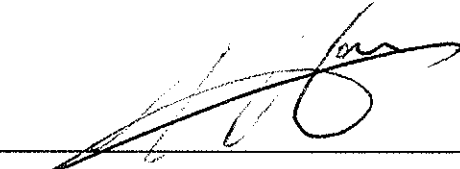


Ocean Park Master Redevelopment Project

Quarterly Environmental Monitoring & Audit Report – From April to June 2012

Certified by  on 22-August-12
Frankie Hau (ETL)

Verified by Independent Environmental Checker on 22-August-12
IEC Certificate attached in the submission? Yes

Ocean Park Master Redevelopment Project

Quarterly EM&A Report for April to June 2012

Submitted by Ocean Park Corporation on 22-08-2012

This is to verify that

Quarterly EM&A Report for April to June 2012

Submitted by Ocean Park Corporation

On 22-08-2012

Has been verified by the undersigned.

Signed



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

Date

22 August 2012



Ocean Park Master Redevelopment Project

Quarterly Environmental Monitoring & Audit Report – from April 2012 to June 2012





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.....	7
Monitoring Parameters and Locations.....	7
Monitoring Methodology and Calibration Details	7
Environmental Quality Performance Limits (Action and Limit Levels).....	7
Environmental Mitigation Measures.....	7
3. MONITORING RESULTS	8
Construction Monitoring Results	8
Terrestrial Ecology	8
Marine Ecology.....	8
4. AUDIT RESULTS for construction phase	9
Implementation Status of Environmental Mitigation Measures.....	9
Status of Environmental Licensing and Permitting	10
Advice on Materials Management Status	10
5. NON-COMPLIANCE (EXCEEDANCES) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS).....	11
Summary of Exceedances – Construction Phase	11
Summary of Exceedances – Operational Phase	11
6. ENVIRONMENTAL COMPLAINTS.....	11
Complaints Log.....	11
Complaints Handling Procedure	11
7. NOTIFICATION OF SUMMONS AND SUCCESSFUL PROSECUTIONS	11
8. COMMENTS, CONCLUSIONS AND RECOMMENDATIONS	12
Construction Phase	12
Operational Phase.....	12



List of Tables

Table 1.1	Details of the Contracts	1
Table 1.2	Summary of Works undertaken in the Reporting Quarter	2
Table 1.3	Status of Environmental Submissions	2
Table 4.1	Estimated Amounts of Different Types of Materials Generation from April 2012 to June 2012.....	10

List of Figures

Figure 1.1	Management Organizations
Figure 1.2	Layout of Work Site (CS03 – Thrill Mountain & Polar Adventure)
Figure 1.3	Locations of the Coral Monitoring Stations

List of Appendices

Appendix A	Contact Details of Key Management
Appendix B	Status of Environmental Licenses and Permits
Appendix C	Coral Monitoring Results
Appendix D	Complaint Flow Diagram and Complaint Log



EXECUTIVE SUMMARY

This is the twenty-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 26 March 2012 and 25 June 2012 for construction works and between 27 February 2012 and 26 May 2012 for Operational monitoring.

On completion of the works and opening of the Entry Plaza, Aqua City and Grand Aquarium to the public on 27 January 2011, the construction works under CI07 have been completed, and, as advised to EPD on 1 April 2011 (PD/PW/GOV/151/006107), no further construction monitoring for noise and air quality would be carried out.

Environmental monitoring for the Parks Operations commenced upon the opening of Aqua City and with the commencement of the Symbio Show on 27 January 2011.

Following the completion of one year's monitoring, a justification paper has been presented for the termination of the Air Quality (RSP) and Noise monitoring programmes for the operation of the Lagoon night shows. Approval has been received on 13 February 2012.

Environmental Monitoring – Construction Works

Environmental Monitoring and Audit Progress

A summary of monitoring and audit activities for the construction works conducted in the reporting quarter is listed below:

Coral monitoring	1 session for Site 1-5 and Control Station C
Environmental site inspection	3 sessions (include IEC audit)

Air Quality & Noise Monitoring

Construction air quality & Noise monitoring have ceased since January 2011.

Terrestrial Ecology

Terrestrial ecology monitoring had ceased since September 2008.

Coral Monitoring

The tenth coral monitoring survey, after the Coral Re-tagging exercise in November 2009, was conducted on 15 July 2012 instead of May 2012 due to unforeseen circumstances for Site 1-5 & Control Station in the reporting quarter. The results showed that there was no exceedance of Action and Limit Levels.

Environmental Monitoring – Symbio Show

The air quality and noise monitoring programmes for the operation of the Lagoon night shows have ceased since February 2012.

Environmental Complaints and Prosecutions

No complaint, non-compliance from IEC, summons 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/B.
- 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	Construction Completion
CI-05	Site Formation, Funicular Tunnel and Miscellaneous Works	Dragages-Bouygues JV	12 March 2007	June 2009
CS-01	Vet Hospital	Kaden – ATAL JV	26 March 2007	October 2008
CW-02	Astounding Asia	W. Hing Construction Co. Ltd.	1 August 2007	February 2010
CI-07	Entry Plaza, Aqua City and Grand Aquarium	Leighton Construction (Asia) Limited	15 August 2008	January 2011
CS-02	Rainforest	W. Hing Construction Co. Ltd.	11 May 2009	April 2011
CS-03	Thrill Mountain & Polar Adventure	Kaden – ATAL JV	2 November 2009	Ongoing

- 1.3 The contractors will conduct environmental monitoring and audits during the construction stage and produce contract specific monthly & quarterly EM&A reports. The RSS would prepare a combined quarterly EM&A for the whole project. This is the combined quarterly EM&A Report including the IEC audit findings for CS03 EM&A Works together with the Environmental Monitoring for the Park’s Operation and the Symbio Show. This report presents the results of EM&A works conducted in the reporting quarter from 26 March 2012 to 25 June 2012 for construction works and in the reporting month of 27 February 2012 – 26 May 2012, for Operational Monitoring.

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 Construction Activities had ceased for the following contracts.
- Waterfront (CI-05) – Construction Phase had ceased in early June 2009
 - Vet Hospital (CS-01) – Construction Phase had ceased in mid October 2008
 - Astounding Asia (CW-02) – Construction Phase had ceased in mid February 2010
 - Entry Plaza, Aqua City and Grand Aquarium (CI-07) - Construction Phase had ceased in January 2011

- Rainforest (CS02) - Construction Phase had ceased in April 2011

1.6 The site activities during the reporting quarter are summarized in **Table 1.2**. The status of Construction permits is provided in **Appendix B**.

Table 1.2 Summary of Works undertaken in the Reporting Quarter

Thrill Mountain and Polar Adventure (CS03)

Item	Work Activity	Month		
		Apr 12	May 12	Jun 12
1	Fitting out works at Tuxedos Restaurant of South Pole	√	√	
2	Finishing works of Bobsled Station and trial running of rides	√	√	
3	Install E&M services	√	√	
4	Apply wall painting in P. A. Building	√	√	√
5	Installation of glass balustrade in P. A. Building	√	√	
6	Install seating area wall stone tile	√	√	
7	Seawater infill to Pool of P.A.	√	√	
8	Install wall stone tiles	√	√	
9	Installation of theme works at P.A. Building	√	√	
10	Disposal of existing Stockpile	√	√	√
11	Landscape works		√	√
12	Fitting out works at P.A.			√
13	Install all the ceiling area			√
14	Theme works installation in P.A. Building			√
15	Theme works painting in P.A. Building			√
16	Defects work painting in P.A. Building and Bobsled Ride Station			√

Layout plans of the Project are provided in **Figure 1.2** (CS-03 Thrill Mountain and Polar Adventure).

1.7 The status of submissions until 25 June 2012 as specified in the Environmental Permit No. EP-249/2006/B is presented in **Table 1.3**.

Table 1.3 Status of Environmental Submissions

EP-249/2006/B 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.

EP-249/2006/B Condition	Submission	Revision	Status
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	Placed in EIAO Register Office for public information on 30 May 2007
2.14	Silt Curtain Proposal	B Dated 30 January 2007	Placed in EIAO Register Office for public information on 1 March 2007
2.18	As-built Drawing for Enhancement Works for Pond 35	A Dated 17 July 2007	Placed in EIAO Register Office for public information on 7 August 2007
2.20a	Transplantation Proposal for Uncommon Plant Species	D Dated 27 August 2007	Placed in EIAO Register Office for public information on 25 September 2007
2.20b	Detailed Compensatory Planting As-built Drawing	A Dated 4 October 2007	Placed in EIAO Register Office for public information on 30 October 2007
2.21	Waste Management Plan	D Dated 27 August 2007	Placed in EIAO Register Office for public information on 25 September 2007
3.3	Baseline Air Quality and Noise Monitoring Report	B Dated 28 February 2007	Submitted to the EPD on 5 March 2007
3.3	Baseline Coral Survey Report	A Dated 13 June 2007	Submitted to the EPD on 18 June 2007
All Contract (including CW02, CI07, CS02 & CS03)			
3.1 and under Section 13.14 of EM&A Manual	Quarterly EM&A Report for October to December 2009	A Dated	Submitted to the EPD on 22 February 2010
3.4	Monthly EM&A Report for January 2010	A Dated 1 March 2010	Submitted to the EPD on 5 March 2010
3.4	Monthly EM&A Report for February 2010	A Dated 17 March 2010	Submitted to the EPD on 22 March 2010
3.4	Monthly EM&A Report for March 2010	A Dated 21 March 2010	Submitted to the EPD on 26 March 2010
3.1 and under Section 13.14 of EM&A Manual	Quarterly EM&A Report for January to March 2010	A Dated 23 April 2010	Submitted to the EPD on 28 April and re-submit on 17 May 2010
3.4	Monthly EM&A Report for April 2010	A Dated 31 May 2010	Submitted to the EPD on 3 June 2010
3.4	Monthly EM&A Report for May 2010	A Dated 21 June 2010	Submitted to the EPD on 22 June 2010
3.4	Monthly EM&A Report for June 2010	A Dated 14 July 2010	Submitted to the EPD on 15 July 2010
3.1 and under Section 13.14 of EM&A Manual	Quarterly EM&A Report for April to June 2010	A Dated 16 July 2010	Submitted to the EPD on 16 July 2010

EP-249/2006/B Condition	Submission	Revision	Status
3.4	Monthly EM&A Report for July 2010	A Dated 11 August 2010	Submitted to the EPD on 13 August 2010
3.4	Monthly EM&A Report for August 2010	A Dated 9 September 2010	Submitted to the EPD on 13 September 2010
3.4	Monthly EM&A Report for September 2010	A Dated 11 October 2010	Submitted to the EPD on 13 October 2010
3.1 and under Section 13.14 of EM&A Manual	Quarterly EM&A Report for July to September 2010	A Dated 11 October 2010	Submitted to the EPD on 13 October 2010
3.4	Monthly EM&A Report for October 2010	A Dated 10 November 2010	Submitted to the EPD on 10 November 2010
3.4	Monthly EM&A Report for November 2010	A Dated 14 December 2010	Submitted to the EPD on 14 December 2010
3.4	Monthly EM&A Report for December 2010	A Dated 24 February 2011	Submitted to the EPD on 24 February 2011
3.1 and under Section 13.14 of EM&A Manual	Quarterly EM&A Report for October to December 2010	A Dated 16 March 2011	Submitted to the EPD on 17 March 2011
3.4	Monthly EM&A Report for January 2011	A Dated 4 March 2011	Submitted to the EPD on 4 March 2011
3.4	Monthly EM&A Report for February 2011	A Dated 4 April 2011	Submitted to the EPD on 4 April 2011
3.4	Monthly EM&A Report for March 2011	A Dated 28 April 2011	Submitted to the EPD on 28 April 2011
3.1 and under Section 13.14 of EM&A Manual	Quarterly EM&A Report for January to March 2011	A Dated 16 March 2011	Submitted to the EPD on 17 March 2011
3.4	Monthly EM&A Report for April 2011	A Dated 25 May 2011	Submitted to the EPD on 25 May 2011
3.4	Monthly EM&A Report for May 2011	A Dated 22 May 2011	Submitted to the EPD on 22 May 2011
3.4	Monthly EM&A Report for June 2011	A Dated 1 August 2011	Submitted to the EPD on 1 August 2011
3.1 and under Section 13.14 of EM&A Manual	Quarterly EM&A Report for July to September 2011	A Dated 1 November 2011	Submitted to the EPD on 1 November 2011
3.4	Monthly EM&A Report for October 2011	A Dated 1 December 2011	Submitted to the EPD on 1 December 2011
3.4	Monthly EM&A Report for November 2011	A Dated 21 December 2011	Submitted to the EPD on 21 December 2011
3.4	Monthly EM&A Report for December 2011	A Dated 16 December 2011	Submitted to the EPD on 7 February 2012

EP-249/2006/B Condition	Submission	Revision	Status
3.1 and under Section 13.14 of EM&A Manual	Quarterly EM&A Report for October to December 2011	A Dated 7 February 2012	Submitted to the EPD on 7 February 2012
3.4	Monthly EM&A Report for January 2012	A Dated 17 February 2012	Submitted to the EPD on 21 February 2012
3.4	Monthly EM&A Report for February 2012	A Dated 22 March 2012	Submitted to the EPD on 22 March 2012
3.4	Monthly EM&A Report for March 2012	A Dated 17 April 2012	Submitted to the EPD on 23 April 2012
3.1 and under Section 13.14 of EM&A Manual	Quarterly EM&A Report for January to March 2012	A Dated 20 April 2012	Submitted to the EPD on 20 April 2012
3.4	Monthly EM&A Report for April 2012	A Dated 15 May 2012	Submitted to the EPD on 18 May 2012
3.4	Monthly EM&A Report for May 2012	A Dated 5 July 2012	Submitted to the EPD on 6 July 2012
3.4	Monthly EM&A Report for June 2012	A Dated 3 August 2012	Submitted to the EPD on 14 July 2012
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	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.
Environmental Permit Conditions			
2.24	Glare Impact Assessment Report	Dated 9 June 2010	Submitted to EPD on 11 June 2010.
2.25	Noise Review Study Report	Dated 14 October 2010	Submitted to EPD on 19 October 2010.
2.29	Air Quality Sampling Plan	Dated 14 October 2010	Submitted to EPD on 25 November 2010.
2.31	Air Quality Monitoring Programme	Dated 13 April 2011	Submitted to EPD on 28 April 2011
2.31	Trial PSEM Displays – Air Quality Monitoring Report	Dated 28 January 2011	Submitted to EPD on 28 January 2011



EP-249/2006/B Condition	Submission	Revision	Status
2.31	Use of PSEM for Two Shows – Air Quality Sampling Plan	Dated 21 November 2011	Submitted to EPD on 21 November 2011
2.31	Trial PSEM Displays – Preliminary Air Quality Monitoring Results	Dated 14 December 2011	Submitted to EPD on 14 December 2011
2.29	Trial Two PSEM Displays – Air Quality Monitoring Report	Dated 5 February 2012	Submitted to EPD on 7 February 2012
2.16	Shrubland Compensatory Proposal	Dated 14 February 2012	Submitted to EPD on 27 February 2012
2.29	Air Quality Sampling Plan	Dated 16 May 2012	Submitted to EPD on 17 May 2012.
2.16	Shrubland Compensatory Proposal	Dated 23 May 2012	Submitted to EPD on 25 May 2012
2.31	Trial Three PSEM Displays – Preliminary Air Quality Monitoring Results	Dated 5 June 2012	Submitted to EPD on 5 June 2012
2.29	Trial Three PSEM Displays – Preliminary Air Quality Monitoring Report	Dated 29 June 2012	Submitted to EPD on 29 June 2012

2. ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

Monitoring Parameters and Locations

Construction Works

- 2.1 Under EP-249/2006/B condition 3.2, impact environmental monitoring, including sampling, measurements and necessary remedial action should be conducted in accordance with the requirements of the EM&A Manual, which as been updated to include operational monitoring or the Ocean Park Symbio Show.
- 2.2 Contract CS03 at the Summit for the Thrill Mountain and Polar Adventure is still underway. However, other than ongoing Coral Survey, no construction monitoring will be undertaken for those works, only auditing works. The audits will continue to be carried out by the Contractors ET and OPC's ET and verified by the IEC.

Coral

- 2.3 The locations of the coral monitoring stations are presented in the table below and as shown in the **Figure 1.3**.

Coral Impact Monitoring Stations	Identity/Description
Site 1	Seaside near the Lowland
Site 2 to Site 5	Around Headland
Control Station	Between Near Round Island and Chung Hom Kok

Ocean Park Symbio Show

- 2.4 Operational Stage Monitoring for Ocean Park Symbio Show commenced on the 27 January 2011. Following the completion of one year's monitoring, approval has been obtained to terminate the operational stage monitoring on 13 February 2012.

Monitoring Methodology and Calibration Details

- 2.5 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.

Environmental Quality Performance Limits (Action and Limit Levels)

- 2.6 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.

Environmental Mitigation Measures

- 2.7 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.



3. MONITORING RESULTS

Construction Monitoring Results

- 3.1 Construction monitoring has been completed in January 2011 and no construction monitoring has taken place in the reporting quarter.

Terrestrial Ecology

- 3.2 The monitoring of transplanted plants at the receptor has been completed in August 2008.

Marine Ecology

- 3.3 The 10th coral monitoring survey, after the Coral Re-tagging exercise in November 2009, was conducted on 15 July 2012 instead of May 2012 due to unforeseen circumstances. The monitoring survey showed that the change in level of sedimentation on the tagged colonies was minor and all tagged corals were in good condition and healthy in all the 5 monitoring Sites and the Control Site C. Neither Action nor Limit levels of sedimentation, bleaching or mortality was exceeded. The table of results are shown in **Appendix C**.

4. AUDIT RESULTS FOR CONSTRUCTION PHASE

Implementation Status of Environmental Mitigation Measures

- 4.1 This was the twenty-first quarter of Ocean Park Master Redevelopment Project including Contract CS02 and CS03. 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 IEC's audits were carried on monthly basis (i.e. on 17 April 2012, 15 May 2012 and 21 June 2012). No non-compliance was issued for CS03. Observations details were provided in the Monthly EM&A report.
- 4.3 The updated implementation status of environmental mitigation measures (EMIS) is given in **Appendix G**.
- CI05 (Construction phase had ceased in early-June 2009)*
CS01 (Construction phase had ceased in mid-October 2008)
CW02 (Construction phase had ceased in mid-February 2010)
CI07 (Construction phase had ceased in January 2011)
CS02 (Construction phase had ceased in April 2011)
- 4.4 CS03**
- 4.4.1 April 2012
- (a) Over 20 cement bags were not fully covered. The Contractor was reminded to fully cover any piles of over 20 cement bags on-site with tarpaulin sheet or other means to suppress dust.
- 4.4.2 May 2012
- (a) General refuse and construction waste were scattered around the site. The Contractor was reminded to clear them away more frequently.
(b) Stockpiles of dusty construction materials were not covered with tarpaulin sheet or other means. The Contractor was reminded to cover them to suppress dust or backfill them ASAP.
- 4.4.3 June 2012
- (a) General refuse and construction waste were scattered around the site. The Contractor was reminded to clear and dispose them properly.

Status of Environmental Licensing and Permitting

- 4.7 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.

Advice on Materials Management Status

- 4.8 Table 4.1 summarises the estimated amounts of different types of materials generated from the Project during the reporting quarter as below:

Materials Type	Estimated Amount			Disposal Locations
	Apr 12	May 12	Jun 12	
C&D waste	249.80 tonnes	219.80 tonnes	166.40 tonnes	SENT Landfill
	--	--	--	TKOSF
Excavated Material (mainly soil)	88.50 tonnes	33.10 tonnes	42.85 tonnes	CWPFBP
	--	--	--	TKOFB
Chemical waste	nil	nil	nil	Collected by licensed collector
General waste	--	--	--	Collected by licensed collector

Table 4.1 Estimated Amounts of Different Types of Materials Generation from April 2012 to June 2012.

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

Summary of Exceedances – Construction Phase

5.1 As there was no exceedance during the reporting quarter, no further action was required.

Summary of Exceedances – Operational Phase

5.2 As there was no exceedance during the reporting quarter, no further action was required.

6. ENVIRONMENTAL COMPLAINTS

Complaints Log

6.1 No complaints were received during the reporting period.

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 D**.

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 During this quarter, no complaints were received.
- 8.2 No summons and prosecutions related to environmental issues were made against the Project in the reporting quarter.
- 8.3 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.
- 8.4 Following the completion of one year's monitoring, a justification paper has been presented for the termination of the Air Quality (RSP) and Noise monitoring programmes for the operation of the Lagoon night shows. Approval has been received on 13 February 2012.

Construction Phase

- 8.5 On completion of the works and opening of the Entry Plaza, Aqua City and Grand Aquarium to the public on 27 January 2011, the construction works under CI07 have been completed, and, as advised to EPD on 1 April 2011 (PD/PW/GOV/151/006107), no further construction monitoring for noise and air quality would be carried out.
- 8.6 In the reporting quarter, no terrestrial ecology monitoring was conducted. According to the requirement in the EM&A Manual, the last two terrestrial ecology monitoring had been completed in August 2008.
- 8.7 In the reporting quarter, one coral monitoring was conducted and the results showed that there was no exceedance of Action and Limit Levels.

Operational Phase

- 8.8 Operation Stage Monitoring for Ocean Park Symbio Show commenced on the 27 January 2011. Following the completion of one year's air and noise monitoring, approval has been obtained to terminate the operational stage monitoring on 13 February 2012.

Appendix A



APPENDIX A – CONTACTS OF KEY ENVIRONMENTAL PERSONNEL

Company	Contact Person	Position	Telephone No.
Ocean Park Corporation Operations	Frankie Hau	Environmental Team Leader	3923 2528
Ocean Park Corporation Master Redevelopment Project	Arthur Wong	Project Manager Representative (PMR)	2552 1285
Mott MacDonald Hong Kong Ltd	Dr. Anne Kerr	Independent Environmental Checker	2828 5757
Kaden – ATEL JV (for Contract CS03)	Winson Chung	Contractor’s Asst. ETL	93261588

Appendix B

APPENDIX B – Licences and Permits

Permits & Licences

CS03(KAJV)

Permit number	Starting Date	Expired Date	Location	Status
Notification of Construction Work under APCO				
311433	N/A	N/A	Thrill Mountain & Polar adventure	Notified
Effluent Discharge Licence				
WT00005923-2010	N/A	N/A	Thrill Mountain & Polar Adventure	Valid
Registration as Chemical Waste Producer				
WPN5213-176-K2880-02	26 Nov 09	N/A	From oil, lubricant oil, paint, solvent & diesel	Registered
Registration as Chemical Waste Producer				
7009695	N/A	N/A	Thrill Mountain & Polar Adventure	Issued

Appendix C



Lam Environmental Services Limited

Ocean Park Corporation Master
Redevelopment Project
Contract No. CS-03
Thrill Mountain and Polar Adventure

Table 3.2 Sites 1 to 5 and Control Site C – Percentage and thickness of Sedimentation, Bleaching and Mortality of the Re-tagged Coral Colonies in Coral Re-tagging Exercise and Baseline Data Collection (November 2009) and the Present Monitoring Survey (July 2012). “▲” and “▼” indicate increased and decreased in percentage, respectively, when compared with the coral re-tagging exercise and baseline data collected in November 2009.

Site 1

Code	Coral Species	Area (cm ²)	Sedimentation (% , mm)			Bleaching (%)			Mortality (%)				
			21 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012	21 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012	21 Nov 09 (baseline)	Nov 2011	Feb 2012
A1	<i>Platygyra carnosus</i>	1200	0,0	0,0	0,0	0,0	0	0	0	0	0	0	0
A2	<i>Favites abdita</i>	400	5,1	2,1▼	3,1▼	5,1	0	0	0	2	2	2	2
A3	<i>Pleasantrea versipora</i>	600	0,0	0,0	0,0	0,0	0	0	0	0	0	0	0
A4	<i>Leptastrea purpurea</i>	6200	0,0	5,1▲	4,1▲	6,1▲	0	0	0	0	0	0	0
A5	<i>Platygyra carnosus</i>	3200	1,1	0,0▼	0,0▼	1,1	0	0	0	0	0	0	0
A6	<i>Platygyra carnosus</i>	2600	0,0	0,0	0,0	0,0	0	0	0	0	0	0	0
A7	<i>Favia speciosa</i>	500	2,1	0,0▼	2,1	2,1	0	0	0	5	5	5	5
A8	<i>Platygyra carnosus</i>	1500	2,1	0,0▼	2,1	2,1	0	0	0	0	0	0	0
*A9R	<i>Leptastrea purpurea</i>	1500	4,1	8,0	8,0	10,0▲	-	0	0	-	0	0	0
*A10R	<i>Platygyra carnosus</i>	2250	0,0	5,0	5,0	5,0	-	0	0	-	2	2	2

*Notes: A9R and A10R are re-tagged coral colonies as A9 and A10 were damaged by anchoring or typhoon events, and not suitable for monitoring purpose.

Site 2

Code	Coral Species	Area (cm ²)	Sedimentation (% , mm)			Bleaching (%)			Mortality (%)				
			29 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012	29 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012	29 Nov 09 (baseline)	Nov 2011	Feb 2012
B1	<i>Platygyra carnosus</i>	1300	2,1	0,0▼	0,0▼	2,0	0	0	0	0	0	0	0
B2	<i>Pleasantrea versipora</i>	650	4,1	0,0▼	0,0▼	5,0▲	0	0	0	0	0	0	0
B3	<i>Psammodora superficialis</i>	4400	5,1	5,1	5,1	10,1▲	0	0	0	3	3	3	3
B4	<i>Favia speciosa</i>	800	0,0	0,0	0,0	5,1▲	0	0	0	2	2	2	2
B5	<i>Pleasantrea versipora</i>	1000	2,1	2,1	2,1	2,1	0	0	0	2	2	2	2
B6	<i>Platygyra carnosus</i>	1500	0,0	0,0	0,0	0,0	0	0	0	0	0	0	0
B7	<i>Hydnophora exesa</i>	1600	1,1	0,0▼	0,0▼	1,1	0	0	0	0	0	0	0
B8	<i>Pleasantrea versipora</i>	1300	0,0	0,0	0,0	0,0	0	0	0	0	0	0	0
B9	<i>Favia speciosa</i>	450	1,1	1,1	1,1	5,1▲	0	0	0	2	2	2	2
B10	<i>Psammodora superficialis</i>	400	0,0	0,0	0,0	0,0	0	0	0	0	0	0	0



Lam Environmental Services Limited

Ocean Park Corporation Master
Redevelopment Project
Contract No. CS-03
Thrill Mountain and Polar Adventure

Site 3

Code	Coral Species	Area (cm ²)	Sedimentation (% , mm)				Bleaching (%)				Mortality (%)			
			28 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012	28 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012	28 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012
C1	<i>Porites sp</i>	100	2,1	5,1▲	2,1	5,1▲	0	0	0	0	3	3	3	
C2	<i>Porites sp</i>	210	3,1	3,1	3,1	5,1▲	0	0	0	0	5	5	5	
C3	<i>Goniopora stutchburyi</i>	410	5,1	0,0▼	0,0▼	5,1	0	0	0	0	7	7	7	
C4	<i>Pavona decussata</i>	240	4,1	2,1▼	2,1▼	4,1	0	0	0	0	0	0	0	
C5	<i>Pavona decussata</i>	210	3,1	0,0▼	0,0▼	5,1▲	0	0	0	0	1	1	1	
C6	<i>Pavona decussata</i>	200	3,1	0,0▼	0,0▼	5,1▲	0	0	0	0	0	0	0	
C7	<i>Montipora peltiformis</i>	960	3,1	3,1	3,1	3,1	0	0	0	0	0	0	0	
C8	<i>Goniopora stutchburyi</i>	140	1,1	1,1	1,1	5,1▲	0	0	0	0	0	0	0	
C9	<i>Porites sp</i>	300	3,1	3,1	3,1	3,1	0	0	0	0	0	0	0	
C10	<i>Cyphastrea serailita</i>	600	4,1	2,1▼	4,1	4,1	0	0	0	0	0	0	0	

Site 4

Code	Coral Species	Area (cm ²)	Sedimentation (% , mm)				Bleaching (%)				Mortality (%)			
			28 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012	28 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012	28 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012
E1	<i>Goniopora stutchburyi</i>	290	5,1	0,0▼	5,1	5,1	0	0	0	0	0	0	0	
E2	<i>Coccinaraea sp.</i>	620	0,0	0,0	0,0	5,1▲	0	0	0	0	0	0	0	
E3	<i>Goniopora stutchburyi</i>	300	4,1	0,0▼	4,1	5,1▲	0	0	0	3	3	3	3	
E4	<i>Goniopora stutchburyi</i>	130	3,1	0,0▼	0,0▼	3,1	0	0	0	0	0	0	0	
E5	<i>Goniopora stutchburyi</i>	460	6,1	3,1▼	3,1▼	10,1▲	0	0	0	4	4	4	4	
E6	<i>Goniopora stutchburyi</i>	380	10,1	5,1▼	5,1▼	10,1	0	0	0	8	8	8	8	
E7	<i>Goniopora stutchburyi</i>	120	3,1	0,0▼	3,1	5,1▲	0	0	0	0	0	0	0	
E8	<i>Goniopora stutchburyi</i>	230	4,1	4,1	4,1	4,1	0	0	0	2	2	2	2	
E9	<i>Goniopora stutchburyi</i>	170	3,1	3,1	3,1	3,1	0	0	0	0	0	0	0	
E10	<i>Goniopora stutchburyi</i>	540	7,1	5,1▼	5,1▼	7,1	0	0	0	3	3	3	3	



Lam Environmental Services Limited

Ocean Park Corporation Master
Redevelopment Project
Contract No. CS-03
Thrill Mountain and Polar Adventure

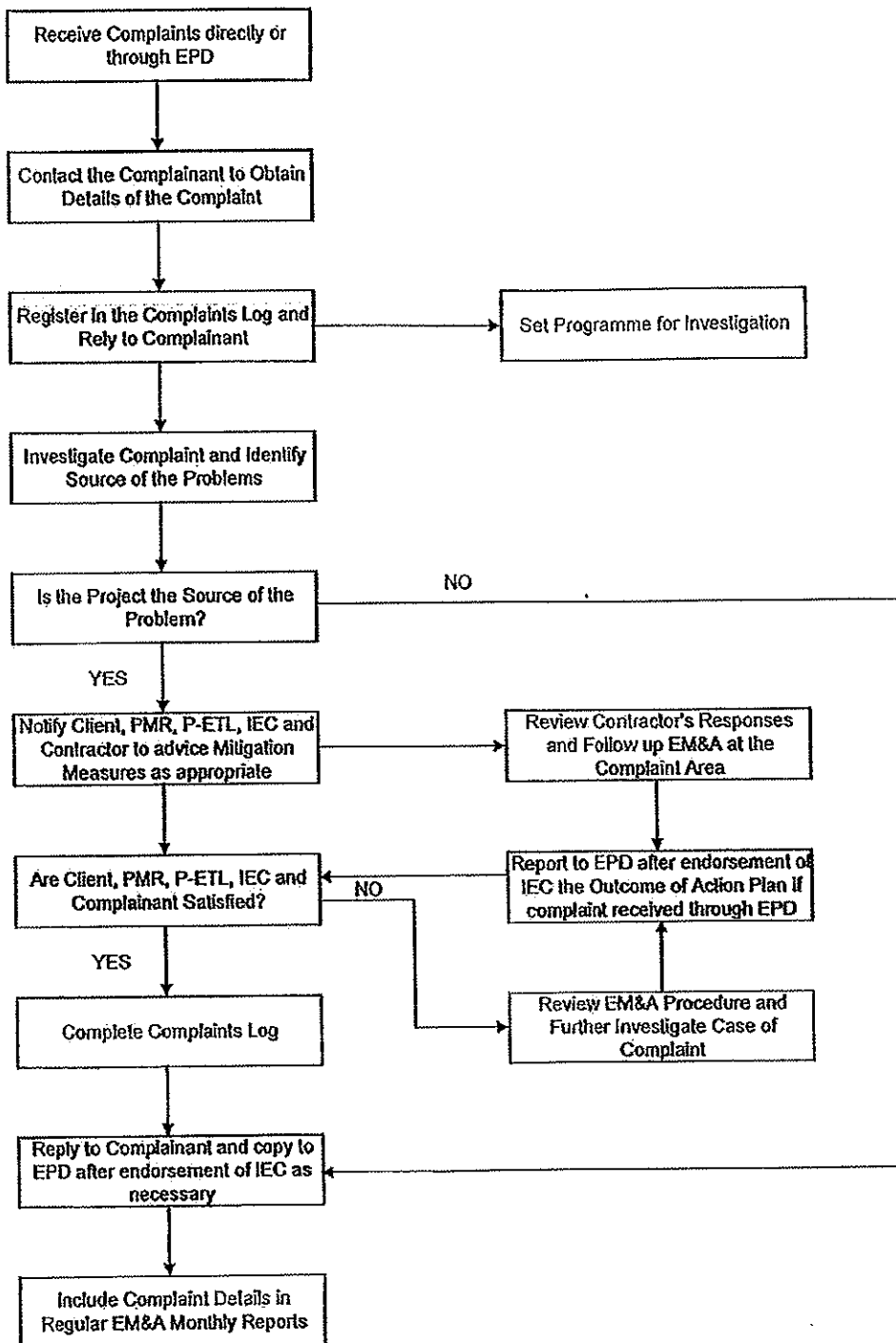
Site 5

Code	Coral Species	Area (cm ²)	Sedimentation (% , mm)			Bleaching (%)			Mortality (%)				
			29 Nov 09 (baseline)	Nov 2011	Feb 2011	July 2012	29 Nov 09 (baseline)	Nov 2011	Feb 2011	July 2012	29 Nov 09 (baseline)	Nov 2011	Feb 2011
D1	<i>Psammocora</i> sp.	800	6, 1	0, 0 ▼	5, 1 ▼	6, 1	0	0	0	3	3	3	3
D2	<i>Montipora peltiformis</i>	600	4, 1	1, 1 ▼	4, 1	5, 1	0	0	0	0	0	0	0
D3	<i>Goniopora stutchburyi</i>	450	2, 1	0, 0 ▼	2, 1	2, 2	0	0	0	0	0	0	0
D4	<i>Cyphastrea serailia</i>	100	3, 1	3, 1	3, 1	3, 1	0	0	0	0	0	0	0
D5	<i>Montipora cf. turgescens</i>	320	4, 1	4, 1	4, 1	5, 1 ▲	0	0	0	0	0	0	0
D6	<i>Montipora peltiformis</i>	480	10, 1	5, 1 ▼	5, 1 ▼	10, 1	0	0	0	20	20	20	20
D7	<i>Montipora peltiformis</i>	500	8, 1	8, 1	8, 1	10, 1 ▲	0	0	0	2	2	2	2
D8	<i>Montipora peltiformis</i>	410	6, 1	6, 1	6, 1	10, 1 ▲	0	0	0	0	0	0	0
D9	<i>Montipora peltiformis</i>	200	5, 1	5, 1	5, 1	10, 1 ▲	0	0	0	5	5	5	5
D10	<i>Goniopora stutchburyi</i>	510	7, 1	5, 1 ▼	5, 1 ▼	7, 1	0	0	0	5	5	5	5

Control Site C

Code	Coral Species	Area (cm ²)	Sedimentation (% , mm)			Bleaching (%)			Mortality (%)				
			21 Nov 09 (baseline)	Nov 2011	Feb 2012	July 2012	21 Nov 09 (baseline)	Nov 2011	Feb 2011	July 2012	21 Nov 09 (baseline)	Nov 2011	Feb 2011
F1	<i>Goniastrea aspera</i>	450	2, 1	0, 0 ▼	0, 0 ▼	2, 1	0	0	0	0	0	0	0
F2	<i>Favites pentagona</i>	2100	2, 1	2, 1	2, 1	2, 1	0	0	0	2	2	2	2
F3	<i>Favites pentagona</i>	1000	0, 0	0, 0	0, 0	5, 1 ▲	0	0	0	5	5	5	5
F4	<i>Porites</i> sp	1300	2, 1	2, 1	2, 1	5, 1 ▲	0	0	0	0	0	0	0
F5	<i>Cyphastrea serailia</i>	2100	0, 0	10, 1 ▲	0, 0	10, 1 ▲	0	0	0	0	0	0	0
F6	<i>Porites</i> sp	2100	5, 1	5, 1	5, 1	5, 1	0	0	0	2	2	2	2
F7	<i>Plesiastrea versipora</i>	3000	2, 1	2, 1	2, 1	2, 1	0	0	0	0	0	0	0
F8	<i>Favites pentagona</i>	680	0, 0	0, 0	0, 0	0, 0	0	0	0	0	0	0	0
F9	<i>Favites pentagona</i>	2600	0, 0	4, 1 ▲	4, 1 ▲	5, 1 ▲	0	0	0	0	0	0	0
F10	<i>Favia rotumana</i>	600	0, 0	0, 0	0, 0	0, 0	0	0	0	0	0	0	0

Appendix D





Ocean Park Master Redevelopment Project
Contract No. CS03 - Thrill Mountain & Polar Adventure
Quarterly EM&A Report - April, May and June 2012

There was no Complaint Record Register during these three months

Figure 1.1

Figure 1.1 – Management Organisation

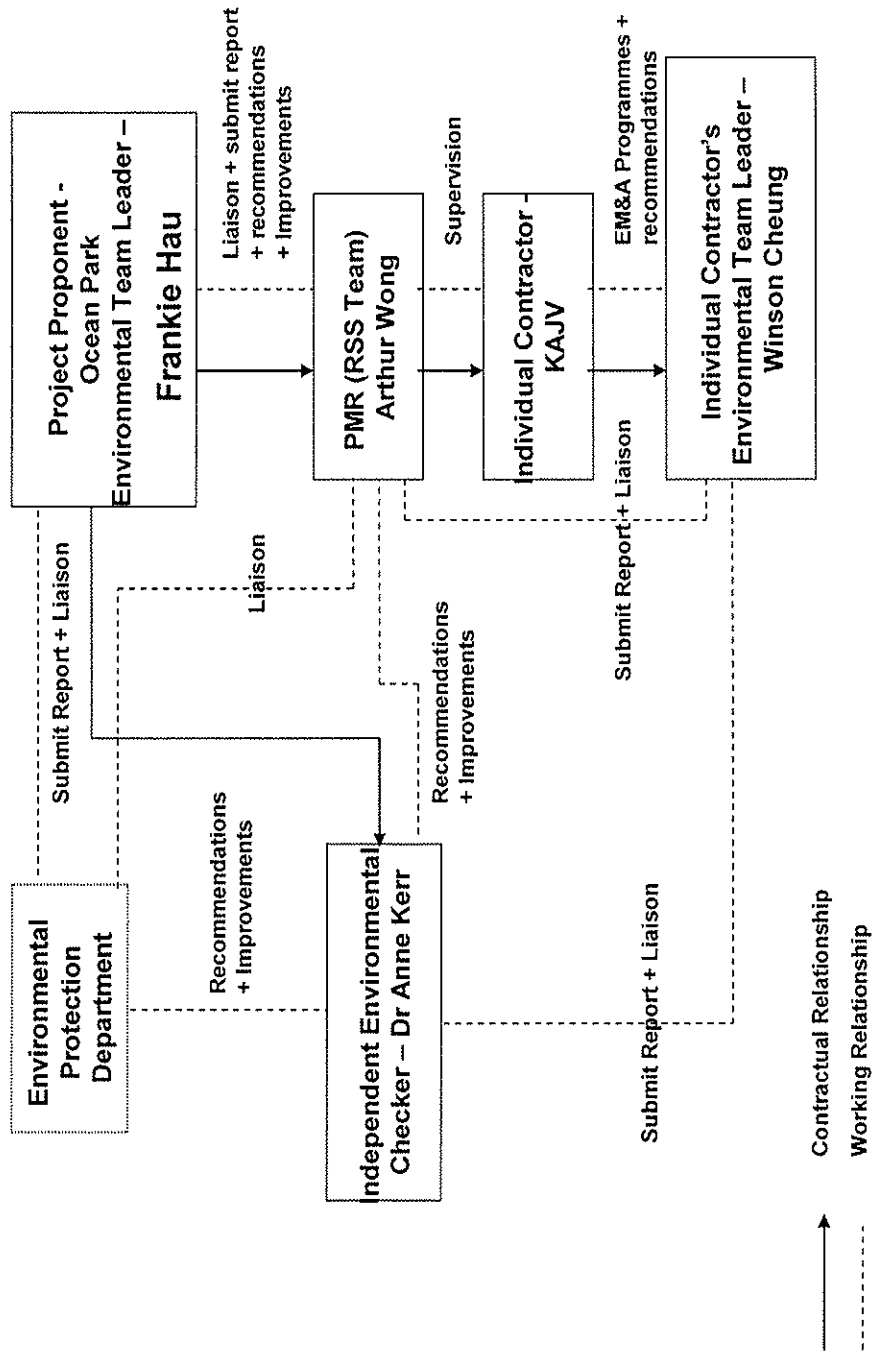


Figure 1.2

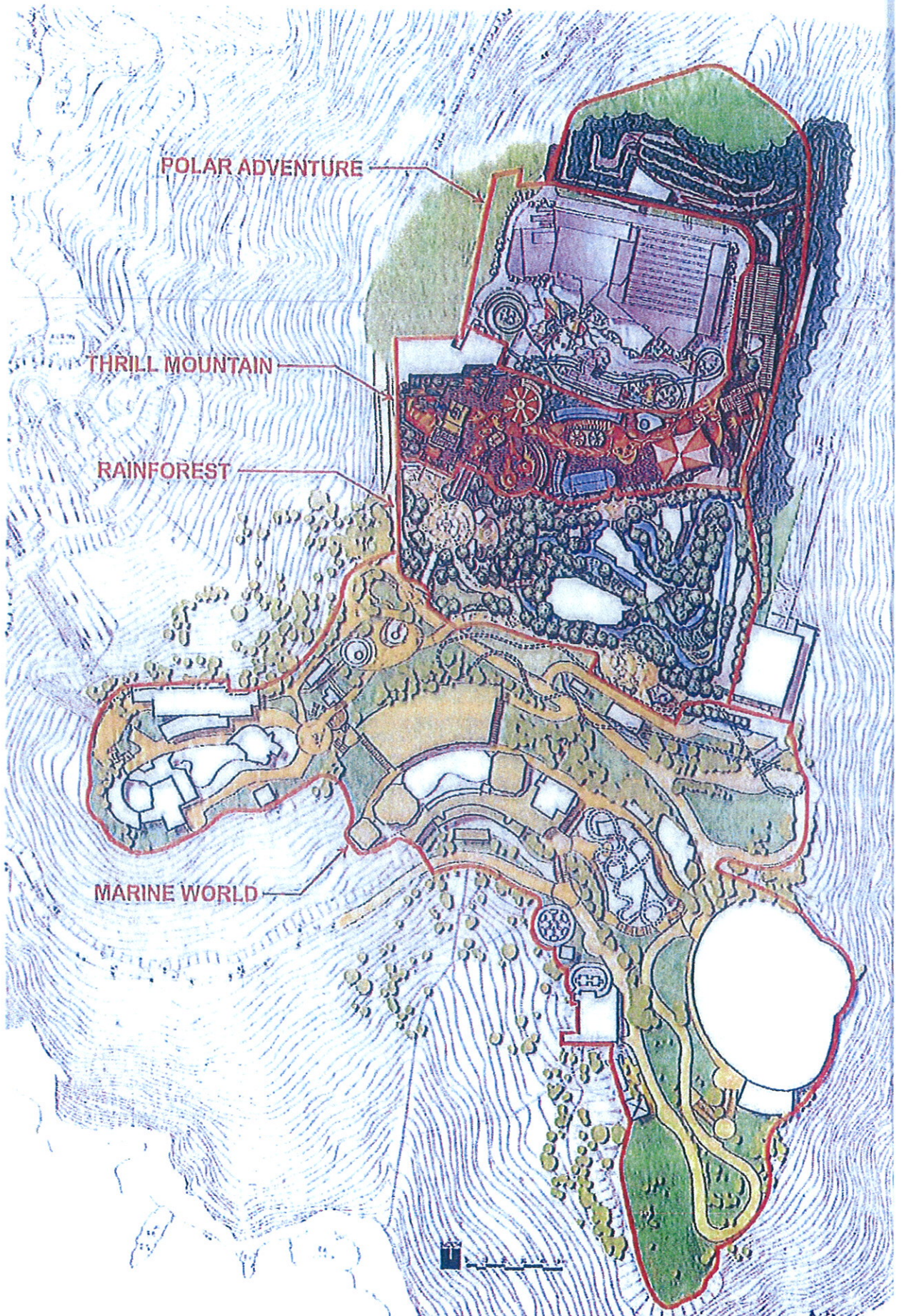


Figure 1.3



PROJECT TITLE: OCEAN PARK REDEVELOPMENT <small>Coastal No. 002 Site Formation, Fender, Terminal and Miscellaneous Works</small>		FIGURE NO.: LOCATIONS OF SUBTIDAL MONITORING STATION		DRAWING NO.: BOHY/05/01/JAN/0016	
SHEET NO.: 1		SHEET TOTAL: 1		SCALE: 1:1000	
DATE: 15/01/2016		PROJECT NO.: 002		PROJECT NAME: OCEAN PARK REDEVELOPMENT	
CLIENT: 		CONSULTANT: 		APPROVED BY: 	
CHECKED BY: 		DRAWN BY: 		DATE: 15/01/2016	
PROJECT LOCATION: OCEAN PARK		PROJECT NO.: 002		PROJECT NAME: OCEAN PARK REDEVELOPMENT	