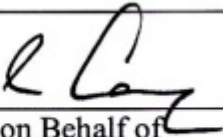


**Proposed Extension of Public Golf Course
at Kau Sai Chau Island, Sai Kung**

**Monthly Environmental Monitoring & Audit (EM&A) Report
for January 2006**

(Report No. 382210/001)

<p>Report Authorized For Issue By:</p>	
	<p>For and on Behalf of Black & Veatch Hong Kong Limited</p>

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February 2006

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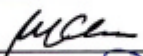

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	Name	Signature	Date
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Our ref: 40040032/CERT/01_06.doc

**Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
(Independent Environmental Checker)**

CHECK CERTIFICATE

1. We certify that professional skill and care have been used in checking the Environmental Team's (ET) No. 1 Monthly EM&A Report for January 2006 for the construction of the Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung.
2. We certify that the ET's EM&A programme for the reporting period has been satisfactorily executed and the No.1 Monthly EM&A Report for January 2006 has been verified.
3. We comment that our evaluation of the ET's EM&A programme is base on a random audit process which cannot be guaranteed to have all non-conformities identified.

Signed



Name

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Date

8 February 2006

Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
 Monthly EM&A Report

DOCUMENT CONTROL			Proposed Extension of Public Golf Course at Kau Sai Chau, Sai Kung	No. 382210/001	
AMENDMENT RECORD				Prepared by: Esther Tong	
Monthly EM&A Monitoring Report – January 2006			Client: Hong Kong Jockey Club	Initials: ET	
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Executive Summary

This is the first monthly Environmental Monitoring and Audit (EM&A) report prepared by Black & Veatch, the designated Environmental Team (ET), for the Project “Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung”. The construction works of golf course was commenced on 16 January 2006. This report presents the results of the EM&A works conducted in the month of January 2006 (16 January 2006 to 24 January 2006).

Summary of construction works undertaken during this report period

The major work was vegetation clearance at Holes 1 and 2 only. No excavation work was carried out carried out for all other construction areas.

Environmental Monitoring and Audit Progress

A summary of monitoring activities in this reporting period is shown as follows:

24-hour Total Suspended Particulates (TSP) monitoring at GCA B1	1 time
Water quality monitoring (marine + freshwater)	4 times
Terrestrial Ecology	1 time
Marine Ecology	2 times
Landscaping & Visual	1 time
Joint environmental site auditing	1 time

Air Quality

1 set of 24-hour TSP monitoring were carried out on 20th January 2006 at Bungalow A (GCA B1) at Kau Sai Chau during this reporting month. No exceedance of action and limit levels of 24-TSP was recorded at GCA B1.

Water Quality

4 sets of water quality monitoring were carried out on 16th, 19th, 21st and 23rd January 2006 at 9 marine and 7 freshwater monitoring locations. Monitoring was performed on schedule. For marine water, no exceedance of action and limit levels was recorded at all marine monitoring locations. For freshwater, 1 limit level exceedance for SS were recorded at F_DB on 21st Jan 2006. The exceedance of measured SS value was 6 mg/L. ET's assessment showed that the exceedance was not attributed to the works and therefore no further action was required. The exceedance is mainly due to variation of the streams.

Ecology

Terrestrial ecology was conducted on 17th January 2006. The demarcation of the stream buffer zone had not been established at the time of the monitoring survey. Stream buffer zone demarcation will be established by the Contractor when the works fronts are approaching each stream and will be completed before onset of the wet season in 2006. In general, the streams and the riparian vegetation were in natural conditions similar to the condition during the Baseline Survey.

Marine ecology was conducted on 26th & 27th January 2006 at Site B2, Site C and Control Site. No construction work had been conducted at temporary barging point (Site B2) when the present monitoring survey was conducted. No mortality, sedimentation or bleaching was found on any of the tagged corals. All sites and their vicinity still remained similar conditions as during the Baseline Survey.

Landscaping & Visual

The landscape and visual monitoring and site audit was carried on 24th January 2006. Vegetation clearance work has commenced. Tree protection measures have not been implemented yet. The contractor was reminded to erect fencing around the preserved trees.

Environmental Site Auditing

A monthly joint environmental site audits was carried out on 20th January 2006 by the Contractor's representative, ET's representative and Independent Environmental Checker (IC(E)).

Environmental Non-conformance

There was one exceedance of limit level of suspended solids recorded at the downstream of stream B (F_DB, 6mg/L) on 21st January 2006. However, such exceedance was not attributed to the project works and therefore no environmental non-conformance was recorded in the reporting month. No environmental complaint was received in this reporting period. No environmental summon was received in this reporting period.

Implementation Status of Environmental Mitigation Measures

The Contractor was reminded to water the unpaved areas regularly during the dry season.

The Contractor was reminded to minimize the water quality impact when undertaking excavation works. Temporary drainage system and contingency plan shall be installed and proposed to the Engineer's Representative (ER) for approval and ET for comment before the wet season.

The Contractor was reminded to prepare the demarcations of buffer zone at Streams A, B and C before any major construction works carried out are being carried close to those areas.

Future Key Issues

Key issues to be considered in the coming month include:

- Generation of dust from activities on-site during dry season : mainly Holes 1 and 2, concrete batching plants construction, temporary haul road and installation of site office;
- Site runoff due to vegetation clearance from the exposed areas; and
- Storage of chemicals/fuel and chemical waste/waste oil on site.

Potential environmental impacts arising from the construction activities in the coming month are expected to be mainly associated with dust, site runoff and waste management.

1. Introduction

1.1 Background of the Project

1.1.1 Black & Veatch (hereinafter called the "ET") was appointed by Hong Kong Jockey Club (hereinafter called the "Project Proponent") to undertake Environmental Monitoring and Audit (EM&A) for "Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung" (hereinafter called the "Project"). Under the requirements of Section 4 of Environmental Permit EP-224/2005, EM&A programme as set out in the EM&A Manual is required to be implemented. In accordance with the EM&A Manual, environmental monitoring of air quality, water quality, terrestrial and marine ecology, landscape and visual, archaeology (watching brief) and land contamination are required for the Project.

1.1.2 This report summarises the environmental monitoring and audit works for the Project in January 2006 (from 16 January to 24 January 2006).

1.2 Purpose of the Report

1.2.1 This is the first EM&A report which summarizes the impact monitoring results and audit findings for the EM&A programme during the reporting period from **16 January 2006 to 24 January 2006**.

1.3 Structure of the Report

1.3.1 The structure of the report is shown in Table 1.1.

Table 1.1 Structure of the Report

Section		Description
1	Introduction	Details the scope and structure of the report
2	Project Information	Summarizes background and scope of the project, site description, project organization and contact details, construction programme, the construction works undertaken and the status of environmental permits/licenses during the reporting period.
3	Environmental Monitoring Requirement	Summarizes the monitoring parameters, programmes, methodology, frequency, location, action and limit levels, event action plans, environmental mitigation measures as recommended in the EIA report and relevant environmental requirements.
4	Implementation Status on Environmental Mitigation Measures	Summarizes the implementation of environmental protection measures during the reporting period.
5	Monitoring Results	Summarizes the monitoring results obtained in the reporting period.
6	Environmental Site Auditing	Summarizes the audit findings of the weekly site inspections undertaken within the reporting period.
7	Environmental Non-conformance	Summarizes any monitoring exceedance, environmental complaints and environmental summons within the reporting period.
8	Future Key Issues	Summarizes the impact forecast and monitoring schedule for the next three month (25 January 2006 – 24 April 2006).
9	Recommendations and Conclusions	Lists out any recommendations and provides an overall conclusion of the results and findings of the EM&A programme for the reporting period.

2. Project Information

2.1 Background

2.1.1 The Project comprises the following major components:

- Construction of a third 18-hole public golf course on the east side of the island, south of the existing golfing area;
- A new irrigation lake to collect surface runoff from new 18-hole golf course. Water stored at the new irrigation lake can also be diverted to existing reservoir for tertiary treatment and recycling;
- A new desalination plant adjacent to the existing pier to serve as an additional irrigation water supply for the new golf course during dry season; and
- Expansion of existing administration and maintenance buildings.

2.1.2 The potential environmental impacts of the Project have been studied in the Environmental Impact Assessment (EIA) report (EIAO Register No. AEIAR- 091/2005). The EIA was approved on 14 November 2005 under the EIAO. An Environmental Permit (EP-224/2005) was granted on 28 November 2005.

2.2 Site Description

2.2.1 A layout plan of the Project is provided in **Figure 1.1**.

2.3 Project Organization

2.3.1 Project organization and lines of communication are shown in **Figure 1.2**.

2.4 Construction Programme

2.4.1 The tentative construction programme for the Project is presented in **Annex A**. The construction works were commenced on 16 January 2006 and are scheduled to be completed by end of July 2007.

2.4.2 The major work was vegetation clearance work at Holes 1 and 2 only during this monitoring month. No excavation work was carried out for all other construction areas.

2.5 Status of Environmental Submission

2.5.1 A summary of the reporting requirement for compliance with EP conditions of the Project is listed in Table 2.1.

Table 2.1 Summary of Compliance with EP Conditions

EP-224/2005	Environmental Permit Submission	Status	Remarks
2.3	Management organization of the main construction companies and/or any form of joint ventures associated with the construction of the Project.	Submitted	At least one week before the commencement of construction of the Project.

EP-224/2005	Environmental Permit Submission	Status	Remarks
2.4	Contamination Assessment Plan (CAP) submission. If land contamination is confirmed by the site investigation, submission of a Remediation Assessment Plan (RAP) including a Contamination Assessment Report (CAR) is required.	In progress	At least one month before the commencement of construction at the potentially contaminated land.
3.6	Detailed methodology for Coral Transplantation submission to the Director for approval.	In progress	At least one month before commencement of the Coral Transplantation.
4.1	EM&A Manual (revised)	Submitted	At least two weeks before commencement of construction of the Project.
4.3	Baseline Monitoring Report	Submitted	At least two weeks before commencement of construction of the Project
4.5	Monthly EM&A Report for January 2006	Submitted	within 10 working days after the end of the reporting month
5.1	Set up a dedicated web site and notify the Director in writing the Internet address.	Completed	Within 6 weeks after the commencement of construction of the Project (http://www.kscgolf.com/ema/index.asp)

2.6 Summary of EM&A Requirements

2.6.1 The EM&A programme requires environmental monitoring for air quality, water quality, terrestrial and marine ecology, landscape and visual, archaeology (watching brief) and land contamination. The EM&A requirements for each parameter are described in subsequent sections, including:

- All monitoring parameters;
- Action and Limit Levels for all environmental parameters;
- Event and Action Plans; and
- Environmental mitigation measures, as recommended in the project EIA final report.

2.6.2 A summary of impact EM&A requirements is presented in Table 2.2.

Table 2.2 Summary of Impact EM&A Requirements

Impacts	Parameters/descriptions	Locations	Frequencies	Duration
Air Quality	24-Hour TSP	1 Location	Once every 6 days	During Construction
	1-Hour TSP	1 Location	Three times in every 6 days	During Construction (As required when complaint received)
Water Quality	Dissolved Oxygen, Temperature, Turbidity, pH, Salinity and SS	9 marine and 7 freshwater locations	First 3 months 3 times a week, mid-ebb and mid-flood tides. If there is no exceedance occurs for the first 3 months, reduce to once per week.	During Construction
	Dissolved Oxygen, Temperature, Turbidity, pH, Salinity, SS, NO3-N, NO2-N, NH3-N, TP and selected pesticides.	9 marine and 7 freshwater locations	Once per week. If there is no exceedance occurs, monitoring frequency is subjected to change and shall be agreed with EPD.	During Construction: turf establishment period (permanent low flow drainage is not completed)
	Dissolved Oxygen, Temperature, Turbidity, pH, Salinity, SS, NO3-N, NO2-N, NH3-N, TP, Chl-a and selected pesticides.	9 marine and 6 freshwater locations	A 2-year of monitoring period for the operation phase is proposed. Monitoring should be carried out on bi-weekly basis for the first 12 months, after when the frequency will be reviewed by EPD.	During Operation
	Dissolved Oxygen, Temperature, Turbidity, pH, Salinity, SS, NO3-N, NO2-N, NH3-N, TP, Chl-a and selected pesticides	8 marine locations	Additional water quality monitoring shall be carried out after heavy rain storm or when there is an overflow event from the reservoir, irrigation buffer lake or detention ponds/tanks.	During Construction and Operation
Terrestrial Ecology	Monitoring aquatic fauna	Streams B, C & D	Once a month	During Construction
	Environmental Site Inspection mainly on intact of buffer zones	Streams A, B and C	Once a week	During Construction

Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
 Monthly EM&A Report

Impacts	Parameters/descriptions	Locations	Frequencies	Duration
Marine Ecology	Transplanted corals	D2	Quarterly for first year after transplantation	During construction
	Natural corals	Site C, Site B2, Site D2, and a Control Site.	For Site D2 and the Control Site: Weekly at the first two weeks of dredging works for the desalination plant pipelines. If no exceedance was recorded, the monitoring schedule would be changed to biweekly till the pipeline construction works are finished. For Site C, B2 and the Control Site: Monthly for the first three months of the construction phase. If no exceedance was recorded, the monitoring schedule would be changed to quarterly during the rest of the construction phase.	During Construction
		Site C, Site D2 and the Control Site.	First three months would be monthly conducted during the first two years of the operation phase. If no exceedance was recorded, the monitoring schedule would be changed to semi-annually, i.e. once in dry season and once in wet season.	During operation
	Seagrass bed	Site D3, and at Site D2	Monitoring at Site D3 (D2 if necessary): Weekly during the first two weeks of dredging works, and then biweekly till the pipeline construction works are finished.	During Construction
		Seagrasses at Site D3, and at Site D2	Site D2 during the baseline monitoring, would be monitored during the first two years of the operation phase. The monitoring schedule during the first three months would be monthly. After that, the monitoring schedule would be changed to semi-annually, i.e. once in dry season and once in wet season.	During Operation
Landscape and Visual	Audits to ensure effective implementation of mitigation measures	Project area and at visual sensitive receivers	Auditing inspections and reporting shall be undertaken once every two weeks of the construction phase and once every two months of the operation phase.	During Construction and Operation
Archaeology (Watching Brief)	Monitor archaeological potential sites at major cut areas	Hole 2, Hole 11, Hole 12, Hole 14, Hole 15 and Hole 16.	The archaeologist should keep the AMO informed of the progress of watching brief. The archaeologist should submit progress reports every 3 months during the programme of the watching brief.	During Construction
Land Contamination	Total Sulphur and Total Lead	Locations 2, 3, 6, 7 & 8	One month before commencement of work at the identified 5 hotspots	During Construction
General Site Conditions	Environmental Site Inspection	Works areas and areas affected by works	Periodically (weekly basis)	During Construction

3. Environmental Monitoring Requirements

3.1 Air Quality

Monitoring Requirement

- 3.1.1 24-hour TSP monitoring was carried out at GCA B1 to monitor the construction dust impact level in this reporting period.
- 3.1.2 The established Action/Limit Levels (AL levels) for the 1-hour and 24-hour TSP monitoring works are summarized in Table 3.1 and Table 3.2.

Table 3.1 Action and Limit Levels for 1-hour TSP

Location	Description	Action Level	Limit Level
GCA B1	Bungalow A adjacent to Kau Sai Chau Public Golf Course Administration Building	277.2 $\mu\text{g m}^{-3}$	500 $\mu\text{g m}^{-3}$

Note: The action levels for GCA B1 are developed based on baseline monitoring result.

Table 3.2 Action and Limit Levels for 24-hour TSP

Location	Description	Action Level	Limit Level
GCA B1	Bungalow A adjacent to Kau Sai Chau Public Golf Course Administration Building	187.4 $\mu\text{g m}^{-3}$	260 $\mu\text{g m}^{-3}$

Note: The action levels for GCA B1 are developed based on baseline monitoring result.

Monitoring Parameters, Frequency and Programme

- 3.1.3 The monitoring parameters and frequency are summarized in Table 3.3. The monitoring programme for the reporting period is shown in **Annex B**.

Table 3.3 TSP Monitoring Parameter and Frequency

Parameter	Frequency
24-hour TSP	Once every 6 days
1-hour TSP	3 times every 6 days (as required in case of complaints)

Monitoring Locations

- 3.1.4 In accordance with the EM&A Manual, one monitoring station (GCA B1) was selected and shown in **Figure 3.1**.

Monitoring Equipment

- 3.1.5 24-hour and 1-hour TSP (in case of complaints received) were performed using High Volume Samplers (HVS) and measured in-situ respectively. 24-hour TSP level of samples will be collected using filters and High Volume Sampler and the collected samples will be determined by a local HOKLAS accredited laboratory upon receipt of the samples and 1-hour TSP level will be performed in-situ.

3.1.6 High volume samplers (HVS - Model GS-2310 Accu-vol) complete with the appropriate sampling inlets were installed for 24-hour TSP sampling. The HVS is composed of a motor, a filter holder, a flow controller and a sampling inlet and its performance specification complies with USEPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50 Appendix B). A portable dust meter was used for the 1-hour TSP monitoring. Table 3.4 summarises the equipment used.

Table 3.4 Air Quality Monitoring Equipment

Equipment	Model
HVS Sampler	GS 2310 Accu-vol system
Calibrator	GMW 25
1-hour TSP Dust Meter	Laser Dust Monitor – Model LD-1 (L)

Monitoring Methodology and Calibration Details

24-hour TSP Monitoring

(i) Field Monitoring, Operation & Analytical Procedures

3.1.7 Operating/analytical procedures for the operation of HVS are as follows. The sampler was placed on a horizontal platform with appropriate supporting structure such that:

- the filter was at least 1.3 meters above ground;
- no two samplers should be placed less than 2 metres apart;
- the distance between the sampler and an obstacle, such as buildings, would be at least twice the height that the obstacle protrudes above the sampler;
- a minimum of 2 metres separation from walls, parapets and penthouses would be required for the rooftop samplers;
- a minimum of 2 metres separation from any supporting structure, measured horizontally would be required;
- airflow around the sampler would be unrestricted;
- no furnaces or incineration flues would be operating near the sampler;
- the sampler would be more than 20 metres from the dripline; and
- any wire fence and gate, to protect the sampler, should not cause any obstruction during monitoring.

3.1.8 Prior to the commencement of the dust sampling, the flow rate of the high volume sampler was properly set (between 1.1 m³/min. and 1.4 m³/min.) in accordance with the manufacturer's instruction to within the range recommended in USEPA Standard Title 40, CFR Part 50.

3.1.9 For TSP sampling, fibreglass filters (G810) were used [Note: these filters have a collection efficiency of > 99% for particles of 0.3 mm diameter].

3.1.10 The power supply was checked to ensure the sampler worked properly.

3.1.11 On sampling, the sampler was operated for 5 minutes to establish thermal equilibrium before placing any filter media at the designated air monitoring station.

3.1.12 The filter holding frame was then removed by loosening the four nuts and carefully a weighted and conditioned filter was centered with the stamped number upwards, on a supporting screen.

- 3.1.13 The filter was aligned on the screen so that the gasket formed an air-tight seal on the outer edges of the filter. Then the filter holding frame was tightened to the filter holder with swing bolts. The applied pressure should be sufficient to avoid air leakage at the edges.
- 3.1.14 The shelter lid was closed and secured with the aluminum strip.
- 3.1.15 The timer was then programmed. Information was recorded on the record sheeting, which included the starting time, the weather condition, and the filter number (the initial weight of the filter paper can be found out by using the filter number).
- 3.1.16 After sampling, the filter was transferred from the filter holder of the HVS to a sealable plastic bag and sent to the laboratory for weighing. The elapsed time was also recorded.
- 3.1.17 Before weighing, all filters were conditioned for 24 hours before weighing under temperature of $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ and the relative humidity (RH) $< 50\% \pm 5\%$, preferably 40%. The HOKLAS laboratory (ALS Technichem (HK) Pty Ltd) has comprehensive quality assurance and quality control programmes.

(ii) Maintenance

- 3.1.18 Proper maintenance would be provided for the HVS as described below:
- 3.1.19 The HVS motors and their accessories have been properly maintained. Appropriate maintenance such as routine motor brushes replacement (time interval for replacement is about 500 hours) and electrical wiring checking have been conducted to ensure that the equipment and necessary power supply were in good working condition.
- 3.1.20 Initial calibration of HVS was conducted upon installation of equipment. The subsequent calibration would be provided at 2-month intervals using GMW-25 Calibration Kit.

1-hour TSP Monitoring

(i) Measuring Procedures

- 3.1.21 The measuring procedures of the 1-hour dust meter have been in accordance with the Manufacturer's Instruction Manual as follows:
- Set POWER to "ON", push BATTERY button, make sure that the meter's indicator is in the range with a red line and allow the instrument to stand for about 3 minutes (Then, the air sampling inlet has been capped).
 - Push the knob at MEASURE position.
 - Push "O-ADJ" button. (Then meter's indication is 0).
 - Push the knob at SENSI ADJ position and set the meter's indication to S value described on the Test Report using the trimmer for SENSI ADJ.
 - Pull out the knob and return it to MEASURE position.
 - Push "START" button.
 - All measurement procedures in section 2.3 of the approved EM&A Manual are followed during the reporting period.

(ii) Maintenance

- 3.1.22 The 1-hour TSP meter would be checked at 3 month intervals and calibrated at 1-year intervals throughout all stages of the air quality baseline monitoring.

Event and Action Plans

3.1.23 The Event and Action Plan (EAP) for air quality monitoring is presented in **Annex C**.

3.2 Water Quality

Monitoring Requirement

3.2.1 Water quality monitoring was conducted in accordance with the EM&A Manual. Tables 3.5 & 3.6 show the established Action/Limit Levels for the water environmental monitoring parameters.

Table 3.5 Derived Summaries of Action and Limit Levels for Marine Water Quality

Parameters	Location	Action	Location	Limit
DO (surface & middle)	FCZ	5.8 mg/L	FCZ	5.3 mg/L
	All except FCZ	4.9 mg/L	All except FCZ	4.6 mg/L
DO (bottom)	All	3.7 mg/L	All	3.4 mg/L
pH (depth-averaged)		N/A	All	6.5 - 8.5
SS (depth-averaged)☆	FCZ	4.5 mg/L	FCZ	5.6 mg/L
	All except FCZ	6.1 mg/L	All except FCZ	10.6 mg/L
SS (depth-averaged) Dredging for submarine pipelines⊕	M_RO1	6.1 mg/L	M_RO1	10.6 mg/L
Turbidity (Tby) (depth-averaged) ☆	FCZ	2.9 NTU	FCZ	3.9 NTU
	All except FCZ	3.3 NTU	All except FCZ	6.2 NTU
Ammonia Nitrogen (depth-averaged)	FCZ	0.02 mg/L	FCZ	0.03 mg/L
	All except FCZ	0.05 mg/L Δ	All except FCZ	0.05 mg/L Δ
Nitrate Nitrogen (depth-averaged)	FCZ	0.08 mg/L	FCZ	0.09 mg/L
	All except FCZ	0.09 mg/L Δ	All except FCZ	0.09 mg/L Δ
Nitrite Nitrogen (depth-averaged)	FCZ	0.02 mg/L	FCZ	0.02 mg/L
	All except FCZ	0.02 mg/L	All except FCZ	0.04 mg/L
TIN in mg L⁻¹ (depth-averaged)	FCZ	0.12 mg/L	FCZ	0.14 mg/L
	All except FCZ	0.16 mg/L	All except FCZ	0.18 mg/L
Total Phosphorus (depth-averaged)	FCZ	0.07 mg/L	FCZ	0.09 mg/L
	All except FCZ	0.09 mg/L Δ	All except FCZ	0.09 mg/L Δ

Remarks:

☆ : Action and limit levels are subjected to review especially for wet season throughout the construction phase of the project.

⊕ : Action and limit levels are subjected to review before the dredging works.

Δ : Trigger level has made reference to existing golf course guideline values.

FCZ including fish culture zones of Kai Lung Wan, Tai Tau Chau and Kau Sai

All except FCZ including remaining impact monitoring station of M_RO1, M_Marsh, M_BP and M_Coral.

Control monitoring locations: M_A & M_B

Table 3.6 Derived Summaries of Action and Limit Levels for Freshwater Water Quality

Parameters	Location	Action	Location	Limit
DO (mid-depth)		N/A	All	4 mg/L
pH (mid-depth)		N/A	All	6.0 - 9.0
SS (mid-depth) ☆	All	3 mg/L and 120% of upstream control station's SS at the same tide of the same day	All	4 mg/L and 130% of upstream control station's SS at the same tide of the same day
Turbidity (Tby) (mid-depth) ☆	All	4 NTU and 120% of upstream control station's Tby at the same tide of the same day	All	5 NTU and 130% of upstream control station's Tby at the same tide of the same day
Ammonia Nitrogen (mid-depth)		N/A	All	0.01 mg/L
Nitrate Nitrogen (mid-depth)	All	0.11 mg/L	All	0.13 mg/L
Nitrite Nitrogen (mid-depth)		N/A	All	0.01 mg/L
Total Inorganic Nitrogen (mid-depth)	All	0.13 mg/L	All	0.15 mg/L
Total Phosphorus (mid-depth)		N/A	All	0.02 mg/L

Remarks:

☆ : Action and limit levels are subjected to review especially for wet season.

Freshwater monitoring locations: F_UA, F_DA, F_UB, F_DB, F_UC, F_DC and F_Inland Marsh

As most of the freshwater samples for NH₃-N and NO₃-N were reported with levels below the detection limit of 0.01 mg/L, limit level is set at 0.01 mg/L. Similarly for TP, a limit level of 0.02 mg/L (the detection limit of TP) is imposed.

Monitoring Parameters, Frequency and Programme

3.2.2 For marine water quality, measurements shall be taken at both mid-flood and mid-ebb tides and at three water depths (1 m below water surface, mid-depth and 1 m above sea bed, except where the water depth is less than 6 m, in which case the mid-depth station may be omitted). Should the water depth be less than 3 m, only the mid-depth station will be monitored.

3.2.3 For the stream course, measurements shall be taken at mid-water depth.

3.2.4 The water quality parameters which need to be monitored are as follows:

- Marine water quality - dissolved oxygen (DO), temperature, turbidity, suspended solids (SS), pH and salinity
- Freshwater water quality - dissolved oxygen (DO), temperature, turbidity, suspended solids (SS), pH and salinity

- 3.2.5 Additional marine and freshwater water quality monitoring parameters for the impact monitoring during construction include nitrate nitrogen (NO₃-N), nitrite nitrogen (NO₂-N), ammonia nitrogen (NH₃-N), total phosphate (TP) and selected pesticides.
- 3.2.6 The ET Leader shall propose the additional monitoring parameters for approval by IC(E), Engineer, EPD and AFCD, and shall submit such information for approval at least 2 weeks before the turf establishment period.
- 3.2.7 Additional water quality monitoring at Tai Tau Chau FCZ (TTC), Kai Lung Wan FCZ (KLW), Kau Sai FCZ (KS), downstream of the existing marsh (M_Marsh), marine water of Port Shelter (M_Coral), existing reservoir (F_Inland M) and Control stations (M_A and M_B) shall be carried out after heavy rain storm or when there is an overflow event from the reservoir, irrigation buffer lake or detention ponds/tanks. The heavy rain storm shall be defined when there is an amber/red/black rainstorm warning signal issued by the Hong Kong Observatory. The water sample shall be taken within 24 hours after the black/red/amber rainstorm warning signal is cancelled. Please refer to revised EM&A manual for the sampling condition requirement after a heavy rain storm event occurs. The monitoring parameters shall include dissolved oxygen, temperature, turbidity, suspended solids, pH and salinity. Additional parameters shall be the same as stated in paragraphs 3.2.5-3.2.6.

Monitoring Frequency

- 3.2.8 The monitoring parameters and frequency are summarized in Table 3.7. The monitoring programme for the reporting period is shown in **Annex B**.

Table 3.7 Water Quality Monitoring Parameter, Frequency and Locations

Parameters	Frequency	Location
Dissolved Oxygen (mg/L)	3 days per week	<u>Marine Water</u> Fish culture zone stations: TTC, KLW, KS
Temperature (°C)		Control stations: M_A, M_B
Turbidity (NTU)		Impact stations: M_BP, M_RO1, M_Marsh, M_Coral
pH		
Salinity (ppt)		<u>Freshwater Water</u> Stream A (F_UA, F_DA) Stream B (F_UB, F_DB) Stream C (F_UC, F_DC) Inland Marsh (F_Inland_M)
Suspended Solids (mg/L)		
	<p><u>Marine water</u> : 2 times per day – 1 for mid-flood and 1 for mid-ebb</p> <p><u>Freshwater</u> : once per day</p>	

Monitoring Locations

3.2.9 The water quality monitoring locations for marine and freshwater (**Figure 3.2**) are summarized in Table 3.8.

Table 3.8 Water Quality Monitoring Locations during Construction Phase

Identification Number	Location	Co-ordinates		Approx. Water Depth	No. of Depth
		latitude	longitude		
<i>Marine Water (9 stations)</i>					
TTC	Tai Tau Chau Fish Culture Zone	22 22 03.7	114 19 19.6	9.5 m	3
KLW	Kai Lung Wan Fish Culture Zone	22 22 10.6	114 18 01.4	13 m	3
KS	Kau Sai Fish Culture Zone	22 20 26.5	114 18 59.9	11 m	3
M_BP	Temporary barging point	22 21 50.6	114 19 16.7	9.6 m	3
M_RO1	Desalination plant south of the existing pier	22 21 51.8	114 18 17.7	5 m	2
M_Marsh	Discharge point at the existing marsh	22 22 19.8	114 19 05.4	7.7 m	3
M_Coral	Marine water of Port Shelter	22 21 21.3	114 19 42.7	10.2m	3
M_A	Water Control Station of Port Shelter	22 22 51.3	114 18 34.5	7.5 m	3
M_B	Water Control Station of Port Shelter	22 20 26.4	114 20 11.8	16.5 m	3
<i>Fresh Water (7 stations)</i>					
F_UA	Upstream and downstream of stream A	22 21 32.3	114 19 06.5	-	1
F_DA		22 21 33.5	114 19 06.8		1
F_UB	Upstream and downstream of stream B	22 21 23.9	114 19 16.1	-	1
F_DB		22 21 27.2	114 19 16.0		1
F_UC	Upstream and downstream of stream C	22 21 14.8	114 19 26.4	-	1
F_DC		22 21 03.5	114 19 32.0		1
F_Inland M	Downstream of the existing marsh (Inland)	22 22 17.9	114 18 59.1	-	1

Monitoring Equipment

3.2.10 The equipment listed below shall be supplied by the ET and approved by the IC(E) and the Engineer for water quality monitoring.

Dissolved Oxygen and Temperature Measuring Equipment

3.2.11 The instrument shall be a portable and weatherproof DO measuring instrument complete with cable and sensor, and use a DC power source. The equipment shall be capable of measuring:

- dissolved oxygen levels in the range of 0 - 20 mg L⁻¹ and 0 - 200% saturation; and
- a temperature of 0 - 45 degrees Celsius.

3.2.12 It shall have a membrane electrode with automatic temperature compensation complete with a cable. Sufficient stocks of spare electrodes and cables shall be available for replacement where

necessary. (For example, YSI model 59 meter, YSI 5739 probe, YSI 5795A submersible stirrer with reel and cable or an approved similar instrument).

- 3.2.13 Should salinity compensation not be built-in in the DO equipment, in-situ salinity shall be measured to calibrate the DO equipment prior to each DO measurement.

Turbidity Measurement Instrument

- 3.2.14 Turbidity shall be measured in situ by the nephelometric method. The instrument shall be portable and weatherproof turbidity measuring instrument using a DC power source complete with cable, sensor and comprehensive operation manuals. It shall have a photoelectric sensor capable of measuring turbidity between 0 - 1000 NTU (for example, Hach model 2100P or an approved similar instrument). The cable shall not be less than 25m in length. The meter shall be calibrated in order to establish the relationship between NTU units and the levels of suspended solids.

Suspended Solids

- 3.2.15 A water sample at least 2.5L in capacity with messenger and using a 10m line should be collected. Samples should be submitted to HOKLAS accredited laboratory as soon as possible for gravimetric analysis for suspended.

Sampler

- 3.2.16 A water sampler is required. It shall comprise a transparent PVC cylinder, with a capacity of not less than 2 litres, which can be effectively sealed with latex cups at both ends. The sampler shall have a positive latching system to keep it open and prevent premature closure until released by a messenger when the sampler is at the selected water depth (for example, Kahlsico Water Sampler or an approved similar instrument).

Water Depth Detector

- 3.2.17 A portable, battery-operated echo sounder shall be used for the determination of water depth at each designated monitoring station. This unit can either be hand held or affixed to the bottom of the work boat, if the same vessel is to be used throughout the monitoring programme.

Salinity

- 3.2.18 A portable salinometer capable of measuring salinity in the range of 0 - 40 parts per thousand (ppt) shall be provided for measuring salinity of the water at each monitoring location.

pH

- 3.2.19 The instrument shall consist of a potentiometer, a glass electrode, a reference electrode and a temperature-compensating device. It shall be readable to 0.1pH in a range of 0 to 14. Standard buffer solutions of at least pH 7 and pH 10 shall be used for calibration of the instrument before and after use. Details of the method shall comply with APHA, 19th ed. 4500-HTB.

Flow Rate Meter

- 3.2.20 A portable, battery-operated flow meter should be used for the determination of water depth at each designated monitoring location and record in m³/s. A hand held or meter fixed to the underside of the survey boat may be used.

Sample Containers and Storage

- 3.2.21 Water samples for laboratory analysis shall be stored in high density polythene bottles with no preservative added, packed in ice (cooled to 4°C without being frozen) and delivered to the laboratory and analysed as soon as possible after collection. Sufficient volume of samples shall be collected to achieve the required detection limit.

Monitoring Position Equipment

- 3.2.22 A hand-held or boat-fixed type digital Differential Global Positioning System (DGPS) with way point bearing indication or other equipment instrument of similar accuracy, shall be provided and used during marine water monitoring to ensure the monitoring vessel is at the correct location before taking measurements.

Monitoring Methodology and Calibration Details

- 3.2.23 Dissolved oxygen (DO), temperature, turbidity, pH and salinity were measured in situ at the designated water quality monitoring stations. General observation, weather conditions, with the sampling time, date and location were marked on the field record sheet.
- 3.2.24 Water samples were taken from each monitoring station for laboratory analysis. The sample identification number, sampling location, date, time, project name and analyses were required.
- 3.2.25 The samples were placed in a cooler with ice (to 4°C without being frozen) and kept away from sunlight. Samples were submitted to a Hong Kong Laboratory Accreditation Scheme (HOKLAS) or other international accredited laboratory for analysis within 24 hours of sampling.

Calibration of In-Situ Instruments

- 3.2.26 All in situ monitoring instruments were checked, calibrated and certified by a laboratory accredited under HOKLAS or any other international accreditation scheme before use and subsequently re-calibrated at three monthly intervals throughout all stages of the water quality monitoring programme. Responses of sensors and electrodes were checked with certified standard solutions before each use. Wet bulb calibration for a DO meter were carried out before measurement at each monitoring location.

Laboratory Analysis

- 3.2.27 All laboratory work were carried out by ALS Technichem Pty Ltd (HOKLAS accredited laboratory). Water samples were collected at the monitoring and control stations for carrying out the laboratory determinations. The determination work will start within 24 hours after collection of the water samples. The analysis shall follow the standard methods according to APHA Standard Methods for the Examination of Water and Wastewater, 19th Edition, or an equivalent method approved by EPD.

Table 3.9 Analytical Methods to be applied to Water Quality Samples

Determinant	Standard Method	Reporting Limit
Suspended Solids	APHA 2540 D	2 mg/L
Nitrate Nitrogen	APHA 4500-NO ₃ ⁻	0.01 mg/L
Nitrite Nitrogen	APHA 4500-NO ₂ ⁻	0.01 mg/L
Ammonia Nitrogen	APHA 4500-NH ₃ (D)	0.01 mg/L
Total phosphorus	ASTM D515-88B	0.02 mg/L*

Determinant	Standard Method	Reporting Limit
Chlorophyll a	APHA 10200 H2 &3	0.5 µg/L

Remarks: *After review baseline data, the detection limit report will be revised to 0.02 mg/L.

QA/QC Procedure

- 3.2.28 ALS Technichem Pty Ltd. has comprehensive quality assurance and quality control programmes. For QA/QC procedures of parameters, one duplicate sample was analysed for every batch of 20 samples as required by HOKLAS.

Event and Action Plans

- 3.2.29 The Event and Action Plan (EAP) for water quality monitoring is presented in **Annex C**.

3.3 Ecology

Introduction

- 3.3.1 The marine and terrestrial ecological monitoring surveys for the ecological EM&A were conducted in accordance with the EM&A manual.
- 3.3.2 As stipulated in the EM&A Manual, the ecological monitoring surveys for terrestrial ecology would be conducted monthly during the construction phase. Monitoring survey would consist of aquatic fauna survey. While the majority of the Project Area would be subject to site formation, natural streams would be partially or fully preserved and protected by buffer zones, and therefore would constitute the primary target of the terrestrial ecological monitoring. Special attention should thus be paid to ecologically sensitive streams to ensure minimum damage to existing vegetation and streams. The purpose of the monitoring survey was to check the conditions of the stream habitat and the associated aquatic fauna communities.
- 3.3.3 While the ecological monitoring surveys for marine ecology included coral monitoring at both the eastern and western coasts of Kau Sai Chau Island. The coral monitoring at the western coast would be conducted concurrently with the dredging works which has yet to conduct, and therefore had not been commenced. The coral monitoring at the eastern Kau Sai Chau would be monthly during the construction phase. Monitoring survey would consist of checking tagged corals at both impact sites and control site. The purpose of the monitoring survey was to check the conditions of the tagged corals and the impact sites.

Ecological Mitigation Measures and Implementations

- 3.3.4 Ecological mitigation measures to be implemented during the construction phase include the following:
- Establishment of buffer zones for the natural stream courses during both construction phase.
 - Provision of temporary bypass channels or pipes during construction phase for stream courses subject to pipe culverting.
 - Protection of water quality of the natural stream courses and temporary bypass channels or pipes.
 - Transplantation of coral colonies within the dredging area for the desalination plant prior to the dredging works.
 - Avoidance of corals when the anchoring points are deployed, and to shift the floating temporary barging point to the location with least corals within the mapping area.
 - Regular site audit of ecological mitigation measures and good site practice.

Monitoring Frequency and Schedule

Terrestrial Ecology

- 3.3.5 As reported in the EIA Report, there were four perennial natural streams (Streams A-D) within the Assessment Area for the EIA Study. Streams A, B & C were located within the Project Area, while Stream D was outside the Project Areas and acted as the main stream draining the western part of the Assessment Area. Buffer Zone would be established for the three streams within the Project Area along their partial length (Stream A) or full length (Streams B & C) (**Figure 3.3**). Moreover, Streams B, C & D would be monitored for aquatic fauna monthly during the construction phase. Monitoring on the implementation of the mitigation measures for stream protection, the effectiveness of stream buffer zones, and the aquatic fauna in streams would be conducted during the entire construction phase.
- 3.3.6 The objectives of the monitoring survey are to check the status of *Caridina trifasciata* and *Nanhaipotamon hongkongensis*. The surveys covered natural stream courses within the assessment area (Streams A to D), and aquatic fauna were studied by various sampling methods depending upon site conditions. Methods included direct observation, active searching, and sample collection using hand-nets. Hand nets were used to collect swimming organisms such as shrimps and fish. Where necessary boulders on the stream beds were overturned to locate aquatic organisms such as crabs. Aquatic species encountered was recorded, with special attention to rare or protected species.

Marine Ecology

- 3.3.7 As required in the EM&A Manual, prior to the commencement of all construction works, a baseline survey of natural corals were conducted in December 2005. At each of the Site C, Site B2, Site D2 (**Figure 3.5**) and a Control Site near the AFCD's Coral Buoy at Sharp Island (**Figure 3.6**), 20 natural coral colonies in good conditions (i.e. generally intact and no sign of bleaching) and significant sizes (over 20 cm in diameter) were selected and tagged. Each of the tagged coral colonies was identified to species level and their conditions, in terms of percentages of survival, sedimentation and bleaching, were recorded. Each coral was attached with a plastic label with assigned number and then photographed. The species and the size of each tagged corals were also recorded. The species of corals to have been tagged included the following 15 species: *Cyphastrea serailia*, *Favia speciosa*, *Favites abdita*, *Favites pentagona*, *Goniastrea aspera*, *Goniopora columna*, *Hydnophora exesa*, *Leptastrea pruinosa*, *Lithophyllon undulatum*, *Pavona decussate*, *Platygyra acuta*, *Platygyra carnosus*, *Plesiastrea versipora*, *Psammocora superficialis*, and *Turbinaria peltata*. All tagged corals were in good conditions, without significant sign of bleaching or being covered by sediments. The seagrass beds in Site D3 were also surveyed for their extent, coverage percentage and health conditions. The results of the baseline survey were presented in the Baseline Report.
- 3.3.8 The reporting month was the Month One of the construction programme. As the dredging works for the desalination plant had not been commenced, the impact sites to be monitored in this monitoring survey were Site B2 and Site C (impact sites on the eastern Kau Sai Chau Island for the new golf course) only, while Site D2 and Site D3 (impact sites on the western Kau Sai Chau Island for desalination plant) were not required in this survey.
- 3.3.9 The schedule for the impact sites on the eastern Kau Sai Chau Island during construction would be monthly in the first three months of the construction programme, quarterly till the end of the construction and then. The present survey was the first monitoring survey. The survival and health conditions of the coral colonies would be recorded.

- 3.3.10 During the weekly site inspection, ET monitored and audited the implementation of the recommended mitigation measures for terrestrial and marine ecology. Monitoring locations for ecology are shown in **Figures 3.3 – 3.6**. The monitoring programme for the reporting period is shown in **Annex B**.

Event and Action Plans

- 3.3.11 The Event and Action Plan (EAP) for ecology monitoring is presented in **Annex C**.

3.4 Landscape and Visual

- 3.4.1 The EIA concluded that the landscape and visual impacts associated with the construction of the third golf course are anticipated to be acceptable with mitigation. In order to ensure that the effective management and implementation of landscape mitigation measures developed and defined in the EIA, the ET conducted regular site inspections of the construction work sites.

- 3.4.2 Auditing inspections and reporting are undertaken once every two weeks of the construction phase. The effectiveness of the mitigation works has been audited in order to ensure impact reduction levels are achieved as described in the EIA report for this monitoring month. The monitoring programme for the reporting period is shown in **Annex B**.

3.5 Archaeology (Watching Brief)

Introduction

- 3.5.1 The archeological impact assessment conducted in the EIA concluded that some potential for archaeological material remains at the Wan Chai Archaeological Site and a watching brief is recommended during the construction phase.

- 3.5.2 A watching brief is a process whereby a qualified and licensed archaeologist monitors the excavation works during the construction phase in areas identified (and agreed with the Antiquities and Monuments Office (AMO)) to be of archaeological potential.

- 3.5.3 The archaeologist conducting the watching brief should obtain a licence prior to commencement of works as stipulated in Section 12 of the Antiquities and Monuments Ordinance (Cap. 53). The licence was granted on 22 December 2005.

Monitoring Location

- 3.5.4 The monitoring locations include Hole 2, Hole 10, Hole 11, Hole 12, Hole 13, Hole 14, Hole 15, Hole 16 and Hole 17. The monitoring locations are present in **Figure 3.7**.

Monitoring Frequency

- 3.5.5 A total of 18 days of monitoring is considered as minimum, and additional arrangement for watching brief should be made in consultation with AMO in case significant archaeological findings are unearthed in the course of excavation work.

Progress Report

- 3.5.6 Archaeologist should submit progress reports every 3 months during the programme of the watching brief.

3.5.7 Vegetation clearance for Hole 1 and Hole 2 was carried out during this reporting month. No major excavation work was carried out at Hole 2.

3.5.8 A summary table for categories of archaeological find and recommended action is presented in **Annex C**.

3.6 Land Contamination

Potential Areas Recommended for Further Investigation

3.6.1 Preparation of Contamination Assessment Plan (CAP) is in progress. The major work is vegetation clearance at Hole 1 and Hole 2 only. Those areas are not the potential hotspots identified in the EIA report. Potential land contamination hotspots are presented in **Figure 3.8**.

4. Implementation Status on Environmental Protection Requirements

- 4.1.1 The major work on site was vegetation clearance at Holes 1 and 2 during this monitoring month.
- 4.1.2 No construction site office, concrete batching plant and temporary barging point were located at the construction site. Only two bulldozers and one rock breaker were on site for vegetation clearance purpose.
- 4.1.3 No dredging work was carried out near to the existing pier for the desalination plant pipelines.
- 4.1.4 The preliminary master construction programme (open area exposure) submitted by the Contractor may cause potential air and water quality impacts to the nearby sensitive receivers. The construction programme has to be reviewed by the Contractor and will submit to ER for further approval.
- 4.1.5 Most of the mitigation measures are not applicable during this reporting month (only vegetation clearance at Holes 1 and 2). Summary of implementation status is provided in **Annex D**.

5. Monitoring Results

5.1 Air Quality

5.1.1 Dust monitoring was conducted as scheduled in the reporting month. Monitoring of air quality was conducted on 1 occasion in January 2006. All monitoring data are provided in **Annex E**. Monitoring of 24-hour TSP was conducted at GCA B1 on 20 January 2006. The QA/QC results for laboratory testing in the reporting month were acceptable. The QA/QC results are summarised in **Annex F**.

5.1.2 All measured 24-hour TSP concentration was below the Action/Limit Levels. No exceedance was recorded in the reporting month. No 1-hour TSP measurement was required due to no complaint was received during this monitoring month.

5.2 Water Quality

5.2.1 Marine and freshwater water quality monitoring were conducted at the 9 and 7 designated monitoring stations respectively. All monitoring data are provided in **Annex E**.

5.2.2 Monitoring of marine and freshwater locations were conducted on 4 occasions in January 2006. The QA/QC results for laboratory testing in the reporting month were acceptable. The QA/QC results are summarised in **Annex F**.

Marine Water

5.2.3 No exceedance of action and limit level was recorded at all marine water monitoring locations during this monitoring month.

Freshwater

5.2.4 1 limit level exceedance for SS was recorded at F_DB on 21st Jan 2006.

5.2.5 The ET considered that exceedances were not attributed to construction work as there were only vegetation clearance at Holes 1 & 2 which were far away from all sensitive streams and existing marsh. The exceedances were considered as the natural variation for the dry season. Explanation of the SS exceedances at the impact monitoring locations are as follows:

- ◆ No construction work was carried out near to Streams A, B and C and existing marsh during this reporting month. Vegetation clearance was only carried out at Holes 1 and 2 which was far from all streams and inland marsh.
- ◆ The maximum measured SS value was 6 mg/L which was considered a good water quality representative.
- ◆ The baseline data represents a good dry season water quality that was measured in Nov and Dec 2005. The action and limit levels of SS and turbidity are subjected to further review (especially before wet season) in order to ensure the action and limit levels are sufficient to protect the streams from adverse impacts. With the consideration of the natural variation by the long-term monitoring results in future, a more representative action and limit levels can be establish to distinguish between the natural variation and actual impact from the construction site.

- ◆ The range of difference between upstream and downstream is between 0 mg/L to 3 mg/L. In some cases, the measured SS levels at both upstream and downstream of the same stream. It can confirm that the exceedance was due to the stringent action and limit levels and the natural fluctuation of the stream itself.

5.3 Ecology

5.3.1 Terrestrial and marine ecology monitoring photos are provided in **Annex E**.

Terrestrial Ecology

- 5.3.2 The Monitoring Survey for the reporting month was conducted on 17 January 2006. Other than the site clearance and the pathways to facilitate the EM&A sampling on environmental parameters such as water quality and air quality by ET personnel, no major construction works had commenced within the site when the survey was conducted.
- 5.3.3 Although the streams have not been affected by developments or pollution sources, they are relatively small. Water depth was less than 0.3m in most of the stream reaches.
- 5.3.4 Stream A is located within the Project Area. It includes two main tributaries (A1 and A2 in Figure 8.2 of the EIA Report). Stream A was heavily silted with sediments from eroded hillsides all year round, particularly downstream of the confluence of the two main tributaries. The stream had low flow.
- 5.3.5 Stream B is located within the Project Area. It had clear flow (with little sediment in the stream beds) of moderate volume during the wet season. This stream has two main tributaries, B1 and B2 (see Figure 8.2 of the EIA Report). Stream B also contains a long estuarine section of muddy sandy substrate.
- 5.3.6 Stream C is located within the Project Area. It has had low but clear flow. In contrast to Stream B, Stream C drains to a sandy beach at Kau Chung Wan, and therefore lacks a clear estuarine zone.
- 5.3.7 Stream D is located outside the Project Area but within the Assessment Area and is the main stream draining the west side of the Assessment Area. It had clear water and moderate flow levels. Stream D is the only stream with deeper water depth among the four streams (water depth over 0.3 m in some of the stream reaches).
- 5.3.8 The demarcation of the stream buffer zone had not been established at the time of the monitoring survey (**Annex E - Photo Plate 5.3-1**). As advised by the works contractor, stream buffer zone demarcation will be established when the works fronts are approaching each stream and will be completed before wet season in 2006.
- 5.3.9 In general, the streams and the riparian vegetation were in natural conditions similar to the condition during the Baseline Survey. Water levels in the 4 streams were low due to dry season. For the two tributaries in Stream B, B1 tributary was dry but there was flow in B2 tributary. Photos of Streams A to D were shown in **Photo Plate 5.3-1 (Annex E)**.
- 5.3.10 The habitats and vegetation generally remained intact within the project site, within the stream buffer zone and outside the project area. Other than the historical erosion of hillsides and the access paths to the project site, no earthwork, human or fire disturbance was observed.
- 5.3.11 Aquatic fauna communities were checked during the monitoring survey. Atyid shrimp *Caridina trifasciata* were found in Stream B, Stream C & Stream D during the present monitoring survey

(**Annex E - Photo Plate 5.3-1**). Abundance was low in all streams but slightly higher in Stream C. Small-sized individuals of *Caridina trifasciata*, presumably juveniles, and mature large-sized individuals were also found. The endemic freshwater crab *Nanhaipotamon hongkongense* which had been recorded before in Streams C and D, however, was not found during the present monitoring survey.

- 5.3.12 Other aquatic fauna encountered during the monitoring included Freshwater snail *Brotia hainanensis*, which is usually found in streams with good water quality, found at B2 tributary of Stream B.

Marine Ecology

- 5.3.13 The present Marine Ecological Monitoring Survey was conducted during high tide on 26 & 27 January 2006. The weather conditions were good and calm. At each site to be monitored for corals, the 20 colonies of natural corals selected during the Baseline Survey were recovered and checked for conditions.
- 5.3.14 Site B2 was the location for the temporary barging point. No construction works had been conducted at this location when the present monitoring survey was conducted. The site and its vicinity still remained similar conditions as during the Baseline Survey. All 20 tagged corals were recovered. No mortality, sedimentation or bleaching was found on any of the tagged corals (see **Table 5.3-1**). The corals remained similar conditions as during the Baseline Survey (**Annex E - Photo Plates 5.3-2 to 5.3-5**). No difference was found on the conditions of the tagged corals within and outside the proposed floating barging point boundary.
- 5.3.15 Site C was on the south-eastern coast of Kau Sai Chau Island and had a high coral coverage among the sites investigated during the EIA Study. The sizes of coral colonies at Site C were also larger than those at other sites. Site C was away from the boundary of the new golf course and would not be subject to direct impacts during construction. The site and its vicinity still remained similar conditions as during the Baseline Survey. All 20 tagged corals were recovered. No mortality, sedimentation or bleaching was found on any of the tagged corals (see **Table 5.3-2**). The corals remained similar conditions as during the Baseline Survey (**Annex E - Photo Plates 5.3-6 to 5.3-9**).
- 5.3.16 The Control Site is the buoy of coral marker established by AFCD in Sharp Island. Similar with Site C, both the coral coverage percentage and the sizes of coral colonies were high at this site and would not be impacted by the Project. The site and its vicinity still remained similar conditions as during the Baseline Survey. All 20 tagged corals were recovered. No mortality, sedimentation or bleaching was found on any of the tagged corals (see **Table 5.3-3**). The corals remained similar conditions as during the Baseline Survey (**Annex E - Photo Plates 5.3-10 to 5.3-13**).
- 5.3.17 **Photo Plates 5.3-2 to 5.3-13** showed the photos of each tagged corals. The assigned number, species and sizes of the tagged corals were listed in **Tables 5.3-1 to 5.3-3** below.

Table 5.3-1 Conditions of tagged corals at Site B2 with sizes and species

Code of tagged corals	Species	Baseline Survey			Month One (January 2006)		
		Mortality (%)	Sedimentation (%)	Bleaching (%)	Mortality (%)	Sedimentation (%)	Bleaching (%)
B-01	<i>Platygyra acuta</i>	0	0	0	0	0	0
B-02	<i>Favia speciosa</i>	0	0	0	0	0	0
B-03	<i>Turbinaria peltata</i>	0	0	0	0	0	0
B-04	<i>Leptastrea pruinosa</i>	0	0	0	0	0	0
B-05	<i>Cyphastrea serailia</i>	0	0	0	0	0	0
B-06	<i>Favia speciosa</i>	0	0	0	0	0	0
B-07	<i>Favia speciosa</i>	0	0	0	0	0	0
B-08	<i>Turbinaria peltata</i>	0	0	0	0	0	0
B-09	<i>Favia speciosa</i>	0	0	0	0	0	0
B-10	<i>Favia speciosa</i>	0	0	0	0	0	0
B-11	<i>Turbinaria peltata</i>	0	0	0	0	0	0
B-12	<i>Plesiastrea versipora</i>	0	0	0	0	0	0
B-13	<i>Plesiastrea versipora</i>	0	0	0	0	0	0
B-14	<i>Goniastrea aspera</i>	0	0	0	0	0	0
B-15	<i>Lithophyllon undulatum</i>	0	0	0	0	0	0
B-16	<i>Favia speciosa</i>	0	0	0	0	0	0
B-17	<i>Favia speciosa</i>	0	0	0	0	0	0
B-18	<i>Turbinaria peltata</i>	0	0	0	0	0	0
B-19	<i>Favia speciosa</i>	0	0	0	0	0	0
B-20	<i>Favia speciosa</i>	0	0	0	0	0	0

Table 5.3-2 Conditions of tagged corals at Site C with sizes and species

Code of tagged corals	Species	Baseline Survey			Month One (January 2006)		
		Mortality (%)	Sedimentation (%)	Bleaching (%)	Mortality (%)	Sedimentation (%)	Bleaching (%)
C-01	<i>Platygyra carnosus</i>	0	0	0	0	0	0
C-02	<i>Platygyra carnosus</i>	0	0	0	0	0	0
C-03	<i>Favia speciosa</i>	0	0	0	0	0	0
C-04	<i>Favites abdita</i>	0	0	0	0	0	0
C-05	<i>Turbinaria peltata</i>	0	0	0	0	0	0
C-06	<i>Favia speciosa</i>	0	0	0	0	0	0
C-07	<i>Platygyra acuta</i>	0	0	0	0	0	0
C-08	<i>Platygyra acuta</i>	0	0	0	0	0	0
C-09	<i>Favia speciosa</i>	0	0	0	0	0	0
C-10	<i>Platygyra acuta</i>	0	0	0	0	0	0
C-11	<i>Favia speciosa</i>	0	0	0	0	0	0
C-12	<i>Platygyra acuta</i>	0	0	0	0	0	0
C-13	<i>Platygyra carnosus</i>	0	0	0	0	0	0

Code of tagged corals	Species	Baseline Survey			Month One (January 2006)		
		Mortality (%)	Sedimentation (%)	Bleaching (%)	Mortality (%)	Sedimentation (%)	Bleaching (%)
C-14	<i>Favia speciosa</i>	0	0	0	0	0	0
C-15	<i>Goniopora columna</i>	0	0	0	0	0	0
C-16	<i>Platygyra carnosus</i>	0	0	0	0	0	0
C-17	<i>Goniopora columna</i>	0	0	0	0	0	0
C-18	<i>Platygyra carnosus</i>	0	0	0	0	0	0
C-19	<i>Favites pentagona</i>	0	0	0	0	0	0
C-20	<i>Favia speciosa</i>	0	0	0	0	0	0

Table 5.3-3 Conditions of tagged corals at Control Site with sizes and species

Code of tagged corals	Species	Baseline Survey			Month One (January 2006)		
		Mortality (%)	Sedimentation (%)	Bleaching (%)	Mortality (%)	Sedimentation (%)	Bleaching (%)
X-01	<i>Platygyra carnosus</i>	0	0	0	0	0	0
X-02	<i>Platygyra carnosus</i>	0	0	0	0	0	0
X-03	<i>Platygyra carnosus</i>	0	0	0	0	0	0
X-04	<i>Pavona decussata</i>	0	0	0	0	0	0
X-05	<i>Hydnophora exesa</i>	0	0	0	0	0	0
X-06	<i>Platygyra carnosus</i>	0	0	0	0	0	0
X-07	<i>Platygyra carnosus</i>	0	0	0	0	0	0
X-08	<i>Favites abdita</i>	0	0	0	0	0	0
X-09	<i>Cyphastrea serailia</i>	0	0	0	0	0	0
X-10	<i>Cyphastrea serailia</i>	0	0	0	0	0	0
X-11	<i>Platygyra carnosus</i>	0	0	0	0	0	0
X-12	<i>Platygyra acuta</i>	0	0	0	0	0	0
X-13	<i>Platygyra acuta</i>	0	0	0	0	0	0
X-14	<i>Platygyra acuta</i>	0	0	0	0	0	0
X-15	<i>Platygyra acuta</i>	0	0	0	0	0	0
X-16	<i>Platygyra acuta</i>	0	0	0	0	0	0
X-17	<i>Favia speciosa</i>	0	0	0	0	0	0
X-18	<i>Platygyra acuta</i>	0	0	0	0	0	0
X-19	<i>Goniastrea aspera</i>	0	0	0	0	0	0
X-20	<i>Cyphastrea serailia</i>	0	0	0	0	0	0

5.4 Landscape and Visual

- 5.4.1 The only landscape resource changed during the site clearance work is the loss of shrubland. However, the impact had been already covered in the EIA report and impact is considered acceptable.

5.4.2 The change of landscape character is negligible as the present construction area was hidden with a limited extent.

5.4.3 Change of view conditions is also negligible as the construction area was hidden in a valley and visual impacts to sensitive receivers were screened by the mountains.

5.5 Archaeology (Watching Brief)

5.5.1 No excavation was carried out at Hole 2 during this monitoring month and watching brief monitoring is not required. The proposed construction programme for Hole 2 will be starting from February to June 2006. The tentative submission of the first progress report to AMO will be on April 2006 (quarterly basis).

5.6 Land Contamination

5.6.1 The CAP has been prepared by Contractor and reviewed by ET. It will be submitted to EPD for approval under the EP requirement before any construction works near to those identified hotspots. No construction activity has been carried out at those 5 hotspots during this monitoring month.

6. Environmental Site Auditing

6.1.1 During the weekly site inspection conducted by the ET and the monthly joined site inspection with IEC and the Contractor undertaken on 20 Jan 2006, the following observations and recommendations were made.

6.1.2 Project proponent is reminded to display the environmental permit and relevant documents once the construction site office is available.

Dust Mitigation Measures

6.1.3 No stockpile was observed on site during the site visit. No excavation work was carried out. The construction site was neat and tidy.

Land Based Water Quality

6.1.4 A temporary drainage master plan had not been submitted by the Contractor for ER to review during this monitoring month. Project proponent, ER and ET had reminded Contractor to submit the plan for comment and approval. It is recommended that installation of approved temporary drainage system at the construction site shall be available before the wet season.

6.1.5 Silt fences and boulders covered with silt curtains were installed at the relative low points (vulnerable to silty runoff) of the construction site boundary at Holes 1 & 2 as a preventative measures. Some occasional rain showers were observed during this monitoring month.

Ecology

6.1.6 Stream buffer zone demarcations have not been established at all three identified streams (A, B and C). The vegetation clearance works at Holes 1 & 2 are far away from all identified streams. The Contractor has been reminded that the demarcation of buffer zones shall be finished before any work close to the buffer zone areas or wet season.

Waste / Chemical Management

6.1.7 Cut vegetation was grouped together and located in the central part of the construction site for drying before disposal. The site was neat and tidy.

Landscape and Visual

6.1.8 During the site audit, only site clearance works were observed. No felling and transplanting of trees had been carried out since the commencement of the construction. Stockpiles were covered by plastic cover to reduce visual impact. Trees within the site clearance area were in fair condition and the site is generally neat and tidy. The contractor was reminded to erect fencing around the preserved trees.

Status of Environmental Licensing and Permitting

6.1.9 Permits / licences submission and approval status are summarised in Table 6.1.

Table 6.1 Summary of Environmental Licensing and Permit Status

Permit/licence	Submission date	Status
Construction noise permit	Jan 2006	awaiting approval
Notification of the air pollution control (construction dust) regulation	Jan 2006	awaiting approval
Chemical Waste producer	Jan 2006	awaiting approval
Construction Waste (Dumping Permit)	Jan 2006	awaiting approval

7. Environmental Non-Conformance

7.1 Summary of Environmental Non-Compliance

7.1.1 One exceedance of limit level was recorded for freshwater monitoring stations in this reporting month. The exceedance was considered not project related (no works near to any streams) and mainly contributed by natural variation. Hence, no further mitigation measure was required.

7.2 Summary of Environmental Complaint

7.2.1 No environmental complaints were received in this monitoring month.

7.3 Summary of Environmental Summons

7.2.2 There was no notification of summons with respect to environmental issues registered in this month.

8. Future Key Issues

8.1 Key Issues for coming month

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

Table 8.1 Construction works to be taken in the coming month

Construction of Low Level Intake Pumping Station <u>Pumping Station : Civil Work</u> Installation of temporary hoarding & fence Installation of sheet pile for pumping station
Existing maintenance building <u>Maintenance Building : Structure Work</u> Construction of wash room/changing room etc. on new extension area <u>Construction of Retaining Wall No. 2</u> Excavate on the retaining wall RW2 Construction of retaining wall RW2
Existing Administration Building <u>Admin. Building : Structure Works</u> Excavation and testing to structural foundation
Construction of Golf Course Hole No. 1 <u>GH 01 : Cut & Fill Works</u> Earth/slope construction works (fill) from Golf Hole2
Construction of Golf Course Hole No. 2 <u>GH 02 : Cut & Fill Works</u> Earth/slope construction works (cut) Earth/slope construction works (fill)

Remarks: Design of Haul Road from temporary barging point to contractor's Site compound will be submitted to ER for approval early next month.

8.2 Monitoring Schedule for the coming month

8.2.1 The tentative schedule of TSP, water, ecology and landscape & visual monitoring for the next three months is presented in **Annex F**. The environmental monitoring will be conducted at the same monitoring locations in this reporting month. The monitoring programme has been reviewed and was considered as adequate to cater the nature of works to be undertaken.

8.3 Construction programme for the next three month

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

9. Recommendations and Conclusions

- 9.1.1 The Environmental Monitoring and Audit (EM&A) Report presents the EM&A works undertaken during the period from 16 January 2006 to 24 January 2006 in accordance with EM&A Manual and the requirement under EP-224/2005.
- 9.1.2 No exceedance of the Action and Limit Levels of 24-hour TSP.
- 9.1.3 One exceedance of SS was recorded at the water quality monitoring stations (F_DB) during the reporting month but such exceedance was not attributed to the project activities.
- 9.1.4 The Contractor was instructed to erect fencing to protect the preserved trees whenever they are adjacent to construction activities. No construction activities should be allowed inside the fenced area.
- 9.1.5 No environmental non-compliance was recorded during the site audit. No environmental complaints/summons/prosecutions were received during the reporting period since the commencement of the Project.
- 9.1.6 The ET will keep track of the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Annex A

Tentative Construction Programme

SUMMARY PROGRAMME

SU00100	Possession of Site	0	03/01/06A	
SU00110	Completion of Section 1	0		03/10/06
SU00120	Completion of Section 2	0		03/10/06
SU00130	Completion of Section 3	0		03/10/06
SU00140	Completion of Section 4	0		06/01/07
SU00150	Completion of Section 9	0		01/08/07
SU00160	S1: Low level intake pumping station	199*	02/02/06	30/09/06
SU00170	S1: Gravity drain & rising main	176*	27/02/06	28/09/06
SU00180	S1: Trench excavation (Provisional)	35*	14/07/06	23/08/06
SU00190	S2: Desalination plant	186*	10/02/06	23/09/06
SU00200	S2: Transformer/switch room	111*	22/04/06	02/09/06
SU00210	S2: Seawater pumping station	124*	08/03/06	08/08/06
SU00220	S2: Seawater intake & discharge pipe	187*	03/01/06A	21/08/06
SU00230	S2: Retaining wall No.1	109*	10/02/06	24/06/06
SU00240	S2: Lake No.1 and pump house No.1	99*	24/03/06	26/07/06
SU00250	S2: Roundabout and access road	80*	26/06/06	27/09/06
SU00260	S3: Existing maintenance building	200*	01/02/06	30/09/06
SU00270	S4: Existing admin. building area 1	239*	17/02/06	05/12/06
SU00280	S4: Existing admin. building area 2	153*	06/05/06	06/11/06
SU00290	S4: Existing admin. building area 3	153*	08/05/06	06/11/06
SU00300	S4: Existing admin. building area 4	215*	25/03/06	13/12/06
SU00310	S4: Existing admin. building area 5	189*	06/05/06	18/12/06
SU00320	S4: Form 501 FS inspection	23*	08/12/06	06/01/07
SU00330	S9: Earth/slope construction works (cut)	279*	22/03/06	01/03/07
SU00340	S9: Earth/slope construction works (fill)	316*	07/02/06	01/03/07
SU00350	S9: Drainage & duct	254*	04/07/06	12/05/07
SU00360	S9: Construction of golf course	319*	04/07/06	30/07/07

◆ Possession of Site

◆ Completion of Section 1

◆ Completion of Section 2

◆ Completion of Section 3

◆ Completion of Section 4

Completion of Section 9 ◆

████████████████████ S1: Low level intake pumping station

████████████████████ S1: Gravity drain & rising main

██████████ S1: Trench excavation (Provisional)

████████████████████ S2: Desalination plant

████████████████████ S2: Transformer/switch room

████████████████████ S2: Seawater pumping station

████████████████████ S2: Seawater intake & discharge pipe

████████████████████ S2: Retaining wall No.1

████████████████████ S2: Lake No.1 and pump house No.1

████████████████████ S2: Roundabout and access road

████████████████████ S3: Existing maintenance building

████████████████████ S4: Existing admin. building area 1

████████████████████ S4: Existing admin. building area 2

████████████████████ S4: Existing admin. building area 3

████████████████████ S4: Existing admin. building area 4

████████████████████ S4: Existing admin. building area 5

██████████ S4: Form 501 FS inspection

████████████████████ S9: Earth/slope construction works (cut)

████████████████████ S9: Earth/slope construction works (fill)

████████████████████ S9: Drainage & duct

S9: Construction of golf course

Start Date 28/12/05
 Finish Date 01/08/07
 Date Date 21/01/06
 Run Date 27/01/06 09:17

Summary Bar
 Progress Bar

KS01

Sheet 1 of 1

China Harbour Engineering Co.
 Third Golf Course at Kau Sai Chau
 Summary Programme

Date	Revision	Checked Tm	Approved
28/12/05	4th Final for Submission		

Annex B

Monitoring Programme for the reporting month

Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
 Monthly EM&A Report

January 2006						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
	WQ	TE		WQ	AQ	WQ
22	23	24	25	26	27	28
	WQ	LV				
29	30	31				

Remarks: AQ = TSP, WQ = Freshwater and Marine water quality, TE = Terrestrial Ecology, ME = Marine Ecology,
 LV = Landscape & Visual,

Annex C

Event Action Plan

Event / Action Plan for Air Quality

EVENT	ACTION			
	ET	IC(E)	Engineer	CONTRACTOR
ACTION LEVEL				
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate the causes of complaint and propose remedial measures; 2. Inform IC(E) and Engineer; 3. Repeat measurement to confirm finding; 4. Increase to daily monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method. 	<ol style="list-style-type: none"> 1. Notify Contractor. 	<ol style="list-style-type: none"> 1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Identify source; 2. Inform IC(E) and Engineer; 3. Advise Engineer on effectiveness of proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase to daily monitoring; 6. Discuss with IC(E) and Contractor remedial actions required; 7. If exceedance continues, arrange meeting with IC(E) and Engineer; 8. If exceedance stops, cease additional monitoring. 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor possible remedial measures; 4. Advise ET on the effectiveness of proposed remedial measures; 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm in writing receipt of notification of exceedance; 2. Notify Contractor; 3. Supervise proper implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Submit proposals for remedial measures to Engineer within three working days of notification; 2. Implement agreed proposals; 3. Amend proposal if appropriate.
LIMIT LEVEL				
1. Exceedance for one sample	<ol style="list-style-type: none"> 1. Identify source, investigate causes of exceedance and propose remedial measures; 2. Inform IC(E), Engineer, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase to daily monitoring; 5. Assess effectiveness of Contractor's remedial actions 	<ol style="list-style-type: none"> 1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor possible remedial measures; 4. Advise Engineer on effectiveness of proposed remedial measures; 5. Supervise implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Confirm in writing receipt of notification of exceedance; 2. Notify Contractor; 3. Supervise proper implementation of remedial measures. 	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IC(E) within three working days of notification; 3. Implement the agreed proposals; 4. Amend proposals if appropriate.

EVENT	ACTION			
	ET	IC(E)	Engineer	CONTRACTOR
	and keep IC(E), EPD and Engineer informed of results.			
2 Exceedance for two or more consecutive samples	<ol style="list-style-type: none"> 1. Notify IC(E), Engineer, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase to daily monitoring; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation measures to be implemented; 6. Arrange meeting with IC(E) and Engineer to discuss remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IC(E), EPD and Engineer informed of results; 8. If exceedance stops, cease additional monitoring. 	<p>Discuss amongst Engineer, ET, and Contractor the potential remedial actions;</p> <p>Review Contractor's remedial actions whenever necessary to assure their effectiveness, and advise Engineer accordingly;</p> <p>Supervise implementation of remedial measures.</p>	<p>Confirm receipt of notification of exceedance in writing;</p> <p>Notify Contractor;</p> <p>In consultation with the IC(E), agree with the Contractor the remedial measures to be implemented;</p> <p>Supervise proper implementation of remedial measures;</p> <p>If exceedance continues, consider what portion of the works is responsible and instruct the Contractor to stop that portion of work until exceedance has abated.</p>	<ol style="list-style-type: none"> 1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IC(E) within three working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as instructed by Engineer until the exceedance is abated.

Event and Action Plan for Water Quality

Event	ET Leader	IC(E)	Engineer	Contractor
ACTION LEVEL				
Action level being exceeded by one sampling day	Repeat <i>in situ</i> measurement to confirm findings; Identify reasons for non-compliance and source(s) of impact; Inform IC(E) and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IC(E) and Contractor; Repeat measurement on next day of exceedance.	Discuss mitigation measures with ET and Contractor ; Review proposals on mitigation measures submitted by Contractor and advise the Engineer accordingly; Assess effectiveness of implemented mitigation measures.	Discuss proposed mitigation measures with IC(E); Make agreement on mitigation measures to be implemented. Assess effectiveness of the implemented mitigation measures.	Inform the Engineer and confirm in writing notification of the non-compliance; Rectify unacceptable practice; Check all plant and equipment; Consider changes in working methods; Discuss with ET and IC(E) and propose mitigation measures to IC(E) and Engineer; Implement agreed mitigation measures.
Action level being exceeded by more than two consecutive sampling days	Repeat <i>in situ</i> measurement to confirm findings; Identify reasons for non-compliance and source(s) of impact; Inform IC(E) and Contractor; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IC(E) and Contractor; Ensure mitigation measures are implemented; Prepare to increase to daily monitoring; Repeat measurement on next day of exceedance.	Discuss mitigation measures with ET and Contractor ; Review proposals on mitigation measures submitted by Contractor and advise the Engineer accordingly; Assess effectiveness of implemented mitigation measures.	Discuss the proposed mitigation measures with IC(E); Make agreement on mitigation measures to be implemented; Assess effectiveness of implemented mitigation measures.	Inform Engineer and confirm in writing notification of the non-compliance; Rectify unacceptable practice; Check all plant and equipment; Consider changes in working methods; Discuss with ET and IC(E) and propose mitigation measures to IC(E) and Engineer within three working days; Implement agreed mitigation measures.
LIMIT LEVEL				
Limit level being exceeded by one sampling day	Repeat <i>in situ</i> measurement to confirm findings; Identify reasons for non-compliance and source(s) of impact; Inform IC(E) Contractor and EPD; Check monitoring data, all plant, equipment	Discuss mitigation measures with ET and Contractor; Review proposals on mitigation measures submitted by Contractor and advise the Engineer accordingly; Assess effectiveness of implemented	Discuss proposed mitigation measures with IC(E), ET and Contractor; Request Contractor to critically review the working methods; Make agreement on mitigation measures to be implemented;	Inform Engineer and confirm in writing notification of the non-compliance; Rectify unacceptable practice; Check all plant and equipment; Consider changes in working methods;

Event	ET Leader	IC(E)	Engineer	Contractor
	and Contractor's working methods; Discuss mitigation measures with IC(E), Engineer and Contractor; Ensure mitigation measures are implemented; Increase to daily monitoring until no exceedance of Limit level.	mitigation measures.	Assess effectiveness of implemented mitigation measures.	Discuss with ET, IC(E) and Engineer and propose mitigation measures to IC(E) and Engineer within three working days; Implement agreed mitigation measures.
Limit level being exceeded by more than two consecutive sampling days	Repeat <i>in situ</i> measurement to confirm findings; Identify reasons for non-compliance and source(s) of impact; Inform IC(E), Contractor and EPD; Check monitoring data, all plant, equipment and Contractor's working methods; Discuss mitigation measures with IC(E), Engineer and Contractor; Ensure mitigation measures are implemented; Increase to daily monitoring until no exceedance of Limit level for two consecutive days.	Discuss mitigation measures with ET and Contractor; Review proposals on mitigation measures submitted by Contractor and advise Engineer accordingly; Assess effectiveness of implemented mitigation measures.	Discuss proposed mitigation measures with IC(E), ET and Contractor; Request Contractor to critically review working methods; Make agreement on mitigation measures to be implemented; Assess effectiveness of implemented mitigation measures; Consider and if necessary instruct Contractor to slow down or to stop all or part of the construction activities until no exceedance of Limit level.	Inform Engineer and confirm in writing notification of the non-compliance; Rectify unacceptable practice; Check all plant and equipment; Consider changes of working methods; Discuss with ET, IC(E) and Engineer and propose mitigation measures to IC(E) and Engineer within three working days; Implement agreed mitigation measures; As directed by the Engineer, slow down or stop all or part of the construction activities until no exceedance of Limit level.

Action and Limit level and Event Action Plan for natural corals monitoring

Parameters	Action Level	Limit Level
Sedimentation	a 15% increase in the percentage of sedimentation on the hard corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites	a 25% increase in the percentage of sedimentation on the hard corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites
Bleaching	a 15% increase in the percentage of bleaching of hard corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites	a 25% increase in the percentage of bleaching of hard corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites
Mortality	a 15% increase in the percentage of partial mortality of corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites	a 25% increase in the percentage of partial mortality of corals occurs at more than 20% of the tagged coral colonies at one or more monitoring sites

Action	Action Level	Limit Level
Construction phase	If the Action Level is exceeded the ET Leader should inform all parties (Contractor, Project Proponent, EPD, AFCD and IEC). The data from the water quality monitoring should also be reviewed. If the water quality monitoring shows no attributable effects of the installation works, then the Action Level is not triggered. If the water quality data indicate exceedances (for SS and/or turbidity) the ET Leader should discuss with the Contractor the most appropriate method of reducing suspended solids during dredging (e.g. reduce the rate of dredging), and/or control sedimentation during earth works (e.g. check the intactness and effectiveness of the temporary drainage system and stream buffer zone). This mitigated method should then be enacted on the next working day.	If the Limit Level is exceeded the ET Leader should inform all parties (Contractor, Project Proponent, EPD, AFCD and IEC) immediately. Should the Limit Level be exceeded, the contractor should stop dredging and/or earth works immediately and work out the solution according to the requirements of EPD and AFCD. The ET Leader should inform the Contractor to suspend dredging and/or earth works until an effective solution is identified. Once the solution has been identified and agreed with all parties dredging and/or earth works may commence
Operation phase	If the Action Level is exceeded the ET Leader should inform Golf Course Operator, EPD, and AFCD. The data from the water quality monitoring should also be reviewed. If the water quality monitoring shows no attributable effects of the installation works, then the Action Level is not triggered. If the water quality data indicate exceedances (salinity and/or pesticides) the ET Leader should discuss with the Golf Course Operator the most appropriate method of reducing salinity (e.g. reduce the daily operation time of the desalination plant), and/or control chemicals from runoff (e.g. reduce the frequency and quantity of chemical applied, check the intactness and effectiveness of the closed drainage system and stream buffer zone). This mitigated method should then be enacted on the next working day.	If the Limit Level is exceeded the ET Leader should inform all parties Golf Course Operator, EPD, and AFCD immediately. Should the Limit Level be exceeded, the Golf Course Operator should stop the operation of the desalination plant and/or the application of chemicals immediately and work out the solution according to the requirements of EPD and AFCD. The operation of the desalination plant and/or the application of chemicals would be suspended until an effective solution is identified.

Categories of Archaeological Finds and Recommended Action

Categories of Archaeological Material	Retrieval Procedure
Human burial <ul style="list-style-type: none"> • Skeleton remains • Items associated with human burial, i.e. grave goods 	Full recording and recovering of human remains and associated features <ul style="list-style-type: none"> • Complete recording by photography, drawing, written description • Full measurement of burial and surrounding matrix • Retrieval of human remains and associated materials • Retrieval of surrounding soil for further analysis
Intact features <ul style="list-style-type: none"> • Structural/architectural remains • Undisturbed context, such as hearth, midden, habitation area, assemblages of artefacts and/or environmental material 	Limited recording and recovery of archaeological features <ul style="list-style-type: none"> • Recording and measurement of salient features by photography, drawing and written description • Retrieval of all archaeological material • Retrieval of samples from the surrounding matrix
Intact artefacts <ul style="list-style-type: none"> • Complete objects such as pottery, metal objects, stone and bone tools. The objects are complete but isolated and are no part of assemblages or feature. 	Recovery of artefacts <ul style="list-style-type: none"> • Recovery of objects • Sampling of the surrounding matrix • Proper treatment with cleaning, marking and packing under international acceptable standards
Isolated material <ul style="list-style-type: none"> • Sherds, non-human bone, artefact fragments (metal, pottery, glass). There are no complete objects, the material is isolated and fragmentary in nature. 	Recovery of artefact fragments/archaeological material <ul style="list-style-type: none"> • Recovery of material, such as artefact fragments, environmental material and sampling of surrounding matrix
Deposits with archaeological potential <ul style="list-style-type: none"> • Soil deposits which exhibit characteristics associated with archaeological remains in Hong Kong 	Sampling of the deposit <ul style="list-style-type: none"> • Collection of soil samples from deposits displaying archaeological potential

Annex D

Implementation status on Environmental Protection Requirements

IMPLEMENTATION SCHEDULE OF THE PROPOSED MITIGATION MEASURES

Table 1 Implementation Schedule of Air Quality Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Air Quality - Construction Phase									
4.7.1		<p>In order that nuisance to air sensitive receivers is minimized, it is important to minimize dust emissions from construction activities including cut and fill operations and trucks movements on haul road.</p> <p>Dust control techniques should be considered to control dust to a level not exceeding the AQOs as well as the 1-hour TSP guideline level. These measures include:</p> <ul style="list-style-type: none"> • Adoption of good site practices; • Avoid practices likely to raise dust level; • Frequent cleaning and damping down of stockpiles, dusty areas of the Site and the haul roads; • Reduce the speed of the vehicles (say 10 kph) on the haul road; • Reducing drop height during material handling; • Provision of wheel-washing facilities for Site vehicles leaving the Site; • Regular plant maintenance to minimize exhaust emission; • Sweep up dust and debris at the end of each shift; and • If concrete batching plant or rock crushing plant is planned to used, a license from EPD may be required depending on the total silo capacity since they are specified processes under the APCO. Modern plant should be designed to limit emissions 	Work site / during construction	All contractors		√		EIAO-TM, APCO, Air Pollution Control (Construction Dust) Regulation	N/A (No excavation was carried out during the monitoring month)
4.7.2		Providing watering four times a day for dust suppression.							

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation; N/A = Not applicable

Table 2 Implementation Schedule of Water Quality Control Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
Water Quality – Construction phase									
6.11.4		<p><u>Proposed 18 holes Golf Course Layout Design</u> 20 m buffer zones on both sides of the streams will be demarcated as a preventative mitigation measure to reduce the disturbance during construction phase of the golf course except for the portions of Streams A which is of low ecological value and an old tributary of Stream B. On one side of part of the Stream B, the buffer zone would be reduced to 5m.</p>	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	N/A (Construction work is only at Holes 1 & 2 for vegetation clearance only)
6.11.5		<p>For the construction activity which is unavoidable near natural streams (within the buffer zone), mainly the construction of crossings, preventative mitigation measures during the construction stage should be follow by the Contractor, they are shown as follows:</p> <ul style="list-style-type: none"> • The proposed works site inside or in the proximity of natural streams should be temporarily isolated, through by placement of sandbags or silt curtains and properly supported by props, to prevent adverse impacts on the stream water qualities; • The natural bottom and existing flow in the stream should be preserved to avoid disturbance to the stream habitats; • No direct and indirect discharge into the natural stream is allowed from any construction work activities; • Stockpiling of construction material, if any, should be properly covered and located away from any natural stream; • Monitor rain forecast closely and cover any exposed spoil when rainstorms are forecated. Debris should be properly disposed of before rainstorm to avoid any inadvertent wash away into the stream; and • Removal of existing vegetation alongside the stream should be avoided. When disturbance to vegetation is unavoidable, all disturbed areas should be hydroseeded or planted with suitable vegetation to blend in with the natural environmental upon completion of works. 							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
6.11.13		<p><u>Runoff and Drainage Management</u></p> <ul style="list-style-type: none"> ♦ Diversion of upstream flows around the works areas for stream crossings and underground pipes: To minimize the impact of upstream runoff on the Works area by preventing storm flows reaching the work areas. This will be done through provision of upstream cut-off drains to intercept the flows and divert them around the Works area. It would convey flows to downstream stream courses, or other elements of temporary drainage systems (such as storage facilities). ♦ Temporary covering the works areas during severe storm events: Significant rainstorm events can be reasonably well forecast and when heavy rain is predicted, mitigation measures should be provided for the vulnerable areas by using tarpaulins, plastic sheets or other temporary covering to protect works area and minimize damage and erosion. It is recommended not to cover the newly establishment grass areas, and if unavoidable, this should only be done on a short term basis (less than 24 hours). ♦ Silt traps and sedimentation tanks for main discharge routes form works area: Sufficient and suitably sized silt traps and/or sedimentation tanks should be provided at the downstream ends of the systems to remove suspended solids prior to discharge. The discharge water quality shall be compliant with the <i>TM on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters</i> under the WPCO. The required volume of the sedimentation tanks will depend on the catchment area served. Multiple tanks in series may also be required where runoff might be expected to be silty. ♦ The design details of the temporary drainage system at turf establishment area follow the same principles of the permanent drainage system. However the component pipes, 	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM- Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	N/A (The temporary drainage plan was prepared by the Contractor to ER for approval and ET to comment).

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		<p>tanks, lakes and/or pumps may differ in size, shape, location, etc. from that of the permanent system, dependent upon the temporary runoff areas as compared with those of the permanent system. Additionally or alternatively, the temporary drainage system may consist of other methods to control soil erosion and/or to facilitate the collection of surface water runoff.</p> <p>The temporary drainage system will function during the period of time in which the permanent system is not yet completed. This circumstance will arise from the fact that the golf holes, inclusive of the permanent drainage system, will be constructed individually. As a result, the permanent drainage system may not be completed in its entirety until connection is made from each respective golf hole area to the lake/reservoir. As the permanent drainage system is completed for each hole, the corresponding temporary system will be decommissioned and reused elsewhere.</p> <p>The temporary drainage system will be in use until the permanent system is functional in a given area. Once the permanent system is functional in a given area, the temporary system will be decommissioned and, wherever possible, the components re-used in another temporary drainage system installed elsewhere. It is anticipated that the maximum duration of use for the temporary drainage system in any given area will be one-year.</p> <p>The storage tanks and/or lakes will be designed to segregate suspended solids (or pollutants as may be the case in plant/equipment storage and refueling areas) as may be necessary by contract requirements and reuse.</p> <ul style="list-style-type: none"> ♦ No irrigation, fertilizer and pesticide applications to the turf would be permitted during rainstorm events or when heavy rainstorm is predicted 24 hours before the application. 							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		<ul style="list-style-type: none"> Runoff from materials storage areas, particularly fuel and chemicals storage area should be separated from the main drainage systems (bunded, if necessary) and provided with dedicated facilities throughout the construction period, such as petrol interceptors. 				√			
6.11.14		<p>The Contractor shall follow good site practices and be responsible for the design, construction, operation, and maintenance of all the mitigation measures as specified in <i>ProPECC PNI/94</i> on construction site drainage through the construction period. These practices include:</p> <ul style="list-style-type: none"> Temporary ditches should be provided to facilitate run-off discharge into appropriate watercourses, via a silt retention pond. All drainage facilities and erosion and sediment control structures should be inspected monthly and maintained to ensure proper and efficient operation at all times. Excavation of soil that cannot be avoided during the wet season, and exposed surface or open stockpiles should be covered with tarpaulin or other means. Other measures that need to be implemented before, during and after rainstorms are summarized in <i>ProPECC PNI/94</i>. Exposed soil areas should be minimized to reduce potential for increase siltation and contamination of runoff. Earthwork final surfaces should be well compacted and subsequent permanent work (turf establishment) should be immediately performed. The Contractor shall contain within the site all surface runoff generated from the construction works, concreting works, dust control and vehicle washing, etc. The Contractor shall arrange other measures, such as provision of sand bags or temporary diversion systems to prevent washing away of soil, silt or debris into any nearby natural streams. Any runoff shall be diverted into appropriate sediment traps before discharging to the nearby drainage system. The discharge water quality shall be compliant with the <i>TM on Standards for Effluents</i> 	Work site / During the construction period	All Contractor		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	N/A (The temporary drainage plan was prepared by the Contractor to ER for approval and ET for comment).

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		<p><i>Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters</i> under the WPCO.</p> <p>The Contractor shall observe and comply with the Water Pollution Control Ordinance (WPCO) and its subsidiary regulations by implementing environmental protection measures (such as the use of silt traps) and preventing any point or non-point source of pollution.</p>							
6.11.15		<p><u>Concrete bridge construction</u></p> <p>No work is allowed to come into contact with the underlying stream bed during the concrete bridge construction. During the construction of precast concrete bridge, if necessary, precaution measures should be taken to ensure no potentially polluting liquid or solid wastes fall into the stream. This is essential to avoid water quality impacts within ecologically sensitive streams.</p>	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	N/A (No concrete bridge was under construction during the reporting month).
6.11.16		<p>The Contractor shall good site follow practices, including, but no limited to::</p> <ul style="list-style-type: none"> • Construction work area for the precast concrete should be outside the designated stream buffer zone area; • The designated work area for precast concrete work should be covered to minimize the potential water runoff during rain from the construction area; • All water used within the concrete work area should be collected, stored and recycled to reduce resource consumption. Stormwater runoff from the works areas fro precast concreting works should drain under gravity towards a sedimentation basin. The overlying water from the sedimentation basin should be recycled for reuse within the plant. The deposited sediment should be dewatered and the dry matter should require disposal off-site. No water should be discharged outside the boundary of the precast concrete works area; • The use of tarpaulin sheet or other means (water impermeable texture) should be placed beneath precast 							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		<p>concrete beam level (must be above the stream bed level) to capture any falling object during installation of precast concrete bridge on the footings or abutments;</p> <ul style="list-style-type: none"> • Prohibition of any direct and indirect discharge into the streams; • The concrete bridge and footings of abutments must be completely above the high water mark; • All equipment and machinery must be free of leaks or excess oil and grease; • Equipment refueling or servicing or storage of fuel must be undertaken at a minimum of 30 meters from the stream; • Prevent soil and trash from getting into stream during construction by use of silt fence, fiber rolls, gravel bags and other effective means; • All bare soil (abutment slope or temporary stockpile) must be covered with tarpaulin or other means before forecast rain; and • Wash out concrete trucks or pumps only into designated washout pits. 							
6.11.19		<p><u>Dredging during Construction of Desalination Plant's intake and outfall</u></p> <p>The intake and outfall pipelines will be constructed by dredging the seabed to form a trench and backfilled with a layer of bedding material (quarry run stone) before putting the pipelines in place. Once in place, the pipelines are covered with layers of rock armour on top of the pipelines to protect the pipelines against damage by wave action. The alternative backfilling material is from rock excavated during site formation if suitable.</p>	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	N/A (no dredging works was carried out during the reporting month)
6.11.20		<p>The materials used for the backfilling at the intake and outfall pipelines are stone and rock armour only. Transfer of backfilling materials onto the seabed from barge should be conducted by careful grabbing and unloading to seabed (to minimize sediment migration), thereby minimize impacts on water quality to nearby water sensitive receivers. As a preventative measures, silt curtain will also be required during the backfilling activities. The</p>							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
6.11.21		<p>expected backfilling duration is approximate 2 months.</p> <p>The Contractor shall use backhoe for dredging works at a water depth of less than 2m and use close grab dredger for works with water depth of more than 2m. The estimated dredging works is about 50m long (where backhoe should be used for water less than 2m deep) and 70m long (where close grab dredger should be used for water more than 2m deep). Only one dredging method should be used at any one time.</p>							
6.11.22		<p>In order to avoid pollution during dredging, transporting and dumping of marine mud. Pollution avoidance measures shall include but not be limited to the following:</p> <ul style="list-style-type: none"> • The maximum daily dredging rate for closed grab dredger should be 45m³/day; • The maximum daily dredging rate for backhoe should be 20m³/day; • Silt curtain should be installed for any dredging methods to protect the WSRs; • Closed grabs or sealed grabs should only be used for locations with water depths $\geq 2m$; • Backhoe should only be used for locations with water depths $\leq 2m$; • All equipment should be designed and maintained to minimise the risk of silt and other contaminants being released into the water column or deposited in locations other than designated location; • Mechanical grabs should be designed and maintained to avoid spillage and should seal tightly while being lifted; • No trailing suction hopper dredgers would be deployed for the dredging of marine mud; • All vessels should be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash; • All pipe leakages should be repaired promptly and plant shall 							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
6.11.23		<p>not be operated with leaking pipes;</p> <ul style="list-style-type: none"> • Before moving the vessels which are used for transporting dredged materials excess material should be cleaned from the decks and exposed fittings of vessels and the excess materials should never be dumped into the sea except at the approved locations; • Adequate freeboard should be maintained on barges to ensure that decks are not washed by wave action; • The Contractor should monitor all vessels transporting material to ensure that no dumping outside the approved location takes place. The contractor should keep and produce logs and other records to demonstrate compliance and that journey times are consistent with designated locations and copies of such records should be submitted to the engineer; • All bottom dumping vessels should be fitted with tight fitting seals to their bottom openings to prevent leakage of material; • Loading of barges and hoppers should be controlled to prevent splashing of dredged material to the surrounding water, and vessels should not be filled to a level which will cause overflowing of material or polluted water during loading or transportation; and • The engineer may monitor any or all vessels transporting material to check that no dumping outside the approved location nor loss of material during transportation takes place. The contractor should provide all reasonable assistance to the engineer for this purpose. <p>In addition, baseline water quality monitoring before commencement of the marine works shall be carried out in the nearby waters to obtain baseline information for subsequent monitoring. Regular and frequent water quality monitoring shall be carried out throughout the whole construction period to ensure the water quality during construction is well within the established environmental guidelines and standards.</p> <p>Silt Curtain</p>							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
6.11.24		In order to minimize impacts during the whole construction period of desalination plant's intake and discharge outfall, silt curtains should be utilized to minimize sediment migration. The Contractor shall be responsible for the design, installation and maintenance of the silt curtains to minimize the impacts on the water quality and the protection of water sensitive receivers. The design and specification of the silt curtains shall be submitted by the Contractor to the Engineer for approval. Area of the silt curtain to enclose the works area should be minimized in order to reduce the disturbance of ecological sensitive areas nearby.							
6.11.25		A typical suspended solids reduction of 75% can be achieved with the incorporation of silt curtain. Two-layer silt curtains have generally been used for dredging projects of larger scale to further ensure this reduction. However, as the scale of proposed project is considered small, it is recommended to use single layer silt curtain which can achieve a minimum 75% suspended solids reduction.							
6.11.26		Silt curtains shall be formed from tough, abrasion resistant, permeable membranes, suitable for the purpose, supported on floating booms in such a way as to ensure that the sediment plume shall be restricted to within the limit of the works area.							
6.11.27		The silt curtain shall be formed and installed in such a way that tidal rise and fall are accommodated, with the silt curtains always extending from the surface to the bottom of the water column. The removal and reinstallation of such curtains during typhoon conditions shall be as agreed with the Director of Marine Department.							
6.11.28		The Contractor shall regularly inspect the silt curtains and check that they are moored and marked to avoid danger to marine traffic. Any damage to the silt curtain shall be repaired by the Contractor promptly and the works shall be stopped until the repair is effected to the satisfaction of the Engineer.							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
6.11.29		<p><u>General Construction Activities</u></p> <p>Debris and refuse generated on-site should be collected, handled and disposed of properly to avoid entering adjacent watercourse. Stockpiles of construction materials should be kept covered when not being used.</p>	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	N/A (no storage of chemical on site)
6.11.30		Oils and fuels should only be stored/handled in designated areas with pollution prevention facilities. Oil interceptors need to be regularly inspected and cleaned to avoid wash-out of oil during storm conditions.							
6.11.31		Contractor should provide a safe storage area for chemicals on site. The Contractor is required to register as a chemical waster producer if chemical wastes would be produced from the construction activities.							
6.11.32									
6.11.33		All fuel tanks should be provided with locks and be sited on sealed areas within bunds of capacity equal to 110% of the storage capacity of the largest tank.							
6.11.34		Good housekeeping practices and staff training are required to minimize careless spillage and keep the work space in a tidy and clean conditions at all times. Accidental spillage of chemicals in the works area would directly affect the aquatic environment. It is recommended that the Contractor should develop management procedures for chemical and implement an emergency plan to deal with chemical spillage in case of an accident.							
		Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The chemical waste should be transported to a facility licensed to receive chemical waste, such as the Chemical Waste Treatment Facility at Tsing Yi. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes details the requirements to deal with chemical wastes.							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
6.11.35		<p><u>On-Site Sewage Effluents</u></p> <p>In order to prevent sewage effluents affecting water courses, the following mitigation measures should be provided by the Contractor:-</p> <ul style="list-style-type: none"> • Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site to handle sewage from the workforce; • The toilet facilities should be more than 30 m from any watercourse; • Temporary storage tank should be provided to collect wastewater from kitchens or canteen, if any; • A licensed waste collector should be deployed to clean the chemical toilets on a regular basis which will be and disposed of at government sewage treatment facilities; • Regular environmental audit on the construction site can provide an effective control of any malpractices and can achieve continual improvement of environmental performance on site. It is anticipated that sewage generation during the construction phase of the project would not cause water pollution problem after undertaking all required measures; and • Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the project. 	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	N/A (No temporary toilets / facilities on site during this reporting month)
6.11.36		<p><u>Concrete batching plant</u></p> <p>All water used within the concrete batching plant will be collected, stored and recycled to reduce resource consumption. This includes water used in the concrete batching process, truck cleaning, yard washing and dust suppression spraying. All spent dust suppression effluent will be collected and recycled. To minimize the potential water quality impacts that may generate from the concrete batching plant, a drainage system should be provided in this site. The batching plant area should be</p>	Work site / During the construction period	All contractors		√		ProPECC PN 1/94; WPCO; TM-Effluent Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Water	N/A (No concrete batching plant was installed on site during this reporting month)

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
6.11.37		<p>channelled to collect concrete washings for further treatment before reuse on-site and prevent concrete washings from directly entering the any stream or seawater. Site runoff should also be collected through the drainage system. To minimize the generation of contaminated site runoff from concrete production area, the concrete batching plant should be sheltered.</p> <p>Concrete washings and site runoff should be pumped to a wastewater treatment system with a sedimentation unit for removal of suspended solids such as waste concrete particles, silt and grit in order to achieve the discharge standards. pH adjustment should also be applied if the pH value of the collected concrete washings and site runoff is higher than the pH range specified in the discharge licence. This can be achieved by adding neutralizing regents, i.e. acidic additive. A discharge licence should be applied from EPD for discharge of effluent from the site. Analysis of effluent quality may be required as one of the licensing conditions of the discharge licence. The Contractor should collect effluent samples at the final discharge point in accordance with the required sampling frequency to test the specified water quality parameters. The quality of the discharged effluent should comply with the discharge licence requirements. It is recommended to reuse the treated effluent for dust suppression and general cleaning on site, wherever possible.</p>							
6.11.38		<p>The drainage system should be maintained on a regular basis to remove the deposits on the channels. The sedimentation and pH adjustment systems should also be checked and maintained by competent persons to ensure that the systems are functioning properly at all times.</p>							
6.11.39		<p>The deposited sediment will be dewatered and the dry matter will require disposal off-site. The estimated maximum concentrate batching operation period during construction is 20 months.</p>							
6.11.40		<p>Sand, gravel and other bulk materials will be delivered from the production area by conveyor boats or derrick barges to the</p>							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
6.11.41		temporary barging point, and the material will then be loaded onto dump trucks by loaders and delivered to the on-site storage areas. Regular environmental inspections should be conducted to check the environmental performance of daily operation. These inspections will ensure proper installation and maintenance of pollution control measures, such as checking of sedimentation basin, wastewater recycling facility and enclosure of stockpiles, and the implementation of other mitigation measures.							

* All recommendations and requirements resulted during the course of EIA/EA Process, including ACE and/or accepted public comment to the proposed project.

** Des - Design, C = Construction, O = Operation

N/A Not applicable

Table 3 Implementation Schedule of Waste Management Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Waste Management - Construction Phase									
7.7.2		<p>Good site practice to minimize solid waste generation, including:</p> <ul style="list-style-type: none"> • nomination of approved personnel, such as a site manager, to be responsible for good site practices, and making arrangements for collection of all wastes generated at the site and effective disposal to an appropriate facility; • training of site personnel in proper waste management and chemical waste handling procedures; • provision of sufficient waste disposal points and regular collection for disposal; • appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers; • regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors; • a Waste Management Plan should be prepared and should be submitted to the Engineer for approval. One may make reference to ETWB TCW No. 15/2003 for details; and • a recording system for the amount of wastes generated, recycled and disposed (including the disposal sites) should be proposed. 	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	N/A (Waste management was prepared for ER and ET for comments).
7.7.4		<p>Good management and control can prevent the generation of significant amounts of waste. Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> • segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal; • separate labelled bins shall be provided to segregate aluminium cans from other general refuse generated by the work force, and to encourage collection of by individual collectors; • any unused chemicals or those with remaining functional capacity shall be recycled; • maximising the use of reusable steel formwork to reduce the amount of C&D material; 	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	N/A (Waste management was prepared for ER and ET for comments).

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
		<ul style="list-style-type: none"> prior to disposal of C&D waste, it is recommended that wood, steel and other metals shall be separated for re-use and / or recycling to minimise the quantity of waste to be disposed of to landfill; proper storage and site practices to minimise the potential for damage or contamination of construction materials; plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste; minimize over ordering of concrete, mortars and cement grout by doing careful check before ordering. 							
7.7.6		<p><u>Site Clearance Waste</u> Scrub and other vegetation will be stripped for the tees, fairways, greens and access roads. The normal route for disposal for such material is landfill but in this case it is proposed that vegetation is passed through a "chipper" to break down the material into a medium that can be used as mulch / compost and provide a seed-bank for natural hydroseeding of exposed areas.</p>	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance ; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	N/A (Waste management was prepared for ER and ET for comments).
7.7.7		Non-inert materials should be kept separate and reused on-site as fill in preference to disposal at public filling areas which are operated by CEDD or disposal at landfill.							
7.7.8		<p><u>Excavated Materials</u> Material generated during open cut works, and access route formation will comprise rock and soil and all this material will be reused in the site shaping process. It is anticipated that there will be no material requiring disposal off-site in public filling areas.</p>	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	N/A (Waste management was prepared for ER and ET for comments).
7.7.9		<p><u>Construction and Demolition (C&D) Material</u> The C&D material generated from the site formation and demolition works should be sorted on-site into inert C&D material and C&D waste. In order to minimise the impact resulting from collection and transportation of C&D material for off-site disposal, the excavated</p>	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The	N/A (Waste management was prepared for ER and ET for comments).

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
		material comprising fill material should be reused on-site as backfilling material. C&D waste, such as wood, plastic, steel and other metals should be reused or recycled and, as a last resort, disposed of to landfill. A suitable area(s) should be designated within the site for temporary stockpiling of C&D material and to facilitate the sorting process. The stockpiling/sorting area should be located far away from the identified sensitive receivers.						Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	
7.7.10		<u>Site fencing</u> Some site fencing may be required. Attention should be paid to WBTC No. 19/2001 which introduce a new policy requiring the use of metallic site hoardings and signboards in order to reduce the amount of timber used on construction sites.	Work site / During the construction period	All Contractors		√		WBTC No. 19/2001	N/A (Waste management was prepared for ER and ET for comments).
7.7.12		<u>Chemical Waste</u> Where the construction processes produce chemical waste, the Contractor must register with EPD as a Chemical Waste Producer. Wastes classified as chemical wastes are listed in the <i>Waste Disposal (Chemical Waste) (General) Regulation</i> . These wastes are subject to stringent disposal routes. EPD requires information on the particulars of the waste generation processes including the types of waste produced, their location, quantities and generation rates. A nominated contact person must be provided.	Work site / During the construction period	All Contractors		√		Waste Disposal (Chemical Waste) (General) Regulation	N/A (Waste management was prepared for ER and ET for comments).
7.7.14		Hard standing surfaces draining via oil interceptors shall be provided in works area compounds. Interceptors will be regularly emptied to prevent release of oils and grease into the surface water drainage system after accidental spillages. The interceptor should have a bypass to prevent flushing during periods of heavy rain. Oil and fuel bunkers should be bunded to prevent discharge due to accidental spillages or breaches of tanks. Waste collected from any grease traps should be collected and disposed of by a licensed contractor.							
7.7.15		Any construction plant which is likely to leak oil, should have absorbent inert material e.g. sand, placed beneath it. This material should be replaced on a regular basis and the contaminated material should be stored in a designated, secure place. Any sand used for soaking oil waste is classified as chemical waste and should be disposed of in							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
7.7.16		accordance with the <i>Waste Disposal (Chemical Waste) (General) Regulations</i> .							
7.7.17		Lubricants and waste oils are likely to be generated during the maintenance of vehicles and mechanical equipment. Used lubricants will be collected and stored in individual containers which are fully labelled. The containers should be stored in a designated secure place. If possible such waste should be sent to oil recycling companies; there are also companies which collect empty oil drums for reuse or refill.							
7.7.18		Oil and lubricant wastes are classified as chemical wastes, and if not recycled, should be collected by licensed collector and should be treated at the Chemical Waste Treatment Centre, Tsing Yi, or other sites licensed for disposal of waste oil. A trip ticket system operates to control the movement of such chemical waste and tickets have to be produced upon the request of EPD.							
7.7.19		Some paints and solvents are classified as chemical waste and, if used on site, will be subject to the stringent requirements of the <i>Waste Disposal (Chemical Waste) (General) Regulation</i> . Empty paint cans should be recycled or collected as waste. Any dry paint waste should be swept up and collected in containers for disposal.							
7.7.20		<u>Sewage</u> An adequate number of portable toilets should be provided for the on-site construction workforce. The portable toilets shall be maintained in a state that will not deter the workers from using them.	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	N/A (No portable toilet was available on site)

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
7.7.21		<u>General Refuse</u> General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. An enclosed and covered area is preferred to reduce the occurrence of 'wind blown' light material.	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance; ETWB TCW NO. 15/2003.	N/A
7.7.22		Solid and liquid wastes will be generated by the construction workers during the clearance/construction period. The refuse (mainly non-recyclable materials) will be collected regularly in black refuse bags and delivered to the existing solid waste disposal system and transferred to landfill for disposal.							
7.7.23		<u>Marine Sediments</u> The basic requirements and procedures for dredged mud disposal are specified under the ETWB TCW No. 34/2002. The management of the dredging, use and disposal of marine mud is monitored by the Marine Fill Committee (MFC), while the licensing of marine dumping is the responsibility of the Director of Environmental Protection (DEP). The dredged marine sediments will be loaded onto barges and transported to the designated disposal site.	Marine Dredging area / During the construction period	All Contractors		√		ETWB TCW NO. 34/2002.	N/A
7.7.25		During transportation and disposal of the dredged marine sediments, the following measures should be taken to minimise potential impacts on water quality: <ul style="list-style-type: none"> • Bottom opening of barges shall be fitted with tight fitting seals to prevent leakage of material. Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved. • Monitoring of the barge loading shall be conducted to ensure that loss of material does not take place during transportation. Transport barges or vessels shall be equipped with automatic self-monitoring devices as specified by the DEP. 							

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation; N/A = Not applicable

Table 4 Implementation Schedule of Ecological Impact Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Construction Phase									
8.7.1		<u>Terrestrial Ecology</u> Haul roads would be located on future fairway and cart paths alignments to minimise temporary disturbance of habitats.	Work site / During the construction period	All Contractor		√		-	N/A
8.7.2		To compensate loss of trees, a total of 42 trees will be transplanted and 967 trees (more than 3:1 ratio) will be planted on the new golf course (see tree survey reports). 90% of these trees are native, while 76% of these will be light to heavy standard trees, which will provide instant breeding and foraging habitats for birds and butterflies. The use of light to heavy standard trees is more preferable to seedlings as bigger trees provide habitats of higher structural complexity	Work site / During the construction period	All Contractor		√		-	N/A
8.7.3		Impacts to streams have been avoided during the design stage by designating buffer zones. Except tributary A2 and the old tributary B3 where short sections would be culverted, other streams and tributaries will remain intact. Except at crossings at the two small pipe culverts at the upstream part of tributary B2 and the culvert bridge at the upstream part of tributary B1, there will be no direct disturbance to the stream bed. To accommodate the construction and golf hole design, the buffer zone of tributary B2 will be reduced from 20m to 5m in one area. The buffer zone at this section of tributary B2 would be temporary disturbed during site formation, but will be reinstated after construction. Stream C will be totally preserved by 20m buffer zones.	Work site / During the construction period	All Contractor		√		-	N/A
8.7.4		Potential impacts due to site runoff would be reduced by scheduling most of the bulk site formation works during the dry season of 2005-6 in order to avoid excessive erosion.	Work site / During the construction period	All Contractor		√		-	N/A
8.7.4		At locations of existing stream courses where construction works would be conducted, including the underground pipe	Stream crossing/ During the	All Contractor		√		-	N/A

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
		culvert at tributary A2 and the old tributary B3, the two small pipe culverts at the upstream part of B2 and the culvert bridge at the upstream part of B1, bypass flow channel or pipes would be provided before the commencement of construction and maintain the stream flow until the crossings and the underground pipe culvert are finished.	construction period						
8.6.39		Avoid disturbance of stream bed during the construction of the permanent bridges by using precast unit of the bridge segments transported from other locations and installed to the proposed locations.	Stream crossing/ During the construction period	All Contractor		√	-	N/A	
8.7.4		Good site practice. Construction materials must be stored at locations away the stream courses. Site runoff would be desilted in settling ponds to reduce the potential for suspended sediments, organics and other contaminants to enter stream and marine environment.	Work site / During the construction period	All Contractor		√	-	N/A	
8.9	Table 4.1	Streams B, C, and D will be monitored monthly during the construction phase to determine the status of <i>Caridina trifasciata</i> (shrimp) and <i>Nanhaipotamon hongkongensis</i> (freshwater crab). Stream condition will be recorded with reference to the protective buffer zone. Encroachment onto the buffer zone will be reported to the ER/ET. Sheet piling will be installed at the buffer zone perimeter as needed to prevent further encroachment. Stream sedimentation will be reported to the ER/ET, the agent causing sedimentation will be discovered, and sedimentation will be stopped.	Stream B, C & D/ During the construction phase	All Contractor		√		Monitoring has been carried out during this reporting month.	
9.7.22		<u>Marine Ecology</u> The temporary drainage system, which would receive flows from all areas subject to earth works, would collect all site runoff. The collected runoff would be retained for turf grass irrigation.	Work site / During the construction period	All Contractor		√		N/A	
9.8.5		Dredging for the two pipelines for the desalination plant would be require 50 days and would be scheduled to the extent possible from January to April 2006. This would avoid the flowering season for the seagrass <i>Halophila ovalis</i> , i.e. November and December (Fong et al. 2005) and the spawning season for corals, i.e. July to October (Lam 2000;	Dredging area/ during dredging period	All Contractor		√		N/A	

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
		Storlazzi, C. D. 2004).							
9.8.2	4.2.12	Coral colonies within the silt curtain, in particular the 79 colonies identified during the coral mapping survey, (see Appendix A9.2) would be transplanted. Prior to commencement of any marine construction works for the proposed project, the affected coral colonies would be tagged using plastic labels and a number would be assigned to each. The tagged corals in the dredging area at D2 site will be transplanted to the bedrock area about 80 m south of the ferry pier. All these transplantation works should be conducted by experienced marine ecologist(s) and should be completed before the commencement of marine construction works.	Dredging area/Prior to dredging	All Contractor		√			N/A
9.8.5		Silt curtains will be deployed during dredging for the desalination plant. With the deployment of silt curtains around the dredging area for the desalination plant, adverse water quality impacts associated with the dredging and backfilling would be controlled to acceptable levels.	Dredging area/Prior to dredging	All Contractor		√			N/A
		All anchoring points/structures of the floating pier would be located on the shore and/or at least 40m seaward to avoid the coral colonies at Site B2 which are concentrated within the first 15m seaward from the coastline and none recorded over 35m seaward.	Temporary barging point/ during construction of the barging point	All Contractor		√			N/A (no barging point was constructed on site)
		The location of the floating pier would also be shifted from the original location for barging point at Zone 2 and Zone 3 of the mapping area in Site B2 (see Figure 2 in Appendix A9.2), to Zone 5 to further protect corals. Impacts to corals are not expected.	Temporary barging point/ during the entire construction phase	All Contractor		√			N/A

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation

N/A Not applicable

Table 5 Implementation Schedule of Fisheries Impact Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages**			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
10.8.2		<u>Construction phase</u> In addition to the temporary drainage system which would collect site runoff for re-use for irrigation, site runoff would also be controlled by general site practices during the construction period.	Work site / During the construction period	All Contractor		√		N/A	N/A
10.8.3		Silt curtains will be deployed during dredging for the desalination plant. With the deployment of silt curtains around the construction area, adverse water quality impacts associated with the dredging and back-filling would be controlled.	Work site / During the construction period	All Contractor		√		N/A	N/A
10.7.12		The majority of the heavy construction works, in particular, the cut and fill earth works, would be conducted within the 2005-2006 dry season.	Work site / During the construction period	All Contractor		√		N/A	N/A

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** D=Design, C=Construction, O=Operation

N/A Not applicable

Table 6 Implementation Schedule of Landscape and Visual Impact Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Landscape and Visual Impact - Construction Phase									
Table 12.13	MC1	Site offices and construction yards: <ul style="list-style-type: none"> Site offices and the construction yard shall be decommissioned after construction. Haul roads shall be decommissioned and restored with hydroseeding works after construction. 	All site offices	All contractors		√		EIAO Guidance Note No. 8/2002	N/A
Table 12.13	MC2	Height of site offices: <ul style="list-style-type: none"> The height of site offices shall be controlled in order to avoid visual impacts. 	All site offices	All contractors		√		EIAO Guidance Note No. 8/2002	N/A
Table 12.13	MC3	Hoarding and screening: <ul style="list-style-type: none"> Where practical the site offices areas, construction yards and storage areas shall be screened using olive green coated hoarding or vegetation around the peripheries of the works area until the completion of relevant construction phases. 	All site office and construction yard areas.	All contractors		√		EIAO Guidance Note No. 8/2002	N/A
Table 12.13	MC4	Construction plant and building material: <ul style="list-style-type: none"> Shall be orderly and carefully stored in order to appear neat and avoid visibility from outside where practical; Excess materials shall be removed from site as soon as practical; All construction plant shall be removed from site upon completion of construction works. 	In all construction yards.	All contractors		√		EIAO Guidance Note No. 8/2002	Complied Building material was covered by green plastic cover

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Table 12.13	MC5	Construction light: <ul style="list-style-type: none"> To be oriented away from the viewing location of VSRs; and All lighting shall have frosted diffusers and reflective covers. While construction at night might be required from time to time, this should be controlled and minimised. 	All construction lights.	All contractors		√		EIAO Guidance Note No. 8/2002	N/A
Table 12.13	MC6	Vegetation: <ul style="list-style-type: none"> Temporary construction sites shall be restored to standards as good as, or better than, the original condition. In this respect, areas that are not covered by golf course grassing works shall be hydro seeded; The potential for soil erosion shall be reduced at the construction stage by minimizing the extent of vegetation disturbance on site and providing a protective cover over exposed ground; and No plant or building materials shall be stored under the dripline of retained trees and no vehicle movement or other construction activities like washing, concrete mixing etc shall be carried out under the dripline of trees. 	All temporary construction sites.	All contractors		√		EIAO Guidance Note No. 8/2002	Complied Protective plastic cover over excavated rocks was recorded.
Table 12.13	MT1	Compensation for losses: <ul style="list-style-type: none"> The tree compensation to tree loss ratio shall be between 1:2 and 1:3; At least 700 new trees shall have be of light standard or larger size. 	As shown on mitigation measures plans.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	MT2	The majority of compensation species shall comprise species that already occurs within the LIA boundaries;	General.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Table 12.13	MT3	Where practical, trees that require removal shall be transplanted on Site;	General.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	MT4	New trees shall be planted in groups in order to screen visual impacts and to provide additional shade at the administration building, rain shelters and halfway houses.	As shown on mitigation measure plans.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	MT5	Tree Planting on Slopes: <ul style="list-style-type: none"> New slopes with a gradient larger than 30° shall have whip tree planting. Such whip trees shall comprise tree species with shrub-like characteristics, such as <i>Gordonia axillaries</i> (大頭茶) and <i>Raphiolepis indica</i> (車輪梅). 	General.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	MT6	Tree planting works at the hill where the desalination plant will be located shall be carefully positioned in order to represent its original profile.	At the desalination plant.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	MT7	Tree Preservation: <ul style="list-style-type: none"> No tree shall be transplanted or felled without prior approval by relevant Government departments in accordance with WBTC 24/94, WBTC 14/2002 and ETWB 2/2004; All trees that are marked for retention shall be fenced off with a 1.2m high fence around the dripline of trees or larger area; Transplant preparation works shall be carried as soon as possible after commencement of construction. Rootball and crown pruning shall be carried out over at least 1 month. 	All areas with existing trees	All contractors	√	√		WBTC 24/94, WBTC 14/2002, ETWB 2/2004	Not complied. Trees near site clearance area are not protected yet. ET has been recommended the Contractor to put sufficient boundary for protected trees.

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Table 12.13	MT8	<p>Buffer Areas</p> <ul style="list-style-type: none"> For streams the width of the buffer zones will be 20m from the stream bank. The only exception would be the buffer zone in the reach of upper tributary of stream B lying between the two parts of Hole 10, where the buffer will zone will be 5m, the dry tributary of stream B that will be converted to an underground culvert and the secondary tributary of stream A that will also be converted to an underground culvert. No construction activities will be allowed in the buffer zones, except for site formation works, which are required for the construction of bridge footings. 	At streams	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	MS1	<p>Bulk hydroseeding:</p> <ul style="list-style-type: none"> Bulk site formation works shall be followed with bulk hydroseeding as soon as practical. 	General.	All contractors		√		EIAO Guidance Note No. 8/2002	N/A
Table 12.13	MS2	<p>Grassing:</p> <ul style="list-style-type: none"> In the case of golf course areas, grassing shall be carried out as soon as practical after sanding and shaping; and Sanding, shaping and grassing works shall be phased in sections. 	At proposed grassing areas.	All contractors		√		EIAO Guidance Note No. 8/2002	N/A

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
	MS3	Restoration: <ul style="list-style-type: none"> In the case of residual areas that were disturbed during construction, which will not be part of the golf course areas, detailed site formation works and shaping shall be followed by hydroseeding and shrub planting as soon as practical; and The hydroseeding mix shall be composed of the following grass species: <i>Eragrostis curvula</i> <i>Lolium Perenne</i> <i>Neyraudia reynaudiana</i> <i>Pennisetum purpureum</i>; and the following shrub / small tree species: <i>Gordonia axillaries</i>, <i>Rhaphiolepis indica</i> and <i>Rhodomyrtus tomentosa</i>. 	At all residual areas.	All contractors		√		EIAO Guidance Note No. 8/2002	N/A
Table 12.13	ME1	Screening: <ul style="list-style-type: none"> Bridges and pumping stations shall be screened by tree and shrub planting; and Retaining wall shall be covered with climber plants. 	All bridges and pumping stations.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	ME2	Abutments of bridges shall be surfaced with stone of volcanic origin with a colour and texture similar to that of rock in the surrounding landscape;	All bridges.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	ME3	Above-ground walls and foundations of pumping stations shall be surfaced with stone of volcanic origin with a colour and texture similar to that of rock in the surrounding landscape.	All pumping stations.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	ME4	Above-ground covers of pumping stations shall have an olive green coating.	All pumping stations.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	ME5	The desalination plant shall be located within the hill behind the pier. Slope cutting of this hill shall have a natural appearance with hydroseeding cover.	As shown on the mitigation measure plans.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	ME6	Water tanks shall be located below surface level. Above-ground components shall be coated in olive green.	All water tanks.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Table 12.13	MB1	Extensions of the clubhouse shall have a surface cover that is in visual harmony with the clubhouse itself.	All new extensions of the clubhouse.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	MB2	Shrub planting shall be implemented in front of the new golf cart parking area in order to screen low-level views.	The new golf cart parking area.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	MB3	Tree and shrub planting shall be implemented on the peripheries of the maintenance building and its extensions.	At the maintenance building.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A
Table 12.13	MB4	Halfway houses and rain shelters shall be surfaced with either stone or beige and olive green paint.	At all halfway houses and rain shelters.	All contractors		√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: N/A

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 ** D=Design, C=Construction, O=Operation
 N/A Not applicable

Table 7 Implementation Schedule of Cultural Heritage Mitigation Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
Construction Phase									
Table 13.4		Wan Chai Archaeological Site - Archaeological Watching Brief	Site formation and construction works	All Contractors		√		EIAO	Complied
Table 13.4		Grave #1 – Preservation in-situ - Fenced off three metre buffer zone around the grave	Site formation and construction works	All Contractors		√		EIAO	N/A
Table 13.4		Grave #5 - Preservation by record; and recovery of structural elements (if required by AMO)	Construction phase (prior to commencement of works)	All Contractors		√		EIAO	N/A
Table 13.4		Grave #20 - Preservation by record; and recovery of structural elements (if required by AMO)	Construction phase (prior to commencement of works)	All Contractors		√		EIAO	N/A
Table 13.4		Any, as of yet unidentified graves at Kap Lo Kok. If a grave is found works will stop in the immediate vicinity of the grave until it can be inspected by AMO staff.	Site formation and construction works	All Contractors		√		EIAO	N/A

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation

N/A Not applicable

Table 8 Implementation Schedule of Land Contamination Mitigation Measures

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation status
					D	C	O		
Land Contamination - Construction Phase									
11.9.2		<p>Since the exact cut areas on site during construction by the Contractor have not been determined at this stage, the Contractor should implement the suitable precautions and preventive measures for the discovery of buried or abandoned ordnance during the construction. Moreover, it is recommended that standard good practice should be implemented during the construction phase in order to minimize any potential exposure to contaminated soils or groundwater. These measures include:</p> <ul style="list-style-type: none"> • The Contractor should sweep the area of intended excavation with a metal detector to check any ordnance underneath the ground prior to any excavation. • For any detection of metals under the ground, the Contractor should cease work immediately before confirming the identity of the cause. For any suspect of artillery ordnance, Hong Kong Police Force should be informed. • The use of bulk earth-moving excavator equipment would minimise construction workers' potential contact with the contaminated materials; • Exposure to any contaminated materials can be minimised by the wearing of appropriate clothing and personal protective equipment such as gloves (when interacting directly with suspected contaminated material), providing adequate hygiene and washing facilities and preventing smoking and eating during such activities; • Stockpiling of contaminated soil should be avoided. If this cannot be avoided, the stockpile of contaminated materials should be segregated from the uncontaminated ones. Moreover, the contaminated materials should be properly covered with waterproof material (e.g. tarpaulin sheet) to avoid leaching of contaminants, especially during rainy season. • Vehicles containing any excavated materials should be suitably covered to limit potential dust emissions or contaminated 	Work site / During the construction period	All Contractors		√		Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 35); Water Pollution Control Ordinance (Cap 358).	N/A

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation status
					D	C	O		
		<p>wastewater run-off, and truck bodies and tailgates should be sealed to prevent any leakage during transport or during wet conditions;</p> <ul style="list-style-type: none"> • Only licensed waste haulers should be used to collect and transport any contaminated material to an appropriate disposal site and procedures should be developed to ensure that illegal disposal of waste does not occur; • Necessary waste disposal permits should be obtained, as required, from the appropriate authorities, in accordance with the <i>Waste Disposal Ordinance (Cap 354)</i>, <i>Waste Disposal (Chemical Waste) (General) Regulation (Cap 35)</i>, as required; • Records of the quantities of wastes generated and disposed of should be maintained; • Adequate washing facilities should be provided on site; and • In accordance with good construction practice, silt traps should be used to reduce the impact to drainage caused by suspended solids arising from disturbed ground, or any construction materials such as cement and gravel. Groundwater should be disposed of in accordance with the <i>Water Pollution Control Ordinance (Cap 358)</i>. 							
11.11.1		<p>Based on preliminary site investigation, the site is considered as a potentially land contaminated site as hotspots of contamination of lead and sulphur were identified. Further investigation for land contamination at this site is therefore required and is detailed in the Contamination Assessment Plan (CAP) of this section to be undertaken prior to commencement of excavation works. A Contamination Assessment Report (CAR) should be prepared and if the results of the site investigation reveal contamination at the subject site, a Remediation Action Plan (RAP) should also be prepared and submitted together with the CAR to EPD for approval.</p>	Work site / During the construction period	All Contractors		√		Waste Disposal Ordinance (Cap 354), Waste Disposal (Chemical Waste) (General) Regulation (Cap 35); Water Pollution Control Ordinance (Cap 358).	Contractor was preparing the CAP for ET to review.

* All recommendations and requirements resulted during the course of EIA Process, including ACE and/or accepted public comment to the proposed project.

** D=Design, C=Construction, O=Operation

N/A Not applicable

Annex E

Monitoring results

Air Quality

Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
 Environmental Monitoring and Audit –
 Baseline Monitoring Report

Date		Weather	Temp (°C)	Relative Humidity (%)	Mean Amount of Cloud (%)	Total Rainfall (mm)	Wind
1月16日	Mon	Mainly cloudy with mist	19.9	83	58	-	E
1月17日	Tue	Mainly cloudy with mist	18.9	90	89	0.7	E
1月18日	Wed	Cloudy and humid. Misty with one or two rain patches	18.9	93	93	0.8	E
1月19日	Thu	Mainly cloudy with mist	18.7	94	100	0.3	SE
1月20日	Fri	Cloudy and humid. Misty with one or two rain patches	17.1	94	88	1.3	N
1月21日	Sat	Mainly cloudy	13	85	93	4.3	N
1月22日	Sun	Mainly cloudy	12.8	80	88	Trace	NE
1月23日	Mon	Sunny periods	12.3	72	87	-	NE
1月24日	Tue	Sunny periods	13.6	70	84	Trace	NE

Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
24-hour TSP Monitoring Results at Station GCA B1

Date	Filter Weight (g)		Flow Rate (m ³ /min.)		Elapse Time		Sampling Time(hrs.)	Conc. (µg/m ³)	Weather Condition	Particulate weight(g)	Av. flow (m ³ /min)	Total vol. (m ³)
	Initial	Final	Initial	Final	Initial	Final						
20-Jan-06	3.5194	3.5477	1.23	1.23	9502.3	9525.4	23.1	16.6	Fine	0.03	1.23	1702.6
								Min	16.6			
								Max	16.6			
								Average	16.6			

Remark: Bold value indicated an Action level exceedance
 Bold & Italic value indicated an Limit level exceedance

Water Quality

M RO1		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	00:01	0.0	1.0	17.9	31.8	8.8	8.3	1.0
	19/01/2006	00:01	0.0	1.0	18.2	31.7	8.3	8.1	1.0
	21/01/2006	00:01	0.0	1.0	17.1	31.6	8.0	8.3	1.0
	23/01/2006	00:01	0.0	1.0	16.6	32.6	8.5	8.2	1.0
M RO1		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:00	5.2	4.2	17.7	31.8	8.8	8.3	1.0
	19/01/2006	08:12	5.3	4.3	17.9	31.8	8.6	8.2	1.0
	21/01/2006	15:00	5.2	4.2	17.0	31.9	7.9	8.3	1.0
	23/01/2006	15:15	5.6	4.6	16.5	32.5	8.3	8.2	1.0
M RO1		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	00:01	0.0	1.0	18.6	32.0	8.9	8.3	1.0
	19/01/2006	00:01	0.0	1.0	18.1	32.5	8.2	8.4	1.0
	21/01/2006	00:01	0.0	1.0	17.1	31.8	8.4	8.4	1.0
	23/01/2006	00:01	0.0	1.0	16.4	31.8	8.3	8.2	1.0
M RO1		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:00	5.3	4.3	18.3	32.1	9.0	8.3	1.0
	19/01/2006	13:43	5.3	4.3	17.6	32.5	8.5	8.4	1.0
	21/01/2006	08:01	5.2	4.2	17.1	31.8	8.3	8.3	1.0
	23/01/2006	08:02	5.2	4.2	16.4	31.8	8.3	8.2	1.0

	Depth-averaged
M RO1	SS (mg/L)
16/01/2006	4.0
19/01/2006	3.3
21/01/2006	3.8
23/01/2006	2.5

Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

KLW		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:17	0.0	1.0	18.0	31.8	8.7	8.3	±0
	19/01/2006	08:22	0.0	1.0	18.6	31.7	8.1	8.2	±0
	21/01/2006	15:12	0.0	1.0	17.2	31.9	8.0	8.4	±0
	23/01/2006	15:25	0.0	1.0	16.6	32.6	8.6	8.2	±0
KLW		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:16	13.8	6.9	17.3	31.8	9.0	8.3	±0
	19/01/2006	08:21	13.5	6.8	17.5	31.8	9.0	8.2	±0
	21/01/2006	15:11	13.4	6.7	17.2	31.7	7.8	8.3	±0
	23/01/2006	15:24	13.9	7.0	16.5	32.6	8.6	8.2	±0
KLW		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:15	13.8	12.8	17.1	31.9	8.8	8.3	2.8
	19/01/2006	08:20	13.5	12.5	17.1	31.8	8.1	8.2	±0
	21/01/2006	15:10	13.4	12.4	17.1	31.6	8.0	8.4	±0
	23/01/2006	15:23	13.9	12.9	16.5	32.6	8.6	8.2	±0
KLW		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:08	0.0	1.0	18.7	32.2	8.7	8.3	±0
	19/01/2006	13:53	0.0	1.0	18.6	32.4	8.0	8.4	±0
	21/01/2006	08:12	0.0	1.0	17.3	31.7	8.0	8.5	±0
	23/01/2006	08:11	0.0	1.0	16.5	31.8	8.5	8.2	±0
KLW		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:07	13.6	6.8	17.5	32.1	8.9	8.3	±0
	19/01/2006	13:52	13.8	6.9	17.7	32.5	8.2	8.4	±0
	21/01/2006	08:11	13.4	6.7	17.3	31.8	8.0	8.5	±0
	23/01/2006	08:10	12.8	6.4	16.5	31.8	8.4	8.2	±0
KLW		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:06	13.6	12.6	17.1	32.2	8.8	8.2	2.7
	19/01/2006	13:51	13.8	12.8	17.2	32.5	8.0	8.4	±0
	21/01/2006	08:10	13.4	12.4	17.1	31.7	8.1	8.4	±0
	23/01/2006	08:09	12.8	11.8	16.5	31.8	8.4	8.2	±0

Depth-averaged	
KLW	SS (mg/L)
16/01/2006	3.8
19/01/2006	4.0
21/01/2006	3.8
23/01/2006	4.2

Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

M A		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:37	7.6	1.0	18.4	32.0	8.6	8.4	±0
	19/01/2006	08:42	7.2	1.0	18.7	31.8	7.6	8.3	±0
	21/01/2006	15:32	7.5	1.0	17.5	32.0	8.3	8.4	±0
	23/01/2006	15:45	8.2	1.0	16.5	32.5	8.5	8.2	±0
M A		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:36	7.6	3.8	18.2	32.0	8.7	8.4	±0
	19/01/2006	08:41	7.2	3.6	18.5	31.8	7.4	8.3	±0
	21/01/2006	15:31	7.5	3.8	17.4	32.1	8.0	8.4	±0
	23/01/2006	15:44	8.2	4.1	16.4	32.5	8.5	8.2	1.0
M A		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:35	7.6	6.6	17.8	32.1	8.7	8.4	±0
	19/01/2006	08:40	7.2	6.2	17.7	31.9	8.0	8.3	1.5
	21/01/2006	15:30	7.5	6.5	17.2	31.8	7.9	8.4	±0
	23/01/2006	15:43	8.2	7.2	16.4	32.5	8.4	8.2	1.2
M A		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:28	7.2	1.0	19.0	32.2	8.6	8.3	±0
	19/01/2006	14:12	7.6	1.0	18.5	32.4	8.4	8.4	±0
	21/01/2006	08:33	7.6	1.0	17.6	31.8	8.1	8.5	±0
	23/01/2006	08:28	8.0	1.0	16.3	31.9	8.3	8.3	±0
M A		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:27	7.2	3.6	18.3	32.2	8.7	8.3	±0
	19/01/2006	14:11	7.6	3.8	18.3	32.4	8.5	8.4	±0
	21/01/2006	08:32	7.6	3.8	17.4	31.9	8.4	8.5	±0
	23/01/2006	08:27	8.0	4.0	16.3	31.8	8.3	8.3	±0
M A		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:26	7.2	6.2	18.0	32.2	8.7	8.3	±0
	19/01/2006	14:10	7.6	6.6	18.1	32.4	8.5	8.4	±0
	21/01/2006	08:31	7.6	6.6	17.3	31.9	8.5	8.5	±0
	23/01/2006	08:26	8.0	7.0	16.3	31.8	8.3	8.3	±0

Depth-averaged	
M A	SS (mg/L)
16/01/2006	3.3
19/01/2006	3.3
21/01/2006	4.5
23/01/2006	3.3

Remarks:

< detection limit Grey

M Marsh		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:51	7.7	1.0	18.1	32.4	8.9	8.4	±0
	19/01/2006	08:57	7.4	1.0	18.4	32.0	8.4	8.3	±0
	21/01/2006	15:47	7.8	1.0	17.3	32.0	8.2	8.4	±0
	23/01/2006	16:00	8.1	1.0	16.3	32.8	8.3	8.2	±0
M Marsh		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:50	7.7	3.9	18.0	32.4	8.8	8.4	±0
	19/01/2006	08:56	7.4	3.7	18.4	32.0	8.4	8.3	±0
	21/01/2006	15:46	7.8	3.9	17.3	32.1	8.4	8.4	±0
	23/01/2006	15:59	8.1	4.1	16.1	32.8	8.3	8.2	±0
M Marsh		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:49	7.7	6.7	17.5	32.3	8.6	8.4	±0
	19/01/2006	08:55	7.4	6.4	17.5	32.0	8.1	8.3	3.0
	21/01/2006	15:45	7.8	6.8	17.4	32.2	8.3	8.4	±0
	23/01/2006	15:58	8.1	7.1	16.0	32.8	8.3	8.2	1.1
M Marsh		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:41	7.7	1.0	18.9	32.2	9.1	8.4	±0
	19/01/2006	14:24	7.9	1.0	18.4	32.4	8.3	8.4	±0
	21/01/2006	08:48	7.5	1.0	17.4	32.0	8.5	8.4	1.0
	23/01/2006	08:42	8.0	1.0	16.0	32.1	8.1	8.3	±0
M Marsh		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:40	7.7	3.9	18.6	32.2	8.9	8.3	±0
	19/01/2006	14:23	7.9	4.0	18.3	32.4	8.3	8.4	±0
	21/01/2006	08:47	7.5	3.8	17.4	32.0	8.8	8.4	1.0
	23/01/2006	08:41	8.0	4.0	16.0	32.1	8.1	8.2	±0
M Marsh		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:39	7.7	6.7	17.1	32.2	8.7	8.3	1.6
	19/01/2006	14:22	7.9	6.9	18.3	32.4	8.3	8.4	±0
	21/01/2006	08:46	7.5	6.5	17.4	32.0	8.8	8.4	±0
	23/01/2006	08:40	8.0	7.0	16.0	32.1	8.1	8.2	1.0

Depth-averaged	
M Marsh	SS (mg/L)
16/01/2006	3.8
19/01/2006	4.0
21/01/2006	5.0
23/01/2006	3.5

Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

TTC									
Surface									
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	09:00	9.5	1.0	18.0	32.5	8.8	8.4	±0
	19/01/2006	09:06	9.5	1.0	18.3	32.4	8.6	8.4	±0
	21/01/2006	15:52	9.4	1.0	17.5	32.2	8.1	8.4	±0
	23/01/2006	16:10	9.9	1.0	16.1	32.9	8.1	8.2	±0
TTC									
Middle									
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:59	9.5	4.8	17.0	32.5	8.7	8.4	±0
	19/01/2006	09:05	9.5	4.8	18.0	32.4	8.9	8.4	±0
	21/01/2006	15:51	9.4	4.7	17.5	32.4	8.0	8.4	±0
	23/01/2006	16:09	9.9	5.0	16.0	32.9	8.1	8.2	1.0
TTC									
Bottom									
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	08:58	9.5	8.5	16.8	32.4	8.6	8.3	1.1
	19/01/2006	09:04	9.5	8.5	17.2	32.4	8.0	8.4	±0
	21/01/2006	15:50	9.4	8.4	17.4	32.1	8.1	8.4	±0
	23/01/2006	16:08	9.9	8.9	16.0	32.9	8.2	8.2	1.3
TTC									
Surface									
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:51	9.6	1.0	18.6	32.3	9.1	8.4	±0
	19/01/2006	14:32	9.7	1.0	18.4	32.6	8.4	8.4	±0
	21/01/2006	08:55	9.2	1.0	17.4	32.2	8.8	8.4	±0
	23/01/2006	08:50	9.5	1.0	16.0	32.2	8.1	8.3	±0
TTC									
Middle									
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:50	9.6	4.8	17.9	32.3	8.4	8.3	±0
	19/01/2006	14:31	9.7	4.9	18.3	32.6	8.3	8.4	±0
	21/01/2006	08:54	9.2	4.6	17.4	32.2	8.8	8.4	±0
	23/01/2006	08:49	9.5	4.8	16.0	32.2	8.1	8.3	±0
TTC									
Bottom									
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:49	9.6	8.6	16.9	32.3	8.5	8.3	1.7
	19/01/2006	14:30	9.7	8.7	18.3	32.6	8.2	8.4	±0
	21/01/2006	08:53	9.2	8.2	17.4	32.2	8.8	8.4	±0
	23/01/2006	08:48	9.5	8.5	16.0	32.2	8.1	8.2	1.0

Depth-averaged	
TTC	SS (mg/L)
16/01/2006	4.2
19/01/2006	4.2
21/01/2006	4.0
23/01/2006	2.7

Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

M BP		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	09:09	9.2	1.0	18.1	32.6	9.2	8.4	±0
	19/01/2006	09:16	9.9	1.0	18.4	32.6	8.4	8.4	±0
	21/01/2006	16:03	9.4	1.0	17.2	32.6	8.3	8.4	±0
	23/01/2006	16:20	9.7	1.0	16.2	33.1	8.0	8.2	±0
M BP		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	09:08	9.2	4.6	17.1	32.6	9.3	8.4	±0
	19/01/2006	09:15	9.9	5.0	18.4	32.6	8.4	8.4	±0
	21/01/2006	16:02	9.4	4.7	17.3	32.6	8.5	8.4	±0
	23/01/2006	16:19	9.7	4.9	16.0	33.1	8.0	8.2	±0
M BP		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	09:07	9.2	8.2	16.9	32.6	9.0	8.4	±0
	19/01/2006	09:14	9.9	8.9	17.6	32.6	8.9	8.4	±0
	21/01/2006	16:01	9.4	8.4	17.3	32.6	8.2	8.4	±0
	23/01/2006	16:18	9.7	8.7	16.0	33.1	8.1	8.2	±0
M BP		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:59	9.6	1.0	18.7	32.3	9.2	8.4	±0
	19/01/2006	14:39	10.0	1.0	18.4	32.7	8.4	8.4	±0
	21/01/2006	09:03	9.3	1.0	17.3	32.6	8.7	8.4	±0
	23/01/2006	08:57	8.9	1.0	15.9	32.5	8.1	8.2	1.0
M BP		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:58	9.6	4.8	17.9	32.5	8.9	8.4	±0
	19/01/2006	14:38	10.0	5.0	18.2	32.7	8.4	8.4	±0
	21/01/2006	09:02	9.3	4.7	17.3	32.6	8.7	8.4	±0
	23/01/2006	08:56	8.9	4.5	15.9	32.5	8.1	8.2	1.0
M BP		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	12:57	9.6	8.6	17.0	32.4	9.0	8.4	1.4
	19/01/2006	14:37	10.0	9.0	17.4	32.7	8.1	8.4	1.4
	21/01/2006	09:01	9.3	8.3	17.3	32.6	8.7	8.4	±0
	23/01/2006	08:55	8.9	7.9	15.9	32.5	8.1	8.2	1.1

M BP	Depth-averaged SS (mg/L)
16/01/2006	3.0
19/01/2006	3.3
21/01/2006	3.5
23/01/2006	2.3

Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

M Coral		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	09:57	7.1	1.0	18.1	32.9	9.3	8.3	±0
	19/01/2006	10:11	7.2	1.0	18.0	32.8	8.8	8.4	±0
	21/01/2006	16:12	7.4	1.0	17.2	32.9	8.4	8.4	±0
	23/01/2006	16:32	7.7	1.0	16.4	33.1	8.2	8.2	1.0
M Coral		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	09:56	7.1	3.6	17.7	32.8	9.3	8.3	±0
	19/01/2006	10:10	7.2	3.6	17.8	32.8	8.9	8.4	±0
	21/01/2006	16:11	7.4	3.7	17.3	32.8	8.5	8.4	±0
	23/01/2006	16:31	7.7	3.9	16.2	33.1	8.3	8.2	1.1
M Coral		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	09:55	7.1	6.1	17.5	32.9	9.3	8.3	±0
	19/01/2006	10:09	7.2	6.2	17.6	32.8	8.8	8.4	±0
	21/01/2006	16:10	7.4	6.4	17.2	32.8	8.4	8.4	±0
	23/01/2006	16:30	7.7	6.7	16.1	33.1	8.4	8.2	±0
M Coral		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	13:12	7.2	1.0	17.9	32.9	9.2	8.3	±0
	19/01/2006	14:49	7.3	1.0	18.1	32.9	8.6	8.5	±0
	21/01/2006	10:05	7.5	1.0	17.2	32.8	8.8	8.4	±0
	23/01/2006	09:51	7.8	1.0	16.1	32.6	8.4	8.3	1.0
M Coral		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	13:11	7.2	3.6	17.5	32.6	9.4	8.3	±0
	19/01/2006	14:48	7.3	3.7	17.6	32.8	8.7	8.5	±0
	21/01/2006	10:04	7.5	3.8	17.2	32.8	8.6	8.4	±0
	23/01/2006	09:50	7.8	3.9	16.1	32.7	8.3	8.3	1.1
M Coral		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	13:10	7.2	6.2	17.3	32.4	9.2	8.3	±0
	19/01/2006	14:47	7.3	6.3	17.4	32.8	8.7	8.5	±0
	21/01/2006	10:03	7.5	6.5	17.2	32.8	8.9	8.4	±0
	23/01/2006	09:49	7.8	6.8	16.1	32.7	8.3	8.3	1.4

Depth-averaged	
M Coral	SS (mg/L)
16/01/2006	5.0
19/01/2006	3.3
21/01/2006	4.2
23/01/2006	3.2

Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

M B		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	10:42	17.2	1.0	17.9	32.6	9.5	8.3	±0
	19/01/2006	11:19	17.3	1.0	17.4	32.7	8.9	8.4	±0
	21/01/2006	16:22	17.3	1.0	17.1	32.6	8.8	8.4	±0
	23/01/2006	16:42	17.0	1.0	16.6	33.0	8.6	8.2	±0
M B		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	10:41	17.2	8.6	16.8	32.6	9.5	8.3	±0
	19/01/2006	11:18	17.3	8.7	17.3	32.7	8.9	8.4	±0
	21/01/2006	16:21	17.3	8.7	17.2	32.6	8.9	8.4	±0
	23/01/2006	16:41	17.0	8.5	16.4	33.0	8.6	8.2	±0
M B		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	10:40	17.2	16.2	16.5	32.6	9.0	8.2	1.7
	19/01/2006	11:17	17.3	16.3	17.2	32.7	8.8	8.4	±0
	21/01/2006	16:20	17.3	16.3	17.2	32.6	9.0	8.4	±0
	23/01/2006	16:40	17.0	16.0	16.4	32.9	8.6	8.2	±0
M B		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	13:23	17.0	1.0	17.7	32.6	9.3	8.3	±0
	19/01/2006	15:03	17.1	1.0	17.4	32.9	8.7	8.5	±0
	21/01/2006	11:06	17.5	1.0	17.1	32.6	8.9	8.4	±0
	23/01/2006	10:44	16.9	1.0	16.3	32.7	8.6	8.3	1.0
M B		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	13:22	17.0	8.5	16.6	32.6	9.5	8.3	±0
	19/01/2006	15:02	17.1	8.6	17.3	32.9	8.7	8.5	±0
	21/01/2006	11:05	17.5	8.8	17.1	32.6	9.0	8.4	±0
	23/01/2006	10:43	16.9	8.5	16.3	32.7	8.6	8.3	±0
M B		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	13:21	17.0	16.0	16.5	32.7	8.9	8.2	±0
	19/01/2006	15:01	17.1	16.1	17.3	32.9	8.6	8.5	±0
	21/01/2006	11:04	17.5	16.5	17.1	32.6	9.1	8.4	±0
	23/01/2006	10:42	16.9	15.9	16.3	32.7	8.6	8.3	±0

M B		Depth-averaged
		SS (mg/L)
16/01/2006		3.0
19/01/2006		3.5
21/01/2006		4.3

Remarks:

< detection limit Grey

KS		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	11:07	12.7	1.0	17.6	32.6	9.2	8.3	±0
	19/01/2006	11:47	11.6	1.0	17.4	32.8	8.6	8.4	±0
	21/01/2006	16:52	11.6	1.0	17.0	32.6	8.8	8.4	±0
	23/01/2006	17:12	12.3	1.0	16.8	32.9	8.5	8.3	±0
KS		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-ebb	16/01/2006	11:06	12.7	6.4	16.9	32.6	9.2	8.3	±0
	19/01/2006	11:46	11.6	5.8	17.4	32.8	8.8	8.4	±0
	21/01/2006	16:51	11.6	5.8	17.1	32.6	8.7	8.4	±0
	23/01/2006	17:11	12.3	6.2	16.7	32.9	8.5	8.2	±0
KS		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	13:40	11.8	10.8	16.5	32.6	8.9	8.3	±0
	19/01/2006	15:28	11.5	10.5	17.2	33.0	8.6	8.5	±0
	21/01/2006	11:35	11.3	10.3	17.0	32.6	8.2	8.4	±0
	23/01/2006	11:09	12.0	11.0	16.5	32.3	8.1	8.3	±0
KS		Surface							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	13:42	11.8	1.0	17.6	32.4	9.0	8.3	±0
	19/01/2006	15:30	11.5	1.0	17.4	33.0	8.6	8.5	±0
	21/01/2006	11:37	11.3	1.0	16.9	32.7	8.9	8.4	±0
	23/01/2006	11:11	12.0	1.0	16.5	32.4	8.1	8.3	±0
KS		Middle							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	13:41	11.8	5.9	16.8	32.6	9.3	8.2	±0
	19/01/2006	15:29	11.5	5.8	17.3	33.0	8.6	8.5	±0
	21/01/2006	11:36	11.3	5.7	17.0	32.6	8.6	8.4	±0
	23/01/2006	11:10	12.0	6.0	16.5	32.4	8.1	8.3	±0
KS		Bottom							
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
mid-flood	16/01/2006	13:40	11.8	10.8	16.5	32.6	8.9	8.3	±0
	19/01/2006	15:28	11.5	10.5	17.2	33.0	8.6	8.5	±0
	21/01/2006	11:35	11.3	10.3	17.0	32.6	8.2	8.4	±0
	23/01/2006	11:09	12.0	11.0	16.5	32.3	8.1	8.3	±0

KS		Depth-averaged SS (mg/L)
16/01/2006		3.3
19/01/2006		4.2
21/01/2006		3.3
23/01/2006		3.3

Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

F UA		Mid depth					
Date	time	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
16/01/2006	11:40	18.2	<0.1	9.7	7.4	2.3	2.0
19/01/2006	13:01	18.4	<0.1	9.8	7.6	3.7	3.0
21/01/2006	12:58	14.7	<0.1	9.7	7.6	3.4	2.0
23/01/2006	12:16	12.7	<0.1	10.0	7.8	2.3	2.0
F DA		Mid depth					
Date	time	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
16/01/2006	11:43	21.0	<0.1	9.6	7.9	2.2	3.0
19/01/2006	13:06	18.5	<0.1	9.9	7.8	3.5	3.0
21/01/2006	13:02	15.0	<0.1	9.9	7.9	3.5	2.0
23/01/2006	12:21	14.6	<0.1	10.2	7.7	2.0	2.0

Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

F UB	Mid depth						
Date	time	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
16/01/2006	11:33	18.9	<0.1	9.0	8.0	4.0	3.0
19/01/2006	12:44	18.6	<0.1	8.9	8.4	3.2	4.0
21/01/2006	12:43	15.0	<0.1	9.6	8.1	1.7	3.0
23/01/2006	12:03	13.7	<0.1	9.8	8.2	1.5	2.0
F DB	Mid depth						
Date	time	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
16/01/2006	09:30	17.6	<0.1	9.3	7.3	1.6	2.0
19/01/2006	09:43	18.5	<0.1	9.2	7.4	2.4	4.0
21/01/2006	09:40	15.0	<0.1	10.3	7.4	1.9	(6.0)*
23/01/2006	09:25	13.3	<0.1	10.1	7.4	2.0	2.0

Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

F UC	Mid depth						
Date	time	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
16/01/2006	09:38	19.9	<0.1	8.6	6.0	1.2	2.0
19/01/2006	10:48	19.0	<0.1	8.7	6.1	1.0	3.0
21/01/2006	10:37	16.3	<0.1	9.9	6.1	1.0	2.0
23/01/2006	10:14	15.0	<0.1	9.6	6.0	1.2	2.0
F DC	Mid depth						
Date	time	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
16/01/2006	09:43	18.3	<0.1	9.5	6.7	1.8	2.0
19/01/2006	11:01	18.7	<0.1	9.4	6.7	±0	3.0
21/01/2006	10:22	16.1	<0.1	10.0	6.9	3.3	2.0
23/01/2006	10:27	14.2	<0.1	9.7	6.7	±0	2.0

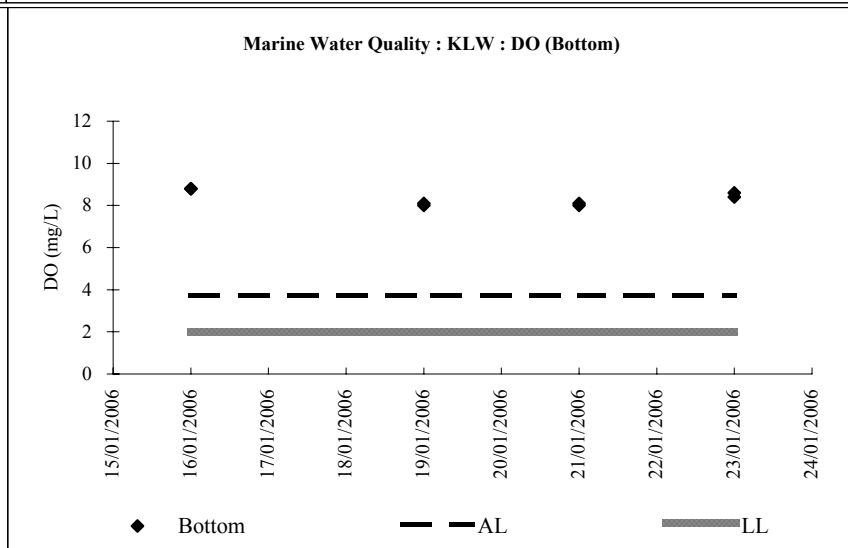
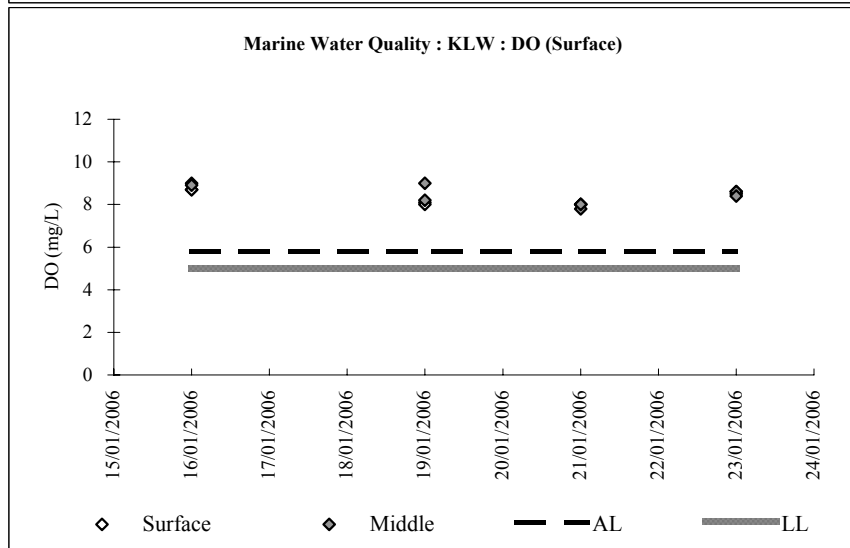
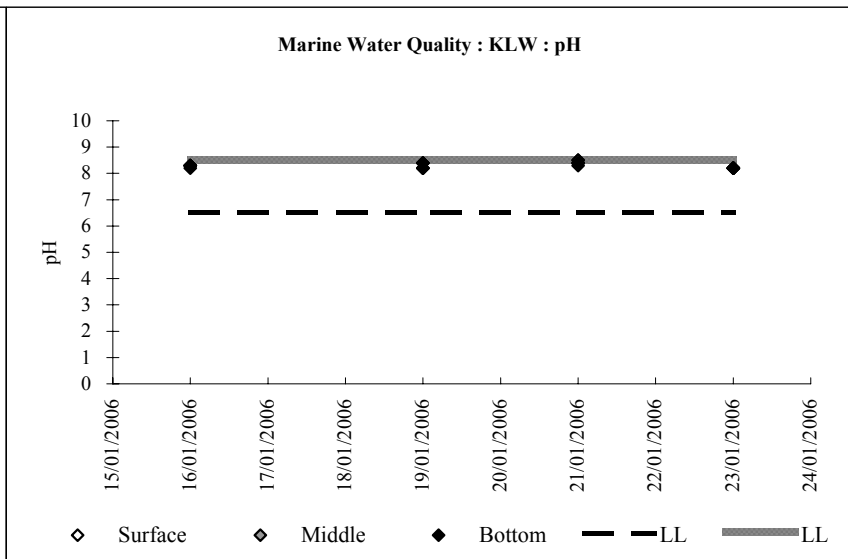
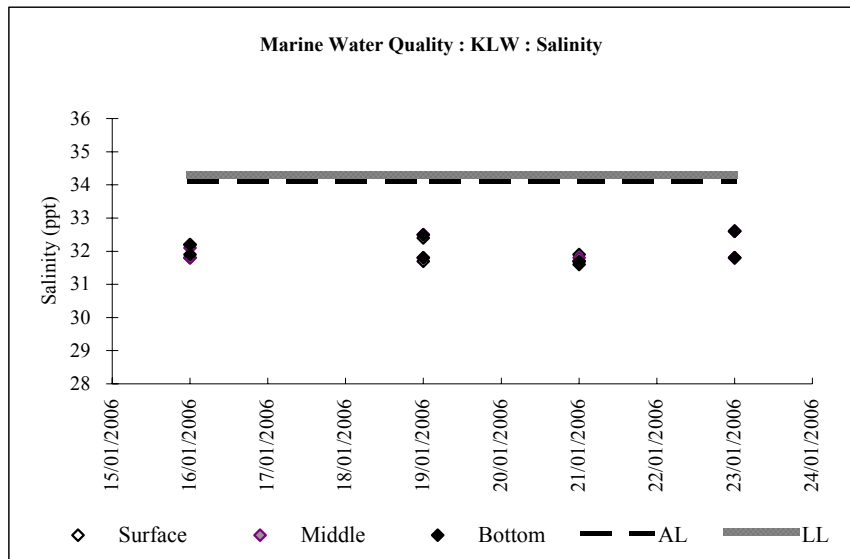
Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

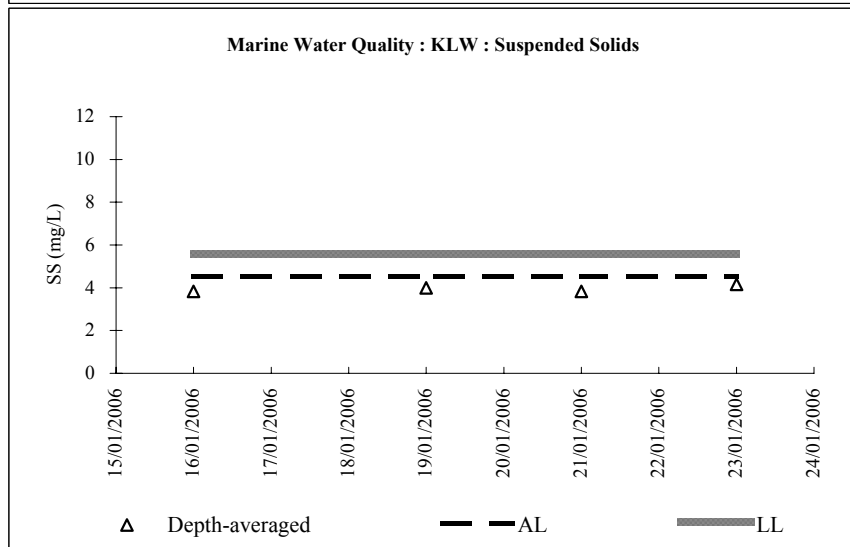
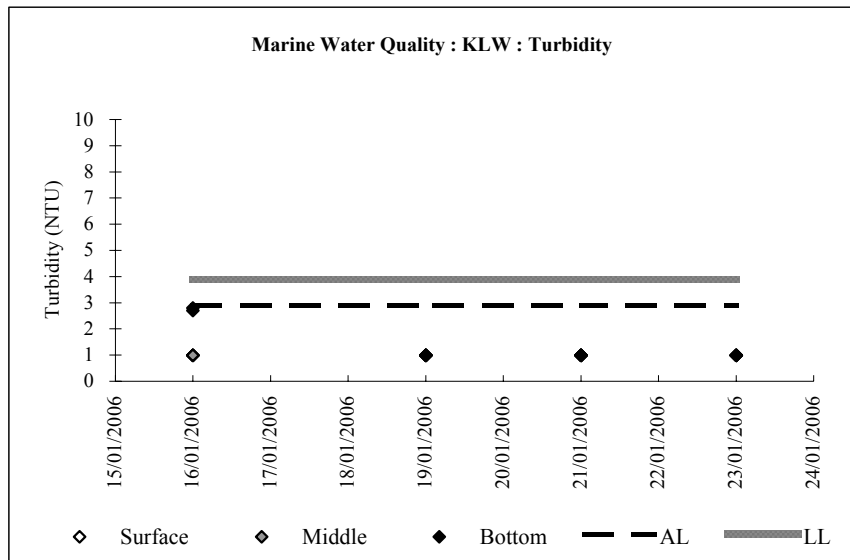
F Inland M		Mid depth							
Date	time	Water depth (m)	Sampling depth (m)	Temp (°C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
16/01/2006	11:52			19.4	<0.1	8.6	7.0	±0	2.0
19/01/2006	13:25			18.3	<0.1	8.9	7.2	1.6	3.0
21/01/2006	13:24			16.3	<0.1	9.2	6.9	2.3	2.0
23/01/2006	12:39			14.1	<0.1	9.4	7.0	1.4	2.0

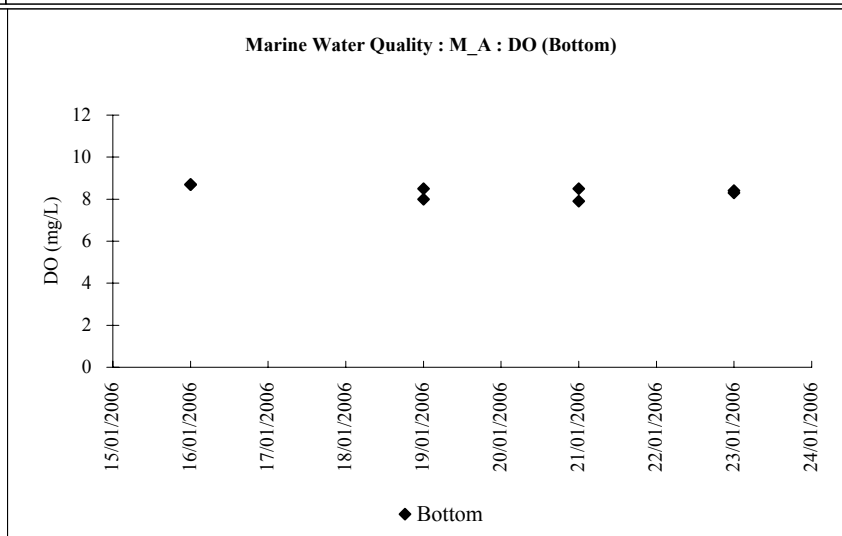
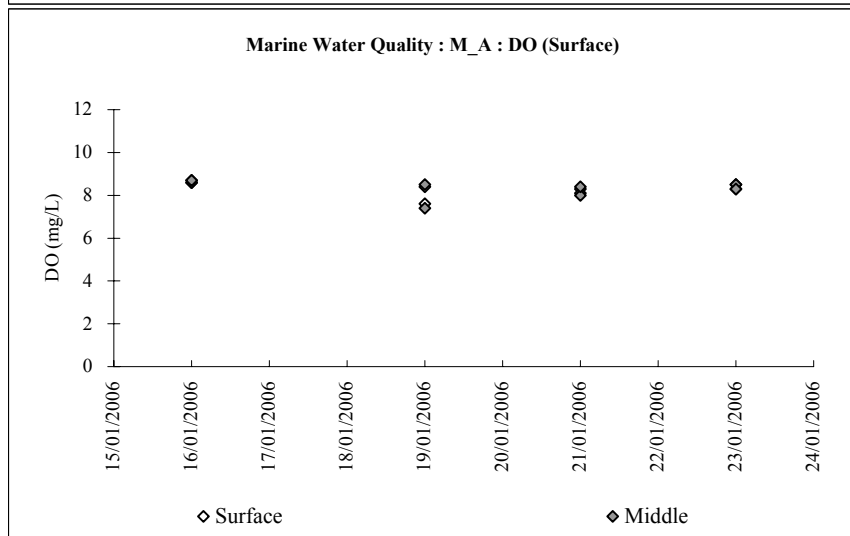
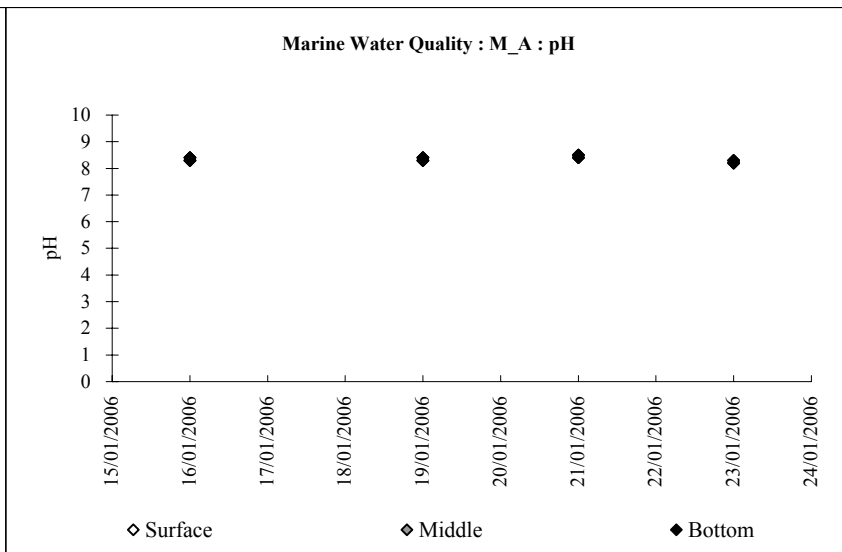
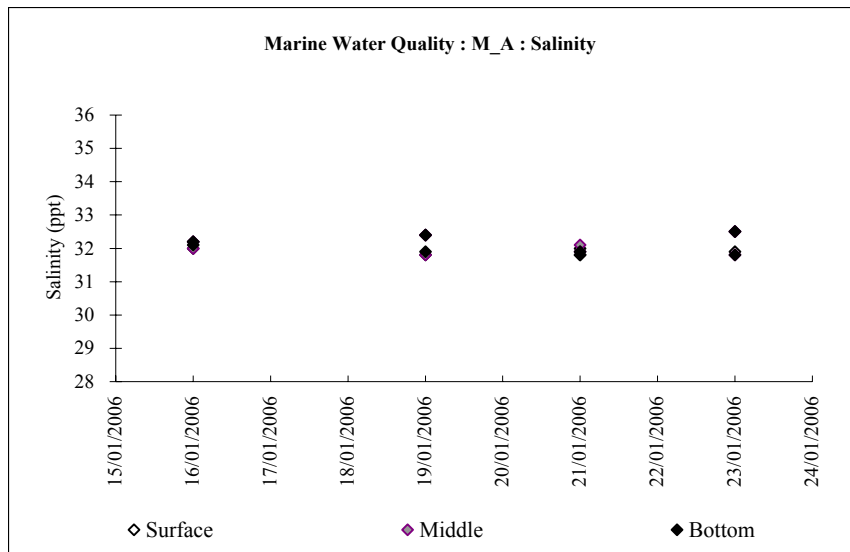
Remarks:

Action level	<i>Bold & Italic</i>
Limit level	Bold
< detection limit	Grey

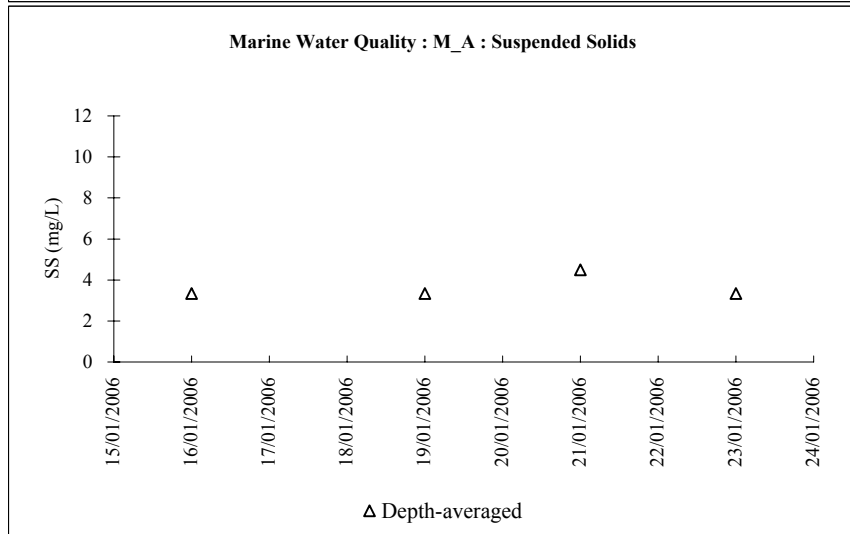
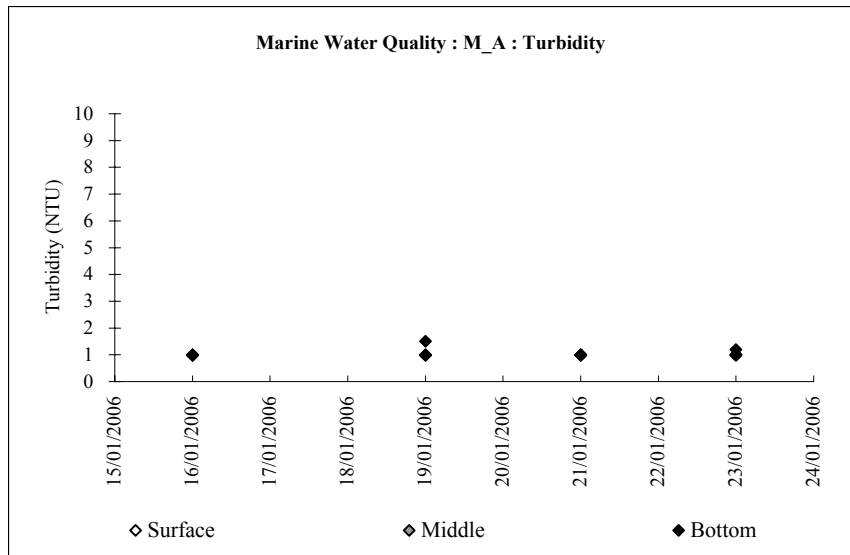


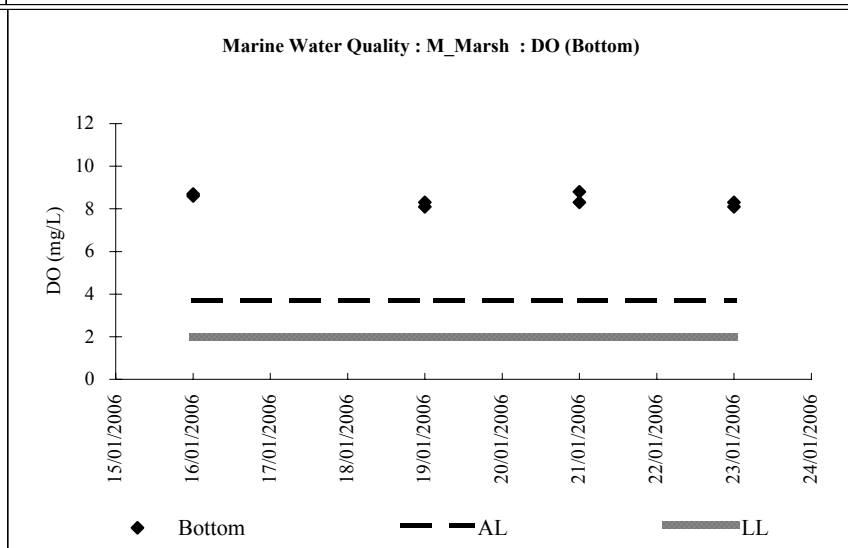
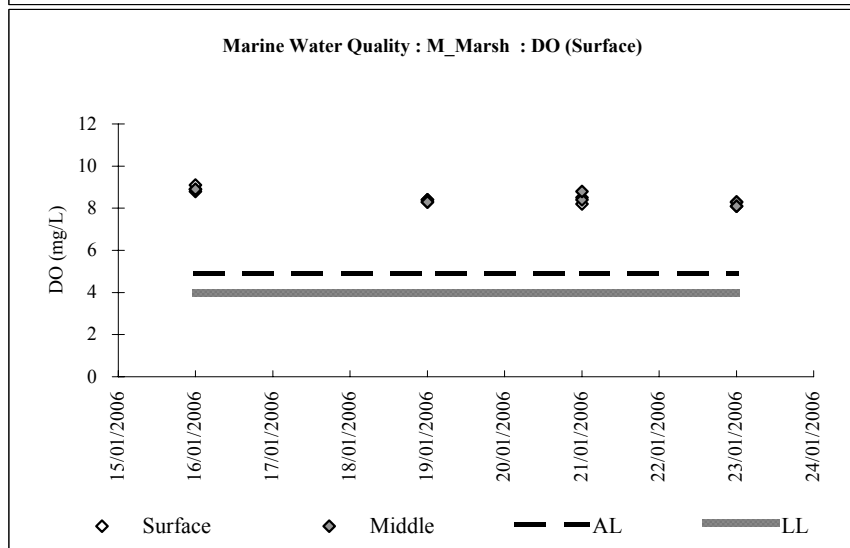
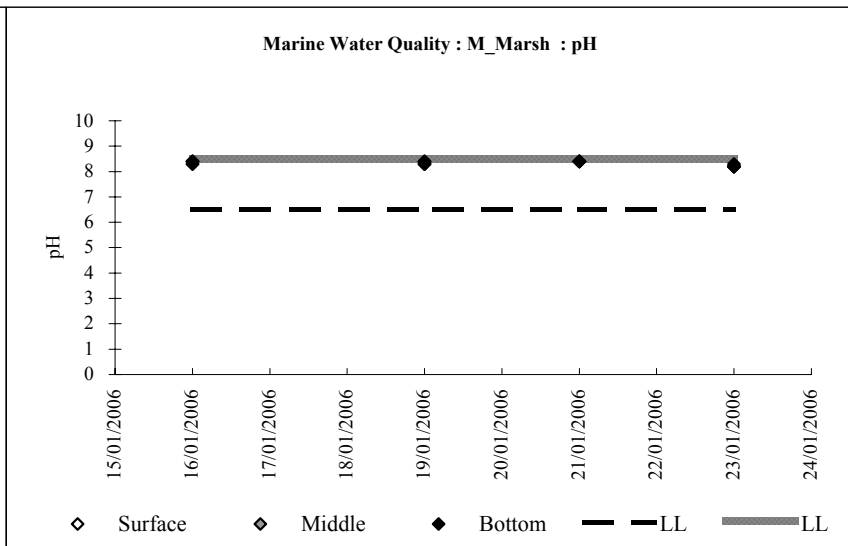
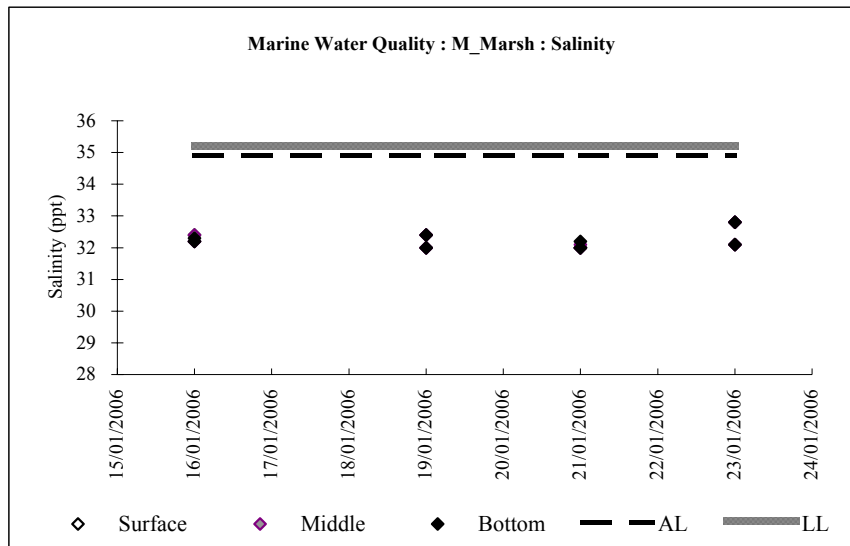
KLW



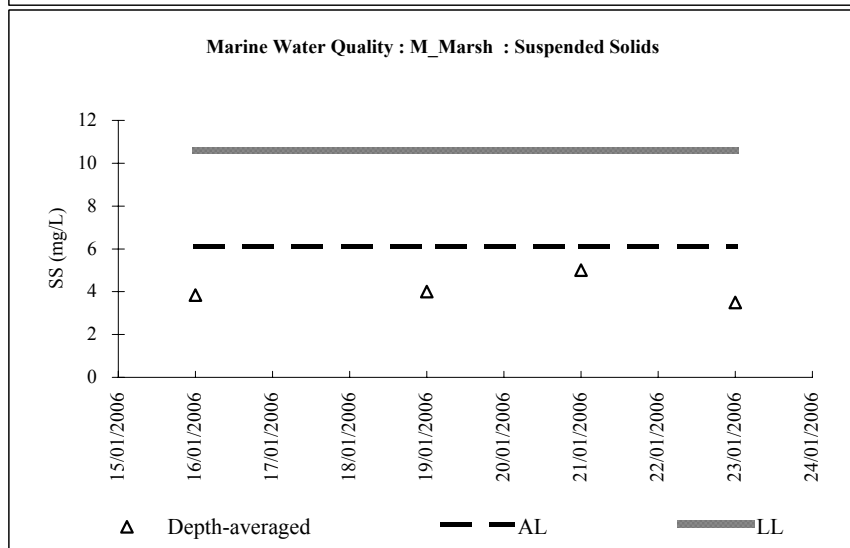
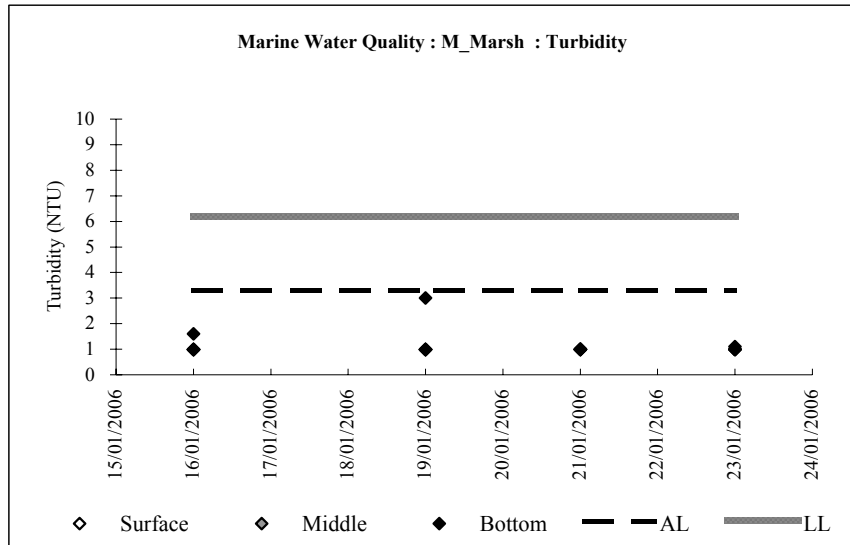


M_A

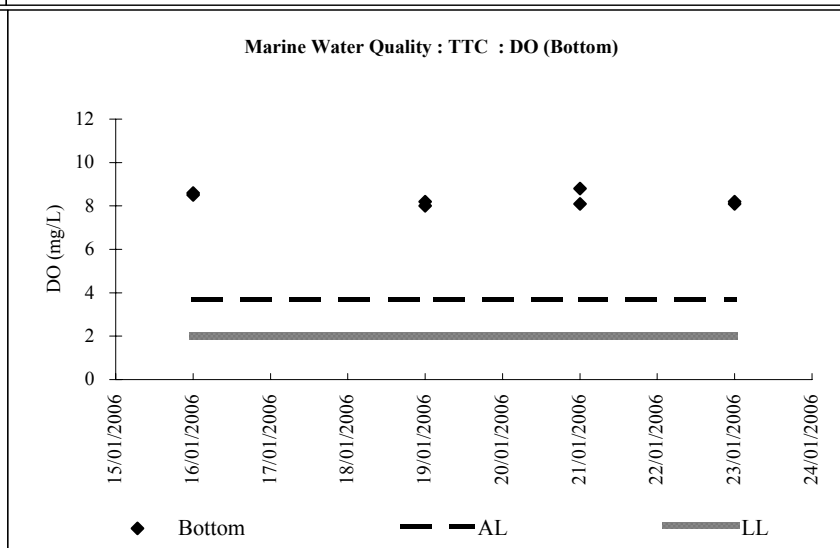
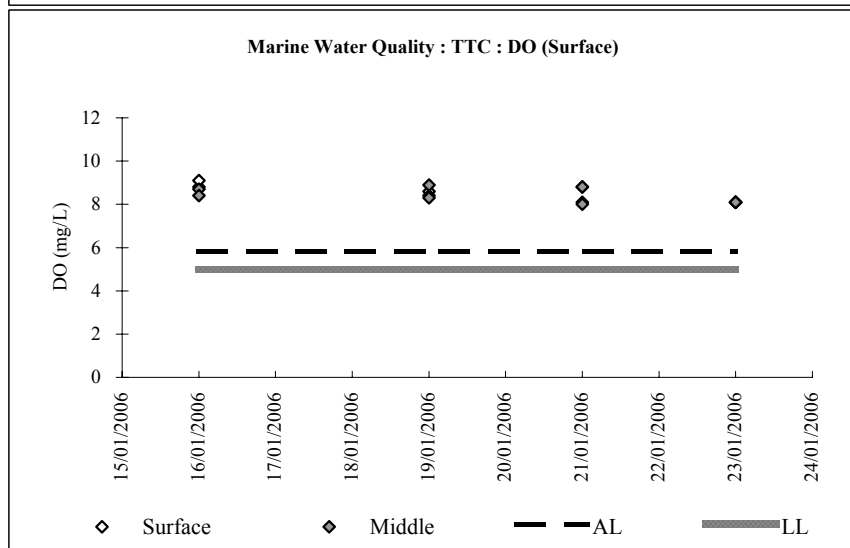
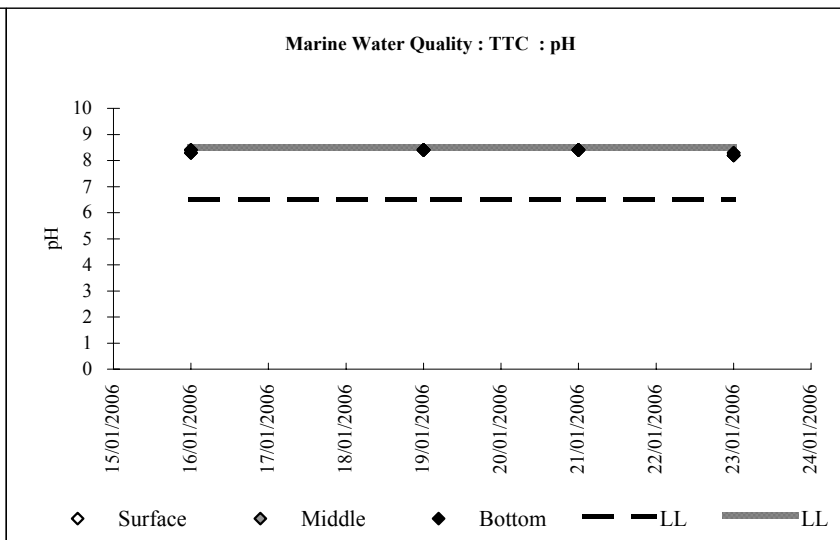
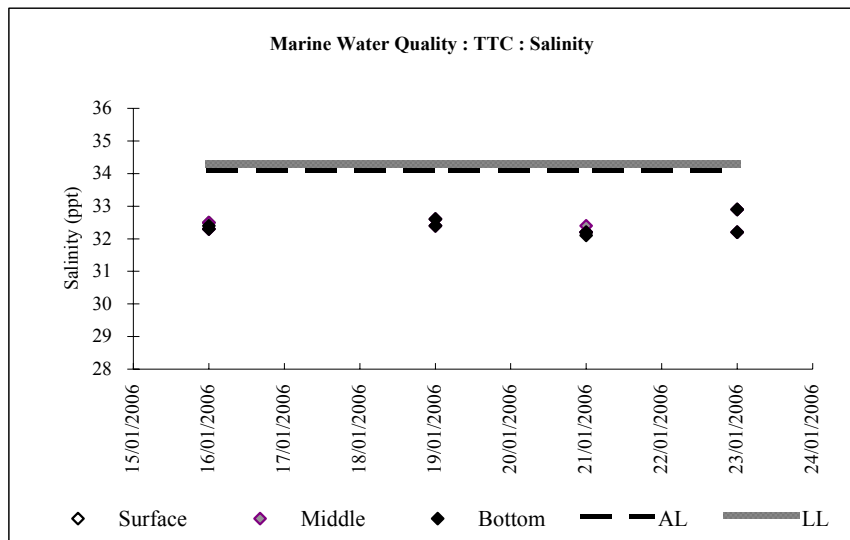


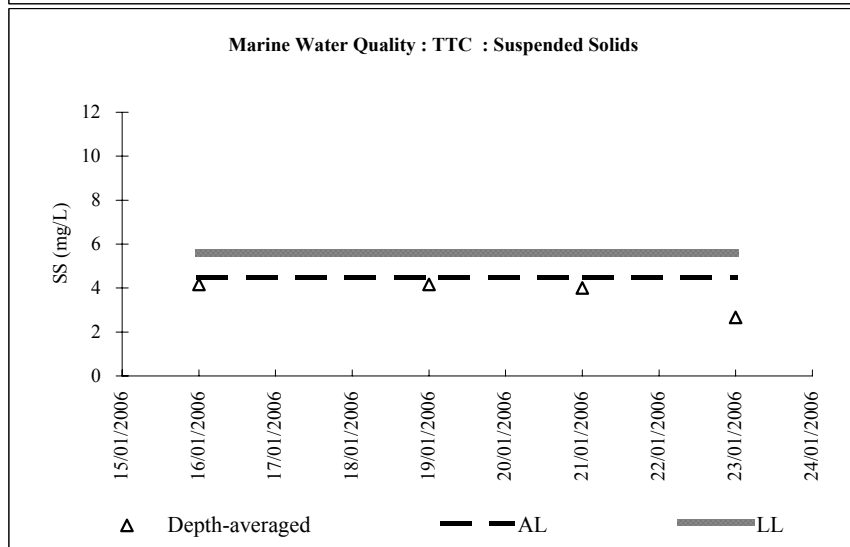
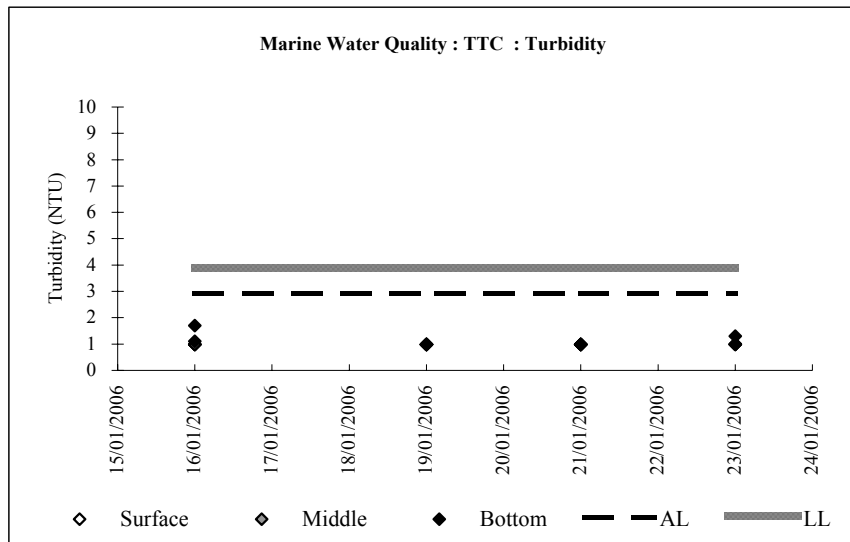


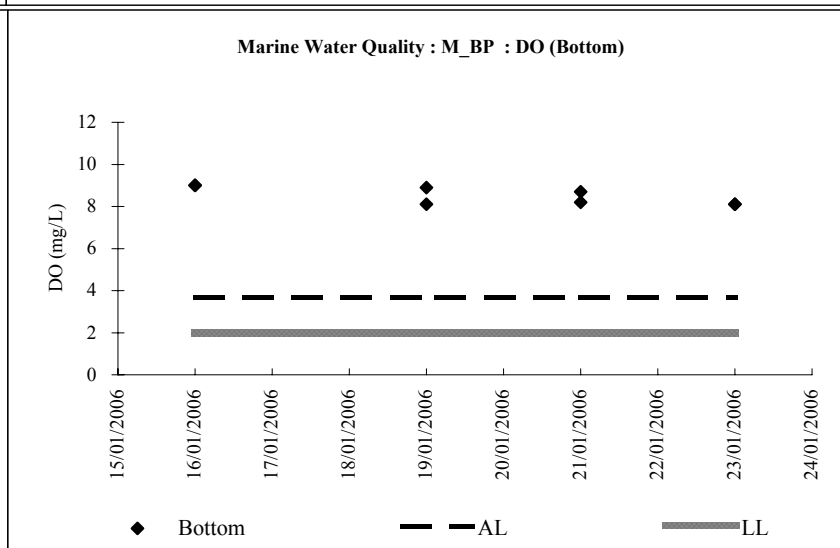
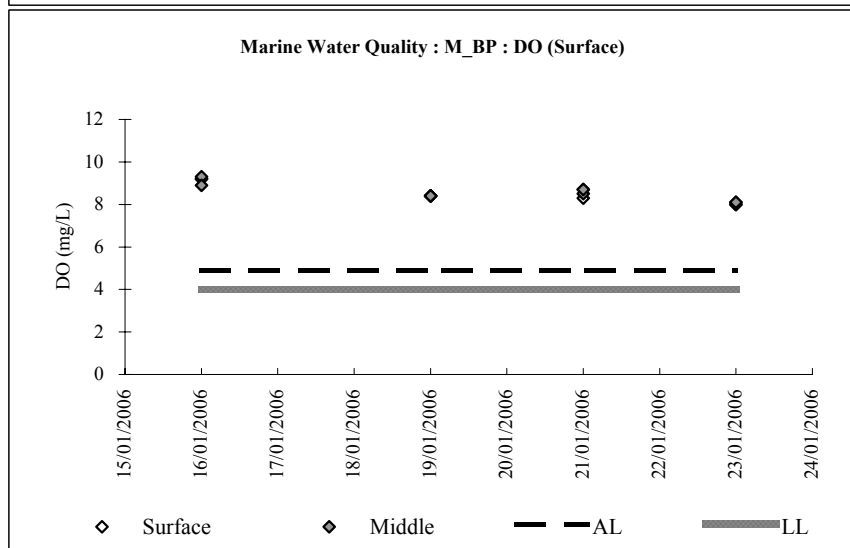
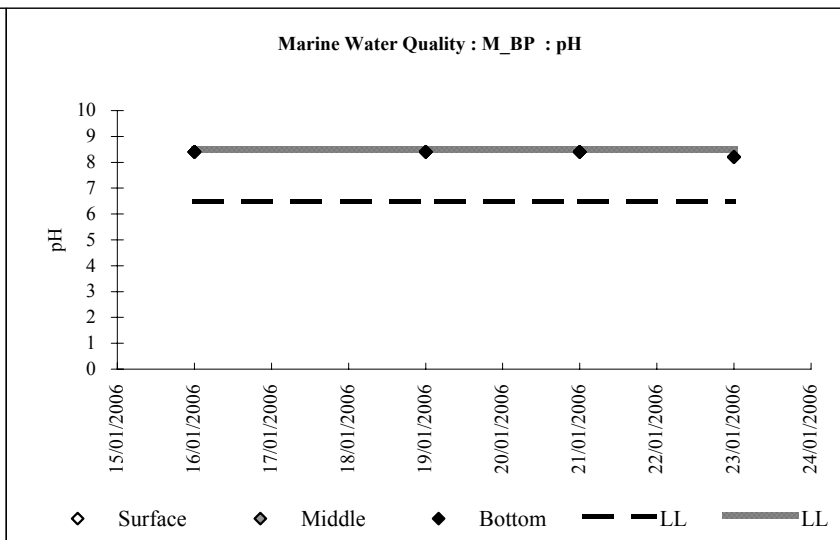
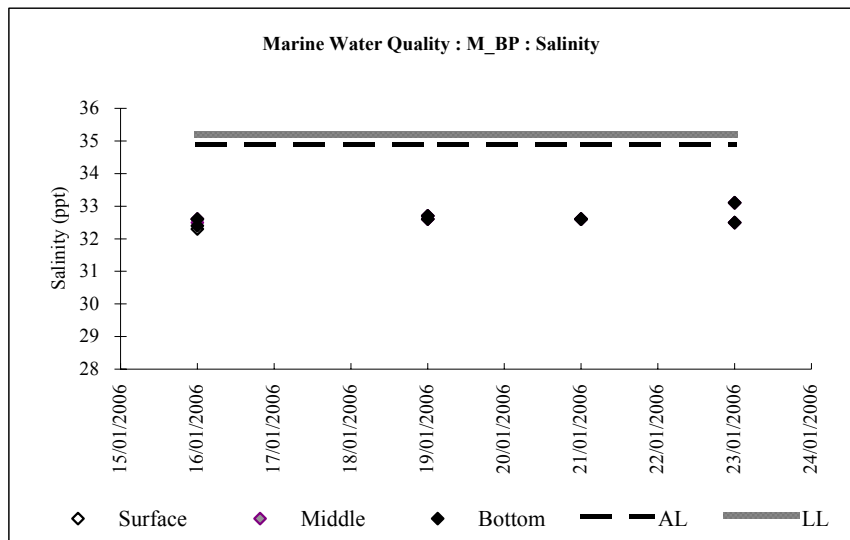
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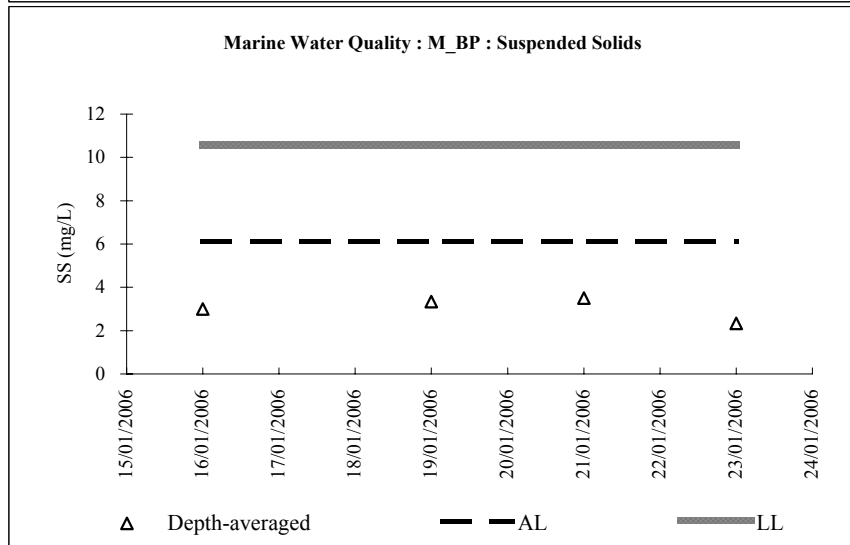
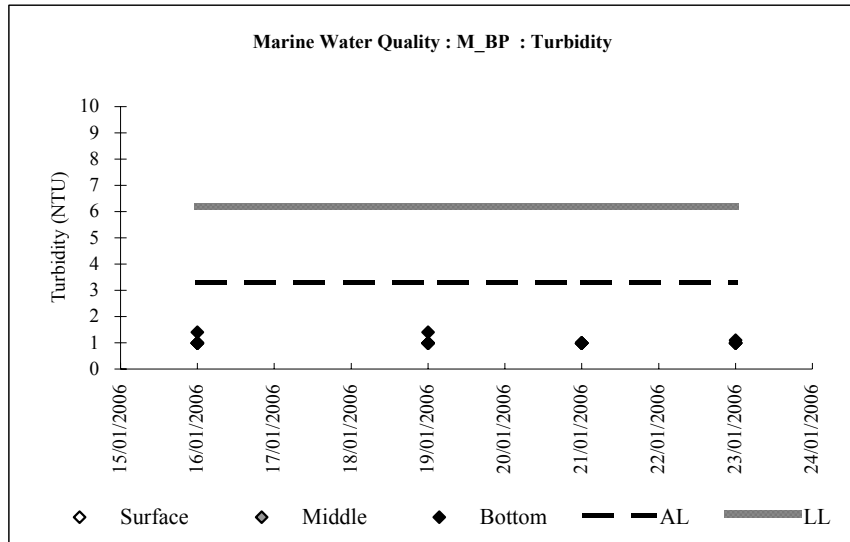
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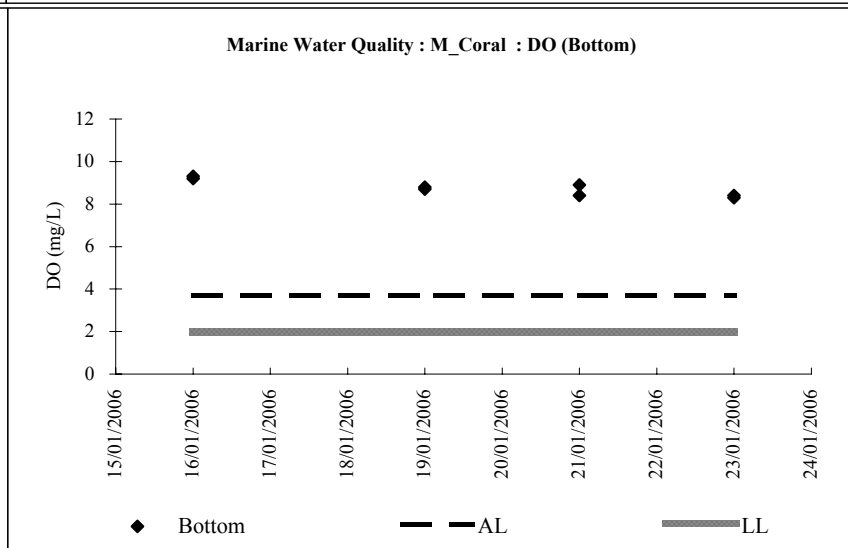
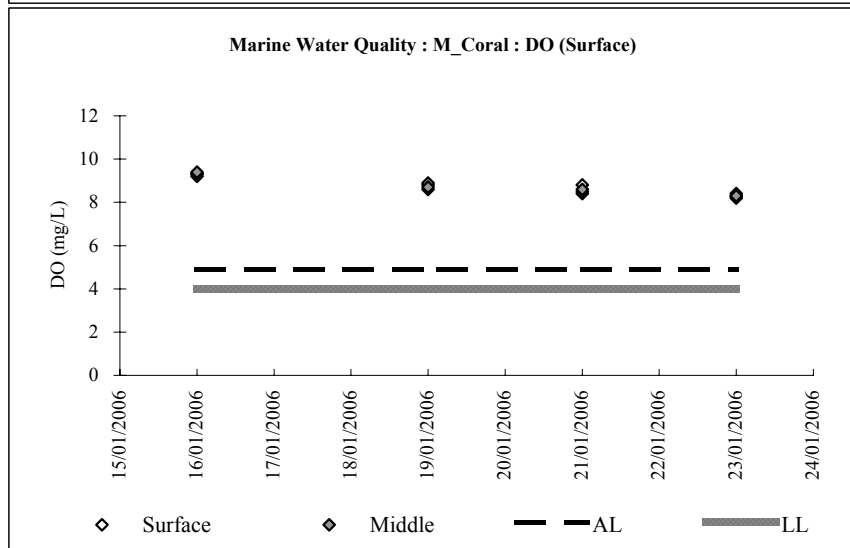
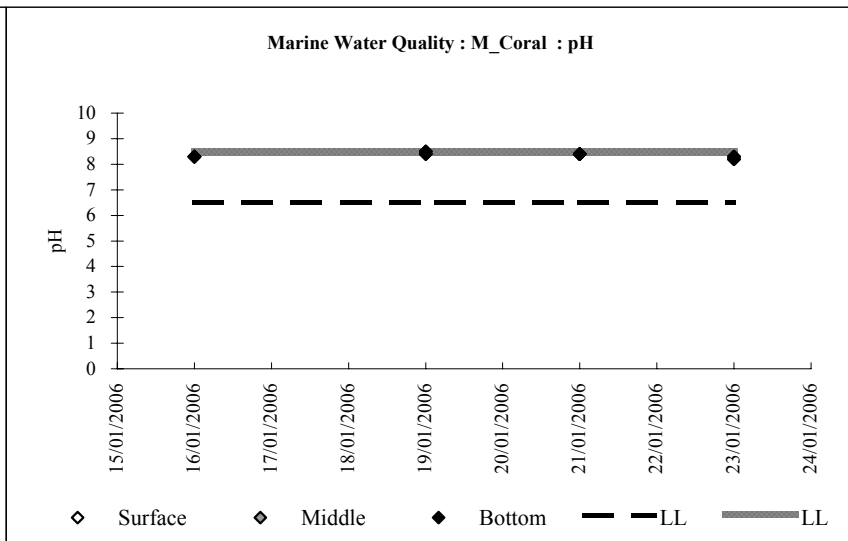
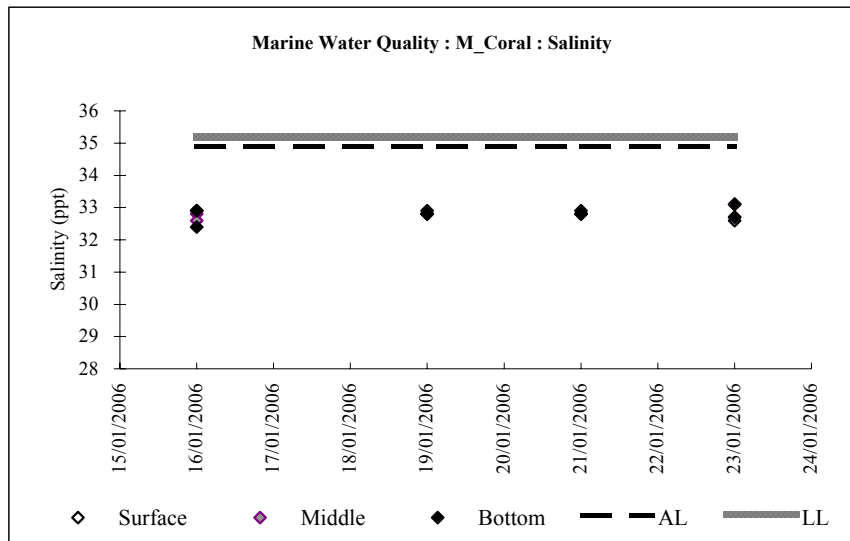




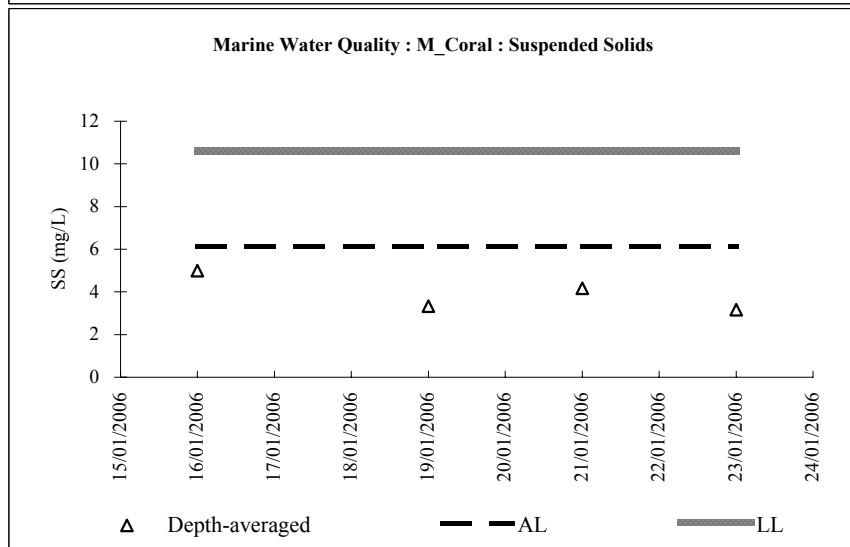
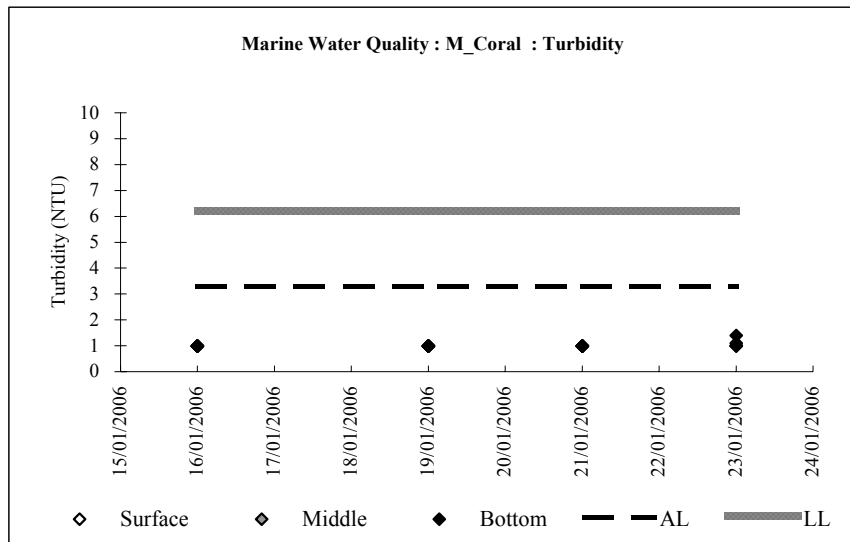
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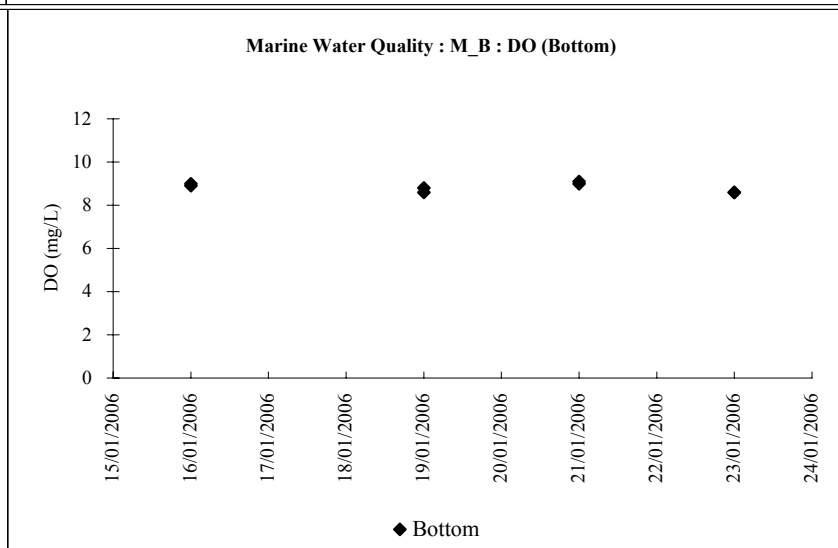
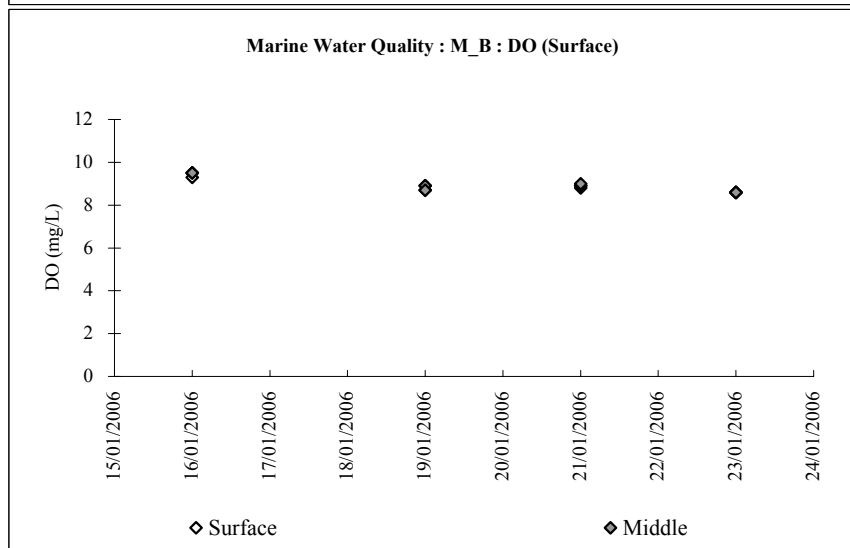
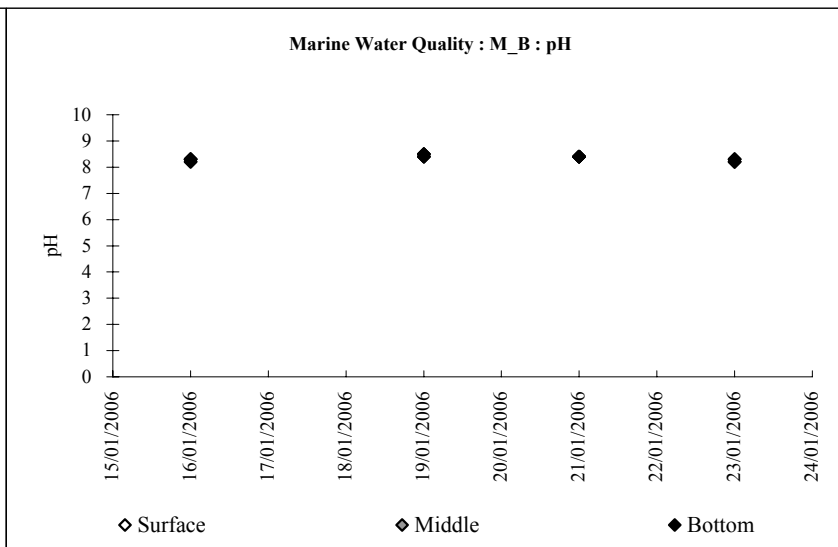
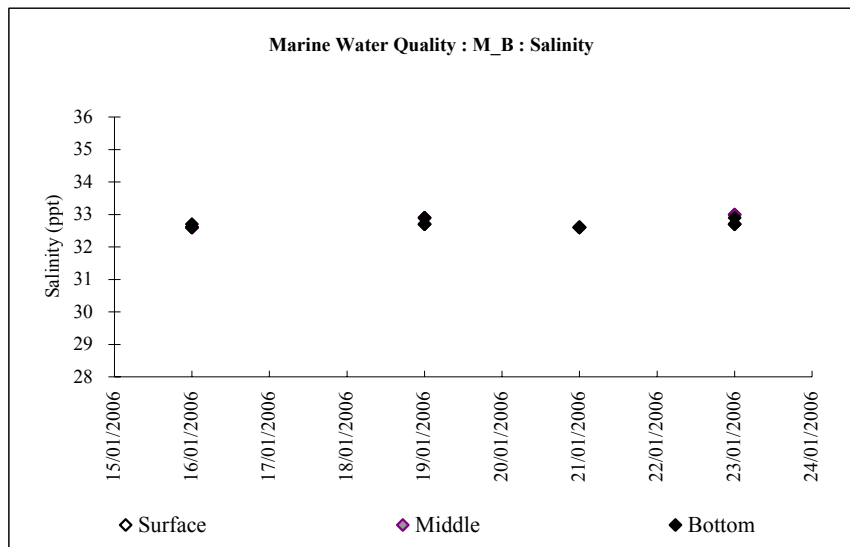
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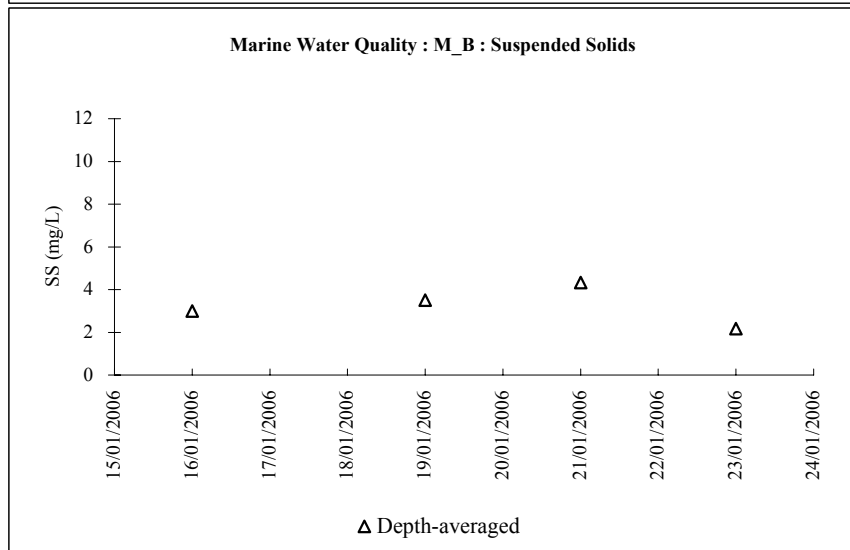
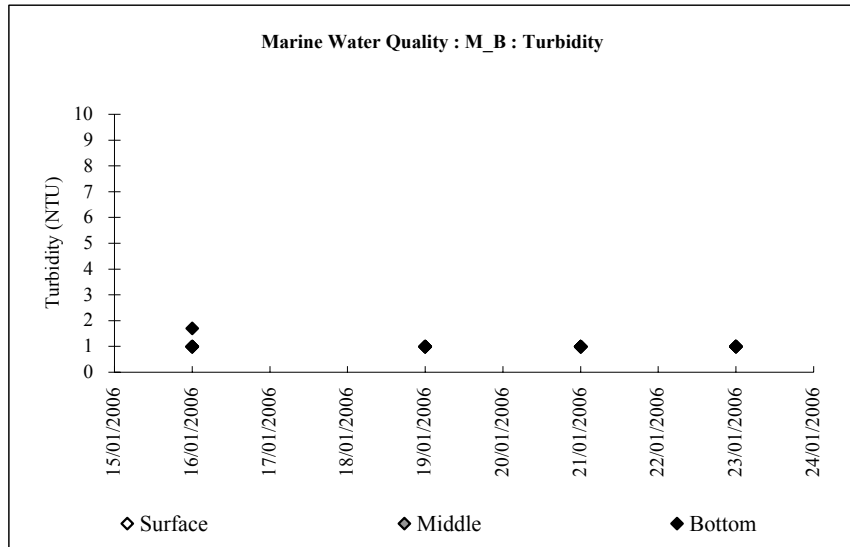
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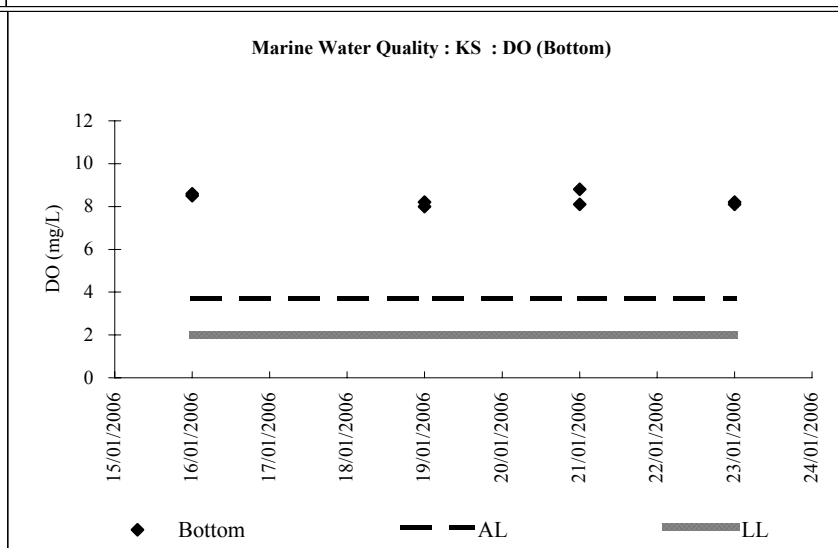
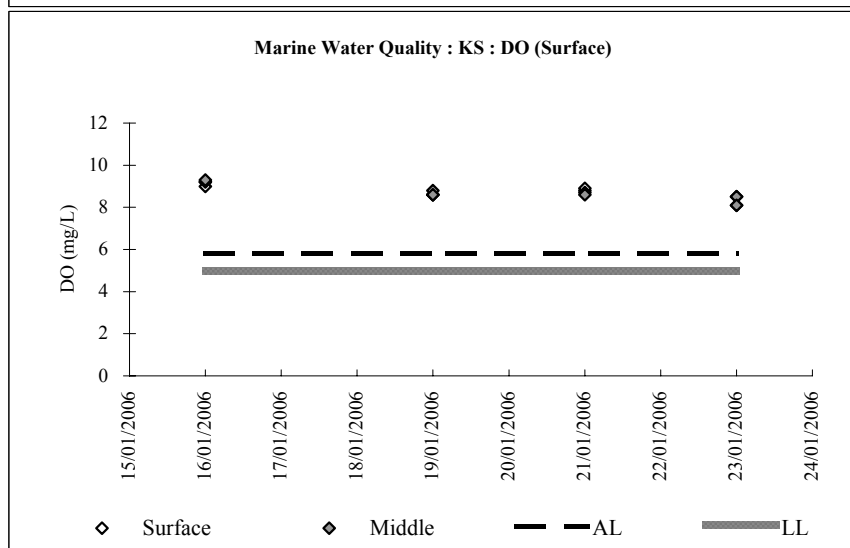
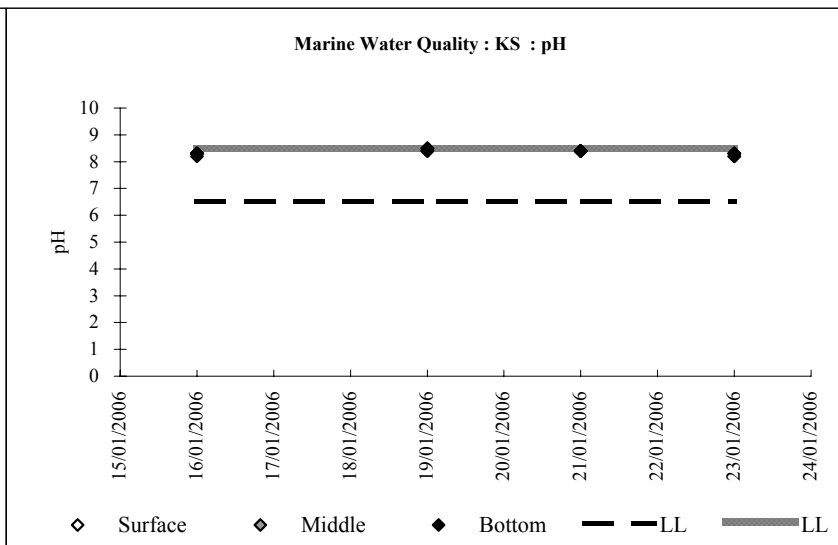
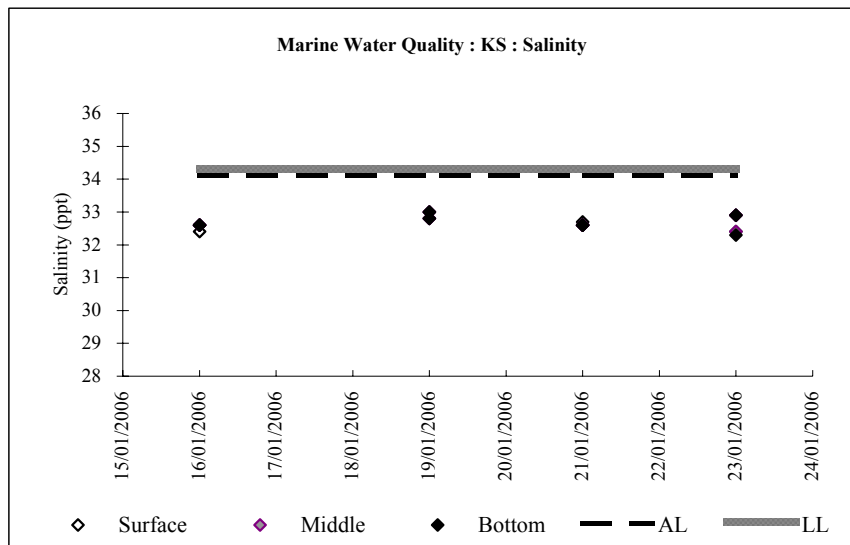
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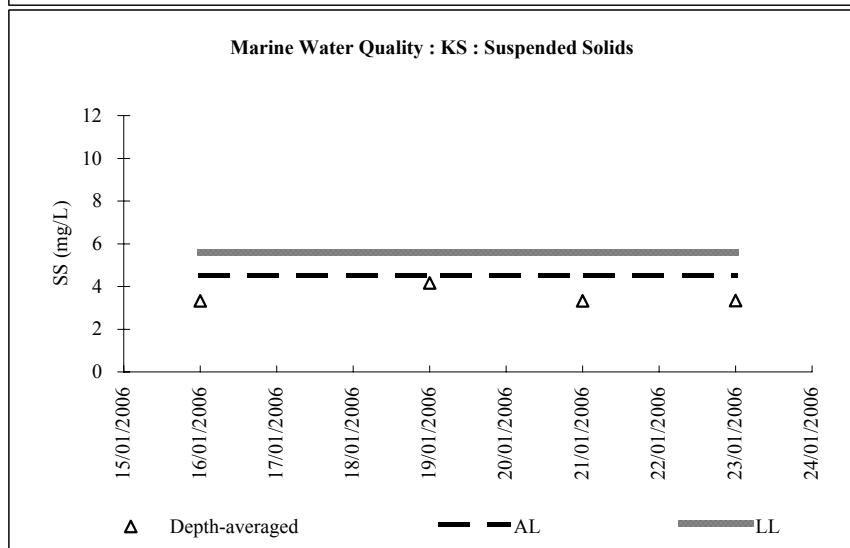
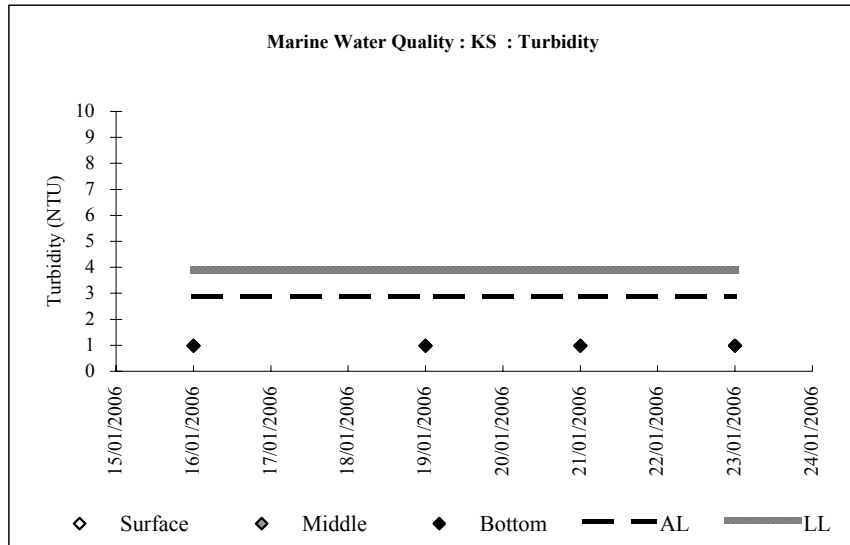


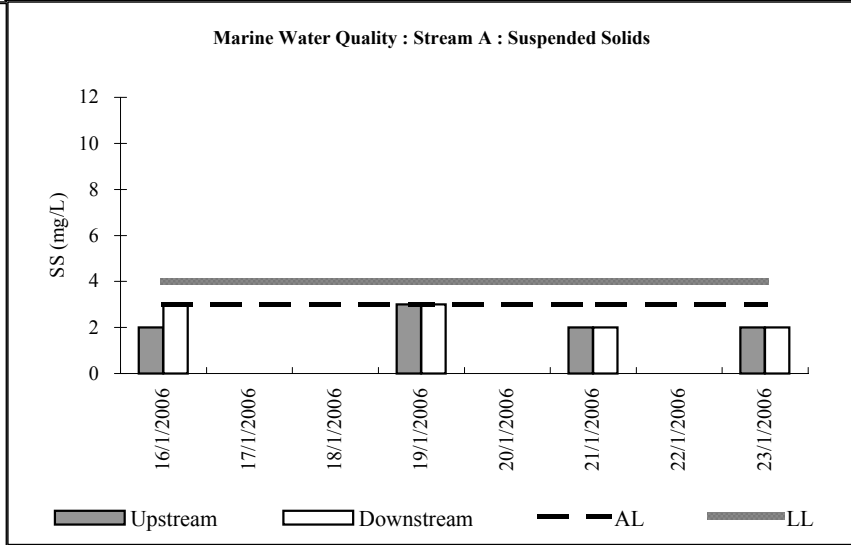
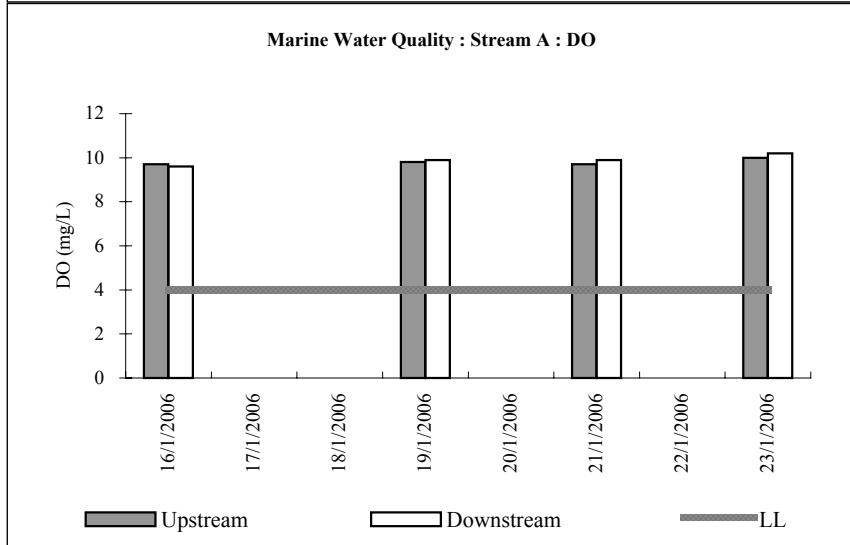
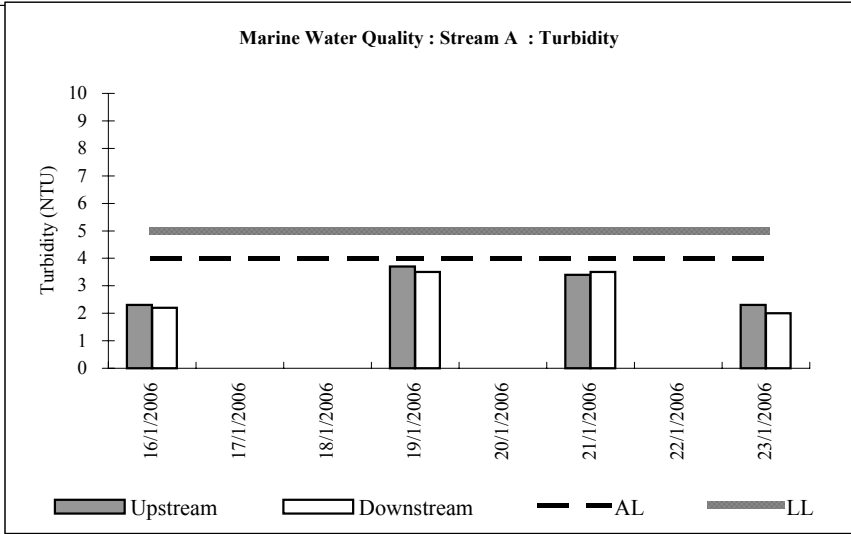
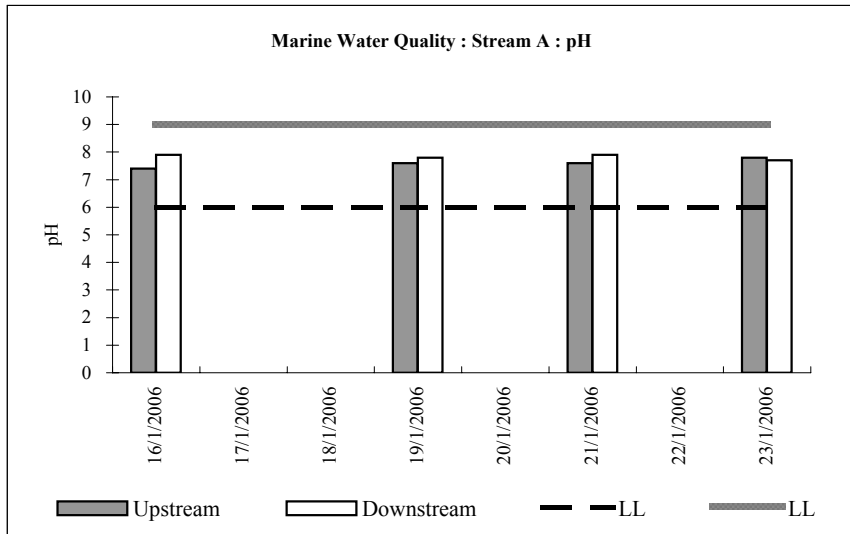
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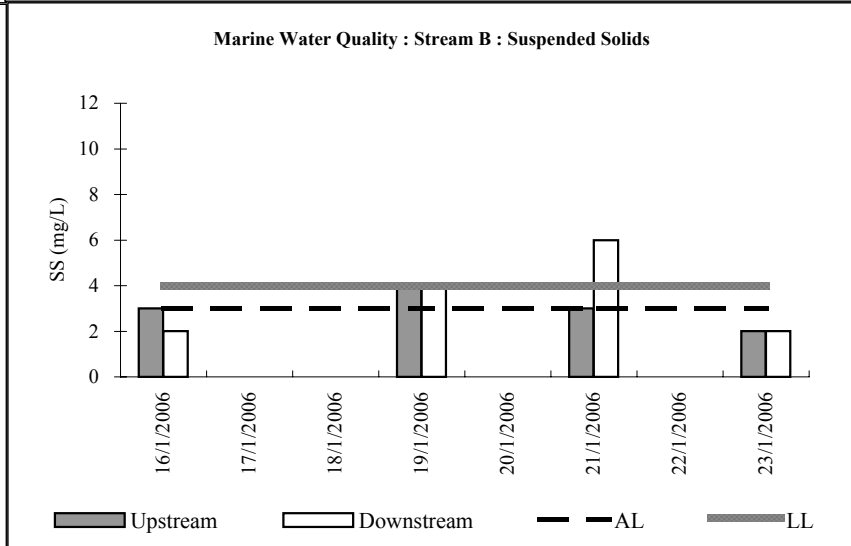
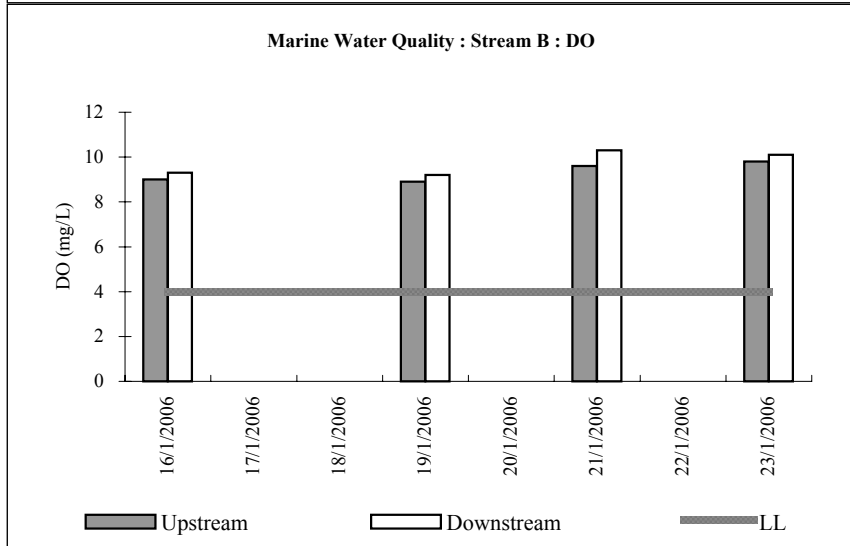
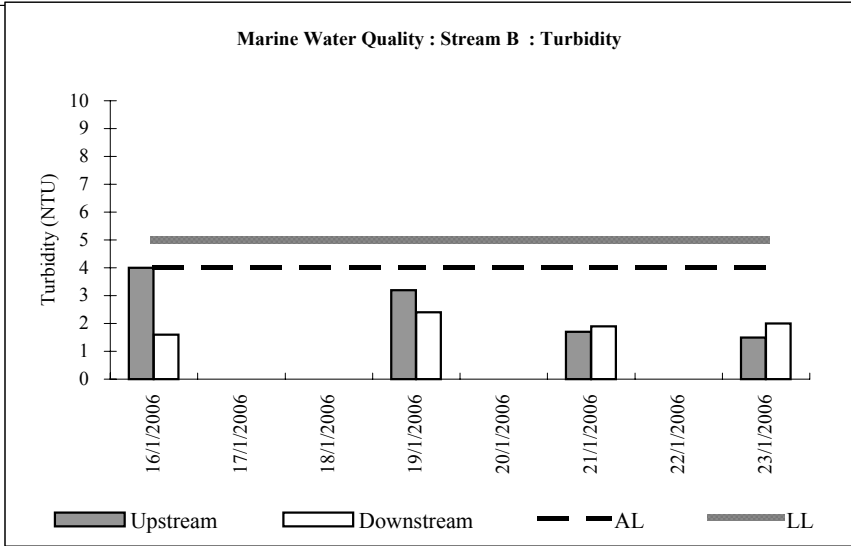
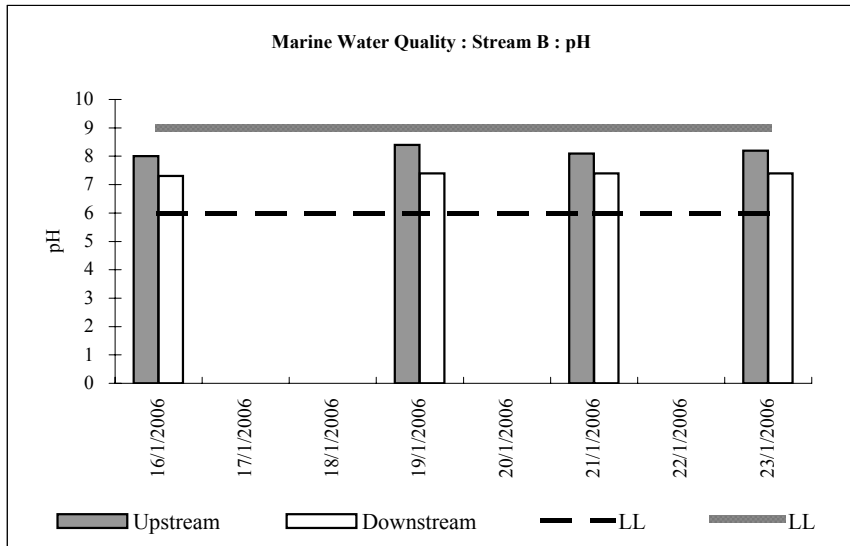


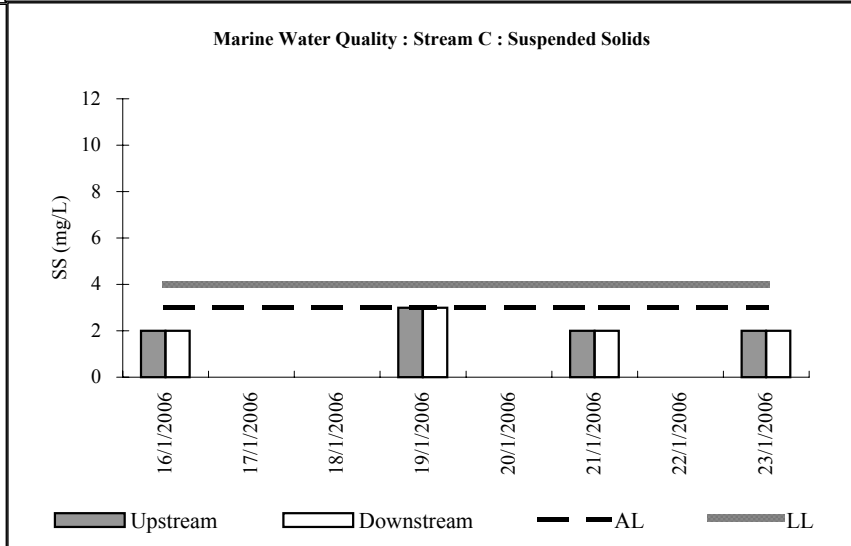
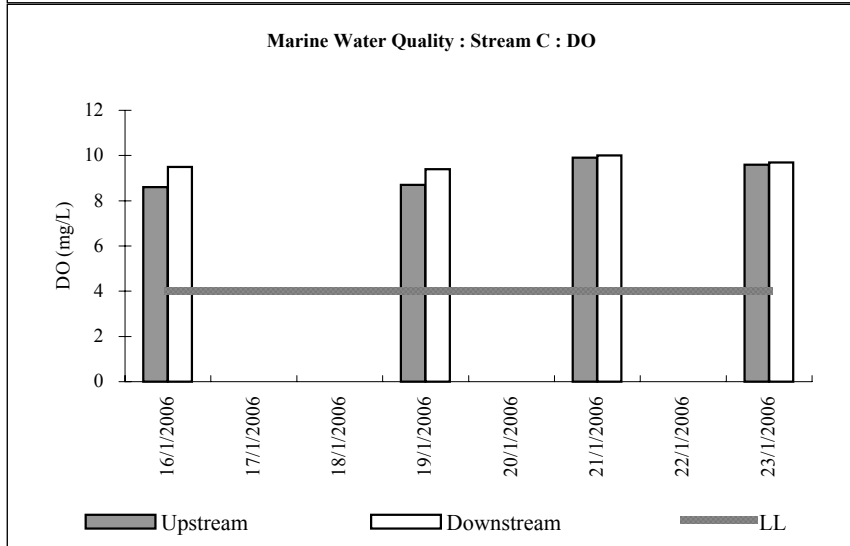
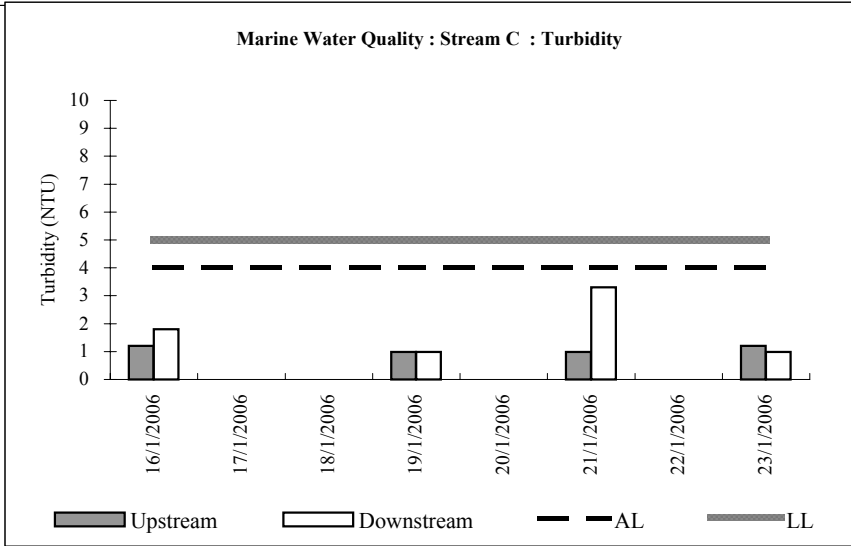
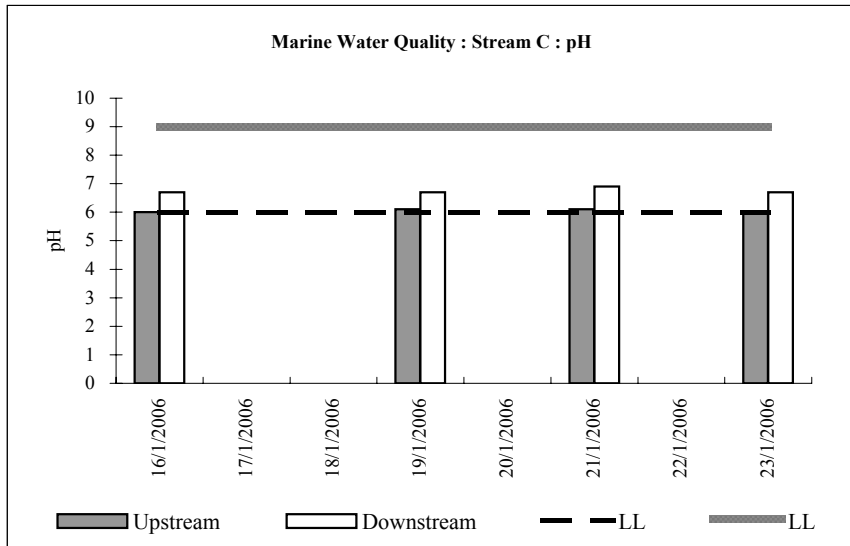
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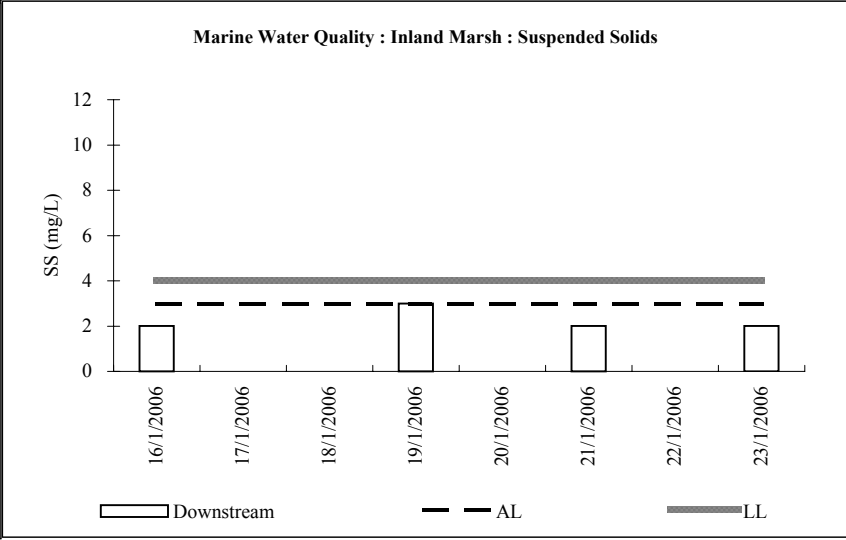
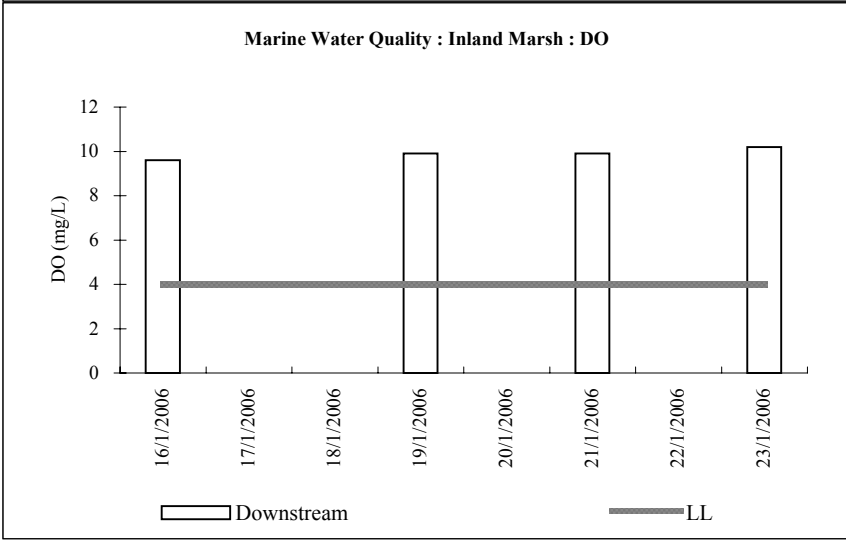
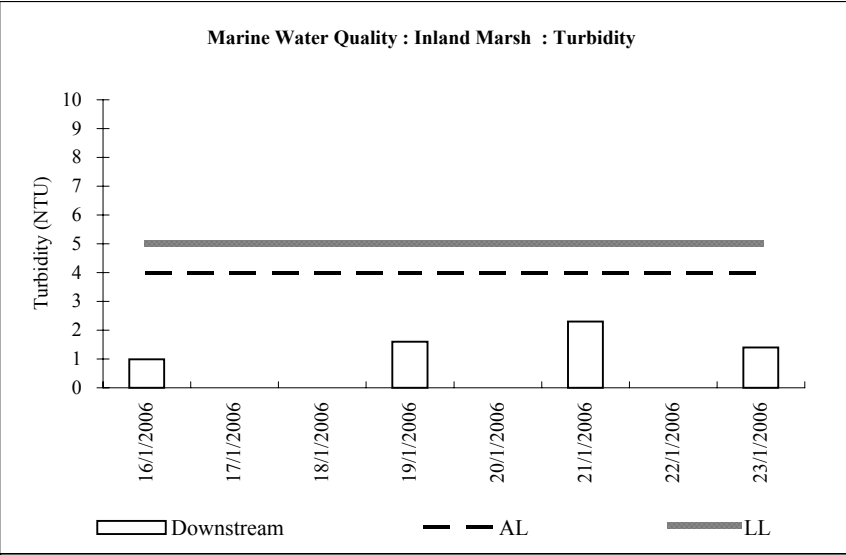
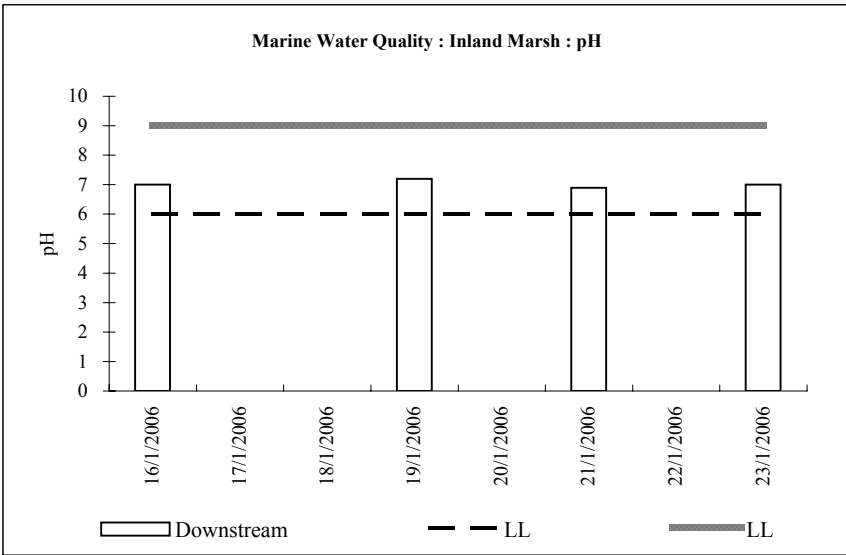












Ecology

Plate 5.3-1 Photos of Stream Habitat



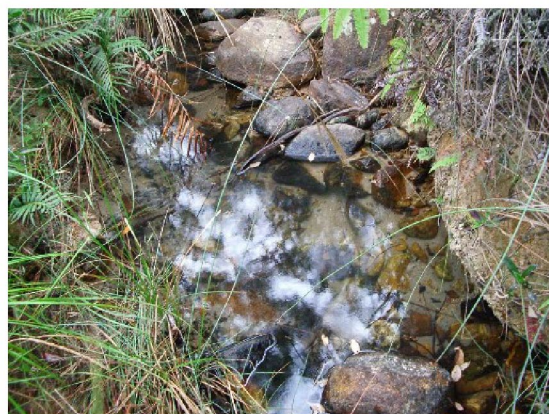
Stream A



Stream A close-up



Stream B



Stream B close-up



Stream C



Stream C close-up



Stream D

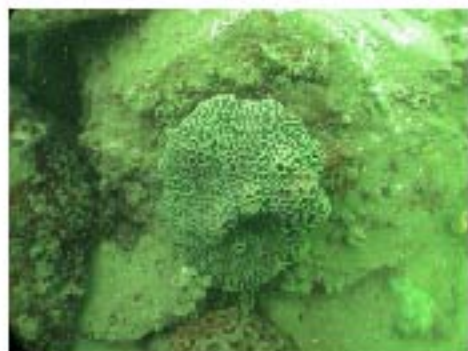


Caridina trifasciata in Stream C

Baseline survey

Month One (January 2006)

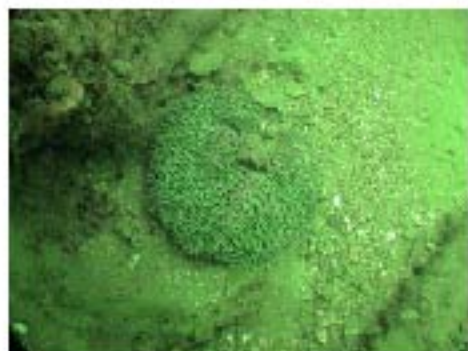
B-01



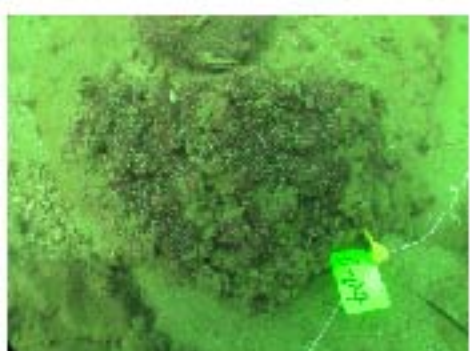
B-02



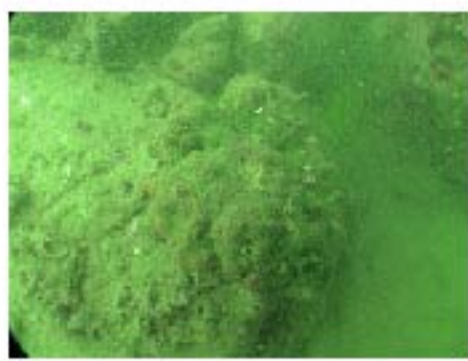
B-03



B-04



B-05



Baseline Survey

Month One (January 2006)

B-06



B-07



B-08



B-09



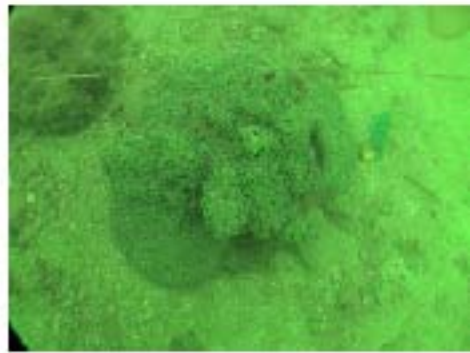
B-10



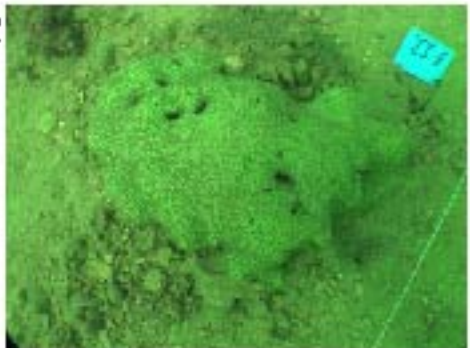
Baseline Survey

Month One (January 2006)

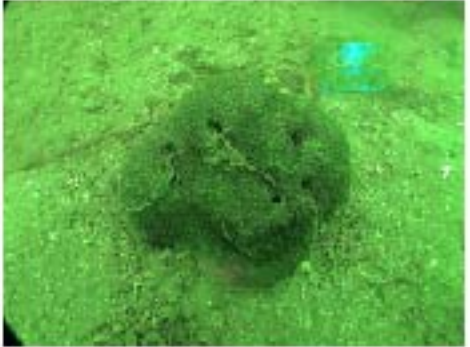
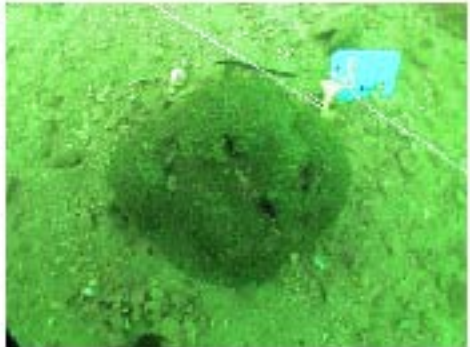
B-11



B-12



B-13



B-14



B-15



Baseline Survey

Month One (January 2006)

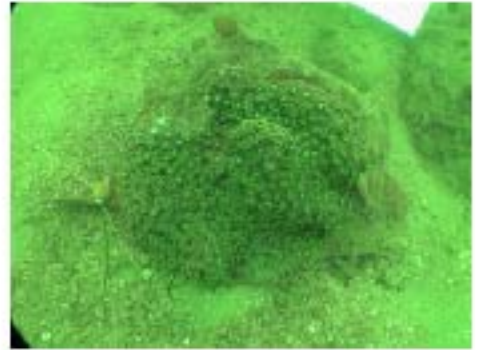
B-16



B-17



B-18



B-19



B-20



Baseline Survey

Month One (January 2006)

C-01



C-02



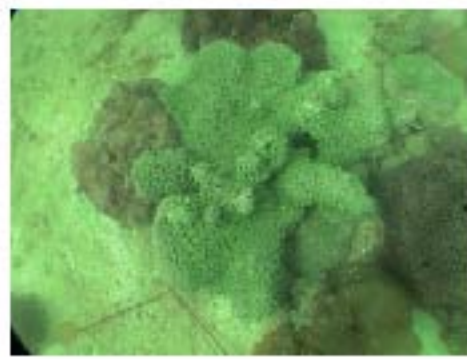
C-03



C-04



C-05



Baseline Survey

C-06



Month One (January 2006)



C-07



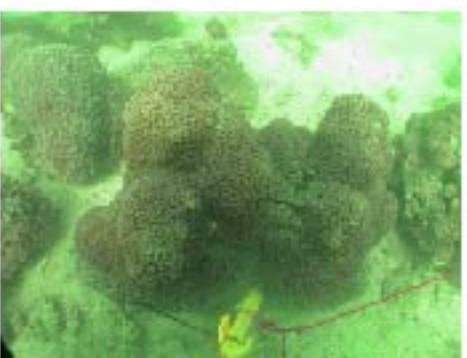
C-08



C-09



C-10



Baseline Survey

Month One (January 2006)

C-11



C-12



C-13



C-14



C-15



Baseline Survey

Month One (January 2006)

C-16



C-17



C-18



C-19



C-20



Baseline Survey

X-01



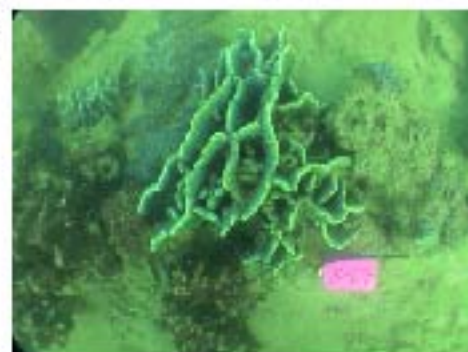
X-02



X-03



X-04



X-05



Month One (January 2006)



Baseline Survey

X-06



Month One (January 2006)



X-07



X-08



X-09



X-10



Baseline Survey

X-11



X-12



X-13



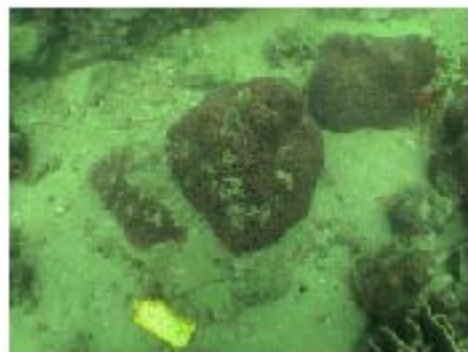
X-14



X-15



Month One (January 2006)



Baseline Survey

Month One (January 2006)

X-16



X-17



X-18



X-19



X-20



Annex F

Calibration Certificates

EQUIPMENT CALIBRATION RECORD

Type: Laser Dust Monitor
 Manufacturer/Brand: SIBATA
 Model No.: LD-1
 Equipment No.: A.005.05a
 Sensitivity Adjustment Scale Setting: 510 CPM
 Operator: Eddie Yang (EWNY)

Standard Equipment

Equipment: Rupprecht & Patashnick TEOM®
 Venue: Cyberport (Pui Ying Secondary School)
 Model No.: Series 1400AB
 Serial No: Control: 140AB219899803
 Sensor: 1200C143659803 K_o: 12500
 Last Calibration Date*: 18 June 2005

*Remarks: Recommended interval for hardware calibration is 1 year

Calibration Result

Sensitivity Adjustment Scale Setting (Before Calibration): 510 CPM
 Sensitivity Adjustment Scale Setting (After Calibration): 510 CPM

Hour	Date (dd-mm-yy)	Time	Ambient Condition		Concentration ¹ (mg/m ³) Y-axis	Total Count ²	Count/ Minute ³ X-axis
			Temp (°C)	R.H. (%)			
1	09-07-05	10:00 - 11:00	27.3	90	0.04908	2087	34.78
2	09-07-05	14:00 - 15:00	28.6	85	0.03566	1711	28.52
3	09-07-05	15:00 - 16:00	28.2	84	0.03059	1495	24.92
4	09-07-05	16:00 - 17:00	28.3	84	0.02393	1189	19.82

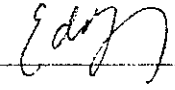
Note: 1. Monitoring data was measured by Rupprecht & Patashnick TEOM®
 2. Total Count was logged by Laser Dust Monitor
 3. Count/minute was calculated by (Total Count/60)

By Linear Regression of Y or X

Slope (K-factor): 0.0013
 Correlation coefficient: 0.9311

Validity of Calibration Record: 9 July 2006

Remarks:

QC Reviewer: Eddie Yang Signature:  Date: 9/7/2005

Maunsell

Maunsell Environmental Management Consultants Ltd.
TSP High Volume Sampler
Field Calibration Report

Station: KSC Public Golf Course Bungalow A (GCA B1) Operator: Gary Choi
 Cal. Date: 29-Nov-05 Next Due Date: 28-Jan-06
 Equipment No.: A-001-47T Serial No.: B/M200HX

Ambient Condition			
Temperature, Ta (K)	297	Pressure, Pa (mmHg)	752.6

Orifice Transfer Standard Information					
Equipment No.:	843	Slope, mc	2.03361	Intercept, bc	-0.04908
Last Calibration Date:	07-Dec-04	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	06-Dec-05	$Qstd = [(DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc / mc$			

Calibration of TSP Sampler					
Resistance Plate No.	Orifice			HVS Flow Recorder	
	DH (orifice), in. of water	$[DH \times (Pa/760) \times (298/Ta)]^{1/2}$	Qstd (m ³ /min) X-axis	Flow Recorder Reading (CFM)	Continuous Flow Recorder Reading IC (CFM) Y-axis
18	11.7	3.41	1.70	51.0	50.84
13	9.2	3.02	1.51	45.0	44.86
10	7.2	2.67	1.34	39.0	38.87
7	4.3	2.07	1.04	29.0	28.91
5	2.7	1.64	0.83	20.0	19.94

By Linear Regression of Y on X

Slope, mw = 35.1775 Intercept, bw = -8.4934

Correlation Coefficient* = 0.9975

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m³/min

From the Regression Equation, the "Y" value according to

$$mw \times Qstd + bw = IC \times [(Pa/760) \times (298/Ta)]^{1/2}$$

Therefore, Set Point; IC = (mw x Qstd + bw) x [(760 / Pa) x (Ta / 298)]^{1/2} = 37.36

Remarks: _____

QC Reviewer: Eddie Jang

Signature: [Signature]

Date: 29/11/2005

ALS TECHNICHEM (HK) Pty Ltd

ALS Environmental



CERTIFICATE OF ANALYSIS

CONTACT: MR THOMAS WONG
CLIENT: ENOVATIVE ENV TECHNOLOGY LTD
ADDRESS: RM 3704, SIK MAN HOUSE
HOMANTIN ESTATE
KOWLOON
ORDER No.:
PROJECT:

Batch: HK46603
Sub Batch: 0
LABORATORY: HONG KONG
DATE RECEIVED: 25/10/2005
DATE OF ISSUE: 31/10/2005
SAMPLE TYPE: EQUIPMENT
No. of SAMPLES: 1

COMMENTS

The calibration procedure used for the analysis has been applied for the calibration of the above instrument.

NOTES

This is the Final Report and supersedes any preliminary report with this batch number.
Results apply to sample(s) as submitted. All pages of this report have been checked and approved for release.

ISSUING LABORATORY: HONG KONG

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1-3 Wing Yip Street
Kwai Chung
HONG KONG

Phone: 852-2610 1044
Fax: 852-2610 2021
Email: hongkong@alsenviro.com


Alice Wong
Laboratory Manager - Hong Kong

Other ALS Environmental Laboratories

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AUSTRALIA

AMERICAS

Brisbane	Hong Kong	Vancouver
Melbourne	Singapore	Santiago
Sydney	Kuala Lumpur	Amtofagasta
Newcastle	Bogor	Lima

Abbreviations: % SPK REC denotes percentage spike recovery
CHK denotes duplicate check sample
LOR denotes limit of reporting
LCS % REC denotes Laboratory Control Sample percentage recovery

ALS TECHNICHEM (HK) PTY LTD
11/F., Chung Shun Knitting Centre, 1-3 Wing Yip Street, Kwai Chung, N.T., H.K.
Phone: 852-2610 1044 Fax: 852-2610 2021

CERTIFICATE OF ANALYSIS



Batch: HK46603
Sub Batch : 0
Date of Issue: 31/10/2005
Client: ENOVATIVE ENV TECHNOLOGY LTD
Client Reference:

Calibration of Turbidimeter

Item : YSI SONDE Environmental Monitoring System
Model No. : 6920-C-M
Serial No. : Y5068
Equipment No. : ENO 003
Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2130B
Date of Calibration : 25/10/2005
Testing Results :

Expected Reading	Recording Reading
0.0 NTU	0.0 NTU
4.0NTU	4.2 NTU
16.0NTU	16.0 NTU
80.0NTU	80.0 NTU
160NTU	161NTU
Allowing Deviation	±10%

CERTIFICATE OF ANALYSIS



Batch: HK46603
Sub Batch : 0
Date of issue: 31/10/2005
Client: ENOVATIVE ENV TECHNOLOGY LTD
Client Reference:

Calibration of Conductivity System

Item : YSI SONDE Environmental Monitoring System
Model No. : 6920-C-M
Serial No. : 02B0148
Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2510B
Equipment No. : ENO 003
Date of Calibration : 25/10/2005
Testing Results :

Expected Reading	Recording Reading
1412 uS/cm 6667 uS/cm 58670 uS/cm	1467 uS/cm 6699 uS/cm 58430 uS/cm
Allowing Deviation	±10%

CERTIFICATE OF ANALYSIS



Batch: HK46603
Sub Batch : 0
Date of Issue: 31/10/2005
Client: ENOVATIVE ENV TECHNOLOGY LTD
Client Reference:

Calibration of Salinity System

Item : YSI SONDE Environmental Monitoring System
Model No. : 6920-C-M
Serial No. : 02B0148
Equipment No. : ENO 003
Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2520 A and B
Date of Calibration : 25/10/2005

Testing Results :

Expected Reading	Recording Reading
10.0 g/L	9.8 g/L
20.0 g/L	20.3 g/L
30.0 g/L	30.2 g/L
Allowing Deviation	±10%

CERTIFICATE OF ANALYSIS



Batch: HK46603
Sub Batch : 0
Date of Issue: 31/10/2005
Client: ENOVATIVE ENV TECHNOLOGY LTD
Client Reference:

Calibration of Thermometer

Item : YSI SONDE Environmental Monitoring System
Model No. : 6920-C-M
Serial No. : 02B0148
Equipment No. : ENO 003
Date of Calibration : 25/10/2005

Testing Results :

Reference Temperature (°C)	Recorded Temperature (°C)
0.0 °C	0.0 °C
20.0 °C	20.2 °C
Allowing Deviation	±2.0°C

CERTIFICATE OF ANALYSIS



Batch: HK46603
Sub Batch : 0
Date of Issue: 31/10/2005
Client: ENOVATIVE ENV TECHNOLOGY LTD
Client Reference:

Calibration of DO System

Item : YSI SONDE Environmental Monitoring System
Model No. : 6920-C-M
Serial No. : 02B0148
Equipment No. : ENO 003
Date of Calibration : 25/10/2005

Testing Results :

Expected Reading	Recording Reading
0.0 mg/L	0.0 mg/L
2.3 mg/L	2.2 mg/L
4.8 mg/L	5.0 mg/L
8.2 mg/L	8.2 mg/L
Allowing Deviation	±0.2 mg/L

CERTIFICATE OF ANALYSIS



Batch: HK46603
Sub Batch : 0
Date of Issue: 31/10/2005
Client: ENOVATIVE ENV TECHNOLOGY LTD
Client Reference:

Calibration of pH System

Item : YSI SONDE Environmental Monitoring System
Model No. : 6920-C-M
Serial No. : 02B0148
Equipment No. : ENO 003
Calibration Method : In House Method
Date of Calibration : 25/10/2005

Testing Results :

Expected Reading	Recording Reading
4.0	4.0
7.0	7.0
10.0	9.9
Allowing Deviation	±0.2 unit

Annex G

Monitoring Programme for the next three months

Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
 Environmental Monitoring and Audit –
 Baseline Monitoring Report

January 2006						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25 AQ WQ	26 ME	27 WQ ME	28
29	30	31				

February 2006						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1	2	3	4
5	6 AQ WQ LV	7	8 WQ	9	10 WQ TE	11 AQ
12	13 WQ	14	15 WQ TE	16	17 AQ WQ	18 ME
19 ME	20 WQ LV	21	22 WQ	23 AQ	24 WQ	25
26	27 WQ	28				

Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
 Environmental Monitoring and Audit –
 Baseline Monitoring Report

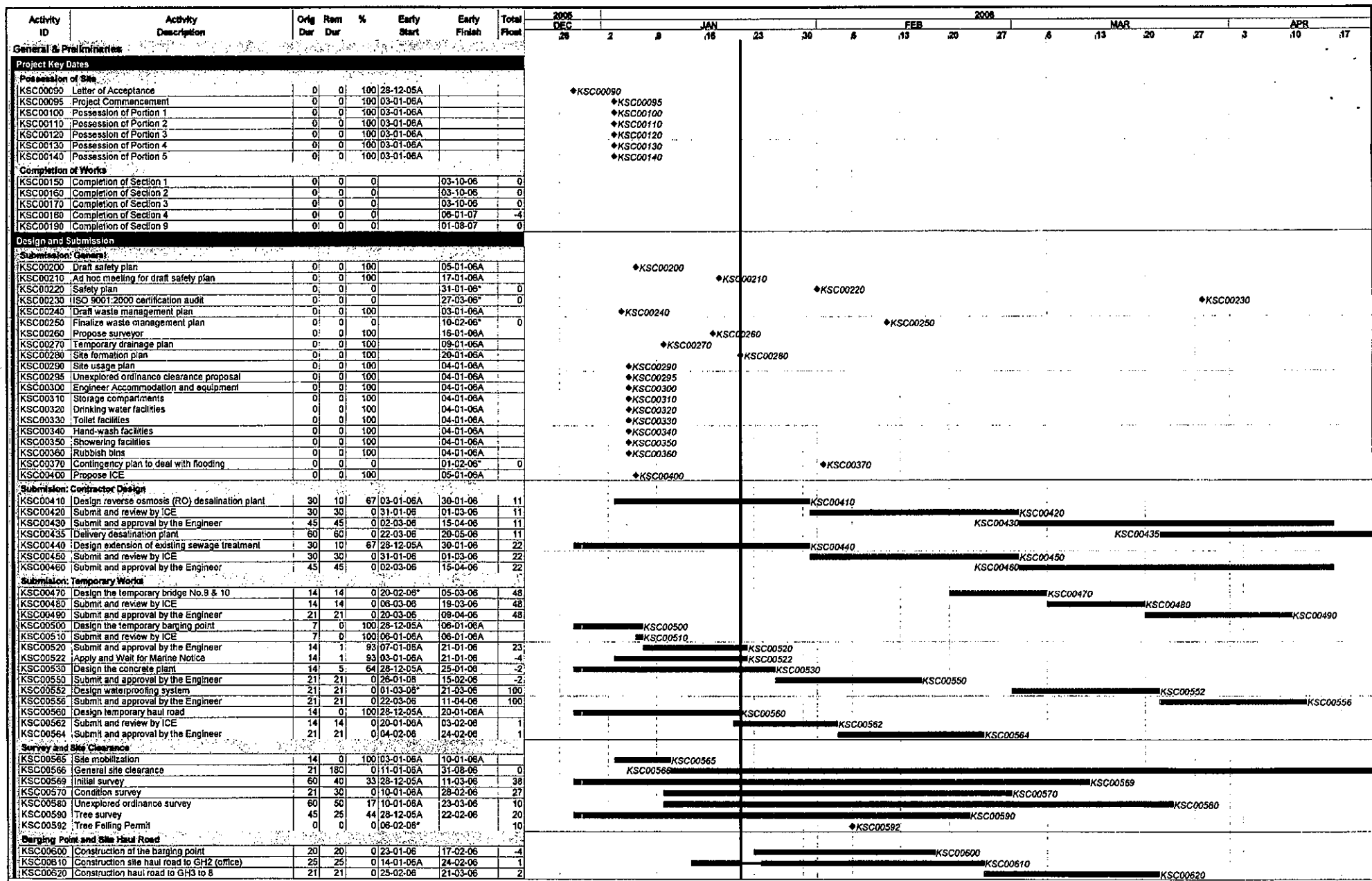
March 2006						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 AQ WQ	2	3 WQ	4
5	6 WQ LV	7 AQ TE	8 WQ	9	10 WQ	11
12	13 AQ WQ	14 TE	15 WQ	16 ME	17 WQ	18 AQ
19	20 WQ LV	21	22 WQ	23	24 AQ WQ	25
26	27 WQ	28	29 WQ	30 AQ	31 WQ	

April 2006						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3 WQ LV	4 TE	5	6 AQ WQ	7	8 WQ
9	10 WQ	11 TE	12 AQ WQ	13 ME	14	15
16	17	18 AQ LV	19 WQ	20	21 WQ	22
23	24 AQ WQ	25	26 WQ	27	28 WQ	29 AQ
30						

Remarks: AQ = TSP, WQ = Freshwater and Marine water quality, TE = Terrestrial Ecology, ME = Marine Ecology, LV = Landscape & Visual,

Annex H

Construction Programme for the next three months



Start Date	28-12-05	Early Bar	K501	China Harbour Engineering Company (Group) The Jockey Club Kau Sai Chau Public Golf Course 3 months rolling programme	Date	28-12-05	1st rolling	Revised	Checked	Approved	
Finish Date	01-08-07	Progress Bar									
Data Date	21-01-06	Critical Activity									
Run Date	27-01-06 09:15										

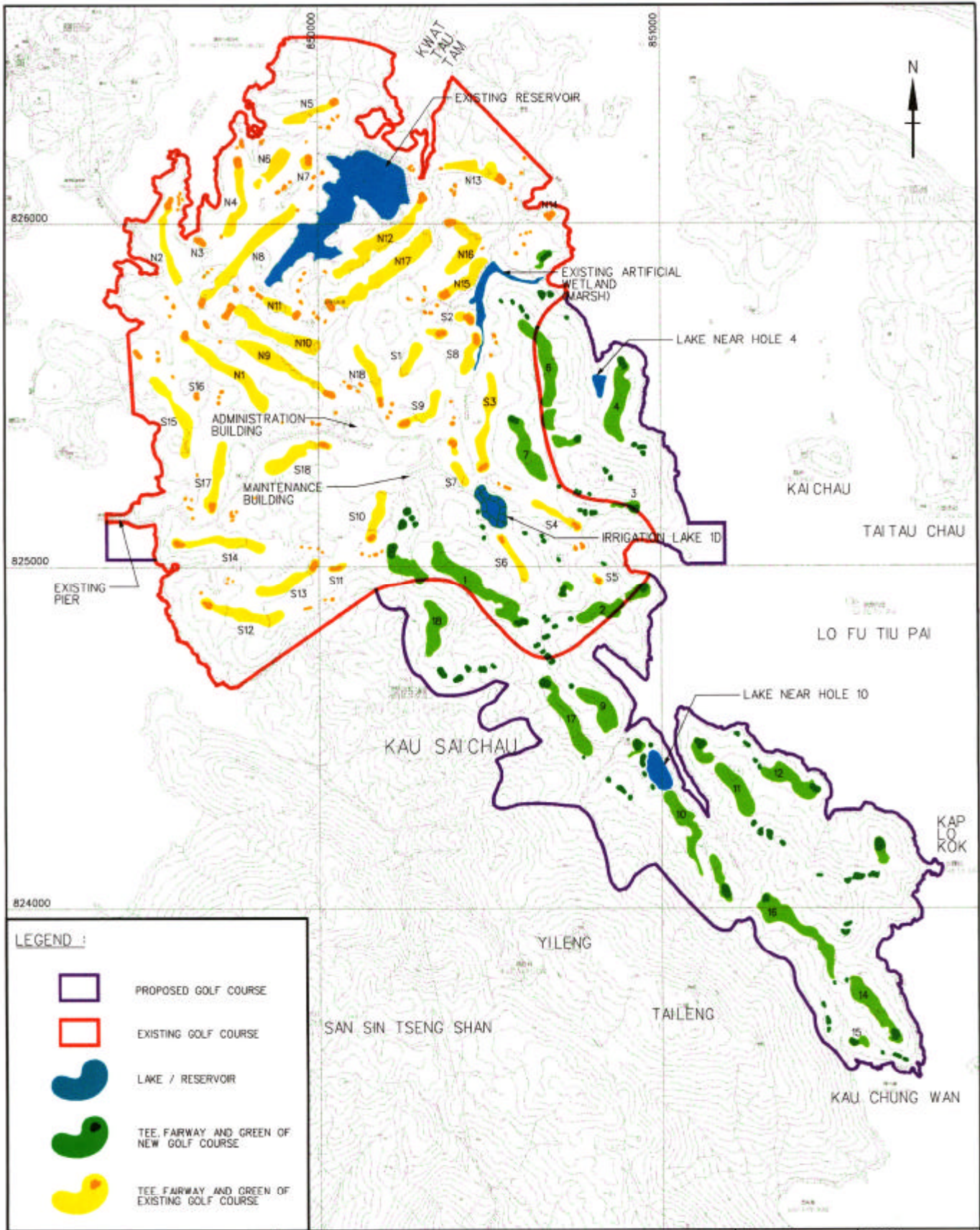
7Primavera Systems, Inc.

Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float	2006															
								DEC	JAN	FEB	MAR	APR											
KSC00630	Construction haul road to GH 11 to 16	50	50	0	22-03-06	25-05-06	73	26	2	9	16	23	30	6	13	20	27	4	11	18	25	31	
KSC00660	Construction of concrete plant & test	30	30	0	18-02-06	24-03-06	-4																
Section 1 of the Works																							
Construction of Low Level Intake Pumping Station																							
Pumping Station: Civil Works																							
S100100	Installation of temp. hoarding & fence	21	21	0	02-02-06	25-02-06	2																
S100110	Installation of sheet pile for PS	30	30	0	27-02-06	01-04-06	2																
S100120	Excav. & sheet pile support	18	18	0	03-04-06	27-04-06	3																
600mm Intake Pipe																							
S100210	Installation of sheet pipe for 600mm intake pipe	45	45	0	03-04-06	01-06-06	2																
Construction of Gravity Drain & Rising Main																							
Gravity Drain: Lay Pipe & Manhole																							
S100270	Installation of sheet pile fm OC No.4 to MH3	32	32	0	27-02-06	04-04-06	10																
S100280	Excav. & sheet pile support	25	25	0	10-03-06	08-04-06	10																
S100290	Lay pipe fm OC No.4 to MH3	24	24	0	25-03-06	26-04-06	5																
S100300	Construction of manhole OC No.4, MH1 and MH3	36	36	0	04-04-06	22-05-06	5																
S100420	Installation of sheet pile fm MH8 to MH11	32	32	0	27-02-06	04-04-06	14																
S100430	Excav. & sheet pile support	25	25	0	10-03-06	08-04-06	14																
S100440	Lay pipe fm MH8 to MH11	24	24	0	20-03-06	20-04-06	14																
S100450	Construction of manhole MH9, MH10 and MH11	36	36	0	29-03-06	16-05-06	14																
S100460	Backfill and remove sheet pile	27	27	0	13-04-06	19-05-06	14																
Section 2 of the Works																							
Construction of Desalination Plant																							
Desalination Plant: Civil Works																							
S200100	Excav. of desalination plant	36	36	0	10-02-06	23-03-06	1																
S200110	Construction of base slab for desalination plant	21	21	0	24-03-06	21-04-06	18																
Construction of Sewater Pumping Station																							
Sewater Pumping Station: Civil Works																							
S200280	Installation of sheet pile for SWP station	24	24	0	08-03-06	04-04-06	22																
S200290	Excavation of SWP Station	21	21	0	08-04-06	04-05-06	22																
Seawater Intake & Discharge Pipe																							
Seawater Intake Pipe																							
S200342	Apply and Wait for Marine Notice	14	1	95	03-01-06A	21-01-06	21																
S200350	Dredging for pipe and pumping station	21	21	0	11-02-06	07-03-06	21																
S200360	Rockfill (quarry run)	14	14	0	08-03-06	23-03-06	30																
S200370	Rockfill for intake structural unit (filter)	10	10	0	24-03-06	04-04-06	32																
S200380	Installation of intake structural unit	4	4	0	06-04-06	10-04-06	32																
S200390	Lay pipe 600mm conc. intake	12	12	0	11-04-06	27-04-06	32																
Water Discharge Pipe																							
S200450	Rockfill (quarry run)	14	14	0	24-03-06	10-04-06	30																
S200460	Rockfill for intake structural unit (filter)	10	10	0	11-04-06	25-04-06	30																
Construction Retaining Wall No. 1																							
Construction Retaining Wall No. 1																							
S200550	Excavation of formation of retaining wall RW1	21	21	0	10-02-06	06-03-06	20																
S200560	Construct footing for retaining wall RW1	18	18	0	25-03-06	19-04-06	4																
S200570	Construct wall for retaining wall RW1	20	20	0	20-04-06	15-05-06	4																
Lake No. 1 and Pump House No. 1																							
Construction Lake No. 1																							
S200610	Cut & fill works to irrigation lake no.1	24	24	0	24-03-06	25-04-06	33																
Section 3 of the Works																							
Existing Maintenance Building																							
Maintenance Building: Structure Works																							
S300105	Removal of vegetation and ponding water	7	7	0	01-02-06	08-02-06	2																
S300110	Reclamation of Hard Standing area	25	25	0	10-02-06	10-03-06	1																
S300120	Const. wash mv/changing rm etc. on new ext. area	30	30	0	11-03-06	19-04-06	1																
S300130	Building services works for wash/changing rm	18	18	0	11-04-06	03-05-06	1																
Construction Retaining Wall No. 2																							
S300200	Excavation of retaining wall RW2	12	12	0	11-03-06	24-03-06	1																
S300210	Construction of retaining RW2	30	30	0	25-03-06	04-05-06	1																
Section 4 of the Works																							
Existing Admin. Building																							
Admin. Building: Structure Works																							
S400110	Install external/internal hoarding	14	14	0	01-02-06	16-02-06	0																
S400120	Excavation and testing to structural foundation	21	21	0	17-02-06	13-03-06	0																
S400130	Structural works to Area 1	70	70	0	20-03-06	16-06-06	-4																
S400290	Structural works to Area 4	70	70	0	25-03-06	22-06-06	0																
Section 5 of the Works																							
Construction of Golf Course Hole No 1																							
GH 01: Cut & Fill Works																							
S502580	Earth/slope construction works (cut)	204	204	0	22-03-06	27-11-06	53																
S502585	Earth/slope construction works (fill) fm GH1	204	204	0	22-03-06	27-11-06	53																
S502596	Earth/slope construction works (fill) fm GH2	118	118	0	07-02-06	03-07-06	9																
S502587	Earth/slope construction works (fill) fm GH3	88	88	0	14-03-06	03-07-06	165																
S502588	Earth/slope construction works (fill) fm GH9	254	254	0	22-03-06	27-01-07	2																



Activity ID	Activity Description	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float	2006															
								DEC	JAN			FEB			MAR			APR					
								26	2	9	16	23	30	6	13	20	27	4	11	18	25	2	9
Construction of Golf Course Hole No.2																							
GH 02: Cut & Fill Works																							
S502710	Earth/slope construction works (cut)	118	118	0	07-02-06*	03-07-06	9	S502710															
S502715	Earth/slope construction works (fill)	118*	118*	0	07-02-06	03-07-06	9	S502715															
Construction of Golf Course Hole No.8																							
GH 08: Cut & Fill Works																							
S502220	Earth/slope construction works (cut)	88	88	0	14-03-06	03-07-06	165	S502220															
S502225	Earth/slope construction works (fill)	88*	88*	0	14-03-06	03-07-06	165	S502225															
Construction of Golf Course Hole No.9																							
GH 09: Cut & Fill Works																							
S502350	Earth/slope construction works (cut)	254	254	0	22-03-06	27-01-07	2	S502350															
S502355	Earth/slope construction works (fill)	254*	254*	0	22-03-06	27-01-07	2	S502355															
Construction of Golf Course Hole No.17																							
GH 17: Cut & Fill Works																							
S503320	Earth/slope construction works (cut)	229	229	0	22-03-06	28-12-06	88	S503320															
S503325	Earth/slope construction works (fill) fm GH17	229*	229*	0	22-03-06	28-12-06	88	S503325															
S503326	Earth/slope construction works (fill) fm GH9	254*	254*	0	22-03-06	27-01-07	2	S503326															

2006															
DEC	JAN			FEB			MAR			APR					
26	2	9	16	23	30	6	13	20	27	4	11	18	25	2	9

FIGURES



LEGEND :

-  PROPOSED GOLF COURSE
-  EXISTING GOLF COURSE
-  LAKE / RESERVOIR
-  TEE, FAIRWAY AND GREEN OF NEW GOLF COURSE
-  TEE, FAIRWAY AND GREEN OF EXISTING GOLF COURSE

 The Hong Kong Jockey Club

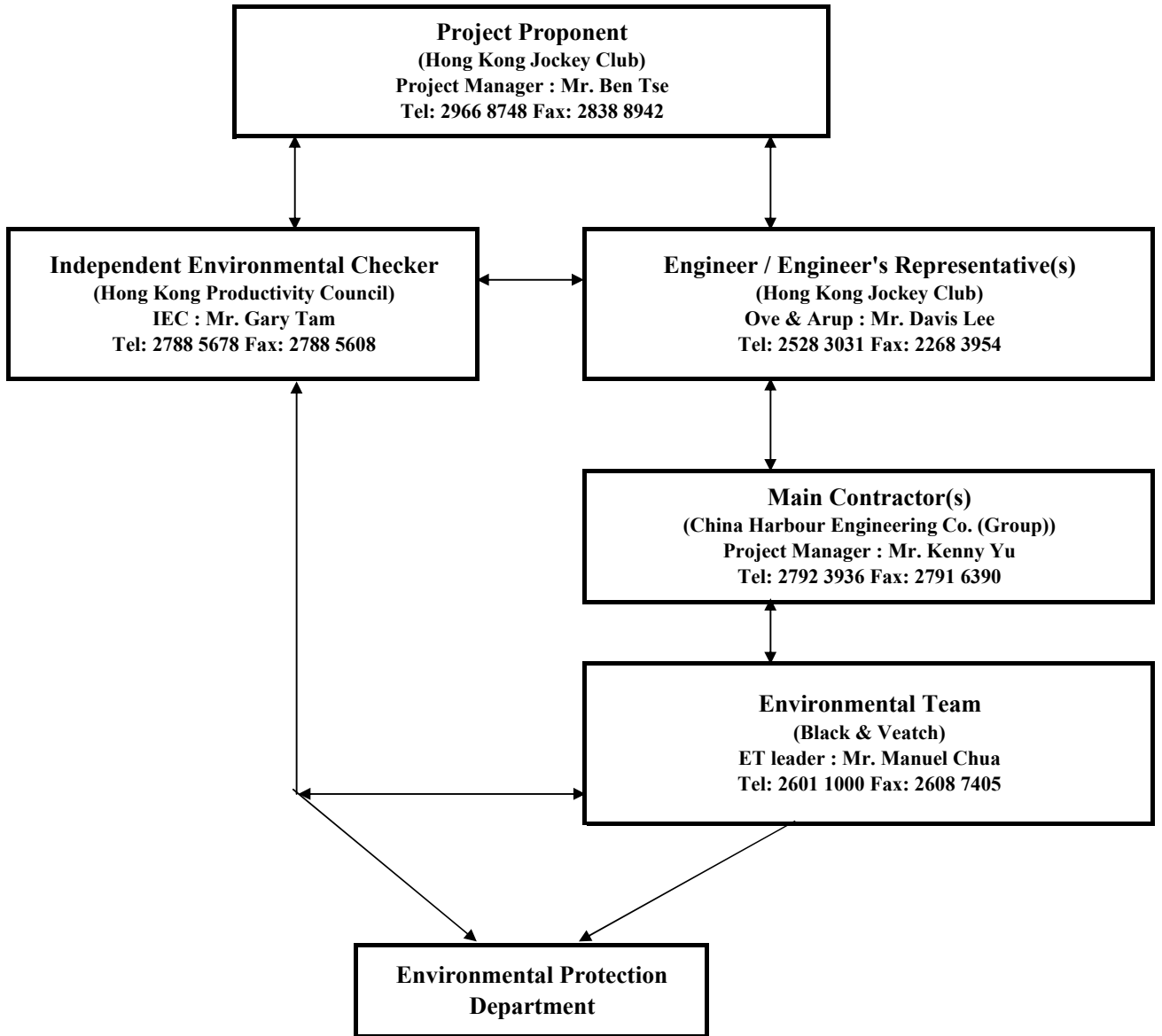

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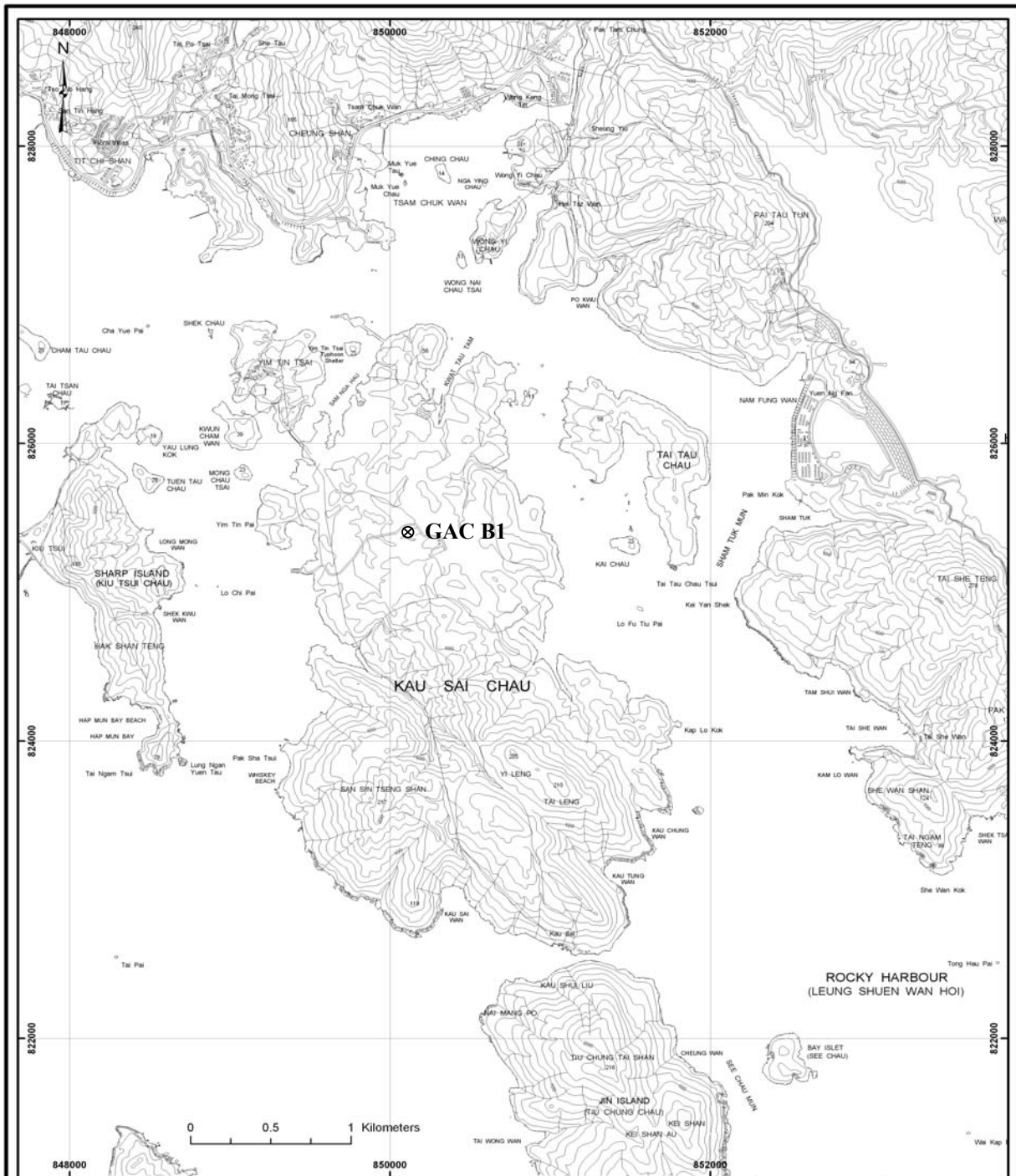
PROPOSED EXTENSION OF PUBLIC GOLF COURSE AT KAU SAI CHAU, SAI KUNG

PROPOSED 18-HOLE THIRD GOLF COURSE
(MASTER LAYOUT PLAN)

Figure No.	2.1	Revision	-
Reference	-	File Name	3822100201-2.1.DGN
Prepared	ET	Checked	JW
Date	MAY 2005	Scale	1:15000 (A4)

Figure 1.2
Project Organisation and Lines of Communication






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Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung

Proposed Air Quality Monitoring Location

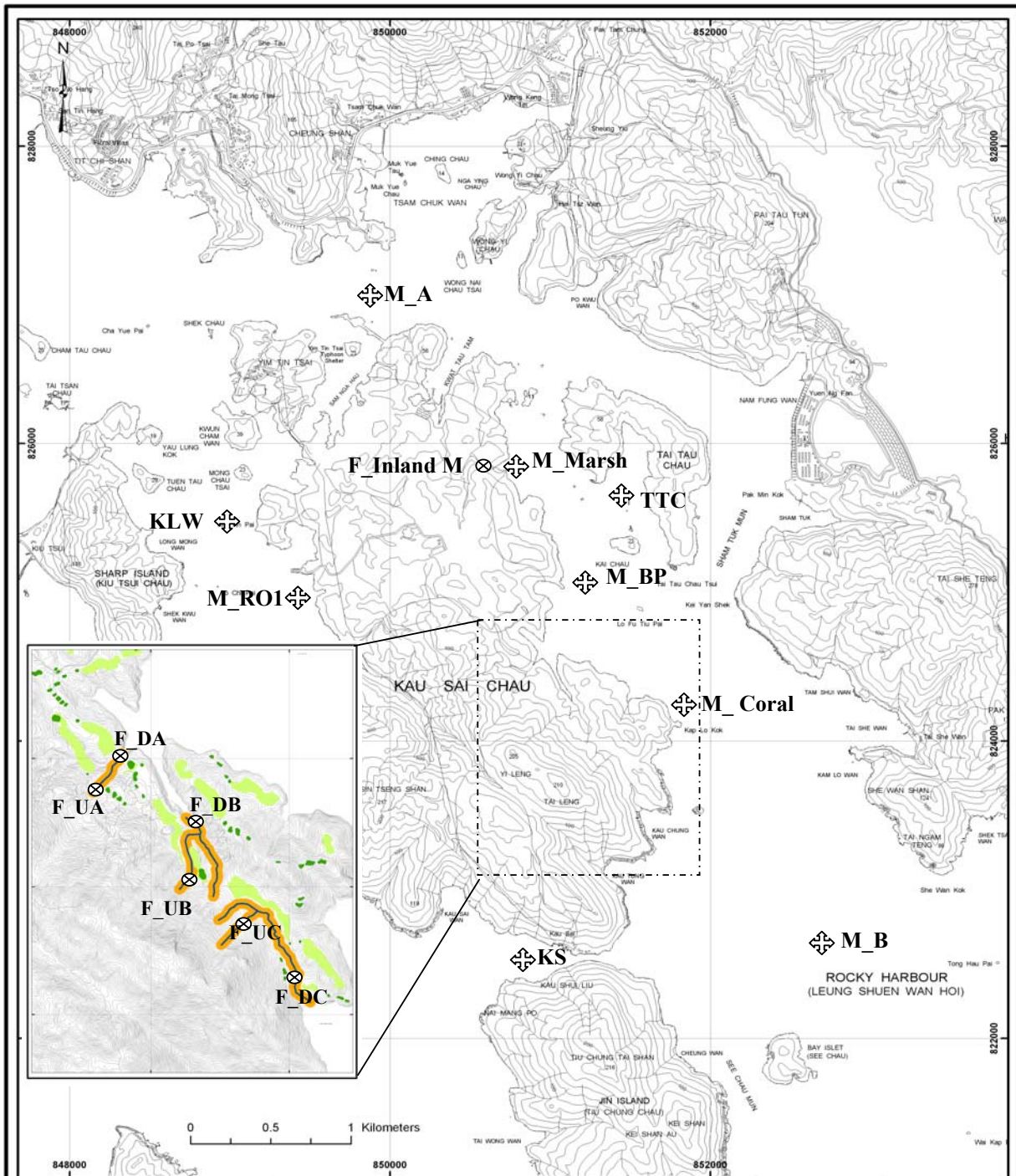
Fig 3.1

ET

JW

Feb 2006

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 Plot file: C:\PS95_0\Project\032219_0202\location.pdf



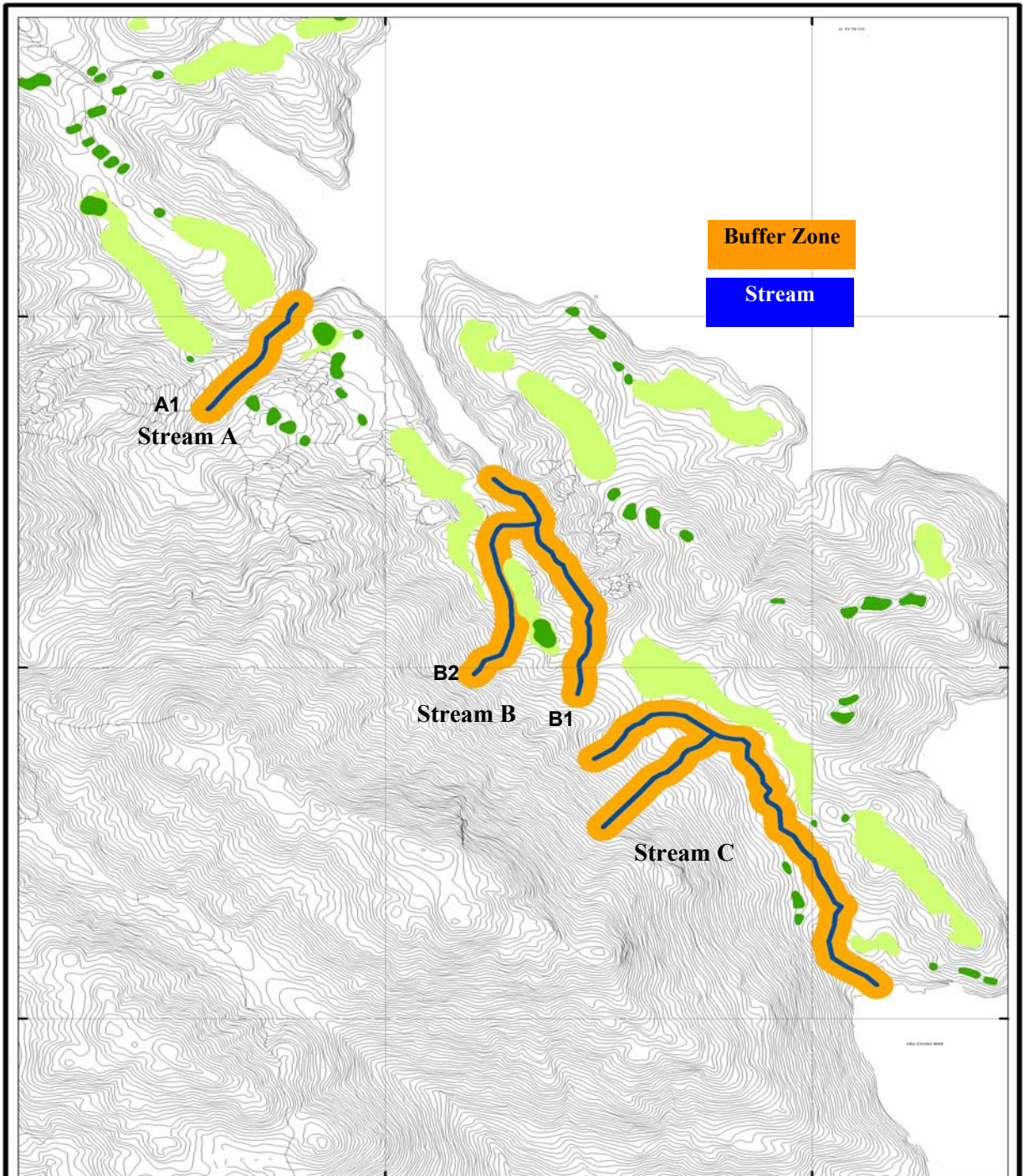

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Proposed Extension of Public Golf Course at Kau Sai
 Chau Island, Sai Kung
 Proposed Water Quality Monitoring Locations
 (Construction Phase)

Fig 3.2	
ET	JW
Feb 2006	

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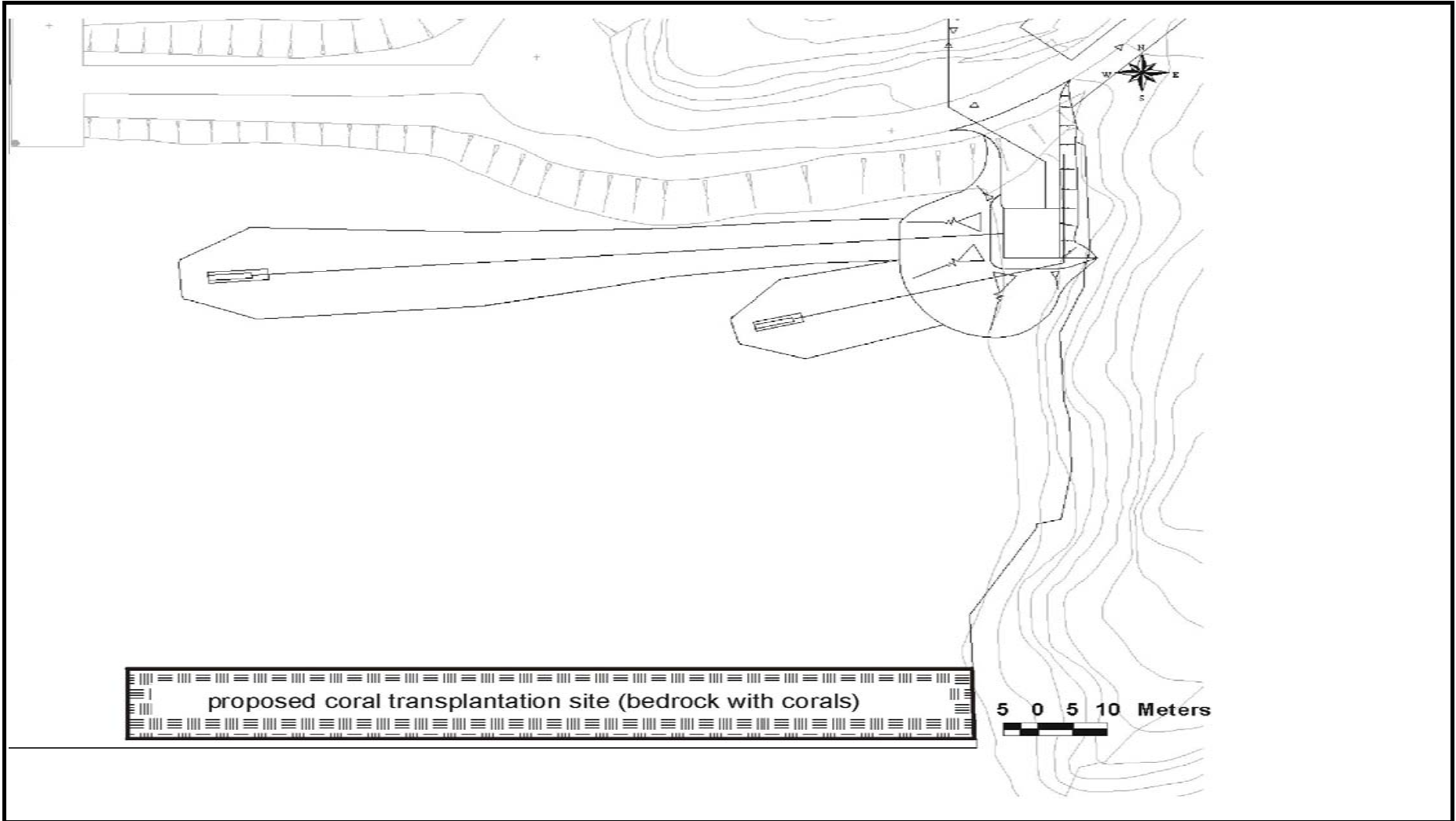

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Proposed Extension of Public Golf Course at Kau Sai
 Chau Island, Sai Kung
 Proposed Ecological Monitoring Location
 (Streams Buffer Zone)

Fig 3.3	
ET	JW
Feb 2006	

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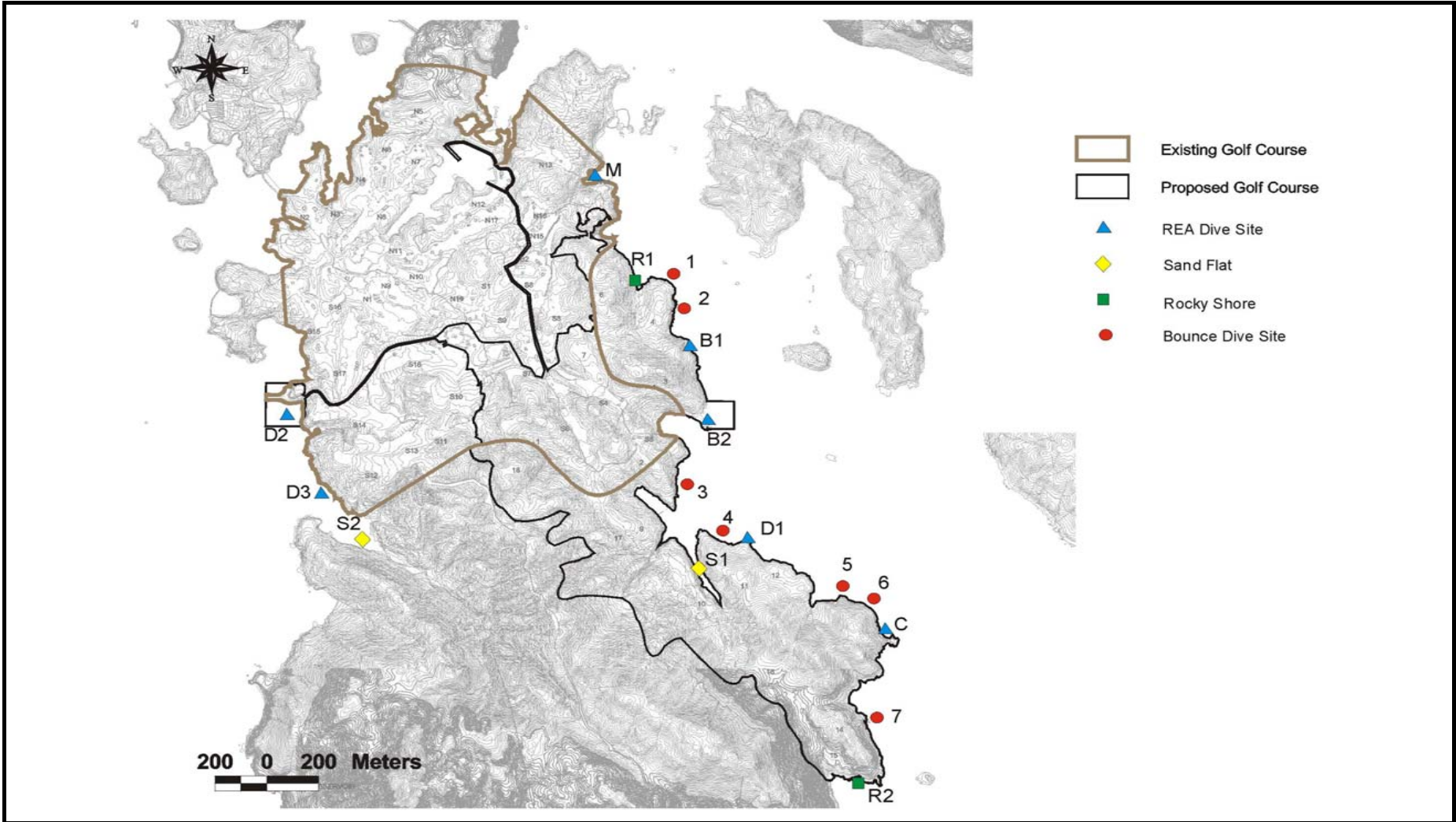
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Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung

Location of proposed coral transplantation site (Bedrock with corals)

Fig 3.4

Prepared	Checked
ET	JW
Date	Feb-06



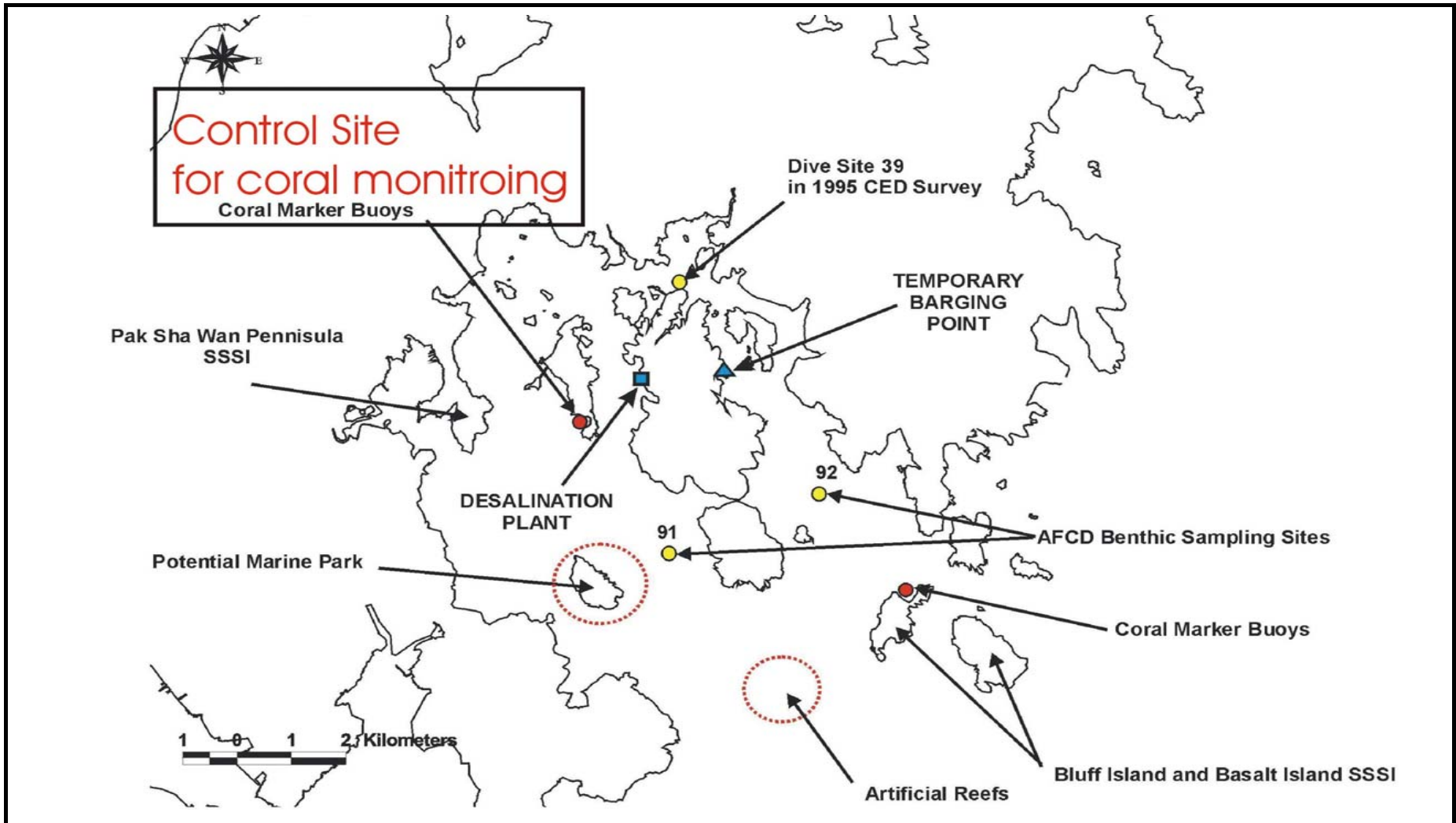

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Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung

 Location of coral and seagrass monitoring (Sites D2, D3 and C)

Fig 3.5	
Prepared ET	Checked JW
Date Feb-06	



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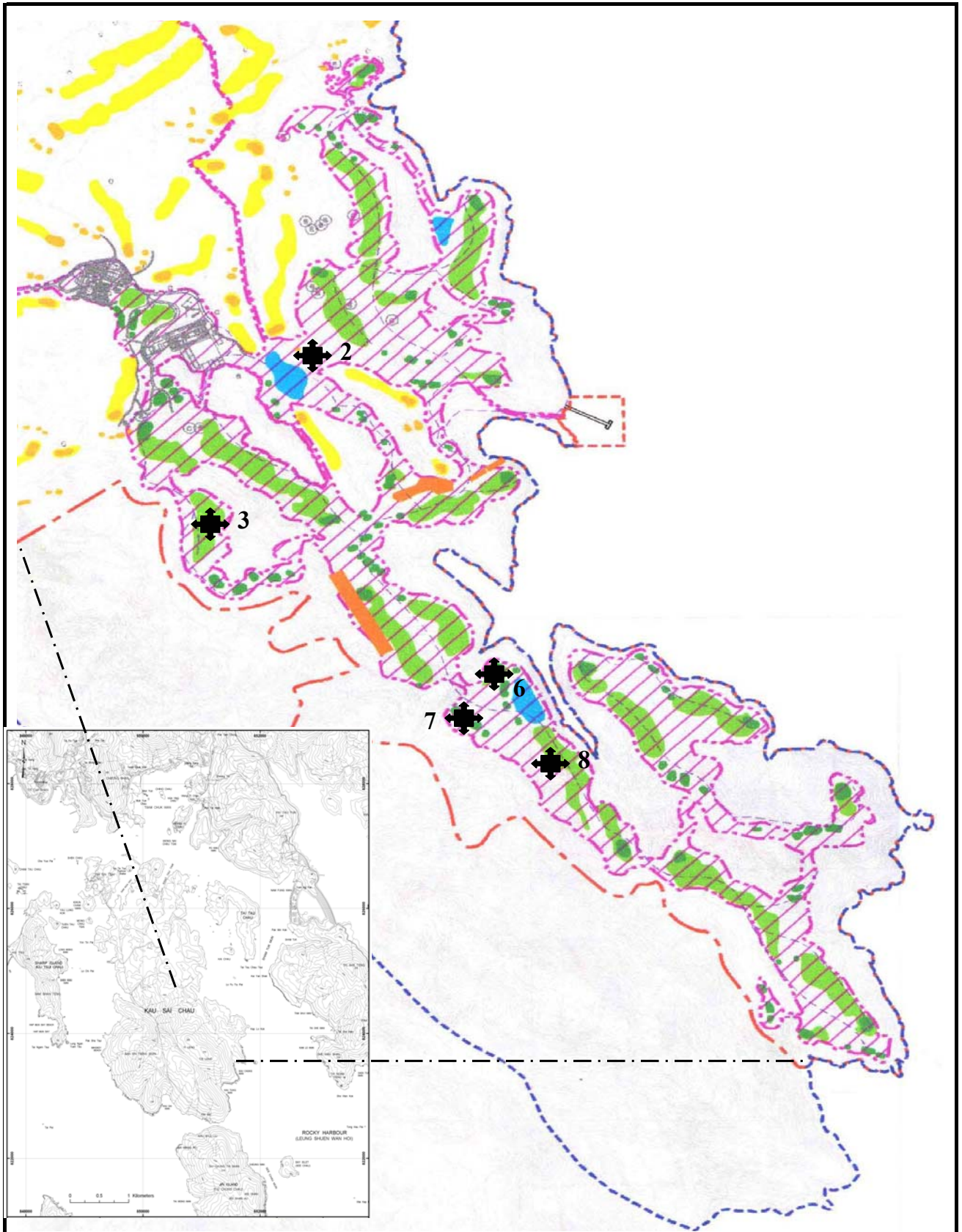
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Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung

Control Site for Natural Coral Monitoring

Fig 3.6

Prepared	Checked
ET	JW
Date	Feb-06



 <p>香港賽馬會 The Hong Kong Jockey Club</p>	<p>Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung</p>	<p>Fig 3.8</p>	
 <p>BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司</p>		<p>Sampling location for land contamination</p>	<p>Prepared ET</p>
			<p>Date</p>