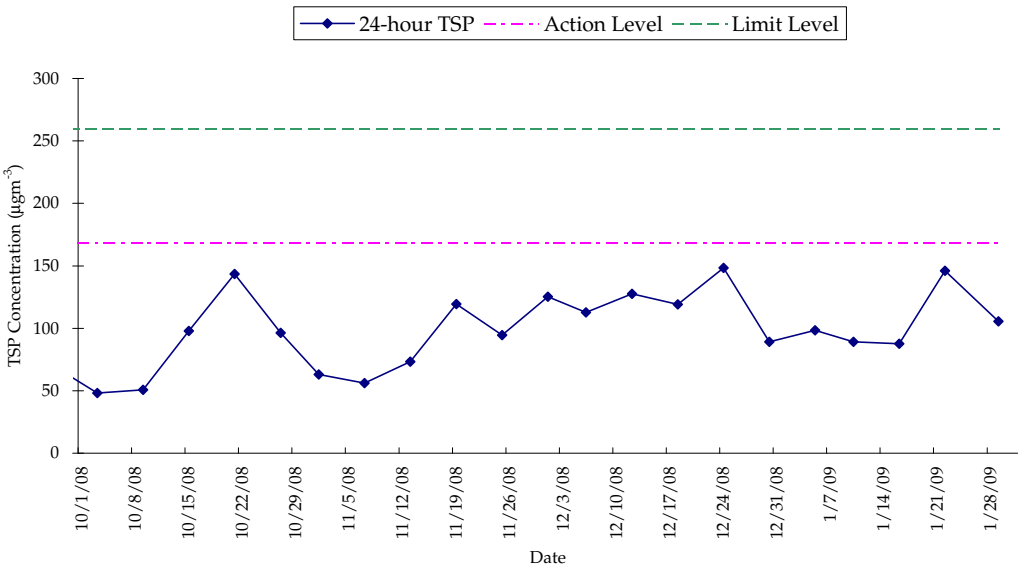


Figure G3 - Meausred 1-hour TSP Concentration (μgm^{-3}) at AM1

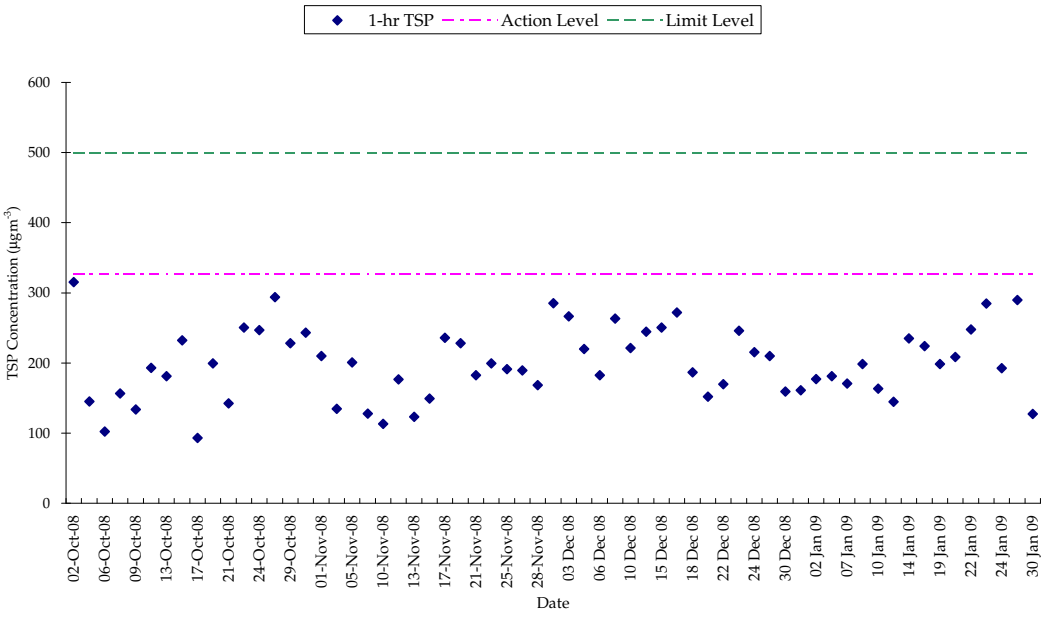
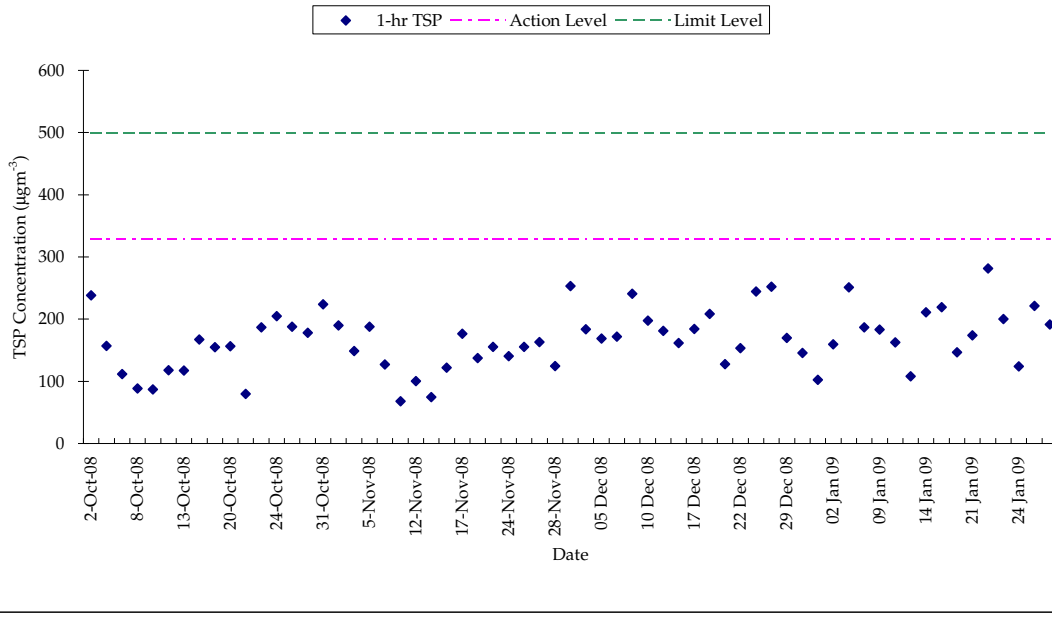


Figure G4 - Measured 1-hour TSP Concentration (μgm^{-3}) at AM2



Annex H

Event Action Plans for Air Quality Monitoring

Table H1 Event Action Plans for Air Quality

Event Action Level	Action			
	ET	**Contractor**	**ER**	**IEC**
Exceedance for one sample	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.	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.	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.	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	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.	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.	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.	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	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.	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.	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.	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	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.	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	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.	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.

Annex I

Summary of Implementation Status

Annex I - Summary of Environmental Protection / Mitigation Activities

Environmental Permit No. EP-239/2006/B

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
Construction Phase			
Air Quality	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: • 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
Operational Phase			
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
Construction Phase			
Noise	Good Site Practice: • 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; Environmental audit shall be carried out to ensure that appropriate noise control measures would be properly implemented.	Construction work areas / Construction period	√

Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Operational Phase			
Noise	The following noise reduction measures should be considered as far as practicable during detailed design: • 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
Construction Phase			
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	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.	Works areas / construction period	√
Water Quality	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. 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	Works areas / construction period	Δ

Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	should be discharged into storm drains via silt removal facilities. 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. 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.		
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	Δ
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
	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. 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.		
Water Quality	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. 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.	Works areas / construction period	√
Water Quality	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. 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.	Works areas / construction period	√

Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	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. 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. Discharge of sterilization effluent should be properly pre-treated for compliance with TM/WPCO requirements, such as but not limited to total residual chlorine.	Works areas / construction period	
Water Quality	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. 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.	Works areas / construction period	√
Water Quality	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.	Works areas / construction period	No acidic wastewater will be generated.
Water Quality	Wastewater collected from canteen kitchens, including that from basins, sinks and floor drains, should be discharged into foul	Works areas / construction period	√

Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	sewer via grease traps capable of providing at least 20 minutes retention during peak flow. Drainage serving an open oil filling point should be connected to storm drains via a petrol interceptors with peak storm bypass. 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.		
Water Quality	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. 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.	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
	equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges. 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: • 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	To minimize the potential water quality impacts from the construction works located at or near the storm system or seafront, the following mitigation measures should be adopted: • the use of less or smaller construction plants may be specified to reduce the disturbance to the seabed; • temporary sewerage system should be designed to prevent wastewater from entering the storm system and sea; • temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works; • stockpiling of construction materials and dusty materials should be covered and located away from any water courses; • construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers; • construction activities, which generate large amount of	Works areas / construction period	√

Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	wastewater, should be carried out in a distance away from the waterfront, where practicable; • mitigation measures to control site runoff from entering the nearby water environment should be implemented to minimize water quality impacts. Surface channels should be provided along the edge of the waterfront within the work sites to intercept the runoff; • construction effluent, site run-off and sewage should be properly collected and/or treated; • proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert/sea; and • supervisory staff should be assigned to station on site to closely supervise and monitor the works.		
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
Construction Phase			
Waste	Recommendations for good site practices during the construction activities include: • nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all Wastes generated at the site; • training of site personnel in proper waste management and chemical handling procedures; • provision of sufficient waste disposal points and regular collection 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	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: • 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	Δ

Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	recycling of materials and their proper disposal; • 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	<u>General Refuse</u> 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.	Work site / during the construction period	Δ
Waste	<u>Construction and Demolition Material</u> • 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
	reference to ETWB TCW No.31/2004 for details; • 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	<u>Chemical Wastes</u> 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 *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*. 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.	Work site / during the construction period	√
Operational Phase			
Waste	<u>General Refuse</u> 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	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.		
Construction Phase			
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	√
Operational Phase			
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 JV
Δ Deficiency of Mitigation Measures but rectified by Hip Hing JV

Annex J

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 2009

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	Disposal	Recycle	Disposal	Disposal	Disposal
January	485.8	0	0	0	485.8	6 [5]	0	0	0	0.3	0.05	0	0	815	370.5
February															
March															
April															
May															
June															
July															
August															
Sep															
October															
November															
December															
Total	485.8	0	0	0	485.8	6[5]	0	0	0	0.3	0.05	0	0	815	370.5

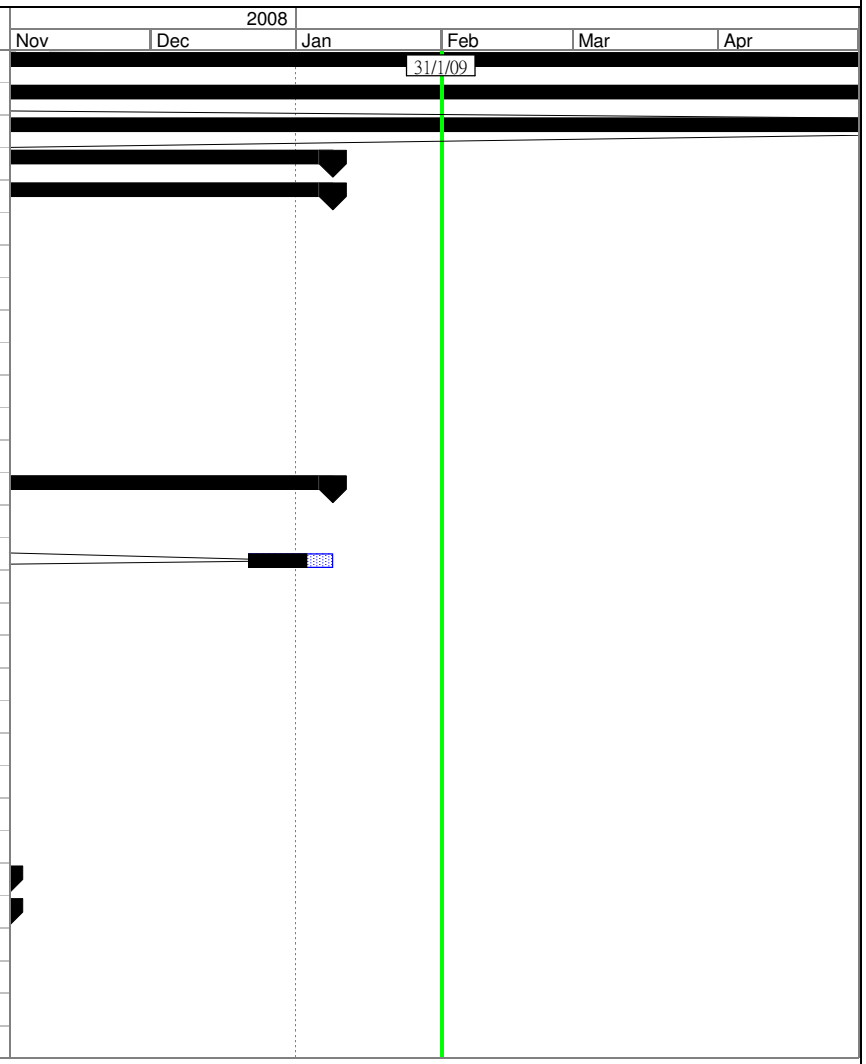
Note:
[1] Inert C&D materials include bricks, concrete, building debris, rubble and excavated soil.
[2] Inert C&D material mainly generated from demolition of atrium link.
[3] Broken concrete fro recycling into aggregates.
[4] C&D wastes include steel materials generated from demolition, paper / cardboard 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 K

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 31 January 09

ID	Task Name	% Complete	Actual Start
1	**PROJECT WIDE**	**42%**	**Fri 26/5/06**
2	**Critical Dates**	**42%**	**Fri 26/5/06**
3	**Project Milestones**	**99%**	**Fri 26/5/06**
155	**Design Submission & Approval (Permanent Works)**	**98%**	**Thu 25/5/06**
234	**Architectural Design**	**98%**	**Sat 26/8/06**
329	**Exhibition Halls / Service Counters and Organiser's Offices**	**97%**	**Fri 29/9/06**
340	**Exhibition Halls**	**100%**	**Wed 30/5/07**
343	DDR by PM	100%	Sat 10/11/07
344	DDR for Exhibition Halls	100%	Thu 24/4/08
350	**Food Concession Area**	**100%**	**Thu 14/6/07**
359	**Door schedule (incl. sliding and acoustic doors)**	**100%**	**Sat 30/9/06**
368	**Ironmongery schedule**	**100%**	**Wed 3/1/07**
377	**Maintenance access system - Gondola + BMU**	**100%**	**Wed 4/10/06**
424	**Signage & Electronic Sign (Permanent)**	**86%**	**Tue 26/6/07**
426	Design Check by Design Checker	90%	Fri 28/3/08
427	RIP/DDR for Signage by PM	60%	Mon 22/12/08
439	**Landscape Works**	**88%**	**Mon 16/10/06**
445	Landscape Master Plan Detail Design Preparation & Submission	100%	Mon 12/11/07
446	Design Check by Design Checker	100%	Wed 12/12/07
454	Design Check by Design Checker	100%	Wed 12/12/07
455	DDR for Landscape by PM	90%	Sat 12/1/08
456	DDR for Landscaping Plan	0%	NA
466	**Miscellanous Details**	**98%**	**Fri 6/4/07**
477	**Carpark, Driveway/loading and unloading areas**	**100%**	**Thu 14/6/07**
482	**Expansion Joint and wall expansion details for Ph I & II**	**100%**	**Fri 6/4/07**
515	**Structural Design**	**99%**	**Fri 26/5/06**
522	**Details Design Review**	**99%**	**Wed 7/6/06**
528	**Roof Truss A to D and Transfer Truss A/B/24 - Amendment**	**100%**	**Mon 5/2/07**
531	DDR for DD Submission by PM	100%	Wed 31/10/07
532	DDR for Structural Plan	100%	Thu 21/8/08
641	**External façade Design (Structural)**	**100%**	**Mon 29/1/07**



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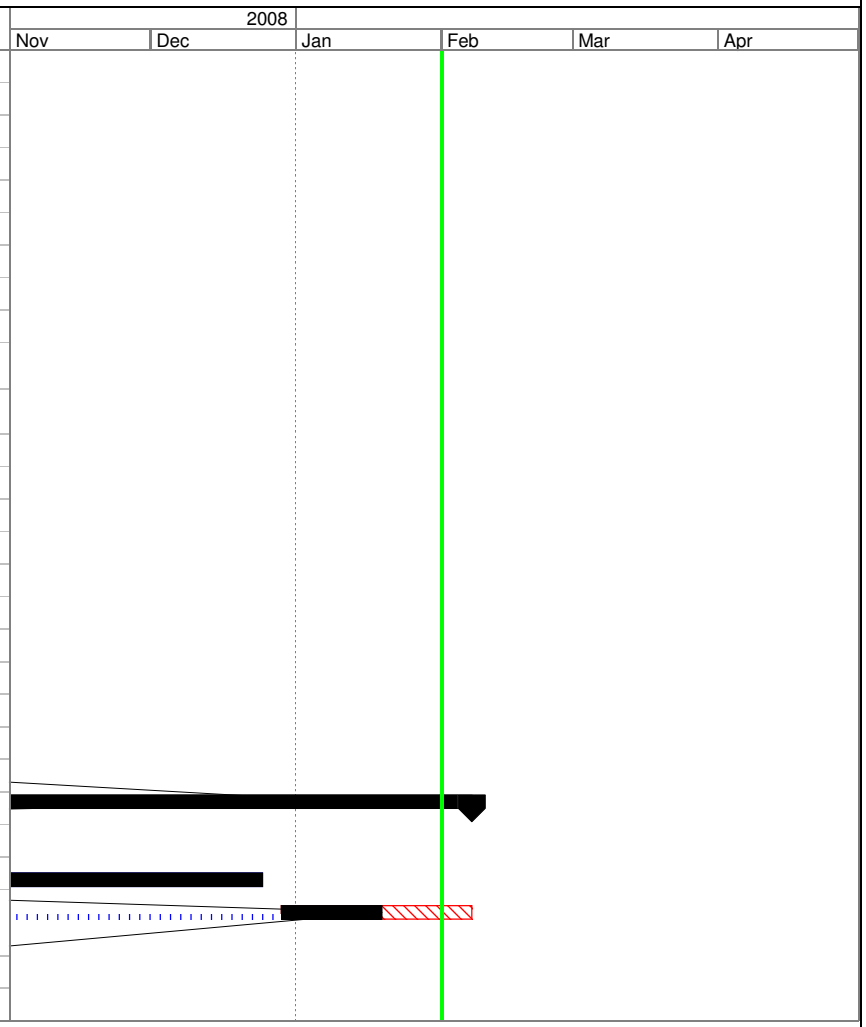
ID	Task Name	% Complete	Actual Start
649	Resubmit to IDC	100%	Tue 6/11/07
650	Resubmit to PM	100%	Fri 1/2/08
651	DDR for External façade Design	100%	Fri 15/2/08
652	**BS Design**	**98%**	**Thu 1/6/06**
653	**BS - HVAC**	**100%**	**Fri 14/7/06**
665	**Details Design Review**	**100%**	**Tue 5/9/06**
671	**HVAC Layout**	**100%**	**Wed 30/5/07**
675	DDR for HVAC	100%	Mon 7/1/08
676	**BS - Electrical**	**100%**	**Fri 21/7/06**
677	**Electrical loading calculation & Generator Sizing, Schematic design of electrical system & lighting system**	**100%**	**Fri 21/7/06**
685	DDR for Electrical loading calculation & Generator Sizing, Schematic design of electrical system & lighting system	100%	Wed 6/2/08
695	**Lighting Installation**	**100%**	**Fri 21/7/06**
703	DDR for Lightning Installation	100%	Thu 31/1/08
723	**BS - Fire Services**	**100%**	**Wed 14/6/06**
735	**Details Design Review**	**100%**	**Fri 3/11/06**
741	**Stage 2**	**100%**	**Thu 14/6/07**
745	DDR for Fire Services	100%	Tue 13/11/07
746	**BS - Plumbing and Drainage**	**100%**	**Fri 2/6/06**
747	**Reivew In Principle**	**100%**	**Fri 2/6/06**
821	**BS - Diversion**	**92%**	**Thu 1/6/06**
874	**BS Diversion Plan for A&A works at Phase II**	**100%**	**Mon 24/9/07**
884	**BS Design for Additional Slab at Level 5 & 7 at Phase II**	**100%**	**Fri 15/6/07**
937	**Curtain Wall / Cladding**	**96%**	**Fri 20/4/07**
939	Shop Drawing Submission & Approval	95%	Thu 20/9/07
940	Visual and Performance Mock Up Test	100%	Wed 21/11/07
941	Production & Delivery of Steel Post & frames (transom + mullion), Aluminium components, glazing anels, metal louvres & features & granite cladding for West façade	80%	Mon 7/4/08
942	Production & Delivery of Inserts & Anchors	97%	Mon 5/5/08
943	Commence Installation of Inserts & Anchors	92%	Mon 30/6/08



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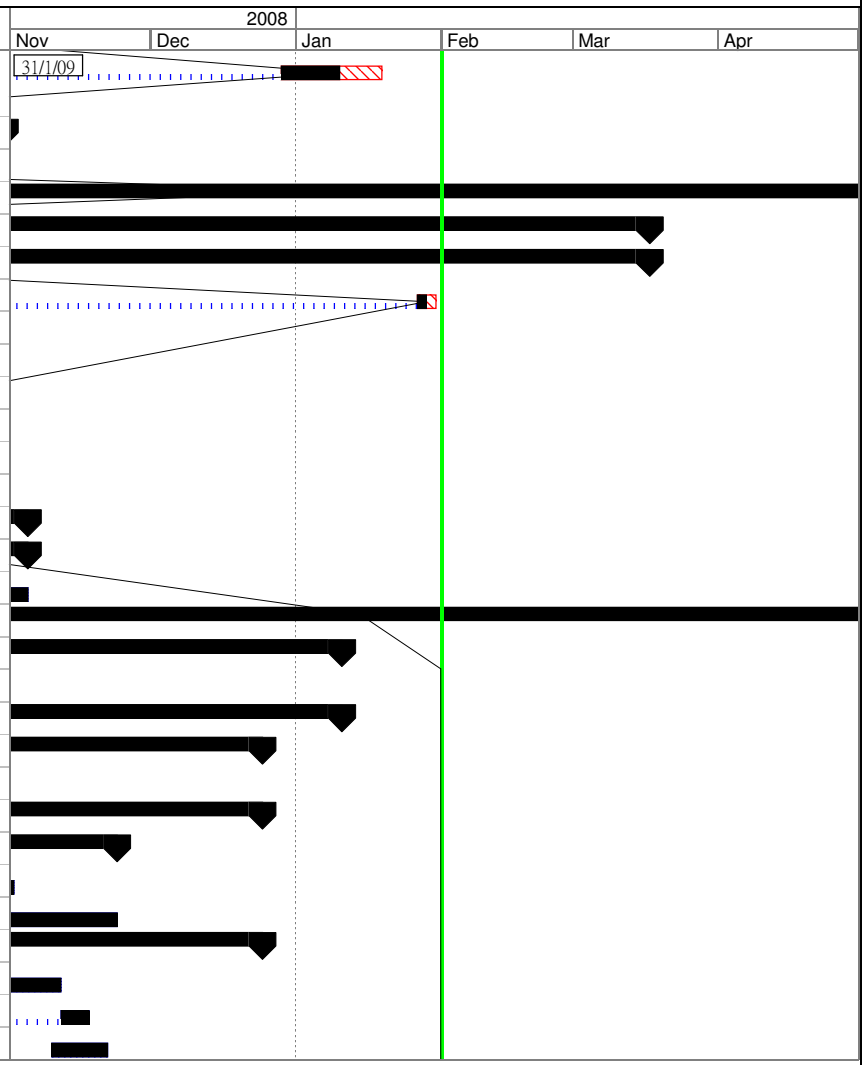
944	Production & Delivery of Steel Post & frames (transom + mullion), Aluminium components, glazing anels, metal louvres & features & granite cladding for east façade	92%	Mon 7/4/08
987	**CSWD / CBWD**	**83%**	**Fri 14/9/07**
988	CSW/CBW Submission/Comment/Re-submit/Approval	97%	Fri 14/9/07
991	**Site Works**	**78%**	**Mon 19/6/06**
1017	**A & A Works to Existing HKCEC Phase 1 and 2**	**86%**	**Wed 26/7/06**
1021	**HK CEC Phase 1 - New Atrium Link Connection**	**70%**	**Mon 30/4/07**
1029	Modification Works for E&M Services (G.L. 25/A1-A)	90%	Tue 15/7/08
1032	Termination for Existing E&M Services	100%	Thu 5/6/08
1034	Modification Works for External Façade (level +10.40 to 51.80)	100%	Fri 9/5/08
1037	Modification Works for E&M Services (G.L.25/B-D)	90%	Tue 15/7/08
1055	**HKCEC Phase 2 - New Additional Slab At L5 & L7**	**98%**	**Thu 1/11/07**
1061	New Builders' & Finishing Works	100%	Sat 22/12/07
1062	E&M works	100%	Sat 22/12/07
1073	**Demolition of Existing Artrium Link**	**100%**	**Wed 14/3/07**
1079	**Demolition of Existing Atrium Link**	**100%**	**Wed 14/3/07**
1092	Removal of remaining Existing Eastern & Western Façade Truss	100%	Sun 31/8/08
1093	**New Atrium Link Extension**	**76%**	**Tue 27/6/06**
1176	**Superstructure**	**100%**	**Thu 30/11/06**
1177	**Columns to Steel Truss - Grid 17**	**100%**	**Mon 4/12/06**
1218	**Steel Roof Trusses and Superstructure**	**100%**	**Thu 30/11/06**
1219	**Panel Truss A1**	**100%**	**Thu 30/11/06**
1220	Assembly on Steel Truss A1(907tons)	100%	Thu 18/1/07
1221	**Steel Structure for Grid A1 to Existing Façade Truss**	**100%**	**Thu 30/11/06**
1237	**Level 5 +29.40 deferred portion GL24-25/A1**	**100%**	**Fri 11/7/08**
1239	Secondary Floor Trusses/Beams for Level 5	100%	Wed 30/7/08
1240	Composite Decking Slab for Level 5	100%	Mon 27/10/08
1241	**Level 6 +36.90**	**100%**	**Sat 20/9/08**
1242	Main Floor Trusses for Level 6	100%	Sat 20/9/08
1243	Secondary Floor Trusses/Beams for Level 6	100%	Sun 19/10/08
1244	Composite Decking Slab for Level 6	100%	Mon 10/11/08



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ID	Task Name	% Complete	Actual Start
1245	R.C. Wall & Staircase	100%	Thu 20/11/08
1246	**Level 7 +44.40**	**100%**	**Wed 10/9/08**
1247	Main Floor Trusses for Level 7	100%	Wed 10/9/08
1248	Secondary Floor Trusses/Beams for Level 7	100%	Tue 21/10/08
1249	Composite Decking Slab for Level 7	100%	Wed 5/11/08
1251	**Roof Level +51.80**	**100%**	**Sat 8/11/08**
1252	Main Floor Trusses for Roof	100%	Sat 8/11/08
1253	Secondary Floor Trusses/Beams for Roof	100%	Sun 9/11/08
1254	Composite Decking Slab for Roof	100%	Mon 17/11/08
1281	**Temporary Works for Sliding & Heavy Lifting**	**100%**	**Sat 8/9/07**
1283	Remove Sliding Beams & Equipment From HL	100%	Mon 2/6/08
1289	**Roof Truss A**	**100%**	**Sun 14/10/07**
1298	**Roof Truss B**	**100%**	**Wed 14/11/07**
1307	**Roof Truss C**	**100%**	**Thu 20/12/07**
1313	**Roof Truss D**	**100%**	**Mon 4/2/08**
1319	**Panel Truss E**	**100%**	**Wed 9/4/08**
1321	**Steel Structure for Existing Façade to Grid B**	**100%**	**Tue 8/1/08**
1322	**Strengthening Works,Removal of Replacement Truss**	**100%**	**Tue 1/4/08**
1326	Remove Existing West Truss	100%	Sun 31/8/08
1327	**Hanger Columns and Main Truss () Erection**	**100%**	**Fri 9/5/08**
1329	**Level 2 +14.40 (Existing Façade to Grid A)**	**100%**	**Tue 8/1/08**
1331	Secondary Floor Trusses/Beams for Level 2	100%	Fri 8/8/08
1332	Composite Decking Slab for Level 2	100%	Wed 27/8/08
1334	**Level 2 +14.40 (Grid A to B)**	**100%**	**Wed 23/4/08**
1336	Composite Decking Slab for Level 2	100%	Tue 26/8/08
1337	**Level 3 +21.40**	**100%**	**Tue 26/8/08**
1338	Secondary Floor Trusses/Beams for Level 3	100%	Tue 26/8/08
1339	Composite Decking Slab for Level 3	100%	Wed 22/10/08
1340	Staircase & Wall	100%	Sat 1/11/08
1341	**Level 3M +25.95**	**100%**	**Sat 9/8/08**
1342	Secondary Floor Trusses for Level 3M	100%	Sat 9/8/08

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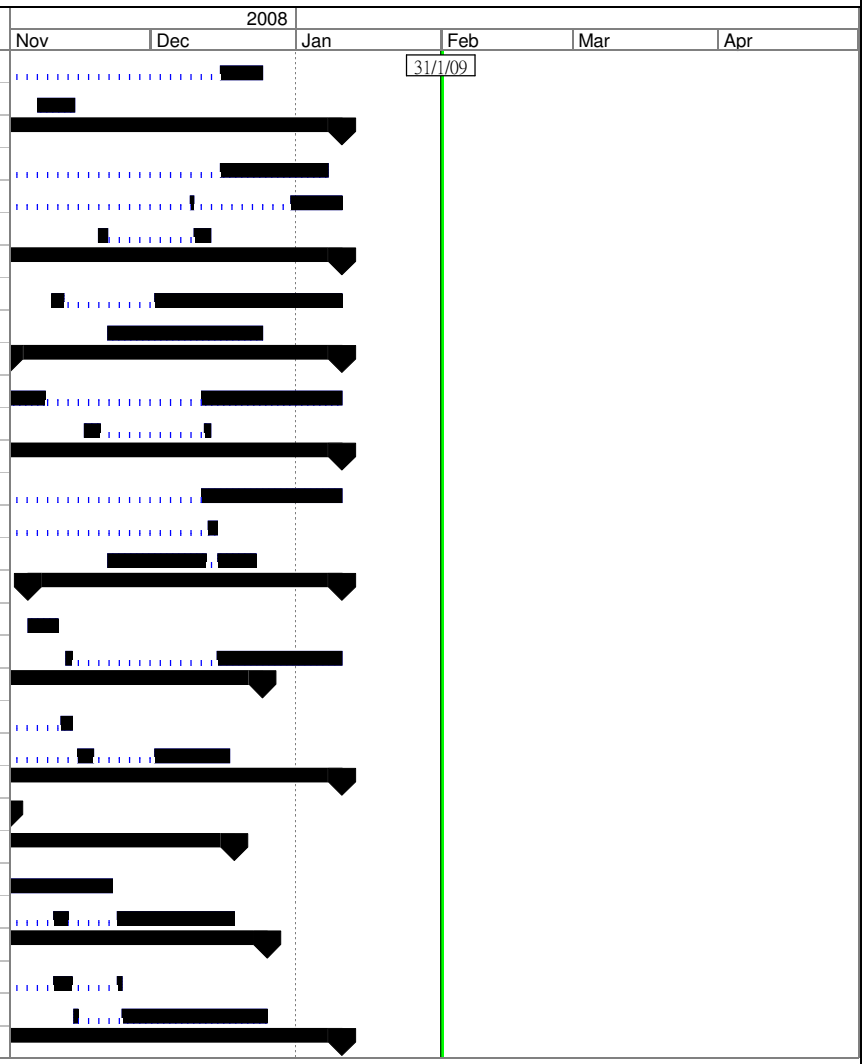
ID	Task Name	% Complete	Actual Start
1343	Composite Decking Slab for Level 3M	100%	Wed 22/10/08
1344	Staircase & Wall	100%	Fri 7/11/08
1345	**Level 5 +29.40**	**100%**	**Wed 27/8/08**
1346	Secondary Floor Trusses for Level 5	100%	Wed 27/8/08
1347	Composite Decking Slab for Level 5	100%	Mon 22/9/08
1348	Staircase & Wall	100%	Thu 20/11/08
1349	**Level 6 +36.90 & L6 Mezz.**	**100%**	**Fri 25/7/08**
1351	Composite Decking Slab for Level 6	100%	Mon 10/11/08
1352	R.C. Wall & Staircase	100%	Sat 22/11/08
1353	**Level 7 (lower level) +40.90**	***100%***	**Sat 1/11/08**
1354	Floor Beams	100%	Sat 1/11/08
1355	Composite Decking Slab	100%	Mon 17/11/08
1356	**Level 7 +44.40**	**100%**	**Fri 20/6/08**
1357	Secondary Floor Trusses/Beams for Level 7	*100%*	Fri 20/6/08
1358	Composite Decking Slab for Level 7	*100%*	Tue 30/9/08
1359	R.C. Wall & Staircase	*100%*	Sat 22/11/08
1360	**Level 7M +51.55**	**100%**	**Wed 5/11/08**
1361	Secondary Floor Beams	100%	Wed 5/11/08
1362	Composite Decking Slab (L7M)	100%	Thu 13/11/08
1364	**Roof Level +55.65**	**100%**	**Mon 4/8/08**
1365	Secondary Floor Trusses for Roof	100%	Mon 4/8/08
1366	Composite Decking Slab (Roof)	100%	Sat 11/10/08
1368	**Steel Structure for Grid B to D**	**100%**	**Sun 1/6/08**
1369	**Hanger Columns and Main Truss Erection**	**100%**	**Mon 9/6/08**
1372	**Level 2 +14.40**	**100%**	**Wed 27/8/08**
1373	Secondary Floor Trusses for Level 2	100%	Wed 27/8/08
1374	Composite Decking Slab for Level 2	100%	Mon 20/10/08
1376	**Level 3 +21.90**	**100%**	**Wed 1/10/08**
1377	Secondary Floor Trusses for Level 3	100%	Wed 1/10/08
1378	Composite Decking Slab for Level 3	100%	Fri 14/11/08
1380	**Level 5 +36.90**	**100%**	**Wed 30/7/08**



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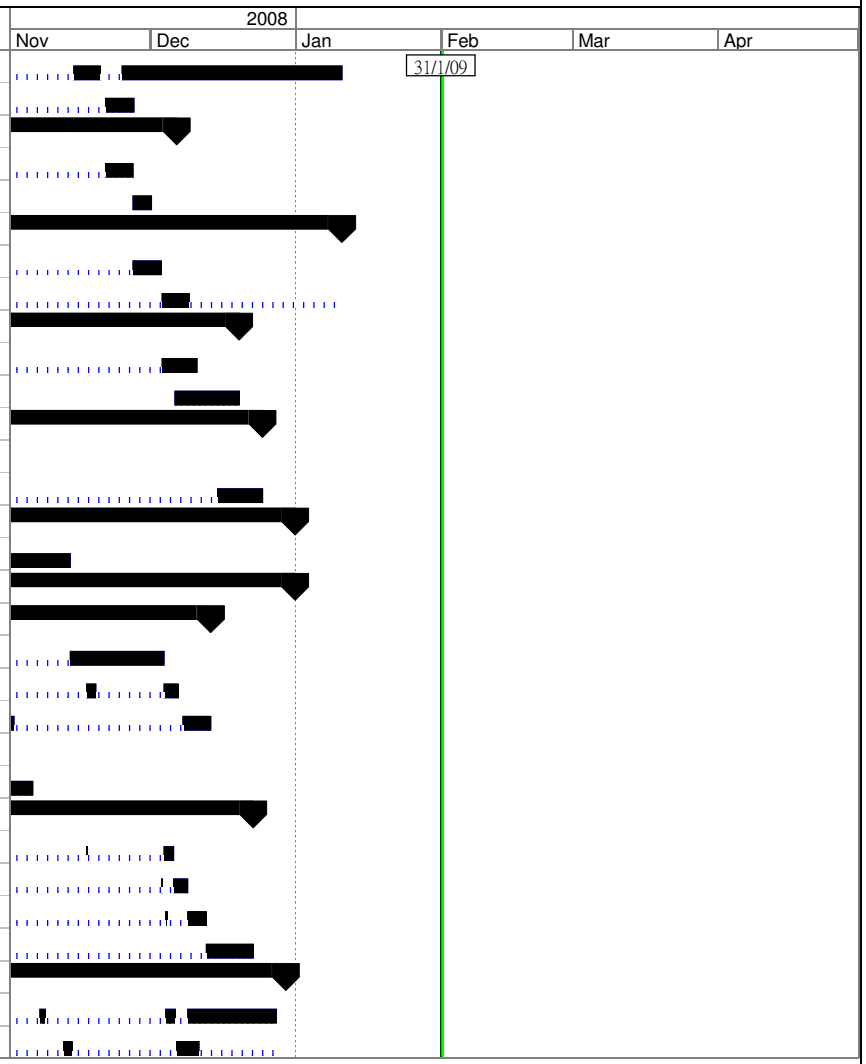
ID	Task Name	% Complete	Actual Start
1381	Secondary Floor Trusses for Level 5	100%	Wed 30/7/08
1382	Composite Decking Slab for Level 5	100%	Mon 1/9/08
1384	**Level 6 +36.90 & Level 6 Mezz.**	**100%**	**Sun 12/10/08**
1385	Secondary Floor Trusses for Level 6 & Level 6 Mezz.	100%	Sun 12/10/08
1386	Composite Decking Slab for Level 6 & Level 6 Mezz.	100%	Thu 27/11/08
1388	**Level 7 +44.35**	**100%**	**Tue 29/7/08**
1389	Secondary Floor Trusses for Level 7	100%	Tue 29/7/08
1390	Composite Decking Slab for Level 7	100%	Fri 12/9/08
1392	**Level 7M +51.80**	**100%**	**Mon 15/9/08**
1393	Secondary Floor Trusses for Level 7	100%	Mon 15/9/08
1394	Composite Decking Slab for Level 7	100%	Sat 6/12/08
1396	**Roof Level +55.80**	**100%**	**Sun 1/6/08**
1397	Secondary Floor Trusses for Roof	100%	Sun 1/6/08
1398	Composite Decking Slab for Roof	100%	Mon 20/10/08
1399	**Steel Structure for Grid D to E**	**100%**	**Sat 12/4/08**
1402	Hanger Columns from Level 3 to Level 2 Along Truss E	100%	Fri 26/9/08
1403	**Grid D to E**	**100%**	**Sat 12/4/08**
1404	**Level 2 +14.40 and Below Level 2**	**100%**	**Fri 29/8/08**
1406	Secondary Floor Beams for Level 2	100%	Wed 8/10/08
1407	Composite Decking Slab for Level 2	100%	Mon 13/10/08
1408	Staircase & Wall	100%	Wed 22/10/08
1409	Hanger Columns and R.C Structure below Level 2	100%	Mon 27/10/08
1410	L2 Composite Decking Slab near Grid 15	100%	Mon 27/10/08
1411	**Level 3 +22.90**	**100%**	**Sat 12/4/08**
1412	Main Floor Trusses for Level 3	100%	Sat 12/4/08
1413	Secondary Floor Trusses for Level 3	100%	Wed 16/4/08
1414	Composite Decking Slab for Level 3	100%	Sat 31/5/08
1415	Staircase & Wall	100%	Wed 1/10/08
1416	**Level 3M +24.90**	**100%**	**Tue 8/7/08**
1417	Main Floor Trusses for Level 3M	100%	Tue 8/7/08
1418	Secondary Floor Trusses for Level 3M	100%	Tue 8/7/08



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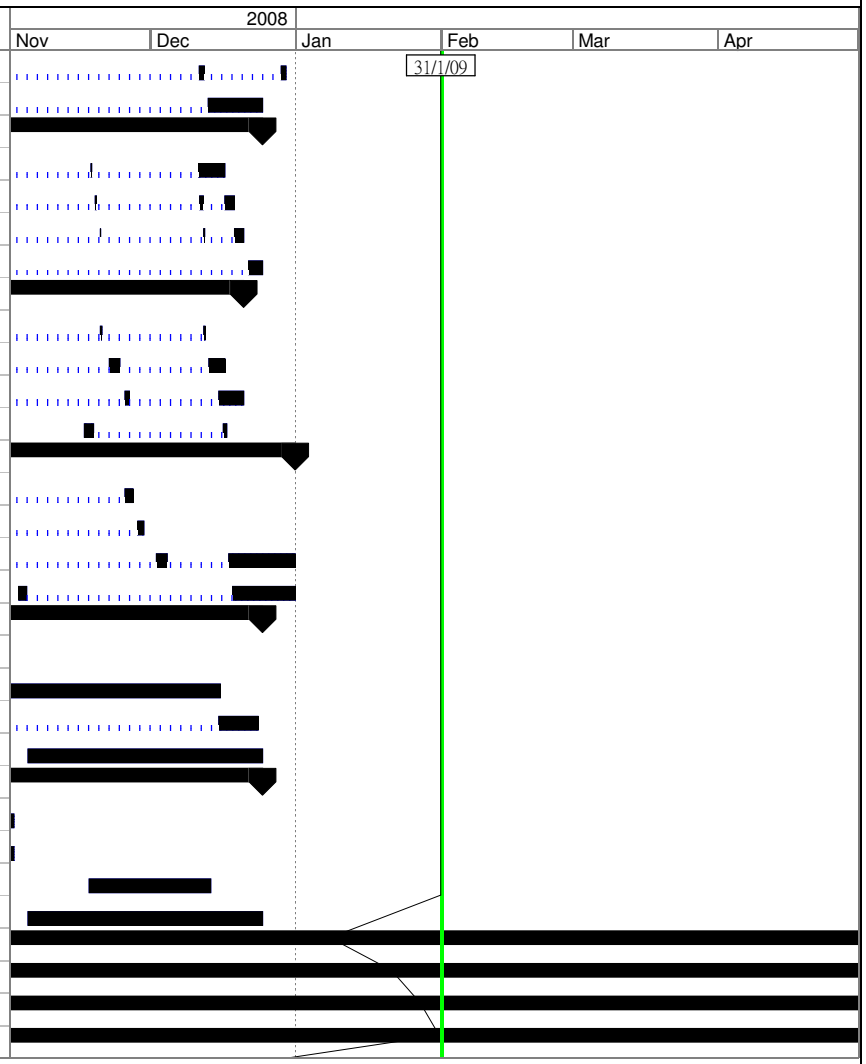
1419	Composite Decking Slab for Level 3M	100%	Fri 11/7/08
1420	Staircase & Wall	100%	Wed 1/10/08
1421	**Level 5 +29.40**	**100%**	**Wed 14/5/08**
1422	Main Floor Trusses for Level 5	100%	Wed 14/5/08
1423	Secondary Floor Trusses for Level 5	100%	Wed 14/5/08
1424	Composite Decking Slab for Level 5	100%	Mon 2/6/08
1425	R.C. Wall & Staircase	100%	Wed 8/10/08
1426	**Level 6 +36.90**	**100%**	**Fri 8/8/08**
1427	Main Floor Trusses for Level 6	100%	Fri 8/8/08
1428	Secondary Floor Trusses for Level 6	100%	Fri 17/10/08
1429	Composite Decking Slab for Level 6	100%	Mon 27/10/08
1430	Staircase & Wall	100%	Mon 17/11/08
1431	**Level 7 +41.0 & +44.35**	**100%**	**Thu 7/8/08**
1432	Main Floor Trusses for L7	100%	Thu 7/8/08
1433	Secondary Floor Trusses for L7	100%	Thu 7/8/08
1434	Composite Decking Slab for L7	100%	Fri 22/8/08
1435	R.C. Wall & Staircase	100%	Mon 3/11/08
1436	**Level 7M +51.75**	**100%**	**Fri 10/10/08**
1437	Main Floor Trusses	100%	Fri 10/10/08
1438	Secondary Floor Trusses	100%	Sat 11/10/08
1439	Composite Decking Slab	100%	Tue 14/10/08
1440	R.C. Wall & Staircase	100%	Wed 5/11/08
1441	**Roof Level +55.65**	**100%**	**Sat 11/10/08**
1442	Main Floor Trusses for Roof	100%	Sat 11/10/08
1443	Secondary Floor Trusses for Roof	100%	Sun 12/10/08
1444	Composite Decking Slab for Roof	100%	Tue 18/11/08
1445	R.C. Wall & Staircase	100%	Wed 5/11/08
1446	**Architectural Finishes & Fittings**	**46%**	**Fri 14/9/07**
1447	**External Walling - Curtain Wall / Glass Wall / Window**	**54%**	**Fri 18/7/08**
1448	**West Side for Atrium Link Extension**	**53%**	**Mon 4/8/08**
1449	**Stage 1 (GL 20 to 25)**	**65%**	**Mon 4/8/08**



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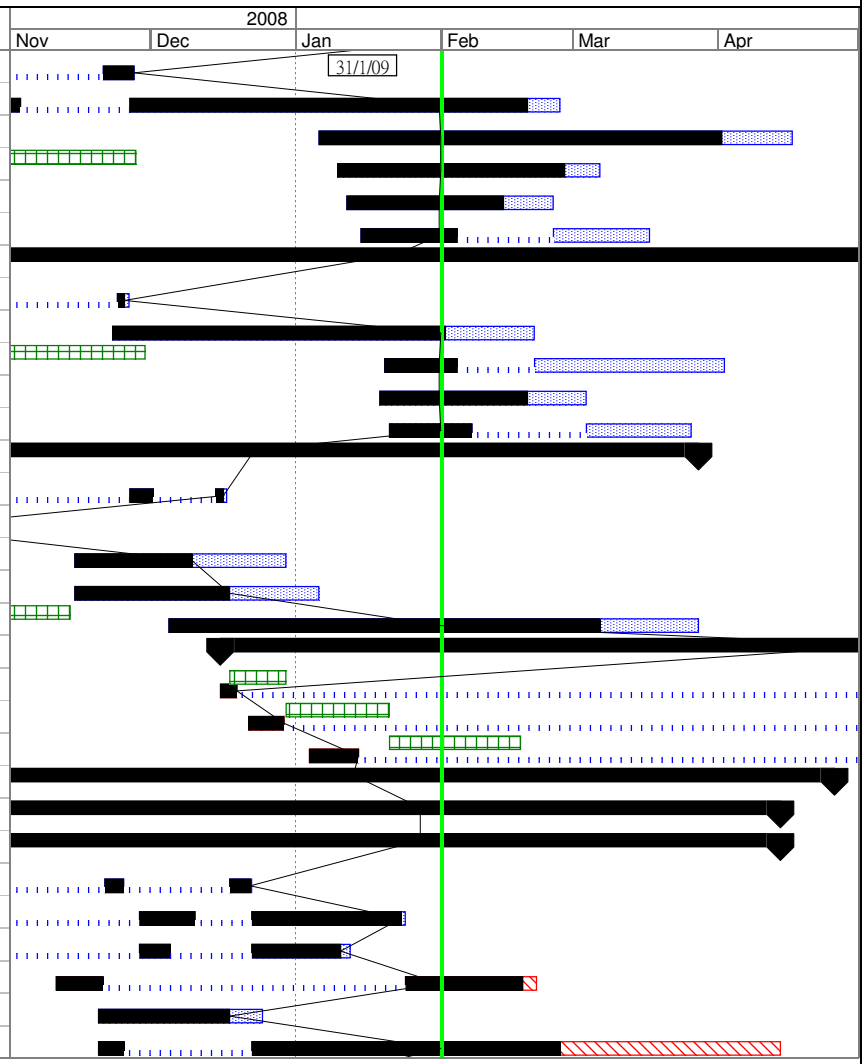
1450	Survey & Setting out Works	98%	Mon 4/8/08
1451	Framing Installation for Curtain Wall and Cladding	95%	Thu 28/8/08
1452	Glazing Works for Curtain Walls & Cladding	85%	Tue 6/1/09
1454	Metal Cladding Installation	85%	Sat 10/1/09
1455	Sub-frame Lourve	75%	Mon 12/1/09
1456	Louvres Installation	50%	Thu 15/1/09
1459	**Stage 2 (GL 15 to 20)**	**39%**	**Mon 11/8/08**
1460	Survey & Setting out Works	87%	Mon 11/8/08
1461	Framing Installation for Curtain Wall and Cladding	80%	Sun 23/11/08
1465	Metal Cladding Installation	30%	Tue 20/1/09
1466	Sub-frame Lourve	70%	Mon 19/1/09
1467	Louvres Installation	45%	Wed 21/1/09
1469	**East Side & South Side Façade for Atrium Link Extension**	**57%**	**Fri 18/7/08**
1470	Survey & Setting out Works	96%	Fri 18/7/08
1471	Framing Installation for Curtain Wall and Cladd'g	92%	Thu 28/8/08
1472	Sub-frame Lourve	60%	Sat 15/11/08
1473	Glazing Works for Curtain Walls & Cladding	70%	Sat 15/11/08
1476	Granite Installation (L2-Roof)	80%	Fri 5/12/08
1480	**Roofing Work**	**50%**	**Tue 16/12/08**
1481	Waterproofing preparation work	80%	Tue 16/12/08
1482	Waterproofing work & Testing	50%	Mon 22/12/08
1483	Roof floor finish	40%	Sun 4/1/09
1495	**ABWF - Internal Partitions and Doors**	**62%**	**Fri 25/7/08**
1496	**For Area between Grid A1 and A**	**73%**	**Wed 15/10/08**
1497	**L2 to Roof**	**73%**	**Wed 15/10/08**
1498	Setting Out Works	90%	Wed 15/10/08
1499	Frame Works for Block & Dry Wall	98%	Mon 20/10/08
1500	Sub-Framing Works for Doors	95%	Thu 30/10/08
1501	Partitioning for Block & Dry Wall	90%	Tue 11/11/08
1502	Plastering / Painting work for plant rooms	80%	Thu 20/11/08
1503	Steel & Metal Works	60%	Thu 20/11/08



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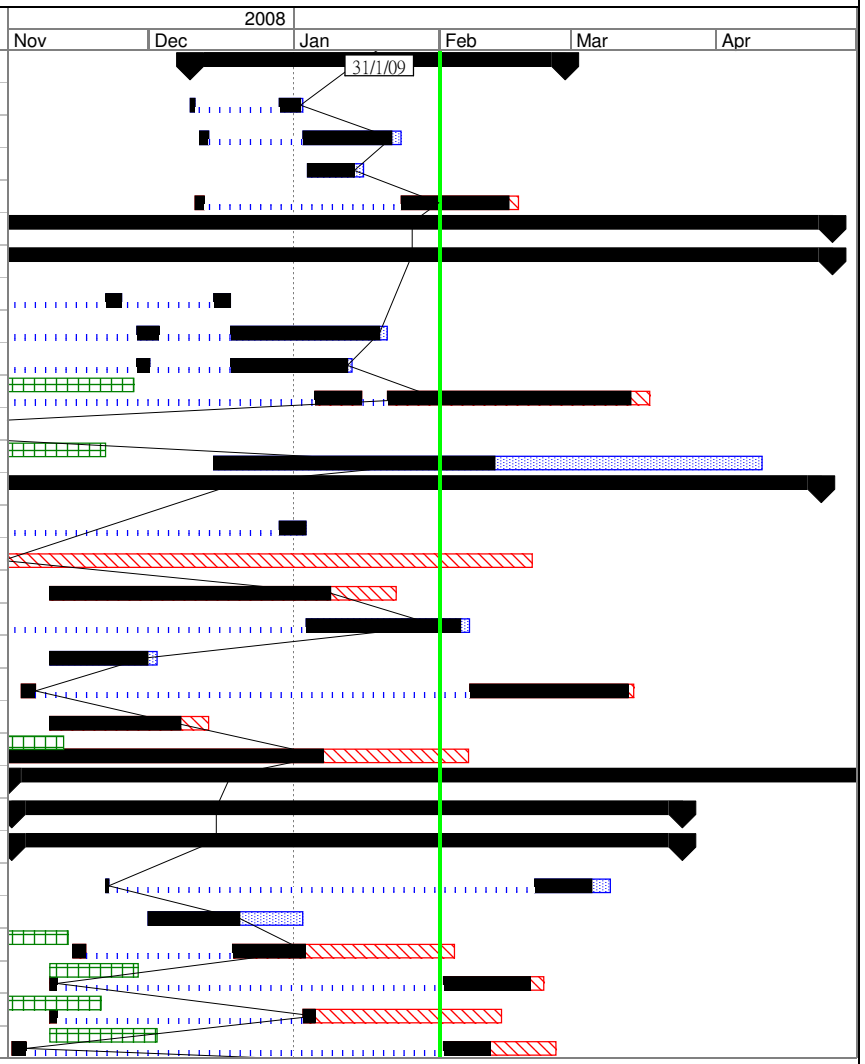
1505	**For Area between Grid 24 and 25**	**49%**	**Wed 10/12/08**
1506	Setting Out Works	90%	Wed 10/12/08
1507	Frame Works for Block & Dry Wall	90%	Fri 12/12/08
1508	Sub-Framing Works for Doors	80%	Sun 4/1/09
1509	Partitioning for Block & Dry Wall	90%	Thu 11/12/08
1511	**For Area between Grid D and E**	**67%**	**Fri 25/7/08**
1512	**L2 to Roof**	**67%**	**Fri 25/7/08**
1513	Setting Out Works	100%	Fri 25/7/08
1514	Frame Works for Block & Dry Wall	95%	Mon 28/7/08
1515	Sub-Framing Works for Doors	95%	Tue 5/8/08
1516	Partitioning for Block & Dry Wall	95%	Tue 12/8/08
1517	Plastering / Painting work for plant rooms	70%	Tue 26/8/08
1518	Miscellenous Steel & Metal Works	50%	Mon 15/12/08
1520	**For Area between Grid A and D / Grid 16 and 24**	**57%**	**Thu 9/10/08**
1521	Setting out works	100%	Thu 9/10/08
1522	Maintenance access system	0%	NA
1523	Frame Wks for Acoustic Operable Partition	80%	Mon 10/11/08
1524	Frame Works for Block & Dry Wall	95%	Fri 10/10/08
1525	Sub-Framing Works for Doors	90%	Mon 10/11/08
1526	Partitioning for Block & Dry Wall	95%	Tue 4/11/08
1527	Plastering for plant room	80%	Mon 10/11/08
1528	Miscellenous Steel & Metal Works	70%	Mon 20/10/08
1530	**ABWF - Internal Finishes**	**17%**	**Sat 1/11/08**
1531	**For Area between Grid A1 and A**	**21%**	**Sun 2/11/08**
1532	**L2 to Roof**	**21%**	**Sun 2/11/08**
1533	Waterproofing Works	80%	Sat 22/11/08
1534	Plastering & Screeding	70%	Mon 1/12/08
1537	Ceiling Grid Installation	30%	Sat 15/11/08
1538	Smoke Curtain Installation	90%	Mon 10/11/08
1539	Stone Floor Finishing / Tiling Works	10%	Mon 10/11/08
1540	Glass/Metal Balustrade Installation	40%	Sun 2/11/08



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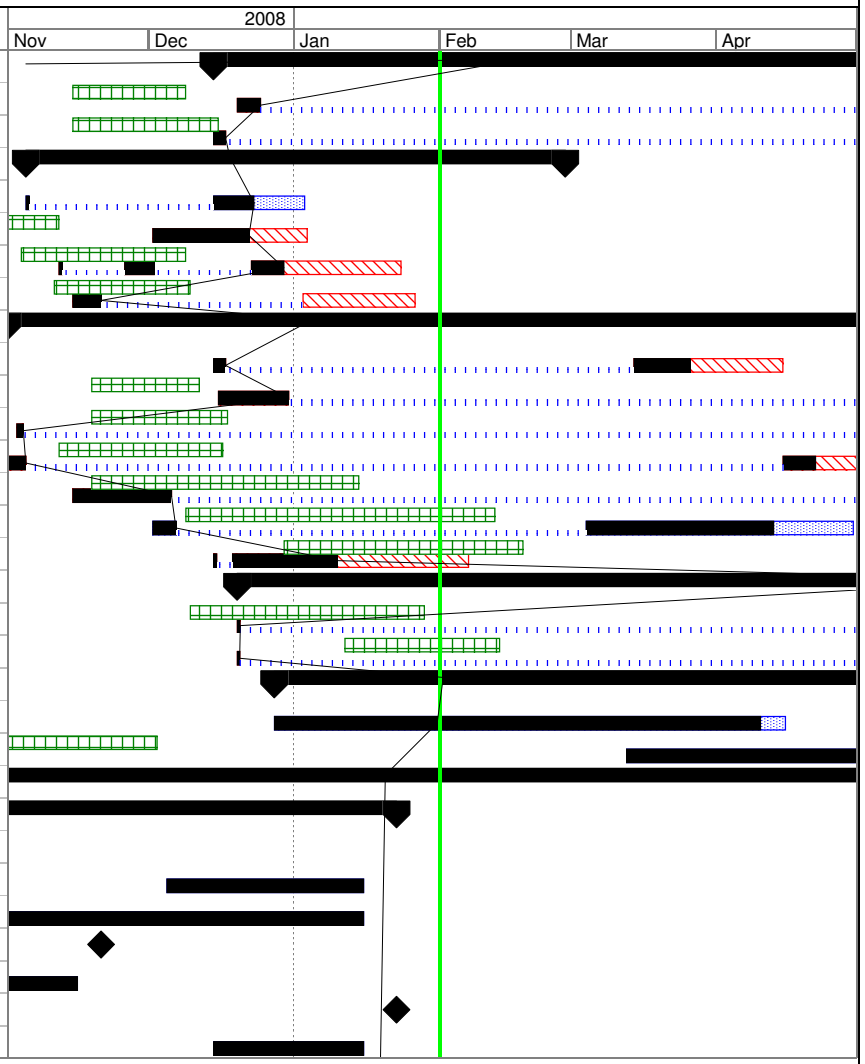
ID	Task Name	% Complete	Actual Start
1546	**For Area between Grid 24 and 25**	**3%**	**Mon 15/12/08**
1550	Ceiling Grid Installation	20%	Sat 20/12/08
1555	Miscellenous Fitting-out work	10%	Mon 15/12/08
1557	**For Area between Grid D and E**	**13%**	**Wed 5/11/08**
1558	Waterproofing Works	60%	Wed 5/11/08
1559	Plastering & Screeding	70%	Tue 2/12/08
1561	Painting	30%	Wed 12/11/08
1563	Smoke Curtain Installation	20%	Sat 15/11/08
1569	**For Area between Grid A and D / Grid 16 and 24**	**34%**	**Sat 1/11/08**
1571	Plastering & Screeding	50%	Mon 15/12/08
1573	Ceiling Grid Installation	55%	Tue 16/12/08
1574	Smoke Curtain Installation	80%	Mon 3/11/08
1575	Stone Wall Cladding / Tiling Works	30%	Sat 1/11/08
1577	Miscellensou Fitting Out Works for Hall	55%	Sat 15/11/08
1580	Door frame & Door installation	70%	Tue 2/12/08
1581	Ironmongery installation	40%	Mon 15/12/08
1582	**ABWF - Fitting and Fixtures**	**1%**	**Sat 20/12/08**
1585	Toilet/Shower Partitions for toilet	2%	Sat 20/12/08
1586	Glazing / Mirrors	2%	Sat 20/12/08
1590	**ABWF - Shutter**	**64%**	**Sun 28/12/08**
1591	Subframe delivery and installation	95%	Sun 28/12/08
1592	Fire shutter installation	80%	Fri 13/3/09
1599	**Building Services Installation**	**73%**	**Thu 8/3/07**
1600	**Major Plant Room Handover Summary**	**100%**	**Mon 28/1/08**
1601	Chiller Plant Room & Chiller Pump Room	100%	Mon 28/1/08
1602	AHU Rooms (West Side)	100%	Fri 5/12/08
1603	AHU Rooms (East Side)	100%	Tue 21/10/08
1604	Smoke Extraction Fan Room (L6)	100%	Fri 21/11/08
1605	3/F Main Switch Room	100%	Fri 3/10/08
1606	Level 1 Gease Trap & Pump Room	100%	Fri 23/1/09
1607	Electrical (Riser duct, telcom closet at West side)	100%	Mon 15/12/08



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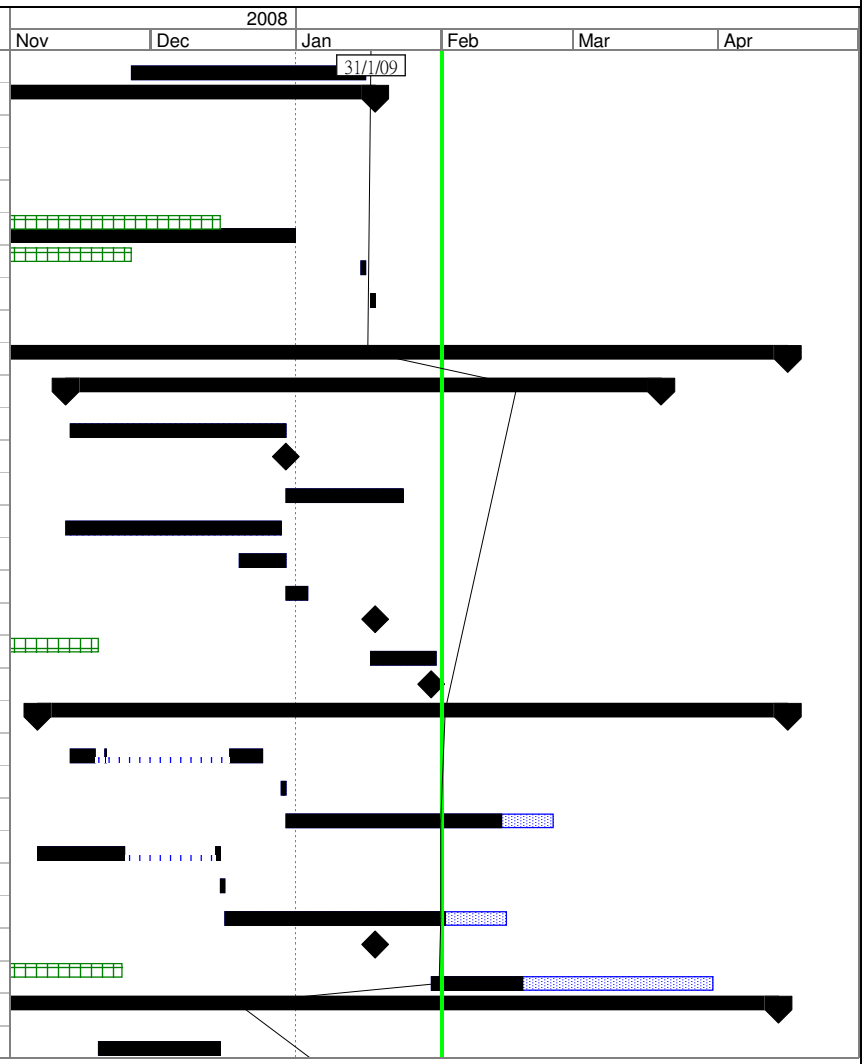
1608	Electrical (Riser duct, telcom closet at East side)	100%	Thu 27/11/08
1614	**Transformer Installation Grid D-E**	**100%**	**Fri 4/7/08**
1618	**Handover of Transformer Room to HKE**	**100%**	**Tue 21/10/08**
1621	**Handover of Cable Draw Pit to HKE**	**100%**	**Tue 21/10/08**
1622	Vertical cable duct / Cable Draw for L3	100%	Tue 21/10/08
1623	Electrical Cable Installation by HKE	100%	Wed 29/10/08
1624	Energisation	100%	Thu 15/1/09
1625	Power On	100%	Sat 17/1/09
1626	**Transformer Installation at Level 1 Phase 2**	**100%**	**Fri 1/6/07**
1638	**Lift and Escalator Installation**	**63%**	**Wed 2/5/07**
1639	**Fireman's Lift (F1 to F4)**	**84%**	**Thu 13/11/08**
1640	Builders Work in Lift Shafts (F1+F3)	100%	Fri 14/11/08
1641	Handover Lift Shafts (F1 + F3)	100%	Tue 30/12/08
1642	Fireman's Lift Installation (F1 + F3)	100%	Tue 30/12/08
1643	Builders Work in Lift Shafts (F2 + F4)	100%	Thu 13/11/08
1644	Handover Lift Shafts (F2 + F4)	100%	Sat 20/12/08
1645	Fireman's Lift Installation (F2 + F4)	100%	Tue 30/12/08
1646	Power On	100%	Sat 17/1/09
1647	Testing & Commission (Fireman's Lifts)	100%	Sat 17/1/09
1648	Submit Form 5	100%	Fri 30/1/09
1651	**Passenger's Lift & Services Lift (P1 & P2, S1 & S2)**	**62%**	**Fri 7/11/08**
1652	Builders Work in Lift Shafts (P1 & P2)	100%	Fri 14/11/08
1653	Handover Lift Shafts	100%	Mon 29/12/08
1654	Passengers Lift Installation (P1 & P2)	80%	Tue 30/12/08
1655	Work in Lift Shafts & LMRs (S1 & S2)	100%	Fri 7/11/08
1656	Handover Lift Shafts & LMR	100%	Tue 16/12/08
1657	Services Lift Installation (S1 & S2)	80%	Wed 17/12/08
1658	Power On	100%	Sat 17/1/09
1659	Testing & Commission (Passengers / Services' Lifts)	30%	Fri 30/1/09
1663	**Escalator & General System**	**56%**	**Wed 2/5/07**
1673	Handover Escalator Pits	100%	Thu 20/11/08



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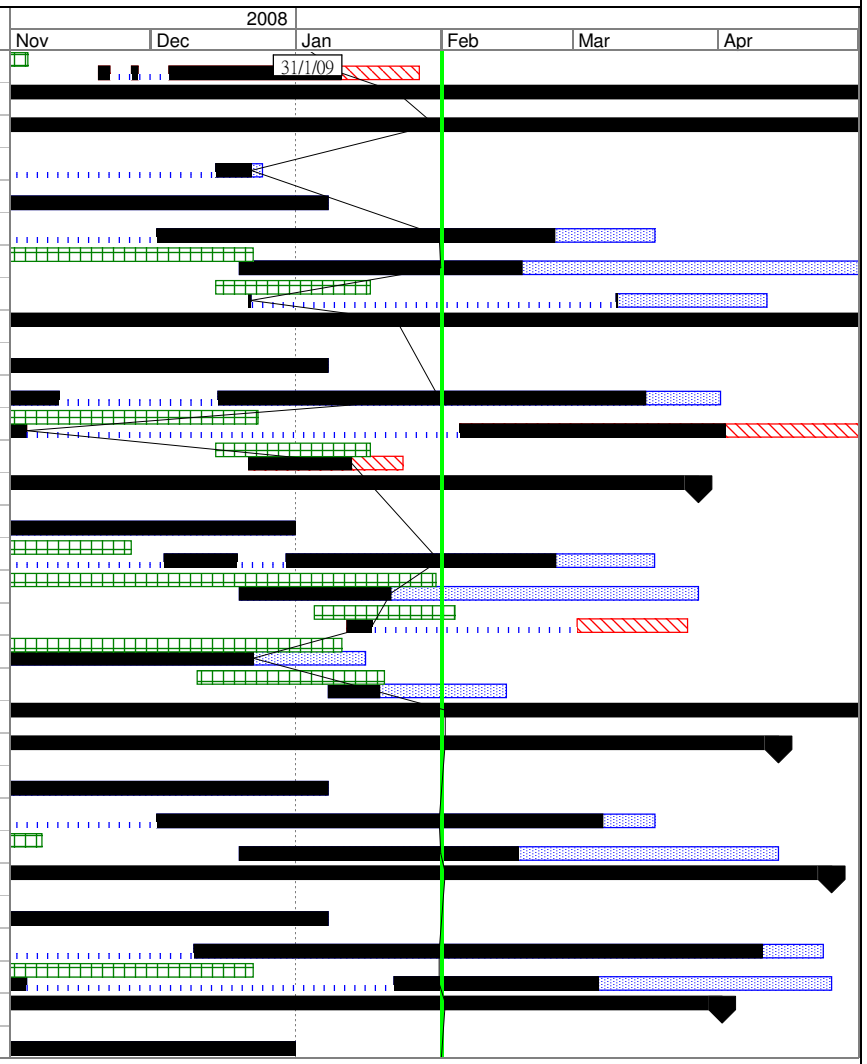
ID	Task Name	% Complete	Actual Start
1674	Escalators Installation (E5 to E19)	70%	Thu 20/11/08
1681	**Electrical Installation**	**77%**	**Thu 8/3/07**
1682	**Area for Grid A1-A**	**80%**	**Thu 8/3/07**
1683	Modification of Electrical Sys. at Phase I & II	95%	Sat 19/5/07
1684	Structural Cast-in Conduit, Sleeves & Conduit	100%	Thu 8/3/07
1685	Electrical Installation - 1st Fix	80%	Wed 15/10/08
1686	Electrical Installation- 2nd & Final Fix	35%	Sat 20/12/08
1687	Lighting Installation	5%	Mon 22/12/08
1688	**Area for Grid A - D**	**82%**	**Wed 17/9/08**
1689	Structural Cast-in Conduit, Sleeves & Conduit	100%	Wed 17/9/08
1690	Electrical Installation - 1st Fix	90%	Mon 6/10/08
1691	Electrical Installation- 2nd & Final Fix	60%	Fri 31/10/08
1692	Lighting Installation	60%	Mon 22/12/08
1693	**Area for Grid D - E**	**71%**	**Wed 2/7/08**
1694	Structural Cast-in Conduit, Sleeves & Conduit	100%	Wed 2/7/08
1695	Electrical Installation - 1st Fix	80%	Wed 6/8/08
1696	Electrical Installation- 2nd & Final Fix	30%	Sat 20/12/08
1697	Lighting Installation	20%	Mon 12/1/09
1698	Main Switch Room Installation	80%	Fri 3/10/08
1699	Testing & Commissioning - Electrical Installation	30%	Thu 8/1/09
1700	**Fire Services Installation**	**83%**	**Thu 8/3/07**
1701	**Area for Grid A1-A**	**93%**	**Thu 8/3/07**
1702	Structural Cast-in Pipeworks & Sleeves	100%	Thu 8/3/07
1703	FS Installation - 1st Fix	90%	Mon 20/10/08
1704	FS Installation - 2nd Fix	50%	Sat 20/12/08
1705	**Area for Grid A-D**	**82%**	**Wed 17/9/08**
1706	Structural Cast-in Pipeworks & Sleeves	100%	Wed 17/9/08
1707	FS Installation - 1st Fix	90%	Mon 6/10/08
1708	FS Installation - 2nd Fix	50%	Fri 31/10/08
1709	**Area for Grid D-E**	**87%**	**Wed 2/7/08**
1710	Structural Cast-in Pipeworks & Sleeves	100%	Wed 2/7/08



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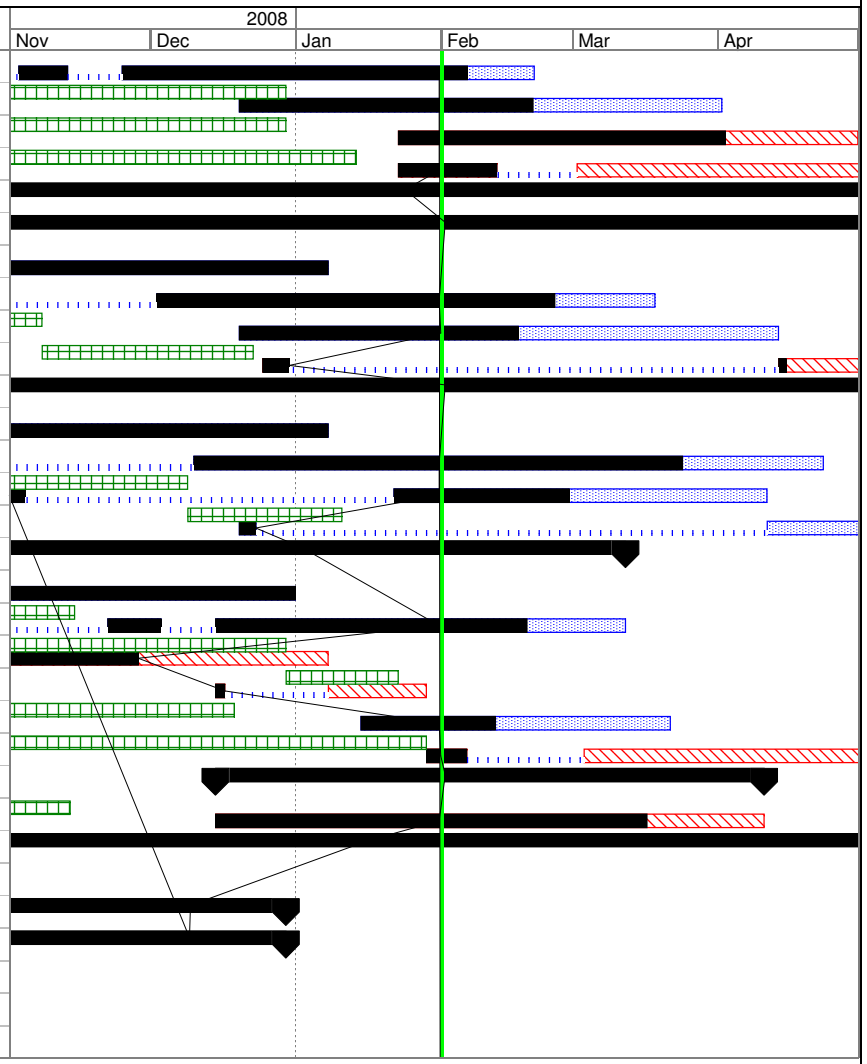
ID	Task Name	% Complete	Actual Start
1711	FS Installation - 1st Fix	90%	Wed 6/8/08
1712	FS Installation - 2nd Fix	60%	Sat 20/12/08
1713	Upgrading / Modification of FS Control Panel	70%	Fri 23/1/09
1714	Testing & Comissioning - Fire Services	20%	Fri 23/1/09
1722	**Plumbing and Drainage Installation**	**77%**	**Thu 8/3/07**
1723	**Area for Grid A1-A**	**87%**	**Thu 8/3/07**
1724	Structural Cast-in Pipeworks & Sleeves	100%	Thu 8/3/07
1725	P&D Installation - 1st Fix	80%	Mon 20/10/08
1726	P&D Installation - 2nd Fix	50%	Sat 20/12/08
1727	Sanitaryware, Fittings & Accessories Installat'n	10%	Thu 25/12/08
1728	**Area for Grid A-D**	**74%**	**Wed 17/9/08**
1729	Structural Cast-in Pipeworks & Sleeves	100%	Wed 17/9/08
1730	P&D Installation - 1st Fix	80%	Mon 6/10/08
1731	P&D Installation - 2nd Fix	50%	Fri 31/10/08
1732	Sanitaryware, Fittings & Accessories Installat'n	10%	Sat 20/12/08
1733	**Area for Grid D-E**	**79%**	**Wed 2/7/08**
1734	Structural Cast-in Pipeworks & Sleeves	100%	Wed 2/7/08
1735	P&D Installation - 1st Fix	80%	Wed 6/8/08
1736	P&D Installation - 2nd Fix	50%	Fri 24/10/08
1737	Sanitaryware, Fittings & Accessories Installat'n	10%	Mon 15/12/08
1738	Pump Room Installations	40%	Thu 15/1/09
1739	Testing & Commissioning	10%	Thu 29/1/09
1745	**Town Gas**	**80%**	**Mon 15/12/08**
1746	Pipework Installation	80%	Mon 15/12/08
1747	**Heating / Ventilation and Air-Condition Installation**	**87%**	**Thu 8/3/07**
1748	**Sea Water System (at Phase II)**	**100%**	**Mon 5/11/07**
1756	**Chiller Plant Room Installation**	**96%**	**Wed 30/1/08**
1757	**HVAC - Chiller Plant Room Works**	**96%**	**Wed 30/1/08**
1767	Pipework Installation,test & insulation	100%	Wed 20/2/08
1768	Air Duct Installation	100%	Tue 5/8/08
1769	LMCP / FI Installation for Water Pumps	100%	Mon 1/9/08



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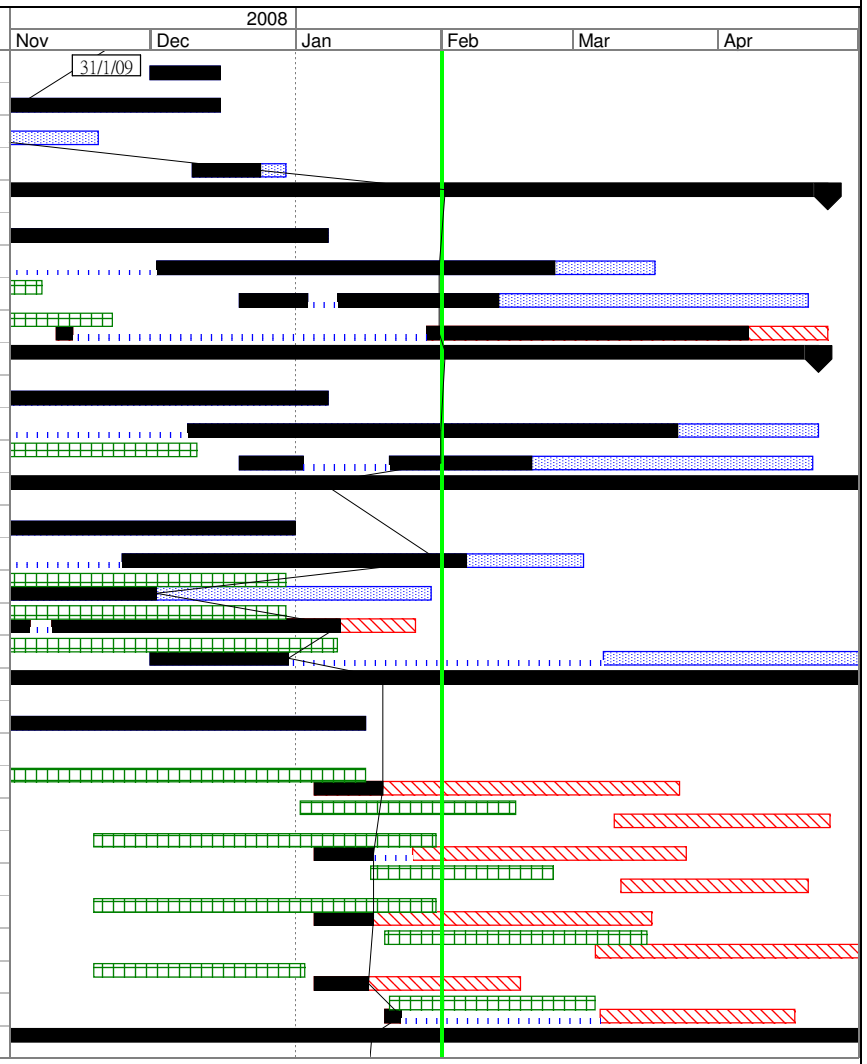
ID	Task Name	% Complete	Actual Start
1770	Supervisory (Mimic) Panel Modification Works	100%	Mon 1/12/08
1771	Electrical Wiring Works	100%	Mon 1/9/08
1772	CCMS System Alternation Works	70%	Fri 15/8/08
1773	Pipework Flushing & Treatment Works	90%	Wed 10/12/08
1780	**Area for Grid A1-A**	**89%**	**Thu 8/3/07**
1781	Structural Cast-in Conduit, Sleevs & Conduit	100%	Thu 8/3/07
1782	HVAC- 1st Fix	80%	Mon 20/10/08
1783	HVAC - 2nd Fix	40%	Sat 20/12/08
1784	AHU / Fan Room Installation	80%	Tue 11/11/08
1785	**Area for Grid A-D**	**75%**	**Wed 17/9/08**
1786	Structural Cast-in Conduit, Sleevs & Conduit	100%	Wed 17/9/08
1787	HVAC- 1st Fix	80%	Mon 6/10/08
1788	HVAC - 2nd Fix	40%	Sat 20/12/08
1789	**Area for Grid D-E**	**72%**	**Wed 2/7/08**
1790	Structural Cast-in Conduit, Sleevs & Conduit	100%	Wed 2/7/08
1791	HVAC- 1st Fix	80%	Wed 6/8/08
1792	HVAC - 2nd Fix	40%	Mon 27/10/08
1793	AHU / Fan Room Installation	80%	Sat 1/11/08
1794	Testing & Commissioning	30%	Mon 1/12/08
1799	**SMATV System and Public Address System**	**66%**	**Thu 19/4/07**
1800	Relocation of Existing SMA System	100%	Tue 29/5/07
1801	Divers'n & Modificat'n of Sys Cable link Up P1&2	100%	Thu 19/4/07
1802	SMATV System - Cabling	20%	Mon 5/1/09
1803	SMATV System - Installation	0%	NA
1804	Public Address System - Cabling	20%	Mon 5/1/09
1805	Public Address System - Installation	0%	NA
1806	Structural Cabling System - Cabling	20%	Mon 5/1/09
1807	Structural Cabling System - Installation	0%	NA
1808	PABX System - Cabling	30%	Mon 5/1/09
1809	PABX System - Installation	10%	Tue 20/1/09
1811	**Burglar Alarm and Security Installation**	**37%**	**Thu 19/4/07**



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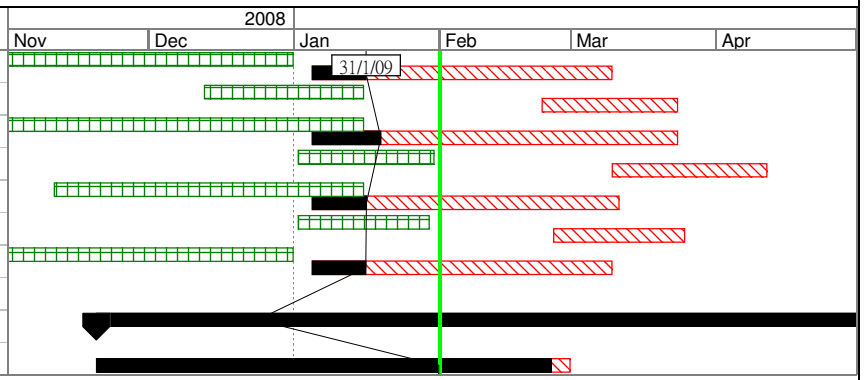
ID	Task Name	% Complete	Actual Start
1814	Point Monitoring & Access Control Sys - Cabling	20%	Mon 5/1/09
1815	Point Monitor'g & Access Control Sys Installation	0%	NA
1816	Card Access Control System - Cabling	20%	Mon 5/1/09
1817	Card Access Control System - Installation	0%	NA
1818	Closed Circuit Television System - Cabling	20%	Mon 5/1/09
1819	Closed Circuit Television System - Installation	0%	NA
1821	2-Way Radio Communication - Cabling	20%	Mon 5/1/09
1824	**Emergency Generation Installation**	**100%**	**Tue 1/4/08**
1834	**External Works**	**11%**	**Thu 20/11/08**
1835	Underground Services Construction	95%	Thu 20/11/08



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Annex L

Laboratory Test Report for Effluent Discharge

ENVIRO LABS LIMITED

環境化驗有限公司

TEST REPORT

JOB NO. : 812057

DATE OF ISSUE : 24 Dec 2008 **PAGE** : 1 of 1

1. Customer

Hip Hing Construction Co. Ltd.

5/F, 38 Sheung On Street, Chai Wan, Hong Kong

Attn.: Mr. Ken Leung

2. Sample Identification

Sample Description	:	Two batches of water samples said to be wastewater were received in cool condition
Quantity of Sample	:	2 x 1L in plastic bottles (for TSS) and 2 x 250mL in plastic bottles (for COD)
Sampling	:	Conducted by the staff of Enviro Labs Ltd.
Sampling Point	:	Outlet of Wastewater Treatment Facility (HKCEC Expansion Project, **H200605**)
Preservation	:	Stored under refrigerated condition, COD: conc. H_2SO_4 was added to pH < 2
Sampling Date	:	11 Dec 2008
Received Date	:	11 Dec 2008
Testing Period	:	11 – 24 Dec 2008

3. Test Methods

Parameters	*Reference Methods*
(i) pH	Phenol Red Method
(ii) Total Suspended Solids (TSS) Dried at 103-105°C	APHA[1] 17e 2540 D
(iii) Chemical Oxygen Demand (COD)	APHA[1] 20e 5220 C

1. APHA Standard Methods for the Examination of Water and Wastewater

4. Test Results*

Sample I.D. marked by the customer	*Test Parameters*	*Sample No.*	*Test Results*	*Discharge Limits* **	*Units*
HKCEC Expansion Project H200605 WT-21	pH at 25°C	812057-1	7.4	6 – 9	--
	TSS	812057-1	< 2.5	≤30	mg/L
	COD	812057-2	< 50	≤80	mgO_2/L
HKCEC Expansion Project H200605 WT-25	pH at 21°C	812057-3	7.7	6 – 9	--
	TSS	812057-3	< 2.5	≤30	mg/L
	COD	812057-4	< 50	≤80	mgO_2/L

* Test results relate only to the items received.

** Information provided by the Customer. *(It is not a test result, information for reference only).*

---- END OF REPORT ----

APPROVED SIGNATORY : _____

Kenneth Kar Kin LAM
(Laboratory Manager)

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