Ocean Park Master Redevelopment Project

Quarterly Environmental Monitoring & Audit Report – from March 2007 to June 2007

Ocean Park Master Redevelopment Project

Quarterly Environmental Monitoring & Audit Report – from March to June 2007

Certified by _____ **on** 1-Aug-07
Terence Kong
Project Environmental Team Leader

Verified by Independent Environmental Checker **on** 1-Aug-07
IEC Certificate attached in the submission? Yes

Submitted to Ocean Park on 2-Aug-07

Ocean Park Master Redevelopment Project

Quarterly EM&A Report from March to June 2007

Submitted by Maunsell Consultants Asia Ltd on 01-08-2007

This is to verify that

Quarterly EM&A Report from March to June 2007

Submitted by Maunsell Consultants Asia Ltd

On 01-08-2007

Has been verified by the undersigned.

Signed 

Dr Anne F Kerr
Independent Environmental Checker (IEC)
Retained by Ocean Park Corporation
pursuant to Environmental Permit No. EP-249/2006/A

Date 1 August 2007

TABLE OF CONTENTS

Page

EXECUTIVE SUMMARY I

1. INTRODUCTION 1

Background 1
Project Organization and Contacts of Key Management 1
Construction Activities During The Reporting Quarter 1

2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS 5

Monitoring Parameters and Locations 5
Monitoring Methodology and Calibration Details 5
Environmental Quality Performance Limits (Action and Limit Levels) 5
Environmental Mitigation Measures 5

3. MONITORING RESULTS 6

Air Quality 6
Noise 6
Terrestrial Ecology 6
Marine Ecology 6

4. AUDIT RESULTS 7

Implementation Status of Environmental Mitigation Measures 7
Status of Environmental Licensing and Permitting 7
Advice on Solid and Liquid Waste Management Status 8

5. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS) 9

Summary of Exceedances 9
Review of the Reasons for and the Implications of Non-compliance 9
Summary of Actions Taken 9

6. ENVIRONMENTAL COMPLAINTS 10

Complaints Log 10
Complaints Handling Procedure 10

7. NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS 10

8. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS 11

List of Tables

Table 1.1 Details of the Contracts 1
Table 1.2 Summary of Works undertaken in the Reporting Quarter 1
Table 1.3 Status of Environmental Submissions 3
Table 4.1 Estimated Waste Generation from March 2007 to June 2007 8

List of Figures

Figure 1.1 Management Organisations
Figure 1.2 Layout of Work Site (Waterfront)
Figure 1.3 Layout of Work Site (Summit) and Location of Terrestrial Ecology Monitoring
Figure 1.4 Locations of Air Quality and Noise Monitoring Stations
Figure 1.5 Layout of Work Site (Vet Hospital)
Figure 1.6 Locations of Subtidal Monitoring Stations

List of Appendices

Appendix A Contact Details of Key Management
Appendix B Environmental Monitoring Programme
Appendix C Summary of Calibration Details
Appendix D Action and Limit Levels
Appendix E Graphical Presentation of Air Quality Monitoring Results
Appendix F Graphical Presentation of Noise Monitoring Results
Appendix G Implementation Status of Environmental Mitigation Measures
Appendix H Status of Environmental Licenses and Permits
Appendix I Complaint Flow Diagram and Complaint Log
Appendix J Coral monitoring results

EXECUTIVE SUMMARY

This is the first combined quarterly Environmental Monitoring and Audit (EM&A) report for the Project "Master Redevelopment Project of Ocean Park". This report summarizes the EM&A works performed in the period between 12 March 2007 and 25 June 2007.

Environmental Monitoring Works

Environmental Monitoring and Audit Progress
A summary of monitoring and audit activities conducted in the reporting quarter is listed below:

1-hour Total Suspended Particulates (TSP) monitoring	49 sessions for AM1 (5 sessions were not taken due to power failure) 55 sessions for AM2 51 sessions for AM3 (4 sessions were not taken due to power failure)
24-hour TSP monitoring	17 sessions for AM1 (2 sessions were not taken due to power failure) 19 sessions for AM2 17 sessions for AM3 (2 sessions were not taken due to power failure)
Daytime noise monitoring	16 sessions for all stations
Evening and night time noise monitoring	5 sessions for all stations
Holiday daytime noise monitoring	1 sessions for all stations
Terrestrial ecology monitoring	0 sessions
Coral monitoring	1 sessions for Site 1-4 2 sessions for Site 5 and Control Station
Environmental site inspection	12 sessions

Air Quality
All measured 1-hour TSP and 24-hour TSP concentrations in the reporting quarter were below the Action and Limit Levels.

Noise
All measured noise levels during daytime and evening period were below the AL levels in the reporting quarter. However, three exceedances of Limit Level for holiday noise monitoring on 6 April 2007 at CN1, CN2 and CN3 were recorded. The cause of exceedance was the community noise from the visitors at Park, not related to the construction works within the site of Ocean Park.

Terrestrial Ecology
In the reporting quarter, no terrestrial ecology monitoring was conducted since the transplantation proposal and its subsequent submissions has been submitted and waiting for approval.

Coral Monitoring
The 1st coral monitoring was scheduled in the reporting quarter and the results showed that there was no exceedance of Action and Limit Levels.

Environmental Complaints and Prosecutions
No Complaints, summon or prosecution related to environmental issues was made against the Project within the reporting quarter.

1. INTRODUCTION

Background

1.1 The "Master Redevelopment Project of Ocean Park" (hereinafter known as the "Project") is implemented by the Ocean Park Corporation at its existing site of Ocean Park and Nam Long Shan, Aberdeen. The Project involves both reconstruction/modification of existing facilities and expansion of the Park, and therefore under Environmental Permit, EP-249/2006/A.

1.2 The construction works of the project consists of various contracts. Details of the contracts, which are required to perform the EM&A programme, are shown in **Table 1.1** below.

Table 1.1 Details of the Contracts

Contract No.	Contract Title	Contractor	Construction Commencement
CI-05	Site Formation, Funicular Tunnel and Miscellaneous Works	Dragages-Bouygues JV	12 March 2007
CS-01	Vet Hospital	Kaden – ATAL JV	26 March 2007

1.3 The contractors will conduct environmental monitoring and audits during the construction stage and produce contract specific quarterly EM&A reports. The RSS will prepare a combined quarterly EM&A for the project. This is the combined quarterly EM&A Report including the IEC audit findings, CI05 and CS01 EM&A Works. This report presents the results of EM&A works conducted in the reporting quarter (from 12 March 2007 to 25 June 2007).

Project Organization and Contacts of Key Management

1.4 An organization structure and the line of communication were set up for the Project between the Project Proponent, Project Manager's Representative (PMR), Independent Environmental Checker (IEC), the Contractor and the Environmental Team (ET). The project organization and contact details of key management are shown in **Figure 1.1** and **Appendix A** respectively.

Construction Activities During The Reporting Quarter

1.5 The site activities during the reporting quarter are summarized in **Table 1.2.**

Table 1.2 Summary of Works undertaken in the Reporting Quarter

Item	Work Activity	Month			
		Mar 07	Apr 07	May 07	Jun 07
Waterfront (CI-05)					
1.	Hoarding works	✓	✓	✓	✓
2.	Utilities diversion	✓	✓	✓	✓
3.	Grouting works	✓	✓	✓	✓
4.	Sheet piling and pipe piles	✓	✓	✓	✓
5.	Excavation & demolition	✓	✓	✓	✓

Item	Work Activity	Month			
		Mar 07	Apr 07	May 07	Jun 07
6.	Enhancement of Pond 35 and filling of lagoon		✓	✓	✓
7.	Construction of EVA and Waterfront Access Road to Giant Panda Habitat (GPH)		✓	✓	✓
8.	Finishing works and E&M installation at GPH				✓
9.	Temporary bus terminus				✓
10.	Completion of PMR office				✓
Summit (CI-05)					
1.	Site formation at adit portal and explosive magazine	✓	✓	✓	✓
2.	Slope stabilization	✓	✓	✓	✓
3.	Rock fall fence	✓	✓	✓	✓
4.	Utilities diversion (water main and LSS pipe)	✓	✓	✓	✓
5.	Haul road formation & excavation	✓	✓	✓	✓
6.	Temporary drainage system installation, including sedimentation tank and wastewater treatment plant (WetSep)		✓	✓	✓
7.	Crusher platform and conveyor belt footing erection		✓		✓
8.	Conveyor system installation				✓
9.	Stanchion strengthening works				✓
Tai Shue Wan (CI-05)					
1.	Construction of conveyor belt footing			✓	
2.	Conveyor belt installation			✓	✓
3.	Access road for conveyor belt footing				✓
Government Entrusted Works (CI05)					
1.	Sewage works			✓	
2.	Traffic diversion and road excavation for entrusted works				✓
Vet Hospital (CS-01)					
1.	Excavation for footings		✓	✓	✓
2.	Construction of temporary water management		✓	✓	
3.	Tower Crane Erection		✓		

Item	Work Activity	Month			
		Mar 07	Apr 07	May 07	Jun 07
4.	Site Formation for Plant Block, Pool Block and Office Block		✓	✓	
5.	Site access road formation			✓	✓
6.	Disposal of Excavated Material		✓	✓	✓
7.	Rebar fixing for footings				✓
8.	Concreting for footings				✓
9.	Excavation & Lateral Support Work for Footings				✓

1.6 A layout plan of the Project is provided in **Figure 1.2** to **Figure 1.3** and **Figure 1.5**. Figure 1.2 and 1.3 shows the layout plan of CI-05 waterfront work site and CI05 Summit work site. Figure 1.5 shows the layout plan of CS-01 vet hospital.

1.7 The status of submissions in June 2007 as specified in the Environmental Permit No. EP-249/2006/A is presented in **Table 1.3**.

Table 1.3 Status of Environmental Submissions

EP-249/2006/A Condition	Submission	Revision	Status
Contract CI05			
1.12	Notification of Commencement Date of construction stage	Dated 14 February 2007	Submitted to EPD on 15 February 2007
2.3	Management Organization	Dated 15 December 2006	Submitted to the EPD on 29 December 2006.
2.4	Construction Programme	2 Dated 14 February 2007	Submitted to the EPD on 15 February 2007
2.13	Drainage Proposal	A2 Dated 26 April 2007	Approved by EPD on 30 May 2007
2.14	Silt Curtain Proposal	B Dated 30 January 2007	Approved by EPD on 1 March 2007
2.18	As-built Drawing for Enhancement Works for Pond 35	A Dated 29 June 2007	Issued to the IEC for comments on 29 June 2007
2.20	Transplantation Proposal for Uncommon Plant Species	C Dated 25 June 2007	Submitted to the EPD on 29 June 2007
2.21	Waste Management Plan	C Dated 18 June 2007	Submitted to the EPD on 22 June 2007
3.3	Baseline Air Quality and Noise Monitoring Report	B Dated 28	Submitted to the EPD on 5 March 2007

EP-249/2006/A Condition	Submission	Revision	Status
		February 2007	
3.3	Baseline Coral Survey Report	A Dated 13 June 2007	Submitted to the EPD on 18 June 2007
3.4	Monthly EM&A Report for March 2007	A Dated 1 Apr 2007	Submitted to the EPD on 12 April 2007
Contract CI05 and Contract CS01			
3.4	Monthly EM&A Report for April 2007	A Dated 1 May 2007	Submitted to the EPD on 16 May 2007
3.4	Monthly EM&A Report for May 2007	A Dated 1 June 2007	Submitted to the EPD on 15 June 2007
3.4	Monthly EM&A Report for Jun 2007	A Dated 2 July 2007	Submitted to the EPD on 13 July 2007
CityBus Limited			
2.5	Written Notice on Completion of Total Petroleum Hydrocarbon (TPH) Contaminated Soil Disposal	Dated 17 January 2007	Submitted to the EPD on 22 January 2007.
2.6	Written Notice on Completion of Solidification Treatment of Heavy Metals Contaminated Soil	Dated 17 January 2007	Submitted to the EPD on 22 January 2007.
2.8	As-built Remediation Plan	3 Dated 14 March 2007	Submitted to the EPD on 16 March 2007
Hong Kong School of Motoring Ltd.			
2.10	Confirmation letter to confirm that land contamination remediation works within HKSM has been completed	Dated 13 April 2007	Submitted to EPD on 13 April 2007.

2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters and Locations

2.1 The EM&A Manual designates locations for the CET to monitor environmental impacts in terms of air quality, noise and ecology from the Project. The locations of air quality, noise and ecology monitoring and their control station(s) if applicable, are depicted in **Figure 1.3**, **Figure 1.4** and **Figure 1.6**. **Appendix B** gives the details of the monitoring programme.

Monitoring Methodology and Calibration Details

2.2 All monitoring works were conducted and monitoring equipment was regularly calibrated in accordance with the EM&A Manual. The calibration certificates were provided in the Monthly EM&A report. Summary of calibration are attached in **Appendix C**.

Environmental Quality Performance Limits (Action and Limit Levels)

2.3 The environmental quality performance limits, i.e. Action and Limit levels (AL Levels) were derived from the baseline monitoring results and/or other approaches as detailed in the EM&A Manual. Should the measured environmental quality parameters exceed the AL Levels, the respective action plans would be implemented. The AL Levels for each environmental parameter are given in **Appendix D**.

Environmental Mitigation Measures

2.4 Relevant mitigation measures as recommended in the Project EIA Report had been stipulated in the EM&A Manual and EMIS for the Contractor to adopt. A list of mitigation measures is given in **Appendix G**.

3. MONITORING RESULTS

Air Quality

3.1 No exceedance of Action and Limit Level for 1-hour TSP and 24-hour TSP was recorded in the reporting quarter. Graphical presentations of the air quality monitoring results are provided in **Appendix E**.

Noise

3.2 Noise monitoring was carried out for daytime (0700-1900), evening-time (1900-2300) and holiday time (0700-1900) at four stations in the reporting quarter. Graphical presentations of the noise monitoring results are provided in **Appendix F**.

3.3 All measured noise levels during daytime and evening-time were below the AL levels in the reporting quarter.

3.4 Three limit level exceedance for holiday time period was recorded in the reporting quarter. CET's assessment had shown that the exceedance was caused by the community noise at Park, not related to the construction works of CI05. The IEC has carried out an assessment of the data based on the NOE submission and concluded that the NOE recorded in the reporting quarter were not due to the construction works and no further action was required.

Terrestrial Ecology

3.5 In the reporting quarter, no terrestrial ecology monitoring was conducted since the transplantation proposal and its subsequent submissions has been submitted and waiting for approval.

Marine Ecology

3.6 The first coral monitoring was scheduled in June in the reporting quarter and the results showed that there was no exceedance of Action and Limit Levels. Details of results are shown in **Appendix J**.

4. AUDIT RESULTS

Implementation Status of Environmental Mitigation Measures

4.1 This was the first quarter of Contract No. CI05 and CS01 in the Ocean Park Master Redevelopment Project. The major activities were summarized in Table 1.2. The Contractor and sub-Contractor had implemented most of the mitigation measures to minimize the environmental impacts due to construction activities. Regarding a few minor observations as noted during ET's site inspections, the Contractor and sub-Contractor rectified all the problems and no major environmental impact was induced.

4.2 Access road of Contractor temporary site office at Nam Long Shan Road has been concreted and temporary catch pit has been built to collect the washed water from vehicle washing which is to follow up the incident of washed water discharged offsite without retention.

4.3 Exposed ground was observed dry in some times, the Contractor and sub-Contractor were reminded to keep watering the surface in order to minimize the impacts. Besides, water sprinklers were installed and in operation at some works areas.

4.4 General refuses and C&D waste were collected by licensed haulers and disposed of by using the Chit and trip tickets respectively. The procedures in WMP were fully implemented and followed. Apart from that, accumulation of waste would be avoidable.

4.5 Oil drum was observed placed on bare ground near the container office at Summit. The Contractor was reminded to provide drip tray(s) to oil drum(s).

4.6 Stagnant water was accumulated within the site area after heavy rainfall. Follow up action by the Contractor are in progress, larvicide (the OPC approved type) was used by Contractor as mosquito control measure.

4.7 Stockpile was partly covered with tarpaulin and the Contractor was reminded to cover the stockpile properly when not in use.

4.8 Silt curtain was in place and maintained regularly and in acceptable condition by the weekly site inspections.

4.9 Enhancement works of Pond 35 has been completed in late June 2007 and no violation was observed regarding ecology during the inspections in the reporting quarter.

4.10 No violation was observed regarding landscape and visual impact during the site inspections in the reporting quarter.

4.11 The updated implementation status of environmental mitigation measures (EMIS) is given in **Appendix G**.

4.12 IEC's audits were carried in monthly basis (i.e. on 21 March 2007, 18 April 2007, 29 May 2007 and 20 June 2007). No non-compliance was issued for CI05 and CS01. 20 observations were recorded for CI05 during the reporting quarter and 9 observations were recorded for CS01 during the reporting quarter. Observations details were provided in the Monthly EM&A report.

Status of Environmental Licensing and Permitting

4.13 Environmental licenses and permits including Environmental Permit for the Project, construction noise permits, chemical waste producer and effluent discharge license were in place and valid during the reporting quarter. A summary status of licences and permits is given in **Appendix H**.

Advice on Solid and Liquid Waste Management Status

4.14 The solid waste generated from the Project site office was mainly general refuse that was collected by a licensed collector on an as need basis while the liquid waste generated from the Project site office was mainly domestic waste. **Table 4.1** summarises the estimated solid and liquid waste generated during the reporting quarter.

Table 4.1 Estimated Waste Generation from March 2007 to June 2007

Waste Type	Estimated Amount (tonnes)				Disposal Locations
	Mar 07	Apr 07	May 07	Jun 07	
C&D waste	14.56	10.26	61.32	71.95	SENT Landfill
	NIL	4.25	NIL	2.45	NENT Landfill
	258.15	261.82	97.9	132.68	TKOSF
	123.50	94.63	83.09	13.17	TM38SF
C&D material	132.89	179.78	5,613.78	5,076.87	QBBP
	110.87	1,323.00	68.21	NIL	TKOFB
	NIL	NIL	3170	11,772	Green Valley
	NIL	NIL	830	1,548	Internal
Chemical waste	NIL	NIL	NIL	NIL	Collected by licensed collector
General waste	15 m^3	35 m^3	46.5 m^3	25.5 m^3	Collected by licensed collector

Notes: All figures are in tonnes unless specific.

5. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)

Summary of Exceedances

5.1 For construction noise monitoring, there were three limit level exceedances recorded for holiday time period in the reporting quarter.

5.2 In the reporting quarter, no exceedance recorded in the air quality monitoring events and the coral monitoring events.

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

5.3 The noise exceedance occurred in holiday time period in the reporting quarter. Detailed assessment had shown that the exceedance was caused by the community noise at Park, not related to the construction works of CI05 and CS01. Thus, no further action was required.

Summary of Actions Taken

5.4 The Contractor and sub-Contractor generally implemented all the required mitigation measures to suppress the environmental impacts. As the exceedance recorded in the reporting quarter were not associated with the works of Contract CI05 and CS01, no further action was required.

6. ENVIRONMENTAL COMPLAINTS

Complaints Log

6.1 No complaints were made against this Project since commencement of the Project.

Complaints Handling Procedure

6.2 All complaints will be handled in accordance with the EM&A Manual. The complaint handling procedure and the complaint log are provided in **Appendix I.**

7. NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS

7.1 No summon or prosecution related to environmental issues was made against the Project within the reporting quarter.

8. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

8.1 The implemented EM&A programme ensured that any environmental impacts to the receivers would be readily detected and timely actions could be taken to rectify any non-compliance. Assessment and analysis of monitoring results collected demonstrated the environmental acceptability of the Project. Weekly site inspections ensured that the EIA recommendations were effectively implemented.

8.2 The CET carried out air quality, noise monitoring, coral monitoring and weekly site inspection in accordance with the EM&A Manual. No major environmental impact was induced form the project.

8.3 Environmental quality exceedances were recorded, which included three construction noise exceedances in the reporting quarter. CET's assessment had shown that all exceedance was not due to works of Contract CI05 and CS01 in Ocean Park Master Redevelopment Project. Thus, no further action was required.

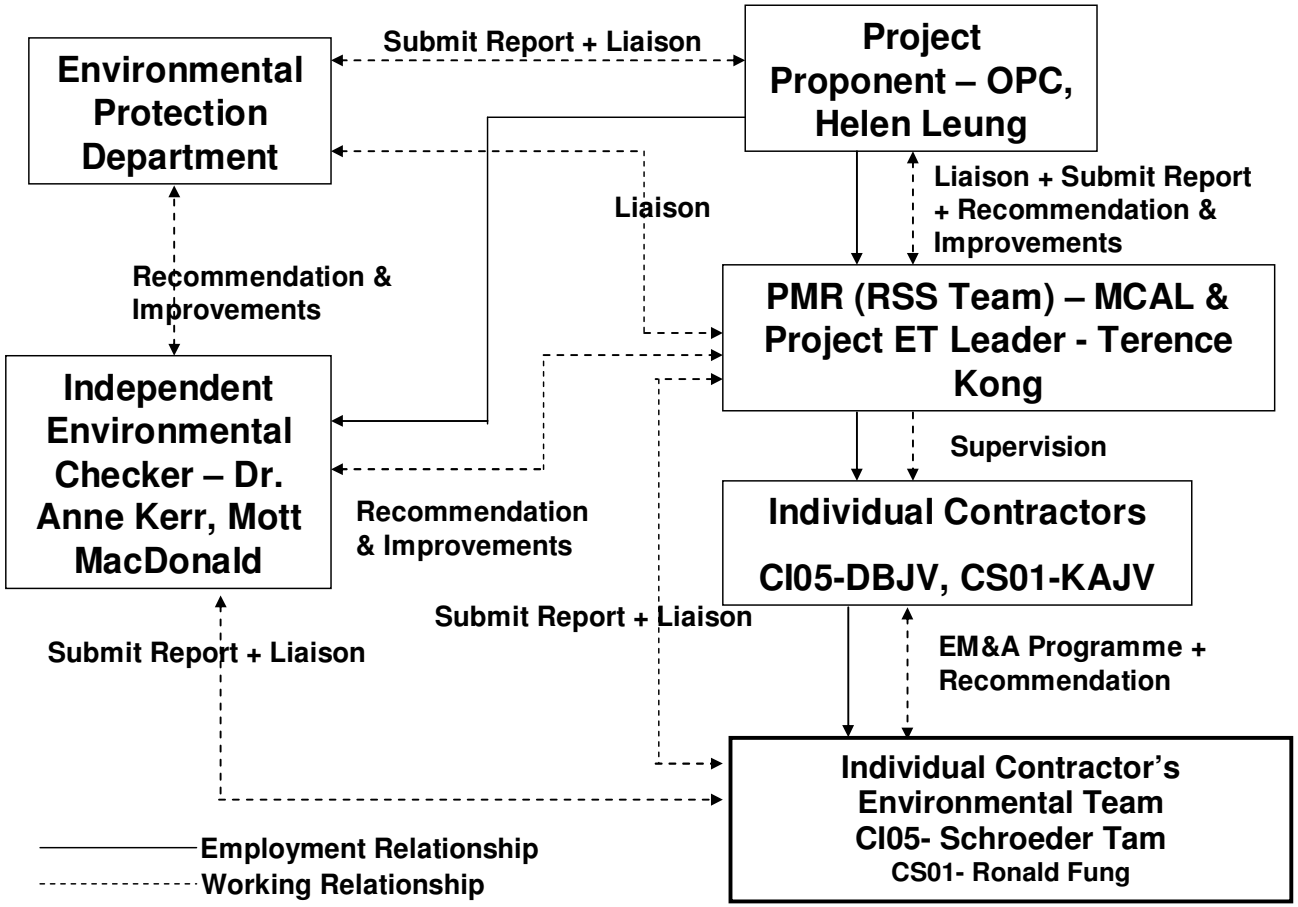
8.4 No exceedance of Action and Limit Level for 1-hour TSP and 24-hour TSP was recorded in the reporting quarter.

8.5 The first coral monitoring was scheduled in June in the reporting quarter and the results showed that no exceedance was recorded.

8.6 No complaint, summons and prosecutions related to environmental issues were made against the Project in the reporting quarter.

Figures

Figure 1.1 Management Organizations



				DESIGNED BY	BLo	MAIN CONTRACTOR :	CLIENT :
				DRAWN BY	BLo	Dragages-Bouygues JV 寶嘉-布依格聯營	香港海洋公園 OCEAN PARK HONG KONG
				CHECKED BY	GCh		
				IN CHARGE	DNg		
A	02APR2007	GCh	FIRST ISSUE	DATE	02APR2007		
REV.	DATE	BY	DESCRIPTION				

PROJECT TITLE :

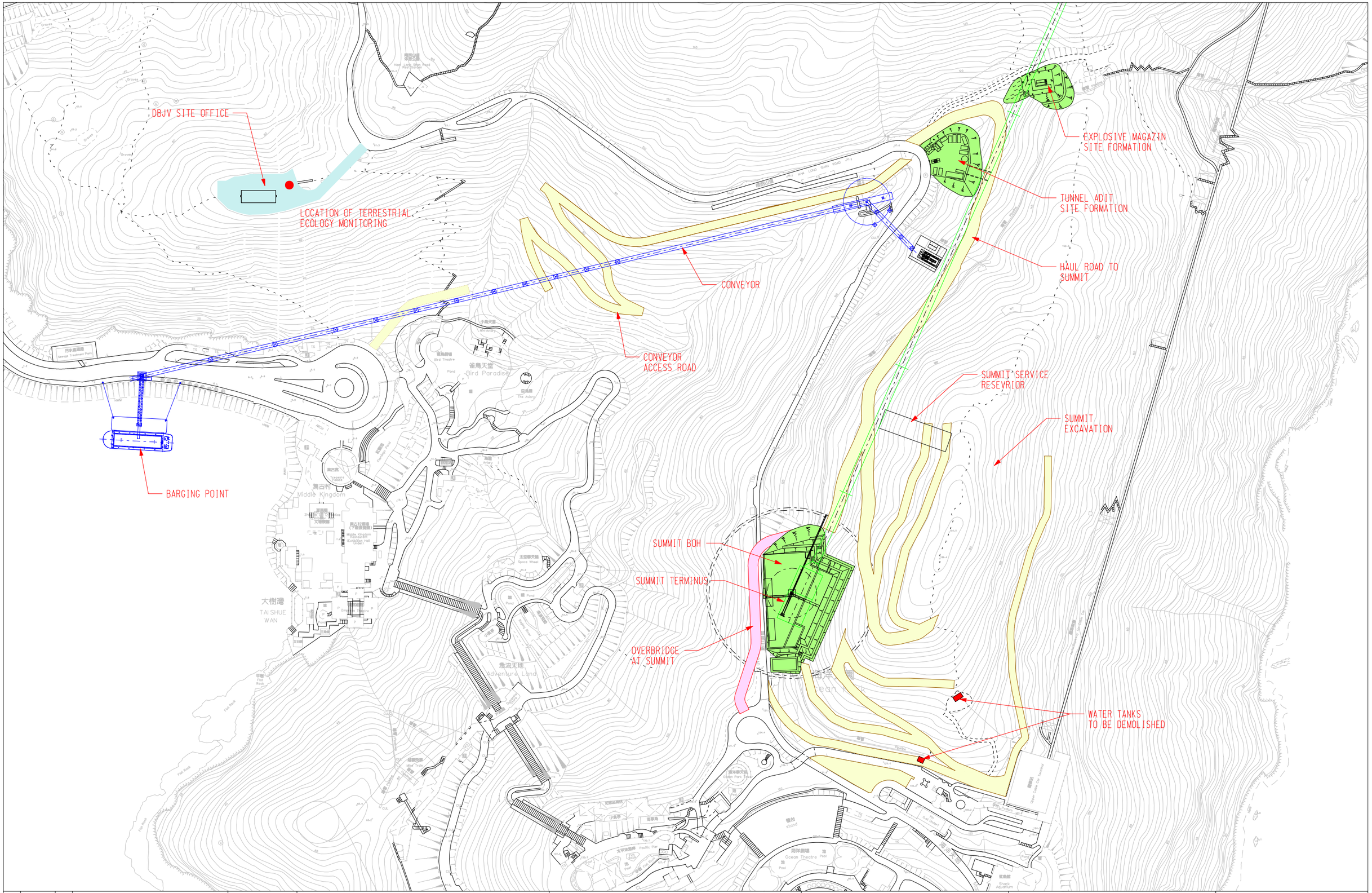
OCEAN PARK REDEVELOPMENT

Contract No. CI05
Site Formation, Funicular Tunnel and Miscellaneous Works

DRAWING TITLE :

FIGURE 1.2
LAYOUT OF WORK SITE
(WATERFRONT)

CADD FILENAME :	01ENV0013A.DGN
DATE :	02APR2007
SCALE :	1 : 1500 @ A3
DRAWING NUMBER :	DBJV/CI05/01/ENV/0013
REV.	A



REV.	DATE	BY	DESCRIPTION
A	02APR2007	GCh	FIRST ISSUE

DESIGNED BY	BLo
DRAWN BY	BLo
CHECKED BY	GCh
IN CHARGE	DNg
DATE	02APR2007

MAIN CONTRACTOR :
Dragages-Bouygues JV 實嘉-布依格聯營

CLIENT :
香港海洋公園
OCEAN PARK HONG KONG

PROJECT TITLE :
OCEAN PARK REDEVELOPMENT
Contract No. CI05
Site Formation, Funicular Tunnel and Miscellaneous Works

DRAWING TITLE :
FIGURE 1.3
LAYOUT OF WORK SITE (SUMMIT) AND LOCATION OF TERRESTRIAL ECOLOGY MONITORING

CADD FILENAME :	01ENV0014A.DGN
DATE :	02APR2007
SCALE :	1 : 2500 @ A3
DRAWING NUMBER :	DBJV/CI05/01/ENV/0014
REV.	A

REV.	DATE	BY	DESCRIPTION
A	02APR2007	STa	FIRST ISSUE

DESIGNED BY: STa
DRAWN BY: BLo
CHECKED BY: STa
IN CHARGE: YTS
DATE: 02APR2007

MAIN CONTRACTOR: Dragages-Bouygues JV 寶嘉-布依格聯營

CLIENT: 香港海洋公園 OCEAN PARK HONG KONG

PROJECT TITLE:
OCEAN PARK REDEVELOPMENT
Contract No. CI05
Site Formation, Funicular Tunnel and Miscellaneous Works

DRAWING TITLE:
FIGURE 1.4
AIR QUALITY AND NOISE MONITORING STATIONS LOCATION PLAN

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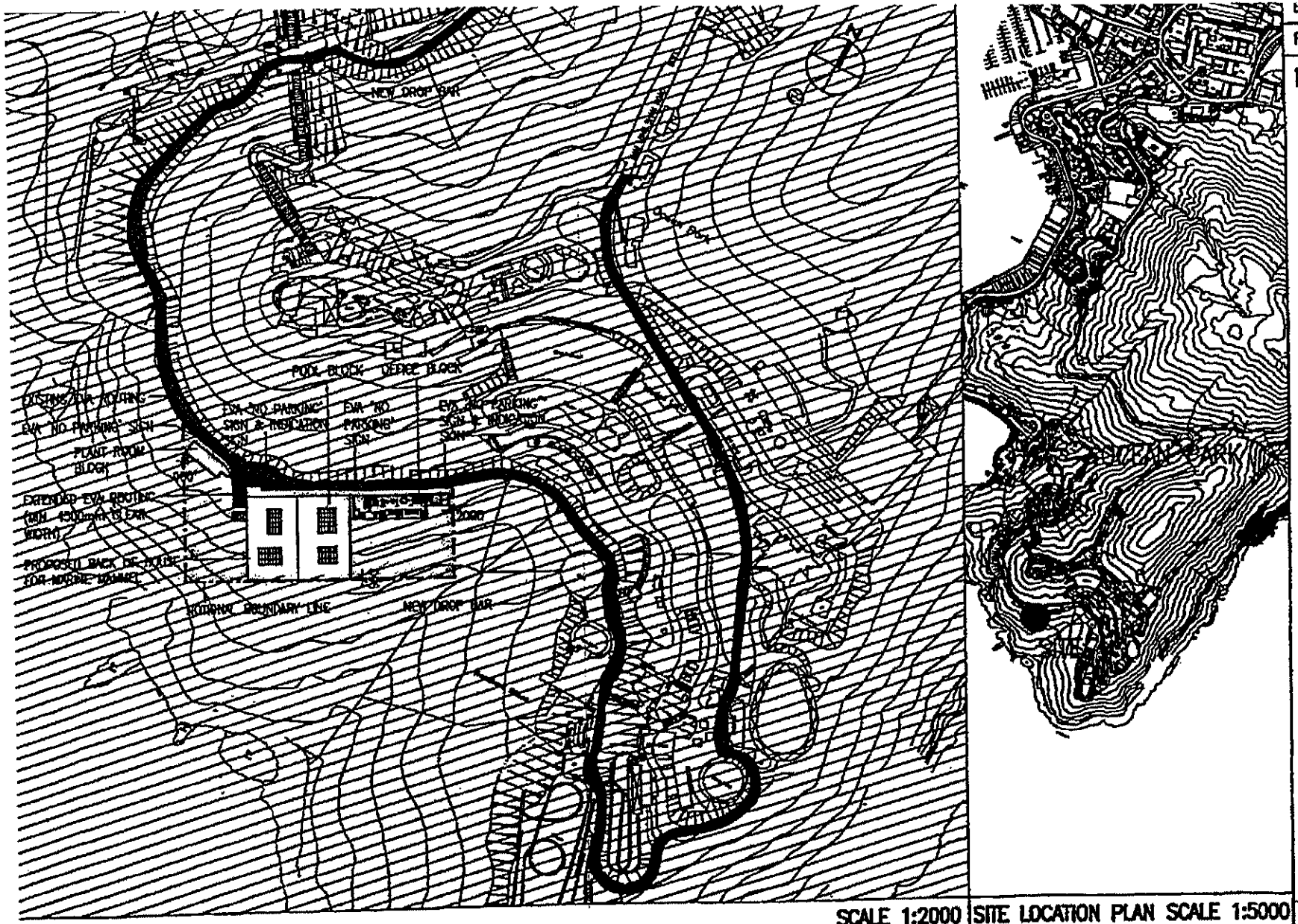
DATE: 02APR2007
SCALE: 1 : 2500 @ A3
DRAWING NUMBER: DBJV/CI05/01/ENV/0015
REV.: A



BU REF. BU 2/2012/06

FSD REF. FP 8/7720 'P' 1

NOTE:

BLOCK PLAN / EVA PLAN SCALE 1:2000

SITE LOCATION PLAN SCALE 1:5000

REV.	DATE	DESCRIPTIC
A	[illegible]	Tender Addendum 1
-	22/02/12	Tender Drawing

REVISION ISSUE

Figure 1.5 Layout of Work Site (Vet Hospital)

LEGENDS (FOR ALL BLOCK)

REV.	DATE	BY	DESCRIPTION
A	02APR2007	STa	FIRST ISSUE

DESIGNED BY STa
DRAWN BY BLo
CHECKED BY STa
IN CHARGE YTS
DATE 02APR2007

MAIN CONTRACTOR :
Dragages-Bouygues JV 寶嘉-布依格聯營

CLIENT :
香港海洋公園
OCEAN PARK HONG KONG

PROJECT TITLE :
OCEAN PARK REDEVELOPMENT
Contract No. CI05
Site Formation, Funicular Tunnel and Miscellaneous Works

DRAWING TITLE :
FIGURE 1.6
LOCATIONS OF
SUBTIDAL MONITORING STATION

CADD FILENAME :	01ENV0016A.DGN
DATE :	02APR2007
SCALE :	1 : 7500 @ A3
DRAWING NUMBER :	DBJV/CI05/01/ENV/0016
REV.	A

Appendix A

APPENDIX A – CONTACTS OF KEY ENVIRONMENTAL PERSONNEL

Company	Contact Person	Position	Telephone No.
Ocean Park Corporation	Helen LEUNG	Project Manager	2910 3106
Maunsell Consultants Asia Ltd	Joseph GABAY	Project Manager Representative (PMR)	2871 5888
	Terence KONG	Project ETL	2871 5893
Mott MacDonald Hong Kong Ltd	Dr. Anne KERR	Independent Environmental Checker	2828 5757
Dragages-Bouygues J.V. (for Contract CI05)	YT SO	Project QSE Manager	2555 4110
	Schroeder TAM	Contractor's ET	2555 4113
Kaden-ATAL J.V. (for Contract CS01)	Ronald Fung	Contractor's ET	9777 7667

Appendix B

APPENDIX B – ENVIRONMENTAL MONITORING PROGRAMME

From 12 March 2007 to 25 June 2007

Sun	Mon	Tue	Wed	Thu	Fri	Sat
March						
	12 1-hr TSP 24-hr TSP NM (D)	13	14 1-hr TSP	15	16 1-hr TSP	17 1-hr TSP 24-hr TSP
18	19 1-hr TSP NM (D)	20	21 1-hr TSP	22	23 1-hr TSP 24-hr TSP	24
25	26 1-hr TSP NM (D)	27	28 1-hr TSP NM (E)	29 1-hr TSP 24-hr TSP	30 1-hr TSP	31
April						
1	2 1-hr TSP NM (D)	3	4 1-hr TSP 24-hr TSP	5	6 1-hr TSP NM (H)	7
8	9 1-hr TSP	10 1-hr TSP 24-hr TSP NM (D)	11 1-hr TSP NM (E)	12	13 1-hr TSP	14
15	16 1-hr TSP NM (D) 24-hr TSP	17	18 NM (E) 1-hr TSP	19	20 1-hr TSP	21 1-hr TSP 24-hr TSP
22	23 1-hr TSP NM (D)	24	25 1-hr TSP NM (E)	26	27 1-hr TSP 24-hr TSP	28
29	30 1-hr TSP NM (D)					

Notes: NM (D) denotes Daytime Noise Monitoring.
NM (E) denotes Evening Noise Monitoring if construction work is in progress.
NM (H) denotes Holiday Noise Monitoring if construction work is in progress.
SM denotes Subtidal Monitoring.

APPENDIX B – ENVIRONMENTAL MONITORING PROGRAMME

From 12 March 2007 to 25 June 2007

Sun	Mon	Tue	Wed	Thu	Fri	Sat
May						
		1	2 1-hr TSP	3 1-hr TSP 24-hr TSP	4 1-hr TSP	5
6	7 1-hr TSP NM (D)	8	9 1-hr TSP 24-hr TSP	10	11 1-hr TSP	12
13	14 1-hr TSP NM (D)	15 1-hr TSP 24-hr TSP	16 1-hr TSP	17	18 1-hr TSP	19
20	21 1-hr TSP 24-hr TSP NM (D)	22	23 1-hr TSP	24	25 1-hr TSP	26 1-hr TSP 24-hr TSP
27	28 1-hr TSP NM (D)	29	30 1-hr TSP	31		
June						
					1 1-hr TSP 24-hr TSP	2
3	4 1-hr TSP NM (D)	5	6 1-hr TSP	7 1-hr TSP 24-hr TSP	8 1-hr TSP	9
10 SM (Site 5 and C)	11 1-hr TSP NM (D)	12	13 1-hr TSP 24-hr TSP	14	15 1-hr TSP	16 SM (Sites 1-5 and C)
17	18 1-hr TSP 24-hr TSP NM (D)	19	20 1-hr TSP	21 NM (E)	22 1-hr TSP	23 1-hr TSP 24-hr TSP
24	25 1-hr TSP NM (D)					

Notes: NM (D) denotes Daytime Noise Monitoring.
NM (E) denotes Evening Noise Monitoring if construction work is in progress.
NM (H) denotes Holiday Noise Monitoring if construction work is in progress.
SM denotes Subtidal Monitoring.

Appendix C

APPENDIX C – CALIBRATION DETAILS

Air Quality Monitoring Equipments

Monitoring Location	AM1	AM2	AM3	-
High Volume Sample/Dust Trak Serial No.	1174	1177	9998	14230
Sampler Identification	ET / EA / 003 / 08	ET / EA / 003 / 07	ET / EA / 003 / 12	ET / EA / 001 / 04
Date of Calibration	02 May 2007	08 June 2007	02 May 2007	20 January 2007
Calibration Due Date	01 July 2007	07 August 2007	01 July 2007	19 July 2007
Result	Good	Good	Good	Good

Noise Monitoring Equipments

Monitoring Location	CN1, CN2, CN3 & CN4
Sound Level Meter Brand Name and Model	Rion NL-31
Serial No.	01120826
Date of Calibration	27 December 2006
Calibration Due Date	26 December 2007
Result	Good

Appendix D

APPENDIX D - ACTION AND LIMIT LEVELS

Table D.1 Action and Limit Levels for 1-hour average TSP and 24-hour average TSP Monitoring

Monitoring Location	24-hr TSP (μg/m^3)		1-hr TSP (μg/m^3)	
	Action Level	Limit Level	Action Level	Limit Level
AM1	183	260	440	500
AM2	181	260	500	500
AM3	194	260	500	500

Table D.2 Action and Limit Levels for Daytime, Evening & Night-time Noise Monitoring

Time Period	Action	Limit
0700-1900 hrs on normal weekdays	When one documented complaint is received from any one of the sensitive receivers	75 dB(A) *
1900-2300 hrs on normal weekdays; and 0700-1900 hrs on holidays		60/65/70 dB(A) **
2300-0700 hrs of next day		45/50/55 dB(A) **

* reduce to 70dB(A) for school and 65dB(A) during school examination periods, if applicable

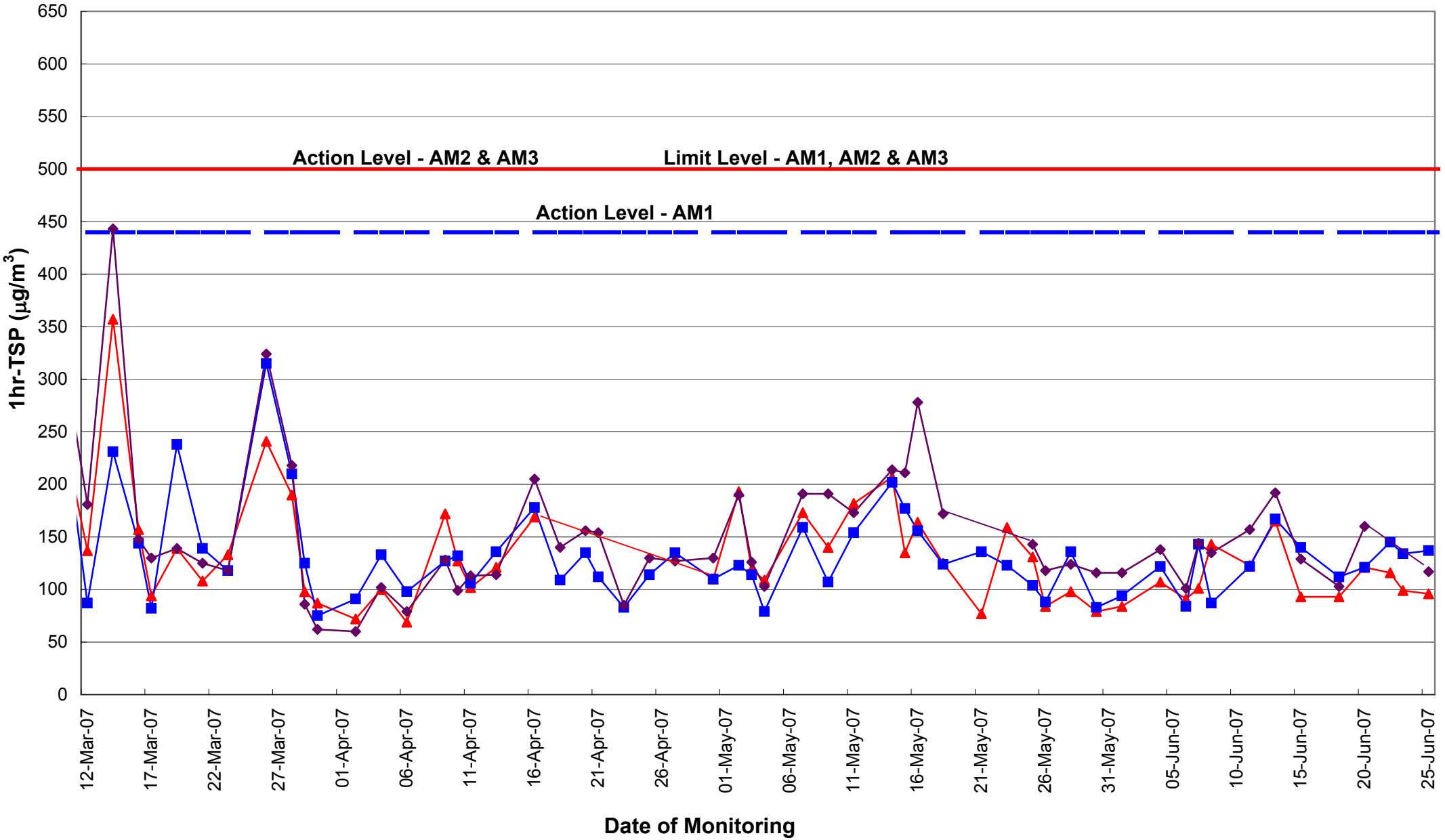
** to be selected based on the Area Sensitivity Rating of A/B/C, and the conditions of the CNP(s) must be followed

Table D.3 Action and Limit Levels for Subtidal Monitoring

Parameter	Action Level Definition	Limit Level Definition
Sedimentation	If during Impact Monitoring a 15% increase in the percentage of sediment cover on hard corals occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Action Level is exceeded.	If during the Impact Monitoring a 25% increase in the percentage of sediment cover occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Limit Level is exceeded.
Bleaching	If during Impact Monitoring a 15% increase in the percentage of bleaching (bleached white) on hard corals occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Action Level is exceeded.	If during the Impact Monitoring a 25% increase in the percentage of bleaching (bleached white) occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Limit Level is exceeded.
Mortality	If during Impact Monitoring a 15% increase in the percentage of partial mortality on hard corals occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Action Level is exceeded.	If during the Impact Monitoring a 25% increase in the percentage of partial mortality occurs at more than 20% of the tagged coral at any one Impact Monitoring Site that is not recorded at the Control Site, then the Limit Level is exceeded.

Appendix E

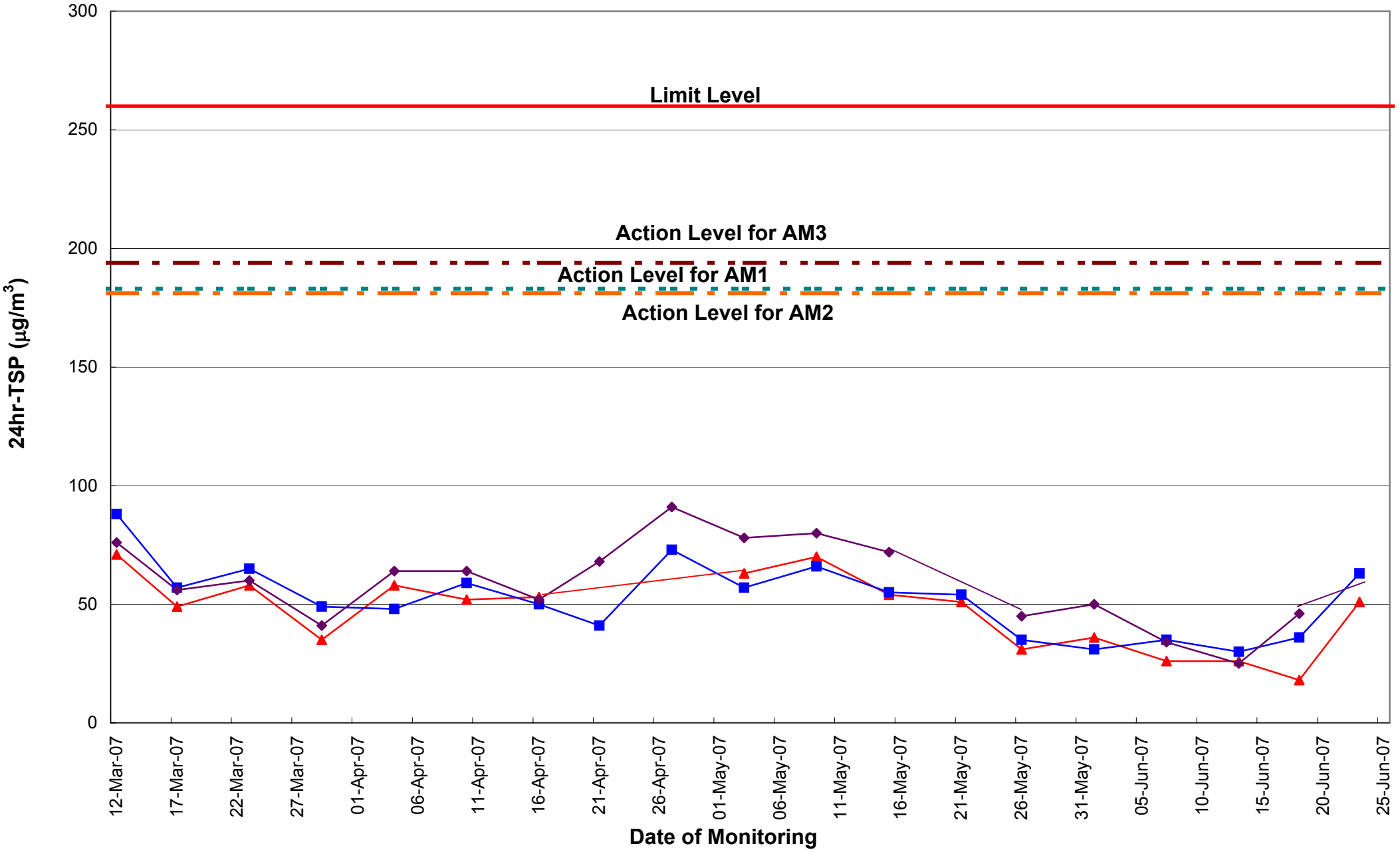
Figure E.1 1-hr TSP monitoring results of Monitoring Station AM1, AM2 & AM3



AM1 - No measurement on 18, 20, 21, 23, 25 & 27 Apr 07 due to power failure.
AM3 - No measurement on 21 & 23 May 07 and 22 & 23 Jun 07 due to power failure.

1-hr TSP - AM1
Action Level - AM1
Limit Level - AM1, AM2, AM3
1hr TSP - AM2
1-hr TSP - AM3

Figure E.2 24-hr TSP monitoring results of Monitoring Station AM1, AM2 & AM3



No measurement due to power failure on -
21 Apr 07 at AM1; and
21 May 07 and 23 Jun 07 at AM3

Appendix F

Fig F.1 - Daytime Noise Monitoring Results of Monitoring Stations NM1, NM2, NM3 & NM4

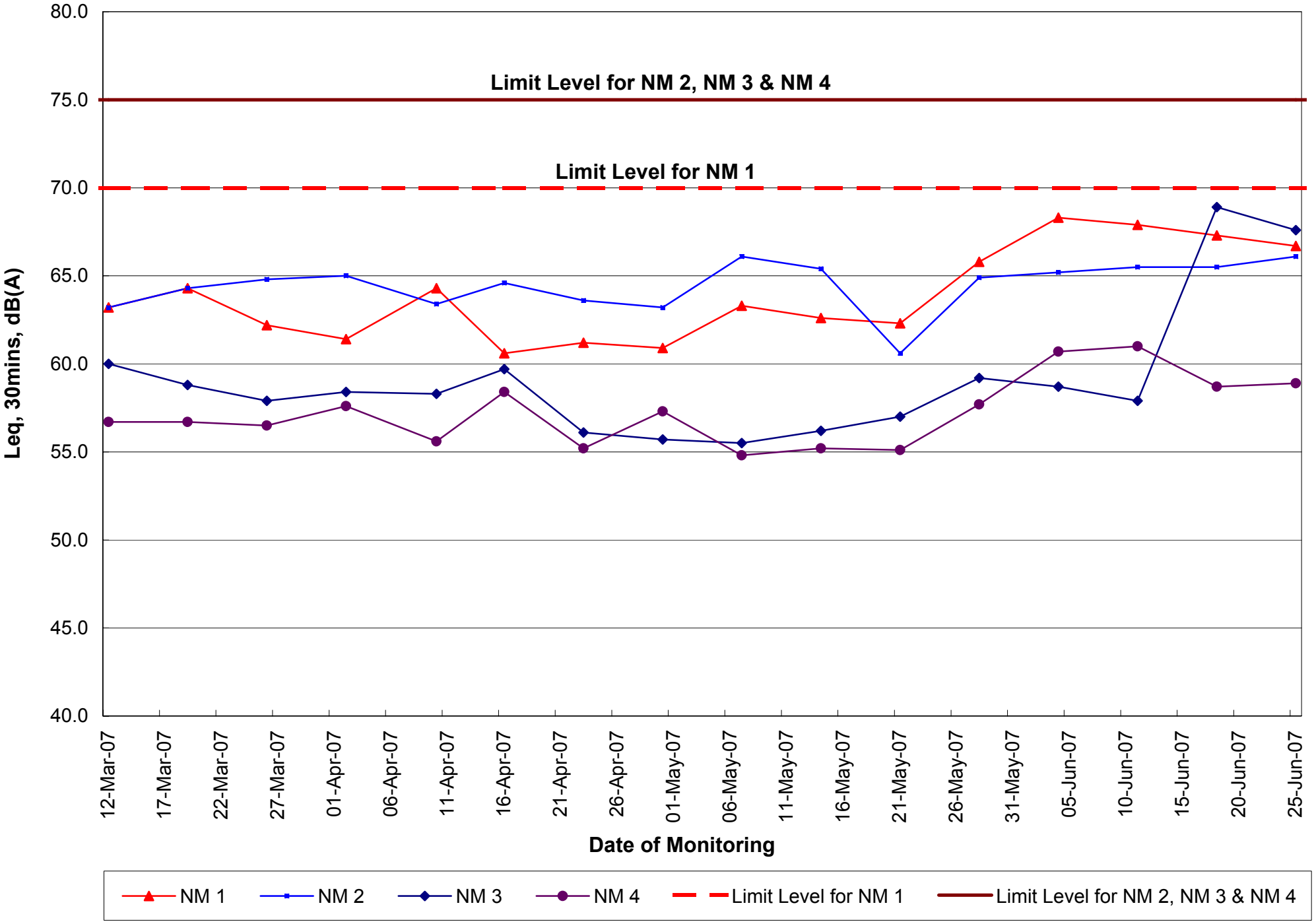


Fig F.2 - Evening Noise Monitoring Results of Monitoring Stations NM1, NM2, NM3 & NM4

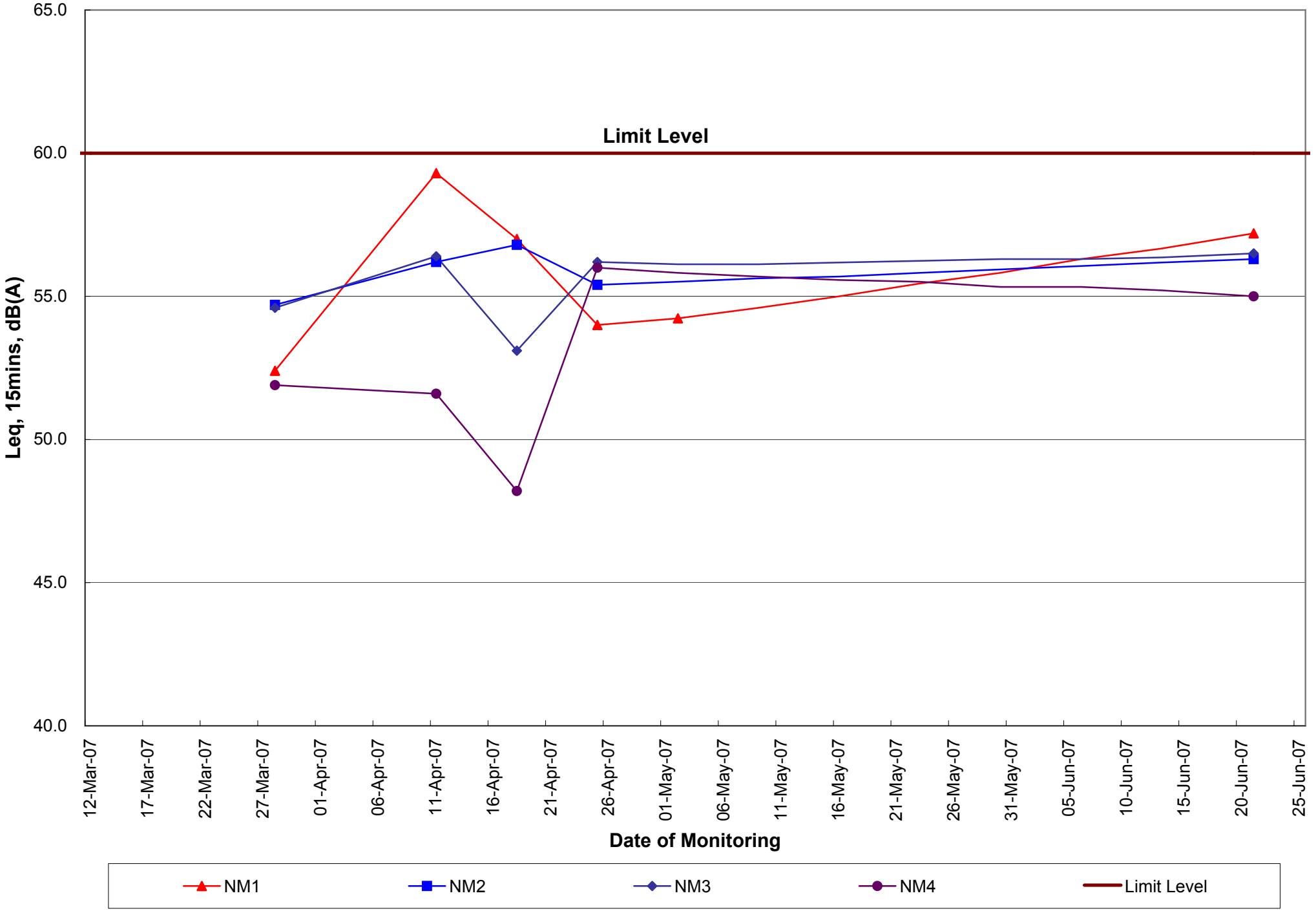
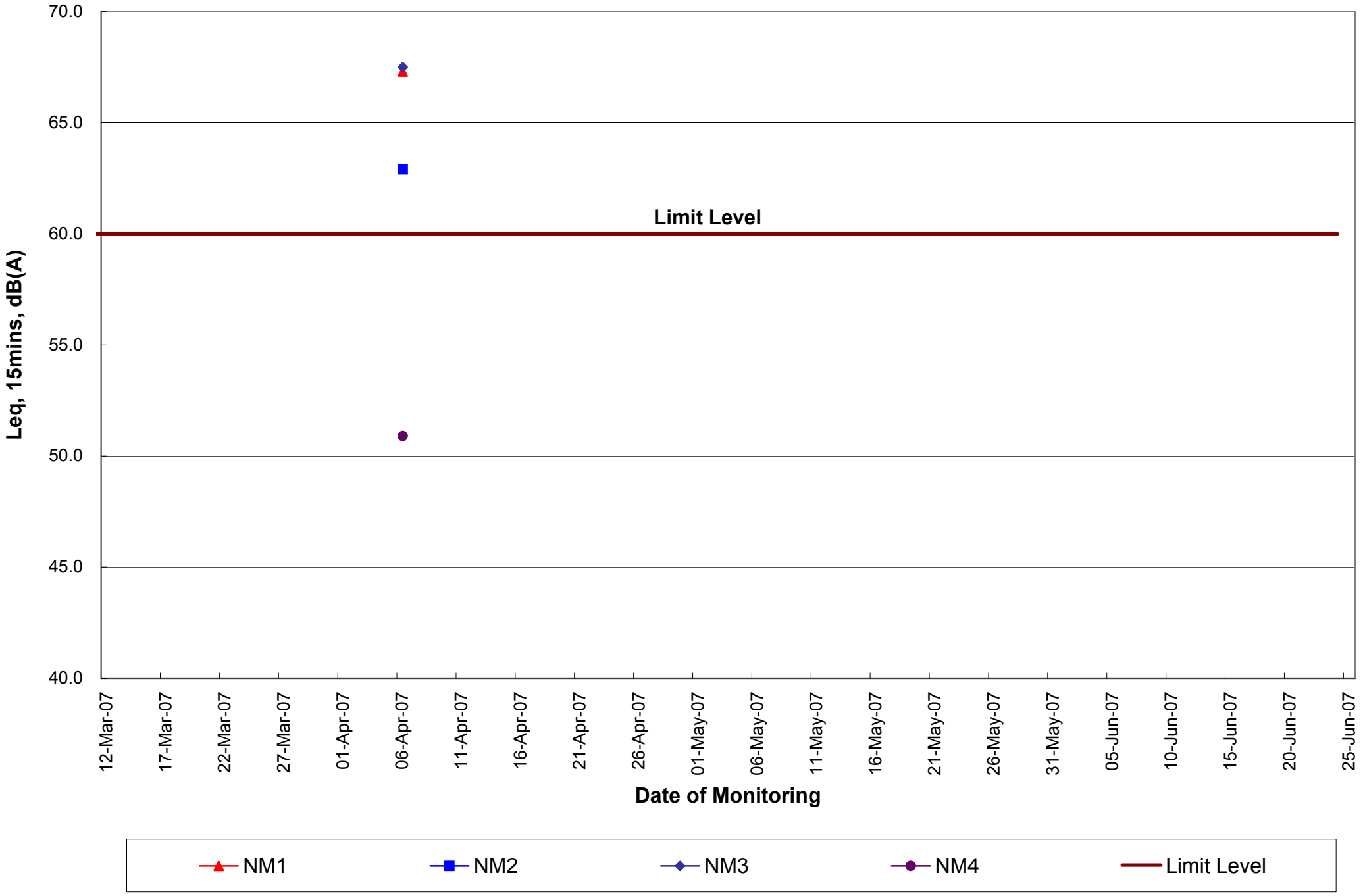


Figure F.3 - Holiday Noise Monitoring Results of Monitoring Stations NM1, NM2, NM3 & NM4



Appendix G

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ01	Dust emission from construction site in general	Cap 311, sub leg R Schedule III S.13	Hoardings of not less than 2.4m high from ground level should be erected along the entire length of the site boundary except for site entrance or exit.	✓			✓	
AQ02	Dust emission from construction site in general	Cap 311, sub leg R Schedule III S.13 & PS 26.10(6)(i)(e)	To minimize dust emissions, the amount of soil exposed and the dust generation potential should be kept as low as possible. This can be accomplished by water sprays, surface compaction; temporary fabric covers, minimizing the extent of exposed soil, and prompt re-vegetation of completed earthworks.	✓		✓	✓	
AQ03	Dust emission from construction site in general	Cap 311, sub leg R Schedule III S.13 & PS 26.10(6)(i)(j)	Wheel washing facilities should be provided at all vehicle site entrances/exits to prevent dusty material from being carried off-site on vehicles and deposited on public roads. The facilities shall be provided in advance of any major construction activities.	✓			Under preparation	
AQ04	Dust emission from site clearance	Cap 311, sub leg R Schedule IV S.26 (1), (2) & PS 26.10(6)(i)(l)	The working area for uprooting of trees, shrubs or vegetation or for the removal of boulders, poles, pillars or temporary or permanent structures shall be sprayed with water or a dust suppression agent immediately before, during and immediately after the operation so as to maintain the entire surface wet.		✓	✓	✓	
AQ05	Dust emission from excavation or earth moving	Cap 311, sub leg R Schedule III S.24	The heights from which excavated materials are dropped should be minimized to limit fugitive dust generation from loading/unloading.	✓		✓	✓	
AQ06	Dust emission from excavation or earth moving	Cap 311, sub leg R Schedule III S.24	Working areas of any excavation or earth moving operation will be sprayed with water.		✓	✓	✓	

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ07	Access Road	PS 26.10(6)(i)(g)	Effective water sprays should be used on the site to dampen potential dust emission sources such as unpaved areas used by site traffic and active construction areas.		✓	✓	✓	
AQ08	Access Road	Cap 311, sub leg R Schedule III S.14 (1) & PS 26.10 (6)(i)(a)	Areas of site with regular movement of vehicles shall have an approved hard surface and be kept clean of loose material.	✓			✓	
AQ09	Access Road	PS 26.10 (6)(i)(d)	All on-site motorized vehicles speeds shall be restricted to a max. speed of 10km/h and delivery vehicles to designated roadways inside the Site to reduce dust re-suspension and dispersion.			✓	✓	
AQ10	Access Road	Cap 311, sub leg R Schedule III S.14 (1) & PS 26.10(6)(i)(a)	The roadway between the wheel wash and the public road will be paved.	✓			Under preparation	
AQ11	Dust emission from material transporting and handling	PS 26.10(6)(i)(h) & (i)	Vehicles transporting materials with the potential to generate dust should have properly fitting side and tailboards.	✓		✓	✓	
AQ12	Dust emission from material transporting and handling	PS 1.110 (a)	The cover of the bed of dump truck shall be power operated with manual backup, so that the operator would not need to climb on the dump bed to operate the cover (both under power mode and manual mode). Operation from driver cab or with the operator standing on ground is acceptable. After the cover to the dump bed is closed, any gap left on the system of enclosure should be less than 25mm wide measured in a direction across the gap. Any remaining gap is to be sealed up tightly with a layer of nylon bristle of sufficient length to bridge across the gap.	✓		✓	✓	

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ12	Dust emission from material transporting and handling	Cap 311, sub leg R Schedule IV S.26 (1)	Materials transported by vehicles should be covered, with the cover properly secured and extended over the edges of the side and tail boards.	✓		✓	✓	
AQ13	Dust emission from material transporting and handling	PS 26.10(6)(i)(k)	Spraying all dusty materials with water prior to any loading, unloading or transfer operation so as to maintain the dusty material wet.	✓		✓	✓	
AQ14	Dust emission from material transporting and handling	PS 26.10(6)(i)(a)	Material storage and handling areas shall be located on hard core or paved.	✓		✓	✓	
AQ15	Dust emission from material transporting and handling	Cap 311, sub leg R Schedule IV S.26	All stockpiled aggregate or spoil of more than 50 m^3 should be enclosed or covered and water applied twice per day during dry or windy conditions.	✓		✓	o	
AQ16	Dust emission from materials transporting and handling	Cap 311, sub leg R Schedule III S.15 (1) & PS 26.10(6)(i)(f)	Stockpiles of dusty materials shall be covered and minimized the extent of spoil exposed at any given time.	✓		✓	o	
AQ17	Dust emission from materials transporting and handling	Cap 311, sub leg R Schedule III S.15 (1)	Every stock of more than 20 bags of cement shall be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.	✓		✓	✓	
AQ18	Dust emission from materials transporting and handling	Cap 311, sub leg R Schedule III S.15 (1) & PS 26.10 (6)(i)(b)	Material conveyors for the transfer of dusty materials shall be fitted with windboards and enclosed conveyor transfer points and hopper discharge areas to minimize dust emission.	✓	✓		o	
AQ19	Dust emission from materials transporting and handling	PS 26.10 (6)(i)(c)	Totally enclosing all conveyors carrying materials which have the potential to create dust and fitting them with belt cleaners.	✓	✓		o	
AQ20	Dust emission from materials transporting and handling	PS26.16 (2)(ii)	Profiled steel cladding should be provided at two sides of loading point at barge.	✓	✓		o	

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ21	Dust emission from materials transporting and handling	PS 26.16 (2)(iii)	Dust suppression sprays should be installed and operated in strategic locations at the feeding inlet and outlet.	✓	✓		o	
AQ22	Dust emission from materials transporting and handling	PS 26.16 (2)(iv)	The barging point should be placed within a totally enclosed structure incorporating an enclosed chute for material transfer to barge.	✓	✓		o	
AQ23	Dust emission from materials transporting and handling	PS 26.16 (2)(iv)	Flexible curtain should be hanged on the enclosed chute to prevent dust emission when excavated material/rocks are transported into the barge.	✓	✓		o	
AQ24	Dust emission from materials transporting and handling	Cap 311, sub leg R Schedule III S.15	Debagging of cement and similar materials to be done in a ventilated enclosure with a filtered extraction system.	✓		✓	o	
AQ25	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2)	Wet the area within 30m from the blasting area with water prior to blasting.	✓	✓	✓	o	
AQ26	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2)	Wire mesh, gunnysack and sandbag should be used on top of the blast area on each shot to prevent flying rock and reduce fugitive dust generation.	✓			o	
AQ27	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2)	Do not carry out blasting when the strong wind signal or tropical cyclone warning no. 3 is hoisted unless prior permission of the Commissioner of Mines is obtained.		✓	✓	o	
AQ28	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2)	Blasting shall not be carried out when a Hong Kong Observatory Thunderstorm Warning is in force.		✓	✓	o	
AQ29	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2)	Use of vacuum extraction drilling methods and sequenced the blasting works carefully.		✓		o	

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ30	Dust Emission from Blasting	Cap 311. sub leg R Schedule IV S.27 (1), (2); PS 26.13(4)(iv)	Firing of explosive shall be carried out in the morning prior to opening of the Park.	✓	✓	✓	o	
AQ31	Dust Emission from Tunnel		Exhausts from tunnel ventilation should face away from sensitive receivers.	✓	✓	✓	o	
AQ32	Dust Emission from Tunnel		Forced ventilation shall be maintained in the tunnel to ensure noxious or asphyxiating gases do not accumulate. At the tunnel access shaft or portal the expelled air shall be vented to the atmosphere ensuring adequate diffusion of gases. Expelled air shall be directed away from nearby buildings.	✓	✓	✓	o	
AQ33	Dust Emission from Tunnel		Tunnel ventilation containing high level of Total Suspended Particulates (TSP) shall be filtered at least to the satisfaction of the Safety and Environmental Officers prior to being vented to the atmosphere. The filters should be changed weekly to prevent blockages, which may affect the performance of the system.	✓		✓	o	
AQ34	Dust Emission from Crushing Plant	PS 26.10(2)	The crushing plant shall be operated in accordance with the specified process licence.	✓		✓	o	
AQ35	Gas Emission Smoke/fume from construction plants and equipments	Cap 311, sub leg C S.3	All plants and equipments should be well maintenance to avoid dark smoke.	✓		✓	An owner, who operates any plant in such a manner that any dark smoke is emitted for more than 6 minutes in any period of 4 hours or for more than 3 minutes continuously at any one time, commits an offence.	
AQ36	Smoke/fume from construction plants and equipments	Cap 311, sub leg A S.4, 5 & 6	Prior approval should be obtained before the installation of the emergency generator.	✓			N/A	Include in the design

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Air Quality								
AQ37	Smoke from open burning	Cap 311, sub leg O S.4 (1)	Open burning for the purpose of disposal of construction waste/tyres, the salvage of metal or the clearance of site in preparation for construction work is prohibited.			✓	✓	
AQ38	Smoke/fume from all site vehicles	Cap 374, sub leg A S.31(1)	Black smoke should be avoided from any vehicle whether or not mechanically propelled which is constructed or adapted for use on roads (exclude a vehicle of the North-west Railway or a tram)	✓		✓	✓	
AQ39	Smoke/fume from all site vehicles	Cap 311, sub leg L Schedule I	Ensure the correct diesel used in any vehicle whether or not mechanically propelled which is constructed or adapted for use on roads (exclude a vehicle of the North-west Railway or a tram)		✓	✓	✓	
AQ40	Emission from spraying products	Cap 403, sub. leg C s.3	Ozone depleting paint sprayers shall not be used on sites.		✓	✓	✓	
Noise/Vibration								
NV01	Noise from construction work other than percussive piling	Cap 400, S.6(1), PS 26.11 (2)	Work required for the use of powered mechanical equipment (PME) in restricted hours, i.e. the hours between 7pm and 7am on weekdays or at any time on Sundays or a public holiday, for carrying out construction activity shall be required a valid Construction Noise Permit (CNP).		✓	✓	✓	
NV02	Noise Emission from construction plants and equipments	PS 26.11 (9)	Relocation of noise-emitting plant, the use of silencers, mufflers, acoustic sheds or shields or acoustic sheds or screens upon the best reasonable practice.	✓		✓	✓	
NV03	Noise Emission from construction plants and equipments	PS 26.11 (10)	Maintain all plant and silencing equipment in good condition so as to minimize the noise emission during the works.			✓	✓	

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Noise/Vibration								
NV04	Noise Emission from construction plants and equipments	Cap 400, sub. leg. C, s17(1)	Compressors should have Noise Emission Labels (NELS).			✓	✓	
NV05	Noise Emission from construction plants and equipments	Cap 400, sub. leg. D, s17(1)	Hand held breakers should have Noise Emission Labels (NELS).			✓	✓	
NV06	Noise Emission from construction plants and equipments	PS 26.11 (13)(i)	If the work causing serious noise pollution impacts or reached the Target Limit as stated in the Contractor's EM&A Manual, the Contractor shall provide the following proposed remedial measures:					
			• Change of construction equipment location and scheduling of activities;		✓	✓	✓	
			• Change of construction equipment location and scheduling of activities;	✓		✓	✓	
			• Installation of construction equipment soundproofing;	✓		✓	✓	
			• Provision of alternative Contractor's equipment;		✓	✓	✓	
			• Erection of sound barriers around the part of the Site or the location of the construction noise source; or	✓		✓	✓	
			• Any other measures that may be effective in reducing noise.		✓	✓	✓	
NV07	Noise Emission from Blasting	PS 26.13(4)(iv)	Firing of explosive shall be carried out in the morning prior to opening of the Park.	✓	✓	✓	o	
NV08	Noise Emission from Blasting	GEP Technical Guidance Note No. 25 (TGN 25)	Blast doors on tunnels to be closed during blasting if required by the blasting period.	✓		✓	o	

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Noise/Vibration								
NV09	Noise Emission for Vehicles	Cap 374, sub leg A S.30(1)	Every vehicle propelled by an internal combustion engine shall be fitted with a silencer, expansion chamber or other contrivance suitable and sufficient for reducing, as far as may be reasonable, the noise caused by the escape of the exhaust gases from the engine.	✓		✓	✓	
Water Quality (Refer to Drainage Management Plan as stated in PS 26.17(7))								
WQ01	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	PS 26.12 (2)	Before commencing any site formation work, all sewer and drainage connection should be sealed to prevent debris, soil, sand and etc from entering public sewers/drains	✓		✓	The existing drainage system is in use and the temporary drainage system is under preparation	
WQ02		PS 26.12 (2)	The boundaries of critical areas of earthworks should be marked and surrounded by dykes or embankments for flood protection.	✓			N/A	
WQ03		PS 26.12 (2)	Wheel wash water shall be changed frequently and sediment removed regularly	✓		✓	o	
WQ04		PS 26.12 (2)	Construction runoff related impacts associated with tunneling and above ground construction activities can be readily controlled through the use of appropriate mitigations measures which include:					
			• Use of sediment traps, oil interceptors; and	✓		✓	o	
			• Adequate maintenance of drainage systems to prevent flooding and overflow.		✓	✓	o	
WQ05		PS 26.12 (2)	Exposed areas should be minimised to reduce the potential for increased siltation, runoff contamination, and erosion.	✓	✓	✓	✓	

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Water Quality (Refer to Drainage Management Plan as stated in PS 26.17(7))								
WQ06	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	EIA Ref. S9.44 EM&A Ref. S8.3	Temporary ditches should be provided to facilitate runoff discharge into the appropriate watercourses via silt retention points.	✓	✓	✓	o	
WQ07		EPD ProPECC Note No. PN1/94; PS 26.17(6)(ii)	The design of efficient silt removal facilities should be based on the guidelines in Appendix A1 of ProPECC Note PN 1/94.	✓	✓		o	
WQ08	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	EP Clause2.13	To improve the coagulation and sedimentation process for construction phase discharges from excavation works at Headland, sand/silt removal facilities, including sand/silt traps and sediment basins should be provided.	✓		✓	o	Drainage Proposal
WQ09		PS 26.12(4)	All exposed earth areas should be completed as soon as possible after earthworks have been completed, or alternatively, within 14 days of the cessation of earthworks where practicable.		✓	✓	o	
WQ10	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	PS 26.12	If excavation of soil cannot be avoided during the rainy season, or at any time of year when rainstorms are likely, exposed slope surfaces should be covered by tarpaulin or other means.	✓	✓	✓	o	
WQ11		PS 26.12(6)(iv)	Sediment tanks of sufficient capacity are recommended as a general mitigation measure that can be used for settling surface runoff prior to disposal. The system capacity should be flexible and able to handle multiple inputs from a variety of sources and particularly suited to applications where the influent is pumped.	✓		✓	o	
WQ12		PS 26.12(6)(ii)	All silt removal facilities will be inspected daily and cleaned whenever necessary.			✓	o	

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Water Quality (Refer to Drainage Management Plan as stated in PS 26.17(7))								
WQ13	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	PS 26.12(6)(iv)	Manholes (including newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris being washed into the drainage system and storm runoff being directed in to foul sewers.		✓	✓	✓	
WQ14		EP Clause2.12 & 2.14; PS 26.17(6)(iii)	Design and install a silt curtain system to enclose the existing 1000mm diameter storm water pipe outlet at Tai Shue Wan to minimize the water quality impacts on the marine environment during rainy seasons.	✓	✓		✓	Silt curtain proposal was deposited in the EIAO Register Office for public inspection.
WQ15	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	EPD ProPECC Note No. PN1/94; PS 26.17(8)(e)	Precautions should be taken at any time of year when rainstorms are likely. Actions to be taken when a rainstorm is imminent or forecast, and actions to be taken during or after rainstorms, are summarized in Appendix A2 or ProPECC Note PN 1/94. Particular attention should be paid to the control of silty surface runoff during storm events, especially for areas located near steep slopes.			✓	o	Heavy rain procedures
WQ16		PS 26.12(6)(i)	Oil interceptors should be provided in the drainage system and these should be regularly cleaned to prevent the release of oils and grease into the storm water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain.	✓			o	
WQ17		PS 26.12(2)	All vehicles and plant should be cleaned before leaving a construction site to ensure no earth, mud, debris and the like is deposited on roads.			✓	✓	
WQ18		PS 26.12	Measures should be taken to prevent the washing away of construction materials, soil, silt or debris into any drainage system.	✓			✓	

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Water Quality (Refer to Drainage Management Plan as stated in PS 26.17(7))								
WQ19	Flooding and wastewater including surface runoff discharges from the construction site/work to inland coastal waters, communal sewers and drains	PS 26.12(6)(iii)	An adequately designed and located wheel washing bay should be provided at every site exit and wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure the continued efficiency of the process.	✓			o	
WQ21		PS 26.12	Open stockpiles of construction materials of more than $50m^3$ should be covered with tarpaulin or similar fabric.			✓	o	
WQ20		PS 26.12	The section of access road leading to, and exiting from, the wheel wash bay to the public road should be paved with sufficient backfall towards the wheel wash bay towards the wheel wash bay to prevent transport of soils and silty water to public roads and drains.	✓			o	
Drainage and Sewage (Refer to Drainage Management Plan as stated in PS 26.17(7) and Drainage Proposals as stated in EP Clause 2.13)								
DS01	Polluted water discharge from construction site or works	PS 26.17(4)	All temporary and permanent drainage pipes and culverts provided to facilitate runoff discharges should be adequately designed for the controlled release of storm flow (one in five year event).	✓			✓	Drainage Proposal
DS02	Polluted water entry stormwater system during the site activities	PS 26.17(6)	All sediment control measures should be regularly inspected and maintained to ensure proper and efficient operation at all times and particularly following rain storms.	✓		✓	o	
DS03	Polluted water from site reinstatement	PS 26.17(2)	Temporarily diverted drainage systems should be reinstated to their original condition when the construction work has finished, or the temporary diversion is no longer required.				o	Note
DS04	Polluted water from concrete lorry washing	PS 26.17	Wash water from concrete trucks and pumps is to be collected in skips for treatment.	✓		✓	✓	
DS05	Polluted water from the plant yard	WMP	Plant maintenance areas to be enclosed.	✓			o	

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Drainage and Sewage (Refer to Drainage Management Plan as stated in PS 26.17(7) and Drainage Proposals as stated in EP Clause 2.13)								
DS06	Polluted water from excavation	PS 26.17(6)(ii)	Temporary open storage of excavated materials used for backfill on site should be covered with tarpaulin or similar fabric during rainstorms. Any washout of construction or excavated materials should be diverted through appropriate sediment traps before discharge to storm water drainage systems.			✓	o	
DS07	Polluted water entry from waste collected area	PS 26.18(2)	Debris and rubbish on site should be collected, handled and disposed of properly to avoid entering the water column to cause water quality impacts.	✓		✓	✓	
DS08	Polluted water and sewage entry the chemical toilets	PS 26.12(3)	Construction sewage may need to be handled by portable chemical toilets if construction workers are likely to be dispersed along the alignment.	✓			✓	
DS09	Polluted water and sewage entry the chemical toilets	PS 26.12(3)	Appropriate numbers of portable toilets should be provided by a licensed contractor to serve the construction workers. This contractor will also be responsible for waste disposal and maintenance practices.	✓			✓	
DS10	Polluted water from chemical storage area	PS 26.12(9)	All fuel tanks and storage areas should be provided with locks and be located on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank, to prevent spilled fuel oils from reaching WSRs.	✓			✓	
DS11	Polluted water from spillage	WMP; PS 26.12(10)	Spill action plan is to be prepared.			✓	✓	Spill procedures
DS12	Polluted water from petrol filling activity	WMP; PS 26.17(8)(l)	Petrol interception for oil filling point.	✓			o	
DS13	Polluted water from tunnel pump out	PS 26.17(8)	Ground water pumped from tunnels etc., should be discharged into drainage channels that incorporate sediment traps to entrance deposition rates and to remove silt.	✓			o	

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Drainage and Sewage (Refer to Drainage Management Plan as stated in PS 26.17(7) and Drainage Proposals as stated in EP Clause 2.13)								
DS14	Polluted water from construction works	PS 26.17(8)(i)	Construction work force sewage discharges on site should be connected to the existing trunk sewer or sewage treatment facilities, if practicable.	✓		✓	✓	
DS15	Polluted water from pantry	PS 26.17(8)(k)	Wastewater collected from pantry including that from basins, sinks and floor drains, should be discharged into foul sewers via grease traps capable of providing at least 20 minutes retention during peak flow.	✓			o	
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM01	Disposal of waste (general)	PS 26.18	Minimize the generation of waste from Works. Avoidance and minimization of waste generation shall be achieved through changing or improving design and practices, careful planning and good site management.			✓	✓	Note
WM02	Disposal of waste (general)	PS 26.18	Different types of waste are segregated on-site and stored in different containers, skips or stockpiles to facilitate the reuse/recycling of materials, thus avoiding disposal (generally with only limited processing and reprocessing may be required).	✓		✓	✓	
WM03	Disposal of waste (general)	WMP	A trip ticket system for the disposal of Construction and Demolition (C&D) materials following the guidelines stipulated in the Environment, Transport and Works Bureau Technical Circular (Works) No. 31/2004 shall be used to prevent any illegal dumping.			✓	o	
WM04	Disposal of waste (general)	PS 26.18	No construction waste of more than 20% inert material by volume shall be disposed of to landfill. Inert materials like rock, sand, concrete debris should be sorted out from construction waste before disposal. Dry concrete waste or the excavated materials should be recycled for reuse or sorted for disposal at public dumps.			✓	✓	

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM05	Generation and disposal of construction and demolition waste	WMP; PS 26.18	All non-inert construction waste material deemed unsuitable for reclamation or land formation and all other waste material shall be disposed at public dumps.	✓		✓	✓	Note
WM06	Generation and disposal of construction and demolition waste	WMP; PS 26.18	The C&D materials shall be sorted into public fill (inert portion) and C&D waste (non-inert portion). The inert portion which comprises soil, rock, concrete, brick, cement plaster/mortar, inert building debris, aggregates and asphalt shall be reused in earth filling, reclamation or site formation works as far as possible. Where excavated rock is of the appropriate grade, it shall be crushed and reused as aggregate or for other surfacing uses, wherever possible. The non-inert portion, which comprises metal, timber, paper, glass, junk and general garbage shall be reused or recycled.	✓	✓	✓	✓	
WM07	Disposal of waste (general)	WMP; PS 26.18	Record of the amount of waste generated, recycled and disposed of shall be kept on site for easy reference and checking.			✓	✓	
WM08	Disposal of waste (general)	WMP; PS 26.18	Authorized/Licensed Waste Hauliers/Collectors should be used to collect and transport different category wastes to the appropriate disposal points.			✓	✓	
WM09	Disposal of waste (general)	WMP; PS 26.18	Handle and store wastes in a manner, which ensures that they are held securely without loss or leakage, thereby minimizing the potential for pollution.			✓	✓	Note
WM10	Disposal of waste (general)	WMP; PS 26.18	Remove wastes in a timely manner and maintain the waste storage areas clean regularly.			✓	✓	

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM11	Disposal of waste (general)	WMP; PS 26.17(8)	Regular cleaning and maintenance the drainage system, sumps, oil interceptors and grease traps. The waste from these facilities shall be collected and disposed of by a licensed Collector.	✓		✓	o	
WM12	Disposal of waste (general)	WMP	Obtain the necessary permits and licenses with regards to the waste management from the appropriate authorities wherever necessary, in accordance with • The Waste Disposal Ordinance (Cap 354), • Waste Disposal (Chemical Waste)(General) Regulation (Cap 354), • The Crown Land Ordinance (Cap 28), and • Dumping at Sea Ordinance (Cap 466)			✓	o	
WM13	Disposal of waste (general)	WMP	Provide training for workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling.			✓	✓	
WM14	Generation and disposal of construction and demolition waste	WMP & WBTC 5/99 (Appendix A)	The Contractor shall produce a Construction and Demolition Material Disposal Delivery Form (the Form) for each and every vehicular trip transporting Construction and Demolition (C&D) materials off-site. The Contractor shall complete the Form and maintain records as per procedures.			✓	o	
WM15	Production of Chemical Waste (general)	Magnitude	For those processes that generate chemical waste, it may be possible to find alternatives that generate reduced quantities or even no chemical wastes, or less dangerous types of chemical waste	✓	✓		o	

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM16	Production of Chemical Waste (general)	Cap 354 sub. leg. C; PS 26.18 (4)	The Contractor shall be required to register with EPD as a chemical waste producer and to follow the guidelines as stated in the Code of Practice on the Packaging, Labeling and Storage of Chemical Wastes.				o	Register as chemical waste producer
WM17	Storage of Chemical Waste	Cap 354 sub. leg. C s. 13, 14, 15, 16, 18 & 19; PS 26.18(4)	Chemical waste that is produced, as defined by Schedule 1 of the Waste Disposal (Chemical Waste)(General) Regulation, should be handled in accordance with the Code of Practice on the Packaging, Labeling and Storage of Chemical Wastes as follows:					
			• A suitable area (special container(s) would be proposed to use) for temporary storage of chemical waste shall be provided. The best location for the storage area shall be located close to the source of chemical waste generation.	✓			o	
			• The container used for the storage of chemical waste should be used for chemical waste only and kept clean and dry all the times.	✓		✓	o	
			• The container shall be suitable for the substance they are holding, resistant to corrosion, maintained in a good condition, and securely closed.	✓		✓	o	
			• The container should have a capacity of less than 450 l unless the specifications have been approved by EPD.	✓			o	
			• If the container is not used as the storage, the storage area shall be enclosed on at least three sides by a wall, partition or fence with a height of not less than 2m or the total height in stack, whichever is less.	✓		✓	o	

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM17 (contd)	Storage of Chemical Waste	Cap 354 sub. leg. C s. 13, 14, 15, 16, 18 & 19; PS 26.18(4)	• Adequate ventilation shall be allowed by leaving some space between the top of the enclosure walls and ceiling, or provision of louvers on the sides of the enclosure walls.	✓		✓	o	
			• The storage area should have an impermeable floor and bunding of sufficient capacity to accommodate 110% of the volume of the largest container or 20% of the total volume of waste stored in that area, whichever is the greatest	✓		✓	o	
			• The storage area should be covered to prevent rainfall entering (water collected within the bund must be tested and disposed as chemical waste if necessary)	✓		✓	o	
			• Every chemical waste storage area should display a hazard-warning panel, notice or marking at or near the entrance or opening of the storage area in English and Chinese characters "CHEMICAL WASTE" and "化學廢物" clearly and boldly in red on a white background with a letter/character size of not less than 60mm high.	✓		✓	o	
WM18	Disposal of Chemical Waste	WMP; PS 26.18	Disposal of chemical waste be to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility that also offers a chemical waste collection service and can supply the necessary storage containers, or to a re-user of the waste under approval from EPD.			✓	o	
WM19	Disposal of Chemical Waste	Cap 354, sub. leg. C s21 & 22	Disposal of chemical waste should be via a licensed waste collector.			✓	o	
WM20	Generation of general refuse	Cap 311, sub leg O S.4 (1)	Law prohibits the burning of refuse on construction sites.			✓	✓	

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Waste Management (Refer to Waste Management Plan as stated in EP Clause 2.21)								
WM21	Generation of general refuse	Magnitude	Office wastes can be reduced through recycling of paper if volumes are large enough to warrant collection. Participation in a local collection scheme should be considered if one is available.	✓		✓	✓	
WM22	Generation of general refuse	WMP	General refuse generated on site should be stored in enclosed bins or compaction units separate from construction and chemical wastes. A reputable waste collector should be employed to remove general refuse from the site, separately from construction and chemical wastes, on a daily or every second day basis to minimize odour, pest and litter impacts.	✓		✓	✓	
WM23	Generation of general refuse	Magnitude	General refuse will be generated largely by food service activities on site, so reusable rather than disposable dishware should be used if feasible. Individual collectors often recover aluminum cans from the waste stream if they are segregated or easily accessible, so separate labeled bins for their deposit should be provided wherever feasible.	✓		✓	✓	
Ecology								
EC01	Ozone Emission entry the ambient environment	PS 26.08 (3) (i)	Ozone depleting fire extinguishers shall not be used for temporary firefighting measures and ozone depleting substances shall not be used in carrying out the Works.				✓	Note restriction
EC02	Disturbance the marine ecological sensitive receivers	EP Clause 2.12; PS 26.14(5)	Divert the construction phase discharges from excavation works at Headland to an existing 1000mm diameter storm water pipe outlet at Tai Shue Wan to avoid impacts on coral communities in the marine water around the Nam Long Shan headland.	✓		✓	✓	Drainage Proposal

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Ecology								
EC03	Disturbance the marine ecological sensitive receivers	EP Clause 2.15	No marine-based construction works shall be allowed for the Project to conserve the marine ecological resources in the vicinity of the project area.	✓	✓	✓	✓	
EC04	Disturbance the ecological sensitive receivers	EP Clause 2.17 & PS 26.14 (1)	The site clearance works before bulk excavation to the existing mountain to provide a new platform for the Summit shall commence before or outside the breeding season of Black Kites, i.e. from October to May of the next year.	✓	✓	✓	✓	
EC05	Disturbance the ecological sensitive receivers	PS 26.14 (2)	Design of temporary conveyor belt system and the location of temporary adit portals should be considered to avoid impact to potential nest sites in the tall shrubland habitat at Tai Shue Wan area where possible.	✓	✓	✓	o	
EC06	Disturbance the ecological sensitive receivers	EP Clause 2.19	No construction works and discharge from the construction site(s) shall be allowed within the existing freshwater ponds at the Tai Shue Wan area and within the enhanced Pond 35 after enhancement works.	✓		✓	o	
EC07	Disturbance the ecological sensitive receivers	EM&A section 6.2.5	Minimize the impact due to construction on the existing surrounding vegetation by:					
			• Set up of temporary tree nurseries;	✓			✓	
			• Designation of “no-intrusion zones” and to record any trespass, including the damage to the existing vegetation;			✓	o	
			• Hill fire prevention;			✓	✓	
			• Dust and erosion control for exposed soil; and	✓		✓	✓	
			• Well-planned irrigation networks throughout the establishment period.	✓	✓	✓	✓	

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Ecology								
EC08	Disturbance the ecological sensitive receivers	EM&A section 7.17 & EIA section 5.138	Minimize the impact due to construction on the uncommon plant species by:					
			• Vegetation survey and subsequent transplantation of locally uncommon or restricted species as far as practicable;		✓		Uncommon or restricted species including Long Tentacle Orchid, Sword-leaved Orchid, Green-flowered Rattlesnake-Plantain, Cycad-fern, Balloon Flower and Chinese Lily	
			• Trees located within the works areas shall be preserved as far as practicable;	✓		✓	✓	
			• Placement of equipment or stockpile in designated works areas and access routes selected on existing disturbed land to minimize disturbance to natural habitats;			✓	✓	
			• Construction activities shall be restricted to the works areas that would be clearly demarcated;	✓		✓	✓	
			• The work areas shall be reinstated immediately after the completion of works;	✓			✓	
			• Landscaping works on newly formed land shall as far as possible make use of native plant species.	✓			✓	
Hazard to Life								
HL01	Hazard to life due to blasting activities	EM&A section 11.3 & EIA Section 12.15	The blasting activities shall be inspected and audited at practical intervals to ensure that the assumptions and recommendations from the Quantitative Risk Assessment (QRA) study are implemented.	✓	✓	✓	o	
HL02			The recommendations from the systematic hazard identification are consistently implemented in accordance with the intent of the hazard to life assessment.	✓	✓	✓	o	

CONSTRUCTION PHASE – REGISTER OF DIRECT SIGNIFICANT ASPECTS

Rev. B

No.	Environmental Aspect	Requirement (Classification)	Aspect Mitigation	Delivery Method			Status	Other / Remarks
				Site Installation	Method Statement	Toolbox Talk		
Landscape and Visual								
LV01	Visual and Appearance considerations	EM&A Section 6.2.5	Minimize the visual and appearance impact by:					
			• careful choice between 'impermeable' and 'permeable' hoardings.	✓			✓	
			• control over the appearance of construction workers, construction plants/ machines.			✓	o	
			• proper screening and careful alignment of the temporary barging point and conveyor system.	✓			In the design	
			• careful selection of security floodlights to avoid light pollution.	✓			✓	
Cultural and Heritage Impact								
CH01	Cultural and Heritage Impact	EP clause 2.22	To preserve the grave G1, no works shall be allowed within one metre from the vicinity of such grave.	✓		✓	✓	Note requirement

Notes: EP denotes the Environmental Permit No. 249/2006 and its subsequent permits.

EM&A Manual denotes the Contractor specific EM&A Manual.

WMP denotes the Waste Management Plan.

EIA denotes the Final EIA Report No. AEIAR-101/2006.

PS denotes the Particular Specification of the Project.

✓ denotes implemented.

o denotes to be implemented.

CS01-Vet Hospital

Appendix G - Implementation Status of Environmental Mitigation Implementation Schedule

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines
					D	C	O	
		Noise Mitigation Measures	Work Site / during construction	Contractor		X		PN 2/93 & EIAO
5.4.15		a) Use of Powered Mechanical Equipment in restricted hours without a valid Construction Noise Permit (CNP) in restricted hours is prohibited, i.e. 7pm and 7am or at any time on general holiday including Sunday						
		b) If CNP is grant, construction works shall accord with conditions of CNP						
		c) Every air compressor shall be fitted with a noise emission label issued in respect of that air compressor.						
		d) Every hand held percussive breaker shall be fitted with a noise emission label issued in respect of that hand held percussive breaker.						
		e) Noise barrier should be provided for site which have sufficient space for installation.						
		f) Idle equipment should be turned-off or throttled down. Noisy equipment should be properly maintained and used no more often than is necessary.						
		g) Noisy equipment and activities should be sited by the Contractor as far from close-proximity sensitive receivers as practical.						
		h) Idle equipment should be turned-off or throttled down. Noisy equipment should be properly maintained and used no more often than is necessary.						
		i) Construction plant should be properly maintained and operated.						
6.5.9		**Air Mitigation Measures**	Work Site / during construction	Contractor		X		Air Pollution Control Ordinance,
		a) For Breaking, Excavation or earth moving, the working area shall be sprayed with water to maintain the entire surface wet.						Air Pollution Control (Construction Dust) Regulation,
		b) Any debris shall be covered or stored in sheltered area and before debris is dumped into a chute, it is to be sprayed with water.						
		c) For use of vehicles, load of dusty materials shall be covered entirely						
		d) Open burning is prohibited.						
		e) A stockpile of dusty materials shall not extend beyond the pedestrian barriers, fencing or traffic cones.						
		f) Vehicle washing facilities shall be provided at every exit point.						
		g) Main haul road shall be sprayed with water.						

CS01-Vet Hospital

Appendix G - Implementation Status of Environmental Mitigation Implementation Schedule

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines
					D	C	O	
7.11.1 - 7.11.2		**Water Mitigation Measures**	Work Site / during construction	Contractor		X		ETWB TCW No. 5/2005 and DSD TC No. 2/2004
		a) Temporary drainage system (U-channel) and the sedimentation tank should be installed and maintained frequently to prevent adverse impacts on the stream water						
		b) The slope should be covered up to avoid being washed into nearby stream by rain and local runoff.						
		c) Any discharges into drainage or sewage systems, inland or coastal waters, or into the ground (e.g. from septic tanks) are required a valid discharge licence, except the discharge of domestic sewage into foul sewers or the discharge of unpolluted water.						
		d) The terms and conditions of a discharge licence shall be complied						
		e) Manholes should always be adequately covered and temporarily sealed						
8.7.9- 8.7.12		**Chemical Mitigation Measures**	Work Site / during construction	Contractor		X		Waste Disposal (Chemical Waste) (General) Regulation
		a) Chemical waste should be packed and stored in suitable containers in the Chemical Waste Store						Code of Practice on the Packaging Labelling and Storage of Chemical
		b) There is displayed on every container of chemical waste a label						
		c) Chemical waste store shall not be used for any purpose other than the storage of chemical waste						
		d) Chemical waste store shall be enclosed on at least 3 sides by a wall, partition fence or a similar device, which shall not be less than the height of the tallest container						
		e) Chemical waste store shall not have any connection to any surface water drains or foul sewers						
		f) Chemical waste store shall be kept clean and dry						
		covering						
		accommodate						
		i) Every storage area where chemical waste is stored displays a warning panel, notice or marking at or near the entrance or the opening, indicate in bold legible red English words and Chinese characters not less than 6 cm in height on a white background						
		j) Chemical waste stored shall be properly located and easily accessed						
		k) Chemical should be properly stored in suitable containers						
		l) Chemical should be properly stored and sited on sealed areas to prevent leakage						

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines
					D	C	O	
		leakage						
8.7.5		**Waste Mitigation Measures**	Work Site / during construction	Contractor		X		Waste Disposal Ordinance ETWB TCW No. 31/2004
		a) The proposals in the waste management plan are able to meet the target of avoidance, minimization, recycling and reuse of C&D material with particular reference to the nature of the Contract						
		b) Trip-ticket system shall been properly implemented						
		c) Waste disposal points shall be provided and regular collection for disposal to keep the site tidy						
		d) Adequate and proper records with respect to waste management shall be kept						
		General Mitigation Measures						
		a) Trees adjacent to or within the construction site area shall be protected						

Appendix H

Table H.1 Summary of Environmental Licensing and Permit Status

Permit No.	Valid Period		Section/Description	Status
	From	To		
Environmental Permit				
EP-249/2006/A	23-Oct-06	N/A	Add a new condition before Condition 2.18 in Part C stated that "To compensate for the loss of roosting site for freshwater birds due to the filling of Pond 37 at Lowland area; complete the enhancement works for Pond 35 and to avoid disturbing the roosting site for freshwater birds, no construction works and discharge from the construction site(s) shall be allowed with the existing freshwater ponds at Tai Shue Wan area". Renumber Conditions 2.19 to 2.25 in Part C of the EP.	Valid
Construction Noise Permits				
GW-RS0014-07	19/01/07	19/03/07	Crane lorry and Generator, standard	Expired
GW-RS0015-07	19/01/07	19/03/07	Crane lorry, Concrete lorry mixer, Poker, vibratory, hand-held (electric) and Generator, silenced, 75dB(A) at 7m	Expired
GW-RS0179-07	23/03/07	30/06/07	Crane, mobile (tracked), Excavator, tracked, Vibratory hammer, Air compressor with noise emission label showing the SWL of 102dB(A), Breaker, excavator mounted (hydraulic), Concrete lorry mixer, Poker, vibratory, hand-held (electric), Lorry with crane, Lorry with grab, Generator, silenced, 75dB(A) at 7m, Saw circular, wood, Concrete pump, lorry mounted	Expired
GW-RS-0196-07	10-Apr-07	02-May-07	Lorry with crane; Air compressor with noise emission label showing the SWL of ≤102dB(A); Rock drill, hand-held (pneumatic); Crane, mobile (diesel); Generator, silenced, 75dB(A) at 7m; Concrete mixer (electric); Grout pump; Concrete lorry mixer; Drill, percussive, hand-held (electric); Poker, vibrating, hand-held (electric); Saw, circular, wood; Breaker, hand-held, mass ≤10kg; Breaker, excavator mounted (hydraulic); Drill rig, rotary type (diesel)	Expired
GW-RS-0200-07	05-Apr-07	30-Jun-07	Crane, mobile (tracked); Excavator, tracked; Vibratory hammer; Air compressor with noise emission label showing the SWL of 102dB(A); Breaker, excavator mounted (hydraulic); Concrete lorry mixer; Poker, vibratory, hand-held (electric); Lorry with crane; Lorry with grab; Generator, silenced, 75dB(A) at 7m; Saw circular, wood; Concrete pump, lorry mounted	Expired
GW-RS-0240-07	04-May-07	30-Jun-07	Ventilation fan; Cherry picker; Generator, silenced, 75dB(A) at 7m; Welding set; Jumbo; Shotcrete machine, Excavator; Dump truck, Rock splitter; Concrete lorry mixer; and Air compressor with noise emission label showing the SWL of ≤102dB(A)	Expired
GW-RS-0269-07	09-May-07	30-Jun-07	Aerial platform, mobliized; Trailer; Crane, mobile (diesel); and Lorry with crane	Expired

Table H.1 Summary of Environmental Licensing and Permit Status

Permit No.	Valid Period		Section/Description	Status
	From	To		
Chemical Waste Producer Registration				
WPN5213-199-D2373-01	07-May-07	N/A	For disposal of chemical wastes, mainly spent lubricants	Valid
Effluent Discharge License				
EP820/W9/XW232	20-Jun-07	N/A	For discharge of industrial trade effluent arising from construction site at Summit and Tunnel	Valid
Application for Waterfront sent on 02-Jun-07.				
Specific Process License				
Application sent on 03-Apr-07 and the supplementary information have provided on 15-May-07 and 21-Jun-07. Consideration and discussion with EPD is in progress.				
Notification of Construction Works under APCO				
Waterfront sent on 31-Jan-07 (ref. 001017998) Summit sent on 05-Feb-07 (ref. 001018054)				
Billing Account under Construction Waste Disposal Charging Scheme				
7004888	03-Jan-07	18-Dec-08	For disposal of C&D waste to public fills, sorting facilities and landfills	In use

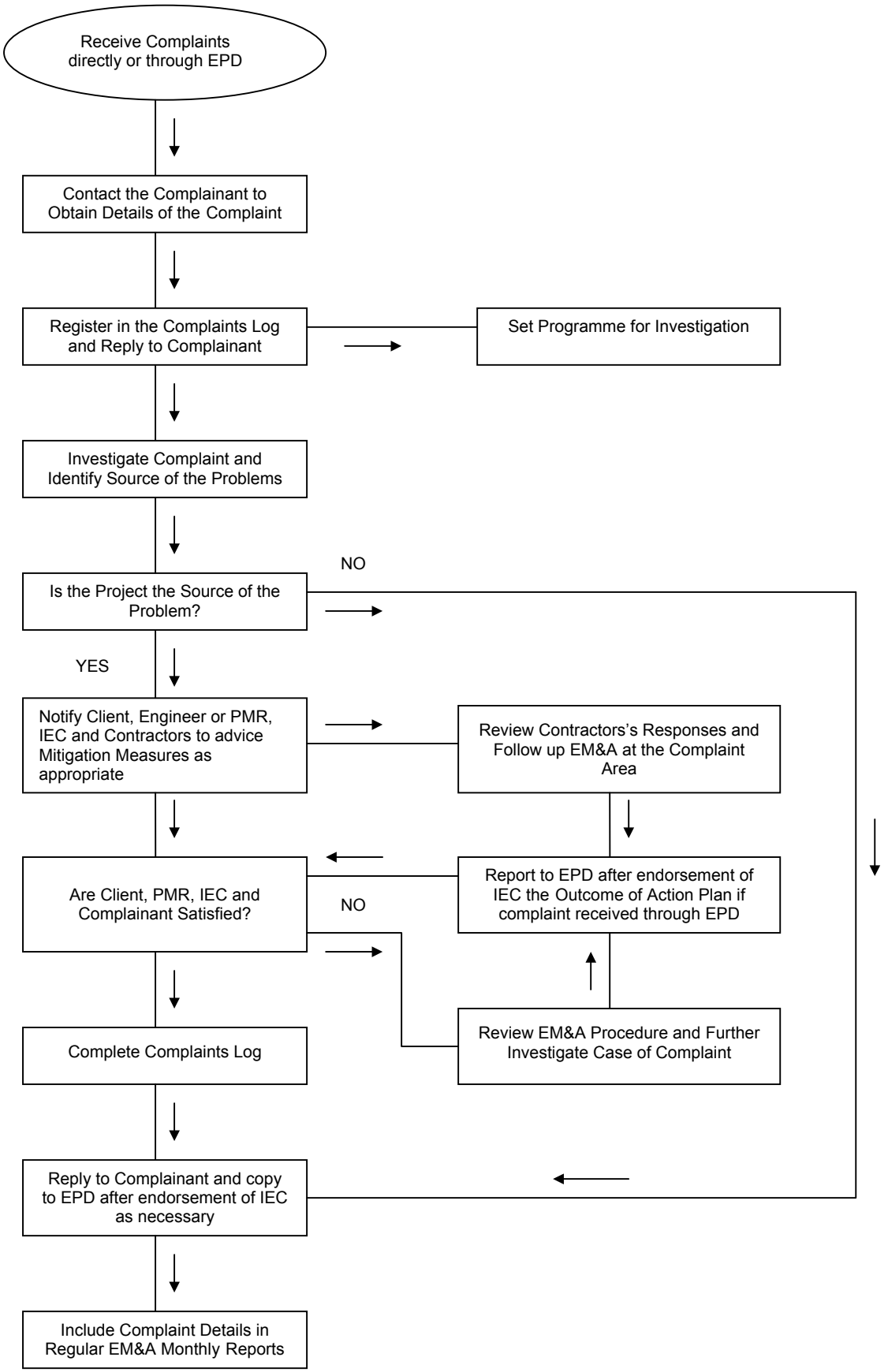
Contract CS01 Vet Hospital

Appendix H.2 Summary of Environmental Licensing and Permit Status

Permit No.	Valid Period		Section	Status
	From	To		
Environmental Permit				
EP-249/2006/A	28/07/06	N/A	Expansion of existing Ocean Park and reconstruction / modification of its existing facilities.	Valid
Construction Noise Permits				
GW-RS0170-07	02/04/07	25/09/07	Generator, dump truck, tracked excavator, concrete pump, tower crane, poker, air compressor, concrete lorry mixer.	Cancelled
GW-RS0286-07	26/05/07	25/11/07	Generator, dump truck, tracked excavator, concrete pump, tower crane, poker, air compressor, concrete lorry mixer.	Valid
GW-RS0321-07	01/06/07	30/11/07	Crane Lorry, Excavator, tracked, Hand-held breaker, Air compressor	Valid
Chemical Waste Producer				
WPN5213-199-K2880-01	19/03/07	N/A	-	Valid
Air Pollution Control (Construction Dust) Licence				
001018953	16/03/07	N/A	-	Valid
Water Discharge Licence				
EP820/W2/XC041	31/05/07	30/06/12	Vet Hospital	Valid
Billing Account for Disposal of Construction Waste and Application for Issuance of Chits				
7005185	12/4/07	N/A	-	Valid

Appendix I

APPENDIX I – COMPLAINT FLOW DIAGRAM AND COMPLAINT LOG



Appendix J

Appendix J Coral Monitoring Results for the reporting quarter

Site 1

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)		Bleaching (%)		Mortality (%)	
			Apr 07	16 Jun 07	Apr 07	16 Jun 07	Apr 07	16 Jun 07
A01	*Platygyra carnosus*	1000	0, 0	0, 0	0	0	0	0
A02	*Platygyra carnosus*	2000	0, 0	0, 0	0	0	0	0
A03	*Favites pentagona*	200	0, 0	0, 0	0	0	0	0
A04	*Leptastrea pruinosa*	400	5, 1	**4**, 1 ▼	0	0	0	0
A05	*Platygyra carnosus*	1200	0, 0	0, 0	0	0	5	5
A06	*Platygyra carnosus*	1600	0, 0	**3**, **1** ▲	0	0	0	0
A07	*Favia rotumana*	800	5,1	**8**, 1 ▲	0	0	0	0
A08	*Platygyra carnosus*	1000	0, 0	0, 0	0	0	0	0
A09	*Platygyra carnosus*	350	0, 0	0, 0	0	0	0	0
A10	*Platygyra carnosus*	700	0, 0	0, 0	0	0	0	0

Site 2

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)		Bleaching (%)		Mortality (%)	
			Apr 07	16 Jun 07	Apr 07	16 Jun 07	Apr 07	16 Jun 07
B01	*Platygyra carnosus*	450	0, 0	0, 0	0	0	0	0
B02	*Plesiastrea versipora*	300	0, 0	0, 0	0	0	0	0
B03	*Psammocora superficialis*	1000	5, 1	5, 1	0	0	0	0
B04	*Favia speciosa*	300	4, 1	**7**, 1 ▲	0	0	0	0
B05	*Plesiastrea versipora*	900	3, 1	**5**, 1 ▲	0	0	0	0
B06	*Platygyra carnosus*	600	0, 0	0, 0	0	0	0	0
B07	*Cyphastrea serailia*	700	0, 0	**1**, **1** ▲	0	0	0	0
B08	*Plesiastrea versipora*	1200	0, 0	0, 0	0	0	0	0
B09	*Favites pentagona*	600	0, 0	0, 0	0	0	0	0
B10	*Favites pentagona*	400	0, 0	**30**, **2** ▲	0	0	0	0

Site 3

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)		Bleaching (%)		Mortality (%)	
			Apr 07	16 Jun 07	Apr 07	16 Jun 07	Apr 07	16 Jun 07
C01	*Platygyra acuta*	2000	0, 0	0, 0	0	0	0	0
C02	*Platygyra carnosus*	1000	0, 0	0, 0	0	0	0	0
C03	*Porites sp.*	400	5, 1	**6**, 1 ▲	0	0	1	1
C04	*Cyphastrea serailia*	600	4, 1	**5**, 1 ▲	0	0	0	0
C05	*Pavona decussata*	600	0, 0	0, 0	0	0	0	0
C06	*Pavona decussata*	1200	0, 0	0, 0	0	0	0	0
C07	*Montipora cf. turgescens*	200	2, 1	**6**, 1 ▲	0	**3** ▲	0	0
C08	*Favia favus*	600	4, 1	**2**, 1 ▼	0	0	4	4
C09	*Favites pentagona*	150	1, 1	1, 1	0	0	0	0
C10	*Montipora peltiformis*	300	0, 0	0, 0	0	**5** ▲	0	0

Appendix J Coral Monitoring Results for the reporting quarter

Site 4

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)		Bleaching (%)		Mortality (%)	
			Apr 07	16 Jun 07	Apr 07	16 Jun 07	Apr 07	16 Jun 07
E01	*Goniopora stutchburyi*	300	0, 0	**4, 1 ▲**	0	0	0	0
E02	*Goniopora stutchburyi*	200	0, 0	**2, 1 ▲**	0	0	0	0
E03	*Goniopora stutchburyi*	150	0, 0	**2, 1 ▲**	0	0	0	0
E04	*Porites sp.*	400	5, 1	5, 1	0	0	0	0
E05	*Goniopora stutchburyi*	300	0, 0	**3, 1 ▲**	0	0	0	0
E06	*Goniopora stutchburyi*	450	0, 0	0, 0	0	0	0	0
E07	*Favia speciosa*	600	10, 1	**3**, 1 ▼	0	0	0	0
E08	*Porites sp.*	150	0, 0	0, 0	0	0	4	4
E09	*Porites sp.*	200	8, 1	**6**, 1 ▼	0	0	4	4
E10	*Porites sp.*	500	0, 0	0, 0	3	3	0	0

Site 5

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)			Bleaching (%)			Mortality (%)		
			Apr 07	10 Jun 07	16 Jun 07	Apr 07	10 Jun 07	16 Jun 07	Apr 07	10 Jun 07	16 Jun 07
D01	*Psammocora sp.*	600	10, 1	10, 1	8, 1 ▼	0	0	0	0	0	0
D02	*Montipora cf. turgescens*	100	6, 1	6, 1 -	4, 1 ▼	0	0	0	0	0	0
D03	*Goniopora stutchburyi*	400	0, 0	**4, 1 ▲**	0, 0	0	0	0	0	0	0
D04	*Leptastrea pruinosa*	500	4, 1	**6, 1 ▲**	**8, 1 ▲**	0	0	0	0	0	0
D05	*Porites sp.*	400	5, 1	5, 1	5, 1	1	**3 ▲**	**3 ▲**	4	4	4
D06	*Plesiastrea versipora*	1000	0, 0	0, 0	0, 0	0	**1 ▲**	**1 ▲**	5	5	5
D07	*Leptastrea pruinosa*	800	0, 0	**3, 1 ▲**	**3, 1 ▲**	0	0	0	0	0	0
D08	*Plesiastrea versipora*	100	0, 0	0, 0	0, 0	0	0	0	0	0	0
D09	*Leptastrea pruinosa**	150	5, 1	**7, 1 ▲**	5, 1	0	0	0	0	0	0
D10	*Montipora cf. turgescens*	200	0, 0	0, 0	0, 0	0	0	0	0	0	0

*D09 was mistakenly identified as *Cyphastrea* sp..

Control Site C

Code	Coral Species	Area (cm^2)	Sedimentation (%, mm)			Bleaching (%)			Mortality (%)		
			Apr 07	10 Jun 07	16 Jun 07	Apr 07	10 Jun 07	16 Jun 07	Apr 07	10 Jun 07	16 Jun 07
F01	*Favia speciosa*	900	0, 0	**3, 1 ▲**	**1, 1 ▲**	0	0	0	0	0	0
F02	*Favites pentagona*	1000	4, 1	**6, 1 ▲**	**6, 1 ▲**	0	0	0	0	0	0
F03	*Favites pentagona*	800	0, 0	0, 0	0, 0 ▲	0	0	0	0	0	0
F04	*Porites sp.*	800	5, 1	**7, 1 ▲**	**7, 1 ▲**	4	4	4	4	4	4
F05	*Cyphastrea serailia*	800	4, 1	**2, 1 ▼**	**3, 1 ▼**	0	0	0	1	1	1
F06	*Psammocora sp.*	1800	0, 0	**2, 1 ▲**	**3, 1 ▲**	0	0	0	0	0	0
F07	*Plesiastrea versipora*	3000	0, 0	**3, 1 ▲**	0, 0	0	0	0	0	0	0
F08	*Favia speciosa &*	150	0, 0	0, 0	**3, 1 ▲**	0	0	0	0	0	0
	Goniastrea favulus	300	0,0	**3, 1 ▲**	0, 0	0	0	0	0	0	0
F09	*Favites pentagona*	1800	10, 1	10, 1	**6, 1 ▼**	0	0	0	0	0	0
F10	*Platygyra carnosus*	2800	0, 0	0, 0	0, 0	0	0	0	0	0	0