ATAL-Degrémont-China State Joint Venture

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

August 2011

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August 2011

Reference 0119806

For and on behalf of
ERM-Hong Kong, Limited

Approved by: Frank Wan

Signed:

Position: Partner

Certified by:
(Environmental Team Leader – Roger Leung)

Certified by:
(Registered Landscape Architect (R078) - Christina Ip)

Date: 12 August 2011

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Drainage Services Department
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Harbour Area Treatment Scheme Division
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Attn: Mr. Eddie S.K. LEUNG (T:2159 3413)

12 August 2011

Dear Sir,

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

Monthly EM&A Report for July 2011

Reference is made to Environmental Team (ET)'s revised draft of the Monthly EM&A Report for July 2011 provided by email dated 11 August 2011. 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 3105 8537.

For and on behalf of
AECOM Asia Co. Ltd.

Y T Tang
Independent Environmental Checker

c.c. AECOM – Mr. Tim Lee (Fax No. 2317 7609)
ERM – Ms. Winnie Ko (Fax No. 2723 5660)
ATAL–Degremont–China State JV – Mr. C.Y. Fong (Fax No. 2811 3321)

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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 9th monthly Environmental Monitoring and Audit (EM&A) report presenting the EM&A works carried out during the period from 1 to 31 July 2011 in accordance with the EM&A Manual.

Summary of Construction Works undertaken during the Reporting Month

Works undertaken during the reporting month included:

- Constructing vertical blinding at zone 3, 4 and 5;
- Installation and surrounding concrete for Φ1600 steel pipe, at zone 3,4 and 5;
- Installation and surrounding concrete for Φ200 DI pipe at zone 5;
- Constructing rebar and formwork for sump pit and trench at bay 1;
- Constructing rebar and formwork for corridor slab at bay 4;
- Constructing vertical blinding for north;
- Constructing rebar and formwork and concreting for sump pit;
- Making good formation for admin building;
- California bearing ratio test for admin building;
- Building works for admin building.

Environmental Monitoring and Audit Progress

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

• 24-hour average TSP Monitoring at each monitoring station (AM1 and AM2)	5 sets
• 1-hour average TSP Monitoring at each monitoring station (AM1 and AM2)	15 sets
• Joint Environmental Site Inspection	5 times
• Landscape & Visual Monitoring	once

Air Quality

5 sets of 24-hour average TSP and 15 sets of 1-hr average 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). A total of 523 tonnes of public fill were delivered to the fill bank and 30kg of metals, paper/cardboard and plastics were sent to recyclers in the reporting period. 7.2 tones of general refuse and no chemical waste was disposed of in the reporting period.

Environmental Site Inspection

Five weekly joint environmental site inspections were carried out by the representatives of the Contractor, the 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 29 July 2011. 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:

- Concrete structuring for Bay 2 base slab, cone shape central pit and outer wall construction;
- Backfilling work at Westside of corridor at Bay 2;
- Constructing sump pipe base slab for Bay 3, 4 and 5;
- Constructing pipe trench between Bay 1 and Zone 2;
- Constructing piling platform at east side of corridor of Zone 1 to 5;
- Constructing base slab and wall at PTW;
- Replacing of soft formation by rock fill;
- Blinding concrete; and
- Constructing base slab at admin building.

Potential environmental impacts arising from the above construction activities are mainly associated with dust, construction noise, site runoff, 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 9th EM&A report which summarises the impact monitoring results and audit findings for the EM&A programme during the reporting period from **1** to **31 July 2011**.

1.2 STRUCTURE OF THE REPORT

The structure of the report is as follows:

Section 1 : **Introduction**
details the scope and structure of the report.

Section 2 : **Project Information**
summarises background and scope of the Project, site description, project organization, construction programme, the construction works undertaken and the status of Environmental Permits (EP)/licences over the construction phase of the Project.

Section 3 : **Environmental Monitoring Requirements**
summarises the environmental monitoring including monitoring parameters, monitoring programmes, monitoring methodologies, monitoring frequency, monitoring locations, Action and Limit Levels, Event/Action Plans, environmental mitigation measures as recommended in the approved EIA report, EP and relevant environmental requirements stated in the Contract Specification.

Section 4 : **Implementation Status on Environmental Mitigation Measures**
summarises the implementation of environmental protection measures during the reporting period.

Section 5 : **Monitoring Results**
summarises the monitoring results obtained in the reporting period.

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

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

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

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

Section 10 : **Review of the EM&A Data and Predictions**
compares the monitoring data and waste quantity against predictions in the approved Project EIA report.

Section 11 : **Conclusions**

2 PROJECT INFORMATION

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 Road to its north. It is a preliminary treatment works with screening and grit removal processes with treated effluent 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 to expand the sewage treatment capacity and to upgrade the plant to chemically enhanced primary treatment (CEPT) with disinfection in order to cater for the projected ultimate population and planned developments in the Tuen Mun area, and to improve the effluent quality and hence to reduce 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 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 A*.

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 3 months is presented in *Annex L*.

Table 2.1 Summary of Construction Activities Undertaken during the Reporting Period

Construction Activities Undertaken
• Constructing vertical blinding at zone 3, 4 and 5;
• Installation and surrounding concrete of Φ1600 steel pipe at zone 3, 4 and 5;
• Installation and surrounding concrete of Φ200 DI pipe zone 5;
• Constructing rebar and formwork for sump pit and trench at bay 1;
• Constructing rebar and formwork for corridor slab at bay 4
• Constructing vertical blinding for north;
• Constructing rebar and formwork and concreting for sump pit;
• Making good formation for admin building;
• California bearing ratio test for admin building; and
• Building works for admin building

2.4 PROJECT ORGANISATION AND MANAGEMENT STRUCTURE

The project organization 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 2.2 Summary of Environmental Licensing, Notification and Permit Status

Permit/ Licences/ Notification	Reference	Validity Period	Remarks
Environmental Permit	EP-321/2008	Throughout the Contract	Permit granted on 17 November 2008.
Notification of Construction Works under Air Pollution Control (Construction Dust) Regulation	Ref No. 308136	Throughout the Contract	-
Water Discharge License	WT00008027-2010	Till 31 December 2015	Wastewater discharge licence was issued by EPD on 7 December 2010.
Construction Noise Permit	GW-RW0074-11	28 January 2011 – 27 July 2011	-
	GW-RW0471-11	28 July 2011 – 27 January 2012	-
Chemical Waste Producer Registration	5213-421-A2620-01	Throughout the Contract	Licence approved on 28 October 2010

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 2.1* 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 3.1 Construction 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 Parameters 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 average 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 TSP	Once every 6 days
1-hour 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 3.3 Action and Limit Levels for Air Quality

Parameter	Air Monitoring Station	Action Level, μgm^{-3}	Limit Level, μgm^{-3}
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 average TSP monitoring were performed using High Volume Samplers (HVS) with appropriate sampling inlets installed, 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 3.4 TSP 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 9833620)
AM2	GMW GS-2310 (S/N 1252), CM-AIR-43 (S/N 9833620)

3.1.5 Monitoring Methodology

The setup locations of the HVSs at monitoring stations 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 were nearby;
- airflow around the sampler was unrestricted; and
- permission was obtained to set up the samplers and to 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, implements 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 the 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;
- the 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;
- then the shelter lid was closed and secured with the aluminium strip;
- the HVSs were warmed-up for about 5 minutes to establish run-temperature conditions;
- a new flowrate record sheet was set into the flow recorder;
- the flow rates of the HVSs were checked and adjusted to between 1.22 - 1.37 m^3min^{-1} which were within the range specified in the EM&A Manual (ie 0.6 – 1.7 m^3min^{-1});
- 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 folder in half length so that only surfaces with collected particulate matter were in contact;
- it was then 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, such as replacing motor brushes routinely and checking electrical wiring to ensure a continuous power supply; and
- the flow rate of each HVS with mass flow controller were calibrated using an orifice calibrator. Initial calibrations of the dust monitoring equipments 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 G*.

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 F*.

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 relevant environmental mitigation measures listed in the EIA Report and the EM&A Manual as well as the specific environmental requirements stated in 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*.

4 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The Contractor has implemented environmental mitigation measures and requirements as stated in the 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 average TSP measurements have been undertaken at each of the monitoring stations (AM1 and AM2) during the reporting period. The monitoring data for 24-hour TSP and 1-hour average TSP together with wind data and graphical presentations for the past 4 months are presented in *Annex F*. The weather conditions during the monitoring period were ranges from Sunny 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 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 of 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 (*Annex J*). With reference to 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* below. The public fill and construction waste generated from the Project have been disposed of at the Tuen Mun Area 38 Fill Bank and WENT Landfill, respectively. 15 kg of metals, 5 kg of paper/cardboard packaging and 10 kg of plastics were sent to recyclers for recycling during the reporting period.

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

Month / Year	**Quantity**		
	C&D Materials Disposed of at Public Fill (inert) [(a)]	**C&D Materials Disposed of at Landfill (Non-inert) (Construction waste) [(b)] [(c)]**	**Chemical Waste[(d)]**
July 2011	522.91 tonnes	7.20 tonnes	0 L

Notes:

(a) Inert C&D materials (public fill) include bricks, concrete, building debris, rubble and excavated soil. Total 522.91 tonnes of public fill were generated and were disposed of at the Tuen Mun Area 38 Fill Bank.

(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 are grouped into construction wastes as the materials were not disposed of with others at the public fill. 7.20 tonnes of general refuse is recorded in the reporting month. Construction wastes other than metals and paper/cardboard packaging were disposed of at WENT Landfill. 15 kg of metals, 5 kg of paper/cardboard packaging and 10 kg of plastics were recovered and sent to recyclers for recycling during the reporting period.

(c) General refuse was disposed of at WENT by subcontractors.

(d) 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 ENVIRONMENTAL INSPECTIONS

7.1 WEEKLY SITE AUDITS

Joint site inspections were conducted by representatives of the Contractor, SOR and the ET on 8, 15, 22 and 29 July 2011. The IEC was also present during the joint inspection on 22 July 2011. There was no non-compliance recorded during the site inspections.

Major observations during the reporting period were summarised as follows:

8 July 2011

- Dusty C&D wastes were observed at P2 near the Gate one and at the assess road. The Contractor was reminded to cover the dusty C&D wastes immediately with tarpaulin sheet to prevent dust generation.
- Leakage of water was observed in P2 near the entrance of construction area. Also the water was observed to be oily and rusty. The Contractor was reminded to repair the pipe within 3 working days, remove the oil immediately, and to be disposed of as chemical waste via licensed chemical waste collector.
- A generator and a few bottles of hydraulic oil were observed not placed upon a drip tray at the stockpiling area to prevent leakage of oil to the ground surface. The Contractor was reminded to provide drip tray(s) for them within 3 working days.
- Oil stains were observed at the stockpiling area. The contractor was reminded to remove the oil stain within 3 working days and to dispose of it as chemical waste via licensed chemical waste collector.
- Stockpile at the stockpiling area was observed not properly covered by tarpaulin sheet. The Contractor was reminded to cover the stockpile properly within 3 working days.
- Stagnant water was observed in the holes of Zone 1 to 5. The Contractor was suggested to spray mosquito oil into the hole within 3 working days to prevent breeding of mosquito.

15 July 2011

- Dusty C&D wastes were observed at P2 near the Gate one. The Contractor was reminded to cover the dusty C&D wastes immediately with tarpaulin sheet or remove the C&D waste to prevent dust generation.
- Stagnant water was observed inside the Φ1600 pipes. The Contractor was suggested to remove the stagnant water and cover the opening of the pipe within 3 working days to prevent breeding of mosquito.

22 July 2011

- It was observed that some tarpaulin sheets used to prevent erosion at T1 were damaged and some soil was observed gathered at the drainage channel outside the site boundary. The Contractor was reminded to replace those damaged tarpaulin sheets and remove the soil within 3 working days to prevent erosion.
- Stagnant water was observed at the U-channel near Gate 1 at P2. The Contractor was reminded to remove the stagnant water and clean-up the blocked channel within 3 working days.
- Dusty C&D wastes were observed at P2 near the Gate one. The Contractor was reminded to cover the dusty C&D wastes immediately with tarpaulin sheet or remove the C&D waste to prevent dust generation.
- Stagnant water was observed inside the Φ1600 pipes. The Contractor was suggested to remove the stagnant water and cover the opening of the pipe within 3 working days to prevent breeding of mosquito.
- Stagnant water was observed under the steel reinforcement. The Contractor was reminded to remove the water to prevent breeding of mosquitoes within 3 working days.

29 July 2011

- Stagnant water was observed at the U-channel near Gate 1 at P2. The Contractor was reminded to remove the stagnant water and clean-up the blocked channel within 3 working days.
- Dusty C&D wastes were observed at P2 near the Gate 1. The Contractor was reminded to cover the dusty C&D wastes immediately with tarpaulin sheet or remove the C&D waste to prevent dust generation.
- Stagnant water was observed inside the Φ1600 pipes. The Contractor was suggested to remove the stagnant water and to cover the opening of the pipe at once when feasible to prevent breeding of mosquitoes.
- It was observed that the soil stockpile was not properly covered by tarpaulin sheet at stockpile area. The Contraction was reminded to properly cover the exposed soil stockpile with tarpaulin sheets to prevent generation of dust and erosion within 3 working days.
- Stagnant water was observed on tarpaulin sheet at stockpile area, waste container at steel storage area and corridor at P2 working site. The Contractor was reminded to remove the stagnant water immediately and take proper preventive measurements including making some holes at the lowest point of tarpaulin sheets and properly cover the waster container to prevent occurrence of stagnant water within 3 working days.
- General refuse and construction waste were observed at steel storage area. The Contractor was reminded to remove these materials and to implement good housekeeping practices immediately. All collected general wastes and construction waste materials should be segregated and temporarily stored properly on-site and be disposed of in an appropriate manner.
- Leakage of fresh water was observed at P2 near the steel storage area. The Contractor was suggested to fix the pipe within 3 working days.

Follow-up actions were undertaken as reported by the Contractor and observed in the next weekly 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. Review on landscape and visual mitigation measures was performed on 29 July 2011. 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 were summarised as follow:

29 July 2011

- The transplanted trees within the nursery site were pruned improperly and have cut back to stubs. It has been agreed by the Contractor, ET and RE that all the improper pruning will be rectified by further reduction to the branch collar before next landscape and visual inspection.
- A rope was found tied to a tree trunk to provide stability to its nearby facilities. The Contractor was reminded to remove the rope immediately and not to use any tree as anchor during construction to avoid damage to trees and affect their growth.

The Contractor was reminded to implement follow-up actions and the status of the follow-up actions will be reviewed in the first weekly site inspections in the next reporting period.

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

- Set up of a temporary tree nursery;
- Control dust and erosion of exposed soil;
- Stockpiling of topsoil for future reuse;
- Maintain existing tree record inventory; and
- Re-use existing top soil for new planting areas.

8 ENVIRONMENTAL NON-CONFORMANCE

8.1.1 Summary of Monitoring Exceedance

No exceedances of Action and Limit Levels of 1-hr and 24-hr TSP were 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 summons/prosecution 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 during the coming monitoring period are summarised in *Table 9.1 below.*

Table 9.1 Construction Works to be Undertaken during the Next Reporting Period

Work to be taken
• Concrete structuring for Bay 2 base slab, cone shape central pit and outer wall construction;
• Backfilling work at Westside of corridor at Bay 2;
• Constructing sump pipe base slab for Bay 3, 4 and 5;
• Constructing pipe trench between Bay 1 and Zone 2;
• Constructing piling platform at east side of corridor of Zone 1 to 5;
• Constructing base slab and wall at PTW;
• Replacing of soft formation by rock fill;
• Blinding concrete; and
• Constructing base slab at admin building.

Potential environmental impacts arising from the above construction activities will mainly be associated with dust, construction noise, site runoff, 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 to cater for the nature of works in progress.

9.1.3 Construction Programme for the Next Three Months

The most updated construction programme for the Project is presented in *Annex L*.

10.1 AIR QUALITY

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

Table 10.1 Comparison of the HKAQO and Air Quality Monitoring Results

Monitoring Station	HKAQO, ugm^{-3}	Measured 24-hour TSP Monitoring Results, ugm^{-3} (a) (b)	
	24 hour (1)	Average	Range
AM1	260	75	60 - 100
AM2	260	84	60 - 102

Notes:

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

(b) Average and range of data were calculated between the commencement of construction works and this reporting month.

The monitoring results show that the average and range of 24-hour TSP levels recorded since the commencement of the construction works have been well within 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 in this Project and the accumulated 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 larger than the estimated amount in EIA. With reference to the C&D Material Assessment (Contractor's General Submission (CSF) No.: DC200803/CSF/SAF/060026/A), the difference in quantity is mainly due to differences in excavation depths and 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.

Table 10.2 Quantity of Actual Amount of C&D Materials, General Wastes and Chemical Wastes Generated and EIA Estimation

Type of Material	Estimated Amount of Public Fill and Construction Waste in EIA (inert & non-inert)	Estimated Amount of Public Fill and Construction Waste in C&D Material Assessment (CSF No.: DC200803/CSF/SAF/060026/A) [c]	Accumulated Actual Amount of Public Fill and Construction Waste Recorded [a] [b] [d] (inert & non-inert)
Amount of C&D Materials Arising	61,489 m^3	77,600 m^3	70,894 m^3
Amount of C&D Materials Reused on other site	-	-	3,164 m^3
Amount of C&D Materials Reused on site	14,926 m^3	18,000 m^3	0 m^3
Amount of C&D Materials Sent to Public Fills	46,563m^3	59,600 m^3	67,730m^3
General Refuse	Small	-	91.4 tonnes
Chemical Waste	Small	-	360 L

Notes:

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

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

(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) due to the new plant & facility layout.

(d) The waste flow data for April and May 2011 was updated in June 2011 based on SOR's comments and has been confirmed by the Contractor. Detail of changes is shown in Annex J.

10.3 CONCLUSION OF REVIEW

The EIA predictions and the monitoring results since the commencement of construction works have been reviewed. The EIA concluded that the Project would not cause adverse impacts to the environment, and the monitoring results have also indicated the same 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.

11 CONCLUSIONS

This EM&A Report presents the EM&A programme undertaken during the reporting period from 1 to 31 July 2011 in accordance with EM&A Manual and requirements of EP (EP-321/2008).

No exceedance of Action and Limit Levels of 24-hour and 1-hour average 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 would be implemented by the Contractor to improve protection measures on the retained or to-be transplanted trees.

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

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

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

Annex A

Location of Project

PROPOSED FACILITIES AND BUILDINGS

SECTION 1 INLET PUMPING STATION AND PRELIMINARY TREATMENT WORKS

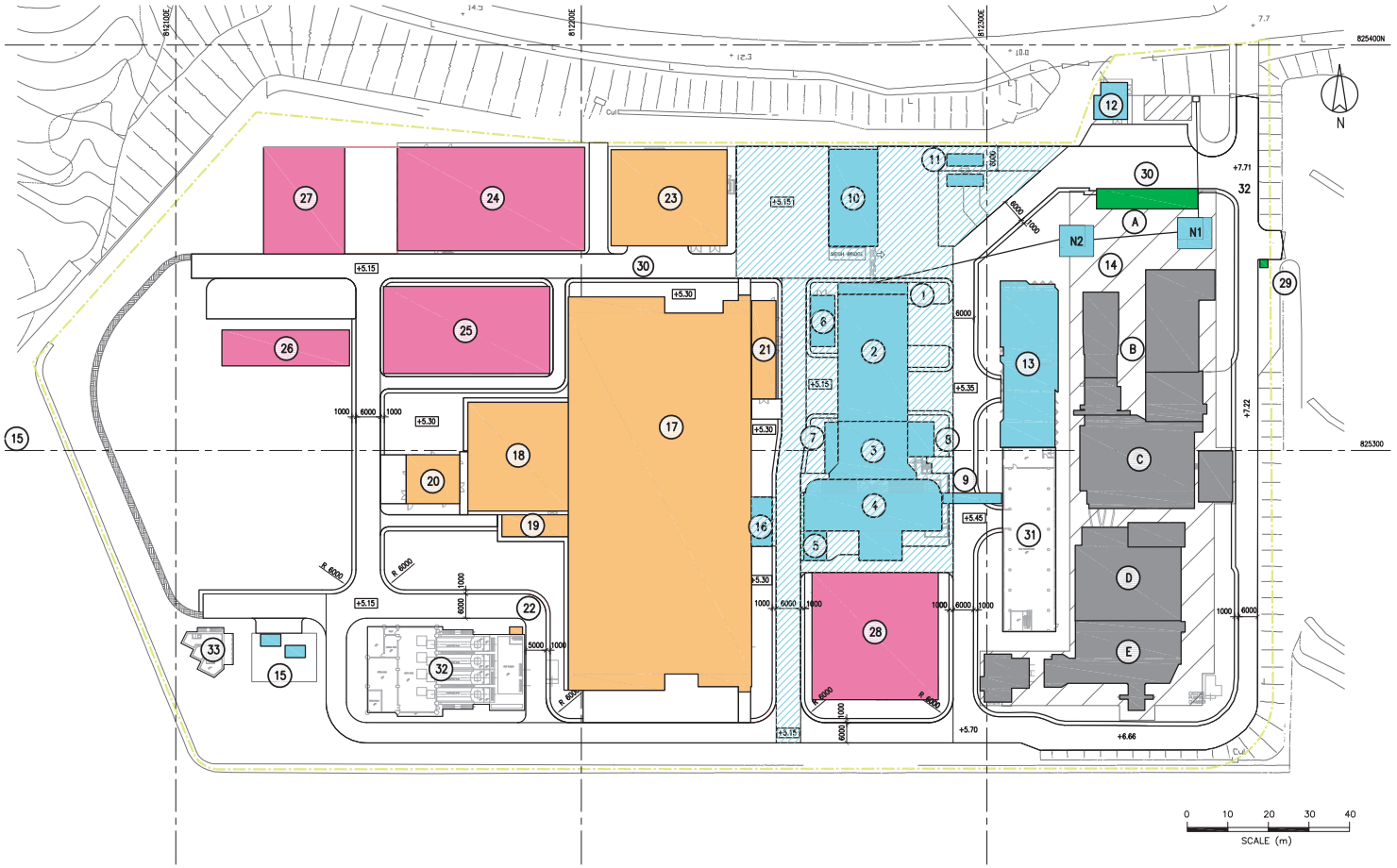
1. INLET CHAMBER
2. COARSE SCREENS AND INLET PUMPING STATION
3. FINE SCREEN CHANNELS
4. GRIT CHAMBERS
5. INLET FLOWMETER CHAMBER
6. PTW MCC ROOM
7. BLOWER ROOM
8. SCREENING SKIP HOUSE
9. ODOR DUCT SUPPORTING BRIDGE
10. SEPTIC WASTE RECEPTION STATION
11. WEIGHBRIDGE
12. ELECTRICAL BUILDING 1
13. ADMINISTRATION BUILDING
14. INLET CHAMBERS
15. PAYMENT FLOWMETER CHAMBER
16. CEPT INLET CHAMBER

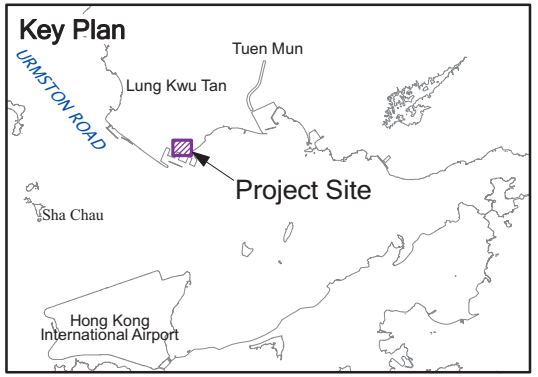
SECTION 2 CEPT TANKS UV DISINFECTION

17. CEPT TANKS
18. UV DISINFECTION CHANNELS
19. REUSE WATER PUMP ROOM
20. ELECTRICAL BUILDING 3
21. ELECTRICAL BUILDING 2
22. OUTFALL PUMPING STATION CONNECTION CHAMBER
23. CHEMICAL BUILDING

SECTION 3 SLUDGE TREATMENT & HANDLING AND ODOUR CONTROL

24. SLUDGE DEWATERING BUILDING
25. DEODORISATION UNITS (B)
26. SLUDGE SKIP STORAGE BUILDING
27. SLUDGE SKIP LOADING AREA
28. DEODORISATION UNITS (A)





SECTION 4 EXISTING BUILDINGS TO BE DEMOLISHED

- A ADMINISTRATION BUILDING
- B INLET SCREW PUMPING STATION AND MOTOR HOUSE
- C COARSE SCREENS
- D BLOWER HOUSE AND GRIT CHANNELS
- E FINE SCREEN CHANNELS AND FLOWMETER CHAMBER

SECTION 5 EXTERNAL WORKS

- 29 GATE HOUSE
- 30 CAR PARK

EXISTING BUILDING TO BE RETAINED

- 31 EXISTING SOLID HANDING BUILDING
- 32 EXISTING OUTFALL PUMPING STATION
- 33 EXISTING TERMINAL MANHOLE

Annex A

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

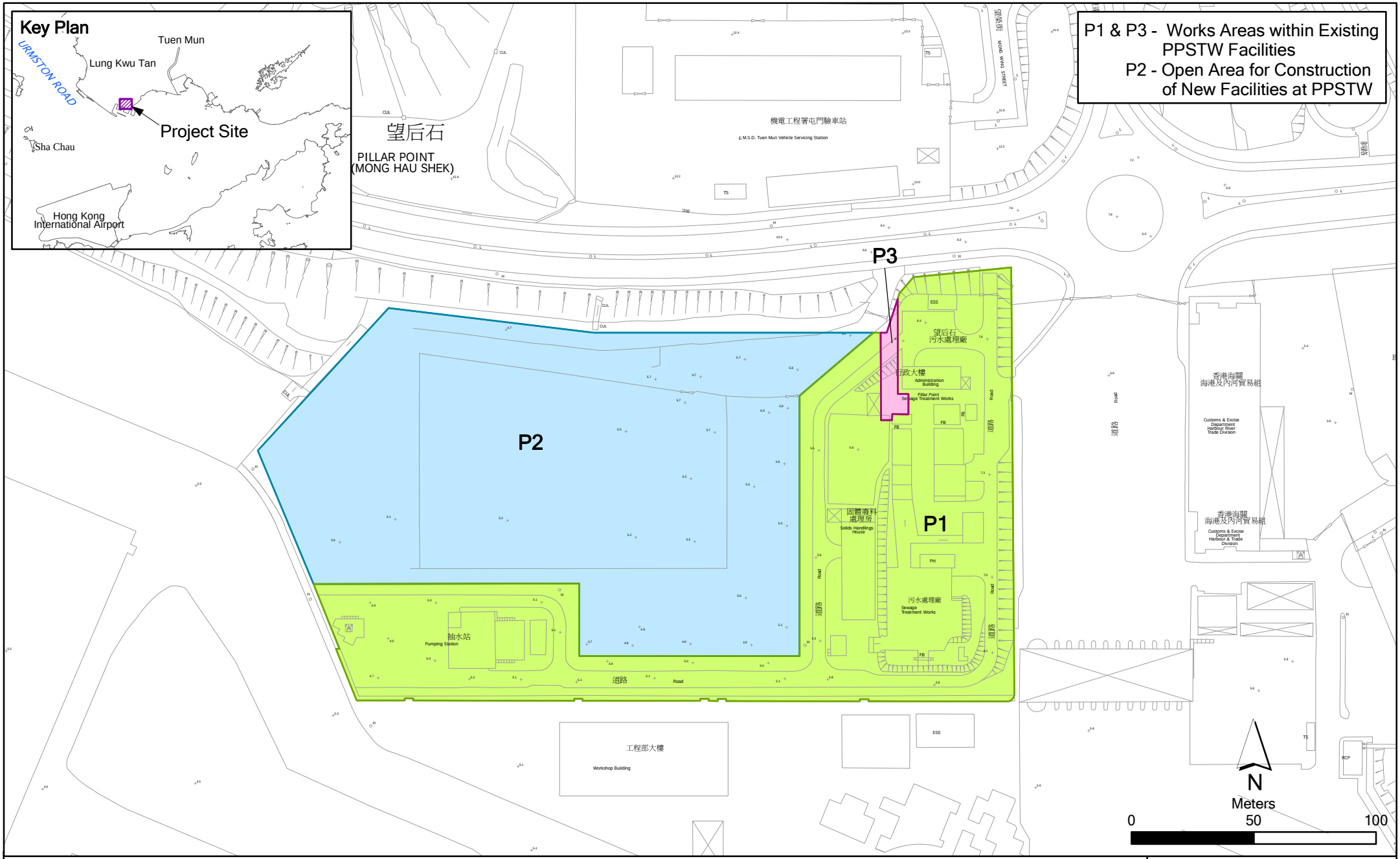
FILE: 0119806c
DATE: 20/12/2010

Environmental Resources Management

ERM

Annex B

Works Location



Annex B

Location of Works Areas

File: 0119806_location of works.mxd
Date: 15/12/2010

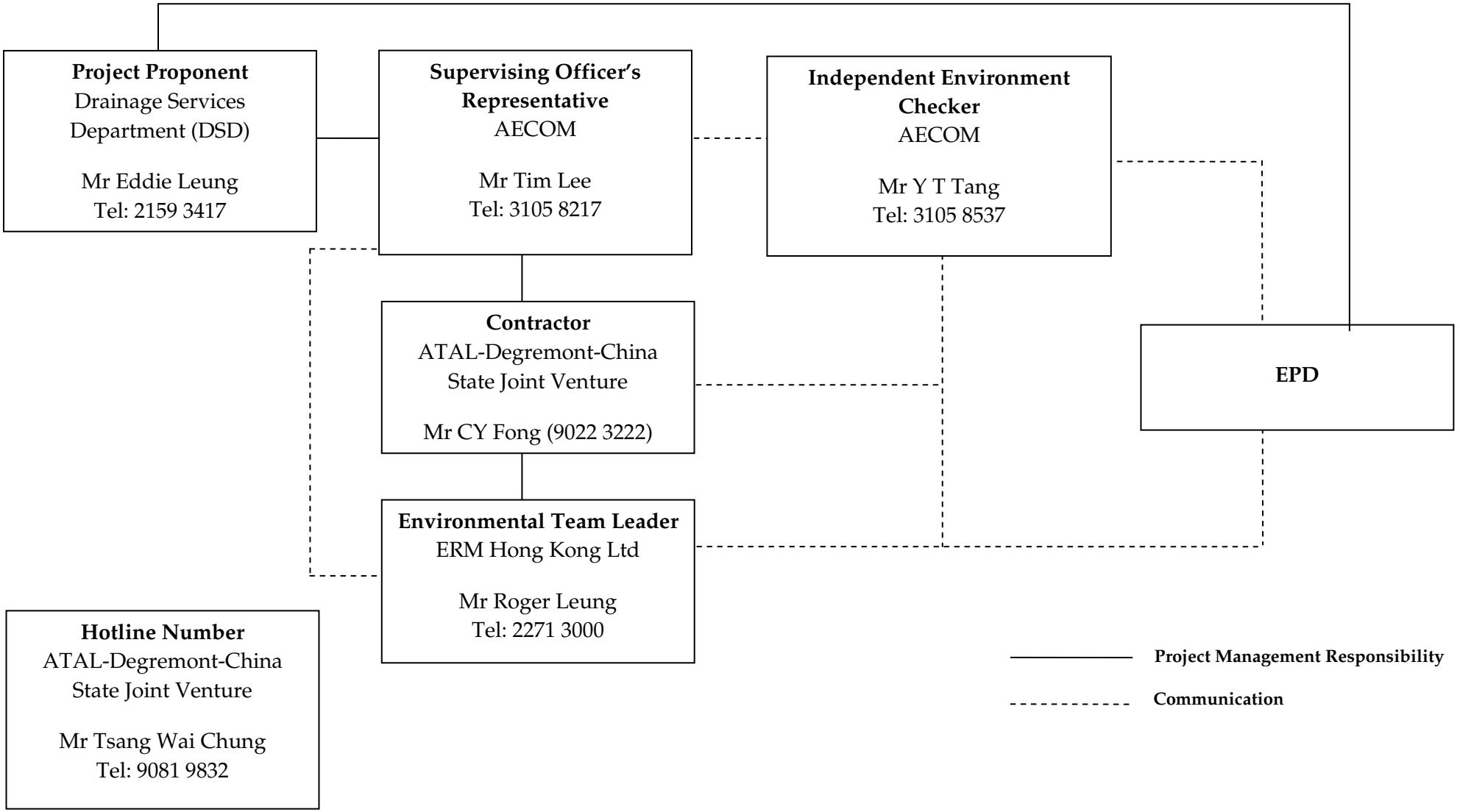
Environmental Resources Management

ERM

Annex C

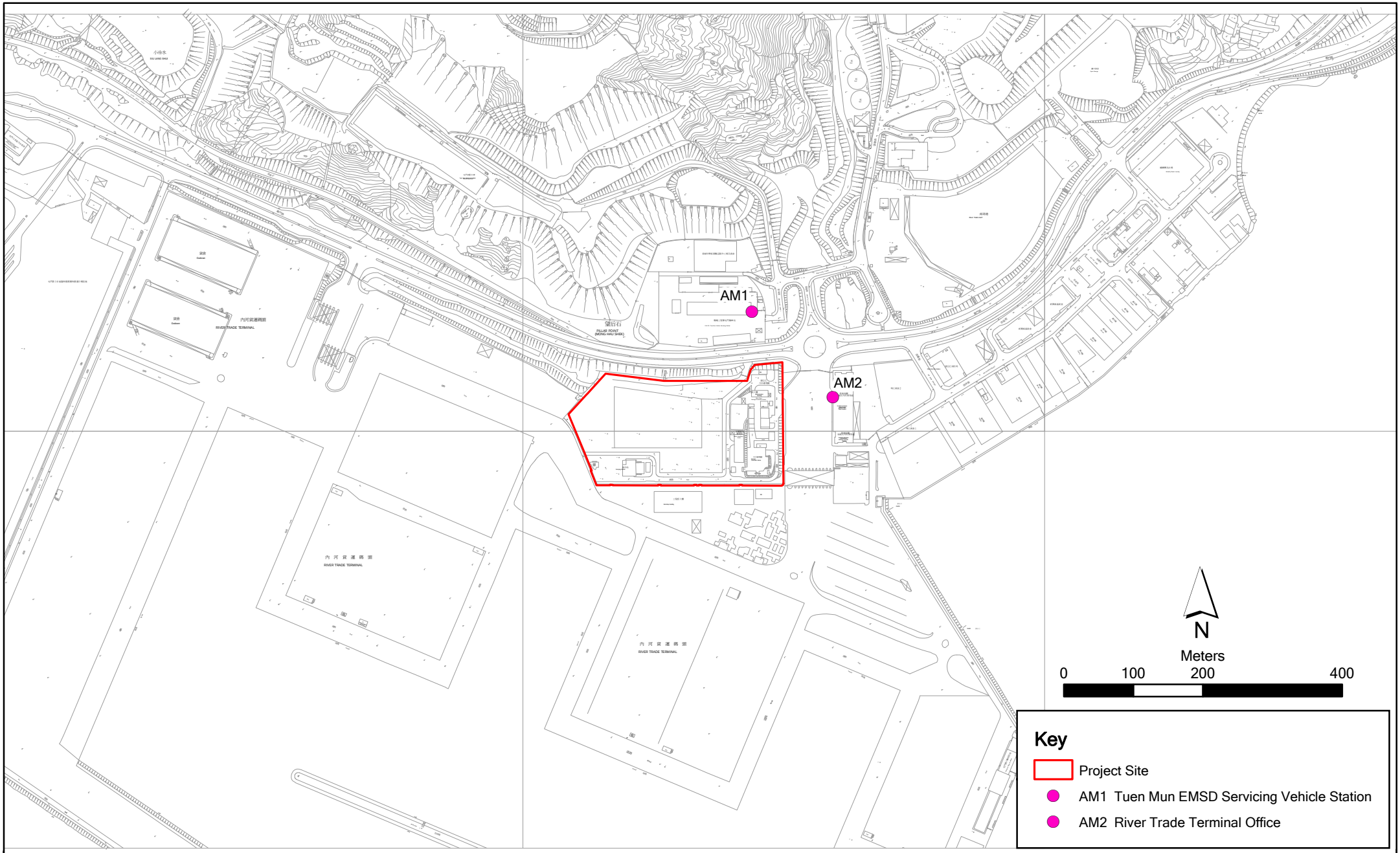
Project Organization Chart with Contact Details

Project Organization During Construction Phase (with contact details)



Annex D

Locations of Air Quality Monitoring Stations



Annex D

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

File: 0119806_Site Boundary.mxd
Date: 15/12/2010

Environmental Resources Management

ERM

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)
July 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					01-Jul	02-Jul
03-Jul	04-Jul	05-Jul	06-Jul	07-Jul	08-Jul	09-Jul
	3X1-hr & 1X 24-hr TSP					3X1-hr & 1X 24-hr TSP
10-Jul	11-Jul	12-Jul	13-Jul	14-Jul	15-Jul	16-Jul
					3X1-hr & 1X 24-hr TSP	
17-Jul	18-Jul	19-Jul	20-Jul	21-Jul	22-Jul	23-Jul
				3X1-hr & 1X 24-hr TSP		
24-Jul	25-Jul	26-Jul	27-Jul	28-Jul	29-Jul	30-Jul
			3X1-hr & 1X 24-hr TSP			
31-Jul						

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)
August 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	01-Aug	02-Aug	03-Aug	04-Aug	05-Aug	06-Aug
		3X1-hr & 1X 24-hr TSP				
07-Aug	08-Aug	09-Aug	10-Aug	11-Aug	12-Aug	13-Aug
	3X1-hr & 1X 24-hr TSP					3X1-hr & 1X 24-hr TSP
14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	20-Aug
					3X1-hr & 1X 24-hr TSP	
21-Aug	22-Aug	23-Aug	24-Aug	25-Aug	26-Aug	27-Aug
				3X1-hr & 1X 24-hr TSP		
28-Aug	29-Aug	30-Aug	31-Aug	01-Sep		
			3X1-hr & 1X 24-hr TSP			

Annex F

24-hour and 1-hour TSP Monitoring Results

Annex F - 24-hour and 1-hour TSP Monitoring Results

1-hour TSP Monitoring Results

Station AM1

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (℃)	Wind Speed * (m/s)	Sampler ID	Filter ID
04-Jul-11	13:10	14:10	Sunny	77	343	500	Construction work in progress	31	*	7580	9216
	14:10	15:10	Sunny	85	343	500	Construction work in progress	31.5	*	7580	9217
	15:10	16:10	Sunny	87	343	500	Construction work in progress	32.5	*	7580	9218
09-Jul-11	13:10	14:10	Sunny	175	343	500	Construction work in progress	31	*	7580	9256
	14:10	15:10	Sunny	159	343	500	Construction work in progress	31	*	7580	9257
	15:10	16:10	Sunny	180	343	500	Construction work in progress	31.5	*	7580	9258
15-Jul-11	13:10	14:10	Cloudy	120	343	500	Construction work in progress	29	*	7580	9272
	14:10	15:10	Cloudy	101	343	500	Construction work in progress	29	*	7580	9273
	15:10	16:10	Cloudy	106	343	500	Construction work in progress	29	*	7580	9274
21-Jul-11	13:10	14:10	Sunny	152	343	500	Construction work in progress	31	*	7580	9288
	14:10	15:10	Sunny	152	343	500	Construction work in progress	31.5	*	7580	9289
	15:10	16:10	Sunny	167	343	500	Construction work in progress	32	*	7580	9290
27-Jul-11	13:10	14:10	Sunny	146	343	500	Construction work in progress	31.5	*	7580	9320
	14:10	15:10	Sunny	128	343	500	Construction work in progress	32.5	*	7580	9321
	15:10	16:10	Sunny	131	343	500	Construction work in progress	33	*	7580	9322
			Min.	**77**							
			Max.	**180**							
			Average	**131**							

* Wind Speed data is presented in the Meteorological Data table

Annex F - 24-hour and 1-hour TSP Monitoring Results

1-hour TSP Monitoring Results

Station AM2

Date	Start Time	Finish Time	Weather	TSP Concentration ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Site Conditions / Observations / Remarks	Temperature (℃)	Wind Speed * (m/s)	Sampler ID	Filter ID
04-Jul-11	13:00	14:00	Sunny	92	383	500	Construction work in progress	31	*	1252	9212
	14:00	15:00	Sunny	83	383	500	Construction work in progress	31.5	*	1252	9213
	15:00	16:00	Sunny	78	383	500	Construction work in progress	32.5	*	1252	9214
09-Jul-11	13:00	14:00	Sunny	137	343	500	Construction work in progress	31	*	1252	9252
	14:00	15:00	Sunny	141	343	500	Construction work in progress	31	*	1252	9253
	15:00	16:00	Sunny	155	343	500	Construction work in progress	31.5	*	1252	9254
15-Jul-11	13:00	14:00	Cloudy	159	383	500	Construction work in progress	29	*	1252	9268
	14:00	15:00	Cloudy	161	383	500	Construction work in progress	29	*	1252	9269
	15:00	16:00	Cloudy	169	383	500	Construction work in progress	29	*	1252	9270
21-Jul-11	13:00	14:00	Sunny	188	383	500	Construction work in progress	31	*	1252	9284
	14:00	15:00	Sunny	195	383	500	Construction work in progress	31.5	*	1252	9285
	15:00	16:00	Sunny	181	383	500	Construction work in progress	32	*	1252	9286
27-Jul-11	13:00	14:00	Sunny	168	383	500	Construction work in progress	31.5	*	1252	9316
	14:00	15:00	Sunny	180	383	500	Construction work in progress	32.5	*	1252	9317
	15:00	16:00	Sunny	164	383	500	Construction work in progress	33	*	1252	9318
			Min.	**78**							
			Max.	**195**							
			Average	**150**							

* Wind Speed data is presented in the Meteorological Data table

Annex F - 24-hour and 1-hour TSP Monitoring Results

24-hour TSP Monitoring Results

Station AM1

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m^3/min)			TSP Conc. ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
04-Jul-11	16:10	05-Jul-11	16:10	Sunny	2.8637	2.9774	11279.18	11303.18	24.00	1.27	1.27	1.27	62	183	260	Construction work in progress	7580	9219
09-Jul-11	16:10	10-Jul-11	16:10	Sunny	2.8112	2.9420	11306.18	11330.18	24.00	1.26	1.26	1.26	72	183	260	Construction work in progress	7580	9259
15-Jul-11	16:10	16-Jul-11	16:10	Cloudy	2.8824	2.9966	11333.18	11357.18	24.00	1.26	1.26	1.26	63	183	260	Construction work in progress	7580	9275
21-Jul-11	16:10	22-Jul-11	16:10	Sunny	2.8662	3.0125	11360.18	11384.18	24.00	1.26	1.26	1.26	81	183	260	Construction work in progress	7580	9291
27-Jul-11	16:10	28-Jul-11	16:10	Sunny	2.8227	2.9702	11387.18	11411.18	24.00	1.26	1.26	1.26	81	183	260	Construction work in progress	7580	9323
												Min.	**62**					
												Max.	**81**					
												Average	**72**					

24-hour TSP Monitoring Results

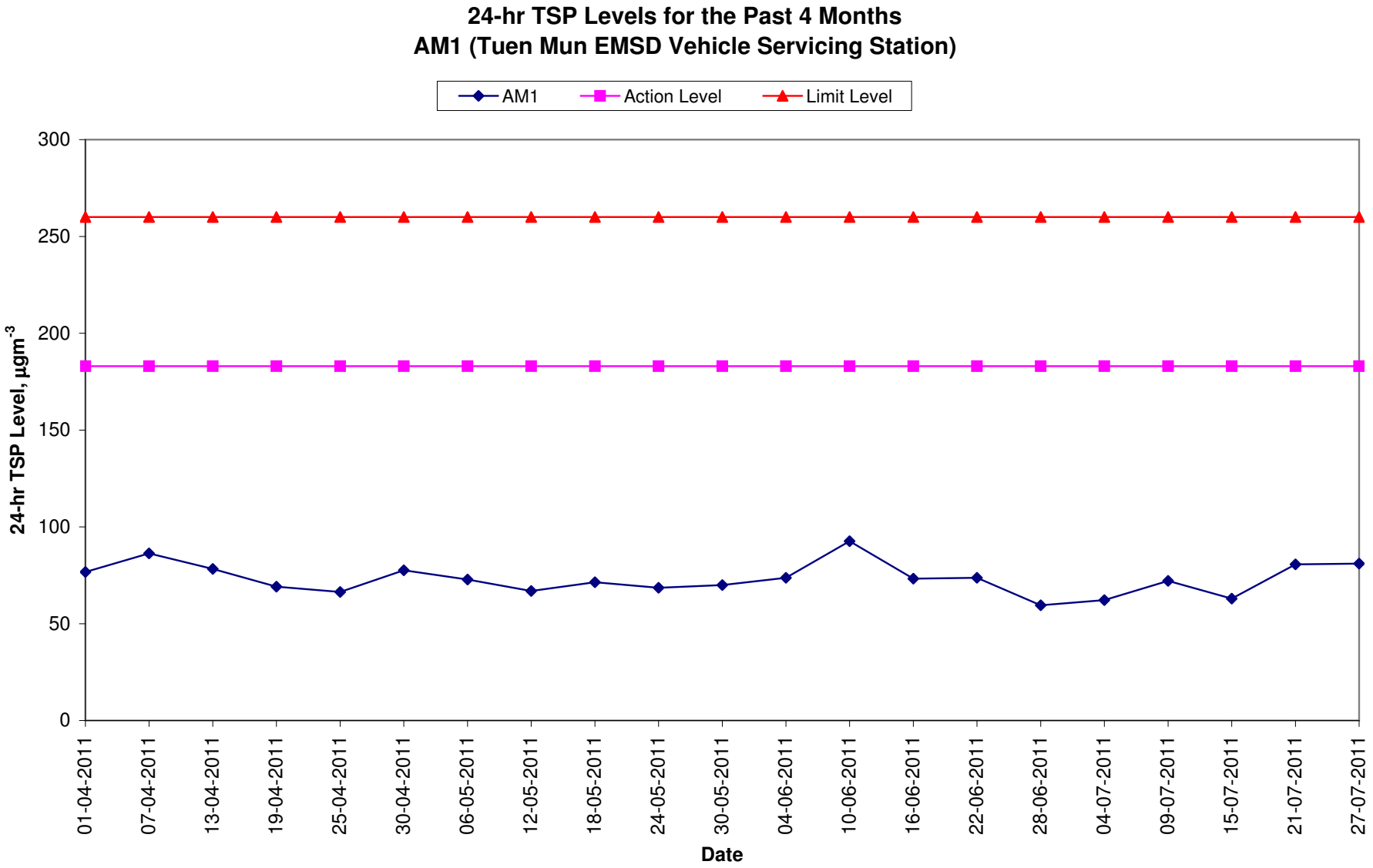
Station AM2

Start		Finish		Weather	Filter Weight (g)		Elapsed Time Reading		Sampling Time (hrs)	Flow Rate (m^3/min)			TSP Conc. ($\mu g/m^3$)	Action Level ($\mu g/m^3$)	Limit Level ($\mu g/m^3$)	Observations / Remarks	Sampler ID	Filter ID
Date	Time	Date	Time		Initial	Final	Initial	Final		Initial	Final	Average						
04-Jul-11	16:00	05-Jul-11	16:00	Sunny	2.8595	2.9643	19296.20	19320.20	24.00	1.22	1.22	1.22	60	192	260	Construction work in progress	1252	9215
09-Jul-11	16:00	10-Jul-11	16:00	Sunny	2.8117	2.9394	19323.20	19347.20	24.00	1.24	1.24	1.24	72	192	260	Construction work in progress	1252	9255
15-Jul-11	16:00	16-Jul-11	16:00	Cloudy	2.8727	2.9987	19350.20	19374.20	24.00	1.24	1.24	1.24	71	192	260	Construction work in progress	1252	9271
21-Jul-11	16:00	22-Jul-11	16:00	Sunny	2.8636	3.0334	19377.20	19401.20	24.00	1.24	1.24	1.24	95	192	260	Construction work in progress	1252	9287
27-Jul-11	16:00	28-Jul-11	16:00	Sunny	2.8444	2.9862	19404.20	19428.20	24.00	1.24	1.24	1.24	79	192	260	Construction work in progress	1252	9319
												Min.	**60**					
												Max.	**95**					
												Average	**75**					

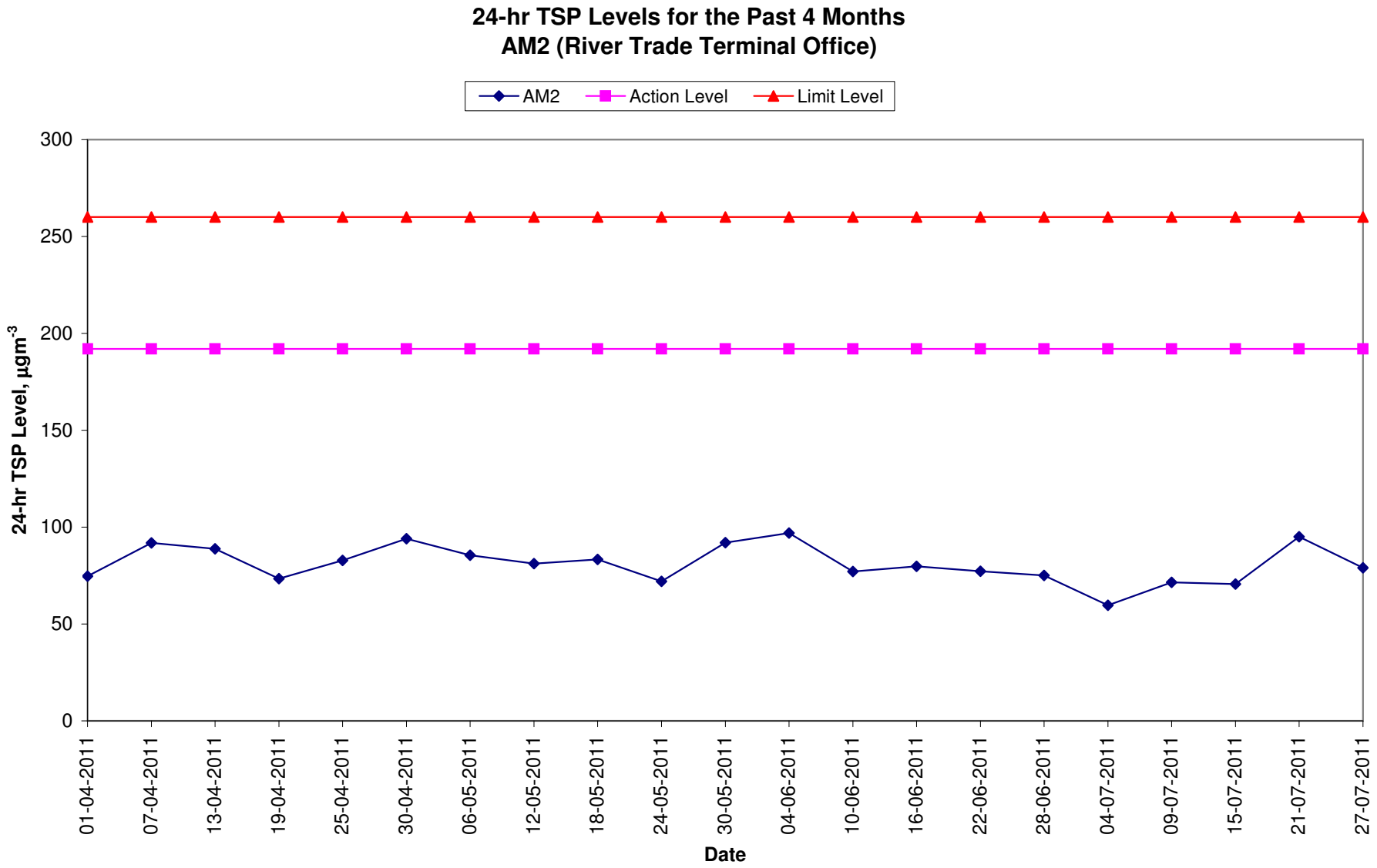
Meteorological Data Extracted from the Hong Kong Observatory

		Tuen Mun Station				
Date	Weather	Average Air Temperature (℃)	Average Relative Humiditiy (%)	Total Rainfall (mm)	Average Wind Speed (km/h)	Wind Direction
04-07-2011	Sunny	29.7	64-83	0.0	9.0	SE
05-07-2011	Sunny	30.2	59-86	0.0	9.0	SE
09-07-2011	Sunny	30.4	65-86	0.0	10.5	SW
10-07-2011	Sunny	30.6	63-89	Trace	12.5	SW
15-07-2011	Cloudy	27.7	86-98	34.9	8.0	NW
16-07-2011	Cloudy	26.1	80-97	60.5	9.5	NW
21-07-2011	Sunny	28.9	66-90	0.0	7.0	SE
22-07-2011	Sunny	29.8	64-97	4.2	9.5	SE
28-07-2011	Sunny	29.3	61-82	Trace	10.5	SE
29-07-2011	Sunny	29.0	76-95	12.4	16.5	N

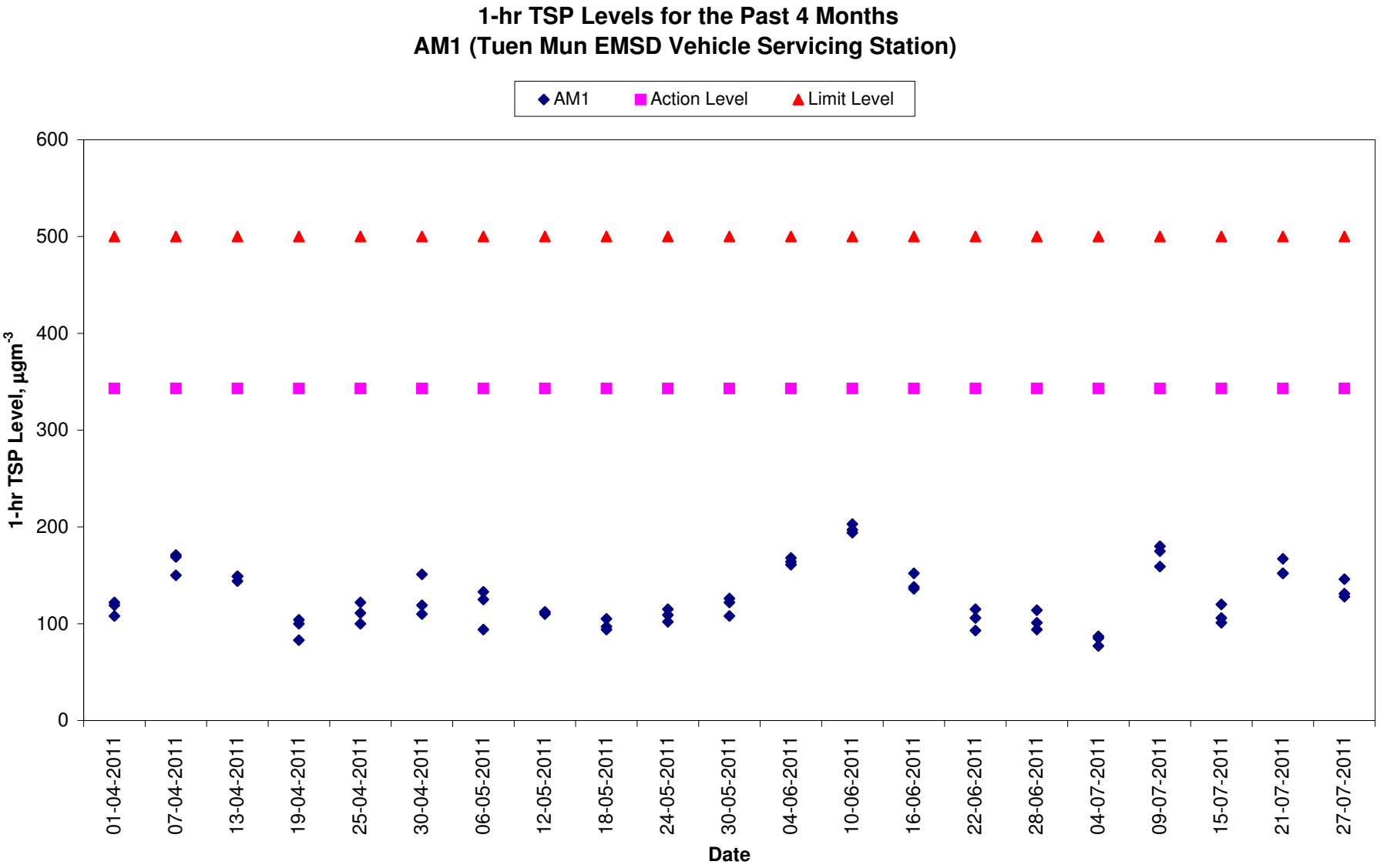
Annex F TSP Monitoring Results



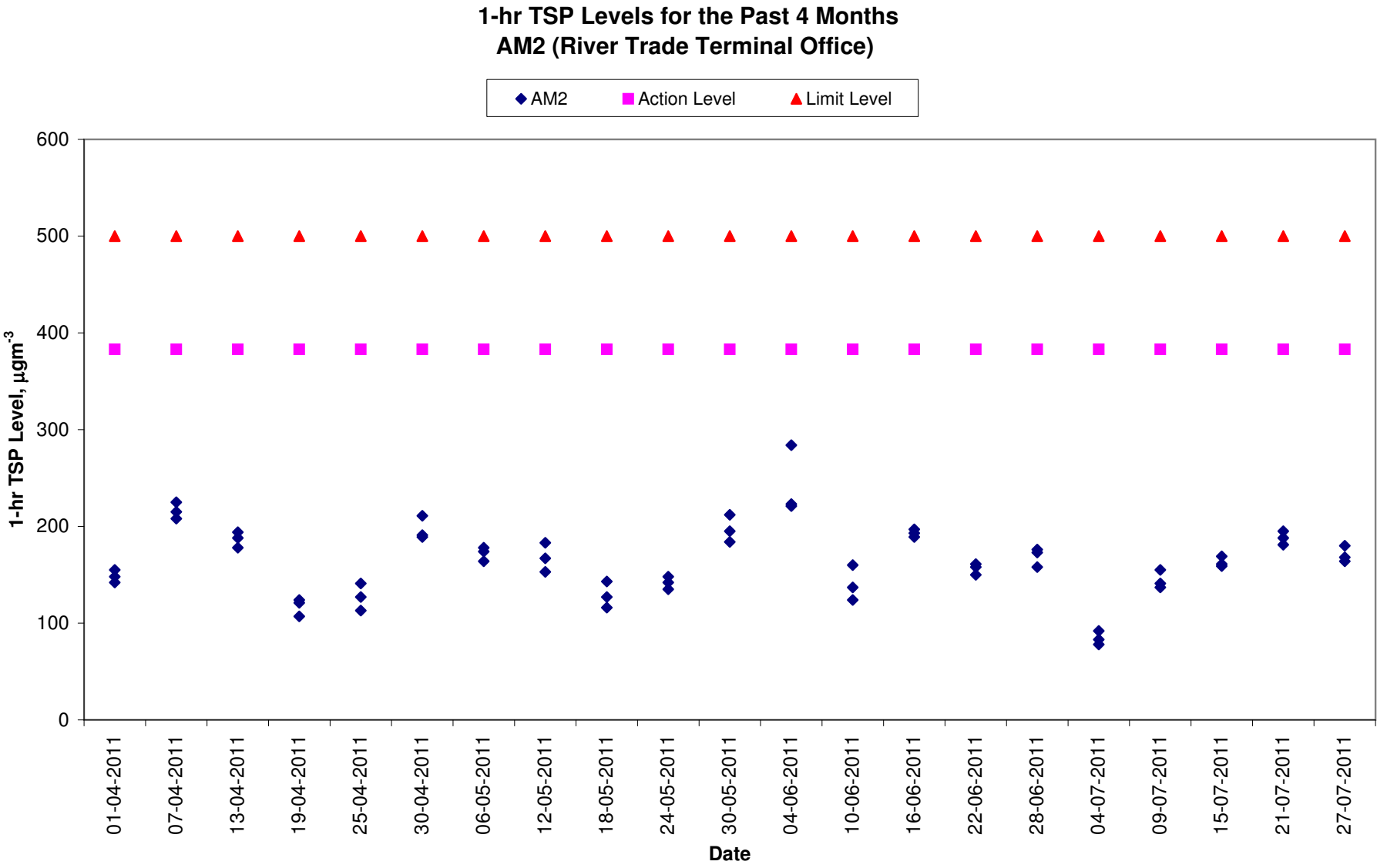
Annex F TSP Monitoring Results



Annex F TSP Monitoring Results



Annex F TSP Monitoring Results



Annex G

Calibration Reports for HVSs

TSP Monitoring Equipment

Monitoring Station ID	Location	Monitoring Equipment		Last Calibration Date	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 1785)	09 May 2011	09 July 2011
AM1	Tuen Mun EMSD Vehicle Servicing Station	GMW GS-2310 (S/N 7580)	CM-AIR-43 (S/N 1785)	04 July 2011	04 September 2011
AM2	River Trade Terminal Office	GMW GS-2310 (S/N 1252)	CM-AIR-43 (S/N 1785)	09 May 2011	09 July 2011
AM2	River Trade Terminal Office	GMW GS-2310 (S/N 1252)	CM-AIR-43 (S/N 1785)	04 July 2011	04 September 2011

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	EMSD
Calibrated by	:	P.F.Yeung
Date	:	04/07/2011

Sampler

Model	:	GMWS-2310 ACCU-VOL
Serial Number	:	S/N 7580

Calibration Orfice and Standard Calibration Relationship

Serial Number	:	1785
Service Date	:	25 May 2011
Slope (m)	:	2.00506
Intercept (b)	:	-0.02062
Correlation Coefficient(r)	:	0.99999

Standard Condition

Pstd (hpa)	:	1013
Tstd (K)	:	298.18

Calibration Condition

Pa (hpa)	:	1009
Ta(K)	:	303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.4	3.342	1.677	52	51.5
2	13 holes	9.6	3.067	1.540	47	46.5
3	10 holes	7.4	2.692	1.353	40	39.6
4	7 holes	4.6	2.123	1.069	29	28.7
5	5 holes	2.7	1.626	0.821	20	19.8

Sampler Calibration Relationship

Slope(m):37.219 Intercept(b): -10.874 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan Date: 06/07/2011

High-Volume TSP Sampler
5-Point Calibration Record

Location	:	River Trade
Calibrated by	:	K.T.Ho
Date	:	04/07/2011

Sampler

Model	:	GMWS-2310 ACCU-VOL
Serial Number	:	S/N 1252

Calibration Orfice and Standard Calibration Relationship

Serial Number	:	1785
Service Date	:	25 May 2011
Slope (m)	:	2.00506
Intercept (b)	:	-0.02062
Correlation Coefficient(r)	:	0.99999

Standard Condition

Pstd (hpa)	:	1013
Tstd (K)	:	298.18

Calibration Condition

Pa (hpa)	:	1009
Ta(K)	:	303

Resistance Plate		dH [green liquid] (inch water)	Z	X=Qstd (cubic meter/min)	IC	Y
1	18 holes	11.4	3.342	1.677	66	65.3
2	13 holes	9.4	3.035	1.524	58	57.4
3	10 holes	7.6	2.729	1.371	51	50.5
4	7 holes	4.7	2.146	1.080	37	36.6
5	5 holes	2.7	1.626	0.821	24	23.8

Sampler Calibration Relationship

Slope(m):48.235 Intercept(b): -15.735 Correlation Coefficient(r): 0.9999

Checked by: Magnum Fan Date: 06/07/2011

Annex H

Event/Action Plan for Air Quality Monitoring

Table H1 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	• Identify source, investigate the causes of complaint and propose remedial measures; • Inform IEC and SOR; • Repeat measurement to confirm findings; • Increase monitoring frequency to daily.	• Check monitoring data submitted by ET; • Check Contractor's working method.	• Notify Contractor and DSD.	• Rectify any unacceptable practice; • Amend working methods if appropriate.
Exceedance for two or more consecutive samples	• Identify source; • Inform IEC and SOR; • Advise the SOR on the effectiveness of the proposed remedial measures; • Repeat measurements to confirm findings; • Increase monitoring frequency to daily; • Discuss with IEC and Contractor on remedial actions required; • If exceedance continues, arrange meeting with IEC and SOR; • If exceedance stops, cease additional monitoring.	• Check monitoring data submitted by ET; • Check Contractor's working method; • Discuss with ET and Contractor on possible remedial measures; • Advise the ET on the effectiveness of the proposed remedial measures; • Supervise Implementation of remedial measures.	• Confirm receipt of notification of exceedance in writing; • Notify Contractor and DSD; • Ensure remedial measures properly implemented.	• Submit proposals for remedial actions to IEC within three working days of notification; • Implement the agreed proposals; • Amend proposal if appropriate.

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

Annex I

Implementation Schedule of Mitigation Measures

Annex I Summary of Mitigation Measures Implementation Schedule

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Summary of Environmental Mitigation Measures in the EIA and EM&A Manual			
Construction Phase			
Air Quality	Dust mitigation measures stipulated in *the Air Pollution Control (Construction Dust) Regulation* shall be incorporated to control Post emission. Notice shall be given to authority prior to commencing of work.	Work sites / during construction period	Δ. 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	Δ
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	√
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	Δ

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	Work site/During the construction period	√

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	particular the Waste Disposal (Chemical Waste) (General) Regulation 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	Δ
Waste Management	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: • Suitable containers should be used to hold the chemical wastes to avoid leakage or spillage during storage, handling and transport. • Chemical waste containers should be suitably labelled, to notify and warn the personnel who are handling the wastes, to avoid accidents. • Storage area should be selected at a safe location on site and adequate space should be allocated to the storage area.	Work site/During the construction period	Δ
Waste Management	*Good Site Practices* Recommendations for good site practices during the construction activities include: • Nomination of an approved person, such as a site manager, to be responsible for good site practices, arrangements for collection and effective disposal to an appropriate facility, of all wastes generated at the site • Training of site personnel in proper waste management and chemical handling procedures • Provision of sufficient waste disposal points and regular collection of waste • Appropriate measures to minimise windblown litter and dust during transportation of waste by either covering trucks or by	Work site/During the construction period	√

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	transporting wastes in enclosed containers • Regular cleaning and maintenance programme for drainage systems, sumps and oil interceptors. • Separation of chemical wastes for special handling and appropriate treatment at the Chemical Waste Treatment Facility.		
Waste Management	*Waste Reduction Measures* 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: • Segregation and storage of different types of waste in different containers, skips or stockpiles to enhance reuse or recycling of materials and their proper disposal. • Encourage collection of aluminium cans by providing separate labelled bins to enable this waste to be segregated from other general refuse generated by the work force • Proper storage and site practices to minimise the potential for damage or contamination of construction materials. • Plan and stock construction materials carefully to minimise amount of waste generated and avoid unnecessary generation of waste.	Work site/During planning & design stage, and construction stage	Δ
Waste Management	*General Refuse* 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	Δ
Waste Management	*Construction and Demolition Material* In order to minimise the impact resulting from collection and	Work site / During design stage & construction period	√

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	transportation of C&D material for off-site disposal, the excavated 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	Mitigation measures and good site practices should be followed to control potential environmental impact from handling and transportation of C&D material. The mitigation measures include: • Where it is unavoidable to have transient stockpiles of C&D material pending collection for disposal, the transient stockpiles shall be located away from waterfront or storm drains as far as possible. • Open stockpiles of construction materials or construction wastes on-site should be covered with tarpaulin or similar fabric. • Skip hoist for material transport should be totally enclosed by impervious sheeting. • Every vehicle should be washed to remove any dusty materials from its body and wheels before leaving a construction site • 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. • 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. • All dusty materials should be sprayed with water prior to any loading, unloading or transfer operation so as to maintain the dusty materials wet. • The height from which excavated materials are dropped should be controlled to a minimum practical height to limit fugitive dust generation from unloading.	Work site / During design stage & construction period	Δ
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,	Work site/During design stage & construction period	√

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	household refuse, plastic, metals, industrial and chemical waste, animal 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	*Chemical Waste* 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	Δ
Landscape & Visual	<u>Temporary Tree Nurseries</u> Temporary 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.	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
	Besides, these trees may also be positioned as visual mitigation during the construction period.		
Landscape & Visual	No-intrusion Zone 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	Hoarding 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	√
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	Work site/During design stage & construction period	√

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	tree protection requirement, submission and approval system, and the tree monitoring system.		
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	√
Landscape & Visual	Tree Transplanting Apart from the 18 numbers of "*Leucaena leucocephala*", 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 **Figure 8.9.1**.	Work site / During design stage & construction period	Δ. 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 "*Cassia surattensis*" 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 **Figure 8.9.1**.	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	Work site / During design stage & construction period	√

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
	from one phase for backfilling another. Suitable storage ground, gathering ground and mixing ground may be set up on-site as necessary.		
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	√
Air Quality and Noise	Plants and equipments of good operation conditions should be used on site.	Work sites / during construction period	√
Noise	No diesel hammers should be used for piling works	Work sites / during construction period	√

Type of Impact	Environmental Protection Measures	Location/ Timing	Status
Noise	Construction Noise Permits (CNP) should be applied for works conducted outside non-restricted hours.	Work sites / during construction period	√
Noise	Quiet construction equipments and the quietest practicable working 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.	Work sites / during construction period	√
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	√
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	<>

Remark:
√ Compliance of Mitigation Measures
<> Compliance of Mitigation but need improvement
x Non-compliance of Mitigation Measures
▲ Non-compliance of Mitigation Measures but rectified by 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

Monthly Summary Waste Flow Table

Month	Actual Quantities of Inert C&D Materials (Public Fill) Generated					Actual Quantities of Non-inert C&D Materials (Construction Waste) Generated				
	Total Quantity Generated	Rocks & Broken Concrete	Reused in the Contract	Reused in other Projects	Disposed as Public Fill	Metals (see Note 1)	Paper/ cardboard packaging (see Note 1)	Plastics (see Note 2)	Chemical Waste	Others, e.g. general refuse (see Note 3)
	tonne	tonne	tonne	tonne	tonne	kilogram	kilogram	kilogram	Litre	tonne
Nov 2010	2,248	0	0	0	2,248	60	100	0	0	18.05 (see Note 4)
Dec 2010	11,314 (see Note 4)	0	0	0	11,314	100	120	20	0	28.4 (see Note 4)
Jan 2011	58,383 (see Note 4)	0	0	0	58,383	250	280	60	0	4.59 (see Note 4)
Sub-total	**71,945**	**0**	**0**	**0**	**71,945**	**410**	**500**	**80**	**0**	**51.04**
Feb 2011	12,855	0	0	0	12,855	100	150	50	0	2.43 (see Note 4)
Mar 2011	22,859	0	0	0	22,859	150	180	55	0	9.02
Apr 2011	8,547 (see Note 7)	0	0	5,684(see Note 5, 7)	2,863 (see Note 7)	50	30	15	0	5.78
Sub-total	**44,261**	**0**	**0**	**5,684**	**38,577**	**300**	**360**	**120**	**0**	**17.23**
May 2011	6,293 (see Note 7)	0	0	11 (see Note 5, 7)	6,282 (see Note 7)	45	25	10	360 (see Note 7)	8.83
June 2011	4,587 (see Note 7)	0	0	0 (see Note 7)	4,587 (see Note 7)	40	30	15	0	7.10
July 2011	523	0	0	0	523	15	5	10	0	7.20
Sub-total	**11,403**	**0**	**0**	**11**	**11,392**	**100**	**60**	**35**	**360**	**23.13**
Total	**127,609**	**0**	**0**	**5,695**	**121,914**	**810**	**920**	**235**	**360**	**91.4**

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.

Annex K

Environmental Complaint, Environmental Summon and Presecution Log

Annex K Cumulative Complaint and Summons/Prosecutions Log

Reporting Month	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
Overall Total	0	0

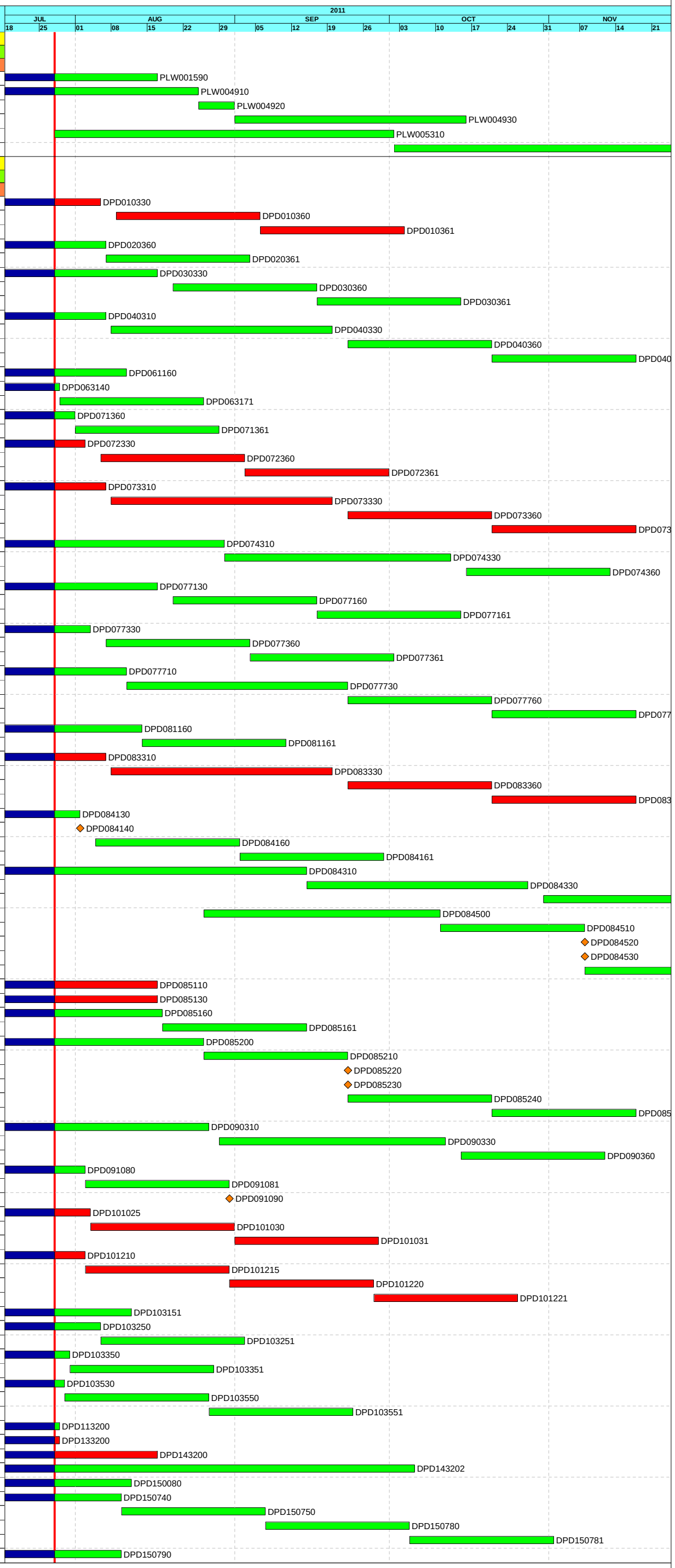
Annex L

Construction Programme of the Project

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

ATAL - Degremont - China State Joint Venture

Activity ID	Description	Original Duration	Cal	Early Start	Early Finish
Preliminaries					
General Requirements					
Contract Preliminaries					
PLW001590	Conditional Survey - Bypass Pipe works	14	2	22NOV2010 A	16AUG2011
PLW004910	XP Application for Temp Access to P2	130	1	29NOV2010 A	24AUG2011
PLW004920	Apply Roadwork Advice	6	1	25AUG2011	31AUG2011
PLW004930	Construct Site Access to P2	36	1	01SEP2011	15OCT2011
PLW005310	Operation Plan - Submission	66	2	28JUL2011	01OCT2011
PLW005320	Operation Plan - Approval	90	2	02OCT2011	30DEC2011
Design and Design Checking of Permanent Works					
Submission and Consent					
Submission and Approval					
DPD010330	DDA1: Design Memorandum - DC Checking	30	3	16MAY2011 A	05AUG2011
DPD010360	DDA1: Design Memorandum - SO rew subm.	28	2	09AUG2011	05SEP2011
DPD010361	DDA1: Design Memorandum - R to C x 2	28	2	06SEP2011	03OCT2011
DPD020360	DDA2: Process Design- SO rew Subm.	28	2	08JUN2011 A	06AUG2011
DPD020361	DDA2: Process Design- R to C x 2	28	2	07AUG2011	03SEP2011
DPD030330	DDA3: Hydraulic Design- DC Checking	30	3	09JUN2011 A	16AUG2011
DPD030360	DDA3: Hydraulic Design-- SO review	28	2	20AUG2011	16SEP2011
DPD030361	DDA3: Hydraulic Design-- R to C x 2	28	2	17SEP2011	14OCT2011
DPD040310	DDA4: Plant Layout Drawing- prep. Submission	40	2	14JAN2011 A	06AUG2011
DPD040330	DDA4: Plant Layout Drawing- DC Checking	30	3	08AUG2011	19SEP2011
DPD040360	DDA4: Plant Layout Drawing- SO review	28	2	23SEP2011	20OCT2011
DPD040361	DDA4: Plant Layout Drawing- RtoC x2	28	2	21OCT2011	17NOV2011
DPD061160	AIP6: Comm. sys design- SO review	28	2	25MAY2011 A	10AUG2011
DPD063140	DDA6: HAZOP Report- DC check	30	3	29NOV2010 A	28JUL2011
DPD063171	DDA6: HAZOP Report- SO rew. Final Submission	28	2	29JUL2011	25AUG2011
DPD071360	DDA7A: P&ID.- SO review	28	2	02JUN2011 A	31JUL2011
DPD071361	DDA7A: P&ID.- RtoC x2	28	2	01AUG2011	28AUG2011
DPD072330	DDA7B: Control Philosophy- DC Checking	30	3	07FEB2011 A	02AUG2011
DPD072360	DDA7B: Control Philosophy.- SO review	28	2	06AUG2011	02SEP2011
DPD072361	DDA7B: Control Philosophy.- RtoC x2	28	2	03SEP2011	30SEP2011
DPD073310	DDA7C-G: SCADA system design- prep. Submission	60	2	28JAN2011 A	06AUG2011
DPD073330	DDA7C-G: SCADA system design- DC Checking	30	3	08AUG2011	19SEP2011
DPD073360	DDA7C-G: SCADA system design- SO review	28	2	23SEP2011	20OCT2011
DPD073361	DDA7C-G: SCADA system design- RtoC x2	28	2	21OCT2011	17NOV2011
DPD074310	DDA7H-N-: SCADA Detail design- prep. Submission	120	2	25FEB2011 A	29AUG2011
DPD074330	DDA7H-N-: SCADA Detail design- DC Checking	30	3	30AUG2011	12OCT2011
DPD074360	DDA7H-N-: SCADA Detail design- SO review	28	2	16OCT2011	12NOV2011
DPD077130	DDA8A: Pump sys design- DC Checking	30	3	14JUN2011 A	16AUG2011
DPD077160	DDA8A: Pump sys design- SO review	28	2	20AUG2011	16SEP2011
DPD077161	DDA8A: Pump sys design- RtoC x2	28	2	17SEP2011	14OCT2011
DPD077330	DDA8B: Odour Duct design- DC Checking	30	3	27MAY2011 A	03AUG2011
DPD077360	DDA8B: Odour Duct design- SO review	28	2	07AUG2011	03SEP2011
DPD077361	DDA8B: Odour Duct design- RtoC x2	28	2	04SEP2011	01OCT2011
DPD077710	DDA8C: Pipe/Duct Supp. design- prep. Submission	60	2	12MAY2011 A	10AUG2011
DPD077730	DDA8C: Pipe/Duct Supp. design- DC Checking	30	3	11AUG2011	22SEP2011
DPD077760	DDA8C: Pipe/Duct Supp. design- SO review	28	2	23SEP2011	20OCT2011
DPD077761	DDA8C: Pipe/Duct Supp. design- RtoC x2	28	2	21OCT2011	17NOV2011
DPD081160	DDA9A-F: Elect. sys design- SO review	28	2	15APR2011 A	13AUG2011
DPD081161	DDA9A-F: Elect. sys design- RtoC x2	28	2	14AUG2011	10SEP2011
DPD083310	DDA9F-I: ELV System- prep. Submission	60	2	28FEB2011 A	06AUG2011
DPD083330	DDA9F-I: ELV System- DC Checking	30	3	08AUG2011	19SEP2011
DPD083360	DDA9F-I: ELV System- SO review	28	2	23SEP2011	20OCT2011
DPD083361	DDA9F-I: ELV System- RtoC x2	28	2	21OCT2011	17NOV2011
DPD084130	DDA9J: Hazardous Zone Report- DC Checking	30	3	04NOV2010 A	01AUG2011
DPD084140	DDA9J: Hazardous Zone Report- DC Cert	0	2		01AUG2011
DPD084160	DDA9J: Hazardous Zone Report- SO review	28	2	05AUG2011	01SEP2011
DPD084161	DDA9J: Hazardous Zone Report- RtoC x2	28	2	02SEP2011	29SEP2011
DPD084310	DDA9K: Renewable Energy Design- prep. Submission	90	2	18MAY2011 A	14SEP2011
DPD084330	DDA9K: Renewable Energy Design- DC Checking	30	3	15SEP2011	27OCT2011
DPD084360	DDA9K: Renewable Energy Design- SO review	28	2	31OCT2011	27NOV2011
DPD084500	DDA9L Elect Typ. Inst. Drg - prep Submission	30	3	26AUG2011	10OCT2011
DPD084510	DDA9L Elect Typ. Inst. Drg - DC Checking	28	2	11OCT2011	07NOV2011
DPD084520	DDA9L Elect Typ. Inst. Drg - DC Cert	0	2		07NOV2011
DPD084530	DDA9L Elect Typ. Inst. Drg - Submit to SO	0	2	08NOV2011	
DPD084540	DDA9L Elect Typ. Inst. Drg - SO Review	28	2	08NOV2011	05DEC2011
DPD085110	DDA10A~E B.S. design- prep. Submission	60	2	15OCT2010 A	16AUG2011
DPD085130	DDA10A~E B.S. design- DC Checking	30	3	15FEB2011 A	16AUG2011
DPD085160	DDA10A~E B.S. design- SO review	28	2	15JUN2011 A	17AUG2011
DPD085161	DDA10A~E B.S. design- RtoC x2	28	2	18AUG2011	14SEP2011
DPD085200	DDA10F BS Installation Drg - prep Submission	30	3	15JUN2011 A	25AUG2011
DPD085210	DDA10F BS Installation Drg - DC Checking	28	2	26AUG2011	22SEP2011
DPD085220	DDA10F BS Installation Drg - DC Cert	0	2		22SEP2011
DPD085230	DDA10F BS Installation Drg - Submit to SO	0	2	23SEP2011	
DPD085240	DDA10F BS Installation Drg - SO Review	28	2	23SEP2011	20OCT2011
DPD085250	DDA10F BS Installation Drg - RtoC x2	28	2	21OCT2011	17NOV2011
DPD090310	DDA11: T&C Plan- prep. Submission	90	2	01APR2011 A	26AUG2011
DPD090330	DDA11: T&C Plan- DC Checking	30	3	29AUG2011	11OCT2011
DPD090360	DDA11: T&C Plan- SO review	28	2	15OCT2011	11NOV2011
DPD091080	DDA 12: SO Review on Final GI Plan	28	2	03JUN2011 A	02AUG2011
DPD091081	DDA 12: Final GI Plan RtoC x2	28	2	03AUG2011	30AUG2011
DPD091090	DDA 12: Final GI Plan SO Approval	0	2		30AUG2011
DPD101025	PTW: DDA 13F Checker Certificate on Structure	28	2	12FEB2011 A	03AUG2011
DPD101030	PTW: DDA 13F SO Review on Structure	28	2	04AUG2011	31AUG2011
DPD101031	PTW: DDA 13F Structure RtoC x2	28	2	01SEP2011	28SEP2011
DPD101210	PTW: DDA 13G Mis Civil Submission	23	3	01APR2011 A	02AUG2011
DPD101215	PTW: DDA 13G Checker Endorse Mis Civil	28	2	03AUG2011	30AUG2011
DPD101220	PTW: DDA 13G SO Review Mis Civil	28	2	31AUG2011	27SEP2011
DPD101221	PTW: DDA 13G Mis Civil RtoC x2	28	2	28SEP2011	25OCT2011
DPD103151	PTW: DDA 13A Elect Dwg - RtoC x2	28	2	09JUN2011 A	11AUG2011
DPD103250	PTW: DDA 13B Mech Dwg - SO Review	28	2	08JUN2011 A	05AUG2011
DPD103251	PTW: DDA 13B Mech Dwg - RtoC x2	28	2	06AUG2011	02SEP2011
DPD103350	PTW: DDA 13C BS Dwg - SO Review	28	2	02JUN2011 A	30JUL2011
DPD103351	PTW: DDA 13C BS Dwg - RtoC x2	28	2	31JUL2011	27AUG2011
DPD103530	PTW: DDA 13D EMCR Dwg - DC Checking	28	2	11MAR2011 A	29JUL2011
DPD103550	PTW: DDA 13D E&MCR Dwg - SO review	28	2	30JUL2011	26AUG2011
DPD103551	PTW: DDA 13D E&MCR Dwg - RtoC x2	28	2	27AUG2011	23SEP2011
DPD113200	PTW: Coarse Screen: E&M Equipment Approval	70	2	21DEC2010 A	28JUL2011
DPD133200	PTW: Fine Screen: E&M Equipment Approval	70	2	21DEC2010 A	28JUL2011
DPD143200	PTW: Grit: E&M Equipment - Approval	70	2	03JUN2011 A	16AUG2011
DPD143202	PTW: Grit Detail Submission Approval	70	2	06JUN2011 A	05OCT2011
DPD150080	Septic: AIP 10B SO Approval on Civil Submission	28	2	28JUN2011 A	11AUG2011
DPD150740	Septic: DDA 14 E Foundation Submission	48	3	29MAR2011 A	09AUG2011
DPD150750	Septic: DDA 14 E Checker Cert on Foundation	28	2	10AUG2011	06SEP2011
DPD150780	Septic: DDA14 E SO Review on Foundation	28	2	07SEP2011	04OCT2011
DPD150781	Septic: DDA14 E Foundation - RtoC x2	28	2	05OCT2011	01NOV2011
DPD150790	Septic: DDA 14F Structural Submission	48	3	29MAR2011 A	09AUG2011



Start date	14JUL2010
Finish date	21DEC2013
Data date	28JUL2011
Run date	30JUL2011
Page number	1A
Project name	WP06
c Primavera Systems, Inc.	

Three Month Rolling Programme - August to October 2011

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Activity ID	Description	Original Duration	Cal	Early Start	Early Finish
DPD150792	Septic: DDA 14F Checker Cert on Structure	28	2	10AUG2011	06SEP2011
DPD150794	Septic: DDA14F SO Review on Structure	28	2	07SEP2011	04OCT2011
DPD150796	Septic: DDA14F Structure - RtoC x2	28	2	05OCT2011	01NOV2011
DPD151810	Septic: DDA 14G Architecture Submission	50	3	18APR2011 A	10AUG2011
DPD151815	Septic: DDA 14G Checker Cert on Architecture	28	2	11AUG2011	07SEP2011
DPD151820	Septic: DDA 14G SO Review on Architecture	28	2	08SEP2011	05OCT2011
DPD151821	Septic: DDA 14G Architecture - RtoC x2	28	2	06OCT2011	02NOV2011
DPD153150	Septic: DDA14A Elect Dwg - SO Review	28	2	15JUN2011 A	13AUG2011
DPD153151	Septic: DDA14A Elect Dwg - RtoC x2	28	2	14AUG2011	10SEP2011
DPD153230	Septic: DDA 14B Mech Dwg - DC Checking	28	2	03JUN2011 A	01AUG2011
DPD153250	Septic: DDA14B Mech Dwg - SO Review	28	2	02AUG2011	29AUG2011
DPD153251	Septic: DDA14B Mech Dwg - RtoC x2	28	2	30AUG2011	26SEP2011
DPD153330	Septic: DDA14C BS Dwg - DC Checking	30	3	31MAY2011 A	16AUG2011
DPD153350	Septic: DDA14C BS Dwg - SO review and Approval	28	2	17AUG2011	13SEP2011
DPD153351	Septic: DDA14C BS Dwg - SO review and Approval	28	2	14SEP2011	11OCT2011
DPD153530	Septic: DDA14D EMCR Dwg - DC Checking	28	2	24JUN2011 A	17AUG2011
DPD153550	Septic: DDA14D EMCR Dwg - SO Review	28	2	18AUG2011	14SEP2011
DPD153551	Septic: DDA14D EMCR Dwg - RtoC x2	28	2	15SEP2011	12OCT2011
DPD170060	WB & Access: AIP 24B SO Approval on Civil	28	2	29JUN2011 A	11AUG2011
DPD170840	WB & Access: DDA 27B Fdn / Structural Submission	25	3	12AUG2011	16SEP2011
DPD170850	WB & Access: DDA 27B Checker Cert on Structure	28	2	17SEP2011	14OCT2011
DPD170880	WB & Access: DDA 27B SO Review on Fdn/Struct	28	2	15OCT2011	11NOV2011
DPD173610	WB & Access: DDA27A E&M Submission	50	2	21MAR2011 A	10AUG2011
DPD173620	WB & Access: DDA27A E&M DC Checking	30	3	11AUG2011	22SEP2011
DPD173640	WB & Access: DDA27A E&M SO Rew & Appr.	28	2	23SEP2011	20OCT2011
DPD173641	WB & Access: DDA27A E&M SO RtoC x 2.	28	2	21OCT2011	17NOV2011
DPD201441	CEPT Tank: DDA 15F Structure - RtoC x2	28	2	31MAY2011 A	01AUG2011
DPD201705	CEPT Tank: DDA 15G Checker Cert on Architecture	28	2	10MAY2011 A	11AUG2011
DPD201710	CEPT Tank: DDA 15G SO Review on Architecture	28	2	12AUG2011	08SEP2011
DPD201711	CEPT Tank: DDA 15G Architecture - RtoC x2	28	2	09SEP2011	06OCT2011
DPD203060	CEPT: AIP 11A E&M GA - SO rev. & Appr	28	2	01DEC2010 A	01AUG2011
DPD203130	CEPT: DDA 15A Elect Dwg - DC Checking	30	3	23MAR2011 A	03AUG2011
DPD203150	CEPT: DDA 15A Elect Dwg - SO Review	28	2	04AUG2011	31AUG2011
DPD203151	CEPT: DDA 15A Elect Dwg - RtoC x2	28	2	01SEP2011	28SEP2011
DPD203250	CEPT: DDA 15B Mech Dwg - SO Review	28	2	15JUN2011 A	12AUG2011
DPD203251	CEPT: DDA 15B Mech Dwg - RtoC x2	28	2	13AUG2011	09SEP2011
DPD203330	CEPT: DDA 15C BS Dwg - DC Checking	30	3	22FEB2011 A	03AUG2011
DPD203350	CEPT: DDA 15C BS Dwg - SO Review	28	2	04AUG2011	31AUG2011
DPD203351	CEPT: DDA 15C BS Dwg - RtoC x2	28	2	01SEP2011	28SEP2011
DPD203530	CEPT: DDA 15D E&MCR Dwg - DC Checking	40	2	16MAR2011 A	02AUG2011
DPD203550	CEPT: DDA 15D E&MCR Dwg - SO Review	28	2	03AUG2011	30AUG2011
DPD203551	CEPT: DDA 15D E&MCR Dwg - RtoC x2	28	2	03AUG2011	30AUG2011
DPD213201	CEPT: E&M Equipment SO Review	28	2	03FEB2011 A	10AUG2011
DPD300060	UV: AIP 13B Civil Checking and Approval	28	2	01MAR2011 A	01AUG2011
DPD300750	UV: DDA 17E Checker Cert on Foundation	28	2	14JUN2011 A	12AUG2011
DPD300780	UV: DDA 17E SO Review on Foundation	28	2	13AUG2011	09SEP2011
DPD300781	UV: DDA 17E Foundation - RtoC x2	28	2	10SEP2011	07OCT2011
DPD300792	UV: DDA 17F Checker Cert on Structure	28	2	14JUN2011 A	12AUG2011
DPD300794	UV: DDA 17F SO Review on Structure	28	2	13AUG2011	09SEP2011
DPD300796	UV: DDA 17F Structure - RtoC x2	28	2	10SEP2011	07OCT2011
DPD301815	UV: DDA 17G Checker Cert on Mis Civil	28	2	14JUN2011 A	12AUG2011
DPD301820	UV: DDA 17G SO Review on Mis Civil	28	2	13AUG2011	09SEP2011
DPD301821	UV: DDA 17G Mis Civil - RtoC x2	28	2	10SEP2011	07OCT2011
DPD303130	UV: DDA 17A Elect Dwg - DC Checking	30	3	14JUN2011 A	05AUG2011
DPD303150	UV: DDA 17A Elect Dwg - SO Review	28	2	06AUG2011	02SEP2011
DPD303151	UV: DDA 17A Elect Dwg - RtoC x2	28	2	03SEP2011	30SEP2011
DPD303230	UV: DDA 17B Mech Dwg - DC Checking	30	3	27APR2011 A	04AUG2011
DPD303250	UV: DDA 17B Mech Dwg - SO Review	28	2	05AUG2011	01SEP2011
DPD303251	UV: DDA 17B Mech Dwg - RtoC x2	28	2	02SEP2011	29SEP2011
DPD303330	UV: DDA 17C BS Dwg - DC Checking	30	3	13JUN2011 A	05AUG2011
DPD303350	UV: DDA 17C BS Dwg - SO Review	28	2	06AUG2011	02SEP2011
DPD303351	UV: DDA 17C BS Dwg - RtoC x2	28	2	03SEP2011	30SEP2011
DPD303530	UV: DDA 17D E&MCR Dwg - DC Checking	28	2	27APR2011 A	31JUL2011
DPD303550	UV: DDA 17D E&MCR Dwg - SO Review	28	2	01AUG2011	28AUG2011
DPD303551	UV: DDA 17D E&MCR Dwg - RtoC x2	28	2	29AUG2011	25SEP2011
DPD313200	UV: UV Sys Equipment Approval	150	2	15JAN2011 A	25SEP2011
DPD320070	RWPS: AIP 17B Civil Checking and Approval	28	2	11FEB2011 A	30JUL2011
DPD320080	RWPS: AIP 17B SO Approval on Civil	28	2	31JUL2011	27AUG2011
DPD320740	RWPS: DDA 21E Foundation Submission	75	3	01APR2011 A	16AUG2011
DPD320750	RWPS: DDA 21E Checker Cert on Foundation	28	2	17AUG2011	13SEP2011
DPD320780	RWPS: DDA 21E SO Review on Foundation	28	2	14SEP2011	11OCT2011
DPD320781	RWPS: DDA 21E Foundation - RtoC x2	28	2	12OCT2011	08NOV2011
DPD320782	RWPS: DDA 21F Structure Submission	75	3	01APR2011 A	16AUG2011
DPD320784	RWPS: DDA 21F Checker Cert on Structure	28	2	17AUG2011	13SEP2011
DPD320786	RWPS: DDA 21F SO Review on Structure	28	2	14SEP2011	11OCT2011
DPD320788	RWPS: DDA 21F Structure - RtoC x2	28	2	12OCT2011	08NOV2011
DPD321005	RWPS: DDA 21G Checker Cert on Mis Civil	28	2	15JUN2011 A	16AUG2011
DPD321010	RWPS: DDA 21G SO Review on Mis Civil	28	2	17AUG2011	13SEP2011
DPD321011	RWPS: DDA 21G Mis Civil - RtoC x2	28	2	14SEP2011	11OCT2011
DPD323110	RWPS: DDA 21A Elect Dwg - Submission	60	2	28MAR2011 A	06AUG2011
DPD323130	RWPS: DDA 21A Elect Dwg - DC Checking	30	3	08AUG2011	19SEP2011
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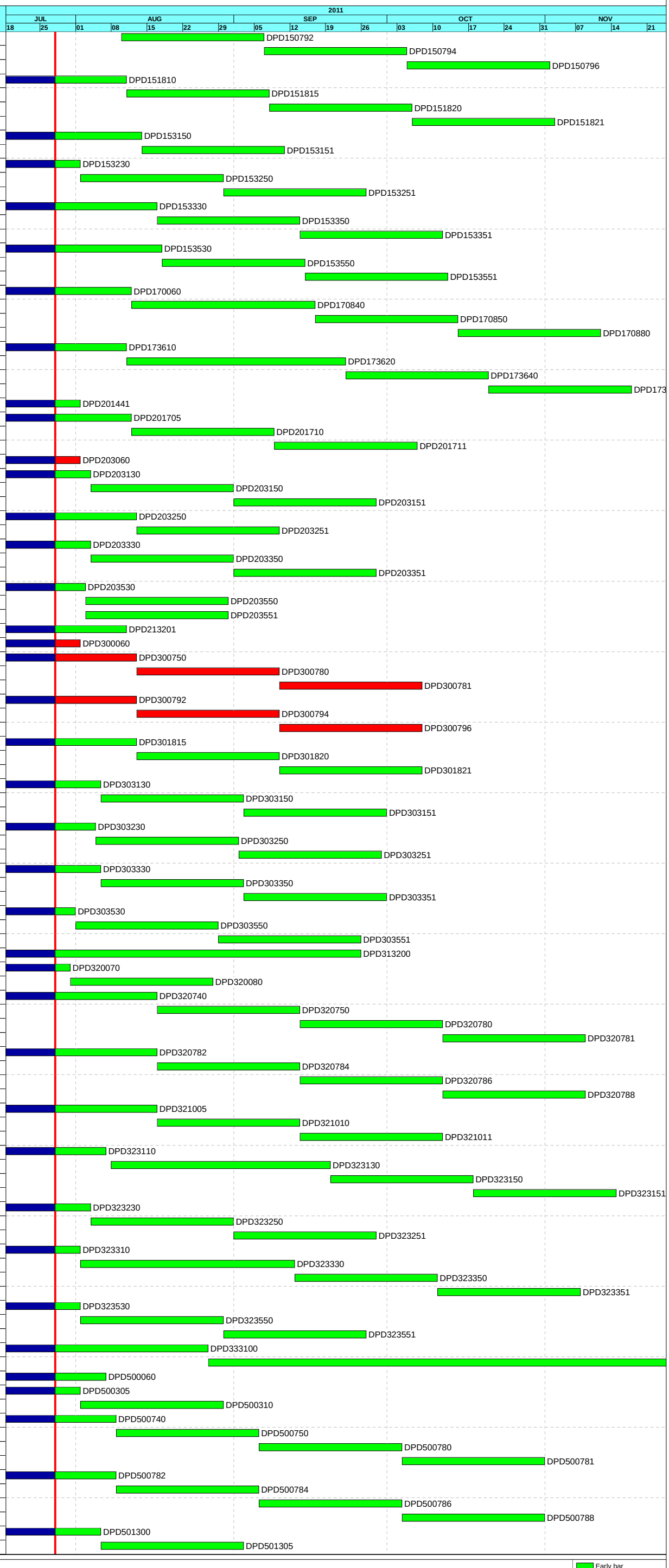
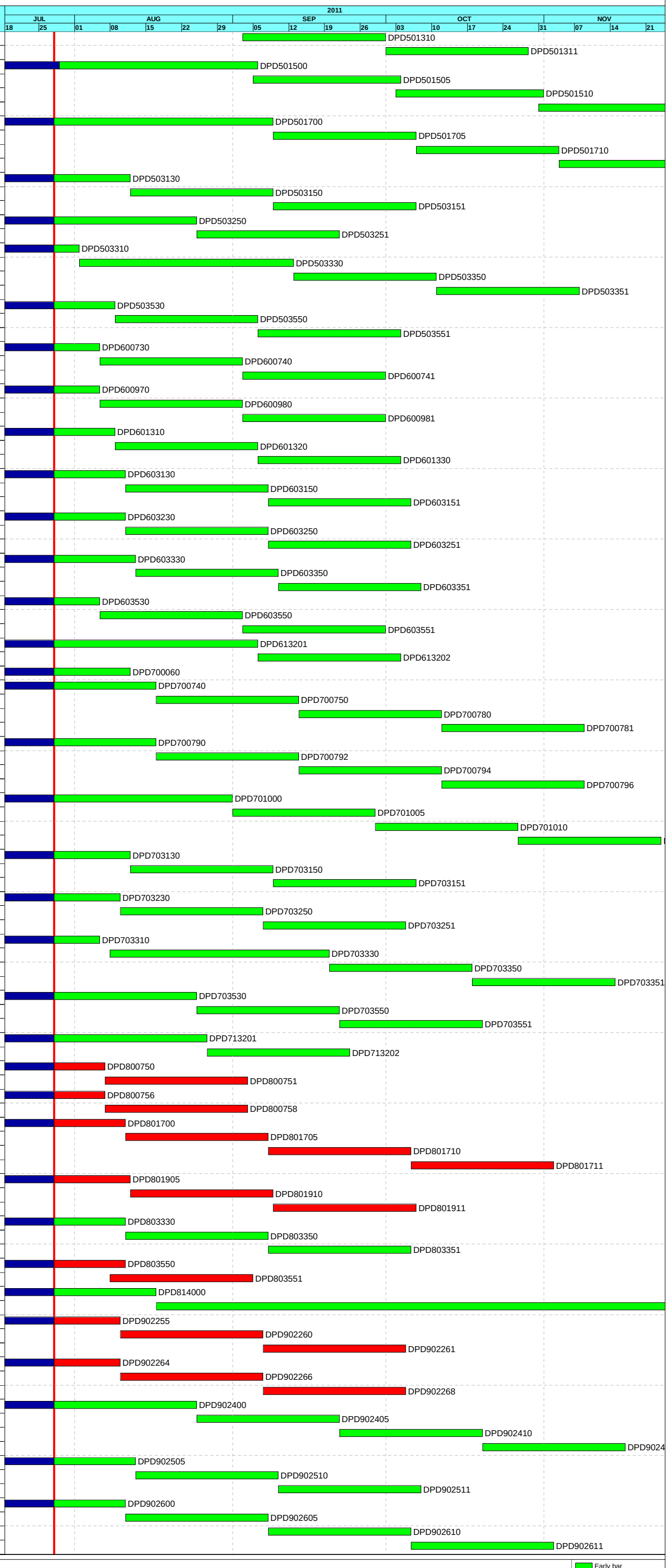
DPD323230	RWPS: DDA 21B Mech Dwg - DC Checking	30	3	01JUN2011 A	03AUG2011
DPD323250	RWPS: DDA 21B Mech Dwg - SO Review	28	2	04AUG2011	31AUG2011
DPD323251	RWPS: DDA 21B Mech Dwg - RtoC x2	28	2	01SEP2011	28SEP2011
DPD323310	RWPS: DDA 21C BS Dwg - Submission	60	2	28MAR2011 A	01AUG2011
DPD323330	RWPS: DDA 21C BS Dwg - DC Checking	30	3	02AUG2011	12SEP2011
DPD323350	RWPS: DDA 21C BS Dwg - SO review	28	2	13SEP2011	10OCT2011
DPD323351	RWPS: DDA 21C BS Dwg - SO Rto C x 2	28	2	11OCT2011	07NOV2011
DPD323530	RWPS: DDA 21D E&MCR Dwg - DC Checking	28	2	01JUN2011 A	01AUG2011
DPD323550	RWPS: DDA 21D E&MCR Dwg - SO Review	28	2	02AUG2011	29AUG2011
DPD323551	RWPS: DDA 21D E&MCR Dwg - RtoC x2	28	2	30AUG2011	26SEP2011
DPD333100	RWPS: DAF Equipment Submission	60	2	02MAY2011 A	26AUG2011
DPD333200	RWPS: DAF Equipment SO rew & Appr	120	2	27AUG2011	24DEC2011
DPD500060	Chemical: AIP 18B SO Approval on Civil	28	2	29JUN2011 A	06AUG2011
DPD500305	Chemical: AIP 18C Checker Cert on Architectural	28	2	22FEB2011 A	01AUG2011
DPD500310	Chemical: AIP 18C SO Approval on Architectural	28	2	02AUG2011	29AUG2011
DPD500740	Chemical: DDA 22E Foundation Submission	62	3	23FEB2011 A	08AUG2011
DPD500750	Chemical: DDA 22E Checker Cert on Foundation	28	2	09AUG2011	05SEP2011
DPD500780	Chemical: DDA 22E SO Review on Foundation	28	2	06SEP2011	03OCT2011
DPD500781	Chemical: DDA 22E Foundation - RtoC x2	28	2	04OCT2011	31OCT2011
DPD500782	Chemical: DDA 22F Structure Submission	62	3	23FEB2011 A	08AUG2011
DPD500784	Chemical: DDA 22F Checker Cert on Structure	28	2	09AUG2011	05SEP2011
DPD500786	Chemical: DDA 22F SO Review on Structure	28	2	06SEP2011	03OCT2011
DPD500788	Chemical: DDA 22F Structure - RtoC x2	28	2	04OCT2011	31OCT2011
DPD501300	Chemical: DDA 22G Mis Civil Submission	45	3	18APR2011 A	05AUG2011
DPD501305	Chemical: DDA 22G Checker Cert on Mis Civil	28	2	06AUG2011	02SEP2011



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

ATAL - Degremont - China State Joint Venture

Activity ID	Description	Original Duration	Cal	Early Start	Early Finish
DPD501310	Chemical: DDA 22G SO Review on Mis Civil	28	2	03SEP2011	30SEP2011
DPD501311	Chemical: DDA 22G Mis Civil - RtoC x2	28	2	01OCT2011	28OCT2011
DPD501500	Chemical: DDA 22H Architectural Submission	70	3	18APR2011 A	05SEP2011
DPD501505	Chemical: DDA 22H Checker Cert on Architectural	28	2	05SEP2011	03OCT2011
DPD501510	Chemical: DDA 22H SO Review on Architectural	28	2	03OCT2011	31OCT2011
DPD501511	Chemical: DDA 22H Architectural - RtoC x2	28	2	31OCT2011	28NOV2011
DPD501700	Chemical: DDA 22J Mis Architectural Submission	70	3	03MAY2011 A	08SEP2011
DPD501705	Chemical: DDA 22J Checker Cert Mis Architectural	28	2	09SEP2011	06OCT2011
DPD501710	Chemical: DDA 22J SO Review on Mis Architecture	28	2	07OCT2011	03NOV2011
DPD501711	Chemical: DDA 22J Mis Architecture - RtoC x2	28	2	04NOV2011	01DEC2011
DPD503130	Chemical: DDA 22A Elect Dwg - DC Checking	30	3	14JUN2011 A	11AUG2011
DPD503150	Chemical: DDA 22A Elect Dwg - SO Review	28	2	12AUG2011	08SEP2011
DPD503151	Chemical: DDA 22A Elect Dwg - RtoC x2	28	2	09SEP2011	06OCT2011
DPD503250	Chemical: DDA 22B Mech Dwg - SO Review	28	2	28JUN2011 A	24AUG2011
DPD503251	Chemical: DDA 22B Mech Dwg - RtoC x2	28	2	25AUG2011	21SEP2011
DPD503310	Chemical: DDA 22C BS Dwg - Submission	60	2	01FEB2011 A	01AUG2011
DPD503330	Chemical: DDA 22C BS Dwg - DC Checking	30	3	02AUG2011	12SEP2011
DPD503350	Chemical: DDA 22C BS Dwg - SO Review	28	2	13SEP2011	10OCT2011
DPD503351	Chemical: DDA 22C BS Dwg - RtoC x2	28	2	11OCT2011	07NOV2011
DPD503530	Chemical: DDA 22D E&MCR Dwg - DC Checking	28	2	25MAY2011 A	08AUG2011
DPD503550	Chemical: DDA 22D E&MCR Dwg - SO review	28	2	09AUG2011	05SEP2011
DPD503551	Chemical: DDA 22D E&MCR Dwg - SO rtoC x 2	28	2	06SEP2011	03OCT2011
DPD600730	Sludge: DDA 16E Checker Cert on Foundation	28	2	30APR2011 A	05AUG2011
DPD600740	Sludge: DDA 16E SO Review on Foundation	28	2	06AUG2011	02SEP2011
DPD600741	Sludge: DDA 16E Foundation - Rtoc x2	28	2	03SEP2011	30SEP2011
DPD600970	Sludge: DDA 16F Checker Cert on Structural	28	2	28APR2011 A	05AUG2011
DPD600980	Sludge: DDA 16F SO Review on Structural	28	2	06AUG2011	02SEP2011
DPD600981	Sludge: DDA 16F Structural - RtoC x2	28	2	03SEP2011	30SEP2011
DPD601310	Sludge: DDA 16H Checker Cert on Architectural	28	2	29APR2011 A	08AUG2011
DPD601320	Sludge: DDA 16H SO Review on Architectural	28	2	09AUG2011	05SEP2011
DPD601330	Sludge: DDA 16H Architectural - RtoC x2	28	2	06SEP2011	03OCT2011
DPD603130	Sludge: DDA 16A Elect Dwg - DC Checking	30	3	05MAY2011 A	10AUG2011
DPD603150	Sludge: DDA 16A Elect Dwg - SO Review	28	2	11AUG2011	07SEP2011
DPD603151	Sludge: DDA 16A Elect Dwg - RtoC x2	28	2	08SEP2011	05OCT2011
DPD603230	Sludge: DDA 16B Mech Dwg - DC Checking	30	3	29APR2011 A	10AUG2011
DPD603250	Sludge: DDA 16B Mech Dwg - SO Review	28	2	11AUG2011	07SEP2011
DPD603251	Sludge: DDA 16B Mech Dwg - RtoC x2	28	2	08SEP2011	05OCT2011
DPD603330	Sludge: DDA 16C BS Dwg - DC Checking	30	3	12MAY2011 A	12AUG2011
DPD603350	Sludge: DDA 16C BS Dwg - SO Review	28	2	13AUG2011	09SEP2011
DPD603351	Sludge: DDA 16C BS Dwg - RtoC x2	28	2	10SEP2011	07OCT2011
DPD603530	Sludge: DDA 16D E&MCR Dwg - DC Checking	28	2	30APR2011 A	05AUG2011
DPD603550	Sludge: DDA 16D E&MCR Dwg - SO Review	28	2	06AUG2011	02SEP2011
DPD603551	Sludge: DDA 16D E&MCR Dwg - RtoC x2	28	2	03SEP2011	30SEP2011
DPD613201	Sludge: Sludge Dewatering sys SO Review	50	2	04JUN2011 A	05SEP2011
DPD613202	Sludge: Sludge Dewatering sys - Rtoc x2	28	2	06SEP2011	03OCT2011
DPD700060	DOU: AIP 14B Civil Checking and Approval	28	2	28JUN2011 A	11AUG2011
DPD700740	DOU: DDA 18E Foundation Submission	70	3	11APR2011 A	16AUG2011
DPD700750	DOU: DDA 18E Checker Cert on Foundation	28	2	17AUG2011	13SEP2011
DPD700780	DOU: DDA 18E SO Review on Foundation	28	2	14SEP2011	11OCT2011
DPD700781	DOU: DDA 18E Foundation - Rtoc x2	28	2	12OCT2011	08NOV2011
DPD700790	DOU: DDA 18F Structural Submission	70	3	11APR2011 A	16AUG2011
DPD700792	DOU: DDA 18F Checker Cert on Structural	28	2	17AUG2011	13SEP2011
DPD700794	DOU: DDA 18F SO Review on Structural	28	2	14SEP2011	11OCT2011
DPD700796	DOU: DDA 18F Structural - Rtoc x2	28	2	12OCT2011	08NOV2011
DPD701000	DOU: DDA 18G Mis Civil Submission	80	3	18APR2011 A	31AUG2011
DPD701005	DOU: DDA 18G Checker Cert on Mis Civil	28	2	01SEP2011	28SEP2011
DPD701010	DOU: DDA 18G SO Review on Mis Civil	28	2	29SEP2011	26OCT2011
DPD701011	DOU: DDA 18G Mis Civil - RtoC x2	28	2	27OCT2011	23NOV2011
DPD703130	DOU: DDA 18A Elect Dwg - DC Checking	30	3	14JUN2011 A	11AUG2011
DPD703150	DOU: DDA 18A Elect Dwg - SO Review	28	2	12AUG2011	08SEP2011
DPD703151	DOU: DDA 18A Elect Dwg - RtoC x2	28	2	09SEP2011	06OCT2011
DPD703230	DOU: DDA 18B Mech Dwg - DC Checking	30	3	13JUN2011 A	09AUG2011
DPD703250	DOU: DDA 18B Mech Dwg - SO Review	28	2	10AUG2011	06SEP2011
DPD703251	DOU: DDA 18B Mech Dwg - RtoC x2	28	2	07SEP2011	04OCT2011
DPD703310	DOU: DDA 18C BS Dwg - Submission	70	2	27APR2011 A	05AUG2011
DPD703330	DOU: DDA 18C BS Dwg - DC Checking	30	3	08AUG2011	19SEP2011
DPD703350	DOU: DDA 18C BS Dwg - SO Review	28	2	20SEP2011	17OCT2011
DPD703351	DOU: DDA 18C BS Dwg - RtoC x2	28	2	18OCT2011	14NOV2011
DPD703530	DOU: DDA 18D E&MCR Dwg - DC Checking	28	2	27JUN2011 A	24AUG2011
DPD703550	DOU: DDA 18D E&MCR Dwg - SO Review	28	2	25AUG2011	21SEP2011
DPD703551	DOU: DDA 18D E&MCR Dwg - RtoC x2	28	2	22SEP2011	19OCT2011
DPD713201	DOU: DOU Sys SO Review	30	2	05MAY2011 A	26AUG2011
DPD713202	DOU: DOU Sys - RtoC x2	28	2	27AUG2011	23SEP2011
DPD800750	Admin Bldg: DDA 23D SO Review Foundation	28	2	04MAR2011 A	06AUG2011
DPD800751	Admin Bldg: DDA 23D Foundation - RtoC x2	28	2	07AUG2011	03SEP2011
DPD800756	Admin Bldg: DDA 23E SO Review Structure	28	2	04MAR2011 A	06AUG2011
DPD800758	Admin Bldg: DDA 23E Structure - RtoC x2	28	2	07AUG2011	03SEP2011
DPD801700	Admin Bldg: DDA 23F Mis Civil Submission	25	3	18APR2011 A	10AUG2011
DPD801705	Admin Bldg: DDA 23F Checker Cert on Mis Civil	28	2	11AUG2011	07SEP2011
DPD801710	Admin Bldg: DDA 23F SO Review on Mis Civil	28	2	08SEP2011	05OCT2011
DPD801711	Admin Bldg: DDA 23F Mis Civil - RtoC x2	28	2	06OCT2011	02NOV2011
DPD801905	Admin Bldg: DDA 23G Checker Cert on Architecture	28	2	08MAR2011 A	11AUG2011
DPD801910	Admin Bldg: DDA 23G SO Review on Architecture	28	2	12AUG2011	08SEP2011
DPD801911	Admin Bldg: DDA 23G Architecture - RtoC x2	28	2	09SEP2011	06OCT2011
DPD803330	Admin Bldg: DDA 23C BS Dwg - DC Checking	30	3	28MAR2011 A	10AUG2011
DPD803350	Admin Bldg: DDA 23C BS Dwg - SO Review	28	2	11AUG2011	07SEP2011
DPD803351	Admin Bldg: DDA 23C BS Dwg - RtoC x2	28	2	08SEP2011	05OCT2011
DPD803550	Admin Bldg: DDA 23B E&MCR Dwg - SO Review	28	2	14JUN2011 A	10AUG2011
DPD803551	Admin Bldg: DDA 23B E&MCR Dwg - RtoC x2	28	2	08AUG2011	04SEP2011
DPD814000	Admin Bldg: B.S. Equipment Submission	65	2	28APR2011 A	16AUG2011
DPD814050	Admin Bldg: B.S. Equipment Check&Approval	120	2	17AUG2011	14DEC2011
DPD902255	Elect Bldg 1: DDA 19E Checker Cert Foundation	28	2	23JUN2011 A	09AUG2011
DPD902260	Elect Bldg 1: DDA19E SO Review Foundation	28	2	10AUG2011	06SEP2011
DPD902261	Elect Bldg 1: DDA19E Foundation - RtoC x2	28	2	07SEP2011	04OCT2011
DPD902264	Elect Bldg 1: DDA 19F Checker Cert Structure	28	2	23JUN2011 A	09AUG2011
DPD902266	Elect Bldg 1: DDA19F SO Review Structure	28	2	10AUG2011	06SEP2011
DPD902268	Elect Bldg 1: DDA19F Struct - RtoC x2	28	2	07SEP2011	04OCT2011
DPD902400	Elect Bldg 1: DDA 19G Mis Civil Submission	30	3	18APR2011 A	24AUG2011
DPD902405	Elect Bldg 1: DDA 19G Checker Cert Mis Civil	28	2	25AUG2011	21SEP2011
DPD902410	Elect Bldg 1: DDA 19G SO Review Mis Civil	28	2	22SEP2011	19OCT2011
DPD902411	Elect Bldg 1: DDA 19G Mis Civil - Rtoc x2	28	2	20OCT2011	16NOV2011
DPD902505	Elect Bldg 1: DDA 19H Checker Cert Architectural	28	2	15JUN2011 A	12AUG2011
DPD902510	Elect Bldg 1: DDA19H SO Review Architecture	28	2	13AUG2011	09SEP2011
DPD902511	Elect Bldg 1: DDA19H Architecture - RtoC x2	28	2	10SEP2011	07OCT2011
DPD902600	Elect Bldg 1: DDA 19J Mis Archit Submission	50	3	18APR2011 A	10AUG2011
DPD902605	Elect Bldg 1: DDA 19J Checker Cert Mis Archit	28	2	11AUG2011	07SEP2011
DPD902610	Elect Bldg 1: DDA19J SO Review Mis Architecture	28	2	08SEP2011	05OCT2011
DPD902611	Elect Bldg 1: DDA19J Mis Architecture - RtoC x2	28	2	06OCT2011	02NOV2011

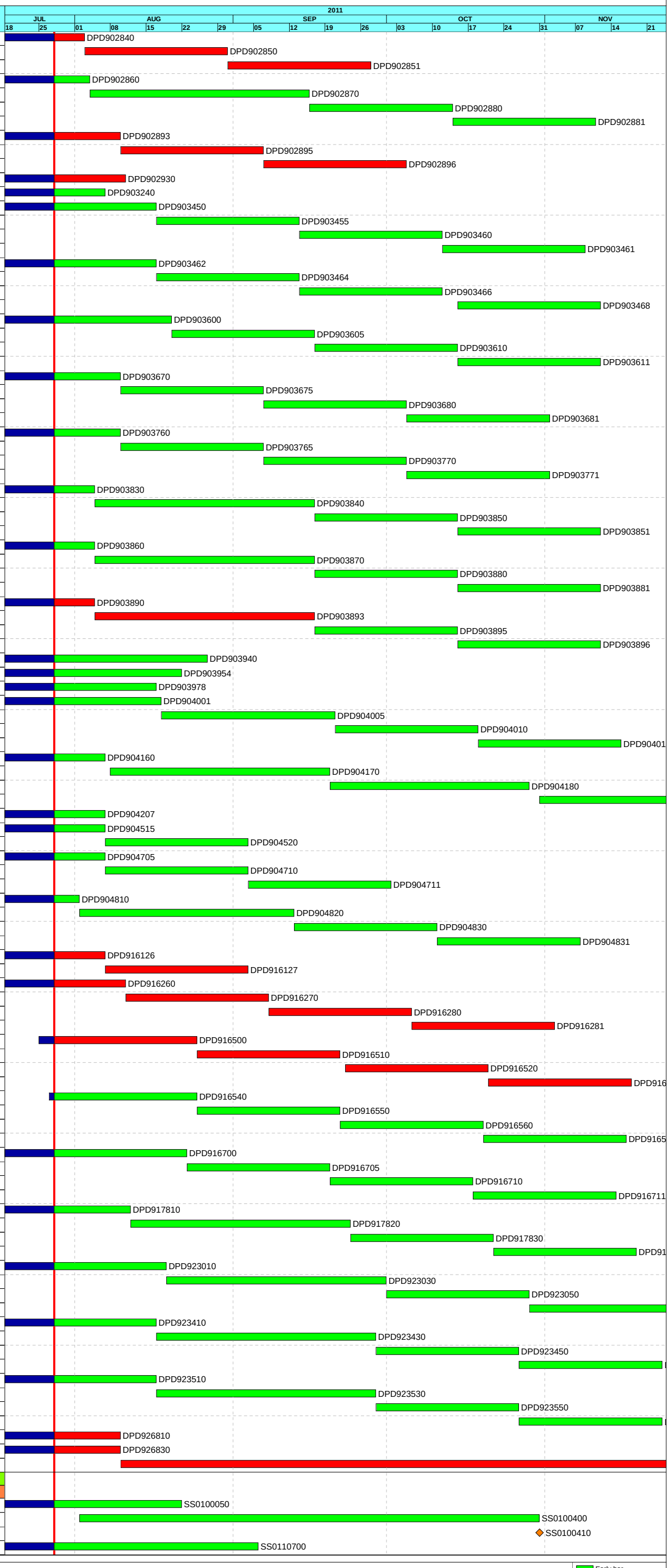


Start date	14JUL2010
Finish date	21DEC2013
Data date	28JUL2011
Run date	30JUL2011
Page number	3A
Project name	WP06

Three Month Rolling Programme - August to October 2011

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Activity ID	Description	Original Duration	Cal	Early Start	Early Finish
DPD902840	Elect Bldg 1: DDA 19A Elect Dwg - DC Checking	30	3	03JUN2011 A	02AUG2011
DPD902850	Elect Bldg 1: DDA 19A Elect Dwg - SO Review	28	2	03AUG2011	30AUG2011
DPD902851	Elect Bldg 1: DDA 19A Elect Dwg - RtoC x2	28	2	31AUG2011	27SEP2011
DPD902860	Elect Bldg 1: DDA 19C BS Dwg - Submission	60	2	12JAN2011 A	03AUG2011
DPD902870	Elect Bldg 1: DDA 19C BS Dwg - DC Checking	30	3	04AUG2011	15SEP2011
DPD902880	Elect Bldg 1: DDA 19C BS Dwg - SO Review	28	2	16SEP2011	13OCT2011
DPD902881	Elect Bldg 1: DDA 19C BS Dwg - RtoC x2	28	2	14OCT2011	10NOV2011
DPD902893	Elect Bldg 1: DDA 19D E&M CR Dwg - DC Checking	28	2	17JUN2011 A	09AUG2011
DPD902895	Elect Bldg 1: DDA 19D E&M CR Dwg - SO rew & Appr	28	2	10AUG2011	06SEP2011
DPD902896	Elect Bldg 1: DDA 19D E&M CR Dwg - RtoC x 2	28	2	07SEP2011	04OCT2011
DPD902930	Elect Bldg 1: Elec Equipment SO Rew. & Appr	80	2	14MAR2011 A	10AUG2011
DPD903240	EB2/3 PTWMCC: AIP 16B SO Approval on Civil	28	2	29JUN2011 A	06AUG2011
DPD903450	EB2/3 PTWMCC: DDA 20E Foundation Submission	65	3	11APR2011 A	16AUG2011
DPD903455	EB2/3 PTWMCC: DDA20E Checker Cert Foundation	28	2	17AUG2011	13SEP2011
DPD903460	EB2/3 PTWMCC: DDA 20E SO Review Foundation	28	2	14SEP2011	11OCT2011
DPD903461	EB2/3 PTWMCC: DDA 20E Foundation - RtoC x2	28	2	12OCT2011	08NOV2011
DPD903462	EB2/3 PTWMCC: DDA 20F Structure Submission	65	3	11APR2011 A	16AUG2011
DPD903464	EB2/3 PTWMCC: DDA 20F Checker Cert Structure	28	2	17AUG2011	13SEP2011
DPD903466	EB2/3 PTWMCC: DDA 20F SO Review Structure	28	2	14SEP2011	11OCT2011
DPD903468	EB2/3 PTWMCC: DDA 20F Structure - RtoC x2	28	2	15OCT2011	11NOV2011
DPD903600	EB2/3 PTWMCC: DDA 20G Mis Civil Submission	60	3	18APR2011 A	19AUG2011
DPD903605	EB2/3 PTWMCC: DDA 20G Checker Cert Mis Civil	28	2	20AUG2011	16SEP2011
DPD903610	EB2/3 PTWMCC: DDA 20G SO Review Mis Civil	28	2	17SEP2011	14OCT2011
DPD903611	EB2/3 PTWMCC: DDA 20G Mis Civil - RtoC x2	28	2	15OCT2011	11NOV2011
DPD903670	EB2/3 PTWMCC: DDA 20H Architectural Submission	55	3	18APR2011 A	09AUG2011
DPD903675	EB2/3 PTWMCC: DDA20H Checker Cert Architecture	28	2	10AUG2011	06SEP2011
DPD903680	EB2/3 PTWMCC: DDA 20H SO Review Architecture	28	2	07SEP2011	04OCT2011
DPD903681	EB2/3 PTWMCC: DDA 20H Architecture - RtoC x2	28	2	05OCT2011	01NOV2011
DPD903760	EB2/3 PTWMCC: DDA 20J Mis Archit Submission	55	3	18APR2011 A	09AUG2011
DPD903765	EB2/3 PTWMCC: DDA 20J Checker Cert Mis Archit	28	2	10AUG2011	06SEP2011
DPD903770	EB2/3 PTWMCC: DDA20J SO Review Mis Archit	28	2	07SEP2011	04OCT2011
DPD903771	EB2/3 PTWMCC: DDA20J Mis Archit - RtoC x2	28	2	05OCT2011	01NOV2011
DPD903830	EB2/3 PTWMCC: DDA 20A Elect Dwg - Submission	60	2	17JAN2011 A	04AUG2011
DPD903840	EB2/3 PTWMCC: DDA 20A Elect Dwg - DC Checking	30	3	05AUG2011	16SEP2011
DPD903850	EB2/3 PTWMCC: DDA 20A Elect Dwg - SO Review	28	2	17SEP2011	14OCT2011
DPD903851	EB2/3 PTWMCC: DDA 20A Elect Dwg - RtoC x2	28	2	15OCT2011	11NOV2011
DPD903860	EB2/3 PTWMCC: DDA 20C BS Dwg - Submission	60	2	17JAN2011 A	04AUG2011
DPD903870	EB2/3 PTWMCC: DDA 20C BS Dwg - DC Checking	30	3	05AUG2011	16SEP2011
DPD903880	EB2/3 PTWMCC: DDA 20C BS Dwg - SO Review	28	2	17SEP2011	14OCT2011
DPD903881	EB2/3 PTWMCC: DDA 20C BS Dwg - RtoC x2	28	2	15OCT2011	11NOV2011
DPD903890	EB2/3 PTWMCC: DDA 20D E&M CR Dwg - Submission	60	2	17JAN2011 A	04AUG2011
DPD903893	EB2/3 PTWMCC: DDA 20D E&M CR Dwg - DC	30	3	05AUG2011	16SEP2011
DPD903895	EB2/3 PTWMCC: DDA 20D E&M CR Dg - SO Review	28	2	17SEP2011	14OCT2011
DPD903896	EB2/3 PTWMCC: DDA 20D E&M CR Dg - RtoC x2	28	2	15OCT2011	11NOV2011
DPD903940	EB2/3 PTWMCC: ElecEquip't Checking & Appr	90	2	14MAR2011 A	26AUG2011
DPD903954	Refurbish: AIP 22A E&M GA Drg - SO Rew & Appr.	28	2	07FEB2011 A	21AUG2011
DPD903978	Refurbish: AIP 22B SO Approval Modification SHB	28	2	02JUN2011 A	16AUG2011
DPD904001	Refurbish: DDA 25 E Renewal Work Fdn Submission	35	3	18APR2011 A	17AUG2011
DPD904005	Refurbish: DDA 25 E Checker Cert Foundation	28	1	18AUG2011	20SEP2011
DPD904010	Refurbish: DDA 25 E SO Review Foundation	28	2	21SEP2011	18OCT2011
DPD904011	Refurbish: DDA 25 E Foundation - RtoC x2	28	2	19OCT2011	15NOV2011
DPD904160	Refurbish: DDA 25A~D E&M Dwg - Submission	60	2	17JAN2011 A	06AUG2011
DPD904170	Refurbish: DDA 25A~D E&M Dwg - DC Checking	30	3	08AUG2011	19SEP2011
DPD904180	Refurbish: DDA 25A~D E&M Dwg - SO Review	28	3	20SEP2011	28OCT2011
DPD904181	Refurbish: DDA 25A~D E&M Dwg - RtoC x2	28	3	31OCT2011	07DEC2011
DPD904207	Flowmeter C: AIP 20A E&M SO Rew & Appr	28	2	30NOV2010 A	06AUG2011
DPD904515	Flowmeter C: AIP 20B Checker Cert on Fdn/Struct	21	2	15MAR2011 A	06AUG2011
DPD904520	Flowmeter C: AIP 20B SO Approval on Fdn/ Struct	28	2	07AUG2011	03SEP2011
DPD904705	Flowmeter C: DDA 24EF&F Checker Cert Fdn/Struct	28	2	14JUN2011 A	06AUG2011
DPD904710	Flowmeter C: DDA 24E&F SO Review Fdn/Struct	28	2	07AUG2011	03SEP2011
DPD904711	Flowmeter C: DDA 24E&F Fdn/Struct - RtoC x2	28	2	04SEP2011	01OCT2011
DPD904810	Flowmeter C: DDA 24A~D E&M Dwg - Submission	60	2	17JAN2011 A	01AUG2011
DPD904820	Flowmeter C: DDA 24A~D E&M Dwg - DC Checking	30	3	02AUG2011	12SEP2011
DPD904830	Flowmeter C: DDA 24A~D E&M Dwg - SO rew &Appr	28	2	13SEP2011	10OCT2011
DPD904831	Flowmeter C: DDA 24A~D E&M Dwg - RtoC x2	28	2	11OCT2011	07NOV2011
DPD916126	Mis: AIP 25D Checker Cert on Gate House	21	2	17MAR2011 A	06AUG2011
DPD916127	Mis: AIP 25D SO Approval on Gate House	28	2	07AUG2011	03SEP2011
DPD916260	Mis: DDA 28A Ext Civil Works Submission	100	3	24JAN2011 A	10AUG2011
DPD916270	Mis: DDA 28A Checker Cert Ext Civil Works	28	2	11AUG2011	07SEP2011
DPD916280	Mis: DDA 28A SO Review on Ext Civil Works	28	2	08SEP2011	05OCT2011
DPD916281	Mis: DDA 28A Ext Civil Works - RtoC x2	28	2	06OCT2011	02NOV2011
DPD916500	Mis: DDA 28B Mis Civil Works Submission	28	2	25JUL2011 A	24AUG2011
DPD916510	Mis: DDA 28B Checker Cert Mis Civil Works	28	2	25AUG2011	21SEP2011
DPD916520	Mis: DDA 28B SO Review on Mis Civil Works	28	2	23SEP2011	20OCT2011
DPD916521	Mis: DDA 28B Mis Civil Works - RtoC x2	28	2	21OCT2011	17NOV2011
DPD916540	Mis: DDA 28D Gate House Submission	20	3	27JUL2011 A	24AUG2011
DPD916550	Mis: DDA 28D Checker Cert on Gate House	28	2	25AUG2011	21SEP2011
DPD916560	Mis: DDA 28D SO Review on Gate House	28	2	22SEP2011	19OCT2011
DPD916570	Mis: DDA 28D Gate House - RtoC x2	28	2	20OCT2011	16NOV2011
DPD916700	Mis: DDA 26 Landscape Submission	40	3	13MAY2011 A	22AUG2011
DPD916705	Mis: DDA 26 Checker Cert on Landscape	28	2	23AUG2011	19SEP2011
DPD916710	Mis: DDA 26 SO Review on Landscape	28	2	20SEP2011	17OCT2011
DPD916711	Mis: DDA 26 Landscape - RtoC x2	28	2	18OCT2011	14NOV2011
DPD917810	Mis: DDA 26A E&M Dwg - Submission	60	2	17JAN2011 A	11AUG2011
DPD917820	Mis: DDA 26A E&M Dwg - DC Checking	30	3	12AUG2011	23SEP2011
DPD917830	Mis: DDA 26A E&M Dwg - SO Review	28	2	24SEP2011	21OCT2011
DPD917831	Mis: DDA 26A E&M Dwg - RtoC x2	28	2	22OCT2011	18NOV2011
DPD923010	Mis: DDA 28C - Submission	60	2	19MAY2011 A	18AUG2011
DPD923030	Mis: DDA 28C - DC Checking	30	3	19AUG2011	30SEP2011
DPD923050	Mis: DDA 28C - SO Review	28	2	01OCT2011	28OCT2011
DPD923051	Mis: DDA 28C - RtoC x2	28	2	29OCT2011	25NOV2011
DPD923410	Mis: DDA 28F Mis BS - Submission	60	2	08APR2011 A	16AUG2011
DPD923430	Mis: DDA 28F Mis BS - DC Checking	30	3	17AUG2011	28SEP2011
DPD923450	Mis: DDA 28F Mis BS - SO Review	28	2	29SEP2011	26OCT2011
DPD923451	Mis: DDA 28F Mis BS - RtoC x2	28	2	27OCT2011	23NOV2011
DPD923510	Mis: DDA 28E E&M Dwg - Submission	60	2	08APR2011 A	16AUG2011
DPD923530	Mis: DDA 28E E&M Dwg - DC Checking	30	3	17AUG2011	28SEP2011
DPD923550	Mis: DDA 28E E&M Dwg - SO Review	28	2	29SEP2011	26OCT2011
DPD923551	Mis: DDA 28E E&M Dwg - Rtoc x2	28	2	27OCT2011	23NOV2011
DPD926810	Mis: Solid Handling Bldg Eq. Submission	60	2	18JAN2011 A	09AUG2011
DPD926830	Mis: Guard House Equipment Submission	60	2	18JAN2011 A	09AUG2011
DPD926840	Mis: E&M Equipment Checking and Approval	120	2	10AUG2011	07DEC2011
Statutory Submission					
Submission and Approval					
SS0100050	DSD &ASD - GBP Submission and Approval	60	2	29NOV2010 A	21AUG2011
SS0100400	EPD - Sewage Discharge License Approval	90	2	02AUG2011	30OCT2011
SS0100410	EPD - Approval for Sewage Discharge	0	2		30OCT2011
SS0110700	WSD & ASD- Approve Water Supply /Plumbing issue	80	2	29NOV2010 A	05SEP2011



Start date	14JUL2010
Finish date	21DEC2013
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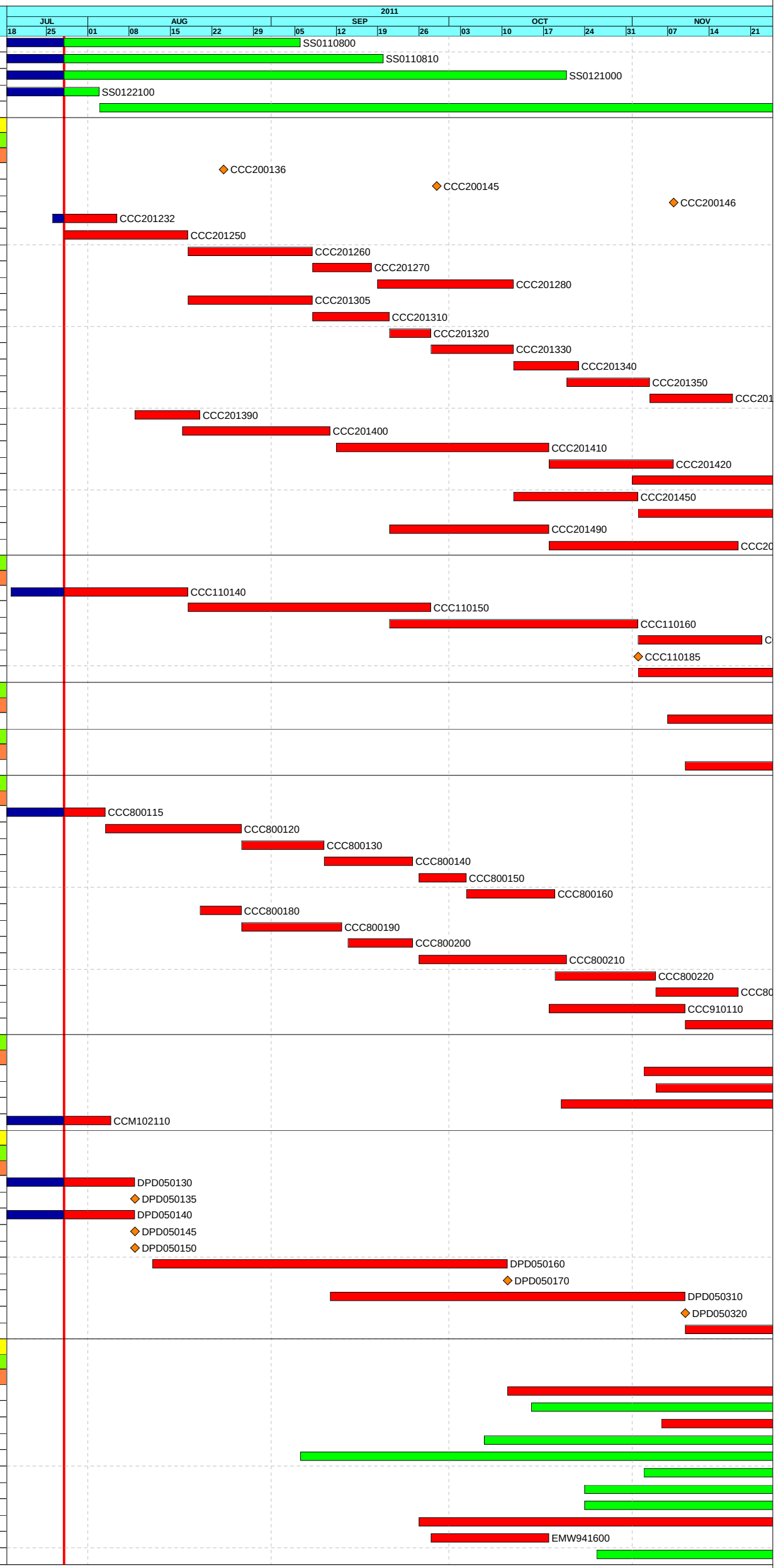
c Primavera Systems, Inc.	

Three Month Rolling Programme - August to October 2011

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point

Activity ID	Description	Original Duration	Cal	Early Start	Early Finish
SS0110800	FSD - Approve Fire Safety / Services Aspects	80	2	29NOV2010 A	05SEP2011
SS0110810	EPD - Register of Changes under Environ. Permit	100	1	13SEP2010 A	19SEP2011
SS0121000	VCAB Submission and Approval	300	1	13SEP2010 A	20OCT2011
SS0122100	ArchSD Submission and Approval (Stage 1)	150	1	13SEP2010 A	02AUG2011
SS0122200	ArchSD Submission and Approval (Stage 2)	120	1	03AUG2011	23DEC2011
Civil and Structural Works					
Chemically Enhanced Primary Treatement System					
Building and Structures					
CCC200136	CEPT: Delivery of E&M Cast-in Item (2)	0	1		23AUG2011
CCC200145	CEPT: Delivery of E&M Cast-in Item (3)	0	1		28SEP2011
CCC200146	CEPT: Delivery of E&M Cast-in Item (4)	0	1		07NOV2011
CCC201232	CEPT: Bay 1 - Concrete Raft Slab (Zone 2)	12	1	26JUL2011 A	05AUG2011
CCC201250	CEPT: Bay 5 - Concrete Raft Slab West Stage 1	18	1	28JUL2011	17AUG2011
CCC201260	CEPT: Bay 5 - Concrete Raft Slab West Stage 2	18	1	18AUG2011	07SEP2011
CCC201270	CEPT: Bay 5 - Pit at -7.925 of Zone 5	8	1	08SEP2011	17SEP2011
CCC201280	CEPT: Bay 5 - Raft Slab of Zone 5 East	18	1	19SEP2011	11OCT2011
CCC201305	CEPT: Bay 4 - Concrete Raft Slab (2)	18	1	18AUG2011	07SEP2011
CCC201310	CEPT: Bay 4 - Concrete Raft Slab (3)	10	1	08SEP2011	20SEP2011
CCC201320	CEPT: Bay 3 - Remaining Formation and Blinding	6	1	21SEP2011	27SEP2011
CCC201330	CEPT: Bay 3 - Pit at -7.925 of Zone 3	10	1	28SEP2011	11OCT2011
CCC201340	CEPT: Bay 3 - Pit at -7.925 of Zone 4	10	1	12OCT2011	22OCT2011
CCC201350	CEPT: Bay 3 - Concrete Raft Slab (Zone 3)	12	1	21OCT2011	03NOV2011
CCC201355	CEPT: Bay 3 - Concrete Raft Slab (Zone 4)	12	1	04NOV2011	17NOV2011
CCC201390	CEPT: Preparation of Formwork/Scaffolding	10	1	09AUG2011	19AUG2011
CCC201400	CEPT: Bay 2 - Wall upto (2.9 ~3.2)	22	1	17AUG2011	10SEP2011
CCC201410	CEPT: Bay 2 - Slab and Beam at Densadeq	28	1	12SEP2011	17OCT2011
CCC201420	CEPT: Bay 2 - Wall up to Ground Floor	18	1	18OCT2011	07NOV2011
CCC201430	CEPT: Bay 1 - Wall at Tanks and Pump Room	36	1	01NOV2011	12DEC2011
CCC201450	CEPT: Bay 5 - Wall upto (2.9 ~3.2)	18	1	12OCT2011	01NOV2011
CCC201460	CEPT: Bay 5 - Slab and Beam at Densadeq	28	1	02NOV2011	03DEC2011
CCC201490	CEPT: Bay 4 - Wall upto (2.9 ~3.2)	21	1	21SEP2011	17OCT2011
CCC201500	CEPT: Bay 4 - Slab and Beam at Densadeq	28	1	18OCT2011	18NOV2011
New Preliminary Treatment Works					
Building and Structures					
CCC110140	PTWN: Raft foundation - 1000 ~ 1500mm thk.	29	1	19JUL2011 A	17AUG2011
CCC110150	PTWN: Substructure - Walls and Slab to +2	34	1	18AUG2011	27SEP2011
CCC110160	PTWN: Wall & Top Roof	34	1	21SEP2011	01NOV2011
CCC110165	PTWN: Water Tightness Test	18	1	02NOV2011	22NOV2011
CCC110185	PTWS: Available of E&M Cast-in Material	0	1		01NOV2011
CCC130190	PTWS: Excavation (Phase B)	20	1	02NOV2011	24NOV2011
Disinfection System					
Building and Structures					
CCC300120	UV:Temporary Earth Lateral Support	20	1	07NOV2011	29NOV2011
Sludge Treatment Facilities					
Building and Structures					
CCC600210	SDB: Temporary Earth Lateral Support	42	1	10NOV2011	30DEC2011
Auxiliary Building					
Building and Structures					
CCC800115	Admin Bldg: Formation and Vertical Blinding	20	1	18JUN2011 A	03AUG2011
CCC800120	Admin Bldg: Raft Foundation - 800mm thk	20	1	04AUG2011	26AUG2011
CCC800130	Admin Bldg: Substructure - Walls & Columns	12	1	27AUG2011	09SEP2011
CCC800140	Admin Bldg: Underground Drainage Work	12	1	10SEP2011	24SEP2011
CCC800150	Admin Bldg: Backfilling Works	6	1	26SEP2011	03OCT2011
CCC800160	Admin Bldg: Beams & Slab at G/F	12	1	04OCT2011	18OCT2011
CCC800180	Admin Bldg: Water Tank - Base Slab	6	1	20AUG2011	26AUG2011
CCC800190	Admin Bldg: Water Tank - Walls	14	1	27AUG2011	12SEP2011
CCC800200	Admin Bldg: Water Tank - Roof Slab & Beams	10	1	14SEP2011	24SEP2011
CCC800210	Admin Bldg: Water Tank - Watertightness Test	20	1	26SEP2011	20OCT2011
CCC800220	Admin Bldg: Walls & Columns - G/F to 1/F	15	1	19OCT2011	04NOV2011
CCC800230	Admin Bldg: Beams & Slab at 1/F	12	1	05NOV2011	18NOV2011
CCC910110	Elect Bldg 1: Excavation	20	1	18OCT2011	09NOV2011
CCC910120	Elect Bldg 1: Fdn-Cable Trench &On-Grade Slab	30	1	10NOV2011	14DEC2011
Miscellaneous Works					
Miscellaneous Works					
CCM101800	Installation of Sitewide Drainage	420	1	03NOV2011	06APR2013
CCM102000	Installation of Sitewide Sewerage	420	1	05NOV2011	09APR2013
CCM102100	Laying Pipe Ducts, Trenches and Utilities	450	2	20OCT2011	11JAN2013
CCM102110	Divert existing LV Cable at Fdn of Admin Bldg	32	1	11APR2011 A	04AUG2011
Statutory Works					
Submission and Consent					
Submission and Approval					
DPD050130	AIP5: General Building Plan- DC Checking	14	2	04OCT2010 A	08AUG2011
DPD050135	AIP5: General Building Plan- DC Cert	0	2		08AUG2011
DPD050140	AIP5: General Building Plan- FSD review	150	2	04OCT2010 A	08AUG2011
DPD050145	AIP5: General Building Plan- FSD endorse	0	2		08AUG2011
DPD050150	AIP5: General Building Plan - submit to SO	0	2		08AUG2011
DPD050160	AIP5: General Building Plan - SO review	28	2	12AUG2011	10OCT2011
DPD050170	AIP5: General Building Plan- SO Grant Consent	0	2		10OCT2011
DPD050310	DDA5: Utilities- prep. Submission	60	2	11SEP2011	09NOV2011
DPD050320	DDA5: Utilities- Submit to DC	0	2		09NOV2011
DPD050330	DDA5: Utilities- DC Checking	30	2	10NOV2011	09DEC2011
E&M Works					
Procurement and Installation					
Building and Structures					
EMW110110	Coarse Screen: Equipment Manufacturing and Test	180	2	11OCT2011	07APR2012
EMW120210	Inlet Pump St: E&M Equipment Procurement	180	2	15OCT2011	11APR2012
EMW130310	Fine Screen: E&M Equipment Procurement	180	2	06NOV2011	03MAY2012
EMW140410	Grit: E&M Equipment Procurement	180	2	07OCT2011	03APR2012
EMW200100	CEPT: E&M Equipment Procurement	210	2	06SEP2011	02APR2012
EMW601000	Sludge: E&M Equipment Procurement	240	2	03NOV2011	29JUN2012
EMW711100	DOU A: E&M Equipment Procurement	180	2	24OCT2011	20APR2012
EMW721100	DOU B: E&M Equipment Procurement	180	2	24OCT2011	20APR2012
EMW941100	Elect Bldg 1: Mat'l & Equipment Procurement	180	2	26SEP2011	23MAR2012
EMW941600	Elect Bldg 1: BS Modification on existing room	15	1	28SEP2011	17OCT2011
EMW943100	Elect Bldg 3: Mat'l & Equipment Procurement	180	2	26OCT2011	22APR2012



Start date	14JUL2010
Finish date	21DEC2013
Data date	28JUL2011
Run date	30JUL2011
Page number	5A
Project name	WP06
c Primavera Systems, Inc.	

Three Month Rolling Programme - August to October 2011

Early bar
Progress bar
Critical bar
Summary bar
Start milestone point
Finish milestone point