

OSCAR Bioenergy Joint Venture

Contract No. EP/SP/61/10  
Organic Waste Treatment Facilities  
Phase 1:  
*Forth Quarterly EM&A Summary  
Report*

1 March 2016 - 31 May 2016

**Environmental Resources Management**

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Meinhardt Infrastructure and Environment Limited

**Organic Waste Treatment Facilities,  
Phase I**

4<sup>th</sup> Quarterly EM&A Summary Report  
(1 March 2016 – 31 May 2016)

(June 2015)

Verified by: \_\_\_\_\_ Helen Cochrane



Position: Independent Environmental Checker



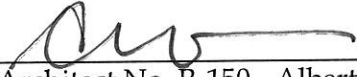
Date: 23 June 16

OSCAR Bioenergy Joint Venture

Contract No. EP/SP/61/10  
Organic Waste Treatment Facilities  
Phase 1:  
*Forth Quarterly EM&A Summary  
Report*

1 March 2016 - 31 May 2016

Reference 0279222

For and on behalf of ERM-Hong Kong, Limited	
Approved by:	Frank Wan
Signed:	
Position:	Partner
Certified by:	 (Environmental Team Leader - Mandy To)
Certified by:	 (Registered Landscape Architect No. R-150 - Albert Chung)
Date:	30 June 2016

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## EXECUTIVE SUMMARY

The construction works of *No. EP/SP/61/10 Organic Waste Treatment Facilities Phase I (the Project)* commenced on 21 May 2015. This is the fourth quarterly Environmental Monitoring and Audit (EM&A) summary report presenting the EM&A works carried out during the period from 1 March 2016 to 31 May 2016 in accordance with the EM&A Manual.

### Environmental Monitoring and Audit Progress

A summary of the monitoring activities undertaken in this reporting period is listed below:

- Joint Environmental Site Inspection 14 times
- Landscape & Visual Monitoring 7 times

### Waste Management

Waste generated from this Project includes inert construction and demolition (C&D) materials (public fill) and non-inert C&D materials (construction wastes).

### Environmental Exceedance/Non-conformance/Compliant/Summons and Prosecution

No exceedance was recorded during the reporting period.

No non-compliance event was recorded during the reporting period.

No environmental complaint and summon/prosecution was received in this reporting period.

# 1 INTRODUCTION

ERM-Hong Kong, Limited (ERM) was appointed by OSCAR Bioenergy Joint Venture (the Contractor) as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme for the *Contract No. EP/SP/61/10 of Organic Waste Treatment Facilities Phase I (the Project)*.

## 1.1 PURPOSE OF THE REPORT

This is the third quarterly EM&A summary report, which summarizes the impact monitoring results and audit findings for the EM&A programme during the reporting period from **1 March 2015 to 31 May 2016**.

## 1.2 STRUCTURE OF THE REPORT

The structure of the report is as follows:

### Section 1 : **Introduction**

It details the scope and structure of the report.

### Section 2 : **Project Information**

It summarises background and scope of the Project, site description, project organization, construction programme, the construction works undertaken and the status of Environmental Permits (EP)/licences over the construction phase of the Project.

### Section 3 : **Environmental Monitoring Requirements**

It summarises the environmental monitoring including monitoring parameters, monitoring programmes, monitoring frequency, monitoring locations, Action and Limit Levels, Event/ Action Plans, environmental mitigation measures as recommended in the approved EIA report, EP and relevant environmental requirements stated in the Contract Specification.

### Section 4 : **Implementation Status on Environmental Mitigation Measures**

It summarises the implementation of environmental protection measures during the reporting period.

### Section 5 : **Waste Management**

It summarises the quantity of public fill and construction waste generated in the reporting period

### Section 6 : **Environmental Site Inspection**

It summarises the audit findings of the weekly site inspections undertaken within the reporting period.

### Section 7 : **Environmental Non-conformance**

It summarises any exceedance of environmental performance standard, and environmental complaints and environmental summons received within the reporting period.

Section 8 : **Conclusions**



**2.1****BACKGROUND**

The Organic Waste Treatment Facilities (OWTF) Phase I development (hereinafter referred to as “the Project”) is to design, construct and operate a biological treatment facility with a capacity of about 200 tonnes per day and convert source-separated organic waste from commercial and industrial sectors (mostly food waste) into compost and biogas through proven biological treatment technologies.

The environmental acceptability of the construction and operation of the Project had been confirmed by findings of the associated Environmental Impact Assessment (EIA) Study completed in 2009. The Director of Environmental Protection approved this EIA Report under the Environmental Impact Assessment Ordinance (EIAO) (Cap. 499) in February 2010 (Register No.: AEIAR-149/2010) (hereafter referred to as the approved EIA Report). Subsequent Report on Re-assessment on Environmental Implications and Report on Re-assessment on Hazard to Life Implications were completed in 2013, respectively.

An Environmental Permit (EP) (No. EP-395/2010) was issued by the Environmental Protection Department (EPD) to the EPD, the Permit Holder, on 21 June 2010 and varied on 18 March 2013 (No. EP-395/2010/A) and 21 May 2013 (No. EP-395/2010/B), respectively. The Design Build and Operate Contract for the OWTF (Contract No. EP/SP/61/10 Organic Waste Treatment Facilities Phase I (the Contract)) was awarded to SITA Waste Services Limited, ATAL Engineering Limited and Ros-Roca, Sociedad Anonima jointly trading as the OSCAR Bioenergy Joint Venture (OSCAR or the Contractor). A Further EP (No. FEP-01/395/2010/B) was issued by the EPD to the OSCAR on 16 February 2015. Variation to both EPs No. EP-395/2010/B and No. FEP-01/395/2010/B were made in December 2015. The latest EPs, No. EP-395/2010/C and No. FEP-01/395/2010/C, were issued by the EPD on 21 December 2015.

Under the requirements of Condition 5 of the EP (No. FEP-01/395/2010/C), an Environmental Monitoring and Audit (EM&A) programme as set out in the Agreement No. CE7/2008 (EP) EM&A Manual (hereinafter referred to as EM&A Manual) is required to be implemented. ERM-Hong Kong, Ltd (ERM) has been appointed by OSCAR as the Environmental Team (ET) to undertake the EM&A programme for the Contract.

The construction works commenced on 21 May 2015 and are scheduled for completion by April 2017.

## 2.2 GENERAL SITE DESCRIPTION

The Project Site is located at Siu Ho Wan in North Lantau with an area of about 2 hectares. The layout of the upgrading works is illustrated in *Annex A*.

## 2.3 CONSTRUCTION ACTIVITIES

A summary of the major construction activities undertaken in the reporting period is shown *Table 2.1*. The locations of the construction activities are shown in *Annex B*. The construction programme of the Project is presented in *Annex C*.

*Table 2.1 Summary of Construction Activities Undertaken in the Reporting Period*

<b>Construction Activities Undertaken</b>
<ul style="list-style-type: none"><li>• Superstructure, Construction and Raft Foundation Works for Building 1;</li><li>• Construction and Superstructure Works for Building 2;</li><li>• Excavation, Raft Foundation and Superstructure Works for Building 3;</li><li>• Installation and Erection Works for AD Tank;</li><li>• Excavation, Raft Foundation and Superstructure Works for Biogas Holder and Biogas Plant</li><li>• Installation Works for Ammonia Stripping Plant</li><li>• Construction Works for Boundary Wall and Boundary Fence Wall;</li><li>• Construction Works for Second Site Access; and</li><li>• Construction Works for Site-wide Drainage.</li></ul>

## 2.4 PROJECT ORGANISATION AND MANAGEMENT STRUCTURE

The project organisation chart and contact details are shown in *Annex D*.

## 2.5 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the valid permits, licences, and/or notifications on environmental protection for this Project is presented in *Table 2.2*.

**Table 2.2 Summary of Environmental Licensing, Notification and Permit Status**

<b>Permit/ Licenses/ Notification</b>	<b>Reference</b>	<b>Validity Period</b>	<b>Remarks</b>
Environmental Permit	FEP-01/395/2010/C	Throughout the Contract	Permit granted on 21 December 2015
Notification of Construction Works under the Air Pollution Control (Construction Dust) Regulation	Ref No. 386715	Throughout the Contract	-
Effluent Discharge License	WT00021482-2015	21 May 2015 - 31 May 2020	Approved on 21 May 2015
Construction Noise Permit	GW-RW0001-16	15 January 2016 - 14 July 2016	-
Chemical Waste Producer Registration	WPN 5213-961-O2231-01	Throughout the Contract	Approved on 29 April 2015
Waste Disposal Billing Account	Account number: 702310	Throughout the Contract	-

***ENVIRONMENTAL MONITORING REQUIREMENT, ENVIRONMENTAL MITIGATION MEASURES***

All the relevant environmental mitigation measures listed in the EIA Report and EM&A Manual are summarised in *Annex E*.

According to the EM&A Manual and EP requirement, no air quality, noise and water quality monitoring is required.

Bi-weekly landscape and visual audit is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures recommended in the EIA Report are fully achieved.

***IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS***

The Contractor has implemented environmental mitigation measures and requirements as stated in the approved EIA Report and EM&A Manual. The implementation status of the measures during the reporting period is summarised in *Annex E*.

Wastes generated from this Project include inert construction and demolition (C&D) materials (public fill) and non-inert C&D materials (construction waste). Construction waste comprises general refuse, metals and paper/cardboard packaging materials. Metals generated from the Project are also grouped into construction waste as the materials were not disposed of with others at public fill. Reference has been made to the Monthly Summary Waste Flow Table prepared by the Contractor (see *Annex F*). With reference to the relevant handling records and trip tickets of this Project, the quantities of different types of waste generated in the reporting month are summarised in *Table 5.1*.

**Table 5.1** *Quantities of Waste Generated from the Project*

Month / Year	Quantity			
	Total Inert C&D Materials Generated <sup>(a)</sup>	Non-inert C&D Materials <sup>(b)</sup>		
		C&D Materials Recycled <sup>(c)</sup>	C&D Waste Disposed of at Landfill <sup>(d)</sup>	Chemical Waste
March 2016	299.92 tonnes	22,395.00 kg	22.69 tonnes	0 L
April 2016	3,186.37 tonnes	60,767.00 kg	37.63 tonnes	255.00 L
May 2016	1,612.33 tonnes	13,490.00 kg	40.73 tonnes	0.00 L

**Notes:**

- (a) Inert C&D materials (public fill) include bricks, concrete, building debris, rubble and excavated spoil. In total, 5,098.62 tonnes of inert C&D material were generated from the Project, of which 203.06 tonnes were reused in this Contract and the remaining 4,895.56 tonnes were disposed as public fill to Fill Banks at Tuen Mun Area 38 and Tseung Kwan O Area 137. The detailed waste flow is presented in *Annex F*.
- (b) Non-inert C&D materials (construction wastes) include metals, paper / cardboard packaging waste, plastics and other wastes such as general refuse. Metals generated from the Project were grouped into construction wastes as the materials were not disposed of with others at the public fill.
- (c) 96,500.00 kg of metals, 152.00 kg of papers/ cardboard packing and 0.00 kg of plastics were sent to recyclers for recycling during the reporting period.
- (d) Construction wastes other than metals, paper/cardboard packaging, plastics and chemicals were disposed of at NENT Landfill by subcontractors.

### 6.1 WEEKLY SITE AUDITS

Fourteen site inspections were conducted during the reporting period. There was no non-compliance recorded during the site inspections. Follow-up actions were undertaken as reported by the Contractor and observed in the subsequent weekly site inspections conducted in the reporting period.

#### *March 2016*

Joint site inspections were conducted by the representatives of the Contractor, SOR and the ET on 4, 11, 16 and 23 March 2016. The IEC was also present at the joint inspection on 16 March 2016.

#### *April 2016*

Joint site inspections were conducted by the representatives of the Contractor, SOR and the ET on 1, 8, 15, 20 and 29 April 2016. The IEC was also present at the joint inspection on 20 April 2016.

#### *May 2016*

Joint site inspections were conducted by the representatives of the Contractor, SOR and the ET 3, 9, 19, 23 and 30 May 2016. The IEC was also present at the joint inspection on 19 May 2016.

### 6.2 LANDSCAPE AND VISUAL AUDIT

Seven landscape and visual monitoring site inspections were conducted during the reporting period. Follow-up actions needed to be implemented were recommended to the Contractor and the status of the follow-up actions was reviewed during the subsequent weekly site inspections. It was confirmed that most of the necessary landscape and visual mitigation measures as summarised in *Annex I* were implemented by the Contractor.

In accordance with the EM&A Manual, bi-weekly landscape and visual inspection is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures recommended in the EIA Report are fully achieved. The onsite inspection of the landscape and visual mitigation measures has commenced since June 2015 during weekly site inspections.

#### *March 2016*

Bi-weekly site inspections were conducted on 11 and 23 March 2016.

*April 2016*

Bi-weekly site inspections were conducted on 8 and 20 April 2016.

*May 2016*

Bi-weekly site inspections were conducted on 3, 19 and 30 May 2016.

Key landscape and visual mitigation measures implemented in the reporting period included:

- Removing the construction materials from the tree protection zone
- Erecting the fencing of tree protection zone to ensure the protection is effective.

### **6.3**

#### ***EFFECTIVENESS OF MITIGATION MEASURES AND MONITORING***

The mitigation measures recommended in the EIA report and required by the EP are considered effective in minimizing environmental impacts.

The EM&A for the Project was conducted as scheduled during the reporting period. No non-compliance events were observed during site inspections and no exceedances were recorded during this reporting period. The EM&A programme is considered effective.



## 7 ENVIRONMENTAL NON-CONFORMANCE

### 7.1 SUMMARY OF ENVIRONMENTAL NON-COMPLIANCE

No non-compliance event was recorded during the reporting period.

### 7.2 SUMMARY OF ENVIRONMENTAL COMPLAINT

No complaint was received during the reporting period. The cumulative environmental complaint log is shown in *Annex G*.

### 7.3 SUMMARY OF ENVIRONMENTAL SUMMON AND SUCCESSFUL PROSECUTION

No summon/prosecution was received during the reporting period. The cumulative summons/prosecution log is shown in *Annex G*.

## CONCLUSIONS

This EM&A Report presents the EM&A works undertaken during the reporting period from 1 March 2016 to 31 May 2016 in accordance with EM&A Manual and requirements of EP (FEP-01/395/2010/C).

No air quality, noise and water quality monitoring is required.

Bi-weekly landscape and visual monitoring was conducted in this quarterly period. Most of the necessary landscape and visual mitigation measures recommended in the EIA Report were implemented by the Contractor. Follow-up actions would be implemented by the Contractor to improve protection measures on the retained or to-be transplanted trees.

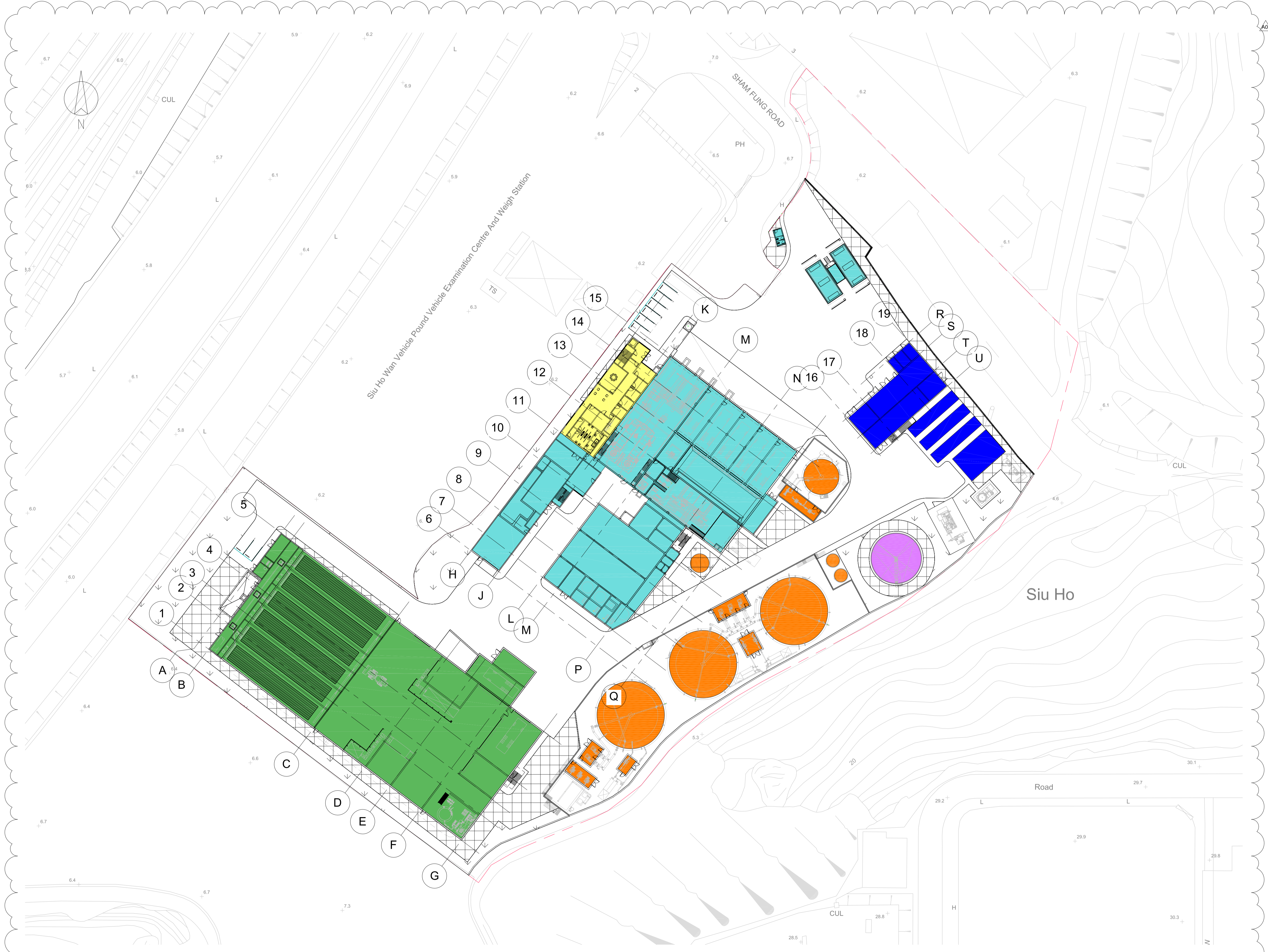
No non-compliance event was recorded during the reporting period.

No complaint and summons/prosecution was received during the reporting period.

The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures in the coming periods.

Annex A

## Project Layout



A01	05/03/15	CW	MB	IMTECH BACKGROUNDS UPDATED
A00	18/02/15	CW	MB	DRAFT ISSUE
REV	DATE	BY	APP	DESCRIPTION

CLIENT  
**EP** ENVIRONMENTAL PROTECTION DEPARTMENT  
 GOVERNMENT OF THE HKSAR

CLIENT'S CONSULTANT  
**AECOM**  
 AECOM ASIA CO. LTD.

CONTRACTOR  
**Suez SITA ATAL RosRoca**  
 OSCAR BIOENERGY JV

LEAD DESIGNER  
**ARUP**  
 Ove Arup & Partners Hong Kong Limited

ENVIRONMENTAL TEAM  
**ERM**  
 ERM HONG KONG LIMITED

INDEPENDENT CONSULTANTS  
**MEINHARDT**  
 Meinhardt Infrastructure and Environment Limited  
 邁達基建築環保工程顧問有限公司

PROJECT  
 ORGANIC WASTE TREATMENT FACILITIES  
 PHASE 1  
 EP/SP/61/10

STATUS  
 DRAFT ISSUE

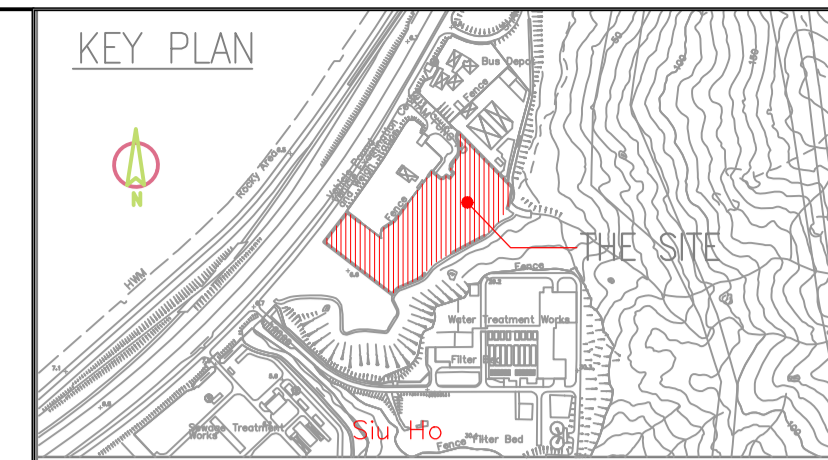
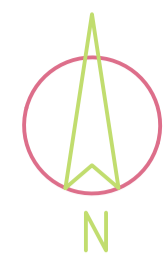
DRAWING TITLE  
 SITE LAYOUT

DRAWN	CW	CHECKED	RS	APPROVED	DP
SCALE	1:500@A1 / 1:1000@A3		DATE	12/02/15	
JOB NO.	DRAWING NO.	REV.			
239956	DR-OAP-20-0-CA-1001	A01			

Plot Time: 05/03/15 21:20:07  
 Plot Location: C:\Users\mathew.brown\Documents\DWG\Architectural Working Model (Combined) - CEH\_mathew.brown.rvt

Annex B


## Works Location



**LEGEND**

—	SITE BOUNDARY
T T T T T	PROPOSED HOARDING TYPE 1
+++++	EXISTING CHAIN-LINK FENCE
~~~~~	PROPOSED 6 m TYPE II SHEET PILE PLANKING WALL WITH 3 m EXTRUDED ABOVE GROUND
XXXXX	EXISTING FENCE WALL
---	DISCHARGE DRAINAGE
→	300mm(W) PROPOSED TEMP. CHANNEL
→	300mm(W) EXISTING U-CHANNEL
⊠	PROPOSED TEMP. CATCH PIT
—	PORTABLE WATER PIPE
—	PORTABLE WATER TAPE
→	TRAFFIC DIRECTION
▨	REBAR STORAGE AREA AND BENDING YARD
▨	GENERAL MATERIAL STORAGE AREA
▨	C & D MATERIAL STORAGE AREA
▨	VEHICLE WHEEL WASH
▨	WATER TREATMENT PLANT


REV	DATE	BY	APP	DESCRIPTION
H	21 DEC 2015	LL	JC	REVISED LAYOUT
G	30 MAY 2015	LL	CL	REVISED LAYOUT
F	22 MAY 2015	LL	CL	REVISED LAYOUT
E	29 APR 2015	LL	CL	REVISED LAYOUT

CLIENT  
 ENVIRONMENTAL PROTECTION DEPARTMENT  
 GOVERNMENT OF THE HKSAR

CLIENT'S CONSULTANT  
 **AECOM**  
 AECOM ASIA CO. LTD.

CONTRACTOR  
 **SUEZ ATAL RosRoca**  
 OSCAR Bioenergy Joint Venture

LEAD DESIGNER  
 **ARUP**  
 Ove Arup & Partners Hong Kong Limited

ENVIRONMENTAL TEAM  
 **ERM**  
 ERM HONG KONG LIMITED

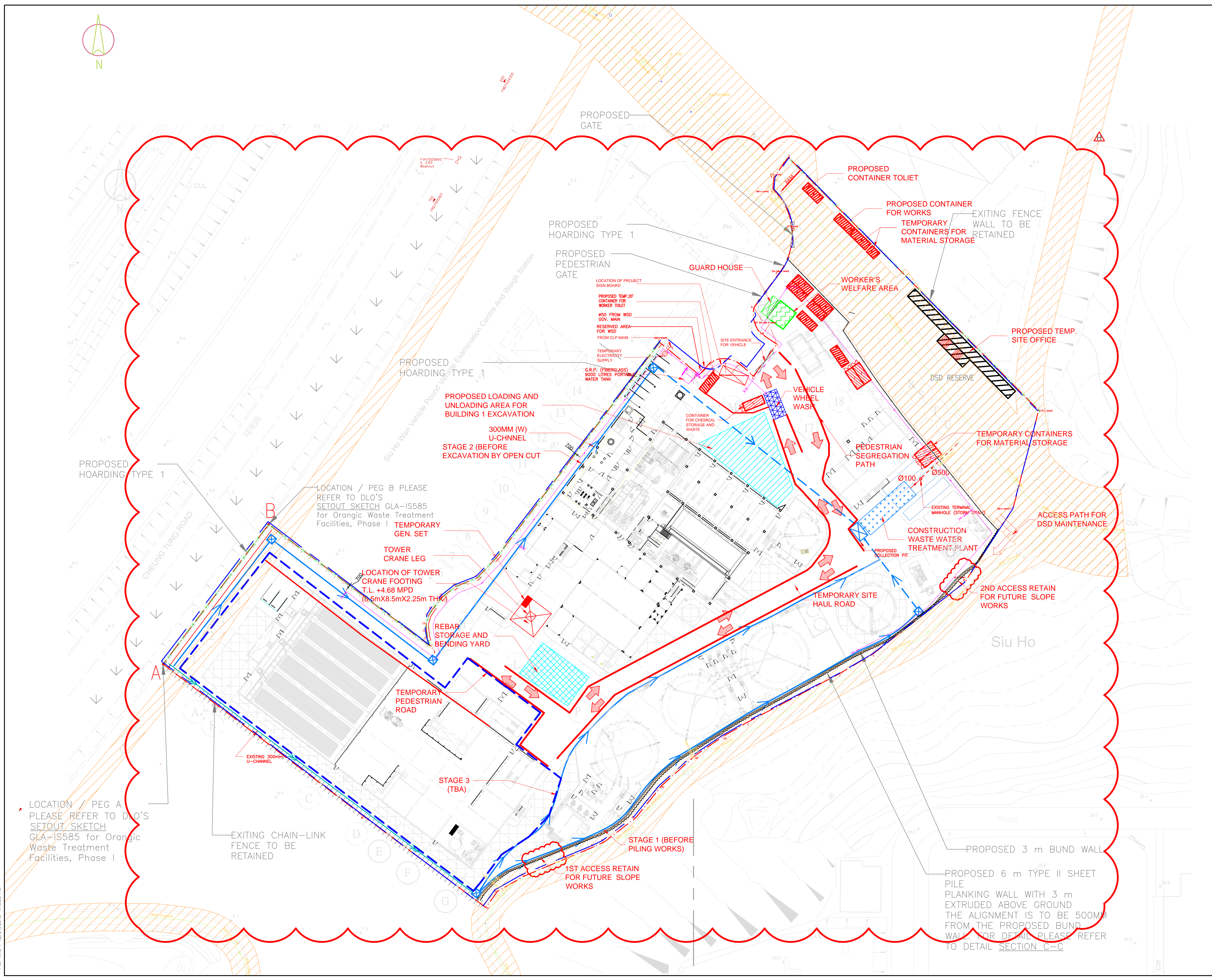
INDEPENDENT CONSULTANTS  
 **MEINHARDT**  
 Meinhardt Infrastructure and Environment Limited  
 邁進基達環境工程顧問有限公司

PROJECT  
 ORGANIC WASTE TREATMENT FACILITIES  
 PHASE I  
 EP/SP/61/10

STATUS  
 ISSUED FOR COMMENT

DRAWING TITLE  
**GENERAL SITE LAYOUT PLAN  
 AT PORTION 1**

DRAWN LL	CHECKED CL	APPROVED CL
SCALE 1:500@A1; 1:1000@A3	DATE 21 DEC 2015	
JOB NO. P00424	DRAWING NO. DR-PSC-00-0-CN-1002	REV. H



Plot By: lml/AM  
 Plot Time: 12/21/2015 4:16:35 PM

Annex C

## Construction Programme of the Project

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	2015												2016												2017											
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
<b>Contract No. EP/SP/61/10 - The Design &amp; Construction Works</b>																																									
<b>LETTER OF ACCEPTANCE</b>																																									
KD100200 LETTER OF ACCEPTANCE						I LETTER OF ACCEPTANCE																																			
<b>MAJOR MILESTONES</b>																																									
<b>MC1 Milestones for Preliminaries and General Requirements</b>																																									
MC110100	MC1.1 - Substantial Completion of ER & IC Accommodation	0d	19-Nov-14 A	19-Nov-14 A	0d	◆ MC1.1 - Substantial Completion of ER & IC Accommodation																																			
MC110200	MC1.2 - Joint signing of IC Agreement	0d	19-Nov-14 A	19-Nov-14 A	0d	◆ MC1.2 - Joint signing of IC Agreement																																			
MC110300	MC1.3 - Employer's consent granted on draft Contractor's Plans	0d	19-Nov-14 A	19-Nov-14 A	0d	◆ MC1.3 - Employer's consent granted on draft Contractor's Plans																																			
<b>MC2 Milestones for Design of the Works</b>																																									
<b>MC2.1 The Employer's consent granted on Detailed Design Submission</b>																																									
MC210100	MC2.1.1 - Employer's consent granted in respect of Detailed Design of Waste Receiving & Pre-treatment System	0d	28-Oct-15 A	11-Aug-16	78d	◆ MC2.1.1 - Employer's consent granted in respect of Detailed Design of Waste Receiving & Pre-treatment System																																			
MC210200	MC2.1.2 - Employer's consent granted in respect of Detailed Design of Anaerobic Digestion Treatment System	0d	28-Oct-15 A	11-Aug-16	78d	◆ MC2.1.2 - Employer's consent granted in respect of Detailed Design of Anaerobic Digestion Treatment System																																			
MC210300	MC2.1.3 - Employer's consent granted in respect of Detailed Design of Biogas treatment & CHP Generation System	0d	28-Oct-15 A	11-Aug-16	78d	◆ MC2.1.3 - Employer's consent granted in respect of Detailed Design of Biogas treatment & CHP Generation System																																			
MC210400	MC2.1.4 - Employer's consent granted in respect of Detailed Design of Composting System	0d	28-Oct-15 A	11-Aug-16	78d	◆ MC2.1.4 - Employer's consent granted in respect of Detailed Design of Composting System																																			
MC210500	MC2.1.5 - Employer's consent granted in respect of Detailed Design of CAPCS & WWTS	0d	28-Oct-15 A	11-Aug-16	78d	◆ MC2.1.5 - Employer's consent granted in respect of Detailed Design of CAPCS & WWTS																																			
MC210600	MC2.1.6 - Employer's consent granted in respect of Detail Design of control & instrumentation works	0d	28-Oct-15 A	11-Aug-16	78d	◆ MC2.1.6 - Employer's consent granted in respect of Detail Design of control & instrumentation works																																			
MC210700	MC2.1.7 - Employer's consent granted in respect of building services & electrical works	0d	28-Oct-15 A	11-Aug-16	78d	◆ MC2.1.7 - Employer's consent granted in respect of building services & electrical works																																			
MC210800	MC2.1.8 - Employer's consent granted in respect of Detailed Design of civil, structural & geotechnical works	0d	28-Oct-15 A	11-Aug-16	78d	◆ MC2.1.8 - Employer's consent granted in respect of Detailed Design of civil, structural & geotechnical works																																			
MC210900	MC2.1.9 - Employer's consent granted in respect of Detailed Design of architectural & landscape works	0d	28-Oct-15 A	11-Aug-16	78d	◆ MC2.1.9 - Employer's consent granted in respect of Detailed Design of architectural & landscape works																																			
<b>MC2.2 Completion of the Design of the Works</b>																																									
MC220100	MC2.2 - Completion of the Design of the Works	0d	11-Aug-16	11-Aug-16	78d	◆ MC2.2 - Completion of the Design of the Works																																			
<b>MC3 Milestones for Construction of the Works</b>																																									
<b>MC3.1 Construction of Civil and Structural Works</b>																																									
MC310100	MC3.1.1 - Completion of site formation	0d	22-Jul-15 A	06-Mar-17	159d	◆ MC3.1.1 - Completion of site formation																																			
MC310200	MC3.1.2 - Completion of 50% of piling works	0d	22-Jul-15 A	06-Mar-17	159d	◆ MC3.1.2 - Completion of 50% of piling works																																			
MC310300	MC3.1.3 - Completion of 100% of piling works	0d	22-Jul-15 A	06-Mar-17	159d	◆ MC3.1.3 - Completion of 100% of piling works																																			
MC310400	MC3.1.4 - Completion of 50% of superstructure works	0d	22-Jul-15 A	06-Mar-17	159d	◆ MC3.1.4 - Completion of 50% of superstructure works																																			
MC310500	MC3.1.5 - Completion of 80% of superstructure works	0d	22-Jul-15 A	06-Mar-17	159d	◆ MC3.1.5 - Completion of 80% of superstructure works																																			
MC310600	MC3.1.6 - Completion of 100% of superstructure works	0d	22-Jul-15 A	06-Mar-17	159d	◆ MC3.1.6 - Completion of 100% of superstructure works																																			
MC310700	MC3.1.7 - Completion of 100% of drainage, road and geotechnical works	0d	22-Jul-15 A	06-Mar-17	159d	◆ MC3.1.7 - Completion of 100% of drainage, road and geotechnical works																																			
<b>MC3.2 Delivery of Materials and Equipment to the Site</b>																																									
MC320100	MC3.2.1 - Completion of Delivery of Pre-treatment System	0d	15-Jun-16	20-Apr-17	65d	◆ MC3.2.1 - Completion of Delivery of Pre-treatment System																																			
MC320200	MC3.2.2 - Completion of Delivery of Anaerobic Digesters	0d	15-Jun-16	20-Apr-17	65d	◆ MC3.2.2 - Completion of Delivery of Anaerobic Digesters																																			
MC320300	MC3.2.3 - Completion of Delivery of Combined Heat and Power Units	0d	15-Jun-16	20-Apr-17	65d	◆ MC3.2.3 - Completion of Delivery of Combined Heat and Power Units																																			
MC320400	MC3.2.4 - Completion of Delivery of Composting Tunnels	0d	15-Jun-16	20-Apr-17	65d	◆ MC3.2.4 - Completion of Delivery of Composting Tunnels																																			
MC320500	MC3.2.5 - Completion of Delivery of Centralized Air Pollution Control System	0d	15-Jun-16	20-Apr-17	65d	◆ MC3.2.5 - Completion of Delivery of Centralized Air Pollution Control System																																			
MC320600	MC3.2.6 - Completion of Delivery of Wastewater Treatment System	0d	15-Jun-16	20-Apr-17	65d	◆ MC3.2.6 - Completion of Delivery of Wastewater Treatment System																																			
<b>MC3.3 Equipment and System Installations</b>																																									
MC330100	MC3.3.1 - Completion of Waste Receiving, Storage and Feeding System & Pre-treatment System	0d	16-Dec-16	20-Apr-17	65d	◆ MC3.3.1 - Completion of Waste Receiving, Storage and Feeding System																																			
MC330200	MC3.3.2 - Completion of Anaerobic Digestion Treatment System	0d	16-Dec-16	20-Apr-17	65d	◆ MC3.3.2 - Completion of Anaerobic Digestion Treatment System																																			
MC330300	MC3.3.3 - Completion of Biogas Cleaning and Storage System	0d	16-Dec-16	20-Apr-17	65d	◆ MC3.3.3 - Completion of Biogas Cleaning and Storage System																																			
MC330400	MC3.3.4 - Completion of Heat Recovery and Power Generation System	0d	16-Dec-16	20-Apr-17	65d	◆ MC3.3.4 - Completion of Heat Recovery and Power Generation System																																			
MC330500	MC3.3.5 - Completion of Composting System	0d	16-Dec-16	20-Apr-17	65d	◆ MC3.3.5 - Completion of Composting System																																			
MC330600	MC3.3.6 - Completion of Centralized Air Pollution Control System	0d	16-Dec-16	20-Apr-17	65d	◆ MC3.3.6 - Completion of Centralized Air Pollution Control System																																			
MC330700	MC3.3.7 - Completion of Wastewater Treatment System	0d	16-Dec-16	20-Apr-17	65d	◆ MC3.3.7 - Completion of Wastewater Treatment System																																			
MC330800	MC3.3.8 - Completion of control and instrumentation works	0d	16-Dec-16	20-Apr-17	65d	◆ MC3.3.8 - Completion of control and instrumentation works																																			
MC330900	MC3.3.9 - Completion of building services works & electrical works	0d	16-Dec-16	20-Apr-17	65d	◆ MC3.3.9 - Completion of building services works & electrical works																																			
<b>MC3.4 Architectural and Landscape works</b>																																									
MC3.4 Architectural and Landscape works						◆ MC3.4 Architectural and Landscape works																																			



Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	2015												2016												2017													
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MC340100	MC3.4 - Completion of architectural and landscape works	0d		26-May-17	95d	◆ MC3.4 - Completion of architectural and landscape works																																					
<b>MC3.5 Testing and Commissioning</b>																																											
		110d	09-May-17	16-Sep-17	0d																																						
MC350100	MC3.5.1 - Employer's consent granted on all FAT,SAT, System Comm, Test, Process Start Up & Process Comm.& Plant Comm.T.Plan	0d		22-May-17	48d	◆ MC3.5.1 - Employer's consent granted on all																																					
MC350200	MC3.5.2 - Employer's consent granted on all System Commissioning Reports	0d		09-May-17	110d	◆ MC3.5.2 - Employer's consent granted on all S																																					
MC350300	MC3.5.3 - Employer's consent granted on the Process Start Up & Process Commissioning Report	0d		09-May-17	130d	◆ MC3.5.3 - Employer's consent granted on the P																																					
MC350400	MC3.5.4 - Employer's consent granted on the Plant Commissioning Report	0d		16-Sep-17	0d	◆ MC3.5.4 - Employer																																					
<b>MC3.6 Issuance of the Certificate of Substantial Completion by the Employer</b>																																											
MC360100	MC3.6 Issuance of the Certificate of Substantial Completion by the Employer	0d		16-Sep-17	28d	◆ MC3.6 Issuance of																																					
<b>PRELIMINARY AND GENERAL REQUIREMENT WORKS</b>																																											
<b>Appointment and Assignment of Contractor's Superintendents, Designers, IC and ER</b>																																											
		0d	20-Nov-14 A	18-Dec-14 A																																							
		0d	20-Nov-14 A	18-Dec-14 A																																							
		0d	20-Nov-14 A	18-Dec-14 A																																							
PL100110	Notify the Employer of the proposed Project Manager	0d	20-Nov-14 A	17-Dec-14 A		■ Notify the Employer of the proposed Project Manager																																					
PL100120	Submit Contractor's Management Team to Employer	0d	20-Nov-14 A	17-Dec-14 A		■ Submit Contractor's Management Team to Employer																																					
PL100130	Employer approves proposed Project Manager	0d		10-Dec-14 A		◆ Employer approves proposed Project Manager																																					
PL100140	Appoint Project Manager	0d	10-Dec-14 A	10-Dec-14 A		Appoint Project Manager																																					
PL100150	Jointly Appoint the Independent Consultant with the Employer	0d	20-Nov-14 A	03-Dec-14 A		■ Jointly Appoint the Independent Consultant with the Employer																																					
PL100160	IC to submit names of representatives to Employer & Contractor	0d	04-Dec-14 A	17-Dec-14 A		■ IC to submit names of representatives to Employer & Contractor																																					
PL100180	Employer notifies Contractor of Employer's Representative	0d		18-Dec-14 A		◆ Employer notifies Contractor of Employer's Representative																																					
<b>Further Environmental Permit</b>																																											
		0d	20-Nov-14 A	30-Jun-15 A																																							
		0d	20-Nov-14 A	30-Jun-15 A																																							
		0d	20-Nov-14 A	30-Jun-15 A																																							
PL100190	Submit application for Further Environmental Permit	0d	20-Nov-14 A	25-Nov-14 A		■ Submit application for Further Environmental Permit																																					
PL100200	Prepare & submit Emergency Procedures Plan by ET to IEC & ER	0d	20-Nov-14 A	17-Dec-14 A		■ Prepare & submit Emergency Procedures Plan by ET to IEC & ER																																					
PL100210	IEC checks & verifies Emergency Procedures Plan	0d	18-Dec-14 A	14-Jan-15 A		■ IEC checks & verifies Emergency Procedures Plan																																					
PL100220	ER approves Emergency Procedures Plan	0d		30-Jun-15 A		◆ ER approves Emergency Procedures Plan																																					
PL100230	Submit approved Emergency Procedures Plan to Dir of EP	0d	12-Jun-15 A	15-Jun-15 A		■ Submit approved Emergency Procedures Plan to Dir of EP																																					
PL100240	Obtain Further Environmental Permit from Dir of EP	0d		16-Feb-15 A		◆ Obtain Further Environmental Permit from Dir of EP																																					
<b>Guarantees, Undertakings &amp; Insurances</b>																																											
		0d	20-Nov-14 A	04-Feb-15 A																																							
		0d	20-Nov-14 A	04-Feb-15 A																																							
		0d	20-Nov-14 A	17-Dec-14 A																																							
PL100250	Provision of Guarantee to Employer	0d	20-Nov-14 A	17-Dec-14 A		■ Provision of Guarantee to Employer																																					
PL100260	Provision of Undertaking to Employer	0d	20-Nov-14 A	17-Dec-14 A		■ Provision of Undertaking to Employer																																					
PL100270	Provision of Undertakings from related companies to Employer	0d	20-Nov-14 A	17-Dec-14 A		■ Provision of Undertakings from related companies to Employer																																					
PL100280	Provision of the Bond to Employer	0d	20-Nov-14 A	17-Dec-14 A		■ Provision of the Bond to Employer																																					
PL100290	Provision of Contractor's All Risks Insurance	0d	20-Nov-14 A	10-Dec-14 A		■ Provision of Contractor's All Risks Insurance																																					
PL100300	Provision of Professional Indemnity Insurance	0d	20-Nov-14 A	10-Dec-14 A		■ Provision of Professional Indemnity Insurance																																					
PL100310	Provision of Employee Compensation Insurance	0d	20-Nov-14 A	10-Dec-14 A		■ Provision of Employee Compensation Insurance																																					
PL100320	Provision of Motor Vehicle Insurance	0d	20-Nov-14 A	10-Dec-14 A		■ Provision of Motor Vehicle Insurance																																					
PL100330	Submit Undertakings & Certificates of PI Insurance	0d	20-Nov-14 A	04-Feb-15 A		■ Submit Undertakings & Certificates of PI Insurance																																					
<b>Programme</b>																																											
		0d	20-Nov-14 A	08-Oct-15 A																																							
		0d	20-Nov-14 A	08-Oct-15 A																																							
		0d	20-Nov-14 A	08-Oct-15 A																																							
PL100340	Prepare & Submit Programme to IC & Employer	0d	20-Nov-14 A	03-Dec-14 A		■ Prepare & Submit Programme to IC & Employer																																					
PL100350	IC checks & certifies Programme	0d	04-Dec-14 A	02-Jan-15 A		■ IC checks & certifies Programme																																					
PL100360	Employer Consents to Contract Programme	0d		08-Oct-15 A		◆ Employer Consents to Contract Programme																																					
PL100370	Prepare & submit 3 months programme to Employer, ER & IC	0d	04-Dec-14 A	17-Dec-14 A		■ Prepare & submit 3 months programme to Employer, ER & IC																																					
PL100380	Prepare & submit Critical Path Network to Employer, ER & IC	0d	20-Nov-14 A	17-Dec-14 A		■ Prepare & submit Critical Path Network to Employer, ER & IC																																					
PL100390	IC checks & certifies Critical Path Network	0d	18-Dec-14 A	08-Jan-15 A		■ IC checks & certifies Critical Path Network																																					
PL100400	Employer Consents to Critical Path Network	0d		08-Oct-15 A		◆ Employer Consents to Critical Path Network																																					
<b>Prepare &amp; submit Contractor's Plans to Employer, ER &amp; IC</b>																																											
		0d	20-Nov-14 A	11-Nov-15 A																																							
		0d	20-Nov-14 A	11-Nov-15 A																																							
		0d	20-Nov-14 A	11-Nov-15 A																																							
PL100410	Sub-contractor Management Plan	0d	20-Nov-14 A	17-Dec-14 A		■ Sub-contractor Management Plan																																					
PL100420	Draft Project Management Plan	0d	20-Nov-14 A	04-Dec-14 A		■ Draft Project Management Plan																																					
PL100430	IC checks & certifies Project Management Plan	0d	05-Dec-14 A	23-Jan-15 A		■ IC checks & certifies Project Management Plan																																					







Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	2015												2016												2017											
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
DP100200	Wastewater Process Layout	0d	20-Nov-14 A	29-Nov-14 A		■ Wastewater Process Layout																																			
DP100210	Waste Air Process Layout	0d	20-Nov-14 A	29-Nov-14 A		■ Waste Air Process Layout																																			
DP100220	Completion of Process Layout	0d		29-Nov-14 A		◆ Completion of Process Layout																																			
<b>Waste Receiving, Pre-treatment &amp; Administration Building #1</b>						0d						30-Nov-14 A						11-Dec-14 A																							
						■ Waste Reception Area Layout																																			
DP110110	Waste Reception Area Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Waste Reception Area Layout																																			
DP110120	Pre-treatment System Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Pre-treatment System Layout																																			
DP110130	Wastewater Treatment System Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Wastewater Treatment System Layout																																			
DP110140	Administration Building Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Administration Building Layout																																			
DP110150	Centralized Air Pollution Control System Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Centralized Air Pollution Control System Layout																																			
DP110160	Completion of Pre-Treatment Building Layout	0d		11-Dec-14 A		◆ Completion of Pre-Treatment Building Layout																																			
<b>Composting &amp; Maturation Building #2</b>						0d						30-Nov-14 A						11-Dec-14 A																							
						■ Composting Tunnel Layout																																			
DP210110	Composting Tunnel Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Composting Tunnel Layout																																			
DP210120	Maturation Area & Facilities Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Maturation Area & Facilities Layout																																			
DP210130	Digestate Dewatering System Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Digestate Dewatering System Layout																																			
DP210140	Completion of Compositing Building Layout	0d		11-Dec-14 A		◆ Completion of Compositing Building Layout																																			
<b>Auxiliary Buildings &amp; Facilities Layout #3</b>						0d						30-Nov-14 A						28-Feb-15 A																							
						■ Anaerobic Digestion Treatment System Layout																																			
DP310110	Anaerobic Digestion Treatment System Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Anaerobic Digestion Treatment System Layout																																			
DP310120	Biogas Cleaning and Storage System Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Biogas Cleaning and Storage System Layout																																			
DP310130	Heat Recovery and Power Generation System Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Heat Recovery and Power Generation System Layout																																			
DP310140	Weighbridge System Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Weighbridge System Layout																																			
DP310150	Switchgear Room & Facilities Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Switchgear Room & Facilities Layout																																			
DP310160	Continuous Emission Monitoring System Layout	0d	30-Nov-14 A	11-Dec-14 A		■ Continuous Emission Monitoring System Layout																																			
DP310170	Completion of Auxiliary Buildings Layout	0d		11-Dec-14 A		◆ Completion of Auxiliary Buildings Layout																																			
DP310180	Piled Foundation	0d	11-Feb-15 A	28-Feb-15 A		■ Piled Foundation																																			
<b>General</b>						0d						30-Nov-14 A						01-Sep-15 A																							
						■ Topographic Survey																																			
DP100510	Topographic Survey	0d	07-Jan-15 A	10-Jan-15 A		■ Topographic Survey																																			
DP100520	Completion of Design Layout	0d		11-Dec-14 A		◆ Completion of Design Layout																																			
DP100530	Completion of Design Preparation	0d		30-May-15 A		◆ Completion of Design Preparation																																			
DP100540	Frozen E&M Equipment Loading and General Layout	0d	30-Nov-14 A	06-Dec-14 A		■ Frozen E&M Equipment Loading and General Layout																																			
DP100550	Finalized E&M Equipment Detail	0d	18-Dec-14 A	01-Sep-15 A		■ Finalized E&M Equipment Detail																																			
<b>Ground Investigation (including Natural Terrain Hazards)</b>						0d						20-Nov-14 A						30-Sep-15 A																							
<b>General</b>						0d						20-Nov-14 A						30-Sep-15 A																							
DP100560	Prepare & submit GI Plan to IC & ER	0d	20-Nov-14 A	04-Dec-14 A		■ Prepare & submit GI Plan to IC & ER																																			
DP100570	IC certifies GI Plan	0d	05-Dec-14 A	02-Jan-15 A		■ IC certifies GI Plan																																			
DP100580	ER Consents to GI Plan	0d		16-Jan-15 A		◆ ER Consents to GI Plan																																			
DP100590	Mobilization and Appointment of GI Sub-Contractor	0d	20-Nov-14 A	15-Dec-14 A		■ Mobilization and Appointment of GI Sub-Contractor																																			
DP100600	Fieldwork (Including Predrilling and works at Natural Terrain Unit 4)	0d	14-Jan-15 A	14-Feb-15 A		■ Fieldwork (Including Predrilling and works at Natural Terrain Unit 4)																																			
DP100610	Preliminary Fieldwork Report for AD Tanks Piling Design	0d	14-Feb-15 A	27-Mar-15 A		■ Preliminary Fieldwork Report for AD Tanks Piling Design																																			
DP100620	Final Fieldwork Report and Geotechnical Interpretative Report	0d	09-Mar-15 A	27-Mar-15 A		■ Final Fieldwork Report and Geotechnical Interpretative Report																																			
DP100655	Fieldwork (Natural Terrain - if required)	0d	16-Sep-15 A	30-Sep-15 A		■ Fieldwork (Natural Terrain - if required)																																			
<b>Plate Load Test</b>						0d						17-Jan-15 A						04-Mar-15 A																							
DP100660	Excavation for Plate Load Test	0d	17-Jan-15 A	06-Feb-15 A		■ Excavation for Plate Load Test																																			
DP100670	Setup Loading platform and equipment for Plate Load Test	0d	17-Jan-15 A	18-Jan-15 A		■ Setup Loading platform and equipment for Plate Load Test																																			
DP100680	Carry-out Plate Load Test PLT6-8 (Bldg # 2)	0d	19-Jan-15 A	30-Jan-15 A		■ Carry-out Plate Load Test PLT6-8 (Bldg # 2)																																			
DP100690	Carry-out Plate Load Test PLT9-11 (Bldg # 1)	0d	26-Jan-15 A	12-Feb-15 A		■ Carry-out Plate Load Test PLT9-11 (Bldg # 1)																																			
DP100700	Carry-out Plate Load Test PLT2, 3, & 5 (Bldg #3)	0d	02-Feb-15 A	12-Feb-15 A		■ Carry-out Plate Load Test PLT2, 3, & 5 (Bldg #3)																																			
DP100710	Carry-out Plate Load Test PLT1 & 4 (Bldg #3)	0d	02-Feb-15 A	12-Feb-15 A		■ Carry-out Plate Load Test PLT1 & 4 (Bldg #3)																																			

















Main project schedule table with columns for Activity ID, Activity Name, Remaining Duration, Start, Finish, Total Float, and monthly progress bars from Nov 2015 to Dec 2017.













Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	2015												2016												2017											
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
<b>Wastewater Treatment System (WWTS)</b>																																									
<b>General</b>																																									
PR150100	Issue orders & receive shop drawings from WWTS suppliers	4d	08-Jul-15 A	21-Apr-16	368d	[Gantt bar: 08-Jul-15 to 21-Apr-16]																																			
PR150120	Wastewater Treatment Plant (General)	62d	11-Dec-15 A	15-Jul-16	70d	[Gantt bar: 11-Dec-15 to 15-Jul-16]																																			
PR150130	Wastewater Treatment Plant (Chemical Dosing System)	60d	20-Jun-16*	12-Sep-16	82d	[Gantt bar: 20-Jun-16 to 12-Sep-16]																																			
PR150135	WWTP Heat Exchanger	70d	20-Jun-16*	27-Sep-16	72d	[Gantt bar: 20-Jun-16 to 27-Sep-16]																																			
PR150140	Ammonia Stripping Plant	62d	24-Dec-15 A	15-Jul-16	56d	[Gantt bar: 24-Dec-15 to 15-Jul-16]																																			
PR150160	Primary Sedimentation Tank (Conical Tank) and GRP Tank	77d	30-May-16*	15-Sep-16	79d	[Gantt bar: 30-May-16 to 15-Sep-16]																																			
PR150180	SBR Submersible Mixer	62d	13-Feb-16 A	15-Jul-16	112d	[Gantt bar: 13-Feb-16 to 15-Jul-16]																																			
PR150200	Air Blowers	75d	30-May-16*	13-Sep-16	70d	[Gantt bar: 30-May-16 to 13-Sep-16]																																			
PR150220	Air Compressor	53d	30-May-16*	12-Aug-16	92d	[Gantt bar: 30-May-16 to 12-Aug-16]																																			
<b>Centralized Air Pollution Control (CAPC) System</b>																																									
<b>General</b>																																									
PR180100	Issue orders & receive shop drawings from CAPC suppliers	6d	30-May-15 A	25-Apr-16	366d	[Gantt bar: 30-May-15 to 25-Apr-16]																																			
PR180120	CAPC System Equipment (General)	62d	14-Jan-16 A	15-Jul-16	86d	[Gantt bar: 14-Jan-16 to 15-Jul-16]																																			
PR180140	GRP Tanks	51d	24-Jun-16*	05-Sep-16	62d	[Gantt bar: 24-Jun-16 to 05-Sep-16]																																			
PR180150	GRP Ductworks	93d	20-May-16*	30-Sep-16	44d	[Gantt bar: 20-May-16 to 30-Sep-16]																																			
PR180160	Venturi Scubber	31d	14-Jan-16 A	31-May-16	69d	[Gantt bar: 14-Jan-16 to 31-May-16]																																			
PR180180	Wet Scubber	31d	14-Jan-16 A	31-May-16	69d	[Gantt bar: 14-Jan-16 to 31-May-16]																																			
PR180200	Chemical Scubber	62d	14-Jan-16 A	15-Jul-16	86d	[Gantt bar: 14-Jan-16 to 15-Jul-16]																																			
PR180205	Pumps	30d	14-Jan-16 A	30-May-16	118d	[Gantt bar: 14-Jan-16 to 30-May-16]																																			
PR180210	Air Extraction Fans	30d	14-Jan-16 A	30-May-16	118d	[Gantt bar: 14-Jan-16 to 30-May-16]																																			
PR180215	Inline Fans	30d	06-Jun-16*	19-Jul-16	84d	[Gantt bar: 06-Jun-16 to 19-Jul-16]																																			
PR180220	Supplier's Inspection of CAPC System Equipment - Fans at Building 2	0d	11-Apr-16 A	12-Apr-16 A		[Milestone: 11-Apr-16 to 12-Apr-16]																																			
PR180240	Supplier's Inspection of CAPC System Equipment - Scubbers at Building 2	1d	19-Apr-16	19-Apr-16	98d	[Milestone: 19-Apr-16]																																			
PR180260	Supplier's Inspection of CAPC System Equipment - Fans at Building 1	0d	11-Apr-16 A	12-Apr-16 A		[Milestone: 11-Apr-16 to 12-Apr-16]																																			
PR180280	Supplier's Inspection of CAPC System Equipment - Scubbers at Building 1	1d	21-Jun-16	21-Jun-16	103d	[Milestone: 21-Jun-16]																																			
<b>Bulk Material</b>																																									
<b>General</b>																																									
PR220050	Issue orders & receive shop drawings from Mechanical Equipment suppliers	15d	16-Sep-15 A	09-May-16	357d	[Gantt bar: 16-Sep-15 to 09-May-16]																																			
PR220100	Mechanical Equipment - Penstock, Pipework, Valve, Lifting Appliance, Roller Shutters etc.	80d	19-Jan-16 A	10-Aug-16	82d	[Gantt bar: 19-Jan-16 to 10-Aug-16]																																			
PR220110	Issue orders & receive shop drawings from Platforms, Handrails & Ladders suppliers	17d	23-Nov-15 A	11-May-16	355d	[Gantt bar: 23-Nov-15 to 11-May-16]																																			
PR220120	Platforms, Handrails and Ladders	90d	13-May-16*	20-Sep-16	104d	[Gantt bar: 13-May-16 to 20-Sep-16]																																			
PR220130	Issue orders & receive shop drawings from Mobile Plants suppliers	35d	30-Nov-15 A	06-Jun-16	155d	[Gantt bar: 30-Nov-15 to 06-Jun-16]																																			
PR220140	Permanent Mobile Plants	72d	07-Jun-16	19-Sep-16	155d	[Gantt bar: 07-Jun-16 to 19-Sep-16]																																			
<b>Electrical System &amp; Accessories</b>																																									
<b>Electrical System &amp; Accessories</b>																																									
PR230100	Issue orders & receive shop drawings from Electrical suppliers	33d	27-May-15 A	02-Jun-16	339d	[Gantt bar: 27-May-15 to 02-Jun-16]																																			
PR230125	MCC and Electrical Accessories System (Pre-treatment)	91d	03-Jun-16	13-Oct-16	51d	[Gantt bar: 03-Jun-16 to 13-Oct-16]																																			
PR230135	MCC and Electrical Accessories System (CAPCS)	91d	06-Jun-16	14-Oct-16	54d	[Gantt bar: 06-Jun-16 to 14-Oct-16]																																			
PR230145	MCC and Electrical Accessories System (Composting and Dewatering)	72d	06-Jun-16	15-Sep-16	112d	[Gantt bar: 06-Jun-16 to 15-Sep-16]																																			
PR230155	MCC and Electrical Accessories System (WWTP)	72d	06-Jun-16	15-Sep-16	61d	[Gantt bar: 06-Jun-16 to 15-Sep-16]																																			
PR230165	MCC and Electrical Accessories System (AD)	49d	06-Jun-16	15-Aug-16	110d	[Gantt bar: 06-Jun-16 to 15-Aug-16]																																			
PR230175	MCC and Electrical Accessories System (Biogas Cleaning & Storage)	49d	06-Jun-16	15-Aug-16	57d	[Gantt bar: 06-Jun-16 to 15-Aug-16]																																			
PR230178	MCC and Electrical Accessories System (Heat Recovery & Power Generation)	49d	06-Jun-16	15-Aug-16	57d	[Gantt bar: 06-Jun-16 to 15-Aug-16]																																			
PR230180	Cables (HV & LV) and Accessories, Cable Containment System	61d	18-May-16	15-Aug-16	75d	[Gantt bar: 18-May-16 to 15-Aug-16]																																			
PR230200	Earthing and Lightning	37d	27-May-15 A	08-Jun-16	151d	[Gantt bar: 27-May-15 to 08-Jun-16]																																			
PR230220	Emergency Generator	37d	16-May-16*	07-Jul-16	132d	[Gantt bar: 16-May-16 to 07-Jul-16]																																			
<b>11kV / 380V Stepdown Transformers</b>																																									
PR230230	Issue orders & receive shop drawings from Transformer supplier	33d	17-Nov-15 A	27-May-16	54d	[Gantt bar: 17-Nov-15 to 27-May-16]																																			
PR230250	11kV / 380V Transformers, Earthing Transformer	87d	21-Mar-16 A	01-Aug-16	59d	[Gantt bar: 21-Mar-16 to 01-Aug-16]																																			





Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	2015												2016												2017											
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec										
						Gantt Chart with Activity Bars and Milestones																																			
CC112280	External and Remaining ABWF Works (Part B)	85d	07-Jun-16	15-Sep-16	201d	External and Remaining ABWF Works (Part B)																																			
<b>Handover of Works to E&amp;M</b>																																									
CC112290	Handover G/F to E&M Works (Zone #1.1 Part B - Building 1 - WWTP)	0d	20-Jul-16	20-Jul-16	81d	◆ Handover G/F to E&M Works (Zone #1.1 Part B - Building 1 - WWTP)																																			
<b>Superstructure at Grid 10-15/K.5-Q - Part C (Bunker &amp; Influence Zone)</b>																																									
CC102100	Underground Drainage Work (Part C)	181d	11-May-16	14-Dec-16	127d	Underground Drainage Work (Part C)																																			
CC102140	Wall and Column G/F to +12.00m.P.D. (Part C)	60d	11-May-16	22-Jul-16	26d	Wall and Column G/F to +12.00m.P.D. (Part C)																																			
CC102142	Water Tank - SBR Tank 1, 2 & 3, 1-Day Water Tank @+6.95mPD (Start from Part B)	45d	24-May-16	16-Jul-16	31d	Water Tank - SBR Tank 1, 2 & 3, 1-Day Water Tank @+6.95mPD (Start from Part B)																																			
CC102144	Water Tank -Pre-Anoxic Tank, Balancing Tank 1 & 2, Sludge Holding Tank @ +6.9mPD	24d	11-May-16	08-Jun-16	56d	Water Tank -Pre-Anoxic Tank, Balancing Tank 1 & 2, Sludge Holding Tank @ +6.9mPD																																			
CC102146	Water Tank - Aeration Tank, Oil Separation Tank, Water Storage Tank @+6.95mPD (Late Cast)	15d	01-Sep-16	19-Sep-16	139d	Water Tank - Aeration Tank, Oil Separation Tank, Water Storage Tank @+6.95mPD (Late Cast)																																			
CC102148	Water Tank - Flocculation Tank @+11.2mPD	12d	02-Jun-16	16-Jun-16	56d	Water Tank - Flocculation Tank @+11.2mPD																																			
CC102160	Floor Slabs and Beam at +12.00m.P.D. (Part C)	60d	19-May-16	29-Jul-16	26d	Floor Slabs and Beam at +12.00m.P.D. (Part C)																																			
CC102180	Wall and Column from +12.00m.P.D. to +17.20m.P.D. (Part C)	60d	26-May-16	05-Aug-16	26d	Wall and Column from +12.00m.P.D. to +17.20m.P.D. (Part C)																																			
CC102200	Floor Slabs and Beam at +17.20m.P.D. (Part C) - with Temporary Openings	60d	02-Jun-16	12-Aug-16	26d	Floor Slabs and Beam at +17.20m.P.D. (Part C) - with Temporary Openings																																			
CC102210	Construct Roof at Temporary Opening at +17.20m.P.D.	15d	14-Nov-16	30-Nov-16	55d	Construct Roof at Temporary Opening at +17.20m.P.D.																																			
CC102220	Wall and Column from +17.20m.P.D. to +22.60m.P.D. (Part C)	25d	25-Jul-16	22-Aug-16	35d	Wall and Column from +17.20m.P.D. to +22.60m.P.D. (Part C)																																			
CC102225	Fabricate & Deliver Roof Structural Steelwork (Part C)	51d	18-Jun-16	17-Aug-16	47d	Fabricate & Deliver Roof Structural Steelwork (Part C)																																			
CC102230	Erect Roof Steelwork at +22.60mPD (Part C)	40d	01-Sep-16	20-Oct-16	35d	Erect Roof Steelwork at +22.60mPD (Part C)																																			
CC102240	Roof at +22.60m.P.D. (Part C)	25d	03-Aug-16	31-Aug-16	35d	Roof at +22.60m.P.D. (Part C)																																			
CC102260	Clearance of Internal Area of G/F (Part C)	6d	11-Aug-16	17-Aug-16	40d	Clearance of Internal Area of G/F (Part C)																																			
CC102280	Erect bamboo working platform at Internal Area of G/F (Part C)	12d	18-Aug-16	31-Aug-16	40d	Erect bamboo working platform at Internal Area of G/F (Part C)																																			
CC102300	ABWF Works at G/F (Part C)	24d	01-Sep-16	29-Sep-16	40d	ABWF Works at G/F (Part C)																																			
CC102320	Clearance of Internal Area of Mezz Lev. & 1/F (Part C)	9d	01-Sep-16	10-Sep-16	26d	Clearance of Internal Area of Mezz Lev. & 1/F (Part C)																																			
CC102340	Erect bamboo working platform at Internal Area of Mezz Lev. & 1/F (Part C)	12d	12-Sep-16	26-Sep-16	26d	Erect bamboo working platform at Internal Area of Mezz Lev. & 1/F (Part C)																																			
CC102360	ABWF Works at 1/F to R/F (Part C)	40d	27-Sep-16	14-Nov-16	26d	ABWF Works at 1/F to R/F (Part C)																																			
CC102370	Removal of Scaffolding and Working Platform (Part C)	0d		14-Nov-16	118d	◆ Removal of Scaffolding and Working Platform (Part C)																																			
CC102380	External and Remaining ABWF Works (Part C)	85d	03-Sep-16	14-Dec-16	127d	External and Remaining ABWF Works (Part C)																																			
<b>Handover of Works to E&amp;M</b>																																									
CC102400	Handover G/F to E&M Works (Zone #1.1 Part C - Building 1 - Bunker & Influence Zone)	0d	17-Sep-16		40d	◆ Handover G/F to E&M Works (Zone #1.1 Part C - Building 1 - Bunker & Influence Zone)																																			
CC102420	Handover 1/F to E&M Works (Zone #1.2 Part C - Building 1 - Bunker & Influence Zone)	0d	18-Oct-16		26d	◆ Handover 1/F to E&M Works (Zone #1.2 Part C - Building 1 - Bunker & Influence Zone)																																			
<b>Green Roof</b>																																									
CC102450	Green Roof and Planting Preparation Works (Zone #1)	60d	22-Dec-16	08-Mar-17	121d	Green Roof and Planting Preparation Works (Zone #1)																																			
CC102460	Green Roof and Planting Works (Zone #1)	60d	22-Dec-16	08-Mar-17	121d	Green Roof and Planting Works (Zone #1)																																			
CC102470	Green Roof Landscape Softworks (Zone #1)	18d	16-Feb-17	08-Mar-17	121d	Green Roof Landscape Softworks (Zone #1)																																			
<b>Composting Building &amp; Facilities - Zone #2</b>																																									
<b>Composting Building #2 (Zone #2.1)</b>																																									
<b>For Location at Grid 1-5/A-C</b>																																									
CC103100	Excavation by Open Cut	15d	16-Jun-15 A	02-Jul-16	383d	Excavation by Open Cut																																			
CC103120	Tank slabs and walls	0d	12-Aug-15 A	16-Oct-15 A		Tank slabs and walls																																			
CC103140	Installation of Ground Beams and Slabs	0d	25-Aug-15 A	19-Oct-15 A		Installation of Ground Beams and Slabs																																			
CC103160	Underground Drainage Work	15d	15-Jun-16	02-Jul-16	383d	Underground Drainage Work																																			
<b>For Location at Grid 1-5/C-G</b>																																									
CC103180	Excavation by Open Cut	15d	03-Jul-15 A	02-Jul-16	383d	Excavation by Open Cut																																			
CC103200	Installation of Ground Beams and Slabs	0d	18-Sep-15 A	09-Nov-15 A		Installation of Ground Beams and Slabs																																			
CC103220	Underground Drainage Work	15d	15-Jun-16	02-Jul-16	383d	Underground Drainage Work																																			
<b>General</b>																																									
CC103240	Backfilling works	316d	15-Oct-15 A	12-May-17	107d	Backfilling works																																			
CC103260	Walls & Columns G/F to 1/F	0d	06-Nov-15 A	13-Apr-16 A		Walls & Columns G/F to 1/F																																			
CC103280	Superstructure - 1/F Slab & Beams	0d	16-Nov-15 A	13-Apr-16 A		Superstructure - 1/F Slab & Beams																																			
CC103300	Superstructure - 1/F to Roof	13d	07-Mar-16 A	03-May-16	92d	Superstructure - 1/F to Roof																																			
CC103305	Fabricate & deliver Structural Steelwork for Building #2 Covered Walkway	84d	06-May-16	15-Aug-16	171d	Fabricate & deliver Structural Steelwork for Building #2 Covered Walkway																																			
CC103310	Erect Steelwork for Building #2 Covered Walkway	37d	16-Aug-16	28-Sep-16	171d	Erect Steelwork for Building #2 Covered Walkway																																			
CC103315	Fabricate & deliver Structural Steelwork for Building #2 Steel Roof	84d	23-May-16	30-Aug-16	133d	Fabricate & deliver Structural Steelwork for Building #2 Steel Roof																																			
CC103318	Erect Steelwork for Building #2 Steel Roof	80d	26-Aug-16	30-Nov-16	113d	Erect Steelwork for Building #2 Steel Roof																																			
CC103320	Clearance	6d	26-Mar-16 A	05-May-16	92d	Clearance																																			

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	2015												2016												2017											
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
CC103340	Erect Bamboo Working Platform for Internal Finishing Works	12d	06-May-16	20-May-16	92d													█ Erect Bamboo Working Platform for Internal Finishing Works																							
CC103360	Internal Finishing Works	36d	25-May-16	07-Jul-16	91d													█ Internal Finishing Works																							
CC103380	Erect Bamboo Working Platform for External Finishing Works	12d	21-May-16	03-Jun-16	186d													█ Erect Bamboo Working Platform for External Finishing Works																							
CC103400	External Finishing Works	43d	04-Jun-16	26-Jul-16	186d													█ External Finishing Works																							
CC103420	ABWF Work	90d	25-May-16	08-Sep-16	110d													█ ABWF Work																							
CC103440	Remaining ABWF Work	95d	09-Sep-16	04-Jan-17	110d																									█ Remaining ABWF Work											
CC103480	Green Roof and Planting Preparation Works	77d	31-Oct-16	03-Feb-17	107d																									█ Green Roof and Planting Preparation Works											
CC103500	Green Roof and Planting Works	26d	04-Feb-17	06-Mar-17	107d																									█ Green Roof and Planting Works											
CC103520	Green Roof Landscape Softworks	26d	07-Mar-17	06-Apr-17	107d																									█ Green Roof Landscape Softworks											
CC103600	Snagging on Zone #2 ABWF works	26d	07-Apr-17	12-May-17	107d																									█ Snagging on Zone #2 ABWF works											
Handover of Works to E&M		0d	23-May-16	23-May-16	91d																																				
CC103460	Handover to E&M Works (Zone #2.1 - Composting Building)	0d		23-May-16	91d	◆ Handover to E&M Works (Zone #2.1 - Composting Building)																																			
Link Bridge (Zone #2.2)		134d	23-Jun-16	30-Nov-16	55d																																				
		134d	23-Jun-16	30-Nov-16	55d																																				
CC104100	Fabricate & deliver Structural Steelwork	78d	23-Jun-16	23-Sep-16	57d													█ Fabricate & deliver Structural Steelwork																							
CC104120	Installation of Bearing Support for Link Bridge at Bldg 1 & 2	12d	03-Sep-16	17-Sep-16	62d													█ Installation of Bearing Support for Link Bridge at Bldg 1 & 2																							
CC104140	Erect Steelwork for Link Bridge	18d	24-Sep-16	17-Oct-16	57d													█ Erect Steelwork for Link Bridge																							
CC104160	ABWF Works at Link Bridge	36d	20-Oct-16	30-Nov-16	55d													█ ABWF Works at Link Bridge																							
Handover of Works to E&M		0d	30-Nov-16	30-Nov-16	55d																																				
CC104180	Handover to E&M Works at Link Bridge (Zone #2.2 - Link Bridge)	0d		30-Nov-16	55d	◆ Handover to E&M Works at Link Bridge (Zone #2.2 - Link Bridge)																																			
Auxiliary Buildings & Facilities (Zone #3)		290d	04-May-15 A	06-Apr-17	155d																																				
Energy Centre (Building # 3/Zone #3.1)		103d	24-Mar-16 A	19-Aug-16	0d																																				
		103d	24-Mar-16 A	19-Aug-16	0d																																				
CC105100	Excavation for Bldg #3.1 & Cogen Units	3d	24-Mar-16 A	20-Apr-16	0d													█ Excavation for Bldg #3.1 & Cogen Units																							
CC105120	Raft Foundations	33d	21-Apr-16	31-May-16	0d													█ Raft Foundations																							
CC105140	Foul Drainage Connections	13d	01-Jun-16	16-Jun-16	0d													█ Foul Drainage Connections																							
CC105160	Slab at G/F Bldg #3	13d	08-Jun-16	23-Jun-16	0d													█ Slab at G/F Bldg #3																							
CC105180	Walls & Columns G/F to 1/F	6d	24-Jun-16	30-Jun-16	0d													█ Walls & Columns G/F to 1/F																							
CC105200	Slab at 1/F	8d	02-Jul-16	11-Jul-16	0d													█ Slab at 1/F																							
CC105220	Walls & Columns 1/F to R/F	8d	12-Jul-16	20-Jul-16	0d													█ Walls & Columns 1/F to R/F																							
CC105240	R/F Slab & Beams	8d	21-Jul-16	29-Jul-16	0d													█ R/F Slab & Beams																							
CC105260	Parapet Walls	6d	30-Jul-16	05-Aug-16	0d													█ Parapet Walls																							
CC105280	Backfilling Works	14d	02-Jul-16	18-Jul-16	0d													█ Backfilling Works																							
CC105300	Concrete Plinths / Walls / Trenches / Raised Floor	17d	19-Jul-16	06-Aug-16	0d													█ Concrete Plinths / Walls / Trenches / Raised Floor																							
CC105320	ABWF Works	18d	30-Jul-16	19-Aug-16	0d													█ ABWF Works																							
Handover of Works to E&M		0d	19-Aug-16	19-Aug-16	0d																																				
CC105340	Handover to E&M Works (Bldg #3/Zone #3.1 - Energy Centre)	0d		19-Aug-16	0d	◆ Handover to E&M Works (Bldg #3/Zone #3.1 - Energy Centre)																																			
Anaerobic Digestion Tanks (Zone #3.2)		41d	04-May-15 A	06-Jun-16	404d																																				
		0d	04-May-15 A	29-Oct-15 A																																					
CC106050	Mobilization and Pre-drilling for AD Tank Socketed Steel-H Piles (16 Nos.)	0d	04-May-15 A	02-Jun-15 A														█ Mobilization and Pre-drilling for AD Tank Socketed Steel-H Piles (16 Nos.)																							
CC106100	Installation of Pre-bored Socketed Steel-H Piles (64 Nos.)	0d	21-May-15 A	17-Aug-15 A														█ Installation of Pre-bored Socketed Steel-H Piles (64 Nos.)																							
CC106120	Proof Drilling	0d	31-Aug-15 A	05-Sep-15 A														█ Proof Drilling																							
CC106140	Pile Load Test	0d	18-Aug-15 A	28-Aug-15 A														█ Pile Load Test																							
CC106160	Excavation	0d	07-Sep-15 A	29-Oct-15 A														█ Excavation																							
Installation of AD r.c. Pile Cap		0d	12-Oct-15 A	22-Dec-15 A																																					
CC106180	AD Pump Room 1	0d	12-Oct-15 A	24-Nov-15 A														█ AD Pump Room 1																							
CC106200	AD Tank 1	0d	19-Oct-15 A	30-Nov-15 A														█ AD Tank 1																							
CC106220	AD Tank 2	0d	26-Oct-15 A	10-Dec-15 A														█ AD Tank 2																							
CC106240	AD Tank 3	0d	07-Nov-15 A	22-Dec-15 A														█ AD Tank 3																							
General		41d	07-Dec-15 A	06-Jun-16	404d																																				
CC106260	Backfilling to pile cap	0d	23-Dec-15 A	03-Feb-16 A														█ Backfilling to pile cap																							
CC106280	AD Pump Room 1	0d	06-Jan-16 A	18-Feb-16 A														█ AD Pump Room 1																							
CC106300	AD plinths	0d	19-Feb-16 A	24-Mar-16 A														█ AD plinths																							
CC106320	ABWF for Pump Buildings	18d	17-May-16	06-Jun-16	382d													█ ABWF for Pump Buildings																							
CC106340	Foul Drain Connection	21d	18-Apr-16	12-May-16	424d													█ Foul Drain Connection																							
CC106360	Boundary Wall (Wall Stem)	0d	07-Dec-15 A	06-Jan-16 A														█ Boundary Wall (Wall Stem)																							











Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	2015												2016												2017															
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
MS619200	Submit M.S. for Installation of Instrument	0d		18-Jun-16*	104d	◆ Submit M.S. for Installation of Instrument																																							
MS619300	IC Certifies M.S. for Installation of Instrument	46d	19-Jun-16	03-Aug-16	104d	■ IC Certifies M.S. for Installation of Instrument																																							
<b>Mechanical and Piping</b>						169d	02-Feb-16 A	03-Oct-16	191d																																				
MS611100	Submit M.S. for Installation of Anaerobic Digestion Tanks No. 1, 2, 3 and Suspension Buffer Tank	0d		02-Feb-16 A	191d	◆ Submit M.S. for Installation of Anaerobic Digestion Tanks No. 1, 2, 3 and Suspension Buffer Tank																																							
MS611200	IC Certifies M.S. for Install. of AD Tanks No. 1, 2, 3 and Suspension Buffer Tank	0d	03-Feb-16 A	23-Mar-16 A	191d	■ IC Certifies M.S. for Install. of AD Tanks No. 1, 2, 3 and Suspension Buffer Tank																																							
MS611400	Submit M.S. for Installation of Biogas Storage Tank	0d		31-May-16*	136d	◆ Submit M.S. for Installation of Biogas Storage Tank																																							
MS611500	IC Certifies M.S. for Installation of Biogas Storage Tank	46d	01-Jun-16	16-Jul-16	136d	■ IC Certifies M.S. for Installation of Biogas Storage Tank																																							
MS611700	Submit M.S. for Installation of Grab Crane	0d		31-May-16*	78d	◆ Submit M.S. for Installation of Grab Crane																																							
MS611800	IC Certifies M.S. for Installation of Grab Crane	46d	01-Jun-16	16-Jul-16	78d	■ IC Certifies M.S. for Installation of Grab Crane																																							
MS612000	Submit M.S. for Installation of Weighbridge	0d		08-Aug-16*	62d	◆ Submit M.S. for Installation of Weighbridge																																							
MS612100	IC Certifies M.S. for Installation of Weighbridge	46d	09-Aug-16	23-Sep-16	62d	■ IC Certifies M.S. for Installation of Weighbridge																																							
MS612300	Submit M.S. for Installation of Vehicle Washing System	0d		27-Jun-16*	113d	◆ Submit M.S. for Installation of Vehicle Washing System																																							
MS612400	IC Certifies M.S. for Installation of Vehicle Washing System	46d	28-Jun-16	12-Aug-16	113d	■ IC Certifies M.S. for Installation of Vehicle Washing System																																							
MS612600	Submit M.S. for Installation of Biogas Cleaning, Storage and Distribution System (exclude Biogas Storage Tank)	0d		09-Jun-16*	78d	◆ Submit M.S. for Installation of Biogas Cleaning, Storage and Distribution System (exclude Biogas Storage Tank)																																							
MS612700	IC Certifies M.S. for Installation of Biogas Cleaning, Storage and Distribution System (exclude Biogas Storage Tank)	46d	10-Jun-16	25-Jul-16	78d	■ IC Certifies M.S. for Installation of Biogas Cleaning, Storage and Distribution System (exclude Biogas Storage Tank)																																							
MS612750	Submit M.S. for Installation of Pipe Racks and Supports	0d		24-Jun-16*	83d	◆ Submit M.S. for Installation of Pipe Racks and Supports																																							
MS612800	IC Certifies M.S. for Installation of Pipe Racks and Supports	46d	25-Jun-16	09-Aug-16	83d	■ IC Certifies M.S. for Installation of Pipe Racks and Supports																																							
MS612900	Submit M.S. for Installation of Pre-treatment System	0d		27-Jun-16*	84d	◆ Submit M.S. for Installation of Pre-treatment System																																							
MS613000	IC Certifies M.S. for Installation of Pre-treatment System	46d	28-Jun-16	12-Aug-16	84d	■ IC Certifies M.S. for Installation of Pre-treatment System																																							
MS613120	Submit M.S. for Installation of Dewatering and Composting System	0d		18-Jul-16*	156d	◆ Submit M.S. for Installation of Dewatering and Composting System																																							
MS613140	IC Certifies M.S. for Installation of Dewatering and Composting System	46d	19-Jul-16	02-Sep-16	156d	■ IC Certifies M.S. for Installation of Dewatering and Composting System																																							
MS613200	Submit M.S. for Installation of CAPCS equipment (Part 1 - Wet Scrubbers and Ventri Scrubbers area)	0d		28-Apr-16	85d	◆ Submit M.S. for Installation of CAPCS equipment (Part 1 - Wet Scrubbers and Ventri Scrubbers area)																																							
MS613300	IC Certifies M.S. for Installation of CAPCS equipment (Part 1 - Wet Scrubbers and Ventri Scrubbers area)	46d	29-Apr-16	13-Jun-16	85d	■ IC Certifies M.S. for Installation of CAPCS equipment (Part 1 - Wet Scrubbers and Ventri Scrubbers area)																																							
MS613400	Submit M.S. for Install. of CAPCS eq. (Part 2 - Chemical scrubbers, activated carbon filters & air extraction fans)	0d		10-Jun-16*	92d	◆ Submit M.S. for Install. of CAPCS eq. (Part 2 - Chemical scrubbers, activated carbon filters & air extraction fans)																																							
MS613500	IC Certifies M.S. for Install. of CAPCS eq. (Part 2 - Chemical scrubbers, activated carbon filters & air extract. fans)	46d	11-Jun-16	26-Jul-16	92d	■ IC Certifies M.S. for Install. of CAPCS eq. (Part 2 - Chemical scrubbers, activated carbon filters & air extract. fans)																																							
MS614700	Submit M.S. for Installation of Pipeline	0d		21-Jul-16*	87d	◆ Submit M.S. for Installation of Pipeline																																							
MS614800	IC Certifies M.S. for Installation of Pipeline	46d	22-Jul-16	05-Sep-16	87d	■ IC Certifies M.S. for Installation of Pipeline																																							
MS615000	Submit M.S. for Installation of Pumpset and Rotating Equipment	0d		18-Jun-16*	82d	◆ Submit M.S. for Installation of Pumpset and Rotating Equipment																																							
MS615100	IC Certifies M.S. for Installation of Pumpset and Rotating Equipment	46d	19-Jun-16	03-Aug-16	82d	■ IC Certifies M.S. for Installation of Pumpset and Rotating Equipment																																							
MS616500	Submit M.S. for Installation of Mechanical Support and Structure	0d		02-Jul-16*	148d	◆ Submit M.S. for Installation of Mechanical Support and Structure																																							
MS616600	IC Certifies M.S. for Installation of Mechanical Support and Structure	46d	03-Jul-16	17-Aug-16	148d	■ IC Certifies M.S. for Installation of Mechanical Support and Structure																																							
MS617100	Submit M.S. for Installation of FRP Ducting	0d		20-May-16*	148d	◆ Submit M.S. for Installation of FRP Ducting																																							
MS617200	IC Certifies M.S. for Installation of FRP Ducting	46d	21-May-16	05-Jul-16	148d	■ IC Certifies M.S. for Installation of FRP Ducting																																							
MS618000	Submit M.S. for Installation of CHP, Heat Recovery system and electrical boiler	0d		18-Jun-16*	146d	◆ Submit M.S. for Installation of CHP, Heat Recovery system and electrical boiler																																							
MS618100	IC Certifies M.S. for Installation of CHP, Heat Recovery system and electrical boiler	46d	19-Jun-16	03-Aug-16	146d	■ IC Certifies M.S. for Installation of CHP, Heat Recovery system and electrical boiler																																							
MS618300	Submit M.S. for Installation of CEMS	0d		18-Jun-16*	252d	◆ Submit M.S. for Installation of CEMS																																							
MS618400	IC Certifies M.S. for Installation of CEMS	46d	19-Jun-16	03-Aug-16	252d	■ IC Certifies M.S. for Installation of CEMS																																							
MS618520	Submit M.S. for Installation of CHP & ASP Stack	0d		18-Jun-16*	136d	◆ Submit M.S. for Installation of CHP & ASP Stack																																							
MS618540	IC Certifies M.S. for Installation of CHP & ASP Stack	46d	19-Jun-16	03-Aug-16	136d	■ IC Certifies M.S. for Installation of CHP & ASP Stack																																							
MS618600	Submit M.S. for Installation of Ammonia Stripping Plant	0d		12-Apr-16 A	108d	◆ Submit M.S. for Installation of Ammonia Stripping Plant																																							
MS618700	IC Certifies M.S. for Installation of Ammonia Stripping Plant	41d	13-Apr-16 A	28-May-16	108d	■ IC Certifies M.S. for Installation of Ammonia Stripping Plant																																							
MS618900	Submit M.S. for Installation of Lifting Appliance	0d		15-Aug-16*	136d	◆ Submit M.S. for Installation of Lifting Appliance																																							
MS619000	IC Certifies M.S. for Installation of Lifting Appliance	46d	16-Aug-16	30-Sep-16	136d	■ IC Certifies M.S. for Installation of Lifting Appliance																																							
MS619500	Submit M.S. for Installation of Tank	0d		11-Jul-16*	131d	◆ Submit M.S. for Installation of Tank																																							
MS619600	IC Certifies M.S. for Installation of Tank	46d	12-Jul-16	26-Aug-16	131d	■ IC Certifies M.S. for Installation of Tank																																							
MS619800	Submit M.S. for Labeling of Equipment, Valve and Instrument	0d		18-Aug-16*	108d	◆ Submit M.S. for Labeling of Equipment, Valve and Instrument																																							
MS619900	IC Certifies M.S. for Labeling of Equipment, Valve and Instrument	46d	19-Aug-16	03-Oct-16	108d	■ IC Certifies M.S. for Labeling of Equipment, Valve and Instrument																																							
MS620100	Submit M.S. for Installation of Tiles	0d		27-Jun-16*	213d	◆ Submit M.S. for Installation of Tiles																																							
MS620200	IC Certifies M.S. for Installation of Tiles	46d	28-Jun-16	12-Aug-16	213d	■ IC Certifies M.S. for Installation of Tiles																																							
<b>Building Services</b>						107d	30-May-16	14-Sep-16	102d																																				
						107d	30-May-16	14-Sep-16	102d																																				

Activity ID	Activity Name	Remaining Duration	Start	Finish	Total Float	2015												2016												2017													
						Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
MS525400	Submit M.S. for Installation of MVAC System	107d	30-May-16	14-Sep-16	102d																																						
MS525500	IC Certifies M.S. for Installation of MVAC System	0d	30-May-16*	30-May-16*	152d																																						
MS526300	Submit M.S. for Installation of Lift	0d	30-Jul-16*	30-Jul-16*	102d																																						
MS526400	IC Certifies M.S. for Installation of Lift	46d	31-Jul-16	14-Sep-16	102d																																						
MS526500	Submit M.S. for Installation of Vertical Lift Platform	0d	30-Jul-16*	30-Jul-16*	102d																																						
MS526600	IC Certifies M.S. for Installation of Vertical Lift Platform	46d	31-Jul-16	14-Sep-16	102d																																						
<b>E &amp; M INSTALLATION WORKS</b>		<b>299d</b>	<b>31-Aug-16 A</b>	<b>20-Apr-17</b>	<b>146d</b>																																						
<b>Waste Receiving, Storage and Feeding System</b>		<b>140d</b>	<b>13-Aug-16</b>	<b>02-Feb-17</b>	<b>53d</b>																																						
EM100050	Runway support manufacturing and delivery (with Temp. Opening on slab)	40d	13-Aug-16	29-Sep-16	34d																																						
EM100100	Installation of Overhead Grabbing System (with Temp. Opening on slab)	36d	30-Sep-16	12-Nov-16	34d																																						
EM180100	Installation of Weighbridge System 1	32d	20-Oct-16	25-Nov-16	53d																																						
EM180150	Installation of Weighbridge System 2	32d	26-Nov-16	05-Jan-17	74d																																						
EM180200	Installation of Computer System	66d	08-Oct-16	24-Dec-16	81d																																						
EM180250	Cable Tray Laying Works	35d	07-Nov-16	16-Dec-16	53d																																						
EM180260	Local Control Panel / Switch	25d	18-Nov-16	16-Dec-16	53d																																						
EM180300	Cabling Works	35d	17-Dec-16	02-Feb-17	53d																																						
EM180350	Completion of E&M Installation of Waste Receiving, Storage and Feeding System	0d		02-Feb-17	53d																																						
EM190100	Vehicle Washing System	50d	20-Oct-16	16-Dec-16	57d																																						
EM190110	Bin Handling Machine	50d	03-Oct-16	30-Nov-16	71d																																						
EM190120	High Jet Water Spray Gun System	50d	17-Sep-16	16-Nov-16	83d																																						
EM190170	Waste Receiving System Pipework (with Supports)	50d	27-Sep-16	25-Nov-16	75d																																						
<b>Pre-Treatment System</b>		<b>124d</b>	<b>17-Sep-16</b>	<b>17-Feb-17</b>	<b>195d</b>																																						
<b>Pre-Treatment System</b>		<b>124d</b>	<b>17-Sep-16</b>	<b>17-Feb-17</b>	<b>195d</b>																																						
EM100150	Installation of Reception Hopper 1 and Screw Conveyors	18d	18-Oct-16	07-Nov-16	247d																																						
EM100200	Installation of Crusher No.1	12d	08-Nov-16	21-Nov-16	253d																																						
EM100250	Installation of Reception Hopper 2 and Screw Conveyors	18d	08-Nov-16	28-Nov-16	247d																																						
EM100300	Installation of Crusher No.2	12d	29-Nov-16	12-Dec-16	247d																																						
EM100350	Installation of Central Sump Pump	18d	28-Oct-16	17-Nov-16	89d																																						
EM100351	Installation of Lobe Pump	18d	18-Nov-16	08-Dec-16	89d																																						
EM100352	Installation of Macerators	18d	17-Sep-16	08-Oct-16	140d																																						
EM100353	Installation of Int. Suspension Buffer Tank Jet Mixer	18d	03-Oct-16	24-Oct-16	128d																																						
EM100354	Installation of Bollfilter	18d	17-Sep-16	08-Oct-16	140d																																						
EM100356	Installation of Centrifuge Pumps	18d	28-Oct-16	17-Nov-16	107d																																						
EM100358	Installation of Vertical Mixer	18d	03-Oct-16	24-Oct-16	128d																																						
EM100362	Installation of Platform (Pre-treatment)	18d	01-Nov-16	21-Nov-16	104d																																						
EM100364	Installation of Control Panels (Pre-treatment)	18d	15-Oct-16	04-Nov-16	118d																																						
EM100370	Installation of Mixing Tank No.1	25d	17-Sep-16	18-Oct-16	40d																																						
EM100400	Installation of Sieve Drum No.1	25d	31-Oct-16	28-Nov-16	40d																																						
EM100420	Installation of Mixing Tank No.2	25d	17-Sep-16	18-Oct-16	50d																																						
EM100450	Installation of Sieve Drum No.2	25d	11-Nov-16	09-Dec-16	40d																																						
EM100500	Installation of Sand Grit Trap No 1	10d	19-Oct-16	29-Oct-16	40d																																						
EM100550	Installation of Sand Grit Trap No 2	10d	31-Oct-16	10-Nov-16	40d																																						
EM100600	Installation of Heavy/ Light Fraction Screw No 1	10d	29-Nov-16	09-Dec-16	40d																																						
EM100650	Installation of Heavy/ Light Fraction Screw No 2	10d	10-Dec-16	21-Dec-16	40d																																						
EM100660	Installation of Belt Conveyor	18d	22-Dec-16	14-Jan-17	40d																																						
EM100670	Metal Separator No.1	10d	16-Jan-17	26-Jan-17	40d																																						
EM100680	Metal Separator No.2	10d	27-Jan-17	10-Feb-17	40d																																						
EM100700	Installation of Overhead Travelling Crane	18d	18-Oct-16	07-Nov-16	51d																																						
EM100720	Installation of Monorail (Crusher Area)	10d	17-Sep-16	28-Sep-16	148d																																						
EM100780	Pre-treatment System Pipework (with Supports and Racks)	90d	29-Sep-16	17-Jan-17	58d																																						













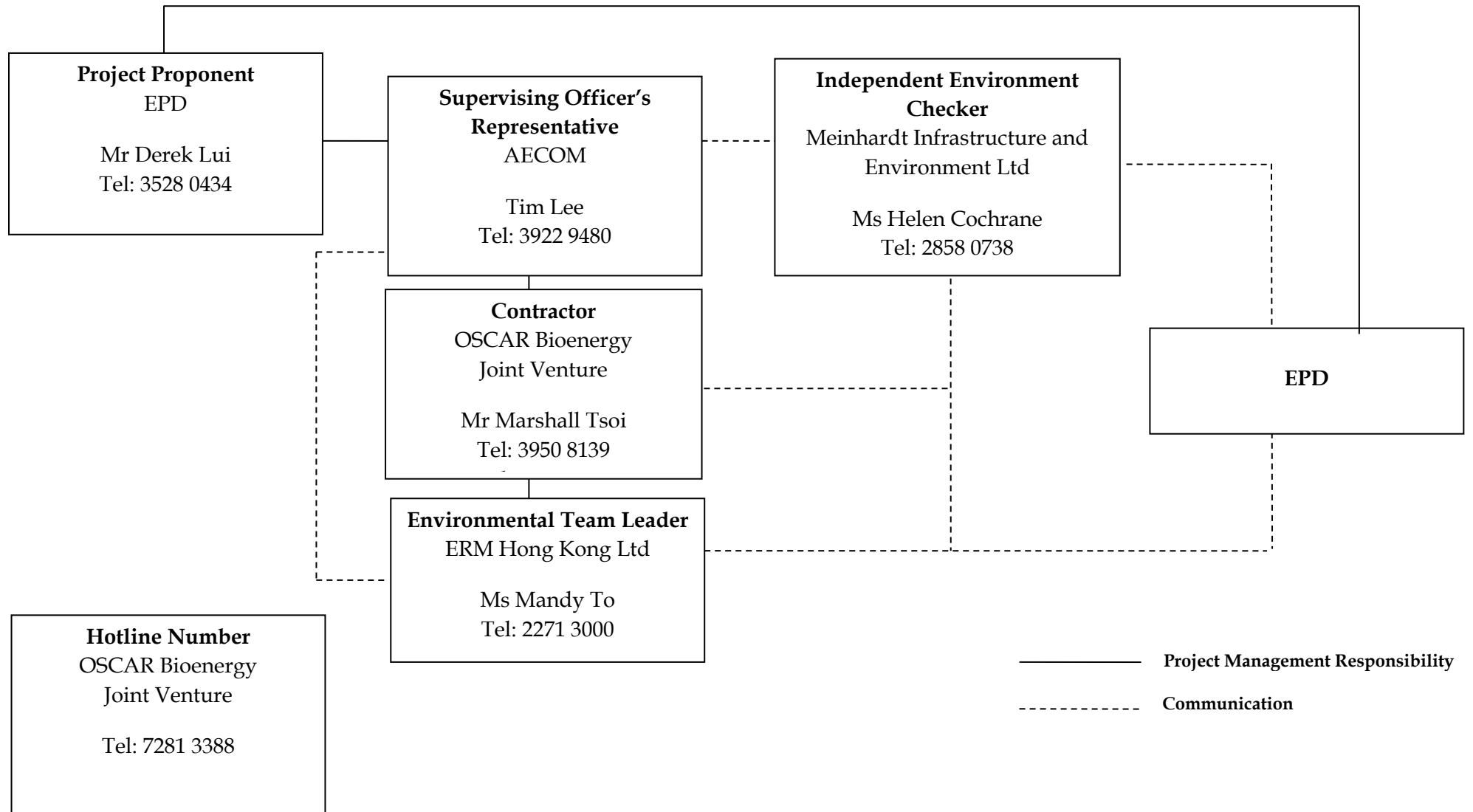




Annex D

## Project Organization Chart with Contact Details

Project Organization During Construction Phase (with contact details)



Annex E

## Implementation Schedule of Mitigation Measures

**Annex E Summary of Mitigation Measures Implementation Schedule**

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
<i>Summary of Environmental Mitigation Measures in the EIA and EM&amp;A Manual</i>				
A. Air Quality				
3.73	2.5	<p><u>Air Pollution Control (Construction Dust) Regulation &amp; Good Site Practices</u></p> <ul style="list-style-type: none"> <li>• Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather.</li> <li>• Use of frequent watering for particularly dusty construction areas and areas close to ASRs.</li> <li>• Side enclosure and covering of any aggregate or dusty material storage piles to reduce emissions. Where this is not practicable owing to frequent usage, watering should be applied to aggregate fines.</li> <li>• Open stockpiles should be avoided or covered. Where possible, prevent placing dusty material storage piles near ASRs.</li> <li>• Tarpaulin covering of all dusty vehicle loads transported to, from and between site locations.</li> <li>• Establishment and use of vehicle wheel and body washing facilities at the exit points of the site.</li> <li>• Provision of wind shield and dust extraction units or similar dust mitigation measures at the loading points, and use of water sprinklers at the loading area where dust generation is likely during the loading process of loose material, particularly in dry seasons/ periods.</li> <li>• Imposition of speed controls for vehicles on unpaved site roads. 8 kilometers per hour is the recommended limit.</li> <li>• Where possible, routing of vehicles and positioning of construction plant should be at the maximum possible distance from ASRs.</li> <li>• Every stock of more than 20 bags of cement or dry pulverised fuel ash (PFA) should be covered entirely by impervious sheeting or placed in an area sheltered on the top and the 3 sides.</li> <li>• Cement or dry PFA delivered in bulk should be stored in a closed silo fitted with an audible high level alarm which is interlocked with the material filling line and no overfilling is allowed.</li> <li>• Loading, unloading, transfer, handling or storage of bulk cement or dry PFA should be carried out in a totally enclosed system or facility, and any vent or exhaust should be fitted with an effective fabric filter or equivalent air pollution control system.</li> </ul>	Construction Site / During Construction Period	<>
B. Hazard to Life				
4.102	3.3	<p><u>Construction Phase</u></p> <ul style="list-style-type: none"> <li>• The number of workers on site during construction stage should be kept at the same level as</li> </ul>	Construction Site / During Construction Period	√



EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<p>the assessment.</p> <ul style="list-style-type: none"> <li>• Construction works should be suspended when delivery of chlorine takes place.</li> <li>• 3m high fence should be constructed along the boundary facing the SHWWTW.</li> <li>• Emergency evacuation procedures should be formulated and the Contractor should ensure all workers on site should be familiar with these procedures as well as the route to escape in case of gas release incident. Relevant Departments, such as Fire Services Department (FSD), should be consulted during the development of Emergency procedures. Diagram showing the escape routes to a safe place should be posted in the site notice boards and at the entrance/exit of site. A copy of the latest version emergency procedures should be dispatched to Tung Chung Fire Station for reference once available.</li> <li>• The emergency procedures should specify means of providing a rapid and direct warning (e.g. Siren and Flashing Light) to construction workers in the event of chlorine gas release in the SHWWTW.</li> <li>• The Contractor should establish a communication channel with the SHWWTW operation personnel and FSD during construction stage. In case of any hazardous incidents in the treatment works, operation personnel of SHWWTW should advise the Contractor to inform construction workers to proceed with emergency procedure. The Contractor should appoint a Liaison Officer to communicate with FSD Incident Commander on site in case of emergency.</li> <li>• Introduction training should be provided to any staff before carryout construction works at the Project site.</li> <li>• Periodic drills should be coordinated and conducted to ensure all construction personnel are familiar with the emergency procedures. Upon completion of the drills, a review on every step taken should be conducted to identify area of improvement. Prior notice of periodic drills should be given to Station Commander of Tung Chung Fire Station. Joint operational exercise with FSD and SHWWTW is recommended.</li> </ul>		
<i>C. Water Quality</i>				
5.44	4.5	<p><u>Construction site run-off and general construction activities:</u> The mitigation measures as outlined in the ProPECC PN 1/94 Construction Site Drainage should be adopted where applicable.</p>	Construction Site / During Construction Period	<>
5.45	4.5	<p><u>Excavation of Soil Materials</u> The construction programme should be properly planned to minimise soil excavation, if any, in rainy seasons. This prevents soil erosion from exposed soil surfaces. Any exposed soil surfaces should also be properly protected to minimise dust emission. In areas where a large amount of exposed soils exist, earth bunds or sand bags should be provided. Exposed stockpiles should be covered with tarpaulin or impervious sheets at all times. The stockpiles of</p>	Construction Site / During Construction Period	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		materials should be placed at locations away from any stream courses so as to avoid releasing materials into the water bodies. Final surfaces of earthworks should be compacted and protected by permanent work.		
5.46	4.5	<u>Accidental spillage of chemicals:</u> Contractor must register as a chemical waste producer if chemical wastes would be produced from the construction activities. The Waste Disposal Ordinance (Cap 354) and its subsidiary regulations in particular the Waste Disposal (Chemical Waste) (General) Regulation should be observed and complied with for control of chemical wastes.	Construction Site / During Construction Period	√
5.47	4.5	Maintenance of vehicles and equipments involving activities with potential for leakage and spillage should only be undertaken within the areas which appropriately equipped to control these discharges.	Construction Site / During Construction Period	√
5.48	4.5	Oils and fuels should only be used and stored in designated areas which have pollution prevention facilities. All fuel tanks and storage areas should be sited on sealed areas in order to prevent spillage of fuels and solvents to the nearby watercourses. All waste oils and fuels should be collected in designated tanks prior to disposal.	Construction Site / During Construction Period	<>
5.49	4.5	Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with chemical wastes. General requirements are given as follows: <ul style="list-style-type: none"> <li>• Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>• Chemical waste containers should be suitably labeled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> <li>• Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>	Construction Site / During Construction Period	<>
5.50		Construction solid waste, debris and rubbish on site should be collected, handled and disposed of properly to avoid entering to the nearby watercourses. Stockpiles of cement and other construction materials should be kept covered when not being used. Rubbish and litter from construction sites should also be collected to prevent spreading of rubbish and litter from the site area. It is recommended to clean the construction sites on a regular basis.	Construction Site / During Construction Period	√
5.51	4.5	<u>Sewage Effluent</u>	Work site/During the	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		The presence of construction workers generates sewage. It is recommended to provide sufficient chemical toilets in the works areas. The toilet facilities should be more than 30m from any watercourse. A licensed waste collector should be deployed to clean the chemical toilets on a regular basis.	construction period	
5.52	4.5	Notices should be posted at conspicuous locations to remind the workers not to discharge any sewage or wastewater into the nearby environment during the construction phase of the project. Regular environmental audit on the construction site can provide an effective control of any malpractices and can achieve continual improvement of environmental performance on site.	Work Site / During Construction Period	√
5.53	4.5	<p><u>Nullah Decking</u></p> <p>To minimize the potential water quality impacts from the nullah reconstruction works, the practices outlined below should be adopted where applicable:</p> <ul style="list-style-type: none"> <li>• The proposed works should be carried out within the dry season between October and March when the flow in the open nullah is low.</li> <li>• The use of less or smaller construction plants may be specified to reduce the disturbance to the nullah bed.</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 the nullah and 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 the nullah 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 nullah and nearby water receivers.</li> <li>• Construction activities, which generate large amount of wastewater, should be carried out in a distance away from the nullah, where practicable.</li> <li>• Construction effluent, site run-off and sewage should be properly collected and/or treated.</li> <li>• Any works site inside the nullah should be temporarily isolated, such as by placing of sandbags or silt curtains with lead edge at bottom and properly supported props to prevent adverse impact on the water quality.</li> <li>• Proper shoring may need to be erected in order to prevent soil/mud from slipping into the nullah and nearby watercourse.</li> <li>• Supervisory staff should be assigned to station</li> </ul>	Work Site / During Construction Period	N/A
<i>D. Waste Management</i>				
6.41	5.4	<u>Good Site Practices</u>	Work Site / During	<>

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<p>Recommendations for good site practices during the construction phase would include:</p> <ul style="list-style-type: none"> <li>• Obtain relevant waste disposal permits from appropriate authorities, in accordance with the Waste Disposal Ordinance (Cap. 354) and subsidiary Regulations and the Land (Miscellaneous Provisions) Ordinance (Cap. 28);</li> <li>• Provide staff training for proper waste management and chemical handling procedures;</li> <li>• Provide sufficient waste disposal points and regular waste collection;</li> <li>• Provide appropriate measures to minimize windblown litter and dust during transportation of waste by either covering trucks or by transporting wastes in enclosed containers;</li> <li>• Carry out regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors;</li> <li>• Separate chemical wastes for special handling and disposed of to licensed facility for treatment; and</li> <li>• Employ licensed waste collector to collect waste.</li> </ul>	Construction Period	
6.42	5.5	<p><u>Waste Reduction Measures</u></p> <p>Waste reduction is best achieved at the planning and design stage, as well as by ensuring the implementation of good site practices. Recommendations to achieve waste reduction include:</p> <ul style="list-style-type: none"> <li>• Design foundation works that could minimise the amount of excavated material to be generated;</li> <li>• Provide training to workers on the importance of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling;</li> <li>• Sort out demolition debris and excavated materials from demolition works to recover reusable/ recyclable portions (i.e. soil, broken concrete, metal etc.);</li> <li>• Segregate and store different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal;</li> <li>• Encourage the collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the workforce; and</li> <li>• Plan and stock construction materials carefully to minimize the amount of waste to be generated and to avoid unnecessary generation of waste.</li> </ul>	Work Site/ During Design & Construction Period	√
6.44	5.7	<p><u>Excavated and C&amp;D Materials</u></p> <p>In order to minimise the impact resulting from collection and transportation of C&amp;D material for off-site disposal, the excavated material arising from site formation and foundation works should be reused on-site as backfilling material and for landscaping works as far as practicable. Other mitigation requirements are listed below:</p> <ul style="list-style-type: none"> <li>• A WMP, which becomes part of the Environmental Management Plan (EMP), should be</li> </ul>	Work Site/ During Design & Construction Period	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
		<p>prepared in accordance with ETWB TCW No.19/2005;</p> <ul style="list-style-type: none"> <li>• A recording system for the amount of wastes generated, recycled and disposed of (including the disposal sites) should be adopted for easy tracking; and</li> <li>• In order to monitor the disposal of excavated and C&amp;D material at public filling facilities and landfills and to control fly-tipping, a trip-ticket system should be adopted (refer to ETWB TCW No. 31/2004).</li> </ul>		
6.45 – 6.46	5.8 – 5.9	<p>An EMP should be prepared and implemented in accordance with ETWB TCW No. 19/2005 which describes the arrangements for avoidance, reuse, recovery, recycling, storage, collection, treatment and disposal of different categories of waste to be generated from construction activities. The EMP should be submitted to the Supervising Officer (SO) and Supervising Officer’s Representative (SOR) for approval. The EMP should be reviewed regularly and updated, preferably on a monthly basis.</p> <p>A system should be devised to work for on-site sorting of excavated and C&amp;D materials and promptly removing all sorted and process materials arising from the construction activities to minimize temporary stockpiling on-site. The system should be included in the EMP identifying the source of generation, estimated quantity, arrangement for on-site sorting, collection, temporary storage areas and frequency of collection by recycling Contractors or frequency of removal off-site.</p>	Work Site/During Design & Construction Period	√
6.47	5.10	<p><u>Chemical Waste</u></p> <p>Should chemical wastes be produced at the construction site, the Contractor would be required to register with 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, or corrosive). The Contractor should employ a licensed collector to transport and dispose of the chemical wastes, to either the CWTC in Tsing Yi, or any other licensed facilities, in accordance with the Waste Disposal (Chemical Waste) General Regulation.</p>	Work Site / During Construction Period	<>
6.48	5.11	<p><u>General Refuse</u></p> <p>General refuse should be stored in enclosed bins or compaction units separated from C&amp;D material. A licensed waste collector should be employed by the contractor to remove general refuse from the site, separately from C&amp;D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.</p>	Work Site / During Construction Period	√
<i>E. Landscape and Visual</i>				
7.99 &	Table 6.1	<u>Construction Phase</u>	Work site/During Design &	√

EIA Ref.	EM&A Log Ref.	Environmental Protection Measures	Location/ Timing	Status
Table 7.7		<ul style="list-style-type: none"> <li>• Topsoil, where identified, should be stripped and stored for re-use in the construction of the soft landscape works, where practical</li> <li>• Compensatory tree planting should be provided to compensate for felled trees.               <ul style="list-style-type: none"> <li>- Compensation tree species shall be chosen from both indigenous and ornamental species</li> <li>- Compensatory tree planting quantities shall be as per DLO approved requirement.</li> </ul> </li> <li>• Control of night-time lighting</li> <li>• Erection of decorative screen hoarding compatible with the surrounding setting</li> </ul>	Construction Stages	
<i>F. Noise</i>				
8.25	7.3	<p>Good Site Practice:</p> <ul style="list-style-type: none"> <li>• Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction program;</li> <li>• Mobile plant, if any, should be sited as far from noise sensitive receivers (NSRs) as possible;</li> <li>• Machines and plant (such as trucks) that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum;</li> <li>• Plant known to emit noise strongly in one direction should, wherever possible, be orientated so that the noise is directed away from the nearby NSRs; and</li> <li>• Material stockpiles and other structures should be effectively utilized, wherever practicable, in screening noise from on-site construction activities.</li> </ul>	Work site/During Design & Construction Stages	√

Remark:

- √ Compliance of Mitigation Measures
- <> Compliance of Mitigation but need improvement
- x Non-compliance of Mitigation Measures
- ▲ Non-compliance of Mitigation Measures but rectified by OSCAR Bioenergy JV
- Δ Deficiency of Mitigation Measures but rectified by OSCAR Bioenergy JV
- N/A Not Applicable in Reporting Period

Annex F

## Waste Flow Table

**No. EP/SP/61/10 of Organic Waste Treatment Facilities Phase I  
Monthly Summary Waste Flow Table**

Month	Actual Quantities of Inert C&D Materials Generated					Actual Quantities of Non-inert C&D Materials (Construction Waste) Generated				
	Total Quantity Generated	Reused in the Contract	Reused in other Projects	Hard Rocks & Large Broken Concrete	Disposed as Public Fill	Metals (see Note 1)	Paper/ cardboard packaging (see Note 1)	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse (see Note 3)
	tonne	tonne	tonne	tonne	tonne	kilogram	kilogram	kilogram	Litre	tonne
May 2015	29.58	0.00	0.00	0.00	29.58	0.00	0.00	0.00	0.00	0.00
June 2015	2226.90	0.00	0.00	0.00	2226.90	0.00	0.00	0.00	0.00	9.66
July 2015	2832.27	0.00	0.00	0.00	2832.27	0.00	0.00	0.00	0.00	33.68
August 2015	6657.25	0.00	0.00	0.00	6657.25	0.00	20.00	0.00	0.00	55.06
September 2015	5467.05	0.00	0.00	0.00	5467.05	3480.00	0.00	0.00	0.00	83.81
October 2015	5419.04	0.00	0.00	0.00	5419.04	18710.00	0.00	0.00	0.00	20.45
November 2015	1375.26	0.00	0.00	0.00	1375.26	21610.00	0.00	0.00	0.00	17.38
December 2015	2199.56	75.28	0.00	0.00	2124.28	0.00	41.00	0.00	0.00	21.83
January 2016	4601.43	0.00	0.00	0.00	4601.43	18140.00	50.00	0.00	640.00	20.86
February 2016	4166.42	0.00	0.00	0.00	4166.42	510.00	79.00	0.00	0.00	16.57
March 2016	299.92	41.28	0.00	0.00	258.64	22320.00	75.00	0.00	0.00	22.69
April 2016	3186.37	98.37	0.00	0.00	3088.00	60690.00	77.00	0.00	255.00	37.63
May 2016	1612.33	63.41	0.00	0.00	1548.92	13490.00	0.00	0.00	0.00	40.76
<b>Total</b>	<b>40073.38</b>	<b>278.34</b>	<b>0.00</b>	<b>0.00</b>	<b>39795.04</b>	<b>158950.00</b>	<b>342.00</b>	<b>0.00</b>	<b>895.00</b>	<b>380.38</b>

- Notes: (1) Metal and paper/cardboard packaging were collected by recycler for recycling.  
(2) Plastics refer to plastic bottles/containers, plastic sheets/foam from packaging material collected by recycler for recycling.  
(3) General refuse was disposed of at NENT by subcontractors.



Annex G

Environmental Complaint,  
Environmental Summons  
and Persecution Log

*Annex G Cumulative Complaint and Summons/Prosecutions Log*

<b>Reporting Month</b>	<b>Number of Complaints in Reporting Month</b>	<b>Number of Summons/Prosecutions in Reporting Month</b>
May 2015	0	0
June 2015	0	0
July 2015	0	0
August 2015	0	0
September 2015	0	0
October 2015	0	0
November 2015	0	0
December 2015	0	0
January 2016	0	0
February 2016	0	0
March 2016	0	0
April 2016	0	0
May 2016	0	0
<b>Overall Total</b>	<b>0</b>	<b>0</b>