

**China Harbour Engineering Company Limited**

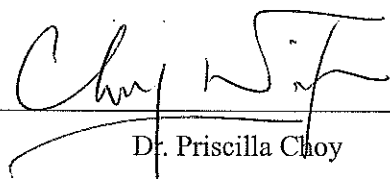
**Contract No. DC/2007/20**

**Harbour Area Treatment Scheme Stage 2A –  
Construction of Advance Disinfection Facilities at  
Stonecutters Island Sewage Treatment Works**

Environmental Monitoring and Audit

Quarterly Report (Version 1) for

July to September 2009

Approved By   
Dr. Priscilla Choy  
(Environmental Team Leader)

REMARKS:

The information supplied and contained within this report is, to the best of our knowledge, correct at the time of printing.

CINOTECH accepts no responsibility for changes made to this report by third parties

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## EXECUTIVE SUMMARY

### Introduction

1. This is the 5<sup>th</sup> Quarterly Environmental Monitoring and Audit (EM&A) Summary Report prepared by Cinotech Consultants Limited (the Environmental Team, ET) for Contract No. DC/2007/20 “Harbour Area Treatment Scheme Stage 2A – Construction of Advance Disinfection Facilities at Stonecutters Island Sewage Treatment Works” (the Project). This report documents the findings of EM&A Works conducted in the period between July and September 2009.
2. The construction works for Portions 1 & 2 and Portions 3 & 4 of the Project were commenced on 18<sup>th</sup> July 2008 and 18<sup>th</sup> September 2008 respectively.
3. The major site activities undertaken in the reporting quarter included:
  - Installation works for Switch Room no.1, 2 and 3;
  - Fiber Reinforced Plastic (FRP) works of open mesh flooring, handrail, toe-board and cat-ladder at Day Tank Storage Area and Dechlorination Plant;
  - Fire Service (FS) and Electrical and Mechanical (E&M) works at Switch Room no.3, Uninterruptible Power Supply (UPS) Battery Room;
  - Installation works for dosing pumps at Dechlorination Plant;
  - Installation works for chemical pipes at Day tank Storage Area and Dechlorination Plant;
  - Painting works for protective coating inside sump pit, wash-out chamber and bund wall;
  - Water test for steel tanks and FRP tanks;
  - Sand blasting inside steel tanks for internal lining.
  - Pipework of E&M works will be continuous to install at Day Tank Storage Area, Dechlorination Plant and pipe trench;
  - Internal lining for steeling tanks will be applied continuously
  - Diversion of existing DN250 watermain near Washout Chamber no.2 will be continuous
  - Pumps and pipework of E&M works at Sodium Hypochlorite Storage Compound will be continued to install
  - Canopy over unloading bay at Sodium Hypochlorite Storage Compound will be installed; and
  - Laying cable and installing Building Service (BS) and FS services will be continuous.

### Environmental Monitoring and Audit Works

4. Environmental monitoring and audit works for the Project was performed regularly in accordance with the Final EM&A Manual 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.
5. Summary of the events and action taken in the reporting quarter is tabulated in Table I.

**Table I Summary Table for Event Recorded in the Reporting Quarter**

Parameter	No. of Exceedance		No. of Event Due to this Project	Action Taken
	Action Level	Limit Level		
1-hr TSP	0	0	0	N/A
24-hr TSP	0	0	0	N/A

*1-hr TSP Monitoring*

6. All 1-hour TSP monitoring was conducted at AM1 as scheduled in the reporting quarter. No Action / Limit Level exceedance was recorded.

*24-hr TSP Monitoring*

7. All 24-hour TSP monitoring was conducted at AM1 as scheduled in the reporting quarter. No Action / Limit Level exceedance was recorded.

**Environmental Complaint and Prosecution**

8. No environmental complaint, prosecution or notification of summons was received in this reporting quarter.

**Environmental Licensing and Permitting**

9. Environmental related licenses/permits granted to the Project include the Environmental Permit (EP), Chemical Waste Producer License, a billing account for Disposal of construction waste, Waste Water Discharge License and Construction Noise Permit (CNP).

**Key Information in the Reporting Quarter**

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

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

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	4	Monthly EM&A Report for July 09 (Version 1.1)	Submitted to EPD on 14 <sup>th</sup> August 2009 (EP condition 4.4).	No comment	---
		Quarterly EM&A Report for Jan to Feb 09 (Version 1.0)	Submitted to EPD on 2 <sup>nd</sup> June 2009 (Final EM&A Manual Section 10.2 & 10.10).	No comment	---
		Monthly EM&A Report for August 09 (Version 1.0)	Submitted to EPD on 10 <sup>th</sup> September 2009 (EP condition 4.4).	No comment	---
		Monthly EM&A Report for September 09 (Version 2.0)	Submitted to EPD on 14 <sup>th</sup> October 2009 (EP condition 4.4).	No comment	---
Notifications of any summons & prosecutions	0	---	N/A	N/A	---

**Future Key Issues**

## 11. Major site activities for the coming quarter include:

- Surface runoff from the Site area due to construction works and rain;
- Formation of ponding/ stagnant water on site;
- Dust emission from concrete breaking, excavation and loading and unloading dusty materials;
- Noise nuisance from operation of equipment and machinery on site;
- Maintenance of de-silting facilities and drainage system, such as U-channels;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Larviciding against mosquito breeding in stagnant water should be carried out at least on a weekly basis; and
- Accumulation of C&D waste and general waste on site.

12. The future environmental concerns will be mainly on dust emission from concrete breaking, excavation works and wind erosion due to dry and windy weather; ponding water and surface runoff due to rain; and management on waste generated from the works above.

# 1 INTRODUCTION

## Background

- 1.1 “Harbour Area Treatment Scheme Stage 2A – Construction of Advance Disinfection Facilities at Stonecutters Island Sewage Treatment Works” (hereinafter called the “the Project”) under Contract No. DC/2007/20 is a Designated Project under the Environmental Impact Assessment Ordinance (Cap. 499) (EIAO). A Final Environmental Impact Assessment (EIA) Report has been prepared in July 2007 to consider the key issues of noise, air quality, water quality, ecological, construction waste and human health risk, and identify possible mitigation measures. The Final EIA Report was endorsed by Environmental Protection Department (EPD) on 8 November 2007 and was included in the EIA register under the EIAO as report no. AEIAR-113/2007. Environmental Monitoring and Audit (EM&A) Manual for the Final EIA Report was also included as part of the Final EIA report in the register. An Environmental Permit (EP) No. EP-295/2007 was issued on 3<sup>rd</sup> December 2007 for the Project “Harbour Area Treatment Scheme – Provision of Disinfection Facilities at Stonecutters Island Sewage Treatment Works” to the Drainage Services Department (DSD) as Permit Holder. A Variation Environmental Permit (VEP) No. EP-295/2007/A was issued on 20<sup>th</sup> May 2009 for the variation of condition 1.7 and 3.6 of Part C. This Project comprises the Construction Phase of the Project “Harbour Area Treatment Scheme – Provision of Disinfection Facilities at Stonecutters Island Sewage Treatment Works”.
- 1.2 The Project comprises mainly the construction of the advance disinfection facilities (ADF) include:
- (a) Chlorination system - provision of a sodium hypochlorite solution storage farm and associated dosing system; and
  - (b) Dechlorination system - provision of a sodium bisulphite storage and associated dosing system.
- 1.3 The Project site layout plan is shown in **Figure 1.1**.
- 1.4 The Project will be constructed within the existing sewage treatment works on Stonecutters Island (SCISTW), which is providing Chemically Enhanced Primary Treatment (CEPT) for 1.4 million cubic metres of sewage collected each day through deep tunnels from the HATS Stage 1 catchments (i.e. the whole of Kowloon peninsula, Tseung Kwan O, Kwai Chung, Tsing Yi, Chai Wan and Shau Kei Wan). The design treatment capacity of the SCISTW is 1.7 million cubic metres per day. At present, the plant has no disinfection facility and the CEPT treated effluent is now discharged to the waters southwest of Stonecutters Island through a 1.7 km long outfall.
- 1.5 The chlorination system of the disinfection facilities would be located within the site boundary of the existing SCISTW (**Figure 1.1** refers). The dechlorination plant would be located adjacent to the existing chamber no. 15 (**Figure 1.1** refers) at the western end of Container Port Road South.



- 1.6 China Harbour Engineering Company Limited (CHEC) was awarded as the main contractor (hereinafter called “the Contractor”) of the Project. Cinotech Consultants Limited (Cinotech) was commissioned by CHEC as the Environmental Team (ET). Dr. Priscilla CHOY of Cinotech was appointed as the ET Leader of the Project in accordance with EP Condition 2.1. Hyder Consulting Limited (Hyder) was employed by DSD to undertake Independent Environmental Checker (IEC) services of the Project and Mr. Antony Wong of Hyder was appointed as the IEC under EP Condition 2.2.
- 1.7 The construction works for Portions 1 & 2 and Portions 3 & 4 of the Project were commenced on 18<sup>th</sup> July 2008 and 18<sup>th</sup> September 2008 respectively.
- 1.8 This is the 5<sup>th</sup> quarterly EM&A summary report summarizing the EM&A works conducted for the Project between July and September 2009.

## 2 PROJECT CHARACTERISTICS

### Project Organization and Contacts of Key Management

2.1 Different parties with different levels of involvement in the project organization include:

- Project Proponent/ Permit Holder – Drainage Services Department (DSD)
- Engineer's Representative (ER) – Ove Arup & Partners Hong Kong Ltd. (ARUP)
- Contractor – China Harbour Engineering Company Limited (CHEC)
- Environmental Team (ET) – Cinotech Consultants Ltd. (Cinotech)
- Independent Environmental Checker (IEC) – Hyder Consulting Limited (Hyder)

2.2 The organization chart and key contacts of the Project are shown in **Appendix A and Figure 1.3**.

### Construction Programme and Synopsis of Work

2.3 The construction programme is presented in **Appendix B**. The site activities undertaken during the reporting quarter included:

- Installation works for Switch Room no.1, 2 and 3;
- Fiber Reinforced Plastic (FRP) works of open mesh flooring, handrail, toe-board and cat-ladder at Day Tank Storage Area and Dechlorination Plant;
- Fire Service (FS) and Electrical and Mechanical (E&M) works at Switch Room no.3, Uninterruptible Power Supply (UPS) Battery Room;
- Installation works for dosing pumps at Dechlorination Plant;
- Installation works for chemical pipes at Day tank Storage Area and Dechlorination Plant;
- Painting works for protective coating inside sump pit, wash-out chamber and bund wall;
- Water test for steel tanks and FRP tanks;
- Sand blasting inside steel tanks for internal lining.
- Pipework of E&M works will be continuous to install at Day Tank Storage Area, Dechlorination Plant and pipe trench;
- Internal lining for steeling tanks will be applied continuously
- Diversion of existing DN250 watermain near Washout Chamber no.2 will be continuous
- Pumps and pipework of E&M works at Sodium Hypochlorite Storage Compound will be continued to install
- Canopy over unloading bay at Sodium Hypochlorite Storage Compound will be installed; and
- Laying cable and installing Building Service (BS) and FS services will be continuous.

### 3 ENVIRONMENTAL MONITORING AND AUDIT REQUIREMENTS

#### Monitoring Parameters and Monitoring Locations

- 3.1 The Final EM&A Manual designated locations for the ET to monitor environmental impacts in terms of air quality and noise due to the Project. The Project area and monitoring location are depicted in **Figure 1.2. Appendix C** gives details of monitoring requirements.
- 3.2 Due to the sensitivity of the military installations within Barracks building, the People's Liberation Army (PLA) had declined ET' s request for setting up the air quality monitoring station AM2 (Ngong Shuen Chau Barracks – Group 2) and construction noise monitoring station NM1 (Barracks Buildings). Considering there is no other sensitive receiver within the EIA study area (500m from the Project site boundary of Portions 3 & 4 for Air Quality and 300m from the Project site boundary of Portions 3 & 4 for Noise) and no significant environmental impact from the project is anticipated, the ET Leader proposed to cancel all environmental monitoring works at the designated monitoring stations AM2 and NM1. The proposal has been verified by IEC on 19<sup>th</sup> August 2008 and approved by EPD on 2<sup>nd</sup> September 2008.
- 3.3 Only air quality monitoring (1-hour & 24-hour TSP) at AM1 (Rooftop, Block A of Government Dockyard) will be conducted for the project.

#### Monitoring Methodology and Calibration Details

- 3.4 Monitoring works/equipments were conducted/calibrated regularly in accordance with the Final EM&A Manual. Copies of calibration certificates are attached in the appendices of the Monthly Reports.

#### Environmental Quality Performance Limits (Action and Limit Levels)

- 3.5 The environmental quality performance limits, i.e. Action and Limit Levels were derived from the baseline monitoring results. Should the measured environmental quality parameters exceed the Action/Limit Levels, the respective action plans would be implemented. The Action/Limit Levels for each environmental parameter are given in **Appendix D**.

#### Environmental Mitigation Measures

- 3.6 Relevant mitigation measures as recommended in the project EIA report have been stipulated in the Final EM&A Manual for the Contractor to implement. A summary of the Environmental Mitigation Implementation Schedule (EMIS) is given in **Appendix F**.
- 3.7 In accordance with the Final EM&A Manual, site audit shall be carried out by ET on weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in the Project site.

## 4 MONITORING RESULTS

### Weather Conditions

- 4.1 The weather conditions during monitoring sessions were cloudy and sunny. The weather conditions for each individual monitoring session were presented in the field record sheets.

### Air Quality

#### *1-hr TSP Monitoring*

- 4.2 All 1-hour TSP monitoring at AM1 (Rooftop, Block A of Government Dockyard) were conducted as scheduled in the reporting quarter.
- 4.3 The results of 1-hour TSP ranged between  $15\mu\text{g}/\text{m}^3$  and  $246\mu\text{g}/\text{m}^3$  in the reporting quarter. No Action/Limit Level exceedance was recorded.

#### *24-hr TSP Monitoring*

- 4.4 All 24-hr TSP monitoring at AM1 (Rooftop, Block A of Government Dockyard) were conducted as scheduled in the reporting quarter.
- 4.5 The results of 24-hour TSP ranged between  $20\mu\text{g}/\text{m}^3$  and  $79\mu\text{g}/\text{m}^3$  in the reporting quarter. No Action/Limit Level exceedance was recorded.
- 4.6 The monitoring data of 1-hr and 24-hr TSP Levels were attached in the appendices of the Monthly Reports for July to September 2009. The graphical presentations of the monitoring results for the reporting quarter are shown in **Appendix E**.
- 4.7 The summary of the 1-hr and 24-hr TSP exceedance is shown in **Appendix I**.

## 5 ENVIRONMENTAL AUDIT

### Implementation Status of Environmental Mitigation Measures

5.1 The implementation status of environmental mitigation measures (EMIS) is given in **Appendix F**.

### Site Audit Summary

5.2 During site inspections in the reporting period, no non-conformance was identified. The observations and recommendations made in each site audit session in the reporting period are summarized in Table 5.1.

**Table 5.1 ET's Observations and Recommendations of Site Audits**

Parameters	Date	Observations and Recommendations	Follow-up
<i>Water Quality</i>	08 Jul 09	<u>Observation</u> Stagnant water was observed at day tank storage area. Contractor was reminded to clear it as soon as possible against mosquito breeding.	The situation was observed improved/ rectified in audit session 90715
		<u>Observation</u> Sand was accumulated in U-channel at day tank storage area. Contractor was reminded to clear it for the protection of drainage system	The situation was observed improved/ rectified in audit session 90720
	15 Jul 09	<u>Observation</u> Ponding water was observed at NaOCl Storage Compound, day tank storage area, water barrier and chamber 15. The contractor was reminded to remove it.	This situation was followed up in the site audit on 20-7-09
		<u>Observation</u> Sand and general refuse were accumulated in U-Channel at chamber15. Contractor was reminded to clear it for protection of drainage system.	This situation was followed up in the site audit on 20-7-09.
		<u>Reminder</u> Sand was accumulated in U-channel at day tank storage area. Contractor was reminded to clear it for the protection of drainage system.	The situation was observed improved/ rectified in audit session 90720
	20 Jul 09	<u>Observation</u> Ponding water was observed at NaOCl Storage Compound, Day Tank Storage Area, and Chamber 15. The contractor was reminded to clear it as soon as possible after rain	This situation was followed up in the site audit on 12-8-09
		<u>Observation</u> Sand and general refuse were still accumulated in U-Channel at chamber15. Contractor was reminded to tidy up for protection of drainage system.	The situation was observed improved/ rectified in audit session 90805.

Parameters	Date	Observations and Recommendations	Follow-up
		<u>Observation</u> Treated effluent was flowed on the public road near site office. Contractor was reminded to connect the pipe to the gullies.	The situation was observed improved/ rectified in audit session 90730.
	30 July 09	<u>Observation</u> Stagnant water was accumulated on the uneven road surface at NaOCl Storage Area. Contractor was reminded to clear it.	This situation was followed up in the site audit on 05-8-09.
	05 Aug 09	<u>Observation</u> Formation of stagnant water was still observed on the uneven road surface at NaOCl Storage Area. Contractor was reminded to clear it as soon as possible.	The situation was observed improved/ rectified in audit session 90812
<u>Observation</u> Stagnant water was still accumulated at Chamber 15. Contractor was reminded to clear it for the preventive of mosquito breeding.		The situation was observed improved/ rectified in audit session 90819	
<u>Observation</u> Ponding water should be cleared after the rain.		The situation was observed improved/ rectified in audit session 90812	
	12 Aug 09	<u>Observation</u> Silt was closed to the drainage at Day Tank Storage Area. Contractor was reminded to clear it for the protection of drainage system.	The situation was observed improved/ rectified in audit session 90819.
	19 Aug 09	<u>Observation</u> Muddy water was observed inside the sedimentation tank locating near NaOCl Storage Compound. Contractor was reminded to clear the silt and sediment regularly.	The situation was observed improved/ rectified in audit session 90826
	26 Aug 09	<u>Observation</u> C&D waste was accumulated inside the catch pit at Day Tank Storage Area. Contractor was reminded to clear it for the drainage protection.	The situation was observed improved/ rectified in audit session 90902
	02 Sep 09	<u>Observation</u> Sand was observed near the gully at the yard behind the NaOCl Storage Compound. Contractor was reminded to clear it.	The situation was observed improved/ rectified in audit session 90909
	09 Sep 09	<u>Observation</u> Stagnant water was accumulated in the trench near NaOCl Storage Compound. Contractor was reminded to pump the water out or other measures.	The situation was observed improved/ rectified in audit session 90917

Parameters	Date	Observations and Recommendations	Follow-up
	09 Sep 09	<u>Observation</u> Sand and concrete debris were accumulated in the U-channel at Chamber 15. Contractor was reminded to clear it for the protection of storm drain system.	The situation was observed improved/ rectified in audit session 90924.
	29 Sep 09	<u>Reminder</u> All runoff should be treated with sediment tank prior to discharge to public drain.	The situation will need to be follow-up in the coming audit.
<i>Air Quality</i>	08 Jul 09	<u>Observation</u> Uncovered C&D stockpiles were observed at NaOCl storage compound. Contractor was reminded to cover it with tarpaulin sheet	The situation was observed improved/ rectified in audit session 90720
	15 Jul 09	<u>Reminder</u> Uncovered C&D stockpiles were observed at NaOCl Storage Compound. Contractor was reminded to cover it with tarpaulin sheet.	The situation was observed improved/ rectified in audit session 90720
	12 Aug 09	<u>Observation</u> It was observed that gravel stockpiles were accumulated at NaOCl Storage Compound. Contractor was reminded to cover it with tarpaulin.	The situation was observed improved/ rectified in audit session 90819
	02 Sep 09	<u>Observation</u> Dusty paved road was observed at the yard behind the NaOCl Storage Compound and Day Tank Storage Area. Contractor was reminded to clear it up.	The situation was observed improved/ rectified in audit session 90909
	09 Sep 09	<u>Observation</u> Dusty paved road was observed at the NaOCl Storage Compound. Contractor was reminded to clear it up as soon as possible.	The situation was observed improved/ rectified in audit session 90917
	17 Sep 09	<u>Observation</u> Dusty road was observed adjacent to the NaOCl Storage Compound. Contractor was reminded to clear it up after daily work.	This situation was followed up in the site audit on 24-9-09
	24 Sep 09	<u>Reminder</u> Soil was observed on the road adjacent to NaOCl Storage Compound and near the U-channel of Day Tank Storage Area. The Contractor was reminded to clear it as soon as possible	The situation was observed improved/ rectified in audit session 90929
	<i>Noise</i>	08 Jul 09	<u>Reminder</u> Noise emission label should be placed on the air compressor at NaOCl storage compound.
	08 Jul 09	<u>Observation</u> Lubricant oil container was standing in the bare ground at NaOCl storage compound. Contractor was reminded to provide drip tray under the container.	The situation was observed improved/ rectified in audit session 90715

Parameters	Date	Observations and Recommendations	Follow-up
<b>Waste/Chemical Management</b>	15 July 09	<u>Observation</u> C & D waste was observed at NaOCl Storage Compound and day tank storage area. Contractor was reminded to clear it.	This situation was followed up in the site audit on 20-7-09
		<u>Observation</u> General refuse was observed at chamber 15. Contractor was reminded to remove it.	The situation was observed improved/ rectified in audit session 90720
		<u>Observation</u> Oil container without drip tray was observed at day tank storage area. Contractor was reminded to provide drip tray under the container.	This situation was followed up in the site audit on 20-7-09
	20 Jul 09	<u>Observation</u> C & D waste was still observed at day tank storage area. Contractor was reminded to clear it as soon as possible.	The situation was observed improved/rectified in audit session 90805.
		<u>Observation</u> Oil containers without drip tray were still observed at Day Tank Storage Area. Contractor was reminded to provide drip tray or relocated it as soon as possible.	The situation was observed improved/ rectified in audit session 90730
	30 Jul 09	<u>Observation</u> C & D waste were accumulated at NaOCl Storage Compound and Day Tank Storage Area. Contractor was reminded to cover it with tarpaulin sheet.	This situation was followed up in the site audit on 05-8-09
	05 Aug 09	<u>Observation</u> C & D waste were still accumulated at NaOCl Storage Compound and Day Tank Storage Area. Contractor was reminded to cover it with tarpaulin or clear it as soon as possible.	The situation was observed improved/ rectified in audit session 90812
		<u>Observation</u> Oil stain was observed at Chamber 15. Contractor was reminded to clear and handle it with appropriate procedures.	The situation was observed improved/ rectified in audit session 90819
	12 Aug 09	<u>Reminder</u> General refuse and C&D waste should be cleaned and tidied up regularly at NaOCl Storage Compound, existing pipe trench near sedimentation tank and day tank storage area.	This situation was followed up in the site audit on 26-8-09
	19 Aug 09	<u>Observation</u> Uncovered and unsorted C&D waste was accumulated at Chamber 15. Contractor was reminded to dispose it frequently.	The situation was observed improved/ rectified in audit session 90826
		<u>Reminder</u> Worn sand bags should be tidied up at NaOCl Storage Compound as soon as possible.	The situation was observed improved/ rectified in audit session 90826



Parameters	Date	Observations and Recommendations	Follow-up
	09 Sep 09	<u>Observation</u> Chemical containers were accumulated at Day Tank Storage Area. Contractor was reminded to provide drip tray and proper label for the containers	The situation was observed improved/ rectified in audit session 90917
	17 Sep 09	<u>Observation</u> The packing material should be cleared up regularly at NaOCl Storage Compound for the maintenance of site tidiness.	The situation was observed improved/ rectified in audit session 90924
	24 Sep 09	<u>Observation</u> Chemical containers were placed at the staircase of Sedimentation Tank. The Contractor was reminded to relocate them to adequate storage area and provide drip tray under them.	The situation was observed improved/ rectified in audit session 90929
<b>Others</b>	15 Jul 09	<u>Observation</u> Construction materials were closed to trees at NaOCl Storage Compound. Contractor was reminded to fence-off the trees and place the material away from the tree.	This situation was followed up in the site audit on 20-7-09
	20 Jul 09	<u>Observation</u> Construction materials were still closed to vegetation at NaOCl Storage Compound. Contractor was reminded to fence-off the vegetation and relocate the material away from the vegetation.	This situation was followed up in the site audit on 30-7-09
	30 Jul 09	<u>Observation</u> Construction materials were located closed to the vegetation at Day Tank Storage Area. Contractor was reminded to relocate it away from the vegetation.	The situation was observed improved/ rectified in audit session 90805
		<u>Reminder</u> Protective fencing should be provided for the vegetation at NaOCl Storage Compound.	The situation was observed improved/ rectified in audit session 90805
	12 Aug 09	<u>Observation</u> Construction materials were closed to the vegetation at NaOCl Storage Compound. Contractor was reminded to relocate the materials away from the vegetation and provide protective fencing.	This situation was followed up in the site audit on 19-8-09
	19 Aug 09	<u>Observation</u> Construction materials were still closed to the vegetation locating near NaOCl Storage Compound. Contractor was reminded to relocated the materials away from the vegetation and provide protective fencing as soon as possible.	The situation was observed improved/ rectified in audit session 90826

### Status of Environmental Licenses and Permits

5.3 Environmental licenses and permits including the Environmental Permit (EP), Chemical Waste Producer License, a billing account for Disposal of construction waste, Waste Water Discharge License and Construction Noise Permit (CNP) were in place and valid

during the reporting quarter. A summary of status of licenses and permits is given in **Appendix G**.

### **Advice on Waste Management Status**

- 5.4 In this reporting period, excavated materials regard as inert Construction and Demolition (C&D) waste were the main C&D wastes disposed as Public Fill and no chemical waste was generated. The amount of wastes generated by the activities of the Project in the reporting period was attached in the appendices of the Monthly Reports for July to September 2009.

## **6 NON-COMPLIANCE (EXCEEDANCE) OF THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS (ACTION AND LIMIT LEVELS)**

### **Summary of Exceedance**

- 6.1 Environmental monitoring works were performed in the reporting period and all monitoring results were checked and reviewed. A summary of exceedance is attached in **Appendix I**.
- 6.2 No Action/Limit Level exceedance was recorded for both 1-hour TSP and 24-hour TSP of air quality monitoring in the reporting period.

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

- 6.3 There was no non-compliance from the site audits in the reporting period. The observations and recommendations made in each individual site audit session were presented in Table 5.1.

### **Summary of action taken in the event of and follow-up on non-compliance**

- 6.4 There was no particular action taken since no non-compliance was observed from the site audits in the reporting period.

## **7 ENVIRONMENTAL COMPLAINT**

- 7.1 No environmental complaint was received in the reporting period. The updated Complaint Log is attached in **Appendix H**.

## **8 NOTIFICATION OF SUMMON AND SUCCESSFUL PROSECUTION**

- 8.1 No environmental prosecution was recorded in the reporting period.

## 9 COMMENTS, CONCLUSIONS AND RECOMMENDATIONS

### 9.1 Major site activities for the coming months include:

- Surface runoff from the Site area due to construction works and rain;;
- Formation of ponding/ stagnant water on site;
- Dust emission from concrete breaking, excavation and loading and unloading dusty materials;
- Noise nuisance from operation of equipment and machinery on site;
- Maintenance of de-silting facilities and drainage system, such as U-channels;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Larviciding against mosquito breeding in stagnant water should be carried out at least on a weekly basis; and
- Accumulation of C&D waste and general waste on site.

### 9.2 Key issues to be considered in the coming months include:

- Dust emission from concrete breaking, excavation and loading and unloading dusty materials;
- Surface runoff from the Site area due to construction works and rain;
- Noise nuisance from operation of equipment and machinery on site;
- Maintenance of de-silting facilities and drainage system, such as U-channels;
- Formation of ponding/ stagnant water on site;
- Storage of chemicals/fuel and chemical waste/waste oil on site;
- Larviciding against mosquito breeding in stagnant water should be carried out at least on a weekly basis; and
- Accumulation of C&D waste and general waste on site.

### 9.3 According to the environmental audit sessions performed in the reporting period, the following recommendations were made:

#### *Water Impact*

- To ensure proper use and maintenance of the de-silting facilities and drainage system;
- To avoid formation of ponding/ stagnant water on site;
- To carry out larviciding regularly against mosquito breeding;
- To well maintain the drainage system inside and around the Site area; and
- To prevent surface runoff into public area or drainage channel.

#### *Dust Impact*

- To provide water spraying regularly on stockpiles of dusty materials, loading/ unloading of dusty materials and dried site areas;
- To remain good site practice on handling excavated or dusty material for dust suppression, e.g. covering by impervious materials;
- To check and maintain the mechanical equipments regularly to avoid black smoke emission; and
- To provide adequate enclosure, i.e. three sides and top covers, for the cement mixing works for dust suppression.

#### *Noise Impact*

- To space out noisy equipments and position as far away as possible from sensitive receivers;
- To provide adequate lubricant on mechanical equipments to reduce frictional noise; and
- To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.

*Waste / Chemical Management*

- To provide proper rubbish bins / skips for waste collection;
- To provide proper storage area or drip trays for oil containers on site;
- To avoid and 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 equipment; and
- To well maintain the equipments and drip trays to avoid oil leakage.

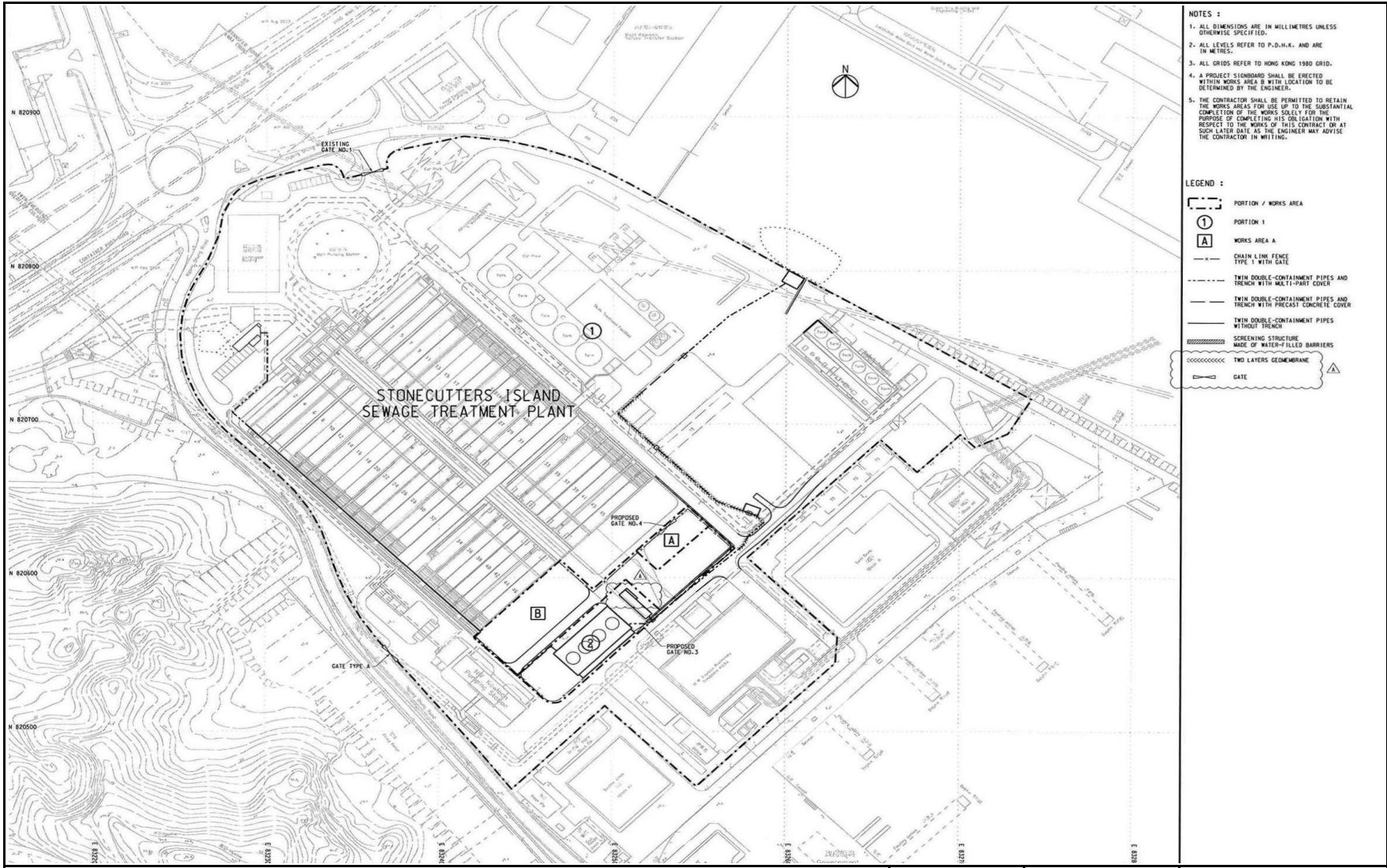
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## FIGURES

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- NOTES :**
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
  2. ALL LEVELS REFER TO P.D.H.K. AND ARE IN METRES.
  3. ALL GRIDS REFER TO HONG KONG 1980 GRID.
  4. A PROJECT SIGNBOARD SHALL BE ERECTED WITHIN WORKS AREA B WITH LOCATION TO BE DETERMINED BY THE ENGINEER.
  5. THE CONTRACTOR SHALL BE PERMITTED TO RETAIN THE WORKS AREA FOR USE UP TO THE SUBSTANTIAL COMPLETION OF THE WORKS SOLELY FOR THE PURPOSE OF COMPLETING HIS OBLIGATION WITH RESPECT TO THE WORKS OF THIS CONTRACT OR AT SUCH LATER DATE AS THE ENGINEER MAY ADVISE THE CONTRACTOR IN WRITING.

- LEGEND :**
- PORTION / WORKS AREA
  - ① PORTION 1
  - A WORKS AREA A
  - - - CHAIN LINK FENCE TYPE 1 WITH GATE
  - - - TWIN DOUBLE-CONTAINMENT PIPES AND TRENCH WITH MULTI-PART COVER
  - - - TWIN DOUBLE-CONTAINMENT PIPES AND TRENCH WITH PRECAST CONCRETE COVER
  - - - TWIN DOUBLE-CONTAINMENT PIPES WITHOUT TRENCH
  - ▨ SCREENING STRUCTURE MADE OF WATER-FILLED BARRIERS
  - ⋯⋯⋯ TWO LAYERS GEOMEMBRANE
  - ⊔ GATE

Contract No. DC/2007/20 <b>HARBOUR AREA TREATMENT SCHEME STAGE 2A - CONSTRUCTION OF ADVANCE DISINFECTION FACILITIES AT STONECUTTERES ISLAND SEWAGE TREATMENT WORKS</b>	Scale	Project	
	N.T.S	No. MA8009	
Project Site Layout Plan (Page 1 of 2)	Date	Figure	
	Jun-08	1.1	



Contract No. DC/2007/20  
 HARBOUR AREA TREATMENT SCHEME STAGE 2A - CONSTRUCTION OF ADVANCE DISINFECTION FACILITIES  
 AT STONECUTTERES ISLAND SEWAGE TREATMENT WORKS

Scale  
 N.T.S

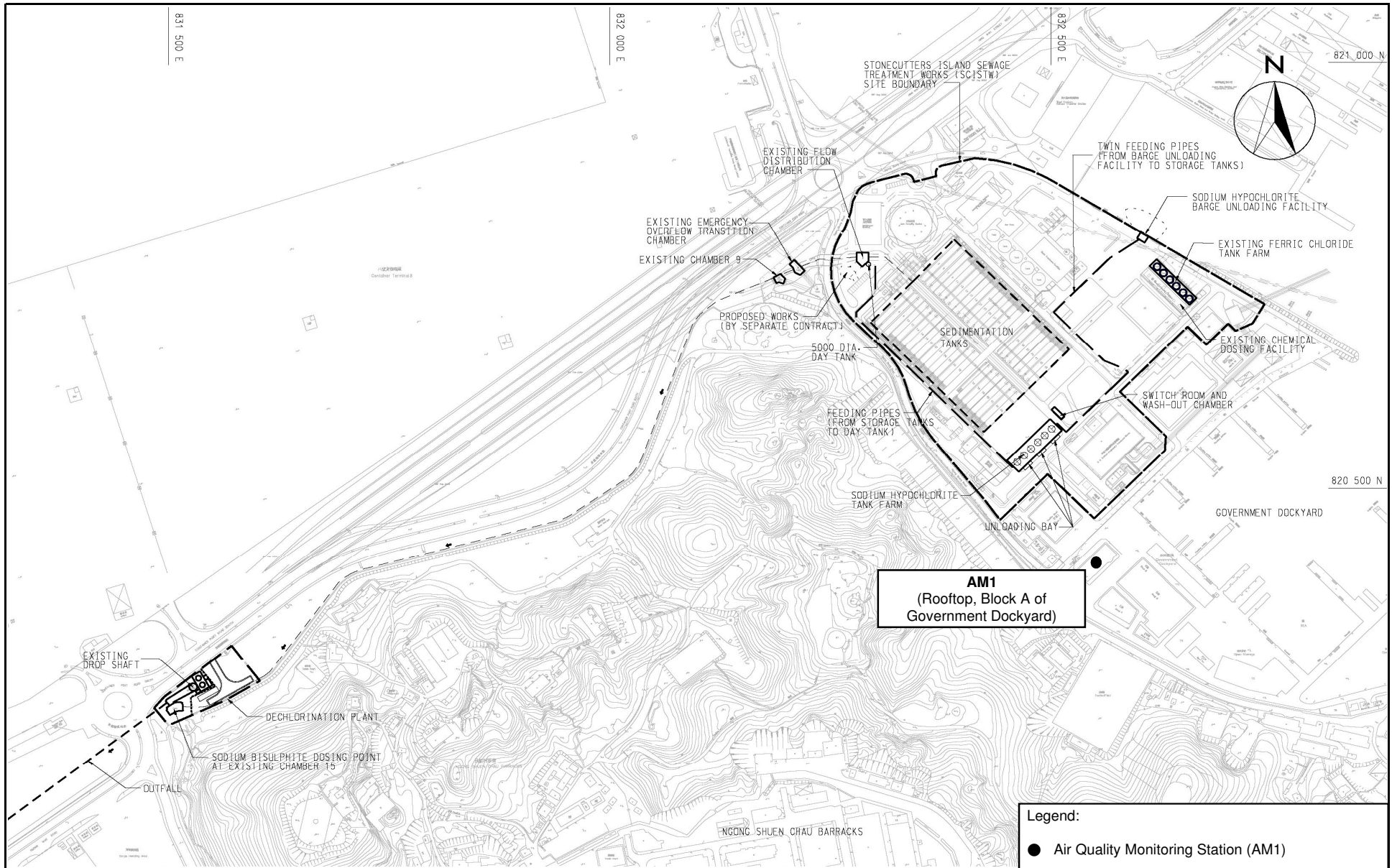
Project  
 No. MA8009

Project Site Layout Plan (Page 2 of 2)


Date  
 Jun-08

Figure  
 1.1

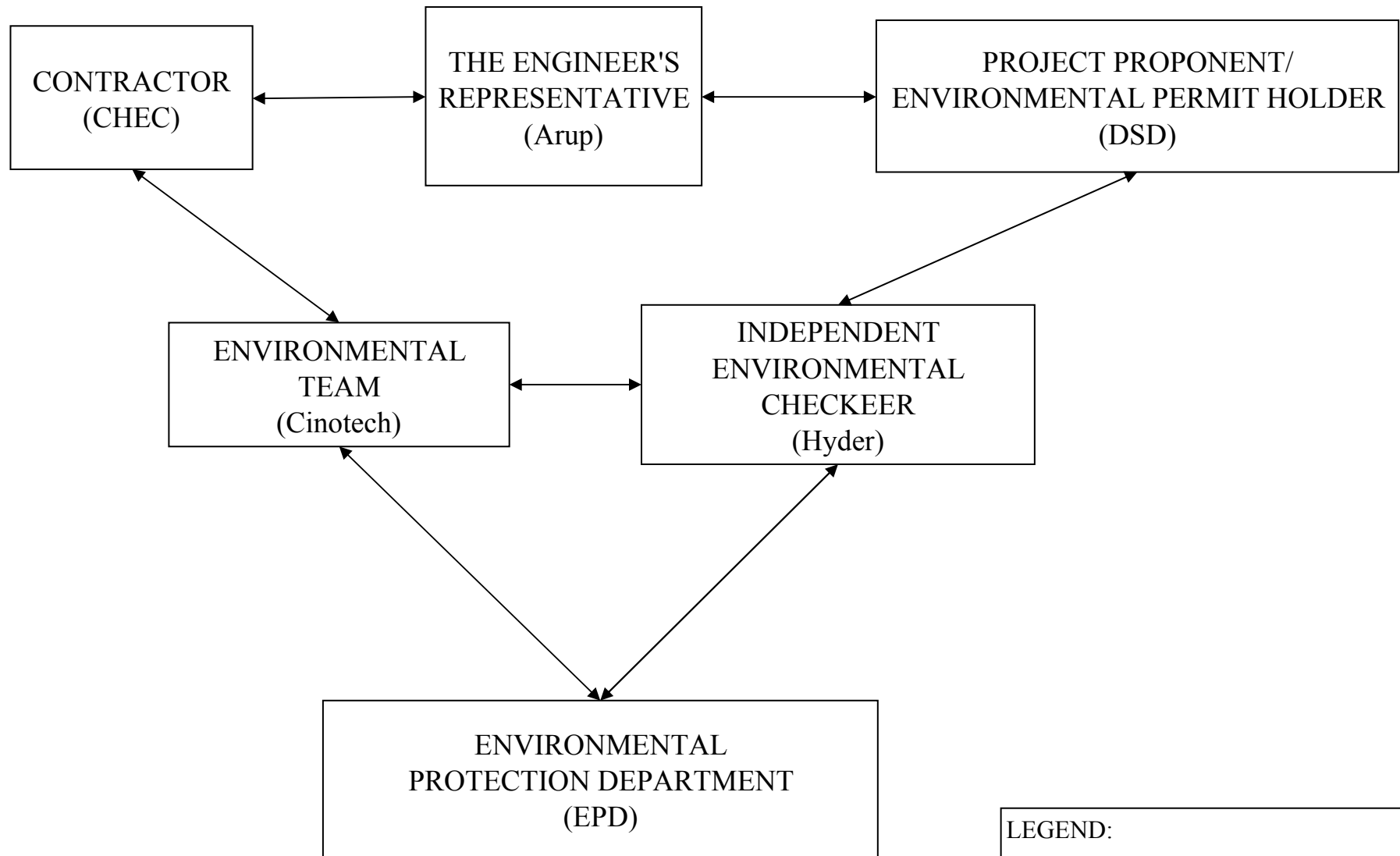
**CINOTECH**



Legend:  
 ● Air Quality Monitoring Station (AM1)

Contract No. DC/2007/20 HARBOUR AREA TREATMENT SCHEME STAGE 2A - CONSTRUCTION OF ADVANCE DISINFECTION FACILITIES AT STONECUTTERS ISLAND SEWAGE TREATMENT WORKS	Scale	Project No.	
	N.T.S	MA8009	
LOCATIONS OF ENVIRONMENTAL MONITORING STATION	Date	Figure	
	Sep-08	1.2	





LEGEND:  
 ↔ LINE OF COMMUNICATION

Contract No. DC/2007/20 HARBOUR AREA TREATMENT SCHEME STAGE 2A - CONSTRUCTION OF ADVANCE DISINFECTION FACILITIES AT STONECUTTERES ISLAND SEWAGE TREATMENT WORKS	Scale N.T.S	Proposa No. MA8009	
Project Organization Chart	Date Sep-08	Figure 1.3	

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**APPENDIX A  
CONTACT DETAILS OF THE PROJECT  
ORGANISATION**

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## Appendix A - Contact Details of the Project Organisation

Party	Role	Name	Position	Phone No.	Fax No.
DSD	Project Proponent/ Permit Holder	Ms. Ada LAI	Engineer	2159 3411	2833 9162
ARUP	Engineer's Representative	Mr. Gary CHEUNG	Resident Engineer	6201 3158	2407 8772
		Mr. Sunny LO	Inspector of Works	6345 0548	
CHEC	Contractor	Mr. T. K. CHEUNG	Project Manager	2741 0191	2741 2772
		Mr. Aaron AU	Site Agent	6345 0754	
		Mr. M. C. LAM	Environmental Officer	9483 0566	
Cinotech	Environmental Team	Dr. Priscilla CHOY	Environmental Team Leader	2151 2089	3107 1388
		Ms. Cherry Mak	Project Coordinator and Audit Team Leader	2151 2097	
		Mr. Henry LEUNG	Monitoring Team Leader	2151 2087	
Hyder	Independent Environmental Checker	Mr. Antony WONG	Independent Environmental Checker	2911 2744	2805 5028
		Ms. Selina LEUNG	Independent Environmental Checker Representative	2911 2745	

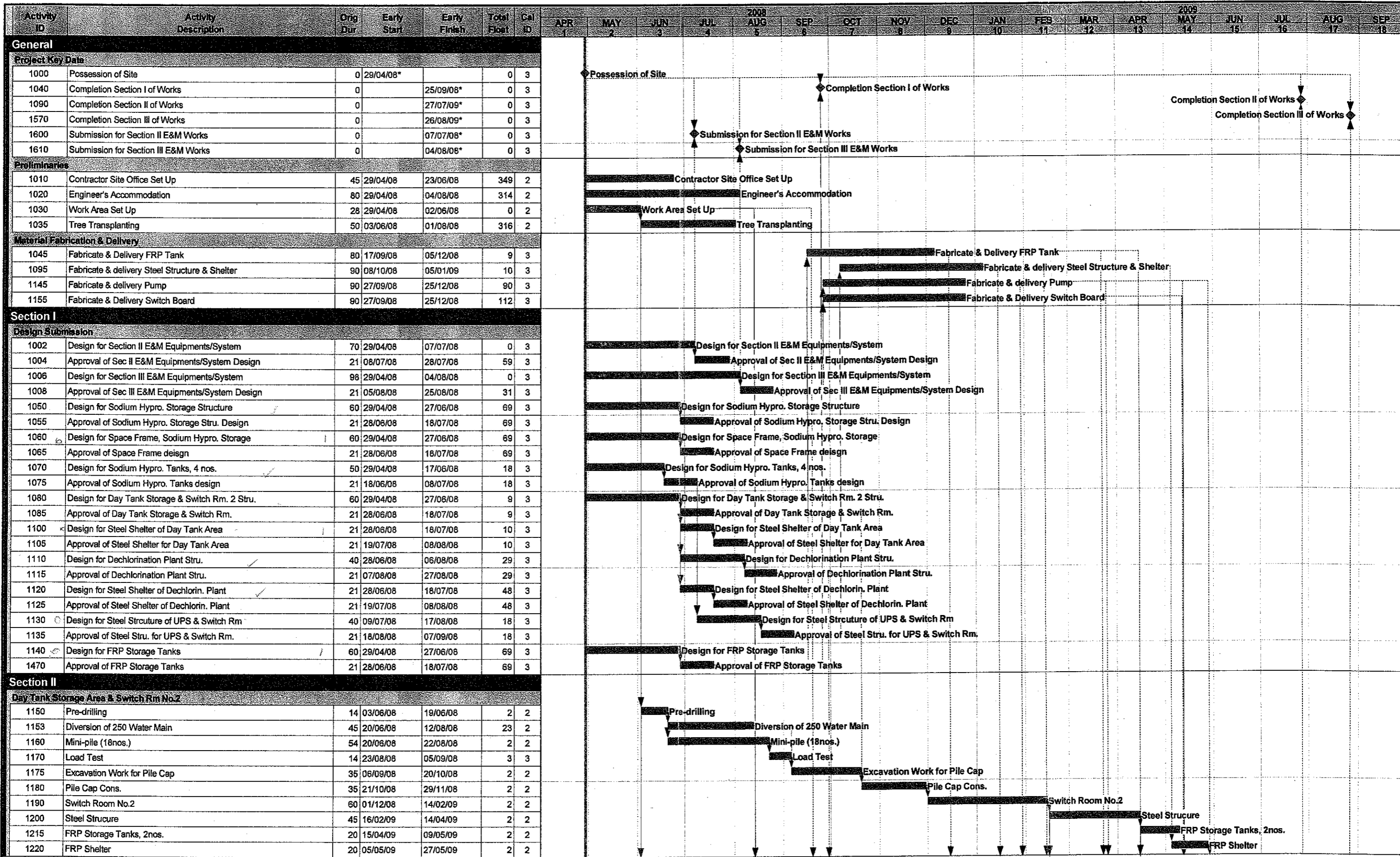
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**APPENDIX B**  
**CONSTRUCTION PROGRAMME**

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Start Date	29/04/08	Early Bar	ST02	China Harbour Engineering Co. Ltd. Contract No. DC/2007/20 Harbour Area Treatment Scheme Stage 2A Works Programme	Date	16/07/08	Revision	Rev B	Checked	Tim	Approved
Finish Date	26/08/09	Progress Bar									
Data Date	29/04/08	Critical Activity									
Run Date	16/07/08 14:36										

Sheet 1 of 3

?Primavera Systems, Inc.



Activity ID	Activity Description	Orig Dur	Early Start	Early Finish	Total Float	Cal ID	2009												2009					
							APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1420	Internal & External Finishing	45	25/03/09	22/05/09	20	2																		
1430	Install Elec. Travelling Hoist	14	12/05/09	27/05/09	20	2																		
1530	Install the Switch Board	28	12/05/09	13/06/09	20	2																		
1730	Install Washout Pump and Pipes	35	29/05/09	09/07/09	20	2																		
1740	Fire Services & E&M Works	21	15/06/09	09/07/09	20	2																		
1750	Test & Commissioning	21	10/07/09	03/08/09	20	2																		
<b>Washout Chamber No.1</b>																								
1435	Excavation & Lateral Support Works	45	20/09/08	13/11/08	20	2																		
1440	Construction of Wash Out Pit No.1	60	14/11/08	29/01/09	93	2																		
1760	Install Washout Pump & Pipe	28	30/01/09	03/03/09	93	2																		
1770	Fire Service & E&M Works	28	04/03/09	07/04/09	93	2																		
1775	Test & Commissioning	21	08/04/09	07/05/09	93	2																		
<b>Barge Unloading Area</b>																								
1450	Excavation & Lateral Support Works	30	14/11/08	18/12/08	20	2																		
1460	Construction of Structure	45	19/12/08	16/02/09	20	2																		
1520	E&M Works	28	17/02/09	21/03/09	107	2																		
1780	Mod. LV Switchboards at Ferric Chloride Storage	14	12/03/09	28/03/09	107	2																		
1790	Test & Commissioning	14	30/03/09	18/04/09	107	2																		
1800	Cons. Extension Bundwall & 200 UC	28	17/02/09	21/03/09	127	2																		
<b>Others</b>																								
1482	Gas & Vib. Delection for Ferric Chloride Storage	14	12/03/09	28/03/09	121	2																		
1484	CCTV System for Ferric Chloride Storage	14	12/03/09	28/03/09	121	2																		
1486	Truck Unloading Sys for Ferric Chloride Storage	14	12/03/09	28/03/09	121	2																		
1490	Demolition of storage struc.	45	17/02/09	15/04/09	20	2																		
1500	Provision of storage struc.	90	16/04/09	03/08/09	20	2																		
1510	Road Work	60	23/05/09	03/08/09	20	2																		
1810	Cons. Gate Type A	30	29/06/09	03/08/09	20	2																		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP

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**APPENDIX C**  
**MONITORING REQUIREMENTS**

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## APPENDIX C – Monitoring Requirements

Type of Monitoring	Parameter	Frequency	Location of Measurement
Air Quality	1-hour TSP	3 times / 6-day	AM1 (Rooftop, Block A of Government Dockyard)
	24-hour TSP	Once / 6-day	

Remarks: Due to the sensitivity of the military installations within Barracks building, the People's Liberation Army (PLA) had declined ET' s request for setting up the air quality monitoring station AM2 (Ngong Shuen Chau Barracks – Group 2) and construction noise monitoring station NM1 (Barracks Buildings). Considering there is no other sensitive receiver within the EIA study area (500m from the Project site boundary of Portions 3 & 4 for Air Quality and 300m from the Project site boundary of Portions 3 & 4 for Noise) and no significant environmental impact from the project is anticipated, the ET Leader proposed to cancel all environmental monitoring works at the designated monitoring stations AM2 and NM1. The proposal has been verified by IEC on 19<sup>th</sup> August 2008 and approved by EPD on 2<sup>nd</sup> September 2008.

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**APPENDIX D**  
**ACTION AND LIMIT LEVELS**

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**APPENDIX D - Action and Limit Levels****Table D-1 Action and Limit Levels for 1-Hour TSP**

<b>Location</b>	<b>Action Level, <math>\mu\text{g}/\text{m}^3</math></b>	<b>Limit Level, <math>\mu\text{g}/\text{m}^3</math></b>
AM1	307	500

**Table D-2 Action and Limit Levels for 24-Hour TSP**

<b>Location</b>	<b>Action Level, <math>\mu\text{g}/\text{m}^3</math></b>	<b>Limit Level, <math>\mu\text{g}/\text{m}^3</math></b>
AM1	158	260

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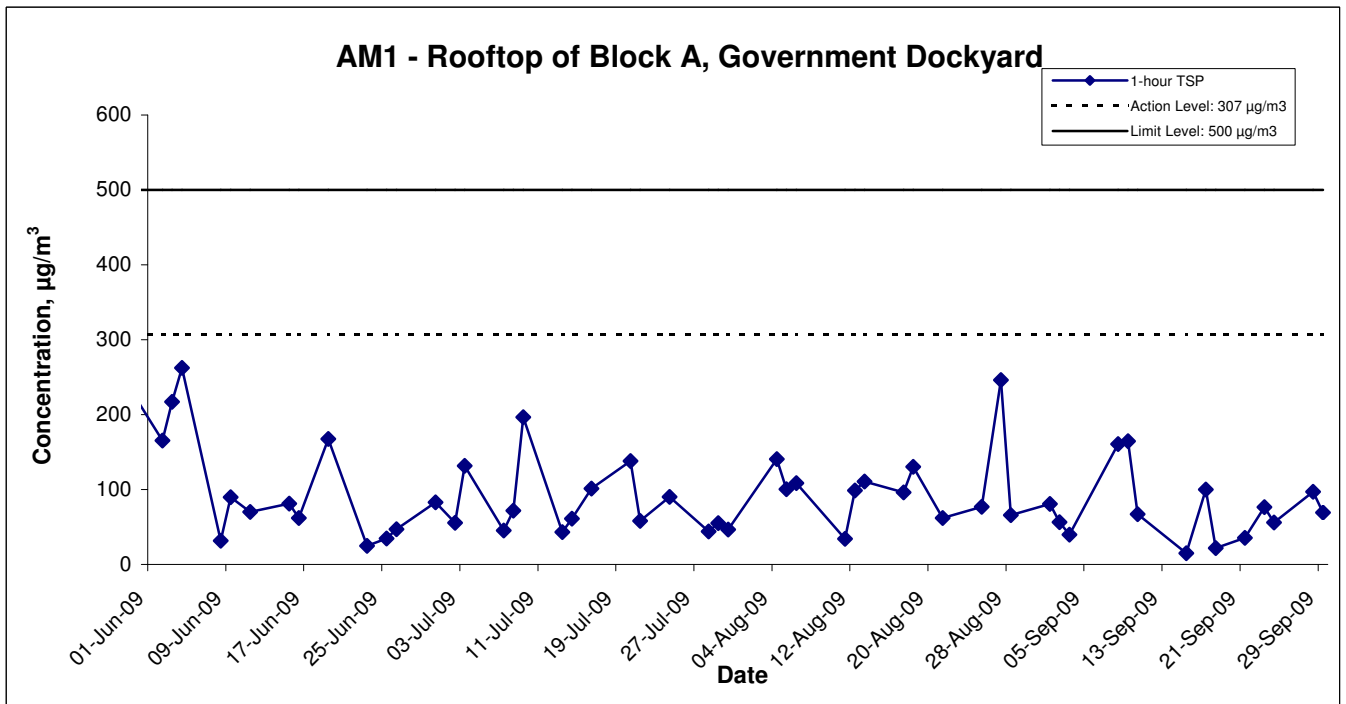
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**APPENDIX E  
GRAPHICAL PRESENTATION OF AIR  
QUALITY MONITORING RESULTS**

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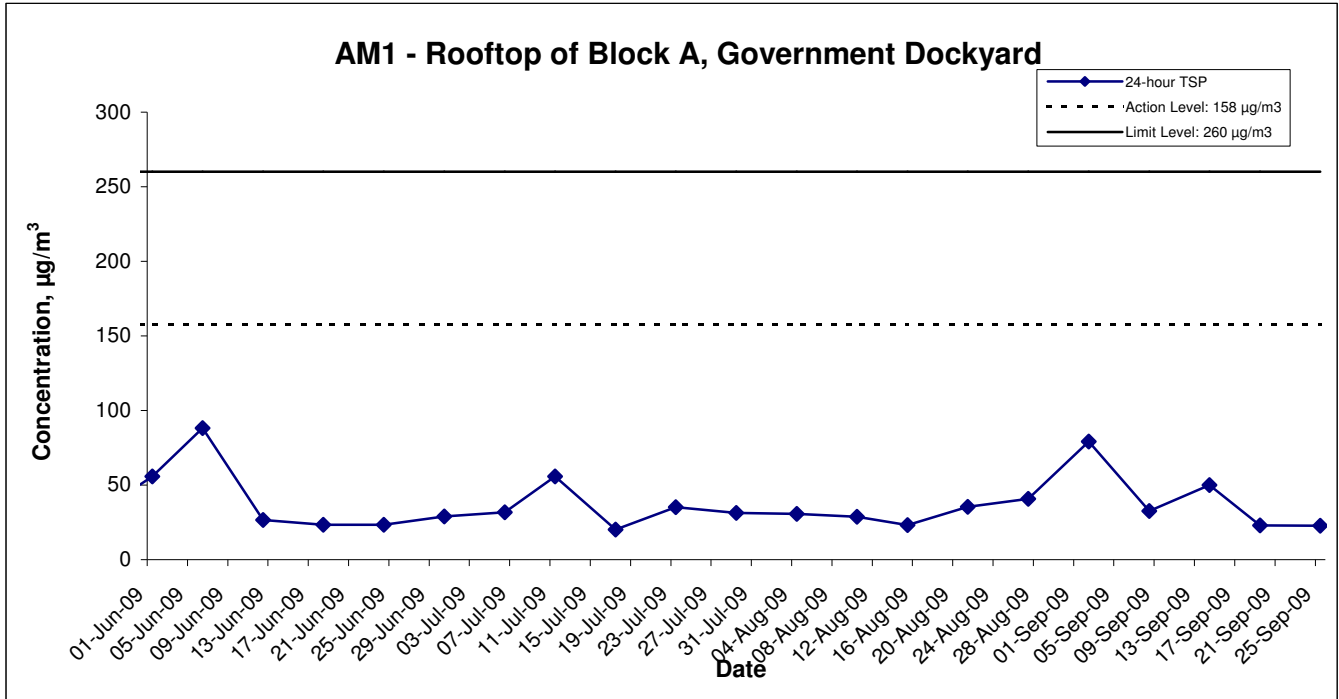
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### 1-hr TSP Concentration Levels



Title Contract No. DC/2007/20 HATS Stage 2A – Construction of Advance Disinfection Facilities at SCISTW Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S	Project No. MA8009	<b>CINOTECH</b>
	Date Sep 09	Appendix E	

### 24-hr TSP Concentration Levels



Title Contract No. DC/2007/20 HATS Stage 2A – Construction of Advance Disinfection Facilities at SCISTW  Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. MA8009	CINOTECH
	Date Sep 09	Appendix E	

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**APPENDIX F  
SUMMARY OF ENVIRONMENTAL  
MITIGATION IMPLEMENTATION  
SCHEDULE (EMIS)**

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## APPENDIX F – Summary of Environmental Mitigation Implementation Schedule (EMIS)

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S3.29	<p>Dust mitigation measures stipulated in the Air Pollution Control (Construction Dust) Regulation should be incorporated to control dust emission from the site. Control measures relevant to this Project are listed below:</p> <ul style="list-style-type: none"> <li>• Skip hoist for material transport should be totally enclosed by impervious sheeting;</li> <li>• Vehicle washing facilities should be provided at every vehicle exit point;</li> <li>• The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcore;</li> <li>• Where a site boundary adjoins a road, streets or other areas accessible to the public, hoarding of not less than 2.4 m high from ground level should be provided along the entire length except for a site entrance or exit;</li> <li>• Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather;</li> <li>• Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering shall be applied to aggregate fines;</li> <li>• Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs;</li> <li>• Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations;</li> <li>• Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per</li> </ul>	Work sites / During the construction period	Contractor		√			EIAO-TM and Air Pollution Control (Construction Dust) Regulation



EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<p>hour is the recommended limit;</p> <ul style="list-style-type: none"> <li>• Every stock of more than 20 bags of cement should be covered entirely by impervious sheeting placed in an area sheltered on the top and the 3 sides;</li> <li>• Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites; and</li> <li>• Instigation of an environmental monitoring and auditing program to monitor the construction process in order to enforce controls and modify method of work if dusty conditions arise.</li> </ul>							
S4.48 – S4.50	Use of quiet PME	Work sites / During the construction period	Contractor		√			EIAO-TM and Noise Control Ordinance
S4.51	<p><i>Good Site Practice</i></p> <ul style="list-style-type: none"> <li>• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;</li> <li>• Silencers or mufflers on construction equipment should be utilized and should be properly maintained during the construction program;</li> <li>• Mobile plant, if any, should be sited as far from NSRs as possible;</li> <li>• Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> <li>• Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and</li> <li>• Material stockpiles and other structures should be effectively utilised, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	Work sites / During the construction period	Contractor		√			EIAO-TM and Noise Control Ordinance

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S4.56 & S13	Noise monitoring should be carried out to ensure that noise mitigation measures would be properly implemented. Details of the monitoring requirements are specified in the EM&A Manual.	Barrack / During the construction period	Contractor		√			EIAO-TM and Noise Control Ordinance
S5.212	The practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted. It is recommended to install perimeter channels in the works areas to intercept runoff at site boundary prior to the commencement of any earthwork. To prevent storm runoff from washing across exposed soil surfaces, intercepting channels should be provided. Drainage channels are also required to convey site runoff to sand/silt traps and oil interceptors. Provision of regular cleaning and maintenance can ensure the normal operation of these facilities throughout the construction period. Any practical options for the diversion and realignment of drainage should comply with both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains.	Work sites / During the construction period	Contractor		√			EIAO-TM and Water Pollution Control Ordinance
S5.213	There is a need to apply to EPD for a discharge licence under the WPCO for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge licence. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Reuse and recycling of the treated effluent can minimise water consumption and reduce the effluent discharge volume. The beneficial uses of the treated effluent may include dust suppression, wheel washing and general cleaning. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD.	Work sites / During the construction period	Contractor		√			EIAO-TM and Water Pollution Control Ordinance

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.214	The construction programme should be properly planned to minimise soil excavation, if any, in rainy seasons. This prevents soil erosion from exposed soil surfaces. Any exposed soil surfaces should also be properly protected to minimise dust emission. In areas where a large amount of exposed soils exist, earth bunds or sand bags should be provided. Exposed stockpiles should be covered with tarpaulin or impervious sheets at all times. The stockpiles of materials should be placed at locations away from any stream courses so as to avoid releasing materials into the water bodies. Final surfaces of earthworks should be compacted and protected by permanent work. It is suggested that haul roads should be paved with concrete and the temporary access roads protected using crushed stone or gravel, wherever practicable. Wheel washing facilities should be provided at all site exits to ensure that earth, mud and debris would not be carried out of the works areas by vehicles.	Work sites / During the construction period	Contractor		√			EIAO-TM and Water Pollution Control Ordinance
S5.215	Good site practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis.	Work sites / During the construction period	Contractor		√			EIAO-TM and Water Pollution Control Ordinance
S5.216	The presence of construction workers generates sewage. It is recommended to provide sufficient chemical toilets in the works areas. The toilet facilities should be more than 30 m from any watercourse. A licensed waste collector should be deployed to clean the chemical toilets on a regular basis. The construction workers can also make use of the existing toilet facilities within the SCISTW as necessary.	Work sites / During the construction period	Contractor		√			EIAO-TM and Water Pollution Control Ordinance

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S5.217	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. 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.	Work sites / During the construction period	Contractor		√			EIAO-TM and Water Pollution Control Ordinance
S5.218	Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	Work sites / During the construction period	Contractor		√			EIAO-TM and Waste Disposal Ordinance
S5.219	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and sumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	Work sites / During the construction period	Contractor		√			EIAO-TM, Waste Disposal Ordinance and Water Pollution Control Ordinance
S5.220	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: <ul style="list-style-type: none"> <li>Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>Chemical waste containers should be suitably labeled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> </ul>	Work sites / During the construction period	Contractor		√			EIAO-TM and Waste Disposal Ordinance

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
	<ul style="list-style-type: none"> <li>Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>							
S10.21	<p><i>Good Site Practices</i></p> <p>Recommendations for good site practices during the construction activities include:</p> <ul style="list-style-type: none"> <li>Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site</li> <li>Training of site personnel in proper waste management and chemical handling procedures</li> <li>Provision of sufficient waste disposal points and regular collection of waste</li> <li>Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers</li> <li>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.</li> <li>Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Facility.</li> </ul>	Work sites / During the construction period	Contractor		√			Waste Disposal Ordinance (Cap.54) ETWB TCW No. 19/2005

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S10.22	<p><i>Waste Reduction Measures</i></p> <p>Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> <li>• 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</li> <li>• Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the workforce</li> <li>• Proper storage and site practices to minimise the potential for damage or contamination of construction materials</li> <li>• Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.</li> <li>• A recording system for the amount of wastes generated, recycled and disposed (including disposal sites) should be proposed.</li> <li>• Training should be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycle.</li> </ul>	Work sites / During planning & design stage, and construction stage	Contractor	√	√			
S10.24	<p><i>General Refuse</i></p> <p>General refuse should be stored in enclosed bins or compaction units separate from C&amp;D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&amp;D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	Work sites / During the construction period	Contractor		√			Public Health and Municipal Services Ordinance (Cap. 132)

EIA Ref	Environmental Protection Measures/Mitigation Measures	Location/Timing	Implementation Agent	Implementation Stages*				Relevant Legislation and Guidelines
				Des	C	O	Dec	
S10.25	<p><i>Construction and Demolition Material</i></p> <p>In order to minimise impacts resulting from collection and transportation of C&amp;D material for off-site disposal, the excavated material generated from excavation works for the proposed chlorination plant, dechlorination plant, day tank and pipe trenches should be reused on-site as backfilling material as far as practicable. The surplus excavated material should be disposed of at the designated public fill reception facility, as agreed with the Secretary of the Public Fill Committee, for other beneficial uses. C&amp;D waste generated from site clearance and dismantling of formwork would require disposal to the designated landfill site. In order to monitor the disposal of C&amp;D material at the public fill reception facility and landfill and to control fly-tipping, a trip-ticket system should be included. One may make reference to ETWB TCW No. 31/2004 for details.</p>	Work sites / During design stage and construction period	Contractor	√	√			ETWB TCW No. 33/2002 ETWB TCW No. 19/2005
S10.26	<p><i>Chemical Waste</i></p> <p>If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a chemical waste producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the approved Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.</p>	Work sites / During the construction period	Contractor		√			Waste Disposal (Chemical Waste) (General) Regulation

# 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, and Dec - Decommissioning

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**APPENDIX G  
SUMMARY OF ENVIRONMENTAL  
LICENCES AND PERMITS**

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**Appendix G - Summary of Environmental Licensing and Permit Status**

Permit / License No.	Valid Period		Details	Status
	From	To		
<b>Environmental Permit (EP)</b>				
EP-295/2007	03/12/07	N/A	The Project involves construction and operation of disinfection facilities (chlorination/dechlorination) within the existing Stonecutters Island Sewage Treatment Works. The disinfection facilities include storage, dosing and associated pipeline systems for sodium hypochlorite sodium bisulphite.	Superseded
EP-295/2007/A	20/5/09	N/A		Valid
<b>Billing Account for Disposal of Construction Waste</b>				
7007138	13/05/08	N/A	Disposal of Construction waste.	Valid
<b>Chemical Waste Producer Number</b>				
WPN: 5213-269-C2397-22	04/09/08	N/A	Disposal of Chemical Waste including lubricating oil, spent batteries and etc.	Valid
<b>Waste Water Discharge License</b>				
EP760/269/0133011	14/07/08	31/07/13	Discharge of industrial trade effluent and all other wastewater arising from Construction site at Stonecutters Island Sewage Treatment Works, Kowloon (Contract No. DC/2007/20 HATS 2A-Construction of Advance Disinfection Facilities at SCISTW) to communal storm drain after solid removal.	Valid
EP760/269/0133011a	27/10/08	31/10/13	Discharge of industrial trade effluent and all other wastewater arising from Construction site of Harbour Area Treatment Scheme 2 A (Portions 3 & 4), at Container Port Road South, Stonecutters Island, Kowloon to communal storm drain after solid removal.	Valid
<b>Construction Noise Permit (CNP)</b>				
GW-RW0057-09	1/3/09	31/8/09	<u>Location:</u> Construction site in Stonecutters Island Sewage Treatment Works at Stonecutters Island, Kowloon. <u>Day and hours for the use of PMEs:</u> 19:00-23:00 on any day not being a general holiday and 07:00-19:00 on general holidays including Sundays	Valid
GW-RW0234-09	1/7/09	30/11/09	<u>Location:</u> Construction site in Stonecutters Island Sewage Treatment Works at Stonecutters Island, Kowloon. <u>Day and hours for the use of PMEs:</u> 19:00-23:00 on any day not being a general holiday and 07:00-19:00 on general holidays including Sundays	Valid

Permit / License No.	Valid Period		Details	Status
	From	To		
GW-RW0316-09	1/8/09	31/12/09	<p><u>Location:</u> Construction site in Stonecutters Island Sewage Treatment Works at Stonecutters Island, Kowloon.</p> <p><u>Day and hours for the use of PMEs:</u> 00:00-24:00 on any day not being a general holiday and 19:00-2400 &amp; 00:00-07:00 on general holidays including Sundays</p>	Valid
GW-RW0375-09	31/8/09	12/9/09	<p><u>Location:</u> Construction site in Stonecutters Island Sewage Treatment Works at Stonecutters Island, Kowloon.</p> <p><u>Day and hours for the use of PMEs:</u> 19:00-2400 and 00:00-07:00 on any day</p>	Valid

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**APPENDIX H  
COMPLAINT LOG**

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## APPENDIX H – Complaint Log

Reporting Period: July to September 2009

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

**Remarks:** No environmental complaint was received from July 2008 to September 2009.

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**APPENDIX I  
SUMMARY OF EXCEEDANCE**

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## **APPENDIX I – Summary of Exceedance**

- (A) Exceedance Report for 1-hr TSP  
(NIL in the reporting quarter)**
- (B) Exceedance Report for 24-hr TSP  
(NIL in the reporting quarter)**
- (C) Exceedance Report for Construction Noise  
(NIL in the reporting quarter)**