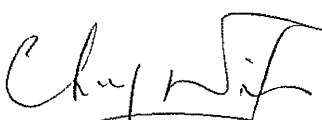
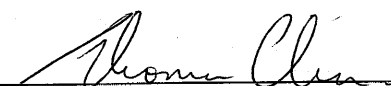


**Monthly Environmental Monitoring & Audit Report**  
**(December 2013)**

Contract No. : CV/2012/01  
Project : Sediment Removal at Yim Tin Tsai (East)  
Fish Culture Zone  
Client : Civil Engineering and Development  
Department (CEDD)  
Main Contractor : Zhen Hua Engineering Company Limited

Certified By   
Dr. Priscilla Choy (Environmental Team Leader)  
Cinotech Consultants Limited  
Date: 10<sup>th</sup> January 2014

Verified By   
Mr. Thomas Chan  
(Independent Environmental Checker)  
Ove Arup & Partners Hong Kong Ltd.  
Date: 10<sup>th</sup> January 2014

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## EXECUTIVE SUMMARY

### Introduction

1. This is the 2<sup>nd</sup> Monthly Environmental Monitoring and Audit (EM&A) Report prepared by Cinotech Consultants Limited for CEDD Contract no. CV/2012/01 “Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone”. This report documents the findings of EM&A Works conducted in December 2013.
2. The major site activities undertaken in the reporting month included:
  - Daily cleaning and weekly tidying;
  - Relocation of fish raft.

### Environmental Monitoring and Audit Works

3. Environmental monitoring and audit works for the Project were performed regularly as stipulated in the Environmental Monitoring and Audit Requirements in Project Profile and the results were checked and reviewed. The implementation of the environmental mitigation measures, Event Action Plans and environmental complaint handling procedures were also checked.
4. Summary of the events and action taken in the reporting month is tabulated in **Table I**.

**Table I Summary Table for Non-compliance Recorded in the Reporting Month**

Media/ Nature	No. of Exceedances		Action Taken	Results of action taken	Remarks
	Action Level	Limit Level			
Water Quality					
DO (S+M)	0	0	N/A	N/A	N/A
DO (B)	0	0			
Turbidity	0	0			
SS	0	0			
Copper	0	0			
Zinc	0	0			
Arsenic	0	0			
Lead	0	0			
Coral Quality					
Mortality (%)	0	0	N/A	N/A	N/A
Sediment cover (%)	0	0			
Bleaching (%)	0	0			

\* (S), (M) and (B) represent depths of water, such as Surface (1 metre below surface), Middle (mid-water depth) and Bottom (1 metre above seabed).

*Water Quality*

5. No impact water quality monitoring was conducted during the reporting month as dredging works of this Project has not commenced.

*Coral Quality*

6. All coral quality monitoring was conducted as scheduled in the reporting month. Level of sedimentation, bleaching and mortality on corals were monitored in accordance with the approved Proposal for Coral Monitoring.
7. No Action/Limit Level exceedance was recorded at the impact monitoring stations in the reporting month.

*Ardeids & White-bellied Sea Eagles Monitoring*

8. Ardeids & White-bellied Sea Eagles monitoring were conducted as scheduled in the reporting month.

**Environmental Licenses and Permits**

9. Environmental related licenses/permits granted to the Project include the Environmental Permit (EP) for the Project.

**Key Information in the Reporting Month**

10. Summary of key information in this reporting month is tabulated in **Table II**.

**Table II Summary Table for Key Information in the Reporting Month**

Event	Event Details		Action Taken	Status	Remark
	Number	Nature			
Complaint received	0	---	N/A	N/A	---
Changes to the assumptions and key construction / operation activities recorded	0	---	N/A	N/A	---
Status of submissions under EP	1	1 <sup>st</sup> Monthly EM&A Report (EP Condition 2.8)	Submitted to EPD on 13 <sup>th</sup> December 2013	N/A	---
Notifications of any summons & prosecutions	0	---	N/A	N/A	---

**Future Key Issues**

11. Major site activities for the coming two months will include:
- Relocation of fish raft;
  - Removing seabed sediments.
12. The future environmental concerns are water quality, coral quality and impacts on ecology.

## 1. INTRODUCTION

### Background

- 1.1 A priority list for removing sediments at the 26 Fish Culture Zones (FCZs) in Hong Kong (HK) had been prepared by the Agriculture, Fisheries and Conservation Department (AFCD). Civil Engineering and Development Department (CEDD) and AFCD consulted marine culturists' representatives on this list in May 2007. The representatives supported the government to carry out the sediment removal at the top five priority FCZs. Yim Yin Tsai (East) Fish Culture Zone was selected as one of them for improvement to the fish farming environment.
- 1.2 The works "Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone" under Contract No. CV/2012/01 (hereinafter called the "Project") was awarded to Zhen Hua Engineering Company Limited (hereinafter called the "Contractor") by the Civil Engineering and Development Department (CEDD) of the Hong Kong Special Administrative Region (HKSAR).
- 1.3 Cinotech Consultants Ltd. (CINOTECH) was employed by the Contractor to serve as the Environmental Team (ET) to undertake the environmental monitoring services for the Project. Dr. Priscilla CHOY of Cinotech Consultants Ltd. was appointed as the ET Leader as per the Condition 2.1 of the EP. This is the 2<sup>nd</sup> monthly EM&A report summarizing the EM&A works for the Project in December 2013.

### Project Organizations

- 1.4 Different parties with different levels of involvement in the project organization include:
- Project Proponent / Engineer's Representative (ER) – Civil Engineering and Development Department (CEDD)
  - Environmental Team (ET) – Cinotech Consultants Ltd.
  - Independent Environmental Checker (IEC) – Ove Arup & Partners Hong Kong Ltd.
  - Contractor – Zhen Hua Engineering Co., Ltd. (Zhen Hua)
- 1.5 The Project Organization during Construction Phase is listed in Table 1.1.

**Table 1.1 Key Project Contacts**

Party	Role	Name	Position	Phone No.	Fax No.
CEDD	Project Proponent	Mr. Walter Wong	Engineer Representative	2762 5584	2762 4015
Cinotech	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089	3107 1388
		Ms. Ivy Tam	Project Coordinator and Audit Team Leader	2151 2090	
		Mr. Tang Wing Kwai	Monitoring Team Leader	2151 2073	
Ove Arup	Independent Environmental Checker	Mr. Thomas Chan	Independent Environmental Checker	2268 3093	2268 3950
Zhen Hua	Contractor	Mr. Y F Cho	Senior Project Manager	2727 0128	2512 0427
		Mr. C K Li	Site Agent		

**Construction Programme**

1.6 The site activities undertaken in the reporting month were:

- Daily cleaning and weekly tidying;
- Relocation of fish raft.

**Summary of EM&A Requirements**

1.7 The EM&A programme requires construction phase water quality monitoring and coral monitoring as well as environmental site audits. The EM&A requirements are described in the following sections, including:

- All monitoring parameters;
- Action and Limit levels for all environmental parameters;
- Event / Action Plans;
- Environmental mitigation measures, as recommended in the project EIA study final report; and
- Environmental requirements in contract documents.

1.8 As set out in Specific Conditions 2.7 of the EP for this Project, a monitoring programme on ardeids and White-bellied Sea Eagles nesting at Yeung Chau was submitted and approved by the Authority. The monitoring programme will commence when the relocation of fish rafts begins until completion of subsequent relocation of fish raft to the original Fish Culture Zone after dredging.

1.9 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 7 of this report.

1.10 This report presents the monitoring results, observations, locations, equipment, period, methodology and QA/QC procedures of the required monitoring parameters, namely

water quality, coral quality and bird counts as well as audit works for the Project in the reporting month.



## 2. WATER QUALITY

### Monitoring Requirements

#### General

- 2.1 Impact water quality monitoring shall be conducted three times per week at all the designated monitoring stations during the period of dredging. Monitoring took place two times per monitoring day during mid ebb and mid flood tides at three depths (1 meter from surface, mid depth and 1 meter from the bottom). If the water depth is less than 6m, the mid-depth measurement may be omitted. If the depth is less than 3m, only the mid-depth measurements need to be taken.
- 2.2 Duplicate *in-situ* measurements (Dissolved oxygen (DO) concentration, DO saturation, turbidity, pH, temperature and salinity) and one water sample at each depth (suspended solids (SS) and metals) shall be monitored in accordance with the requirements set out in the Project Profile.
- 2.3 For selection of tides for *in-situ* measurement and water sampling, tidal range of individual flood and ebb tides shall not be less than 0.5m.
- 2.4 Other relevant data shall also be recorded, such as monitoring location / position, time, water depth, sampling depth, tidal stages, weather conditions and any special phenomena or work underway nearby.
- 2.5 Water quality monitoring shall be conducted in accordance with the approved Proposal for Water Quality Monitoring. Action/Limit Levels for the environmental monitoring works are shown in **Appendix A**.

#### Monitoring Locations

- 2.6 The monitoring stations for water quality monitoring are shown in **Figure 2. Table 2.1** summarizes the water quality monitoring stations for the Project.

**Table 2.1 Water Quality Monitoring Stations**

Stations	Marine Water Quality Stations	Coordinates	
		Easting	Northing
F4	Relocation site for Yim Tin Tsai FCZ	840174	833468
F5	Temporary Fish Raft Relocation site for Yim Tin Tsai East FCZ	840303	835819
F6		843004	835347
F7	Existing Yim Tin Tsai FCZ	839720	834870
F8	Existing Yim Tin Tsai East FCZ	840871	835101
G2	Gradient Station	839760	834165
G3	Gradient Station	840637	835503
G4	Gradient Station	842184	835872

### **Results and Observation**

- 2.7 No impact water quality monitoring was conducted during the reporting month as dredging works of this Project has not commenced.

### **Event and Action Plan**

- 2.8 If there is Action / Limit Level exceedance in any parameters of the water quality, the actions in accordance with the Event and Action Plan as shown in **Appendix C** will be carried out.

### 3. CORAL MONITORING

#### Monitoring Requirement

- 3.1 Impact Monitoring Survey is required to determine whether impacts are occurring on the tagged corals during the construction phase. A particular focus of the Impact Monitoring will be the effects of sedimentation, bleaching and mortality on corals.
- 3.2 All monitoring surveys were conducted by a qualified marine biologist with specialist knowledge of corals and sound experience at identifying corals in the field.
- 3.3 According to Section 3.3.3 of Annex G – “Environmental Monitoring and Audit Requirements” of the Project Profile, the coral monitoring programme shall comprise a baseline survey (prior to the dredging work), impact monitoring surveys (during the dredging period) and a post-project monitoring survey (after completion all the dredging works). In addition, the corals should be monitored twice a month during the first 2 months of the construction works in accordance with approved Proposal for Coral Monitoring.

#### Monitoring Locations

- 3.4 The locations plan of the impact coral monitoring stations is shown in **Figure 3**. The summary for impact coral monitoring stations is shown in **Table 3.1**.

**Table 3.1 Summary of Coral Monitoring Stations**

Monitoring	Nature of Monitoring Station	Monitoring ID and Location
Impact Monitoring	Impact Coral Monitoring Station	T2 – North of Shuen Wan Typhoon Shelter
		T3 – Southeast of Shuen Wan Typhoon Shelter
	Impact Coral Control Station	Site C –Whitehead Peninsula

#### Monitoring Frequency and Methodology

- 3.5 For regular Impact Monitoring Survey, the tagged corals were monitored twice a month during the first 2 months of the construction works. If there is no exceedance recorded, the monitoring frequency will be adjusted to monthly during the rest of the construction phase.
- 3.6 During the Impact Monitoring Surveys, the health status of each tagged coral colony was recorded, including percentage cover (%) of (1) sedimentation; (2) bleaching and (3) mortality.
- 3.7 The condition of each tagged coral colony was recorded by taking a photograph from an angle and distance that best represents the entire colony.

3.8 The results of the Impact Monitoring Surveys were reviewed with reference to the findings of the Baseline Monitoring Survey and the data collected from the reference site (i.e. Site C) during the Impact Monitoring Survey.

### Results and Observations

3.9 Impact Coral Monitoring Survey has been conducted at two Impact Sites (Site T2 and T3) at Yam Tin Tsai and one Control Site (Site C) at Whitehead Peninsula which is away (>2km) from the area of construction work on 14 and 28 December 2013.

3.10 The locations of the survey sites are shown in **Figure 3**, and the coordinates of the start and end points and survey conditions are shown in **Table 3.2**.

**Table 3.2 Locations and Physical attributes of Sites for Dive Survey (T2, T3 and Site C)**

Sites	GPS Coordinates		Depth (m)	Visibility (m)	Substrate type	Weather	Tidal Condition	Sedimentation on Hard Substrate? (mm thickness)
<b>14 December 2013</b>								
T2	Start	N 22°27.208' E 114°12.753'	1.0 – 1.5	1.5 – 2.5	Sand with gravel, rubbles and boulders	Calm; Sunny	Flood	YES (2 – 4)
	End	N 22°27.161' E 114°12.727'						
T3	Start	N 22°27.079' E 114°12.661'	1.0 – 1.5	1.5 – 2.5	Rubbles, boulders and sand with gravel	Calm; Sunny	Flood	YES (2 – 4)
	End	N 22°27.049' E 114°12.615'						
Site C	Start	N 22°26.184' E 114°14.229'	1.0 – 1.5	1.0 – 1.5	Rubbles, boulders and sand with gravel	Calm; Sunny	Flood	YES (2 – 4)
	End	N 22°26.139' E 114°14.210'						
<b>28 December 2013</b>								
T2	Start	N 22°27.208' E 114°12.753'	1.0 – 1.5	1.5 – 2.5	Sand with gravel, rubbles and boulders	Windy; Sunny	Flood	YES (2 – 4)
	End	N 22°27.161' E 114°12.727'						
T3	Start	N 22°27.079' E 114°12.661'	1.0 – 1.5	1.5 – 2.5	Rubbles, boulders and sand with gravel	Windy; Sunny	Flood	YES (2 – 4)
	End	N 22°27.049' E 114°12.615'						
Site C T2	Start	N 22°26.184' E 114°14.229'	1.0 – 1.5	1.5 – 2.5	Rubbles, boulders and sand with gravel	Windy; Sunny	Flood	YES (2 – 4)
	End	N 22°26.139' E 114°14.210'						
	Start	N 22°26.139' E 114°14.210'						

3.11 All coral quality monitoring was conducted as scheduled in the reporting month. The monitoring coral quality monitoring results including the code, species name, area, percentage of sedimentation level, bleaching and mortality of the tagged coral colonies at each site are summarized in **Appendix D**. The photo records of coral quality surveys for the reporting month are shown in **Appendix E**. The survey team had tried to take photographs of the corals from an angle and distance that best represented the colonies but difficulties sometimes occurred as a result of low water visibility during the surveys.

3.12 Coral monitoring results were evaluated against Action and Limit Levels (**Appendix A**) and summarized in **Table 3.3**. Evaluation based on recorded changes in the percentages of partial mortality, sediment cover, and bleaching of the tagged corals.

**Table 3.3 Evaluation of Monitoring Results against Action and Limit Level for Coral Monitoring Surveys.**

<b>5<sup>th</sup> Coral Monitoring Survey on 14 December 2013</b>								
<b>Site</b>	<b>Exceedance</b>		<b>Sedimentation</b>		<b>Bleaching</b>		<b>Mortality</b>	
	<b>Action Level</b>	<b>Limit Level</b>	<b>Action Level</b>	<b>Limit Level</b>	<b>Action Level</b>	<b>Limit Level</b>	<b>Action Level</b>	<b>Limit Level</b>
<b>Site C</b>	No	No	No	No	No	No	No	No
<b>Site T2</b>	No	No	No	No	No	No	No	No
<b>Site T3</b>	No	No	No	No	No	No	No	No
<b>6<sup>th</sup> Coral Monitoring Survey on 28 December 2013</b>								
<b>Site</b>	<b>Exceedance</b>		<b>Sedimentation</b>		<b>Bleaching</b>		<b>Mortality</b>	
	<b>Action Level</b>	<b>Limit Level</b>	<b>Action Level</b>	<b>Limit Level</b>	<b>Action Level</b>	<b>Limit Level</b>	<b>Action Level</b>	<b>Limit Level</b>
<b>Site C</b>	No	No	No	No	No	No	No	No
<b>Site T2</b>	No	No	No	No	No	No	No	No
<b>Site T3</b>	No	No	No	No	No	No	No	No

Note: Definition of Action/Limit levels are listed in Appendix A. "No" indicates NO exceedance.

- 3.13 Overall, the healthy status of the tagged coral colonies was normal, with usual level of sedimentation. No action/limit level of mortality was exceeded in the monitoring survey conducted in December 2013.

### Summary of Coral Monitoring Results

#### 14 December 2013

- Site C (Reference site)

- 3.14 Sedimentation cover on the coral colonies ranged from 0 to 10%, with thickness ~2mm. When compared with baseline data in August 2013, increased sedimentation cover was recorded on 7 colonies (C2, C3, C6, C7, C8, C9 and C10) by ~5 to 10%. No cover of bleaching or mortality was recorded

- Site T2

- 3.15 Sedimentation cover on the coral colonies ranged from 0 to 5%, with thickness ~2mm. When compared with baseline data in August 2013, increased sedimentation cover was recorded on 2 colonies (A6 and A8) by ~5%. No cover of bleaching or mortality was recorded.

- Site T3

- 3.16 Sedimentation cover ranged from 0 to 5%, with thickness ~2mm. When compared with baseline data in August 2013, increased sedimentation cover was recorded on 1 colony (B4) by ~5%. No cover of bleaching or mortality was recorded.

#### 28 December 2013

- Site C (Reference site)

- 3.17 Sedimentation cover on the coral colonies ranged from 0 to 10%, with thickness ~2mm. When compared with baseline data in August 2013, increased sedimentation cover was recorded on 7 colonies (C2, C4, C6, C7, C8, C9 and C10) by ~5 to 10%. No cover of

bleaching or mortality was recorded.

- Site T2

- 3.18 Sedimentation cover on the coral colonies ranged from 0 to 5%, with thickness ~2mm. When compared with baseline data in August 2013, increased sedimentation cover was recorded on 1 colony (A8) by ~5%. No cover of bleaching or mortality was recorded.

- Site T3

- 3.19 Sedimentation cover ranged from 0 to 5%, with thickness ~2mm. When compared with baseline data in August 2013, increased sedimentation cover was recorded on 2 colonies (B4 and B7) by ~5%. No cover of bleaching or mortality was recorded.

- 3.20 In the monitoring surveys conducted on 14 and 28 December 2013, from both Impact Sites T2 and T3 and the Reference Site C, the change in level of sedimentation on the tagged colonies was less than 15% when compared with the baseline data in Aug 2013. As the sedimentation occurred at all sites including the Reference Site C, the small change in sedimentation was likely a natural fluctuation as a result of tidal current, wave, northeast monsoon, etc. No increment in level of bleaching or partial mortality suggested minor adverse effect was observed.

- 3.21 The data from both monitoring surveys showed no significant enhancement in sedimentation, bleaching or mortality in both Sites T2 and T3 and the Reference Site C. Hence, no adverse impact by the construction activity on the coral community was observed.

### **Event and Action Plan**

- 3.22 Upon action level being exceeded, appropriate actions should be taken to review the dredging operation and additional measures such as slowing down, or rescheduling of works should be implemented as necessary, with the agreement from the ET and AFCD. Upon limit level being exceeded, the Contractor shall suspend all works affecting the corals until an effective solution is identified. Once the solution has been identified and agreed by the ET and AFCD, construction works affecting seabed may recommence.

#### **4. ARDEIDS AND WHITE-BELLIES SEA EAGLES MONITORING**

##### **Monitoring Requirements**

- 4.1 In accordance with the approved monitoring programme under condition 2.7 of Environmental Permit No. EP-419/2011/A, surveys by counts on ardeids and White-bellied Sea Eagles should be conducted to quantify their existence in vicinity of the proposed dredging area and temporary relocation sites for fish rafts as well as to monitor ardeids and White-bellied Sea Eagles nesting at Yeung Chau. Their nests will be monitored if identified. The survey results enable comparison of their populations before, during and after construction works.
- 4.2 By comparison and evaluation of the survey results, any impact on the target species could be verified.

##### **Monitoring Routes & Locations**

- 4.3 Transect route with some vantage points is shown in **Figure 4**. There are a total of 9 point count locations. The counting vantage points are selected with at least 500m distance with each other to avoid double-counting. The main focus areas of survey are the location of existing fish rafts before and after dredging works and Yeung Chau, where ardeids were observed in the past records.

##### **Monitoring Frequencies & Durations**

- 4.4 The bird count was conducted at monthly intervals since the relocation of fish rafts begins. The survey would be carried out until completion of subsequent relocation of fish raft to the original Fish Culture Zone after dredging. Counts normally started after sunrise and last for 2-3 hours (normally before 10:00). Bird count should be postponed when it is on inclement weather.

##### **Monitoring Methodology**

- 4.5 The target species were surveyed quantitatively by transect count and point count method covering the survey area. Birds heard or seen within the survey area were identified to species and counted. They were counted directly from vantage points or along the edge of a colony with the use of 10x binoculars or by the naked-eye, depending on the proximity between the surveyor and the colony. It is advisable to travel with a pace of 10 km/hr by small boat for transect method, and point count was last for less than or equal to 10 mins for each station. The quantitatively monitoring results were undertaken by experienced bird watchers. Photographic records were taken when possible.
- 4.6 Furthermore, during each survey (both transect and point counting), nests of ardeids and White-bellied Sea Eagles were counted by tracking the landing locations of the found species at Yeung Chau. Similar to the method mentioned above, active nests, determined by the presence of incubating adults or chicks, were counted directly from vantage points or along the edge of the colony. If they were invisible due to dense vegetation, their landing locations were recorded and repeated landings around the same

location were considered as one nest.

### Results & Observations

- 4.7 Bird counts were conducted on 12 December 2013. The species and number of birds observed, the nature of construction works within works area conducting during the impact monitoring visit were recorded. Also, weather condition and other noticeable activities occurring within the survey area were recorded. The data sheet showing the results was attached in **Appendix J**. The photographic records were attached in **Appendix K**.
- 4.8 A total of 45 and 2 individuals of Ardeids and White-bellied Sea Eagle were recorded respectively from the transect count and point count locations in the reporting month (**Table 4.1** refers).

**Table 4.1 Number of Ardeids and White-bellied Sea Eagle recorded**

Data of Survey	Abundance		Total number of birds	Nest of ardeids and White-Bellied Sea Eagles
	Ardeids	White-bellied Sea Eagle		
12 December 2013	45	2	47	1 (1 nest of White-Bellied Sea Eagles)



## 5. ENVIRONMENTAL AUDIT

### Site Audits

- 5.1 Site audits were carried out by ET to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.
- 5.2 Site audits were conducted by ET on 6, 12, 19 and 24 December 2013. The details of observations during site audit can refer to **Table 5.2**.

### Status of Environmental Licensing and Permitting

- 5.3 All permits/licenses obtained for the Project are summarized in **Table 5.1**.

**Table 5.1 Summary of Environmental Licensing and Permit Status**

Permit / License No.	Valid Period		Details	Status
	From	To		
<b>Environmental Permit (EP)</b>				
EP-419/2011/A	30/3/2012	N/A	<u>Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone :</u>  (a) A dredging operation within a Fish Culture Zone and relocation of existing fish rafts and setting up of temporary sites for the relocated fish rafts; (b) To remove seabed sediments at the Yim Tin Tsai (East) Fish Culture Zone for a depth of 2m.	Valid

### Implementation Status of Environmental Mitigation Measures

- 5.4 According to the EIA Study Report, Environmental Permit and the Project Profile of the Project, the mitigation measures detailed in the documents are recommended to be implemented during the construction phase. A summary of the EMIS is provided in **Appendix G**.
- 5.5 During site inspection in the reporting month, no non-conformance was identified. The observations and recommendations made during the audit sessions are summarized in **Table 5.2**. The summaries of site audits are attached in **Appendix H**.

**Table 5.2 Observations and Recommendations of Site Audit**

<b>Parameters</b>	<b>Date</b>	<b>Observations and Recommendations</b>	<b>Follow-up</b>
--	6/12/2013	No environmental deficiency was identified during the site inspection.	N/A
--	12/12/2013	No environmental deficiency was identified during the site inspection.	N/A
--	19/12/2013	No environmental deficiency was identified during the site inspection.	N/A
--	24/12/2013	No environmental deficiency was identified during the site inspection.	N/A

**Summary of Exceedances**

- 5.6 No exceedance of monitoring results was recorded in the reporting month. Summary of exceedance is provided in **Appendix F**.

**Summary of Complaint and Prosecution**

- 5.7 No environmental related complaint, prosecution or notification of summons was received in the reporting month.
- 5.8 There was no environmental complaint, prosecution or notification of summons received since the Project commencement. The Complaint Log is attached in **Appendix I**.

## 6. FUTURE KEY ISSUES

6.1 The major construction activities in the coming month will include:

- Relocation of fish raft;
- Removing seabed sediments.

### **Monitoring Schedule for the Next Month**

6.2 The tentative environmental monitoring schedule for the next month is shown in **Appendix B**.

## 7. CONCLUSIONS

### Conclusions

- 7.1 Environmental monitoring and audit works were conducted in the reporting month. Site inspections were conducted on 6, 12, 19 and 24 December 2013. The results were reviewed and checked.
- 7.2 No exceedance of monitoring results was recorded in the reporting month.
- 7.3 There was no environmental complaint, prosecution or notification of summons received.

### Recommendations

- 7.4 According to the environmental audit performed in the reporting month and site activities in coming month, the following recommendations were made:

#### *Dust Impact*

- To prohibit any open burning on site.
- To regularly maintain the machinery and vessels on site.

#### *Noise Impact*

- To inspect the noise sources inside the site.
- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers.

#### *Water Impact*

- To identify any wastewater discharges from site.
- To provide silt curtain surrounding the dredging works.
- To check the holding tank should be fitted with a tight fitting seal.
- To ensure the excavator grab seal is tightly closed.

#### *Waste/Chemical Management*

- To check for any accumulation of waste materials or rubbish on site.
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the site.
- To avoid improper handling or storage of oil drum on site.

#### *Ecology*

- To provide silt curtain, checked and maintenance throughout the construction period

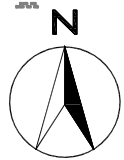
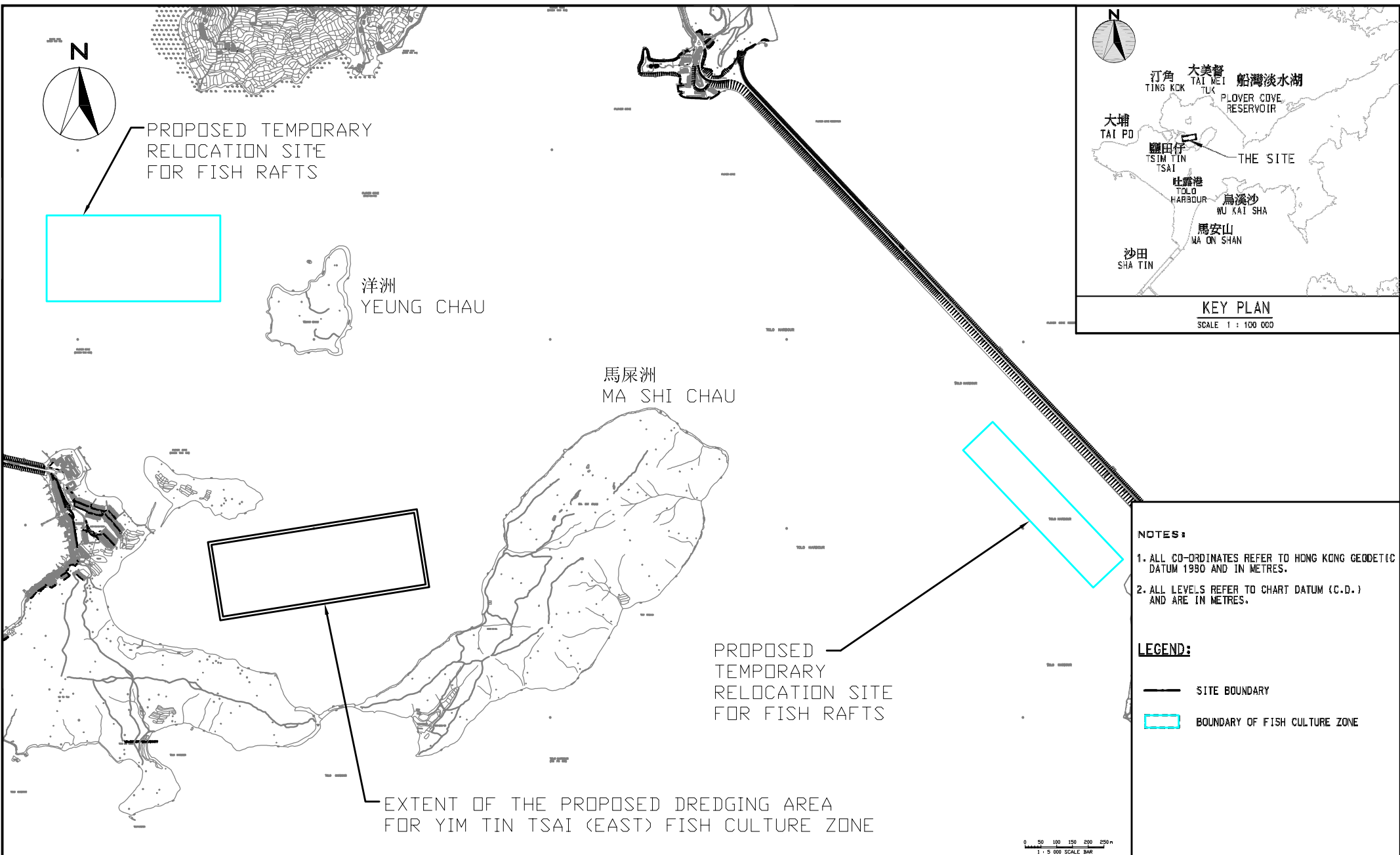
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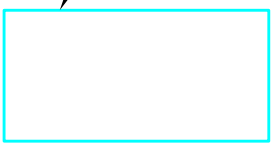
**FIGURE(S)**

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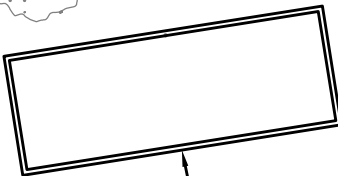


PROPOSED TEMPORARY  
RELOCATION SITE  
FOR FISH RAFTS



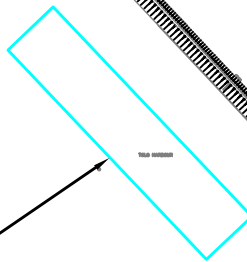
洋洲  
YEUNG CHAU

馬屎洲  
MA SHI CHAU



EXTENT OF THE PROPOSED DREDGING AREA  
FOR YIM TIN TSAI (EAST) FISH CULTURE ZONE

PROPOSED  
TEMPORARY  
RELOCATION SITE  
FOR FISH RAFTS



汀角 TAI MEI  
大埔 TAI PO  
船灣淡水湖 PLOVER COVE RESERVOIR  
THE SITE  
沙田 SHA TIN  
馬安山 MA ON SHAN  
吐露港 TOLLO HARBOUR  
烏溪沙 NU KAI SHA  
大埔 TAI PO  
翻田仔 TSIM TIN TSAI

KEY PLAN  
SCALE 1 : 100 000

- NOTES:**
1. ALL CO-ORDINATES REFER TO HONG KONG GEODETIC DATUM 1980 AND IN METRES.
  2. ALL LEVELS REFER TO CHART DATUM (C.D.) AND ARE IN METRES.

- LEGEND:**
- SITE BOUNDARY
  - BOUNDARY OF FISH CULTURE ZONE

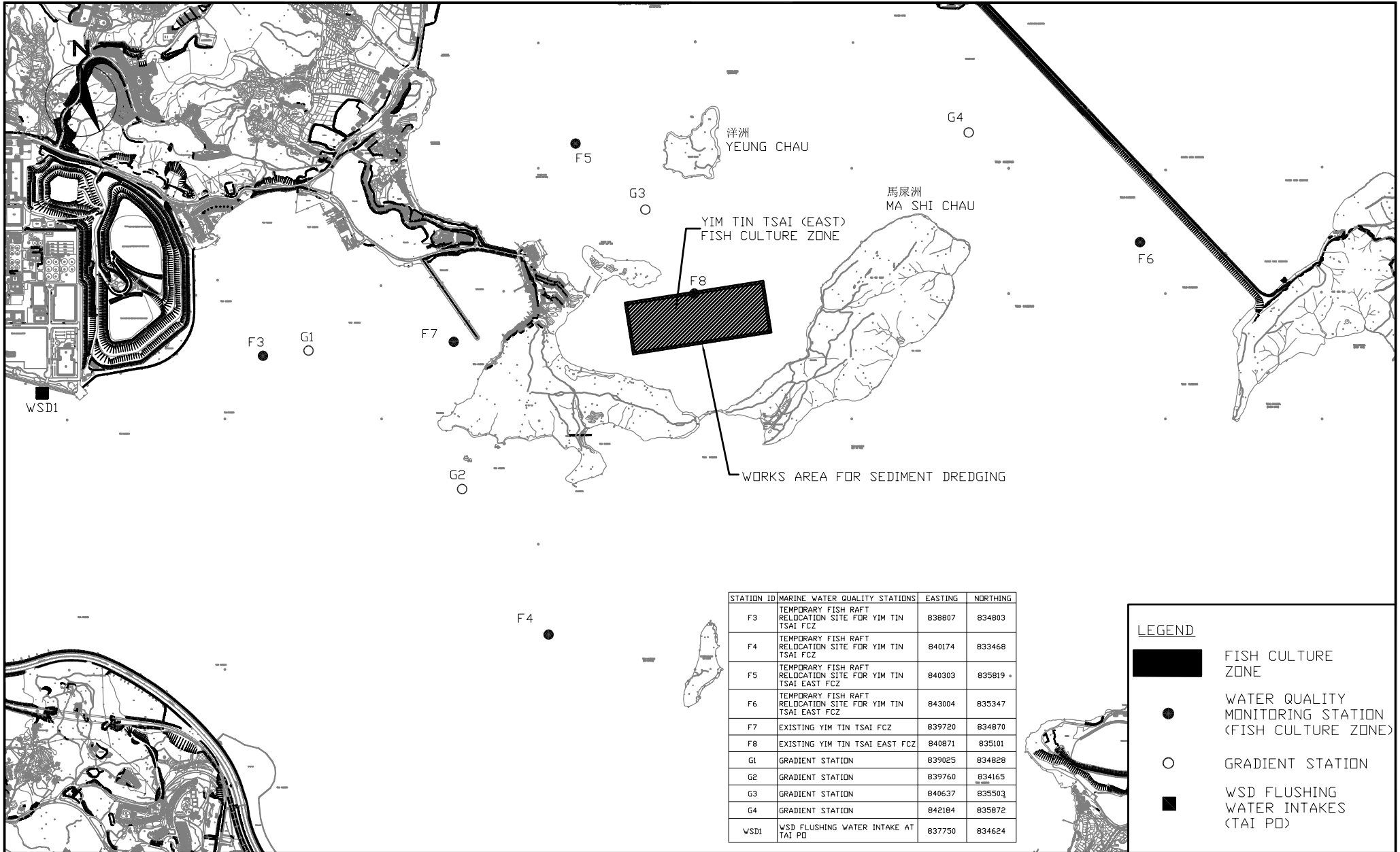
0 50 100 150 200 250m  
1 : 5 000 SCALE BAR



SEDIMENT REMOVAL AT YIM TIN TSAI (EAST) FISH CULTURE ZONE





SITE LAYOUT PLAN

SCALE	1:400 @ A4	DATE	DEC 2013	
CHECK	IT	DRAWN	JW	
JOB No.	MA13027	FIGURE NO.	1	REV —



STATION ID	MARINE WATER QUALITY STATIONS	EASTING	NORTHING
F3	TEMPORARY FISH RAFT RELOCATION SITE FOR YIM TIN TSAI FCZ	838807	834803
F4	TEMPORARY FISH RAFT RELOCATION SITE FOR YIM TIN TSAI FCZ	840174	833468
F5	TEMPORARY FISH RAFT RELOCATION SITE FOR YIM TIN TSAI EAST FCZ	840303	835819
F6	TEMPORARY FISH RAFT RELOCATION SITE FOR YIM TIN TSAI EAST FCZ	843004	835347
F7	EXISTING YIM TIN TSAI FCZ	839720	834870
F8	EXISTING YIM TIN TSAI EAST FCZ	840871	835101
G1	GRADIENT STATION	839025	834828
G2	GRADIENT STATION	839760	834165
G3	GRADIENT STATION	840637	835503
G4	GRADIENT STATION	842184	835872
WSD1	WSD FLUSHING WATER INTAKE AT TAI PD	837750	834624

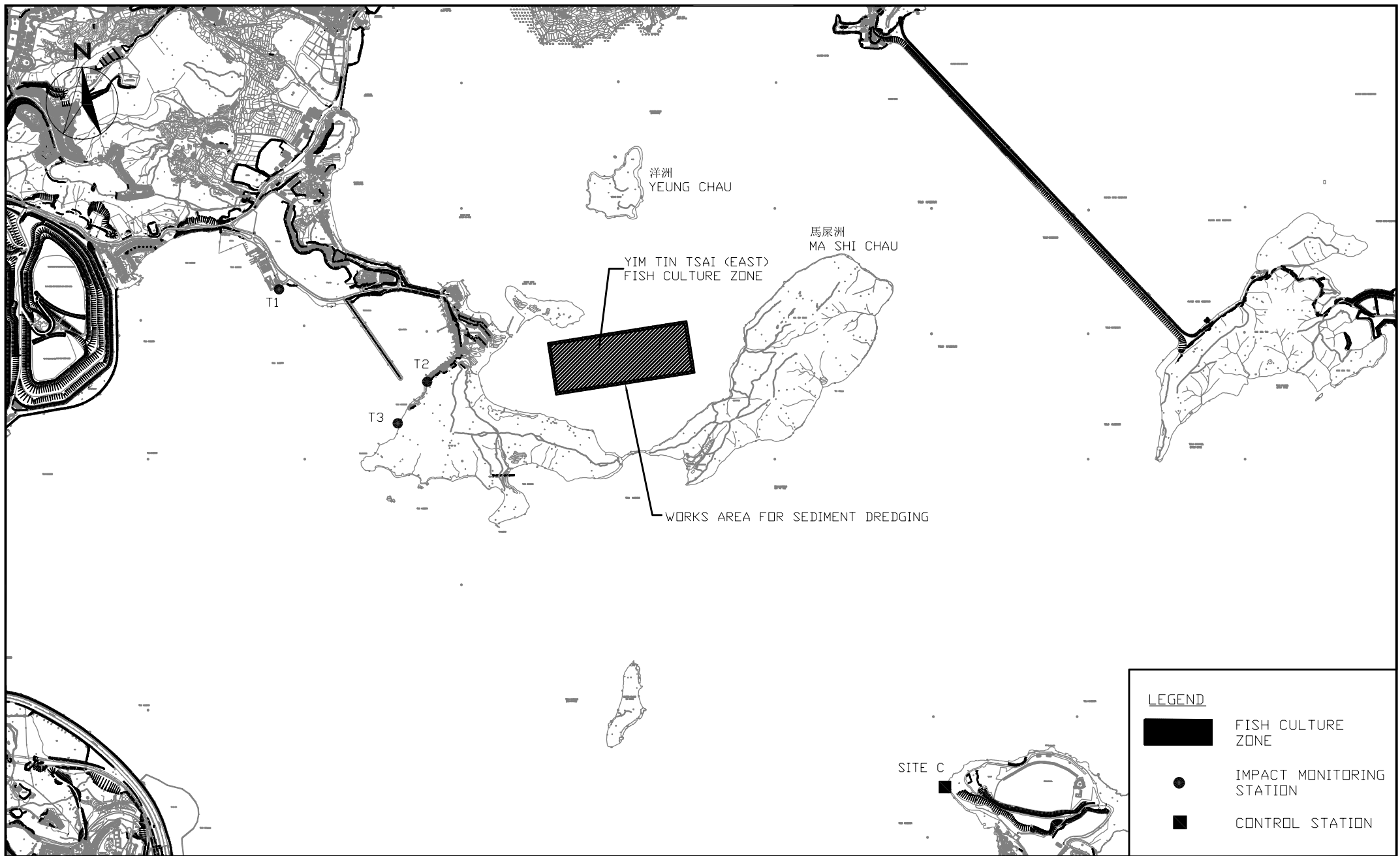
**LEGEND**

-  FISH CULTURE ZONE
-  WATER QUALITY MONITORING STATION (FISH CULTURE ZONE)
-  GRADIENT STATION
-  WSD FLUSHING WATER INTAKES (TAI PD)



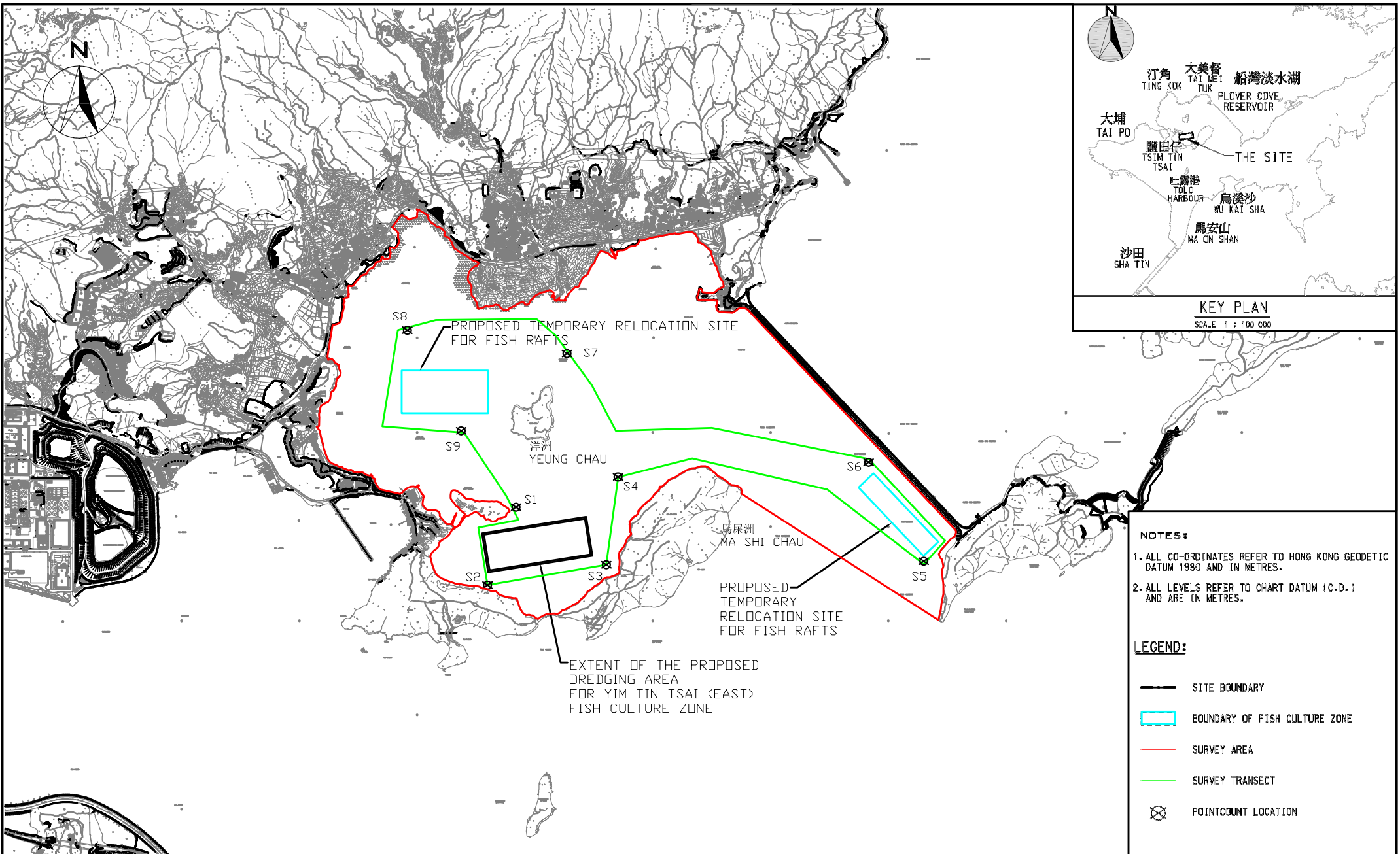
SEDIMENT REMOVAL AT YIM TIN TSAI (EAST) FISH CULTURE ZONE  
 LOCATION OF WATER QUALITY MONITORING STATIONS

SCALE	1:600	DATE	JUN 2013	
CHECK	IT	DRAWN	JW	
JOB No.	MA13027	FIGURE NO.	2	REV —



SCALE	1:600	DATE	JUN 2013	
CHECK	GL	DRAWN	JW	
JOB No.	MA13027	FIGURE NO.	3	REV —





SCALE	1:800 @ A4	DATE	DEC 2013	
CHECK	IT	DRAWN	JW	
JOB No.	MA13027	FIGURE NO.	4	REV —

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**APPENDIX A**  
**ACTION AND LIMIT LEVELS**

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**Appendix A****Guidelines for Establishment of Action and Limit Levels**

<b>Parameter (unit)</b>	<b>Action Level</b>	<b>Limit Level</b>
DO in mg/L (See Note 1)	<b><u>For Stations F4 and F7</u></b>  <u>Surface or Mid-Depth</u> 5 percentile of baseline surface / mid-depth data or <4mg/L  <u>Bottom</u> 5 percentile of baseline bottom data or <2mg/L	<b><u>For Stations F4 and F7</u></b>  <u>Surface or Mid-Depth</u> 1 percentile of baseline surface / mid-depth data or <4mg/L  <u>Bottom</u> 1 percentile of baseline bottom data or <2mg/L
	<b><u>For Stations F5, F6, F8</u></b>  <u>Surface or Mid-Depth</u> 5 percentile of baseline surface / mid-depth data or <4mg/L  <u>Bottom</u> 5 percentile of baseline bottom data or <3mg/L	<b><u>For Stations F5, F6, F8</u></b>  <u>Surface or Mid-Depth</u> 1 percentile of baseline surface / mid-depth data or <4mg/L  <u>Bottom</u> 1 percentile of baseline bottom data or <3mg/L
Turbidity in NTU (See Note 2)	95 percentile of baseline data	99 percentile of baseline data
SS in mg/L (See Note 2)	95 percentile of baseline data or 10mg/L	99 percentile of baseline data or 10mg/L
Copper in µg/L (See Note 2 and 4)	95 percentile of baseline data or 4.8µg/L	99 percentile of baseline data or 4.8µg/L
Zinc in µg/L (See Note 2 and 4)	95 percentile of baseline data or 40µg/L	99 percentile of baseline data or 40µg/L
Arsenic in µg/L (See Note 2 and 4)	95 percentile of baseline data or 25µg/L	99 percentile of baseline data or 25µg/L

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Lead in mg/L (See Note 2 and 4)	95 percentile of baseline data or 25µg/L	99 percentile of baseline data or 25µg/L
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## Notes:

1. For DO, non-compliance of the water quality limits occurs when monitoring result is lower than the limits.
2. For turbidity, SS and metals, non-compliance of the water quality limits occurs when monitoring result is higher than the limits.
3. All the figures given in the table are used for reference only and EPD may amend the figures whenever it is considered as necessary.
4. Action and limit values of metals are based on the assessment criteria adopted under the water quality impact assessment (refer to Appendix B of Project Profile).

**Action and Limit Level for Coral Monitoring**

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

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**APPENDIX B  
ENVIRONMENTAL MONITORING  
SCHEDULES**

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**Contract No. CV/2012/01 - Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone**  
**Tentative Impact Water Quality Monitoring in January 2014**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			<b>1-Jan</b>	2-Jan	3-Jan	4-Jan
<b>5-Jan</b>	6-Jan	7-Jan	8-Jan	9-Jan	10-Jan	11-Jan
		<u>Water Quality Monitoring</u> Mid-Flood 11:34 Mid-Ebb 17:41		<u>Water Quality Monitoring</u> Mid-Ebb 06:48 Mid-Flood 13:21		<u>Water Quality Monitoring</u> Mid-Ebb 09:06 Mid-Flood 15:08
<b>12-Jan</b>	13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan
	<u>Water Quality Monitoring</u> Mid-Ebb 10:58 Mid-Flood 16:48			<u>Water Quality Monitoring</u> Mid-Ebb 12:41 Mid-Flood 18:34		<u>Water Quality Monitoring</u> Mid-Flood 08:38 Mid-Ebb 13:55
<b>19-Jan</b>	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan
		<u>Water Quality Monitoring</u> Mid-Flood 10:18 Mid-Ebb 16:07		<u>Water Quality Monitoring</u> Mid-Flood 11:38 Mid-Ebb 17:48		<u>Water Quality Monitoring</u> Mid-Ebb 07:08 Mid-Flood 13:15
<b>26-Jan</b>	27-Jan	28-Jan	29-Jan	30-Jan	<b>31-Jan</b>	
	<u>Water Quality Monitoring</u> Mid-Ebb 09:32 Mid-Flood 15:09		<u>Water Quality Monitoring</u> Mid-Ebb 11:27 Mid-Flood 17:13			

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)  
 Remark: Reference was made to the tidal information of Hong Kong Observatory

**Contract No. CV/2012/01 - Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone**

**Impact Coral Monitoring Schedule in December 2013**

<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>
1-Dec	2-Dec	3-Dec	4-Dec	5-Dec	6-Dec	7-Dec
<b>8-Dec</b>	9-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec
						Impact Coral Monitoring
<b>15-Dec</b>	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec
<b>22-Dec</b>	23-Dec	24-Dec	25-Dec	26-Dec	27-Dec	28-Dec
						Impact Coral Monitoring
<b>29-Dec</b>	30-Dec	31-Dec				



**Contract No. CV/2012/01 - Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone  
Tentative Impact Coral Monitoring Schedule in January 2014**

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

**Contract No. CV/2012/01 - Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone  
Ardeids & White-bellied Sea Eagles Nesting Monitoring Schedule in December 2013**

<b>Sunday</b>	<b>Monday</b>	<b>Tuesday</b>	<b>Wednesday</b>	<b>Thursday</b>	<b>Friday</b>	<b>Saturday</b>
1-Dec	2-Dec	3-Dec	4-Dec	5-Dec	6-Dec	7-Dec
<b>8-Dec</b>	9-Dec	10-Dec	11-Dec	12-Dec	13-Dec	14-Dec
				Ardeids & White-bellied Sea Eagles Nesting Monitoring		
<b>15-Dec</b>	16-Dec	17-Dec	18-Dec	19-Dec	20-Dec	21-Dec
<b>22-Dec</b>	23-Dec	24-Dec	<b>25-Dec</b>	<b>26-Dec</b>	27-Dec	28-Dec
<b>29-Dec</b>	30-Dec	31-Dec				

**Contract No. CV/2012/01 - Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone  
Tentative Ardeids & White-bellied Sea Eagles Nesting Monitoring Schedule in January 2014**

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
1-Dec			<b>1-Jan</b>	2-Jan	3-Jan	4-Jan
<b>5-Jan</b>	6-Jan	7-Jan	8-Jan	9-Jan	10-Jan	11-Jan
<b>12-Jan</b>	13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan
	Ardeids & White-bellied Sea Eagles Nesting Monitoring					
<b>19-Jan</b>	20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan
<b>26-Jan</b>	27-Jan	28-Jan	29-Jan	30-Jan	<b>31-Jan</b>	

The schedule may be changed due to unforeseen circumstances (adverse weather, etc)

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**APPENDIX C  
EVENT ACTION PLAN FOR WATER  
QUALITY**

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**Appendix C Event and Action Plan for Water Quality**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action level being exceeded by one sampling day	<ol style="list-style-type: none"> <li>1. Repeat in-situ measurement to confirm findings;</li> <li>2. Identify source(s) of impact;</li> <li>3. Inform IEC and Contractor;</li> <li>4. Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>5. Discuss mitigation measures with IEC and Contractor;</li> <li>6. (The above actions should be taken within 1 working day after the exceedance is identified)</li> <li>7. Repeat measurement on next day of exceedance.</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and Contractor on the mitigation measures;</li> <li>2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>3. Assess the effectiveness of the implemented mitigation measures.</li> <li>4. (The above actions should be taken within 1 working day after the exceedance is identified)</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with IEC on the proposed mitigation measures;</li> <li>2. Make agreement on the mitigation measures to be implemented.</li> <li>3. (The above actions should be taken within 1 working day after the exceedance is identified)</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the ER and confirm notification of the non-compliance in writing;</li> <li>2. Rectify unacceptable practice;</li> <li>3. Check all plant and equipment;</li> <li>4. Review the working methods and consider additional measures such as slowing down, or rescheduling of works;</li> <li>5. Discuss with ET and IEC and propose mitigation measures to IEC and ER;</li> <li>6. Implement the agreed mitigation measures.</li> <li>7. (The above actions should be taken within 1 working day after the exceedance is identified)</li> </ol>
Action level being exceeded by more than one consecutive sampling days	<ol style="list-style-type: none"> <li>1. Identify source(s) of impact;</li> <li>2. Inform IEC and Contractor;</li> <li>3. Check monitoring data, all plant, equipment and Contractor's working methods;</li> <li>4. Discuss mitigation measures with IEC and Contractor;</li> <li>5. Ensure mitigation measures are implemented;</li> <li>6. Prepare to increase the monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with ET and Contractor on the mitigation measures;</li> <li>2. Review proposals on mitigation measures submitted by Contractor and advise the ER accordingly;</li> <li>3. Assess the effectiveness of the implemented mitigation</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss with IEC on the proposed mitigation measures;</li> <li>2. Make agreement on the mitigation measures to be implemented;</li> <li>3. Assess the effectiveness of the implemented mitigation measures.</li> <li>4. (The above actions should</li> </ol>	<ol style="list-style-type: none"> <li>1. Inform the Engineer and confirm notification of the non-compliance in writing;</li> <li>2. Rectify unacceptable practice;</li> <li>3. Check all plant and equipment;</li> <li>4. Review the working methods and consider</li> </ol>

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	frequency to daily; 7. (The above actions should be taken within 1 working day after the exceedance is identified) 8. Repeat measurement on next working day of exceedance.	measures. 4. (The above actions should be taken within 1 working day after the exceedance is identified)	be taken within 1 working day after the exceedance is identified)	additional measures such as slowing down, or rescheduling of works; 5. Discuss with ET and IEC and propose mitigation measures to IEC and ER within 3 working days; 6. Implement the agreed mitigation measures. 7. (The above actions should be taken within 1 working day after the exceedance is identified)

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**APPENDIX D**  
**CORAL MONITORING RESULTS**

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**Appendix D Impact Coral Monitoring Results****Site C (Reference site) – Percentage of Sedimentation, Bleaching and Mortality of the Tagged Coral Colonies**

Code	Coral Species	Size (length x width, cm)	Sedimentation, % (thickness, mm)				Bleaching, %				Mortality, %			
			Baseline (10Aug)	4 <sup>th</sup> (30Nov)	5 <sup>th</sup> (14Dec)	6 <sup>th</sup> (28Dec)	Baseline (10Aug)	4 <sup>th</sup> (30Nov)	5 <sup>th</sup> (14Dec)	6 <sup>th</sup> (28Dec)	Baseline (10Aug)	4 <sup>th</sup> (30Nov)	5 <sup>th</sup> (14Dec)	6 <sup>th</sup> (28Dec)
C1	<i>Oulastrea crispata</i>	5 x 2	5 (2)	10 (2) ▲	5 (2)	5 (2)	0	0	0	0	0	0	0	0
C2	<i>Oulastrea crispata</i>	5 x 4	0	10 (2) ▲	10 (2) ▲	10 (2) ▲	0	0	0	0	0	0	0	0
C3	<i>Oulastrea crispata</i>	3 x 3	0	5 (2) ▲	5 (2) ▲	0	0	0	0	0	0	0	0	0
C4	<i>Oulastrea crispata</i>	3 x 3	0	0	0	5 (2) ▲	0	0	0	0	0	0	0	0
C5	<i>Oulastrea crispata</i>	3 x 4	5 (2)	5 (2)	5 (2)	5 (2)	0	0	0	0	0	0	0	0
C6	<i>Oulastrea crispata</i>	6 x 2	0	0	5 (2) ▲	5 (2) ▲	0	0	0	0	0	0	0	0
C7	<i>Oulastrea crispata</i>	5 x 4	0	0	5 (2) ▲	5 (2) ▲	0	0	0	0	0	0	0	0
C8	<i>Oulastrea crispata</i>	4 x 3	0	5 (2) ▲	5 (2) ▲	5 (2) ▲	0	0	0	0	0	0	0	0
C9	<i>Oulastrea crispata</i>	6 x 4	0	5 (2) ▲	5 (2) ▲	5 (2) ▲	0	0	0	0	0	0	0	0
C10	<i>Oulastrea crispata</i>	15 x 7	5 (2)	10 (2) ▲	10 (2) ▲	10 (2) ▲	0	0	0	0	0	0	0	0

## Note:

- (1) Baseline Coral Monitoring Survey (10 Aug 2103), the 4th (30 Nov 2013), 5th (14 Dec 2013) and 6th (28 Dec 2013) Coral Monitoring Surveys.
- (2) “▲” and “▼” indicate increased and decreased in percentage, respectively, when compared with the baseline data.



**Site T2 - Percentage of Sedimentation, Bleaching and Mortality of the Tagged Coral Colonies**

Code	Coral Species	Size (length x width, cm)	Sedimentation, % (thickness, mm)				Bleaching, %				Mortality, %			
			Baseline (10Aug)	4 <sup>th</sup> (30Nov)	5 <sup>th</sup> (14Dec)	6 <sup>th</sup> (28Dec)	Baseline (10Aug)	4 <sup>th</sup> (30Nov)	5 <sup>th</sup> (14Dec)	6 <sup>th</sup> (28Dec)	Baseline (10Aug)	4 <sup>th</sup> (30Nov)	5 <sup>th</sup> (14Dec)	6 <sup>th</sup> (28Dec)
A1	<i>Oulastrea crispata</i>	15 x 8	0	0	0	0	0	0	0	0	0	0	0	0
A2	<i>Oulastrea crispata</i>	8 x 4	5 (2)	5 (2)	5 (2)	5 (2)	0	0	0	0	0	0	0	0
A3	<i>Oulastrea crispata</i>	4 x 4	0	0	0	0	0	0	0	0	0	0	0	0
A4	<i>Oulastrea crispata</i>	15 x 4	0	0	0	0	0	0	0	0	0	0	0	0
A5	<i>Oulastrea crispata</i>	5 x 3	0	5 (2) ▲	0	0	0	0	0	0	0	0	0	0
A6	<i>Oulastrea crispata</i>	8 x 4	0	0	5 (2) ▲	0	0	0	0	0	0	0	0	0
A7	<i>Oulastrea crispata</i>	8 x 4	5 (2)	5 (2)	5 (2)	5 (2)	0	0	0	0	0	0	0	0
A8	<i>Oulastrea crispata</i>	5 x 4	0	0	5 (2) ▲	5 (2) ▲	0	0	0	0	0	0	0	0
A9	<i>Oulastrea crispata</i>	3 x 3	0	0	0	0	0	0	0	0	0	0	0	0
A10	<i>Oulastrea crispata</i>	7 x 4	0	0	0	0	0	0	0	0	0	0	0	0

## Note:

- (1) Baseline Coral Monitoring Survey (10 Aug 2103), the 4th (30 Nov 2013), 5th (14 Dec 2013) and 6th (28 Dec 2013) Coral Monitoring Surveys.  
(2) “▲” and “▼” indicate increased and decreased in percentage, respectively, when compared with the baseline data.

**Site T3 – Percentage of Sedimentation, Bleaching and Mortality of the Tagged Coral Colonies**

Code	Coral Species	Size (length x width, cm)	Sedimentation, % (thickness, mm)				Bleaching, %				Mortality, %			
			Baseline (10Aug)	4 <sup>th</sup> (30Nov)	5 <sup>th</sup> (14Dec)	6 <sup>th</sup> (28Dec)	Baseline (10Aug)	4 <sup>th</sup> (30Nov)	5 <sup>th</sup> (14Dec)	6 <sup>th</sup> (28Dec)	Baseline (10Aug)	4 <sup>th</sup> (30Nov)	5 <sup>th</sup> (14Dec)	6 <sup>th</sup> (28Dec)
B1	<i>Oulastrea crispata</i>	5 x 2	0	0	0	0	0	0	0	0	0	0	0	0
B2	<i>Oulastrea crispata</i>	10 x 8	0	0	0	0	0	0	0	0	0	0	0	0
B3	<i>Oulastrea crispata</i>	5 x 3	0	5 (2) ▲	0	0	0	0	0	0	0	0	0	0
B4	<i>Oulastrea crispata</i>	5 x 3	0	5 (2) ▲	5 (2) ▲	5 (2) ▲	0	0	0	0	0	0	0	0
B5	<i>Oulastrea crispata</i>	3 x 3	0	0	0	0	0	0	0	0	0	0	0	0
B6	<i>Oulastrea crispata</i>	4 x 4	0	0	0	0	0	0	0	0	0	0	0	0
B7	<i>Oulastrea crispata</i>	5 x 4	0	0	0	5 (2) ▲	0	0	0	0	0	0	0	0
B8	<i>Oulastrea crispata</i>	8 x 3	5 (2)	5 (2)	5 (2)	5 (2)	0	0	0	0	0	0	0	0
B9	<i>Oulastrea crispata</i>	4 x 4	0	0	0	0	0	0	0	0	0	0	0	0
B10	<i>Oulastrea crispata</i>	5 x 4	0	0	0	0	0	0	0	0	0	0	0	0

## Note:

- (1) Baseline Coral Monitoring Survey (10 Aug 2103), the 4th (30 Nov 2013), 5th (14 Dec 2013) and 6th (28 Dec 2013) Coral Monitoring Surveys.  
(2) “▲” and “▼” indicate increased and decreased in percentage, respectively, when compared with the baseline data.

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**APPENDIX E  
PHOTO RECORDS OF CORAL  
MONITORING SURVEYS**

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C01- *Oulastrea crispata*



C01- *Oulastrea crispata*



C02- *Oulastrea crispata*



C02- *Oulastrea crispata*



C03- *Oulastrea crispata*



C03- *Oulastrea crispata*



C04- *Oulastrea crispata*



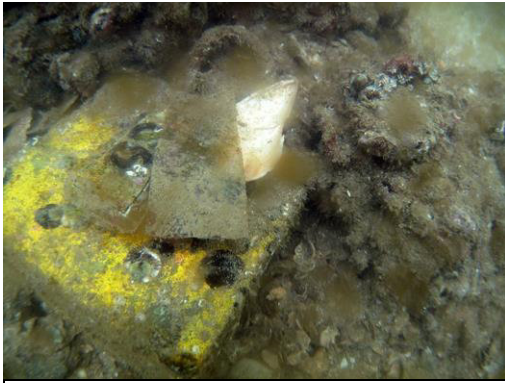
C04- *Oulastrea crispata*



C05- *Oulastrea crispata*



C05- *Oulastrea crispata*



C06- *Oulastrea crispata*



C06- *Oulastrea crispata*



C07- *Oulastrea crispata*



C07- *Oulastrea crispata*



C08- *Oulastrea crispata*



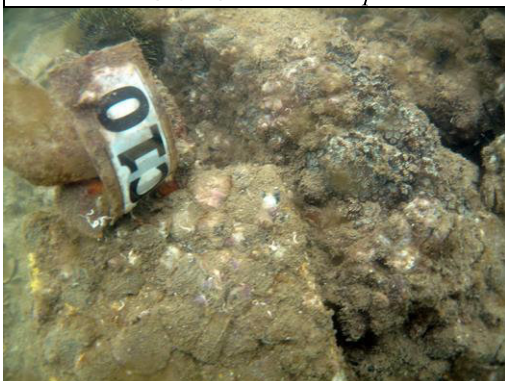
C08- *Oulastrea crispata*



C09- *Oulastrea crispata*



C09- *Oulastrea crispata*



C10- *Oulastrea crispata*



C10- *Oulastrea crispata*



A01– *Oulastrea crispata*



A01– *Oulastrea crispata*



A02– *Oulastrea crispata*



A02– *Oulastrea crispata*



A03– *Oulastrea crispata*



A03– *Oulastrea crispata*



A04– *Oulastrea crispata*



A04– *Oulastrea crispata*



A05– *Oulastrea crispata*



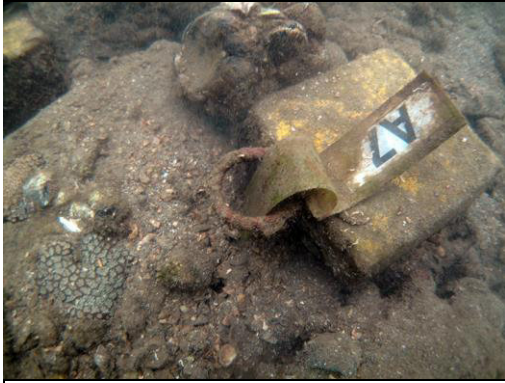
A05– *Oulastrea crispata*



A06– *Oulastrea crispata*



A06– *Oulastrea crispata*



A07– *Oulastrea crispata*



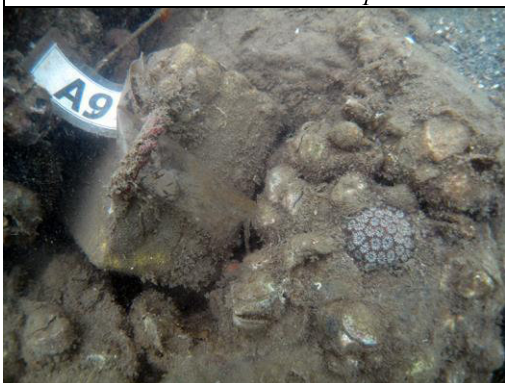
A07– *Oulastrea crispata*



A08– *Oulastrea crispata*



A08– *Oulastrea crispata*



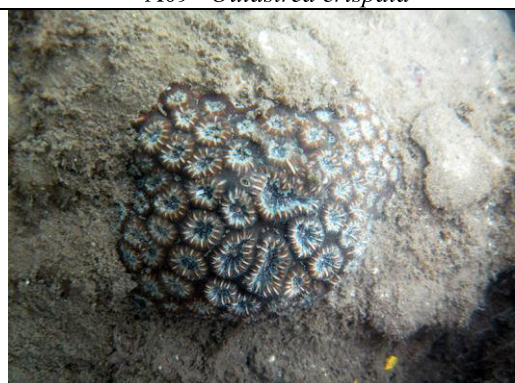
A09– *Oulastrea crispata*



A09– *Oulastrea crispata*

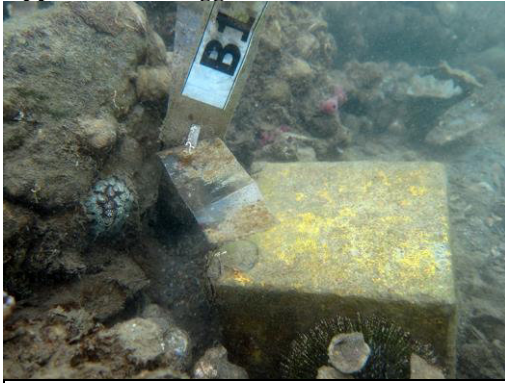


A10– *Oulastrea crispata*

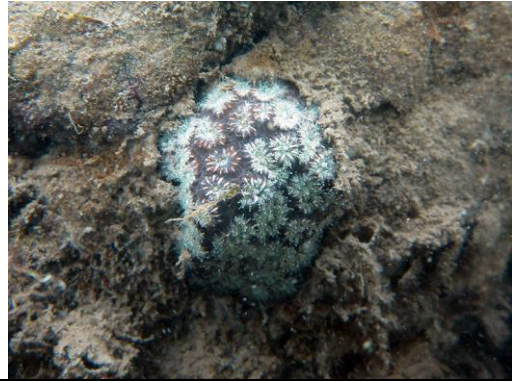


A10– *Oulastrea crispata*

Appendix Ic Tagged Coral Colonies at Site T3.



B01– *Oulastrea crispata*



B01– *Oulastrea crispata*



B02– *Oulastrea crispata*



B02– *Oulastrea crispata*



B03– *Oulastrea crispata*



B03– *Oulastrea crispata*



B04– *Oulastrea crispata*



B04– *Oulastrea crispata*



B05– *Oulastrea crispata*



B05– *Oulastrea crispata*

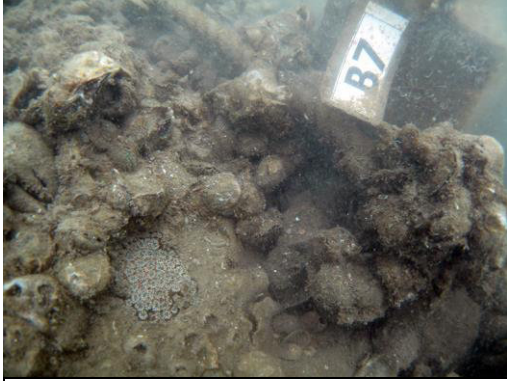




B06- *Oulastrea crispata*



B06- *Oulastrea crispata*



B07- *Oulastrea crispata*



B07- *Oulastrea crispata*



B08- *Oulastrea crispata*



B08 *Oulastrea crispata*



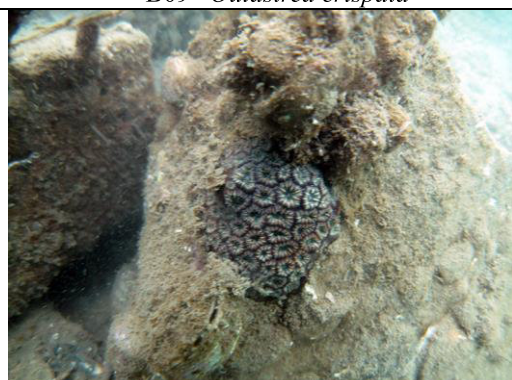
B09- *Oulastrea crispata*



B09- *Oulastrea crispata*



B10- *Oulastrea crispata*



B10- *Oulastrea crispata*



C01- *Oulastrea crispata*



C01- *Oulastrea crispata*



C02- *Oulastrea crispata*



C02- *Oulastrea crispata*



C03- *Oulastrea crispata*



C03- *Oulastrea crispata*



C04- *Oulastrea crispata*



C04- *Oulastrea crispata*



C05- *Oulastrea crispata*



C05- *Oulastrea crispata*



C06- *Oulastrea crispata*



C06- *Oulastrea crispata*



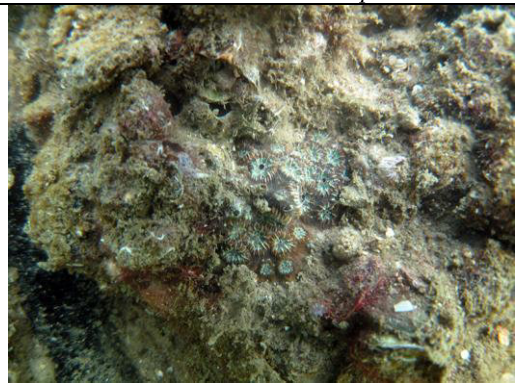
C07- *Oulastrea crispata*



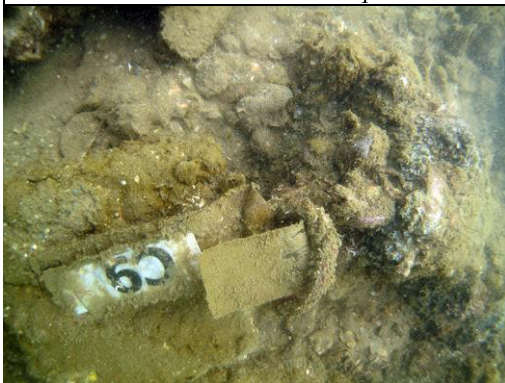
C07- *Oulastrea crispata*



C08- *Oulastrea crispata*



C08- *Oulastrea crispata*



C09- *Oulastrea crispata*



C09- *Oulastrea crispata*



C10- *Oulastrea crispata*



C10- *Oulastrea crispata*



A01– *Oulastrea crispata*



A01– *Oulastrea crispata*



A02– *Oulastrea crispata*



A02– *Oulastrea crispata*



A03– *Oulastrea crispata*



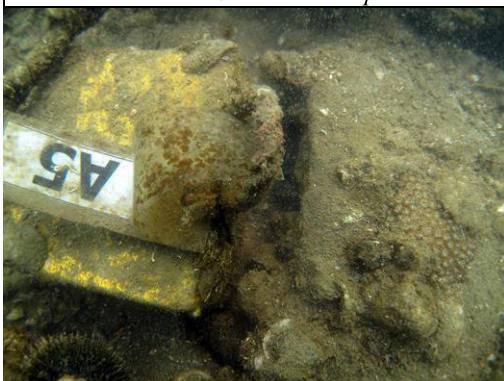
A03– *Oulastrea crispata*



A04– *Oulastrea crispata*



A04– *Oulastrea crispata*



A05– *Oulastrea crispata*



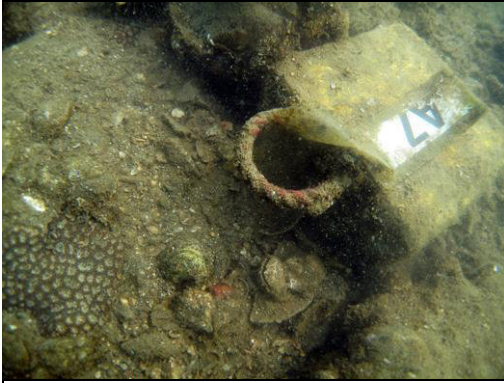
A05– *Oulastrea crispata*



A06– *Oulastrea crispata*



A06– *Oulastrea crispata*



A07– *Oulastrea crispata*



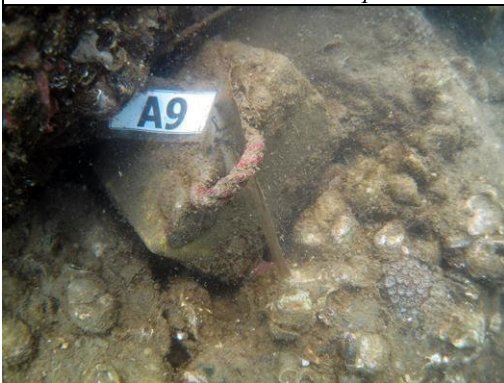
A07– *Oulastrea crispata*



A08– *Oulastrea crispata*



A08– *Oulastrea crispata*



A09– *Oulastrea crispata*



A09– *Oulastrea crispata*

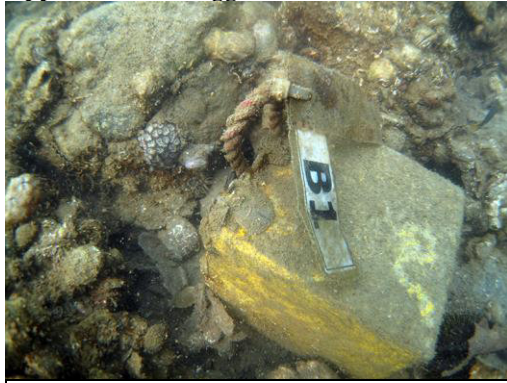


A10– *Oulastrea crispata*



A10– *Oulastrea crispata*

Appendix IIc Tagged Coral Colonies at Site T3.



B01– *Oulastrea crispata*



B01– *Oulastrea crispata*



B02– *Oulastrea crispata*



B02– *Oulastrea crispata*



B03– *Oulastrea crispata*



B03– *Oulastrea crispata*



B04– *Oulastrea crispata*



B04– *Oulastrea crispata*



B05– *Oulastrea crispata*



B05– *Oulastrea crispata*



B06- *Oulastrea crispata*



B06- *Oulastrea crispata*



B07- *Oulastrea crispata*



B07- *Oulastrea crispata*



B08- *Oulastrea crispata*



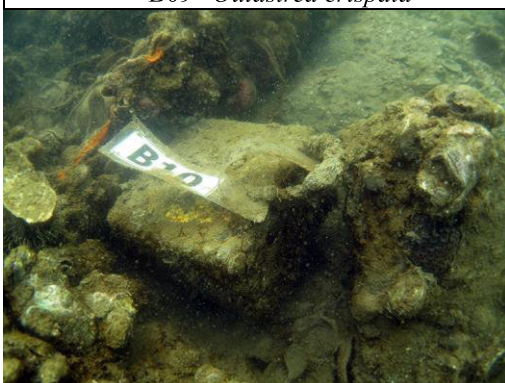
B08 *Oulastrea crispata*



B09- *Oulastrea crispata*



B09- *Oulastrea crispata*



B10- *Oulastrea crispata*



B10- *Oulastrea crispata*

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**APPENDIX F**  
**SUMMARY OF EXCEEDANCE**

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**Exceedance Report**

**(A) Exceedance Report for Water Quality  
(NIL in the reporting period)**

**(B) Exceedance Report for Coral Monitoring  
(NIL in the reporting period)**

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**APPENDIX G  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE**

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**Appendix G – Environmental Mitigation and Implementation Schedule**

<b>Project Stage / Location</b>	<b>Potential Environmental Impact</b>	<b>Mitigation Measure</b>	<b>Implementation Agent</b>
Construction / Construction Site and along the dredged sediment transportation route	Air quality	(1) The dredged sediment placed on barge will be properly covered as far as practicable. (2) Requirements of the Air Pollution Control (Construction Dust) Regulation, where relevant, will be adhered to during the construction period. (3) Ultra low sulphur diesel fuel should be used for all diesel-operated plants and equipment on-site.	Contractor
Construction / Construction Site	Construction Noise	(1) Only well-maintained plants will be operated on-site and plants should be serviced regularly during the construction program. (2) Plants will be sited as far away from nearby NSRs as possible.	Contractor
Construction / Construction Site	Water quality impact	(1) Closed grab will be used for dredging to minimize release of fines and contaminants. (2) The maximum production rates as indicated in the approved Project Profile will be adopted for the proposed dredging activities. (3) Silt curtains will be deployed around the dredging operation. (4) Good site practices (as outlined in Section 5.7 above) will be adopted during dredging and during transportation and disposal of dredged sediments. (5) Discharge of sewage effluent into drainage and water environment is not allowed. Appropriate numbers of portable chemical toilets will be provided by a licensed contractor as necessary to serve the construction workers. (6) Collection and removal of floating refuse will be performed at regular intervals on a daily basis at or near the dredging sites. (7) Water quality monitoring will be undertaken before, during and after the dredging works	Contractor

Construction / Construction Site	Waste management	<p>(1) Disposal of dredged sediment will follow the requirements and procedures specified under the ETWB TCW No. 34/2002.</p> <p>(2) All chemical wastes from equipment maintenance will be handled, stored and disposed of in accordance with the requirements of the Waste Disposal (Chemical Waste) Regulation.</p> <p>(3) General refuse will be stored and disposed of separately from general construction waste and chemical waste. The storage bins for general refuse will be provided with lids, which will be kept closed to avoid odour nuisance and wind blown litter. The general refuse would be removed regularly and disposed of to licensed landfills.</p>	Contractor
Construction / Construction Site	Ecological impact	<p>(1) Mitigation measures to control water quality, i.e. constriction of dredging rate, use of closed grab for dredging and deployment of silt curtains, proposed in the water quality impact assessment will be adopted.</p> <p>(2) Standard good site practice and management proposed in the water quality impact assessment, such as tight fitting seals to bottom openings of barges/dredgers, effective site drainage, and provision of chemical toilets will be adopted.</p> <p>(3) Good site practices on noise control proposed in the noise impact assessment will be adopted.</p> <p>(4) The health status of the nearby coral colonies will be regularly monitored during the construction phase</p>	Contractor
Construction / Construction Site	Fisheries impact	<p>(1) Mitigation measures to control water quality, i.e. constriction of dredging rate, use of closed grab for dredging and deployment of silt curtains, proposed in the water quality impact assessment will be adopted.</p> <p>(2) Standard good site practice and management proposed in the water quality impact assessment, such as tight fitting seals to bottom openings of barges/dredgers, effective site drainage, and provision of chemical toilets will be adopted.</p>	Contractor
Construction / Construction Site	Visual impact	<p>(1) All construction plants would be sited as far away from nearby shoreline as possible.</p> <p>(2) All the sediment removal works will be carried out in day time (7:00 to 19:00) to minimize the use of night-time lighting.</p> <p>(3) Lighting will be carefully controlled if required</p>	Contractor

Construction / Construction Site	Cultural heritage impact	Antiquities and Monuments Office should be informed of any discovery of antiquities or supposed antiquities in the course of dredging work at all the Project sites in accordance with the Antiquities and Monuments Ordinance.	Contractor
Construction / Construction Site	Air quality, noise, water quality, ecology, fisheries, visual and cultural heritage	An environmental monitoring and audit programme as recommended in the approved Project Profile should be followed.	Contractor

**Remarks:** No environmental complaint was received in the reporting month.

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**APPENDIX H**  
**SITE AUDIT SUMMARY**

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Contract No. CV/2012/01



*Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone*

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	131206
Date	6 December 2013 (Friday)
Time	11:00-11:45

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>A. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>B. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Others</b>	
	• Follow-up on previous site audit session (Ref. No. 131129), no environmental deficiencies were identified during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		6 December 2013
Checked by	Dr. Priscilla Choy		6 December 2013

Contract No. CV/2012/01



**Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone**

**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	131212
Date	12 December 2013 (Thursday)
Time	10:00-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>A. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>B. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Others</b>	
	• Follow-up on previous site audit session (Ref. No. 131206), no environmental deficiencies were identified during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		12 December 2013
Checked by	Dr. Priscilla Choy		12 December 2013



Contract No. CV/2012/01



*Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone*

**Weekly Site Inspection Record Summary**

**Inspection Information**

Checklist Reference Number	131219
Date	19 December 2013 (Thursday)
Time	15:00-16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>A. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>B. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Others</b>	
	• Follow-up on previous site audit session (Ref. No. 131212), no environmental deficiencies were identified during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		19 December 2013
Checked by	Dr. Priscilla Choy		19 December 2013

Contract No. CV/2012/01



*Sediment Removal at Yim Tin Tsai (East) Fish Culture Zone*

Weekly Site Inspection Record Summary

Inspection Information

Checklist Reference Number	131224
Date	24 December 2013 (Tuesday)
Time	14:00-15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-
Ref. No.	Remarks/Observations	Related Item No.
	<b>A. Water Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>B. Ecology</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>C. Air Quality</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>D. Noise</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>E. Waste / Chemical Management</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>F. Permits/Licences</b>	
	• No environmental deficiency was identified during site inspection.	
	<b>G. Others</b>	
	• Follow-up on previous site audit session (Ref. No. 131219), no environmental deficiencies were identified during the site inspection.	

	Name	Signature	Date
Recorded by	Ivy Tam		24 December 2013
Checked by	Dr. Priscilla Choy		24 December 2013

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**APPENDIX I  
COMPLAINT LOG**

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**Appendix I – Complaint Log**

<b>Log Ref.</b>	<b>Location</b>	<b>Received Date</b>	<b>Details of Complaint</b>	<b>Investigation/Mitigation Action</b>	<b>Status</b>
N/A	N/A	N/A	N/A	N/A	N/A

**Remarks:** No environmental complaint was received in the reporting month.

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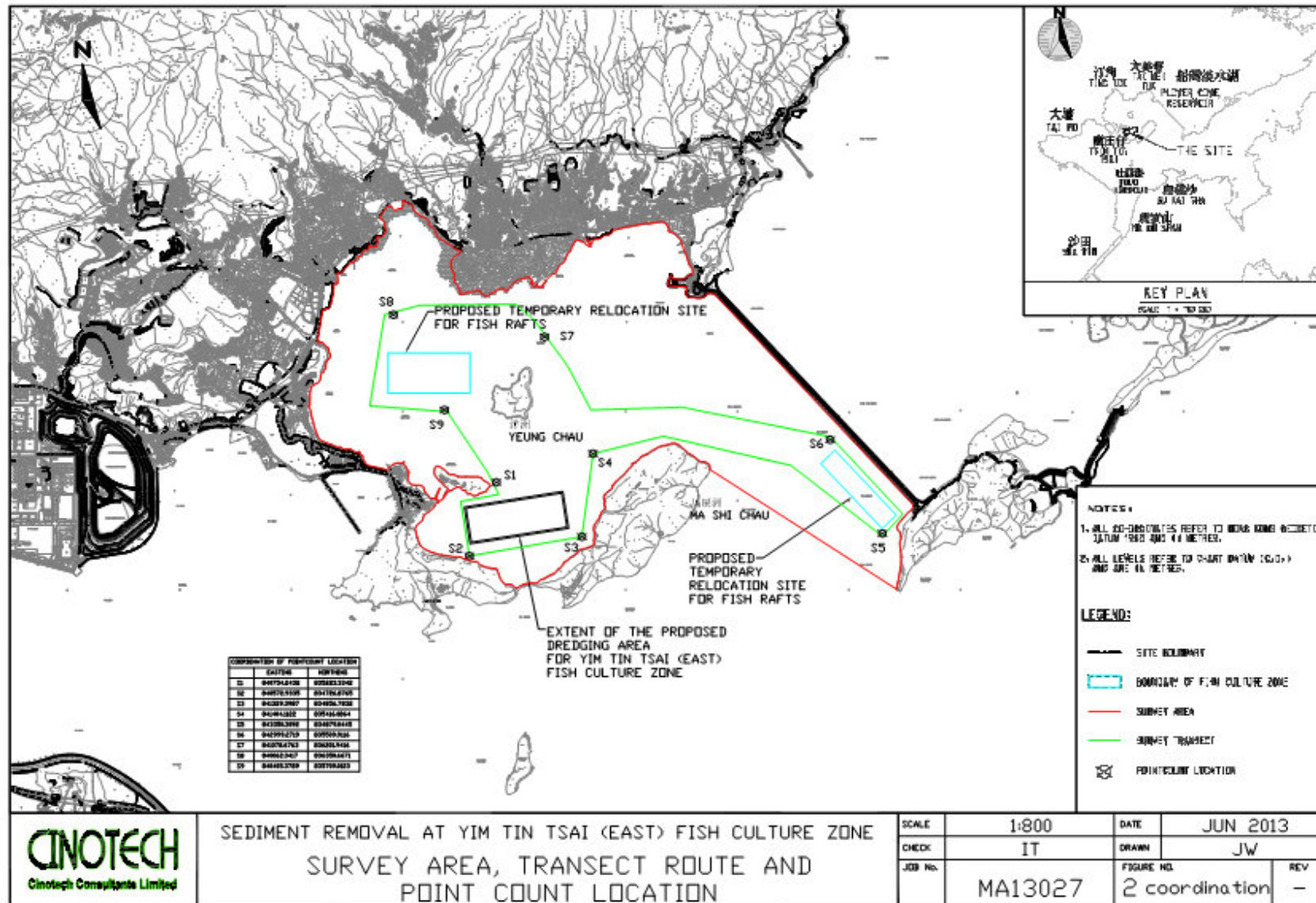
**APPENDIX J  
ARDEIDS AND WHITE-BELLIED  
SEA EAGLE MONITORING  
RESULTS**

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**Appendix J - Ardeids and White-bellied Sea Eagle Monitoring Results**

Date	Time	Location	Construction Works within Works Area	Weather Conditions	Observed Activities outside Works Area
12/12/13	6:45-9:45	<ul style="list-style-type: none"><li>● Point Count Location S1 – S9</li><li>● Survey Transect Route</li></ul> <p>(Refer to figure below)</p>	Not Observed	Cloudy	Not Observed



SEDIMENT REMOVAL AT YIM TIN TSAI (EAST) FISH CULTURE ZONE  
 SURVEY AREA, TRANSECT ROUTE AND  
 POINT COUNT LOCATION

**Point count**

Species	S1	S2	S3	S4	S5	S6	S7	S8	S9	Subtotal	Walk Transect
Ardeids										45	
● Great Egret	2	3	0	0	1	1	2	5	3	17	
● Little Egret	1	3	0	0	1	0	4	5	4	18	
● Grey Heron	1	1	1	0	0	0	0	1	1	5	
● Chinese Pond Heron	4	0	0	0	0	0	0	0	0	4	
● Little Green Heron	0	0	0	0	0	0	0	0	1	1	
White-bellied Sea Eagle	0	0	0	0	0	0	2	0	0	2	
<b>No. of Birds at Each Point:</b>	9	7	1	0	2	1	6	14	11		
<b>No. of Birds recorded from Point Count:</b>	<b>47</b>										
No. of Nests at Yeung Chau	Great Egret		Little Egret		Black-crowned Night Heron		Cattle Egret		White-bellied Sea Eagle		Other: (Specify) _____
	<b>Not Observed</b>								<b>1</b>	<b>Not Observed</b>	



**Transect Count**

<b>Species</b>	<b>S1→S2</b>	<b>S2→S3</b>	<b>S3→S4</b>	<b>S4→S5</b>	<b>S5→S6</b>	<b>S6→S7</b>	<b>S7→S8</b>	<b>S8→S9</b>	<b>S9→S1</b>	<b>Subtotal</b>
Ardeids										<b>43</b>
● Great Egret	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>3</b>	<b>3</b>	<b>21</b>
● Little Egret	<b>2</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>5</b>	<b>2</b>	<b>2</b>	<b>18</b>
● Grey Heron	<b>2</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>
● Chinese Pond Heron	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
White-bellied Sea Eagle	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Summaries of total of Ardeids,, White-bellied Sea Eagles and Nests recorded each month**

Species		Nov 2013	Dec 2013						
Point count	Ardeids	54	45						
	● Great Egret	36	17						
	● Little Egret	14	18						
	● Grey Heron	4	5						
	● Chinese Pond Heron	0	4						
	● Little Green Heron	0	1						
	White-bellied Sea Eagle	2	2						
	No. of Nests at Yeung Chau	0	1						
Transect Count	Ardeids	56	43						
	● Great Egret	25	21						
	● Little Egret	26	18						
	● Grey Heron	3	4						
	● Chinese Pond Heron	2	0						
	White-bellied Sea Eagle	0	0						

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**APPENDIX K  
PHOTOGRAPHIC RECORDS OF  
ARDEIDS AND WHITE-BELLIED  
SEA EAGLE MONITORING**

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**Appendix K - Photographic records of Ardeids and White-bellied Sea Eagle Monitoring**

**Point count Location S1**



**Point count Location S1**



**Point count Location S2**



**Point count Location S2**



**Point count Location S3**



**Point count Location S3**



**Point count Location S4**



**Point count Location S4**



**Point count Location S5**



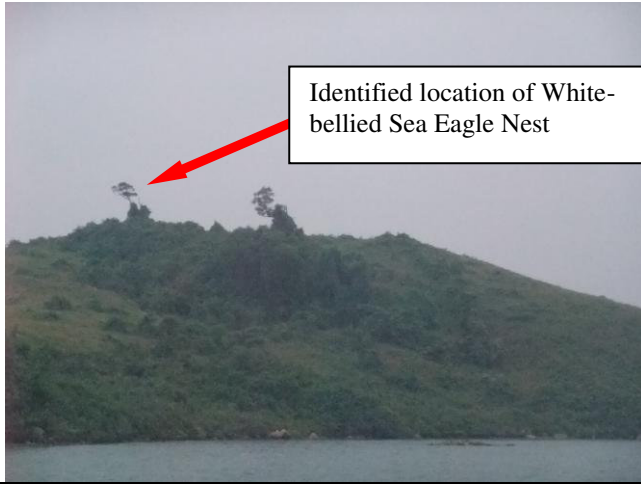
**Point count Location S5**



**Point count Location S6**



**Point count Location S7**



**Point count Location S7**



**Point count Location S8**



**Point count Location S8**



**Point count Location S9**



**Point count Location S9**

