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

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

(Report No. 382210/010)

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

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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 the checking of the Environmental Team's (ET) No.10 Monthly EM&A Report for October 2006 for the construction of 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.10 Monthly EM&A report for October 2006 has been verified.

3. We would comment that our evaluation of the ET's EM&A is based on a random audit process which cannot be guaranteed to have all non-conformities identified.

Signed 

_____
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Date 7 November 2006

Executive Summary

This is the tenth 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 16th January 2006. This report presents the results of the EM&A works conducted in the month of October 2006 (25th September 2006 to 24th October 2006).

Summary of construction works undertaken during this report period

The full scale remediation work for the contaminated soil (originally located at Hole 18 – hotspot L3) at Hole 17 (one of the major fill area) was carried out on 4 October 2006. A Final Site Remediation Report (FSRR) will be prepared by the Contractor in the next reporting month.

A coral transplantation methodology will be submitted during the next reporting month for AFCD and EPD approval and comment. The coral transplantation (Site D2) near the existing KSC pier will commence once the methodology approved.

According to the EM&A manual, two graves (G5 and G20) are required to be preserved by record. Record for preservation of Grave 20 located at Hole 2 was completed during the reporting month. As the grave G5 can be kept in-situ with provision of buffer zone according to the latest golf course design, no preservation by record was required. Archaeology watching brief was started since early September 2006 and in progress at Holes 11, 12, 14, 15 and 16. Stream buffer zone was demarcated at Streams A, B1, B2 and C (one side facing to the haul road only).

All haul roads formation and vegetation clearance was mostly completed during the reporting month. For northern and central portions of the third golf course, most of the bulk earthworks were competed at Holes 1-9 and 17 during the reporting month. It will move to the next phases of the construction sequence which are mainly the drainage system installation, irrigation system installation, turfing and furnishing. For southern portions of the third golf course, major construction works were bulk earthworks and preparation of permanent bridges/pipe culvert construction. The expected turf establishment period will be started on December 2006 but it will totally depend on the availability and water quality of the water source from desalination plant, existing reservoir and water storage from rain water on site. There is no conclusive planting date yet. However, Holes 3, 5 & 8 will be the three targets golf holes for earliest turfing.

Closed low flow drainage system includes lake formation, gravity drains, rising main, underground water tanks and pumping stations. The permanent drainage system installation at Holes 5 & 7 was mostly completed. The drainage system will be installed once the land formation complete. Lake formation at 1D, Hole 4 and Hole 10 was in progress. The construction of gravity drain from Lake 1D to existing reservoir was in progress. Underground water tanks at Holes 2, 4, 10 and 11 were in progress.

The floating pontoon was located and operated at the designated location according to Environmental Permit (EP). Concrete batching plant has been in operation. For the desalination plant, no dredging work for the desalination plant intake and outfall pipelines was carried out but only land formation work.

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	5 times
Water quality monitoring (marine + freshwater)	5 times
Terrestrial Ecology	1 time

Marine Ecology	0 time*
Landscaping & Visual	2 times

* For marine ecology, it will be carried out on quarterly basis and the next coral monitoring will be on December 2006.

Air Quality

5 sets of 24-hour TSP monitoring were carried out on 27th September, 3rd, 9th, 14th and 20th October 2006 at Bungalow A (GCA B1) at Kau Sai Chau during this reporting month. No exceedance of 24-TSP was recorded at GCA B1. A consistent high 24-hour TSP concentrations were recorded (very close to the action level) since mid-September 2006.

Water Quality

5 sets of water quality monitoring were carried out on 25th September, 3rd, 9th, 13th and 23rd October 2006 at 9 marine and 7 freshwater monitoring locations. No additional water sample was taken due to heavy rainstorms. Monitoring was performed on scheduled.

Terrestrial Ecology

Terrestrial ecology monitoring was conducted on 27th October 2006. The demarcation of the stream buffer zone had been established for Stream A and Stream B, the works fronts and haul roads had advanced beyond Stream B and reached near Stream C at the time of the monitoring survey. Stream C buffer zone demarcation establishment will be finished by the Contractor before the works fronts reach Stream C. The downstream section of Stream A channel had been was accidentally filled up by boulders, and Remedial work was not implemented by the Contractor to clear the rubbles and restore the downstream manually. In general, Streams B, C and D and the riparian vegetation were still in natural conditions similar to the condition during the Baseline Survey.

Marine Ecology

Marine ecology monitoring was not required in October 2006. The next marine monitoring will be conducted in December 2006.

Landscaping & Visual

Landscape and visual monitoring and site audits were carried out on 4th and 18th October 2006. The Contractor shall take measures to improve the condition of damaged trees. Damaged trees next to administration building were still unprotected after being damaged by the adjacent construction activities. Trees (T1000 and T1011) were transplanted in this month and in fair condition. The performance of the Contractor was considered unsatisfactory on this aspect since July 2006, they are (i) no rectification work has been carried out for all mal-pruning transplanted trees, (ii) no provision of any tree protection zones for all retain trees near administration building - construction materials were stockpiled and surrounded at the tree base area and (iii) the cause of the tree death T925 was outstanding.

Environmental Site Auditing

Four weekly joint environmental site audits were carried out on 27th September, 4th, 10th, 17th and 24th October 2006, with the Engineer and Contractor's representatives. A monthly joint environmental site audit was carried out on 24th October 2006 by the Contractor's Representative, ET's representative and Independent Environmental Checker (IC(E)).

Environmental Non-conformance

Air Quality

No exceedance of 24-TSP was recorded at GCA B1.

Marine Water Quality

One exceedances of turbidity and nine exceedances of suspended solids (SS) on 25th September, 9th, 19th and 23rd October 2006 were recorded at KLW, TTC, M_Marsh and M_BP. All exceedances were considered not project-related and the increase of the turbidity and SS values were mainly due to the natural variation of marine water (magnitude of the increase of turbidity and SS were similar to the control monitoring stations at M_A and M_B).

Freshwater Quality

Eighteen exceedances of turbidity and ten exceedances of suspended were recorded at F_DA, F_DB, F_DC and F_Inland Marsh. The exceedances recorded at freshwater inland marsh were mainly attributed to runoff from silty water discharged from the wheel washing facility near to the Contractor's site office. The exceedances recorded at Streams A and B were considered not project-related. While exceedances recorded at Stream C and fresh water inland marsh were considered project-related.

The exceedances at Stream B were mainly due to the natural variation and therefore they were considered not project-related. No silty runoff from construction of temporary crossing at Streams B1 and B2 were observed during sampling.

Exceedances were recorded at both upstream and downstream of Stream C during previous and this reporting month. As the upstream monitoring location (F_UC) of Stream C is located within the construction work area, it represents and becomes an impact monitoring station instead of control station. All exceedances were considered project-related.

All notifications of exceedances and the subsequent exceedance incident reports have been forwarded to the relevant parties.

For those considered project-related exceedances at freshwater and marine water, the Contractor was required to critically review the temporary drainage management plan and implement necessary improvement to prevent runoff from the construction site to the marine water and stream courses. The Contractor was also requested to rectify the situation as soon as possible. The water quality monitoring results revealed that the temporary drainage installed on site was insufficient and should be improved especially at those concern areas.

No environmental complaint and environmental summons were received in this reporting month.

Implementation Status of Environmental Mitigation Measures

The Contractor was reminded the following issues and to take actions if necessary:

Air Quality

- Increase frequency of watering at main haul roads and rock breaking areas;
- Pave major haul roads with gravels/concrete to minimize the dust emission due to the heavy traffic;
- Cover the all soil/sand/aggregates stockpiles with tarpaulin or other measures to reduce the dust emission; and
- Install hoarding at the main exit/entrance of the construction site;

Waste Management

- Properly dispose of the vegetation stockpiles, general refuse and construction waste off-site;
- Provide chemical storage areas and construction waste sorting area; and
- Provide sufficient mobile toilets at remote site areas;

Ecology

- Remove of rubbles at downstream of Stream A manually;

Water Quality

- Enhance the wheel washing facility at the main exit/entrance of the construction site;
- Minimize the water quality impact when undertaking cut-and-fill works. It is important to provide sufficient temporary drainage at critical areas to confine, collect and provide proper treatment before discharging to marine water and stream courses to ensure that the water quality is complied with WPCO requirements;
- Provide sufficient treatment facilities especially at water sensitive areas before water discharges from construction site;
- Maintain the integrity of silt curtains and remove of settled silt within the silt curtain which have been installed outside the fresh water inland marsh, near Hole 2, near Hole 4 and Stream A;
- Strengthen the preventive/interim measures for avoiding silty runoff from the exposed areas to the low lying areas. More frequent maintenance of the silt fence is necessary; and
- Provide temporary drainage at the temporary bridges;

Landscape & Visual

- Protect the retain trees with sufficient watering mainly located at the administration building;
- Provide tree protection zone for all retain tree at the administration building; and
- Provide incident report for the death of the tree T925;

Future Key Issues

General issues to be considered in the coming month include:

- Potential dust generation from activities on-site : bulk earthworks at Holes 10 to 16, concrete batching plant operation and soil/sand/aggregates stockpiles;
- Archaeology watching brief at Holes 11, 12, 14, 15 & 16;
- Provide sufficient temporary drainage and mitigation measures for construction temporary/permanent crossings at Streams A, B1, B2 and C;
- Implement sufficient and improve the temporary drainage system on site to prevent silty runoff discharging to marine and stream courses;
- Implement sufficient temporary drainage system before carrying out any newly exposed area;
- Carry out land formation works for the desalination plant near to the existing pier;
- Dispose of construction wastes, vegetation and general refuse off-site; and
- Hydroseed the bare/rock slopes according to the golf course design.

Key issues at particular areas:

- Submit the Temporary Drainage Master Plan (TDMP) for the turf establishment period prepared by the Contractor at least one month before implementation for ER and Jockey Club's approval;
- Awaiting the approval for coral transplantation methodology and complete coral transplantation before the desalination pipelines installation (dredging works); and
- Implement filter systems (nutrients and pesticides removal) at Holes 5 and 6;

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 October 2006 (from 25th September to 24th October 2006).

1.2 Purpose of the Report

1.2.1 This is the tenth EM&A report which summarizes the impact monitoring results and audit findings for the EM&A programme during the reporting period from **25th September** to **24th October 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 Oct – 24 Jan 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 the 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 the 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.

2.5 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.
2.4	Contamination Assessment Plan (CAP) submission. If land contamination is confirmed by the site investigation, submission of a Remediation Assessment	Submitted	Full scale remediation work was carried out in the reporting month. The Final Site Remediation Report (FSRR) will be prepared by the Contractor and submitted to EPD for record.

EP-224/2005	Environmental Permit Submission	Status	Remarks
	Plan (RAP) including a Contamination Assessment Report (CAR) is required.		
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	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)
3.4	Variation of Environmental Permit for the construction of the temporary crossings at Stream B during wet season.	Completed	Variation of Environmental Permit was approved on 18th August 2006. The revised registered EP was EP-224/2005/A.

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

Impacts	Parameters/descriptions	Locations	Frequencies	Duration
Marine Ecology	Transplanted corals	Site D2	Quarterly for one year after transplantation	During construction
	Natural corals	Site C, Site B2, Site D2, and the Control Site.	**<u>For Site D2 and the Control Site:</u>** 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. **<u>For Site C, B2 and the Control Site:</u>** 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 if seagrasses were found during the baseline monitoring.	Weekly during the first two weeks of dredging works, and then biweekly till the pipeline construction works are finished.	During Construction
		Site D3, and at Site D2 if seagrasses were found during the baseline monitoring.	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 μg m^{-3}	500 μg 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		Action Level	Limit Level
GCA B1	**Bungalow A** adjacent to Kau Sai Chau Public Golf Course Administration Building	187.4 μg m^{-3}	260 μg 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 were collected using filters and High Volume Sampler and the collected samples were 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 were placed less than 2 metres apart;
- the distance between the sampler and an obstacle, such as buildings, were at least twice the height that the obstacle protrudes above the sampler;
- a minimum of 2 metres separation from walls, parapets and penthouses were required for the rooftop samplers;
- a minimum of 2 metres separation from any supporting structure, measured horizontally was provided;
- airflow around the sampler was unrestricted;
- no furnaces or incineration flues were operating near the sampler;
- the sampler was more than 20 metres from the dripline; and
- any wire fence and gate to protect the sampler, did 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°C ±3°C and the relative humidity (RH) < 50% ±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	6.0 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	0.09mg/L Δ	All except FCZ	0.09 mg/L Δ
Nitrite Nitrogen (depth-averaged)	FCZ	0.02 mg/L θ	FCZ	0.02 mg/L θ
	All except FCZ	0.02 mg/L	All except FCZ	0.04 mg/L
TIN (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)	All	0.09 mg/L Δ	All	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.
☼ : All are based on EM&A baseline monitoring data due to marked difference between EPD turbidity data and those from the baseline survey.
Δ : For nutrient monitoring (except NO_2-N) at non-FCZ stations, the trigger level has made reference to the existing golf course guideline values. The guideline value of NO_2-N is below the current detection limit of 0.01mg/L and thus not used.

θ : The same action and limit level of 0.02 mg/L is determined from the EM&A baseline data as 78% of the NO_2-N data are <= 0.01 mg/L and all remaining 22% equal to 0.02 mg/L.
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)		6.3 mg/L	All	4 mg/L ξ
pH (mid-depth)		N/A	All	6.0 - 9.0
SS (mid-depth) ☆	All	3.8 mg/L or 120% of upstream control station's SS at the same tide of the same day	All	8 mg/L or 130% of upstream control station's SS at the same tide of the same day
Turbidity (Tby) (mid-depth) ☆	All	3.1 NTU or 120% of upstream control station's Tby at the same tide of the same day	All	4 NTU or 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	0.10 mg/L	All	0.11 mg/L
Nitrite Nitrogen (mid-depth)		N/A	All	0.01 mg/L
TIN (mid-depth)	All	0.12 mg/L	All	0.13 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 were reported of NH_3-N, NO_2-N 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.
ξ : Water Quality Objectives of the Port Shelter

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 (NO_3-N), nitrite nitrogen (NO_2-N), ammonia nitrogen (NH_3-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** Marine water : 2 times per day – 1 for mid-flood and 1 for mid-ebb Freshwater : once per day	**Marine Water** Fish culture zone stations: TTC, KLW, KS Control stations: M_A, M_B Impact stations: M_BP, M_RO1, M_Marsh, M_Coral **Freshwater Water** Stream A (F_UA, F_DA) Stream B (F_UB, F_DB) Stream C (F_UC, F_DC) Inland Marsh (F_lnland_M)
Temperature (ºC)		
Turbidity (NTU)		
pH		
Salinity (ppt)		
Suspended Solids (mg/L)		

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
Marine Water (9 stations)		**latitude**	**longitude**		
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
Fresh Water (7 stations)					
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 m^3/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*
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 Sau Chau would be monthly for the first three months of the construction phase, and if no exceedance was recorded, the monitoring schedule would be changed to quarterly during the rest of the construction phase. As a coral damage incident was recorded in March 2006, the monthly monitoring was extended for another three months from April 2006 to June 2006. No exceedance was recorded during these three months, the monitoring schedule would be changed to quarterly after that till the end of 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 and a Control Site near the AFCD's Coral Buoy at Sharp Island (**Figure 3.4**), 20 natural coral colonies in good conditions (i.e. generally intact and no sign of bleaching) and significant sizes (preferably 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 during the baseline survey, without significant sign of bleaching or being covered by sediments, and therefore were all recommended as the monitored coral colonies (all 80 tagged corals, 20 from each site). The seagrass beds in Site D3 were also surveyed for their extent, coverage percentage and health conditions during the baseline survey. The results of the baseline survey has presented in the Baseline Monitoring Report. The original 20 tagged corals at Site B2 were re-organised in April 2006, with B-11 to B-20 retained, but 40 new tagged corals (B-21 to B-60) were established. The number of tagged corals at Site B2 was therefore increased from 20 nos. to 50 nos. The baseline conditions of these newly tagged corals (40 nos.) were presented in the monthly monitoring report of April 2006.

3.3.8 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. The coral transplantation, which should be conducted prior to the commencement of dredging works, had

not been performed. The monitoring on transplanted corals on the bedrock at Site D2 (see **Figure 3.5**) therefore was not needed 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, and if no exceedance was recorded then quarterly till the end of the construction. As coral damage incident was reported in Month Three of the construction programme, AFCD requested the monthly monitoring should be extended to cover another three months (April, May and June 2006). As no exceedance was recorded during these three months, the monitoring schedule would be changed to quarterly after that till the end of the construction phase and will be resumed in September 2006.

3.3.10 During the weekly site inspection, ET also 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 – 3.5**. 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 22nd December 2005.

Monitoring Location

3.5.4 The monitoring locations include Hole 2, Hole 11, Hole 12, Hole 14, Hole 15 & Hole 16. The monitoring locations are present in **Figure 3.6**.

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 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 Contamination Assessment Plan (CAP) shall be submitted to EPD for approval before site investigation. If land contamination is confirmed by the site investigation, submission of a Remediation Assessment Plan (RAP) including a Contamination Assessment Report (CAR) is required. Potential 5 land contamination hotspots are presented in **Figure 3.7**.

4. Implementation Status on Environmental Protection Requirements

4.1.1 Major construction works of the third golf course were site formation at Holes 11-16 and permanent drainage system installation.

4.1.2 The weather is approaching to dry season. The Contractor concentrates more on the dust suppression mitigation measures than the silty runoff impact to water sensitive receivers. However, Temporary Drainage Management Plan (TDMP) submission prepared by the Contractor for ER's approval is still required for the dry season and coming next wet season. In particular, TDMP for the turf establishment area is very critical because the expected earliest turf establishment will be in Dec 2006 but no formal submission of TDMP yet.

4.1.3 Silt fence was implemented along the site boundary (major component of the temporary drainage system) for most of the newly exposed areas once after vegetation clearance was completed. However, maintenance frequency of the silt fence was unsatisfactory. Most of the formerly installed silt fence were collapsed and not installed properly and recorded during the site audit. The Contractor was reminded to rectify the situation to prevent silty runoff to the water sensitive areas. Potential heavy rain(s) could occur during the dry season.

4.1.4 The wheel washing facility provided on site was still not effective to mitigate the silty water discharge since the last two months, silty runoff was observed from this area to the freshwater inland marsh for all site audits. The sewage treatment plant was started to operate at the end of May 2006. Water discharge licence for this project was obtained in September 2006.

4.1.5 No dust suppression measure was provided for all rock breaking areas (Holes 6, 10, 11 and 14). Dust suppression measures for loading/unloading activities, rough shaping and haul road (truck traffic) were insufficient. According to the site observation and air quality results, it demonstrated that the provided mitigation measures on site were insufficient for dust suppression. Two to three water trucks were mainly watering at those haul roads near to the existing golf course. The water source was mainly pumped from the downstream of the fresh water inland marsh and downstream of Stream A which could dry up during the dry season. Alternative water source for dust suppression should be considered during the dry season. Water source from WSD has already successfully applied by the Contractor few months ago. The Contractor can also consider alternative water source such as underground water source or other dust mitigation measures.

4.1.6 Hydroseeding was observed at part of soil stockpile near Hole 17, soil stockpile at Hole 18 was covered by tarpaulin but no mitigation measure provided for all other soil/sand/aggregates stockpiles. Insufficient watering to the hydroseeded areas was observed which led to poor growth to minimize the dust generation and silty runoff properly.

4.1.7 Vegetation stockpile, general refuse and construction waste stockpiles were temporary stored on site since the start of the project without proper disposal. The Contractor agreed to dispose all waste off-site gradually starting from next reporting month. No chemical storage area was available on site since the start of this project. Insufficient mobile toilets were available on site at remote areas, only two units were located at the southern portion of construction site.

4.1.8 No dredging work has been carried out near to the existing pier for the desalination plant pipelines. 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 5 occasions in September to October 2006. All monitoring data are provided in **Annex E**. Monitoring of 24-hour TSP was conducted at GCA B1 on 27th September, 3rd, 9th, 14th and 20th October 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 No exceedance of 24-TSP was recorded at GCA B1 in the reporting month. However, a consistent high concentration of TSP trend was recorded (95%ile = 177 μg/m³ where the action level is 187 μg/m³) since mid-September 2006.

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 was conducted on 5 occasions in September to October 2006 (25th September, 3rd, 9th, 19th and 23rd October 2006). The QA/QC results for laboratory testing in the reporting month were acceptable. The QA/QC results are summarised in **Annex F**.

5.2.3 No heavy rainstorm signals were hoisted during the reporting month.

Marine water

- KLW : two action levels and one limit level exceedances of suspended solids;
- M_Marsh : two action levels exceedances of suspended solids; one action level exceedance of turbidity;
- TTC : two action levels and one limit level exceedances of suspended solids; and
- M_BP : one action level of suspended solids;

Table 5.2-1 Marine Water Exceedance Summary September - October 2006

Monitoring Station	Exceedance Level	Date	Parameters	Project-related
KLW	Action Level	25th Sept 2006	SS	No
	Limit Level	9th Oct 2006	SS	No
	Action Level	19th Oct 2006	SS	No
M_Marsh	Action Level	19th Oct 2006	Turbidity, SS	No
	Action Level	23rd Oct 2006	SS	No
TTC	Limit Level	25th Sept 2006	SS	No
	Action Level	9th Oct 2006	SS	No
	Limit Level	23rd Oct 2006	SS	No
M_BP	Action Level	23rd Oct 2006	SS	No

Remarks: Exceedances were mainly due to natural variation of marine water quality.

5.2.4 The marine water exceedances were summarised in **Table 5.2-1**. All exceedances at KLW, TTC, M_Marsh and M_BP were considered not project-related. The exceedances were mainly due to the natural variation of marine water. The magnitude of the increase of SS was similar to the control monitoring stations at M_A and M_B.

Freshwater

- F_DA : two action level exceedances of turbidity;
- F_DB : two action levels exceedances of SS;
- F_DC : Ten limit levels exceedances of turbidity; one limit level and two action level exceedances of suspended solids; and
- F_Inland M : six limit levels exceedances of turbidity; two action levels exceedances of suspended solids.

5.2.5 The freshwater water exceedances were summarised in **Table 5.2-2.**

Table 5.2-2 Freshwater Exceedance Summary September to October 2006

Monitoring Station	Exceedance Level	Date	Parameters	Project-related
F_DA	Action Level	25th Sept 2006	Turbidity	No
	Action Level	3rd Oct 2006	Turbidity	No
F_DB	Action Level	25th Sept 2006	SS	No
	Action Level	23rd Oct 2006	SS	No
F_UC	Limit Level	25th Sept 2006	Turbidity, SS	Yes
	Limit Level	3rd Oct 2006	Turbidity	Yes
	Limit Level	9th Oct 2006	Turbidity	Yes
	Limit Level	19th Oct 2006	Turbidity	Yes
	Limit Level	23rd Oct 2006	Turbidity	Yes
F_DC	Limit Level	25th Sept 2006	Turbidity	Yes
	Action Level	25th Sept 2006	SS	Yes
	Limit Level	3rd Oct 2006	Turbidity	Yes
	Limit Level	9th Oct 2006	Turbidity	Yes
	Action Level	9th Oct 2006	SS	Yes
	Limit Level	19th Oct 2006	Turbidity	Yes
	Limit Level	23rd Oct 2006	Turbidity	Yes
F_Inland Marsh	Limit Level	25th Sept 2006	Turbidity	Yes
	Limit Level	3rd Oct 2006	Turbidity	Yes
	Limit Level	9th Oct 2006	Turbidity	Yes
	Limit Level	19th Oct 2006	Turbidity	Yes
	Limit Level	23rd Oct 2006	Turbidity	Yes
	Action Level	3rd Oct 2006	SS	Yes
	Action Level	19th Oct 2006	SS	Yes

Remarks: For Streams A and B, exceedances were mainly due to natural variation. For Stream C, exceedances were mainly after the site and haul road formation. For F_Inland M, the exceedances were mainly due to continue discharge of silty water from construction site in all times.

5.2.6 Exceedances of suspended solids and turbidity were considered not the runoff from the temporary bridges to Streams B1 and B2 and considered not project-related. For the upstream monitoring location (F_UB), it is located downstream to the construction area near Hole 10 and the monitoring location cannot be relocated further upstream (temporary bridges located at Streams B1 and B2) as no water was observed and available for sampling.

5.2.7 For Stream C, exceedances were recorded at both upstream and downstream monitoring locations. For the upstream monitoring location (F_UC), it is located downstream to the construction area near Hole 16 and the monitoring location cannot be relocated further upstream as no water was observed and available for sampling. Therefore, the F_UC is considered the most upstream location of Stream C. Same as Stream B, it is considered that F_UC is also the impact monitoring location rather than control monitoring station.

5.2.8 The exceedances recorded at freshwater inland marsh were manly attributed to the silty runoff from Holes 1, 6, 7, 8 & 18 and wheel washing facility provided near the maintenance building to the existing freshwater inland marsh and considered project-related.

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 27th October 2006. Site clearance works were advancing toward Stream C, and earth works had been being conducted at the majority of the new golf course site, including areas inside the existing golf course. In the present monitoring survey, the main stream course of Stream A (the section downstream to the confluence of tributaries A1 and A2) was found still to be filled up by rubbles which was first report in June 2006 (see **Photo Plate 5.3-1**). The rubbles were reported to be washed down from the upper Tributary A2 which was under pipe culvert construction. Although the riparian vegetation was not affected by the rubbles, this section of stream channel was temporarily lost. Stream A was of the lowest ecological value among the four natural streams as it was heavily silted with sediments from eroded hillsides all year round. No stream fish and only very limited aquatic fauna were recorded in Stream A before. The impact from this temporary loss of stream channel would not be severe. But remedial works should be implemented to clear the rubbles and restore the channel as the condition of this stream is expected to improve after the construction of the golf course extension (in which the eroded hill slopes would be replaced by turf).

5.3.3 The demarcation of the stream buffer zone had been fully established at Stream A main stream and the two tributaries of Stream B and Stream C (partially) at the time of the monitoring survey. Except at the temporary access bridges crossing Stream A and Stream B, riparian vegetation within the buffer zone was not disturbed by construction works.

5.3.4 Although the surveyed streams have not been previously affected by developments or pollution sources, they are relatively small. Water depth was less than 0.3m in most of the stream reaches even during wet season. Currently (still within dry season) these streams had very small surface flow or even had no surface flow for most of the length.

5.3.5 Stream A is located within the Project Area. Its main stream section (downstream to the confluence of two tributaries) would be protected by stream buffer zone (**Figure 3.3**). Stream A was heavily silted with sediments from eroded hillsides all year round, particularly at the main stream section. The stream had low flow.

5.3.6 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 also has two main tributaries, B1 and B2. The full length of Stream B (two tributaries and the main stream) would all be protected by buffer zone (**Figure 3.3**). Stream B also contains a long estuarine section of muddy sandy substrate.

5.3.7 Stream C is located within the Project Area. This stream also has two main tributaries. 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. The full length of Stream C (two tributaries and the main stream) would all be protected by buffer zone (**Figure 3.3**)

5.3.8 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). As Stream D is outside the construction area, buffer zone would not be needed for this stream.

5.3.9 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**). As it was approaching the end of wet season, there was no significant rainfall recently. In spite of the advance of works fronts, no obvious increase of the sediment inside the streams, e.g. Stream C was found. It was observed that the water in Stream C was clear, without the turbulence recorded in September 06 survey. Atyid shrimp *Caridina trifasciata* was still recorded in Stream B, C & D in the present survey.

5.3.10 Water levels in the 4 streams were much higher than in previous monitoring surveys during dry season. For the two tributaries in Stream B, the flow in B2 tributary was similar and flow in B1 tributary was also observed at its lower reach. The majority of Stream C had been found dry in previous monitoring surveys, but in the present survey surface flow was present in even upstream section. Stream D had surface flow even at the most upper reach. Photos of Streams A to D were shown in **Photo Plate 5.3-1 (Annex E)**.

5.3.11 The habitats and vegetation generally remained intact within a large potion of the project site (beyond the works fronts), within the major of stream buffer zone and outside the project area. No earthwork, human disturbance or fire disturbance was observed beyond the works fronts other than the historical erosion of hillsides and the access paths to the project site.

Marine Ecology

5.3.12 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, and if no exceedance was recorded then quarterly till the end of the construction.

5.3.13 According to the additional three months coral monitoring at Site B2, Site C and Control Site (Apr to June 06) due to the coral damage incident happened on 26th March 06, no exceedance was recorded on corals. AFCD have no objection to reduce the monitoring frequency from monthly to quarterly until the end of the construction phase. The first quarterly survey was conducted in September 2006. No survey was required in the reporting month (October 2006).

5.3.14 To avoid similar incident from occurring again and as an additional measure to protect the corals along the shore, diving inspection by coral specialist is suggested during the period of demolition of the temporary barging point.

5.3.15 The reporting month (October 2006) was the Month Ten of the construction programme. As the dredging works for the desalination plant had not been commenced, Site D2 and Site D3 (impact sites on the western Kau Sai Chau Island for desalination plant) were not required yet. The coral transplantation, which should be conducted prior to the commencement of dredging works, had not been performed. The monitoring on transplanted corals on the bedrock at Site D2 (see **Figure 3.5**) therefore was also not needed yet.

5.4 Archaeology (Watching Brief)

5.4.1 Excavation was carried out at Hole 2 during this monitoring month and watching brief monitoring was carried out. According to the latest construction programme, part of the Hole 2 will not be completed in May 2006. Approximate 40% of the Hole 2 area was being excavated

and the watching brief at Hole 2 will have to further extend. The first progress report (January to March 2006) had been sent to AMO for comments on 31st March 2006. The progress report will be submitted to AMO on quarterly basis.

5.4.2 The Archaeological Watching Brief (AWB) will consist of 18 days of on-site monitoring of the construction work. An initial site visit was made on 20th January 2006 to inspect preliminary vegetation clearance at Hole 2. The second site visit was undertaken on 3rd February 2006. The first day of the monitoring was agreed on 14th February 2006 after the confirmation with the Contractor that the bulk excavation was being carried out at Hole 2.

5.4.3 Monitoring results were shown as follows:

Hole 2

5.4.4 Clearance of surface soil was monitored in Areas 1 and 2 (mainly the concrete batching plant and underground water tank location) which is around 60% of the actual bulk earthwork. All monitoring areas were investigated after vegetation clearance and no archaeological material was identified in the first quarterly report. A thirty minute video of the works was recorded. No works have been undertaken outside the Areas 1 and 2 up the reporting period (January to March 2006).

Holes 11, 12, 14, 15 & 16

5.4.5 For the excavation at watching brief concern areas (Holes 11, 12, 14, 15 & 16), the excavation programme was commended in early September 2006 after the completion of temporary bridges construction at Streams B1 and B2. Vegetation clearance was started in early September at Holes 11, 12 and 16 and almost complete at Holes 11 to 16 in this reporting month. Bulk earthwork at concerned watching brief area was concentrated Holes 11, 14 and 16. No archaeological material was identified in the second quarterly report (April to September 2006). Archaeological watching brief monitoring was in progress during this reporting month.

5.5 Land Contamination

5.5.1 The Contamination Assessment Plan (CAP) was approved by EPD 17th February 2006. Site investigation was carried out on 14th and 15th February 2006. Site audit was carried out with IEC on 14th February 2006 with the Contractor's representatives. The CAP was approved on 17th February 2006. The Contamination Assessment Report (CAR) and Remediation Action Plan (RAP) were approved on 18th August 2006.

5.5.2 Remedial work for the contaminated soil located at the Hotspot L3 (Hole 18) is required to be implemented properly according to the RAP. A confirmation pilot trial on the ratio of cement and contaminated soil was carried out during the reporting month. According to the Contractor's submitted methodology, the contaminated soil will be transferred from Hole 18 to Hole 17 for remediation. It is because that Hole 17 is the major fill area and the remediation soil to cement mixture can be used as general fill material. The full scale remediation work was carried in the reporting month on 4th October 2006. A Final Site Remediation Report (FSRR) will be prepared by the Contractor and submitted in the next reporting report.

6. Environmental Site Auditing

6.1.1 The weekly site inspections were conducted by the ET with Contractor's representative and/or Jockey Club's representative on 27th September, 4th, 10th, 17th and 24th October 2006, and the monthly joined site inspection with IEC and the Contractor's representative undertaken on 24th October 2006. The following observations and recommendations were made.

Dust Mitigation Measures

6.1.2 Major excavation work was carried at Holes 10, 11, 14 and 16 during the reporting month. Haul road was constructed linking up all 18 golf course except Hole 13. No dust suppression measure was provided during rock breaking activities carrying at Holes 6, 10, 11, 14 & 16. Dust generation from the haul road, during earth moving operation and excavation were observed at sunny and windy weather, insufficient dust mitigation measures was provided on site. According to the site observation, two to three water trucks were provided on site for haul road watering to minimize the dust generation from the haul road only.

6.1.3 There were five major large soil stockpiles on site near Holes 1, 9, 16 and 18. Only two of them were partially covered with tarpaulin / hydroseed. The Contractor was repeatedly urged to provide sufficient mitigation measures and watering the hydroseed areas.

6.1.4 The Contractor was reminded to minimize the dust generated by the site vehicles moving along the haul road by paving the heavy traffic haul road and haul road near to the existing golf course. The Contractor was repeatedly reminded to provide sufficient dust suppression measure at all other excavation / earth moving areas.

6.1.5 Concrete batching plant was operating during this reporting month. The estimated quantity of concrete produced was around 100m³/day. No major dust generation was observed from the concrete batching plant during operation.

6.1.6 Dust emission was observed during the unloading of aggregates from the barge to the trucks located at temporary barging point. The Contractor was reminded to keep the aggregates moist in any time during the material transfer.

Water Quality

Temporary Drainage Master Plan

6.1.7 The temporary drainage master plan (TDMP) for Holes 11-16 was submitted by the Contractor for ER to review during previous reporting month and approved in this reporting month. The Contractor is required to submit the TDMP for the (i) turf grass establishment period and (ii) next wet season. The pesticide is a prohibited substance which is not allowed to be discharged to any water bodies under the WPCO.

6.1.8 The TDMP indicates that there are many discharge points along the construction boundary to the marine water and streams. Same as the earlier submission, the basic temporary drainage principle submitted by CHEC is that the construction site contaminated runoff will pass through the silt fence / rock channel and then discharge/overflow to marine or stream courses. The construction site contaminated runoff will not be confined, collected and properly treated before water discharge.

6.1.9 According to the site observation which is similar to the last few reporting months, cut-off drain was only implemented at Hole 17. The temporary drainage system implemented on site was

mainly surrounded with silt fence along the site boundary with few sedimentation basins before discharge. Most of the runoff was discharged by overland flow through silt fence to stream and marine water. The silt fence installed on site was not well-maintenance especially at formerly installed areas which may lead to silty runoff. The Contractor was repeatedly reminded to improve the effectiveness of the mitigation measures and provide sufficient temporary drainage system on site.

6.1.10 The Contractor was reminded to provide sufficient temporary drainage and cover/hydroseed/other means to prevent any silty runoff from the desalination plant especially the surrounding slope of the land formation area. No dredging of the intake and outfall pipelines was carried out during the reporting month.

6.1.11 The Contractor was reminded to provide adequate mitigation facilities on site and sufficient temporary drainage at temporary bridges no. 5, 9, 10 (two crossings) to ensure no polluted runoff discharge from the construction works to Stream A, Stream B and freshwater inland marsh. The permanent bridges / pipe culvert at Streams A, B and C will be commenced in the next reporting month. The permanent bridges should be constructed by precast unit and any discharge of polluted runoff to the stream is prohibited during construction.

6.1.12 The Contractor was repeatedly reminded to maintain the silt curtain and desilt the settled solids within the silt curtain in a routine basis and ensure the effectiveness of its intended use.

6.1.13 The Contractor agreed that the silty water from the wheel washing facility was diverted to the sedimentation basin near the Contractor's site office and treated with the wastewater treatment plant before discharge to fresh water inland marsh. According to the site observations, the temporary diversion for the silty water was demolished and the wastewater treatment plant was removed. Therefore, silty water was still directly discharged to the freshwater inland marsh. Only one wastewater treatment plant was located at Hole 10 for standby use.

6.1.14 No turf has been established during this reporting month. According to the construction programme, turf establishment will start in December 2006 at Holes 3, 5 & 8. The Contractor was reminded to provide temporary drainage system to collect and divert the runoff to the existing reservoir when the permanent closed low flow drainage system is not completed yet. The Contractor was recommended that turf establishment should not be concentrated in a short period of time to reduce the potential nutrients and pesticides runoff to freshwater and marine water sensitive receivers.

Ecology

6.1.15 Buffer zone at Streams A, B1, B2 and C (partially) had been established. The whole buffer zone aims to protect the streams and avoid any works/equipment intrusion into the buffer zone.

6.1.16 The main stream course of Stream A was found to be filled up by rubbles to the level of the weir at its downstream end since mid-June 2006, and its conditions remained similar in the present monitoring survey. Remedial works were not yet to be implemented to clear the rubbles and restore the channel manually.

6.1.17 Floating pontoon was berthed at EP location at the temporary barging point. No illegal berthing was observed during the site audit.

6.1.18 No dredging work was carried out at the desalination plant location. No monitoring and transplantation was carried at this area.

Waste / Chemical Management

6.1.19 Cleared vegetation was stockpile on site for a long time and no disposal was recorded. In addition, stockpile of construction waste was also observed located at Hole 2 at least four months. The Contractor was repeatedly reminded to dispose the vegetation stockpiles and construction waste off-site properly according to the waste management plan. The Contractor agreed to dispose the vegetation and construction waste in the next reporting month.

6.1.20 No chemical storage area was available on site during the reporting month. Some oil tanks were required as the standby fuel. Drip trays were provided underneath the oil tanks to prevent leakage on the bare ground. The Contractor confirmed that the chemical waste generated was in small amount and would be disposed by their sub-contractor or store on site. The Contractor was reminded to provide chemical storage areas for chemical storage on site.

6.1.21 There were few general refuse disposal records only in the previous reporting month. The Contractor was requested to provide the waste generation and disposal record regularly for ER and ET to review and to ensure that all waste generated from the site is disposed properly and not through Jockey Club existing dumping system. According to the site observation, the general refuse was still accumulated within the construction area (at Hole 2) without proper disposal for more than few weeks.

Landscape and Visual

6.1.22 The landscape and visual monitoring and site audits were carried out on 4th and 18th October 2006. Damaged trees next to the administration building were still unprotected after being damaged by the adjacent construction activities.

6.1.23 Tree T1000 and T1011 were transplanted in this month and are in fair condition. All other transplanted trees were in fair condition. Mal-pruning of transplanted trees had not been rectified since July 2006. Construction material was still stockpiled within tree protection zones since July 2006. A statement on the cause of death of tree T925 recorded in the last report was still outstanding.

Status of Environmental Licensing and Permitting

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

Table 6.1 Summary of Environmental Licensing and Permit Status

Permit/licence/notification form title	Submission date	Status	Registration No./ Remarks
Application for a construction noise permit for the use of powered mechanical equipment for the purpose of carrying out construction work other than percussive pilling and/or the carrying out of prescribed construction work.	21st Jan 2006	Approved on 16th February 2006	GW-RE0012-06 (valid until 3rd July 2006), supersede by GW-RE0067-06.
Application for a construction noise permit for the use of powered mechanical equipment for the purpose of carrying out construction work other than percussive pilling and/or the carrying out of prescribed construction work.	6th Apr 2006	Approved on 9th Jun 06 (supersede the GW-RE0067-06)	GW-RE0157-06 (valid until 28th Nov 2006)
Notification of the air pollution control (construction dust) regulation	21st Jan 2006	Acknowledge receipt from EPD on 27th February 2006	Ref. no.: 001006902
Registration as a chemical waste producer	10th Jan 2006	Register on 7th February 2006	WPN-5213-813-C1186-04
Application for a permit to dump material at sea under the Dumping at Sea Ordinance	10th Jan 2006	Deferred by CHEC on 17th March 2006 (CHEC/KSC3.9.1/0459)	No dredging work will be carried out between May to December 2006.
Application of exemption account for the construction waste charging scheme	12th Jan 2006	Approved on 16th January 2006	A/C no. 5005322 (valid until 2nd August 2007)
Application for a licence for production pursuant to Section 14 of Air pollution Control Ordinance	2nd Mar 2006	The total silo capacity for the cement works was 45 tonnes which is lower than 50 tonnes. It is not a specified process, application is not required.	EPD letter refer. no.: EP640/EA/SK/015
Application for a licence under Water Pollution Ordinance – Construction Site	18th Mar 2006	Approved on 12th Sept 2006 (CHEC/KSC3/9.1/0414)	EPD letter refer. No: EP640/W4/J1003

7. Environmental Non-Conformance

7.1 Summary of Environmental Non-Compliance

Air Quality

7.1.1 No non-compliance of 24-TSP was recorded at GCA B1 in the reporting month.

Marine Water Quality

7.1.2 One exceedances of turbidity and nine exceedances of suspended solids (SS) on 25th September, 9th, 19th and 23rd October 2006 were recorded at KLW, TTC, M_Marsh and M_BP. All exceedances were considered not project-related.

Freshwater Quality

7.1.3 Eighteen exceedances of turbidity and ten exceedances of suspended were recorded at F_DA, F_DB, F_DC and F_Inland Marsh. The exceedances recorded at freshwater inland marsh were mainly attributed to silty water discharged from the wheel washing facility near to the Contractor's site office. The exceedances recorded at Streams A and B were considered not project-related. Exceedances recorded at Streams C and freshwater inland marsh were considered project-related.

Terrestrial Ecology

7.1.4 No non-compliance was recorded during the site audit.

Marine Ecology

7.1.5 Coral monitoring survey was not required in this reporting month.

7.2 Summary of Environmental Complaint

7.2.1 No environmental complaint was received in this reporting month.

7.3 Summary of Environmental Summons

7.3.1 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 Major works to be taken for the coming monitoring period are summarized as follows.

- Operation of temporary barging point
- Operation of sewage treatment plant
- Operation of concrete batching plant
- Operation of wastewater treatment plant
- Land formation for desalination plant
- Drainage and irrigation systems installation at Golf Holes
- Haul road formation and bulk excavation at Hole 13
- Gravity drain construction from Lake 1D to reservoir
- Implementation of temporary drainage master plan
- Implementation of dust suppression mitigation measures
- Vegetation, general and construction wastes disposal off-site

8.2 Monitoring Schedule for the coming month

8.2.1 The tentative schedule of air, 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 25th September 2006 to 24th October 2006 in accordance with EM&A Manual and the requirement under EP-224-2005/A.

9.1.2 The Contractor was repeatedly reminded to improve and provide sufficient temporary drainage system on site to prevent silty runoff to marine and stream courses. In addition, the Contractor was reminded to provide sufficient dust suppression mitigation measures especially during rock breaking activity, earth movement (loading and unloading), at haul road (vehicle movement) and large soils stockpiles.

9.1.3 In the June 2006 monitoring survey of terrestrial ecology, the main stream course of Stream A was found to be filled up with rubbles to the level of the weir at its downstream end, and its conditions remained similar in the present monitoring survey. The Contractor was reminded to control the construction work quality and prevent same incident happened in future. Remedial works were not implemented to clear the rubbles and restore the channel by hand.

9.1.4 Same as the last reporting month, no rectification work was done by the Contractor. Regarding the retained trees, the Contractor shall take the following measures:

- Carry out surgery to damaged trees;
- Report the cause of death of tree T925;
- Maintain the tree protection zone required and remove all construction material / debris from the tree protection zone;
- Rectify the mal-pruning practice of the transplanted trees; and
- Carry out hydroseed works at temporary and permanent stockpiles/bare slopes when practical.

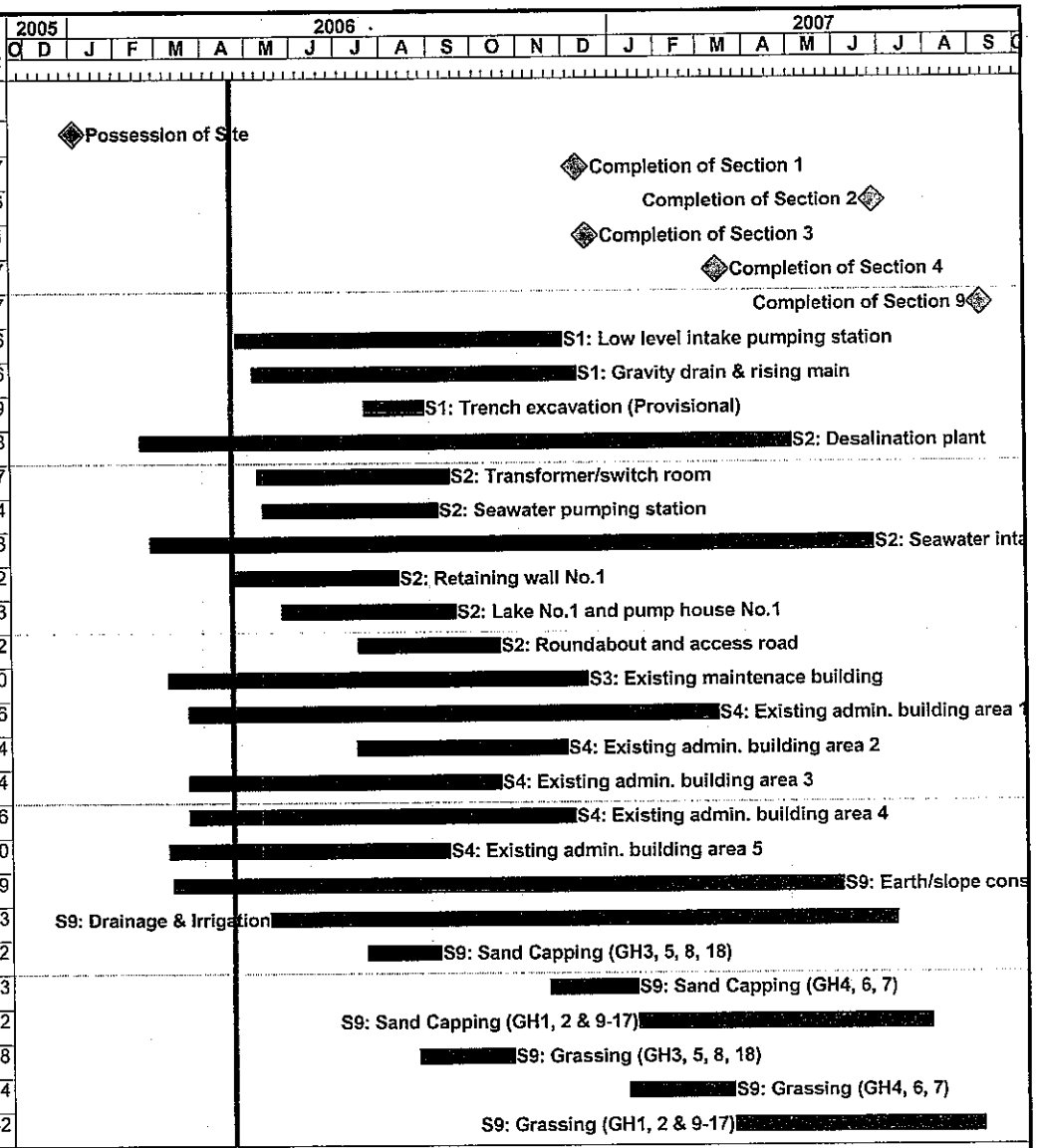
9.1.5 No environmental complaint and environmental summons/prosecutions was received during the reporting period.

9.1.6 The ET will keep track of the EM&A programme with respect to compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

Annex A
Tentative Construction Programme

SUMMARY PROGRAMME

Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Total Float
SU00100	Possession of Site	0	03/01/06A		
SU00110	Completion of Section 1	0		09/12/06	-67
SU00120	Completion of Section 2	0		26/06/07	-266
SU00130	Completion of Section 3	0		16/12/06	-11
SU00140	Completion of Section 4	0		13/03/07	-7
SU00150	Completion of Section 9	0		07/09/07	-37
SU00160	S1: Low level intake pumping station	183*	24/04/06	30/11/06	-56
SU00170	S1: Gravity drain & rising main	182*	06/05/06	09/12/06	-56
SU00180	S1: Trench excavation (Provisional)	35*	20/07/06	29/08/06	29
SU00190	S2: Desalination plant	354*	18/02/06A	02/05/07	-168
SU00200	S2: Transformer/switch room	111*	08/05/06	15/09/06	7
SU00210	S2: Seawater pumping station	100*	12/05/06	07/09/06	-4
SU00220	S2: Seawater intake & dischange pipe	394*	24/02/06A	26/06/07	-213
SU00230	S2: Retaining wall No.1	93*	21/04/06	11/08/06	-12
SU00240	S2: Lake No.1 and pump house No.1	99*	24/05/06	18/09/06	-13
SU00250	S2: Roundabout and access road	80*	15/07/06	18/10/06	-12
SU00260	S3: Existing maintenace building	234*	07/03/06A	16/12/06	-10
SU00270	S4: Existing admin. building area 1	290*	21/03/06A	13/03/07	-6
SU00280	S4: Existing admin. building area 2	119*	14/07/06	02/12/06	14
SU00290	S4: Existing admin. building area 3	172*	21/03/06A	18/10/06	14
SU00300	S4: Existing admin. building area 4	214*	21/03/06A	07/12/06	-6
SU00310	S4: Existing admin. building area 5	156*	07/03/06A	13/09/06	0
SU00330	S9: Earth/slope construction works	364*	10/03/06A	05/06/07	-29
SU00350	S9: Drainage & Irrigation	343*	16/05/06	11/07/07	-23
SU00360	S9: Sand Capping (GH3, 5, 8, 18)	43*	20/07/06	07/09/06	42
SU00370	S9: Sand Capping (GH4, 6, 7)	48*	20/11/06	17/01/07	-23
SU00380	S9: Sand Capping (GH1, 2 & 9-17)	159*	18/01/07	03/08/07	-32
SU00390	S9: Grassing (GH3, 5, 8, 18)	54*	23/08/06	26/10/06	88
SU00400	S9: Grassing (GH4, 6, 7)	57*	12/01/07	22/03/07	4
SU00410	S9: Grassing (GH1, 2 & 9-17)	137*	23/03/07	07/09/07	-32



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Finish Date	07/09/07
Data Date	21/04/06
Run Date	02/05/06 16:38

?Primavera Systems, Inc.

Summary Bar
Progress Bar

KS04

Sheet 1 of 1

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

Date	Revision	Checked	Approved
28/12/05	4th Final for Submission	Tim	
01/03/06	Ver 5th (KST5)	Tim	

Annex B
Monitoring Programme for the reporting month

Sept 2006						
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
24	25 WQ	26	27 AQ	28	29	30

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

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	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.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	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.	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.	1. Confirm in writing receipt of notification of exceedance; 2. Notify Contractor; 3. Supervise proper implementation of remedial measures.	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	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	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.	1. Confirm in writing receipt of notification of exceedance; 2. Notify Contractor; 3. Supervise proper implementation of remedial measures.	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	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.	Discuss amongst Engineer, ET, and Contractor the potential remedial actions; Review Contractor's remedial actions whenever necessary to assure their effectiveness, and advise Engineer accordingly; Supervise implementation of remedial measures.	Confirm receipt of notification of exceedance in writing; Notify Contractor; In consultation with the IC(E), agree with the Contractor the remedial measures to be implemented; Supervise proper implementation of remedial measures; 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.	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 *in situ* 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 *in situ* 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 *in situ* 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 *in situ* 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 • Skeleton remains • Items associated with human burial, i.e. grave goods	Full recording and recovering of human remains and associated features • Complete recoding 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 • 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 • 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 • 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 • Recovery of objects • Sampling of the surrounding matrix • Proper treatment with cleaning, marking and packing under international acceptable standards
Isolated material • 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 • Recovery of material, such as artefact fragments, environmental material and sampling of surrounding matrix
Deposits with archaeological potential • Soil deposits which exhibit characteristics associated with archaeological remains in Hong Kong	Sampling of the deposit • 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 and Guidelines	Implementation Status
					D	C	O		
Air Quality - Construction Phase									
4.7.1		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. 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: • 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; • 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	Insufficient Insufficient Insufficient √ √ Insufficient Insufficient As confirmed by Contractor, the concrete batching plant is not a specific process.
4.7.2		Providing watering four times a day for dust suppression.							Insufficient

* 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 6.11.5		Proposed 18 holes Golf Course Layout Design 20m 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. 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: • 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 • emoval 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.	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	Streams A, B1, B2 and partially Stream C buffer zones fencing were provided. Temporary bridges at no.9 and no. 10 were constructed at Streams A, B2 & B1 within the buffer zone areas. The Contractor was reminded to ensure no discharge/runoff to the Streams A, B & C from the construction activity especially within the buffer zone areas. Construction of permanent bridge (precast in concrete) no. 5 was in progress at downstream of freshwater inland marsh. The Contractor was reminded to provide sufficient mitigation measures during construction to prevent runoff from the bridge. Permanent bridges at Streams A, B2 and C will be started to construct in the next reporting (Dry season).
6.11.13		Runoff and Drainage Management ◆ **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 to 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 *TM on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters* 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, 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. 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	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	The latest temporary drainage plan has included the whole construction site. The temporary drainage plan will be updated by the Contractor throughout the construction phase to cope with the change of site conditions. The Engineer was reminded the Contractor to prepare the next wet season drainage plan for their approval. The latest submitted drainage plan is the mitigation measures for the silty runoff mainly which has not included the recycling the runoff during the turf establishment. The installation and maintenance of the temporary drainage on site was very low since last reporting month. The site was mainly surrounded with silt fence with low frequency of maintenance. Permanent temporary drainage (including closed low flow drainage system) was constructed in progress. No turf was established on site yet. The expected earliest turf establishment period will be commenced in Dec 06 at Holes 3, 5 & 8 but subject to further confirmation with the Contractor.

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		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. 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. 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. ◆ 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. • 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		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 *ProPECC PN1/94* on construction site drainage through the construction period. These practices include: • 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 *ProPECC PN1/94*. • 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 *TM on Standards for Effluents Discharged into Drainage and Sewerage Systems, Inland and Coastal Waters* under the WPCO. • 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.	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	The latest temporary drainage plan has included the whole construction site. The temporary drainage plan will be updated by the Contractor throughout the construction phase to cope with the change of site conditions. The Engineer was reminded the Contractor to prepare the next wet season drainage plan for their approval. The latest submitted drainage plan is the mitigation measures for the silty runoff mainly which has not included the recycling the runoff during the turf establishment. The installation and maintenance of the temporary drainage on site was very low since last reporting month. The site was mainly surrounded with silt fence with low frequency of maintenance. Permanent temporary drainage (including closed low flow drainage system) was constructed in progress. No turf was established on site yet. The expected earliest turf establishment period will be commenced in Dec 06 at Holes 3, 5 & 8 but subject to further confirmation with the Contractor.

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
6.11.15 6.11.16		Concrete bridge construction 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. The Contractor shall good site follow practices, including, but no limited to:: • 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 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; • 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.	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	One concrete bridge/pipe culvert was under construction at the freshwater inland marsh (no. 5) during the reporting month. Other permanent bridges and pipe culvert will be commenced during the next reporting month (Dry season).
6.11.19 6.11.20 6.11.21 6.11.22		Dredging during Construction of Desalination Plant's intake and outfall 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. 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 expected backfilling duration is approximate 2 months. 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. 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: • The maximum daily dredging rate for closed grab dredger should be $45m^3$/day; • The maximum daily dredging rate for backhoe should be $20m^3$/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	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	No dredging work for the desalination plant pipelines was carried out. The only work for the desalination plant was the land formation for the desalination plant during the reporting month.

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		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 not be operated with leaking pipes; • 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.							
6.11.23		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 subsequence 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.							
6.11.24		Silt Curtain 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		
		<u>General Construction Activities</u>							
6.11.29		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.	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	The Contractor was submitted the disposal records for the general refuse and construction waste during last reporting month only. No further record for disposal recorded was submitted to ER and ET for information.
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.							Not observed
6.11.32		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.							Not observed
6.11.33		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.	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	No observed
6.11.34		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.							No waste disposal recorded was submitted by the Contractor.
		<u>On-Site Sewage Effluents</u>							
6.11.35		In order to prevent sewage effluents affecting water courses, the following mitigation measures should be provided by the Contractor:-							
		• Temporary sanitary facilities, such as portable chemical toilets, should be employed on-site to handle sewage from the workforce;							√. A sewage treatment plant was provided at the site office. Few mobile toilets were available on site at southern portion of the construction site.
		• 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;							No canteen was available..
		• 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.							No observed
6.11.36		<u>Concrete batching plant</u> 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 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.	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	The concrete batching plant is operating during the reporting month. Temporary drains to cut-off the water from haul road was not observed. Concrete bund was provided at the downstream periphery end of the site to confine the wastewater. There was a sedimentation pit within the concrete batching plant area to collect the wastewater and used as a wheel waste facilities. The collected water will pump to sedimentation columns for recycle use. No discharge was expected from the plant. The site condition of the concrete batching plant was satisfactory.
6.11.37		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.							

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location	Implementation Agent	Implementation Stages**			Relevant Legislation and Guidelines	Implementation Status
					D	C	O		
		It is recommended to reuse the treated effluent for dust suppression and general cleaning on site, wherever possible.							
6.11.38		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.							
6.11.39		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.							
6.11.40		Sand, gravel and other bulk materials will be delivered from the production area by conveyor boats or derrick barges to the temporary barging point, and the material will then be loaded onto dump trucks by loaders and delivered to the on-site storage areas.							
6.11.41		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		Good site practice to minimize solid waste generation, including: ◆ 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.	√ The Contractor was requested to submit the waste generation quantity and disposal from the construction site for ET and ER review. Only disposal records was submitted by the Contractor during the last reporting month.
7.7.4		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: ◆ 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; ◆ 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.	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.	 Not observed Not observed √ Not observed Not observed √ √
7.7.6 7.7.7		Site Clearance Waste 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. 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.	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.	√ The Contractor was reminded to dispose/reuse the vegetation stockpiles and construction waste stockpiles properly. The submission from the Contractor on the record was outstanding during the reporting month. √
7.7.8		Excavated Materials 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-	Work site / During the construction period	All Contractors		√		WDO; Public Health and Municipal Services Ordinance; The Land (Miscellaneous Provisions) Ordinance;	√

EIA Ref	EM& A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
		site in public filling areas.						ETWB TCW NO. 15/2003.	
7.7.9		Construction and Demolition (C&D) Material 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 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.	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.	√
7.7.10		Site fencing 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	√ Plastic fencing / metallic hoarding was used on site.
7.7.12 7.7.14 7.7.15 7.7.16 7.7.17 7.7.18		Chemical Waste 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 *Waste Disposal (Chemical Waste) (General) Regulation*. 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. 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. 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 accordance with the *Waste Disposal (Chemical Waste) (General) Regulations*. 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. 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. Some paints and solvents are classified as chemical waste and, if used on site, will be subject to the stringent requirements of the *Waste Disposal (Chemical Waste) (General) Regulation.* Empty paint cans should be	Work site / During the construction period	All Contractors		√		Waste Disposal (Chemical Waste) (General) Regulation	Chemical waste storage area was not available on site. Improper storage of chemicals was observed near to the wastewater treatment plant.

EIA Ref	EM&A Ref	Environmental Protection Measures*	Location / Timing	Implementation Agent	Implementation Stages **			Relevant Legislation & Guidelines	Implementation Status
					D	C	O		
7.7.19		recycled or collected as waste. Any dry paint waste should be swept up and collected in containers for disposal. No lubricants, oils, solvents or paint products should be allowed to discharge into water courses, either by direct discharge, or as contaminants carried in surface water runoff from the construction site.							
7.7.20		Sewage 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.	Few portable toilets were not available at remote area to the site office. Site office with provision of flushing toilets for workers and staffs.
7.7.21 7.7.22		General Refuse 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. 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.	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.	Temporary stored on site without properly covered and not dispose properly during the reporting month.
7.7.23 7.7.25		Marine Sediments 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. During transportation and disposal of the dredged marine sediments, the following measures should be taken to minimise potential impacts on water quality: ◆ 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.	Marine Dredging area / During the construction period	All Contractors		√		ETWB TCW NO. 34/2002.	No dredging works was carried out during the reporting month. No dumping licence was applied by the Contractor.

* 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		Terrestrial Ecology 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		√		-	√
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		√		-	√
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		√		-	Part of the site has provided sedimentation basin to control the silty runoff.
8.9	Table 4.1	Streams B, C, and D will be monitored monthly during the construction phase to determine the status of *Caridina trifasciata* (shrimp) and *Nanhaipotamon hongkongensis* (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. The Contractor was not yet removed the newly deposited rock from rock fill of Hole 17 (by hand) at downstream A during this reporting month.
9.7.22		Marine Ecology 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		√			On-going with enhancement on the effectiveness of temporary drainage system for silty runoff. Turf establishment was not started yet.
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 *Halophila ovalis*, i.e. November and December (Fong et al. 2005) and the spawning season for corals, i.e. July to October (Lam 2000; Storlazzi, C. D. 2004).	Dredging area/ during dredging period	All Contractor		√			N/A
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		√			Floating pontoon was located at designated location according to EP during the reporting month.
		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		√			√

* 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		Construction phase 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	Not observed
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	No dredging work for the desalination plant was carried out during the reporting month.
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	Master Programme indicated that excavation will carried out throughout the year 2006 to mid 2007.

* 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 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: • 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	To commence
Table 12.13	MC2	Height of site offices: • 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	Complied. A two-storey high site office painted in green color has been constructed.
Table 12.13	MC3	Hoarding and screening: • 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	Complied. Green hoarding erected.
Table 12.13	MC4	Construction plant and building material: • 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.
Table 12.13	MC5	Construction light: • 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	No construction lights at present.
Table 12.13	MC6	Vegetation: • 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. Hydroseeding has been carried out for erosion control. Hydroseeding at site office are dead and shall be re-placed. NOT complied. Building material has been stored under dripline of trees.
Table 12.13	MT1	Compensation for losses: • 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: To commence.
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: To commence.
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: Partial completed of transplantation works on site.
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: To commence.

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	MT5	Tree Planting on Slopes: • New slopes with a gradient larger than 30^{o} shall have whip tree planting. • Such whip trees shall comprise tree species with shrub-like characteristics, such as *Gordonia axillaries* (大頭茶) and *Raphiolepis indica* (車輪梅).	General.	All contractors	√	√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: To commence.
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 : To commence.
Table 12.13	MT7	Tree Preservation: • 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	Design Stage: Tree felling approved. Construction Stage : Some trees were found damaged or dead. Tree transplantation commenced.
Table 12.13	MT8	Buffer Areas • 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: Commenced.
Table 12.13	MS1	Bulk hydroseeding: • Bulk site formation works shall be followed with bulk hydroseeding as soon as practical.	General.	All contractors		√		EIAO Guidance Note No. 8/2002	Design Stage: Complied Construction Stage: Temporary hydroseeding commence.
Table 12.13	MS2	Grassing: • 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	To commence.
	MS3	Restoration: • 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: Erograstic curvula Lolium Perenne Neyraudia reynaudiana Pennisetum purpureum; and the following shrub / small tree species: Gordonia axillaries, Rhaphiolepis indica and Rhodomyrtus tomentosa.	At all residual areas.	All contractors		√		EIAO Guidance Note No. 8/2002	To commence.
Table 12.13	ME1	Screening: • 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: To commence.
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: To commence.

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	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: To commence.
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: To commence.
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: Site formation is being carried out.
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: To commence.
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: To commence.
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: To commence.
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: To commence.
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: To commence.

* 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 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	√ (Part of Hole 2 mainly, Holes 11, 12, 14, 15 & 16 will be carried out starting from next reporting month).
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	√

* 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		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: • 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 wastewater run-off, and truck bodies and tailgates should be sealed to prevent any leakage during transport or during wet conditions; • 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 *Waste Disposal Ordinance (Cap 354)*, *Waste Disposal (Chemical Waste) (General) Regulation (Cap 35)*, 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 *Water Pollution Control Ordinance (Cap 358)*.	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).	CAR and RAP was approved on 18th August 2006. The pilot trial of the remedial work was started during the reporting month. The full scale remediation work was carried out during this reporting month. A final site remediation report (FSRR) will be prepared by the Contractor after the completion of the remediation work on site.
11.11.1		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.	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).	Same as above.

* 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

Date		Weather description	Temp (°C)	Relative Humidity (%)	Mean amount of cloud (%)	Total Rainfall (mm)	Wind direction
9 月 25 日	Mon	Mainly fine.	26.4	74	31	-	E
9 月 26 日	Tue	Mainly fine.	26.2	75	44	-	E
9 月 27 日	Wed	Sunny periods aprat from one or two rain patches.	26.2	75	35	-	E
9 月 28 日	Thu	Sunny periods aprat from one or two rain patches.	26.2	75	35	-	E to NE
9 月 29 日	Fri	Mainly fine aprat from one or two rain patches.	27.5	73	52	-	E to NE
9 月 30 日	Sat	Fine but hazy.	26.6	76	88	0.6	E
10 月 1 日	Sun	Fine	26.3	78	88	Trace	Trace
10 月 2 日	Mon	Mainly fine	26.9	77	88	Trace	Trace
10 月 3 日	Tue	Sunny period apart from one or two rain patches	26.9	80	70	5.1	N to NE
10 月 4 日	Wed	Mainly fine but hazy	27.1	73	55	Trace	N
10 月 5 日	Thu	Fine but hazy.	26.8	75	24	-	NE
10 月 6 日	Fri	Fine but hazy.	26.3	77	63	Trace	N
10 月 7 日	Sat	Fine but hazy.	26.2	71	16	-	N
10 月 8 日	Sun	Fine but hazy.	26.3	79	60	-	E
10 月 9 日	Mon	Fine but hazy.	25.2	83	84	0.6	E to NE
10 月 10 日	Tue	A few light rain patches at first. Sunny intervals.	26.2	77	64	-	E to NE
10 月 11 日	Wed	Sunny periods with haze.	26.8	78	73	-	E
10 月 12 日	Thu	Sunny periods.	26.7	77	34	-	E
10 月 13 日	Fri	Sunny periods.	26.8	77	56	-	E
10 月 14 日	Sat	Mainly fine but hazy.	26.4	82	84	5.3	E
10 月 15 日	Sun	Sunny periods with haze.	26.6	84	88	10.7	E
10 月 16 日	Mon	Sunny periods.	25.9	85	85	7.1	E
10 月 17 日	Tue	Sunny periods.	26.4	82	84	-	E

Date		Weather description	Temp (°C)	Relative Humidity (%)	Mean amount of cloud (%)	Total Rainfall (mm)	Wind direction
10 月 18 日	Wed	Sunny periods.	26.5	80	65	-	E
10 月 19 日	Thu	Sunny periods.	26.1	78	79	-	E
10 月 20 日	Fri	Sunny periods.	26.4	77	51	-	E
10 月 21 日	Sat	Sunny periods with rain patches.	26.4	79	49	-	E
10 月 22 日	Sun	Hazy with sunny periods, one or two light rain patches.	26.5	79	36	-	E
10 月 23 日	Mon	One or two light rain patches overnight.	27.3	79	56	Trace	E
10 月 24 日	Tue	Bright periods.	26.4	79	86	1.9	E

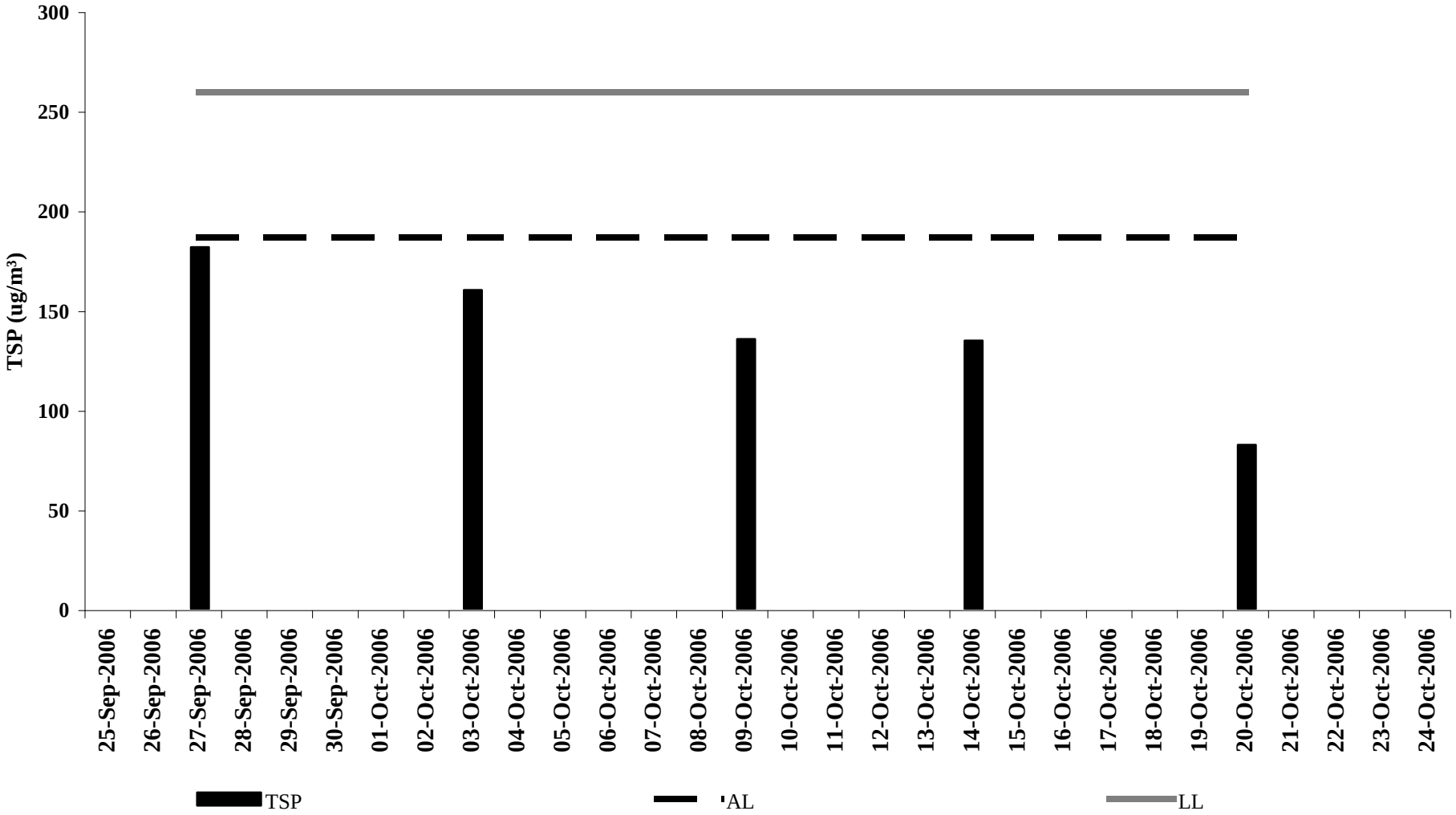
Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung
24-hour TSP Monitoring Results at Station GCA B1

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						
27-Sep-06	3.5862	3.9461	1.38	1.38	10486.6	10510.6	24.0	181.5	Sunny	0.36	1.38	1982.9
03-Oct-06	3.5085	3.8592	1.52	1.52	10510.6	10534.6	24.0	160.0	Sunny	0.35	1.52	2191.7
09-Oct-06	3.5512	3.8478	1.52	1.52	10534.6	10558.6	24.0	135.3	Sunny	0.30	1.52	2191.7
14-Oct-06	3.6365	3.9176	1.45	1.45	10558.6	10582.6	24.0	134.6	Fine	0.28	1.45	2088.0
20-Oct-06	3.7030	3.8663	1.38	1.38	10582.6	10606.6	24.0	82.4	Fine	0.16	1.38	1982.9

Min	82.4
Max	181.5
Average	138.8

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

24-hour TSP Monitoring Results at Station GCA B1



Water Quality

M_RO1	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:01	5.5	1.0	27.8	29.2	6.5	8.2	1.3
Mid-Ebb	03/10/2006	08:31	5.6	1.0	26.8	28.7	6.8	8.2	1.5
Mid-Ebb	09/10/2006	12:01	5.6	1.0	27.5	30.0	6.5	8.2	~~1.0~~
Mid-Ebb	19/10/2006	08:31	5.6	1.0	26.7	30.0	6.7	8.3	1.7
Mid-Ebb	23/10/2006	10:31	5.7	1.0	26.8	29.7	6.5	8.3	1.6

M_RO1	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	08:01	5.7	1.0	26.2	31.6	6.3	8.1	1.5
Mid-Flood	03/10/2006	13:31	5.9	1.0	27.3	31.5	6.5	8.0	1.3
Mid-Flood	09/10/2006	08:01	5.8	1.0	27.3	31.8	6.8	8.4	~~1.0~~
Mid-Flood	19/10/2006	13:31	5.7	1.0	27.7	31.7	6.9	8.4	1.7
Mid-Flood	23/10/2006	08:01	5.8	1.0	26.6	31.9	6.6	8.4	1.3

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

M_RO1	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006								
Mid-Ebb	03/10/2006								
Mid-Ebb	09/10/2006								
Mid-Ebb	19/10/2006								
Mid-Ebb	23/10/2006								

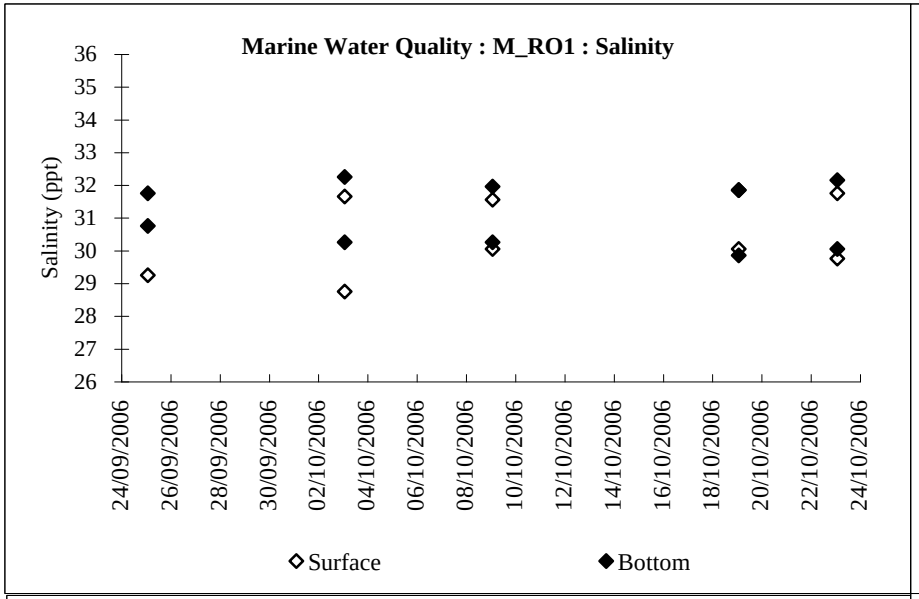
NOT USED

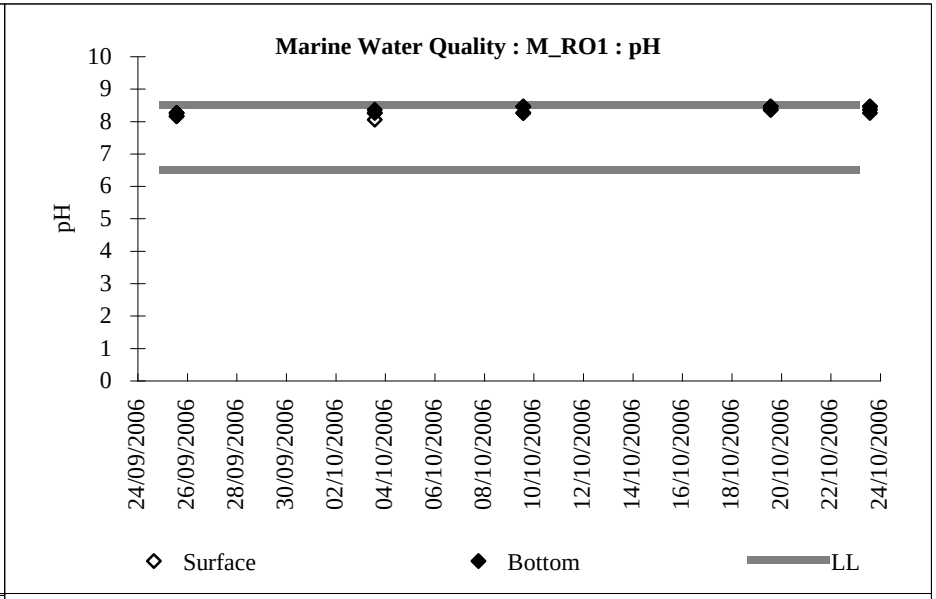
M_RO1	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006								
Mid-Flood	03/10/2006								
Mid-Flood	09/10/2006								
Mid-Flood	19/10/2006								
Mid-Flood	23/10/2006								

M_RO1	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:00	5.5	4.5	26.7	30.7	6.5	8.2	1.6
Mid-Ebb	03/10/2006	8:30	5.6	4.6	26.3	30.2	6.3	8.3	1.7
Mid-Ebb	09/10/2006	12:00	5.6	4.6	27.4	30.2	6.3	8.2	1.5
Mid-Ebb	19/10/2006	8:30	5.6	4.6	27.3	29.8	6.9	8.3	1.3
Mid-Ebb	23/10/2006	10:30	5.7	4.7	27.4	30.0	6.8	8.2	1.5

M_RO1	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	8:00	5.7	4.7	26.2	31.7	6.3	8.1	1.7
Mid-Flood	03/10/2006	13:30	5.9	4.9	26.5	32.2	6.4	8.2	1.3
Mid-Flood	09/10/2006	8:00	5.8	4.8	27.3	31.9	6.8	8.4	1.4
Mid-Flood	19/10/2006	13:30	5.7	4.7	27.7	31.8	6.9	8.4	1.1
Mid-Flood	23/10/2006	8:00	5.8	4.8	26.7	32.1	6.7	8.4	1.3

	Mid-Ebb			Mid-Flood			Depth-averaged
M_RO1	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
25/09/2006	4.0	-	5.0	6.0	-	3.0	4.5
03/10/2006	~~2.0~~	-	2.0	~~2.0~~	-	~~2.0~~	2.0
09/10/2006	2.0	-	6.0	6.0	-	4.0	4.5
19/10/2006	4.0	-	5.0	3.0	-	3.0	3.8
23/10/2006	6.0	-	3.0	4.0	-	4.0	4.3


Marine Water Quality : M_RO1 : Salinity
Salinity (ppt)
36
35
34
33
32
31
30
29
28
27
26
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Bottom


Marine Water Quality : M_RO1 : pH
pH
10
9
8
7
6
5
4
3
2
1
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
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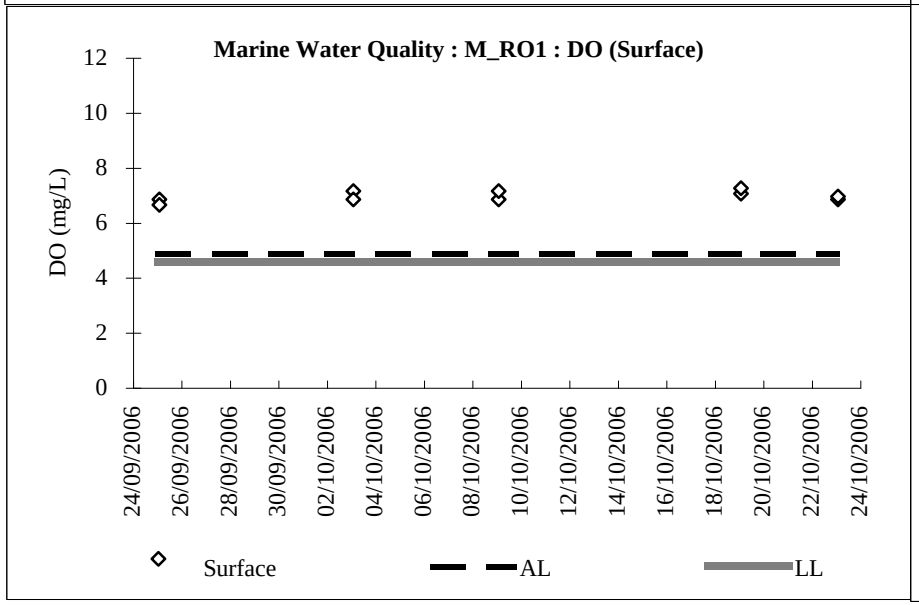
20/10/2006
22/10/2006
24/10/2006
Surface
Bottom
LL


Marine Water Quality : M_RO1 : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
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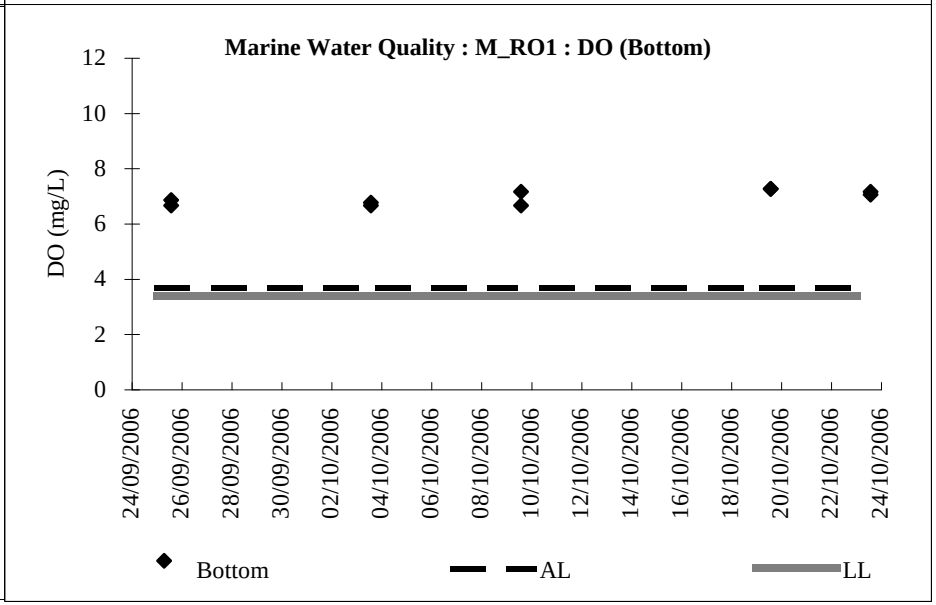
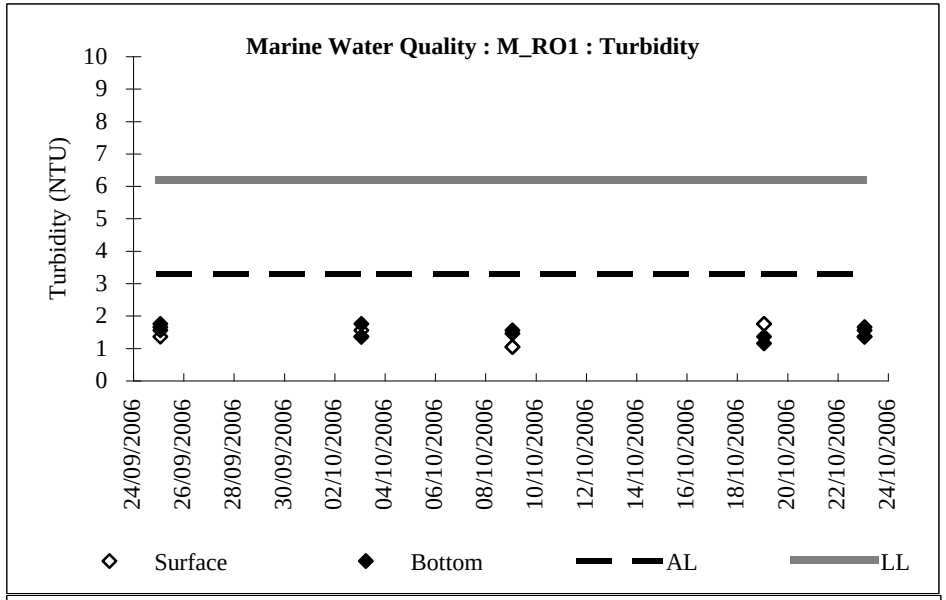
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
AL
LL


Marine Water Quality : M_RO1 : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Bottom
AL
LL


Marine Water Quality : M_RO1 : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
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16/10/2006
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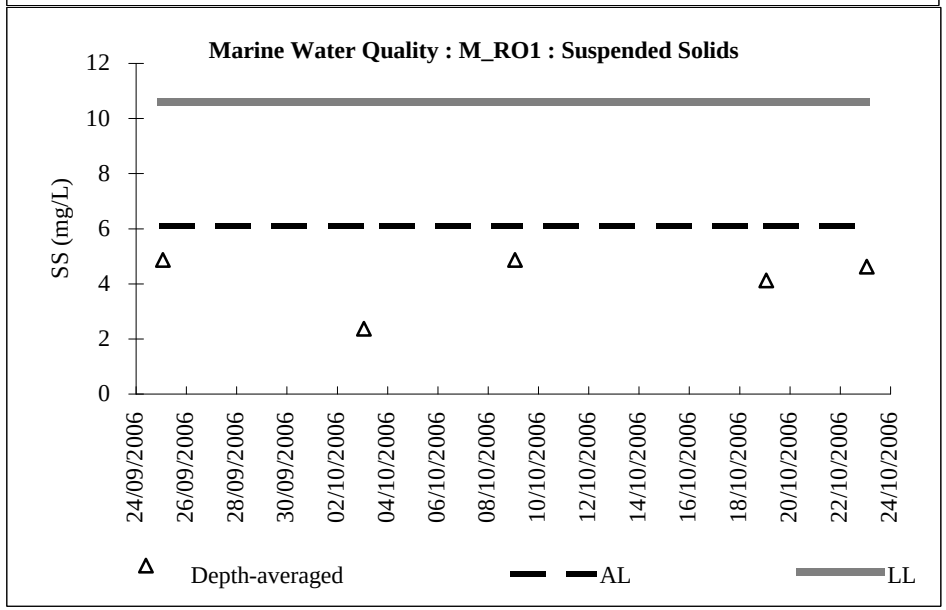
20/10/2006
22/10/2006
24/10/2006
Surface
Bottom
AL
LL


Marine Water Quality : M_RO1 : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Depth-averaged
AL
LL

KLW	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:12	13.4	1.0	28.1	29.7	6.4	8.2	1.5
Mid-Ebb	03/10/2006	08:42	13.3	1.0	27.3	30.0	6.3	8.2	1.3
Mid-Ebb	09/10/2006	12:12	13.5	1.0	27.6	29.7	6.5	8.2	1.4
Mid-Ebb	19/10/2006	08:42	13.6	1.0	26.9	29.7	6.9	8.2	2.3
Mid-Ebb	23/10/2006	10:42	13.4	1.0	27.2	29.8	6.8	8.2	1.9

KLW	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	08:12	13.9	1.0	26.1	31.7	6.2	8.1	1.3
Mid-Flood	03/10/2006	13:42	14.0	1.0	28.1	32.3	6.4	8.1	1.5
Mid-Flood	09/10/2006	08:12	13.8	1.0	27.3	31.9	6.3	8.4	1.2
Mid-Flood	19/10/2006	08:11	13.8	1.0	27.6	31.8	6.8	8.3	2.8
Mid-Flood	23/10/2006	08:12	13.9	1.0	26.7	32.2	6.7	8.4	2.5

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

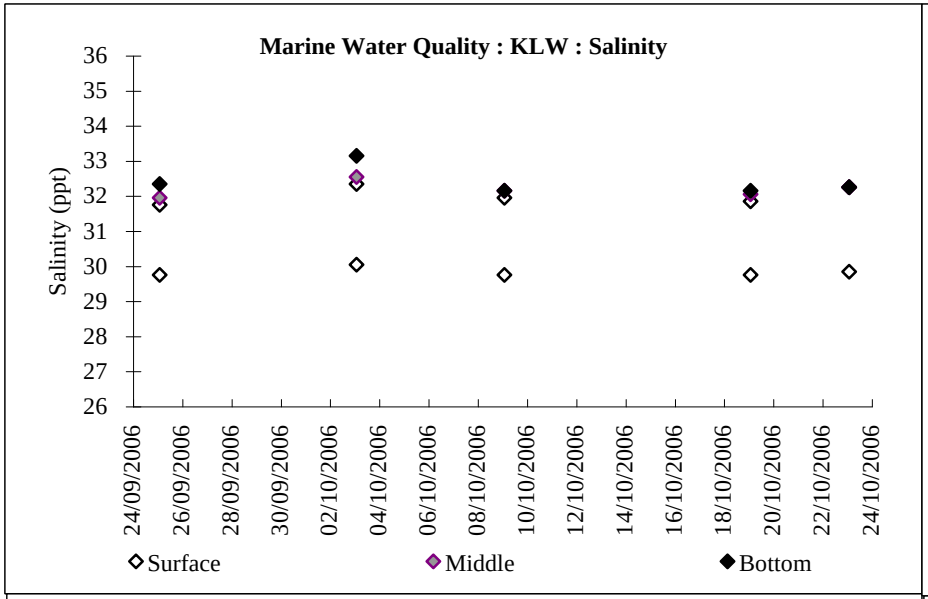
KLW	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:11	13.4	6.7	26.7	29.6	6.3	8.2	1.4
Mid-Ebb	03/10/2006	08:41	13.3	6.7	26.3	30.1	6.4	8.3	1.6
Mid-Ebb	09/10/2006	12:11	13.5	6.8	27.3	30.1	6.4	8.1	1.6
Mid-Ebb	19/10/2006	08:41	13.6	6.8	27.0	30.0	6.4	8.2	1.3
Mid-Ebb	23/10/2006	10:41	13.4	6.7	27.3	29.8	6.3	8.2	1.5

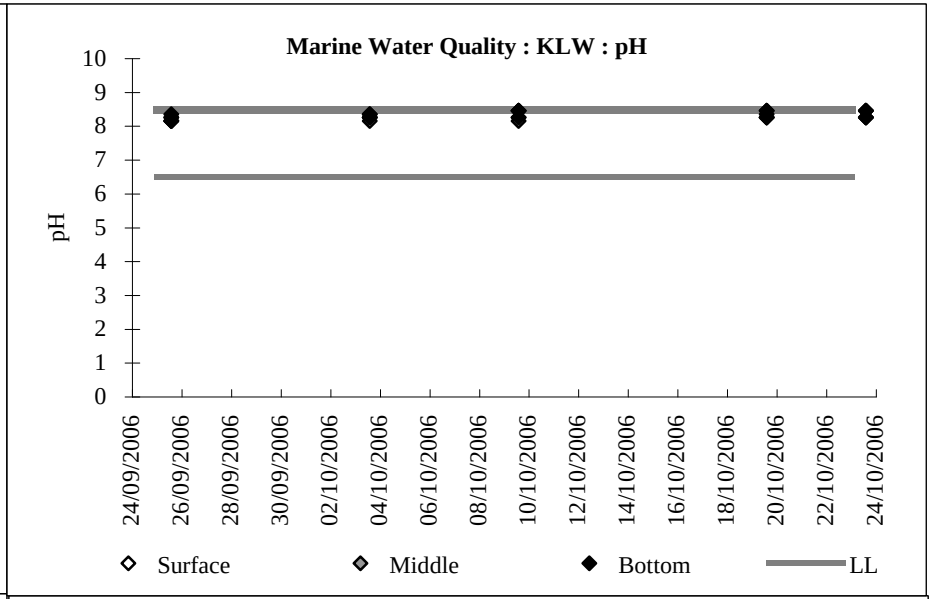
KLW	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	08:11	13.9	7.0	26.2	31.9	6.2	8.1	1.1
Mid-Flood	03/10/2006	13:41	14.0	7.0	26.7	32.5	6.4	8.2	1.7
Mid-Flood	09/10/2006	08:11	13.8	6.9	27.3	32.1	6.8	8.4	1.2
Mid-Flood	19/10/2006	08:10	13.8	6.9	27.4	32.0	6.6	8.4	1.5
Mid-Flood	23/10/2006	08:11	13.9	7.0	26.7	32.2	6.4	8.4	1.6

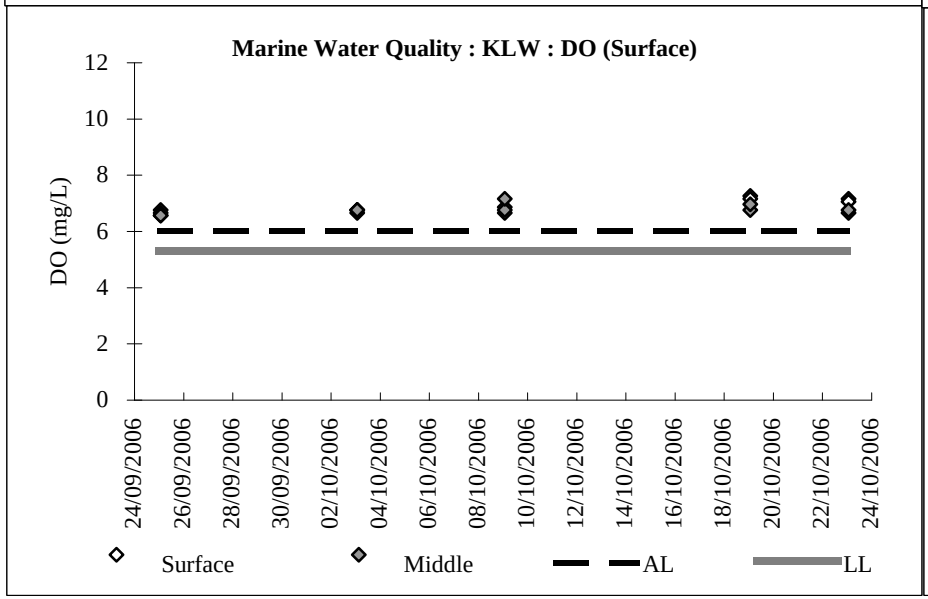
KLW	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:10	13.4	12.4	26.6	30.1	6.2	8.3	1.7
Mid-Ebb	03/10/2006	8:40	13.3	12.3	25.8	30.6	6.3	8.3	1.6
Mid-Ebb	09/10/2006	12:10	13.5	12.5	26.9	29.7	6.3	8.2	**4.3**
Mid-Ebb	19/10/2006	8:40	13.6	12.6	27.0	30.2	6.4	8.2	2.9
Mid-Ebb	23/10/2006	10:40	13.4	12.4	27.1	30.1	6.5	8.2	2.9

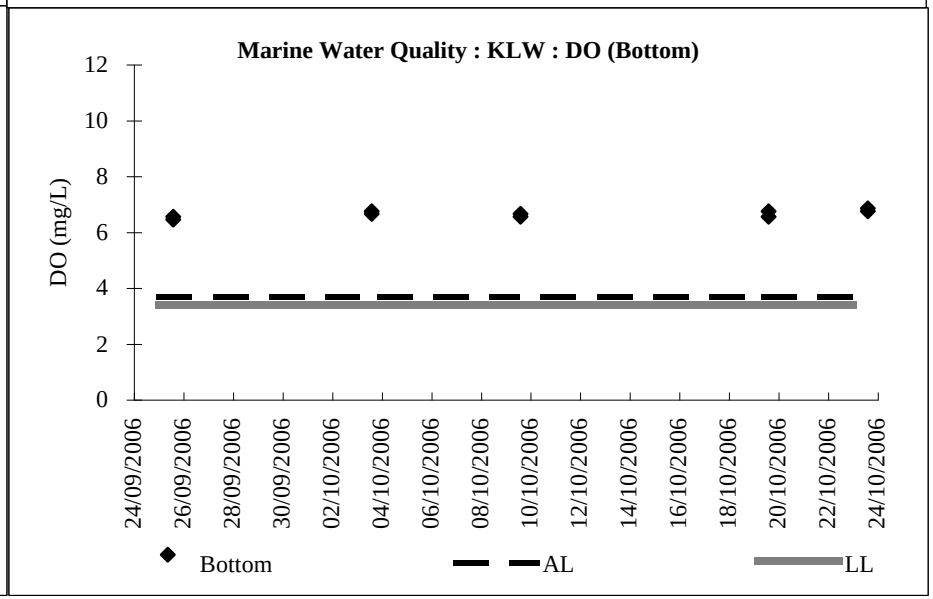
KLW	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	8:10	13.9	12.9	26.4	32.3	6.1	8.1	1.4
Mid-Flood	03/10/2006	13:40	14.0	13.0	25.9	33.1	6.4	8.2	2.2
Mid-Flood	09/10/2006	8:10	13.8	12.8	26.9	32.1	6.2	8.4	**5.3**
Mid-Flood	19/10/2006	13:40	13.8	12.8	27.1	32.1	6.2	8.4	***3.7***
Mid-Flood	23/10/2006	8:10	13.9	12.9	26.9	32.2	6.4	8.4	2.9

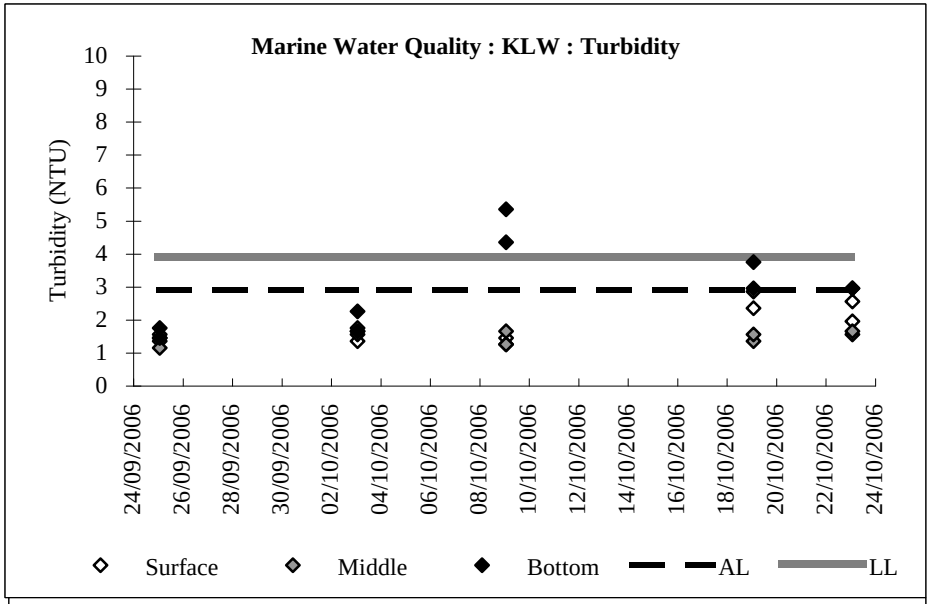
	Mid-Ebb			Mid-Flood			Depth-averaged
KLW	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
25/09/2006	3.0	2.0	6.0	9.0	5.0	5.0	***5.0***
03/10/2006	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	2.0
09/10/2006	7.0	3.0	9.0	3.0	9.0	13.0	**7.3**
19/10/2006	4.0	4.0	4.0	5.0	5.0	6.0	***4.7***
23/10/2006	5.0	~~2.0~~	4.0	4.0	6.0	2.0	***4.5***

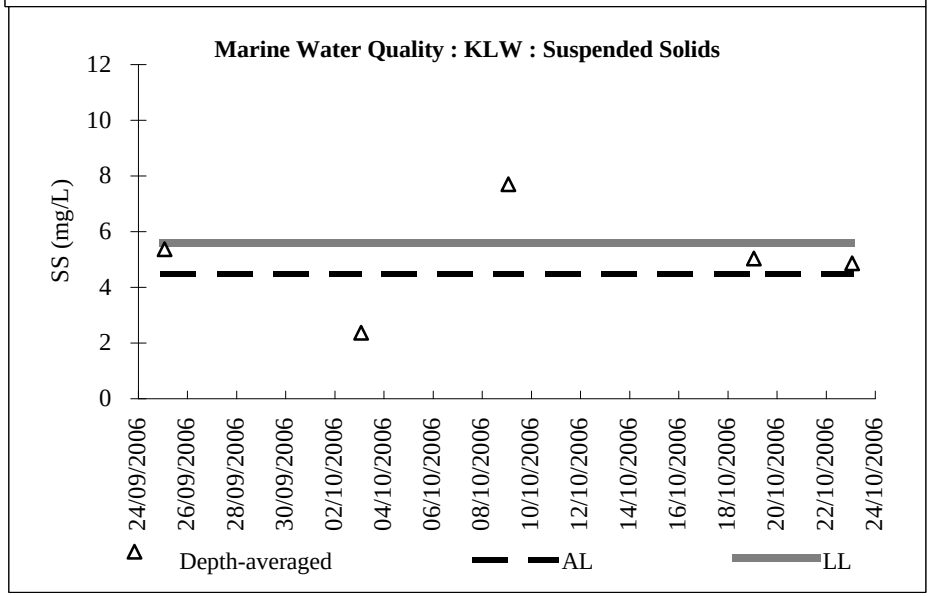

Marine Water Quality : KLW : Salinity
Salinity (ppt)
36
35
34
33
32
31
30
29
28
27
26
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : KLW : pH
pH
10
9
8
7
6
5
4
3
2
1
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
LL


Marine Water Quality : KLW : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
AL
LL


Marine Water Quality : KLW : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Bottom
AL
LL


Marine Water Quality : KLW : Turbidity
Turbidity (NTU)
10
9
8
7
6
5
4
3
2
1
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
AL
LL


Marine Water Quality : KLW : Suspended Solids
SS (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Depth-averaged
AL
LL

M_A	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:32	7.9	1.0	27.2	27.4	6.2	8.3	2.2
Mid-Ebb	03/10/2006	09:02	7.8	1.0	27.1	27.9	6.3	8.3	2.1
Mid-Ebb	09/10/2006	12:32	7.7	1.0	27.4	29.6	6.3	8.1	2.3
Mid-Ebb	19/10/2006	09:02	7.8	1.0	26.9	30.7	6.8	8.2	1.5
Mid-Ebb	23/10/2006	11:02	7.7	1.0	27.3	30.2	6.7	8.3	1.7

M_A	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	08:22	8.2	1.0	25.9	30.9	6.0	8.1	2.7
Mid-Flood	03/10/2006	14:02	8.1	1.0	28.3	30.3	6.4	8.1	2.9
Mid-Flood	09/10/2006	08:32	7.9	1.0	27.2	32.1	6.3	8.2	3.0
Mid-Flood	19/10/2006	14:02	8.1	1.0	27.6	31.8	6.9	8.4	1.8
Mid-Flood	23/10/2006	08:32	8.2	1.0	26.7	30.5	6.8	8.4	1.6

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

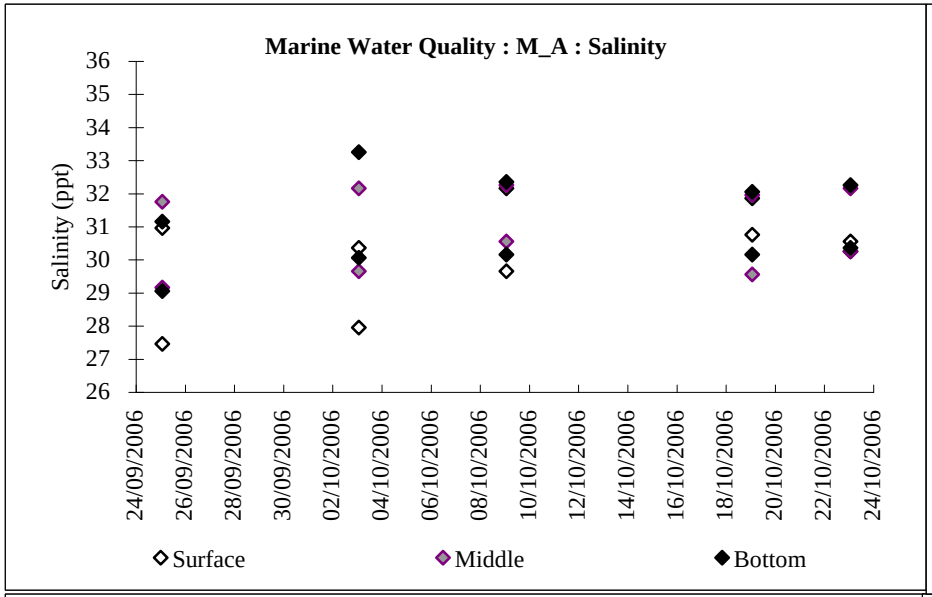
M_A	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:31	7.9	4.0	26.5	29.1	6.1	8.2	2.6
Mid-Ebb	03/10/2006	09:01	7.8	3.9	26.4	29.6	6.3	8.2	2.8
Mid-Ebb	09/10/2006	12:31	7.7	3.9	27.3	30.5	6.2	8.2	1.9
Mid-Ebb	19/10/2006	09:01	7.8	3.9	27.3	29.5	6.7	8.2	1.3
Mid-Ebb	23/10/2006	11:01	7.7	3.9	27.5	30.2	6.7	8.3	1.6

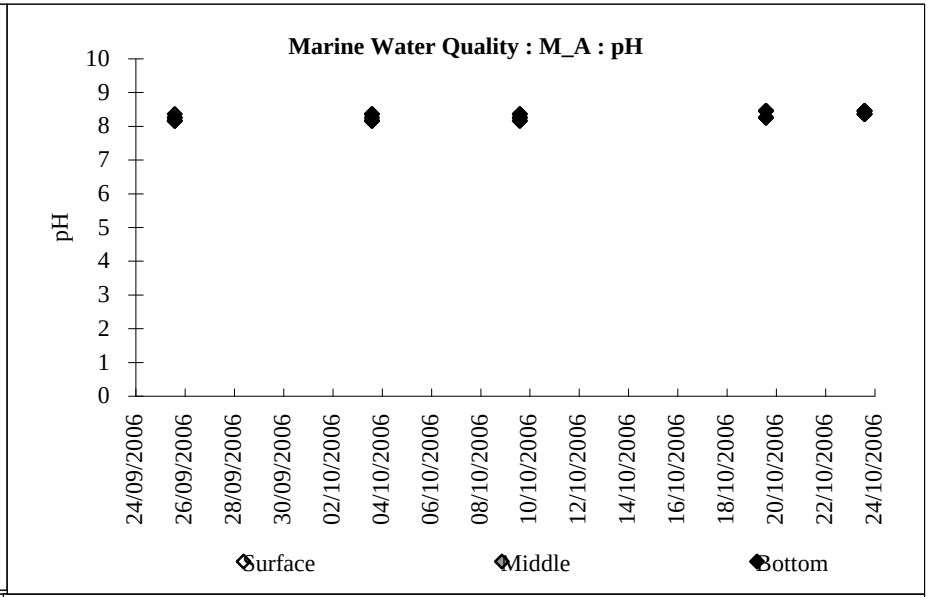
M_A	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	08:21	8.2	4.1	25.9	31.7	6.0	8.1	2.8
Mid-Flood	03/10/2006	14:01	8.1	4.1	26.7	32.1	6.1	8.1	3.0
Mid-Flood	09/10/2006	08:31	7.9	4.0	27.3	32.2	6.4	8.3	1.5
Mid-Flood	19/10/2006	14:01	8.1	4.1	27.7	31.9	6.9	8.4	1.6
Mid-Flood	23/10/2006	08:31	8.2	4.1	26.6	32.1	6.8	8.4	1.3

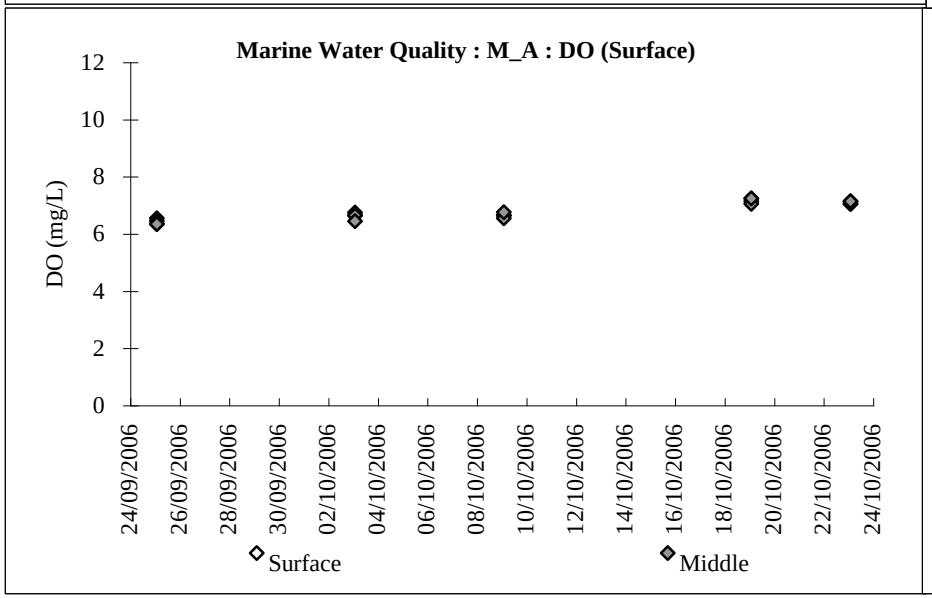
M_A	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:30	7.9	6.9	26.3	29.0	6.2	8.2	2.0
Mid-Ebb	03/10/2006	9:00	7.8	6.8	26.1	30.0	6.3	8.3	2.2
Mid-Ebb	09/10/2006	12:30	7.7	6.7	27.3	30.1	6.2	8.1	2.5
Mid-Ebb	19/10/2006	9:00	7.8	6.8	27.2	30.1	6.2	8.2	2.3
Mid-Ebb	23/10/2006	11:00	7.7	6.7	26.9	30.3	6.4	8.3	2.2

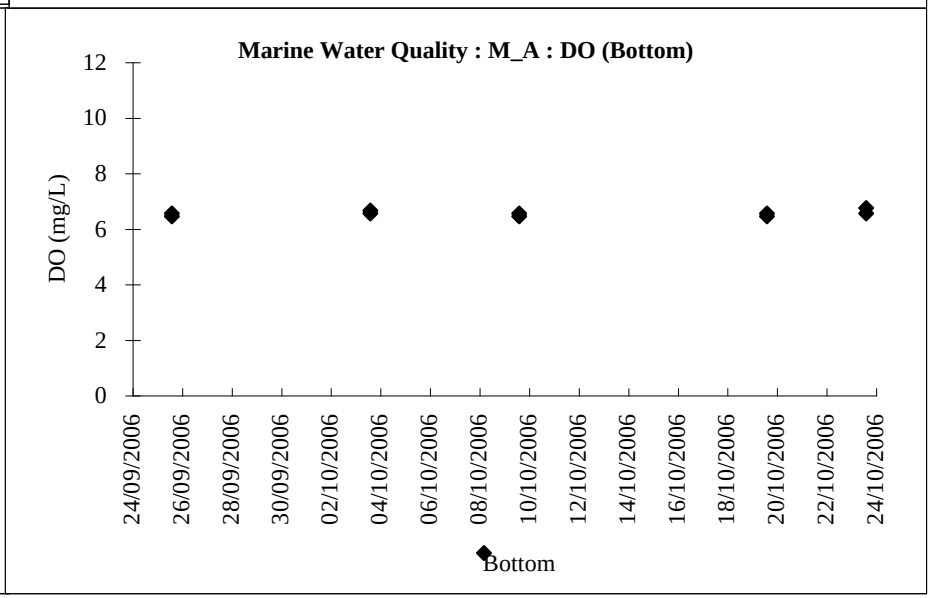
M_A	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	8:20	8.2	7.2	25.9	31.1	6.1	8.1	2.4
Mid-Flood	03/10/2006	14:00	8.1	7.1	26.3	33.2	6.2	8.1	2.9
Mid-Flood	09/10/2006	8:30	7.9	6.9	27.2	32.3	6.1	8.3	3.0
Mid-Flood	19/10/2006	14:00	8.1	7.1	27.4	32.0	6.1	8.4	2.7
Mid-Flood	23/10/2006	8:30	8.2	7.2	26.8	32.2	6.2	8.4	2.5

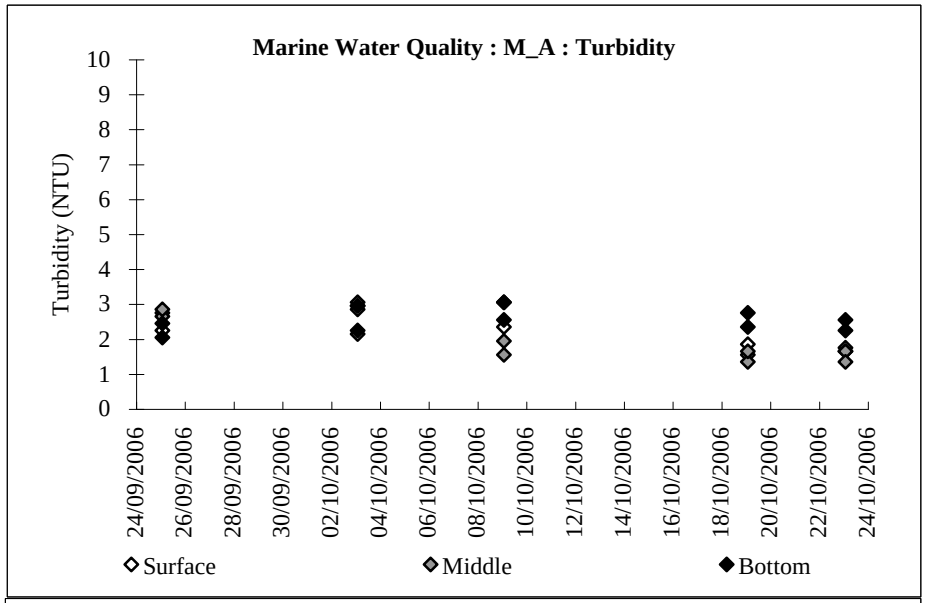
	Mid-Ebb			Mid-Flood			Depth-averaged
M_A	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
25/09/2006	4.0	4.0	7.0	4.0	4.0	4.0	4.5
03/10/2006	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	2.0
09/10/2006	5.0	7.0	5.0	3.0	5.0	5.0	5.0
19/10/2006	5.0	5.0	6.0	4.0	5.0	8.0	5.5
23/10/2006	4.0	3.0	8.0	5.0	3.0	5.0	4.7

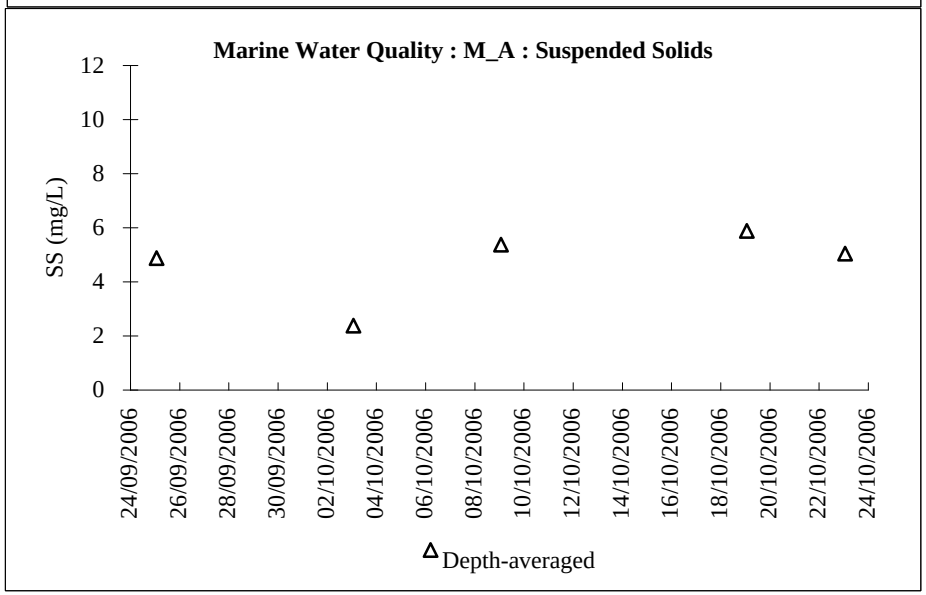

Marine Water Quality : M_A : Salinity
Salinity (ppt)
36
35
34
33
32
31
30
29
28
27
26
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : M_A : pH
pH
10
9
8
7
6
5
4
3
2
1
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : M_A : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle


Marine Water Quality : M_A : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Bottom


Marine Water Quality : M_A : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : M_A : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Depth-averaged

M_Marsh	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:47	7.9	1.0	27.8	29.6	6.5	8.2	***3.7***
Mid-Ebb	03/10/2006	09:17	7.8	1.0	27.6	29.3	6.3	8.3	2.7
Mid-Ebb	09/10/2006	12:47	7.8	1.0	27.4	29.7	6.2	8.1	2.9
Mid-Ebb	19/10/2006	09:17	7.7	1.0	27.0	28.9	6.9	8.2	***3.9***
Mid-Ebb	23/10/2006	11:17	7.8	1.0	27.3	29.1	6.8	8.2	2.8

M_Marsh	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	08:32	8.3	1.0	26.0	31.7	6.6	8.1	***4.6***
Mid-Flood	03/10/2006	14:17	8.2	1.0	28.2	32.8	6.4	8.1	***3.7***
Mid-Flood	09/10/2006	08:47	8.0	1.0	27.2	32.3	6.1	8.3	3.3
Mid-Flood	19/10/2006	14:17	8.2	1.0	27.9	31.9	6.8	8.4	***4.7***
Mid-Flood	23/10/2006	08:47	8.1	1.0	26.8	32.3	6.4	8.3	***3.8***

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

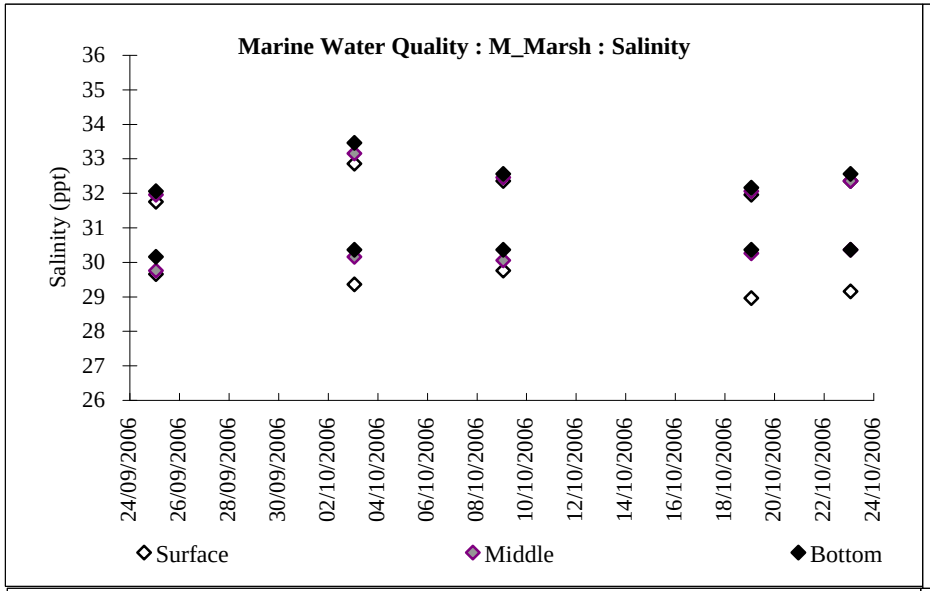
M_Marsh	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:46	7.9	4.0	27.3	29.7	6.5	8.2	2.8
Mid-Ebb	03/10/2006	09:16	7.8	3.9	26.8	30.1	6.3	8.2	2.6
Mid-Ebb	09/10/2006	12:46	7.8	3.9	27.4	30.0	6.3	8.2	1.6
Mid-Ebb	19/10/2006	09:16	7.7	3.9	27.1	30.2	6.6	8.2	***3.9***
Mid-Ebb	23/10/2006	11:16	7.8	3.9	27.2	30.3	6.6	8.3	2.9

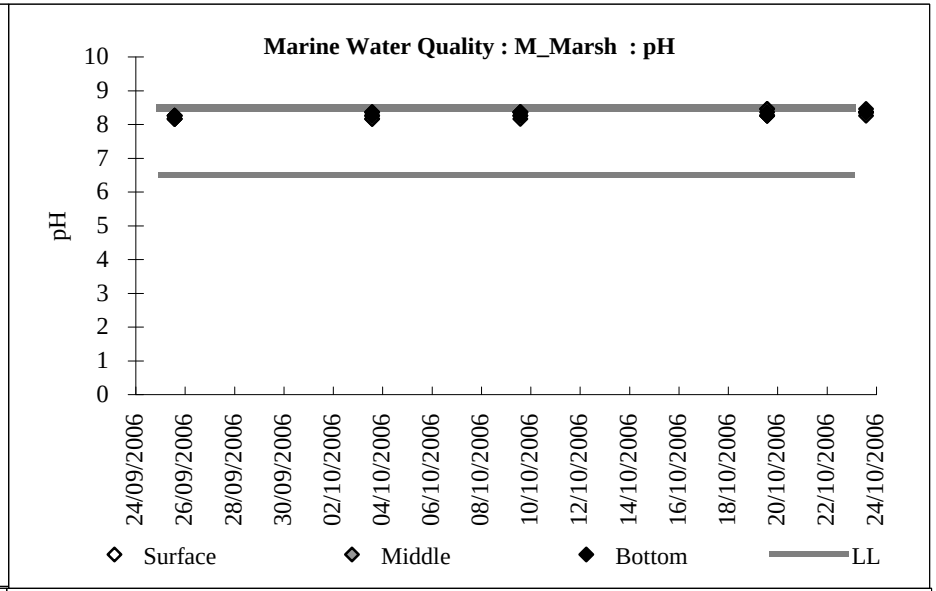
M_Marsh	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	08:31	8.3	4.2	26.0	31.9	6.6	8.1	3.2
Mid-Flood	03/10/2006	14:16	8.2	4.1	27.1	33.1	6.4	8.1	***3.6***
Mid-Flood	09/10/2006	08:46	8.0	4.0	27.3	32.4	6.2	8.3	1.7
Mid-Flood	19/10/2006	14:16	8.2	4.1	27.8	32.0	6.8	8.4	***4.3***
Mid-Flood	23/10/2006	08:46	8.1	4.1	26.9	32.3	6.7	8.4	2.5

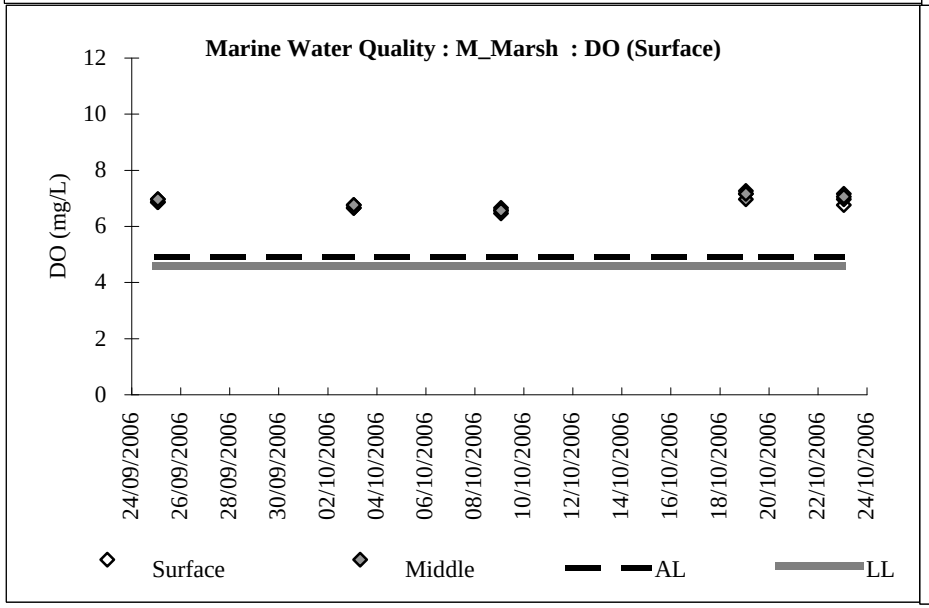
M_Marsh	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:45	7.9	6.9	26.2	30.1	6.4	8.2	2.2
Mid-Ebb	03/10/2006	9:15	7.8	6.8	26.0	30.3	6.3	8.3	2.6
Mid-Ebb	09/10/2006	12:45	7.8	6.8	27.4	30.3	5.7	8.2	2.9
Mid-Ebb	19/10/2006	9:15	7.7	6.7	27.1	30.3	5.9	8.2	***5.3***
Mid-Ebb	23/10/2006	11:15	7.8	6.8	27.2	30.3	6.3	8.3	***4.1***

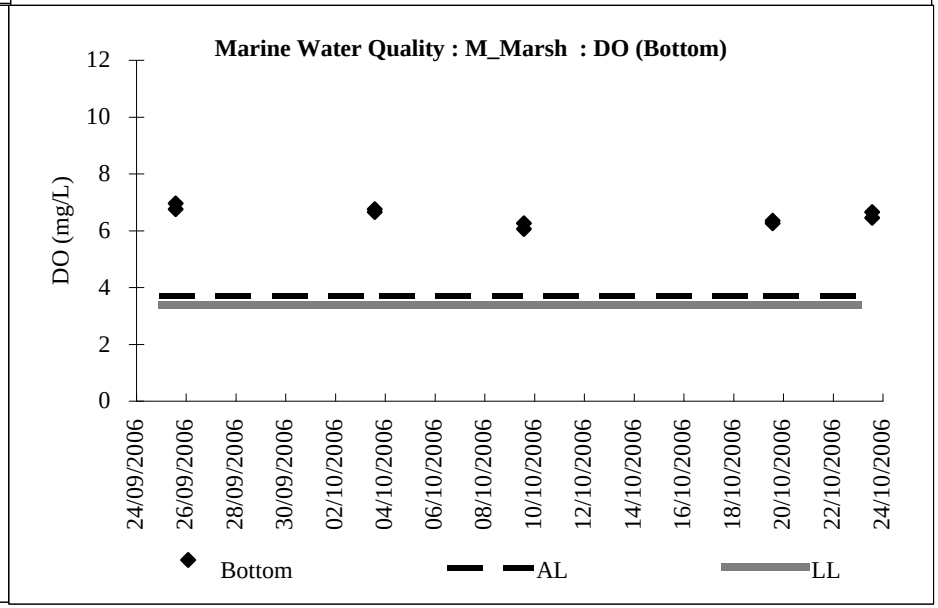
M_Marsh	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	8:30	8.3	7.3	25.9	32.0	6.6	8.1	2.4
Mid-Flood	03/10/2006	14:15	8.2	7.2	26.5	33.4	6.4	8.2	2.5
Mid-Flood	09/10/2006	8:45	8.0	7.0	27.3	32.5	5.9	8.3	3.3
Mid-Flood	19/10/2006	14:15	8.2	7.2	27.5	32.1	6.0	8.3	**6.9**
Mid-Flood	23/10/2006	8:45	8.1	7.1	27.3	32.5	6.1	8.3	***3.9***

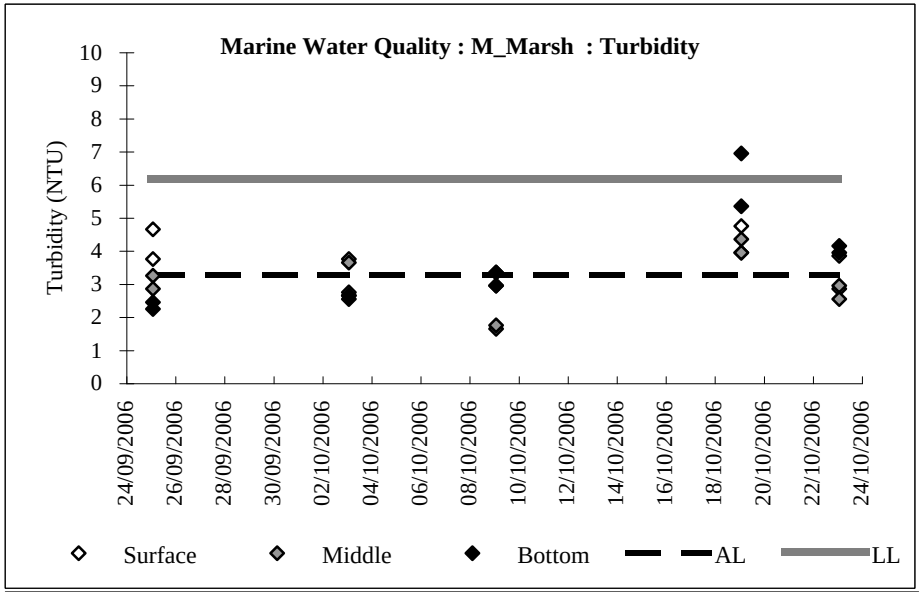
	Mid-Ebb			Mid-Flood			Depth-averaged
M_Marsh	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
25/09/2006	6.0	6.0	5.0	6.0	8.0	6.0	6.2
03/10/2006	2.0	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	2.0
09/10/2006	3.0	5.0	3.0	4.0	3.0	6.0	4.0
19/10/2006	8.0	7.0	8.0	11.0	5.0	8.0	***7.8***
23/10/2006	5.0	8.0	13.0	4.0	5.0	11.0	***7.7***

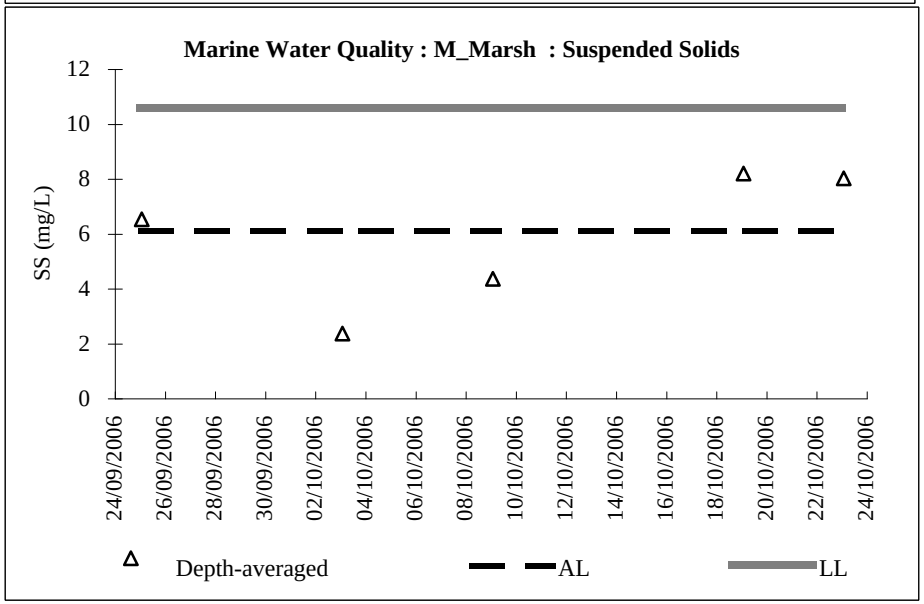

Marine Water Quality : M_Marsh : Salinity
Salinity (ppt)
Surface
Middle
Bottom


Marine Water Quality : M_Marsh : pH
pH
Surface
Middle
Bottom
LL


Marine Water Quality : M_Marsh : DO (Surface)
DO (mg/L)
Surface
Middle
AL
LL


Marine Water Quality : M_Marsh : DO (Bottom)
DO (mg/L)
Bottom
AL
LL


Marine Water Quality : M_Marsh : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
AL
LL


Marine Water Quality : M_Marsh : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Depth-averaged
AL
LL

TTC	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:57	9.7	1.0	27.8	28.6	6.3	8.3	2.7
Mid-Ebb	03/10/2006	09:37	9.8	1.0	26.8	28.5	6.4	8.3	2.9
Mid-Ebb	09/10/2006	13:07	9.6	1.0	27.5	29.9	6.2	8.1	1.6
Mid-Ebb	19/10/2006	09:37	9.7	1.0	26.9	28.7	6.6	8.2	1.9
Mid-Ebb	23/10/2006	11:37	9.6	1.0	27.3	28.6	6.6	8.4	1.6

TTC	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	08:52	10.2	1.0	26.1	31.9	6.2	8.2	***3.0***
Mid-Flood	03/10/2006	09:37	10.0	1.0	27.8	32.5	6.3	8.2	***3.1***
Mid-Flood	09/10/2006	08:57	9.8	1.0	27.2	32.1	6.3	8.2	2.1
Mid-Flood	19/10/2006	14:27	9.9	1.0	27.8	31.9	7.0	8.3	1.6
Mid-Flood	23/10/2006	08:57	9.8	1.0	27.0	32.0	6.8	8.3	1.9

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

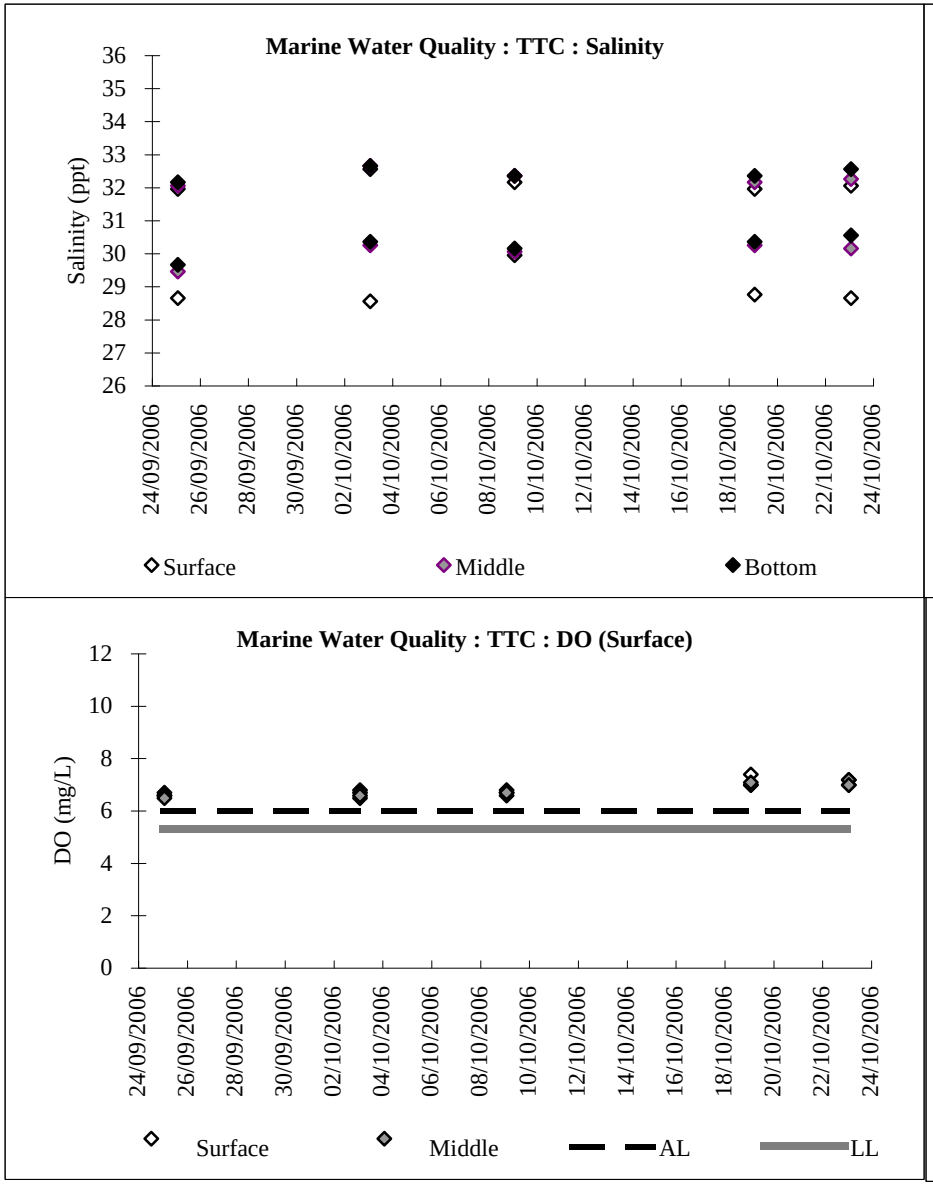
TTC	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:56	9.7	4.9	27.3	29.4	6.2	8.3	2.0
Mid-Ebb	03/10/2006	09:36	9.8	4.9	26.8	30.2	6.1	8.3	2.2
Mid-Ebb	09/10/2006	13:06	9.6	4.8	27.3	30.0	6.4	8.2	2.6
Mid-Ebb	19/10/2006	09:36	9.7	4.9	26.9	30.2	6.6	8.2	1.6
Mid-Ebb	23/10/2006	11:36	9.6	4.8	26.9	30.1	6.8	8.2	1.9

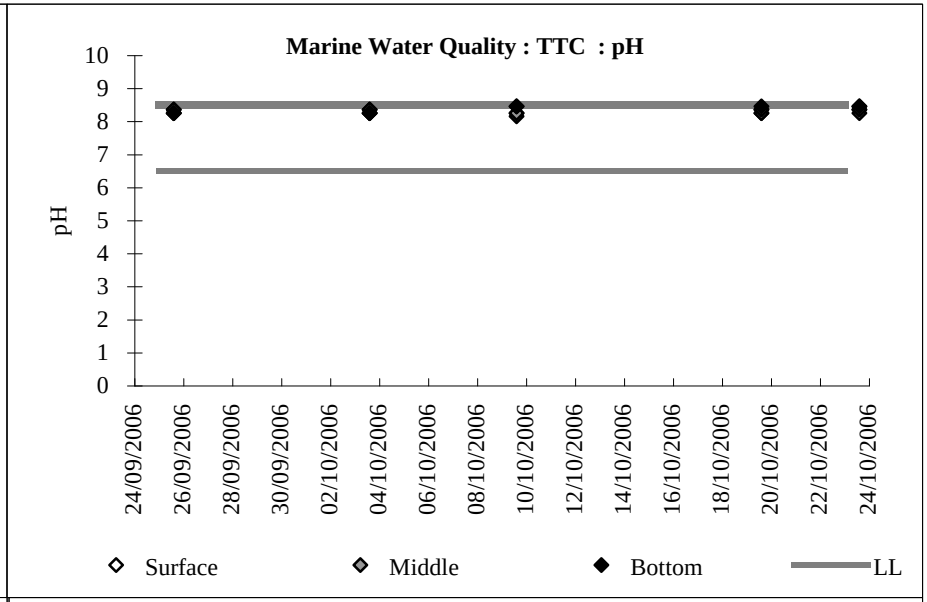
TTC	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	08:51	10.2	5.1	26.1	32.0	6.1	8.2	2.2
Mid-Flood	03/10/2006	09:36	10.0	5.0	27.4	32.6	6.2	8.2	2.6
Mid-Flood	09/10/2006	08:56	9.8	4.9	27.3	32.3	6.3	8.4	2.9
Mid-Flood	19/10/2006	14:26	9.9	5.0	27.6	32.1	6.7	8.3	1.8
Mid-Flood	23/10/2006	08:56	9.8	4.9	27.2	32.2	6.6	8.3	2.1

TTC	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	13:55	9.7	8.7	26.7	29.6	6.0	8.3	***3.4***
Mid-Ebb	03/10/2006	9:35	9.8	8.8	26.4	30.3	6.1	8.3	2.9
Mid-Ebb	09/10/2006	13:05	9.6	8.6	27.2	30.1	6.3	8.2	2.0
Mid-Ebb	19/10/2006	9:35	9.7	8.7	27.1	30.3	6.1	8.2	2.0
Mid-Ebb	23/10/2006	11:35	9.6	8.6	26.7	30.5	6.2	8.3	2.1

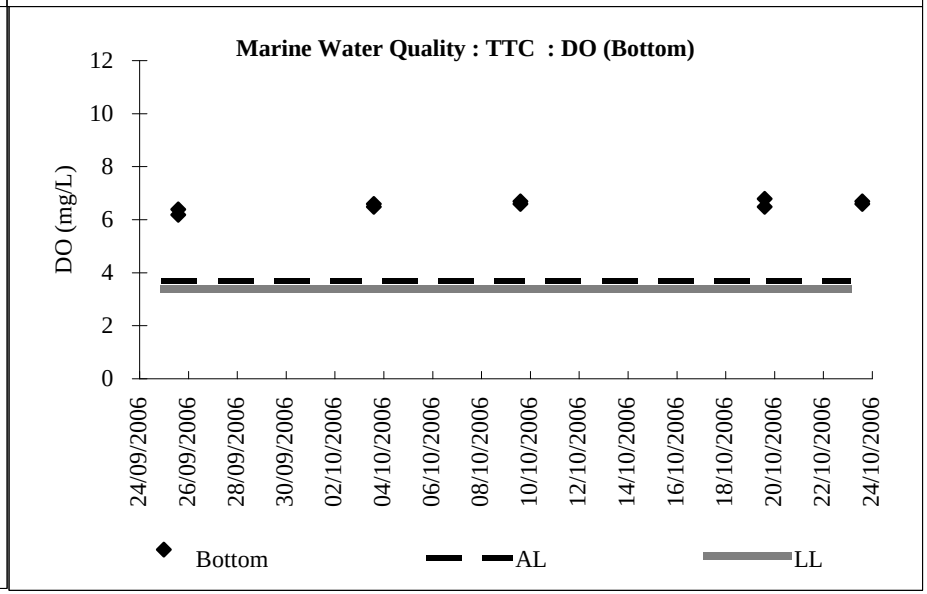
TTC	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	8:50	10.2	9.2	26.1	32.1	5.8	8.2	**4.4**
Mid-Flood	03/10/2006	9:35	10.0	9.0	26.5	32.6	6.2	8.2	***3.1***
Mid-Flood	09/10/2006	8:55	9.8	8.8	27.2	32.3	6.2	8.4	2.3
Mid-Flood	19/10/2006	14:25	9.9	8.9	27.3	32.3	6.4	8.4	2.2
Mid-Flood	23/10/2006	8:55	9.8	8.8	27.4	32.5	6.3	8.4	2.3

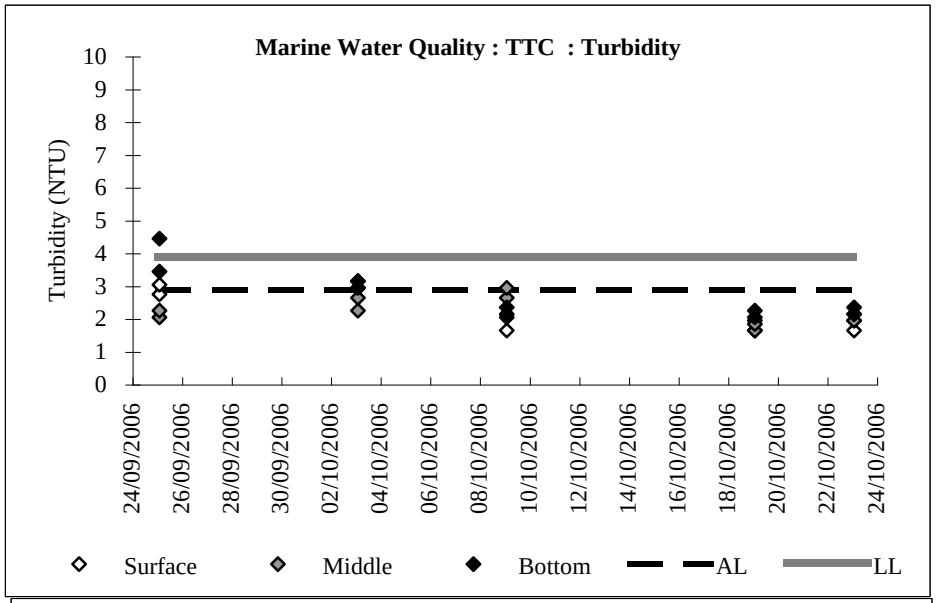
	Mid-Ebb			Mid-Flood			Depth-averaged
TTC	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
25/09/2006	9.0	4.0	8.0	4.0	4.0	6.0	**5.8**
03/10/2006	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	2.0
09/10/2006	3.0	4.0	10.0	3.0	4.0	4.0	***4.7***
19/10/2006	5.0	5.0	3.0	3.0	4.0	4.0	4.0
23/10/2006	7.0	4.0	5.0	4.0	3.0	5.0	***4.7***

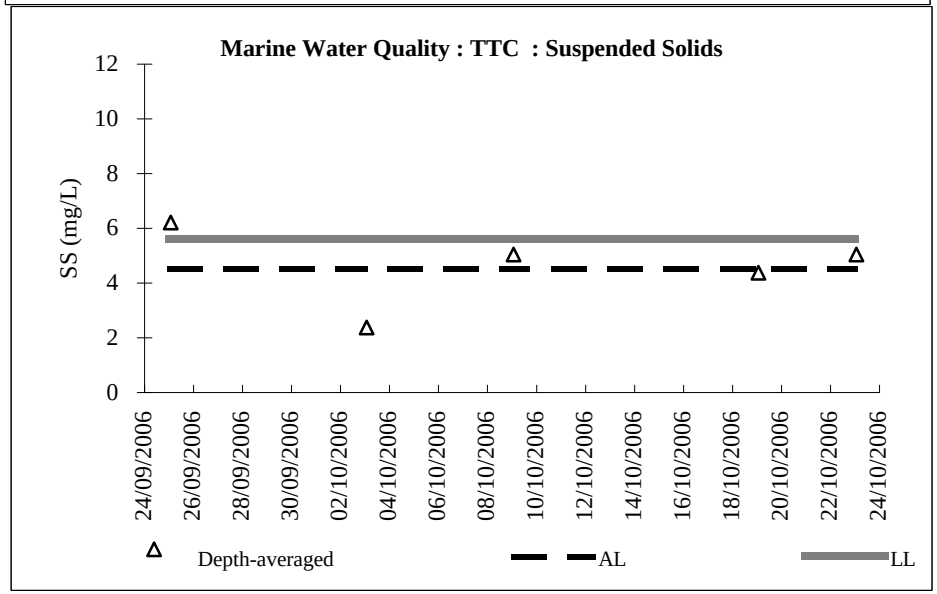

Marine Water Quality : TTC : Salinity
Salinity (ppt)
36
35
34
33
32
31
30
29
28
27
26
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : TTC : pH
pH
10
9
8
7
6
5
4
3
2
1
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
LL

Marine Water Quality : TTC : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
AL
LL


Marine Water Quality : TTC : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Bottom
AL
LL


Marine Water Quality : TTC : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
AL
LL


Marine Water Quality : TTC : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Depth-averaged
AL
LL

M_BP	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:07	8.0	1.0	28.1	30.3	6.2	8.3	2.2
Mid-Ebb	03/10/2006	09:47	8.3	1.0	26.9	29.8	6.3	8.3	2.7
Mid-Ebb	09/10/2006	13:17	8.6	1.0	27.6	29.4	6.4	8.2	1.6
Mid-Ebb	19/10/2006	09:47	8.7	1.0	26.8	29.3	6.9	8.2	2.0
Mid-Ebb	23/10/2006	11:47	8.7	1.0	27.3	29.5	6.8	8.2	1.7

M_BP	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	09:02	8.9	1.0	26.1	32.3	6.1	8.2	1.9
Mid-Flood	03/10/2006	09:47	8.7	1.0	27.9	33.2	6.3	8.1	2.4
Mid-Flood	09/10/2006	09:07	8.7	1.0	27.3	32.1	6.5	8.3	1.5
Mid-Flood	19/10/2006	14:37	8.9	1.0	27.6	32.0	7.3	8.4	1.7
Mid-Flood	23/10/2006	09:07	8.8	1.0	26.8	32.4	7.0	8.3	1.9

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

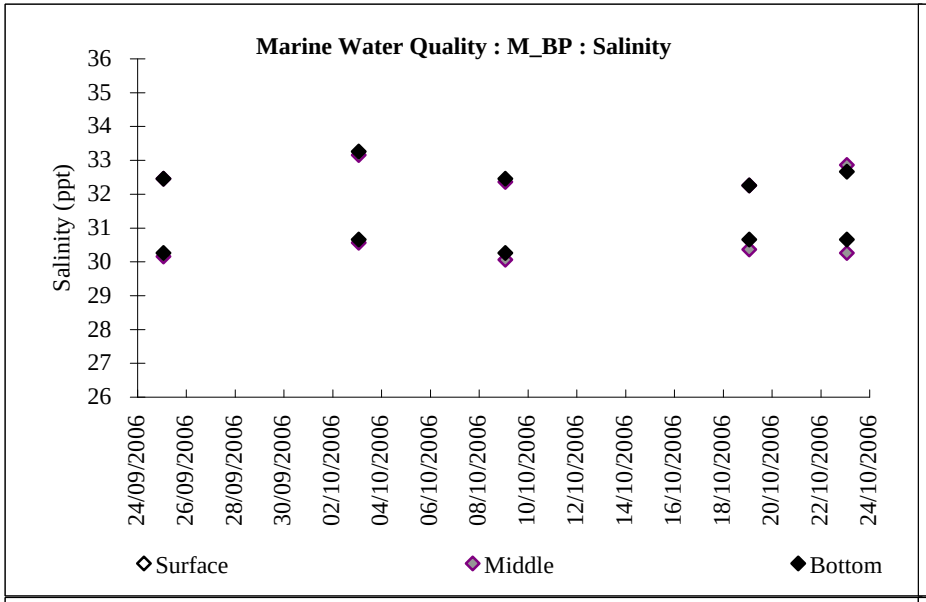
M_BP	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:06	8.0	4.0	27.3	30.1	6.3	8.3	2.5
Mid-Ebb	03/10/2006	09:46	8.3	4.2	26.3	30.5	6.2	8.3	2.2
Mid-Ebb	09/10/2006	13:16	8.6	4.3	27.4	30.0	6.4	8.2	1.9
Mid-Ebb	19/10/2006	09:46	8.7	4.4	27.1	30.3	7.0	8.2	1.8
Mid-Ebb	23/10/2006	11:46	8.7	4.4	27.2	30.2	6.8	8.2	1.9

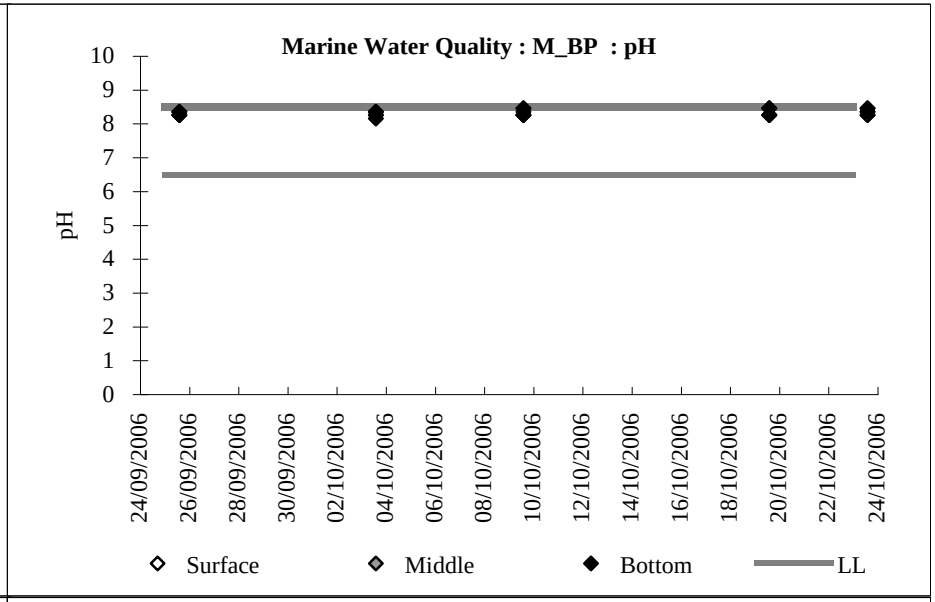
M_BP	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	09:01	8.9	4.5	26.0	32.4	6.1	8.2	2.1
Mid-Flood	03/10/2006	09:46	8.7	4.4	27.2	33.1	6.2	8.2	2.5
Mid-Flood	09/10/2006	09:06	8.7	4.4	27.4	32.3	6.5	8.4	1.8
Mid-Flood	19/10/2006	14:36	8.9	4.5	27.6	32.2	7.4	8.4	1.5
Mid-Flood	23/10/2006	09:06	8.8	4.4	27.6	32.8	7.4	8.4	1.6

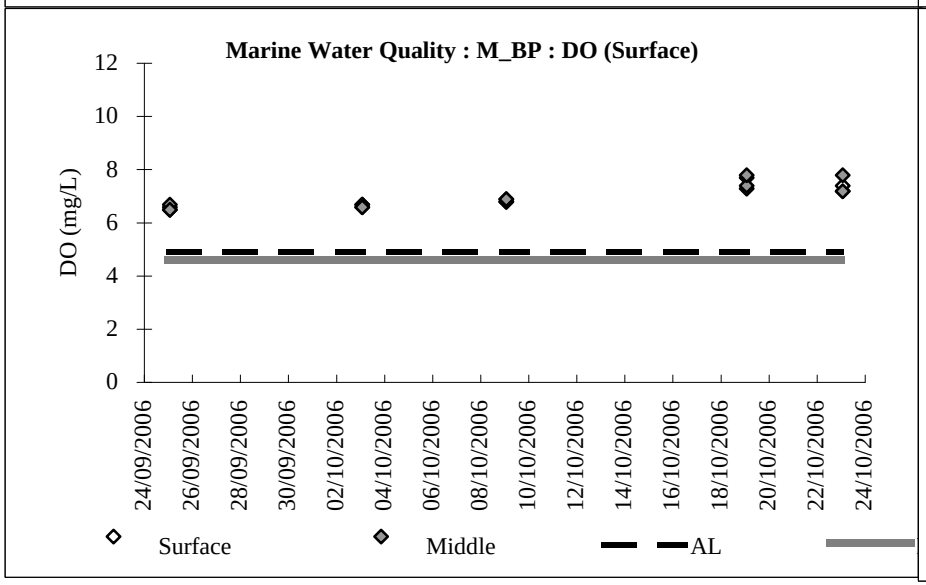
M_BP	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:05	8.0	7.0	26.8	30.2	6.2	8.3	2.2
Mid-Ebb	03/10/2006	9:45	8.3	7.3	26.3	30.6	6.1	8.3	2.4
Mid-Ebb	09/10/2006	13:15	8.6	7.6	27.3	30.2	6.4	8.2	***3.8***
Mid-Ebb	19/10/2006	9:45	8.7	7.7	27.2	30.6	6.9	8.2	2.0
Mid-Ebb	23/10/2006	11:45	8.7	7.7	27.2	30.6	6.8	8.3	2.5

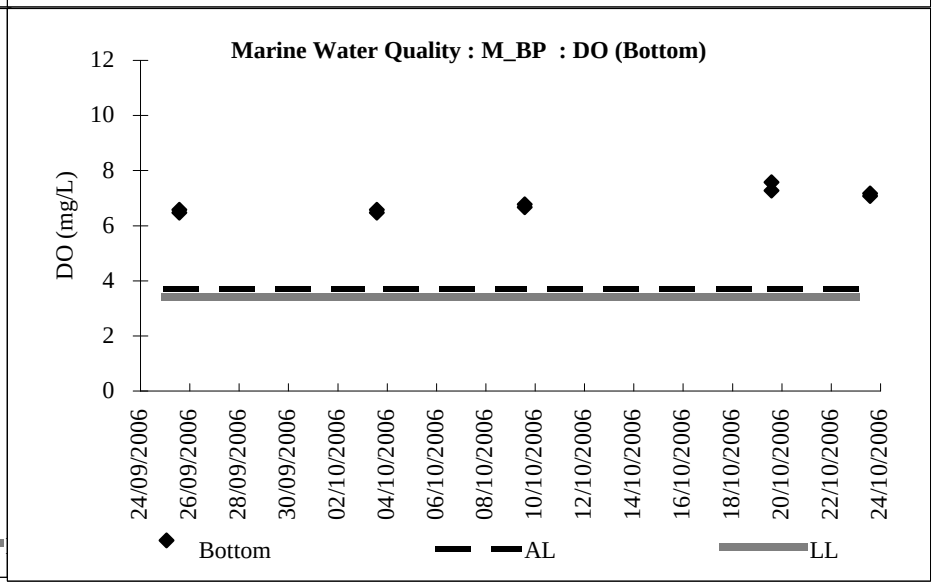
M_BP	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	9:00	8.9	7.9	26.1	32.4	6.1	8.2	2.4
Mid-Flood	03/10/2006	9:45	8.7	7.7	26.8	33.2	6.2	8.2	2.6
Mid-Flood	09/10/2006	9:05	8.7	7.7	27.3	32.4	6.3	8.4	***4.7***
Mid-Flood	19/10/2006	14:35	8.9	7.9	27.5	32.2	7.2	8.4	2.2
Mid-Flood	23/10/2006	9:05	8.8	7.8	27.1	32.6	6.7	8.4	2.3

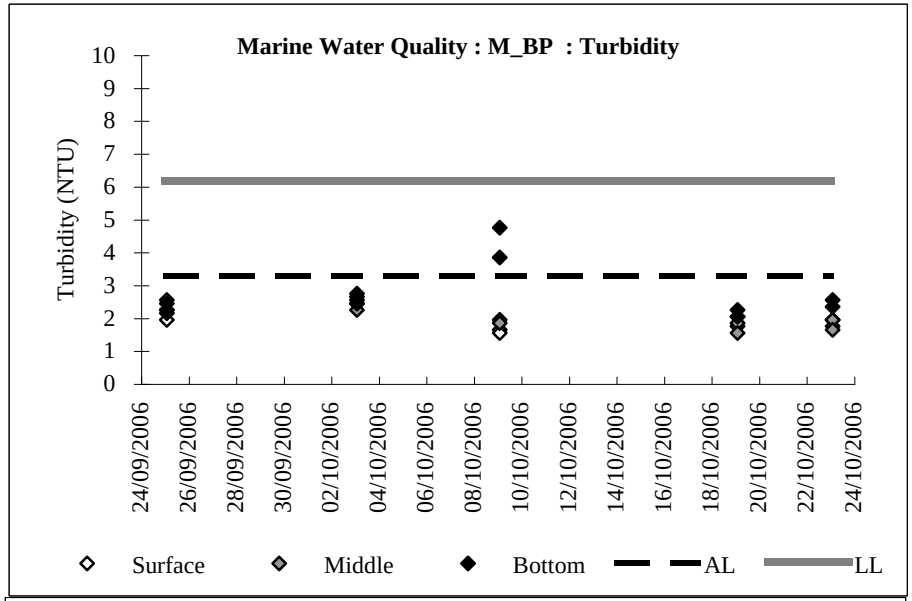
	Mid-Ebb			Mid-Flood			Depth-averaged
M_BP	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
25/09/2006	5.0	7.0	6.0	4.0	3.0	7.0	5.3
03/10/2006	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	2.0	~~2.0~~	2.0
09/10/2006	4.0	2.0	7.0	4.0	6.0	6.0	4.8
19/10/2006	5.0	4.0	4.0	4.0	4.0	6.0	4.5
23/10/2006	6.0	6.0	14.0	5.0	3.0	6.0	***6.7***

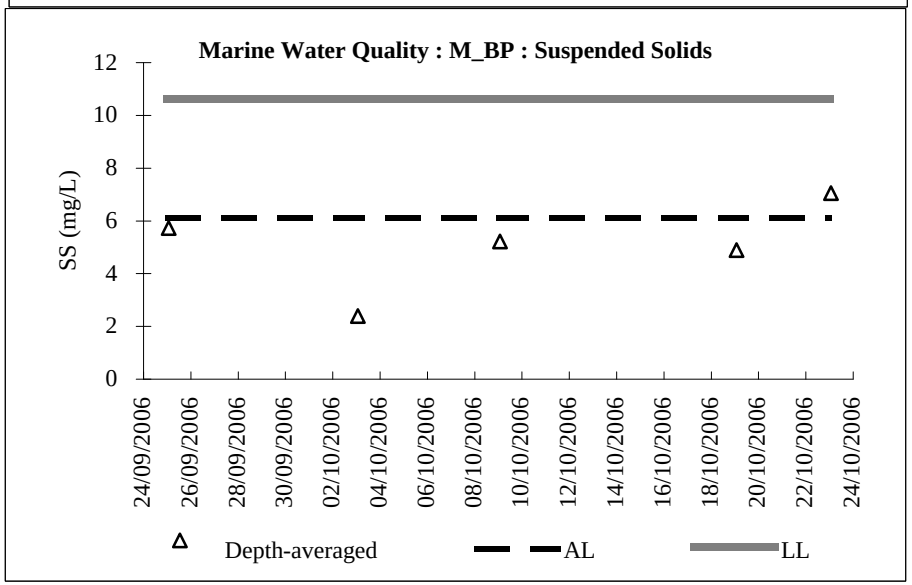

Marine Water Quality : M_BP : Salinity
Salinity (ppt)
36
35
34
33
32
31
30
29
28
27
26
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : M_BP : pH
pH
10
9
8
7
6
5
4
3
2
1
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
LL


Marine Water Quality : M_BP : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
AL


Marine Water Quality : M_BP : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Bottom
AL
LL


Marine Water Quality : M_BP : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
AL
LL


Marine Water Quality : M_BP : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Depth-averaged
AL
LL

M_Coral	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:17	9.7	1.0	27.9	30.2	6.3	8.3	2.5
Mid-Ebb	03/10/2006	10:57	9.6	1.0	26.6	30.0	6.2	8.3	2.6
Mid-Ebb	09/10/2006	14:27	9.3	1.0	27.4	30.0	6.3	8.2	1.6
Mid-Ebb	19/10/2006	10:57	9.7	1.0	27.0	30.3	6.9	8.2	1.6
Mid-Ebb	23/10/2006	11:57	9.8	1.0	27.2	30.1	6.8	8.3	1.9

M_Coral	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	09:12	10.6	1.0	26.2	32.7	6.4	8.2	2.1
Mid-Flood	03/10/2006	11:07	10.7	1.0	27.3	33.2	6.2	8.1	2.6
Mid-Flood	09/10/2006	09:17	10.4	1.0	27.3	32.2	6.6	8.3	1.2
Mid-Flood	19/10/2006	14:47	10.0	1.0	27.6	32.1	7.1	8.4	2.0
Mid-Flood	23/10/2006	09:17	10.3	1.0	26.9	32.5	7.0	8.4	2.1

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

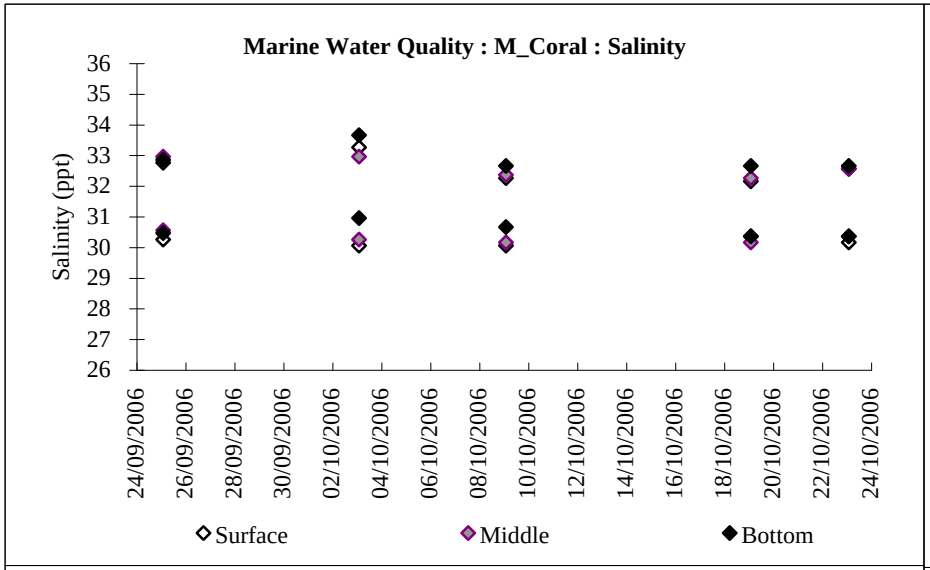
M_Coral	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:16	9.7	4.9	27.3	30.5	6.2	8.3	1.5
Mid-Ebb	03/10/2006	10:56	9.6	4.8	26.2	30.2	6.4	8.3	2.0
Mid-Ebb	09/10/2006	14:26	9.3	4.7	27.2	30.1	6.2	8.1	1.6
Mid-Ebb	19/10/2006	10:56	9.7	4.9	27.3	30.1	7.0	8.2	~~1.0~~
Mid-Ebb	23/10/2006	11:56	9.8	4.9	27.0	30.3	6.8	8.2	~~1.0~~

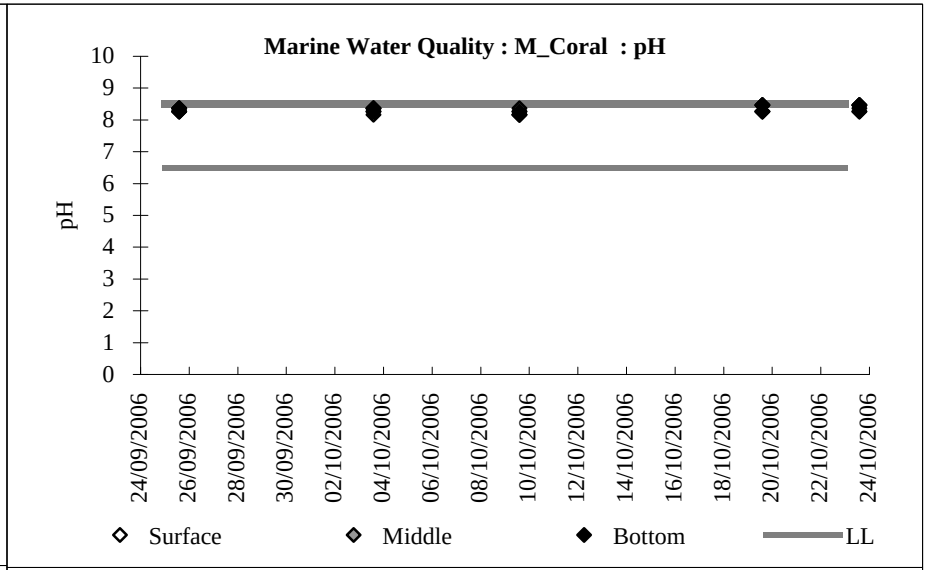
M_Coral	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	09:11	10.6	5.3	26.2	32.9	6.3	8.2	2.0
Mid-Flood	03/10/2006	11:06	10.7	5.4	27.3	32.9	6.3	8.2	2.5
Mid-Flood	09/10/2006	09:16	10.4	5.2	27.3	32.3	6.3	8.1	1.5
Mid-Flood	19/10/2006	14:46	10.0	5.0	27.7	32.2	7.2	8.4	~~1.0~~
Mid-Flood	23/10/2006	09:16	10.3	5.2	26.9	32.5	7.2	8.4	~~1.0~~

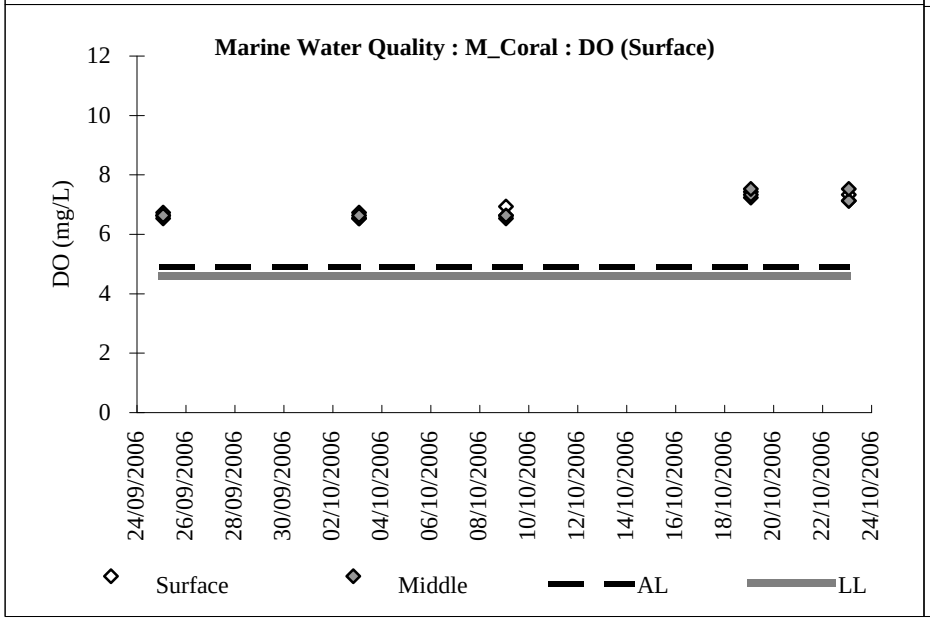
M_Coral	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:15	9.7	8.7	27.0	30.4	6.2	8.3	1.6
Mid-Ebb	03/10/2006	10:55	9.6	8.6	26.0	30.9	6.3	8.3	2.1
Mid-Ebb	09/10/2006	14:25	9.3	8.3	27.2	30.6	6.2	8.1	1.8
Mid-Ebb	19/10/2006	10:55	9.7	8.7	27.2	30.3	6.8	8.2	1.0
Mid-Ebb	23/10/2006	11:55	9.8	8.8	26.9	30.3	6.7	8.2	1.2

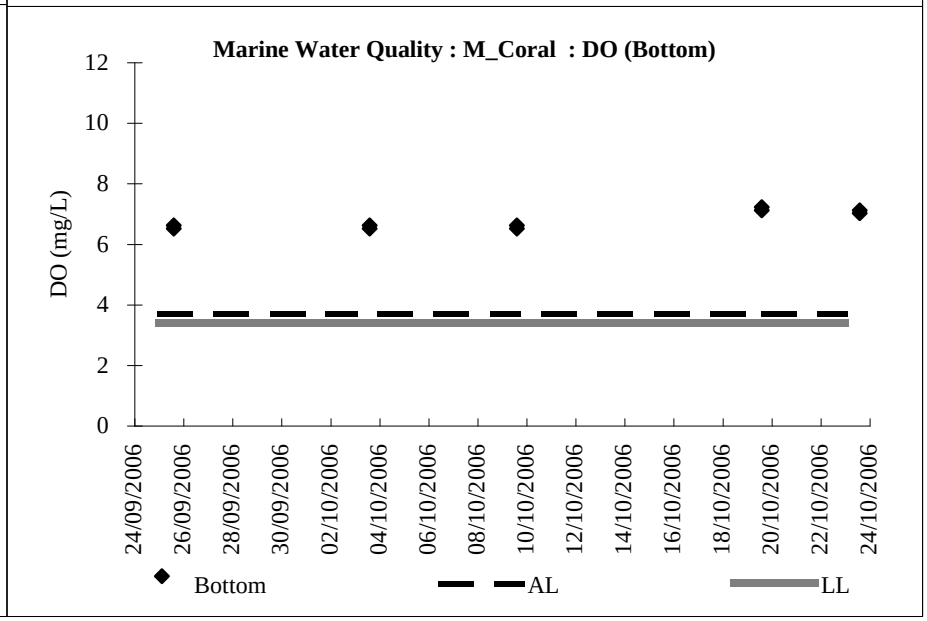
M_Coral	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	9:10	10.6	9.6	26.3	32.8	6.3	8.2	2.1
Mid-Flood	03/10/2006	11:05	10.7	9.7	26.3	33.6	6.2	8.2	2.6
Mid-Flood	09/10/2006	9:15	10.4	9.4	27.2	32.6	6.3	8.2	1.9
Mid-Flood	19/10/2006	14:45	10.0	9.0	27.5	32.6	6.9	8.4	1.6
Mid-Flood	23/10/2006	9:15	10.3	9.3	26.8	32.6	6.8	8.4	1.3

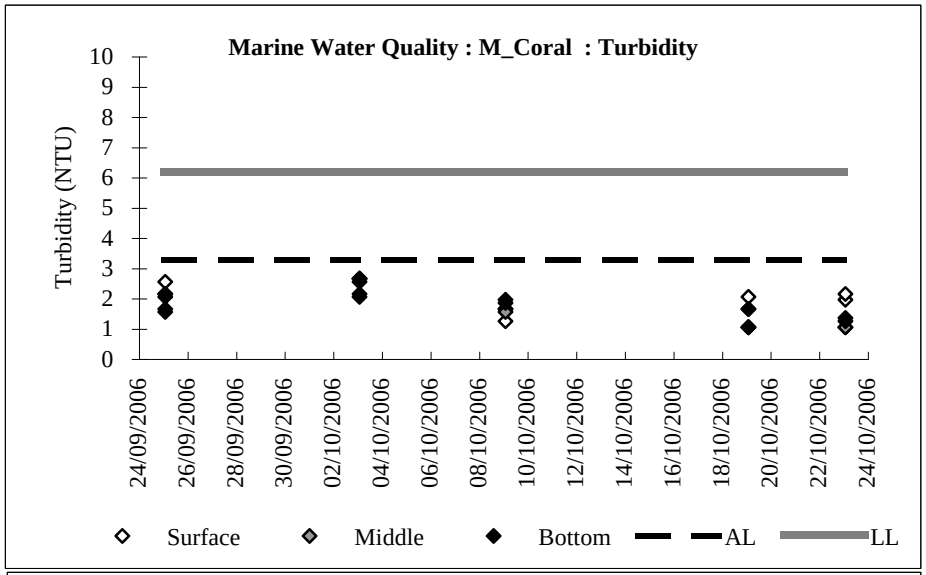
	Mid-Ebb			Mid-Flood			Depth-averaged
M_Coral	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
25/09/2006	5.0	4.0	4.0	4.0	3.0	6.0	4.3
03/10/2006	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	2.0
09/10/2006	~~2.0~~	~~2.0~~	2.0	4.0	3.0	3.0	2.7
19/10/2006	3.0	3.0	2.0	4.0	4.0	3.0	3.2
23/10/2006	4.0	3.0	4.0	2.0	~~2.0~~	3.0	3.0

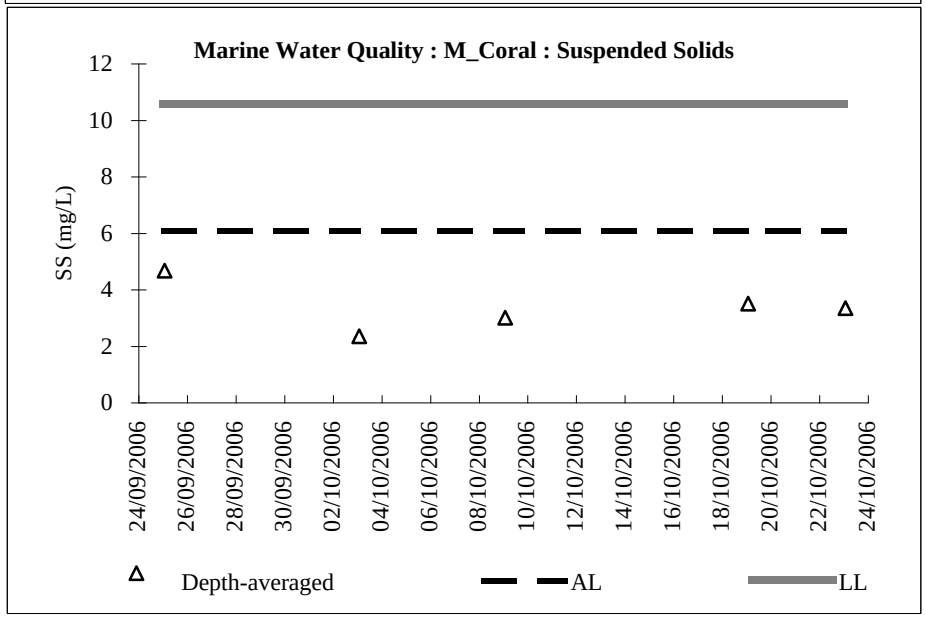

Marine Water Quality : M_Coral : Salinity
Salinity (ppt)
36
35
34
33
32
31
30
29
28
27
26
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : M_Coral : pH
pH
10
9
8
7
6
5
4
3
2
1
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
LL


Marine Water Quality : M_Coral : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
AL
LL


Marine Water Quality : M_Coral : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Bottom
AL
LL


Marine Water Quality : M_Coral : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
AL
LL


Marine Water Quality : M_Coral : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Depth-averaged
AL
LL

M_B	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:27	16.9	1.0	28.6	29.5	6.5	8.2	1.7
Mid-Ebb	03/10/2006	11:42	17.0	1.0	27.3	30.1	6.4	8.2	2.0
Mid-Ebb	09/10/2006	15:12	16.7	1.0	27.4	31.0	6.4	8.1	1.0
Mid-Ebb	19/10/2006	11:42	16.7	1.0	26.7	29.9	6.9	8.2	1.9
Mid-Ebb	23/10/2006	13:12	16.5	1.0	27.2	30.0	6.9	8.2	1.3

M_B	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	09:22	17.5	1.0	27.1	31.2	6.3	8.1	1.9
Mid-Flood	03/10/2006	11:52	17.3	1.0	28.3	33.6	6.5	8.1	2.3
Mid-Flood	09/10/2006	09:27	17.0	1.0	27.3	33.2	6.3	8.2	1.1
Mid-Flood	19/10/2006	14:57	17.2	1.0	27.3	32.0	6.8	8.4	1.8
Mid-Flood	23/10/2006	09:27	17.0	1.0	26.7	32.3	6.9	8.4	1.6

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

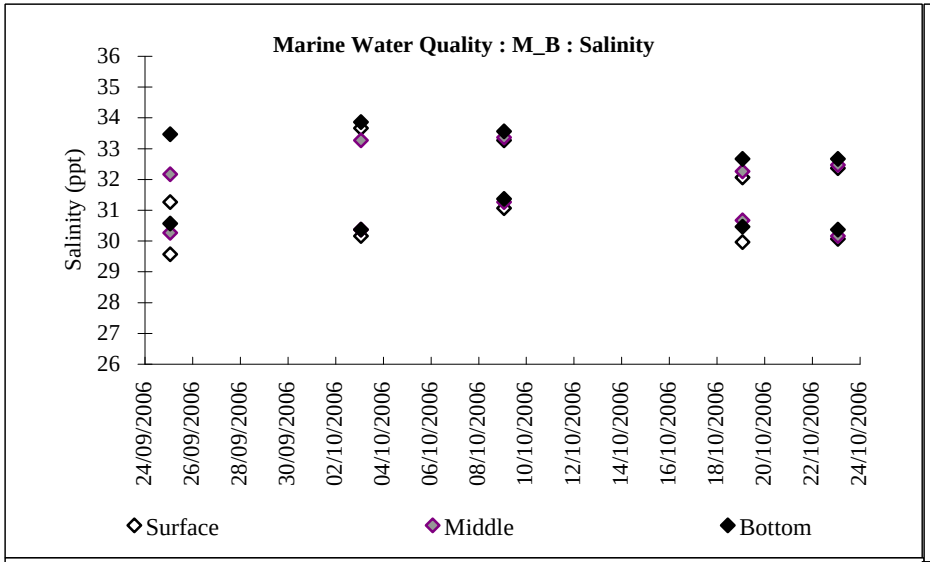
M_B	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:26	16.9	8.5	27.5	30.2	6.3	8.2	2.0
Mid-Ebb	03/10/2006	11:41	17.0	8.5	27.0	30.3	6.5	8.2	2.0
Mid-Ebb	09/10/2006	15:11	16.7	8.4	27.3	31.2	6.3	8.1	1.2
Mid-Ebb	19/10/2006	11:41	16.7	8.4	26.8	30.6	6.7	8.2	1.3
Mid-Ebb	23/10/2006	13:11	16.5	8.3	26.9	30.1	6.9	8.2	1.0

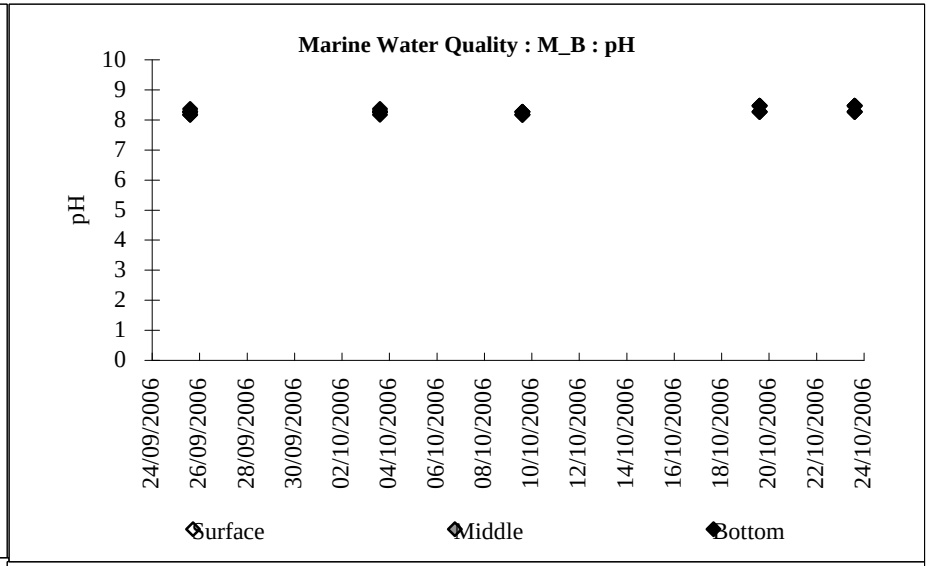
M_B	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	09:21	17.5	8.8	28.0	32.1	6.2	8.1	2.3
Mid-Flood	03/10/2006	11:51	17.3	8.7	27.5	33.2	6.3	8.2	2.4
Mid-Flood	09/10/2006	09:26	17.0	8.5	27.2	33.3	6.4	8.2	1.3
Mid-Flood	19/10/2006	14:56	17.2	8.6	27.2	32.2	6.8	8.4	~~1.0~~
Mid-Flood	23/10/2006	09:26	17.0	8.5	26.8	32.4	6.7	8.4	1.2

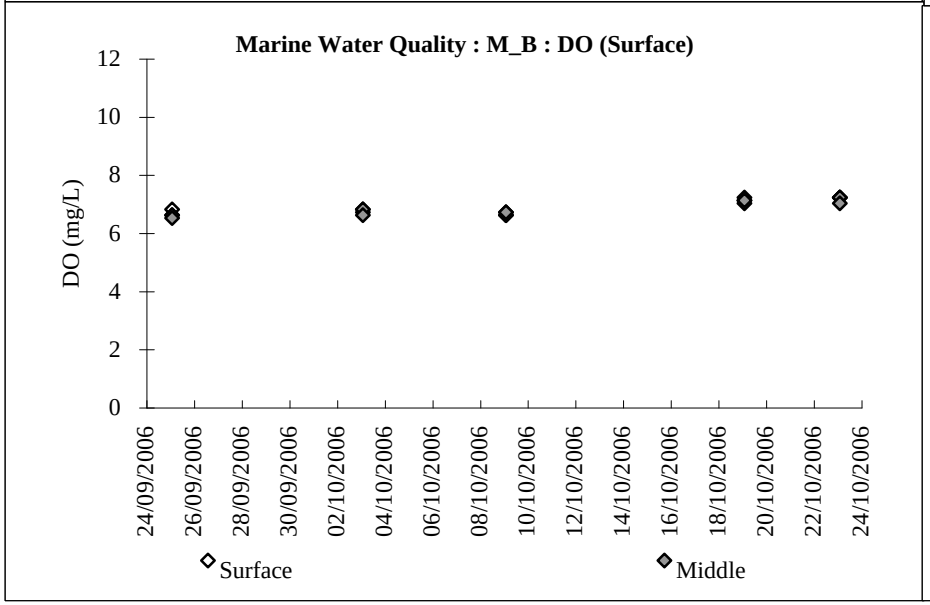
M_B	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:25	16.9	15.9	26.3	30.5	6.4	8.3	2.2
Mid-Ebb	03/10/2006	11:40	17.0	16.0	26.1	30.3	6.3	8.3	2.3
Mid-Ebb	09/10/2006	15:10	16.7	15.7	27.0	31.3	6.4	8.1	1.1
Mid-Ebb	19/10/2006	11:40	16.7	15.7	26.9	30.4	6.8	8.2	2.3
Mid-Ebb	23/10/2006	13:10	16.5	15.5	26.8	30.3	6.7	8.2	2.0

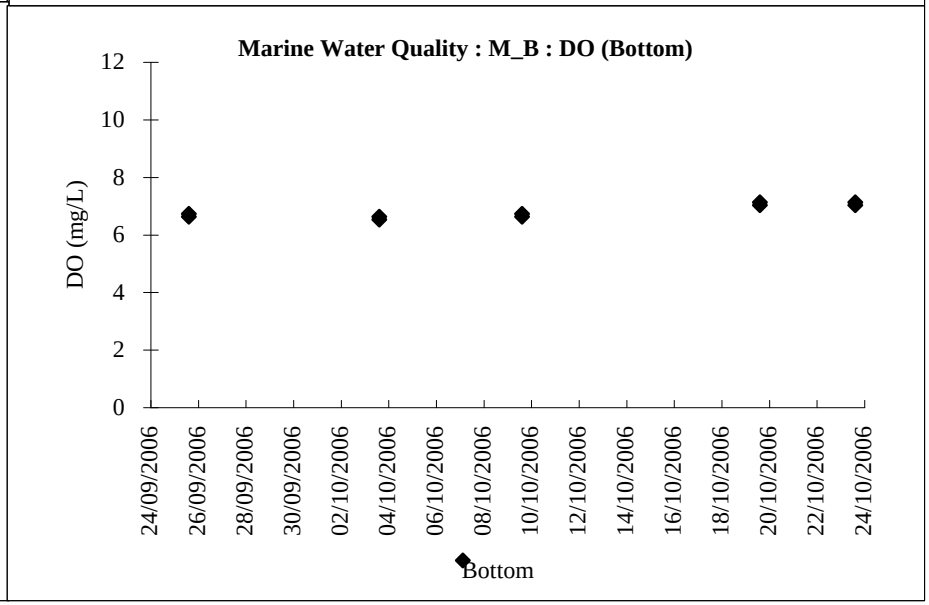
M_B	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	9:20	17.5	16.5	26.0	33.4	6.3	8.2	1.9
Mid-Flood	03/10/2006	11:50	17.3	16.3	26.2	33.8	6.2	8.2	2.5
Mid-Flood	09/10/2006	9:25	17.0	16.0	27.0	33.5	6.3	8.2	1.0
Mid-Flood	19/10/2006	14:55	17.2	16.2	27.0	32.6	6.7	8.4	***3.9***
Mid-Flood	23/10/2006	9:25	17.0	16.0	26.7	32.6	6.8	8.4	2.1

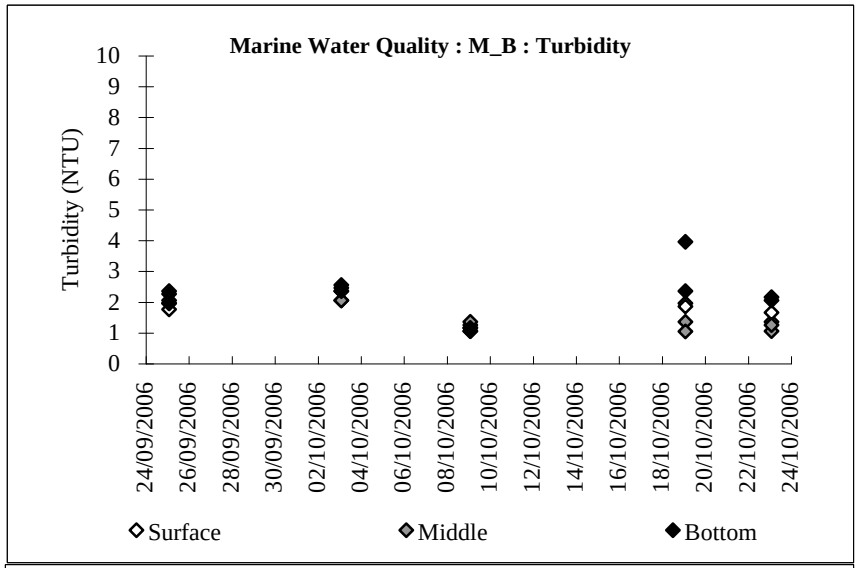
	Mid-Ebb			Mid-Flood			Depth-averaged
M_B	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
25/09/2006	3.0	5.0	6.0	4.0	4.0	4.0	4.3
03/10/2006	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	2.0
09/10/2006	2.0	3.0	3.0	4.0	4.0	3.0	3.2
19/10/2006	4.0	4.0	4.0	~~2.0~~	3.0	3.0	3.3
23/10/2006	4.0	4.0	5.0	4.0	2.0	4.0	3.8

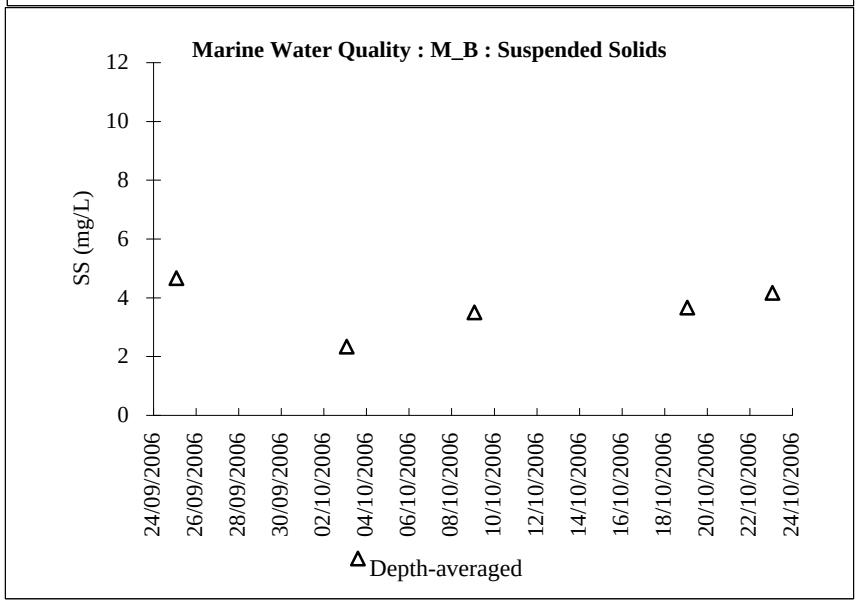

Marine Water Quality : M_B : Salinity
Salinity (ppt)
36
35
34
33
32
31
30
29
28
27
26
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : M_B : pH
pH
10
9
8
7
6
5
4
3
2
1
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : M_B : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle


Marine Water Quality : M_B : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Bottom


Marine Water Quality : M_B : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : M_B : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Depth-averaged

KS	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:47	12.7	1.0	28.3	28.8	6.4	8.3	1.6
Mid-Ebb	03/10/2006	12:02	12.9	1.0	27.6	29.1	6.3	8.3	1.9
Mid-Ebb	09/10/2006	15:32	12.6	1.0	27.6	30.1	6.2	8.1	1.3
Mid-Ebb	19/10/2006	12:02	12.9	1.0	26.8	29.4	6.7	8.2	~~1.0~~
Mid-Ebb	23/10/2006	13:32	12.8	1.0	27.2	29.2	6.8	8.2	~~1.0~~

KS	Surface								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	09:52	13.4	1.0	27.0	30.2	6.3	8.2	2.0
Mid-Flood	03/10/2006	12:22	13.6	1.0	28.5	32.0	6.4	8.2	2.2
Mid-Flood	09/10/2006	09:57	13.3	1.0	27.3	32.6	6.3	8.2	1.1
Mid-Flood	19/10/2006	15:27	13.6	1.0	27.3	32.0	6.6	8.3	~~1.0~~
Mid-Flood	23/10/2006	09:57	13.5	1.0	26.6	32.2	6.7	8.4	~~1.0~~

Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~

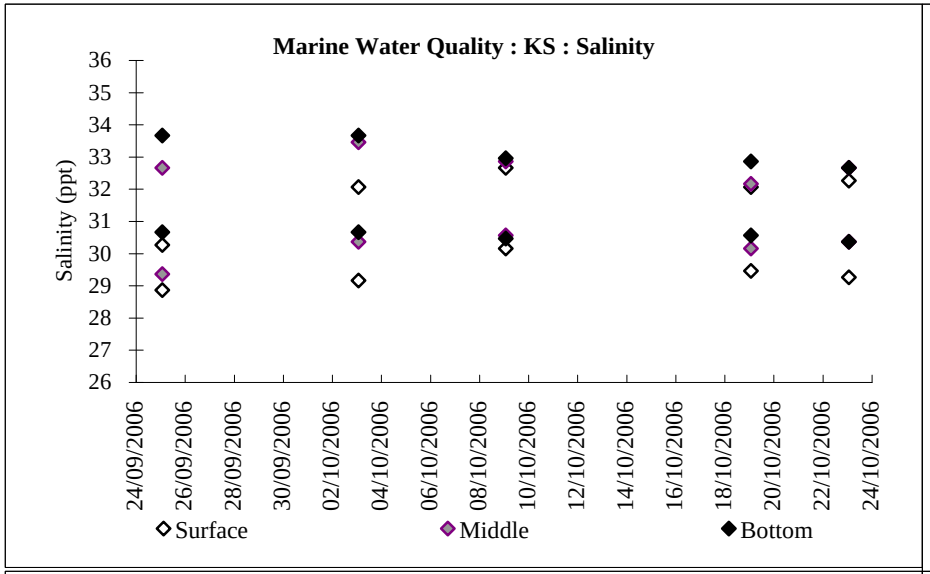
KS	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:46	12.7	6.4	27.1	29.3	6.3	8.2	2.2
Mid-Ebb	03/10/2006	12:01	12.9	6.5	26.9	30.3	6.4	8.2	2.5
Mid-Ebb	09/10/2006	15:31	12.6	6.3	27.3	30.5	6.2	8.2	1.6
Mid-Ebb	19/10/2006	12:01	12.9	6.5	26.9	30.1	6.7	8.2	~~1.0~~
Mid-Ebb	23/10/2006	13:31	12.8	6.4	27.0	30.3	6.7	8.3	~~1.0~~

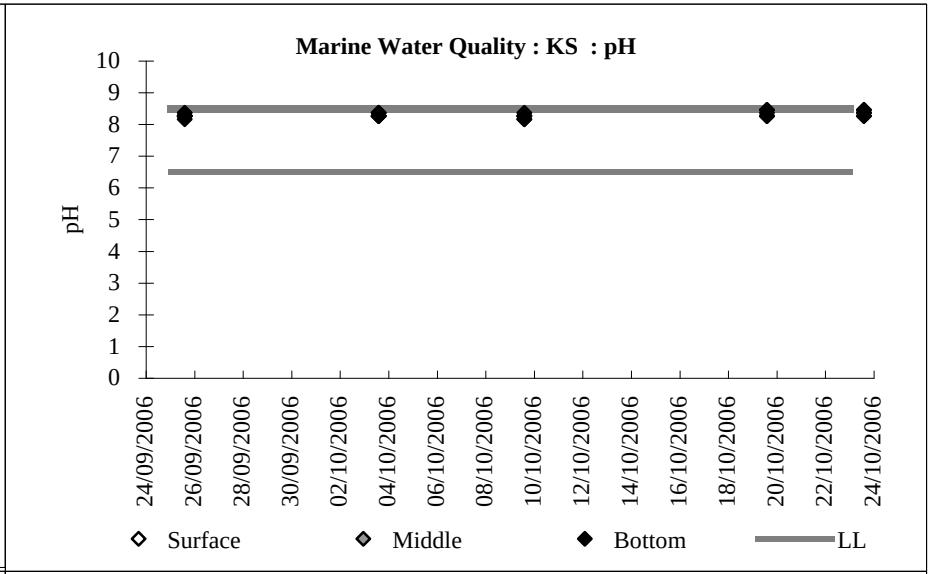
KS	Middle								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	09:51	13.4	6.7	26.8	32.6	6.2	8.2	1.9
Mid-Flood	03/10/2006	12:21	13.6	6.8	27.0	33.4	6.3	8.2	2.9
Mid-Flood	09/10/2006	09:56	13.3	6.7	27.3	32.8	6.4	8.3	1.3
Mid-Flood	19/10/2006	15:26	13.6	6.8	27.2	32.1	6.6	8.4	~~1.0~~
Mid-Flood	23/10/2006	09:56	13.5	6.8	26.8	32.6	6.7	8.3	~~1.0~~

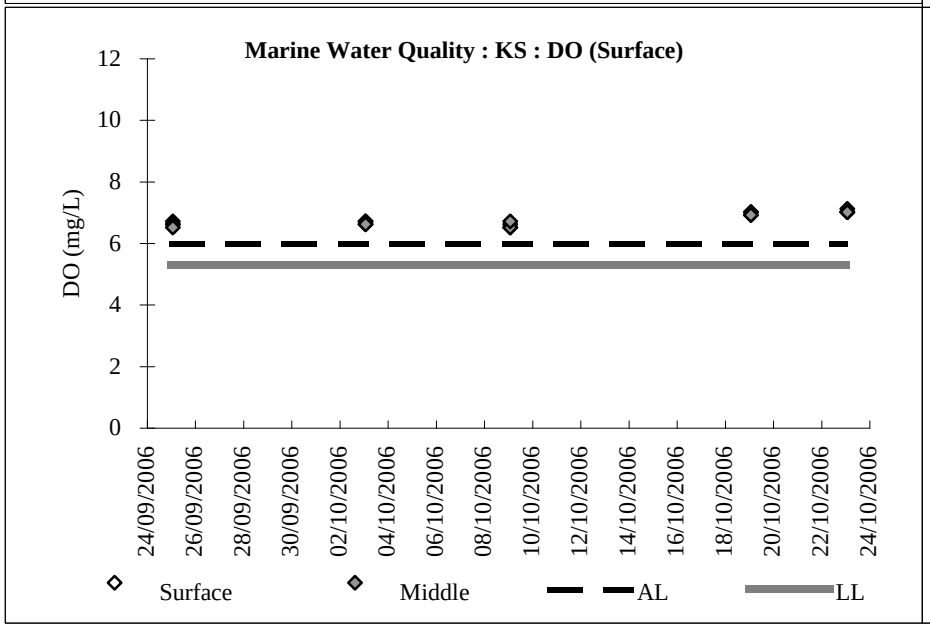
KS	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Ebb	25/09/2006	14:45	12.7	11.7	26.6	30.6	6.3	8.2	2.0
Mid-Ebb	03/10/2006	12:00	12.9	11.9	26.9	30.6	6.2	8.3	2.1
Mid-Ebb	09/10/2006	15:30	12.6	11.6	27.2	30.4	6.3	8.1	~~1.0~~
Mid-Ebb	19/10/2006	12:00	12.9	11.9	27.0	30.5	6.6	8.2	~~1.0~~
Mid-Ebb	23/10/2006	13:30	12.8	11.8	27.0	30.3	6.8	8.2	~~1.0~~

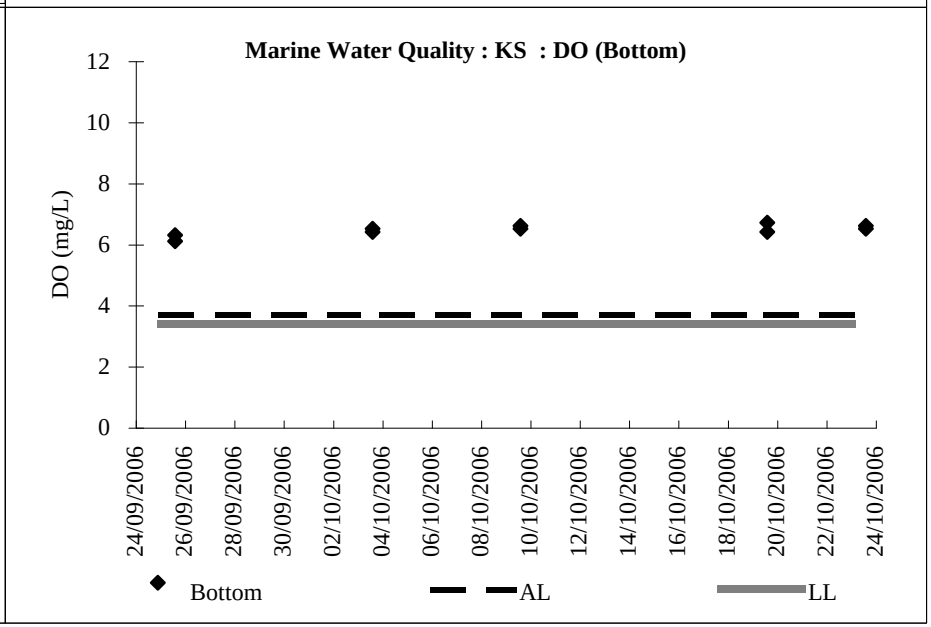
KS	Bottom								
tide condition	Date	time	Water depth (m)	Sampling depth (m)	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)
Mid-Flood	25/09/2006	9:50	13.4	12.4	26.0	33.6	6.2	8.1	2.3
Mid-Flood	03/10/2006	12:20	13.6	12.6	27.2	33.6	6.3	8.2	2.4
Mid-Flood	09/10/2006	9:55	13.3	12.3	27.1	32.9	6.4	8.2	1.0
Mid-Flood	19/10/2006	15:25	13.6	12.6	27.0	32.8	6.7	8.4	1.1
Mid-Flood	23/10/2006	9:55	13.5	12.5	26.8	32.6	6.6	8.4	1.3

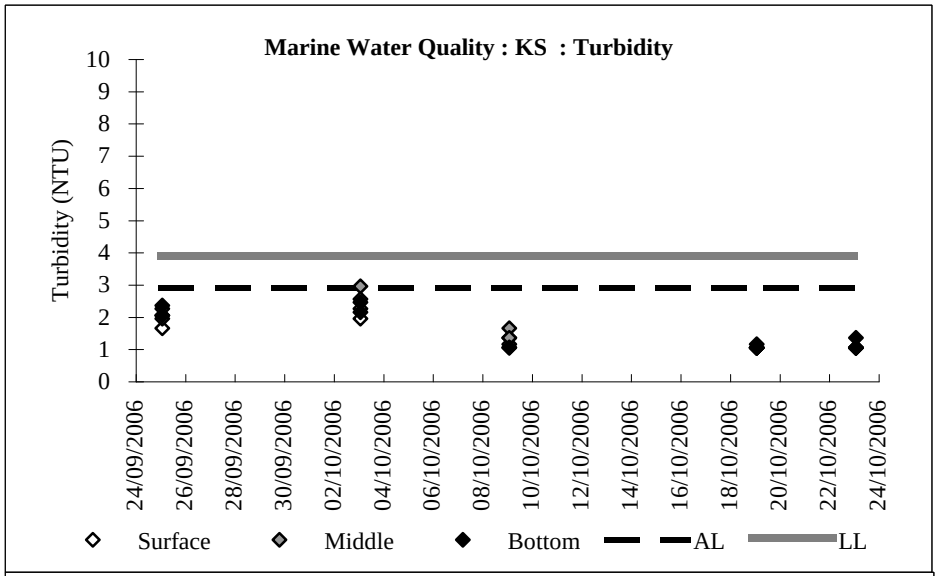
	Mid-Ebb			Mid-Flood			Depth-averaged
KS	Surface	Midlle	Bottom	Surface	Midlle	Bottom	SS (mg/L)
25/09/2006	4.0	5.0	3.0	3.0	4.0	2.0	3.5
03/10/2006	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	~~2.0~~	2.0
09/10/2006	5.0	4.0	4.0	4.0	2.0	2.0	3.5
19/10/2006	2.0	4.0	3.0	~~2.0~~	~~2.0~~	~~2.0~~	2.5
23/10/2006	2.0	4.0	~~2.0~~	5.0	2.0	~~2.0~~	2.8

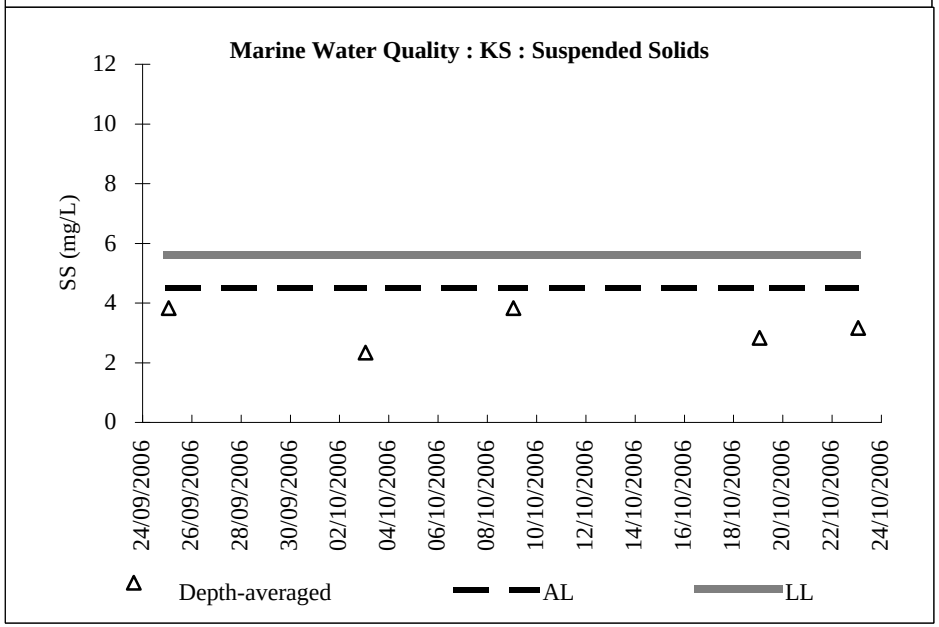

Marine Water Quality : KS : Salinity
Salinity (ppt)
36
35
34
33
32
31
30
29
28
27
26
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom


Marine Water Quality : KS : pH
pH
10
9
8
7
6
5
4
3
2
1
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
LL


Marine Water Quality : KS : DO (Surface)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
AL
LL


Marine Water Quality : KS : DO (Bottom)
DO (mg/L)
12
10
8
6
4
2
0
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Bottom
AL
LL


Marine Water Quality : KS : Turbidity
Turbidity (NTU)
0
1
2
3
4
5
6
7
8
9
10
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Surface
Middle
Bottom
AL
LL

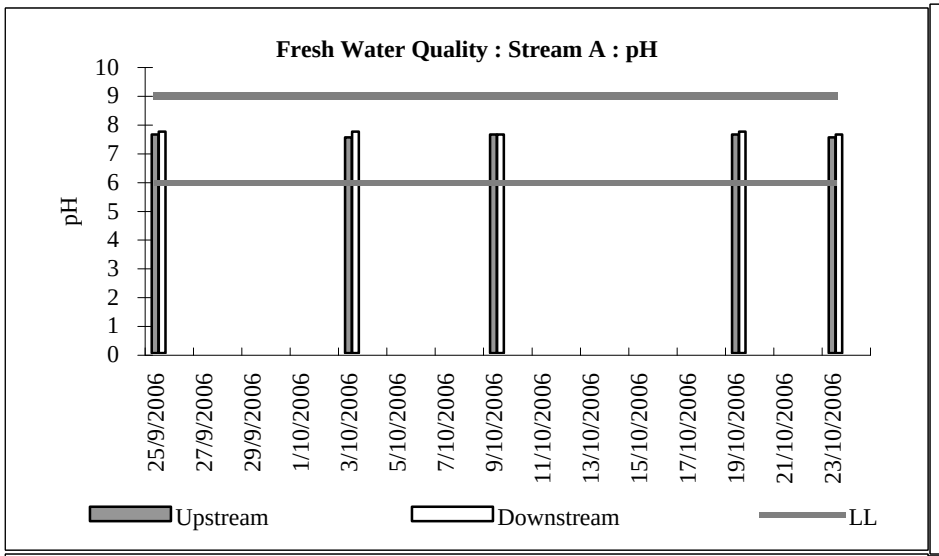

Marine Water Quality : KS : Suspended Solids
SS (mg/L)
0
2
4
6
8
10
12
24/09/2006
26/09/2006
28/09/2006
30/09/2006
02/10/2006
04/10/2006
06/10/2006
08/10/2006
10/10/2006
12/10/2006
14/10/2006
16/10/2006
18/10/2006
20/10/2006
22/10/2006
24/10/2006
Depth-averaged
AL
LL

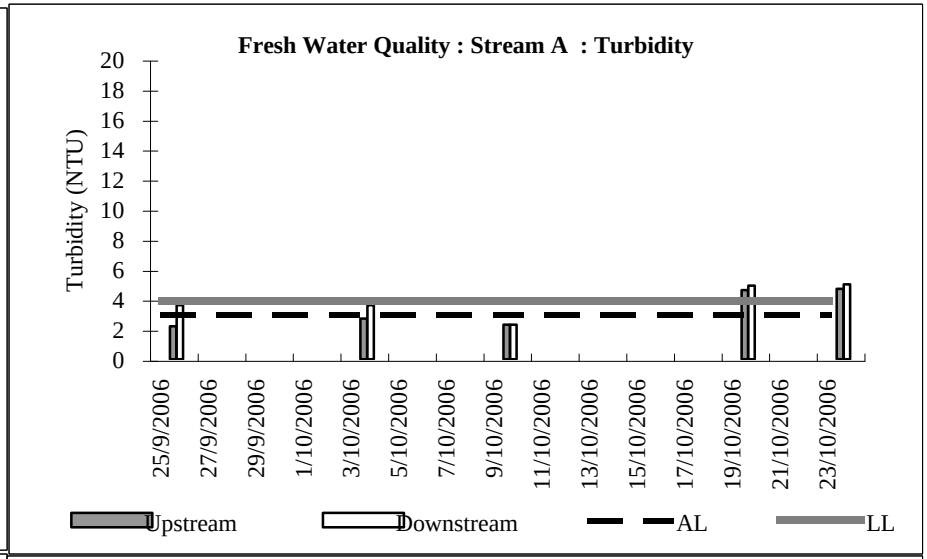
F_UA	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
25/09/2006	09:55	25.3	<0.1	8.3	7.6	2.2	2.0
03/10/2006	10:35	25.0	<0.1	8.4	7.5	2.7	2.0
09/10/2006	14:05	25.0	<0.1	8.3	7.6	2.3	2.0
19/10/2006	10:35	25.2	<0.1	8.5	7.6	4.6	4.0
23/10/2006	11:35	25.1	<0.1	8.4	7.5	4.7	4.0

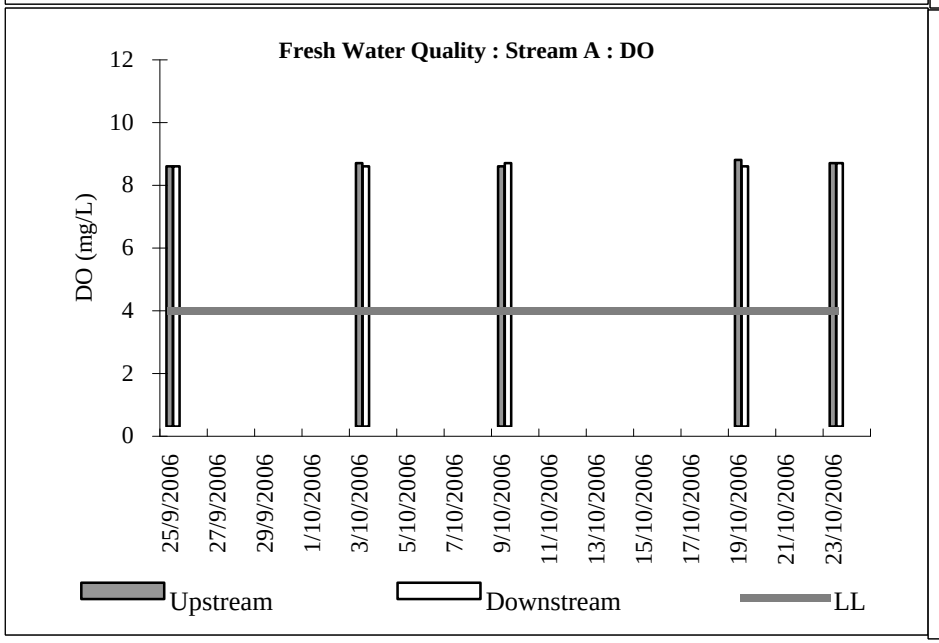
F_DA	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
25/09/2006	10:00	25.4	<0.1	8.3	7.7	***3.6***	2.0
03/10/2006	10:40	25.3	<0.1	8.3	7.7	***3.6***	2.0
09/10/2006	14:10	25.0	<0.1	8.4	7.6	2.3	2.0
19/10/2006	10:40	25.1	<0.1	8.3	7.7	**4.9**	***4.0***
23/10/2006	11:40	25.1	<0.1	8.4	7.6	**5.0**	***4.0***

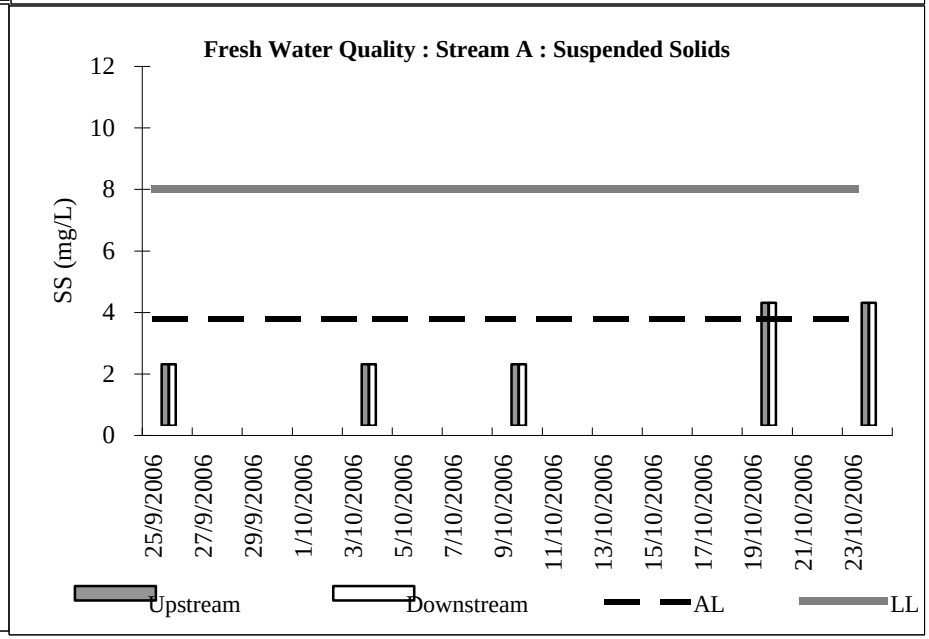
Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~


Fresh Water Quality : Stream A : pH
pH
10
9
8
7
6
5
4
3
2
1
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
LL


Fresh Water Quality : Stream A : Turbidity
Turbidity (NTU)
20
18
16
14
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
AL
LL


Fresh Water Quality : Stream A : DO
DO (mg/L)
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
LL

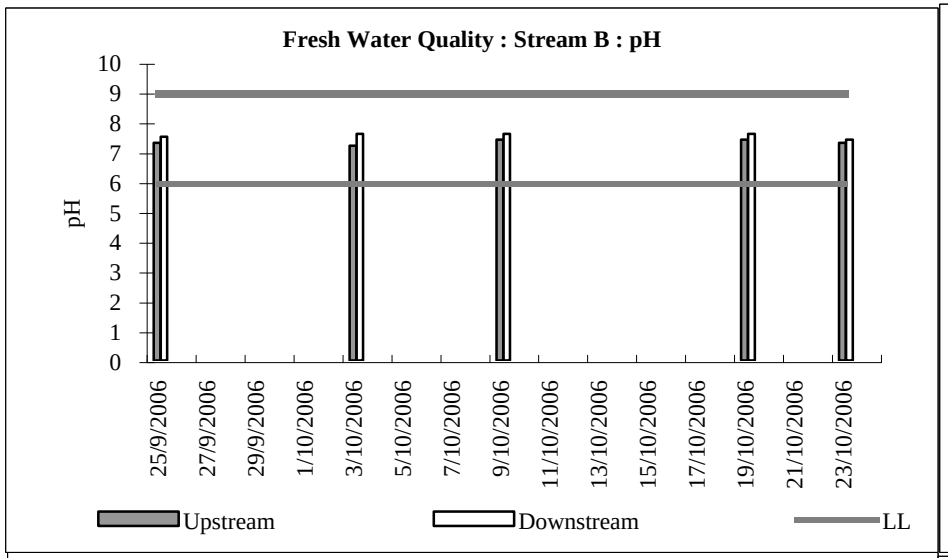

Fresh Water Quality : Stream A : Suspended Solids
SS (mg/L)
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
AL
LL

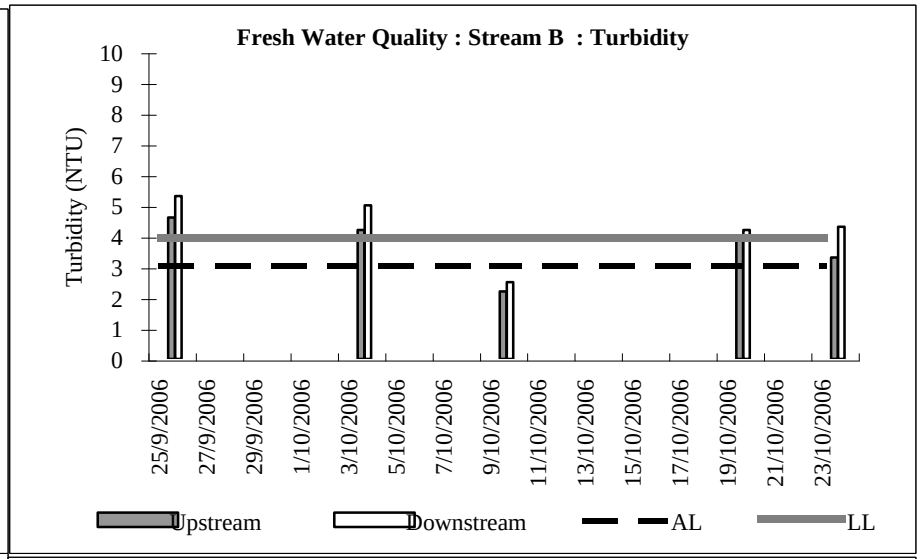
F_UB	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
25/09/2006	09:35	25.1	<0.1	8.6	7.3	4.6	3.0
03/10/2006	10:10	25.2	<0.1	8.5	7.2	4.2	2.0
09/10/2006	13:40	25.1	<0.1	8.4	7.4	2.2	4.0
19/10/2006	10:10	25.3	<0.1	8.3	7.4	3.9	4.0
23/10/2006	11:10	25.2	<0.1	8.4	7.3	3.3	3.0

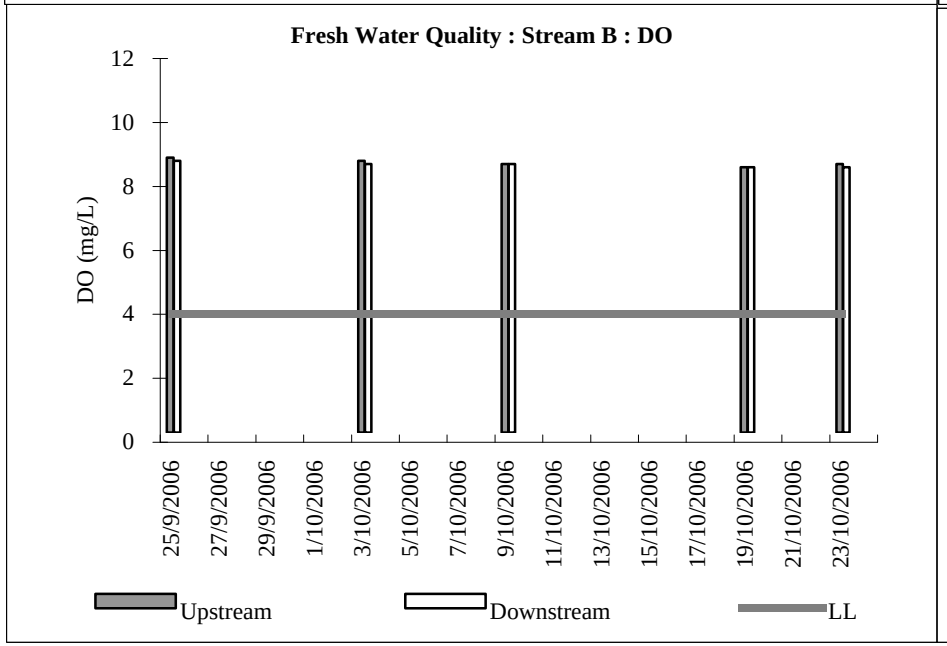
F_DB	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
25/09/2006	09:45	25.0	<0.1	8.5	7.5	**5.3**	***5.0***
03/10/2006	10:20	25.2	<0.1	8.4	7.6	**5.0**	2.0
09/10/2006	13:50	25.2	<0.1	8.4	7.6	2.5	***4.0***
19/10/2006	10:20	25.3	<0.1	8.3	7.6	**4.2**	***4.0***
23/10/2006	11:20	25.2	<0.1	8.3	7.4	**4.3**	***4.0***

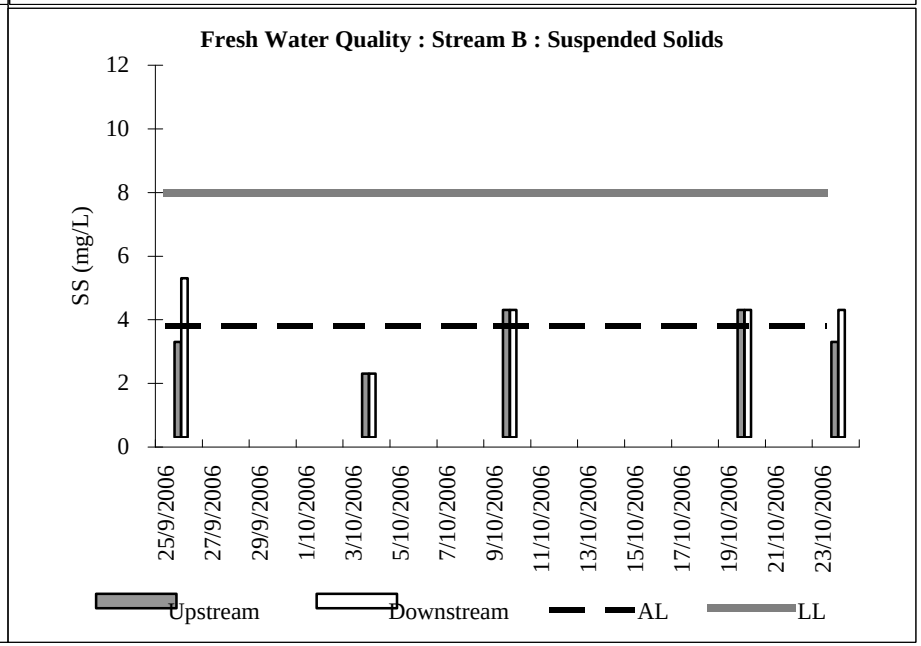
Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~


Fresh Water Quality : Stream B : pH
pH
10
9
8
7
6
5
4
3
2
1
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
LL


Fresh Water Quality : Stream B : Turbidity
Turbidity (NTU)
10
9
8
7
6
5
4
3
2
1
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
AL
LL


Fresh Water Quality : Stream B : DO
DO (mg/L)
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
LL

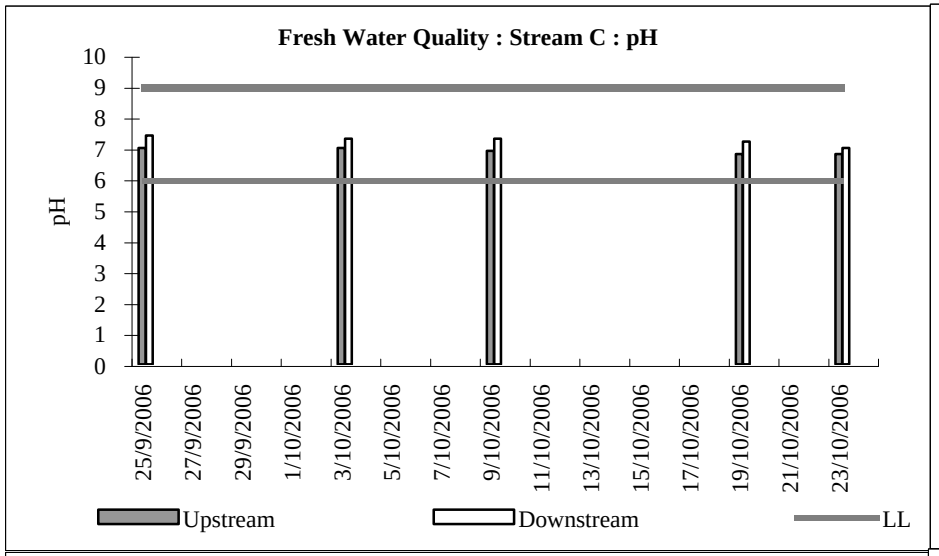

Fresh Water Quality : Stream B : Suspended Solids
SS (mg/L)
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
AL
LL

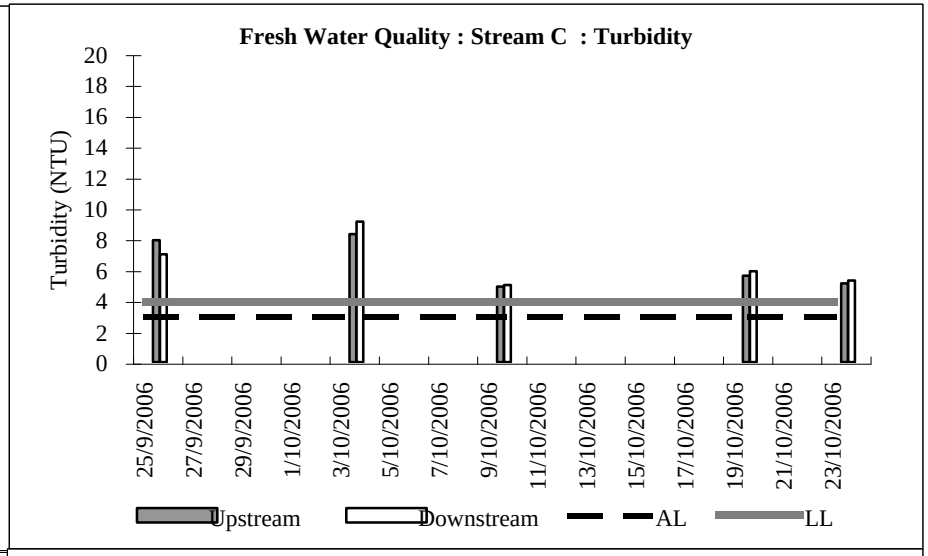
F_UC	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
25/09/2006	09:15	25.0	<0.1	8.7	7.0	7.9	10.0
03/10/2006	11:15	25.0	<0.1	8.8	7.0	8.3	2.0
09/10/2006	14:45	25.2	<0.1	8.6	6.9	4.9	3.0
19/10/2006	11:15	25.0	<0.1	8.7	6.8	5.6	4.0
23/10/2006	12:45	25.0	<0.1	8.6	6.8	5.1	4.0

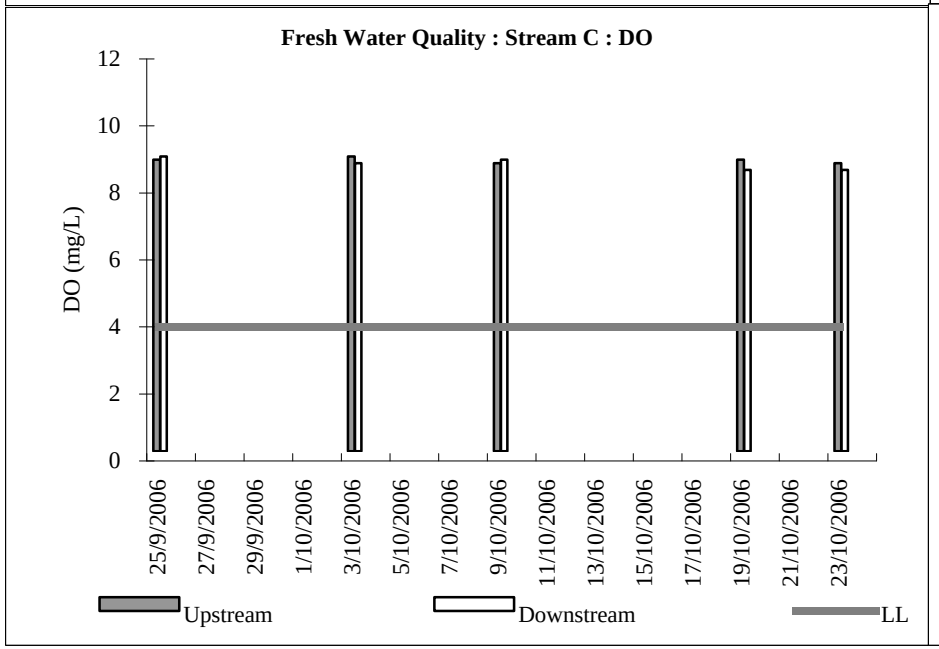
F_DC	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
25/09/2006	09:25	24.9	<0.1	8.8	7.4	**7.0**	***8.0***
03/10/2006	11:25	25.0	<0.1	8.6	7.3	**9.1**	2.0
09/10/2006	14:55	25.2	<0.1	8.7	7.3	**5.0**	***4.0***
19/10/2006	11:25	25.1	<0.1	8.4	7.2	**5.9**	***4.0***
23/10/2006	12:55	25.1	<0.1	8.4	7.0	**5.3**	3.0

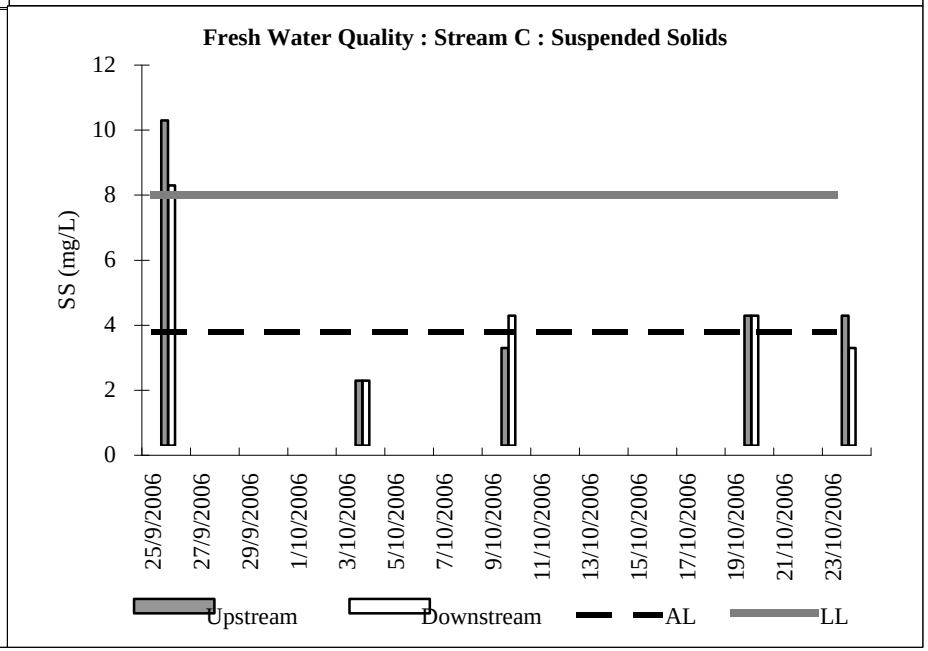
Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~


Fresh Water Quality : Stream C : pH
pH
10
9
8
7
6
5
4
3
2
1
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
LL


Fresh Water Quality : Stream C : Turbidity
Turbidity (NTU)
20
18
16
14
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
AL
LL

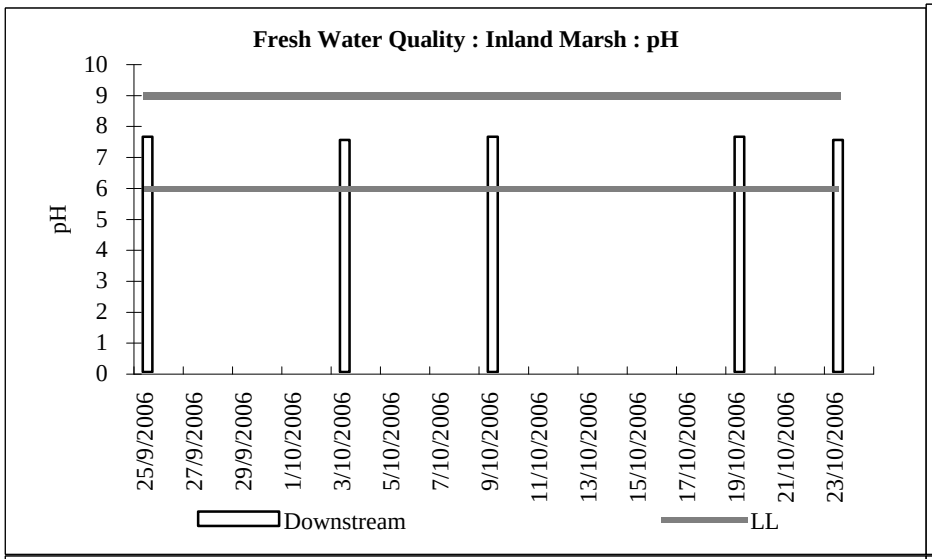

Fresh Water Quality : Stream C : DO
DO (mg/L)
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
LL

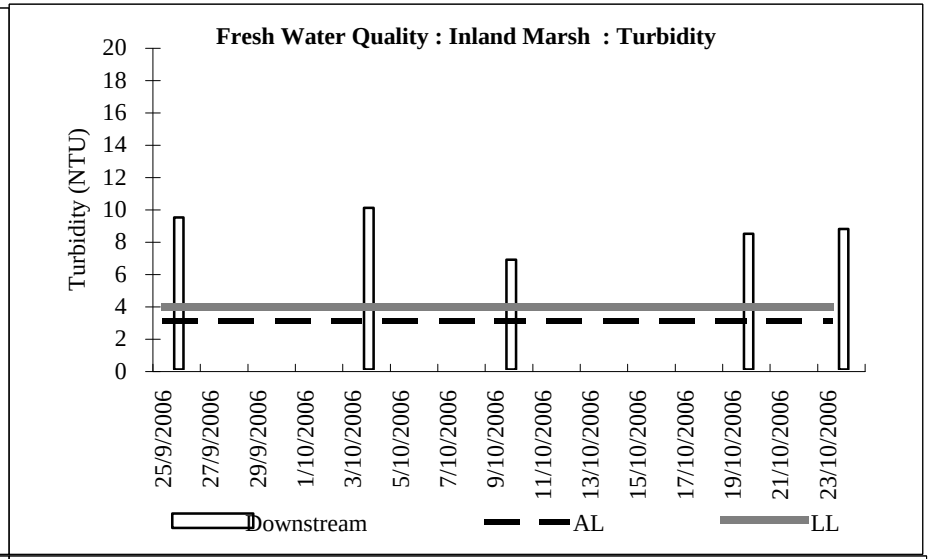

Fresh Water Quality : Stream C : Suspended Solids
SS (mg/L)
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Upstream
Downstream
AL
LL

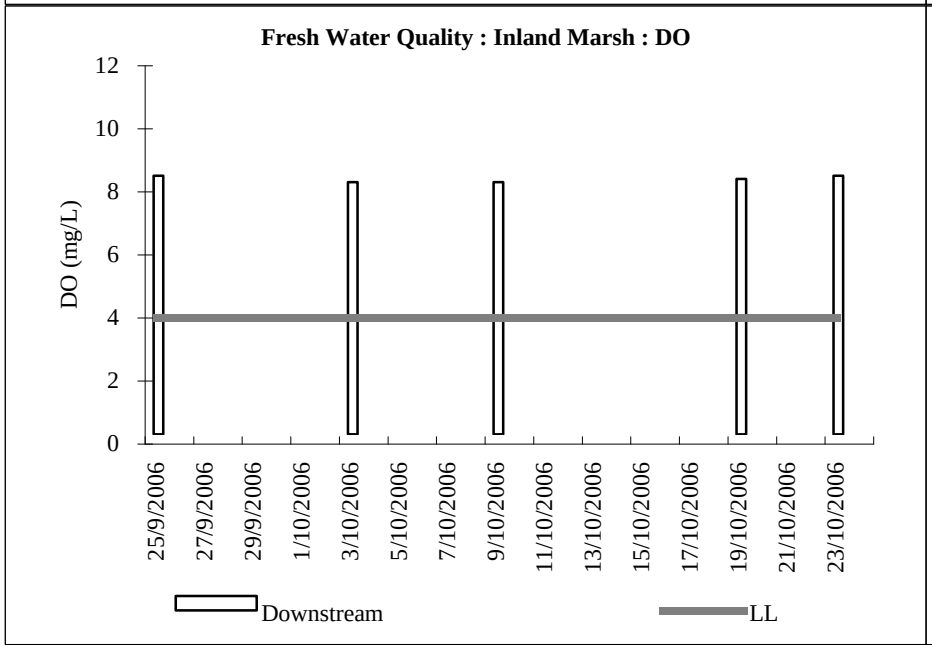
F_Inland M	Mid depth						
Date	time	Temp (^{o}C)	Salinity (ppt)	DO (mg/L)	pH	Turbidity (NTU)	SS (mg/L)
25/09/2006	08:40	25.3	<0.1	8.2	7.6	**9.4**	2.0
03/10/2006	09:25	25.2	<0.1	8.0	7.5	**10.0**	***7.0***
09/10/2006	12:55	25.1	0.1	8.0	7.6	**6.8**	3.0
19/10/2006	09:25	25.3	<0.1	8.1	7.6	**8.4**	***4.0***
23/10/2006	11:25	25.2	<0.1	8.2	7.5	**8.7**	2.0

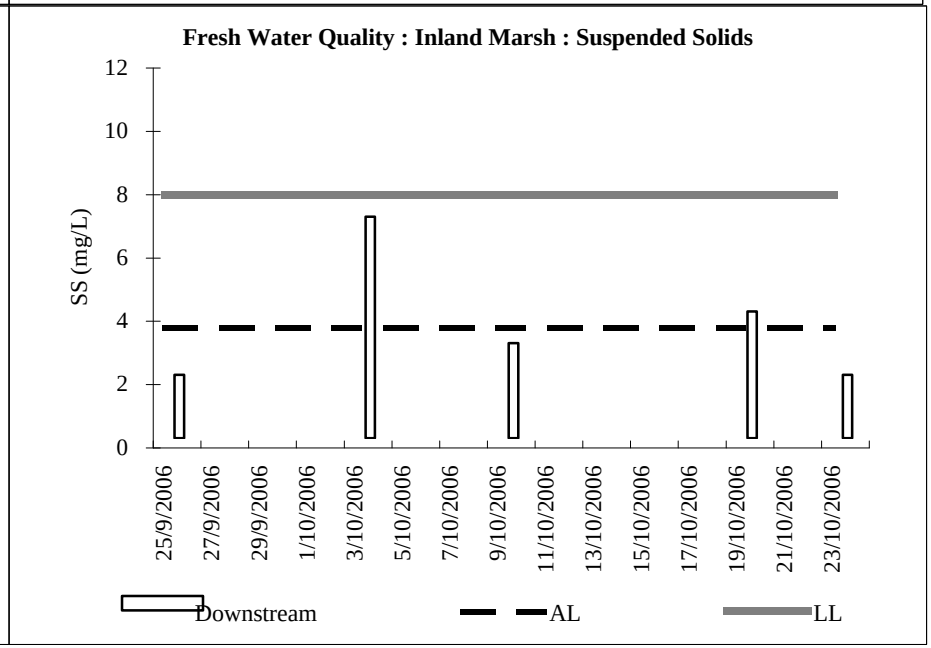
Remarks:

Action level	***Bold & Italic***
Limit level	**Bold**
< detection limit	~~Grey~~


Fresh Water Quality : Inland Marsh : pH
pH
10
9
8
7
6
5
4
3
2
1
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Downstream
LL


Fresh Water Quality : Inland Marsh : Turbidity
Turbidity (NTU)
20
18
16
14
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Downstream
AL
LL


Fresh Water Quality : Inland Marsh : DO
DO (mg/L)
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Downstream
LL


Fresh Water Quality : Inland Marsh : Suspended Solids
SS (mg/L)
12
10
8
6
4
2
0
25/9/2006
27/9/2006
29/9/2006
1/10/2006
3/10/2006
5/10/2006
7/10/2006
9/10/2006
11/10/2006
13/10/2006
15/10/2006
17/10/2006
19/10/2006
21/10/2006
23/10/2006
Downstream
AL
LL

Ecology

Plate 5.3-1 Photos of Stream Habitat

Buffer Zone of Stream A

Buffer Zone of Stream A (2)

Stream B2 and the buffer zone

Stream B close-up

Stream C

Stream C close-up

Stream D

Shrimps in Stream D

Annex F
Calibration Certificates

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

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

Ambient Condition			
Temperature, Ta (K)	302	Pressure, Pa (mmHg)	757.9

Orifice Transfer Standard Information					
Serial No:	988	Slope, mc	2.00878	Intercept, bc	0.00015
Last Calibration Date:	15-Nov-05	$mc \times Qstd + bc = [DH \times (Pa/760) \times (298/Ta)]^{1/2}$			
Next Calibration Date:	15-Nov-06	$Qstd = \{[DH \times (Pa/760) \times (298/Ta)]^{1/2} - bc\} / mc$			

Calibration of TSP Sampler

Resistance Plate No.	Orfice			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	13.3	3.62	1.80	53.0	52.58
13	10.3	3.18	1.58	47.0	46.62
10	7.3	2.68	1.33	39.0	38.69
7	5.9	2.41	1.20	33.0	32.74
5	3.3	1.80	0.90	26.0	25.79

By Linear Regression of Y on X

Slope , mw = 30.5222 **Intercept, bw =** -2.3267

Correlation Coefficient* = 0.9926

*If Correlation Coefficient < 0.990, check and recalibrate.

Set Point Calculation

From the TSP Field Calibration Curve, take Qstd = 1.30m^3/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; $IC = (mw \times Qstd + bw) \times [(760 / Pa) \times (Ta / 298)]^{1/2}$ = **37.65**

Remarks:

QC Reviewer: Eddie Yang Signature: Ed Date: 7/9/2006

ALS Laboratory Group
ANALYTICAL CHEMISTRY & TESTING SERVICES

ALS TECHNICHEM (HK) Pty Ltd
Environmental Division

CERTIFICATE OF ANALYSIS

CONTACT:	MR WONG SIU HO	**Batch:**	HK53166
CLIENT:	ENOVATIVE ENV TECHNOLOGY CO	**Sub Batch:**	0
ADDRESS:	RM 3704 SIK MAN HOUSE HOMANTIN ESTATE KOWLOON	**LABORATORY:**	HONG KONG
		DATE RECEIVED:	25/07/2006
		DATE OF ISSUE:	28/07/2006
ORDER No.:		**SAMPLE TYPE:**	EQUIPMENT
PROJECT:		**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

Address

ALS Technichem (HK) Pty Ltd

11/F
Chung Shun Knitting Centre
1-3 Wing Yip Street
Kwai Chung
HONG KONG

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

pp

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK53166
Sub Batch : 0
Date of Issue: 28/07/2006
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of Tubidimeter

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2130B

Date of Calibration : 25 July, 2006

Testing Results :

Expected Reading	Recording Reading
0.00 NTU	0.10 NTU
4.00 NTU	3.80 NTU
16.0 NTU	15.9 NTU
80.0 NTU	78.9 NTU
160 NTU	158 NTU
Allowing Deviation	±10%

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK53166
Sub Batch : 0
Date of Issue: 28/07/2006
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of Conductivity System

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2510B

Date of Calibration : 25 July, 2006

Testing Results :

Expected Reading	Recording Reading
1412 uS/cm 6667 uS/cm 58670 uS/cm	1433 uS/cm 6739 uS/cm 59310 uS/cm
Allowing Deviation	±10%

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK53166
Sub Batch : 0
Date of Issue: 28/07/2006
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of Salinity System

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 2520 A and B

Date of Calibration : 25 July, 2006

Testing Results :

Expected Reading	Recording Reading
10.0 g/L 20.0 g/L 30.0 g/L	10.0 g/L 20.3 g/L 30.4 g/L
Allowing Deviation	±10%

pp

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK53166
Sub Batch : 0
Date of Issue: 28/07/2006
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of Thermometer

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : In-house Method

Date of Calibration : 25 July, 2006

Testing Results :

Reference Temperature (^{0}C)	Recorded Temperature (^{0}C)
13.1 ^{0}C 25.2 ^{0}C	13.1 ^{0}C 25.1 ^{0}C
Allowing Deviation	±2.0^{0}C

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK53166
Sub Batch : 0
Date of Issue: 28/07/2006
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of DO System

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : This meter was calibrated in accordance with standard method APHA (18th Ed.) 4500-0C & G

Date of Calibration : 25 July, 2006

Testing Results :

Expected Reading	Recording Reading
0.00 mg/L	0.00 mg/L
3.20 mg/L	3.30 mg/L
5.70 mg/L	5.60 mg/L
8.10 mg/L	8.10 mg/L
Allowing Deviation	±0.2 mg/L

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

CERTIFICATE OF ANALYSIS

Batch: HK53166
Sub Batch : 0
Date of Issue: 28/07/2006
Client: ENOVATIVE ENV TECHNOLOGY CO
Client Reference:

Calibration of pH System

Item : YSI SONDE Environmental Monitoring System

Model No. : 6920

Serial No. : 000109DF

Calibration Method : This meter was calibrated in accordance with standard method APHA (19th Ed.) 4500 H:B

Date of Calibration : 25 July, 2006

Testing Results :

Expected Reading	Recording Reading
4.00	4.00
7.00	7.00
10.0	9.90
Allowing Deviation	±0.2 unit

Ms Wong Wai Man, Alice
Laboratory Manager - Hong Kong

ENOVATIVE
ENVIRONMENTAL TECHNOLOGY

Project: **Proposed Extension of Public Golf Course at Kau Sai Chau Island**

Daily checking and calibration record

Instrument: **YSI 6920 (ENO 003)**

Date	pH checking			DO wet bulb calibration	Turbidity checking		Staff	Remark
	4.0	7.0	10.0		5 NTU	20 NTU		
25/09/06	4.1	7.0	10.1	100%	4.7	19.8	[illegible]	
03/10/06	4.1	6.9	10.0	100%	4.8	18.9	[illegible]	
09/10/06	4.1	6.9	9.9	100%	5.3	20.3	[illegible]	
19/10/06	4.0	7.0	9.9	100%	4.9	21.0	[illegible]	
23/10/06	4.0	7.0	9.9	100%	5.1	19.5	[illegible]	

Annex G
Monitoring Programme for the next three months

Oct 2006						
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
22	23 WQ	24	25	26 AQ	27	28
29	30 WQ	31				

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

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

Dec 2006						
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
24	25	26	27 WQ LV	28	29 AQ	30
31						

Jan 2007						
Sun	**Mon**	**Tue**	**Wed**	**Thu**	**Fri**	**Sat**
	1	2	3	4 AQ	5	6
7	8 WQ	9	10 AQ LV	11	12	13
14	15	16 AQ	17 WQ	18	19 TE	20
21	22 AQ WQ	23	24 LV	25	26	27 AQ
28	29 WQ	30	31			

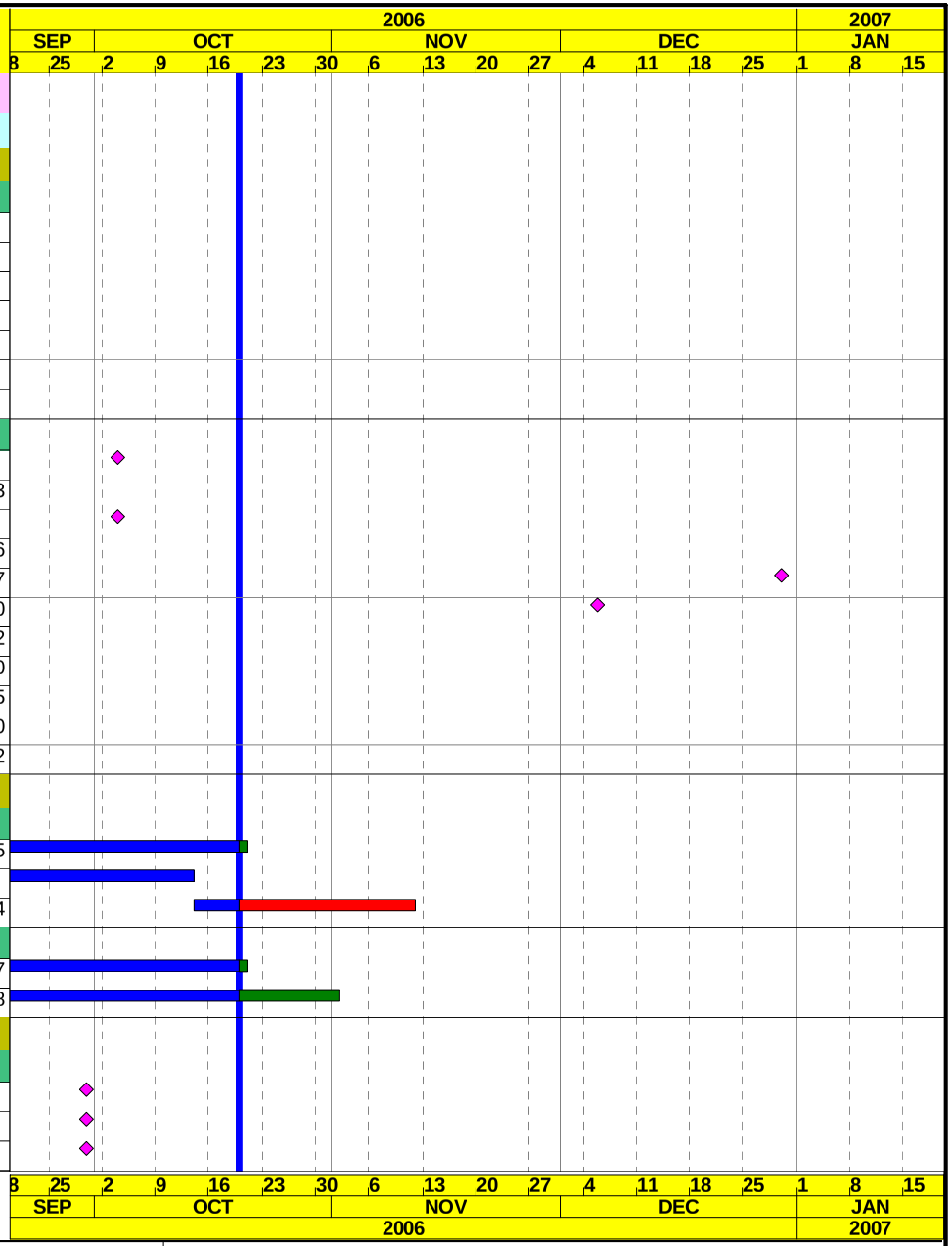
Remarks: AQ = TSP, WQ = Freshwater and Marine water quality, TE = Terrestrial Ecology, ME = Marine Ecology, LV = Landscape & Visual.

No exceedance was found during the three months of coral monitoring (Apr – Jun 2006) at the temporary barging point after the coral incident (23rd Mar 2006), the monitoring frequency will be changed on quarterly basis (start from Sept 2006) till the end of the construction phase (Dec 06, Mar 07, Jun 07).

No dredging was carried out for the desalination plant pipeline construction. No coral monitoring was required. The dredging period was only allowed within Jan to Apr according to the EP.

Annex H
Construction Programme for the next three months

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
General & Preliminaries								
Project Key Dates								
Possession of Site								
KSC00090	Letter of Acceptance	2	0	0	100	28-12-05A		
KSC00095	Project Commencement	2	0	0	100	03-01-06A		
KSC00100	Possession of Portion 1	2	0	0	100	03-01-06A		
KSC00110	Possession of Portion 2	2	0	0	100	03-01-06A		
KSC00120	Possession of Portion 3	2	0	0	100	03-01-06A		
KSC00130	Possession of Portion 4	2	0	0	100	03-01-06A		
KSC00140	Possession of Portion 5	2	0	0	100	03-01-06A		
Completion of Works								
KSC00145	Completion of Section 1	2	0	0	100		03-10-06A	
KSC00152	Completion of Section 1 (Forecast) Alternative	2	0	0	0		24-01-07	-113
KSC00155	Completion of Section 2	2	0	0	100		03-10-06A	
KSC00160	Completion of Section 2 (Forecast)	2	0	0	0		26-06-07	-266
KSC00162	Completion of Section 2 (Forecast) Desalination	2	0	0	0		29-12-06	-87
KSC00165	Completion of Section 3	2	0	0	0		05-12-06*	0
KSC00170	Completion of Section 3 (Forecast)	2	0	0	0		26-01-07	-52
KSC00175	Completion of Section 4	2	0	0	0		06-03-07*	0
KSC00180	Completion of Section 4 (Forecast)	2	0	0	0		10-05-07	-65
KSC00185	Completion of Section 9	2	0	0	0		01-08-07*	0
KSC00190	Completion of Section 9 (Forecast)	2	0	0	0		22-10-07	-82
Design and Submission								
Submision: Contractor Design								
KSC00430	(RO) desalination plant Submit and approval	2	24	1	90	27-01-06A	20-10-06	285
KSC00432	(RO) desalination plant manufacture	2	60	0	100	03-07-06A	13-10-06A	
KSC00435	(RO) desalination plant delivery	2	30	23	20	14-10-06A	11-11-06	-64
Submision: Temporary Works								
KSC00559	Design rein. fill slope submit & approval	2	21	1	90	10-06-06A	20-10-06	47
KSC00659	Design reinforced fill slope approval by GEO	2	42	13	80	23-08-06A	01-11-06	48
Material Submission and Procurement								
Material: Procurement of Order & Delivery								
KSC00710	Water Cooled Chillers & Cooling Towers	2	0	0	100	30-09-06A		
KSC00720	Ventilation Fans	2	0	0	100	30-09-06A		
KSC00730	Motor Controlled Panels	2	0	0	100	30-09-06A		



Start Date 28-12-05
Finish Date 22-10-07
Data Date 20-10-06
Run Date 06-11-06 09:50

Early Bar
Progress Bar
Critical Activity

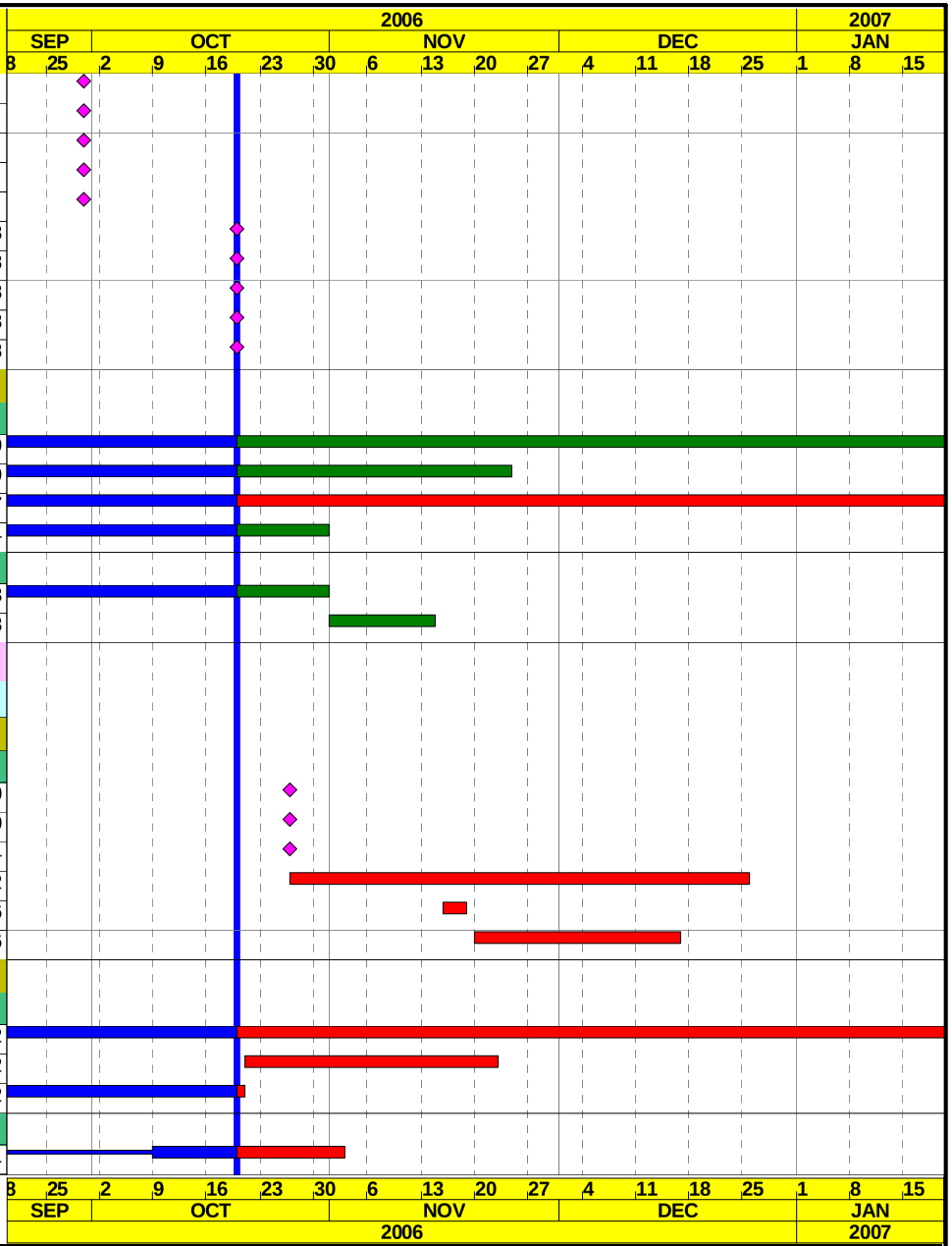
KS10

Sheet 1 of 13

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
KSC00740	Water Pumps	2	0	0	100	30-09-06A		
KSC00750	FM 200 Equipment	2	0	0	100	30-09-06A		
KSC00760	AFA Panels	2	0	0	100	30-09-06A		
KSC00770	Instantaneous Heater	2	0	0	100	30-09-06A		
KSC00780	Sanitary Fittings	2	0	0	100	30-09-06A		
KSC00800	Generators	2	0	0	0	20-10-06		-58
KSC00810	Armoured Cables	2	0	0	0	20-10-06		-58
KSC00820	Public Address Equipment	2	0	0	0	20-10-06		-58
KSC00830	Telephone Equipment	2	0	0	0	20-10-06		-58
KSC00850	Lighting Fittings	2	0	0	0	20-10-06		-58
General Works								
Survey and Site Clearance								
KSC00567	General site clearance	1	316*	80*	75	03-01-06A	25-01-07	29
KSC00570	Condition survey	1	180	30	80	10-01-06A	24-11-06	39
KSC00580	Unexplored ordinance survey	1	315*	80*	75	04-01-06A	25-01-07	-57
KSC00590	Tree survey	1	90	9	95	28-12-05A	31-10-06	24
Site Office, Barging Point and Site Haul Road								
KSC00610	Construction of site haul road	1	244*	9*	96	04-01-06A	31-10-06	18
KSC00646	Construction temporary bridge No. 15	1	12	12	0	01-11-06*	14-11-06	48
Section 1 of the Works								
Construction of Low Level Intake Pumping Station								
Alternative Design for Pump House								
S4A0110	Alternative design - Techincal Package Approval	1	0	0	0		26-10-06*	-70
S4A0120	Alternative design - Commerical Package Approval	1	0	0	0		26-10-06*	-70
S4A0200	AD - Confirmation of pump material	1	0	0	0		26-10-06*	-94
S4A0300	AD - Pump material order, manufacture & delivery	2	60	60	0	27-10-06	25-12-06	-112
S4A0400	AD - Site clearance	1	3	3	0	16-11-06*	18-11-06	-86
S4A0500	AD - Construction works	1	24	24	0	20-11-06	16-12-06	-86
Construction of Gravity Drain & Rising Main								
Gravity Drain : Stage 1								
S100270	GRAVITY DRAIN	1	189*	79*	58	10-06-06A	24-01-07	-92
S1A0100	Drainage Inlet - MH01 43.1m	1	27	27	0	21-10-06	22-11-06	-92
S1A0200	Drainage MH01 - MH02 58.1m	1	43	1	90	16-08-06A	20-10-06	-92
Gravity Drain : Stage 2								
S2A0510	Drainage MH04 - MH06 ch275-313 38m	1	24	11	60	18-07-06A	02-11-06	-51



Start Date	28-12-05
Finish Date	22-10-07
Data Date	20-10-06
Run Date	06-11-06 09:50

Early Bar
Progress Bar
Critical Activity

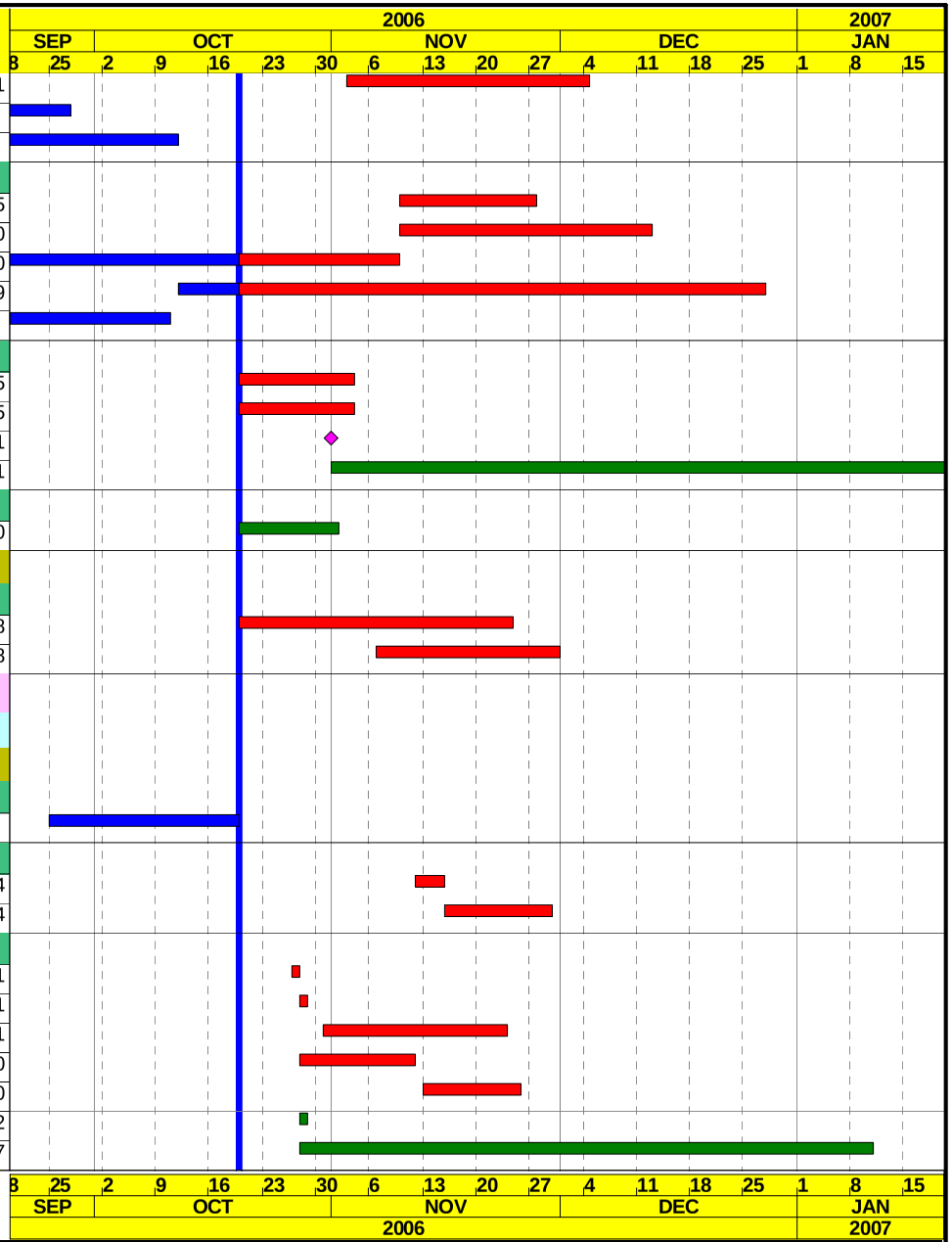
KS10

Sheet 2 of 13

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
S2A0520	Drainage MH04 - MH06 ch234-275 41m	1	27	27	0	03-11-06	04-12-06	-51
S2A0800	Drainage MH08 - MH09 65.4m	1	41	0	100	23-08-06A	27-09-06A	
S2A0900	Drainage MH09 - MH10 70.4m	1	44	0	100	30-08-06A	11-10-06A	
Gravity Drain : Stage 3								
S3A1100	Drainage MH10 - MH11 12.2m	1	15	15	0	10-11-06	27-11-06	-45
S3A1210	Drainage MH11 - MH12 ch613-ch660 47m	1	28	28	0	10-11-06	12-12-06	-80
S3A1220	Drainage MH11 - MH12 ch660-701 41m	1	27	17	20	11-09-06A	09-11-06	-80
S3A1400	Drainage MH13 - MH14 98.5m	1	62	56	20	12-10-06A	27-12-06	-69
S3A1500	Drainage MH14 - Outlet 83.9m	1	52	0	100	20-09-06A	10-10-06A	
Rising Main No.2: Lay Pipe								
S100620	Construction of chamber No.6	1	12	12	0	20-10-06	03-11-06	-25
S100630	Construction of HW1	1	12	12	0	20-10-06	03-11-06	-25
S100655	Commencement of Rising Main Laying	1	0	0	0	01-11-06*		221
S100660	Lay 150mm DI pipe from ch0 to ch1025	1	70*	70*	0	01-11-06	24-01-07	151
Trench Exavation (Provisional)								
S100590	Lay 150mm DI pipe at existing main dam area	1	10	10	0	20-10-06	01-11-06	220
Trench Excavation (Provisional)								
Trench Exavation (Provisional)								
S100640	Trench excavation	1	30	30	0	20-10-06	24-11-06	-48
S100650	Stones and gravel fill	1	21	21	0	07-11-06	30-11-06	-48
Section 2 of the Works								
Construction of Desalination Plant								
Desalination Plant: Civil Works								
S200110	Construction of base slab for desalination plant	1	12	0	100	25-09-06A	19-10-06A	
Desalination Plant: E&M Works								
S200112	Delivery of desalination plant on site	2	4	4	0	12-11-06	15-11-06	-64
S200120	Erection of desalination plant	2	14	14	0	16-11-06	29-11-06	-64
Temp Sea Water Pump								
S202100	Engineer Instruction for temp seawater pump	1	1	1	0	27-10-06*	27-10-06	-51
S202210	Order the 1st temp seawater pump	1	1	1	0	28-10-06	28-10-06	-51
S202220	The 1st temp seawater pump manufacture &delivery	1	21	21	0	31-10-06	23-11-06	-51
S202310	The temp seawater pipe material preparation	1	12	12	0	28-10-06	11-11-06	-50
S202320	The temp seawater pipe laying to Desalination pl	1	12	12	0	13-11-06	25-11-06	-50
S202410	Order the 2nd temp seawater pump	1	1	1	0	28-10-06	28-10-06	222
S202420	The 2nd Temp Seawater Pump Manufacture &Delivery	1	60	60	0	28-10-06	10-01-07	157



Start Date	28-12-05
Finish Date	22-10-07
Data Date	20-10-06
Run Date	06-11-06 09:50

?Primavera Systems, Inc.

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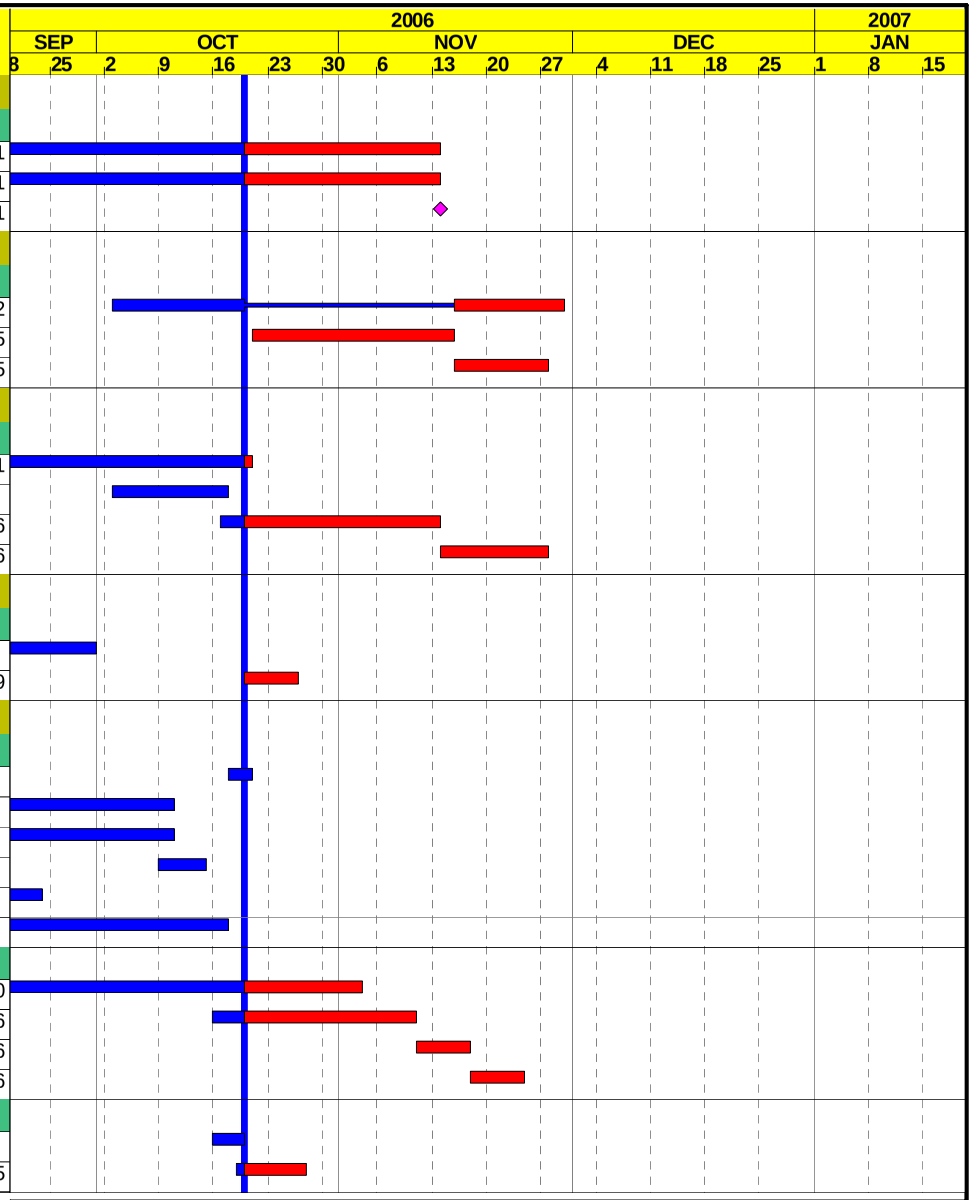
China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
Construction of Transformer/Switch Room								
Transformer/Switch Room: E&M Works								
S200245	CLP Cable laying (by CLP)	2	61	25	80	05-09-06A	13-11-06	-41
S200250	Installation of transformer (by CLP)	2	61	25	90	05-09-06A	13-11-06	-41
S200270	Energize transformer for desalination plant	2	0	0	0		13-11-06	-41
Construction of Seawater Pumping Station								
Sewater Pumping Station: Civil Works								
S200140	Lay seawater rising main fm SWPH to DP	1	30	12	60	03-10-06A	29-11-06	-52
S200290	Excavation of SWP Station	1	21	21	0	21-10-06*	15-11-06	-125
S200300	Reinf. & cast base slab of SWP station	1	10	10	0	16-11-06	27-11-06	-125
Seawater Intake & Discharge Pipe								
Seawater Intake Pipe								
S200342	Gazette for Dredging	2	60	1	90	24-02-06A	20-10-06	-291
S200345	Design for Coral Transportation	1	12	0	100	03-10-06A	17-10-06A	
S200346	Submission & Approval for Coral Transplantation	1	24	20	10	17-10-06A	13-11-06	-216
S200348	Coral Transplantation	1	12	12	0	14-11-06	27-11-06	-216
Construction Retaining Wall No.1								
Construction Retaining Wall No.1								
S200580	Install sub-soil drains and backfill RW1	1	6	0	100	20-09-06A	30-09-06A	
S200590	Slope work for retaining wall RW1	1	6	6	0	20-10-06	26-10-06	-19
Lake No.1 and Pump House No.1								
Diversion of Drainage								
S200609	Diversion of Existing Irrigation system	1	7	0	100	18-10-06A	20-10-06A	
S200782	Drainage MH33B-33B.1 & 33B.2-33B.3	1	14	0	100	21-08-06A	10-10-06A	
S200882	Drainage CB7E.3 to MH33B.3	1	14	0	100	24-08-06A	10-10-06A	
S200884	Diversion of Drainage Pipe for Lake 1	1	7	0	100	09-10-06A	14-10-06A	
S201200	Diversion of cart path stage 2	1	1	0	100	23-08-06A	23-09-06A	
S201870	Drainage under the existing cart path stage 2	1	24	0	100	24-08-06A	17-10-06A	
Construction Lake No.1								
S200610	Fill works to irrigation lake no.1	1	18	12	33	24-08-06A	03-11-06	-70
S200612	Cut works to irrigation lake no.1	1	18	18	0	16-10-06A	10-11-06	-76
S200620	Trim to shape of irrigation lake no.1	1	6	6	0	11-11-06	17-11-06	-76
S200630	Place 2 layers of concrete bedding & geotextile	1	6	6	0	18-11-06	24-11-06	-76
Pump House No.1: Civil Works								
S200690	Construct base slab of PH1	1	12	0	100	16-10-06A	19-10-06A	
S200700	Construct 1st wall of PH1	1	7	7	0	19-10-06A	27-10-06	-55



Start Date	28-12-05
Finish Date	22-10-07
Data Date	20-10-06
Run Date	06-11-06 09:50

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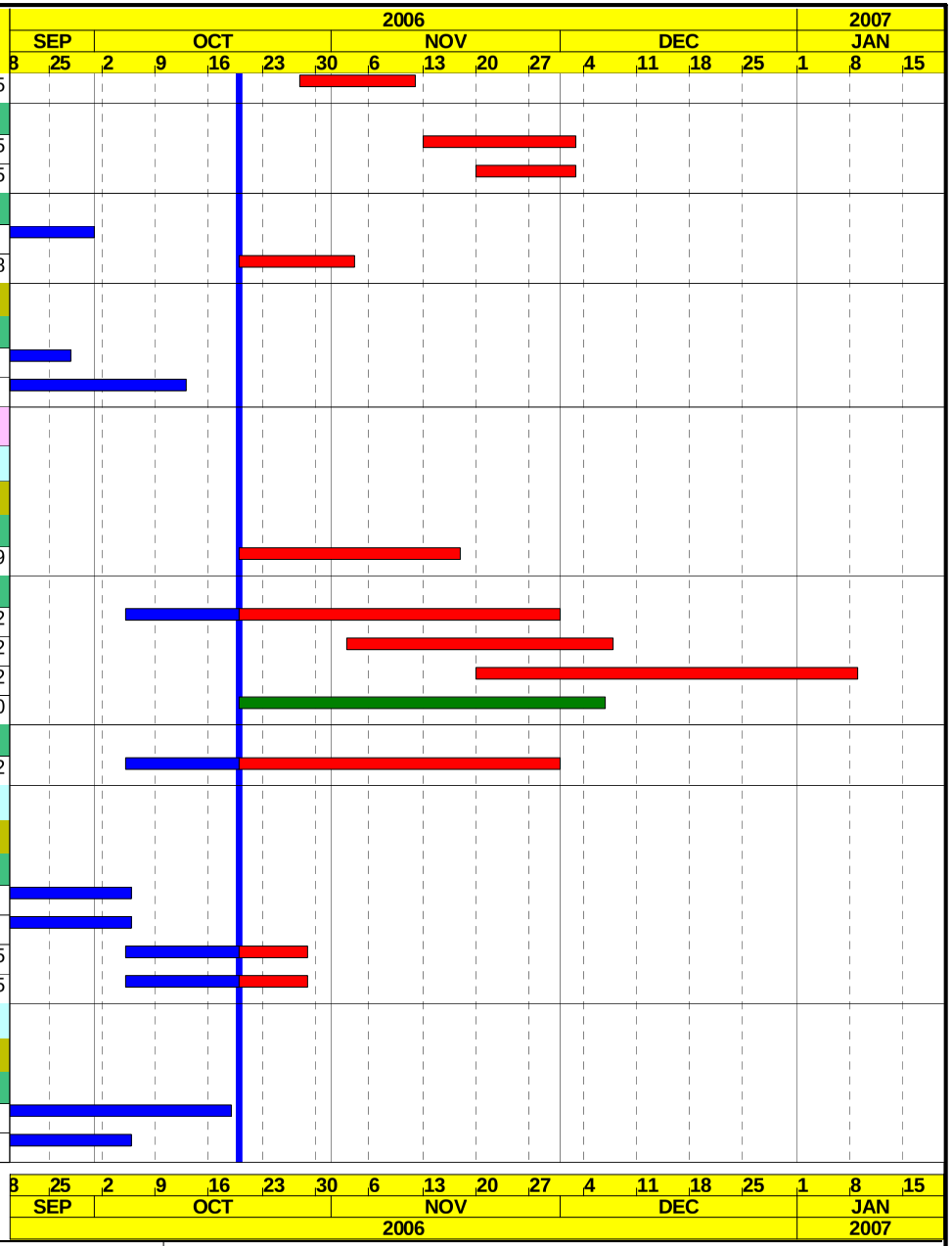
China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
S200710	Construct 2nd wall / top slab of PH1	1	12	12	0	28-10-06	11-11-06	-55
Pump House No.1: E&M Works								
S200720	E&M installation and testing for PH1	1	18	18	0	13-11-06	02-12-06	-55
S200730	Energize Pumping sta. to irrigation buffer lake	1	12	12	0	20-11-06	02-12-06	-55
Rising Main No.1: Lay Pipe								
S200760	Installation of Rising Main No.1 150mm DI pipe	1	40	0	100	20-05-06A	30-09-06A	
S200780	Construction of HW1-1.6	1	12	12	0	20-10-06	03-11-06	-28
Roundabout and Access Road								
Construction Road Works								
S200830	Construction the relocation of lamp pole & Kerb	1	6	0	100	12-09-06A	27-09-06A	
S200870	Place concrete pavement & road marking on LHS	1	6	0	100	20-09-06A	12-10-06A	
Section 3 of the Works								
General								
Existing Maintenace Building								
Maintenance Building: Civil Works								
S3020000	Paving for Hard Standing Area	1	24	24	0	20-10-06	17-11-06	9
Maintenance Building: Fitting Out Works								
S3015000	FINISHING WORKS	1	47*	35*	26	05-10-06A	30-11-06	-32
S3016000	Vacant the Existing Building	1	30	30	0	03-11-06	07-12-06	-32
S3017000	Renovate the Existing Building	1	40	40	0	20-11-06	08-01-07	-32
S3018000	Gasoline & Diesel Oil Tank	1	40	40	0	20-10-06	06-12-06	130
Maintenance Building: E&M Works								
S3014000	E&M WORKS	1	47*	35*	26	05-10-06A	30-11-06	-32
S1 Area								
Existing Maintenace Building								
Maintenance Buildingi: Structure Works								
S3012100	Structure S1	1	118*	0*	100	18-05-06A	05-10-06A	
S3012106	Structure S1 - Roofing	1	10	0	100	19-09-06A	05-10-06A	
S3015100	S1 Finishing Works	1	10	8	80	05-10-06A	28-10-06	-5
S3104100	S1 E&M Works	1	10	8	80	05-10-06A	28-10-06	-5
S3 Area								
Existing Maintenace Building								
Maintenance Buildingi: Structure Works								
S3012300	Structure S3	1	131*	0*	100	15-05-06A	18-10-06A	
S3012304	Structure S3 - Frame Works	1	24	0	100	15-08-06A	05-10-06A	



Start Date	28-12-05
Finish Date	22-10-07
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Run Date	06-11-06 09:50

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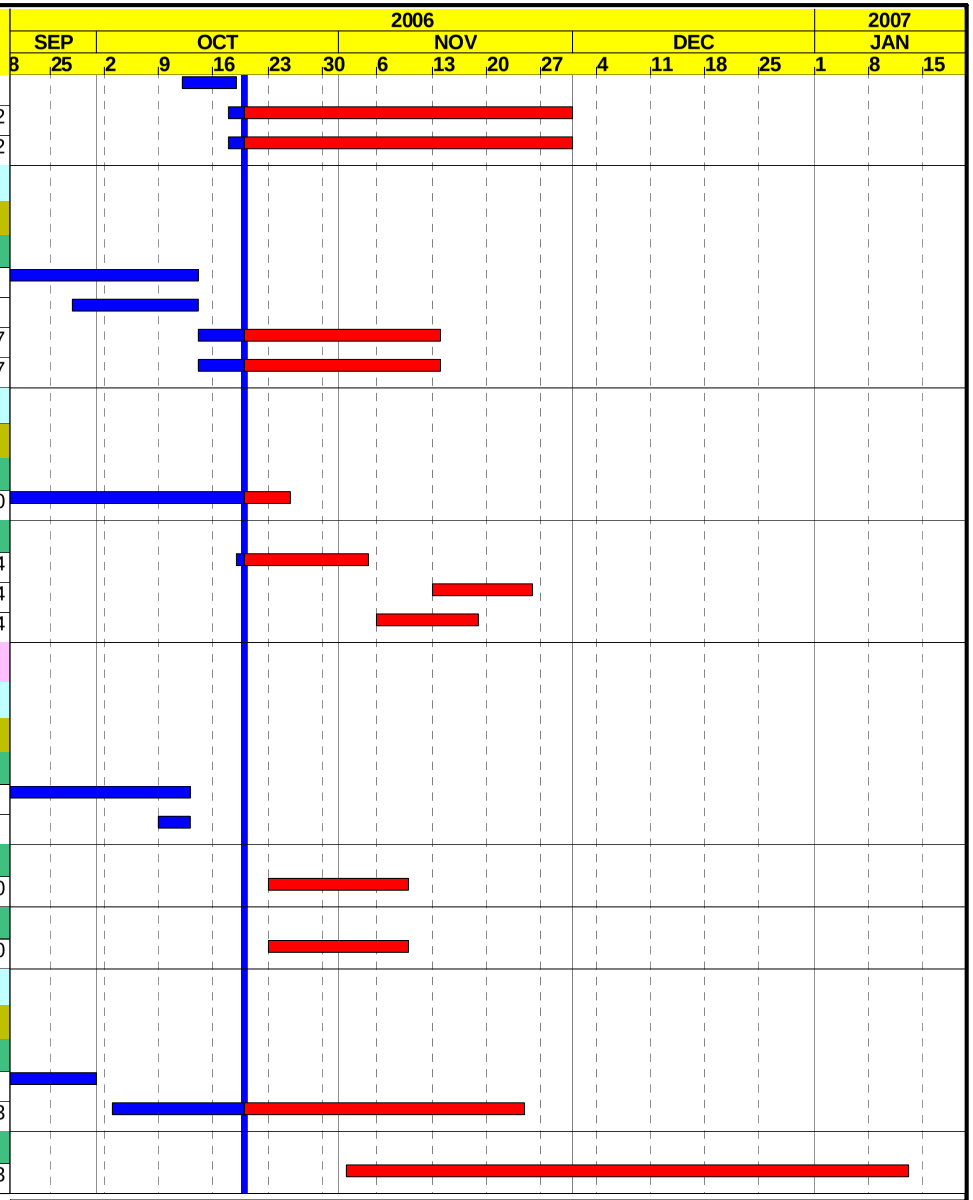
China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
S3012306	Structure S3 - Roofing	1	10	0	100	12-10-06A	18-10-06A	
S3015200	S3 Finishing Works	1	20	35	30	18-10-06A	30-11-06	-32
S3104200	S3 E&M Works	1	20	35	30	18-10-06A	30-11-06	-32
S4 Area								
Existing Maintenace Building								
Maintenance Buildingi: Structure Works								
S3012400	Structure S4	1	147*	0*	100	19-04-06A	13-10-06A	
S3012406	Structure S4 - Roofing	1	10	0	100	28-09-06A	13-10-06A	
S3015300	S4 Finishing Works	1	20	20	50	14-10-06A	13-11-06	-17
S3104300	S4 E&M Works	1	20	20	50	14-10-06A	13-11-06	-17
Sewage Treatment Plant								
Existing Maintenace Building								
Construction Retaining Wall No.2								
S3030020	Retaining Walls RW2	1	24	5	80	07-08-06A	25-10-06	10
STW Extension: Civil Works								
S3030030	Site formation for foundation	1	6	13	20	19-10-06A	04-11-06	-4
S3030040	E&M Works	1	12	12	0	13-11-06	25-11-06	-4
S3030050	Plant Installation	1	12	12	0	06-11-06	18-11-06	-4
Section 4 of the Works								
Area 5								
Existing Admin. Building								
Admin. Building: Structure Works								
S4050500	Area 5 - 1/F Slab to Roof	1	24	0	100	29-06-06A	12-10-06A	
S4050600	Area 5 - Roof	1	12	0	100	09-10-06A	12-10-06A	
Admin. Building: Fitting Out Works								
S4050800	Area 5 - Finish Works	1	15	15	0	23-10-06*	09-11-06	-50
Admin. Building: E&M Works								
S4050700	Area 5 - E&M Works	1	15	15	0	23-10-06*	09-11-06	-50
Area 4								
Existing Admin. Building								
Admin. Building: Structure Works								
S4040700	Area 4 - 1/F Slab to Roof	1	24	0	100	18-09-06A	30-09-06A	
S4040800	Area 4 - Roof	1	50	30	30	03-10-06A	24-11-06	-23
Admin. Building: Fitting Out Works								
S4041000	Area 4 - Finishing Works	1	59	59	0	02-11-06	12-01-07	-33



Start Date	28-12-05
Finish Date	22-10-07
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Run Date	06-11-06 09:50

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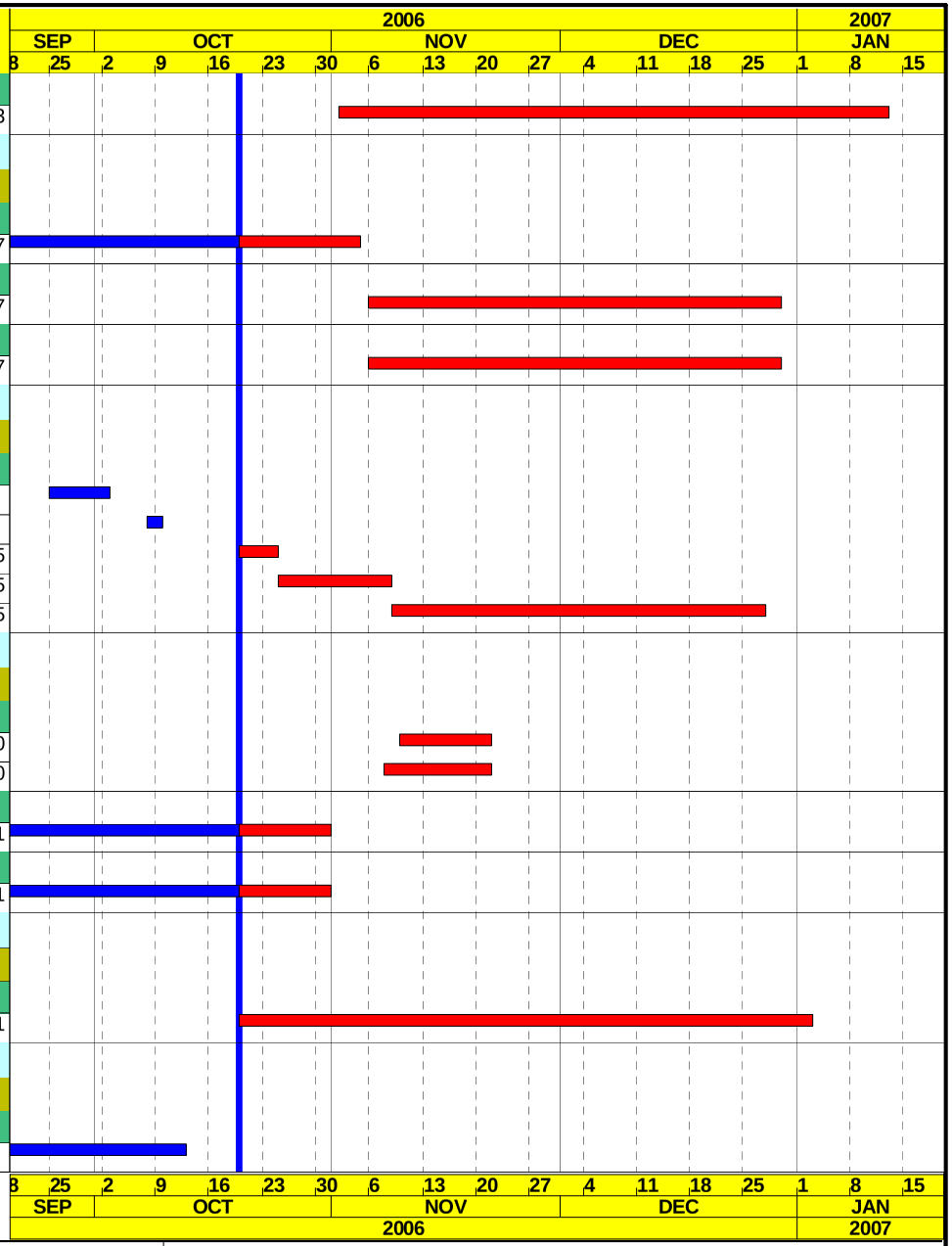
China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
Admin. Building: E&M Works								
S4040900	Area 4 - E&M Works	1	59	59	0	02-11-06	12-01-07	-33
Area 3								
Existing Admin. Building								
Admin. Building: Structure Works								
S4030400	G/F Slab to Roof	1	45	13	30	20-09-06A	04-11-06	-17
Admin. Building: Fitting Out Works								
S4030600	Finishing Works	1	45	45	0	06-11-06	29-12-06	-17
Admin. Building: E&M Works								
S4030500	E&M Works	1	45	45	0	06-11-06	29-12-06	-17
Area 2								
Existing Admin. Building								
Admin. Building: Structure Works								
S4020100	Relocation of Existing A/C Units	2	15	0	100	25-09-06A	02-10-06A	
S4020110	Hoarding	1	12	0	100	08-10-06A	09-10-06A	
S4020200	Site Formation Works	1	4	4	0	20-10-06	24-10-06	-15
S4020300	Foundation to G/F Slab	1	12	12	0	25-10-06	08-11-06	-15
S4020400	G/F Slab to Roof	1	40	40	0	09-11-06	27-12-06	-15
Area 1								
Existing Admin. Building								
Admin. Building: Structure Works								
S4010300	Diversion of Existing Cart Entrance	1	10	10	0	10-11-06	21-11-06	-50
S4010310	Hoarding	1	12	12	0	08-11-06	21-11-06	-50
Admin. Building: Fitting Out Works								
S4011200	Finishing Works (1/F - Phase 1 Area)	1	24	9	60	04-09-06A	31-10-06	-41
Admin. Building: E&M Works								
S4011000	E&M Works (1/F - Phase 1 Area)	1	24	9	60	04-09-06A	31-10-06	-41
Existing Building								
Existing Admin. Building								
Admin. Building: Structure Works								
S4060100	Utility Diversion	1	60	60	0	20-10-06	02-01-07	-41
Transformer Room								
Existing Admin. Building								
Admin. Building: E&M Works								
S4100400	Construct base slab of transform/switch room	1	6	0	100	09-09-06A	12-10-06A	



Start Date	28-12-05
Finish Date	22-10-07
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Run Date	06-11-06 09:50

?Primavera Systems, Inc.

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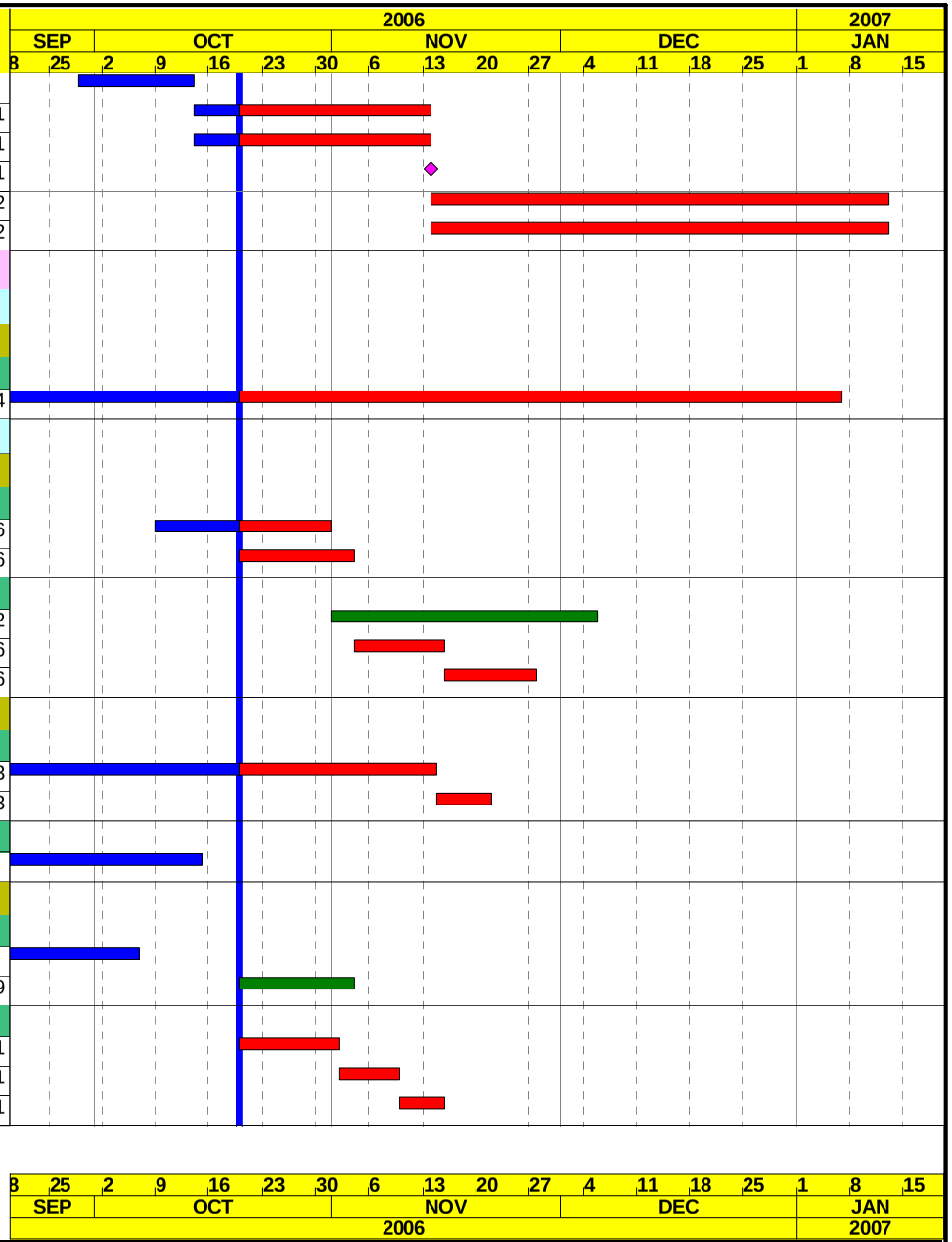
China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
S4100500	Construct wall of transformer/switch room	1	12	0	100	29-09-06A	13-10-06A	
S4100800	Install metal works to transformer/switch room	1	12	20	0	14-10-06A	13-11-06	-41
S4100900	Install building services works	1	12	20	0	14-10-06A	13-11-06	-41
S4101200	CLP final inspection (awaited CLP)	1	0	0	0	14-11-06		-41
S4101300	Allow CLP Cable laying (by CLP)	2	60	60	0	14-11-06	12-01-07	-52
S4101400	Installation of transformer (by CLP)	2	60	60	0	14-11-06	12-01-07	-52
Section 9 of the Works								
Phase 1								
Temporary Drainage								
S501645	Temporary Drainage at phase 1	1	219*	64*	71	12-04-06A	06-01-07	-34
Phase 1a								
Construction of Golf Course Hole No.4								
GH 04: Drainage & Duct								
S501460	Installation of Drainage system at Hole 4	1	24	9	63	09-10-06A	31-10-06	6
S501470	Installation of cable duct/pit	1	12	12	0	20-10-06	03-11-06	6
GH 04: Construction of Golf Course								
S501480	Construction of rain shelter at Hole 4	1	30	30	0	01-11-06*	05-12-06	52
S501490	Feature construction to Hole no. 4	1	10	10	0	04-11-06	15-11-06	6
S501500	Irrigation install to Hole no. 4	1	10	10	0	16-11-06	27-11-06	6
Lake No.4 and Pump House No.4								
Lake No.4: Civil Works								
S501580	Cut & fill to lake no. 4	1	24	21	13	12-06-06A	14-11-06	3
S501590	Trim to shape of lake no.4	1	6	6	0	15-11-06	21-11-06	3
PH 4: Structure Works								
S501680	Cast 2nd pour to top slab of pump house	1	15	0	100	16-09-06A	14-10-06A	
Construction of Golf Course Hole No.5								
GH 05: Drainage & Duct								
S501740	Installation of Drainage system at Hole 5	1	30	0	100	11-09-06A	06-10-06A	
S501750	Installation of cable duct/pit	1	12	12	0	20-10-06	03-11-06	59
GH 05: Construction of Golf Course								
S501770	Feature construction to Hole no. 5	1	10	10	0	20-10-06*	01-11-06	1
S501780	Irrigation install to Hole no. 5	1	7	7	0	02-11-06	09-11-06	1
S501790	Sub-soil drains install to Hole no. 5	1	5	5	0	10-11-06	15-11-06	1



Start Date	28-12-05
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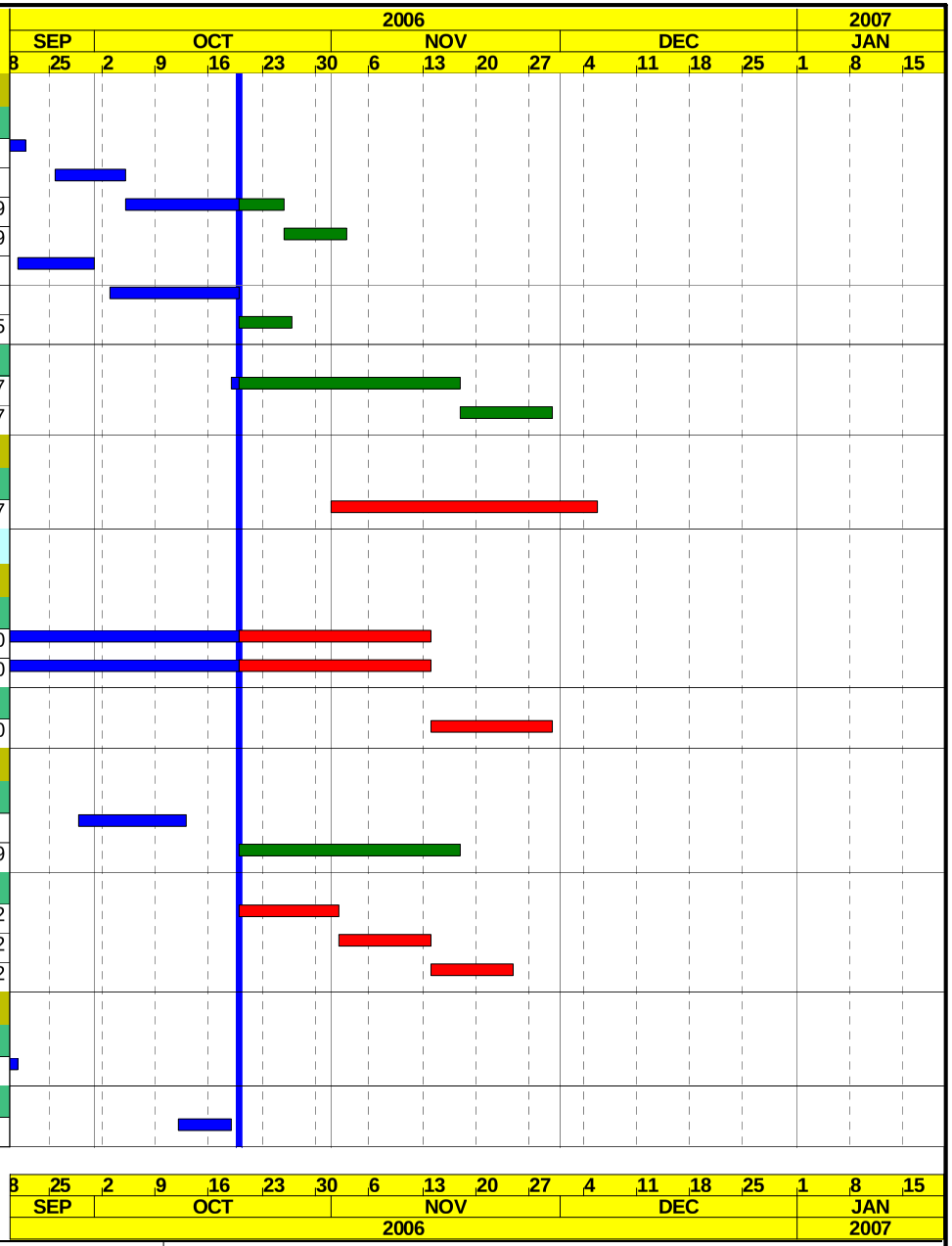
China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
Construction of Bridge 5								
Bridge No.5: Foundation & Sub-struction								
S501870	Carry out rock stabilisation works	1	12	0	100	11-09-06A	21-09-06A	
S501880	Construct abutment footing 5-1	1	8	0	100	26-09-06A	04-10-06A	
S501890	Construct abutment wall 5-1	1	15	5	67	05-10-06A	25-10-06	219
S501892	Backfill to abut 5-1	1	6	6	0	26-10-06	02-11-06	219
S501900	Construct abutment footing 5-2	1	8	0	100	21-09-06A	30-09-06A	
S501910	Construct abutment wall 5-2	1	15	0	100	03-10-06A	19-10-06A	
S501920	Backfill to abutments 5-2	1	6	6	0	20-10-06	26-10-06	45
Bridge No.5: Bridge Deck								
S501930	Construct RC deck	1	24	24	0	19-10-06A	17-11-06	27
S501940	Cast insitu slab and bridge furniture	1	10	10	0	18-11-06	29-11-06	27
Construction of Golf Course Hole No.3								
GH 03: Cut & Fill Works								
S901415	Additional works - Gabion Wall	1	30	30	0	01-11-06*	05-12-06	-57
Phase 1b								
Construction of Golf Course Hole No.6								
GH 06: Cut & Fill Works								
S501960	Earth/slope works (cut) at GH06	1	91	20	78	13-07-06A	13-11-06	-30
S501965	Earth/slope works (fill) at GH06	1	103*	20*	81	13-07-06A	13-11-06	-30
GH 06: Construction of Golf Course								
S501995	Rough shaping to Hole no. 6	1	14	14	0	14-11-06	29-11-06	-30
Construction of Golf Course Hole No.7								
GH 07: Drainage & Duct								
G0760220	G07 Rock Picking	1	6	0	100	29-09-06A	12-10-06A	
S502110	Installation of cable duct/pit	1	24	24	0	20-10-06	17-11-06	79
GH 07: Construction of Golf Course								
S502130	Feature construction to Hole no. 7	1	10	10	0	20-10-06	01-11-06	-12
S502140	Irrigation install to Hole no. 7	1	10	10	0	02-11-06	13-11-06	-12
S502150	Sub-soil drains install to Hole no. 7	1	10	10	0	14-11-06	24-11-06	-12
Consttruction of Golf Course Hole No.8								
GH 08: Cut & Fill Works								
S908320	Additional earthworks at GH8 (Cancel)	1	30	0	100	19-09-06A	20-09-06A	
GH 08: Drainage & Duct								
S502230	Installation of Drainage system at Hole 8	1	18	0	100	12-10-06A	18-10-06A	



Start Date 28-12-05
Finish Date 22-10-07
Data Date 20-10-06
Run Date 06-11-06 09:50

Early Bar
Progress Bar
Critical Activity

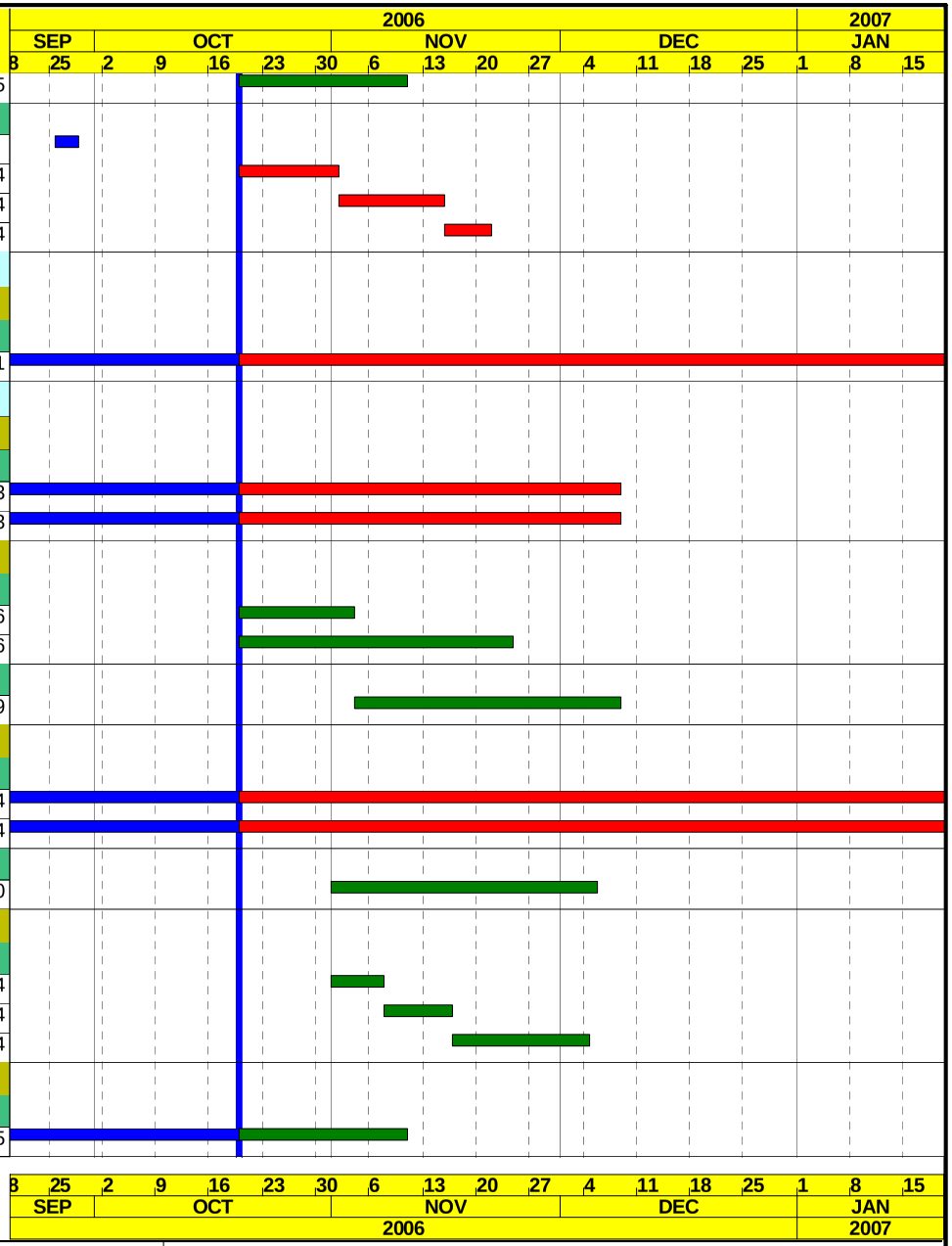
KS10

Sheet 9 of 13

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
S502240	Installation of cable duct/pit	1	18	18	0	20-10-06	10-11-06	45
GH 08: Construction of Golf Course								
S502255	Rough shaping to Hole no. 8	1	7	0	100	26-09-06A	28-09-06A	
S502260	Feature construction to Hole no. 8	1	10	10	0	20-10-06	01-11-06	-34
S502270	Irrigation install to Hole no. 8	1	12	12	0	02-11-06	15-11-06	-34
S502280	Sub-soil drains install to Hole no. 8	1	5	5	0	16-11-06	21-11-06	-34
Phase 2								
Temporary Drainage								
S501745	Temporary Drainage at Phase 2	1	455*	252*	45	14-02-06A	27-08-07	-61
Phase 2a								
Construction of Golf Course Hole No.1								
GH 01: Cut & Fill Works								
S502580	Earth/slope works (cut) at GH01	1	240	42	83	27-02-06A	08-12-06	13
S502585	Earth/slope works (fill) at GH01	1	234*	42*	82	27-02-06A	08-12-06	13
Tank No.2 and Pump House No.2								
T & PH 2: Structure Works								
S502880	Backfill to design profile	1	12	12	0	20-10-06*	03-11-06	176
S503480	Rising Main from Tank 2 to BP chamber 207.5m	1	30	30	0	20-10-06	24-11-06	176
T & PH 2: E&M Works								
S502890	E&M installation and commissioning	1	30	30	0	04-11-06	08-12-06	179
Construction of Golf Course Hole No.10								
GH 10: Cut & Fill Works								
S502920	Earth/slope works (cut) at GH10	1	110	91	17	07-08-06A	10-02-07	-4
S502925	Earth/slope works (fill) at GH10	1	153*	91*	41	07-08-06A	10-02-07	-4
GH 10: Construction of Golf Course								
S502950	Construction of rain shelter at Hole 10	1	30	30	0	01-11-06*	05-12-06	100
Consttruction of Bridge 10								
Bridge No.10: Foundation & Sub-struction								
S503050	Excavate to Abutment 10-1	1	6	6	0	01-11-06*	07-11-06	74
S503060	Construct abutment pile cap 10-1	1	8	8	0	08-11-06	16-11-06	74
S503070	Construct abutment wall 10-1	1	15	15	0	17-11-06	04-12-06	74
Lake No.10 and Pump House No.10								
Lake No.10: Civil Works								
S503170	Cut & fill to lake no. 10	1	25	18	28	07-08-06A	10-11-06	105



Start Date	28-12-05
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Early Bar
Progress Bar
Critical Activity

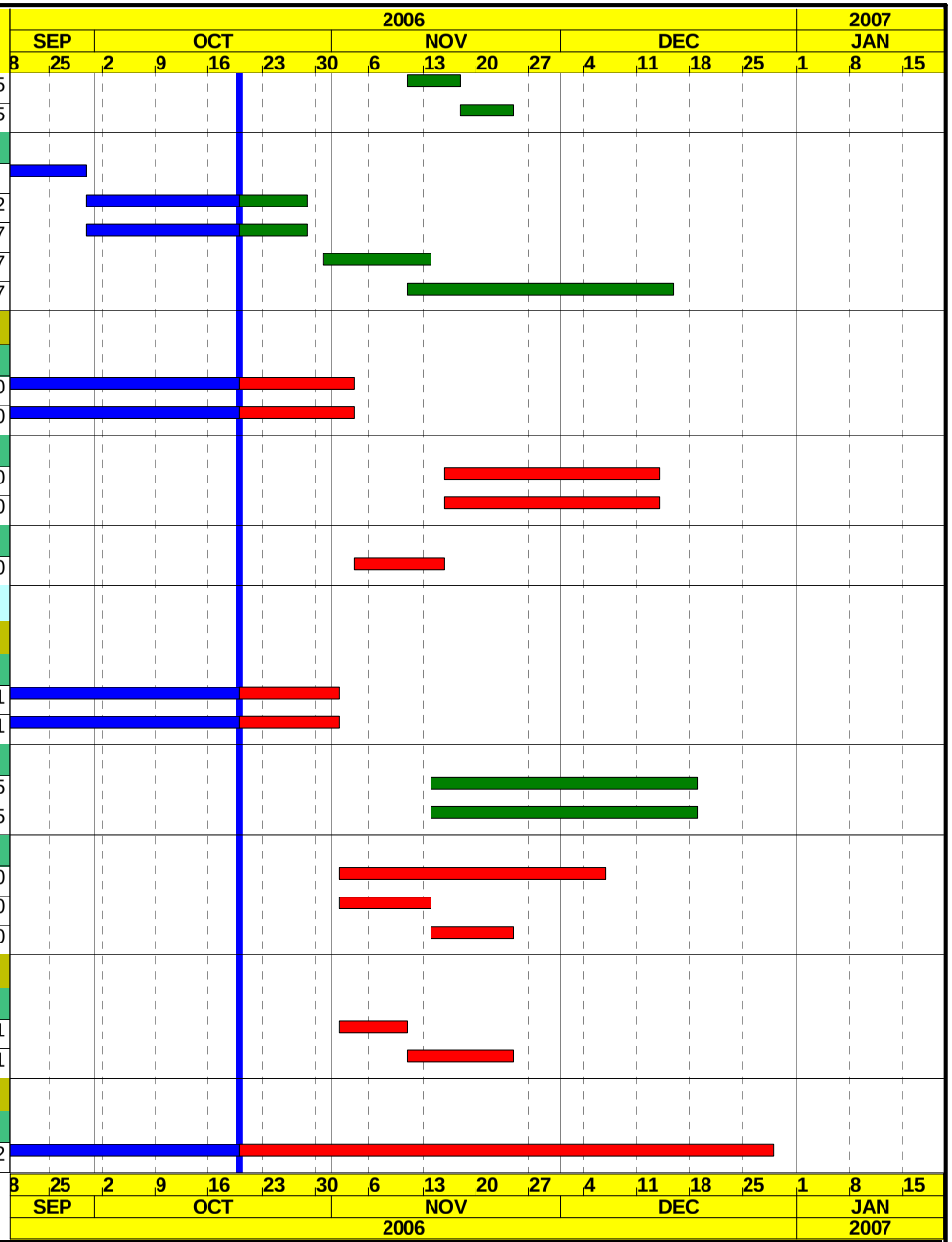
KS10

Sheet 10 of 13

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
S503180	Trim to shape of lake no.10	1	6	6	0	11-11-06	17-11-06	105
S503190	Place 2 layers of concrete bedding & geotextile	1	6	6	0	18-11-06	24-11-06	105
PH 10: Structure Works								
S503250	Cast base slab of pump house	1	6	0	100	09-09-06A	29-09-06A	
S503260	Cast 1st pour to wall/slab of pump house	1	15	8	47	30-09-06A	28-10-06	222
S503270	Cast 2nd pour to wall/slab of pump house	1	15	8	47	30-09-06A	28-10-06	67
S503300	Backfill to design profile	1	12	12	0	31-10-06	13-11-06	67
S503500	Rising Main from Lake 10 to BP chamber 1 603m	1	30	30	0	11-11-06	15-12-06	137
Construction of Golf Course Hole No.18								
GH 18: Cut & Fill Works								
S503446	Earth/slope works (cut) at GH18	1	70	12	83	20-03-06A	03-11-06	-40
S503447	Earth/slope works (fill) at GH18	1	186*	12*	94	20-03-06A	03-11-06	-40
GH 18: Drainage & Duct								
S503448	Installation of Drainage system at Hole 18	1	24	24	0	16-11-06	13-12-06	-40
S503449	Installation of cable duct/pit	1	24	24	0	16-11-06	13-12-06	-40
GH 18: Construction of Golf Course								
S503451	Rough shaping to Hole no. 18	1	10	10	0	04-11-06	15-11-06	-40
Phase 2b								
Construction of Golf Course Hole No.9								
GH 09: Cut & Fill Works								
S502350	Earth/slope works (cut) at GH09	1	188	10	95	10-03-06A	01-11-06	-21
S502355	Earth/slope works (fill) at GH09	1	192*	10*	95	10-03-06A	01-11-06	-21
GH 09: Drainage & Duct								
S502360	Installation of Drainage system at Hole 9	1	30	30	0	14-11-06	18-12-06	65
S502370	Installation of cable duct/pit	1	30	30	0	14-11-06	18-12-06	65
GH 09: Construction of Golf Course								
S502380	Construction of halfway house at Hole 9&2	1	30	30	0	02-11-06	06-12-06	10
S502385	Rough shaping to Hole no. 9	1	10	10	0	02-11-06	13-11-06	0
S502390	Feature construction to Hole no. 9	1	10	10	0	14-11-06	24-11-06	0
Construction of Bridge 9								
Bridge No.9: Foundation & Sub-struction								
S502480	Excavate to abutment 9-1	1	8	8	0	02-11-06*	10-11-06	-21
S502490	Carry out rock stabilisation works	1	12	12	0	11-11-06	24-11-06	-21
Construction of Golf Course Hole No.17								
GH 17: Cut & Fill Works								
S503320	Earth/slope works (cut) at GH17	1	250	57	77	06-03-06A	28-12-06	2



Start Date	28-12-05
Finish Date	22-10-07
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Run Date	06-11-06 09:50

Early Bar
Progress Bar
Critical Activity

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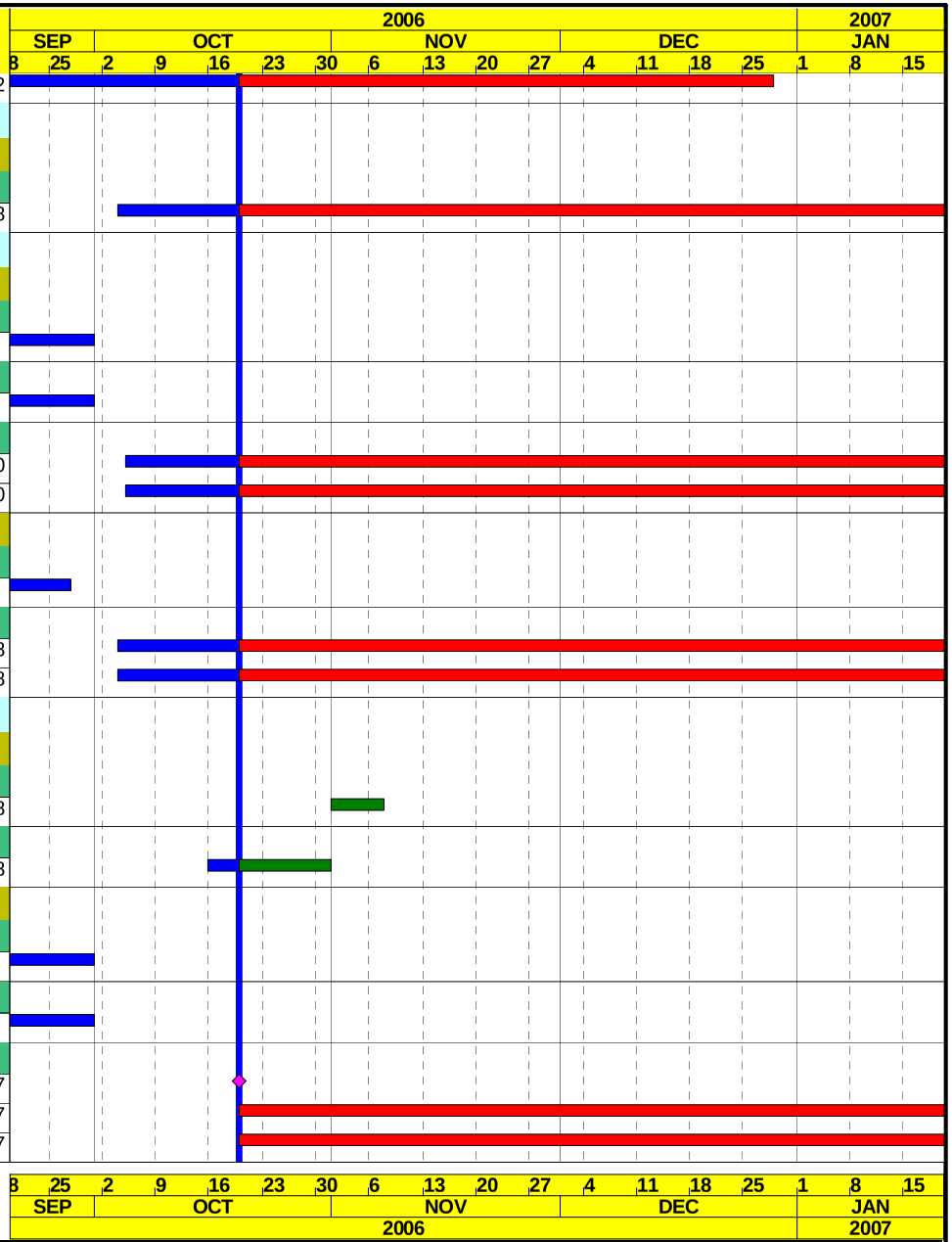
Sheet 11 of 13

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
S503325	Earth/slope works (fill) at GH17	1	243*	57*	77	06-03-06A	28-12-06	2
Phase 3								
Temporary Drainage								
S501845	Temporary Drainage at Phase 3	1	130*	117*	10	04-10-06A	13-03-07	-68
Phase 3a								
Construction of Golf Course Hole No.14								
Survey and Site Clearance								
S500746	Site Clearance & UXO at GH14	1	12	0	100	19-09-06A	30-09-06A	
Site Office, Barging Point and Site Haul Road								
S500745	Haul Road from GH16 to GH14	1	12	0	100	07-09-06A	30-09-06A	
GH 14: Cut & Fill Works								
S500750	Earth/slope works (cut) at GH14	1	188	90	52	05-10-06A	09-02-07	10
S500755	Earth/slope works (fill) at GH14	1	102*	90*	12	05-10-06A	09-02-07	10
Construction of Golf Course Hole No.16								
Survey and Site Clearance								
S501285	Site Clearance & UXO at GH16	1	12	0	100	07-09-06A	27-09-06A	
GH 16: Cut & Fill Works								
S501190	Earth/slope works (cut) at GH16	1	94	78	17	04-10-06A	23-01-07	-68
S501195	Earth/slope works (fill) at GH16	1	91*	78*	14	04-10-06A	23-01-07	-68
Phase 3b								
Construction of Golf Course Hole No.13								
Survey and Site Clearance								
S500635	Site Clearance & UXO at GH13	1	6	6	0	01-11-06	07-11-06	18
Site Office, Barging Point and Site Haul Road								
S500535	Haul Road form Temp Bridge 10 to GH13	1	14	9	40	16-10-06A	31-10-06	18
Construction of Golf Course Hole No.12								
Survey and Site Clearance								
S500425	Site Clearance & UXO at GH12	1	12	0	100	18-09-06A	30-09-06A	
Site Office, Barging Point and Site Haul Road								
S500325	Haul Road from Temp Bridge 10 to GH12	1	14	0	100	11-09-06A	30-09-06A	
GH 12: Cut & Fill Works								
G1210220	Await for the removal of existing graves	1	0	0	0		19-10-06*	-57
S500330	Earth/slope works (cut) at GH12	1	90	90	0	20-10-06	09-02-07	-57
S500335	Earth/slope works (fill) at GH12	1	90*	90*	0	20-10-06	09-02-07	-57



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Early Bar
Progress Bar
Critical Activity

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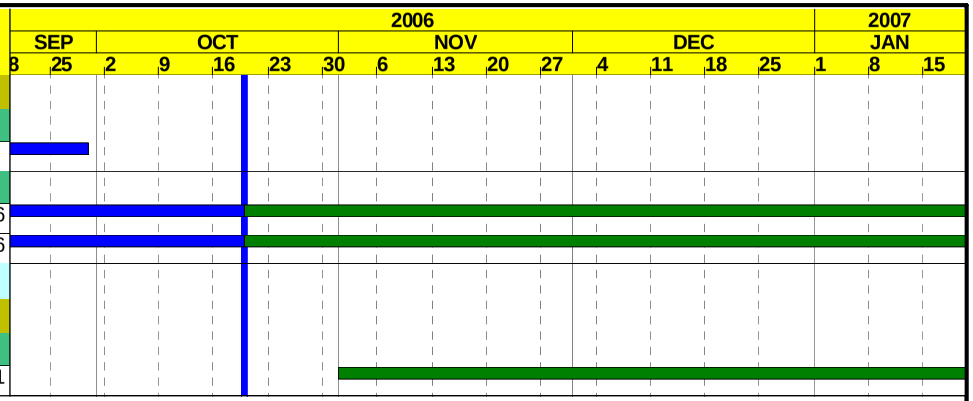
Sheet 12 of 13

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

Activity ID	Activity Description	Cal ID	Orig Dur	Rem Dur	%	Early Start	Early Finish	Total Float
Construction of Golf Course Hole No.11								
Survey and Site Clearance								
S500215	Site Clearance & UXO at GH11	1	12	0	100	11-09-06A	29-09-06A	
GH 11: Cut & Fill Works								
S500120	Earth/slope works (cut) at GH11	1	62	80	0	19-09-06A	25-01-07	26
S500126	Earth/slope works (fill) at GH11	1	105*	80*	24	19-09-06A	25-01-07	26
Slope Restoration/Bioengineering Works								
Slope Restoration/Bioengineering Works								
S503471	Slope restoration works (no works in wet season)	1	100	100	0	01-11-06*	03-03-07	31



8 25 2 9 16 23 30 6 13 20 27 4 11 18 25 1 8 15
SEP
OCT
NOV
DEC
JAN
2006
2007

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Progress Bar
Critical Activity

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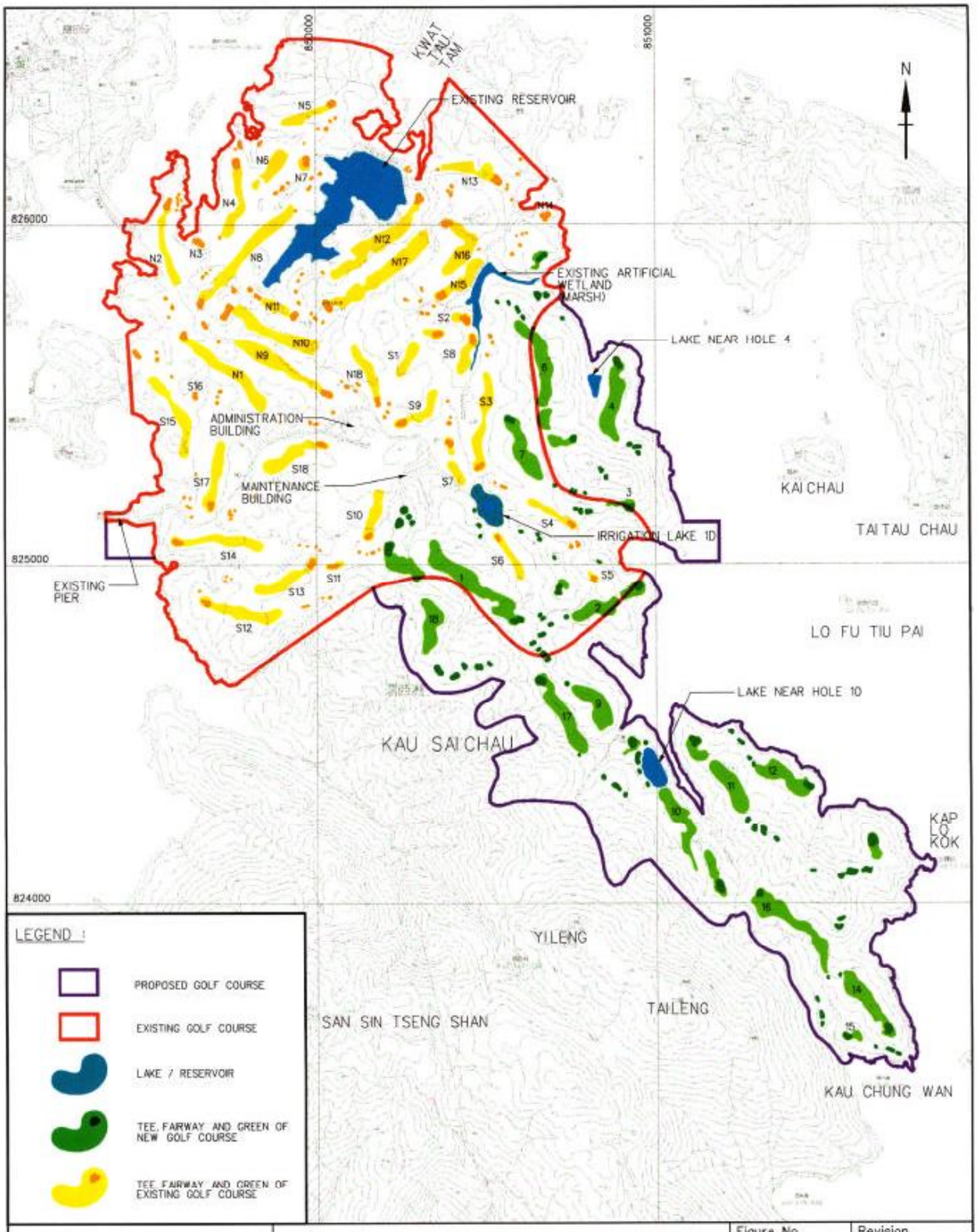
Sheet 13 of 13

China Harbour Engineering Company (Group)
The Jockey Club Kau Sai Chau Public Golf Course
3 Months Rolling programme

Date	Revision	Checked	Approved
28-12-05	1st rolling	Tim	
27-05-06	KST7	Tim	

FIGURES



The Hong Kong Jockey Club

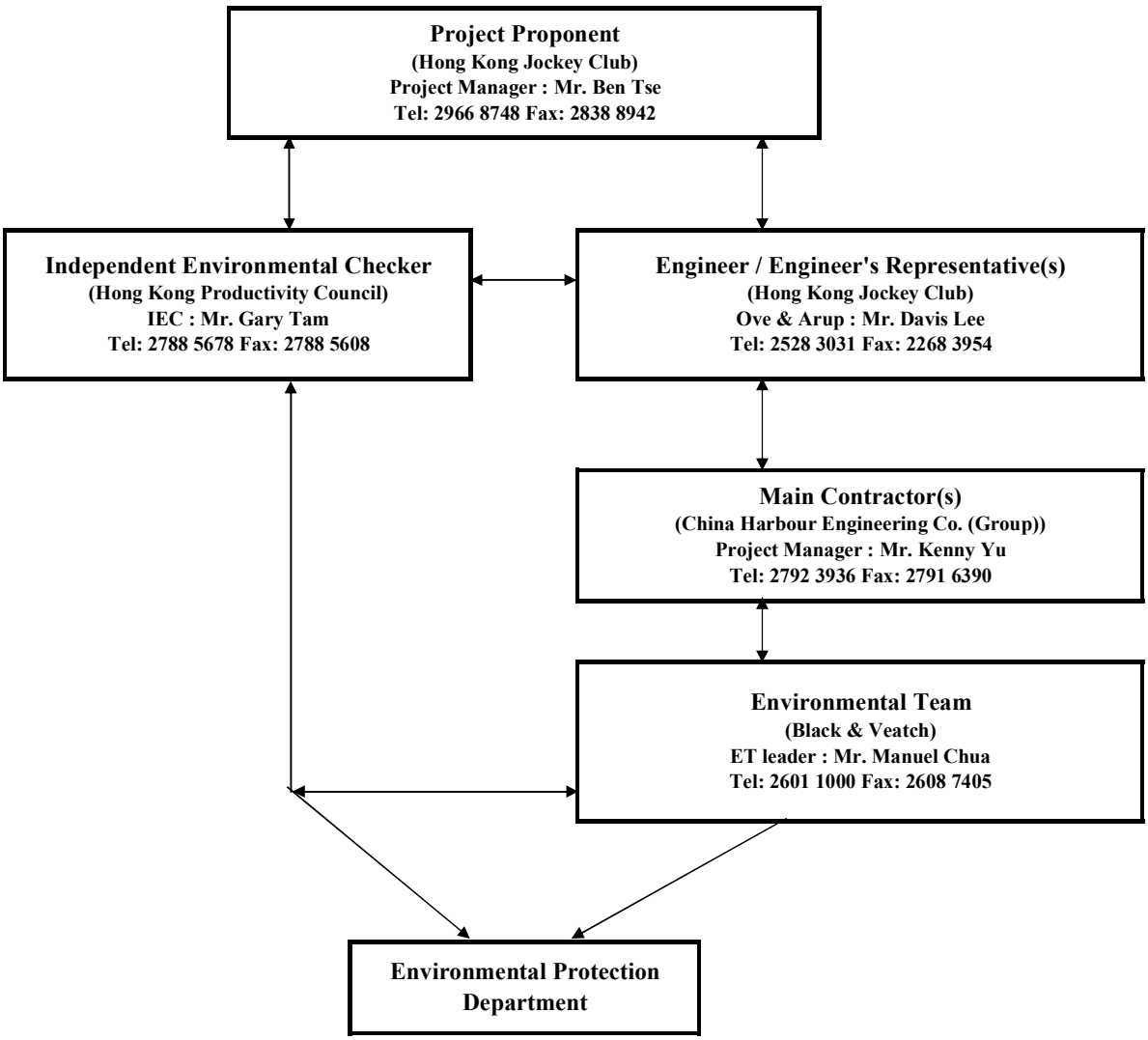
BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

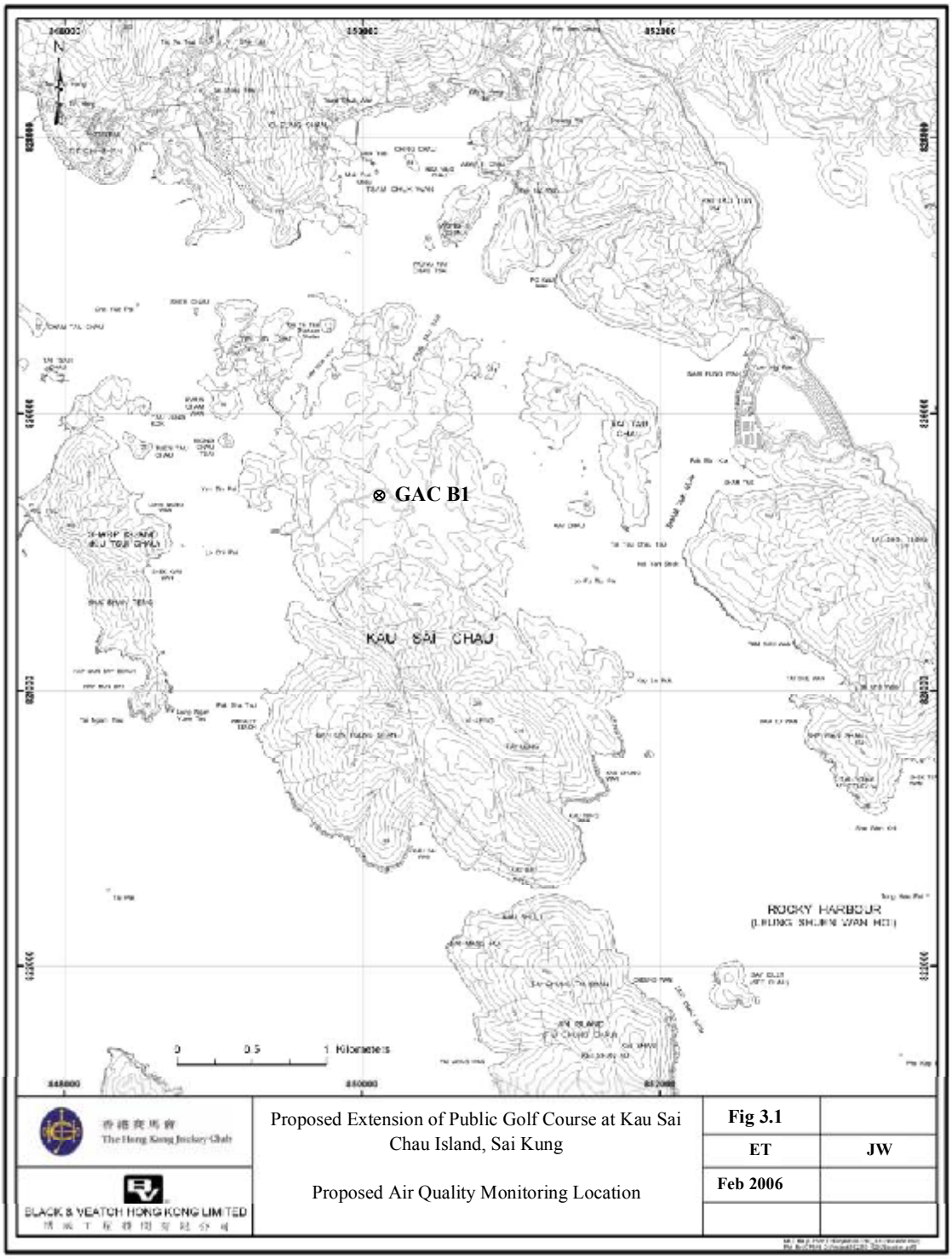
PROPOSED EXTENSION OF PUBLIC GOLF COURSE AT KAU SAI CHAU, SAI KUNG

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

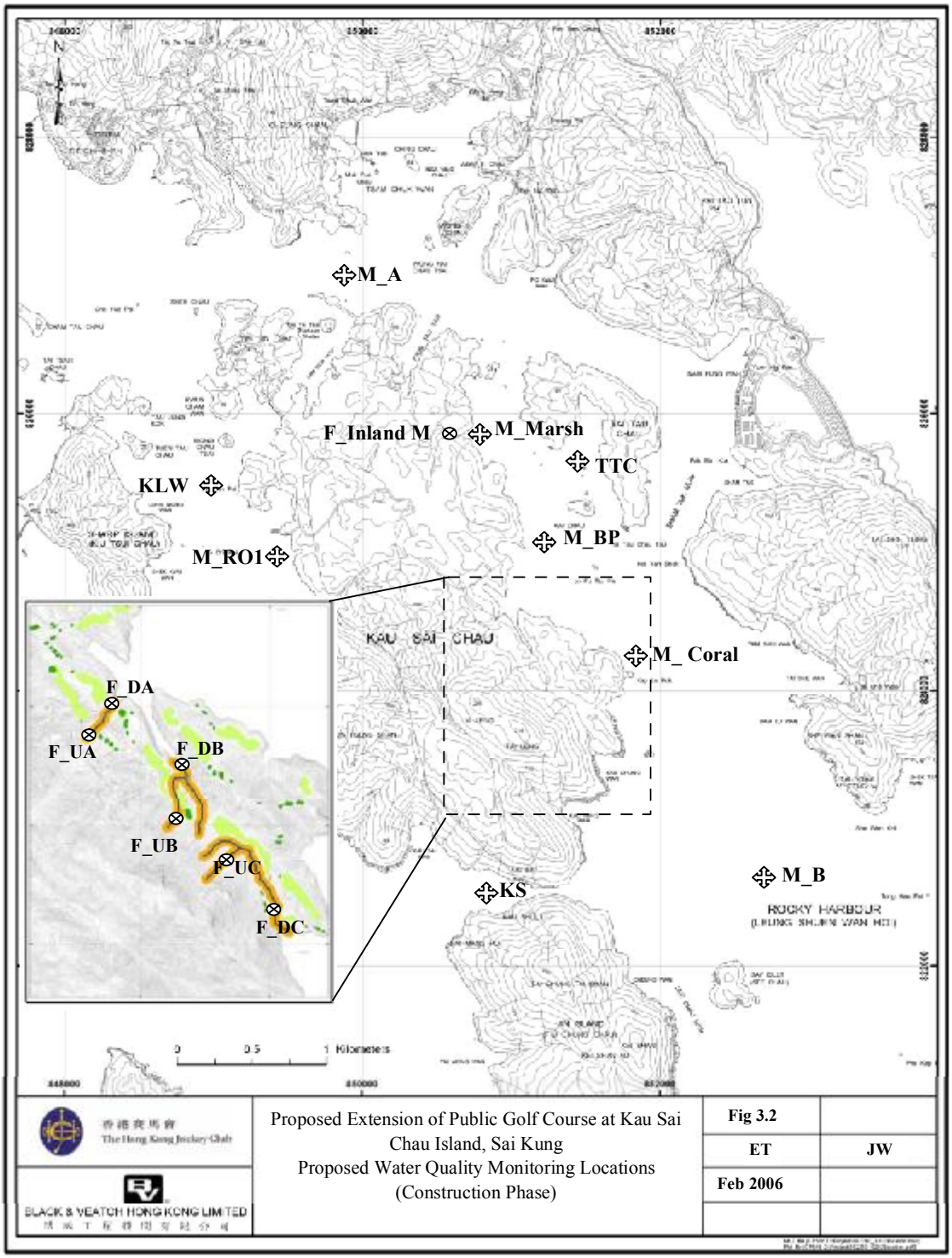
Figure No.	Revision
2.1	-
Reference	File Name
-	3822100201-2.1.DGN
Prepared	Checked
ET	JW
Date	Scale
MAY 2005	1 : 15000 (A4)

Figure 1.2
Project Organisation and Lines of Communication

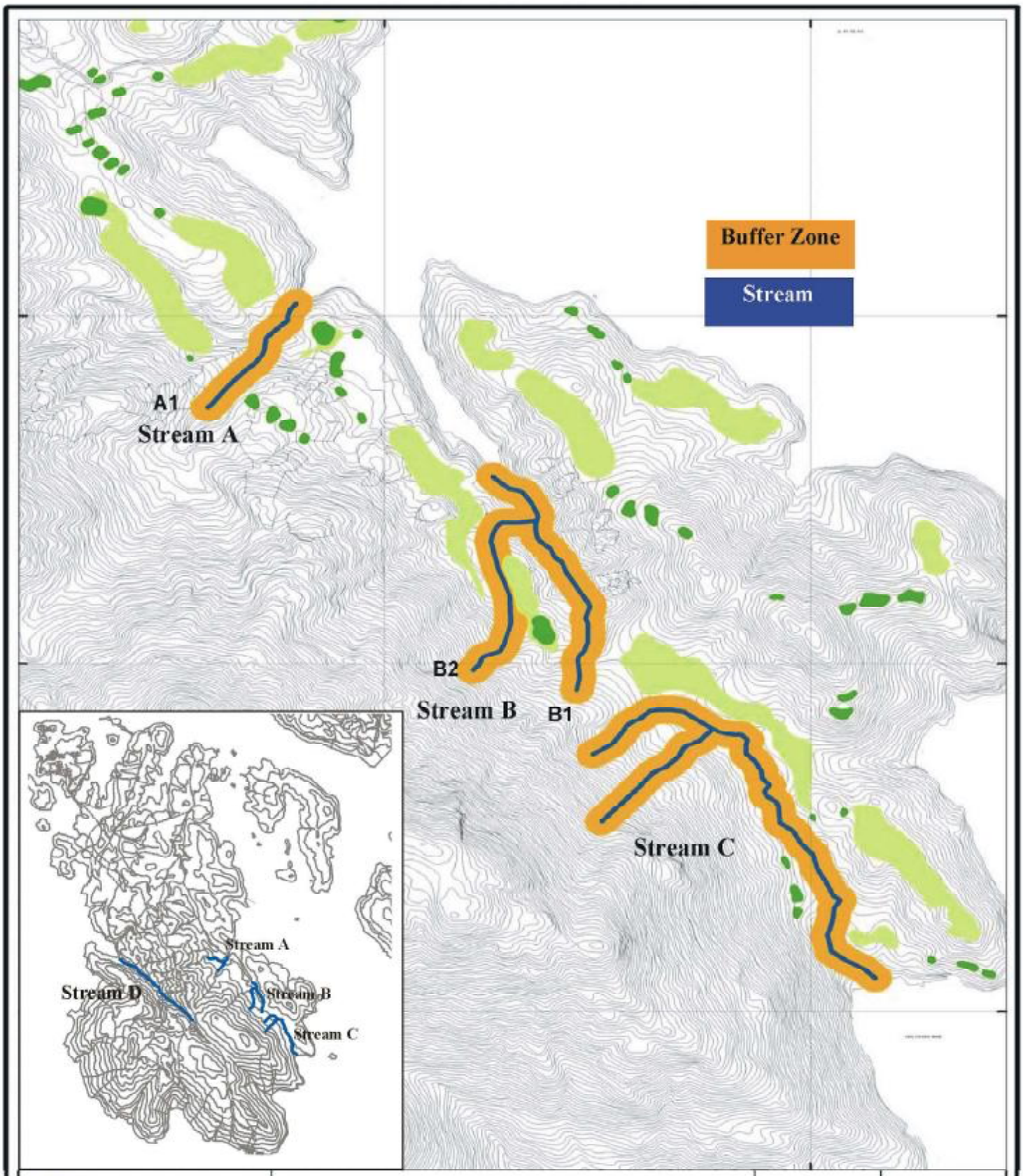




香港賽馬會 The Hong Kong Jockey Club	Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung	**Fig 3.1**	
		ET	**JW**
BLACK & VEATCH HONG KONG LIMITED 博威工程顧問有限公司	Proposed Air Quality Monitoring Location	**Feb 2006**	



香港賽馬會 The Hong Kong Jockey Club	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
BLACK & VEATCH HONG KONG LIMITED		Feb 2006



香港賽馬會
The Hong Kong Jockey Club

BLACK & VEATCH HONG KONG LIMITED
博威工程顧問有限公司

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
July 2005	

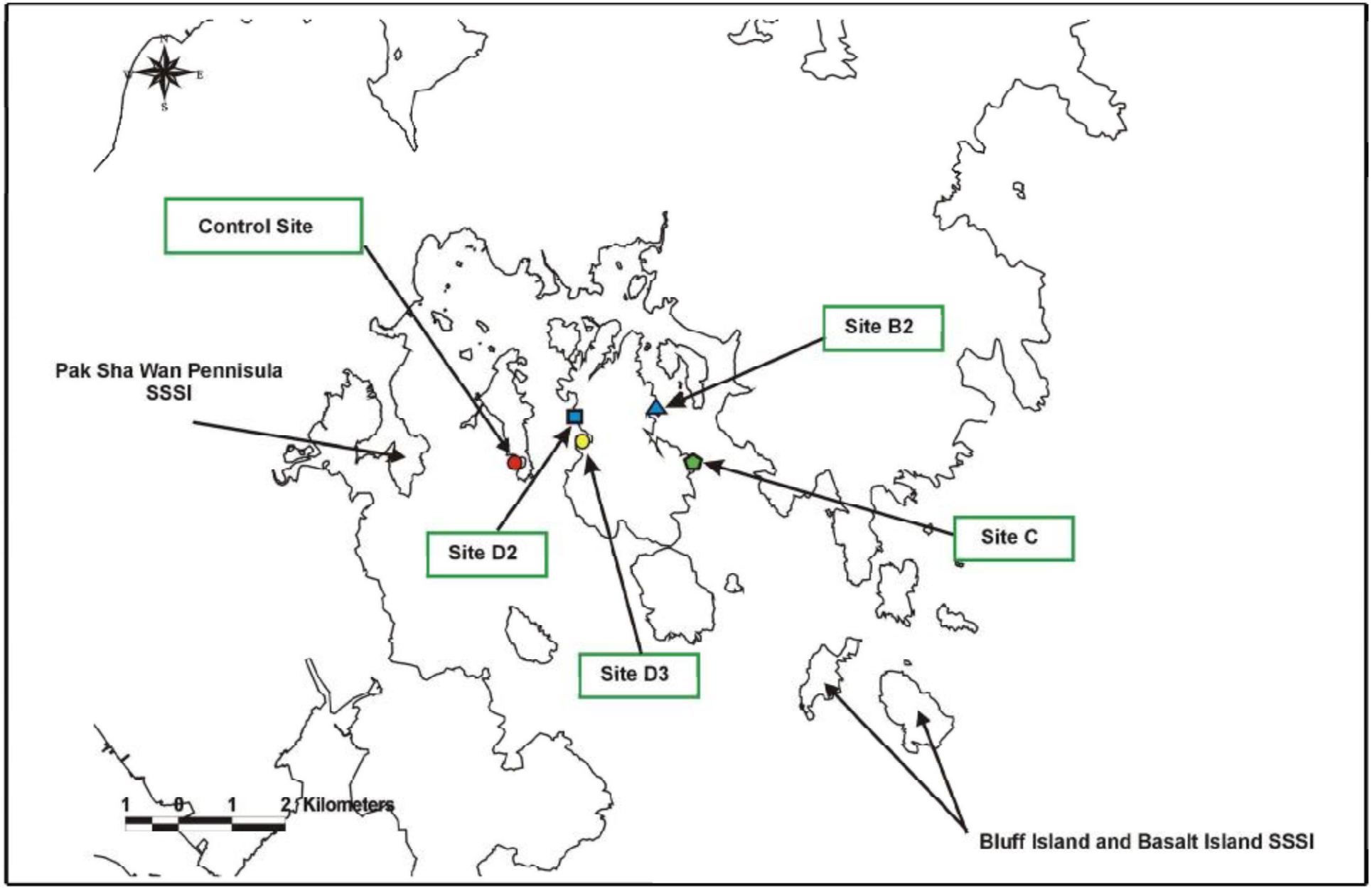


Figure 3.4 Site C, Site B2, Site D2 and a Control Site near the AFCD's Coral Buoy at Sharp Island

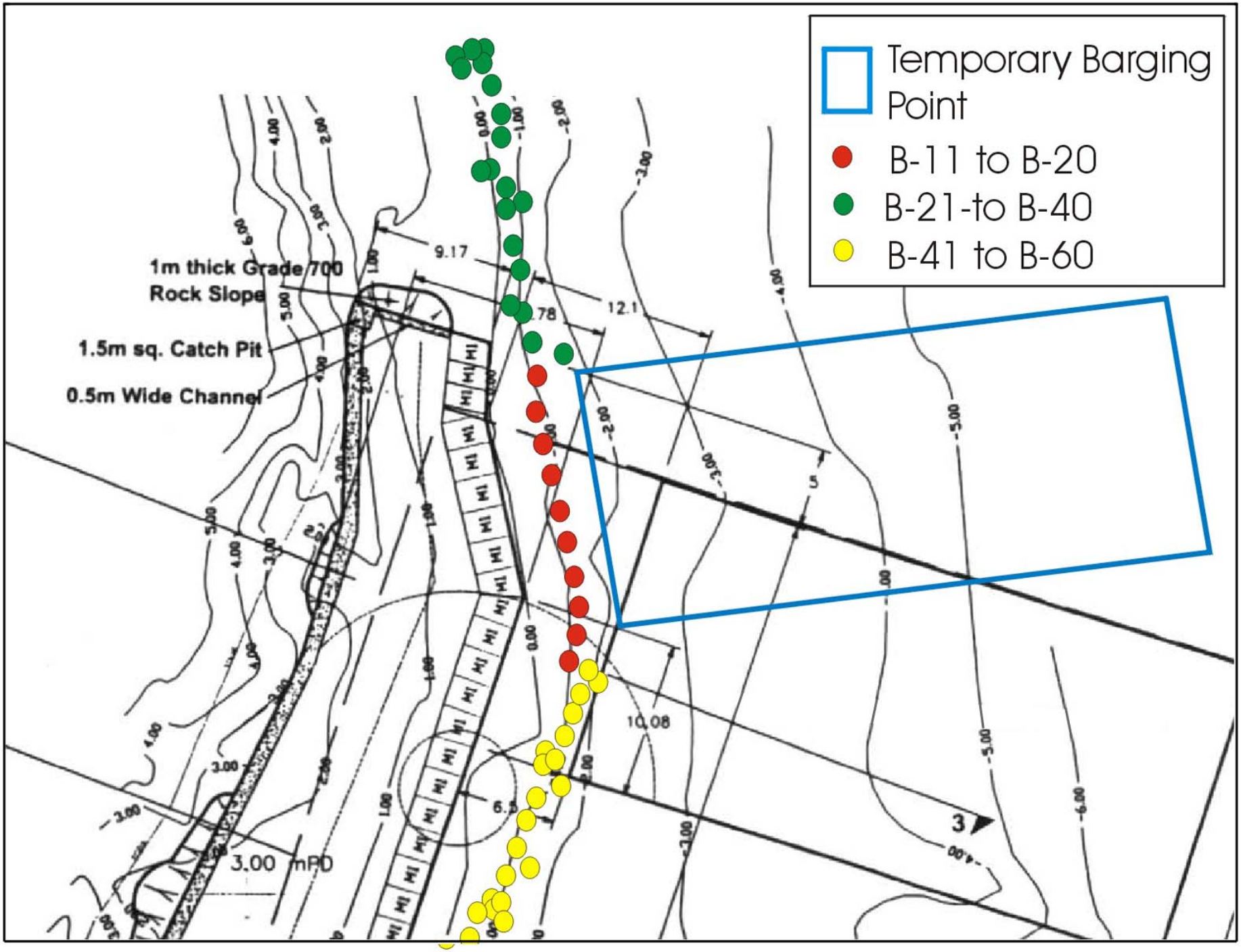
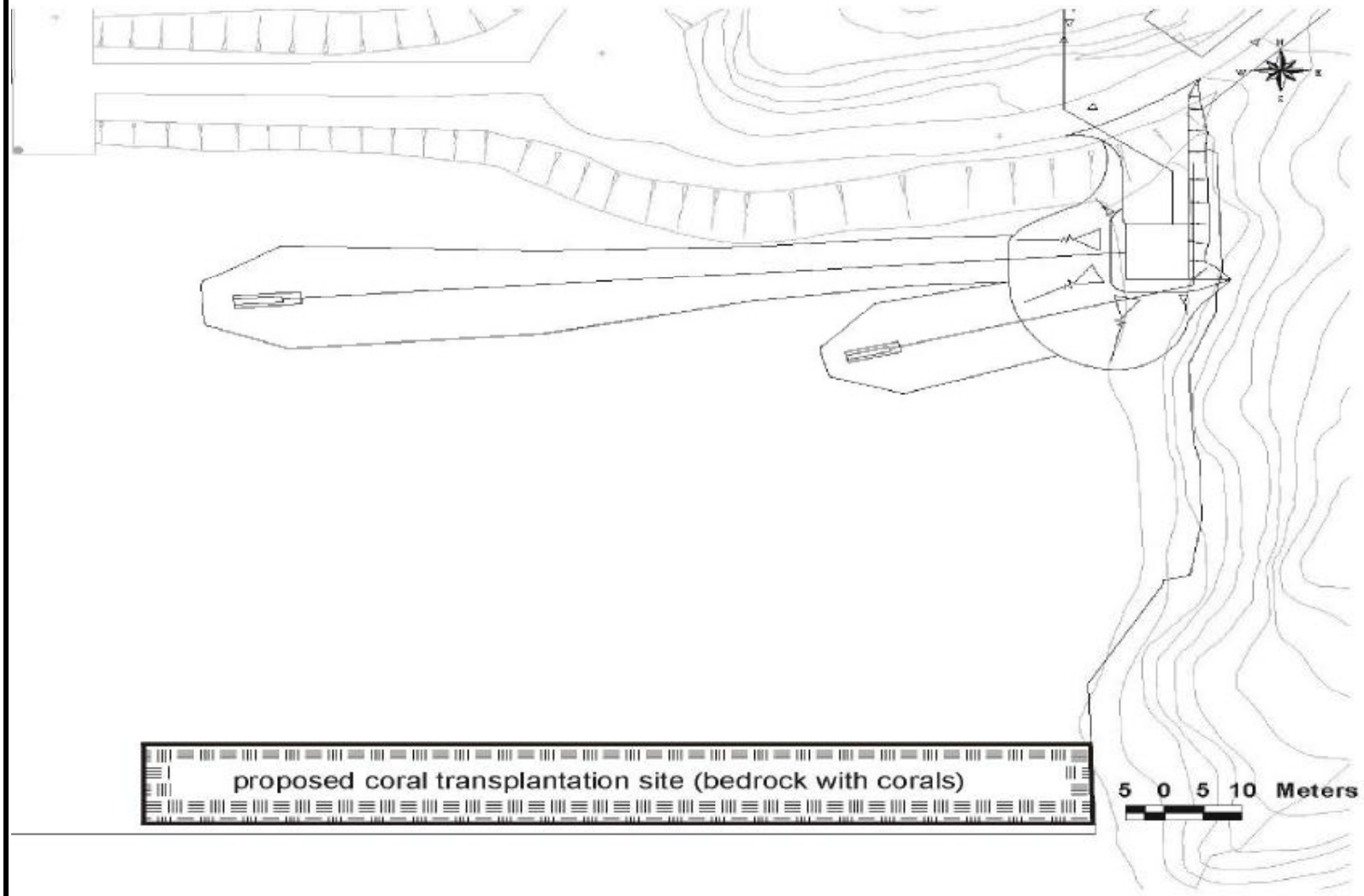


Figure 3.4b
Indicative map of additional tagged corals at Site B2



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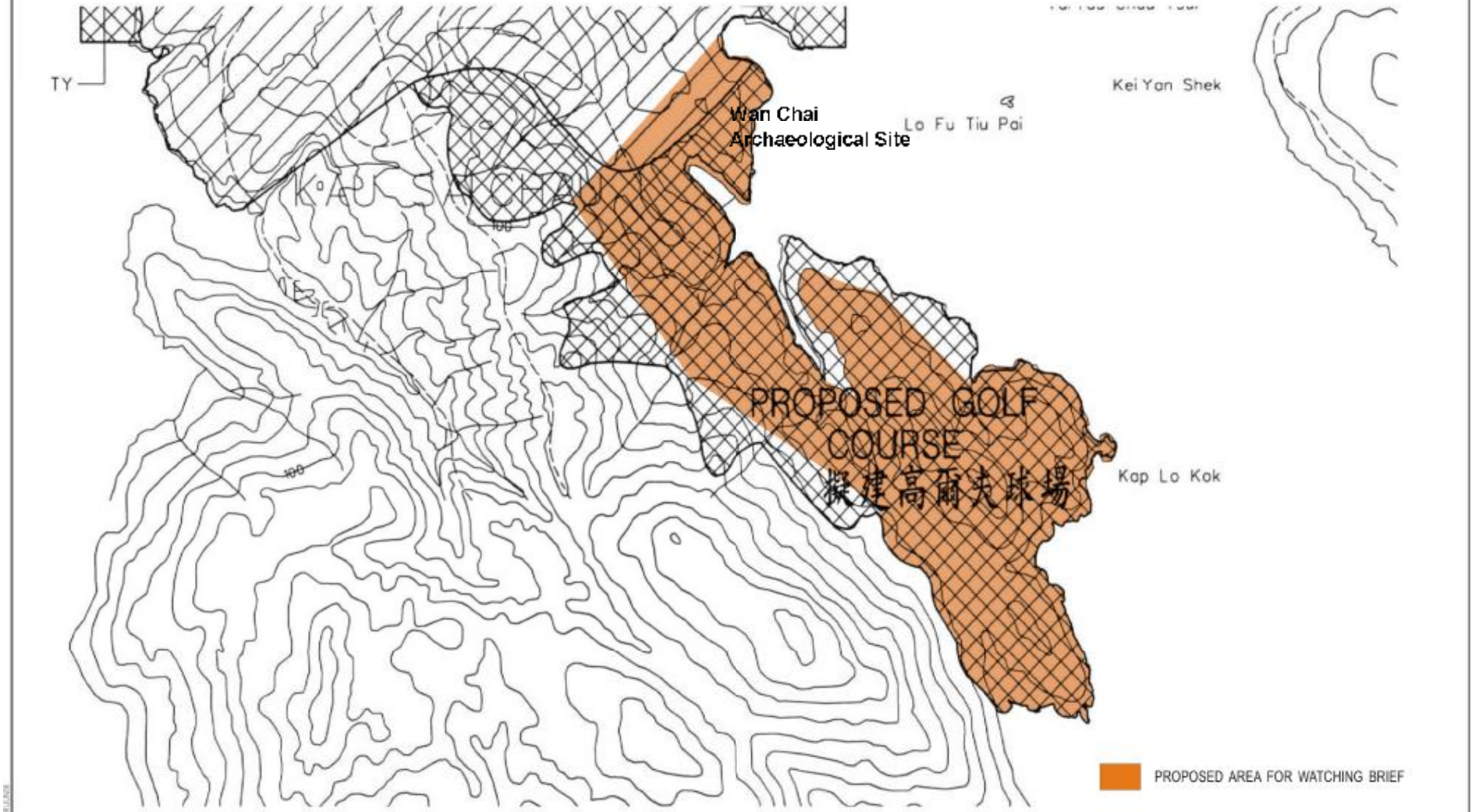
Proposed Extension of Public Golf Course at Kau Sai Chau Island, Sai Kung

Location of proposed coral transplantation site (Bedrock with corals)

Fig 3.5

Prepared	Checked
ET	JW

Date
Jun-05



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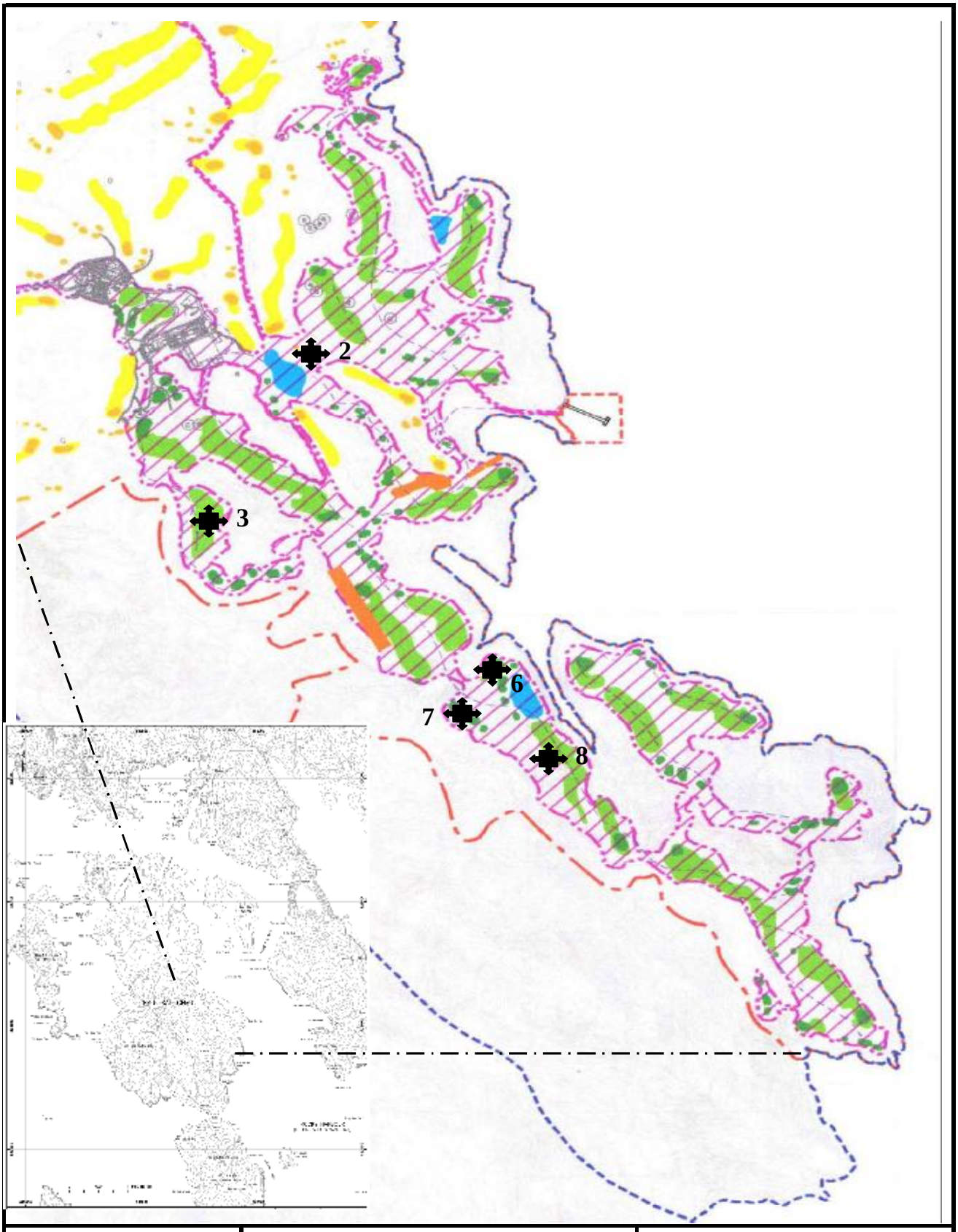
Archaeological Assessments
A2, 1/F, Po Shan Mansions, 14-16 Po Shan Rd., HK.
Tel: (852) 2521 4719

Hong Kong Jockey Club
Kau Sai Chau Public Golf Course New Development

Figure 3.6
Map Showing the Extent of the Area to monitored under the Watching Brief



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

Sampling location for land contamination

Fig 3.7

Prepared	Checked
ET	JW

Date
Jun-05