#### MONTHLY EM&A REPORT

ATAL-Degrémont-China State Joint Venture

Contract No. DC/2008/03 Design, Build and Operate Pillar Point Sewage Treatment Works: *Twenty-seventh Monthly EM&A Report* 

February 2013

**Environmental Resources Management** 

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February 2013 Reference 0119806

For and on behalf of ERM-Hong Kong, Limited		
Approved by:	Frank Wan	
Signed:	Hardent J.	
Position:	Partner	
Certified by: (Environi	mental Team Leader – Winnie Ko)	
Certified by: (Registered Land	dscape Architect (R078) - Christina Ip)	
Date:	7 February 2013	



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#### By Hand & By Fax (2833 9162)

Drainage Services Department Sewage Services Branch Harbour Area Treatment Scheme Division 5/F., Western Magistracy, 2A Pok Fu Lam Road, Hong Kong.

Attn: Mr. Kenley C.K. KWOK (T: 2159 3409)

8 February 2013

Dear Sir,

Contract No. DC/2008/03 Design, Build and Operate Pillar Point Sewage Treatment Works

#### Monthly EM&A Report for January 2013

Reference is made to Environmental Team (ET)'s draft of the Monthly EM&A Report for January 2013 provided by email dated 6 and 7 February 2013. We have no further comment.

We hereby verify the said Monthly EM&A Report as having complied with the requirement as set out in the EM&A Manual in accordance with the condition 3.6 of Environmental Permit No. EP-321/2008.

Should you have any queries, please feel free to contact the undersigned at 3922 9393.

Yours faithfully,

For and on behalf of AECOM Asia Co. Ltd.

Y T Tang Independent Environmental Checker

C.C.	AECOM – Mr. Tim Lee
	ERM – Ms. Winnie Ko
	ATAL–Degremont–China State JV – Mr. C.Y. Fong

(Fax No. 2317 7609) (Fax No. 2723 5660) (Fax No. 2811 3321) CONTENTS

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#### **EXECUTIVE SUMMARY**

The construction works of *DC/2008/03 of Design, Build and Operate Pillar Point Sewage Treatment Works (the Project)* commenced on 13 November 2010. This is the 27<sup>th</sup> monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 to 31 January 2013 in accordance with the EM&A Manual.

#### Summary of Construction Works undertaken during the Reporting Month

#### Works undertaken in the reporting month included:

- Conduct the finishing works at the Administration Building;
- Construct the structure, water tank and formatting water proofing at the Sludge Dewatering Building;
- Construct the water test and structure at the PTW area of P2;
- Conduct finishing works at the CEPT area of P2;
- Construct column and roof at UV building;
- Format waterproofing and conducting finishing works at the Septic Waste Reception Station;
- Construct the wall and roof at the Reuse Water Pump Room;
- Construct a control room and raft slab at the DOUA;
- Construct a control room and raft slab at the DOUB;
- Conduct finishing works at the Chemical Building;
- Conduct finishing works at the Electrical building No.1, No.3 and No.4;
- Construct drainage, cable ducts and boundary walls at P2;
- Conduct excavation and temporary works at Payment Flow Meter Chamber; and
- Conduct backfilling and drainage works for the whole site.

#### Environmental Monitoring and Audit Progress

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

•	24-hour TSP Monitoring at each monitoring station (AM1	5 sets
	and AM2)	
٠	1-hour TSP Monitoring at each monitoring station (AM1	15 sets
	and AM2)	
٠	Joint Environmental Site Inspection	4 times

Landscape & Visual Monitoring
 Once

#### <u>Air Quality</u>

5 sets of 24-hour TSP and 15 sets of 1-hr TSP measurements were carried out at each of the designated monitoring stations during the reporting period. No exceedance was recorded during the reporting period.

#### 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). In total, 4,442 tonnes of inert C&D material were generated from the Project, in which 100 tonnes were reused in this Contract and 4341.56 tonnes were sent to public fill during the reporting month. 200 kg of metals, 40 kg of papers/ cardboard packing and 20 kg of plastics were sent to recyclers for recycling during the reporting period.

#### Environmental Site Inspection

Four weekly joint environmental site inspections were carried out by the representatives of the Contractor, SOR and the Environmental Team (ET). Details of the audit findings and implementation status of the mitigation measures are presented in *Section 7.1*.

#### Landscape & Visual

Review on landscape and visual mitigation measures was performed on 25 January 2013. Details of the audit findings and implementation status of the mitigation measures are presented in *Sections 3.2* and *7.2*.

# 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.

#### Future Key Issues

Works to be undertaken in the next reporting month include:

- Conduct the finishing works at the Administration Building;
- Construct the structure, water tank, formatting water proofing and conducting finishing works at the Sludge Dewatering Building;
- Construct the structure, conducting finishing works and installing machine at the PTW area of P2;
- Conduct the finishing works and installing machine at the CEPT area of P2;
- Conduct the finishing works at the UV building;
- Conduct the finish works at the Septic Waste Reception Station;
- Conduct room finishing works at the Reuse Water Pump Room;
- Construct a control room and raft slab as well as installing BS and DO duct at the Deodorisation Units Portion A;
- Construct a control room and raft slab at the Deodorisation Units Portion B;
- Construct the finishing works and installing machine at the Chemical Building;
- Install BS at the Electrical building No.1;
- Install BS and conducting finishing works at the Electrical building No. 3;
- Complete works at the Electrical building No.4;
- Construct drainage, cable ducts and a boundary wall at P2;

- Construct raft slab at Payment Flow Meter Chamber; and
- Conduct backfilling and drainage works for the whole site.

Potential environmental impacts arising from the above construction activities are mainly associated with dust, construction noise, site runoffs, waste management and landscaping issues.

#### 1 INRODUCTION

ERM-Hong Kong, Limited (ERM) was appointed by ATAL – Degrémont – China State Joint Venture (ADC-JV) (the Contractor) as the Environmental Team (ET) to undertake the Environmental Monitoring and Audit (EM&A) programme for the *Contract No. DC/2008/03 of Design, Build and Operate Pillar Point Sewage Treatment Works (the Project).* 

# 1.1 PURPOSE OF THE REPORT

This is the 27<sup>th</sup> EM&A report which summarises the monitoring results and audit findings for the EM&A programme during the reporting period from **1** to **31 January 2013**.

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

# Section 3: Environmental Monitoring Requirements

It summarises the environmental monitoring requirements including monitoring parameters, programmes, methodologies, frequency, 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: Monitoring Results It summarises the monitoring results obtained in the reporting period.

# Section 6: Waste Management It summarises the quantity of public fill and construction waste generated in the reporting period

# Section 7: **Environmental Site Inspection** It summarises the audit findings of the weekly site inspections undertaken within the reporting period.

# Section 8: Environmental Non-conformance It summarises any exceedance of environmental performance standard, environmental complaints and summons received within the reporting period.

# Section 9: **Further Key Issues** It summarises the impact forecast and monitoring schedule for the next reporting month.

# Section 10: Review of the EM&A Data and Predictions

It compares the monitoring data and waste quantity against the predictions in the approved Project EIA report.

Section 11 : Conclusions

### 2.1 BACKGROUND

The existing Pillar Point Sewage Treatment Works (PPSTW) is located to the north of the Tuen Mun River Trade Terminal and is abutting the Lung Mun Roadin the north. It is a preliminary treatment works with screening and grit removal processes and the treated effluent is discharged to the sea (North Western Water Control Zone) via a twin submarine outfall. The *Review of the Tuen Mun and Tsing Yi Sewerage Master Plan* (RTMTYSMP), commissioned in February 1999, recommended that the sewage treatment capacity be expanded and the plant be upgraded to chemically enhanced primary treatment (CEPT) with disinfection. This is to cater for the projected ultimate population and planned developments in the Tuen Mun area, and to improve the effluent quality reducing pollution loadings to the receiving waters.

The upgrading of the PPSTW comprises the following works:

- expanding the treatment capacity of the existing PPSTW to cope with the increased peak wet-weather sewage flow in Tuen Mun area;
- upgrading the sewage treatment level of the existing PPSTW to incorporate chemical treatment with disinfection at minimum removal rates of 70%, 55% and 99.9% of suspended solids (SS), biochemical oxygen demand (BOD) and *E.coli*, respectively;
- upgrading the existing septic waste reception facilities at PPSTW; and
- providing and upgrading ancillary facilities including the administration building, workshop, laboratory, odour control facilities, sludge handling and dewatering facilities, access roads and minor landscaping works within the STW for the operation and maintenance of the upgraded STW.

The potential environmental impacts of the Project have been studied in the "*Upgrading of Pillar Point Sewage Treatment Works*" (EIAO Register No: AEIAR-145/2008). The EIA was approved on 10 June 2008 under the *Environmental Impact Assessment Ordinance* (EIAO) and an Environmental Permit (EP-321/2008) for the works was granted on 17 November 2008. Under the requirements of Condition 3.1 of EP-322/2008, an EM&A programme as set out in the EM&A Manual is required to be implemented.

The construction works commenced on 13 November 2010 and are scheduled for completion by 2014.

#### 2.2 GENERAL SITE DESCRIPTION

The open area adjacent to the existing PPSTW has been designated for the upgrading works. The layout of the upgrading works is illustrated in *Annex* 

#### Α.

#### 2.3 CONSTRUCTION ACTIVITIES

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

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

#### **Construction Activities Undertaken**

- Conduct the finishing works at the Administration Building;
- Construct the structure, water tank and formatting water proofing at the Sludge Dewatering Building;
- Construct the water test and structure at the PTW area of P2;
- Conduct finishing works at the CEPT area of P2;
- Construct column and roof at UV building;
- Format waterproofing and conduct finishing works at the Septic Waste Reception Station;
- Construct the wall and roof at the Reuse Water Pump Room;
- Construct a control room and raft slab at the DOUA;
- Construct a control room and raft slab at the DOUB;
- Conduct finishing works at the Chemical Building;
- Conduct finishing works at the Electrical building No.1, No.3 and No.4;
- Construct drainage, cable ducts and boundary walls at P2;
- Conduct excavation and temporary works at Payment Flow Meter Chamber; and
- Conduct backfilling and drainage works for the whole site.

#### 2.4 PROJECT ORGANISATION AND MANAGEMENT STRUCTURE

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

#### 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 2.2Summary of Environmental Licensing, Notification and Permit Status

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Environmental	EP-321/2008	Throughout the	Permit granted on 17
Permit		Contract	November 2008.
Notification of	Ref No. 308136	Throughout the	-
Construction Works under the Air		Contract	
Pollution Control			
(Construction Dust)			

ENVIRONMENTAL RESOURCES MANAGEMENT

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Regulation			
Water Discharge License	WT00008027-2010	Till 31 December 2015	Wastewater discharge licence was issued by EPD on 7 December 2010.
Construction Noise Permit	GW-RW0535-12	28 July 2012 – 27 January 2013	
Construction Noise Permit	GW-RW0974-12	28 January 2013- 27 July 2013	
Chemical Waste Producer Registration	5213-421-A2620-01	Throughout the Contract	Licence approved on 28 October 2010

#### 3 ENVIRONMENTAL MONITORING REQUIREMENTS

# 3.1 AIR QUALITY MONITORING

# 3.1.1 Monitoring Location

The proposed air quality monitoring stations for the construction phase of the Project, as recommended in the approved EM&A Manual, are given in *Table 3.1* and shown in *Annex D*. The proposed locations (AM1 and AM2) have been agreed with the Drainage Services Department (DSD), Environmental Protection Department (EPD) and the Independent Environmental Checker (IEC).

### Table 3.1Construction Phase Air Monitoring Locations

Monitoring ID	Air Quality Monitoring Station
AM1	Tuen Mun EMSD Servicing Vehicle Station
AM2	River Trade Terminal Office

### 3.1.2 Monitoring Parameter and Frequency

The construction phase air quality monitoring has been conducted at the designated monitoring stations in accordance with the requirements stipulated in the EM&A Manual. 1-hour and 24-hour TSP levels have been monitored at the frequency and duration stated in *Table 3.2*. The construction phase TSP monitoring has been conducted as per the schedule presented in *Annex E*.

#### Table 3.2 Construction Phase Air Quality Monitoring Parameters and Frequency

Parameter	Frequency
24-hour average TSP	Once every 6 days
1-hour average TSP	3 times every 6 days

#### 3.1.3 Action and Limit Levels

The Action and Limit levels have been established and presented in *Table 3.3*.

#### Table 3.3Action and Limit Levels for Air Quality

Parameter	Air Monitoring Station	Action Level, µgm <sup>-3</sup>	Limit Level, µgm <sup>-3</sup>
24-hour TSP	AM1	183	260
	AM2	192	260
1-hour TSP	AM1	343	500
	AM2	383	500

#### 3.1.4 Monitoring Equipment

Continuous 24-hour and 1-hour TSP monitoring was performed using High Volume Samplers (HVS) with appropriate sampling inlets located at the designated monitoring stations.

The performance specification of HVS complied with the standard method "Determination of Suspended Particulate Matter in the Atmosphere (High Volume Method)" as stipulated in US EPA Standard Title 40, Code of Federation Regulations Chapter 1 (Part 50 Appendix B). Table 3.4 summarises the equipment that were deployed for the 24-hour and 1-hour TSP monitoring respectively.

# Table 3.4TSP Monitoring Equipment

Monitoring Station Monitoring Equipment (HVS and Calibrator)		
24-hr and 1-hr TSP		
AM1	GMW GS-2310 (S/N 7580), CM-AIR-43 (S/N 0438320)	
AM2	GMW GS-2310 (S/N 1252), CM-AIR-43 (S/N 0438320)	

# 3.1.5 Monitoring Methodology

The setup locations of the HVSs were listed in *Table 3.1*. All HVSs were free-standing with no obstruction.

The following criteria were considered in the installation of the HVSs:

- appropriate support to secure the samplers against gusty wind were provided at AM1 and AM2;
- a minimum of 2m separation from walls, parapets and penthouses was required for rooftop samplers;
- no furnace or incinerator flues was nearby;
- airflow around the sampler was unrestricted; and
- permission was obtained to set up the samplers and gain access to the monitoring stations.

# Preparation of Filter Papers

- glass fibre filters were labelled and sufficient filters that were clean and without pinholes were selected;
- all filters were equilibrated in the conditioning environment for 24 hours before weighing. The conditioning environment temperature was around 25°C and not variable by more than ± 3°C; the relative humidity (RH) was 40%; and
- SGS Hong Kong Ltd, a HOKLAS accredited laboratory, implemented comprehensive quality assurance and quality control programmes.

# Field Monitoring

• the power supply was checked to ensure that the HVSs were working properly;

- the filter holder and area surrounding the filter were cleaned;
- the filter holder was removed by loosening the foul bolts and a new filter, with stamped number upward, on a supporting screen was aligned carefully;
- the filter was properly aligned on the screen so that the gasket formed an airtight seal on the outer edges of the filter;
- swing bolts were fastened to hold the filter holder down to the frame. The pressure applied should be sufficient to avoid air leakage at the edges;
- the shelter lid was closed and secured with an aluminium strip;
- the HVSs were warmed-up for about 5 minutes to establish runtemperature conditions;
- a new flowrate record sheet was inserted into the flow recorder;
- the flow rates of the HVSs were checked and adjusted to between 1.22 and 1.37 m<sup>3</sup> min<sup>-1</sup> which were within the range specified in the EM&A Manual (ie 0.6 to 1.7 m<sup>3</sup> min<sup>-1</sup>);
- the programmable timer was set for a sampling period of 24 hours ± 1 hour, and the starting time, weather condition and the filter number were recorded;
- the initial elapsed time was recorded;
- at the end of sampling, the sampled filter was removed carefully and folded in half l so that only surfaces with collected particulate matter were in contact;
- the filter was placed in a clean plastic envelope and sealed;
- all monitoring information was recorded on a standard data sheet; and
- filters were sent to SGS Hong Kong Ltd for analysis.

# Maintenance and Calibration

- the HVSs and their accessories were maintained in good working condition, eg. motor brushes were replaced routinely and electrical wiring was checked to ensure a continuous power supply; and
- the flow rate of each HVS with mass flow controller was calibrated using an orifice calibrator. Initial calibrations of the dust monitoring equipment were conducted upon installation and prior to commissioning. Five-point calibration was carried out for HVSs using CM-AIR-43 Calibration Kit. HVSs are calibrated on a bi-monthly basis. The calibration records for the HVSs are given in *Annex F*.

#### Wind Data Monitoring

Average wind data (wind speed and wind direction) during the monitoring period were obtained from the meteorological station at Tuen Mun of the Hong Kong Observatory (HKO) and were presented in *Annex G*.

### 3.1.6 Event and Action Plan

The Event/Action Plan (EAP) for air quality monitoring is presented in *Annex H*.

#### 3.2 LANDSCAPE AND VISUAL MONITORING

In accordance with the EM&A Manual, monthly landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures recommended in the approved EIA Report are fully achieved. The monitoring procedures and criteria as described in the EM&A Manual were adopted.

# 3.3 Environmental Mitigation Measures and Environmental Requirements in Contract

All the relevant environmental mitigation measures listed in the EIA Report and EM&A Manual as well as the specific environmental requirements stated in the Contract Specification are summarised in *Annex I*. A summary of the key environmental mitigation measures implemented as per the Contract Requirements is also presented in *Annex I*.

# IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

4

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

#### 5 MONITORING RESULTS

#### 5.1 AIR QUALITY

A total of 5 sets of 24-hour and 15 sets of 1-hour TSP measurements were taken at each of the monitoring stations (AM1 and AM2) during the reporting period. The monitoring data for 24-hour and 1-hour TSP together with the wind data and graphical presentations for the past 4 months are presented in *Annex G*. The weather conditions during the monitoring period ranged from fine to cloudy. The local impacts near the monitoring stations of AM1 and AM2 were mainly associated with vehicular emissions. No exceedance of Action and Limit Level of the 1-hr and 24-hr TSP was recorded during the reporting period.

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 J*). 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 6.1*.

Month / Year	Quantity			
	Total Inert C&D	Non-inert C&D Materials (b)		
	Materials Generated <sup>(a)</sup>	C&D Materials Recycled <sup>(c)</sup>	C&D Waste Disposed of at Landfill <sup>(d)</sup>	Chemical Waste
January2013	4,442 tonnes	260 kg	111.23 tonnes	0 L

#### Table 6.1Quantities of Waste Generated from the Project

(a) Inert C&D materials (public fill) include bricks, concrete, building debris, rubble and excavated soil. In total, 4,442 tonnes of inert C&D waste were generated from the Project, in which 100 tonnes were reused in this Contract and 4,342 tonnes were sent to public fill during the reporting month. The detailed waste flow is presented in *Annex J*.

(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) 200 kg of metals, 40 kg of papers/ cardboard packing and 20 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 WENT Landfill by subcontractors.

## 7 ENVIRONMENTAL INSPECTIONS

# 7.1 WEEKLY SITE AUDITS

Joint site inspections were conducted by representatives of the Contractor, the SOR and the ET on 4, 11, 16, and 25 January 2013. The IEC was also present at the joint inspection on 25 January 2013.

Major observations during the reporting period are summarised as follows:

## 4 January 2013

- A pool of stagnant water with plastic waste inside was observed in the channel on the opposite side of the Administration Building. The contractor was reminded to pump out the stagnant water to prevent mosquito breeding.
- A chemical drum on the drip tray was not covered by an impervious sheet and the capacity of the drip tray was not sufficient. The Contractor was reminded to replace the drip tray with sufficient capacity. Also, the Contractor was reminded to cover the chemical drum with impervious sheet to avoid accumulation of water in the drip tray especially during raining season.
- Two chemical drums near CEPT were not stored on the drip trays and not covered by impervious sheets when unused. The Contractor was reminded to provide drip tray with sufficient drum capacity and cover them by impervious sheets when unused.
- Cardboard was stored on the drip tray of a chemical drum near Administration building and the capacity of the drip tray was not sufficient. The Contractor was reminded to remove the cardboard, provide drip tray with sufficient drum capacity and cover them by impervious sheets when unused.
- The tree label of the tree next to Tree No. 148 was observed missing. The Contractor was reminded to re-tag a tree label.

#### 11 January 2013

- Water effluent in the U-channel next to the Sludge Dewatering Building was observed to be blocked by leaves and wooden sticks. The Contractor was reminded to clean up the U-channel to prevent effluent accumulation in the channel.
- Three plastic barriers and construction material were observed in the protection zone of Tree N03. Also, Tree N03 and N04 were observed without tree tags. The Contractor was reminded to remove the plastic barriers and construction material and provide proper tree tags for Tree N03 and N04.

## 16 January 2013

• The water effluent in the sedimentation tank near Gate 2 was observed slightly turbid. The Contractor was reminded to provide sufficient sand bags to trap sediments before discharge.

## 25 January 2013

- Water effluent was observed accumulating on the drainage block. The Contractor was reminded to remove the sediments from the block to prevent effluent accumulation.
- Chemical drums without drip tray were observed storing next to the Sludge Dewatering Building. The Contractor was reminded to provide drip trays to prevent leakage and cover them with impervious sheets to avoid accumulation of water in the drip tray especially during raining season.
- Construction materials were stored under retained Tree N01 to N05. The Contractor was reminded to remove all the construction material within the tree protection zone.

Follow-up actions resulting from the last site inspections were taken as reported by the Contractor and their results were observed in the site inspections conducted in the reporting period.

# 7.2 LANDSCAPE AND VISUAL MONITORING

In accordance with the EM&A Manual, monthly landscape and visual monitoring is required to ensure that the design, implementation and maintenance of landscape and visual mitigation measures recommended in the EIA Report are fully achieved. A review of the landscape and visual mitigation measures was performed on 25 January 2013. The IEC was present at the joint inspection on 25 January 2013. It was confirmed that most of the necessary landscape and visual mitigation measures as summarised in *Annex I* were implemented by the Contractor. The major findings are summarised as follow:

#### 25 January 2013

- Construction materials were stored under retained Tree N01 to N05. The Contractor was reminded to remove all the construction material within the tree protection zone.
- Tree roots of retained Tree T21, T56, T55 and T135 were exposed due to excavation work. The Contractor was reminded to protect the exposed roots with gunny bags and make sure no further excavation within the root zone of the trees.

• Bamboo stick was hanging on the tree trunks of the retained Tree T21, T56 and T55. The Contractor was reminded to remove the bamboo stick on the trees..

#### 8 ENVIRONMENTAL NON-CONFORMANCE

## 8.1.1 Summary of Monitoring Exceedance

No exceedances of the Action and Limit Levels of 1-hr and 24-hr TSP was recorded during the reporting period.

## 8.1.2 Summary of Environmental Non-Compliance

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

# 8.1.3 Summary of Environmental Complaint

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

### 8.1.4 Summary of Environmental Summon and Successful Prosecution

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

# 9.1.1 Key Issues for the Coming Month

Works to be undertaken for the coming monitoring period are summarised in *Table 9.1*.

#### Table 9.1Construction Works to be Undertaken in the Next Reporting Period

#### Work to be undertaken

- Conduct the finishing works at the Administration Building;
- Construct the structure, water tank, formatting water proofing and conducting finishing works at the Sludge Dewatering Building;
- Construct the structure, conducting finishing works and installing machine at the PTW area of P2;
- Conduct the finishing works and installing machine at the CEPT area of P2;
- Conduct the finishing works at the UV building;
- Conduct the finish works at the Septic Waste Reception Station;
- Conduct room finishing works at the Reuse Water Pump Room;
- Construct a control room and raft slab as well as installing BS and DO duct at the Deodorisation Units Portion A;
- Construct a control room and raft slab at the Deodorisation Units Portion B;
- Construct the finishing works and installing machine at the Chemical Building;
- Install BS at the Electrical building No.1;
- Install BS and conducting finishing works at the Electrical building No. 3;
- Complete works at the Electrical building No.4;
- Construct drainage, cable ducts and a boundary wall at P2;
- Construct raft slab at Payment Flow Meter Chamber; and
- Conduct backfilling and drainage works for the whole site.

Potential environmental impacts arising from the above construction activities will be mainly associated with dust, construction noise, site runoffs, waste management and landscaping issues.

#### 9.1.2 Monitoring Schedule for the Next Reporting Period

The tentative schedule of TSP monitoring for the next reporting period was presented in *Annex E*. Environmental monitoring will be conducted at the same monitoring locations in the next reporting period. The monitoring programme has been reviewed and was considered adequate for the nature of works in progress.

#### 9.1.3 Construction Programme for the Next Three Months

The most up-to-date construction programme for the Project is presented in *Annex L*.

#### 10.1 AIR QUALITY

Since the EIA has only included a qualitative assessment of dust impact during the construction phase, a comparison was made between the monitoring results from the start of the Project and the Hong Kong Air Quality Objectives (HKAQO) (see *Table 10.1*).

#### Table 10.1 Comparison of the HKAQO and Air Quality Monitoring Results

Monitoring Station	Corresponding ASR in EIA	HKAQO, µg m <sup>-3</sup>		Measured 24-hour TSP Monitoring Results, µg m <sup>-3 (a) (b)</sup>	
		24 hour <sup>(a)</sup>	Average	Range	
AM1	A1	260	72	53 - 100	
AM2	A7	260	78	51 - 102	
Notes:					

(a) Only 24-hour TSP monitoring results were compared as there is no 1 hour TSP criterion in HKAQO.

(b) The average and range of data were calculated from the period between the commencement of the construction works and this reporting month.

The monitoring results show that the average and range of the 24-hour TSP levels recorded since the commencement of the construction works have been well below the 24-hour TSP criterion in the HKAQO. Recommended mitigation measures in *Section 3.7.1.1* of EIA have been implemented throughout the construction period and were considered effective.

#### **10.2** WASTE MANAGEMENT

The estimated amount of waste generated from the Project and the cumulative quantities of waste generated up to this reporting month are presented in *Table 10.2.* The amount of inert C&D material sent to public fills is higher than the estimated amount in the EIA. With reference to the C&D Material Assessment (Contractor's General Submission (CSF) No.: DC200803/CSF/SAF/060026/A), the difference in quantities is mainly due to the differences in excavation depths and the excavation methods in the Contract Works and that assumed in the Reference Design. Recommended mitigation measures in *Sections 7.5.1.1* to *7.5.1.9* of the EIA will continue to be implemented during the construction stage.

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Type of Material	Estimated Amount of Public Fill and Construction Waste in the EIA (inert & non- inert)	Estimated Amount of Public Fill and Construction Waste in C&D Material Assessment (CSF No.: DC200803/CSF/SAF/060026/ A) <sup>(c)</sup>	Accumulated Actual Amount of Public Fill and Construction Waste Recorded <sup>(a) (b)</sup> (inert & non-inert)
Amount of C&D Materials Arising	61,489 m <sup>3</sup>	77,600 m <sup>3</sup>	121,778.9 m <sup>3</sup>
Amount of C&D Materials Reused on other site	-	-	3,163.9 m <sup>3</sup>
Amount of C&D Materials Reused on site	14,926 m <sup>3</sup>	18,000 m <sup>3</sup>	22,913.3 m <sup>3</sup>
Amount of C&D Materials Sent to Fill Banks	46,563m <sup>3</sup>	59,600 m <sup>3</sup>	24,353.9 m <sup>3</sup>
General Refuse	Small	-	1,322.1 tonnes
Chemical Waste	Small	-	810.0 L

Table 10.2Quantity of Amount of C&D Materials, General Wastes and Chemical<br/>Wastes Actually Generated and Estimated in the EIA and C&D Material<br/>Assessment

(a) The actual amount of C&D Materials has been recorded since the commencement of construction works.

(b) The density of soil and rock (bulked) is 1.8 tonnes/m<sup>3</sup>.

(c) The estimated amount of C&D material generated from the Contract Works was revised in the C&D Material Assessment and submitted to the SO on 9 September 2010 (CSF No.: DC200803/CSF/SAF/060026/A) because of the new plant & facility layout.

#### **10.3 CONCLUSION OF THE REVIEW**

The EIA predictions and monitoring results since the commencement of the construction works have been reviewed. The EIA concluded that the Project would not cause adverse impacts to the environment, and monitoring results have also confirmed that so far. Mitigation measures recommended in the EP, EIA and EM&A Manual will continue to be implemented throughout the construction phase of the Project.

This EM&A Report presents the EM&A programme undertaken during the reporting period from 1 to 31 January 2013 in accordance with EM&A Manual and requirements of EP (EP-321/2008).

No exceedance of Action and Limit Levels of 24-hour TSP and 1-hour TSP was recorded at the monitoring stations during the reporting period.

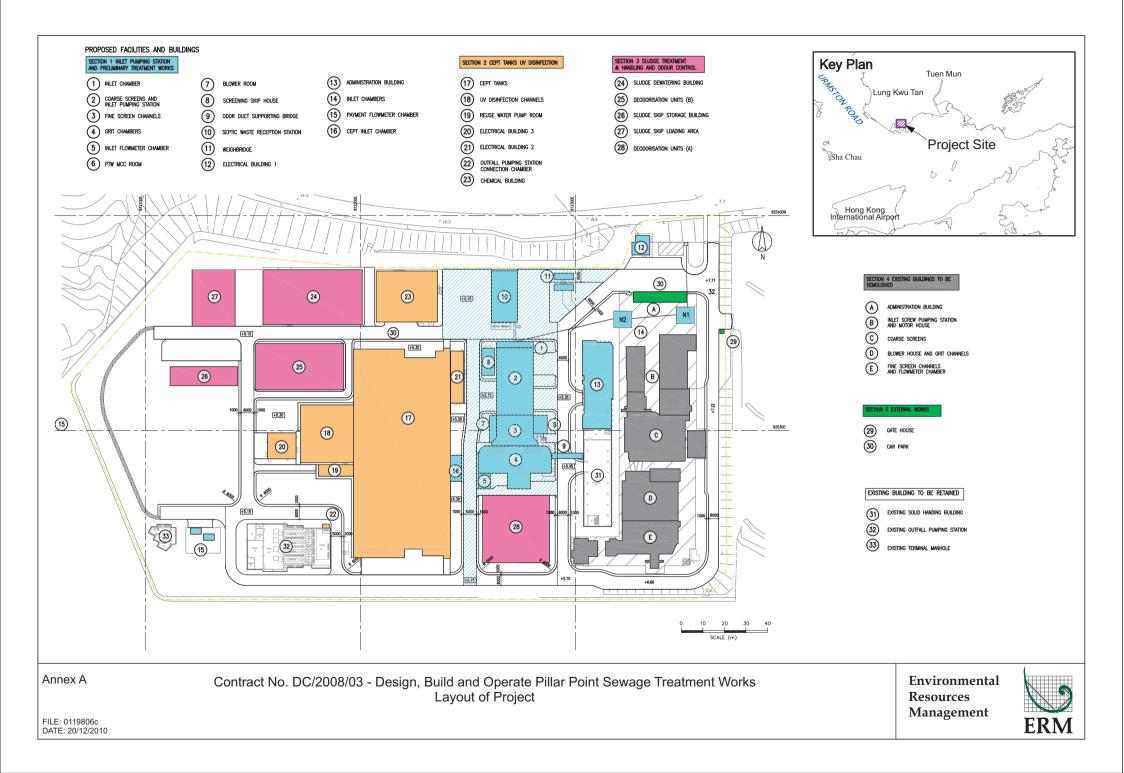
Monthly landscape and visual monitoring was conducted in the reporting period. Most of the necessary landscape and visual mitigation measures recommended in the EIA Report were implemented by the Contractor. Follow-up actions are required by the Contractor to improve protection of the retained or to-be transplanted trees.

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

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

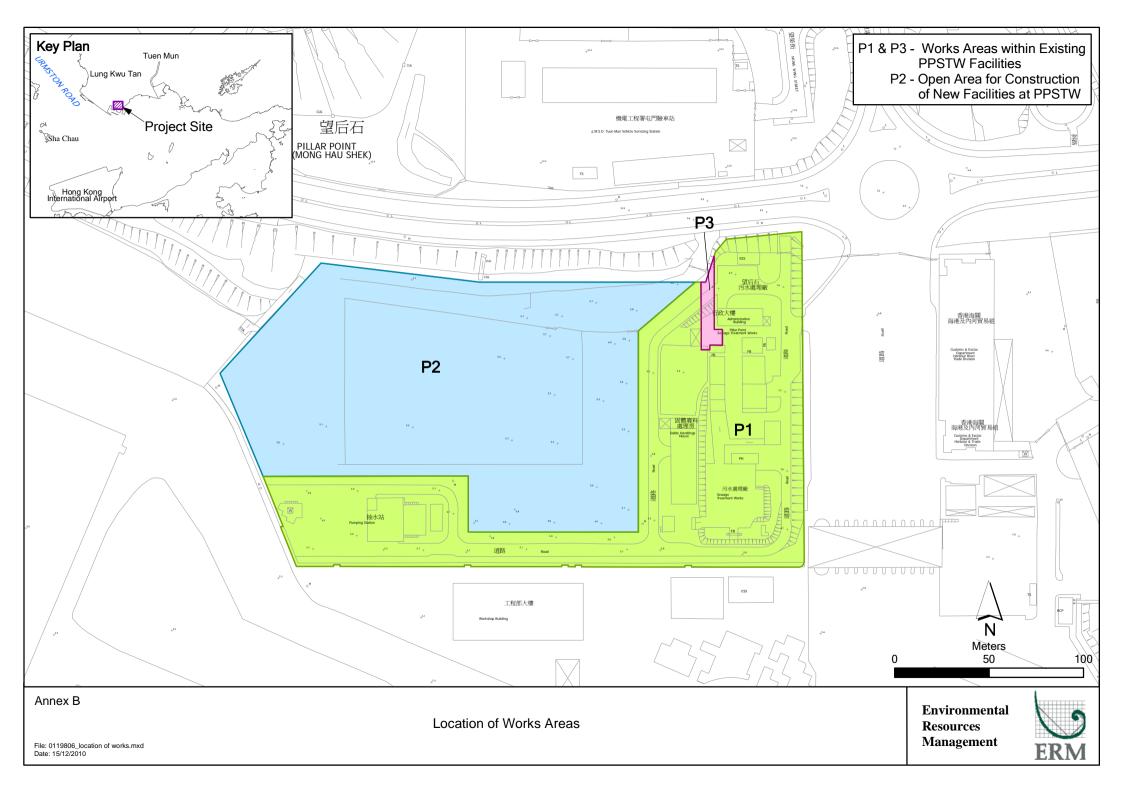
The ET will keep track of the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all the necessary mitigation measures in the coming periods. Annex A

Location of Project



Annex B

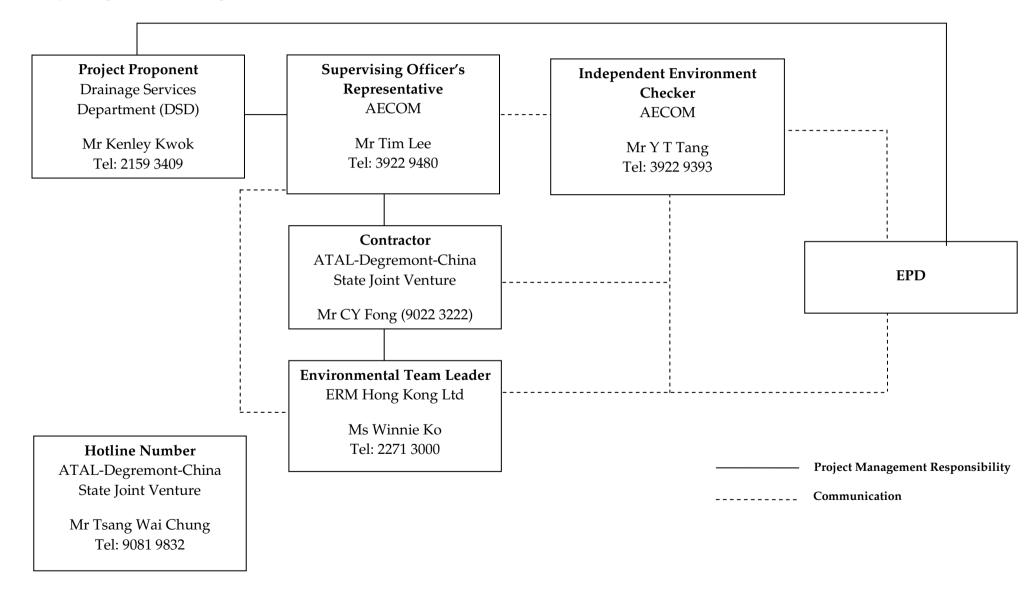
Works Location



Annex C

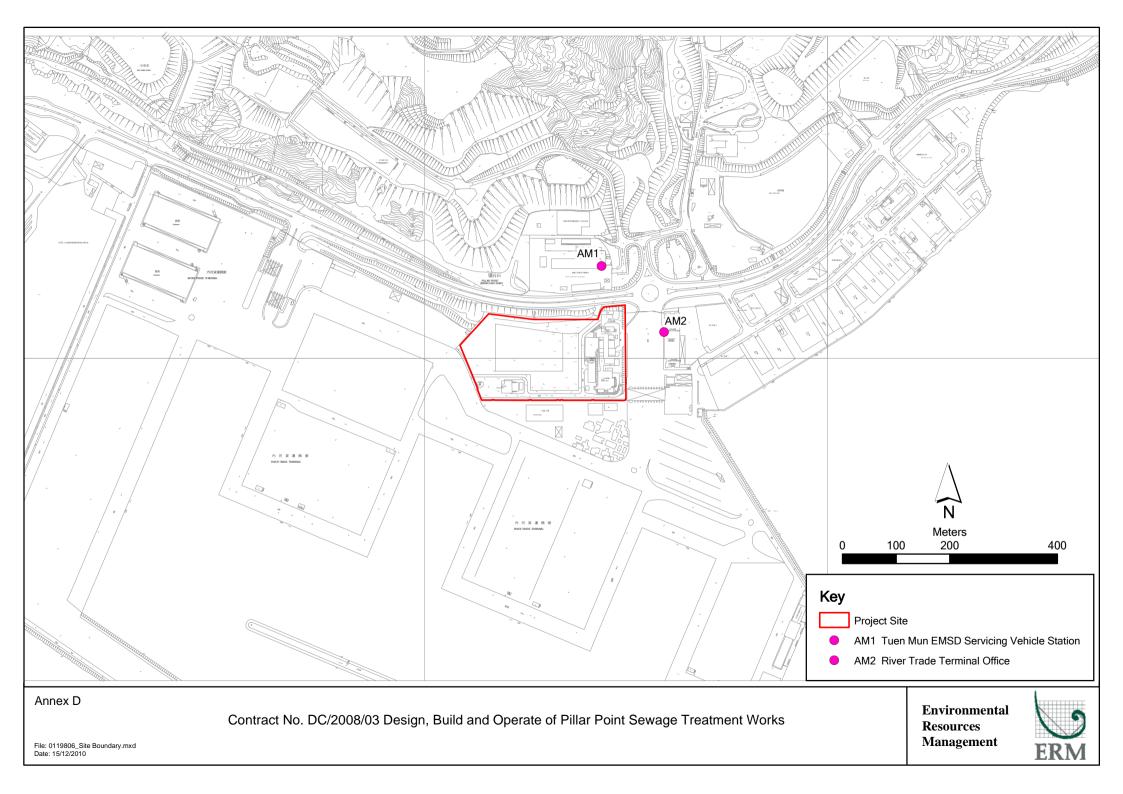
Project Organization Chart with Contact Details

<u>Project Organization During Construction Phase (with contact details)</u>



Annex D

Locations of Air Quality Monitoring Stations





AM1 - Tuen Mun EMSD Servicing Vehicle Station



AM2 - River Trade Terminal Office

Annex E

Monitoring Schedule of Reporting Month and Next Month

## Contract No. DC/2008/03 - Design, Build and Operate Pillar Point Sewage Treatment Works (Tuen Mun EMSD Servicing Vehicle Station - AM1 & River Trade Terminal Office - AM2) January 2012

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		01-Jan		03-Jan	04-Jan	05-Jan
		General Holiday		3X1-hr & 1X 24-hr TSP		
06-Jan	07-Jan	08-Jan	09-Jan	10-Jan	11-Jan	12-Jan
			3X1-hr & 1X 24-hr TSP			
13-Jan	14-Jan	15-Jan	16-Jan	17-Jan	18-Jan	19-Jan
		3X1-hr & 1X 24-hr TSP				
20-Jan	21-Jan	22-Jan	23-Jan	24-Jan	25-Jan	26-Jan
	3X1-hr & 1X 24-hr TSP					3X1-hr & 1X 24-hr TSP
27-Jan	28-Jan	29-Jan	30-Jan	31-Jan		

## Contract No. DC/2008/03 - Design, Build and Operate Pillar Point Sewage Treatment Works

(Tuen Mun EMSD Servicing Vehicle Station - AM1 & River Trade Terminal Office - AM2) February 2013

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Feb	02-Feb
					3X1-hr & 1X 24-hr TSP	
03-Feb	04-Feb	05-Feb	06-Feb	07-Feb	08-Feb	09-Feb
				3X1-hr & 1X 24-hr TSP		
10-Feb	11-Feb	12-Feb	13-Feb	14-Feb	15-Feb	16-Feb
	General Holiday	General Holiday	General Holiday	3X1-hr & 1X 24-hr TSP		
17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb
		3X1-hr & 1X 24-hr TSP				
24-Feb	25-Feb	26-Feb	27-Feb	28-Feb		
	3X1-hr & 1X 24-hr TSP					

Annex F

Calibration Reports for HVSs

# TSP Monitoring Equipment

Monitoring Station ID	Location	Monitoring Equipment		Last Calibration Da	te Next Calibration Date
24-hr and 1-hr TSP		HVS	Calibrator		
AM1	Tuen Mun EMSD Vehicle Servicing Station	GMW GS-2310 (S/N 7580)	CM-AIR-43 (S/N 0438320)	03 January 2013	03 March 2013
AM2	River Trade Terminal Office	GMW GS-2310 (S/N 1252)	CM-AIR-43 (S/N 0438320)	03 January 2013	03 March 2013

## High-Volume TSP Sampler 5-Point Calibration Record

Location Calibrated by Date	: : :	EMSD K.T.Ho 03/01/2013
<u>Sampler</u> Model Serial Number	:	GMWS-2310 ACCU-VOL S/N 7580
Calibration Orfice and Standard C	alibration	<u>n Relationship</u>
Serial Number	:	1378
Service Date	:	22 Feb 2012
Slope (m)	:	1.99405
Intercept (b)	:	-0.00397
Correlation Coefficient(r)	:	0.99999
Standard Condition		
Pstd (hpa)	:	1013
Tstd (K)	:	298.18
Calibration Condition		
Pa (hpa)	:	1019
Ta(K)	:	288

Resi	istance Plate	dH [green liquid]	Z	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	11.4	3.445	1.729	54	55.1
2	13 holes	9.6	3.161	1.587	48	49.0
3	10 holes	7.4	2.775	1.3943	40	40.8
4	7 holes	4.6	2.188	1.099	30	30.6
5	5 holes	2.7	1.676	0.843	20	20.4

Sampler Calibration Relationship

Slope(m):38.629 Intercept(b): -12.219

Correlation Coefficient(r): 0.9993

Checked by: <u>Magnum Fan</u>

Date: 06/01/2013

# High-Volume TSP Sampler 5-Point Calibration Record

Location Calibrated by Date	: :	River Trade P.F.Yeung 03/01/2013
Sampler		
Model	:	GMWS-2310 ACCU-VOL
Serial Number	:	S/N 1252
Calibration Orfice and Standard Serial Number Service Date Slope (m) Intercept (b) Correlation Coefficient(r)	<u>l Calibrati</u> : : :	<u>ion Relationship</u> 1378 22 Feb 2012 1.99405 -0.00397 0.99999
Standard Condition	·	0.33333
Pstd (hpa)	:	1013
Tstd (K)	:	298.18
Calibration Condition		

:

:

Resi	stance Plate	dH [green liquid]	Z	X=Qstd	IC	Y
		(inch water)		(cubic meter/min)		
1	18 holes	11.4	3.347	1.681	66	65.4
2	13 holes	9.4	3.040	1.526	58	57.5
3	10 holes	7.6	2.733	1.373	50	49.6
4	7 holes	4.7	2.149	1.080	37	36.7
5	5 holes	2.6	1.599	0.804	23	22.8

1019

288

Sampler Calibration Relationship

Pa (hpa)

Ta(K)

 $Slope(m): \underline{48.069} \quad Intercept(b): \underline{-15.738} \quad Correlation \ Coefficient(r): \underline{0.9996}$ 

Checked by: <u>Magnum Fan</u>

Date: 06/01/2013

Annex G

24-hour and 1-hour TSP Monitoring Results

## 1-hour TSP Monitoring Results

Station AM1

\*

				TSP				_	Wind		
	Start	Finish	Weather	Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Speed *	Sampler	Filter
Date	Time	Time		(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	<b>Observations / Remarks</b>	(°°)	(m/s)	ID	ID
03-01-2013	13:10	14:10	Cloudy	122	343	500	Construction work in progress	16.0	*	7580	6128
	14:10	15:10	Cloudy	118	343	500	Construction work in progress	16.0	*	7580	6129
	15:10	16:10	Cloudy	118	343	500	Construction work in progress	16.0	*	7580	6130
09-01-2013	13:10	14:10	Fine	106	343	500	Construction work in progress	18.0	*	7580	6216
	14:10	15:10	Fine	110	343	500	Construction work in progress	18.0	*	7580	6217
	15:10	16:10	Fine	120	343	500	Construction work in progress	18.0	*	7580	6218
15-01-2013	13:10	14:10	Fine	113	343	500	Construction work in progress	16.0	*	7580	6240
	14:10	15:10	Cloudy	167	343	500	Construction work in progress	16.0	*	7580	6241
	15:10	16:10	Cloudy	138	343	500	Construction work in progress	16.0	*	7580	6242
21-01-2013	13:10	14:10	Fine	157	343	500	Construction work in progress	18.0	*	7580	6243
	14:10	15:10	Fine	160	343	500	Construction work in progress	18.0	*	7580	6315
	15:10	16:10	Fine	167	343	500	Construction work in progress	18.0	*	7580	6316
26-01-2013	13:10	14:10	Fine	164	343	500	Construction work in progress	20.0	*	7580	6334
	14:10	15:10	Fine	164	343	500	Construction work in progress	20.0	*	7580	6335
	15:10	16:10	Fine	157	343	500	Construction work in progress	20.0	*	7580	6336
			Min.	106							
					1						

Max.	167
Average	139

Wind Speed data is presented in the Meteorological Data table

## 1-hour TSP Monitoring Results

Station AM2

\*

				TSP					Wind		
	Start	Finish	Weather	Concentration	Action Level	Limit Level	Site Conditions /	Temperature	Speed *	Sampler	Filter
Date	Time	Time		(µg/m³)	(µg/m³)	(µg/m <sup>3</sup> )	<b>Observations / Remarks</b>	(°°)	(m/s)	ID	ID
03-01-2013	13:00	14:00	Cloudy	117	383	500	Construction work in progress	16.0	*	1252	6124
	14:00	15:00	Cloudy	122	383	500	Construction work in progress	16.0	*	1252	6125
	15:00	16:00	Cloudy	125	383	500	Construction work in progress	16.0	*	1252	6126
09-01-2013	13:00	14:00	Fine	114	383	500	Construction work in progress	18.0	*	1252	6212
	14:00	15:00	Fine	122	383	500	Construction work in progress	18.0	*	1252	6213
	15:00	16:00	Sunny	100	383	500	Construction work in progress	18.0	*	1252	6214
15-01-2013	13:00	14:00	Fine	106	343	500	Construction work in progress	16.0	*	1252	6236
	14:00	15:00	Cloudy	103	343	500	Construction work in progress	16.0	*	1252	6237
	15:00	16:00	Cloudy	106	343	500	Construction work in progress	16.0	*	1252	6238
21-01-2013	13:00	14:00	Fine	147	383	500	Construction work in progress	18.0	*	1252	6239
	14:00	15:00	Fine	150	383	500	Construction work in progress	18.0	*	1252	6312
	15:00	16:00	Fine	160	383	500	Construction work in progress	18.0	*	1252	6313
26-01-2013	13:00	14:00	Fine	144	383	500	Construction work in progress	20.0	*	1252	6330
	14:00	15:00	Fine	168	383	500	Construction work in progress	20.0	*	1252	6331
	15:00	16:00	Fine	154	383	500	Construction work in progress	20.0	*	1252	6332
			Min.	100							

win.	100
Max.	168
Average	129

Wind Speed data is presented in the Meteorological Data table

## 24-hour TSP Monitoring Results

Station AM1

Start		Finish		Weather	Filter V	Veight (g)	Elapse Read	d Time ding	Sampling Time	Flow Rate (m <sup>3</sup> /min)		Flow Rate (m <sup>3</sup> /min)				Flow Rate (m <sup>3</sup> /min)		Flow Rate (m <sup>3</sup> /min)		v Rate (m <sup>3</sup> /min)		Action Level	Limit Level	Observations / Remarks	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )		ID	ID								
03-01-2013	16:10	04-01-2013	16:10	Cloudy	2.8266	2.9700	13844.18	13868.18	24	1.24	1.24	1.24	80	183	260	Construction work in progress	7580	6131								
09-01-2013	16:10	10-01-2013	16:10	Fine	2.7988	2.9381	13871.18	13895.18	24	1.24	1.24	1.24	78	183	260	Construction work in progress	7580	6219								
15-01-2013	16:10	16-01-2013	16:10	Cloudy	2.7915	2.9400	13898.18	13922.18	24	1.38	1.38	1.38	83	183	260	Construction work in progress	7580	6227								
21-01-2013	16:10	22-01-2013	16:10	Fine	2.8015	2.9470	13925.18	13949.18	24	1.24	1.24	1.24	81	183	260	Construction work in progress	7580	6317								
26-01-2013	16:10	27-01-2013	16:10	Fine	2.8151	2.9603	13952.18	13976.18	24	1.24	1.24	1.24	81	183	260	Construction work in progress	7580	6337								
												Min.	78													
												Max.	83													
												Average	81													

## 24-hour TSP Monitoring Results

#### Station AM2

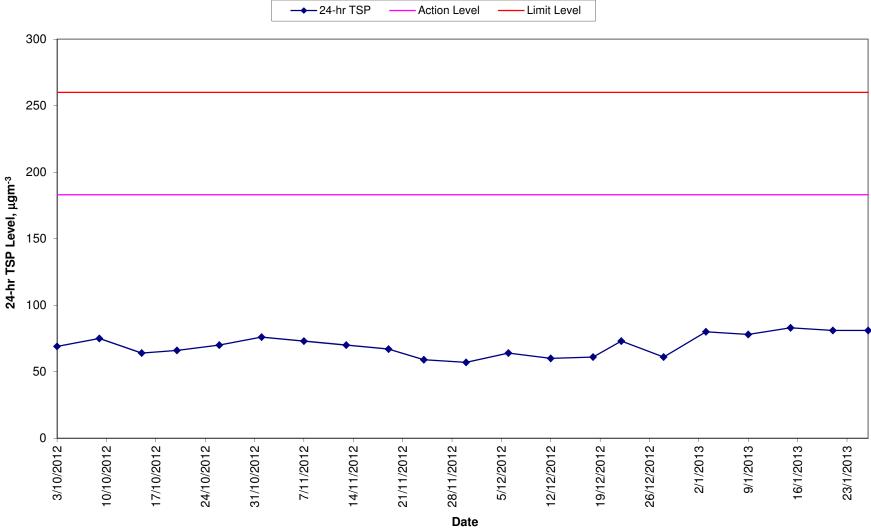
							Elapse	d Time	Sampling				TSP	Action	Limit			
Start		Finish		Weather	Filter V	Veight (g)	Read	ding	Time	Flow	/ Rate (m	n³/min)	Conc.	Level	Level	<b>Observations / Remarks</b>	Sampler	Filter
Date	Time	Date	Time		Initial	Final	Initial	Final	(hrs)	Initial	Final	Average	(µg/m³)	(µg/m <sup>3</sup> )	(µg/m <sup>3</sup> )		ID	ID
03-01-2013	16:00	04-01-2013	16:00	Cloudy	2.8209	2.96	21861.2	21885.2	24	1.2	1.2	1.20	80	192	260	Construction work in progress	1252	6127
09-01-2013	16:00	10-01-2013	16:00	Fine	2.8125	2.9441	21888.20	21912.20	24	1.2	1.2	1.20	76	192	260	Construction work in progress	1252	6215
15-01-2013	16:00	16-01-2013	16:00	Cloudy	2.7844	2.9251	21915.20	21939.20	24	1.38	1.38	1.38	86	183	260	Construction work in progress	1252	6226
21-01-2013	16:00	22-01-2013	16:00	Fine	2.8115	2.9600	21942.20	21966.20	24	1.20	1.20	1.20	71	192	260	Construction work in progress	1252	6314
26-01-2013	16:00	27-01-2013	16:00	Fine	2.8006	2.9491	21969.20	21993.20	24	1.20	1.20	1.20	86	192	260	Construction work in progress	1252	6333

Min.71Max.86Average80

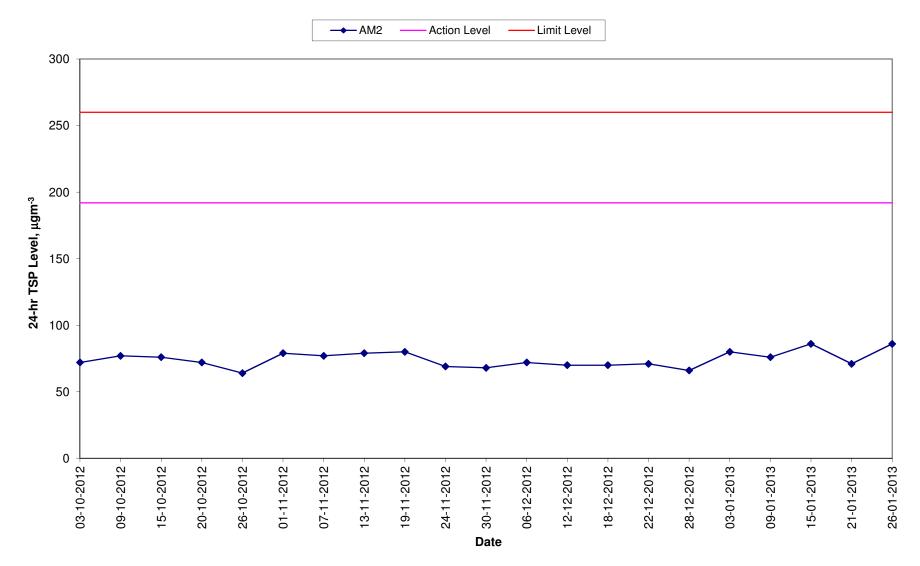
#### Meteorological Data Extracted from the Hong Kong Observatory

		Tuen Mun Station						
Date	Weather	Average Air Temperature (°C)	Average Relative Humiditiy (%)	Total Rainfall (mm)	Average Wind Speed (km/h)	Wind Direction		
03-01-2013	Cloudy	16.0	63-85	0.0	5.0	N		
04-01-2013	Cloudy	11.0	66-76	0.0	14.0	NE		
09-01-2013	Fine	16.0	56-72	0.0	8.0	N		
10-01-2013	Fine	14.0	57-75	0.0	12.0	N		
15-01-2013	Cloudy	15.0	68-79	0.0	6.0	S		
16-01-2013	Cloudy	18.0	59-88	0.0	14.0	N		
21-01-2013	Fine	20.0	66-85	0.0	6.0	SE		
22-01-2013	Fine	21.0	63-90	Trace	4.0	SW		
26-01-2013	Fine	18.0	66-96	2.8	9.0	SE		
27-01-2013	Fine	16.0	76-94	0.6	8.0	NE		

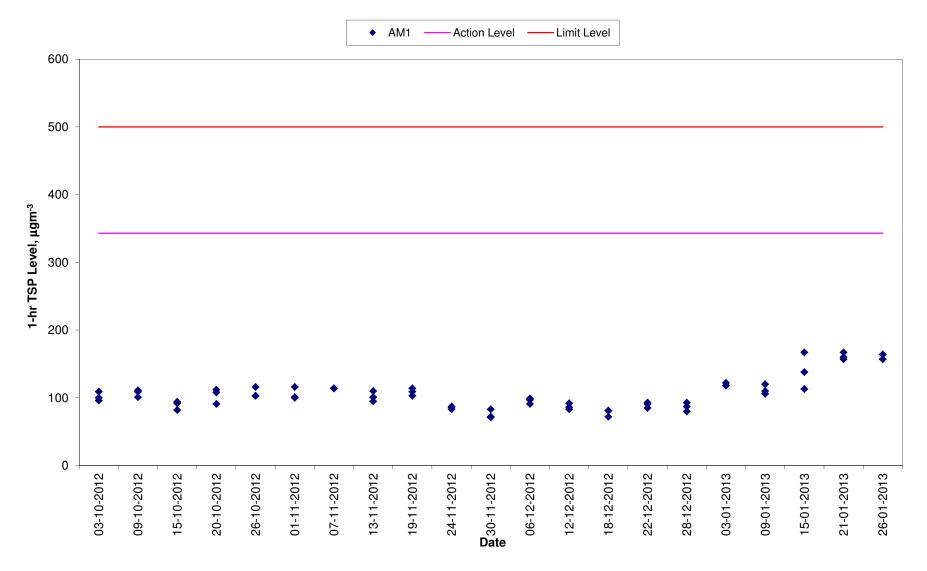
24-hr TSP Levels for the Past 4 Months AM1 (Tuen Mun EMSD Vehicle Servicing Station)



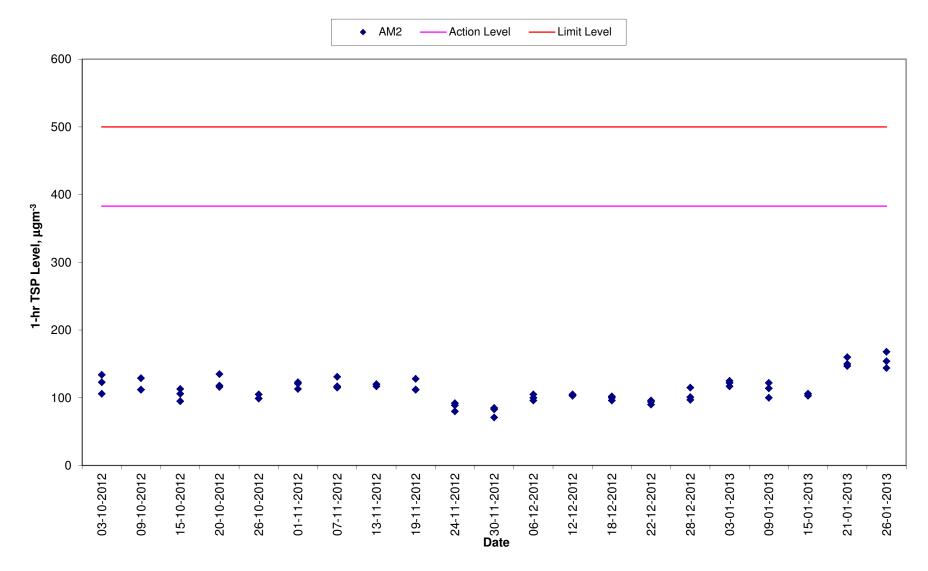
# 24-hr TSP Levels for the Past 4 Months AM2 (River Trade Terminal Office)



# 1-hr TSP Levels for the Past 4 Months AM1 (Tuen Mun EMSD Vehicle Servicing Station)



# 1-hr TSP Levels for the Past 4 Months AM2 (River Trade Terminal Office)



Annex H

Event/Action Plan for Air Quality Monitoring

Action Level/Limit Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Supervising Officer Representative (SOR)	Contractor
Action Level				
Exceedance for one sample	<ul> <li>Identify source, investigate the causes of complaint and propose remedial measures;</li> <li>Inform IEC and SOR;</li> <li>Repeat measurement to confirm findings;</li> <li>Increase monitoring frequency to daily.</li> </ul>	<ul> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method.</li> </ul>	• Notify Contractor and DSD.	<ul> <li>Rectify any unacceptable practice</li> <li>Amend working methods if appropriate.</li> </ul>
Exceedance for two or more consecutive samples	<ul> <li>Identify source;</li> <li>Inform IEC and SOR;</li> <li>Advise the SOR on the effectiveness of the proposed remedial measures;</li> <li>Repeat measurements to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Discuss with IEC and Contractor on remedial actions required;</li> <li>If exceedance continues, arrange meeting with IEC and SOR;</li> <li>If exceedance stops, cease additional monitoring.</li> </ul>	<ul> <li>Check monitoring data submitted by ET;</li> <li>Check Contractor's working method;</li> <li>Discuss with ET and Contractor on possible remedial measures;</li> <li>Advise the ET on the effectiveness of the proposed remedial measures;</li> <li>Supervise Implementation of remedial measures.</li> </ul>	<ul> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor and DSD;</li> <li>Ensure remedial measures properly implemented.</li> </ul>	<ul> <li>Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ul>

# Table H1Event Action Plan for Air Quality Monitoring

Action Level/Limit Level	Environmental Team Leader (ETL)	Independent Environmental Checker (IEC)	Supervising Officer Representative (SOR)	Contractor
Limit Level				
Exceedance for one sample	<ul> <li>Identify source, investigate the causes of exceedance and propose remedial measures;</li> <li>Inform IEC, SOR, DSD and EPD;</li> <li>Repeat measurement to confirm finding;</li> <li>Increase monitoring frequency to daily;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD, DSD and SOR informed of the results.</li> </ul>	on possible remedial measures;	<ul> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> <li>Ensure remedial measures properly implemented.</li> </ul>	<ul> <li>Take immediate action to avoid further exceedance; Submit proposals for remedial actions to IEC within three working days of notification;</li> <li>Implement the agreed proposals;</li> <li>Amend proposal if appropriate.</li> </ul>
Exceedance for two or more consecutive samples	<ul> <li>Notify IEC, SOR, DSD and EPD;</li> <li>Identify source;</li> <li>Repeat measurement to confirm findings;</li> <li>Increase monitoring frequency to daily;</li> <li>Carry out analysis of Contractor's working procedures to determine possible mitigation to be implemented;</li> <li>Arrange meeting with IEC and SOR to discuss the remedial actions to be taken;</li> <li>Assess effectiveness of Contractor's remedial actions and keep IEC, EPD, DSD and SOR informed of the results;</li> <li>If exceedance stops, cease additional monitoring.</li> </ul>	<ul> <li>Discuss amongst SOR, ET, and Contractor on the potential remedial actions;</li> <li>Review Contractor's remedial actions whenever necessary to assure their effectiveness and advise the SOR accordingly;</li> <li>Supervise the implementation of remedial measures.</li> </ul>	<ul> <li>Confirm receipt of notification of exceedance in writing;</li> <li>Notify Contractor;</li> <li>In consolidation with the IEC, agree with the Contractor on the remedial measures to be implemented;</li> <li>Ensure remedial measures properly implemented;</li> <li>If exceedance continues, consider what portion of the work is responsible and instruct the Contractor to stop that portion of work until the exceedance is abated.</li> </ul>	<ul> <li>Implement the agreed proposals;</li> <li>Resubmit proposals if problem still not under control;</li> <li>Stop the relevant portion of works as determined by the SOR until the exceedance is abated.</li> </ul>

Annex I

Implementation Schedule of Mitigation Measures

# Annex I Summary of Mitigation Measures Implementation Schedule

Type of	Environmental Protection Measures	Location/ Timing	Status
Impact			
	ironmental Mitigation Measures in the EIA and EM&A Manual		
Construction Pha			
Air Quality	Dust mitigation measures stipulated in <i>the Air Pollution Control</i> ( <i>Construction Dust</i> ) <i>Regulation</i> shall be incorporated to control Post emission. Notice shall be given to authority prior to commencing of work.	Work sites / during construction period	Notice of works commencement was submitted to EPD on 3 August 2010.
Water Quality	The practices outlined in ProPECC PN 1/94 Construction Site Drainage should be adopted. It is recommended to install perimeter channels in the works areas to intercept runoff as site boundary prior to the commencement of any earthwork. To prevent storm runoff from washing across exposed soil surfaces, intercepting channels should be provided. Drainage channels are also required to convey site runoff to sand/silt traps and oil interceptors. Provision of regular cleaning and maintenance can ensure the normal operation of these facilities throughout the construction period. Any practical options for the diversion and re-alignment of drainage should comply with both engineering and environmental requirements in order to ensure adequate hydraulic capacity of all drains.	Work site/During the construction period	
Water Quality	There is a need to apply to EPD for a discharge license under the WPCO for discharging effluent from the construction site. The discharge quality is required to meet the requirements specified in the discharge license. All the runoff and wastewater generated from the works areas should be treated so that it satisfies all the standards listed in the TM-DSS. Reuse and recycling of the treated effluent can minimize water consumption and reduce the effluent discharge volume. The beneficial uses of the treated effluent may include dust suppression, wheel washing and general cleaning. If monitoring of the treated effluent quality from the works areas is required during the construction phase of the Project, the monitoring should be carried out in accordance with the WPCO license which is under the ambit of regional office (RO) of EPD.	Work site/During the construction period	√ Discharge licence was awarded by EPD on 7 December 2010.
Water Quality	The construction programme should be properly planned to minimize soil excavation, if any, in rainy seasons. This prevents soil erosion from	Work site/During the construction period	~

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	exposed soil surfaces. Any exposed soil surfaces should also be properly protected to minimize dust emission. In areas where a large amount of exposed soil exists, earth bunds or sand bags should be provided. Exposed stockpiles should be covered with tarpaulin or impervious sheets at all times. The stockpiles of materials should be placed at locations away from any stream course so as to avoid releasing materials into the water bodies. Final surfaces of earthworks should be compacted and protected by permanent work. It is suggested that haul roads should be paved with concrete and the temporary access roads protected using crashed stone or gravel, wherever practicable. Wheel washing facilities should be provided at all site exists to ensure that earth, mud and debris would not be carried out of the works areas by vehicles.		
Water Quality	Good sites practices should be adopted to clean the rubbish and litter on the construction sites so as to prevent the rubbish and litter from spreading from the site area. It is recommended to clean the construction sites on a regular basis.	Work site/During the construction period	\$
Water Quality	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 water collector should be deployed to clean the chemical toilets on a regular basis. The construction workers can also make use of the existing toilet facilities within the PPSTW as necessary.	Work site/During the construction period	√
Water Quality	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 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 the construction period	√
Waste Management	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	Work site/During the construction period	$\checkmark$

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	should be observed and complied with for control of chemical wastes.		
Waste Management	Any service shop and maintenance facilities should be located on hard standings within a bunded area, and stumps and oil interceptors should be provided. Maintenance of vehicles and equipment involving activities with potential for leakage and spillage should only be undertaken within the areas appropriately equipped to control these discharges.	Work site/During the construction period	√
Waste Management	<ul> <li>Disposal of chemical wastes should be carried out in compliance with the Waste Disposal Ordinance. The Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes published under the Waste Disposal Ordinance details the requirements to deal with the chemical wastes. General requirements are given as follows:</li> <li>Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport.</li> <li>Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents.</li> <li>Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.</li> </ul>	Work site/During the construction period	
Waste Management	<ul> <li>Good Site Practices Recommendations for good site practices during the construction activities include:</li> <li>Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site</li> <li>Training of site personnel in proper waste management and chemical handling procedures</li> <li>Provision of sufficient waste disposal points and regular collection of waste</li> <li>Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by</li> </ul>	Work site/During the construction period	

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	<ul> <li>transporting wastes in enclosed containers</li> <li>Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors.</li> <li>Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Facility.</li> </ul>		
Waste Management	<ul> <li>Waste Reduction Measures</li> <li>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:</li> <li>Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal.</li> <li>Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force</li> <li>Proper storage and site practices to minimise the potential for damage or contamination of construction materials.</li> <li>Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.</li> </ul>	Work site/During planning & design stage, and construction stage	√
Waste Management	<i>General Refuse</i> General refuse should be stored in enclosed bins or compaction units separate from C&D material. A reputable waste collector should be employed by the contractor to remove general refuse from the site, separately from C&D material. Preferably an enclosed and covered area should be provided to reduce the occurrence of 'wind blown' light material.	Work site / During the construction period	
Waste Management	Construction and Demolition Material In order to minimise the impact resulting from collection and transportation of C&D material for off-site disposal, the excavated	Work site / During design stage & construction period	$\checkmark$

ENVIRONMENTAL RESOURCES MANAGEMENT

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	material generated from site formation works for the proposed new facilities and units at the STW should be reused on-site as far as practicable. The surplus excavated material should be disposed of at the designated public fill reception facility, as agreed with the Secretary of the Public Fill Committee, for other beneficial uses.		
Waste Management	<ul> <li>Mitigation measures and good site practices should be followed to control potential environmental impact from handling and transportation of C&amp;D material. The mitigation measures include:</li> <li>Where it is unavoidable to have transient stockpiles of C&amp;D material pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible.</li> <li>Open stockpiles of construction materials or construction wastes onsite should be covered with tarpaulin or similar fabric.</li> <li>Skip hoist for material transport should be totally enclosed by impervious sheeting.</li> <li>Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site</li> <li>The area where vehicle washing takes place and the section of the road between the washing facilities and the exit point should be paved with concrete, bituminous materials or hardcores.</li> <li>The load of dusty materials carried by vehicle leaving a construction site should be covered entirely by clean impervious sheeting to ensure dust materials do not leak from the vehicle.</li> <li>All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet.</li> <li>The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.</li> </ul>	Work site / During design stage & construction period	
Waste Management	When disposing C&D material at a public filling facility, it shall be noted that the material shall only consist of earth, building debris and broken rock and concrete. The material shall be free from marine mud, household refuse, plastic, metals, industrial and chemical waste, animal	Work site/During design stage & construction period	$\checkmark$

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	and vegetable matter, and other material considered to be unsuitable by the Filling Supervisor. In order to monitor the disposal of the surplus C&D material at the designed public fill reception facility and to control fly tipping, a trip-ticket system should be included as one of the contractual requirements and implemented by an Environmental Team undertaking the Environmental Monitoring and Audit work with reference to the ETWB TCW No. 31/2004 "Trip Ticket System for Disposal of Construction and Demolition Materials" as attached in Appendix 7-1. An Independent Environmental Checker should be responsible for auditing the results of the system.		
Waste Management	<i>Chemical Waste</i> If chemical wastes are produced at the construction site, the Contractor would be required to register with the EPD as a Chemical Waste Producer and to follow the guidelines stated in the Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. Good quality containers compatible with the chemical wastes should be used, and incompatible chemicals should be stored separately. Appropriate labels should be securely attached on each chemical waste container indicating the corresponding chemical characteristics of the chemical waste, such as explosive, flammable, oxidizing, irritant, toxic, harmful, corrosive, etc. The Contractor shall use a licensed collector to transport and dispose of the chemical wastes, to either the Chemical Waste Treatment Centre, or another licensed facility, in accordance with the Waste Disposal (Chemical Waste) (General) Regulation.	Work site / During the construction period	N
Landscape & Visual	Temporary Tree NurseriesTemporary tree nurseries may be set up for the transplanted tree and proposed trees at an early stage to allow small trees to grow during the construction periods. By the time when planting area becomes available, trees mature and increase in trunk & spread size. They will require minimal pruning and suffer much less damage during transplanting when comparing the travel distance from an on-site nursery to an off- site nursery.Besides, these trees may also be positioned as visual mitigation during	Work site/During design stage & construction period	√. A tree nursery has been set up off-site near the site office.

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	the construction period.		
Landscape & Visual	<u>No-intrusion Zone</u> To maximize protection to existing trees and ground vegetation, construction contracts may designate "No-intrusion Zone" to various areas within the site boundary with rigid and durable fencing for each individual no-intrusion zone. The contractor should close monitor and restrict the site working staff not to enter the "no-intrusion zone", even for non-direct construction activities and storage of equipment.	Work site/During design stage & construction period	\$
Landscape & Visual	<u>Hoarding</u> Hoarding or boundary fencing for construction shall be considered. It should be sensitively designed, subtle, camouflaged and more 'permeable' so that they fit into the existing environment when looking from outside.	Work site/During design stage & construction period	$\checkmark$
Landscape & Visual	Dust and Erosion Control for Exposed Soil Excavation works and demolition of existing building blocks and which will be highly visible form surrounding areas should be well planned and with precautions to suppress dust. Exposed soil shall be covered or 'camouflaged' and watered often. Areas that are expected to be left with bare soil for a long period of time after excavation shall be properly covered with suitable protective fabric. Silt and erosion shall be controlled by ground barriers around the slope cutting area	Work site/During design stage & construction period	
Landscape & Visual	Existing Tree Record Inventory All retained trees should be record photographically at the commencement of the Contract, and carefully protected during the construction period. Detailed tree protection specification shall be allowed and included in the Contract Specification, which specifying the tree protection requirement, submission and approval system, and the tree monitoring system.	Work site/During design stage & construction period	√

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Landscape & Visual	Construction Light All security floodlights for construction sites shall be equipped with adjustable shield, frosted diffusers and reflective covers, and be carefully controlled to minimize light pollution and night-time glare to nearby residences and GIC users. The Contractor shall consider other security measures which shall minimize the visual impacts.	Work site / During design stage & construction period	$\checkmark$
Landscape & Visual	Tree Transplanting Apart from the 18 numbers of " <i>Leucaena leucocephala</i> ", which are proposed to be felled in accordance with ETWB TCW No. 3/2006, all the affected trees shall be transplanted. Where practicable, trees shall be directly transplanted to permanent on-site locations. The location of the transplanted tree is shown in <b>Figure 8.9.1</b> .	Work site / During design stage & construction period	√. Tree transplantation in progress.
Landscape & Visual	Tree Compensation Ratio The total number of compensatory trees planted in the project area shall not be less than 1:1 ratios by new trees. Required numbers and locations of compensatory trees shall be determined and agreed with Government during the tree felling application process under ETWCTC 3/2006. Compensatory trees shall be at least heavy standard size to create "immediate" greening effect. 81 numbers of " <i>Cassia surattensis</i> " will be provided as the additional compensatory planting for loss of greenery in the area due to removal of the affected trees. The location of the additional compensatory planting is shown in <b>Figure 8.9.1</b> .	Work site / During design stage & construction period	N/A
Landscape & Visual	Re-use of Existing Soil and Advance formation of Planting Area Existing topsoil shall be re-used where possible for new planting areas within the project. Advance formation of planting area and early implementation of the plating works can minimize adverse impact on trees. The construction program shall consider using the soil removed from one phase for backfilling another. Suitable storage ground, gathering ground and mixing ground may be set up on-site as necessary.	Work site / During design stage & construction period	V

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Landscape & Visual	Establishment Period 12 month establishment period for the soft landscape works will be allowed in the main contract. Most construction contracts in Hong Kong require the Contractor to carry out routine horticultural operations, including watering, pruning, weeding, pest control, replacement of dead plants etc. to ensure healthy establishment of new planting during a 12 month establishment period. This period also serves as a kind of warranty / guarantee on the quality of the plants supplied and installed by the Contractor. Monthly monitoring during the first year of establishment period is recommended.	Work site/During operation period	N/A. To be implemented during operation phase of Project.
Landscape & Visual	Re-instatement of excavated Area All excavated area and disturbed area for utilities diversion, temporary road diversion, and pipeline woks will be reinstated to former conditions, subject to applicable Government Standards.	Work site / During design stage & operation period	N/A. To be implemented during operation phase of Project.
Landscape & Visual	Appearance and Greening for the proposed structures Compatible design, construction materials and surface finishes of the proposed structure should match with the nearby existing external appearance of PPSTW buildings for achieving visual uniformity. Finishing materials shall have due consideration to form, basic color, color/tone variation, micro-and macro-texture, and reflectivity/light absorbance to avoid glare. Planting, such as turf, low groundcovers and climbers, may also be planted on top of these elements to provide greening and aesthetic effect.	Work site / During design stage & operation period	N/A. To be implemented during operation phase of Project.
Summary of Key	Environmental Mitigation Measures in Contract Requirements		
Air Quality	Only Ultra-low-sulphur diesel (ULSD) should be used for all diesel- operated plants and equipments on site	Work sites / during construction period	$\checkmark$
Air Quality and Noise	Plants and equipments of good operation conditions should be used on site.	Work sites / during construction period	N
Noise	No diesel hammers should be used for piling works	Work sites / during construction period	$\checkmark$
Noise	Construction Noise Permits (CNP) should be applied for works conducted outside non-restricted hours.	Work sites / during construction period	$\checkmark$
Noise	Quiet construction equipments and the quietest practicable working	Work sites / during construction period	$\checkmark$

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	methodologies should be adopted for works whenever feasible. Noise labels should be provided for air compressors. Hoods and cover panels of generators and air compressors should be closed during operation. Noise labels should be provided for air compressors and hand-held percussive breakers.		
Waste Management	Temporary works construction on site should minimize the use of timber to reduce the quantity of C&D waste generated during works period.	Work sites / during construction period	$\checkmark$
Landscape and Visual	Retained or to-be-transplanted trees on site should be properly protected from physical damages and soil compacts with temporary fencing or hessian armouring whenever feasible.	Work sites / during construction period	$\diamond$

Remark:

 $\sqrt{}$  Compliance of Mitigation Measures

<> Compliance of Mitigation but need improvement

x Non-compliance of Mitigation Measures

Non-compliance of Mitigation Measures but rectified by ATAL-Degrémont-China State JV

Δ Deficiency of Mitigation Measures but rectified by ATAL-Degrémont-China State JV

N/A Not Applicable in Reporting Period

Annex J

Waste Flow Table

# Contract No. : DC/2008/03 - Design, Build and Operate Pillar Point Sewage Treatment Works

	Actual Quar	ntities of Inert (	C&D Materials (Public	Fill) Generated (se	Actual Quantities of Non-inert C&D Materials (Construction Waste) Generated (see Note 13)						
Month	Total Quantity	Reused in	Reused in other	1	as Public Fill	Metals (see	Paper/ cardboard	Plastics	Chemical Waste	Others, e.g. general	
	Generated	the Contract	Projects	Rocks & Broken Concrete	Total	Note 1)	packaging (see Note 1)	(see Note 2)	Chemical Waste	refuse (see Note 3)	
	tonne	tonne	tonne	t	onne	kilogram	kilogram	kilogram	Litre	tonne	
Nov 2010	2,248	0	0	55	2,248	60	100	0	0	18.05 (see Note 4)	
Dec 2010	11,314 (see Note 4)	0	0	225	11,314	100	120	20	0	28.40 (see Note 4)	
Jan 2011	58,383 (see Note 4)	0	0	3000	58,384	250	280	60	0	4.59 (see Note 4)	
Sub-total	71,945	0	0	7	1,946	410	500	80	0	51.04	
Feb 2011	12,855	0	0	1,050 12,855		100	150	50	0	2.43 (see Note 4)	
Mar 2011	22,859	0	0	1,500	22,858	150	180	55	0	9.02	
Apr 2011	8,547 (see Note 7)	0	5,684(see Note 5, 7)	550	2,863	50	30	15	0	5.78	
Sub-total	44,261	0	5684	38,	576.40	300	360	120	0	17.23	
May 2011	6,293 (see Note 7)	0	11 (see Note 5, 7)	425	6,282 (see Note 7)	45	25	10	360 (see Note 7)	8.83	
Jun 2011	4,587 (see Note 7)	0	0 (see Note 7)	313	4,587 (see Note 7)	40	30	15	0	7.10	
Jul 2011	523	0	0	25	523	15	5	10	0	7.20	
Sub-total	11,403	0	11	1	1,392	100	60	35	360	23.13	
Aug 2011	571 (see Note 11)	0	0	50	571 (see Note 11)	0	0	15	450 (see Note 8)	6.12	
Sept 2011	235	0	0	25	235	20	0	0	0	12.15 (see Note 9)	
Oct 2011	5,705 (see Note 10)	0	0	650	5,705 (see Note 10)	100	0	0	0	2.98	
Sub-total	6,511	0	0	6,511		120	0	15	450	21.25	
Nov 2011	6,294	0	0	775	6,294	50	0	0	0	44.84	
Dec 2011	3,011	0	0	263	3,011	20	0	0	0	17.14	
Jan 2012	349	64	0	25	285	20	150	0	0	49.01	

# Monthly Summary Waste Flow Table

	Actu	al Quantities of	Inert C&D Materials (P	ublic Fill) Gener	rated	Actual Qua	ntities of Non-inert C	&D Materia	ls (Construct	tion Waste) Generated
				Dispose	ed as Public Fill		Paper/ cardboard	Plastics		
Month	Total Quantity Generated	Reused in the Contract	Reused in other Projects	Rocks & Broken Concrete	Total	Metals (see Note 1)	packaging (see Note 1)		Chemical Waste	Others, e.g. general refuse (see Note 3)
	tonne	tonne	tonne	tonne	tonne	kilogram	kilogram	kilogram	Litre	tonne
Sub-total	9,654	64	0		9,590	90	150	0	0	110.99
Feb 2012	3,371	30	0	2,810	3,341	150	0	0	0	48.72
Mar 2012	6,460	3,000	0	625	3,460	30	0	0	0	41.10
April 2012	3,774	3,000	0	250	774	40	0	0	0	40.01
Sub-total	13,605	6,030	0	7,585		220	0	0	0	129.83
May 2012	7,936	5,600	0	750 2,336		40	0	10	0	75.19
June 2012	13,091	7,500	0	875	5,591	40	35	8	0	66.74
July 2012	11,972	8,600	0	825	3,373	40 (see Note 12)	36	5	0	100.50
Sub-total	32,999	21,700	0	1	1,299.50	120	70.9	23	0	242.43
Aug 2012	11,660	11,000	0	950	659	30	10	6	0	78.77
Sept 2012	3,055	1,500	0	920	1,555	30	40	5	0	118.80
Oct 2012	2,657	200	0	500	2,457	30	59	8	0	124.04
Sub-total	17,372	12,700	0		4671	90	109	19	0	321.61
Nov-2012	2,691	250	0	750	2,441	50	25	10	0	128.08
Dec-2012	4,319	400	0	200 3,919		60	20	15	0	165.28
Jan-13	4,442	100	0	200.00	4,342	200	40	20	0	111.23
Sub-total	11,452	750	0		10702	310	85	45	0	404.59
Total	219,202	41,244	5,695		43,837	1,760	1,335	337	810	1,322

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 WENT by subcontractors.

(4) The waste flow data for November and December 2010, January and February 2011 was updated in March 2011based on SOR's comments and has been confirmed by the Contractor.

(5) The inert C&D materials were reused in the Contract No. EP/SP/58/08 at Tuen Mun Tsang Tsui.

- (6) Chemical waste was collected though the licensed chemical waste collector, Dunwell Ind. (Holdings) Ltd, with the waste collection licence number 7111-757-W0015-WC.
- (7) The waste flow data for April, May and June 2011 was updated in August 2011 based on SOR's comments and has been confirmed by the Contractor.
- (8) The waste flow data of chemical waste for August 2011 was updated in October 2011 based on Contractor's revised waste flow summary.
- (9) The waste flow data of general refuse for September 2011 was updated in November 2011 based on Contractor's revised waste flow summary.
- (10) The waste flow data of C&D material for October 2011 was updated in December 2011 based on Contractor's revised waste flow summary.
- (11) The waste flow data of C&D material for August 2011 was updated in January 2011 based on SOR's comments and has been confirmed by the Contractor.
- (12) The waste flow data of metal and paper/cardboard packaging for June 2011 was revised in August 2012.
- (13) The quantity of inert and non-inert C&D material generated from May 2012 to December and imported fill material was updated by the Contractor on 6 November 2012.
- (14) The quantity of Rocks & Broken Concrete from November 2010 to November 2012 was updated by the Contractor on 12 December 2012.
- (15) The quantity of C&D material reused in this Contract in Oct, Nov and Dec 2012 were updated by the Contractor on 5 January 2012.

Annex K

Environmental Complaint, Environmental Summons and Persecution Log

<b>Reporting Month</b>	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
November 2010	0	0
December 2010	0	0
January 2011	0	0
February 2011	0	0
March 2011	0	0
April 2011	0	0
May 2011	0	0
June 2011	0	0
July 2011	0	0
August 2011	0	0
September 2011	0	0
October 2011	0	0
November 2011	0	0
December 2011	0	0
January 2012	0	0
February 2012	0	0
March 2012	0	0

Annex K Cumulative Complaint and Summons/Prosecutions Log

#### ENVIRONMENTAL RESOURCES MANAGEMENT

Reporting Month	Number of Complaints in Reporting Month	Number of Summons/Prosecutions in Reporting Month
April 2012	0	0
May 2012	0	0
June 2012	0	0
July 2012	0	0
August 2012	0	0
September 2012	0	0
October 2012	0	0
November 2012	0	0
December 2012	0	0
Overall Total	0	0

#### ENVIRONMENTAL RESOURCES MANAGEMENT

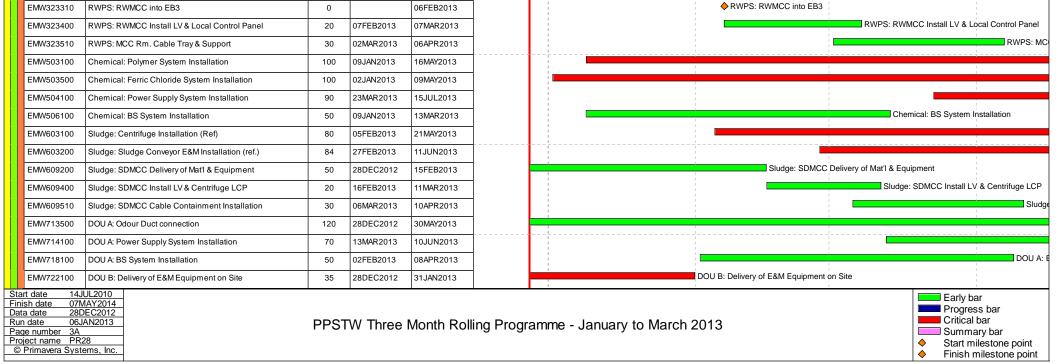
Annex L

Construction Programme of the Project

Activity ID	Description	Orig. Duratior	Early Start	Early Finish	2012 2013 DEC JAN FEB MAR	APR
inaries		Purution			7 24 31 07 14 21 28 04 11 18 25 04 11 18 25 01	08
eral Requirer						
LW005260	Notice of Commissioning Test (14 day advance)	0	31DEC2012		Notice of Commissioning Test (14 day advance)	
LW005320	Operation Plan - Approval	90	28DEC2012	27MAR2013	Operati	tion Plan - A
LW007100	Submit Variation to Discharge Permit	500	01MAR2011 A	01MAR2013	Submit Variation to Discharge Permit	
LW007200	EPD Approval Varition to Discharge Permit	90	02MAR2013	30MAY2013		
n and Design mission and (	n Checking of Permanent Works					
Ibmission and						
PD081161	DDA9A-D: Elect. sys design- RtoC x2	28	24AUG2011 A	08JAN2013	DDA9A-D: Elect. sys design- RtoC x2	
PD503551	Chemical: DDA22D E&MCR Dwg - SO rtoC x 2	28	04NOV2011 A	28DEC2012	Chemical: DDA 22D E&MCR Dwg - SO rtoC x 2	
PD513513	Chemical: PV sys SO Review	60	28MAY2012 A	11JAN2013	Chemical: PV sys SO Review	
PD613183	Sludge: Centrifuge panel SO Review	50	28JUL2012 A	15JAN2013	Sludge: Centrifuge panel SO Review	
PD803551	Admin Bldg: DDA23B E&MCR Dwg - RtoC x2	28	23SEP2011 A	30DEC2012	Admin Bldg: DDA 23B E&MCR Dwg - RtoC x2	
PD814123	All area: Fan SO Review	50	02JUL2012 A	11JAN2013	All area: Fan SO Review	
PD814200	All area: F.S. Equipment Submission	65	13JUN2011 A	03JAN2013	All area: F.S. Equipment Submission	
PD814213	All area: FS. panel SO Review	28	28JUL2012 A	05JAN2013	All area: FS. panel SO Review	
PD814223	All area: FS. detect & alarm equip. SO Review	28	28JUL2012 A	04JAN2013	All area: FS. detect & alarm equip. SO Review	
PD814233	All area: F.S. water & sprinker sys. SO Review	50	17APR2012 A	02JAN2013	All area: F.S. water & sprinker sys. SO Review	
PD814350	Admin Bldg: Plumbing Equipment Check App	40	17MAY2012 A	30DEC2012	Admin Bldg: Plumbing Equipment Check App	
PD814750	Admin Bldg: Access & Sec. SO review & Appr.	90	22FEB2012 A	01JAN2013	Admin Bldg: Access & Sec. SO review & Appr.	
PD904160	Refurbish: DDA25A-D E&M - Submission	60	17JAN2011 A	28DEC2012	Refurbish: DDA 25A-D E&M - Submission	
PD904170	Refurbish: DDA25A-D E&M - DC Checking	30	31DEC2012	13FEB2013	Refurbish: DDA 25A-D E&M - DC Checking	_
PD904180	Refurbish: DDA25A-D E&M - SO Review	28	14FEB2013	25MAR2013	Refurbish	n: DDA 25A-
PD904181	Refurbish: DDA25A-D E&M - RtoC x2	28	26MAR2013 *	08MAY2013		
PD904193	Refur. SHB: Genset SO Review	60	30MAR2012 A	03JAN2013	Refur. SHB: Genset SO Review	
PD904867	Flowmeter C: DDA24C BS- RtoC x2	28	23NOV2011 A	03JAN2013	Flowmeter C: DDA 24C BS- RtoC x2	
PD916316	Mis: DDA28B1 MH & Pipe Works RtoC x2	28	25APR2012 A	15JAN2013	Mis: DDA 28B1 MH & Pipe Works RtoC x2	
PD916428	Mis: DDA28C3 Pipe Bridge RtoC x2	28	26JUL2012 A	05JAN2013	Mis: DDA 28C3 Pipe Bridge RtoC x2	
PD923051	Mis: DDA28E - N1N2 MH - RtoC x2	28	25APR2012 A	11JAN2013	Mis: DDA 28E - N1N2 MH - RtoC x2	
PD923610	Mis: DDA28H Cable Duct & DP - Submission	60	08APR2011 A	01JAN2013	Mis: DDA 28H Cable Duct & DP - Submission	
PD923650	Mis: DDA28H Cable Duct & DP - SO Review	28	02JAN2013	29JAN2013	Mis: DDA 28H Cable Duct & DP - SO Review	
PD923651	Mis: DDA28H Cable Duct & DP - Rtoc x2	28	30JAN2013	26FEB2013	Mis: DDA 28H Cable Duct & DP - Rtoc x2	
PD926840	Mis: E&M Equipment Checking and Approval	60	30MAR2012 A	26JAN2013	Mis: E&M Equipment Checking and Approval	
PD926860	Mis: E&M Detail Arrg Drg Chk Appr	90	30MAR2012 A	05FEB2013	Mis: E&M Detail Arrg Drg Chk Appr	
utory Submiss Ibmission and						
S0100400	EPD - Sewage Discharge License Approval	90	06JUN2011 A	01FEB2013	EPD - Sewage Discharge License Approval	
S0100410	EPD - Approval for Sewage Discharge	0		01FEB2013	EPD - Approval for Sewage Discharge	
S0121000	VCAB Submission and Approval	500	13SEP2010 A	01APR2013		VCAB Subm
S0122200	ArchSD Submission and Approval (Stage 2)	300	15FEB2012 A	08FEB2013	ArchSD Submission and Approval (Stage 2)	
nd Structural						
mically Enhai ilding and Sti	nced Primary Treatement System ructures					
CC200170	CEPT Tank: ABWF Work	75	05JUN2012 A	03JAN2013	CEPT Tank: ABWF Work	
CC200175	CEPT Tank: Remaining ABWF Work	84	04JAN2013	22APR2013		
CC200650	CEPT: Remaining Backfill	50	030CT2012 A	07JAN2013	CEPT: Remaining Backfill	
CC920160	CEPT MCC Rm: ABWF Work	14	01DEC2012 A	03JAN2013	CEPT MCC Rm: ABWF Work	
CC920192A	CEPT: Phase 6B Handover Inlet Channel	0		03JAN2013	CEPT: Phase 6B Handover Inlet Channel	
CC920300A	CEPT: MCC Room Hand over	0		03JAN2013	CEPT: MCC Room Hand over	
· · ·	Treatment Works					
ilding and Str CC112329	PTWS: ABWF to Grit Chamber	6	28DEC2012	04JAN2013	PTWS: ABWF to Grit Chamber	
CC114330A	PTWS: Skip House and Blower Room	38	21NOV2012 A	25JAN2013	PTWS: Skip House and Blower Room	
CC114450A	· ·	12	26JAN2013	08FEB2013	PTWS: Remove Temp Work Support	
CC114460A		12	01MAR2013	14MAR2013	PTWS: Waterproofing &	Screeding of
CC114470A		7	21FEB2013	28FEB2013	PTWS: Painting in Skip House & Blower Rm	m
CC114480A		5	15FEB2013	20FEB2013	PTWS: Door / Louver	
CC114490A		0	-	28FEB2013	PTW: Air Blower Room Hand over	
CC114500A		0		28FEB2013	PTW: Skip House Hand over	
CC150200	PTW: Remaining ABWF	90	05JAN2013	30APR2013		
CC160580	PTW: Footing for Pipe Bridge	24	25FEB2013	23MAR2013	PTW: Footin	ng for Pipe E
CC160585	PTW: Steel Structure for Pipe Bridge	50	25MAR2013	28MAY2013		
nfection Syste						
ilding and St			and the second	00.11115	IN: Superstructure Deef & Deem	
	UV: Superstructure - Roof & Beam	15	21NOV2012 A		UV: Superstructure - Roof & Beam	
CC300165	UV: Remove Temporary Support	12	05JAN2013	18JAN2013	UV: Remove Temporary Support	
CC300170	UV: ABWF Work	7	19JAN2013	26JAN2013	UV: ABWF Work	
CC300180	UV: Backfilling	10	28JAN2013	07FEB2013	UV: Backfilling	
CC300190	UV: Water Tightness Test	18	25NOV2012 A	11JAN2013	UV: Water Tightness Test	
CC300200	UV: Handover for E&M installation	0		26JAN2013	UV: Handover for E&M installation	
lge Treatmen iilding and Sti						
CC600450	SDB: Walls & Columns - 1/F to R/F	13	17DEC2012 A	05JAN2013	SDB: Walls & Columns - 1/F to R/F	
CC600460	SDB: Beams & Slab at R/F	13	07JAN2013	21JAN2013	SDB: Beams & Slab at R/F	
CC600470	SDB: Water Tightness Test	50	05NOV2012 A	12JAN2013	SDB: Water Tightness Test	
CC600480	SDB: ABWF Work	32	28DEC2012	04FEB2013	SDB: ABWF Work	
	SDB: Handover Centrifuge Area to E&M	0		04FEB2013	SDB: Handover Centrifuge Area to E&M	
CC600490	SDB: Handover Sludge Holding Tanks to E&M	0		12JAN2013	SDB: Handover Sludge Holding Tanks to E&M	
CC600490 CC600500		0.0	05FEB2013	25APR2013		
	SDB: Remaining ABWF Work	60				
CC600500	SDB: Remaining ABWF Work Skip Storage Bldg: Excavation	10	19FEB2013	01MAR2013	Skip Storage Bldg: Excavation	
CC600500 CC600510 CC601410	Skip Storage Bldg: Excavation		19FEB2013	01MAR2013		
CC600500 CC600510 CC601410 ate 14. date 07M	-		19FEB2013	01MAR2013	Skip Storage Bldg: Excavation	

ID	Description	Orig. Duration	Early Start	Early Finish	2012 DEC		2013 FEB La La MAR APR
CC601420	Skip Storage Bldg: Raft Foundation - 700mm thk	12	02MAR2013	15MAR2013	17 24	31 07 14 21 28 04 11	18 25 04 11 18 25 01 08 Skip Storage Bldg: Raft Foundation
CC601430	Skip Storage Bldg: Columns - G/G to 1/F	12	16MAR2013	29MAR2013	-		Skip Storage Bld
CC601440	Skip Storage Bldg: Roof Slab & Beams	18	30MAR2013	24APR2013			
ic Waste Coll ilding and Str	lection Facilities						
CC150180	Septic: ABWF Work	14	10DEC2012 A	11JAN2013		Septic: ABWF Work	
CC150185	Septic: Handover to E&M	0		11JAN2013		Septic: Handover to E&M	
CC150220	Septic: Remaining ABWF Works	40	12JAN2013	05MAR2013			Septic: Remaining ABWF Works
iliary Building uilding and Str	ructures						
CC320140	RWPS: Backfilling Work	12	28DEC2012	11JAN2013	] 🕨	RWPS: Backfilling Work	
CC320145	RWPS: Foundation Grid 1 to 2	12	12JAN2013	25JAN2013		RWPS: Foundation Grid	
CC320150	RWPS: Substructure - Columns & Walls	12	26JAN2013	08FEB2013	_	RWPS	S: Substructure - Columns & Walls
CC320160	RWPS: Roof Slab & Beams	12	15FEB2013	28FEB2013	-		RWPS: Roof Slab & Beams
CC320170	RWPS: Remove Temp Support RWPS: ABWF Works	12	01MAR2013 15MAR2013	14MAR2013 01APR2013	<b>-</b>		RWPS: Remove Temp Support
CC320200	RWPS: Remaining ABWF	60	02APR2013	18JUN2013	-		
CC500160	Chemical Bldg: ABWF Works	10	20DEC2012 A	08JAN2013	╡╺╍╍╍╞╸	Chemical Bldg: ABWF Works	
CC500170	Chemical Bldg: Handover to E&M	0		08JAN2013	-	Chemical Bldg: Handover to E&M	
CC500190	Chemical Bldg: AWBF at MCC and EB2	10	17DEC2012 A	11JAN2013		Chemical Bldg: AWBF at MCC and EB2	
CC500200	Chemical Bldg: Handover MCC and EB2 to E&M	0		11JAN2013		Chemical Bldg: Handover MCC and EB2 to	Þ E&M
CC500215	Chemical Bldg: ABWF at Tank Compound	12	20DEC2012 A	31DEC2012	]	Chemical Bldg: ABWF at Tank Compound	
CC500220	Chemical Bldg: Handover Tank Compound to E&M	0		31DEC2012		Chemical Bldg: Handover Tank Compound to E&M	
CC500230	Chemical Bldg: ABWF at Tank Compound	60	09JAN2013	25MAR2013			Chemical Bldg: ABWI
CC800310	Admin Bldg: Remaining ABWF Works	75	31DEC2012	03APR2013			Admin Ble Elect Bldg 1: Remaining ABWF Work
CC910180	Elect Bldg 1: Remaining ABWF Work	60	13NOV2012 A 10DEC2012 A	28FEB2013			Elect Bldg 1: Remaining ABWF Work
CC930180	Elect Bldg 3: Remaining ABWF Work	50	10DEC2012 A	19FEB2013			Election Didg 5. Remaining Above work
uilding and Str	ructures			les ::			
	DOU A: Pipe Trench and Raft Grid 1 to 2	26	22NOV2012 A			DOU A: Pipe Trench and Rai	t Grid 1 to 2
	DOU A: Control House	38	11NOV2012 A		-	DOU A: Control House	lork
CC710160	DOU A: ABWF Work DOUA: Handover control room to E&M	0	24JAN2013	31JAN2013 01FEB2013	-		ver control room to E&M
CC710190	DOUA: Handover control room to Eaw	0		31JAN2013	-		er raft Grid 1 to 2 to E&M
CC720130	DOU B: Backfilling Work	6	24DEC2012 A	04JAN2013	+ <b></b>	DOU B: Backfilling Work	
CC720140	DOU B: On-Grade Slab	13	05JAN2013	19JAN2013	-	DOU B: On-Grade Slab	
CC720150	DOU B: Control House	30	28DEC2012	01FEB2013	1 🕨	DOU B: Contro	House
CC720160	DOU B: ABWF Work	7	02FEB2013	15FEB2013	-		DOU B: ABWF Work
CC720170	DOU B: Handover to E&M	0		15FEB2013	-		OOU B: Handover to E&M
	nd Renewal Works			1			
iscellaneous V CM000120	SHB: Partition Walls & Roof	56	25JAN2013	06APR2013	4		SHB:
ernal Works							
iscellaneous V WM101020	Flowmeter: Excavation	20	17DEC2012 A	08JAN2013		Flowmeter: Excavation	
WM101030	Flowmeter: Base Slab	20	09JAN2013	31JAN2013	-	Flowmeter: Base	Slab
WM101040	Flowmeter: Cast Wall with Box-out	21	01FEB2013	02MAR2013	-		Flowmeter: Cast Wall with Box-out
WM101050	Flowmeter: Roof Slab	17	04MAR2013	22MAR2013	-		Flowmeter: Roof Slab
WM101060	Flowmeter: Handover to E&M Works	0		22MAR2013	1		Flowmeter: Handover to
WM101070	Flowmeter: Form Opening at OPS	10	09JAN2013	19JAN2013		Flowmeter: Form Opening at OP	S
WM101210	Boundary Wall: Removal of Extg U-channel	90	22NOV2012 A	15MAR2013			Boundary Wall: Removal of Extg U
WM101300	Boundary Wall: Footing	90	05JAN2013	30APR2013	_		
WM101350	Boundary Wall: Wall Stem	90	29JAN2013	25MAY2013	-		
WM101790	Construction of Weighbridge	40	18MAR2013	08MAY2013		Pine Line het N	2 to PTW and Manhole N3
	Pipe Line bet N2 to PTW and Manhole N3 Sewerage bet UV Channel to extg Pump Station	150	29MAR2012 A 01JUN2012 A	01FEB2013 25JAN2013		Sewerage bet UV Chan	
	Sewerage bel OV Channel to exig Fullip Station	120		29MAY2013	-		
WM102060	Connection to extra Pump Station	95	26.JAN2013				
	Connection to extg Pump Station Pipe Trench between Septic to PTW	95 48	26JAN2013 24DEC2012 A	23FEB2013			Pipe Trench between Septic to PTW
WM102060							•
WM102060 WM102070 WM102102 WM102130	Pipe Trench between Septic to PTW	48	24DEC2012 A	23FEB2013		Laying	•
WM102060 WM102070 WM102102 WM102130 WM102140	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP	48	24DEC2012 A 17DEC2012 A	23FEB2013 14MAR2013			Laying HV cable duct bet EB1 to Ch
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP	48 74 60	24DEC2012 A 17DEC2012 A 18OCT2012 A	23FEB2013 14MAR2013 07FEB2013			Laying HV cable duct bet EB1 to Che HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102160	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub	48 74 60 53	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013			Laying HV cable duct bet EB1 to Ch
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102160 WM102170	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct	48 74 60 53 100	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013			Laying HV cable duct bet EB1 to Ch HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS t
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102160 WM102170 WM102180 ory Works	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Laying ELV cable duct Sitewide Watermain	48 74 60 53 100 116	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013			Laying HV cable duct bet EB1 to Ch HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS t
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102160 WM102170 WM102180 ory Works ctrical Supply a uilding and Str	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Laying ELV cable duct Sitewide Watermain	48 74 60 53 100 116 89	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013		Laying	Laying HV cable duct bet EB1 to Ch HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS t
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102160 WM102170 WM102180 ory Works trical Supply a tilding and Str SE200130	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Laying ELV cable duct Sitewide Watermain and Energization - CLP ructures EB1: BS Installation in EB1 Tx room	48 74 60 53 100 116 89 26	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013		EB1: BS Installation in	EB1 Tx room
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102160 WM102170 WM102180 Dry Works trical Supply a lilding and Stri SE200130 SE200140	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Laying ELV cable duct Sitewide Watermain EB1: BS Installation in EB1 Tx room EB1: CLP Inspection & Handover Tx Room	48 74 60 53 100 116 89 26 30	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013 04FEB2013		EB1: BS Installation in	EB1 Tx room EB1 Tx Room Laying HV cable duct bet EB1 to Ch Laying HV cable duct OPS t
WM102060 WM102070 WM102130 WM102130 WM102140 WM102150 WM102160 WM102170 WM102170 WM102170 WM102180 ory Works strical Supply a stilding and Stm SE200130 SE200140 SE200150	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Laying ELV cable duct Sitewide Watermain and Energization - CLP ructures EB1: BS Installation in EB1 Tx room EB1: CLP Inspection & Handover Tx Room EB1: CLP to Install Transformer	48 74 60 53 100 116 89 26 26 30 60	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 05FEB2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013 04FEB2013 05APR2013		EB1: BS Installation in	EB1 Tx room EB1 Tx Room EB1 C
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102150 WM102160 WM102170 WM102170 WM102180 bry Works trical Supply a ilding and Str SE200130 SE200150 SE200160	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Laying ELV cable duct Sitewide Watermain EB1: BS Installation in EB1 Tx room EB1: CLP Inspection & Handover Tx Room EB1: CLP to Install Transformer EB1: Handover Associated Cable Duct to CLP	48 74 60 53 100 116 89 26 26 30 60 60 6	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 05FEB2013 19MAR2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013 04FEB2013 05APR2013 25MAR2013		EB1: BS Installation in	EB1 Tx room EB1 Tx Room EB1 C
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102160 WM102170 WM102170 WM102180 ory Works sez00130 SE200140 SE200160 SE200160 SE200170	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Laying ELV cable duct Sitewide Watermain EB1: SI Installation in EB1 Tx room EB1: CLP Inspection & Handover Tx Room EB1: CLP to Install Transformer EB1: Handover Associated Cable Duct to CLP EB1: CLP to Install HV Cables	48 74 60 53 100 116 89 26 30 26 30 60 60 60	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 05FEB2013 19MAR2013 26MAR2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013 04FEB2013 04FEB2013 25MAR2013 24MAY2013		EB1: BS Installation in	EB1 Tx room Inspection & Handover Tx Room EB1: Handover Assoc
WM102060 WM102070 WM102130 WM102130 WM102140 WM102150 WM102160 WM102160 WM102170 WM102180 ory Works ctrical Supply a silding and Strr SE200130 SE200140 SE200150 SE200160 SE200170 SE200210	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Laying ELV cable duct Sitewide Watermain EB1: SI Installation in EB1 Tx room EB1: CLP Inspection & Handover Tx Room EB1: CLP to Install Transformer EB1: Handover Associated Cable Duct to CLP EB1: CLP to Install HV Cables Chem: Handover of CB Tx Rm for E&M	48 74 60 53 100 116 89 26 30 60 60 60 60 60 3	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 16NOV2012 A 05FEB2013 19MAR2013 26MAR2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013 04FEB2013 05APR2013 25MAR2013 25MAR2013		EB1: BS Installation in EB1: CLP I	EB1 Tx room Inspection & Handover Tx Room EB1: Handover Assoc
WM102060 WM102070 WM102130 WM102130 WM102140 WM102150 WM102160 WM102170 WM102170 WM102180 ory Works strical Supply a wilding and Stri SE200130 SE200150 SE200150 SE200160 SE200210 SE200220	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Sitewide Watermain EB1: BS Installation in EB1 Tx room EB1: CLP Inspection & Handover Tx Room EB1: CLP to Install Transformer EB1: CLP to Install Transformer EB1: CLP to Install HV Cables Chem: Handover of CB Tx Rm for E&M Chem: BS Installation in Transformer Rm	48 74 60 53 100 116 89 26 26 30 26 60 60 60 60 60 3 3 25	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 05FEB2013 19MAR2013 26MAR2013 12JAN2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013 04FEB2013 05APR2013 25MAR2013 25MAR2013 15JAN2013 15JAN2013		EB1: BS Installation in EB1: CLP I	EB1 Tx room Inspection & Handover Tx Room EB1: C
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102160 WM102170 WM102170 WM102180 ory Works sez00130 SE200140 SE200150 SE200160 SE200170 SE200210 SE200220 SE200220	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Laying ELV cable duct Sitewide Watermain EB1: SI Installation in EB1 Tx room EB1: CLP Inspection & Handover Tx Room EB1: CLP to Install Transformer EB1: Handover Associated Cable Duct to CLP EB1: CLP to Install HV Cables Chem: Handover of CB Tx Rm for E&M	48 74 60 53 100 116 89 26 30 60 60 60 60 60 3	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 16NOV2012 A 05FEB2013 19MAR2013 26MAR2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013 04FEB2013 05APR2013 25MAR2013 25MAR2013		EB1: BS Installation in EB1: CLP I	Laying HV cable duct bet EB1 to Ch HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS t EB1 Tx room nspection & Handover Tx Room EB1: C EB1: Handover Association Chem: BS Installation in Transformer Rm
WM102060 WM102070 WM102130 WM102130 WM102140 WM102150 WM102160 WM102160 WM102170 WM102170 WM102180 ory Works trical Supply a tilding and Str SE200130 SE200140 SE200150 SE200170 SE200210 SE200220 SE200230 SE200240	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Laying ELV cable duct Sitewide Watermain EB1: SI notall et al. CLP EB1: CLP Inspection & Handover Tx Room EB1: CLP to Install Transformer EB1: CLP to Install HV Cables Chem: Handover of CB Tx Rm for E&M Chem: BS Installation in Transformer Rm Chem: CLP Inspection and Handover - Tx Room	48 74 60 53 100 116 89 26 30 26 30 60 60 60 60 60 3 3 25 30	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 05FEB2013 19MAR2013 26MAR2013 12JAN2013 16JAN2013 20FEB2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013 04FEB2013 05APR2013 25MAR2013 24MAY2013 15JAN2013 19FEB2013 21MAR2013		EB1: BS Installation in EB1: CLP I	Laying HV cable duct bet EB1 to Ch HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS t EB1 Tx room nspection & Handover Tx Room EB1: C EB1: Handover Association Chem: BS Installation in Transformer Rm
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102160 WM102170 WM102170 WM102180 ory Works sezoo130 SE200140 SE200150 SE200160 SE200170	Pipe Trench between Septic to PTW         Laying HV cable duct bet EB1 to Chem for CLP         Laying HV cable duct EB3 to EB4 for CLP         Laying HV cable duct OPS to 11kV CLP Sub         Laying LV cable duct         Laying ELV cable duct         Sitewide Watermain         and Energization - CLP         ructures         EB1: BS Installation in EB1 Tx room         EB1: CLP Inspection & Handover Tx Room         EB1: CLP to Install Transformer         EB1: CLP to Install HV Cables         Chem: Handover of CB Tx Rm for E&M         Chem: BS Installation in Transformer Rm         Chem: CLP Inspection and Handover - Tx Room	48 74 60 53 100 116 89 26 30 60 60 60 60 60 3 3 25 30 60 60	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 05FEB2013 19MAR2013 12JAN2013 12JAN2013 20FEB2013 20FEB2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 04FEB2013 04FEB2013 05APR2013 25MAR2013 24MAY2013 15JAN2013 19FEB2013 21MAR2013 20MAY2013		EB1: BS Installation in EB1: CLP I	Laying HV cable duct bet EB1 to Ch HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS t EB1 Tx room nspection & Handover Tx Room EB1: C EB1: Handover Assoc EB1: Handover Assoc
WM102060 WM102070 WM102102 WM102130 WM102140 WM102150 WM102160 WM102160 WM102170 WM102170 WM102180 ory Works trical Supply a ilding and Str SE200130 SE200140 SE200150 SE200160 SE200210 SE200210 SE200220 SE200230 SE200240 SE200250	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Sitewide Watermain EB1: ELV cable duct EB1: CLP Inspection & Handover Tx Room EB1: CLP to Install Transformer EB1: CLP to Install Transformer EB1: CLP to Install HV Cables Chem: Handover of CB Tx Rm for E&M Chem: CLP Inspection and Handover - Tx Room Chem: CLP to Install Transformer	48 74 60 53 100 116 89 26 26 30 60 60 60 3 3 25 30 60 60 60 60 60 60 60 60 60 60 60 60 60	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 05FEB2013 19MAR2013 26MAR2013 12JAN2013 16JAN2013 20FEB2013 20FEB2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013 04FEB2013 05APR2013 25MAR2013 25MAR2013 15JAN2013 19FEB2013 21MAR2013 21MAR2013		EB1: BS Installation in EB1: CLP I	Laying HV cable duct bet EB1 to Ch HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to EB1 Tx room nspection & Handover Tx Room EB1: C EB1: Handover Asso EB1: C Chem: BS Installation in Transformer Rm
WM102060 WM102070 WM102102 WM102130 WM102130 WM102140 WM102150 WM102160 WM102160 WM102170 WM102180 ory Works trical Supply a Ilding and Str SE200130 SE200140 SE200150 SE200170 SE200210 SE200220 SE200220 SE200220 SE200250 SE200250 SE200260	Pipe Trench between Septic to PTW Laying HV cable duct bet EB1 to Chem for CLP Laying HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS to 11kV CLP Sub Laying LV cable duct Sitewide Watermain EB1: Sitewide Watermain EB1: CLP Inspection & Handover Tx Room EB1: CLP to Install Transformer EB1: CLP to Install Transformer EB1: CLP to Install HV Cables Chem: Handover of CB Tx Rm for E&M Chem: CLP Inspection and Handover - Tx Room Chem: CLP Install Transformer Chem: CLP to Install Transformer Chem: CLP Install Transformer Chem: CLP Install Transformer	48 74 60 53 100 116 89 26 30 60 60 60 60 33 25 30 60 60 60 60 60 60 60 60 60 60 60 60 60	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 16NOV2012 A 05FEB2013 19MAR2013 26MAR2013 16JAN2013 20FEB2013 20FEB2013 22MAR2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 26JAN2013 04FEB2013 05APR2013 25MAR2013 25MAR2013 19FEB2013 21MAR2013 20MAY2013 21MAR2013		EB1: BS Installation in I EB1: CLP I Chem: Handover of CB Tx Rm for E&1	Laying HV cable duct bet EB1 to Chem: BS Installation in Transformer Rm
AVM102060           AVM102070           AVM102102           AVM102130           AVM102140           AVM102150           AVM102150           AVM102160           AVM102170           AVM102180           avy Horks           arrical Supply a           alding and Str           SE200140           SE200150           SE200160           SE200170           SE200210           SE200220           SE200230           SE200240           SE200260           SE200260           SE200260	Pipe Trench between Septic to PTW         Laying HV cable duct bet EB1 to Chem for CLP         Laying HV cable duct EB3 to EB4 for CLP         Laying HV cable duct OPS to 11kV CLP Sub         Laying EV cable duct         Sitewide Watermain         and Energization - CLP         ructures         EB1: BS Installation in EB1 Tx room         EB1: CLP Inspection & Handover Tx Room         EB1: CLP to Install Transformer         EB1: CLP to Install HV Cables         Chem: Handover of CB Tx Rm for E&M         Chem: CLP Inspection and Handover - Tx Room         Chem: CLP Inspection and Handover - Tx Room         Chem: CLP to Install Transformer         EB1: CLP to Install HV Cables         Chem: CLP Inspection and Handover - Tx Room         Chem: CLP to Install Transformer         Chem: CLP to Install HV Cables         EB	48         74         60         53         100         116         89         26         30         60         60         30         60         60         60         60         60         60         60         60         60         60         25         30         60         60         25         30         60         25         30         60         25         30	24DEC2012 A 17DEC2012 A 18OCT2012 A 12JAN2013 15FEB2013 02FEB2013 25FEB2013 25FEB2013 19NOV2012 A 16NOV2012 A 05FEB2013 19MAR2013 12JAN2013 16JAN2013 20FEB2013 20FEB2013 22MAR2013 15MAR2013 22MAR2013	23FEB2013 14MAR2013 07FEB2013 20MAR2013 19JUN2013 02JUL2013 15JUN2013 04FEB2013 04FEB2013 25MAR2013 24MAY2013 15JAN2013 19FEB2013 21MAR2013 20MAY2013 21MAR2013 20MAY2013		EB1: BS Installation in I EB1: CLP I Chem: Handover of CB Tx Rm for E&1	Laying HV cable duct bet EB1 to CH HV cable duct EB3 to EB4 for CLP Laying HV cable duct OPS EB1 Tx room nspection & Handover Tx Room EB1: Handover Asso EB1: Handover Asso Chem: BS Installation in Transformer Rm Chem: CLP Inspection and Chem: Handover Associat

Contract No. DC Design, Build an	:/2008/03 d Operate Pillar Point Sewage Treatment Works					ATAL - Degremont - China State Joint Venture
Activity ID	Description	Orig. Duration	Early Start	Early Finish	2012 DEC	2013 AN FEB MAR APR
SSE200350	EB3: Handover Associated Cable Duct to CLP	6	21MAR2013	27MAR2013	17 24	31         07         14         21         28         04         11         18         25         04         11         18         25         01         08         1           31         07         14         21         28         04         11         18         25         01         08         1           EB3: Handover Associate
SSE200360	EB3: CLP to Install HV Cables	60	28MAR2013	26MAY2013		
SSE200420	EB4: BS Installation in Transformer Rm	20	13NOV2012 A	18JAN2013		EB4: BS Installation in Transformer Rm
SSE200430	EB4: CLP Inspection & Handover 11kV Substation	20	19JAN2013	07FEB2013		EB4: CLP Inspection & Handover 11kV Substation
SSE200440	EB4: CLP to Install 11kV Switchgear	60	08FEB2013	08APR2013		EB4: CLF
SSE200450	EB4: Handover Associated Cable Duct to CLP	6	21MAR2013	27MAR2013	]	EB4: Handover Associate
SSE200460	EB4: CLP to Install HV Cables	60	28MAR2013	26MAY2013		
E&M Works	Installation		·		_	
Procurement and Building and St						
EMW110160	Coarse Screen: Lifting Appliance installation	50	11JAN2013	15MAR2013	7	Coarse Screen: Lifting Appliance installat
EMW120230	Inlet Pump St: Pump Installation	100	15NOV2012 A	25MAR2013		Inlet Pump St: Pump Installa
EMW120400	Inlet Pump St: Pipe and Valve Installation	90	07DEC2012A	28MAR2013		Inlet Pump St: Pipe and
EMW120500	Inlet Pump St: Lifting Appliance Installation	60	28DEC2012	14MAR2013	1	Inlet Pump St: Lifting Appliance Installation
EMW130330	Fine Screen: Fine Screen Installation (Ref)	105	22NOV2012 A	01FEB2013	-	Fine Screen: Fine Screen Installation (Ref)
EMW130360	Fine Screen: Lifting Appliance Installation	60	22NOV2012 A	19FEB2013		Fine Screen: Lifting Appliance Installation
EMW140450	Grit: Grit Conveyor Pipeworks Installation	85	20FEB2013	05JUN2013	1	
EMW152100	Septic Station: Delivery of E&M Equipment	180	17AUG2012 A	10JAN2013	_	Septic Station: Delivery of E&M Equipment
EMW153100	Septic Station: E&M Equipment Installation	60	12JAN2013	10APR2013	1	Septic
EMW161000	Access & WB System Equipment Procurement	120	290CT2012 A	27MAR2013	-	Access & WB System Eq
EMW163000	Access Control System Installation	80	28MAR2013	08JUL2013	+	
EMW164000	ALPR System Installation	80	28MAR2013	08JUL2013	-	
EMW181100	PTW: BS System Installation	66	28DEC2012	21MAR2013	-	PTW: BS System Installation
EMW191400	PTW: PTWMCC Install LV & Local Control Panel	20	02FEB2013	02MAR2013	-	PTW: PTWMCC Install LV & Local Control Panel
EMW191510	PTW: PTWMCC Cable Containment Installation	30	04MAR2013	08APR2013	-	PTW: PT
EMW191510B	PTW: CS H/O Duct MCC to PTWN/S (Power Cable)	0	31JAN2013		+	PTW: CS H/O Duct MCC to PTWN/S (Power Cable)
EMW200151	CEPT: Lifting App. Manuf. deliver to site	60	21FEB2012 A	16JAN2013		CEPT: Lifting App. Manuf. deliver to site
EMW201012	CEPT: Penstock Inlet side 2 Installation	20	20DEC2012 A	09JAN2013		CEPT: Penstock Inlet side 2 Installation
EMW201013	CEPT: Penstock Inlet side 3 Installation	20	10JAN2013	01FEB2013	-	CEPT: Penstock Inlet side 3 Installation
EMW201014	CEPT: Penstock Inlet side 4 Installation	20	02FEB2013	02MAR2013	-	CEPT: Penstock Inlet side 4 Installation
EMW201015	CEPT: Penstock Inlet side 5 Installation	20	04MAR2013	26MAR2013		CEPT: Penstock Inlet side
EMW201013	CEPT: Stoplog Outlet 1 Installation	15	16JAN2013	01FEB2013	-	CEPT: Stoplog Outlet 1 Installation
					-	CEPT: Stoplog Outlet 2 Installation
EMW201022	CEPT: Stoplog Outlet 2 Installation	15	02FEB2013	25FEB2013	-	CEPT: Stoplog Outlet 3 Installation
EMW201023	CEPT: Stoplog Outlet 3 Installation	15	26FEB2013	14MAR2013	-	CEPT: Stoplog Outlet's installation
EMW201024	CEPT: Stoplog Outlet 4 Installation	15	15MAR2013	01APR2013		
EMW201025	CEPT: Stoplog Outlet 5 Installation	15	02APR2013	23APR2013	-	
EMW201050	CEPT: Penstock Leakage Test	40	25MAR2013	15MAY2013	-	
EMW201084	CEPT: Tank 4 DO Cover Support G/L	20	17DEC2012 A	03JAN2013	_	CEPT: Tank 4 DO Cover Support G/L
EMW201085	CEPT: Tank 5 DO Cover Support G/L	20	17DEC2012 A	03JAN2013		CEPT: Tank 5 DO Cover Support G/L
EMW201113	CEPT: Scrapper 3 Drive Unit	15	28DEC2012	15JAN2013		CEPT: Scrapper 3 Drive Unit
EMW201114	CEPT: Scrapper 4 Drive Unit	15	04JAN2013	21JAN2013		CEPT: Scrapper 4 Drive Unit
EMW201115	CEPT: Scrapper 5 Drive Unit	15	12JAN2013	29JAN2013		CEPT: Scrapper 5 Drive Unit
EMW201123	CEPT: Scrapper 3 Bridge	30	16JAN2013	25FEB2013		CEPT: Scrapper 3 Bridge
EMW201124	CEPT: Scrapper 4 Bridge	30	28JAN2013	08MAR2013		CEPT: Scrapper 4 Bridge
EMW201125	CEPT: Scrapper 5 Bridge	30	15FEB2013	21MAR2013		CEPT: Scrapper 5 Bridge
EMW201410	CEPT: Scum Removal sys	20	27FEB2013	21MAR2013		CEPT: Scum Removal sys
EMW201420	CEPT: Scum Pipe Installation	30	22MAR2013	30APR2013		
EMW201500	CEPT: Chemical Dosing pipeworks Installation	100	24JAN2013	01JUN2013	]	
EMW202100	CEPT: Lifting Appliance Installation	45	17JAN2013	15MAR2013	1	CEPT: Lifting Appliance Installation
EMW208100	CEPT: BS System Installation	70	04DEC2012 A	04MAR2013	-	CEPT: BS System Installation
EMW211200	CEPT: CEPTMCC Delivery of Mat'l & Equipment	50	01DEC2012 A	19JAN2013		CEPT: CEPTMCC Delivery of Mat'l & Equipment
EMW304100	UV: Power Supply System Installation (ref)	75	28JAN2013	06MAY2013	1	
EMW308100	UV: BS system Installation	60	28JAN2013	17APR2013	1	
EMW311200	UV: UVMCC Delivery of Mat'l & Equipment	50	28DEC2012	15FEB2013	1	UV: UVMCC Delivery of Mat'l & Equipment
EMW311400	UV: UVMCC Install LV & Local Control Panel	20	16FEB2013	11MAR2013	1	UV: UVMCC Install LV & Local Control Panel
EMW311510	UV: UVMCC Cable Containment Installation	30	06MAR2013	10APR2013	+	UV: U
EMW311510A	UV: CS H/O Ducts from EB3 to UV Equipment	0	04MAR2013		-	♦ UV: CS H/O Ducts from EB3 to UV Equipment
EMW311520	UV: UVMCC Cable Laving (Fm. EB3)	84	12MAR2013	25JUN2013	-	
EMW322300	RWPS: Delivery of E&M Equipment	42	28DEC2012	07FEB2013	-	RWPS: Delivery of E&M Equipment
EMW322600	RWPS: BS Installation	30	02APR2013	11MAY2013	-	
EMW3232000	RWPS: RWMCC Delivery of Mat'l & Equipment	50	310CT2012 A	06FEB2013		RWPS: RWMCC Delivery of Mat'l & Equipment
EMW323300	RWPS: RWMCC Support Fabrication & Installation	20	28DEC2012	21JAN2013	-	RWPS: RWMCC Support Fabrication & Installation
EMW323310	RWPS: RWMCC into EB3	0		06FEB2013	-	RWPS: RWMCC into EB3
		1 V	1	100. 602010	1	



Contract No. D Design, Build a	C/2008/03 nd Operate Pillar Point Sewage Treatment Works											ATAL - Degremont - China	State Joint Venture
Activity ID	Description	Orig. Duration	Early Start	Early Finish	2012 DEC 17 24	31	07	JAN 14	21	28	2013 FEB    04  11  18  25	MAR  04  11  18  25	APR 01 08 1
EMW723100	DOU B: Scrubber Equipment Installation (ref)	70	16FEB2013	14MAY2013									1
EMW728100	DOU B: BS System Installation	50	16FEB2013	19APR2013									
EMW802200	Admin Bldg : Deliver of SCADA Eq. On site	15	28DEC2012	11JAN2013				Admin Blo	dg : Delive	er of SC	ADA Eq. On site		
EMW802250	All Area:: Delivery of ELV Eq. On site	30	15NOV2012 A	24JAN2013		-			A	II Area::	Delivery of ELV Eq. On site		
EMW802300	Admin Bldg : SCADA Equipment Installation	75	12JAN2013	19APR2013						_			
EMW802302	Admin Bldg : SCADA Installation - Rack and conso	25	28DEC2012	26JAN2013						Admin	Bldg : SCADA Installation - Rack and	l conso	
EMW802304	Admin Bldg : SCADA Installation - Workstation	25	28JAN2013	02MAR2013								Admin Bldg : SCADA Installation	- Workstation
EMW802306	Admin Bldg : SCADA Installation - Wiring & Connc	25	04MAR2013	01APR2013									Admin Bldg : SCA
EMW802350	Admin Bldg : ELV Equipment Installation	90	25JAN2013	22MAY2013									
EMW821010	Flowmeter: E&M Equipment Procurement	220	30NOV2011 A	21FEB2013							Flowmete	er: E&M Equipment Procurement	
EMW941340	Elect Bldg 1: Install LV & Local Control Panel	40	09JAN2013	01MAR2013	-							Elect Bldg 1: Install LV & Local Co	ntrol Panel
EMW941510	Elect Bldg 1: Cable Containment Installation	40	02MAR2013	22APR2013	-								
EMW941650	Elect Bldg 1: BS Installation in new extension	40	29NOV2012 A	09JAN2013			E	lect Bldg 1:	BS Insta	llation ir	n new extension		+
EMW942200	CB Main SW Rm Delivery of Mat'l & Equipment	40	28DEC2012	05FEB2013							CB Main SW Rm Delivery of M	lat'l & Equipment	
EMW942400	CB Main SW Rm Install LV & Local Control Panel	50	06FEB2013	11APR2013	-						1		CB N
EMW942510	CB Main SW Rm Cable Containment Installation	60	06FEB2013	26APR2013	-								
EMW942600	CB Main SW Rm BS sys installation	50	04JAN2013	08MAR2013	-							CB Main SW Rm BS sys	installation
EMW943400	Elect Bldg 3: Install LV & Local Control Panel	40	28DEC2012	19FEB2013							Elect Bldg 3	: Install LV & Local Control Panel	+
EMW943510	Elect Bldg 3: Cable Containment Installation	40	10JAN2013	02MAR2013								Elect Bldg 3: Cable Containment	Installation
EMW943520	Elect Bldg 3: Cable Laying	40	26FEB2013	17APR2013	1								1
EMW943530	Elect Bldg 3: Cable Test and Termination	50	15MAR2013	18MAY2013	1								
EMW943600	Elect Bldg 3: BS System Installation	60	10DEC2012 A	19FEB2013	_					_	Elect Bldg 3	: BS System Installation	
EMW943610	Elect Bldg 3: BS System Installation	60	10DEC2012 A	19FEB2013							Elect Bldg 3	BS System Installation	

Start date	14JUL2010		Early bar
Finish date	07MAY2014		, , , , , , , , , , , , , , , , , , , ,
Data date	28DEC2012		Progress bar
Run date	06JAN2013	PPSTW Three Month Rolling Programme - January to March 2013	Critical bar
Page number			Summary bar
Project name			Start milestone point
© Primavera	Systems, Inc.		<ul> <li>Finish milestone point</li> </ul>