# **Bestwise – SFK Joint Venture**

# Contract No. DE/2018/17 Enhancement of Deodourisation System at Stonecutters Island Sewage Treatment Works

Monthly Environmental Monitoring and Audit Report February 2020

(Version 1.0)

Certified By	Charles (Environmental Team Leader)
REMARKS:	J. I.

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. K K Kam

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

Our Reference EC/AFK/DC/ji/T261332/ 22.01/L-1432

Contract No. DE/2018/17 - Enhancement of Deodourisation System at Stonecutters Island Sewage Treatment Works

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13 March 2020

By Post

Dear Sir,

I refer to the captioned Monthly EM&A Report for February 2020 (version 1.0) submitted by ET on 11 March 2020 via email. In accordance with Condition 4.4 of Environmental Permit No. EP-322/2008/G, I hereby verify the captioned Monthly EM&A Report.

Yours faithfully for MOTT MACDONALD HONG KONG LIMITED

Ir Dr Anne F Kerr

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C.C.

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# TABLE OF CONTENTS

		Page
EX	ECUTIVE SUMMARY	1
	Introduction Environmental Monitoring Works Environmental Licenses and Permits Environmental Mitigation Implementation Schedule Key Information in the Reporting Month Summary of Complaints and Prosecutions Future Key Issues:	1 2 2 3 3
1.	INTRODUCTION	4
	Background Project Organizations Construction Programme Summary of EM&A Requirements	4 5 6
2.	AIR QUALITY	7
	Monitoring Requirements Monitoring Locations Monitoring Equipment Monitoring Parameters, Frequency and Duration Monitoring Methodology and QA/QC Procedure Results and Observations	7 7 7 7
3.	NOISE	9
	Monitoring Requirements Monitoring Locations Monitoring Equipment Monitoring Parameters, Frequency and Duration Monitoring Methodology and QA/QC Procedures Results and Observations	9 9 9
4.	ENVIRONMENTAL AUDIT	11
	Site Audits Implementation Status of Environmental Mitigation Measures Review of Environmental Monitoring Procedures Status of Environmental Licensing and Permitting Status of Waste Management Implementation Status of Event Action Plans Summary of Complaints and Prosecutions	11 10 12 12 12
5.	FUTURE KEY ISSUES	13
	Key Issues for the Coming Month Monitoring Schedule for the Next Month Construction Program for the Next Month	13
6.	CONCLUSIONS AND RECOMMENDATIONS	14
	Conclusions Recommendations for next reporting month	

# LIST OF TABLES

- Table I
   Summary Table for Non-compliance Recorded in the Reporting Month
- Table IISummary Table for Key Information in the Reporting Month
- Table 1.1Key Project Contacts
- Table 2.1Locations for Air Quality Monitoring
- Table 2.2Impact Dust Monitoring Parameters, Frequency and Duration
- Table 2.3Summary of 1-hour and 24-hour TSP Monitoring Result in Reporting Month
- Table 3.1Locations for Noise Monitoring Stations
- Table 3.2Noise Monitoring Parameters, Frequency and Duration
- Table 3.3Summary the Noise Monitoring Results in Reporting Month
- Table 4.1Observations of Site Audit
- Table 4.2Summary of Environmental Licence / Permit for DE/2018/17

# LIST OF FIGURES

Figure 1	General Location Plan of the Project and
	Locations of Air Quality and Noise Monitoring Stations
Figure 2	ET's Organization Chart

# LIST OF APPENDICES

- A Action and Limit Levels for Air Quality and Noise
- B Summary of Exceedance
- C Site Audit Summary
- D Summary of Amount of Waste Generated
- E Event Action Plans
- F Environmental Mitigation Implementation Schedule (EMIS)
- G Complaint Log
- H Construction Programme

# 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 Stage 2A	Harbour Area Treatment Scheme Stage 2A		
BSJV	Bestwise - SFK Joint Venture		

### **EXECUTIVE SUMMARY**

#### Introduction

- 1. This is the 6<sup>th</sup> Monthly Environmental Monitoring and Audit (EM&A) Report prepared by Wellab Limited for DSD Contract No. DE/2018/17 "Enhancement of Deodourisation System at SCISTW" (The Project) which documents the key information of EM&A and environmental monitoring works undertaken by other Contracts at the SCISTW under HATS Stage 2A with the same Environmental Permit (Permit No. EP-322/2008/G).
- 2. The site activities undertaken in the reporting month included:

#### DOU1R

- Mobilization of piling rig
- Pile excavation for DOU1R-MP7
- Pile excavation of DOU1R-MP9
- Pile excavation of DOU1R-MP10
- Pile excavation of DOU1R-MP2

#### DOU2

- Pile excavation of DOU2A-P7
- Air lifting of DOU2A-P4
- Grouting of DOU2A-P4

#### DOU5

- Pile excavation of DOU5A-P2
- Reconstruction of rock socket of DOU5A-P5
- Air-lifting of DOU5A-P5
- Steel pile installation of DOU5A-P5
- Grouting of DOU5A-P5
- Pile excavation of DOU5B-P4
- Steel pile installation of DOU5B-P4

#### <u>E&M</u>

- Isolation Device for Effluent Drop Shaft
- Prototype of Sealant
- Pump Relocation at DOU1PS
- "Mock-up" Air Relief Duct Support

#### **Environmental Monitoring Works**

3. The environmental monitoring works of the Project were conducted by the ET for Contract DC/2009/10, at the SCISTW under HATS 2A with the same Environmental Permit. The monitoring results were checked and reviewed and the site audits were conducted once per week. The implementation of the Environmental Mitigation Measures, Event Action Plans and Environmental Complaint Handling Procedures were also checked. 4. Summary of the non-compliance of the reporting month is tabulated in Table I.

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

Table I         Summary Table for Non-compliance Recorded in the Reporting Mon	Table I	Summary Table for	· Non-compliance Recorded	in the Reporting Month
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### 1-hour TSP Monitoring

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

#### 24-hour TSP Monitoring

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

#### Construction Noise

7. All construction noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

#### **Environmental Licenses and Permits**

8. Licenses/Permits granted to the Project include the Environmental Permit (EP); Billing account for Disposal of Construction Waste, Registered as Chemical Waste Producer, Construction Noise Permits and Water Discharge License.

### **Environmental Mitigation Implementation Schedule**

9. According to the EIA Report Section 3.74, 4.56 and 13.44, air quality, noise and landscape and visual would be the key environmental issues and mitigation measures shall be implemented during the construction phase. Details of the implementation of mitigation measures are provided in the **Appendix F.** 

### Key Information in the Reporting Month

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

Table II	Summary	Table for Ke	y Information in	n the Reporting Month
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Event	Event Details		Action Taken	Status	Remark	
Event	Number	Nature	ACTION TAKEN	Status	Kelliark	
Complaint received	0		N/A	N/A		
Status of submissions under EP	1	Monthly EM&A Report for January 2020	Submitted on 14 February 2020	N/A		
Notifications of any summons & prosecutions received	0		N/A	N/A		

#### **Summary of Complaints and Prosecutions**

- 11. No environmental complaint and prosecution was received for the Project in the reporting month.
- 12. There were no environmental complaint and prosecution received since the commencement of the Project. The Complaint Log is presented in **Appendix G**.

### Future Key Issues:

- 13. Major site activities for the coming two months include:
  - Foundation Works (socket H-piles) at DOU5 PS
  - Foundation Works (socket H-piles) at DOU2 PS
  - Foundation Works (mini piles) at DOU1R
  - Foundation Works (mini piles) at DOU1
  - Foundation Works (mini piles) at DOU4
  - Complete the performance test of prototype of isolation device
  - Confirm fabrication of air relief duct and support
  - Confirm size/location of NaOCl tank and NaOH tank of DOU5PS
  - Confirm fabrication of LV Switchboard
  - Install sealant for sliding FRP covers
  - Install isolation device for effluent drop shaft (and concrete repairing)
- 14. The environmental concerns in the coming months are mainly on chemicals and general refuse storage; dust generated from the excavated dusty materials; and wastewater generated from the construction works.

## 1. INTRODUCTION

### Background

- 1.1 The Project 'Enhancement of Deodourisation System at SCISTW' under Contract No: DE/2018/17 mainly comprises the following major works:
  - Construction of foundation for enhanced deodourisation system;
  - Design, supply, installation, testing and commissioning of enhanced deodourisation systems and associated accessories;
  - Enhancement of isolation devices at chemically enhanced primary treatment (CEPT) tanks;
  - Modification of air ducts at CEPT tanks;
  - Enhancement of sealing performance of existing covers for CEPT tanks; and
  - Any associated works as necessary to complete the above items.
- 1.2 The general location plan of the Project is shown in **Figure 1**.
- 1.3 The Project is under Harbour Area Treatment Scheme (HATS) Stage 2A and is a designated project with Register No. : AEIAR-121/2008. The current works under the Project at SCISTW for HATS 2A are covered by the Environmental Permit (Permit No. EP-322/2008/G), which 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.
- 1.4 The environmental monitoring works in the Project were covered by the ET for the Contract: DC/2009/10.
- 1.5 Bestwise SFK Joint Venture (hereafter called the BSJV) was commissioned by the DSD to undertake the construction of the Contract No. DE/2018/17 "Enhancement of Deodourisation System at SCISTW". The date of commencement of construction of the Project is 9<sup>th</sup> July 2019.
- 1.6 Wellab Limited was commissioned by BSJV to undertake the Environmental Monitoring and Audit (EM&A) works for the project and was appointed as the Environmental Team (ET) of the Project under Condition 2.1 of the EP. The date of commencement of EM&A works is 2<sup>nd</sup> September 2019. The Project cover the environmental monitoring works at monitoring stations AM6a, AM7, AM8, NM5 and NM6.
- 1.7 This is the 6<sup>th</sup> monthly EM&A report summarizing the EM&A works conducted for the Project in February 2020.

### **Project Organizations**

1.8 The contacts of the Project are shown in **Table 1.1** and the organization chart of ET for Contract is shown in **Figure 2**.

Table III				
Party	Role	Name	Position	Phone No.
Ove Arup & Partners Hong	Project Management's Representative	Mr. Edmund Chow	Senior Resident Engineer	2370 4311
Kong Ltd	Coordinator	Mr. Kevin Cheung	Resident Engineer	3925 6506
Wellab	Environmental Team	Dr. Priscilla Choy	ET Leader	2151 2089
		Mr. Howard Chan	Project Coordinator & Audit Team	2151 2073
Mott MacDonald	Independent Environmental Checker	Dr. Anne Kerr	Independent Environmental Checker	2828 5757
Bestwise –		Mr. Ken Chan	Site Agent	2620 0070
SFK Joint Venture	Contractor	Mr. Leo Leung	Environmental Officer	2620 0070

### Table 1.1Key Project Contacts

### **Construction Programme**

1.9 The site activities undertaken in the reporting month included:

#### DOU1R

- Mobilization of piling rig
- Pile excavation for DOU1R-MP7
- Pile excavation of DOU1R-MP9
- Pile excavation of DOU1R-MP10
- Pile excavation of DOU1R-MP2

#### DOU2

- Pile excavation of DOU2A-P7
- Air lifting of DOU2A-P4
- Grouting of DOU2A-P4

#### DOU5

- Pile excavation of DOU5A-P2
- Reconstruction of rock socket of DOU5A-P5
- Air-lifting of DOU5A-P5
- Steel pile installation of DOU5A-P5
- Grouting of DOU5A-P5
- Pile excavation of DOU5B-P4
- Steel pile installation of DOU5B-P4

#### <u>E&M</u>

- Isolation Device for Effluent Drop Shaft
- Prototype of Sealant
- Pump Relocation at DOU1PS
- "Mock-up" Air Relief Duct Support

#### Summary of EM&A Requirements

- 1.10 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.
- 1.11 The advice on the implementation status of environmental protection and pollution control/mitigation measures is summarized in **Section 4** of this report.
- 1.12 This report presents the monitoring results, observations, locations, equipment, period, for required monitoring parameter namely air quality, noise and audit works conducted for the Project in February 2020. For the methodology and QA/QC procedures of the monitoring parameters, please refer to the monthly report for Contract DC/2009/10.

# 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 for the Project. **Table 2.1** describes the air quality monitoring locations, which are also depicted in **Figure 1**.

Table 2.1Locations for Air Quality Monitoring

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

# **Monitoring Equipment**

2.3 The details of the monitoring equipment and copies of the calibration certificates used during the reported month could be referred to Section 2.3 and Appendix B of the monthly report of Contract DC/2009/10.

### 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. The air quality monitoring schedule for the reporting period could be found in Appendix C in the monthly report for the Contract DC/2009/10.

Table 2.2	Impact Dust Monitoring Parameters, Frequency and Duration
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Monitoring Station	Parameter	Period	Frequency
All monitoring	1-hour TSP	0700-1900 hrs	3 times/ every 6 days
locations	24-hour TSP	0000-2400 hrs	once in every 6 days

# Monitoring Methodology and QA/QC Procedure

2.5 The monitoring methodology and QA/QC procedures are presented in Section 2.5 – 2.15 of monthly report for Contract DC/2009/10.

#### **Results and Observations**

2.6 **Table 2.3** summarizes the monitoring results at AM6a, AM7 and AM8 in the reporting month.

Table 2.3Summary of 1-hour and 24-hour TSP Monitoring Result in the<br/>Reporting Month

	8			
Air Quality Monitoring Station	<b>Average</b> µg/m³	<b>Range</b> μg/m³	Action Level µg/m <sup>3</sup>	Limit Level µg/m <sup>3</sup>
		1 hour TSP		
AM6a	78	14 - 173	346	
AM7	135.9	81.8 - 179	322	500
AM8	94.1	58.1 - 151.1	307	
24 hours TSP				
AM6a	40	25 - 63	196	
AM7	53	43 - 68	207	260
AM8	45	28 - 68	158	

- 2.7 All 1-hour TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix B.**
- 2.8 All 24-hr TSP monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded. Summary of exceedance is presented in **Appendix B.**
- 2.9 The monitoring data and graphical presentations of 1-hour and 24-hour TSP monitoring results could be referred to Appendix D of monthly report of Contract DC/2009/10.
- 2.10 According to field observations during site inspection, the identified dust sources at the monitoring stations were mainly from loadings of material, vehicles movement, dust generated from the excavated dusty materials and construction works of other Contract and this Contract in the site.

## 3. NOISE

### **Monitoring Requirements**

3.1 Two noise monitoring stations, namely NM5 and NM6 was 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 two designated monitoring stations as listed in **Table 3.1**, which are also depicted in **Figure 1**.

Table 3.1Location of Noise Monitoring Stations

Monitoring Station	Monitored By Location of Measurement	
NM5		Near FSD Diving Rescue and Training Centre
NM6	DC/2009/10	Customs' Marine Base (Block H of Government Dockyard Rooftop)

### **Monitoring Equipment**

3.3 The details of the monitoring equipment and copies of the calibration certificates used in the impact noise monitoring programme could be referred to Section 3.4 and Appendix B of the monthly report of Contract DC/2009/10.

### Monitoring Parameters, Frequency and Duration

- 3.4 **Table 3.2** summarizes the monitoring parameters, frequency and total duration of monitoring. The noise monitoring schedule could be found in Appendix C in the monthly report for the Contract DC/2009/10.
- 3.5 As advised by the Contractor, no construction work under Contract DE/2018/17 was conducted in the restricted hours during the reported month.

Monitoring Stations	Parameter	Period	Frequency
NM5	L <sub>eq</sub> (30 min.) dB(A)	0700-1900 hrs. on weekdays	Once per week
NM6	L <sub>eq</sub> (5 min.) dB(A)	During restricted hours	Monitoring to be conducted when construction works were to be carried out

#### Monitoring Methodology and QA/QC Procedures

3.6 The monitoring methodology and QA/QC procedure could be referring to Section 3.6 - 3.9 of the monthly report for Contract DC/2009/10.

#### **Results and Observations**

3.7 **Table 3.3** summarizes the monitoring results at NM5 and NM6 in the reporting month.

For t	the time period 0700-1900 hrs. on weekda	ıys
Noise Monitoring	Range, dB(A)	Limit Level
Station	$L_{eq}(30 \text{ min.})$	dB(A)
NM5	57.6 - 61.7	75.0
NM6	58.7 - 61.2	75.0

 Table 3.3
 Summary the Noise Monitoring Results in Reporting Month

- 3.8 The construction noise monitoring at the designated location was conducted by the ET of Contracts DC/2009/10 as scheduled in the reporting month. The monitoring results and graphical presentations could be referred to Appendix E of the monthly report for Contract DC/2009/10.
- 3.9 1900-2300 hours noise monitoring was not conducted in the reporting month as there were no construction works during the period of restricted hours.
- 3.10 No Action/Limit Level exceedance was recorded in the reporting month. Summary of exceedance is presented in **Appendix B**.
- 3.11 The major noise sources identified at the designated noise monitoring stations were vehicle movement and construction equipment, as well as construction activities from other and this Contract in Stonecutters Island STW.

### 4. ENVIRONMENTAL AUDIT

#### Site Audits

- 4.1 Site audits were conducted on a weekly basis to monitor the implementation of environmental management practices and mitigation measures at the site area by the Contractor.
- 4.2 Site inspections were undertaken to ensure and check that the implementation and maintenance of mitigation measures for Air Quality, Noise, Water Quality, Waste Management, Landscape and Visual are being properly carried out in the reporting month in accordance to section 14.1 of the EM&A Manual. No non-compliance was observed during the site inspections.
- 4.3 The summaries of site audits are attached in **Appendix C**.

#### **Implementation Status of Environmental Mitigation Measures**

- 4.4 Details of the implementation of mitigation measures are provided in the **Appendix F**.
- 4.5 During the weekly environmental site inspections in the reporting period, no nonconformance was identified. The observations of the site audit for the Projects are summarized in **Table 4.1**.

1 able 4.1	Observations of Site Addit			
Parameters	Ref. Number	Observations	Follow Up Action	
Water Quality	N/A	There was no observation in the reporting month.	N/A	
Air Quality	N/A	There was no observation in the reporting month.	N/A	
Waste/ Chemical	200130-R01	The chemical waste container should be locked.	The chemical waste container was locked.	
Management	200227-R02	The chemical waste container should be locked.	Follow-up action will be reported in the next monthly report.	
Landscape and Visual	N/A	There was no observation in the reporting month.	N/A	
Noise	200227-R01	Compressors should be operate with doors closed.	Follow-up action will be reported in the next monthly report.	
Permit/ Licenses	N/A	There was no observation in the reporting month.	N/A	

Table 4.1Observations of Site Audit

#### **Review of Environmental Monitoring Procedures**

4.6 The monitoring works conducted by Contract DC/2009/10's ET were reviewed at a regular basis to ensure the monitoring procedures were carried out properly.

### Status of Environmental Licensing and Permitting

4.7 All permits/licenses obtained for the Contract DE/2018/17 are summarized in **Table 4.2**.

Table 4.2Summary of Environmental Licence / Pe	ermit for DE/2018/17
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Reference	Valid I	Period	Details	Status
Number	From	То		Stutus
Water Discha	arge License			
WT00035198- 2019	15/1/2020	31/1/2025	The application was approved on 15-1-2020.	Valid
<b>Registered</b> C	hemical Wasi	te Producer		•
WPN5213- 269-B2565-01	N/A	N/A	The application was approved on 14-8-2019.	Valid
<b>Billing</b> Accou	unt for Dispo	sal of Const	ruction Waste	
CSW03680	6/8/2019	N/A	The application was approved on 6-8-2019.	Valid
Notification of	of Works Und	ler APCO	•	
447348	N/A	N/A	Notice form received by EPD on 17-7-2019.	N/A
Construction	Construction Noise Permit			
GW- RW0478-19	04/10/2019	26/03/2020	The application was approved on 30-9-2019.	Valid

#### **Status of Waste Management**

4.8 The amount of wastes generated by the activities of the Project in the reporting month is shown in **Appendix D**.

#### **Implementation Status of Event Action Plans**

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

<u>1-hr TSP</u>

4.10 No Action/Limit Level exceedance was recorded.

<u>24-hr TSP</u>

4.11 No Action/Limit Level exceedance was recorded.

Construction Noise

4.12 No Action/Limit Level exceedance was recorded.

Landscape and Visual

4.13 No major deficiency was recorded.

#### **Summary of Complaints and Prosecutions**

- 4.14 No environmental complaint and prosecution was received for the Project in the reporting month.
- 4.15 There were no environmental complaint and prosecution received since the commencement of the Project. The Complaint Log is presented in **Appendix G**.

# 5. FUTURE KEY ISSUES

### Key Issues for the Coming Month

- 5.1 Key environmental issues in the coming month include:
  - Storage of chemicals/fuel and chemical waste/waste oil on-site;
  - Leakage of oil from equipment;
  - Dust generation should be mitigated by adequate water spraying, especially in dry days;
  - Stockpile should be properly covered by tarpaulin or impervious materials to mitigate dust generation;
  - Noise from operation of equipment and machinery on-site;
  - Silty surface runoff generated from the site area; and
  - Silt and dust getting into the public area by the leaving site vehicles at the site exits without adequate wheel washing facilities.

### Monitoring Schedule for the Next Month

5.2 The tentative environmental monitoring schedule over the next month could be found in the Appendix C of the monthly report of Contract DC/2009/10.

### **Construction Program for the Next Month**

5.3 The tentative construction program is provided in **Appendix H**.

### 6. CONCLUSIONS AND RECOMMENDATIONS

#### Conclusions

6.1 Environmental monitoring and audit works were performed in the reporting month and all monitoring results were checked and reviewed.

#### 1-hour TSP Monitoring

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

#### 24-hour TSP Monitoring

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

#### Construction Noise Monitoring

6.4 All Construction Noise monitoring was conducted as scheduled in the reporting month. No Action/Limit Level exceedance was recorded.

#### Environmental Audit

6.5 Environmental site audits were conducted as weekly basis in the reporting month. No non-compliance was recorded.

#### Complaint and Prosecution

6.6 No environmental complaint and prosecution was received in the reporting month.

#### **Recommendations for next reporting month**

6.7 The following recommendations were made for the next report month:

#### Air Quality

- To provide adequate water spray on site;
- To mitigate dust generation by covering stockpile with tarpaulin;
- To regularly maintain the machinery and vehicles on site; and
- To follow up any exceedance caused by the construction works.
- Non-Road Mobile Machinery (NRMM) labels must be demonstrated on the registered equipment for inspection.

#### Noise

- 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;
- To provide temporary noise barriers for operations of noisy equipment near the noise sensitive receivers in an appropriate location;
- To provide adequate lubricant on mechanical equipments to reduce frictional noise; and

• To well maintain the mechanical equipments / machineries to avoid abnormal noise nuisance.

### Water Quality

- To identify any discharge of wastewater from the construction site;
- To provide adequate temporary drainage system with adequate capacity;
- To provide adequate wastewater treatment facilities to treat the wastewater generated during construction works and heavy rain;
- To properly cover the stockpile to prevent the generation of surface runoff; and
- To avoid water accumulation on site and carry out larviciding against mosquito breeding for stagnant water when mosquito larvae are observed.

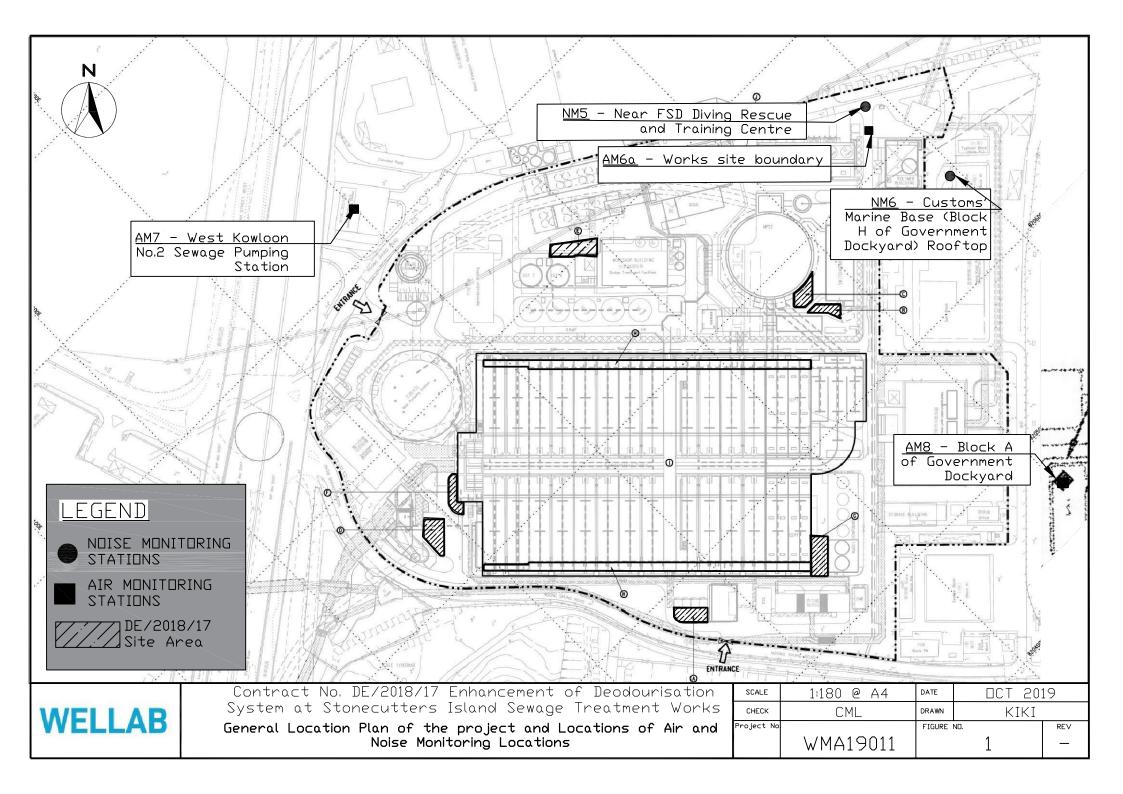
#### Waste/Chemical Management

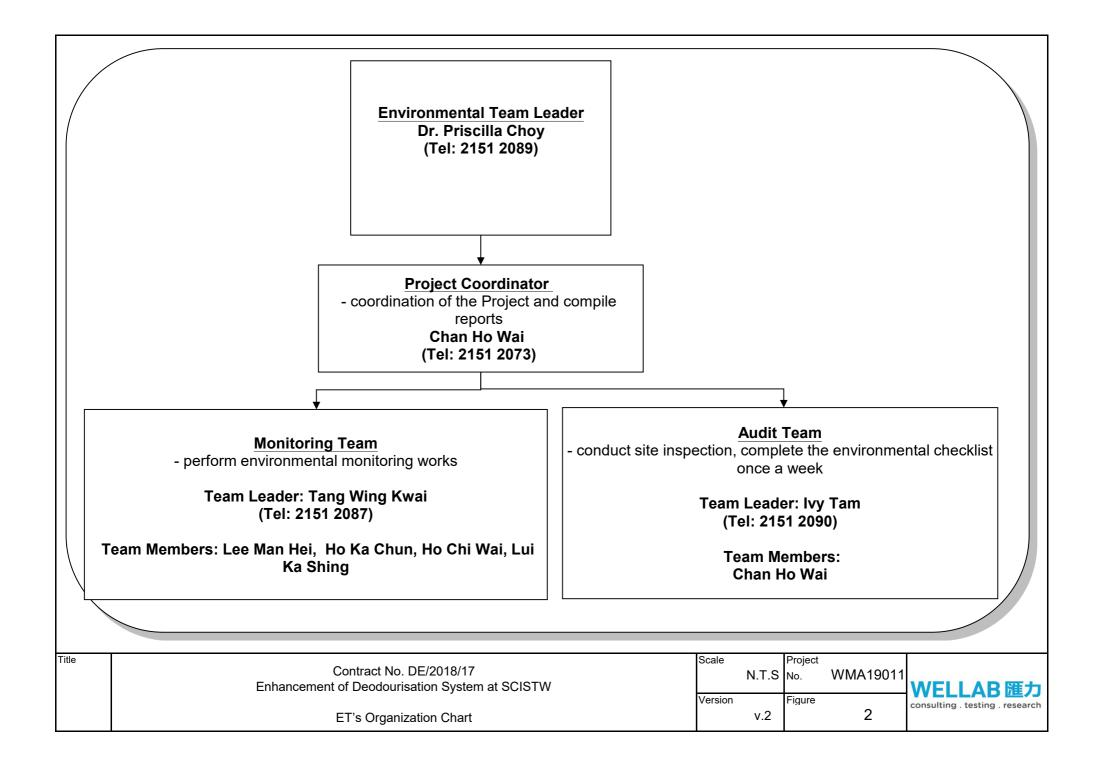
- To provide proper rubbish bins / skips for waste collection;
- To check for any accumulation of wasted materials or rubbish on site;
- To provide adequate chemical waste storage area on site;
- To avoid any discharge or accidental spillage of chemical waste or oil directly from the equipment; and
- To avoid improper handling or storage of oil drum and cement on site.

#### Landscape and Visual

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

FIGURES





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

# Appendix A Action and Limit Levels

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

Manitaring Stations	Action Level (µg/m <sup>3</sup> )		Limit Level (µg/m <sup>3</sup> )	
Monitoring Stations	1-hour	24-hour	1-hour	24-hour
АМба	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)
	0700-1900 hours on normal weekdays	When one documented complaint is received	75
NM5 NM6	Evening Time of normal weekdays and General Holidays: All days during the evening (1900 to 2300 hours), and general holidays	N/A	70 <sup>(1)</sup>
	(including Sundays) during the day- time and evening (0700 to 2300 hours)		

Notes: If works are to be carried out during restricted hours, the conditions stipulated in the Construction Noise Permit (CNP) issued by the Noise Control Authority have to be followed.

APPENDIX B SUMMARY OF EXCEEDANCE

#### **APPENDIX B – SUMMARY OF EXCEEDANCE**

**Reporting Month:** February 2020

- a) Exceedance Report for 1-hr TSP (NIL)
- b) Exceedance Report for 24-hr TSP (NIL)
- c) Exceedance Report for Construction Noise (NIL)

APPENDIX C SITE AUDIT SUMMARY

Checklist Reference Number	200206	
Date	6 February 2020 (Thursday)	
Time	10:15-11:15	

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

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	<ul> <li>Part B – Landscape and Visual</li> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
	Part C - Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	Part D – Noise	
	• No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	• No environmental deficiency was identified during the site inspection.	
	Remark:	
	<ul> <li>Follow-up on previous audit session:</li> </ul>	
	On previous audit session (Ref No. 200130), the environmental deficiency	
	was rectified by the Contractor.	

	Name	Signature	Date
Recorded by	Chan Ho Wai	Howard	10 February 2020
Checked by	Dr. Priscilla Choy	WI	10 February 2020

Checklist Reference Number	200213	
Date	13 February 2020 (Thursday)	
Time	10:15-11:15	

Ref. No.	Non-Compliance	<b>Related Item No.</b>
	None identified	

Ref. No.	Remarks/Observations	<b>Related Item No.</b>
	Part A - Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	<ul> <li><i>Part B – Landscape and Visual</i></li> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
	Part C - Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	Part D – Noise	
	• No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	<ul> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
	· The environmental denoisely was recrimed during the site inspection.	
_	Remark:	
	<ul> <li>Follow-up on previous audit session:</li> </ul>	
	On previous audit session (Ref No. 200206), no environmental deficiency was observed during the site inspection.	

	Name	Signature	Date
Recorded by	Chan Ho Wai	Howard	17 February 2020
Checked by	Dr. Priscilla Choy	NFL	17 February 2020
		Ţ	· · · · · · · · · · · · · · · · · · ·

Checklist Reference Number	200220	
Date	20 February 2020 (Thursday)	
Time	10:30-11:30	

Ref. No.	Non-Compliance	<b>Related Item No.</b>
-	None identified	_

Ref. No.	Remarks/Observations	Related Item No.
	Part A - Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	<ul> <li><i>Part B – Landscape and Visual</i></li> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
	Part C - Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	Part D – Noise	
	• No environmental deficiency was identified during the site inspection.	
	Part E – Waste / Chemical Management	
	• No environmental deficiency was identified during the site inspection.	
	Part F - Permit / Licence	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	• No environmental deficiency was identified during the site inspection.	
	Remark:	
	Follow-up on previous audit session:	
	On previous audit session (Ref No. 200213), no environmental deficiency was	
	observed during the site inspection.	

	Name	Signature	Date
Recorded by	Chan Ho Wai	Howard	24 February 2020
Checked by	Dr. Priscilla Choy	WIL	24 February 2020
			2 + 1 001 dui y 2020

Checklist Reference Number	200227	
Date	27 February 2020 (Thursday)	
Time	10:30-11:30	

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

Ref. No.	Remarks/Observations	<b>Related Item No.</b>
	Part A - Water Quality	
	• No environmental deficiency was identified during the site inspection.	
	<ul> <li>Part B – Landscape and Visual</li> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
	Part C - Air Quality	
	• No environmental deficiency was identified during the site inspection.	
	Part D – Noise	
200227-R01	Compressors should be operate with doors closed.	D 9
	Part E – Waste / Chemical Management	
200227-R02	• The chemical waste container should be locked.	E 3ii
	Part F - Permit / Licence	
	• No environmental deficiency was identified during the site inspection.	
	Others	
	<ul> <li>No environmental deficiency was identified during the site inspection.</li> </ul>	
	Remark:	
	• Follow-up on previous audit session:	
	On previous audit session (Ref No. 200220), no environmental deficiency was	
	observed during the site inspection.	

	Name	Signature,	Date
Recorded by	Chan Ho Wai	Haward	2 March 2020
Checked by	Dr. Priscilla Choy	h	2 March 2020
		1	

APPENDIX D SUMMARY OF AMOUNT OF WASTE GENERATED Name of Department:

DSD

Contract No. :

DE/2018/17

Monthly Summary	Waste Flow Table for	2020	(year)

	Actual Quantities of inert C&D Materials Generated Monthly				Actual Quantities of C&D Materials Generated Monthly						
Month	Total Quantity	Hard Rock and Large	Reused in the	Reused in	Disposed as	Imported	Metals	Paper/	Plastics	Chemical	Other, e.g.
	Generated	Broken Concrete	Contract	other Projects	Public Fill	Fill		cardboard	(see Note 3)	Waste	general refuse
	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	$(In '000m^3)$	(In '000m <sup>3</sup> )	(In '000m <sup>3</sup> )	(In '000kg)	(In '000kg)	(In '000kg)	(In '000kg)	$(In '000m^3)$
Jan	0.209	0.209	0.000	0.000	0.209	0.000	0.000	0.000	0.000	0.000	0.001
Feb	0.210	0.210	0.000	0.000	0.210	0.000	0.000	0.000	0.000	0.000	0.001
Mar											
Apr											
May											
June											
Sub-total	0.420	0.420	0.000	0.000	0.420	0.000	0.000	0.000	0.000	0.000	0.002
July											
Aug											
Sep											
Oct											
Nov											
Dec											
Total	0.420	0.420	0.000	0.000	0.420	0.000	0.000	0.000	0.000	0.000	0.002
Total since commence ment of project		0.925	0.000	0.000	0.925	0.000	11.530	0.000	0.000	0.000	0.004

Notes: (1) The performance targets are given in PS Clause 25.37(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  $m^3$  for inert C&D materials is 1.9 tonne/ $m^3$ .

(5) The conversion factor for tonne to  $m^3$  for general refuse is 1.8 tonne/m<sup>3</sup>.

APPENDIX E EVENT ACTION PLANS

### **APPENDIX E – Event / Action Plans**

# Table E-1 Event / Action Plan For Air Quality

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

ACTION				
EVENT	ET	IEC	ER	CONTRACTOR
LIMIT LEVEL	·		·	•
1. Exceedance for	1. Identify source, investigate the	1. Check monitoring data	1. Confirm receipt of	1. Take immediate action to
one sample	causes of exceedance and propose	submitted by ET;	notification of failure in	avoid further exceedance;
	remedial measures;	2. Check Contractor's working	writing;	2. Submit proposals for
	2. Inform ER, Contractor and EPD;	method;	2. Notify Contractor;	remedial actions to IEC
	3. Repeat measurement to confirm	3. Discuss with ET and Contractor	3. Ensure remedial measures	within 3 working days of
	finding;	on possible remedial measures;	properly implemented	notification;
	4. Increase monitoring frequency to	4. Advise the ER on the		3. Implement the agreed
	daily;	effectiveness of the proposed		proposals;
	5. Assess effectiveness of	remedial measures;		4. Amend proposal if
	Contractor's remedial actions and	5. Supervise implementation of		appropriate
	keep IEC, EPD and ER informed of	remedial measures		
	the results.			
2. Exceedance for	1. Notify IEC, ER, Contractor and	1. Check monitoring data	1. Confirm receipt of	1. Take immediate action to
two or more	EPD;	submitted by ET;	notification of failure in	avoid further exceedance;
consecutive	2. Identify source;	2. Check Contractor's working	writing;	2. Submit proposals for
samples	3. Repeat measurement to confirm	method;	2. Notify Contractor;	remedial actions
	findings;	3. Discuss amongst ER, ET, and	3. In consolidation with the	to IEC within 3 working days
	4. Increase monitoring frequency to	Contractor on the potential	IEC, agree with the Contractor	of notification;
	daily;	remedial actions;	on the remedial measures to	3. Implement the agreed
	5. Carry out analysis of Contractor's	4. Review Contractor's remedial	be implemented;	proposals;
	working procedures to determine	actions whenever necessary to	4. Ensure remedial measures	4. Resubmit proposals if
	possible mitigation to be	assure their effectiveness and	properly implemented;	problem still not under

ACTION				
EVENT	ET	IEC	ER	CONTRACTOR
	implemented;	advise the ER accordingly;	5. If exceedance continues,	control;
	6. Arrange meeting with IEC and	5. Supervise the implementation of	consider what portion of the	5. Stop the relevant portion of
	ER to discuss the remedial actions	remedial measures.	work is responsible and	works as determined by the
	to be taken;		instruct the Contractor to stop	ER until the exceedance is
	7. Assess effectiveness of		that portion of work until the	abated
	Contractor's remedial actions and		exceedance is abated.	
	keep IEC, EPD and ER informed of			
	the results;			
	8. If exceedance stops, cease			
	additional monitoring			

## Table E-2 Event / Action Plan For Construction Noise

	ACTION			
EVENT	ET	IEC	ER	CONTRACTOR
Action Level	1. Notify ER, IEC and Contractor;	1. Review the investigation	1. Confirm receipt of	1. Submit noise mitigation
being	2. Carry out investigation;	results submitted by the ET;	notification of failure in writing;	proposals to IEC and ER;
exceeded	3. Report the results of investigation to	2. Review the proposed	2. Notify Contractor;	2. Implement noise mitigation
encecuca	the IEC, ER and Contractor;	remedial measures by the	3. In consolidation with the IEC,	proposals
	4. Discuss with the IEC and	Contractor and advise the ER	agree with the Contractor on the	
	Contractor on remedial measures	accordingly;	remedial measures to be	
	required;	3. Advise the ER on the	implemented;	
	5. Increase monitoring frequency to	effectiveness of the proposed	4. Supervise the implementation of	
	check mitigation effectiveness	remedial measures	remedial measures	
Limit Level	1. Inform IEC, ER, Contractor and	1. Discuss amongst ER, ET,	1. Confirm receipt of	1. Take immediate action to
being	EPD;	and	notification of failure in writing;	avoid further exceedance;
exceeded	2. Repeat measurements to confirm	Contractor on the potential	2. Notify Contractor;	2. Submit proposals for
executed	findings;	remedial actions;	3. In consolidation with the	remedial actions to IEC
	3. Increase monitoring frequency;	2. Review Contractor's	IEC, agree with the Contractor on	and ER within 3 working
	4. Identify source and investigate the	remedial	the remedial measures to be	days of notification;
	cause of exceedance;	actions whenever necessary	implemented;	3. Implement the agreed
	5. Carry out analysis of Contractor's	to assure their effectiveness	4. Supervise the implementation of	proposals;
	working procedures;	and advise the ER accordingly.	remedial measures;	4. Submit further proposal if
	6. Discuss with the IEC, Contractor		5. If exceedance continues,	problem still not under
	and ER on remedial measures		consider stopping the Contractor to	control;
	required;		continue working on that portion of	5. Stop the relevant portion
	7. Assess effectiveness of Contractor's		work which causes the exceedance	of works as instructed by
	remedial actions and keep IEC, EPD		until the exceedance is abated	the ER until the exceedance is
	and ER informed of the results;			abated
	8. If exceedance stops, cease			
	additional monitoring			

APPENDIX F ENVIRONMENTAL MITIGATION IMPLEMENTATION SCHEDULE (EMIS)

## APPENDIX F IMPLEMENTATION SCHEDULE OF ENVIRONMENTAL MITIGATION MEASURES (EMIS)

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
Α	Air Quality		
3.74	Skip hoist for material transport should be totally enclosed by impervious sheeting.	All construction sites	٨
	Vehicle washing facilities should be provided at every vehicle exit point.		٨
	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
	Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.		٨
	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.		٨
	Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.		٨
	Imposition of speed controls for vehicles on unpaved site roads. Ten kilometers per hour is the recommended limit.		٨
	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.		٨
	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	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
В	Airborne Noise		
4.56-	Use of quiet PME, movable barriers and acoustic mats.	All construction sites	٨
4.61			
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.		٨
	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.		^
С	Water Quality		
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 6.377	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. Accidental Spillage of Chemicals		л Л Л
	produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General)		

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
	Regulation should be observed and complied with for control of chemical wastes.		
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 leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.		٨
6.379	<ul> <li>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> <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> </li> </ul>		*
6.380	Construction Works in Close Proximity of Storm Drains or Seafront:	All construction sites	٨
	<ul> <li>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.</li> <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.</li> <li>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>		

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			

D	Waste Management		
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	٨
9.109	<ul> <li>All waste materials should be segregated into categories covering:</li> <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	۸
9.113	Sort C&D waste from demolition of existing facilities to recover recyclable portions such as metals.		۸
	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.		۸
	Encourage collection of aluminum cans, PET bottles and paper by providing separate labeled bins to enable these wastes to be segregated from other general refuse generated by the work force.		٨
	Any unused chemicals or those with remaining functional capacity shall be recycled.		٨
	Proper storage and site practices to minimize 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.		۸
	Training of site personnel in proper waste management and chemical waste handling procedures.		^
9.115	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.		۸
	Provision of sufficient waste disposal points and regular collection of waste.		۸
	Regular cleaning and maintenance programme for drainage systems, sumps and oil		٨

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			
	interceptors.		
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	٨
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.		٨
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.		٨
9.135	The recyclable component of the municipal waste generated by the workforce, such as aluminum 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.		Λ
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.		Λ
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

EIA	Recommended Mitigation Measures	Location of the measure	Implementation Status
Ref.			

Е	Terrestrial Ecology		
10.94	To implement effective noise mitigation measures as recommended in Section 4 of EIA.	All construction sites	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.	-	٨
10.96	Fences/hoardings should be erected and installed along the boundary of the works areas.		٨
10.97	Standard good site practices as suggested in Section 10 of EIA should be implemented.		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.		٨
F	Landscape and Visual		
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	۸
	Existing trees to be retained on site should be carefully protected during construction.		٨
	Trees unavoidably affected by the works should be transplanted where practical.		٨
	Compensatory tree planting should be provided to compensate for felled trees.		٨
	Control of night-time lighting.		٨
Table 13.7	Erection of decorative screen hoarding compatible with the surrounding setting.	All construction sites	N/A
G	Marine Ecology		
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.		۸
Н	Hazard to Life		
14A.201	Limiting use of cranes in terms of locations, lifting height, swing angle and setting up safety zone.	Exact location will be determined on construction site by the engineer	٨

Remarks:	<ul> <li>Compliance of mitigation measure;</li> </ul>
	N/A Not Applicable;
	* Recommendation was made during site audit but
	improved/rectified by the contractor.
	# Recommendation was made during site audit and to be
	improved / rectified by the contractor.
	X Non-compliance of mitigation measure;
	Non-compliance but rectified by the contractor;

APPENDIX G COMPLAINT LOG

## **APPENDIX G – COMPLAINT LOG**

**Reporting Month**: February 2020

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

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

APPENDIX H CONSTRUCTION PROGRAMME

Activity ID	Activity Name	Activity % Complete	Total Float	Original Duration	Time risk allowance	Start	Finish	20	19		C
Works Pro	gramme (First Programme)								-	÷	_
Contract P									+	÷	_
KD0001	Starting date of Project	0%	0	0		09-Jul-19*			φ ε	Start	ing
KD0005	Completion Date (665 days)	0%	0	0			03-May-2				
Key Dates											
KD0010	Starting date of Project	0%	0	0		09-Jul-19*			<b>*</b>	Start	ing
KD0020	KD A - Completion of all other works including DOUs 1, 2, 4, 5 Polishing stages for FSI (540 days)	0%	0	0			29-Dec-20*			09-5	
Access Dat A1090	e of Part of the Site PartA-L	00/	0	0		00 101 10				- 1	
	and General Requirements	0%	0	0		09-Jul-19			Ţ	Parț	M-1
PG00010	Statutory application/ notification of EPD and LD	0%	11	21	0	09-Jul-19	29-Jul-19			-	St
PG00020	Submission of Safety plan	0%	11	21		09-Jul-19	29-Jul-19		-		Su
PG00030	Approval of Safety Plan	0%	11	21		30-Jul-19	19-Aug-19			<b>∽</b> ¦	
PG00040	Submission of Waste Management Plan/ Environmental Management plan	0%	11	21	0	09-Jul-19	29-Jul-19		►		Sι
PG00050	Approval of Waste Management Plan/ Environmental Management plan	0%	11	14		30-Jul-19	12-Aug-19			-	-
PG00060	Submission of Subcontractor Management Plan	0%	112	14		09-Jul-19	22-Jul-19		<b>^</b>	] 8	ub
PG00070 PG00080	Approval of Subcontractor Management Plan Submission of Staffing Proposal	0% 0%	112 7	14		23-Jul-19 09-Jul-19	05-Aug-19 22-Jul-19			- غ ר	L_ ub
PG00090	Approval of Staffing Proposal	0%	7		0	23-Jul-19	22-Jul-19 29-Jul-19		Ģ	-	A¢
	ure Construction Works	0,0	•		0	20 001 10	20 001 10		₩		_
Section 1 of									•	÷	
A2960	Section 1 Completion (150days)	0%	0	0	0		05-Dec-19*				
	Submission (AIP)								+	÷	7
A4930	Submission of AIP Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0%	0		0	09-Jul-19	15-Jul-19		1	Su	сm
A4940 A4950	Approval of AIP Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5 Submission of AIP Design of Air Relief Duct for Effluent Drop Structure	0% 0%	0	21	0	16-Jul-19 09-Jul-19	05-Aug-19 15-Jul-19			- Su	hm
A4950 A4960	Approval of AIP Design of Air Relief Duct for Effluent Drop Structure	0%	0	21		16-Jul-19	05-Aug-19		4		
A4970	Submission of AIP Design of Isolation Device for Effluent Drop Structure	0%	0		0	09-Jul-19	15-Jul-19		╺-┢┛	Sü	bm
A4980	Approval of AIP Design of Isolation Device for Effluent Drop Structure	0%	0	21		16-Jul-19	05-Aug-19		<b>F</b>		. !
A4990	Submission of AIP Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	7	0	09-Jul-19	15-Jul-19		-	Sü	om
A5000	Approval of AIP Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	21		16-Jul-19	05-Aug-19		-		1
A5010	Submission of AIP Design fo power supply, cabling, earthing, lightning protection and interface with	0%	57		0	09-Jul-19	15-Jul-19		1	Sų	ст
A5170	Approval of AIP Design fo power supply, cabling, earthing, lightning protection and interface with ex' Submission (DDA)	0%	57	21	0	16-Jul-19	05-Aug-19				
A4945	Submission (DDA) Submission of DDA Civil requirement drawings and General Arrangement of DOU1, DOU1R, DOU2	0%	0	7	0	09-Jul-19	15-Jul-19			Sú	bm
A4955	Review and comment on DDA of Civil requirement drawings and General Arrangement of DOU1, DC	0%	0	21		16-Jul-19	05-Aug-19		¢,		i İ
A4965	Re-submission of DDA Civil requirement drawings and General Arrangement of DOU1, DOU1R, DC	0%	0	7	0	06-Aug-19	12-Aug-19			-	
A4975	Approval of DDA Civil requirement drawings and General Arrangement of DOU1, DOU1R, DOU2, E	0%	0		0	13-Aug-19	19-Aug-19				1
A5015	Submission of DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0%	0		0	06-Aug-19	12-Aug-19				9
A5020 A5030	Review and Comment on DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DC Re-submission of DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0% 0%	0	21	0	13-Aug-19 03-Sep-19	02-Sep-19 09-Sep-19				T
A5030	Approval of DDA Design of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0%	0		0	10-Sep-19	16-Sep-19				
A5050	Submission of DDA Design of Air Relief Duct for Effluent Drop Structure	0%	0		0	06-Aug-19	12-Aug-19			-	
A5060	Review and Comment on DDA Design of Air Relief Duct for Effluent Drop Structure	0%	0	21	0	13-Aug-19	02-Sep-19				-
A5070	Re-submission of DDA Design of Air Relief Duct for Effluent Drop Structure	0%	0		0	03-Sep-19	09-Sep-19				
A5080	Approval of DDA Design of Air Relief Duct for Effluent Drop Structure	0%	0		0	10-Sep-19	16-Sep-19				
A5090 A5100	Submission of DDA Design of Isolation Device for Effluent Drop Structure Review and Comment on DDA Design of Isolation Device for Effluent Drop Structure	0% 0%	0	21	0	06-Aug-19 13-Aug-19	12-Aug-19 02-Sep-19				-
A5100	Re-submission of DDA Design of Isolation Device for Effluent Drop Structure	0%	0		0	03-Sep-19	02-Sep-19 09-Sep-19				
A5120	Approval of DDA Design of Isolation Device for Effluent Drop Structure	0%	0		0	10-Sep-19	16-Sep-19				
A5130	Submission of DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	7	0	06-Aug-19	12-Aug-19		1		Ō
A5140	Review and Comment on DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	21		13-Aug-19	02-Sep-19				•
A5150	Re-submission of DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1		0	03-Sep-19	09-Sep-19				
A5160 A5460	Approval of DDA Design of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0% 0%	1 57		0	10-Sep-19 06-Aug-19	16-Sep-19 12-Aug-19				_
A3460 A8020	Submission of DDA Design of power supply, cabling, earthing, lightning protection and interface with Review & comment of DDA Design of power supply, cabling, earthing, lightning protection and interf	0%	57	21		13-Aug-19	02-Sep-19	<u>├</u>	-++		
A8030	Re-submission of DDA Design of power supply, cabling, earthing, lightning protection and interface	0%	57		0	03-Sep-19	09-Sep-19				
A8040	Approval of DDA Design of power supply, cabling, earthing, lightning protection and interface with e	0%	57	7	0	10-Sep-19	16-Sep-19				
	and Delivery of Equipment/ Material for Section 1 of Works										
A5180	Procurement of Activated Carbon Filter Systems for DOU1, DOU2 and DOU5	0%	0	48		07-Sep-19	24-Oct-19	<b>↓ </b>			
A5190 A5200	FAT of Activated Carbon Filter System for DOU1 Delivery of Activated Carbon Filter System for DOU1 to Site	0% 0%	0	6 14	0	07-Oct-19 13-Oct-19	12-Oct-19 26-Oct-19				
A5200 A5210	FAT of Activated Carbon Filter System for DOU2	0%	0		0	13-Oct-19	18-Oct-19				
A5220	Delivery of Activated Carbon Filter System for DOU2 to Site	0%	0	14		19-Oct-19	01-Nov-19				
A5230	FAT of Activated Carbon Filter System for DOU5	0%	0	6	0	19-Oct-19	24-Oct-19				
A5240	Delivery of Activated Carbon Filter System for DOU5 to Site	0%	0	14		25-Oct-19	07-Nov-19		TT		T
A5250	Procurement of FRP Air Ducts for Effluent Drop Structure	0%	0	45		02-Sep-19	16-Oct-19				
A5260 A5270	FAT of FRP Air Ducts for Effluent Drop Structure Delivery of FRP Air Ducts for Effluent Drop Structure to Site	0% 0%	0		0	10-Oct-19 17-Oct-19	16-Oct-19 23-Oct-19				
A5270 A5280	Procurement of Isolation Devices for Effluent Drop Structure to Site	0%	0	30		02-Sep-19	01-Oct-19				
A5290	Delivery of Isolation Devices for Effluent Drop Structure to Site	0%	0		0	02-Oct-19	08-Oct-19		-++		
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2019								20	20										2021				
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Starting	date of Proj	ect																	V 03-IV	lay-21, 1	Contract	Particul	ars
Statung	uale of Froj	ect	-														1		Com	¦ pletion l	Date (66	5 days)	
			1												29-De	c-20, K	ey Date	Ś					
<ul> <li>Starting</li> </ul>	date of Proj	ect														0					DOUL		- D-11-
▼ 09-Jul-1	9. Access E	Date of Part of t	the Site												KDA-	Compi	etion of	all other	works	Incluain	ig DOUs	1, 2, 4,	b Polis
Part A-L																							
	19-Aug-1	9, Preliminary	and Gen	eral Require	ments																		
		cation/ notifica	tion of El	D and LD																			
Sub		Safety plan																					
Sub		of Safety Plan Waste Manag		an/ Environm	ental Mana	aement	plan																
		f Waste Manag		1 1		r i	(* E																
		ubcontractor N																					
	+	Subcontractor I taffing Proposa	1 7	tent Plan																			
		affing Proposal																					
	-	-									1								🛡 03-N	ay-21, I	Infrastruc	ture Co	nstruc
				🔻 06-J'an-2	0, Section	l of the	Works																
				ion 1 Comple	etion (150da	ays)																	
Submis	o-Aug-19, E ssion of AIP	&M Design So Design of Act	iomission	rbon Filter S	ystems for	DOU1.	DOU2 #	and DOI	15														
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		Design of Air																		[	]		
		AIP Design of Design of Isc																					
		IP Design of Isc					re																
► Submis	ssion of AIP	Design of Se	alant for F	RP Sliding (	Covers of E	xisting (	СЕРТ Та																
		AIP Design of S							,											[			
		Design fo pov NP Design fo																					
		Son 40 ERN	Docian	submission (	מאחח																		
🛏 Submis	ssion of DD	ACivil require	ment dra	wings and G	eneral Arra	ngemen	t of DO	U1, DOU	J1R, DO	U2, DO	U4 and	DOU5											
R R R	eview and	comment on D sion of DDA C	DA of Civ	il requireme	nt drawings	and Ge	neral A	rrangem	ent of D	001, D	001R, I	JOU2, U		1	5 ¦								
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		n of DDA Desi		: :						0000													
	Revie	ew and Comm	ent on DD	A Design of	Air Relief D	uct for I	ffluent																
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		oproval of DD n of DDA Desi																					
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		FAT of																					
			1	tivated Carb				to Site															
				Activated Ca				J5 to Sit	e														
	-	Frocure	ment of Fl	RP Air Ducts	for Effluen	t Drop S																	
		Delive					oturo to	Sito															
		Frocuremen																					
	G			Devices for																			
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DC/2018/1	7									Sh	eet 1 o	of 7	Di Jul-19	ate	Rev.	Revis	ion	+	Checke	d	A	pproved	
cutter Iclo	nd Sewee	ge Treatmei	nt Worl	ks									Aug-19		Rev.								
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Actual Work

Milestone

Summary

Remaining Work

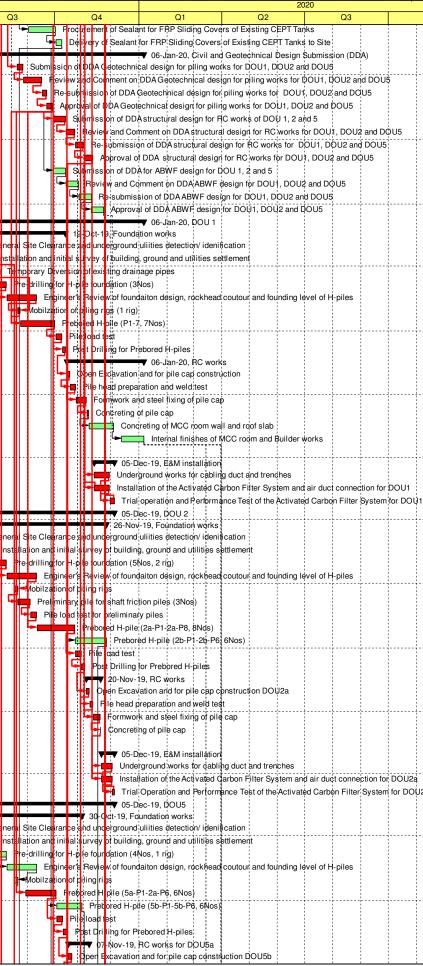
Critical Remaining Work

Contract No. DC/2018/17

Enhancement of Deodourization System at Stonecutter Island Sewage Treatment

First Program

	Activity Name	Activity % T Complete	otal Float		Time risk S allowance	Start	Finish	201	19	Q	3			Q4
A5300	Procurement of Sealant for FRP Sliding Covers of Existing CEPT Tanks	0%	1	30	0 0	)2-Sep-19	01-Oct-19		Π			📑 न	rocure	
A5310	Delivery of Sealant for FRP Sliding Covers of Existing CEPT Tanks to Site	0%	1	7	0 0	2-Oct-19	08-Oct-19					<u>Le 🖪  </u>	Delive	ary of '
	otechnical Design Submission (DDA)								-	11			n of DI	
45320	Submission of DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0	7		20-Aug-19	26-Aug-19				Subi		n of DI ew and	
\5330 \5340	Review and Comment on DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0	21 5		27-Aug-19 7-Sep-19	16-Sep-19 21-Sep-19				TC		subriis	
\5350 \5350	Re-submission of DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5 Approval of DDA Geotechnical design for piling works for DOU1, DOU2 and DOU5	0%	0	7		2-Sep-19	21-Sep-19 28-Sep-19				5		proval	
\5330 \5400	Submission of DDA decidentifical design for RC works of DOU 1, 2 and 5	0%	0	14		2-Sep-19 9-Sep-19	12-Oct-19			l i				risso
7500	Review and Comment on DDA structural design for RC works for DOU1, DOU2 and DOU5	0%	0	14		3-Oct-19	22-Oct-19					C		eview
7510	Re-submission of DDA structural design for RC works for DOU1, DOU2 and DOU5	0%	0	10		23-Oct-19	01-Nov-19							Re-si
7520	Approval of DDA structural design for RC works for DOU1, DOU2 and DOU5	0%	0	10		2-Nov-19	11-Nov-19						d d	Ap
7840	Submission of DDA for ABWF design for DOU 1, 2 and 5	0%	115	14		9-Sep-19	12-Oct-19					╺┝─	Subr	risso
7850	Review and Comment on DDA ABWF design for DOU1, DOU2 and DOU5	0%	115	14		3-Oct-19	26-Oct-19						R	
7860	Re-submission of DDA ABWF design for DOU1, DOU2 and DOU5	0%	115	14		27-Oct-19	09-Nov-19						F.	Re-
7870	Approval of DDA ABWF design for DOU1, DOU2 and DOU5	0%	115	14		0-Nov-19	23-Nov-19							
OU 1									╈		╋╋╋━━			<u> </u>
Foundation A1130	on works General Site Clearance and underground uliities detection/ idenification	0%	0	6	0 0	9-Jul-19	15-Jul-19			Gener	al Site C	learan	12-O ce ai d	)ct-19, d unce
A1130	Installation and initial survey of building, ground and utilities settlement	0%	0	6		6-Jul-19	22-Jul-19		▞▖	Inst	allation ar	ndiniti		/ev.cf
A1132	Temporary Diversion of existing drainage pipes	0%	0	15		6-Jul-19	01-Aug-19		¢¢		mporary			
A1133	Pre-drilling for H-pile foundation (3Nos)	0%	0	10		29-Jul-19	08-Aug-19		Ē		Pre-drilli			
A1133	Engineer's Review of foundation design, rockhead coutour and founding level of H-piles	0%	0	28		9-Aug-19	10-Sep-19			¢₽			er's Re	
A1134 A1137	Mobilzation of piling rigs (1 rig)	0%	0	3		21-Aug-19	23-Aug-19			<b>d</b>	<b>I -</b> Nobi			
A1140	Prebored H-pile (P1-7, 7Nos)	0%	0	32		24-Aug-19	30-Sep-19			- I B			rebole	
A1430	Pile load test	0%	0	6		2-Oct-19	08-Oct-19	-	++-			<b></b>	Pile lo	
A1440	Post Drilling for Prebored H-piles	0%	0	4		9-Oct-19	12-Oct-19					F		Drillir
RC works														
A5470	Open Excavation and for pile cap construction	0%	0	4	0 1	4-Oct-19	17-Oct-19						<b>O</b> pe	en Ekc
A5480	Pile head preparation and weld test	0%	0	5	0 1	8-Oct-19	23-Oct-19					9	i 🔤	ile hea
A5490	Formwork and steel fixing of pile cap	0%	0	10	0 2	4-Oct-19	04-Nov-19						-	Form
A5500	Concreting of pile cap	0%	0	2	0 0	5-Nov-19	06-Nov-19						1 <b>H</b>	Con
A5510	Concreting of MCC room wall and roof slab	0%	76	24	2 0	7-Nov-19	04-Dec-19							┢═╋╸
A5520	Internal finishes of MCC room and Builder works	0%	76	18	2 1	3-Dec-19	06-Jan-20							
Drainage w														
E&M install		00/	0	45	0 4	0 No. 40	00 No. 40						I II.	
A5535	Underground works for cabling duct and trenches	0%	0	15		3-Nov-19	29-Nov-19						I IE	Ъæ
A5540 A5550	Installation of the Activated Carbon Filter System and air duct connection for DOU1 Trial operation and Performance Test of the Activated Carbon Filter System for DOU1	0%	0	15 5		3-Nov-19 80-Nov-19	29-Nov-19 05-Dec-19						IГ	ĨŦ
OU 2		078	0	5	0	0-1100-13	05-Dec-15		╇	╧	╟┿╋━━╸	┥┥┥	┢┷╢┢	┝╼╋╵
Foundation	n works													11
A5380	General Site Clearance and underground uliities detection/ idenification	0%	0	6	0 0	9-Jul-19	15-Jul-19		<u>'</u> 🖪 '	Gener			ce and	
A5390	Installation and initial survey of building, ground and utilities settlement	0%	0	9	0 1	6-Jul-19	25-Jul-19		┺	Inst	illation a	.nd inii	ial sur	vey of
A5410	Pre-drilling for H-pile foundation (5Nos, 2 rig)	0%	0	12	0 2	26-Jul-19	08-Aug-19			💼 !			H-ple	
A5420	Engineer's Review of foundaiton design, rockhead coutour and founding level of H-piles	0%	0	28	0 0	9-Aug-19	10-Sep-19					Engine	er's R	eview
A5430	Mobilzation of piling rigs	0%	0	3	0 1	7-Aug-19	21-Aug-19						of pilir	
A5440	Preliminary pile for shaft friction piles (3Nos)	0%	0	12		21-Aug-19	03-Sep-19			14	Pr		ary pile	
A5450	Pile load test for preliminary piles	0%	0	6		04-Sep-19	10-Sep-19					Pille lo	ad test	
A5560	Prebored H-pile (2a-P1-2a-P8, 8Nos)	0%	0	35		1-Sep-19	22-Oct-19					-	Pr Pr	epore
A5565	Prebored H-pile (2b-P1-2b-P6, 6Nos)	0%	51	30		3-Oct-19	26-Nov-19						-	
A5570	Pile load test	0%	0	6		3-Oct-19	29-Oct-19							Pile o
A5580	Post Drilling for Prebored H-piles	0%	0	4	0 3	80-Oct-19	02-Nov-19						H I	1 22
A1450	Open Excavation and for nile can construction DOUR	00/	0		0	4-Nov-19	07 Nov 10						IШ	D D D
A1450	Open Excavation and for pile cap construction DOU2a	0%	0	4			07-Nov-19			E I			E	
A1455 A1460	Pile head preparation and weld test	0%	0	3		8-Nov-19 2-Nov-19	11-Nov-19 19-Nov-19	<u>├</u> }-		-			ŀΕ	
A1460 A1470	Formwork and steel fixing of pile cap Concreting of pile cap	0%	0	1		2-Nov-19 20-Nov-19	20-Nov-19							F, C
Drainage w		0 /0	0	1	× 2		20 100-13							۲ľ
E&M install										E I				
A5355	Underground works for cabling duct and trenches	0%	0	10	0 2	21-Nov-19	02-Dec-19							┢┽╈
A5360	Installation of the Activated Carbon Filter System and air duct connection for DOU2a	0%	0	10	0 2	21-Nov-19	02-Dec-19		11-					4
A5370	Trial Operation and Performance Test of the Activated Carbon Filter System for DOU2a	0%	0	3	0 0	3-Dec-19	05-Dec-19							F
0U5									+	i –				┿╋
Foundation							45.1.1.15							30-0c
A5650	General Site Clearance and underground uliities detection/ idenification	0%	8	6		9-Jul-19	15-Jul-19	F	₽Ľ	Gener	al Site C Illation a	earan	e and	
A5660	Installation and initial survey of building, ground and utilities settlement	0%	8	9		6-Jul-19	25-Jul-19		TF	Inst				
A5670	Pre-drilling for H-pile foundation (4Nos, 1 rig)	0%	8	12		26-Jul-19	08-Aug-19			۳ <u>₽</u> _	Pre-drilli		1 i i	
A5680	Engineer's Review of foundaiton design, rockhead coutour and founding level of H-piles	0%	8	28		9-Aug-19	10-Sep-19						er's Re	
A5690	Mobilzation of piling rigs	0%	8	3		7-Aug-19	21-Aug-19				<b> </b> ≪l∕lobil:		1.1	- T
A5720	Prebored H-pile (5a-P1-2a-P6, 6Nos)	0%	0	28		80-Aug-19	02-Oct-19	<b>  </b> ⊦	·				rebore	·
A5730	Prebored H-pile (5b-P1-5b-P6, 6Nos)	0%	25	24		03-Oct-19	30-Oct-19						Pile Ic	
A5740 A5750	Pile load test Post Drilling for Prebored H-piles	0%	0	6		03-Oct-19 0-Oct-19	09-Oct-19 14-Oct-19					E		oad te: t Dri li
	for DOU5a	0%	U	4		0-001-19	14-001-19					H		<b>7</b> 07-1
	Open Excavation and for pile cap construction DOU5b	0%	0	5	0 1	5-Oct-19	19-Oct-19							en Ex
A5590			-		· · · · · ·			ب	┛┛┻	_11	<u>. L. i</u>		<u>۲۵ م</u>	
A5590							Contract N							



First Programme

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nd DC													
DU5													
DOU2	and DC	DU5											
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		2	9-Aug-19		Rev.	1		1			I		

	Activity Name	Complete		Duration allowance					Q3			Q	4	Q1	Q2	Q3	
A5600	Pile head preparation and weld test	0%	0	4 0	21-Oct-19	24-Oct-19		E			1 4	Pile	head prepa	ration and weld test			
A5610	Formwork and steel fixing of pile cap	0%	0	10 0	25-Oct-19	05-Nov-19					IF	-	o mwork ar	nd steel fixing of pile ca	10		
A5620	Concreting of pile cap	0%	0	2 0	06-Nov-19	07-Nov-19						- <b>1</b>	Concreting	of pile cap			
Drainage w													05 D	ec-19, E&M installation			
E&M install A5625	ation Underground works for cabling duct and trenches	0%	0	18 5	08-Nov-19	28-Nov-19								ground works for cabli			
A5630	Installation of the Activated Carbon Filter System and air duct connection for DOU5b	0%	0	18 2	08-Nov-19							t t		T i i j	arbon Filter System an	d air duct conn	ection for DOU5b
A5640	Trial Operation and Performance Test of the Activated Carbon Filter System for DOU5b	0%	0	6 0	29-Nov-19								Trial	Operation and Perform	nance Test of the Activa		
CEPT tank	······································		-				-						- 05-D	ec-19, CEPT tank			
Air ducts of	effluent drop shaft												05-D	ec-19, Air ducts of efflu			
A7090	Installation of FRP air duct for effluent drop structure	0%	0	25 0	24-Oct-19	21-Nov-19					4		Installati	ion of FRP air duct for			
A7180	Reliability Test of FRP air ducts for effluent Drop Structure	0%	0	12 0	22-Nov-19	05-Dec-19									ucts for effluent Drop S	tructure	
Effluent Lau A7100	Inder Delivery of isolation device for on site prototype test	0%	15	6 0	09-Jul-19	15-Jul-19			livery	oficol	at on d	ovido fo	1.1	ec-19, Effluent Launde totype test	r		
A7100 A7110	Installation of the Isolation Device for Effluent Drop Structure for On-site Prototype Test	0%	15	10 0	26-Aug-19	05-Sep-19	-			1		- i 1 - I			Structure for On-site F	rototype Test	
A7110	Conduction of On-site Prototype Test of the Isolation Device for Effluent Drop Structure	0%	15	12 0	06-Sep-19	19-Sep-19							1		ation Device for Effluer		re
A7130	Full Scale Installation of Isolation Devices for Effluent Drop Structure	0%	0	38 5	09-Oct-19	21-Nov-19				1			l li	i Mai i I	on Devices for Effluent	-i - i	i i i
A7190	Performance test (smoke Test) of the isol ation device for effluent drop structure	0%	0	12 0	22-Nov-19	05-Dec-19									est) of the isol at on dev		
CEPT FRP c			-							-	1			ec-19, CEPT FRP cov			
A7140	Delivery of FRP Sliding Cover Sealant for On-site Prototype Test	0%	3	6 0	02-Sep-19	07-Sep-19			L	D	elivery	of FRP	Sliding Cov	ver Sealant for On-site	Prototype Test		
A7150	Installation of FRP Sliding Cover Sealant for On-site Prototype Test	0%	3	8 0	09-Sep-19	17-Sep-19				-	1.1			g Cover Sealant for Or			
A7160	Conduction of On-site Prototype Test of FRP Sliding Cover Sealant	0%	3	12 0	18-Sep-19	02-Oct-19				╘╺╸	Co	onductio		1 10 1 1	Sliding Cover Sealant	1 1	
A7170	Full Scale Installation of FRP Sliding Cover Sealants for Existing CEPT Tanks	0%	0	40 5	07-Oct-19	21-Nov-19						-			iding Cover Sealants		
A7200	Performance test (Smoke test) of the sealant for FRP sliding covers	0%	0	12 0	22-Nov-19	05-Dec-19						Ч	Perfo	rmance test (Smoke te	est) of the sealant for FI	RP sliding cove	ers
Section 2 of t				. 1 .										· · · · · · · · · · · · · · · · · · ·			
A2970	Section 2 Completion (665d)	0%	0	0 0		03-May-2											
KD0100	KD A - Completion of all other works including DOUs 1, 2, 4, 5 Polishing stages for FSI (540 days)	0%	0	0 0		29-Dec-20*								esign Submission (AIF	5		
E&M Design A5760	Submission (AIP) Submission of AIP Design of Wet Chemical Scrubber System for DOU1, DOU2 and DOU5	0%	0	14 0	13-Aug-19	26-Aug-19				Subn					System for DOU1, DO	2 and DOU5	
A5770	Approval of AIP Design of Wet Chemical Scrubber System for DOU1, DOU2 and DOU5	0%	0	21 0	27-Aug-19	16-Sep-19			F		- i -		-		er System for DOU1, D	-i - i	15
A5780	Submission of AIP Design of the Polishing System for DOU4	0%	0	14 0	27-Aug-19									of the Polishing System			
A5790	Approval of AIP Design of the Polishing System for DOU4	0%	0	21 0	10-Sep-19	30-Sep-19				4				n of the Polishing Syst	) 1 1		
A5800	Submission of AIP Design of the Polishing System for DOU1R	0%	0	14 0	27-Aug-19	09-Sep-19			-	📥 s	ubmiss	sion of A	IP Design o	of the Polishing System	for DOU1R		
A5810	Approval of AIP Design of the Polishing System for DOU1R	0%	0	21 0	10-Sep-19	30-Sep-19					Ар	proval c	of AIP Desig	n of the Polishing Syst	em for DOU1R		
A5820	Submission of AIP Design of NaOH Bulk Storage and Transfer Facilities	0%	23	14 0	10-Sep-19	23-Sep-19					Subi				ge and Transfer Facilit		
A5830	Approval of AIP Design of NaOH Bulk Storage and Transfer Facilities	0%	23	21 0	24-Sep-19	14-Oct-19					<b>—</b>	Approv	al of AIP De	esign of NaOH Bulk Sto	brage and Transfer Fac	ilities	
A5840	Submission of AIP Design of Power Supply and Distribution System for DOU Polishing Systems	0%	19	14 0	13-Aug-19	26-Aug-19			-				-		bution System for DOU		
A5850	Approval of AIP Design of Power Supply and Distribution System for DOU Polishing Systems	0%	19	21 0	27-Aug-19	16-Sep-19			>						tribution System for DO		* i i i i
A5860	Submission of AIP Design for Upgrading and replacement of the existing local HMI touchscreen	0%	3	14 0	13-Aug-19	26-Aug-19			-		- i -				ment of the existing loca	i i	i i i
A5870	Approval of AIP Design for Upgrading and replacement of the existing local HMI touchscreen	0%	40	21 0	27-Aug-19	16-Sep-19		<b>[</b> ]							ement of the existing lo		
A5880	Submission of AIP Design of PLC & SCADA Systems for DOU Polishing Systems (including function	0%	3	14 0	27-Aug-19	09-Sep-19			-					1 1 1 1	ns for DOU Polishing S	1 1	17 1 17
A5890 A5900	Approval of AIP Design of PLC & SCADA Systems for DOU Polishing Systems (including functional	0%	3	21 0	10-Sep-19	30-Sep-19 09-Sep-19			_				-		stems for DOU Polishin DOU Polishing Syster		
A5900 A5910	Submission of AIP Design of Building Services for DOU Polishing Systems, New Switch/MCC Roor Approval of AIP Design of Building Services for DOU Polishing Systems, New Switch/MCC Rooms	0%	17	14 0 21 0	27-Aug-19 10-Sep-19	30-Sep-19									for DOU Polishing System		
A5920	Submission of AIP Design of Fire Services for DOU Polishing Systems, New Switch/MCC Rooms a	0%	3	14 0	10-Sep-19	23-Sep-19									DOU Polishing System		
A5930	Approval of AIP Design of Fire Services for DOU Polishing Systems, New Switch/MCC Rooms and	0%	3	21 0	24-Sep-19	14-Oct-19	• • • • • • •	}							for DOU Polishing Syst		
A8000	Submission of AIP Design to power supply, cabling, earthing, lightning protection and interface with	0%	59	14 0	13-Aug-19	26-Aug-19			-	] Subr			1	1 7 1 1 1	arthing, lightning protec	- I - I	- I I I
A8010	Approval of AIP Design fo power supply, cabling, earthing, lightning protection and interface with ex'	0%	59	21 0	27-Aug-19	16-Sep-19			-		Appro	val of Al	P Design fo	power supply, cabling	, earthing, lightning pro	tection and inte	erface with ex'tg insta
A8090	Submission of AIP design of networks integration with existing DCS	0%	59	14 0	13-Aug-19	26-Aug-19			-	Subr	nissior	n of AIP	design of ne	tworks integration with	existing DCS		
A8100	Approval of AIP Design of network integration with existing DCS	0%	59	21 0	27-Aug-19	16-Sep-19			-		Appro	val of Al	P Design of	network integration wi	th existing DCS		
A8110	Submission of AIP design of Redundant fiber network for new SCADA	0%	59	14 0	13-Aug-19	26-Aug-19			-	Subr	nissior	n of AIP	design of Re	edundant fiber network	for new SCADA		
A8120	Approval of AIP design of Redundant fiber networks for new SCADA	0%	59	21 0	27-Aug-19	16-Sep-19								Redundant fiber netwo			
A8150	Submission of AIP design for upgrading works and modification of ex'tg data, event & Historain serv	0%	59	14 0	13-Aug-19	26-Aug-19			-						dification of ex'tg data,		
A8180	Approval of AIP design for upgrading works and modification of extg data, event & Historain server	0%	59	21 0	27-Aug-19	16-Sep-19			-		Appro	val of Al			modification of ex'tg da	ta, event & Hist	torain server in DOL
	Submission (DDA)	00(	0	44 0	17.0 10	00 0 m 40		<b>[</b> .				hminoid		Dec-19, E&M Design S	ubmission (DDA) Scrubbers Filters for I		nd DOU5
A1170	Submission of DDA Design of Wet Chemical Scrubbers Filters for DOU1, DOU2 and DOU5	0%	0	14 0	17-Sep-19						Su				of Wet Chemical Scrub		
A1180 A1183	Review and Comment on DDA Design of Wet Chemical Scrubbers Filters for DOU1, DOU2 and DO Re-submission of DDA Design of Wet Chemical Scrubbers Filters for DOU1, DOU2 and DOU5	0%	0	21 0 7 0	01-Oct-19 22-Oct-19	21-Oct-19 28-Oct-19					6				t Chemical Scrubbers I	- I - I - I - I - I - I - I - I - I - I	
A1185	Approval of DDA Design of Wet Chemical Scrubbers Filters for DOU1, DOU2 and DOU5	0%	0	14 0	22-Oct-19 29-Oct-19	11-Nov-19						_	i i	i i Till	hemical Scrubbers Filt	i i	i i i
A1190	Submission of DDA Design of the Polishing System for DOU4	0%	21	14 0	01-Oct-19	14-Oct-19					-			A Design of the Polishi	2 1 1		
A1200	Review and Comment on DDA Design of the Polishing System for DOU4	0%	21	21 0	15-Oct-19	04-Nov-19	•••		• • • • • • •			<b></b>			gn of the Polishing Sys	tem for DOU4	
A1210	Re-submission of DDA Design of the Polishing System for DOU4	0%	21	7 0	05-Nov-19										the Polishing System for		
A1260	Approval of DDA Design of the Polishing System for DOU4	0%	21	14 0	12-Nov-19										Polishing System for I		
A5940	Submission of DDA Design of the Polishing System for DOU1R	0%	0	14 0	01-Oct-19	14-Oct-19					-	• •	<u> </u>		ng System for DOU1R	- I I	
A5950	Review and Comment on DDA Design of the Polishing System for DOU1R	0%	0	21 0	15-Oct-19	04-Nov-19						<b>1</b>	eview and	Comment on DDA Desi	on of the Polishing Sys	tem for DOU1F	3
A5960	Re-submission of DDA Design of the Polishing System for DOU1R	0%	0	7 0	05-Nov-19	11-Nov-19						4	1		the Polishing System for		
A5970	Approval of DDA Design of the Polishing System for DOU1R	0%	0	14 0	12-Nov-19										Polishing System for I	- 1	
A5980	Submission of DDADesign of the NaOH bulk storage and transfer Facilities	0%	23	14 0	15-Oct-19	28-Oct-19					-	Su			OH bulk storage and tra		- i i i
A5990	Review and Comment on DDA Design of the NaOH bulk storage and transfer Facilities	0%	23	21 0	29-Oct-19	18-Nov-19						┝╸┫┍┍╡			Design of the NaOH bul		
A6000	Re-submission of DDA Design of the NaOH bulk storage and transfer Facilities	0%	23	7 0	19-Nov-19	25-Nov-19		<b> </b> .						* • •	n of the NaOH bulk stor	- 4	
A6010	Approval of DDA Design of the NaOH bulk storage and transfer Facilities	0%	23	14 0	26-Nov-19							hmine			the NaOH bulk storag	- i i	i i i
A6020 A6030	Submission of DDA Design of Power Supply and Distribution System for DOU Polishing Systems	0%	19	14 0	17-Sep-19	30-Sep-19				- <b>- 4</b>	Su		p p	1 7 1 1 1 1 1 7	and Distribution Syste	1 1	1 1 1
	Review and Comment on DDA Design of Power Supply and Distribution System for DOU Polishing	0%	19	21 0	01-Oct-19	21-Oct-19	E				74-	nevi	ew anu Con	imeni oli DDA yesign	u Fower Supply and D	istribution Syst	Contraction DOTO Polisipil
A0030																	
A0030	ual Work    Milestone					Contract No	D.C	1001	0/1=							-	Sheet 3 of 7

Critical Remaining Work

First Programme

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vity ID	Activity Name	Activity % Total Complete	⊦loat	Original Time risk Duration allowance	Start	Finish	201	9	Q3			Q4		Q1	Q2	020 Q3
A6040	Re-submission of DDA Design of Power Supply and Distribution System for DOU Polishing Systen	0%	19	7 0	22-Oct-19	28-Oct-19		Π			<b>L</b>		upmissio			tion System for DOU Polishing Sys
A6050	Approval of DDA Design of Power Supply and Distribution System for DOU Polishing Systems	0%	19	14 0	29-Oct-19	11-Nov-19	1					A	pproval o	f DDA Design of Power	Supply and Distributio	n System for DOU Polishing Syste
46060	Submission of DDA Design of Upgrading and replacement of the existing local HMI touchscreen	0%	40	14 0	17-Sep-19	30-Sep-19				-	Subm	ission	of DDA D	esign of Upgrading and	replacement of the exis	sting local HMI touchscreen
46070	Review and Comment on DDA Design of Upgrading and replacement of the existing local HMI touch	0%	40	21 0	01-Oct-19	21-Oct-19						Reviev	v and Cor	nment on DDA Design o	f Upgrading and replac	ement of the existing local HMI tou
A6080	Re-submission of DDA Design of Upgrading and Upgrading and replacement of the existing local HI	0%	40	7 0	22-Oct-19	28-Oct-19					:   <b>-</b>	Res	uomissio	h of DDA Design of Upg	rading and Upgrading a	nd replacement of the existing loca
A6090	Approval of DDA Design of Upgrading and Upgrading and replacement of the existing local HMI tour	0%	40	14 0	29-Oct-19	11-Nov-19					- Lei		· 6			replacement of the existing local I
A6100	Submission of DDA Design of PLC & SCADA Systems for DOU Polishing Systems	0%	3	14 0	01-Oct-19	14-Oct-19					S	1 <b>.</b>	- 6			
A6110	Review and Comment on DDA Design of PLC & SCADA Systems for DOU Polishing Systems	0%	-	21 0	15-Oct-19	04-Nov-19						₽	i i	i i i t	Υ ι Ι ΄	
A6120			-								4		- 6			
A6130												( TE	ւթ		1 I I I I I I I I I I I I I I I I I I I	
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A8080							1		· · · · ·		-	1 <b>-</b>				······································
A8280	Submission of DDA Design of networks integration with the existing DCS	0%	59	14 0	17-Sep-19	30-Sep-19				-	Subm	ission	d DDA D	esign of networks integ	ration with the existing	ÞCS
A8290	Review & comment of DDA Design of networks integration with the existing DCS	0%	59	21 0	01-Oct-19	21-Oct-19						Reviev	v & comm	ent of DDA Design of n	etworks integration with	the existing DCS
A8300	Re-submission of DDA Design of networks integration with the existing DCS	0%	59	7 0	22-Oct-19	28-Oct-19						Res	upmissio	n of DDA Design of netv	orks integration with th	e existing DCS
A8310	Approval of DDA Design of networks integration with the existing DCS	0%	59	14 0	29-Oct-19	11-Nov-19					<b>–</b>		10		, , , , , , , , , , , , , , , , , , ,	· · · · · · · · · · · · · · · · · · ·
A8320	Submission of DDA Design of redundant fiber networks for new SCADA	0%	59	14 0	17-Sep-19	30-Sep-19			ΙT	-			- b		ş i i	i i i i i
A8330	Review & comment of DDA Design of redundant fiber networks for new SCADA	0%	59	21 0	01-Oct-19	21-Oct-19							li i			
A8340	Re-submission of DDA Design of redundant fiber networks for new SCADA	0%	59	7 0	22-Oct-19	28-Oct-19					· •					
A8350	Approval of DDA Design of redundant fiber networks for new SCADA	0%		14 0	29-Oct-19	11-Nov-19					¦ <b>⊢</b>		' [î			
A8360																
A8370																
A8380 A8390													- F			
		0%	59	14 0	29-001-19	11-100-19					-	-1 ^	· C			
A7880		0%	0	7 0	01-Oct-19	07-Oct-19				ļĻ	Sub	nissio		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	, i i i i i i i i i i i i i i i i i i i	
A7890	Review and Comment on DDA Geotechnical design for piling works for DOU1R and 4		0				1	+ +	· · · · ·		¢	Revie	ew and Co	mment on DDA Geotec	hnical design for piling	works for DOUIR and 4
A7900	Re-submission of DDA Geotechnical design for piling works for DOU1R and 4	0%	0	7 0	29-Oct-19	04-Nov-19					5	Re	submissi	on of DDA Geotechnica	d design for piling work	s for DOU1R and 4
A7910	Approval of DDA Geotechnical design for piling works for DOU1R and 4	0%	0	7 0	05-Nov-19	11-Nov-19					<b>4</b>	A	pproval o	DDA Geotechnical de	sign for piling works for	DOU1R and 4
A7920	Submission of DDA structural design for RC works of DOU1R and 4	0%	39	14 0	12-Nov-19	25-Nov-19							Submis	sion of DDA structural	design for RC works of	DOU1R and 4
A7930	Review and Comment on DDA structural design for RC works for DOU1R and 4	0%	39	21 0	26-Nov-19	16-Dec-19						▶	TRAN	i i	f	İ
A7940	Re-submission of DDA structural design for RC works for DOU1R and 4	0%		10 0	17-Dec-19	26-Dec-19										
A7950	Approval of DDA structural design for RC works for DOU1R and 4													They is a second second second second second second second second second second second second second second se		1 I I I I I
A7960	Submission of DDA for ABWF design for DOU1R and 4												11	i 1 il ii i		i i i i
A7970	-						-							1 1 1 2 2 1		
A7980																
A7990		0%	184	10 0	27-Dec-19	05-Jan-20										
A1320	Procurement of Wet Chemical Scrubber Systems for DOU1, DOU2 and DOU5	0%	0	90 0	12-Nov-19	09-Feb-20						┝╾╽┓				
A1330	FAT of Wet Chemical Scrubber Systems for DOU1, DOU2 and DOU5											ΙT		' i 🛏 🖓 i i	2 2 2 2	
A1350	Delivery of Wet Chemical Scrubber Systems for DOU1, DOU2 and DOU5	0%	0	14 0	24-Feb-20	08-Mar-20								Del	ivery of Wet Chemical	Scrubber Systems for DOU1, DOU
A1360	Procurement of DOU4 Polishing System	0%	21	76 0	26-Nov-19	09-Feb-20						-	4	Procureme	int of DOU4 Polishing S	ystem
A1380	FAT of DOU4 Polishing System	0%	21	14 0	10-Feb-20	23-Feb-20								FAT of	DOU4 Polishing Syster	n
A1500	Delivery of DOU4 Polishing System	0%	21	14 0	24-Feb-20	08-Mar-20								C. D. C.D. C. Heren	1 1 1 1	
A6180	Procurement of DOU1R Polishing System	0%	0	76 0	26-Nov-19	09-Feb-20							<b></b>			1 I I I I I
A6190	FAT of DOU1R Polishing System		-											<b></b>		
A6200			-											💾	1 1 1	
A6210															<b>i</b> i i	
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A6240 A6250							<b>∤[</b>	++	·			<u> </u> <b>†</b> .		<del></del> <mark>.</mark>		*
A6250 A6260							1 1				1			: ; ; <b>   </b> ;;		
A6270							1				1	┝╾┢				
A6290	Delivery of packaged offer for Upgrading and Replacement of the existing local HMI touchscreen						1 1					ΙT		· · · · • • • • • • • • • • • • • • • •		
A6300	Procurement of PLC and SCADA Systems for DOU Polishing Systems						1				1		d			
A6310	FAT of PLC and SCADA Systems for DOU Polishing Systems						t	++	(					i a a da a a da da <b>reeda l</b> i a a da da a		
A6320	Delivery of hardware of PLC and SCADA Systems for DOU Polishing Systems	0%	45	14 0	25-Mar-20	07-Apr-20	1 🗄								2.1 2 2 2	
A6330	Procurement of Building Services Equipment for DOU Polishing Systems, New Switch/MCC Rooms	0%	3	90 0	10-Dec-19	08-Mar-20							-	Pro	curement of Building Se	rvices Equipment for DOU Polishi
A6340	Delivery of Building Services Equipment for DOU Polishing Systems, New Switch/MCC Rooms and	0%	3	30 0	09-Mar-20	07-Apr-20								5 i 5i <mark>1</mark> 5 11	H	
A6350	Procurement of Fire Services Equipment for DOU Polishing Systems, New MCC Rooms and NaOH	0%		90 0	10-Dec-19	08-Mar-20	1						<b></b>	Pro	curement of Fire Servic	es Equipment for DOU Polishing S
A7080	Delivery of Fire Services Equipment for DOU Polishing Systems, New MCC Rooms and NaOH Bu	0%	28	30 0	09-Mar-20	07-Apr-20			ΙĪ						Delivery of Fire Se	ervices Equipment for DOU Polishi
001																
	lation (2nd stage)	00/	~	175 44	00 Mar 00	08 Oct 00										1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
A7210 A7212							-									Install
47212 47222						-	<u> </u> <u></u>	++	· [ -·							Ungrading and Replacement
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Ar	tual Work					Contract I	No. D	C/20	18/17							Sheet 4 of 7
			_						_							19-Ju 29-Au
	emaining Work Summary		Enha	ncement of Deodou	rization Sy	ystem at St	onecu	ıtter	Islan	d Sewa	age Tre	atme	nt Wor	ks		23-70
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D Activity Name	Activity % Tota Complete	tal Float	Original Time risk Duration allowance	Start	Finish	2019	Q3 Q4 Q1 Q2 Q3
A7232 Installation of PLC and SCADA system for DOU polishing systems	0%	45	90 14	10-Apr-20	27-Jul-20		
A7242 Installation of Building Service for DOU polishing system, MCC room	0%	1	180 14	10-Apr-20	12-Nov-20		
A7252 Installation of Fire services for DOU polishing system, MCC room and NaOH bulk storage compou	0%	31	150 14	10-Apr-20	08-Oct-20		
7292 Software developement for new DOU polishing stage	0%	38	120 14	10-Apr-20	01-Sep-20		Sol
A7332 Installation of redundunt fiber networks for new SCADA	0%	38	30 14	02-Sep-20	08-Oct-20		
sting and commissioning           7262         Performance Test of the DOU1 wet scrubber	0%	0	45 5	09-Oct-20	22-Nov-20		
7272 Hardware, point/end to point/end, interlock, simulation and interface test for PLC and SCADA for DC	0%	18	65 5	01-Sep-20	04-Nov-20		
7275 Hardware, point to point, end to end and function testfor upgrading and replacement of existing local	0%	66	65 5	15-Jul-20	17-Sep-20		
7282 Reliability test of the polishing system of DOU1	0%	0	36 0	23-Nov-20	28-Dec-20		
A7302 Reliability test of NaOH bulk Storage and transfer system	0%	3	30 0	21-Oct-20	19-Nov-20		
A7312 Performance test of building service for DOU polishing system, MCC room and NaOH bulk storage	0%	1	45 5	13-Nov-20	27-Dec-20		
A7322 Performance test of fire service for DOU polishing system, MCC room and NaOH bulk storage com	0%	36	45 5	09-Oct-20	22-Nov-20		
DU 1R							
A6376 General Site Clearance and underground uliities detection/ idenification	0%	66	6 0	09-Jul-19	15-Jul-19		General Site Clearance and underground uliities detection / identication
A6380 Installation and initial survey of building, ground and utilities settlement	0%	66	6 0	16-Jul-19	22-Jul-19		Installation and initial survey of building, ground and utilities settlement
A6395 Pre-drilling for H-pile foundation (3Nos, 2 rigs)	0%	51	10 0	09-Aug-19	20-Aug-19	1 1 1 1 1 1 1	Pre-drilling for H pile foundation (3Nos, 2 rigs)
A6396 Engineer's Review of foundaiton design, rockhead coutour and founding level of H-piles	0%	51	24 0	21-Aug-19	17-Sep-19		Engineer's Review of foundation design rockhead coutour and founding level of H-piles
A6397 Demolition of existing concrete plinth	0%	51	12 1	18-Sep-19	02-Oct-19		Demolition of existing concrete plint
A6400 Prebored rock-socketted H-pile (P1-6, 6Nos)	0%	17	35 1	12-Nov-19	21-Dec-19		Prebored rock-socketted H pile (P1-6, 6Nos)
A6410 Pile load test	0%	17	6 0	23-Dec-19	31-Dec-19		Pile Idadi test
A6420 Post Drilling for Prebored H-piles	0%	17	4 0	02-Jan-20	06-Jan-20		Post Drilling for Prepored H-piles
C works							14-Apr-20 BC works
A6455 Open Excavation for pile cap construction	0%	17	6 1	11-Jan-20	17-Jan-20		Open Excavation for pile cap construction
A6457 Pile head preparation and weld test	0%	17	6 1	18-Jan-20	24-Jan-20		Pile head preparation and weld test
16458 Formwork and steel fixing of pile cap	0%	17	15 2	25-Jan-20	11-Feb-20		Formwork and steel fixing of pile cap
6460 Concreting of pile cap	0%	17	2 0	12-Feb-20	13-Feb-20		Gonc eting of pile cap
A6470 Concreting of MCC room wall and roof slab	0%	117	24 2	14-Feb-20	16-Mar-20		Concreting of MCC room wall and roof slab
A6480 Internal finishes of MCC room and Builder works	0%	117	15 2	25-Mar-20	14-Apr-20		Internal finishes of MCC room and Built
Acess         Construction and installation of Cable into existing/ new underground cable trench/ ducts	0%	117	60 5	15-Apr-20	25-Jun-20		Construction and ins
X6490         Statutory submission and approval from WSD	0%	36	210 14	02-Oct-19*	15-Jun-20		Statutory submission a
Ke500         Construction of underground watermain for DOU1R	0%	36	90 14	16-Jun-20	02-Oct-20		
&M installation	0,0	00	00 14	TO DUIT ED	02 001 20		
A6520 Installation of DOU1R polishing Unit and air duct connection for DOU1	0%	0	175 14	09-Mar-20	08-Oct-20		
A7290 Installation of Power supply and disturbution system for DOU polishing systems	0%	17	130 14	25-Mar-20	31-Aug-20		
17310 Installation of PLC and SCADA system for DOU polishing systems	0%	46	90 14	10-Apr-20	27-Jul-20		
A7320 Installation of Building Service for DOU polishing system, MCC room	0%	1	180 14	10-Apr-20	12-Nov-20		
7330 Installation of Fire services for DOU polishing system, MCC room and NaOH bulk storage compou	0%	21	160 14	10-Apr-20	20-Oct-20		
8260 Software developement for new DOU polishing stage	0%	39	120 14	10-Apr-20	01-Sep-20		Sol
8270 Installation of redundunt fiber networks for new SCADA	0%	39	30 14	02-Sep-20	08-Oct-20		
sting and commissioning							
V7335 Performance Test of the DOU1R polishing unit	0%	0	39 5	09-Oct-20	23-Nov-20		
17530 Hardware, point/end to point/end, interlock, simulation and interface test for PLC and SCADA for DC	0%	19	65 5	01-Sep-20	04-Nov-20		
7550 Reliability test of the polishing system of DOU1R	0%	0	35 0	24-Nov-20	28-Dec-20		
K7560 Reliability test of NaOH bulk Storage and transfer system	0%	4	30 0	21-Oct-20	19-Nov-20		
A7570         Performance test of building service for DOU polishing system, MCC room and NaOH bulk storage           A7580         Performance test of fire service for DOU polishing system, MCC room and NaOH bulk storage corr	0%	24	45 5 45 5	13-Nov-20 21-Oct-20	27-Dec-20 04-Dec-20		
	078	24	45 5	21-001-20	04-Dec-20		
C works							v v v v v v v v v v v v v v v v v v v
06825 Open Excavation and for pile cap construction	0%	51	6 0	27-Nov-19	03-Dec-19		Open Excavation and for pile cap construction
6830 Pile head preparation and weld test	0%	51	10 2	04-Dec-19	14-Dec-19		Pile head preparation and weld test
A6835 Formwork and steel fixing of pile cap	0%	51	18 2	16-Dec-19	08-Jan-20		Formwork and stee fixing of pile cap
A6836 Concreting of pile cap	0%	51	2 0	09-Jan-20	10-Jan-20		
A6855 Concreting of MCC room wall and roof slab	0%	116	24 2	11-Jan-20	07-Feb-20		Concreting of MCC room wall and roof slab
16859 Internal finishes of MCC room and Builder works	0%	116	15 2	17-Feb-20	07-Mar-20		Internal finishes of MCC room and Builder works
nderground Drainage and cabling works	00/	00	00.0	16 Jun 00	02 Oct 00		
6810 Construction and installation of Cable into existing/ new underground cable trench/ ducts     8130 Statutory submission and approval from WSD	0%	36 36	90 2 210 14	16-Jun-20 02-Oct-19*	02-Oct-20 15-Jun-20		Statutory submission a
8130         Statutory submission and approval from WSD           8140         Construction of underground watermain for DOU2	0%	36	90 14	16-Jun-20	02-Oct-20		
Minstallation		50	00 1-7	10 001-20	02 001 20		
6880 Installation of the chemical scrubber and air duct for DOU2	0%	51	175 14	11-Jan-20	12-Aug-20		► Installat
7450 Installation of Power supply and disturbution system for DOU polishing systems	0%	20	130 14	25-Mar-20	31-Aug-20		+ Ins
7460 Upgrading and Replacement of the existing local HMI touchscreen	0%	30	120 14	25-Mar-20	18-Aug-20		Hpgrac
7470 Installation of PLC and SCADA system for DOU polishing systems	0%	49	90 14	10-Apr-20	27-Jul-20		
7480 Installation of Building Service for DOU polishing system, MCC room	0%	1	180 14	10-Apr-20	12-Nov-20		
7490 Installation of Fire services for DOU polishing system, MCC room and NaOH bulk storage compou	0%	31	150 14	10-Apr-20	08-Oct-20		
8400 Software developement for new DOU polishing stage	0%	44	120 14	10-Apr-20	01-Sep-20		Sol
A8410 Installation of redundunt fiber networks for new SCADA	0%	44	30 14	02-Sep-20	08-Oct-20		
esting and commissioning							
A6890 Performance Test of chemical scrubber and air duct for DOU2	0%	39	45 5	06-Sep-20	20-Oct-20		
	0%	24	65 5	01-Sep-20	04-Nov-20		
	00/	37	65 5	19-Aug-20	22-Oct-20		
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7620         R           7630         Pé           7640         Pé           U14         undation we           6558         G           65560         In           6575         Pr           6576         Er           6580         Pr           6580         Pi           6630         Pi           6630         Pi           6630         Pi           6635         O           6637         Pi           6639         Fo	teliability test of NaOH bulk Storage and transfer system terformance test of building service for DOU polishing system, MCC room and NaOH bulk storage terformance test of fire service for DOU polishing system, MCC room and NaOH bulk storage com orks teneral Site Clearance and underground uliities detection/ idenification istallation and initial survey of building, ground and utilities settlement re-drilling for H-pile foundation (5Nos, 2rigs) ingineer's Review of foundation design, rockhead coutour and founding level of H-piles tobilzation of piling rigs	0% 0% 0% 0% 0%	1 36 36	30 45	0 5	21-Oct-20 13-Nov-20	19-Nov-20														
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dation         wc           8         G           0         In           5         Pr           6         Er           8         M           0         Pr           0         Pr           0         Pr           0         Pr           5         Or           5         Or           7         Pr           9         Fc	orks eneral Site Clearance and underground uliities detection/ idenification istallation and initial survey of building, ground and utilities settlement re-drilling for H-pile foundation (5Nos, 2rigs) ingineer's Review of foundaiton design, rockhead coutour and founding level of H-piles fobilzation of piling rigs	0% 0% 0%	36	45	5		2, 000-20					i i	i it	- P - 1	1.11		1				
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558         G           560         In           575         Pr           576         Er           577         M           580         Pr           590         Pi           600         Po           works         Gas           635         O           637         Pi           639         Fo	Reneral Site Clearance and underground uliities detection/idenification Installation and initial survey of building, ground and utilities settlement re-drilling for H-pile foundation (5Nos, 2rigs) Ingineer's Review of foundaiton design, rockhead coutour and founding level of H-piles Mobilzation of piling rigs	0% 0%											▼ 23-Ja	an 20.	Founda	lation wo	orks				
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76         Er           78         M           80         Pr           90         Pi           00         Pc           rorks         0           335         O           337         Pi           339         Fc	ngineer's Review of foundaiton design, rockhead coutour and founding level of H-piles lobilzation of piling rigs		30	6	0	03-Aug-19	09-Aug-19		- <b>F</b> _	Installation	and initi	al survey of bui	lding, ground	andut	tilities s	settleme	ent				
78         M           i80         Pr           i90         Pi           i00         Pc           i35         O           i37         Pi           i39         Fc	lobilzation of piling rigs	0.01	36	12	1	10-Aug-19	23-Aug-19		-	Pre-dri		l-pile foundatio									
580         Pr           590         Pi           600         Pc           works         635           637         Pi           639         Fc		0%	36	28	0	24-Aug-19	25-Sep-19			<b>F</b>	Engine	er's Review of f	oundaiton des	sign, re	ockhea	ıd coutoı	ur and four	nding leve	l of H-p	les	
i90 Pi i00 Po vorks i35 O i37 Pi i39 Fo	rebored H-pile (P1-7, 7Nos)	0%	36	3	0	26-Sep-19	28-Sep-19			L-1	Mobilz	ation of piling ri	gs								
600 Po works 635 O 637 Pi 639 Fo		0%	0	40	3	12-Nov-19	30-Dec-19					>	Prebored H	l-pile (F	P1- <b>7</b> , 7	/Nos)					
works 635 O 637 Pi 639 Fo	ile load test	0%	0	6	0	13-Jan-20	18-Jan-20						Pile lo	11	1 11						
635 O 637 Pi 639 Fo	ost Drilling for Prebored H-piles	0%	0	4	0	20-Jan-20	23-Jan-20						Post	Drilling	g for Pr	rebored					
37 Pi 39 Fo	pen Excavation and for pile cap construction	0%	0	12	2	24-Jan-20	06-Feb-20	••••		·				Doen E	xcavati		<ul> <li>15-May for pile cap</li> </ul>			+	
639 Fo	ile head preparation and weld test	0%	0		2	07-Feb-20	17-Feb-20						<b>⊑</b>	Pile	nead or	reparatic	on and wel	id test			
	ormwork and steel fixing of pile cap	0%	0		3	18-Feb-20	12-Mar-20							1			d steel fixir		cap		
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50 Ce	concreting of MCC room wall and roof slab	0%	61	24		16-Mar-20	15-Apr-20									📩 Conc	creting of N	MCC room			
	ternal finishes of MCC room and Builder works	0%	61	18	3	24-Apr-20	15-May-20				11					ل <b>ە</b> ر	Internal	l finishes	of MCC	room a	ind B
lerground [	Drainage and cabling works										-			1			<u> </u>	<del></del>	-	1	-
	construction and installation of Cable into existing/ new underground cable trench/ ducts	0%	61			16-May-20										L.	×		1.	Con	
	tatutory submission and approval from WSD	0%	36			02-Oct-19*	15-Jun-20						1			<u> </u>		Statutory	/ submi	sion ar	
	construction of underground watermain for DOU2	0%	36	90	14	16-Jun-20	02-Oct-20										╘┺┓				<u>.</u>
installatio		00/	0	160	14	30 Mar 20	14-Oct-20								LE						T
	Installation of the DOU4 polishing Unit and air duct connection for DOU4 Installation of Power supply and disturbution system for DOU polishing systems	0%	20		14	30-Mar-20 25-Mar-20	14-Oct-20 31-Aug-20												1	Insta	ali
	Istallation of Power supply and disturbution system for DOU polishing systems	0%	20 49		14	25-Mar-20 10-Apr-20	27-Jul-20												Insta	ation of	
	Installation of Building Service for DOU polishing systems	0%	43		14	10-Apr-20	12-Nov-20								-				1;	-	-11
	Installation of Fire services for DOU polishing system, MCC room and NaOH bulk storage compound	0%	31		14	10-Apr-20	08-Oct-20														-
	oftware developement for new DOU polishing stage	0%	44		14	10-Apr-20	01-Sep-20								-	-		_	:	Soft	twa
	Installation of redundunt fiber networks for new SCADA	0%	44		14	02-Sep-20	08-Oct-20														-H
ing and co	omissioning				1															÷	╺╋┥
10 Pe	erformance Test of the DOU4 polishing Unit	0%	0	45	5	15-Oct-20	28-Nov-20														
50 Ha	lardware, point/end to point/end, interlock, simulation and interface test for PLC and SCADA for DC	0%	24	65	5	01-Sep-20	04-Nov-20												1		4
670 Re	teliability test of the polishing system of DOU4	0%	0	30	0	29-Nov-20	28-Dec-20														
	teliability test of NaOH bulk Storage and transfer system	0%	9	30	0	21-Oct-20	19-Nov-20														
	erformance test of building service for DOU polishing system, MCC room and NaOH bulk storage	0%	1		5	13-Nov-20	27-Dec-20														
700 Pe 5	erformance test of fire service for DOU polishing system, MCC room and NaOH bulk storage com	0%	36	45	5	09-Oct-20	22-Nov-20														
undation wo	orks																				
works for D		00(	05	0	1	10 Nev 10	18-Nov-19					► Open Ex	towation and				C works for	r DOU5b			
	pen Excavation and for pile cap construction ile head preparation and weld test	0%	25 25		1	12-Nov-19 19-Nov-19	28-Nov-19					Pile h					.1011				
	ormwork and steel fixing of pile cap	0%	25		3	29-Nov-19	19-Dec-19						ormwork and				an				-
	connecting of pile cap	0%	25		0	29-Nov-19 20-Dec-19	21-Dec-19						Concreting of			5 pild ce	<sup>th</sup>				
	concreting of pine cap	0%	25			23-Dec-19	29-Jan-20									CC room	n wall and r	roof slab			
	ternal finishes of MCC room and Builder works	0%	25		3	15-Feb-20	10-Mar-20					_			Interna	al finish	les of MCC	room an	d Builde	works	
	Drainage and cabling works				-									_							
990 Ce	construction and installation of Cable into existing/ new underground cable trench/ ducts	0%	144	90	4	11-Mar-20	29-Jun-20				1			-		_		Cone	struction	and ins	sta
190 St	tatutory submission and approval from WSD	0%	36	210	14	02-Oct-19*	15-Jun-20									<u> </u>		Statutory	/ submi	sion ar	10
200 Ce	construction of underground watermain for DOU2	0%	36	90	14	16-Jun-20	02-Oct-20										╘╾╔	<u> </u>			<u>ا</u>
l installatio																_					
	Installation of the DOU5 polishing system and air duct connection for DOU1	0%	6			09-Mar-20	08-Oct-20						ļ								-
	Installation of Power supply and disturbution system for DOU polishing systems	0%	13		14	25-Mar-20	31-Aug-20								-					Inst	
	Installation of PLC and SCADA system for DOU polishing systems	0%	42		14	10-Apr-20	27-Jul-20										<u> </u>	<u> </u>	Insta	ation of	۲P
	Installation of Building Service for DOU polishing system, MCC room	0%	1		14	10-Apr-20	12-Nov-20												-	1	
	Installation of Fire services for DOU polishing system, MCC room and NaOH bulk storage compound	0%	31		14	10-Apr-20	08-Oct-20										<u> </u>		:	- 	E
	oftware developement for new DOU polishing stage	0%	36		14	10-Apr-20	01-Sep-20				++									Soft	.vie
	Installation of redundunt fiber networks for new SCADA	0%	36	30	14	02-Sep-20	08-Oct-20														#
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	lardware, point/end to point/end, interlock, simulation and interface test for PLC and SCADA for DC	0%	15		5	01-Sep-20	04-Nov-20													-	
	teliability test of the polishing system of DOU5	0%	0			20-Nov-20	28-Dec-20														
	leliability test of NaOH bulk Storage and transfer system	0%	0	30		21-Oct-20	19-Nov-20						+							}	
	erformance test of building service for DOU polishing system, MCC room and NaOH bulk storage	0%	1	45		13-Nov-20	27-Dec-20														
	erformance test of fire service for DOU polishing system, MCC room and NaOH bulk storage com	0%	36	45	5	09-Oct-20	22-Nov-20														ł
	rage compound									-											-
works					-			ļ				Dama W		•	06-Mar	r-20, RC	works			ļ	
	emolition of existing Storage compound	0%	0	50		27-Aug-19				-		Demolition of e									
	xcavation of NaOH bulk storage compound	0%	0		2	25-Oct-19	07-Nov-19				- <b>-</b>	Excavation									
	carryout plate load test for foundation	0%	0	24		08-Nov-19	05-Dec-19				1	Carr	yout plate loa					nreconte	ive		
260 Re	leview design by Project Manager Respresentative	0%	0	28	U	06-Dec-19	10-Jan-20						Review	ueșign	by Pro	Ject Mar	inager Res	presentat	ive	<u>  </u>	11

Critical Remaining Work

First Programme

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í.	<u>.</u>	Ins							d air	duct conn	ection fr	r DOU4		
Insta	ation		- i							DU polish		: :		
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Softw								ng stage						
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	-			Per	forr	nance T	est of th	ne DOU	1 pol is	hing Unit				
		-	Haro	lware	, pe	int/end	to poin	/end, inf	erloc	t, simulati	on and i	nterface	test for	PLC a
			-			Reliabi	lity tes	t of the p	olishi	ng systen	of DOI	J4		
		<u> </u>	<b>_</b>	Relia	bilit	y test of	NaOH	bulk Sto	orage	and transf	er syste	m		
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	<b>i</b> 1	nsta	llation	of th	D	OU5 pol	ishing	system	and ai	duct con	hection	for DOU	1	
Insta	lation	of	Power	supp	y a	nd distu	rbution	system	for D	OU polish	ing syst	ems		
ation of	P_C a	and	SCAD/	sys	em	for DO	J polisł	ning sys	tems					
-		-	<b></b> fns	talla	ion	of Build	ling Se	rvice for	DOU	polishing	system	, MCC r	bom	
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tivity ID	Activity Name					Start	Finish	2019			2020				2021			
		Complete		Duration	allowance				Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	
A7270	RC works for NaOH bulk storage compound	0%	C	45	5 5	11-Jan-20	06-Mar-20				RC	C works for NaOH bulk						
E&M insta	allation											<b>V</b>		05-Sep-20, E&M insta	allation			
A7280	Installation NaOH storage tanks and associated transfer pump	0%	C	120	20	15-Apr-20	05-Sep-20							nstallation NaOH s	orag <mark>e ta</mark> nks and associated trans	er pump		
Testing ar	nd Commissioning													<b></b> 9	9-Nov-20, Testing and Commissio	ning		
A7390	Performance test of the NaOH bulk storage compound and transfer system	0%	C	75	5 15	06-Sep-20	19-Nov-20						<b></b>	P	erformance test of the NaOH bulk	storage compound and	i transfer syste	
Statutary I	nspection by FSD														V	😽 03-May-21, Stat		
A7770	Submission of Application for FS inspection ot FSD	0%	C	2	1 0	29-Dec-20	18-Jan-21								Submission of Appl	cation for FS inspection	n ot FSD	
A7780	FS inspection by FSD	0%	C	14	1 2	19-Jan-21	01-Feb-21								FS inspection b	y FSD		
A7790	System/ Defect rectification	0%	C	4(	) 5	02-Feb-21	13-Mar-21								System System	m/ Defect rectification		
A7800	Submission of application for FS reinspection to FSD	0%	C	2	0	14-Mar-21	03-Apr-21									Submission of application	on for FS reins	
A7810	FS re-inspection by FSD	0%	C	14	1 2	04-Apr-21	17-Apr-21									FS re-inspection by	FSD	
A7820	Issue FS certificates	0%	C	15	5 2	18-Apr-21	02-May-21								E	Issue FS certific	ates	
A7830	Works completion for Handover	0%	C	1	1 0	03-May-21	03-May-21									Works completi	on for Handove	
Handover	of E&M equipment					,									<b>-</b>	📕 🕶 03-May-21, Han	idover of E&M e	
A8210	Submission of O&M manual, Training manual and spare part list	0%	C	30	)	30-Dec-20*	28-Jan-21								Submission of O	&N manual, Training ma	anual and spare	
A8220	Submission of final version of training manual	0%	C	30	)	29-Jan-21	27-Feb-21								Submiss	on of final version of tra	aining manual	
A8230	O&M training to DSD/ST2	0%	C	14	1	28-Feb-21	13-Mar-21		ii	[]		····			0&M	tra ning to D\$D/ST2		
A8240	Handover spare parts	0%	C	30	)	14-Mar-21	12-Apr-21									Handover spare parts	3	
A8250	Handover of Final version of O&M manual	0%	C	2	1	13-Apr-21	03-May-21	1							<b>-</b>	Handover of Fin	al version of O	

Actual Work	•	<ul> <li>Milestone</li> </ul>	Contract No. DC/2018/17	Sheet 7 of 7
Remaining Work	-	Summary	Enhancement of Deodourization System at Stonecutter Island Sewage Treatment Works	29-
Critical Remaining Wo	ork			
			First Programme	

Date	Revision	Checked	Approved
9-Jul-19	Rev. 0		
29-Aug-19	Rev. 1		