


# Harbour Area Treatment Scheme Stage 2A

**Contract No.  
DC/2009/10 and DC/2009/17**

**Consolidated Quarterly Environmental  
Monitoring and Audit Report  
December 2017 to February 2018**

**(Version 1.0)**

Certified By	 (Environmental Team Leader)
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**REMARKS:**

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

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**Attn: Mr. Danny Tang**

**Agreement No. CE 8/2009(EP) Harbour Area Treatment Scheme Stage 2A  
Independent Environmental Checker for Construction Phase – Investigation**

**Our Reference**

EC/AFK/DC/bw/  
T261332/22.01/L-1351

**Submission of Quarterly EM&A Consolidated Report (Version 1.0) for  
Stonecutters Island Sewage Treatment Works for December 2017 to February  
2018 (No. 33)**

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28 August 2018

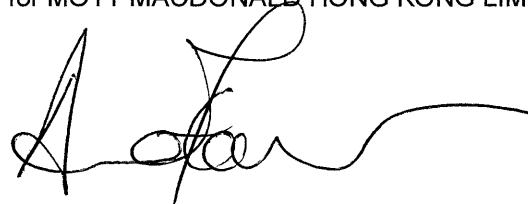
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Dear Sir,

We refer to the captioned report providing a quarterly summary of the construction phase EM&A works for Contract Nos. DC/2009/10 and DC/2009/17 at Stonecutters Island Sewage Treatment Works site under Harbour Area Treatment Scheme Stage 2A. We confirm we have no comment.

Yours faithfully  
for MOTT MACDONALD HONG KONG LIMITED



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# TABLE OF CONTENTS

	Page
<b>EXECUTIVE SUMMARY .....</b>	<b>1</b>
Introduction .....	1
Environmental Monitoring Works .....	2
Key Information in the Reporting Quarter .....	2
Key Information in the EIA Report .....	3
<b>1. INTRODUCTION .....</b>	<b>4</b>
Background .....	4
Current Contracts at SCISTW .....	4
Project Organizations .....	5
Construction Programme .....	5
<b>2. AIR QUALITY .....</b>	<b>7</b>
Monitoring Requirements .....	7
Monitoring Locations .....	7
Monitoring Equipment .....	7
Monitoring Parameters, Frequency and Duration .....	7
Monitoring Methodology and QA/QC Procedure .....	7
Results and Observations .....	8
<b>3. NOISE.....</b>	<b>9</b>
Monitoring Requirements .....	9
Monitoring Locations .....	9
Monitoring Equipment .....	9
Monitoring Parameters, Frequency and Duration .....	9
Monitoring Methodology and QA/QC Procedures .....	9
Results and Observations .....	9
<b>4 ENVIRONMENTAL AUDIT AND MONITORING.....</b>	<b>11</b>
Site Audits.....	11
Review of Environmental Monitoring Procedures .....	11
Implementation Status of Event Action Plans .....	11
Summary of Complaints and Prosecutions .....	11
<b>5 STATUS OF WASTE MANAGEMENT .....</b>	<b>13</b>
<b>6. FUTURE KEY ISSUES .....</b>	<b>14</b>
Key Issues for the Coming Quarter .....	14
Construction Program for the Coming Quarter .....	14
<b>7 CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>15</b>
Conclusions .....	15
Recommendations .....	15

## **LIST OF TABLES**

Table I	Summary Table for Executive Summaries and Web Sites
Table II	Summary Table for Non-compliance Recorded in the Reporting Quarter
Table III	Summary Table for Key Information in the Reporting Quarter
Table 1.1	Key Project Contacts
Table 1.2	Construction Works in the Reporting Quarter
Table 2.1	Locations for Air Quality Monitoring
Table 2.2	Impact Dust Monitoring Parameters, Frequency and Duration
Table 3.1	Noise Monitoring Stations
Table 3.2	Noise Monitoring Parameters, Frequency and Duration
Table 5.1	Summary of Disposal Location of Waste Generated in Reporting Quarter

## **LIST OF FIGURES**

Figure 1-2	General Location Plan of the Project and Location of Air Quality and Noise Monitoring Stations
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## **LIST OF APPENDICES**

A	Action and Limit Levels for Air Quality and Noise
B	Graphical Presentations of 1-hour and 24-hour TSP Monitoring Results
C	Graphical Presentations of Noise Monitoring Results
D	Summary of Exceedance
E	Event Action Plans
F	Site Audit Summary
G	Environmental Mitigation Implementation Schedule (EMIS)
H	Landscape and Visual Site Audit
I	Complaint Log
J	Waste Flow Tables
K	Construction Programmes

## ABBREVIATION AND ACRONYM

AL Levels	Action and Limit Levels
DSD	Drainage Services Department
E / ER	Engineer/Engineer's Representative
EIA	Environmental Impact Assessment
EM&A	Environmental Monitoring and Audit
EMIS	Environmental Mitigation Implementation Schedule
EP	Environmental Permit
EPD	Environmental Protection Department
ET	Environmental Team
HVS	High Volume Sampler
IEC	Independent Environmental Checker
RE	Resident Engineer
RH	Relative Humidity
QA/QC	Quality Assurance / Quality Control
SLM	Sound Level Meter
WMP	Waste Management Plan
SCISTW	Stonecutters Island Sewage Treatment Works
HATS	Harbour Area Treatment Scheme

## EXECUTIVE SUMMARY

### Introduction

1. This is the 33<sup>rd</sup> Consolidated Quarterly Environmental Monitoring and Audit (EM&A) Report summaries the key information of EM&A quarterly reports for the following construction contracts at the Stonecutters Island Sewage Treatment Works (SCISTW) under the Project of Harbour Area Treatment Scheme Stage 2A (the Project) and prepared by Cinotech Consultants Limited, the Environmental Team (ET) for Contract no. DC/2009/10 and DC/2009/17.
  - Contract no. DC/2009/17 - Upgrading Works at Stonecutters Island Sewage Treatment Works – Sludge Dewatering Facilities;
  - Contract no. DC/2009/10 - Upgrading Works at Stonecutters Island Sewage Treatment Works – Main Pumping Station, Sedimentation Tanks and Ancillary Facilities; and
2. The above-mentioned Contracts are under the same Environmental Permit (EP) No. EP-322/2008/G and separate ETs were appointed under each contract pursuant to Condition 2.1 of the EP.
3. This report is a contractual requirement under Contract No. DC/2009/10 to provide a consolidated quarterly summary of the EM&A works at SCISTW for the purpose of ease of references. Each Contract is administered under their respective contract by different project teams including the Engineer, the Engineer’s Representatives, the Contractor, and the ET.
4. The EM&A programme of Contract DC/2009/19, DC/2007/23 and DC/2009/18 have completed all major construction works in the Stonecutters Island respectively on 5 March 2015, 16 October 2015 and 25 October 2017.
5. No amendment of the information in the EM&A reports for each individual contract was made in this consolidated quarterly report.
6. This Report documents the findings of EM&A Works for the Project covering the period from December 2017 to February 2018.
7. The details of the EM&A for individual contracts can be found in the separate EM&A quarterly reports. In case of ambiguity and discrepancy, the individual EM&A report shall prevail. The Executive Summaries and Web Sites for the individual contracts are shown below:

**Table I Summary Table for Executive Summaries and Web Sites:**

Contract no.	ES/Web Site	Details:
DC/2009/10	Executive Summary	At SCISTW, air quality monitoring station AM7, AM8 and noise monitoring station NM6 were monitored by ET for Contract no. DC/2009/10.
	Web Site	<a href="http://www.hats2a-ema.com/RP_EMA/DC200910/EMA%20Report-DC200910.html">http://www.hats2a-ema.com/RP_EMA/DC200910/EMA%20Report-DC200910.html</a>
DC/2009/17	Executive Summary	The air quality and noise monitoring stations under this contract were covered by other contracts at SCISTW. The monitoring data would be summarized in this monthly EM&A report.
	Web Site	<a href="http://www.hats2a-ema.com/RP_EMA/DC%202009%2017/EMA%20Report-DC200917.html">http://www.hats2a-ema.com/RP_EMA/DC%202009%2017/EMA%20Report-DC200917.html</a>

### Environmental Monitoring Works

8. The environmental monitoring works were conducted by the ETs of Contract DC/2009/10, while no monitoring work is requested for DC/2009/17 since the monitoring stations were duplicated. Site audits were conducted once per week for each contract by their ETs.
9. Summary of the non-compliance of the reporting quarter is tabulated in **Table II**.

**Table II Summary Table for Non-compliance Recorded in the Reporting Quarter**

Monitored By	Monitoring Station	Parameter	No. of Exceedance		No. of Exceedance Due to the Project		Action Taken
			Action Level	Limit Level	Action Level	Limit Level	
DC/2009/10	AM6a	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
	AM7	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
	AM8	1-hr TSP	0	0	0	0	N/A
		24-hr TSP	0	0	0	0	N/A
DC/2009/10	NM5	Noise	0	0	0	0	N/A
	NM6		0	0	0	0	N/A

*1-hour TSP Monitoring*

10. No Action/Limit Level exceedance was recorded.

*24-hour TSP Monitoring*

11. No Action/Limit Level exceedance was recorded.

*Construction Noise*

12. No Action/Limit Level exceedance for normal working hours was recorded.

### Key Information in the Reporting Quarter

13. Summary of key information in the reporting quarter is tabulated in **Table III**.

**Table III 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	---
Status of submissions under EP	3	Monthly Consolidated EM&A Reports for SCISTW For September, October and November 2017	Submitted to EPD	No comment	---
Notifications of any summons & prosecutions received	0	--	N/A	N/A	---

**Key Information in the EIA Report**

14. According to the EIA Report, air quality, noise, water quality, ecology and landscape and visual would be the key environmental issues during the construction of the project. Details of the implementation of mitigation measures for the two contracts are provided in the **Appendix G**.



## 1. INTRODUCTION

### Background

- 1.1 Harbour Area Treatment Scheme (HATS) Stage 2A is a designated project with Register No.: AEIAR-121/2008. The Environmental Permit (Permit No. EP-322/2008/G) was issued on 9<sup>th</sup> May 2014 by the Environmental Protection Department (hereinafter called EPD) to the Drainage Services Department (hereinafter called the DSD) as the Permit Holder.
- 1.2 The general location plan for the Contracts: DC/2009/10 and DC/2009/17 are shown in **Figure 1** and **2**.
- 1.3 The environmental permit (EP) was issued for the whole HATS Stage 2A construction works. The ET for the Contract DC/2009/10 is responsible to coordinate all submissions from the ETs of other contractors at SCISTW as required in the EP, EIA Report and EM&A Manual for the Project.
- 1.4 The 1<sup>st</sup> to 3<sup>rd</sup> consolidated quarterly EM&A reports were prepared by Ove Arup & Partners Hong Kong Ltd (Arup) and submitted to EPD. From November 2010 and onwards, the 4<sup>th</sup> and subsequent consolidated quarterly EM&A report will be prepared and submitted by Cinotech Consultant Limited, the ET for the Contract DC/2009/17 and, DC/2009/10.
- 1.5 This is the 33<sup>rd</sup> consolidated quarterly EM&A report summarizing the EM&A works conducted for the Project at SCISTW during December 2017 to February 2018.
- 1.6 The quarterly EM&A reports for each contract were prepared and certified by separate ETs and subsequently verified by the Independent Environmental Checker (IEC) for the Project. All individual quarterly EM&A Reports are provided in the Project Website.
- 1.7 The environmental monitoring works in the Project were covered by the ETs for Contract DC/2009/10 (AM6a, AM7, AM8; NM5 and NM6).

### Current Contracts at SCISTW

- 1.8 The major Contracts at SCISTW and their scope of works are provided below:

#### Contract no. DC/2009/10

- Construction of a main pumping station;
- The extension of chemically enhanced primary treatment tanks; and
- The construction of other ancillary facilities at Stonecutters Island Sewage Treatment Works.

#### Contract no. DC/2009/17

- Demolition of the existing structures including vehicle washing facilities, Sludge Silo Building, Sludge Dewatering Building, process water storage tanks, polyelectrolyte storage tanks, ADF barging facilities and all associated plant and equipment;
- Construction of Sludge Dewatering Building, Sludge Cake Silos, Sludge Conveyor Bridges, Sludge Storage Tank, Deodourisation Units, Workshop Building, Process Water Storage Tanks and Pumping System;
- Construction of roof landscaping including irrigation system for the Sludge Dewatering Building and Workshop Building;
- Construction of chemical unloading facilities and the chemical pipe trench for the Disinfection Facilities; and

- Construction of associated Electrical, Mechanical, Building Services, Fire Services and Process Installation, Odour Control System and Temporary Vehicle Wash Facilities.

## Project Organizations

1.9 The key contacts of current contracts are provided in **Table 1.1**.

**Table 1.1 Key Project Contacts**

<b>Contract No./ Position</b>	<b>DC/2009/10</b>	<b>DC/2009/17</b>
Contract Title:	Upgrading Works at SCISTW - Main Pumping Station, Sedimentation Tanks and Ancillary Facilities	Upgrading Works at Stonecutters Island Sewage Treatment Works – Sludge Dewatering Facilities
Consultant	Ove Arup & Partners HK Ltd	Ove Arup & Partners HK Ltd
The Engineer	S.Y.Chan (Tel: 2528 3031)	S.Y.Chan (Tel: 2528 3031)
The Engineer Representative	Mr Ted Tang (Tel: 2370 4311)	Mr Ted Tang (Tel: 2370 4311)
ER's Coordinator	Ms Natalie Kwok (Tel: 2370 4356)	Ms Natalie Kwok (Tel: 2370 4356)
Independent Environmental Checker	Dr. Anne Kerr (Tel:2828 5757)	Dr. Anne Kerr (Tel:2828 5757)
Contractor	Sun Fook Kong – Biwater Joint Venture	China State- ATAL Joint Venture
Site Agent	Mr. Keith Ho (Tel: 2620 0070)	Mr. Charles Tse (Tel: 9270 3384)
Environmental Officer	Mr. Leo Leung (Tel:2620 0070)	Mr. Leo Leung (Tel: 2370 3010)
Environmental Team	Cinotech Consultant Limited Dr. Priscilla Choy (Tel: 2151 2089)	Cinotech Consultant Limited Dr. Priscilla Choy (Tel: 2151 2089)

## Construction Programme

1.10 The construction program for the Contracts at SCISTW are provided in **Appendix J**.

1.11 The EM&A programme requires construction phase monitoring for air quality and construction noise, landscape and visual and environmental site audit. The EM&A requirements for each parameter 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.

1.12 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in Section 4 of this report.

- 1.13 This report summarized the monitoring results, observations, locations, equipment, period, for required monitoring parameter namely dust, noise levels, and audit works conducted for the Project from December 2017 to February 2018, and the methodology and QA/QC procedures of the monitoring parameters.

## 2. AIR QUALITY

### Monitoring Requirements

- 2.1 1-hour and 24-hour TSP monitoring were conducted to monitor the air quality. **Appendix A** shows the established Action/Limit Levels for the environmental monitoring works.

### Monitoring Locations

- 2.2 Three designated monitoring stations, AM6a, AM7 and AM8 were selected for impact dust monitoring. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 2**.

**Table 2.1 Locations for Air Quality Monitoring**

Monitoring Station	Responsible Contracts	Location of Measurement
AM6a	DC/2009/10	Works site boundary of DC/2009/10
AM7		North West Kowloon Sewage Pumping Station
AM8		Block A of Government Dockyard

Remark:

The original location of AM6 was inaccessible due to planned construction works and handover of site area. Alternative monitoring station of AM6a was proposed and adopted for subsequent impact monitoring from 4<sup>th</sup> January 2016 onward.

### Monitoring Equipment

- 2.3 The equipment used in the impact air monitoring programme and the copies of calibration certificates could be referred to the relevant monthly reports for the respective contracts.

### Monitoring Parameters, Frequency and Duration

- 2.4 Table 2.2 summarizes the monitoring parameters and frequencies of impact dust monitoring for the whole construction period.

**Table 2.2 Impact Dust Monitoring Parameters, Frequency and Duration**

Monitoring Station	Parameter	Period	Frequency
All monitoring locations	1-hour TSP	0700-1900	3 times/ every 6 days
	24-hour TSP	0000-2400	once in every 6 days

### Monitoring Methodology and QA/QC Procedure

- 2.5 The monitoring methodology, QA/QC procedure and copies of calibration certificates for monitoring equipment could be refer to the relevant monthly reports for respective Contract.

## **Results and Observations**

- 2.6 All 1-hour TSP and 24-hour TSP monitoring were conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix D**.
- 2.7 The graphical presentations of 1-hour and 24-hour TSP monitoring results are shown in **Appendix B**.
- 2.8 According to field observations, the identified dust sources at the monitoring stations were mainly from loading of material, vehicles movement and construction works in site.

### 3. NOISE

#### Monitoring Requirements

3.1 Three noise monitoring stations, namely NM5, NM6 and NM7 were designated in the EM&A Manual for impact monitoring. **Appendix A** shows the established Action and Limit Levels for the environmental monitoring works.

#### Monitoring Locations

3.2 Noise monitoring was conducted at three designated monitoring stations by the ETs of the responsible Contracts as listed in **Table 3.1**. **Figure 2** shows the locations of these stations.

**Table 3.1 Noise Monitoring Stations**

Monitoring Station	Responsible Contracts	Location of Measurement
NM5	DC/2009/10	Near FSD Diving Rescue and Training Centre
NM6		Customs' Marine Base

#### Monitoring Equipment

3.3 The equipment used in the impact noise monitoring programme and the copies of calibration certificates could be referred to the relevant monthly report for respective contracts.

#### Monitoring Parameters, Frequency and Duration

3.4 **Table 3.2** summarizes the monitoring parameters, frequency and total duration of monitoring.

**Table 3.2 Noise Monitoring Parameters, Frequency and Duration**

Monitoring Stations	Parameter	Period	Frequency
NM5	$L_{eq}(30 \text{ min.})$ dB(A)	0700-1900 hrs on weekdays	Once per week
NM6	$L_{eq}(5 \text{ min.})$ dB(A)	During restricted hours	Weekly monitoring to be conducted during the construction works

#### Monitoring Methodology and QA/QC Procedures

3.5 The monitoring methodology, copies of calibration certificates for monitoring equipments and QA/QC procedure could be refer to the relevant monthly report for Contract DC/2009/10.

#### Results and Observations

3.6 No Action/Limit Level exceedance of Noise in normal working hours and restricted hours was recorded in the reporting quarter. Summary of exceedance is presented in **Appendix D**.

3.7 The graphical presentations of Noise monitoring results are shown in **Appendix C**.

3.8 The major noise sources identified at the designated noise monitoring stations during day

time were the noise generated from onsite trucks movement, concreting work and the traffic noise from the Container Port Road South close to the site boundary of the SCISTW; while the major noise sources identified during the restricted time period were the traffic noise from the nearby Container Port Road South and Stonecutters Bridge.

## 4 ENVIRONMENTAL AUDIT AND MONITORING

### Site Audits

- 4.1 Site audits were carried out on a weekly basis to monitor the timely implementation of proper environmental management practices and mitigation measures in each Project site.
- 4.2 No non-compliance was observed during the site audits.
- 4.3 Site inspections were undertaken to ensure and check that the implementation and maintenance of landscape and visual mitigation measures are being properly carried out in the reporting quarter in accordance to section 11.10 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.4 The summaries of site audits for the two contracts were extracted from their reports and presented in **Appendix F**.

### Implementation Status of Environmental Mitigation Measures

- 4.5 Details of the implementation of mitigation measures for the two contracts are provided in the **Appendix G**.

### Review of Environmental Monitoring Procedures

- 4.6 The monitoring works conducted by the monitoring team of respective Contracts and were inspected regularly by their ETs.

### Landscape and Visual Monitoring

- 4.7 Landscape and visual monitoring as described in the EM&A Manual has been implemented by the individual Contracts. The major findings and recommendations are summarized in **Appendix H**.

### Status of Environmental Licensing and Permitting

- 4.8 All the construction site areas in the SCISTW have been checked for their environmental licences and permit during the site audits before allowing the construction works to proceed. The permits or licences obtained for each Contracts could be referred to the *Consolidated Monthly EM&A Reports, Appendix F*.

### Implementation Status of Event Action Plans

- 4.9 The Event Action Plans for air quality and noise are presented in **Appendix E**.

#### 1-hr TSP

- 4.10 No Action/Limit Level exceedance was recorded.

#### 24-hr TSP

- 4.11 No Action/Limit Level exceedance was recorded.

#### Construction Noise

- 4.12 No Action/Limit Level exceedance for normal working hours was recorded.

### Summary of Complaints and Prosecutions

- 4.13 No environmental complaint and prosecution was received at SCISTW for the two



contracts during the reporting quarterly period.

- 4.14 There was a total of 1 project-related environmental complaint received since the commencement of the two contracts. The Complaint Log is presented in **Appendix I**.

## **5 STATUS OF WASTE MANAGEMENT**

- 5.1 The amount of inert and non-inert wastes generated by the activities of the two contracts in the reporting quarter is summarized in the waste flow tables as shown in **Appendix J**.
- 5.2 The disposal location of wastes generated by the activities of the two contracts is shown in **Table 5.1**.

**Table 5.1 Summary of Disposal Location of Waste Generated in Reporting Quarter**

<b>Contract No.</b>	<b>Disposal Location of Wastes in Report Quarter</b>
<b>DC/2009/10</b>	Tuen Mun Area 38 Fill Bank and NENT Landfill
<b>DC/2009/17</b>	Tuen Mun Area 38 Fill Bank and NENT Landfill

## **6. FUTURE KEY ISSUES**

### **Key Issues for the Coming Quarter**

6.1 Key environmental issues in the coming quarter include:

- Storage of chemicals/fuel and chemical waste/waste oil on-site;
- Over-flooding of drainage system during rainy days;
- Leakage of oil and other chemicals from equipment;
- Generation of site runoff during rainy days;
- Dust generation from open stockpiles and dusty haul roads during dry days; and
- Maintenance problems with the AquaSed water treatment facilities.

### **Construction Program for the Coming Quarter**

6.2 The tentative construction programs for respective Contracts are provided in **Appendix K**.

## 7 CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

- 7.1 Environmental monitoring and audit works were performed in the reporting quarter and all monitoring results were checked and reviewed.

#### 1-hour TSP Monitoring

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

#### 24-hour TSP Monitoring

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

#### Construction Noise Monitoring

- 7.4 All construction noise monitoring was conducted as scheduled in the reporting quarter. No Action/Limit Level exceedance for normal working hours was recorded.

#### Site Audit

- 7.5 Weekly Environmental Site Audits and Landscape and Visual Monitoring were conducted in a weekly basis during the reporting quarter. No non-compliance was recorded.

#### Complaint and Prosecution

- 7.6 There are no environmental related summonses, prosecutions and complaints in the reporting quarter.

### Recommendations

- 7.7 The following recommendations were made for the coming reporting quarter:

#### *Dust Impact*

- To regularly maintain the machinery and vehicles on site;
- To mitigate dust generation by adequate water spraying or covering by tarpaulin during dry days;
- To cover the stockpile with tarpaulin to reduce dust generation;
- To follow up any exceedance caused by the construction works; and
- To implement dust suppression measures on all haul roads, stockpiles, dried/unpaved surfaces and excavation/road breaking works.
- Non-Road Mobile Machinery (NRMM) labels must be demonstrated on the registered equipment for inspection.

#### *Noise Impact*

- To inspect the noise sources inside the site;
- To follow up any exceedance caused by the construction works;

- To space out noisy equipment and position the equipment as far away as possible from sensitive receivers; and
- To provide temporary noise barriers for operations of noisy equipment near the noise sensitive receivers in an appropriate location.

#### *Water Impact*

- To identify any potential discharge of surface run-off from the construction site;
- To avoid water accumulation on site and carry out larviciding against mosquito breeding for stagnant water when mosquito larvae are observed;
- To clear the sediment in the wastewater treatment tanks regularly;
- To provide adequate wastewater treatment facilities to treat the wastewater generated during construction works and heavy rain; and
- The discharged water quality must meet the requirements specified in the discharge licence.

#### *Waste/Chemical Management*

- To provide proper rubbish bins / skips for waste collection;
- To check for any accumulation of wasted materials or rubbish on site;
- To provide proper storage area or drip trays for oil containers/ equipments on site;
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment;
- To well maintain the equipments and drip trays to avoid oil leakage; and
- To avoid improper handling or storage of oil drum on site.

#### *Landscape and Visual*

- To erect and maintain the protection fence around the retained tree; and
- To avoid any construction materials being placed within the tree protection zone.

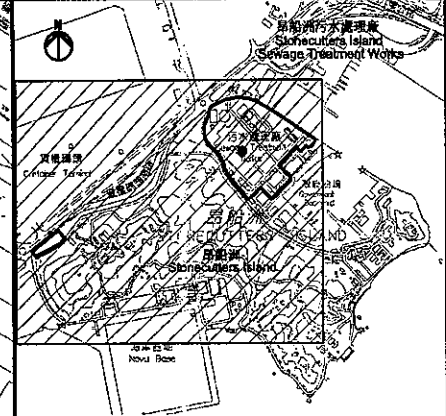
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## FIGURES

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**KEY PLAN**

**LEGEND:**

- BOUNDARY OF SCISTW
- ALIGNMENT OF EFFLUENT TUNNEL

0	ISSUE FOR CONSTRUCTION	PW	06/11
Rev	Description	By	Date

Consultant  
**ARUP** 奧雅納工程顧問  
 Ove Arup & Partners Hong Kong Limited

Project title  
 Contract No. DC/2009/18  
 Harbour Area Treatment Scheme Stage 2A-  
 Upgrading Works at  
 Stonecutters Island Sewage Treatment Works-  
 Effluent Tunnel and Disinfection Facilities

Drawing title  
**GENERAL LAYOUT  
 (SHEET 1)**  
 Fig. 1B

Drawing no. 24888/ETF/0021		Rev. 0	
Drawn by	Date 08/10	Checked by	Approved by
Scale 1:2000 @A1	Status	WORKING	

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Printed by : 17/16/2011  
 Filename : J:\24888\Record\WORKING\CIVIL\2010617\_ETE\DCN\24888\_ETF0021.dgn





**AM7**  
North West Kowloon  
Sewage Pumping Station

**NM5**  
FSD Diving Rescue and  
Training Centre


**AM6a**  
Works Site Boundary


**NM6**  
Customs' Marine Base


**AM8**  
Block A of  
Government Dockyard


Stonecutters Island  
Sewage Treatment Plant


**LEGEND:**

DC/2009/10' SITE AREA 

DC/2009/17' SITE AREA 

DC/2009/18' SITE AREA 

AIR QUALITY MONITORING STATION 

NOISE MONITORING STATION 



Contract No: DC/2009/10  
HATS 2A - Upgrading Main Pumping Station, Sedimentation Tanks and Ancillary Facilities at SCISTW

General Location Plan of the Project and Locations of Air Quality and Noise Monitoring Stations

SCALE	N.T.S	DATE	11/2015	
CHECK	-	DRAWN	VW	
JOB No.	MA11007	FIGURE NO.	2	REV
				-



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**APPENDIX A  
ACTION AND LIMIT LEVELS FOR AIR  
QUALITY AND NOISE QUALITY**

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## Appendix A Action and Limit Levels

**Table A-1 Action and Limit Levels for 1-Hour TSP and 24-Hour TSP**

Monitoring Stations	Action Level ( $\mu\text{g}/\text{m}^3$ )		Limit Level ( $\mu\text{g}/\text{m}^3$ )	
	1-hour	24-hour	1-hour	24-hour
AM6a	346	196	500	260
AM7	322	207	500	260
AM8	307	158	500	260

**Table A-2 Action and Limit Level for Construction Noise**

Monitoring Stations	Time Period	Action Level	Limit Level in dB(A)
NM5 NM6	0700-1900 hours on normal weekdays	When one documented complaint is received	75
	Restricted Hours (Evening Time) All days during the evening (1900 to 2300 hours), and general holidays (including Sundays) during the day-time and evening (0700 to 2300 hours)	N/A	70 <sup>(1)</sup>
	Restricted Hours (Night Time) All days during the night-time (2300 to 0700 hours)	N/A	55 <sup>(1)</sup>

Note(1): Construction Noise Criteria for activity other than Percussive Piling.

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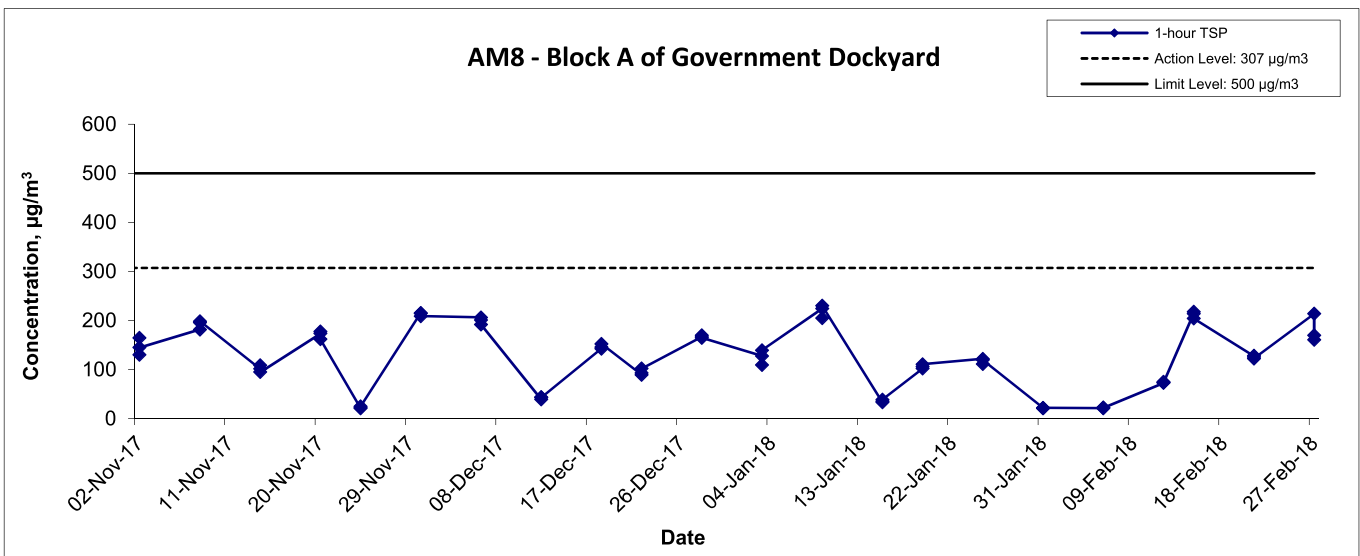
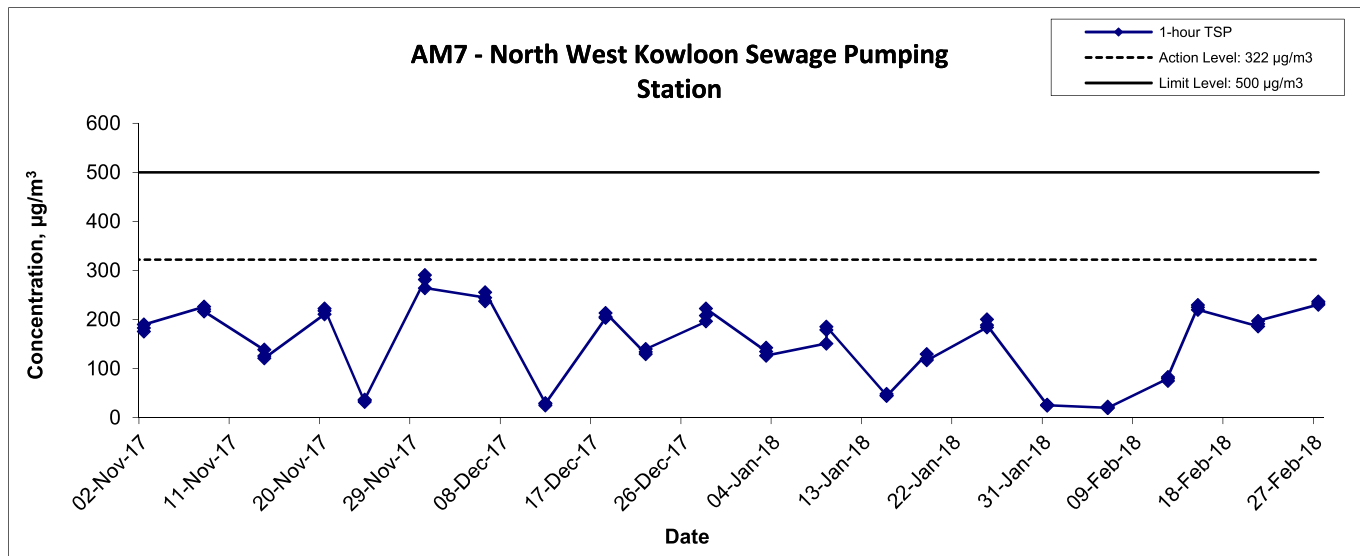
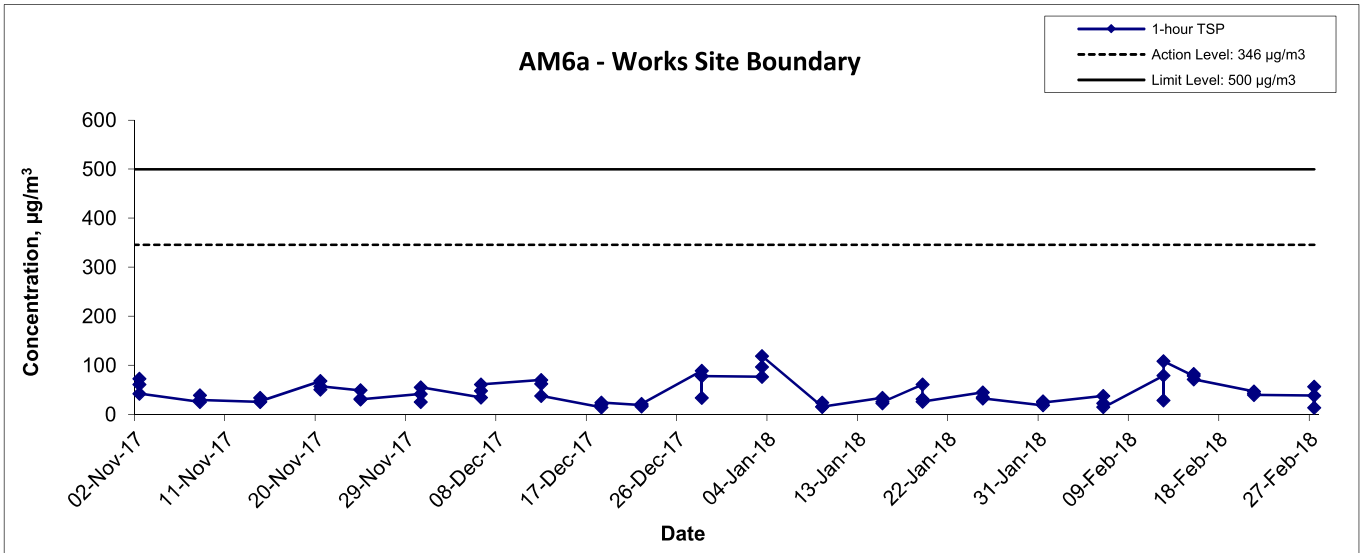
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**APPENDIX B  
1-HOUR AND 24-HOUR TSP  
MONITORING RESULTS AND  
GRAPHICAL PRESENTATIONS**

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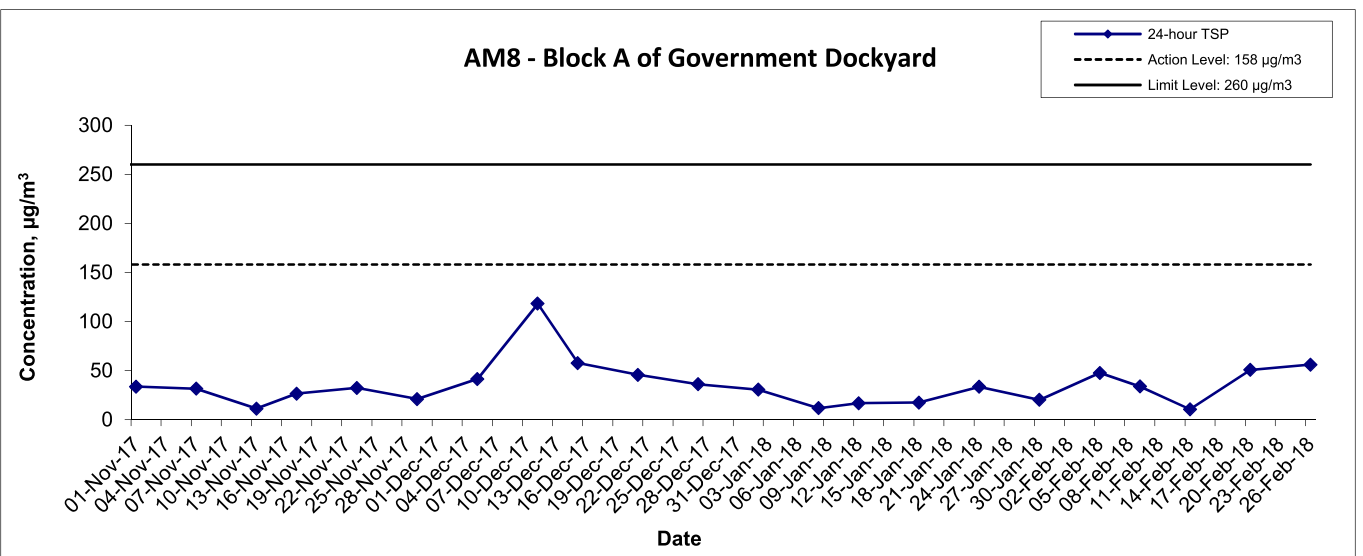
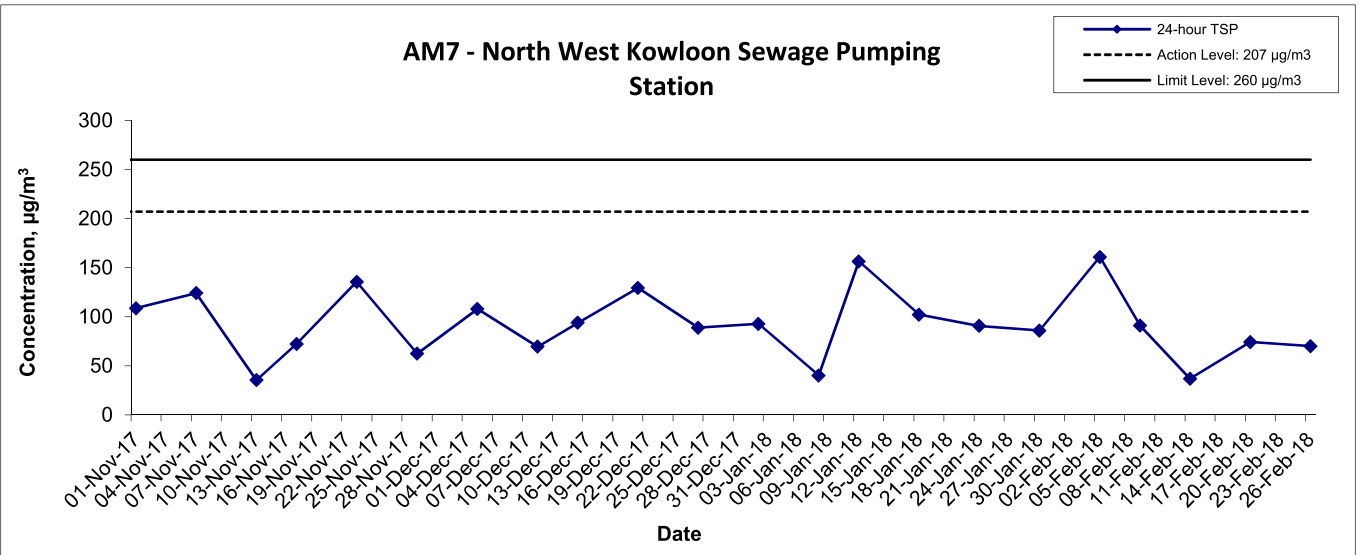
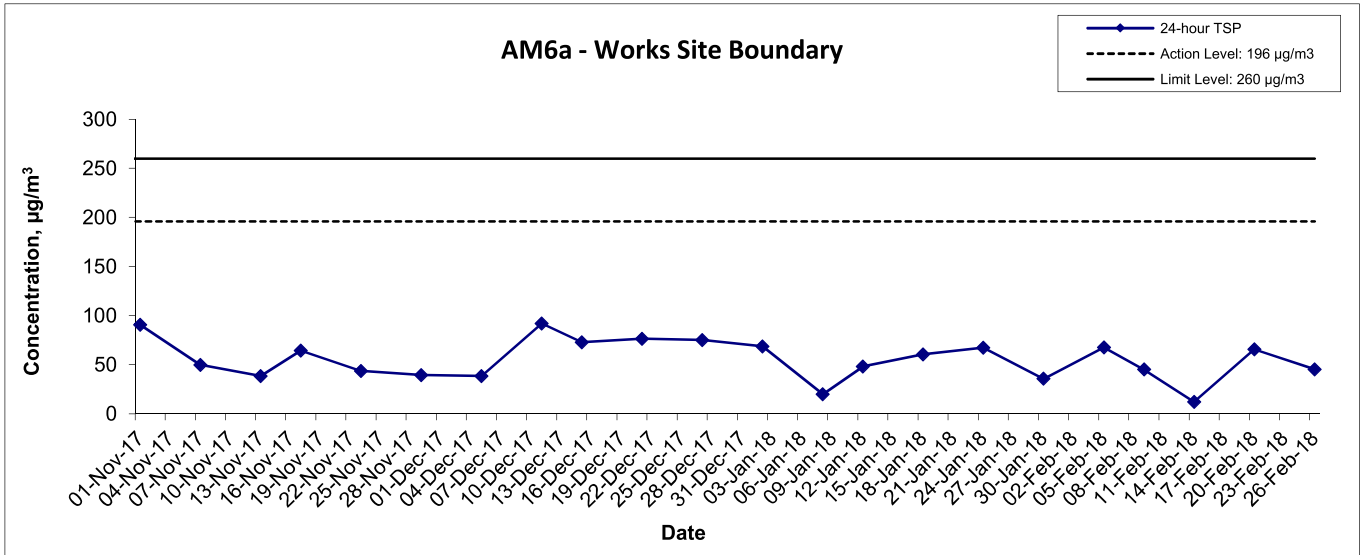
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### 1-hr TSP Concentration Levels



Title Contract No. DC/2009/10 HATS 2A – Upgrading Works at SCISTW– Main Pumping Station, Sedimentation Tanks and Ancillary Graphical Presentation of 1-hour TSP Monitoring Results	Scale N.T.S	Project No. MA11007	
	Date Feb-18	Appendix	

### 24-hr TSP Concentration Levels



Title Contract No. DC/2009/10 HATS 2A – Upgrading Works at SCISTW– Main Pumping Station, Sedimentation Tanks and Ancillary Graphical Presentation of 24-hour TSP Monitoring Results	Scale N.T.S	Project No. MA11007	<b>CINOTECH</b>
	Date Feb 18	Appendix	

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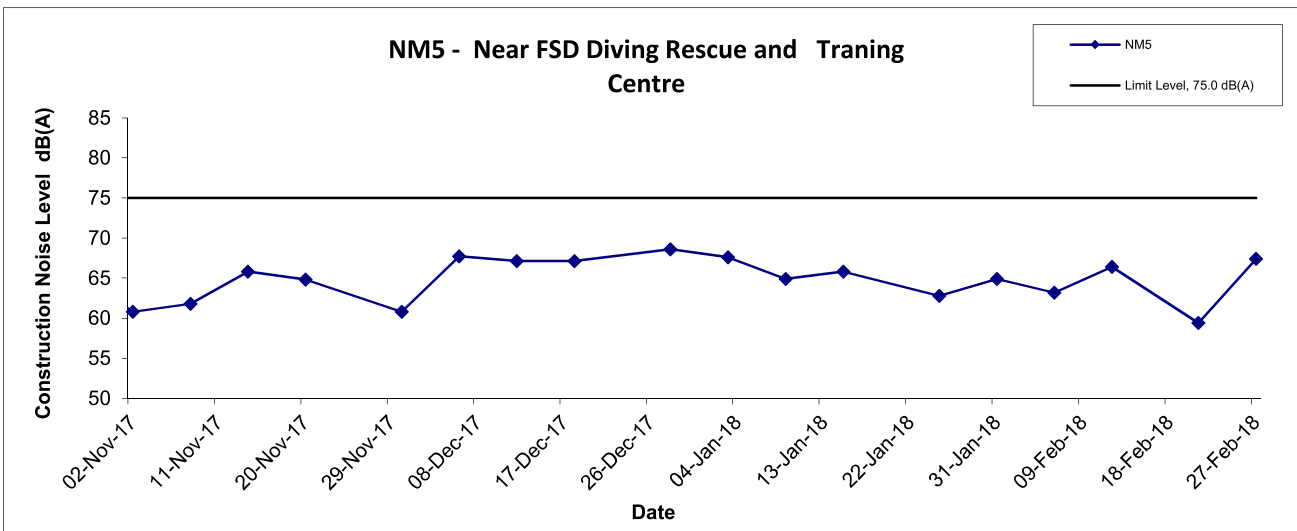
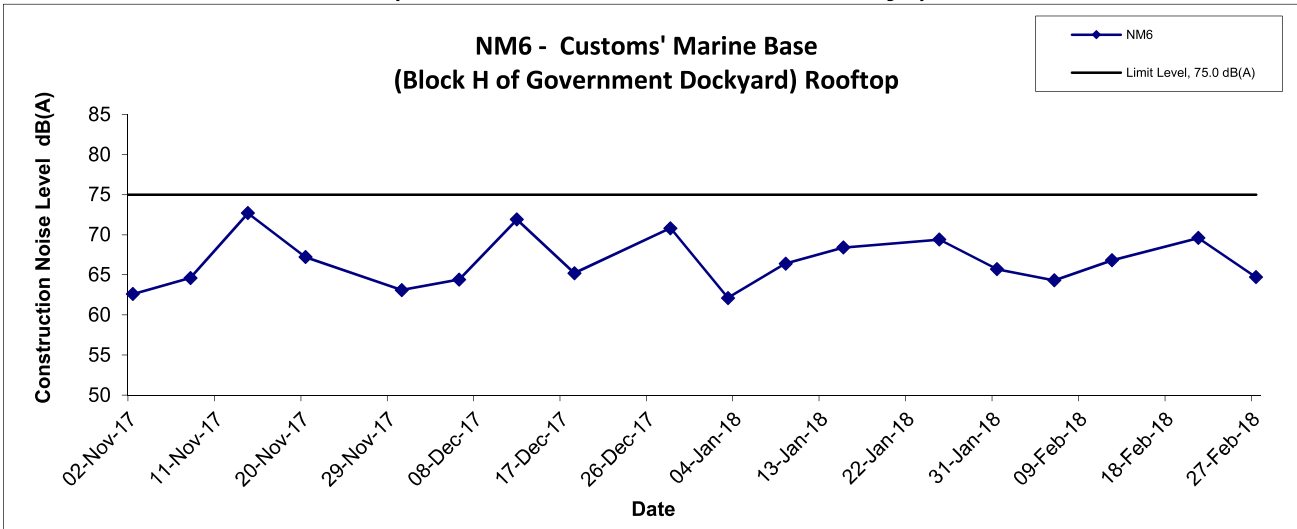
**APPENDIX C  
NOISE MONITORING RESULTS AND  
GRAPHICAL PRESENTATIONS**

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## Noise Levels

### (0700-1900 hrs on Normal Weekdays)



Title Contract No. DC/2009/10  
HATS 2A – Upgrading Works at SCISTW–  
Main Pumping Station, Sedimentation Tanks and Ancillary  
Graphical Presentation of Noise Monitoring Result

Scale N.T.S  
Date Feb 18

Project No. MA11007  
Appendix



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**APPENDIX D  
SUMMARY OF EXCEEDANCE**

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## **APPENDIX D – SUMMARY OF EXCEEDANCE**

**Reporting Quarter:** December 2017 to February 2018

- a) Exceedance Report for 1-hr TSP (NIL)**
- b) Exceedance Report for 24-hr TSP (NIL)**
- c) I: Exceedance Report for Construction Noise during normal working hours(NIL)**  
**II: Exceedance Report for Construction Noise during restricted hours (NIL)**

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**APPENDIX E**  
**EVENT ACTION PLANS**

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**APPENDIX E – Event / Action Plans**

**Table E-1 Event / Action Plan for Air Quality**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>ACTION LEVEL</b>				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform IEC and ER; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily.	1. Check monitoring data submitted by ET; 2. Check Contractor’s working method.	1. Notify Contractor.	1. Rectify any unacceptable practice; 2. Amend working methods if appropriate.
2. Exceedance for two or more consecutive samples	1. Identify source; 2. Inform IEC and ER; 3. Advise the ER on the effectiveness of the proposed remedial measures; 4. Repeat measurements to confirm findings; 5. Increase monitoring frequency to daily; 6. Discuss with IEC and Contractor on remedial actions required; 7. If exceedance continues, arrange meeting with IEC and ER; 8. If exceedance stops, cease additional monitoring	1. Check monitoring data submitted by ET; 2. Check Contractor’s working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ET on the effectiveness of the proposed remedial measures; 5. Supervise Implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Submit proposals for remedial to ER within 3 working days of notification; 2. Implement the agreed proposals; 3. Amend proposal if appropriate

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
<b>LIMIT LEVEL</b>				
1. Exceedance for one sample	1. Identify source, investigate the causes of exceedance and propose remedial measures; 2. Inform ER, Contractor and EPD; 3. Repeat measurement to confirm finding; 4. Increase monitoring frequency to daily; 5. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results.	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss with ET and Contractor on possible remedial measures; 4. Advise the ER on the effectiveness of the proposed remedial measures; 5. Supervise implementation of remedial measures	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. Ensure remedial measures properly implemented	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Amend proposal if appropriate
2. Exceedance for two or more consecutive samples	1. Notify IEC, ER, Contractor and EPD; 2. Identify source; 3. Repeat measurement to confirm findings; 4. Increase monitoring frequency to daily; 5. Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented; 6. Arrange meeting with IEC and ER to discuss the remedial actions to be taken; 7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;	1. Check monitoring data submitted by ET; 2. Check Contractor's working method; 3. Discuss amongst ER, ET, and Contractor on the potential remedial actions; 4. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly; 5. Supervise the implementation of remedial measures.	1. Confirm receipt of notification of failure in writing; 2. Notify Contractor; 3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented; 4. Ensure remedial measures properly implemented; 5. If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is	1. Take immediate action to avoid further exceedance; 2. Submit proposals for remedial actions to IEC within 3 working days of notification; 3. Implement the agreed proposals; 4. Resubmit proposals if problem still not under control; 5. Stop the relevant portion of works as determined by the ER until the exceedance is abated

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
	8. If exceedance stops, cease additional monitoring		abated.	

**Table E-2 Event / Action Plan for Construction Noise**

EVENT	ACTION			
	ET	IEC	ER	CONTRACTOR
Action Level being exceeded	<ol style="list-style-type: none"> <li>1. Notify ER, IEC and Contractor;</li> <li>2. Carry out investigation;</li> <li>3. Report the results of investigation to the IEC, ER and Contractor;</li> <li>4. Discuss with the IEC and Contractor on remedial measures required;</li> <li>5. Increase monitoring frequency to check mitigation effectiveness</li> </ol>	<ol style="list-style-type: none"> <li>1. Review the investigation results submitted by the ET;</li> <li>2. Review the proposed remedial measures by the Contractor and advise the ER accordingly;</li> <li>3. Advise the ER on the effectiveness of the proposed remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures</li> </ol>	<ol style="list-style-type: none"> <li>1. Submit noise mitigation proposals to IEC and ER;</li> <li>2. Implement noise mitigation proposals</li> </ol>
Limit Level being exceeded	<ol style="list-style-type: none"> <li>1. Inform IEC, ER, Contractor and EPD;</li> <li>2. Repeat measurements to confirm findings;</li> <li>3. Increase monitoring frequency;</li> <li>4. Identify source and investigate the cause of exceedance;</li> <li>5. Carry out analysis of Contractor's working procedures;</li> <li>6. Discuss with the IEC, Contractor and ER on remedial measures required;</li> <li>7. Assess effectiveness of Contractor's remedial actions and keep IEC, EPD and ER informed of the results;</li> <li>8. If exceedance stops, cease additional monitoring</li> </ol>	<ol style="list-style-type: none"> <li>1. Discuss amongst ER, ET, and Contractor on the potential remedial actions;</li> <li>2. Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the ER accordingly.</li> </ol>	<ol style="list-style-type: none"> <li>1. Confirm receipt of notification of failure in writing;</li> <li>2. Notify Contractor;</li> <li>3. In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>4. Supervise the implementation of remedial measures;</li> <li>5. If exceedance continues, consider stopping the Contractor to continue working on that portion of work which causes the exceedance until the exceedance is abated</li> </ol>	<ol style="list-style-type: none"> <li>1. Take immediate action to avoid further exceedance;</li> <li>2. Submit proposals for remedial actions to IEC and ER within 3 working days of notification;</li> <li>3. Implement the agreed proposals;</li> <li>4. Submit further proposal if problem still not under control;</li> <li>5. Stop the relevant portion of works as instructed by the ER until the exceedance is abated</li> </ol>

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**APPENDIX F  
SITE AUDIT SUMMARY**

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Contract No: DC/2009/10

HATS 2A Upgrading Main Pumping Station,

Sedimentation Tanks and Ancillary Facilities at SCISTW

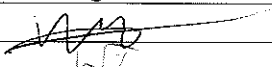

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	171207
Date	7 December 2017 (Thursday)
Time	09:30-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
171207-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"><li>• Sediment and water generated from road works should be cleared (Portion 4).</li></ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Others</b></p> <ul style="list-style-type: none"><li>• -</li></ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"><li>• -</li></ul>	A 19

	Name	Signature	Date
Recorded by	Victor Wong		7 December 2017
Checked by	Dr. Priscilla Choy		7 December 2017



Contract No: DC/2009/10

HATS 2A Upgrading Main Pumping Station,

Sedimentation Tanks and Ancillary Facilities at SCISTW

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	171212
Date	12 December 2017 (Thursday)
Time	09:30-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
171212-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>General refuse should be disposed or reused (Portion 4).</li></ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Others</b></p> <ul style="list-style-type: none"><li>-</li></ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"><li>-</li></ul>	E 1i

	Name	Signature	Date
Recorded by	Victor Wong		12 December 2017
Checked by	Dr. Priscilla Choy		12 December 2017

Contract No: DC/2009/10

HATS 2A Upgrading Main Pumping Station,

Sedimentation Tanks and Ancillary Facilities at SCISTW

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	171221
Date	21 December 2017 (Thursday)
Time	09:30-11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
171221-O01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"><li>Sediment on the haul road should be cleared (Portion 6).</li></ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Others</b></p> <ul style="list-style-type: none"><li>-</li></ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"><li>-</li></ul>	C 3

	Name	Signature	Date
Recorded by	Victor Wong		21 December 2017
Checked by	Dr. Priscilla Choy		21 December 2017

Contract No: DC/2009/10

**HATS 2A Upgrading Main Pumping Station,  
Sedimentation Tanks and Ancillary Facilities at SCISTW**

**Record Summary of Environmental Site Inspection**


**Inspection Information**

Checklist Reference Number	171228
Date	28 December 2017 (Thursday)
Time	09:30-11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
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	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Others</b></p> <ul style="list-style-type: none"><li>• -</li></ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"><li>• -</li></ul>	
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	Name	Signature	Date
Recorded by	Victor Wong		28 December 2017
Checked by	Dr. Priscilla Choy		28 December 2017

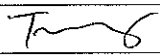

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	171205
Date	5 December 2017 (Tuesday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
171205-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>Rubbish was observed within U-channel. Contractor was reminded to remove the rubbish regularly.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	A 19
171205-R02	<p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>C&amp;D waste was observed in rooftop. Contractor was reminded to sort or remove the C&amp;D waste.</li> </ul>	E 4ii
171205-R03	<ul style="list-style-type: none"> <li>The PME should be maintained well to prevent fuel leakage.</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b> Follow up on the previous session, the item 171128-R01 was remarked as 171205-R01 for further improvement.</p>	E 7i

	Name	Signature	Date
Recorded by	Tommy Cheng		5 December 2017
Checked by	Dr. Priscilla Choy		5 December 2017

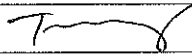

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	171212
Date	12 December 2017 (Tuesday)
Time	14:00-15:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
171212-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>Water hose should be maintained well to prevent the silt surface runoff.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	A 11
171212-R02	<p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>The C&amp;D waste should be sorted or disposed properly.</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b> Follow up on the previous session, the item 171205-R02 was remarked as 171212-R02 for further improvement.</p>	E 4ii

	Name	Signature	Date
Recorded by	Tommy Cheng		12 December 2017
Checked by	Dr. Priscilla Choy		12 December 2017



Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	171219
Date	19 December 2017 (Tuesday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
171219-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>Rubbish and debris should be removed within U-channel.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <p>-</p>	A 19

	Name	Signature	Date
Recorded by	Tommy Cheng		19 December 2017
Checked by	Dr. Priscilla Choy		19 December 2017



Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	171227
Date	27 December 2017 (Wednesday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
171227-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>The chemical containers placed on the drainage system was observed. Contractor was reminded to provide drip tray for chemical storage to prevent leakage.</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <p>-</p>	E 7ii

	Name	Signature	Date
Recorded by	Tommy Cheng		27 December 2017
Checked by	Dr. Priscilla Choy		27 December 2017

Contract No: DC/2009/10

HATS 2A Upgrading Main Pumping Station,

Sedimentation Tanks and Ancillary Facilities at SCISTW

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180104
Date	4 January 2018 (Thursday)
Time	09:30-11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
180104-001	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>General Refuse should be cleared regularly (Portion 4)</li></ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Others</b></p> <ul style="list-style-type: none"><li>-</li></ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"><li>-</li></ul>	E 1i

	Name	Signature	Date
Recorded by	Victor Wong		4 January 2018
Checked by	Dr. Priscilla Choy		4 January 2018



Contract No: DC/2009/10

*HATS 2A Upgrading Main Pumping Station,  
Sedimentation Tanks and Ancillary Facilities at SCISTW*

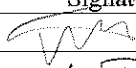
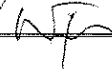
Record Summary of Environmental Site Inspection

**Inspection Information**

Checklist Reference Number	180111
Date	11 January 2018 (Thursday)
Time	09:30-11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
180111-001	<p><i>Part A - Water Quality</i></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><i>Part B - Landscape and Visual</i></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><i>Part C - Air Quality</i></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><i>Part D - Noise</i></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><i>Part E - Waste / Chemical Management</i></p> <ul style="list-style-type: none"><li>• General refuse should be sorted and disposed regularly (Portion 3).</li></ul> <p><i>Part F - Permit / Licence</i></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><i>Others</i></p> <ul style="list-style-type: none"><li>• -</li></ul> <p><i>Remark:</i></p> <ul style="list-style-type: none"><li>• -</li></ul>	E ii

	Name	Signature	Date
Recorded by	Victor Wong		11 January 2018
Checked by	Dr. Priscilla Choy		11 January 2018

Contract No: DC/2009/10

HATS 2A Upgrading Main Pumping Station,

Sedimentation Tanks and Ancillary Facilities at SCISTW



Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180117
Date	17 January 2018 (Wednesday)
Time	14:00-16:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
180117-O01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"><li>Dusty haul road should be sprayed with water (Portion 7).</li></ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul>	C 3
180117-O02	<p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>Oil stain should be cleared from the main road (Portion 4).</li></ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Others</b></p> <ul style="list-style-type: none"><li>-</li></ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"><li>-</li></ul>	E 7i

	Name	Signature	Date
Recorded by	Victor Wong		17 January 2018
Checked by	Dr. Priscilla Choy		17 January 2018

**Contract No: DC/2009/10**  
**HATS 2A Upgrading Main Pumping Station,**  
**Sedimentation Tanks and Ancillary Facilities at SCISTW**

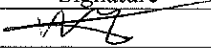

**Record Summary of Environmental Site Inspection**

**Inspection Information**

Checklist Reference Number	180125
Date	25 January 2018 (Thursday)
Time	09:30-11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Others</b></p> <ul style="list-style-type: none"> <li>-</li> </ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"> <li>-</li> </ul>	

	Name	Signature	Date
Recorded by	Victor Wong		25 January 2018
Checked by	Dr. Priscilla Choy		25 January 2018

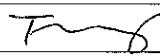

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180102
Date	2 January 2018 (Tuesday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <p>-</p>	

	Name	Signature	Date
Recorded by	Tommy Cheng		2 January 2018
Checked by	Dr. Priscilla Choy		2 January 2018

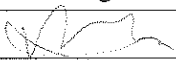

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180109
Date	9 January 2018 (Tuesday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
180109-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>General refuse and other C&amp;D waste should be cleared and disposed as soon as possible.</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <p>-</p>	E li

	Name	Signature	Date
Recorded by	Victor Wong		9 January 2018
Checked by	Dr. Priscilla Choy		9 January 2018

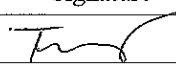

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180117
Date	17 January 2018 (Wednesday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
180117-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>Water hose should be maintained well to prevent site surface runoff.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	A 11
180117-R02	<p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>C&amp;D waste should be disposed properly and regularly.</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <p>-</p>	E 4ii

	Name	Signature	Date
Recorded by	Tommy Cheng		17 January 2018
Checked by	Dr. Priscilla Choy		17 January 2018



Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180123
Date	23 January 2018 (Tuesday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <p>-</p>	

	Name	Signature	Date
Recorded by	Tommy Cheng		23 January 2018
Checked by	Dr. Priscilla Choy		23 January 2018

Contract No: DC/2009/17

**HATS 2A Sludge Dewatering Facilities at Stonecutters Island STW**

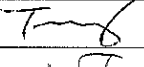
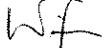
**Record Summary of Environmental Site Inspection**

**Inspection Information**

Checklist Reference Number	180130
Date	30 January 2018 (Tuesday)
Time	09:30-10:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection</li></ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection</li></ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"><li>• No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Remark:</b></p> <p>-</p>	

	Name	Signature	Date
Recorded by	Tommy Cheng		30 January 2018
Checked by	Dr. Priscilla Choy		30 January 2018



**Contract No: DC/2009/10**  
**HATS 2A Upgrading Main Pumping Station,**  
**Sedimentation Tanks and Ancillary Facilities at SCISTW**


**Record Summary of Environmental Site Inspection**

**Inspection Information**

Checklist Reference Number	180201
Date	1 February 2018 (Thursday)
Time	09:30-11:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Others</b></p> <ul style="list-style-type: none"> <li>-</li> </ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"> <li>-</li> </ul>	

	Name	Signature	Date
Recorded by	Victor Wong		1 February 2018
Checked by	Dr. Priscilla Choy		1 February 2018

**Contract No: DC/2009/10**  
**HATS 2A Upgrading Main Pumping Station,**  
**Sedimentation Tanks and Ancillary Facilities at SCISTW**



**Record Summary of Environmental Site Inspection**

**Inspection Information**

Checklist Reference Number	180201
Date	8 February 2018 (Thursday)
Time	09:30-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
180208-001	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>Oil leakage from equipment should be avoided.</li> </ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Others</b></p> <ul style="list-style-type: none"> <li>-</li> </ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"> <li>-</li> </ul>	E 7i

	Name	Signature	Date
Recorded by	Victor Wong		8 February 2018
Checked by	Ivy Tam		8 February 2018

Contract No: DC/2009/10

HATS 2A Upgrading Main Pumping Station,

Sedimentation Tanks and Ancillary Facilities at SCISTW

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180214
Date	14 February 2018 (Wednesday)
Time	09:30-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
180214-R02	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"><li>Water spray should be provided within haul road regularly for dust suppression.</li></ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul>	C 5
180214-O01	<p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>PME should be maintained well to prevent fuel leakage.</li></ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Others</b></p> <ul style="list-style-type: none"><li>-</li></ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"><li>Follow up on the pervious audit session, item 180208-O01 was remarked as item 180214-O01 for further improvement by the Contractor.</li></ul>	E 7i

	Name	Signature	Date
Recorded by	Tommy Cheng		14 February 2018
Checked by	Ivy Tam		14 February 2018

Contract No: DC/2009/10

HATS 2A Upgrading Main Pumping Station,

Sedimentation Tanks and Ancillary Facilities at SCISTW

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180222
Date	22 February 2018 (Thursday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
180222-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"><li>Sediment near the main road should be cleared (Portion 6).</li></ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part F - Permit / Licence</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Others</b></p> <ul style="list-style-type: none"><li>-</li></ul> <p><b>Remark:</b></p> <ul style="list-style-type: none"><li>-</li></ul>	C 5

	Name	Signature	Date
Recorded by	Victor Wong		22 February 2018
Checked by	Dr. Priscilla Choy		22 February 2018

Contract No: DC/2009/17

**HATS 2A Sludge Dewatering Facilities at Stonecutters Island STW**

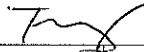

**Record Summary of Environmental Site Inspection**

**Inspection Information**

Checklist Reference Number	180206
Date	6 February 2018 (Tuesday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
180206-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>Chemical containers should be stored properly in designated area/drip tray to prevent leakage.</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <p>-</p>	E 7ii

	Name	Signature	Date
Recorded by	Tommy Cheng		6 February 2018
Checked by	Dr. Priscilla Choy		6 February 2018

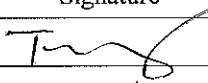

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180213
Date	13 February 2018 (Tuesday)
Time	09:30-10:30

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
180213-R01	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>Chemical containers should be stored properly in designated area/drip tray to prevent leakage.</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <p>-</p>	E 7ii

	Name	Signature	Date
Recorded by	Tommy Cheng		13 February 2018
Checked by	Ivy Tam		13 February 2018

Contract No: DC/2009/17

HATS 2A Sludge Dewatering Facilities at Stonecutters Island STW

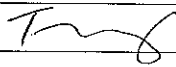

Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180222
Date	22 February 2018 (Thursday)
Time	14:00-15:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection</li></ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"><li>No environmental deficiency was identified during the site inspection.</li></ul> <p><b>Remark:</b></p> <p>-</p>	

	Name	Signature	Date
Recorded by	Tommy Cheng		22 February 2018
Checked by	Dr. Priscilla Choy		22 February 2018


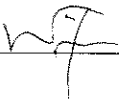
Record Summary of Environmental Site Inspection

Inspection Information

Checklist Reference Number	180227
Date	27 February 2018 (Tuesday)
Time	10:00-11:00

Ref. No.	Non-Compliance	Related Item No.
-	None identified	-

Ref. No.	Remarks/Observations	Related Item No.
	<p><b>Part A - Water Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection</li> </ul> <p><b>Part B - Landscape and Visual</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part C - Air Quality</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part D - Noise</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part E - Waste / Chemical Management</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Part F - Permit / Licences</b></p> <ul style="list-style-type: none"> <li>No environmental deficiency was identified during the site inspection.</li> </ul> <p><b>Remark:</b></p> <p>-</p>	

	Name	Signature	Date
Recorded by	Tommy Cheng		27 February 2018
Checked by	Dr. Priscilla Choy		27 February 2018



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**APPENDIX G  
ENVIRONMENTAL MITIGATION  
IMPLEMENTATION SCHEDULE (EMIS)**

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**APPENDIX G IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)**

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract	
			DC/2009/17	DC/2009/10
<b>A</b>	<b>Air Quality</b>			
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	^	^
	Vehicle washing facilities should be provided at every vehicle exit point.		^	^
	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.		^	^
	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.		N/A	N/A
	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.		^	*
	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.		^	^
	Open stockpiles shall be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs		*	^
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		^	^
	Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.		^	^
	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.		^	^
	Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving the construction sites.		^	^
3.74	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.	All construction sites	^	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract	
			DC/2009/17	DC/2009/10
<b>B</b>	<b>Airborne Noise</b>			
4.56– 4.61	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	^	^
4.67	Only well-maintained plant shall be operated on-site and plant shall be serviced regularly during the construction program.		^	^
	Silencers or mufflers on construction equipment shall be utilized and shall be properly maintained during the construction program.		^	^
	Mobile plant, if any, shall be sited as far away from NSRs as possible.		^	^
	Machines and plant (such as trucks) that may be in intermittent use shall be shut down between works periods or shall be throttled down to a minimum.		^	^
4.67	Plant known to emit noise strongly in one direction shall, wherever possible, be orientated so that the noise is directed away from the nearby NSRs.		^	^
	Material stockpiles and other structures shall be effectively utilized, wherever practicable, in screening noise from on-site construction activities.		^	^
<b>C</b>	<b>Water Quality</b>			
6.349 to 6.375	Construction Site Runoff and General Construction Activities The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.	All construction sites	*	*
6.376	Effluent Discharge There is a need to apply to EPD for a discharge licence for discharge of effluent from the construction site under the WPCO. The discharge quality must meet the requirements specified in the discharge licence. 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. Minimum distances of 100 m should be maintained between the discharge points of construction site effluent and the existing saltwater intakes.		^	^
6.377	Accidental Spillage of Chemicals  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.		^	*

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract	
			DC/2009/17	DC/2009/10
6.378	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 fuel and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		*	*
6.379	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 labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> <li>• Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>		*	^
6.380	Construction Works in Close Proximity of Storm Drains or Seafront  To minimize the potential water quality impacts from the construction works located at or near any watercourse, the practices outlined below should be adopted where applicable. <ul style="list-style-type: none"> <li>• The use of less or smaller construction plants may be specified to reduce the disturbance to the storm water courses or marine environment.</li> <li>• Temporary storage of materials (e.g. equipment, filling materials, chemicals and fuel) and temporary stockpile of construction materials should be located well away from any water courses during carrying out of the construction works.</li> <li>• Stockpiling of construction materials and dusty materials should be covered and located away from any water courses.</li> <li>• Construction debris and spoil should be covered up and/or disposed of as soon as possible to avoid being washed into the nearby water receivers. Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the waterfront, where practicable.</li> <li>• Proper shoring may need to be erected in order to prevent soil/mud from slipping into the storm culvert or sea.</li> </ul>		All construction sites	*

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract	
			DC/2009/17	DC/2009/10
<b>D</b>	<b>Waste Management</b>			
9.107	Reusable steel or concrete panel shutters, fencing and hoarding and signboard should be used as a preferred alternative to items made of wood, to minimize wastage of wood. Attention should be paid to WBTC No. 19/2001 - Metallic Site Hoardings and Signboards to reduce the amount of timber used on construction sites. Metallic alternatives to timber are readily available and should be used rather than new timber. Precast concrete units should be adopted wherever feasible to minimize the use of timber formwork.	All construction sites	^	^
9.109	All waste materials should be segregated into categories covering: <ul style="list-style-type: none"> <li>excavated materials suitable for reuse on-site;</li> <li>excavated materials suitable for public filling facilities;</li> <li>remaining C&amp;D waste for landfill;</li> <li>chemical waste; and</li> <li>general refuse for landfill.</li> </ul>	All construction sites	^	^
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals;		^	^
	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.		^	^
	Encourage collection of aluminium cans, PET bottles and paper by providing separate labelled bins to enable these wastes to be segregated from other general refuse generated by the work force.		^	^
	Any unused chemicals or those with remaining functional capacity shall be recycled.		^	^
	Proper storage and site practices to minimise the potential for damage or contamination of construction materials.		^	^
9.115	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.		^	^
	Training of site personnel in proper waste management and chemical waste handling procedures.		^	^
	Develop and provide toolbox talk for on-site sorting of C&D materials to enhance worker's awareness in handling, sorting, reuse and recycling of C&D materials.		^	^
	Provision of sufficient waste disposal points and regular collection of waste.		^	^
	Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.		*	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract	
			DC/2009/17	DC/2009/10
9.125	Bentonite slurries used in diaphragm wall construction should be reconditioned and reused wherever practicable. The disposal of residual used bentonite slurry should follow the good practice guidelines stated in ProPECC PN 1/94 "Construction Site Drainage"	All construction sites	^	^
9.131	Adequate number of portable toilets at temporary works areas or the PTWs to ensure that sewage from site staff would be properly collected.		^	^
9.133	General refuse should be stored in enclosed bins, skips or compaction units separating from C&D material and disposed of at designated landfill.		*	*
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminium cans, paper and cleansed plastic containers should be separated from other waste. Provision and collection of recycling bins for different types of recyclable waste should be set up by the Contractor. The Contractor should also be responsible for arranging recycling companies to collect these materials.		^	^
9.137	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.		^	^
9.142	Prior to excavation of the marine deposit layer, the deposit should be tested in accordance with the ETWB TC(W) No. 34/2002 and the results should be presented in a Preliminary Sediment Quality Report. The marine deposit should be disposed of at the disposal site designated by the Marine Fill Committee (MFC) or Director of Environmental Protection (DEP) depending on the test results.		N/A	N/A
<b>E</b>	<b>Terrestrial Ecology</b>			
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction sites	N/A	N/A
10.95	Dust control practices such as regular watering, complete coverage of any aggregate or dusty material storage piles, and re-schedule of dusty activities during high-wind conditions as well as other measures recommended in Section 3 of EIA, should be implemented.		^	^

EIA Ref.	Recommended Mitigation Measures	Location of the measure	Implementation Contract	
			DC/2009/17	DC/2009/10
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		^	^
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		N/A	N/A
10.98	Provision of proper drainage system and runoff control measures such as use of sand/silt traps, oil/grease separators, sedimentation tanks, etc.		^	^
<b>F</b>	<b>Landscape and Visual</b>			
Table 13.7	Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical.	All construction sites	^	^
	Existing trees to be retained on site should be carefully protected during construction.		^	^
	Trees unavoidably affected by the works should be transplanted where practical.		^	^
	Compensatory tree planting should be provided to compensate for felled trees.		^	^
	Control of night-time lighting.		^	^
Table 13.7	Erection of decorative screen hoarding compatible with the surrounding setting.		N/A	N/A
<b>G</b>	<b>Marine Ecology</b>			
11.137	To minimize the potential indirect impacts on water quality from construction site runoff and various construction activities, the practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted.	All construction sites	^	^
<b>H</b>	<b>Hazard to Life</b>			
14A.201	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	Location determined on construction site by the engineer	^	^
<b>I</b>	<b>Cultural Heritage</b>			
Tables 15.8 - 15.11	The construction vibration control limit (ppv of 25mm/s) shall be strictly followed.	EM&A Manual Tables 15.8, 15.9, 15.10 and 15.11	N/A	N/A

Remarks:	^ Compliance of mitigation measure;
	<> Compliance of mitigation measure but need improvement';
	N/A Not Applicable;
	* Recommendation was made during site audit but improved/rectified by the contractor.
	@ partially implemented
	X Non-compliance of mitigation measure;
	• Non-compliance but rectified by the contractor;
	# Recommendation was made during site audit and to be improved / rectified by the contractor.



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**APPENDIX H**  
**LANDSCAPE AND VISUAL SITE AUDIT**

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**APPENDIX H – SUMMARY OF THE MONTHLY LANDSCAPE AND VISUAL SITE AUDIT**

**Reporting Month:** December 2017 to February 2018

<b>Reference no.</b>	<b>Contract no. / Location</b>	<b>Observation / Recommendation</b>	<b>Follow Up Action</b>	<b>Status</b>
N/A	N/A	N/A	N/A	N/A

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**APPENDIX I  
COMPLAINT LOG**

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**APPENDIX I – COMPLAINT LOG**

**Reporting Quarter:** December 2017 to February 2018

Log Ref.	Location	Received Date	Details of Complaint	Investigation/Mitigation Action	Status
Com#1_22-07-13	Construction site at Portion 3 and 7 (DC/2009/18)	22 July 2013	The complaint was lodged by a complainant on 22 July 2013 concerning noise generated from the construction works at 03:00am on 19 July 2013.	<p>According to the information provided by the Contractor, mucking out excavated rocks was carried out 90m below ground within a noise enclosure area.</p> <p>Furthermore, the distance between the complainant’s residence and the closest construction work is at least 1km away, which would have shapely minimized the chance of potential noise disturbance to the complainant’s area.</p> <p>Based on the monitoring results and the other information collected, the complaint was considered not justifiable since no exceedance of the noise monitoring results was recorded in July</p> <p>The Contractor was reminded to make sure the noise enclosure door will be kept close during night time construction.</p>	Closed

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**APPENDIX J  
WASTE FLOW TABLES**

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Name of Department:                     DSD                    

Contract No. :                     DC/2009/10                    

**Monthly Summary Waste Flow Table for 2017 (year)**

Month	Actual Quantities of inert C&D Materials Generated Monthly						Actual Quantities of C&D Materials Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard	Plastics (see Note 3)	Chemical Waste	Other, e.g. general refuse
	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000kg)	(In '000kg)	(In '000kg)	(In '000kg)	(In '000m <sup>3</sup> )
Jan	0.725	0.725	0	0	0.725	0	0.000	0.000	0.000	0	0.002
Feb	0.191	0.191	0	0	0.191	0	0.000	0.230	0.000	0	0.014
Mar	0.608	0.608	0	0	0.608	0	0.000	0.000	0.000	0	0.014
Apr	0.347	0.347	0	0	0.347	0	0.000	0.000	0.000	0	0.008
May	0.278	0.278	0	0	0.278	0	0.000	0.000	0.000	0	0.008
June	0.261	0.261	0	0	0.261	0	0.000	0.000	0.000	0	0.009
Sub-total	2.410	2.410	0.000	0.000	2.410	0.000	0.000	0.230	0.000	0.000	0.054
July	0.481	0.481	0	0	0.481	0	0.000	0.190	0.000	0	0.016
Aug	0.587	0.587	0	0	0.587	0	0.000	0.000	0.000	0	0.015
Sep	0.500	0.500	0	0	0.500	0	0.000	0.000	0.000	0.700	0.011
Oct	0.375	0.375	0	0	0.375	0	0.000	0.000	0.000	0	0.012
Nov	0.388	0.388	0	0	0.388	0	0.000	0.000	0.000	0	0.008
Dec	0.342	0.342	0	0	0.342	0	0.000	0.000	0.000	0	0.003
Total	5.084	5.084	0	0	5.084	0	0.000	0.420	0.000	0.7	0.120
Total throughout project year	57.353	57.353	0.000	0.000	57.353	0.000	372.871	8.168	3.314	2.047	1.882

- Notes:
- (1) The performance targets are given in PS Clause 25.41(14).
  - (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
  - (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
  - (4) The conversion factor for tonne to m<sup>3</sup> for inert C&D materials is 1.9 tonne/m<sup>3</sup>.
  - (5) The conversion factor for tonne to m<sup>3</sup> for general refuse is 1.8 tonne/m<sup>3</sup>.

Name of Department:                     DSD                    

Contract No. :                     DC/2009/10                    

**Monthly Summary Waste Flow Table for 2018 (year)**

Month	Actual Quantities of inert C&D Materials Generated Monthly						Actual Quantities of C&D Materials Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Imported Fill	Metals	Paper/ cardboard	Plastics (see Note 3)	Chemical Waste	Other, e.g. general refuse
	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000kg)	(In '000kg)	(In '000kg)	(In '000kg)	(In '000m <sup>3</sup> )
Jan	0.182	0.182	0	0	0.182	0	0.000	0.000	0.000	0	0.005
Feb	0.008	0.008	0	0	0.008	0	0.000	0.000	0.000	0.18	0.008
Mar											
Apr											
May											
June											
Sub-total	0.190	0.190	0.000	0.000	0.190	0.000	0.000	0.000	0.000	0.180	0.014
July											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.190	0.190	0	0	0.190	0	0.000	0.000	0.000	0.18	0.014
Total throughout project year	57.543	57.543	0.000	0.000	57.543	0.000	372.871	8.168	3.314	2.227	1.895

Notes:

- (1) The performance targets are given in PS Clause 25.41(14).
- (2) The waste flow table shall also include C&D materials that are specified in the Contract to be imported for use at the Site.
- (3) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material
- (4) The conversion factor for tonne to m<sup>3</sup> for inert C&D materials is 1.9 tonne/m<sup>3</sup>.
- (5) The conversion factor for tonne to m<sup>3</sup> for general refuse is 1.8 tonne/m<sup>3</sup>.

**MONTHLY SUMMARY WASTE FLOW TABLE**

Contract No.: DC/2009/17

Monthly summary waste Flow Table for 2017 (year)

Date	Actual Quantities of Inert C & D Materials Generated Monthly							Actual Quantities of non-inert C & D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Soil/Slurry	Reused in the contract	Reused in other Projects on site	Disposed to Public Fill	Imported Fill	Metals	Paper cardboard packaging	Plastics (see Note 3)	Chemical wastes	Others e.g. General refuses
	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in '000m <sup>3</sup> )	( in Ton)	( in '000kg)	( in '000kg)	( in 'L)	( in 'TON)
2010 Aug to Dec	403.61	72.86	330.76	0	0	403.61	0	0	0	0	0	0
2011 Jan to Dec	16714.03	777.82	15936.21	0	0	16713.98	0	25.51	0.325	0	54	118.73
2012 Jan to Dec	2770.73	316.23	2454.50	0	0	2770.73	0	65.96	0.891	0.0085	0	343.97
2013 Jan to Dec	2837.06	377.29	2459.77	0	0	2837.06	0	28.13	1.59	0	200.0	314.32
2014 Jan to Dec	576.68	194.93	381.75	0	0	576.68	0	0.00	2.21	0	2000.0	145.52
2015 Jan to Dec	15878.75	1521.26	14073.58	40	244	15350.96	0	274.1	0.59	0	0	241.24
2016 Jan to Dec	2960.01	593.23	2005.86	361	0	2599.09	0	37.23	0	0	0	342.07
2017 Jan	91.33	77.10	14.24	0	0	91.33	0	0	0	0	0	172.97
2017 Feb	265.93	13.88	252.05	0	0	265.93	0	0	0	0	0	11.08
2017 Mar	368.91	97.06	271.85	0	0	368.91	0	0	0	0	0	36.23
2017 Apr	212.02	134.86	77.16	0	0	212.02	0	0	0	0	0	15.57
2017 May	73.13	50.52	22.62	0	0	73.13	0	0	0	0	0	16.91
2017 Jun	183.97	50.1	133.87	0	0	183.97	0	0	0	0	0	12
2017 Jul	550.45	85.80	464.65	0	0	550.45	0	0	0	0	0	19.97
2017 Aug	167.12	35.80	131.32	0	0	167.12	0	0	0	0	400	16.09
2017 Sep	248.07	40.16	207.91	0	0	248.07	0	0	0	0	0	47.05
2017 Oct	151.33	25.81	125.52	0	0	151.33	0	0	0	0	0	8.55
2017 Nov	113.41	106.29	7.12	0	0	0.00	0	0	0	0	0	21.55
2017 Dec	0	0	0	0	0	0	0	0	0	0	0	6.18
Total	44566.53	4571.00	39350.70	400.92	243.91	43564.36	0.00	430.93	5.60	0.01	2654.00	1890.00

Forecast of Total quantities of C&D Materials to be Generated from the Contract							Forecast of Total quantities of non-inert C&D Materials to be Genated from the Contract				
Total Quantity Generated	Hard Rock and Large Broke Concrete	Soil/Slurry	Reused in the contract	Reused in other Projects	Disposed to Public Fill	Imported Fill	Metals	Paper cardboard packaging	Plastics (see Note 3)	Chemical wastes	Others e.g. General refuses
( in m3)	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in '000m <sup>3</sup> )	( inTon)	( in '000kg)	( in '000kg)	( in 'L)	( inTon)
36,698	8,561	28,137	/	1,700	36,698	/	2000	100	20	15000	1650

Notes:

- (1) The performance targets are given in PS Clause 6(14)
- (2) The waste flow table shall also include C& D materials that are specified in the Contract to be imported for use at the Site
- (3) Plastics refer to plastic bottles/containers, Plastic sheets/form from packaging material.
- (4) The Contractor shall also submit the latest forecast of the total amount of C& D materials aspected to be generated from the Works together with a breakdown of the nature where the total amount of C & D materials expected to be generated from the Works is equal to or exceeding 30,000m (PS Clause 8(4) (to refers)[Delete Note (4) and the table above on the foreman where inapplicable.
- (5) The assumed density for inert C & D material and rock/broken concrete are 2000kg/m<sup>3</sup> and 2500kg/m<sup>3</sup> respectively. The asumed density for the general refuse is 1000kg/m<sup>3</sup>.



**MONTHLY SUMMARY WASTE FLOW TABLE**

Contract No.: DC/2009/17

Monthly summary waste Flow Table for 2018 (year)

Date	Actual Quantities of Inert C & D Materials Generated Monthly							Actual Quantities of non-inert C & D Wastes Generated Monthly				
	Total Quantity Generated	Hard Rock and Large Broken Concrete	Soil/Slurry	Reused in the contract	Reused in other Projects on site	Disposed to Public Fill	Imported Fill	Metals	Paper cardboard packaging	Plastics (see Note 3)	Chemical wastes	Others e.g. General refuses
	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in '000m <sup>3</sup> )	( in Ton)	( in '000kg)	( in '000kg)	( in 'L)	( in 'TON)
2010 Aug to Dec	403.61	72.86	330.76	0	0	403.61	0	0	0	0	0	0
2011 Jan to Dec	16714.03	777.82	15936.21	0	0	16713.98	0	25.51	0.325	0	54	118.73
2012 Jan to Dec	2770.73	316.23	2454.50	0	0	2770.73	0	65.96	0.891	0.0085	0	343.97
2013 Jan to Dec	2837.06	377.29	2459.77	0	0	2837.06	0	28.13	1.59	0	200.0	314.32
2014 Jan to Dec	576.68	194.93	381.75	0	0	576.68	0	0.00	2.21	0	2000.0	145.52
2015 Jan to Dec	15878.75	1521.26	14073.58	40	244	15350.96	0	274.1	0.59	0	0	241.24
2016 Jan to Dec	2960.01	593.23	2005.86	361	0	2599.09	0	37.23	0	0	0	342.07
2017 Jan to Dec	2425.66	717.37	1708.29	0	0	2312.25	0	0	0	0	400	384.15
2018 Jan	22.40	20.20	2.20	0.00	0.00	22.40	0	0	0	0	0	7.86
2018 Feb	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0	0	0	4.46
2018 Mar												
2018 Apr												
2018 May												
2018 Jun												
2018 Jul												
2018 Aug												
2018 Sep												
2018 Oct												
2018 Nov												
2018 Dec												
Total	44588.93	4591.20	39352.91	400.92	243.91	43586.76	0.00	430.93	5.60	0.01	2654.00	1902.32

Forecast of Total quantities of C&D Materials to be Generated from the Contract							Forecast of Total quantities of non-inert C&D Materials to be Genated from the Contract				
Total Quantity Generated	Hard Rock and Large Broke Concrete	Soil/Slurry	Reused in the contract	Reused in other Projects	Disposed to Public Fill	Imported Fill	Metals	Paper cardboard packaging	Plastics (see Note 3)	Chemical wastes	Others e.g. General refuses
( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in m <sup>3</sup> )	( in '000m <sup>3</sup> )	( inTon)	( in '000kg)	( in '000kg)	( in 'L)	( inTon)
36,698	8,561	28,137	/	1,700	36,698	/	2000	100	20	15000	1650

Notes:

- (1) The performance targets are given in PS Clause 6(14)
- (2) The waste flow table shall also include C & D materials that are specified in the Contract to be imported for use at the Site
- (3) Plastics refer to plastic bottles/containers, Plastic sheets/form from packaging material.
- (4) The Contractor shall also submit the latest forecast of the total amount of C & D materials aspected to be generated from the Works together with a breakdown of the nature where the total amount of C & D materials expected to be generated from the Works is equal to or exceeding 30,000m (PS Clause 8(4) (to refers)[Delete Note (4) and the table above on the foreman where inapplicable.
- (5) The assumed density for inert C & D material and rock/broken concrete are 2000kg/m<sup>3</sup> and 2500kg/m<sup>3</sup> respectively. The asumed density for the general refuse is 1000kg/m<sup>3</sup>.

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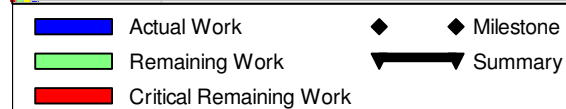
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**APPENDIX K  
CONSTRUCTION PROGRAMMES**

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Activity ID	Activity Name	Activity % Complete	Original Duration	Start	Finish	2018				2019				2020		
						Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
<b>Target Works Programme (Completion for Section 3, 4 and 5)</b>																
<b>Works for Section 3</b>																
<b>MPS2</b>																
<b>Wet Well A</b>																
<b>Pump No. #4 (Hall A)</b>																
A4710	Off site RTD repairing No. 4	0%	40	28-Mar-18	07-May-18											
A4730	Reinstall motor	0%	15	07-May-18	28-May-18											
<b>Pump No. #1 (Hall A)</b>																
A8460	Installation pipe clamps at DN1400 Suction DI pipe at Pump hall level (under monitoring)	80%	100	14-Sep-17 A	24-Jan-18											
<b>Vibration monitoring system (VMS)</b>																
A8965	Rectification works of VMS (Hall A)	15%	45	25-Dec-17 A	15-Feb-18											
A8970	Verification of site installation of VMS (30 days observation- Hall A)	0%	30	15-Feb-18	17-Mar-18											
<b>Discharge Channel and Wet well inspection</b>																
A8480	Isolation of MPS2 (B) by closing DN3000 KGV and stoplogs	0%	5	13-Mar-18	19-Mar-18											
A8490	Wet well B cleansing	0%	35	19-Mar-18	03-May-18											
A9300	Erect scaffold for Sparge System pipes material change	0%	18	03-May-18	25-May-18											
A9390	Dismantling of DI pipes of sparging system	0%	12	25-May-18	08-Jun-18											
A9610	Replace Stainless steel pipe for sparging system	0%	30	08-Jun-18	16-Jul-18											
A9615	Enhancement works for PVC lining inside Wet well (B)	0%	12	16-Jul-18	30-Jul-18											
A9630	SAT for sparging system	0%	18	30-Jul-18	20-Aug-18											
<b>Process water system (Flushing water and cooling water)</b>																
A8560	Re-submit and Approval of WSD WWO542 for flushing water supply	0%	30	22-Jan-18*	28-Feb-18											
A9410	Ordering and delivery of DN150 DI pipes for replacement	30%	20	03-Jan-18 A	17-Jan-18											
A9420	Replacement of existing S.S. pipe to DI pipes	0%	24	18-Jan-18	14-Feb-18											
A9430	Hydraulic Testing of pipelines	0%	6	15-Feb-18	24-Feb-18											
A9440	DCS test for cooling system	0%	24	26-Feb-18	24-Mar-18											
A9450	Application of WSD WWO46 and water meter connection	0%	45	26-Feb-18	23-Apr-18											
<b>F.S system (Office level, FS pump room)</b>																
A8380	Application of WSD WWO46 for FS Water connection	75%	60	19-Jul-17 A	18-Jan-18											
A8580	Modification works of FS sprinkler in Ground floor external wall	90%	15	11-Dec-17 A	03-Jan-18											
A9460	Install Beam detection fire system in G/Fand B/4	35%	12	26-Dec-17 A	10-Jan-18											
A9470	Install smoke detection fire system in B/3 and B/2	60%	12	08-Dec-17 A	06-Jan-18											
A9480	Testing and commissioning	0%	5	10-Jan-18	16-Jan-18											
A9490	scaffolding dismantling	0%	10	15-Jan-18	26-Jan-18											
A9500	Submission of FS501/314	0%	0		19-Jan-18*											
A9510	FSD inspection	0%	10	01-Feb-18	12-Feb-18											
<b>Documentation</b>																
A8750	As-built drawings for MPS2	65%	180	19-Jun-17 A	19-Mar-18											
A8760	Final version of O&M manual for MPS2	85%	90	19-Jun-17 A	17-Jan-18											
A8770	Final Version of Training material for MPS2	0%	30	02-Jan-18	05-Feb-18											
A8774	Training to DSD/ST2	0%	90	16-Apr-18*	01-Aug-18											
A8780	Handover inspection to DSD/ST2	0%	12	17-May-18	31-May-18											
A8790	Handover of spare part to DSD/ST2	0%	18	01-Jun-18	22-Jun-18											
A8800	Handover of MPS2 to DSD/ST2	0%	0		20-Aug-18											
<b>New CEPT</b>																
<b>Sludge Scrapers/ Collection system</b>																
A5995	Visa application for Polychem Engineer	15%	45	13-Dec-17 A	15-Feb-18											
A6005	Programme download and site trial	0%	6	15-Feb-18	26-Feb-18											
A6008	Testing and commissioning	0%	12	26-Feb-18	12-Mar-18											
A6010	RT of FMM system of PSTs and FTs	0%	30	12-Mar-18	11-Apr-18											
A6020	Rectification works for sludge scraper at FT5	15%	24	27-Dec-17 A	25-Jan-18											
A6030	Rectification works for sludge scraper at FT6	0%	24	13-Mar-18	14-Apr-18											
A8510	Install temporary pipelines for sludge pump test	0%	7	19-Mar-18	27-Mar-18											
A9400	SAT for sludge pump 1,2	0%	2	27-Mar-18	29-Mar-18											
A9640	Install temporary pipelines for sludge pump test	0%	7	14-Apr-18	23-Apr-18											
A9890	SAT for Sludge Pump 5,6	0%	1	23-Apr-18	24-Apr-18											
<b>FeCl3 Dosing System</b>																
A9520	Corrective maintenance of FeCl3 pumpset	0%	45	29-Jan-18*	24-Mar-18											
A9530	Install servo actuator to FeCl3 dosing system (VO)	0%	60	13-Mar-18	28-May-18											
A9540	DSC test for installed equipment (VO)	0%	24	28-May-18	26-Jun-18											
<b>Process Air System</b>																
A5550	SAT for S.S. pipeworks after strenghtening works	0%	18	22-Jan-18*	10-Feb-18											
<b>Lifting appliance</b>																
A9650	Lightning protection installation	0%	24	12-Mar-18*	12-Apr-18											
<b>Documentation</b>																
A8835	Training Session to DSD/ST2	65%	120	01-Nov-17 A	22-Feb-18											
A8840	Handover inspection to DSD/ST2	0%	12	24-Apr-18	08-May-18											
A8850	Handover of CEPT to DSD/ST2	0%	0		08-May-18											
<b>Inlet Chamber</b>																
A9550	Relocation flushing valve onto access platform (VO)	0%	18	22-Jan-18*	10-Feb-18											
A9560	DCS SAT for flushing system of 3.6KGV	0%	24	27-Mar-18	30-Apr-18											
<b>E&amp;M installation</b>																
A8230	Installation of monorail lifting appliances	0%	30	15-Jan-18*	21-Feb-18											
A8240	T&C of monorail lifting appliances	0%	3	22-Feb-18	24-Feb-18											



Contract No. DC/2009/10

Sheet 1 of 5

Date	Revision	Checked	Approved
06-Sep-17	Rev. 1		






HATS Stage 2A - Upgrading works at StoneCutters Island Sewage Treatment Works

Target Works Programme for Completion of Section 3, 4 and 5

Activity ID	Activity Name	Activity % Complete	Original Duration	Start	Finish	2018				2019				2020					
						Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
<b>Valve Chamber</b>																			
A3570	Manufacturing and delivery of FRP platform materials	80%	30	03-Oct-17 A	08-Jan-18														
A3580	Installation of FRP platform	0%	35	09-Jan-18	21-Feb-18														
<b>E&amp;M installation</b>																			
A7525	Installation of remaining BS on FRP platform (Non-FS requirement)	0%	5	22-Feb-18	27-Feb-18														
A7526	Relocation flushing valve onto access platform (VO)	0%	14	22-Feb-18	09-Mar-18														
A7536	DCS SAT for valve flushing system in VC	0%	18	17-May-18	07-Jun-18														
A8120	Approval of WSD WWO542 for flushing water supply	0%	35	02-Jan-18	10-Feb-18														
A8130	Dia. 100 underground watermain tee off from existing DN100	80%	45	21-Aug-17 A	11-Jan-18														
A8135	Replacement of S.S. water pipe to DI pipes	0%	30	26-Feb-18*	04-Apr-18														
A8140	Application of WSD WWO46 and water meter connection	0%	35	06-Apr-18	16-May-18														
<b>DOU3</b>																			
<b>Air duct connection works between DOU2 and DOU3</b>																			
A8320	Existing Steel bridge demolition (TBC by ST2)	0%	10	03-Apr-18*	14-Apr-18														
<b>Sodium Hypochlorite Storage Compound</b>																			
<b>C3 and C4 dosing pipes</b>																			
A8010	Construction and installation of inspection chamber (IP07) and underground PVC pipes (Approx. 30m)	40%	18	01-Dec-17 A	13-Jan-18														
A8020	Carryout hydraulic test in section	15%	4	22-Dec-17 A	18-Jan-18														
A8030	Construction and installation of inspection chamber (IP08) and underground PVC pipes (Approx. 30m)	20%	18	29-Dec-17 A	03-Feb-18														
A8040	Carryout hydraulic test in section	0%	4	03-Feb-18	08-Feb-18														
A8050	Construction and installation of new pipe trench and PVC pipes along existing CEPT (Approx. 35m)	0%	24	11-Jan-18	08-Feb-18														
A8060	Carryout hydraulic test in section	0%	4	08-Feb-18	13-Feb-18														
A8070	Installation of PVC pipes in existing pipe trench to Day tanks (Approx. 35m)	0%	12	13-Feb-18	02-Mar-18														
A8080	Carryout hydraulic test in section	0%	4	02-Mar-18	07-Mar-18														
A8090	Installation of PVC vertical pipes up to FDC (Approx. 30m)	0%	12	07-Mar-18	21-Mar-18														
A8100	Connection to existing pipeline at FDC	0%	4	21-Mar-18	26-Mar-18														
A8110	Carryout overall hydraulic test	0%	10	26-Mar-18	11-Apr-18														
A8720	DCS upgrading at Daytanks	0%	30	11-Apr-18	23-May-18														
<b>Documentation</b>																			
A3578	Delivery of control panel, cables and software	85%	85	09-May-17 A	16-Jan-18														
A3585	Intergation of existing and new NaOCl dosing system	25%	40	09-Sep-17 A	23-Feb-18														
A3588	As-built drawings and OM manual submission (Stage two)	0%	26	03-Apr-18*	03-May-18														
A3589	Training to ST2	0%	18	04-May-18	25-May-18														
A3590	Handover inspection of NaOCl dosing and intergated system DSD/ST2 (Stage two)	0%	14	26-May-18	11-Jun-18														
A3600	Handover of NaOCl (stage two)	0%	0		11-Jun-18														
<b>Works for Section 5</b>																			
<b>Time for Sectional Completion</b>																			
TC0115	Completion of Outstanding works in Section 5	0%	0		02-Jun-18														
<b>Portion 7 (Polymer Building)</b>																			
<b>R.C. Works</b>																			
<b>Superstructure</b>																			
P700330	External underground drainage for PSB	75%	60	21-Jun-17 A	18-Jan-18														
P700340	Concrete carriageway outside PSB	35%	24	03-Oct-17 A	06-Feb-18														
<b>Builder and finishes Works</b>																			
<b>Roof Floor</b>																			
P701140	Green Roof	50%	24	15-Sep-17 A	15-Jan-18														
<b>Statutory Submission and Inspection</b>																			
<b>Water Supplier Department (WSD)</b>																			
P905070	WM(FS): Submit WWO046	0%	0	19-Feb-18*															
P905080	WM(FS): WSD inspection and install meter	0%	35	19-Feb-18	25-Mar-18														
P905090	WM(FS): Issue water connection advice (Portable water and process water)	0%	0		25-Mar-18														
<b>Fire Service Department (FSD)</b>																			
P905370	FS: Install DG room	0%	12	12-Feb-18*	28-Feb-18														
P905380	FS: FSD DG Good Store Inspection	0%	7	28-Feb-18	07-Mar-18														
P905390	FS: Submit Form 314 and Form 501	0%	0		25-Mar-18														
P905400	FS: FSD inspection	0%	1	09-Apr-18	09-Apr-18														
P905410	FS: Defect rectification	0%	9	10-Apr-18	19-Apr-18														
P905420	FS: 2nd FSD inspection	0%	1	20-Apr-18	20-Apr-18														
<b>Portion 1 (Modification works at NWK overflow chamber and SCIMPS2)</b>																			
<b>Civil works</b>																			
P101805	Construction of DN1200 overflow pipe (CH80-100)	5%	30	30-Nov-17 A	03-Feb-18														
P101806	Construction of DN1200 flowmeter chamber (CH80-70)	0%	30	03-Feb-18	14-Mar-18														
P101809	TTA for traffic diversion (in porous pavement)	0%	10	14-Mar-18	26-Mar-18														
P101811	Construction of DN1200 overflow pipe (CH70-30)	0%	35	26-Mar-18	10-May-18														
P101815	Construction of DN1200 (0-30) and NWK overflow chamber connection	5%	60	14-Nov-17 A	12-Mar-18														
<b>Connection Works</b>																			
P100330	Modification works for connection of overflow Pipe at NWK overflow chamber	0%	25	13-Mar-18	14-Apr-18														
P100380	Reliability test of NWKOF	0%	14	10-May-18	28-May-18														
<b>Portion 1 (SCIMPS1 Transformer Building Extension)</b>																			
<b>Builder and finishes Works</b>																			
P100210	Builders and metal works	15%	30	26-Jul-17 A	31-Jan-18														
<b>MPS1 Inlet chamber</b>																			
<b>Works in SCISTW</b>																			
P600118	Construction temporary steelworks in existing riser shaft	75%	150	01-May-17 A	08-Feb-18														



Activity ID	Activity Name	Activity % Complete	Original Duration	Start	Finish	2018												2019			2020		
						Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3		
P600128	Construction temporary dewatering facilities connecting to Valve chamber	45%	90	15-Jun-17 A	20-Feb-18	Construction temporary dewatering facilities connecting to Valve chamber																	
P600138	Setup temporary deodorizing unit on Ground Floor MPS1 to MPS1 inlet chamber	0%	21	22-Jan-18*	11-Feb-18	Setup temporary deodorizing unit on Ground Floor MPS1 to MPS1 inlet chamber																	
P600148	Baseline water quality monitoring and sampling (6M)	65%	180	01-Sep-17 A	05-Mar-18	Baseline water quality monitoring and sampling (6M)																	
<b>Works in PTWs</b>						24-Feb-18, Works in PTWs																	
P100370	Fabrication of water barrier for KC, TKW, KT and TY	20%	45	07-Mar-17 A	12-Feb-18	Fabrication of water barrier for KC, TKW, KT and TY																	
P100390	2nd trial installation of water barrier in PTW (by DSD/BCM)	0%	14	26-Jan-18	10-Feb-18	2nd trial installation of water barrier in PTW (by DSD/BCM)																	
P100400	Installation of silt curtain at Kwai Chung PTW	0%	14	29-Jan-18*	13-Feb-18	Installation of silt curtain at Kwai Chung PTW																	
P100410	Installation of temporary support for covering the seawall outfall	0%	7	14-Feb-18	24-Feb-18	Installation of temporary support for covering the seawall outfall																	
P600268	Odour patrol in PTWs, SCISTW and nearby affected residence	0%	1	02-Jan-18	02-Jan-18	Odour patrol in PTWs, SCISTW and nearby affected residence																	
<b>Implementation of 2 weeks sewage bypass</b>						13-Mar-18, Implementation of 2 weeks sewage bypass																	
P600155	Implementation of HATS1 PTW by-pass by DSD (14 days)	0%	0	20-Feb-18		Implementation of HATS1 PTW by-pass by DSD (14 days)																	
P600156	Operation mode of MPS2 in SCM7 @ TWL -17mPD	0%	1	20-Feb-18	21-Feb-18	Operation mode of MPS2 in SCM7 @ TWL -17mPD																	
P600157	Isolation 4 pairs of new PSTs by closing the inlet penstock	0%	1	20-Feb-18	21-Feb-18	Isolation 4 pairs of new PSTs by closing the inlet penstock																	
P600159	Drain and flushing 1 nos of existing PSTs	0%	1	21-Feb-18	22-Feb-18	Drain and flushing 1 nos of existing PSTs																	
P600160	Seawater purging from PTWs (By DSD/BCM)	0%	2	20-Feb-18	22-Feb-18	Seawater purging from PTWs (By DSD/BCM)																	
P600162	Installation water barriers and sealing works in PTWs (By DSD/BCM)	0%	1	20-Feb-18	21-Feb-18	Installation water barriers and sealing works in PTWs (By DSD/BCM)																	
P600164	Open DN3000 Blank flanges	0%	1	21-Feb-18	22-Feb-18	Open DN3000 Blank flanges																	
P600166	Close DN3600 KGV in VC and MPS2 operation mode switch to SMC3A (HATS2 flow only)	0%	1	22-Feb-18	23-Feb-18	Close DN3600 KGV in VC and MPS2 operation mode switch to SMC3A (HATS2 flow only)																	
P600176	Installation of temporary pumping system into riser shaft	0%	1	22-Feb-18	23-Feb-18	Installation of temporary pumping system into riser shaft																	
P600178	Draw down water level of MPS1 to -30.0mPD	0%	2	22-Feb-18	24-Feb-18	Draw down water level of MPS1 to -30.0mPD																	
P600188	Flushing and cleansing of the inlet chamber MPS1	0%	1	24-Feb-18	25-Feb-18	Flushing and cleansing of the inlet chamber MPS1																	
P600198	Inspection of two inlet penstock in MPS1 by penstock specialist	0%	1	25-Feb-18	26-Feb-18	Inspection of two inlet penstock in MPS1 by penstock specialist																	
P600208	Install I beams support/ wedges to guard frame for penstock securing	0%	7	26-Feb-18	05-Mar-18	Install I beams support/ wedges to guard frame for penstock securing																	
P600209	Condition survey of existing penstock frame	0%	1	26-Feb-18	27-Feb-18	Condition survey of existing penstock frame																	
P600210	Inspection of adit tunnel and Dimension measurement	0%	1	01-Mar-18	02-Mar-18	Inspection of adit tunnel and Dimension measurement																	
P600218	Remove the temporary pumping system	0%	1	05-Mar-18	06-Mar-18	Remove the temporary pumping system																	
P600228	Remove water barrier in PTWs (by DSD/BCM)	0%	1	05-Mar-18	06-Mar-18	Remove water barrier in PTWs (by DSD/BCM)																	
P600238	Resume PTWs flow to SCISTW	0%	1	05-Mar-18	06-Mar-18	Resume PTWs flow to SCISTW																	
P600248	Complete sewage by-pass	0%	0		06-Mar-18	Complete sewage by-pass																	
P600258	MPS1 resume operation for HATS 1 flow	0%	1	06-Mar-18	07-Mar-18	MPS1 resume operation for HATS 1 flow																	
P600278	Closing the DN3000 blank flange under TWL -16.0mPD by MPS1 SMC 3A	0%	6	07-Mar-18	13-Mar-18	Closing the DN3000 blank flange under TWL -16.0mPD by MPS1 SMC 3A																	
<b>Portion 1 (Weather station)</b>						31-May-18, Portion 1 (Weather station)																	
A9050	Construction of Base Slab (A-F)	45%	45	01-Aug-17 A	30-Jan-18	Construction of Base Slab (A-F)																	
A9060	Construction of cable ducts to H2S analyser Weather station (A-F)	0%	18	30-Jan-18	23-Feb-18	Construction of cable ducts to H2S analyser Weather station (A-F)																	
A9070	Installation of FRP Housing for equipments	0%	60	23-Feb-18	09-May-18	Installation of FRP Housing for equipments																	
A9080	Testing and Commissioning	0%	18	09-May-18	31-May-18	Testing and Commissioning																	
<b>External Road and Drainage Works</b>						19-Apr-18, External Road and Drainage Works																	
RW00055	Road paving works (4th stage CLP trench modification works (CEPT and SGB), 2TTA@30m length)	15%	30	27-Nov-17 A	31-Jan-18	Road paving works (4th stage CLP trench modification works (CEPT and SGB), 2TTA@30m length)																	
RW00057	Road paving works (5th stage CLP trench modification works (CEPT and SGB), 2TTA@30m length)	0%	30	31-Jan-18	10-Mar-18	Road paving works (5th stage CLP trench modification works (CEPT and SGB), 2TTA@30m length)																	
RW00058	Road paving works (6th stage CLP trench modification works (CEPT and SGB), 2TTA@30m length)	0%	30	10-Mar-18	19-Apr-18	Road paving works (6th stage CLP trench modification works (CEPT and SGB), 2TTA@30m length)																	
RW00060	Construction of car park cover	65%	150	04-Apr-17 A	07-Mar-18	Construction of car park cover																	
<b>Chemical Pipe Trench of Sodium Hypochlorite Storage Compound</b>						28-Mar-18, Chemical Pipe Trench of Sodium Hypochlorite Storage Compound																	
<b>Civil Works</b>						08-Jan-18, Civil Works																	
P101160	Pipe Laying at Chemical pipe trench	90%	60	09-Mar-17 A	08-Jan-18	Pipe Laying at Chemical pipe trench																	
<b>Electrical and Mechanical Installation</b>						12-Feb-18, Electrical and Mechanical Installation																	
P101450	Installation of valves and pipework for barge unloading facilities	75%	60	12-Aug-17 A	18-Jan-18	Installation of valves and pipework for barge unloading facilities																	
P101500	Cabling works for control and instrumentation	15%	24	06-Sep-17 A	12-Feb-18	Cabling works for control and instrumentation																	
<b>Testing and Commissioning</b>						28-Mar-18, Testing and Commissioning																	
P101460	Testing and Commissioning	0%	35	12-Feb-18	28-Mar-18	Testing and Commissioning																	
<b>Watermain Laying</b>						01-Jun-18, Watermain Laying																	
A7350	Replacement of existing DN250 at service Ducts (Stage 2)	0%	60	19-Mar-18*	01-Jun-18	Replacement of existing DN250 at service Ducts (Stage 2)																	
<b>Centrate pipe and manhole F4/4A</b>						02-Feb-18, Centrate pipe and manhole F4/4A																	
A8501	Installation of Cat ladder and multi-part covers	0%	12	10-Jan-18	24-Jan-18	Installation of Cat ladder and multi-part covers																	
A8515	Installation of DN600 PE centrate pipe to riser shaft	60%	18	25-Oct-17 A	10-Jan-18	Installation of DN600 PE centrate pipe to riser shaft																	
A8518	Backfilling and extract sheetpile	0%	10	10-Jan-18	22-Jan-18	Backfilling and extract sheetpile																	
A8528	Construction remaining section of tunnel drainage pipe to M/H F4/4A	0%	6	22-Jan-18	29-Jan-18	Construction remaining section of tunnel drainage pipe to M/H F4/4A																	
A8535	Temporary diversion of existing centrate flow and saw cut the existing centrate pipeworks	0%	5	24-Jan-18	30-Jan-18	Temporary diversion of existing centrate flow and saw cut the existing centrate pipeworks																	
A8545	Placing stoplog to divert existing riser shaft	0%	3	30-Jan-18	02-Feb-18	Placing stoplog to divert existing riser shaft																	
<b>CMMS</b>						02-Jun-18, CMMS																	
A9140	Prepare Database of CMMS Server and software	51.25%	240	01-Sep-17 A	28-Apr-18	Prepare Database of CMMS Server and software																	
A9150	Testing and commissioning	0%	35	29-Apr-18	02-Jun-18	Testing and commissioning																	
<b>Expert system</b>						16-Jan-19, Expert system																	
A9090	Implementation of Phase 1 Expert System (MPS1 and MPS2)	50%	160	15-Aug-17 A	12-Apr-18	Implementation of Phase 1 Expert System (MPS1 and MPS2)																	
A9100	Implementation of Phase 2 Expert System (Chlorination and dechlorination and chemical dosing of CE)	0%	100	13-Apr-18	10-Aug-18	Implementation of Phase 2 Expert System (Chlorination and dechlorination and chemical dosing of CEPT)																	
A9110	Implementation of Phase 3 Expert System (Sludge dewatering system and DOU3)	0%	100	11-Aug-18	08-Dec-18	Implementation of Phase 3 Expert System (Sludge dewatering system and DOU3)																	
A9120	Testing and commissioning	0%	30	10-Dec-18	16-Jan-19	Testing and commissioning																	
<b>MPS2 Pump Upgrading</b>						30-Aug-18, MPS2 Pump Upgrading																	
<b>1st stage Pump Upgrading</b>						30-Aug-18, 1st stage Pump Upgrading																	
A9190	Manufacturing new propeller for 1st pump upgrade	25.83%	240	01-Nov-17 A	28-Jun-18	Manufacturing new propeller for 1st pump upgrade																	
A9200	Shipment From JPN to HKG	0%	21	29-Jun-18	19-Jul-18	Shipment From JPN to HKG																	
A9210	Installation of pump impeller (One pump in Hall B side)	0%	18	20-Jul-18	09-Aug-18	Installation of pump impeller (One pump in Hall B side)																	
A9220	Testing and commissioning	0%	18	10-Aug-18	30-Aug-18	Testing and commissioning																	
<b>Landscaping Works</b>						06-Apr-18, Landscaping Works																	

 Actual Work	 Remaining Work	 Critical Remaining Work	 Milestone	 Summary	Contract No. DC/2009/10	Sheet 3 of 5	Date 06-Sep-17	Revision Rev. 1	Checked	Approved
					<b>HATS Stage 2A - Upgrading works at StoneCutters Island Sewage Treatment Works</b> <b>Target Works Programme for Completion of Section 3, 4 and 5</b>					

Activity ID	Activity Name	Activity % Complete	Original Duration	Start	Finish	2018				2019				2020		
						Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
LA00010	Landscaping Planting Works	0%	60	19-Jan-18	06-Apr-18											
<b>Architectural Refurbishment Works</b>																
AR00030	External finishes works of flow disturbance chamber	0%	45	12-Mar-18*	07-May-18											
AR00045	External finishes works watermark of existing CEPT	0%	35	03-Apr-18*	14-May-18											
AR00060	External finishes works of Chemical dosing facilities	75%	60	31-Aug-17*	18-Jan-18											
AR00130	CLP cable diversion (Programme to be confirmed by CLP)	85%	90	21-Jun-17 A	15-Jan-18											
AR00140	RC works of RC footing of DSD new logo (Sign B)	0%	35	15-Jan-18	28-Feb-18											
AR00150	External finishes of DSD new Logo (Sign B)	0%	30	28-Feb-18	09-Apr-18											
<b>Commissioning Test (P.S. 45.07(1)(a)(iv)) &amp; T&amp;C Spec. Pt.1 &amp; Pt.2</b>																
<b>Supplementary Agreement No.2</b>																
<b>MPS2 Pump Upgrading (2nd Stage)</b>																
A9230	Manufacturing of 2nd batch of new propeller (7Nos)	0%	285	30-Aug-18	11-Jun-19											
A9235	Delivery of 2nd batch of pump propeller (7nos)	0%	90	12-May-19	10-Aug-19											
A9240	Installation and testing of upgraded pumps (7Nos)	0%	75	11-Jun-19	25-Aug-19											
<b>DOU3 upsizing</b>																
A9270	DSD Approval of DOU3 design proposal	0%	1	01-Feb-18*	01-Feb-18											
A9280	Procurement order of DOU3 design consultant	0%	30	02-Feb-18	03-Mar-18											
A9290	Detailed design for DOU3 upsizing and approval	0%	45	04-Mar-18	17-Apr-18											
A9310	Manufacturing and delivery of pump sets, filter media, demisters	0%	110	18-Apr-18	05-Aug-18											
A9320	Manufacturing and delivery of instruments	0%	119	18-Apr-18	14-Aug-18											
A9330	Manufacturing and delivery of 1st FRP vessels	0%	60	03-May-18	01-Jul-18											
A9340	Preparation works for FPR vessel dismantling, including Mod of pipelines, air ducts and scaffolds	0%	30	03-May-18	01-Jun-18											
A9350	Discommissioning and replacement of new FRP vessels	0%	30	02-Jul-18	31-Jul-18											
A9360	Replacement of recirculation pumps, nutrient pumps and associated pipeworks	0%	30	01-Aug-18	30-Aug-18											
A9370	Installation of instruments	0%	20	01-Aug-18	20-Aug-18											
A9380	Testing and commissioning	0%	14	31-Aug-18	13-Sep-18											
A9660	Manufacturing and delivery of 2nd FRP vessels	0%	60	12-Jul-18	09-Sep-18											
A9670	Preparation works for FPR vessel dismantling, including Mod of pipelines, air ducts and scaffolds	0%	30	31-Aug-18	29-Sep-18											
A9680	Discommissioning and replacement of new FRP vessels	0%	30	30-Sep-18	29-Oct-18											
A9690	Replacement of recirculation pumps, nutrient pumps and associated pipeworks	0%	30	30-Oct-18	28-Nov-18											
A9700	Installation of instruments	0%	20	30-Oct-18	18-Nov-18											
A9710	Testing and commissioning	0%	14	29-Nov-18	12-Dec-18											
A9720	Manufacturing and delivery of 3rd FRP vessels	0%	60	10-Oct-18	08-Dec-18											
A9730	Preparation works for FPR vessel dismantling, including Mod of pipelines, air ducts and scaffolds	0%	30	29-Nov-18	28-Dec-18											
A9740	Discommissioning and replacement of new FRP vessels	0%	30	29-Dec-18	27-Jan-19											
A9750	Replacement of recirculation pumps, nutrient pumps and associated pipeworks	0%	30	28-Jan-19	26-Feb-19											
A9760	Installation of instruments	0%	20	28-Jan-19	16-Feb-19											
A9770	Testing and commissioning	0%	14	27-Feb-19	12-Mar-19											
A9780	Manufacturing and delivery of 4th FRP vessels	0%	60	08-Jan-19	08-Mar-19											
A9790	Preparation works for FPR vessel dismantling, including Mod of pipelines, air ducts and scaffolds	0%	30	27-Feb-19	28-Mar-19											
A9800	Discommissioning and replacement of new FRP vessels	0%	30	29-Mar-19	27-Apr-19											
A9810	Replacement of recirculation pumps, nutrient pumps and associated pipeworks	0%	30	28-Apr-19	27-May-19											
A9820	Installation of instruments	0%	20	28-Apr-19	17-May-19											
A9830	Testing and commissioning	0%	14	28-May-19	10-Jun-19											
A9840	Final testing and commissioning (including air balancing and performance test)	0%	14	11-Jun-19	24-Jun-19											
A9850	Reliability test of upgraded DOU	0%	30	25-Jun-19	24-Jul-19											
A9860	As-built drawings and OM manual submission	0%	21	25-Jun-19	15-Jul-19											
A9870	Provide Operational Training to ST2	0%	21	16-Jul-19	05-Aug-19											
A9880	Handover to ST2	0%	10	06-Aug-19	15-Aug-19											
<b>Replacement of MPS1 inlet penstock</b>																
<b>2018/2019 Dry Season</b>																
A9900	Design submission and approval of new penstocks after 1st entry in 2017/2018	0%	60	12-Apr-18	11-Jun-18											
A9910	Manufacturing of two new inlet penstocks	0%	250	11-Jun-18	16-Feb-19											
A9920	Preparation works for 2018/2019 bypass, including remobilization, setup of suspended platform, pump	0%	90	01-Aug-18*	29-Oct-18											
A9930	Implementation of two weeks by-pass	0%	0	13-Nov-18												
A9940	removal of existing inlet penstocks	0%	14	13-Nov-18	26-Nov-18											
<b>2019/2020 Dry Season</b>																
A9950	Design and fabrication of temporary bulkhead in adit tunnel	0%	150	27-Nov-18	25-Apr-19											
A9955	Delivery of two new inlet penstocks	0%	35	16-Feb-19	23-Mar-19											
A9960	Preparation works for 2019/2020 bypass, including remobilization, setup of suspended platform, pump	0%	120	01-Jul-19*	28-Oct-19											
A9970	Implementation of 1st two weeks by-pass	0%	0	01-Nov-19												
A9980	Installation of bulkhead in two adit tunnel for isolation of MPS1	0%	14	01-Nov-19	14-Nov-19											
A9985	Divert all flow to MPS2 during 2019/2020 dry season	0%	105	15-Nov-19	27-Feb-20											
A9988	Erect metal scaffold and remove existing guide frame	0%	30	15-Nov-19	14-Dec-19											
A9990	Installation of two new inlet penstocks	0%	45	15-Dec-19	28-Jan-20											
A9992	Electrical and control installation of two new inlet penstock	0%	10	29-Jan-20	07-Feb-20											
A9994	Testing and commissioning	0%	7	08-Feb-20	14-Feb-20											
A9997	Implementation of 2nd two weeks by-pass	0%	0	15-Feb-20												
A9998	Dismantling of temporary bulkhead in two adit tunnel	0%	14	15-Feb-20	28-Feb-20											
A9999	Resume MPS1 operation with HATS1 flow	0%	0		28-Feb-20											
<b>Feature Wall at Existing CEPT</b>																
A10000	Architectural Design submission and approval for feature wall	0%	75	05-Feb-18*	20-Apr-18											

Activity ID	Activity Name	Activity % Complete	Original Duration	Start	Finish	2018				2019				2020				
						Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
A10010	Design and construction of architectural features installation	0%	240	21-Apr-18	16-Dec-18													
<b>Existing Riser shaft</b>																		
A10020	RC design for top slab of existing riser shaft	0%	90	26-Apr-19	24-Jul-19													
A10030	Cosntruction top slab of existing riser shaft	0%	120	14-Apr-20	11-Aug-20													

- Actual Work
- Remaining Work
- Critical Remaining Work
- Milestone
- Summary

Contract No. DC/2009/10

Sheet 5 of 5

Date	Revision	Checked	Approved
06-Sep-17	Rev. 1		

HATS Stage 2A - Upgrading works at StoneCutters Island Sewage Treatment Works

Target Works Programme for Completion of Section 3, 4 and 5

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2017												2018	
						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
<b>DC/2009/17 Detailed Works Programme Revision 3B_Updated up to 28-Feb-17</b>																			
<b>KEY DATE</b>																			
<b>Contract Dates</b>																			
<b>Commencement and Completion</b>																			
<b>Section 5 of the Works</b>																			
KD000058	Expected Revised (EOT=125) Completion of Section 5 of the Works (2379 days)	0d		27-Feb-17 A		◆ Expected Revised (EOT=125) Completion of Section 5 of the Works (2379 days)													
KD0000582	Expected Revised (EOT=84) Completion of Section 5 of the Works (2463 days)	0d		22-May-17*	0d	◆ Expected Revised (EOT=84) Completion of Section 5 of the Works (2463 days)													
KD0000602	Expected Revised (EOT=43) Completion of Section 5 of the Works (2506 days)	0d		04-Jul-17*	0d	◆ Expected Revised (EOT=43) Completion of Section 5 of the Works													
<b>Maintenance Period</b>																			
KD000060	Original Completion of Maintenance Period	0d		19-May-17*	0d	◆ Original Completion of Maintenance Period													
KD000061	Revised (EOT=14) Completion of Maintenance Period	0d		02-Jun-17*	0d	◆ Revised (EOT=14) Completion of Maintenance Period													
KD000062	Revised (EOT=54) Completion of Maintenance Period	0d		26-Jul-17*	0d	◆ Revised (EOT=54) Completion of Maintenance Period													
KD000063	Revised (EOT=77) Completion of Maintenance Period	0d		11-Oct-17*	0d	◆ Revised (EOT=77) Completion of Mail													
KD000064	Revised (EOT=14) Completion of Maintenance Period	0d		24-Oct-17*	0d	◆ Revised (EOT=14) Completion of													
KD000065	Expected Revised (EOT=125) Completion of Maintenance Period	0d		27-Feb-18*	0d														
KD582	Expected Revised (EOT=84) Completion of Maintenance Period	0d		22-May-18*	0d														
KD592	Expected Revised (EOT=43) Completion of Maintenance Period	0d		04-Jul-17*	0d	◆ Expected Revised (EOT=43) Completion of Maintenance Period													
<b>Completion</b>																			
<b>Vacating of Area</b>																			
AD000150	Vacate of Portion 6 of the Site	0d		04-Jul-17*	0d	◆ Vacate of Portion 6 of the Site													
AD000180	Vacate of Portion C of the Site	0d		04-Jul-17*	0d	◆ Vacate of Portion C of the Site													
AD000190	Vacate of Portion D of the Site	0d		04-Jul-17*	0d	◆ Vacate of Portion D of the Site													
AD000200	Vacate of Portion E of the Site	0d		04-Jul-17*	0d	◆ Vacate of Portion E of the Site													
AD000210	Vacate of Portion F of the Site	0d		04-Jul-17*	0d	◆ Vacate of Portion F of the Site													
AD000220	Vacate of Portion G of the Site	0d		04-Jul-17*	0d	◆ Vacate of Portion G of the Site													
<b>Extension of Time</b>																			
<b>Section 5 of the Works</b>																			
KD0000472	Section 5 of the Works expected 125days EOT	126d	25-Oct-16 A	28-Apr-17	274d	◆ Section 5 of the Works expected 125days EOT													
KD0000473	Section 5 of the Works expected 84 days EOT	84d	29-Apr-17	21-Jul-17	274d	◆ Section 5 of the Works expected 84 days EOT													
KD0000483	Section 5 of the Works expected 43 days EOT	43d	22-Jul-17	02-Sep-17	274d	◆ Section 5 of the Works expected 43 days EOT													
<b>Section 5 of the Works</b>																			
<b>Completion</b>																			

■ Actual Work      ■ Remaining Level of Effort  
■ Remaining Work      ■ Actual Level of Effort  
■ Critical Remaining Work  
 Project Baseline Bar  
◆ Milestone

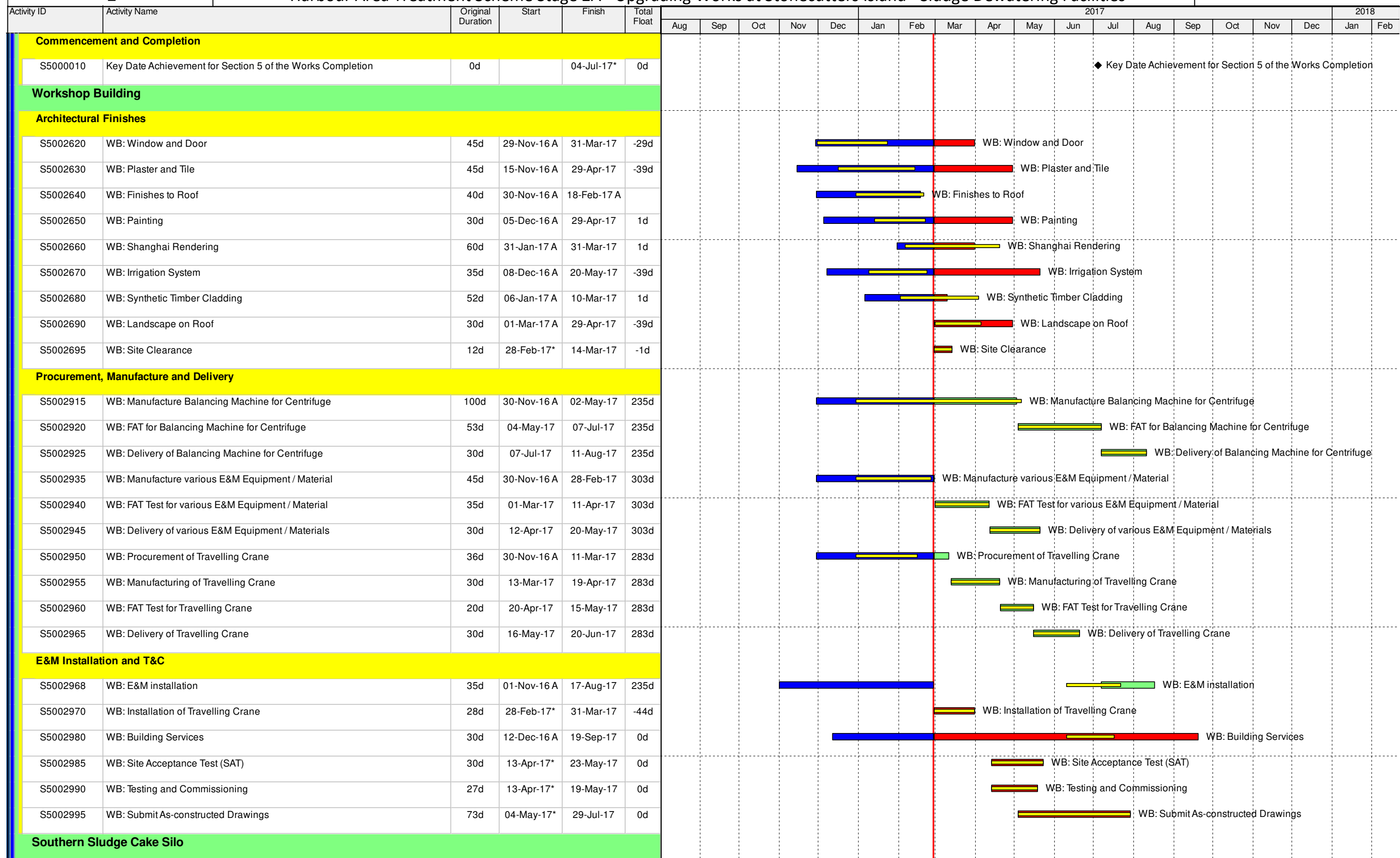
Page 1 of 6

**Monthly Progress Report updated up to 28-Feb-17**

**(Based on Detail Works Programme Rev.3B)**

Updated Detail Works Programme Revision 3-B			
Date	Revision	Checked	Approved
28-Feb-17			





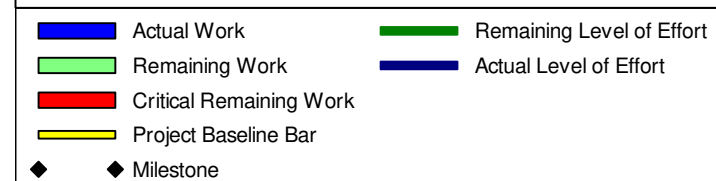
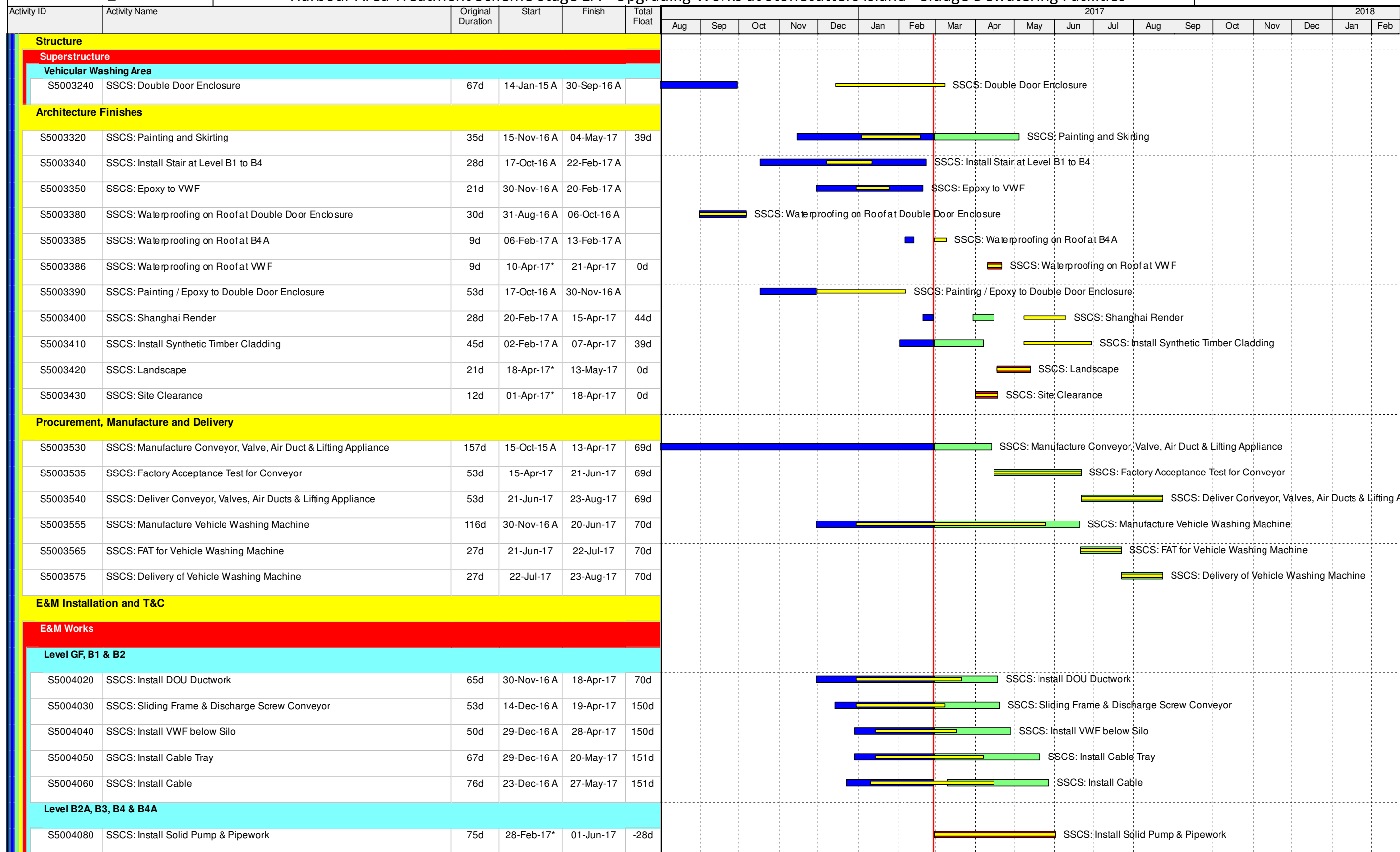
■ Actual Work      ■ Remaining Level of Effort  
■ Remaining Work      ■ Actual Level of Effort  
■ Critical Remaining Work  
 Project Baseline Bar  
◆ Milestone

Page 2 of 6

**Monthly Progress Report updated up to 28-Feb-17**

**(Based on Detail Works Programme Rev.3B)**

Updated Detail Works Programme Revision 3-B			
Date	Revision	Checked	Approved
28-Feb-17			



**Monthly Progress Report updated up to 28-Feb-17**  
**(Based on Detail Works Programme Rev.3B)**

Updated Detail Works Programme Revision 3-B			
Date	Revision	Checked	Approved
28-Feb-17			

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2017												2018					
						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
S5004090	SSCS: Install DOU Ductwork	77d	14-Mar-17	17-Jun-17	110d																		
S5004100	SSCS: Install Cable Tray	77d	14-Mar-17	17-Jun-17	122d																		
S5004110	SSCS: Install Cable	77d	28-Mar-17	03-Jul-17	122d																		
<b>Miscellaneous</b>																							
S5004130	SSCS: Install Pipework	78d	17-Dec-16 A	23-May-17	70d																		
S5004140	SSCS: Building Services Equipment	76d	27-Dec-16 A	29-May-17	70d																		
<b>Site Acceptance Test (SAT)</b>																							
S5004150	SSCS: Site Acceptance Test (SAT)	30d	19-Jun-17	24-Jul-17	110d																		
S5004160	SSCS: Testing and Commissioning	30d	27-Jun-17	01-Aug-17	110d																		
S5004170	SSCS: Submit As-constructed Drawings	76d	11-Apr-17	15-Jul-17	110d																		
<b>Deodourization Unit 5 and DG Store</b>																							
<b>Architecture Finishes</b>																							
S5008400	DOU5 & DGS: Building Finishes	45d	30-Nov-16 A	24-Feb-17 A																			
S5008410	DOU5 & DGS: Painting to Ceiling	30d	30-Dec-16 A	07-Feb-17 A																			
S5008420	DOU5 & DGS: Epoxy Floor Coating	27d	23-Dec-16 A	15-Feb-17 A																			
S5008430	DOU5 & DGS: Shanghai Render	30d	23-Dec-16 A	18-Feb-17 A																			
<b>Procurement and Delivery</b>																							
S5008510	DOU5 & DGS: Procurement of DOU5 & other E&M Equipment	53d	31-Aug-16 A	08-Mar-17	146d																		
S5008520	DOU5 & DGS: Manufacturing of DOU5 & other E&M Equipment	187d	31-Aug-16 A	08-Mar-17	64d																		
S5008525	DOU5 & DGS: FAT Test for DOU5	27d	21-Dec-16 A	23-Mar-17	64d																		
S5008530	DOU5 & DGS: Delivery of DOU5 and other E&M Equipment	49d	30-Nov-16 A	28-Mar-17	40d																		
<b>E&amp;M Installation and T&amp;C</b>																							
S5008560	DOU5 & DGS: E&M Work	50d	29-Mar-17	01-Jun-17	40d																		
S5008570	DOU5 & DGS: Installation of DOU5	50d	13-Apr-17	15-Jun-17	40d																		
S5008575	DOU5 & DGS: Site Acceptance Test (SAT)	30d	16-Jun-17	21-Jul-17	40d																		
S5008650	DOU5 & DGS: Testing and Commissioning	30d	22-Jul-17	25-Aug-17	40d																		
S5008700	DOU5 & DGS: Submit As-constructed Drawings	150d	13-Apr-17*	12-Oct-17	0d																		
<b>Process Water Storage Tank</b>																							
<b>Structure</b>																							
<b>Northern PWST</b>																							
S5009440	PWST: Water Tightness Test to Northern Tank	7d	27-Dec-16 A	28-Feb-17 A																			
<b>Southern PWST</b>																							

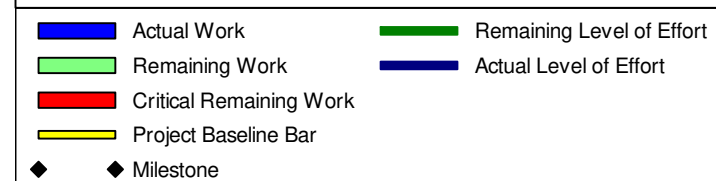
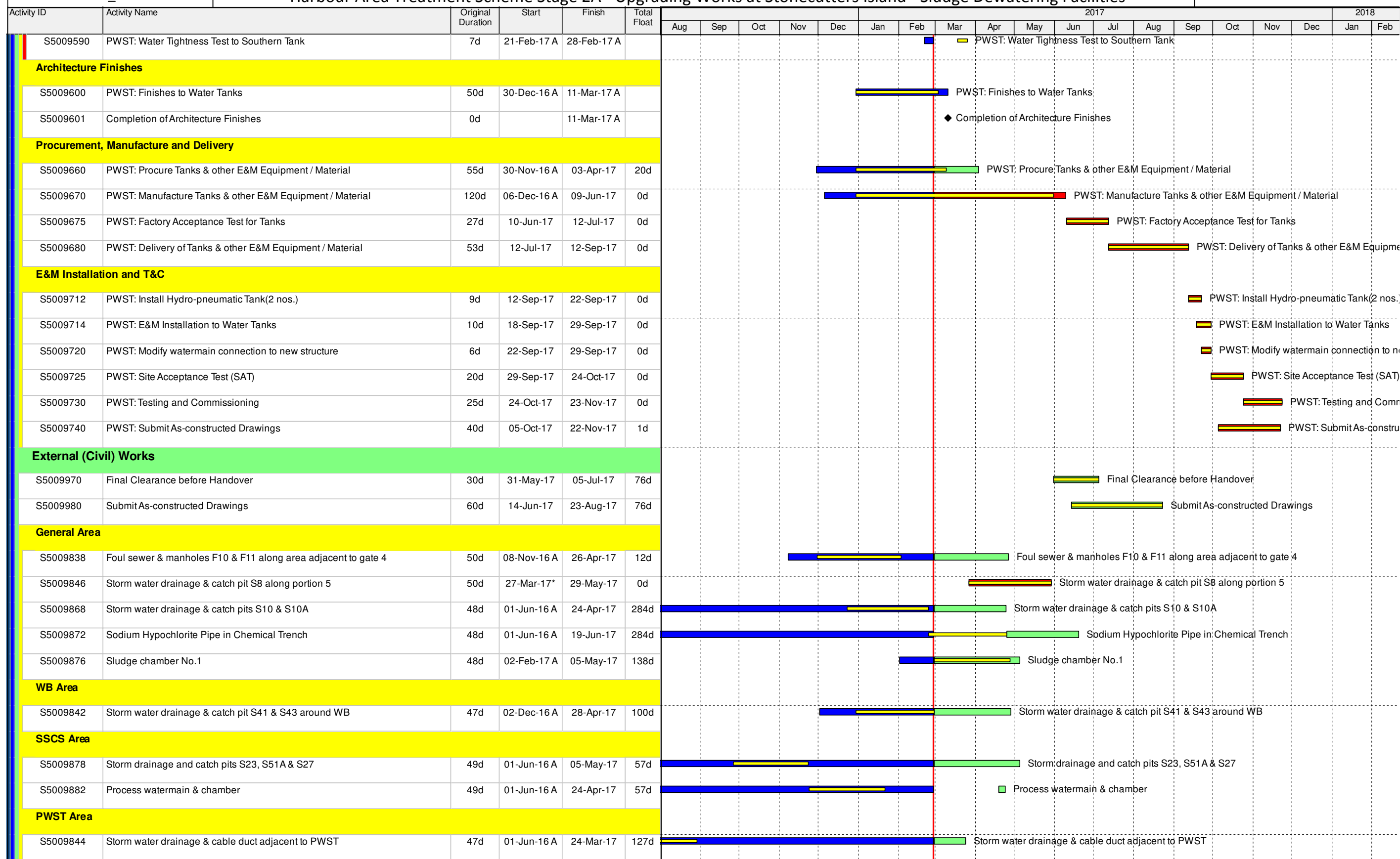
■ Actual Work      ■ Remaining Level of Effort  
■ Remaining Work      ■ Actual Level of Effort  
■ Critical Remaining Work  
 Project Baseline Bar  
◆ Milestone

Page 4 of 6

**Monthly Progress Report updated up to 28-Feb-17**

**(Based on Detail Works Programme Rev.3B)**

Updated Detail Works Programme Revision 3-B			
Date	Revision	Checked	Approved
28-Feb-17			



**Monthly Progress Report updated up to 28-Feb-17**  
**(Based on Detail Works Programme Rev.3B)**

Updated Detail Works Programme Revision 3-B			
Date	Revision	Checked	Approved
28-Feb-17			

Activity ID	Activity Name	Original Duration	Start	Finish	Total Float	2017												2018					
						Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan
<b>Statutory Inspection and Training</b>																							
<b>E&amp;M: Testing and Commissionings</b>																							
S5010110	S5 Work: Submission of WWO46	43d	24-Oct-17	14-Dec-17	105d																		
S5010120	S5 Work: Inspect Water Supply by WSD	30d	14-Dec-17	22-Jan-18	105d																		
S5010130	S5 Work: Submission of FS Form 501	25d	22-Aug-17	19-Sep-17	0d																		
S5010140	S5 Work: Inspect FS Installation by FSD	12d	20-Sep-17	05-Oct-17	0d																		
S5010150	S5 Work: Inspect DG Store by FSD	11d	11-Sep-17	23-Sep-17	0d																		
S5010210	S5 Work: Preparation & Submit Draft O&M Manuals	80d	23-Aug-17	27-Nov-17	69d																		
S5010220	S5 Work: Submit Training Programme and Syllabus	27d	27-Nov-17	30-Dec-17	69d																		
S5010230	S5 Work: Training of Employer Staff (3 Sessions)	53d	30-Dec-17	08-Mar-18	69d																		
S5010250	S5: Preparation & Submit Modified O&M Manuals	53d	28-Feb-17	06-May-17	168d																		
S5010260	S5: Preparation & Submit Final O&M Manuals	53d	28-Feb-17	06-May-17	168d																		

█ Actual Work      █ Remaining Level of Effort  
█ Remaining Work      █ Actual Level of Effort  
█ Critical Remaining Work  
 Project Baseline Bar  
◆ Milestone

Page 6 of 6

**Monthly Progress Report updated up to 28-Feb-17**  
**(Based on Detail Works Programme Rev.3B)**

Updated Detail Works Programme Revision 3-B			
Date	Revision	Checked	Approved
28-Feb-17			